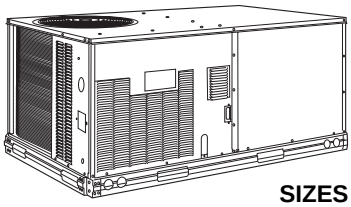
COMMERCIAL
SINGLE PACKAGE ROOFTOP UNITS
GAS HEATING/ELECTRIC COOLING UNITS

580F, 579F, 581A/B/C
Dura*Pac* and Dura*Pac* Plus Series
Sizes 024-300
2 to 25 Tons



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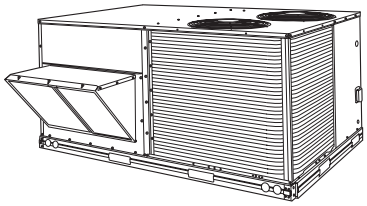

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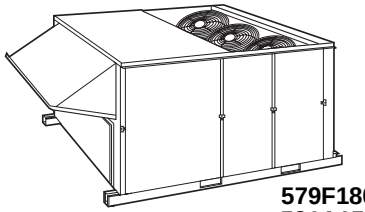

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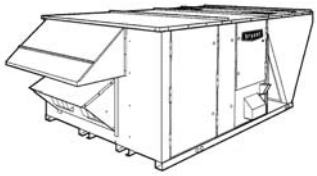
581A155,180
580F180,210



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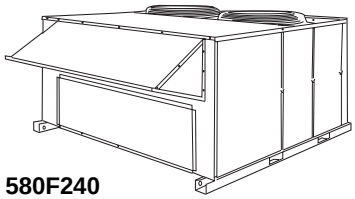

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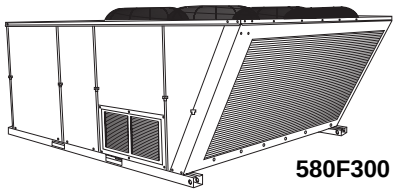

580F300

Perfect Humidity™

ENERGY STAR

ASHRAE 90.1 COMPLIANT

Standard efficiency units (580F072, 090, 120, 150 and 579F180-300) are available. Standard efficiency units (580F036-060, 073, 091,103,121,151, and 180-300) that meet ASHRAE 90.1-04 minimum energy efficiency requirements are also available. High efficiency units (581C024-060, 581B036-150 and 581A155-300) well exceed ASHRAE 90.1-04 energy efficiency requirements and must comply with Energy Star high efficiency requirements. Gas heating with electric cooling rooftops offer:

- Pre-painted galvanized steel cabinet for long life and quality appearance
- Commercial strength base rails with built-in rigging capability
- Convertible design for vertical or horizontal supply/return (024-151 field convertible, factory supplied vertical supply/return and 210-300 discrete configuration only)
- Non-corrosive, sloped condensate drain pan, meets ASHRAE 62 (IAQ)
- Two-inch return-air filters
- A wide assortment of factory-installed options available, including high-static drives that provide additional performance range
- Factory-installed optional gear driven EconoMi$er IV (vertical return for sizes 024-151 only) for use with standard rooftop unit controls (includes CO_2 sensor control capability)
- Factory-installed optional gear driven EconoMi$er2 (vertical return only) for use with third party DDC controls (includes 4 to 20 mA actuator for demand control ventilation)
- Perfect Humidity™ dehumidification package (581C036-060 and 581B036-150 only)
- Hot gas reheat dehumidification package (581A181-300 only)

Heat Options

- Exclusive integrated gas control board with diagnostics
- Alumagard™ heat exchanger coating
- Induced-draft fan for gas combustion
- Tubular, dimpled heat exchangers
- Natural gas
- LP conversion kits
- Low NO_X (size 024-060 only)
- Optional type 409 stainless steel heat exchangers.

FEATURES/BENEFITS

Every compact one-piece unit arrives fully assembled, charged, tested, and ready to run.

GAS HEAT MODELS — All ignition components are contained in the compact IGC (integrated gas controller) which is easily accessible for servicing. The IGC control board, designed and manufactured exclusively for Bryant rooftop units, provides built-in diagnostic capability. An LED (light-emitting diode) simplifies troubleshooting by providing visual fault notification and required system status confirmation.

The IGC also contains an exclusive anti-cycle protection for gas heat operation. After 4 continuous cycles on the unit high-temperature limit switch, the gas heat operation is disabled, and an error code is issued. This feature greatly improves reliability of the rooftop unit.

The IGC also contains burner control logic for accurate and dependable gas ignition. The LED is visible without removing the unit control box access panel. This LED fault-notification system reduces service person troubleshooting time and minimizes service costs. The IGC also maximizes heating efficiency by controlling evaporator-fan on and off delays.

Tubular, dimpled gas heat exchangers optimize heat transfer for improved efficiency. The tubular design permits hot gases to make multiple passes across the path of the supply air. The dimpled design creates a turbulent gas flow to maximize heating efficiency.

Form No. PDS580F-36-4

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FEATURES/BENEFITS (cont)

The efficient in-shot burners and all ignition components are contained in an easily removable, compact assembly.

The California Air Quality Management Districts NO_x requirement of 40 nanograms/joule or less is met on 036-060 size Low NO_x models.

The extra thick Alumagard™ heat exchanger coating provides corrosion resistance and ensures long life (optional stainless steel heat exchangers are available).

The unsightly appearance of flue stacks is eliminated and the effects of wind on heating operations are diminished by the induced draft combustion system. The inducer fan draws hot combustion gas through the heat exchanger at the optimum rate for the most effective heat transfer. The heat exchanger operates under negative pressure, preventing flue gas leakage into the indoor supply air.

During the heating mode, the evaporator-fan relay automatically starts the evaporator fan after the heat exchanger warms up to a suitable temperature. The 30-second fan delay prevents cold air from entering the supply duct system when the conditioned space is calling for heat to maximize efficiency.

The direct-spark ignition system saves operating expense when compared to pilot ignition systems. No crossover tube is required, therefore no sooting or pilot fouling problems can occur.

All standard units are designed for natural gas, but an accessory propane conversion kit is available.

All units have a flame rectification sensor to quickly sense the burner flame and ignite burners almost immediately. Fast shutdown is a certainty since the sensor reacts quickly to any flame outage or system failure. In the event of a shutdown, an error code is issued at the IGC board.

Safety is also assured due to the heating safety controls which will shut down the unit if there is a problem. If excessive temperatures develop, limit switches shut off the gas valve. After 4 continuous short cycles of the high-temperature limit switch, the IGC board locks out the gas heat cycle to prevent any further short cycles. This safety feature is provided exclusively on Bryant rooftop units. The rollout switch also deenergizes the gas valve in the event of a flame rollout.

QUIET, EFFICIENT OPERATION AND DEPENDABLE PERFORMANCE — Compressors have vibration isolators for quiet operation. Efficient fan and motor design permits operation at low sound levels.

Unit sizes 090-300 offer lower utility costs through part-load operation using 2 or 3 stages of cooling.

Quiet and efficient operation is provided by belt-driven evaporator fans (standard on all units over 5 tons). The belt-driven evaporator-fan is equipped with variable-pitch pulleys which allow adjustment within the rpm ranges of the factory-supplied pulleys.

Increased operating efficiency is achieved through computer-designed coils featuring staggered internally enhanced copper tubes. Fins are ripple-edged for strength, lanced, and double waved for higher heat transfer.

DURABLE, DEPENDABLE CONSTRUCTION — Designed for durability in any climate, the weather-resistant cabinets are constructed of galvanized steel and bonderized, and all exterior panels are coated with a prepainted baked enamel finish. The paint finish is non-chalking, and is capable of withstanding ASTM (American Society for Testing and Materials) B117 500-hour Salt Spray Test. All internal cabinet panels are primed, permitting longer life and a more attractive appearance for the entire unit.

In addition, all size 024-151 units are designed with a single, continuous top piece to eliminate any possible leaks at seams or gasketing. Totally enclosed condenser-fan motors and permanently lubricated bearings provide additional unit dependability.

EASY INSTALLATION AND CONVERSION

All Units are Shipped in the Vertical Duct Configuration for fit-up to standard roof curbs. The contractor can order and install the roof curb early in the construction stage, before decisions on size requirements are made.

All units feature a base rail design with forklift slots and rigging holes for easier maneuvering. Durable packaging protects all units during shipment and storage.

The units can be easily converted from a vertical to a horizontal duct configuration by relocating the panels supplied with the unit (size 024-150 only).

To Convert 024-151 Units from vertical to horizontal discharge, simply relocate 2 panels. The same basic unit can be used for a variety of applications and can be quickly modified at the jobsite.

To Convert 155-300 Units from vertical to horizontal discharge, use the optional horizontal supply/return adapter roof curb (581A155,180 and 579F/580F180-300) or accessory conversion kit (581A210-300). Please note that 581A210-300 units are available from the factory configured for horizontal supply/return.

Convenient Duct Openings in the unit basepans permit side-by-side or concentric duct connections (see Application data section) without requiring internal unit modification.

NOTE: On units using horizontal supply and return, the accessory barometric relief or power exhaust MUST be installed on the return ductwork.

Thru-The-Bottom Service Connection Capability comes standard with the rooftop unit to allow power and control wiring and gas connections to be routed through the unit's basepan, thereby minimizing roof penetrations (to prevent water leaks). (Thru-the-bottom gas connection requires thru-the-bottom accessory kit.) Power, gas and control connections are made on the same side of the unit to simplify installation.

The Non-Corrosive Sloped Condensate Drain Pan (Size 024-150) permits either an external horizontal side condensate drain (outside the roof curb) or an internal vertical bottom drain (inside the roof curb). Both options require an external, field-supplied P-trap.

Standard 2-in. Throwaway Filters are easily accessed through a removable panel located above the air intake hood. No tools are required to change unit filters.

Belt-Driven Evaporator-Fan Motors (optional on 580F units under 6 tons) allow maximum on-site flexibility without changing motors or drives.

Low Voltage Wiring Connections are easily made thanks to the large terminal board which is located for quick, convenient access.

In addition, color-coded wires permit easy tracing and diagnostics.

PROVEN COMPRESSOR RELIABILITY — Design techniques feature computer-programmed balance between compressor, condenser, and evaporator. Bryant-specified hermetic compressors are equipped with compressor overcurrent and overtemperature protection to ensure dependability.

All units have Bryant's exclusive Acutrol™ (024-151) or TXV (thermostatic expansion valve) metering device (155-300) which precisely controls refrigerant flow, preventing slugging and flood-back, while maintaining optimum unit performance. Refrigerant filter driers are standard.

INTEGRATED ECONOMIZERS AND OUTDOOR-AIR DAMPERS — Available as options or accessories, economizers and manual outdoor-air dampers introduce outdoor air which mixes with the conditioned air, improving indoor-air quality and often reducing energy consumption.

During a first stage call for cooling, if the outdoor-air temperature is below the economizer control changeover set point, the mixed-air sensor modulates the economizer outdoor-air damper open to take advantage of free cooling provided by the outside air. When second-stage cooling is called for, the compressor is energized in addition to the economizer. If the outdoor-air temperature is above the changeover set point, the first stage of compression is activated and the economizer damper stays at minimum position.

Accessory upgrade kits allow for control by differential dry-bulb temperature (outdoor vs return), outdoor air enthalpy changeover, or more precise differential enthalpy control.

Units can be equipped with different economizer options to meet specific controls applications. The factory-installed or field-installed EconoMi$er IV and EconoMi$er2 are available. The EconoMi$er IV is used with the standard rooftop unit controls and includes an industry standard, stand-alone, solid-state controller. The control can be used with a CO_2 sensor for DCV (demand control ventilation) operation. For direct digital control (DDC) applications, the EconoMi$er2 can be operated using a third party control system. The EconoMi$er2 includes 4 to 20 mA actuator capability for demand control ventilation applications.

All economizers incorporate a parallel blade, gear-driven damper system for efficient air mixing and reliable control. In addition, the standard damper actuator includes a spring return to provide reliable closure on power loss. The economizers for sizes 024-151 are equipped with up to 100% barometric relief capability for high outdoor airflow operations. Economizers for unit sizes 024-151 are available, factory-installed, for vertical return only. Economizers for unit sizes 155-300 are compatible for vertical or horizontal return. An optional field-installed barometric relief package is available for size 155-300 units.

In addition, single-stage power exhaust is available as a field-installed accessory for EconoMi$er IV to help maintain proper building pressure.

For units without economizer, year-round ventilation is enhanced by an optional manual outdoor-air damper. On 024-150 units, a 25% or 50% manual damper is available as a field-installed accessory. Unit sizes 155-300 are equipped with a manual 25% damper.

SERVICE OPTIONS (581B and 581A Units Only) — Servicing a rooftop unit has never been easier with the factory-installed service options for these rooftop units. These options include the following:

- Hinged access panels are provided for the filter/indoor-fan motor, compressors, evaporator fan, and control box areas. Quick access to major components is accomplished by simply unlatching and swinging open the various panels. Each hinged panel is permanently mounted to the unit, thereby eliminating the concern of a dropped or wind-blown panel puncturing delicate roof materials. The 4 extended access panels are also equipped with "tie back" retaining devices to hold the door in the open position while servicing the unit.
- An external, covered, 115-v Ground Fault Interrupt (GFI) receptacle is provided as a convenient power source for drills, lights, refrigerant recovery units, or other electrical service tools. A factory-supplied step down transformer is connected to the "load" side of the unit main power connection (size 024-150). For sizes 155-300, connect the outlet to a field-supplied and properly fused branch circuit power supply.
- Slide out "motor-drive-blower" reduces service time (only on 581A210-300).
- An integral non-fused disconnect switch within the rooftop unit reduces installation time, labor and material costs. Safety is assured by an interlock which prevents access to the control box unless the switch is in the OFF position. In addition, the externally mounted handle incorporates power lockout capability to further protect service personnel.

INDOOR-AIR QUALITY (IAQ) BEGINS WITH BRYANT ROOFTOPS — Sloped condensate pans minimize biological growth in rooftop units in accordance with ASHRAE (American Society of Heating, Refrigeration and Air Conditioning Engineers) Standard 62. Two-inch filters with optional dirty filter indicator switch provide for greater particle reduction in the return air. The face-split evaporator coils improve the dehumidification capability of standard units, maximize building humidity control.

Optional proportional reacting CO_2 sensor is available with the EconoMi$er IV outdoor air damper option/accessory to aid the IAQ benefits.

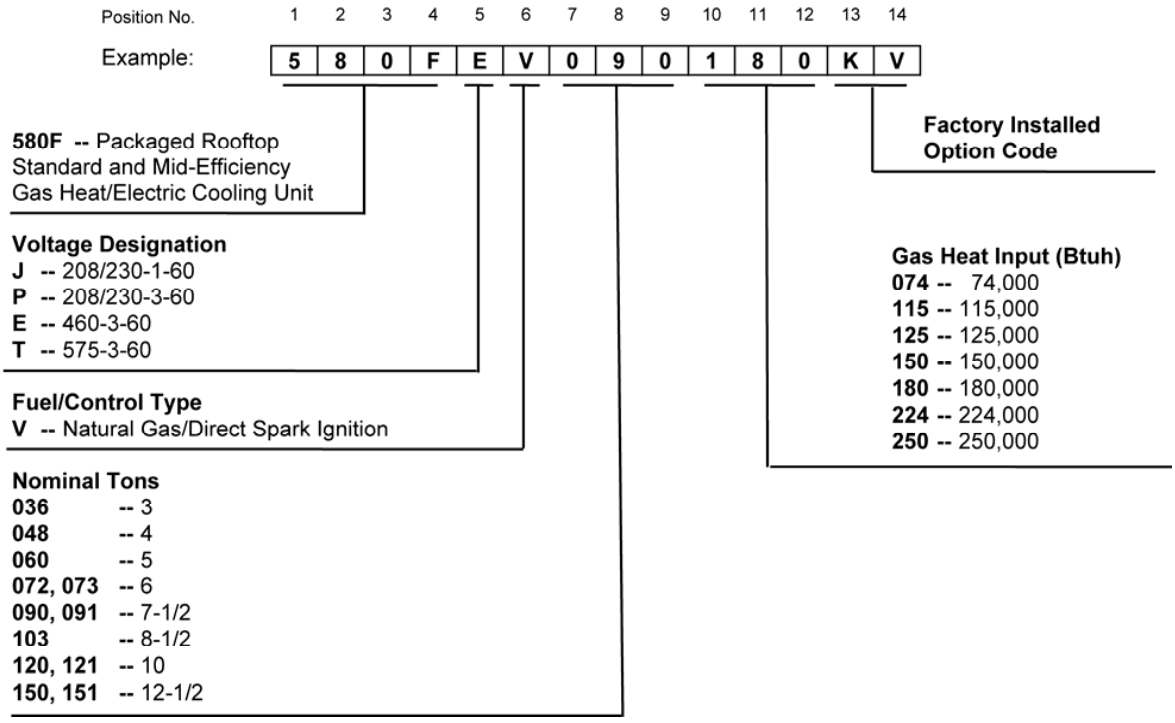
PERFECT HUMIDITY™ ADAPTIVE DEHUMIDIFICATION SYSTEM (581C036-060 and 581B036-150 only) — Bryant's Perfect Humidity adaptive dehumidification system is an all-inclusive factory-installed option that can be ordered with any 581B rooftop unit to meet the demand for providing a flexible and high performing solution to accommodate all of these design related issues. This system expands the envelope of operation of 581B rooftop products to provide unprecedented flexibility to meet year-round comfort conditions. The Perfect Humidity adaptive dehumidification system has the industry's only dual dehumidification mode setting. The Perfect Humidity system includes two new modes of operation. The 581B and 581C rooftop coupled with the Perfect Humidity system is capable of operating in normal design cooling mode, subcooling mode, and hot gas reheat mode. Normal Design Cooling mode is when the unit will operate under its normal sequence of operation by cycling compressors to maintain comfort conditions. Subcooling mode will operate to satisfy part load type conditions when the space requires combined sensible and a higher proportion of latent load control. Hot Gas Reheat mode will operate when outdoor temperatures diminish and the need for latent capacity is required for sole humidity control. Hot Gas Reheat mode will provide neutral air for maximum dehumidification operation.

EXCLUSIVE HOT GAS REHEAT DEHUMIDIFICATION PACKAGE (581A181-300) — The hot gas reheat dehumidification package is a result of recent advances by Bryant in controlling comfort levels. This factory-installed option significantly improves the dehumidification capability of the rooftop unit and helps control humidity levels in the building.

This option provides increased dehumidification by cooling the hot liquid refrigerant leaving the condenser coil. The hot gas reheat package consists of a subcooling coil located on the leaving-air side of the evaporator coil. The location of this coil in the indoor airstream enhances the latent capacity of the units by as much as 40%. Many buildings suffer from humidity damage or poor indoor air quality due to humid conditions. The improved latent capacity provided by the hot gas reheat option reduces the building's humidity, eliminating potential property damage and making the space more comfortable.

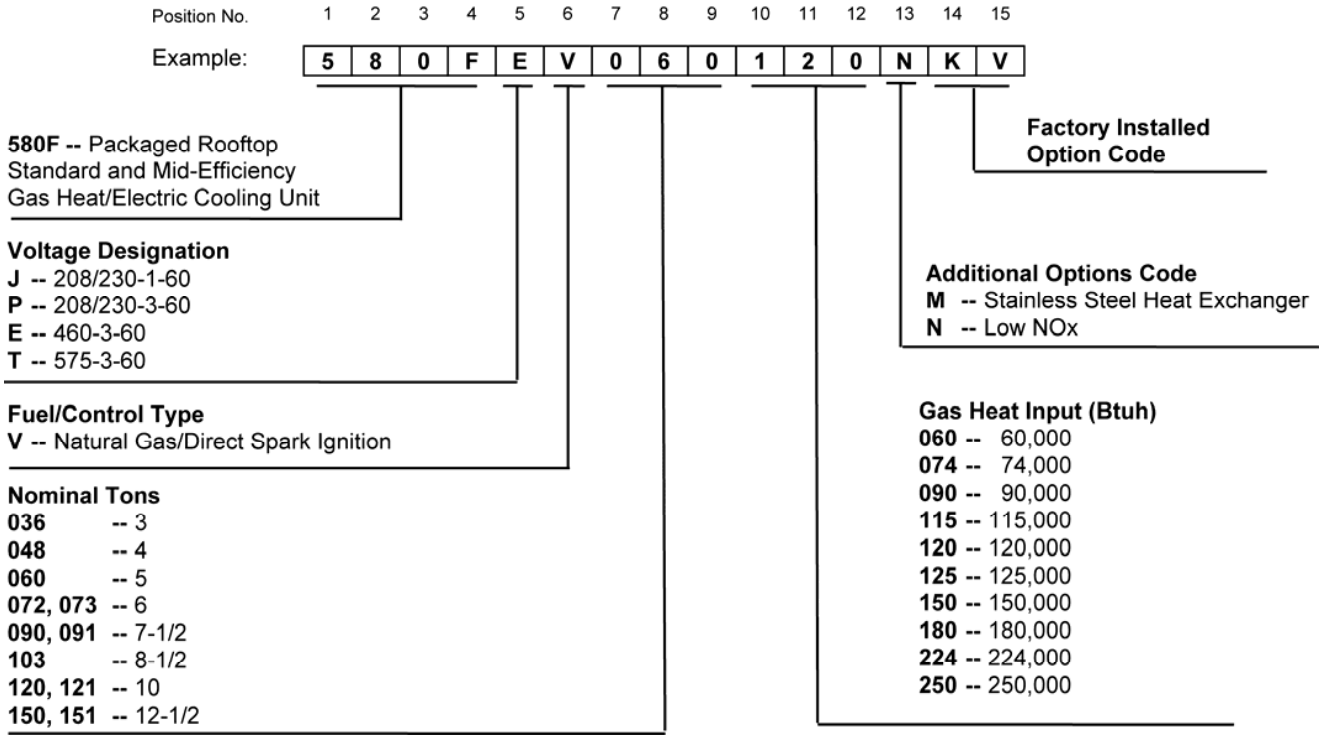
The hot gas reheat option is the ideal IAQ option for hot and humid regions. The operation of the hot gas reheat package can be controlled by a field-installed, wall mounted humidistat or Thermidistat™ device. The circuit activates only when needed (using the accessory humidistat) as opposed to some dehumidification systems that operate continuously. The humidistat can be set for any humidity level between 20% and 80% relative humidity. The Thermidistat device can be set for any humidity level between 50% and 90% relative humidity.

MODEL NUMBER NOMENCLATURE
580F036-151 3 to 12 1/2 Tons



NOTE: The example model number 580FEV090180KV designates a 7 1/2 ton 460-3-60 volt gas/electric rooftop unit with 180,000 Btuh natural gas heat, EconoMi$er IV and Alternate Drive.

MODEL NUMBER NOMENCLATURE
580F036-151 (Stainless Steel and Low NOx) 3 to 12 1/2 Tons



NOTE: The example model number 580FEV060120NKV designates a 5 ton 460-3-60 volt low NOx gas/electric rooftop unit with 120,000 Btuh natural gas heat, EconoMi$er IV and Alternate Drive.

ASHRAE 90.1 COMPLIANT

MODEL NUMBER NOMENCLATURE
581B036-150 (Standard) 3 to 12 1/2 Tons

Position No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Example:	5	8	1	B	E	V	0	9	0	1	8	0	H	Q

581B -- Packaged Rooftop
High-Efficiency
Gas Heat/Electric Cooling

Voltage Designation
J -- 208/230-1-60
P -- 208/230-3-60
E -- 460-3-60
T -- 575-3-60

Fuel/Control Type
V -- Natural Gas/Direct Spark Ignition

Nominal Tons
036 -- 3
048 -- 4
060 -- 5
072 -- 6
090 -- 7-1/2
102 -- 8-1/2
120 -- 10
150 -- 12-1/2

Factory Installed Option Code

Gas Heat Input (Btuh)
072 -- 72,000
115 -- 115,000
125 -- 125,000
150 -- 150,000
180 -- 180,000
224 -- 224,000
250 -- 250,000

NOTE: The example model number 581BEV090180HQ designates a 7 1/2 ton 460-3-60 volt gas/electric rooftop unit with 180,000 Btuh natural gas heat and EconoMi$er IV.

MODEL NUMBER NOMENCLATURE
581B036-150 (Stainless Steel and Low NOx) — 3 to 12 1/2 Tons

Position No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Example:	5	8	1	B	E	V	0	6	0	1	2	0	N	H	Q

581B -- Packaged Rooftop
High-Efficiency
Gas Heat/Electric Cooling

Voltage Designation
J -- 208/230-1-60
P -- 208/230-3-60
E -- 460-3-60
T -- 575-3-60

Fuel/Control Type
V -- Natural Gas/Direct Spark Ignition

Nominal Tons
036 -- 3
048 -- 4
060 -- 5
072 -- 6
090 -- 7-1/2
102 -- 8-1/2
120 -- 10
150 -- 12-1/2

Factory Installed Option Code

Additional Options Code
M -- Stainless Steel Heat Exchanger
N -- Low NOx

Gas Heat Input (Btuh)
060 -- 60,000
072 -- 72,000
090 -- 90,000
115 -- 115,000
120 -- 120,000
125 -- 125,000
150 -- 150,000
180 -- 180,000
224 -- 224,000
250 -- 250,000

NOTE: The example model number 581BEV0601202HQ designates a 5 ton 460-3-60 volt Low NOx gas/electric rooftop unit with 120,000 Btuh natural gas heat and EconoMi$er IV.

ENERGY STAR

MODEL NUMBER NOMENCLATURE
581C024-060 (Standard Efficiency) — 2 to 5 Tons

Position No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Example:	5	8	1	C	E	V	0	6	0	1	5	0	H	Q

581C -- Packaged Rooftop
Ultra High Efficiency
Gas Heat/Electric Cooling

Voltage Designation
J -- 208/230-1-60
P -- 208/230-3-60
E -- 460-3-60
T -- 575-3-60

Fuel/Control Type
V -- Natural Gas/Direct Spark Ignition

Nominal Tons
024 -- 2
036 -- 3
048 -- 4
060 -- 5

Factory Installed Option Code

Gas Heat Input (Btuh)
050 -- 50,000
072 -- 72,000
115 -- 115,000
125 -- 125,000
150 -- 150,000

NOTE: The example model number 581CEV060150HQ designates a 5 ton 460-3-60 volt gas/electric rooftop unit with 150,000 Btuh natural gas heat and EconoMi$er IV.

MODEL NUMBER NOMENCLATURE
581C024-060 (Stainless Steel and Low NOx) — 2 to 5 Tons

Position No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Example:	5	8	1	C	E	V	0	6	0	1	2	0	N	H	Q

581C -- Packaged Rooftop
Ultra High Efficiency
Gas Heat/Electric Cooling

Voltage Designation
J -- 208/230-1-60
P -- 208/230-3-60
E -- 460-3-60
T -- 575-3-60

Fuel/Control Type
V -- Natural Gas/Direct Spark Ignition

Nominal Tons
024 -- 2
036 -- 3
048 -- 4
060 -- 5

Factory Installed Option Code

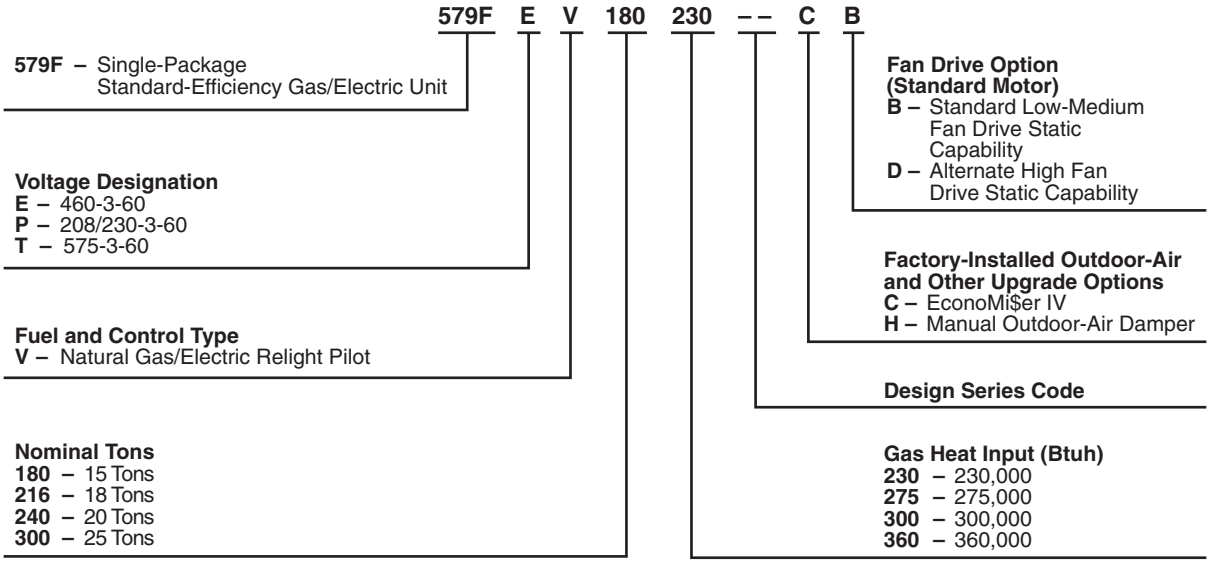
Additional Options Code
M -- Stainless Steel Heat Exchanger
N -- Low NOx

Gas Heat Input (Btuh)
050 -- 50,000
072 -- 72,000
115 -- 115,000
120 -- 120,000
150 -- 150,000

NOTE: The example model number 581CEV060120NHQ designates a 5 ton 460-3-60 volt Low NOx gas/electric rooftop unit with 120,000 Btuh natural gas heat and EconoMi$er IV.

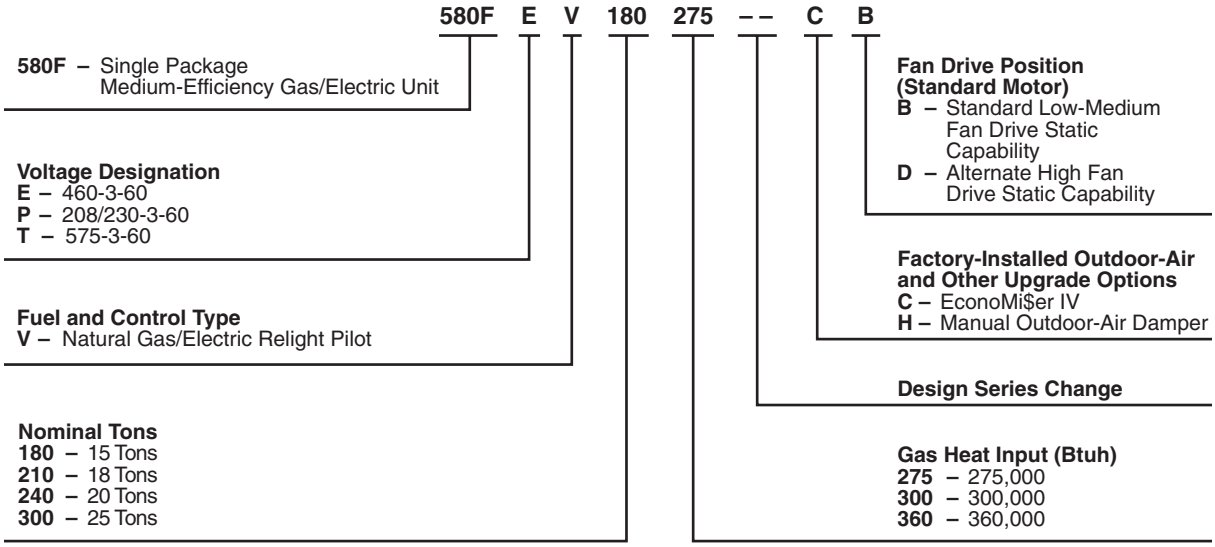
ENERGY STAR

MODEL NUMBER NOMENCLATURE — 579F180-300



NOTES:
1. All indoor-fan motors 5 hp and larger meet the minimum efficiency requirements as established by the Energy Policy Act of 1992 (EPACT) effective October 24, 1997.
2. The example model number 579FEV180230--CB designates a 15-ton 460-3-60 volt gas/electric rooftop unit with 230,000 Btuh natural gas heat input, EconoMi$er IV, and the standard low-medium fan drive static capability.

MODEL NUMBER NOMENCLATURE 580F180-300



NOTES:
1. All indoor-fan motors 5 hp and larger meet the minimum efficiency requirements as established by the Energy Policy Act of 1992 (EPACT) effective October 24, 1997.
2. The example model number 580FEV180275--CB designates a 15-ton 460-3-60 volt gas/electric rooftop unit with 275,000 Btuh natural gas heat input, EconoMi$er IV, and the standard low-medium fan drive static capability.

ASHRAE 90.1 COMPLIANT

MODEL NUMBER NOMENCLATURE
581A155, 180, 181 — 13 to 15 Tons

581A E V 180 230 – – C B

581A – Single Package High Efficiency Gas/Electric Unit

Voltage Designation
E – 460-3-60
P – 208/230-3-60
T – 575-3-60

Fuel and Control Type
V – Natural Gas/Electric Relight Pilot

Nominal Tons
155 – 13 Tons
180 – 15 Tons
181 – 15 Tons with hot gas reheat*

Fan Drive Position (Standard Motor)
B – Standard Low-Medium Fan Drive Static Capability
D – Alternate High Fan Drive Static Capability

Factory-Installed Outdoor-Air and Other Upgrade Options
C – EconoMi$er IV
H – Manual Outdoor-Air Damper

Design Series Change

Gas Heat Input (Btuh)
230 – 230,000
275 – 275,000
300 – 300,000
360 – 360,000

*See pages 212 and 213 for cooling capacity tables for 581A181 unit. For all other data, contact application engineering.

NOTE: All indoor-fan motors 5 hp and larger meet the minimum efficiency requirements as established by the Energy Policy Act of 1992 (EPACT) effective October 24, 1997.

The example model number: 581AEV180230--CB designates a 15 ton 460-3-60 high efficiency gas/electric rooftop unit with 230,000 Btuh natural gas input, EconoMi$er IV and standard, low-medium fan drive static capability.

ENERGY STAR

MODEL NUMBER NOMENCLATURE
581A210-300 — 18 to 25 Tons

5 8 1 A E A 2 1 0 2 5 0 – – A A

581A – High Efficiency Rooftop Units Gas Heating/ Electric Cooling Constant Volume

Voltage Designation
E – 460-3-60
P – 208/230-3-60
T – 575-3-60

Indoor Fan, Orientation, Hinged Doors Return/Supply Smoke Detector Options*

Nominal Cooling Capacity
210 – 18 Tons
240 – 20 Tons
300 – 25 Tons

Units with hot gas reheat**
181 - 15 Tons
211 - 18 Tons
241 - 20 Tons
301 - 25 Tons

Gas Heat Input (Btuh)

250 – 250,000	25S-- 250,000 w/SS Heat Exchanger
365 – 365,000	36S-- 365,000 w/SS Heat Exchanger
400 – 400,000	40S-- 400,000 w/SS Heat Exchanger

Factory-Installed Options*

Coil Protection Options*

Design Series Code

ENERGY STAR

SS - Stainless Steel Heat Exchanger
* Refer to unit price pages
** See pages 213 and 214 for cooling capacity tables for 5581A181 unit. For all other data, contact your Bryant representative.

ARI* CAPACITY RATINGS — 580F036-151

UNIT 580F	NOMINAL TONS	STANDARD CFM	NET COOLING CAPACITY (Btuh)	TOTAL kW	SEER†		SOUND RATING (dB)
					Belt Drive	Direct Drive	
036	3	1200	35,000	4.0	10.0	9.7	81
048	4	1600	47,000	5.3	10.0	9.7	81
060	5	2000	57,000	6.7	10.0	9.7	81

UNIT 580F	NOMINAL TONS	NET COOLING CAPACITY (Btuh)	TOTAL kW	EER	SOUND RATING (dB)	IPLV
072	6	72,000	8.0	9.0	81	**
073	6	71,000	7.0	10.1	80	**
090	7 1/2	85,000	9.6	8.9	87	9.40
091	7 1/2	88,000	8.7	10.1	82	10.5
103	8 1/2	100,000	9.9	10.1	82	10.4
120	10	117,000	13.0	9.0	88	9.40
121	10	114,000	11.3	10.1	84	11.0
150	12 1/2	144,000	16.0	9.0	87	9.20
151	12 1/2	136,000	14.3	9.5	86	9.70

LEGEND

dB — Sound Levels (decibels)
db — Dry Bulb
EER — Energy Efficiency Ratio
IPLV — Integrated Part-Load Values
SEER — Seasonal Energy Efficiency Ratio
wb — Wet Bulb

*Air Conditioning and Refrigeration Institute.
†Applies only to units with capacity of 65,000 Btuh or less.
**The IPLV applies only to two-stage cooling units.

NOTES:
1. Rated in accordance with ARI Standards 210/240 (for sizes 036-120) or 360, (for size 150 and 151) and 270.
2. ARI ratings are net values, reflecting the effects of circulating fan heat.
3. Ratings are based on:
   Cooling Standard: 80 F db, 67 F wb indoor entering-air temperature and 95 F db air entering outdoor unit.
   IPLV Standard: 80 F db, 67 F wb indoor entering-air temperature and 80 F db outdoor entering-air temperature.
4. All 580F036, 048, 060, 073, 091, 103, 121, 151 units are in compliance with ASHRAE 90.1-1999 Energy Standard for minimum SEER and EER requirements. Refer to state and local codes or visit the following website: http://bcap-energy.org to determine if compliance with this standard pertains to a given geographical area of the United States.

ARI Standard 210/240 UAC

ARI Standard 340/360

HEATING CAPACITIES AND EFFICIENCIES (Standard-Efficiency Units) — 580F036-151

208/230-1-60 — SINGLE-STAGE GAS HEAT

UNIT 580F	INPUT CAPACITY	OUTPUT CAPACITY	TEMPERATURE RISE (°F)	MINIMUM HEATING AIRFLOW (CFM)	EFFICIENCY	
					AFUE (%)	Steady State (%)
036074	74,000	57,000	25-55	1004	80	80
036115	115,000	89,000	55-85	1002	80	80
048074	74,000	57,000	25-55	1004	80	80
048115	115,000	91,000	35-65	1327	80	80
048150	150,000	118,000	50-80	1396	80	80
060074	74,000	57,000	25-55	1004	80	80
060115	115,000	91,000	35-65	1327	80	80
060150	150,000	118,000	50-80	1314	80	80

208/230-1-60 — SINGLE-STAGE GAS HEAT — LOW NOx

UNIT 580F	INPUT CAPACITY	OUTPUT CAPACITY	TEMPERATURE RISE (°F)	MINIMUM HEATING AIRFLOW (CFM)	EFFICIENCY	
					AFUE (%)	Steady State (%)
036060N	60,000	49,000	20-50	910	80	80
036090N	90,000	73,000	30-60	1130	80	80
048060N	60,000	49,000	20-50	910	80	80
048090N	90,000	73,000	30-60	1130	80	80
048120N	120,000	98,000	40-70	1300	80	80
060060N	60,000	49,000	20-50	910	80	80
060090N	90,000	73,000	30-60	1130	80	80
060120N	120,000	98,000	40-70	1300	80	80

ARI* CAPACITY RATINGS (cont)

HEATING CAPACITIES AND EFFICIENCIES (Standard Efficiency Units) — 580F036-151 (cont)

208/230/460-3-60 — SINGLE-STAGE GAS HEAT — LOW NOx

UNIT 580F	INPUT CAPACITY	OUTPUT CAPACITY	TEMPERATURE RISE (°F)	MINIMUM HEATING AIRFLOW (CFM)	EFFICIENCY	
					AFUE (%)	Steady State (%)
036060N	60,000	49,000	20-50	910	80	80
036090N	90,000	73,000	30-60	1130	80	80
048060N	60,000	49,000	20-50	910	80	80
048090N	90,000	73,000	30-60	1130	80	80
048120N	120,000	98,000	40-70	1300	80	80
060060N	60,000	47,000	20-50	910	80	80
060090N	90,000	73,000	30-60	1130	80	80
060120N	120,000	98,000	40-70	1300	80	80

208/230, 460, 575-3-60 — 2-STAGE GAS HEAT

UNIT 580F	INPUT CAPACITY		OUTPUT CAPACITY		TEMPERATURE RISE (°F)	MINIMUM HEATING AIRFLOW (CFM)	EFFICIENCY	
	1st Stage	2nd Stage	1st Stage	2nd Stage			AFUE (%)	Steady State (%)
036115	82,000	115,000	65,600	92,000	55-85	1004	80	80
048150	120,000	150,000	96,000	120,000	50-80	1396	80	80
060150	120,000	150,000	96,000	120,000	50-80	1314	80	80
072150	120,000	150,000	96,000	120,000	50-80	1390	80	80
090180	120,000	180,000	96,000	144,000	35-65	2060	80	80
090224	180,000	224,000	144,000	179,200	45-75	2230	80	80
120180	120,000	180,000	90,000	144,000	35-65	2060	80	80
120224	180,000	224,000	144,000	179,200	35-65	2510	80	80
120250	200,000	250,000	160,000	200,000	40-70	2650	80	80
150224	180,000	224,000	144,000	179,200	35-65	2510	80	80
150250	200,000	250,000	160,000	200,000	40-70	2650	80	80

208/230, 460, 575-3-60 — SINGLE-STAGE GAS HEAT

UNIT 580F	INPUT CAPACITY	OUTPUT CAPACITY	TEMPERATURE (°F)	MINIMUM HEATING AIRFLOW (CFM)	EFFICIENCY	
					AFUE (%)	Steady State (%)
036074	74,000	59,200	15-45	1220	80	80
048074	74,000	59,200	15-45	1220	80	80
048115	115,000	92,000	35-65	1320	80	80
060074	74,000	59,200	15-45	1220	80	80
060115	115,000	92,000	35-65	1320	80	80
072074	74,000	59,200	15-45	1220	80	80
072115	115,000	92,000	35-65	1320	80	80
090125, 091125	125,000	100,000	20-50	1860	80	80
103125	125,000	100,000	20-50	1860	80	80

LEGEND

AFUE — Annual Fuel Utilization Efficiency

HEATING CAPACITIES AND EFFICIENCIES (Medium-Efficiency Units) — 580F036-151

UNIT 580F	HEATING INPUT (Btuh) Stage 2/Stage 1	OUTPUT CAPACITY (Btuh)	TEMPERATURE RISE (F)	MINIMUM HEATING AIRFLOW (CFM)	AFUE (%)	STEADY-STATE EFFICIENCY (%)
073074	—/ 74,000	59,200	25-55	1220	80.0	80.0
073115	—/115,000	92,000	35-65	1320	80.0	80.0
073150	150,000/120,000	120,000	50-80	1390	80.0	80.0
091125	—/125,000	100,000	20-50	1860	80.0	80.0
091180	180,000/120,000	144,000	35-65	2060	80.0	80.0
091224	224,000/180,000	179,200	45-75	2180	80.0	80.0
103125	—/125,000	100,000	20-50	1860	80.0	80.0
103180	180,000/120,000	144,000	35-65	2060	80.0	80.0
103224	224,000/180,000	179,200	45-75	2180	80.0	80.0
121180	180,000/120,000	144,000	35-65	2060	80.0	80.0
121224	224,000/180,000	179,200	35-65	2510	80.0	80.0
121250	250,000/200,000	200,000	40-70	2650	80.0	80.0
151224	224,000/180,000	179,200	35-65	2510	80.0	80.0
151250	250,000/200,000	200,000	40-70	2650	80.0	80.0

ARI* CAPACITY RATINGS — 581B036-150

UNIT 581B	NOMINAL TONS	COOLING (Btuh)	TOTAL kW	SEER†	EER	SOUND RATING dB	IPLV
036	3	36,000	3.21	13.0	11.20	76	**
048	4	46,000	4.25	13.0	11.05	76	**
060	5	61,000	5.55	13.0	11.00	80	**
072	6	73,000	6.70	—	11.00	80	**
090	7 1/2	90,000	8.18	—	11.00	82	11.6
102	8 1/2	103,000	8.90	—	11.60	82	12.8
120	10	120,000	10.91	—	11.00	84	11.4
150	12 1/2	138,000	14.40	—	9.6	86	10.3

LEGEND

EER — Energy Efficiency Ratio
IPLV — Integrated Part-Load Value
SEER — Seasonal Energy Efficiency Ratio

*Air-Conditioning & Refrigeration Institute.
†Applies only to units with capacity of 65,000 Btuh or less.
**The IPLV is not applicable to single-compressor units.

NOTES:
1. Rated in accordance with ARI Standard 210/240 (036-120 units) or 360 (150 units) and 270 (036-150 units).
2. Ratings are net values, reflecting the effects of circulating fan heat. Ratings are based on:
   Cooling Standard: 80 F db, 67 wb indoor entering-air temperature and 95 F db outdoor entering-air temperature.
   IPLV Standard: 80 F db, 67 F wb indoor entering-air temperature and 80 F db outdoor entering-air temperature.

ARI Standard 210/240 UAC
Sizes 036-120 Only

ARI Standard 340/360
Sizes 150 Only

3. All 581C024-060 and 581B036-150 units are in compliance with ASHRAE 90.1-1999 Energy Standard for minimum SEER and EER requirements. Refer to state and local codes or visit the following website: http://bcap-energy.org to determine if compliance with this standard pertains to a given geographical area of the United States.
4. All 581C024-060 and 581B036-120 units are Energy Star certified.

HEATING CAPACITIES AND EFFICIENCIES — 581B036-150

208/230-1-60 — SINGLE-STAGE GAS HEAT

UNIT 581B	INPUT CAPACITY	OUTPUT CAPACITY	TEMPERATURE RISE (°F)	MINIMUM HEATING AIRFLOW (CFM)	EFFICIENCY	
					AFUE (%)	Steady State (%)
036072	72,000	58,000	25-55	1004	82.8	82.0
036115	115,000	90,000	55-85	1002	80.0	80.0
048072	72,000	58,000	25-55	1004	82.8	82.0
048115	115,000	90,000	35-65	1320	81.0	81.0
048150	150,000	118,000	50-80	1396	80.4	80.0
060072	72,000	58,000	25-55	1004	82.8	82.0
060115	115,000	92,000	35-65	1327	81.0	81.0
060150	150,000	118,000	50-80	1314	80.4	80.0

LEGEND

AFUE — Annual Fuel Utilization Efficiency.

208/230-1-60 — SINGLE-STAGE GAS HEAT — LOW NOx

UNIT 581B	INPUT CAPACITY	OUTPUT CAPACITY	TEMPERATURE RISE (°F)	MINIMUM HEATING AIRFLOW (CFM)	EFFICIENCY	
					AFUE (%)	Steady State (%)
036060N	60,000	50,000	20-50	930	80.2	81.2
036090N	90,000	74,000	30-60	1150	81.0	81.4
048060N	60,000	50,000	20-50	930	80.2	81.2
048090N	90,000	74,000	30-60	1150	81.0	81.4
048120N	120,000	101,000	40-70	1340	80.7	82.4
060060N	60,000	50,000	20-50	930	80.2	81.2
060090N	90,000	74,000	30-60	1150	81.0	81.4
060120N	120,000	101,000	40-70	1340	80.7	82.4

LEGEND

AFUE — Annual Fuel Utilization Efficiency.

ARI* CAPACITY RATINGS (cont)

HEATING CAPACITIES AND EFFICIENCIES — 581B036-150(cont)

208/230/460-3-60 — SINGLE-STAGE GAS HEAT — LOW NOx

UNIT 581B	INPUT CAPACITY	OUTPUT CAPACITY	TEMPERATURE RISE (°F)	MINIMUM HEATING AIRFLOW (CFM)	EFFICIENCY	
					AFUE (%)	Steady State (%)
036060N	60,000	50,000	20-50	930	80.2	81.2
036090N	90,000	74,000	30-60	1150	81.0	81.4
048060N	60,000	50,000	20-50	930	80.2	81.2
048090N	90,000	74,000	30-60	1150	81.0	81.4
048120N	120,000	101,000	40-70	1340	80.7	82.4
060060N	60,000	50,000	20-50	930	80.2	81.2
060090N	90,000	74,000	30-60	1150	81.0	81.4
060120N	120,000	101,000	40-70	1340	80.7	82.4

208/230/460-3-60 — 2-STAGE GAS HEAT

UNIT 581B	INPUT CAPACITY		OUTPUT CAPACITY		TEMPERATURE RISE (°F)	MINIMUM HEATING AIRFLOW (CFM)	EFFICIENCY	
	1st Stage	2nd Stage	1st Stage	2nd Stage			AFUE (%)	Steady State (%)
036072	50,000	72,000	41,000	59,040	25-55	1004	82.8	82.0
036115	82,000	115,000	65,600	93,150	55-85	1002	80.0	80.0
048072	50,000	72,000	41,000	59,040	25-55	1004	82.8	82.0
048115	82,000	115,000	66,420	93,150	35-65	1330	81.0	81.0
048150	120,000	150,000	96,000	120,000	50-80	1390	80.4	80.0
060072	50,000	72,000	41,000	59,040	25-55	1004	82.8	82.0
060115	82,000	115,000	66,420	93,150	35-65	1330	81.0	81.0
060150	120,000	150,000	96,000	120,000	50-80	1370	80.4	80.0
072072	50,000	72,000	41,000	59,040	25-55	1220	82.0	82.0
072115	82,000	115,000	66,420	93,150	35-65	1330	81.0	81.0
072150	120,000	150,000	96,000	120,000	50-80	1390	80.0	80.0
090125	90,000	125,000	73,800	102,500	20-50	1900	82.0	82.0
090180	120,000	180,000	98,400	147,600	35-65	1440	82.0	82.0
090224	180,000	224,000	147,600	183,680	45-75	2230	82.0	82.0
102125	90,000	125,000	73,800	102,500	20-50	1900	82.0	82.0
102180	120,000	180,000	98,400	147,600	35-65	1440	82.0	82.0
102224	180,000	224,000	147,600	183,680	45-75	2230	82.0	82.0
120180	120,000	180,000	98,400	147,600	35-65	1440	82.0	82.0
120224	180,000	224,000	147,600	183,680	35-65	2570	82.0	82.0
120250	200,000	250,000	160,000	200,000	40-70	2650	80.0	80.0
150224	180,000	224,000	147,600	183,680	35-65	2570	82.0	82.0
150250	200,000	250,000	160,000	200,000	40-70	2650	80.0	80.0

LEGEND

AFUE — Annual Fuel Utilization Efficiency

NOTE: Capacities for stainless steel heat exchanger units are the same as standard units.

**ARI* CAPACITY RATINGS — 581C024-060

UNIT 581C	NOMINAL TONS	COOLING (Btuh)	TOTAL kW	SEER	EER	SOUND RATING (decibels)
024	2	24,000	3.2	14.1	12.0**	76
036	3	36,200	4.1	14.0	11.8**	76
048	4	46,000	5.5	14.0	11.7**	76
060	5	59,000	6.7	14.0	11.9	80

LEGEND

EER — Energy Efficiency Ratio
SEER — Seasonal Energy Efficiency Ratio

*Air-Conditioning & Refrigeration Institute.
**ARI does not require EER ratings for unit with capacity below 65,000 Btuh. For these units, the EER rating at ARI standard conditions is provided for information only.

NOTES:
1. Rated in accordance with ARI Standard 210-94 or 360-93.
2. Ratings are net values, reflecting the effects of circulating fan heat.
3. Ratings are based on:
   Cooling Standard: 80 F db, 67 wb indoor entering-air temperature and 95 F db outdoor entering-air temperature.
   IPLV Standard: 80 F db, 67 F wb indoor entering-air temperature and 80 F db outdoor entering-air temperature.

ARI Standard 210/240 UAC

4. All 581C024-060 units are in compliance with ASHRAE 90.1 2001, 2004 Energy Standard for minimum SEER and EER requirements. Refer to state and local codes or visit the following website: http://bcap-energy.org to determine if compliance with this standard pertains to a given geographical area of the United States.

HEATING CAPACITIES AND EFFICIENCIES — 581C024-060

208/230-1-60 — SINGLE-STAGE GAS HEAT

UNIT	INPUT CAPACITY		OUTPUT CAPACITY		TEMPERATURE	MINIMUM HEATING	EFFICIENCY	
581C	1st Stage	2nd Stage	1st Stage	2nd Stage	RISE (°F)	AIRFLOW (CFM)	AFUE (%)	Steady State (%)
024050	50,000	—	40,500	—	25-65	575	81.00	81
036072	72,000	—	59,040	—	25-55	1004	82.80	82
036115	115,000	—	92,000	—	55-85	1002	80.00	80
048072	72,000	—	58,000	—	25-55	1004	82.80	82
048115	115,000	—	92,000	—	35-65	1320	81.00	81
048150	150,000	—	118,000	—	50-80	1396	80.40	80
060072	72,000	—	58,000	—	25-55	1004	82.80	82
060115	115,000	—	92,000	—	35-65	1327	81.00	81
060150	150,000	—	118,000	—	50-80	1314	80.40	80

208/230-1-60 — SINGLE-STAGE GAS HEAT — LOW NOx

UNIT	INPUT CAPACITY		OUTPUT CAPACITY		TEMPERATURE	MINIMUM HEATING	EFFICIENCY	
581C	1st Stage	2nd Stage	1st Stage	2nd Stage	RISE (°F)	AIRFLOW (CFM)	AFUE (%)	Steady State (%)
024050N	50,000	—	40,500	—	25-65	575	81.00	81
036060N	60,000	—	50,000	—	20-50	930	80.20	81
036090N	90,000	—	74,000	—	30-60	1150	81.00	81
048060N	60,000	—	50,000	—	20-50	930	80.20	81
048090N	90,000	—	74,000	—	30-60	1150	81.00	81
048120N	120,000	—	101,000	—	40-70	1340	80.70	82
060060N	60,000	—	50,000	—	20-50	930	80.20	81
060090N	90,000	—	74,000	—	30-60	1150	81.00	81
060120N	120,000	—	101,000	—	40-70	1340	80.70	82

AFUE — Annual Fuel Utilization Efficiency

NOTE: Capacities for stainless steel heat exchanger units (S/R/T) are the same as standard units (D/E/F).

HEATING CAPACITIES AND EFFICIENCIES — 581C024-060 (cont)

208/230/460-3-60 — SINGLE-STAGE GAS HEAT — LOW NOx

UNIT	INPUT CAPACITY		OUTPUT CAPACITY		TEMPERATURE	MINIMUM HEATING	EFFICIENCY	
581C	1st Stage	2nd Stage	1st Stage	2nd Stage	RISE (°F)	AIRFLOW (CFM)	AFUE (%)	Steady State (%)
036060N	60,000	—	50,000	—	20-50	930	80.20	81
036090N	90,000	—	74,000	—	30-60	1150	81.00	81
048060N	60,000	—	50,000	—	20-50	930	80.20	81
048090N	90,000	—	74,000	—	30-60	1150	81.00	81
048120N	120,000	—	101,000	—	40-70	1340	80.70	82
060060N	60,000	—	50,000	—	20-50	930	80.20	81
060090N	90,000	—	74,000	—	30-60	1150	81.00	81
060120N	120,000	—	101,000	—	40-70	1340	80.70	82

208/230/460/575-3-60 — 2-STAGE GAS HEAT

UNIT	INPUT CAPACITY		OUTPUT CAPACITY		TEMPERATURE	MINIMUM HEATING	EFFICIENCY	
581C	1st Stage	2nd Stage	1st Stage	2nd Stage	RISE (°F)	AIRFLOW (CFM)	AFUE (%)	Steady State (%)
036072	50,000	72,000	41,000	59,040	25-55	1004	82.80	82
036115	82,000	115,000	65,600	93,150	55-85	1002	80.00	80
048072	50,000	72,000	41,000	59,040	25-55	1094	82.80	82
048115	82,000	115,000	66,420	93,150	35-65	1330	81.00	81
048150	120,000	150,000	96,000	120,000	50-80	1390	80.40	80
060072	50,000	72,000	41,000	59,040	25-55	1004	82.80	82
060115	82,000	115,000	66,420	93,150	35-65	1330	81.00	81
060150	120,000	150,000	96,000	120,000	50-80	1370	80.40	80

AFUE — Annual Fuel Utilization Efficiency

NOTE: Capacities for stainless steel heat exchanger units (S/R/T) are the same as standard units (D/E/F).

ARI* CAPACITY RATINGS — 579F180-300

LOW HEAT UNITS

UNIT 579F	NOMINAL TONS	NET COOLING CAPACITY (Btuh)	TOTAL WATTS	EER	SOUND RATING (dB)	IPLV
180	15	174,000	20,128	8.6	88	9.3
216	18	188,000	21,619	8.7	88	9.5
240	20	220,000	25,513	8.6	94	8.7
300	25	268,000	31,068	8.6	94	9.2

HIGH HEAT UNITS

UNIT 579F	NOMINAL TONS	NET COOLING CAPACITY (Btuh)	TOTAL WATTS	EER	SOUND RATING (dB)	IPLV
180	15	174,000	20,154	8.6	88	9.3
216	18	186,000	21,798	8.5	88	9.3
240	20	218,000	25,719	8.5	94	8.5
300	25	268,000	31,600	8.5	94	8.9

LEGEND

dB — Sound Levels (decibels)
db — Dry Bulb
EER — Energy Efficiency Ratio
IPLV — Integrated Part-Load Values
wb — Wet Bulb

*Air Conditioning and Refrigeration Institute.

NOTES:
1. Rated in accordance with ARI Standards 360 and 270.
2. The 579F300 is beyond the scope of the ARI Certification Program.
3. ARI ratings are net values, reflecting the effects of circulating fan heat.

ARI Standard 340/360

4. Ratings are based on:
   Cooling Standard: 80 F db, 67 F wb indoor entering-air temperature and 95 F db air entering outdoor unit.
   IPLV Standard: 80 F db, 67 F wb indoor entering-air temperature and 80 F db outdoor entering-air temperature.

HEATING CAPACITIES AND EFFICIENCIES — 579F180-300

UNIT 579F	HEATING INPUT (Btuh) Stage 2/Stage 1*	OUTPUT CAPACITY (Btuh)	TEMPERATURE RISE (F)	STEADY-STATE EFFICIENCY (%)	MINIMUM HEATING CFM
180230	230,000/172,000	186,000	15-45	81.0	3830
180300	300,000/225,000	243,000	30-60	81.0	3750
216275	275,000/206,000	223,000	15-45	81.0	4580
216360	360,000/270,000	292,000	20-50	81.0	5400
240275	275,000/206,000	223,000	15-45	81.0	4580
240360	360,000/270,000	292,000	20-50	81.0	5400
300275	275,000/206,000	223,000	15-45	81.0	4580
300360	360,000/270,000	292,000	20-50	81.0	5400

*All units are 2-stage heat.

NOTE: Minimum allowable temperature of mixed-air entering the heat exchanger during first-stage heating is 45 F. There is no minimum mixed-air temperature limitation during second-stage heating. For entering-air temperatures below 45 F both stages of heat must be energized together to minimize condensation issues and ensure proper unit operation. Mixed air below 35 F optional stainless steel heat exchangers are recommended.

AIR QUANTITY LIMITS

UNIT 579F	MINIMUM CFM	MAXIMUM CFM
180	4500	7,500
216	5400	9,000
240	6000	10,000
300	7000	11,250

LOW OUTDOOR TEMPERATURE OPERATING LIMITS (F)

UNITS	TEMPERATURE
All	40
180 and 216 with Low Ambient Kit	10
240 and 300 with Low Ambient Kit	25
All with Motormaster® Head Pressure Control	–20

ARI* CAPACITY RATINGS — 580F180-300

UNIT SIZE 580F (Low Heat)	NOMINAL TONS	NET COOLING CAPACITY (Btuh)	TOTAL WATTS	EER	SOUND RATING (dB)	IPLV
180	15	176,000	17,064	9.5	88	9.5
210	18	202,000	21,166	9.7	88	10.2
240	20	236,000	24,832	9.5	94	10.1
300	25	278,000	28,535	9.7	94	10.4

UNIT SIZE 580F (High Heat)	NOMINAL TONS	NET COOLING CAPACITY (Btuh)	TOTAL WATTS	EER	SOUND RATING (dB)	IPLV
180	15	176,000	17,179	9.5	88	9.5
210	18	202,000	21,301	9.7	88	10.1
240	20	236,000	24,832	9.5	94	10.0
300	25	277,000	29,067	9.5	94	10.0

LEGEND

Bels — Sound Levels (1 bel = 10 decibels)
db — Dry Bulb
EER — Energy Efficiency Ratio
IPLV — Integrated Part-Load Values
wb — Wet Bulb

*Air Conditioning and Refrigeration Institute.

NOTES:
1. Rated in accordance with ARI Standards 360 and 270.
2. ARI ratings are net values, reflecting the effects of circulating fan heat.
3. Ratings are based on:
   Cooling Standard: 80 F db, 67 F wb indoor entering-air temperature and 95 F db air entering outdoor unit.
   IPLV Standard: 80 F db, 67 F wb indoor entering-air temperature and 80 F db outdoor entering-air temperature.

ARI Standard 340/360

4. All 580F180-300 units are in compliance with ASHRAE 90.1-1999 Energy Standard for minimum SEER and EER requirements. Refer to state and local codes or visit the following website: http://bcap-energy.org to determine if compliance with this standard pertains to a given geographical area of the United States.

HEATING CAPACITIES AND EFFICIENCIES — 580F180-300

UNIT 580F	HEATING INPUT (Btuh) Stage 2/Stage 1*	OUTPUT CAPACITY (Btuh)	TEMPERATURE RISE (F)	STEADY-STATE EFFICIENCY (%)	MINIMUM HEATING CFM
180275	275,000/206,000	223,000	15-45	81.0	3750
180360	360,000/270,000	292,000	20-50	81.0	3830
210275	275,000/206,000	223,000	15-45	81.0	4580
210360	360,000/270,000	292,000	20-50	81.0	5400
240275	275,000/206,000	223,000	15-45	81.0	4580
240360	360,000/270,000	292,000	20-50	81.0	5400
300275	275,000/206,000	223,000	15-45	81.0	4580
300360	360,000/270,000	292,000	20-50	81.0	5400

*All units are 2-stage heat.

NOTE: Minimum allowable temperature of mixed-air entering the heat exchanger during first-stage heating is 45 F. There is no minimum mixed-air temperature limitation during second-stage heating. For entering-air temperatures below 45 F both stages of heat must be energized together to minimize condensation issues and ensure proper unit operation. Mixed air below 35 F optional stainless steel heat exchangers are recommended.

AIR QUANTITY LIMITS (Cooling)

UNIT 580F	MINIMUM CFM	MAXIMUM CFM
180	4500	7,500
210	5400	9,000
240	6000	10,000
300	7000	11,250

COOLING OPERATION LOW OUTDOOR TEMPERATURE OPERATING LIMITS (F)

UNITS	TEMPERATURE
All — Standard Unit	40
180 and 210 with Low Ambient Kit	10
240 and 300 with Low Ambient Kit	25
All with Motormaster® Head Pressure Control	–20

ARI* CAPACITY RATINGS — 581A155,180

LOW HEAT UNITS

UNIT 581A	NOMINAL TONS	NET COOLING CAPACITY (Btuh)	TOTAL WATTS	EER	SOUND RATING (dB)	IPLV
155230	13	134,000	12,209	10.60	88	11.4
180275	15	180,000	17,064	10.50	88	11.4

HIGH HEAT UNITS

UNIT 581A	NOMINAL TONS	NET COOLING CAPACITY (Btuh)	TOTAL WATTS	EER	SOUND RATING (dB)	IPLV
155300	13	134,000	12,218	10.60	88	11.4
180360	15	180,000	17,179	10.50	88	11.1

LEGEND

dB — Sound Levels (decibels)
db — Dry Bulb
EER — Energy Efficiency Ratio
IPLV — Integrated Part-Load Values
wb — Wet Bulb

*Air Conditioning and Refrigeration Institute.

NOTES:
1. Rated in accordance with ARI Standards 360 and 270.
2. ARI ratings are net values, reflecting the effects of circulating fan heat.
3. Ratings are based on:
   Cooling Standard: 80 F db, 67 F wb indoor entering-air temperature and 95 F db air entering outdoor unit.
   IPLV Standard: 80 F db, 67 F wb indoor entering-air temperature and 80 F db outdoor entering-air temperature.

ARI Standard 340/360

4. All 581A155, 180 units are in compliance with ASHRAE 90.1-1999 Energy Standard for minimum EER requirements. Refer to state and local codes or visit the following website: http://bcap-energy.org to determine if compliance with this standard pertains to a given geographical area of the United States.

HEATING CAPACITIES AND EFFICIENCIES — 581A155-180

UNIT 581A	HEATING INPUT (Btuh) Stage 2/Stage 1*	OUTPUT CAPACITY (Btuh)	TEMPERATURE RISE (F)	AGA STEADY STATE EFFICIENCY (%)	MINIMUM HEATING CFM†
155230	230,000/172,000	186,000	15-45	81.0	3750
155300	300,000/225,000	243,000	30-60	81.0	3830
180275	275,000/206,000	223,000	15-45	81.0	4580
180360	360,000/270,000	292,000	20-50	81.0	5400

*All units are 2-stage heat.
†Minimum heating cfm must be maintained to ensure proper heating operation.

NOTE: Minimum allowable temperature of mixed air entering the heat exchanger during first stage heating is 45 F. There is no minimum mixed-air limitation during second-stage heating. For entering air temperatures below 45 F, both stages of heat must be energized together to minimize condensation issues and ensure proper unit operation. Mixed air below 35 F optional stainless steel heat exchangers are recommended.

LOW OUTDOOR AIR TEMPERATURE COOLING OPERATION LIMITS

UNIT SIZE 581A	TEMPERATURE LIMIT (F)		
	Standard Unit	Unit With Low Ambient Kit	Unit With Motormaster® Control
155, 180	40	20	–20

AIR QUANTITY LIMITS (Cooling)

UNIT 581A	MINIMUM CFM	MAXIMUM CFM
155	3900	6500
180	4500	7500

ARI* CAPACITY RATINGS — 581A210-300

UNIT 581A	NOMINAL TONS	CFM	NET COOLING CAPACITY (Btuh)	TOTAL kW	EER	SOUND RATING (dB)	IPLV†
210	18	5,500	200,000	18.5	10.8	81.7	12.0
240	20	6,000	234,000	21.7	10.8	81.7	11.9
300**	25	7,500	278,000	27.8	10.0	84.6	10.9

LEGEND

db — Dry Bulb
EER — Energy Efficiency Ratio
IPLV — Integrated Part-Load Values
wb — Wet Bulb

*Air Conditioning and Refrigeration Institute.
†IPLV values are calculated based on control configuration T.CTL = 2 (2 Stage Y1).
**Size 300 unit is not listed with ARI, but is tested to ARI standards.

NOTES:
1. Rated in accordance with ARI Standards 360-93 and 270-95.
2. ARI ratings are net values, reflecting the effects of circulating fan heat.
3. Ratings are based on:
   Cooling Standard: 80 F db, 67 F wb indoor entering-air temperature and 95 F db air entering outdoor unit.
   IPLV Standard: 80 F db, 67 F wb indoor entering-air temperature and 80 F db outdoor entering-air temperature.
4. All 581A210-300 units are in compliance with ASHRAE 90.1 2001 Energy Standard for minimum EER requirements. Refer to state and local codes or visit the following website: http://bcap-energy.org to determine if compliance with this standard pertains to a given geographical area of the United States.

ARI Standard 340/360

HEATING CAPACITIES AND EFFICIENCIES — 581A210-300

VERTICAL SUPPLY — NATURAL GAS

UNIT 581A	HEATING INPUT (Btuh) Stage 2/Stage 1	OUTPUT CAPACITY (Btuh)	TEMPERATURE RISE (F)	STEADY-STATE EFFICIENCY %	MINIMUM HEATING CFM
210250	250,000/199,000	205,000	15-45	82%	4218
210365	365,000/281,000	296,000	25-55	81%	4977
210400	400,000/317,000	328,000	25-55	82%	5522
240250	250,000/199,000	205,000	15-45	82%	4218
240365	365,000/281,000	296,000	25-55	81%	4977
240400	400,000/317,000	328,000	25-55	82%	5522
300250	250,000/199,000	205,000	15-45	82%	4218
300365	365,000/281,000	296,000	25-55	81%	4977
300400	400,000/317,000	328,000	25-55	82%	5522

NOTE: All units are 2-stage gas heat.

HORIZONTAL SUPPLY — NATURAL GAS

UNIT 581A	HEATING INPUT (Btuh) Stage 2/Stage 1	OUTPUT CAPACITY (Btuh)	TEMPERATURE RISE (F)	STEADY-STATE EFFICIENCY %	MINIMUM HEATING CFM
210250	250,000/199,000	205,000	15-45	82%	4218
210365	365,000/281,000	296,000	25-55	81%	4977
210400	400,000/317,000	328,000	25-55	82%	5522
240250	250,000/199,000	205,000	15-45	82%	4218
240365	365,000/281,000	296,000	25-55	81%	4977
240400	400,000/317,000	328,000	25-55	82%	5522
300250	250,000/199,000	205,000	15-45	82%	4218
300365	365,000/281,000	296,000	25-55	81%	4977*
300400	400,000/317,000	325,000	25-55	82%	5522*

*7000 cfm minimum recommended above 1.0 in. wg external static pressure.

NOTE: All units are 2-stage gas heat.

VERTICAL SUPPLY — PROPANE

UNIT 581A	HEATING INPUT (Btuh) Stage 2/Stage 1	OUTPUT CAPACITY (Btuh)	TEMPERATURE RISE (F)	STEADY-STATE EFFICIENCY %	MINIMUM HEATING CFM
210250	250,000/207,000	205,000	15-45	82%	4218
210365	365,000/291,000	296,000	25-55	81%	4480
210400	400,000/331,000	328,000	25-55	82%	5522
240250	250,000/207,000	205,000	15-45	82%	4218
240365	365,000/291,000	296,000	25-55	81%	4480
240400	400,000/331,000	328,000	25-55	82%	5522
300250	250,000/207,000	205,000	15-45	82%	4218
300365	365,000/291,000	296,000	25-55	81%	4480
300400	400,000/331,000	328,000	25-55	82%	5522

NOTE: All units are 2-stage gas heat.

HORIZONTAL SUPPLY — PROPANE

UNIT 581A	HEATING INPUT (Btuh) Stage 2/Stage 1	OUTPUT CAPACITY (Btuh)	TEMPERATURE RISE (F)	STEADY-STATE EFFICIENCY %	MINIMUM HEATING CFM
210250	225,000/207,000	185,000	15-45	82%	3807
210365	329,000/291,000	266,000	25-55	81%	4480
210400	356,000/331,000	292,000	25-55	82%	4916
240250	225,000/207,000	184,500	15-45	82%	3796
240365	329,000/291,000	266,000	25-55	81%	4480
240400	356,000/331,000	292,000	25-55	82%	4916
300250	225,000/207,000	185,000	15-45	82%	3807
300365	329,000/291,000	266,000	25-55	81%	4480*
300400	356,000/331,000	292,000	25-55	82%	4920*

*7000 cfm minimum recommended above 1.0 in. wg external static pressure.

NOTE: All units are 2-stage gas heat.

OPTIONS AND ACCESSORIES

581C024-060, 581B036-150 AND 580F036-151

ITEM	OPTION*	ACCESSORY†
100% OA Open Two-Position Damper		X
25% OA Open Two-Position Damper		X
Condenser Coil Grille		X
Condenser Coil Hail Guard Assembly		X
Convenience Outlet (Load Side)	X	
Copper Fins Indoor and Outdoor Coil	X	
Copper Fins Outdoor Coil	X	
E-Coat Outdoor Coil (Aluminum)	X	
E-Coat Outdoor Coil (Copper)	X	
EconoMi$er IV with Controller	X	X
EconoMi$er2 (without controller)	X	X
Electronic Programmable Thermostat		X
Enthalpy or Differential Enthalpy Sensor		X
Fan/Filter Status		X
Flue Discharge Deflector		X
Flue Shield		X
High-Static Motor and Drive	X	
Hinged Access Panels (581C and 581B only)	X	
Hinged Panel Kit for Economizer		X
Perfect Humidity™ Dehumidification Package (581C and 581B only)	X	
Humidistat		X
Indoor Air Quality (CO_2) Sensor		X
Light Commercial Thermidistat™ Device		X
Low NO_X (036-060)	X	
Louvered Hail Guard	X	X
LP (Liquid Propane) Conversion Kit		X
Manual Outdoor-Air Damper		X
Motormaster® I, II, Head Pressure Control Low Ambient Kit)		X
Outdoor Air Enthalpy Sensor		X
Power Exhaust Transformer for 575 v		X
Power Exhaust with Barometric Relief		X
Pre-Coat Aluminum Fins on Outdoor Coil	X	
Return Air CO_2 Sensor (EconoMi$er IV)		X
Return Air Enthalpy Sensor		X
Return Air Temperature Sensor		X
Roof Curbs (Vertical and Horizontal Discharge)		X
Smoke Detectors, Supply/Return	X	
Stainless Steel Heat Exchanger	X	
Thermostats and Subbases		X
Thru-the-Bottom Utility Connections		X
Time Guard II (Compressor Cycle Delay) Control Circuit		X
Unit-Mounted Non-Fused Disconnect	X	
UVC Lights	X	X

*Factory-installed.
†Field-installed.

NOTES:
1. Refer to unit price pages or contact your local representative for accessory and option package information.
2. Some options may increase product lead times.

OPTIONS AND ACCESSORIES (cont)

579F180-300, 580F180-300, AND 581A155-180

ITEM	OPTION*	ACCESSORY†
25% Open Two-Position Damper		X
Barometric Relief Damper (not for use with Horizontal Adapter Curb)		X
Condenser Coil Hail Guard Assembly (180-240)		X
Convenience Outlet (Load Side)	X	
Copper Fins Indoor and Outdoor Coil	X	
Copper Fins Outdoor Coil	X	
E-Coat Outdoor Coil (Aluminum)	X	
E-Coat Outdoor Coil (Copper)	X	
EconoMi$er IV with Controller	X	X
EconoMi$er2 (without Controller)		X
Electronic Programmable Thermostat		X
Enthalpy or Differential Enthalpy Sensor		X
Fan/Filter Status		X
High-Static Motor and Drive	X	
Hinged Access Panels	X	
Horizontal Adapter Curb (180-240)		X
Humidistat		X
Indoor Air Quality (CO_2) Sensor		X
Light Commercial Thermidistat™ Device		X
LP (Liquid Propane) Conversion Kit		X
Manual Outdoor-Air Damper		X
Motormaster® I, V Head Pressure Control (Low Ambient Kit)		X
Outdoor Air Enthalpy Sensor		X
Power Exhaust without Barometric Relief		X
Pre-coat Aluminum Fins on Outdoor Coil	X	
Return Air CO_2 Sensor		X
Return Air Enthalpy Sensor		X
Return Air Temperature Sensor		X
Roof Curbs (Vertical and Horizontal Discharge)		X
Thermostats and Subbases		X
Time Guard II (Compressor Cycle Delay) Control Circuit		X
Ultraviolet Germicidal Lamps	X	
Unit-Mounted Non-Fused Disconnect	X	
Winter Start Time Delay		X

*Factory-installed.
†Field-installed.

NOTES:
1. Refer to unit price pages or contact your local representative for accessory and option package information.
2. Some options may increase product lead times.
3. No other options are available with hot gas reheat units.

OPTIONS AND ACCESSORIES (cont)

581A210-300

ITEM	OPTION*	ACCESSORY†
EconoMi$er IV	X	X
Power Exhaust	X	X
Barometric Relief	X	X
Hail Guard	X	X
Horizontal Kit	X	X
Return Smoke Detector	X	X
Supply Smoke Detector		X
Return and Supply Smoke Detector	X	
Non-Fused Disconnect	X	
Non-Powered Convenience Outlet	X	
Outdoor Air Enthalpy Sensor		X
Return Air Enthalpy Sensor		X
Return Air Temperature Sensor		X
Return Air CO_2 Sensor		X
Indoor Air Quality (CO_2) Room Sensor		X
Hot Gas Reheat (181 (15t) model available only with HGRH)	X	
Non-Powered Convenience Outlet	X	
Pre-Coat Condenser	X	
E-Coat Condenser Coil	X	
Copper Condenser Coil	X	
Copper Evaporator Coil	X	
E-Coat Copper Evaporator Coil	X	
Low Range Drive	X	
Mid-Low Range Drive	X	
Mid-High Range Drive	X	
High Range Drive	X	
Roof Curb (14 in.)		X
Roof Curb (24 in.)		X
Low Heat Gas	X	
High Heat Gas	X	
Medium Heat Gas	X	
Stainless Steel Heat Exchangers	X	
Propane Kit		X
Drip Edge		X
Two-Position Damper	X	X
Phase Loss Detection		X
Manual Damper	X	X
Thermostat and Subbase		X
Hinged Access Panels	X	

*Factory-installed.
†Field-installed.

NOTES:
1. Refer to unit price pages or contact your local representative for accessory and option package information.
2. Some options may increase product lead times.

OPTIONS AND ACCESSORIES (cont)

Roof Curbs (Horizontal and Vertical) permit installation and securing of ductwork to curb prior to mounting unit on the curb. Both 14-in. and 24-in. roof curbs are available as field-installed accessories.

EconoMi$er IV is available as a factory-installed option in vertical supply/return configuration only for unit sizes 036-151. Vertical or horizontal configuration is available for unit sizes 155-300. (The EconoMi$er IV is available as a field-installed accessory for horizontal and/or vertical supply return configurations.) The EconoMi$er IV is provided with an industry standard, stand-alone, solid-state controller that is easy to configure and troubleshoot. The EconoMi$er IV is compatible with non-DDC applications. The EconoMi$er IV is equipped with a barometric relief damper capable of relieving up to 100% return air (for unit sizes 036-151 only). Dry bulb outdoor-air temperature sensor is provided as standard. The return air sensor, indoor enthalpy sensor, and outdoor enthalpy sensor are provided as field-installed accessories to provide enthalpy control, differential enthalpy control, and differential dry bulb temperature control.

EconoMi$er IV on 579F and 581A units is used for both vertical and horizontal return air configurations.

EconoMi$er2 is available as a blanket quote control or as a field-installed accessory for horizontal and/or vertical supply return configurations. The EconoMi$er2 is provided without a controller for use with field-installed third-party controls. The EconoMi$er2 is equipped with a barometric relief damper capable of relieving up to 100% return air. Dry bulb outdoor-air temperature sensor is provided as standard. The enthalpy, differential temperature (adjustable), and differential enthalpy control are provided as field-installed accessories. The EconoMi$er2 is capable of control from a 4 to 20 mA signal through optional 4 to 20 mA design without microprocessor control (required for third party control interface).

Manual Outdoor-Air Damper can be preset to admit up to 50% outdoor air for year round ventilation and is available as a field-installed accessory.

Two-Position Damper package is available as an accessory. Both 25% or 100% outdoor air dampers are available.

Head Pressure Control (Motormaster) accessory package maintains condensing temperature between 90 F and 110 F at outdoor ambient temperatures down to –20 F by condenser-fan speed modulation or condenser-fan cycling and wind baffles.

Unit-Mounted, Non-Fused Disconnect Switch provides unit power shutoff. The switch is accessible from outside the unit, provides power off lockout capability and is available as a factory-installed option.

Convenience Outlet is factory-installed and internally mounted with easily accessible 115-v female receptacle.

Compressor Cycle Delay (Time Guard II) accessory prevents unit from restarting for minimum of 5 minutes after shutdown.

Thru-The-Bottom Utility Connectors permit electrical connections to be brought to the unit through the basepan. Connectors are available as field-installed accessories.

Fan/Filter Status Switch accessory provides status of indoor (evaporator) fan (ON/OFF) or filter (CLEAN/DIRTY).

Power Exhaust accessory will provide system exhaust of up to 100% of return air (vertical only). The power exhaust is a field-installed accessory (separate vertical and horizontal design).

Ultraviolet Germicidal Lamps eliminate odor causing mold and fungus that may develop in the wet area of the evaporator section of the unit. The high output, low temperature germicidal lamps are field installed in the evaporator section of the unit, aimed at the evaporator coil and condensate pan.

Hinged Panel Option provides hinged access panels for the filter, compressor, evaporator fan, and control box areas. Filter hinged panels permit tool-less entry for changing filters. Each hinged panel is permanently attached to the rooftop unit. Hinged panels are a factory-installed option.

PHYSICAL DATA — 580F036-073

UNIT SIZE 580F		036	048	060	072	073
NOMINAL CAPACITY (tons)		3	4	5	6	6
OPERATING WEIGHT (lb)						
Unit Al/Cu*		465	476	497	576	626
COMPRESSOR						
Type		Reciprocating			Scroll	
Quantity		1	1	1	1	1
No. Cylinders (per Circuit)		2	2	2	NA	2
Oil (oz)		50	50	50	54	60
REFRIGERANT TYPE		R-22				
Expansion Device		Acutrol™ Metering Device				
Operating Charge (lb-oz)						
Circuit 1 (first stage)		4-5	6-6	7-14	9-0	11-0
Circuit 2 (second stage)		—	—	—	—	—
CONDENSER FAN		Propeller Type				
Nominal Cfm		3500	4000	4000	4000	4100
Quantity...Diameter (in.)		1...22.0	1...22.0	1...22.0	1...22.0	1...22.0
Motor Hp...Rpm		1/4...1100	1/4...1100	1/4...1100	1/4...1100	1/4...1100
Watts Input (Total)		325	325	325	325	320
CONDENSER COIL		3/8-in. OD Enhanced Copper Tubes, Aluminum Lanced Fins				
Rows...Fins/in.		1...17	2...17	2...17	2...17	2...17
Total Face Area (sq ft)		8.36	8.36	10.42	10.42	16.5
EVAPORATOR FAN		Centrifugal Type				
Quantity...Size (in.)	Std	1...10 x 10	1...10 x 10	1...11 x 10	1...10 x 10	1...10 x 10
	Alt	1...10 x 10	1...10 x 10	1...10 x 10	—	—
	High-Static	1...10 x 10	1...10 x 10	1...10 x 10	1...10 x 10	1...10 x 10
Type Drive	Std	Direct	Direct	Direct	Belt	Belt
	Alt	Belt	Belt	Belt	—	—
	High-Static	Belt	Belt	Belt	Belt	Belt
Nominal Cfm		1200	1600	2000	2400	2100
Maximum Continuous Bhp	Std	.34	.75	1.20	2.40	2.40
	Alt	1.20	1.20	1.30/2.40**	—	—
	High-Static	2.40	2.40	2.90	2.90	2.90
Motor Frame Size	Std	48	48	48	56	56
	Alt	48	48	56	—	—
	High-Static	56	56	56	56	56
Nominal Rpm High/Low	Std	860/800	1075/970	1075/1040	—	—
	Alt	1620	1620	1725	—	—
	High-Static	1725	1725	1725	1725	1725
Fan Rpm Range	Std	—	—	—	1070-1460	1070-1460
	Alt	685-1045	770-1175	900-1300	—	—
	High-Static	1075-1455	1075-1455	1300-1685	1300-1685	1300-1685
Motor Bearing Type		Ball	Ball	Ball	Ball	Ball
Maximum Allowable Rpm		2100	2100	2100	2100	2100
Motor Pulley Pitch Diameter Min/Max (in.)	Std	—	—	—	2.8/3.8	2.8/3.8
	Alt	1.9/2.9	1.9/2.9	2.8/3.8	—	—
	High-Static	2.8/3.8	2.8/3.8	3.4/4.4	3.4/4.4	3.4/4.4
Nominal Motor Shaft Diameter (in.)	Std	1/2	1/2	1/2	5/8	5/8
	Alt	1/2	1/2	5/8	—	—
	High-Static	5/8	5/8	7/8	7/8	7/8
Fan Pulley Pitch Diameter (in.)	Std	—	—	—	4.5	4.5
	Alt	4.5	4.0	5.5	—	—
	High-Static	4.5	4.5	4.5	4.5	4.5
Belt, Quantity...Type...Length (in.)	Std	—	—	—	1...A...39	1...A...39
	Alt	1...A...36	1...A...36	1...A...40	—	—
	High-Static	1...A...39	1...A...39	1...A...40	1...A...40	1...A...40
Pulley Center Line Distance (in.)	Std	—	—	—	14.7-15.5	14.7-15.5
	Alt	10.0-12.4	10.0-12.4	14.7-15.5	—	—
	High-Static	10.0-12.4	10.0-12.4	14.7-15.5	14.7-15.5	14.7-15.5
Speed Change per Full Turn of Movable Pulley Flange (rpm)	Std	—	—	—	80	80
	Alt	48	70	80	—	—
	High-Static	65	65	60	60	60
Movable Pulley Maximum Full Turns From Closed Position	Std	—	—	—	5	5
	Alt	5	5	5	—	—
	High-Static	6	6	5	5	5
Factory Setting	Std	—	—	—	3	3
	Alt	3	3	3	—	—
	High-Static	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2
Factory Speed Setting (rpm)	Std	—	—	—	1225	1226
	Alt	829	932	1100	—	—
	High-Static	1233	1233	1416	1396	1416
Fan Shaft Diameter at Pulley (in.)		5/8	5/8	5/8	5/8	5/8
EVAPORATOR COIL		3/8-in. OD Enhanced Copper Tubes, Aluminum Double-Wavy Fins				
Rows...Fins/in.		2...15	2...15	3...15	4...15	4...15
Total Face Area (sq ft)		4.17	5.5	5.5	5.5	5.5

LEGEND

Al — Aluminum
Bhp — Brake Horsepower
Cu — Copper

*Evaporator coil fin material/condenser coil fin material. Contact your local representative for details about coated fins.
†Weight of 14-in. roof curb.
**Single phase/three-phase.
††Rollout switch lockout is manually reset by interrupting power to unit or resetting thermostat.
***Three-phase standard high heat models have heating input values as shown. Single-phase standard high heat models have one-stage heating with heating input values as follows:
580F036 — 115,000 Btuh
580F048,060 — 150,000 Btuh
†††California SCAQMD compliant Low NO_x models have combustion products that are controlled to 40 nanograms per joule or less.

NOTES:
1. High-static motor not available on single-phase units.
2. An LP kit is available as an accessory. Kit may be used at elevations as high as 2000 ft. LP kit is not used with Low NOx units.

PHYSICAL DATA — 580F036-073 (cont)

UNIT SIZE 580F			036	048	060	072	073
FURNACE SECTION							
Rollout Switch Cutout Temp (F)††			195	195	195	195	195
Burner Orifice Diameter (in. ...drill size)							
Natural Gas	Std	074	—	.113...33	.113...33	.113...33	.113...33
		115	.113...33	.113...33	.113...33	.113...33	.113...33
		150	.113...33	.129...30	.129...30	.129...30	.129...30
		060N	—	.102...38	.102...38	—	—
		090N	.102...38	.102...38	.102...38	—	—
		120N	.102...38	.116...32	.116...32	—	—
Liquid Propane	Alt	074	—	.089...43	.089...43	.089...43	.089...43
		115	.089...43	.089...43	.089...43	.089...43	.089...43
		150	.089...43	.104...37	.104...37	.102...38	.104...37
Thermostat Heat Anticipator Setting (amps)							
208/230 v and 575	Stage 1		.14	.14	.14	.14	.14
	Stage 2		.14	.14	.14	.14	.14
460 v	Stage 1		.14	.14	.14	.14	.14
	Stage 2		.14	.14	.14	.14	.14
Gas Input (Btuh)	Standard Units	074	—	—/74,000	—/74,000	—/74,000	—/74,000
	(Stage 1/Stage 2)	115	—/74,000	—/115,000	—/115,000	—/115,000	—/115,000
		150***	82,000/115,000	120,000/150,000	120,000/150,000	120,000/150,000	120,000/150,000
	Low NOx Units	060N†††	—	60,000	60,000	—	—
		090N†††	60,000	90,000	90,000	—	—
		120N†††	90,000	120,000	120,000	—	—
Efficiency (Steady State) (%)			80	80	80	80	80
Temperature Rise Range		074	—	15-45	15-45	15-45	15-45
		115	15-45	35-65	35-65	35-65	35-65
		150	55-85	50-80	50-80	50-80	50-80
		060N	—	20-50	20-50	—	—
		090N	20-50	30-60	30-60	—	—
		120N	30-60	40-70	40-70	—	—
Manifold Pressure (in. wg)							
Natural Gas	Std		3.5	3.5	3.5	3.5	3.5
Liquid Propane	Alt		3.5	3.5	3.5	3.5	3.5
Gas Valve Quantity			1	1	1	1	1
Gas Valve Pressure Range (Min-Max Allowable)							
Psig			0.180-0.470	0.180-0.470	0.180-0.470	0.180-0.470	0.180-0.470
in. wg			5.0-13.0	5.0-13.0	5.0-13.0	5.0-13.0	5.0-13.0
Field Gas Connection Size (in. FPT)			1/2	1/2	1/2	1/2	1/2
HIGH-PRESSURE SWITCH (psig)							
Standard Compressor				450 ± 50		500 ± 50	500 ± 50
Internal Relief (Differential)							
Cutout				428		428	428
Reset (Auto.)				320		320	320
LOW-PRESSURE SWITCH (psig)							
Cutout					7 ± 3		
Reset (Auto.)					22 ± 7		
FREEZE PROTECTION THERMOSTAT (F)							
Opens					30 ± 5		
Closes					45 ± 5		
OUTDOOR-AIR INLET SCREENS					Cleanable		
Quantity...Size (in.)					Varies by Option Selected		
RETURN-AIR FILTERS					Throwaway		
Quantity...Size (in.)					2...16 x 25 x 2		

LEGEND

Al — Aluminum
Bhp — Brake Horsepower
Cu — Copper

*Evaporator coil fin material/condenser coil fin material. Contact your local representative for details about coated fins.
†Weight of 14-in. roof curb.
**Single phase/three-phase.
††Rollout switch lockout is manually reset by interrupting power to unit or resetting thermostat.
***Three-phase standard high heat models have heating input values as shown. Single-phase standard high heat models have one-stage heating with heating input values as follows:
580F036 — 115,000 Btuh
580F048,060 — 150,000 Btuh
†††California SCAQMD compliant Low NO_x models have combustion products that are controlled to 40 nanograms per joule or less.

NOTES:
1. High-static motor not available on single-phase units.
2. An LP kit is available as an accessory. Kit may be used at elevations as high as 2000 ft. LP kit is not used with Low NOx units.

PHYSICAL DATA — 580F090,120,150 UNITS

UNIT SIZE 580F		090	120	150
NOMINAL CAPACITY (tons)		7 1/2	10	12 1/2
OPERATING WEIGHT (lb)				
Unit Al/Cu*		881	1057	1077
COMPRESSOR				
Type		Reciprocating	Reciprocating	Scroll
Quantity		2	2	2
No. Cylinders (per Circuit)		2	2	—
Oil (oz)		42 ea	54 ea	54 ea
REFRIGERANT TYPE		R-22		
Expansion Device		Fixed Orifice Metering Device		
Operating Charge (lb-oz)				
Circuit 1 (first stage)		4-13	7- 3	8-10
Circuit 2 (second stage)		4-14	7-13	8- 6
CONDENSER COIL		3/8-in. OD Enhanced Copper Tubes, Aluminum Lanced Fins		
Rows...Fins/in.		1...17	2...17	2...17
Total Face Area (sq ft)		20.50	20.47	25.00
CONDENSER FAN		Propeller Type		
Nominal Cfm		6400	7000	7000
Quantity...Diameter (in.)		2...22	2...22	2...22
Motor Hp...Rpm		1/4...1100	1/4...1100	1/4...1100
Watts Input (Total)		600	600	600
EVAPORATOR COIL		3/8-in. OD Enhanced Copper Tubes, Aluminum Double-Wavy Fins, Face Split		
Rows...Fins/in.		3...15	3...15	4...15
Total Face Area (sq ft)		8.0	10.0	11.1
EVAPORATOR FAN		Centrifugal Type		
Quantity...Size (in.)	Std	1...15 x 15	1...15 x 15	1...15 x 15
	Alt	1...15 x 15	1...15 x 15	1...15 x 15
	High-Static	1...15 x 15	1...15 x 15	—
Type Drive	Std	Belt	Belt	Belt
	Alt	Belt	Belt	Belt
	High-Static	Belt	Belt	—
Nominal Cfm		3000	4000	5000
Maximum Continuous Bhp	Std	2.40	2.40	3.70
	Alt	2.40	2.90	5.25
	High-Static	3.70	5.25	—
Motor Frame Size	Std	56	56	56
	Alt	56	56	56
	High-Static	56	56	—
Fan Rpm Range	Std	590-840	685-935	860-1080
	Alt	685-935	835-1085	830-1130
	High-Static	860-1080	830-1130	—
Motor Bearing Type		Ball	Ball	Ball
Maximum Allowable Rpm		2100	2100	2100
Motor Pulley Pitch Diameter Min/Max (in.)	Std	2.4/3.4	2.8/3.8	4.0/5.0
	Alt	2.8/3.8	3.4/4.4	3.1/4.1
	High-Static	4.0/5.0	2.8/3.8	—
Nominal Motor Shaft Diameter (in.)	Std	5/8	5/8	7/8
	Alt	1/2	7/8	7/8
	High-Static	7/8	7/8	—
Fan Pulley Pitch Diameter (in.)	Std	7.0	7.0	8.0
	Alt	7.0	7.0	5.9
	High-Static	8.0	5.8	—
Belt, Quantity...Type...Length (in.)	Std	1...A...48	1...A...49	1...A...53
	Alt	1...A...48	1...A...51	1...BX...48
	High-Static	1...A...53	1...BX...48	—
Pulley Center Line Distance (in.)	Std	16.75-19.25	15.85-17.50	15.85-17.50
	Alt	16.75-19.25	15.85-17.50	15.85-17.50
	High-Static	16.75-19.25	15.85-17.50	—
Speed Change per Full Turn of Movable Pulley Flange (rpm)	Std	50	50	44
	Alt	50	50	50
	High-Static	60	60	—
Movable Pulley Maximum Full Turns From Closed Position	Std	5	5	5
	Alt	5	5	6
	High-Static	5	6	—
Factory Setting	Std	5	5	5
	Alt	5	5	5
	High-Static	5	5	—
Factory Speed Setting (rpm)	Std	590	685	860
	Alt	685	835	960
	High-Static	860	887	—
Fan Shaft Diameter at Pulley (in.)		1	1	1

LEGEND

Al — Aluminum
Bhp — Brake Horsepower
Cu — Copper

*Evaporator coil fin material/condenser coil fin material. Contact your local representative for details about coated fins.

†Weight of 14-in. roof curb.
**Rollout switch lockout is manually reset by interrupting power to unit or resetting thermostat.

NOTE: High-static motor not available on size 150 units.

PHYSICAL DATA — 580F090,120,150 UNITS (cont)

UNIT SIZE 580F		090		120		150	
FURNACE SECTION							
Rollout Switch Cutout Temp (F)**			195		195		195
Burner Orifice Diameter (in. ...drill size)							
Natural Gas	Std	**125**	.120...31	**180**	.120...31	**224**	.120...31
		180	.120...31	**224**	.120...31	**250**	.129...30
		224	.120...31	**250**	.129...30	—	—
Liquid Propane	Alt	**125**	.096...41	**180**	.096...41	**224**	.096...41
		180	.096...41	**224**	.096...41	**200**	.102...38
		224	.096...41	**250**	.102...38	—	—
Thermostat Heat Anticipator Setting (amps)							
208/230 v and 575 Stage 1			.14		.14		.14
Stage 2			.20		.20		.20
460 v Stage 1			.14		.14		.14
Stage 2			.20		.20		.20
Gas Input (Btuh) Stage 1		**125**	125,000	**180**	120,000	**224**	180,000
		180	120,000	**224**	180,000	**250**	200,000
		224	180,000	**250**	200,000	—	—
Stage 2		**125**	—	**180**	180,000	**224**	224,000
		180	180,000	**224**	224,000	**200**	250,000
		224	224,000	**250**	250,000	—	—
Efficiency (Steady State) (%)			80		80		80
Temperature Rise Range		**125**	20-50	**180**	35-65	**224**	35-65
		180	35-65	**224**	35-65	**250**	40-70
		224	45-75	**250**	40-70	—	—
Manifold Pressure (in. wg)							
Natural Gas	Std		3.5		3.5		3.5
Liquid Propane	Alt		3.5		3.5		3.5
Gas Valve Quantity			1		1		1
Gas Valve Pressure Range (Min-Max Allowable)							
Psig			0.180-0.470		0.180-0.470		0.180-0.470
in. wg			5.0-13.0		5.0-13.0		5.0-13.0
Field Gas Connection Size (in. FPT)			1/2/3/4/3/4		3/4/3/4/3/4		3/4/3/4
HIGH-PRESSURE SWITCH (psig)							
Standard Compressor				450 ± 50			500 ± 50
Internal Relief (Differential)							
Cutout				428			428
Reset (Auto.)				320			320
LOSS-OF-CHARGE (LOW-PRESSURE) SWITCH (psig)							
Cutout				7 ± 3			
Reset (Auto.)				22 ± 7			
FREEZE PROTECTION THERMOSTAT (F)							
Opens				30 ± 5			
Closes				45 ± 5			
OUTDOOR-AIR INLET SCREENS				Cleanable			
Quantity...Size (in.)				Varies by Option Selected			
RETURN-AIR FILTERS				Throwaway			
Quantity...Size (in.)		4...16 x 20 x 2		4...20 x 20 x 2		4...20 x 20 x 2	

LEGEND

Al — Aluminum
Bhp — Brake Horsepower
Cu — Copper

*Evaporator coil fin material/condenser coil fin material. Contact your local representative for details about coated fins.

†Weight of 14-in. roof curb.
**Rollout switch lockout is manually reset by interrupting power to unit or resetting thermostat.

NOTE: High-static motor not available on size 150 units.

PHYSICAL DATA — 580F091,103,121,151 UNITS

ASHRAE 90.1 COMPLIANT UNITS

UNIT SIZE 580F		091	103	121	151
NOMINAL CAPACITY (tons)		7 1/2	8 1/2	10	12 1/2
OPERATING WEIGHT (lb)					
Unit Al/Cu*		881	896	1057	1077
COMPRESSOR					
Type		Reciprocating	Scroll	Scroll	Scroll
Quantity		2	2	2	2
No. Cylinders (per Circuit)		2	2	2	2
Oil (oz) (each compressor)		42	53	50	60
REFRIGERANT TYPE		R-22			
Expansion Device		Acutrol™ Metering Device			
Operating Charge (lb-oz)					
Circuit 1 (first stage)		7-10	7-14	8-10	9-8
Circuit 2 (second stage)		8-2	8-5	8-8	9-5
CONDENSER FAN		Propeller Type			
Nominal Cfm		6500	6500	7000	7000
Quantity...Diameter (in.)		2...22	2...22	2...22	2...22
Motor Hp...Rpm		1/4...1100	1/4...1100	1/4...1100	1/4...1100
Watts Input (Total)		650	650	650	650
CONDENSER COIL		3/8-in. OD Enhanced Copper Tubes, Aluminum Lanced Fins			
Rows...Fins/in.		2...17	2...17	2...17	2...17
Total Face Area (sq ft)		20.50	20.50	25.00	25.00
EVAPORATOR FAN		Centrifugal Type			
Quantity...Size (in.)	Std	1...15 x 15	1...15 x 15	1...15 x 15	1...15 x 15
	Alt	1...15 x 15	—	1...15 x 15	1...15 x 15
	High-Static	1...15 x 15	1...15 x 15	1...15 x 15	—
Type Drive	Std	Belt	Belt	Belt	Belt
	Alt	Belt	—	Belt	Belt
	High-Static	Belt	Belt	Belt	—
Nominal Cfm		2900	3000	3200	5000
Maximum Continuous Bhp	Std	2.40	2.40	2.40	3.70
	Alt	2.40	—	2.90	5.25
	High-Static	3.70	3.70	5.25	—
Motor Frame Size	Std	56	56	56	56
	Alt	56	—	56	56
	High-Static	56	56	56	—
Fan Rpm Range	Std	590-840	685-935	685-935	860-1080
	Alt	685-935	—	835-1085	830-1130
	High-Static	860-1080	860-1080	830-1130	—
Motor Bearing Type		Ball	Ball	Ball	Ball
Maximum Allowable Rpm		1500	1500	1500	1500
Motor Pulley Pitch Diameter Min/Max (in.)	Std	2.4/3.4	2.8/3.8	2.8/3.8	4.0/5.0
	Alt	2.8/3.8	—	3.4/4.4	3.1/4.1
	High-Static	4.0/5.0	4.0/5.0	2.8/3.8	—
Nominal Motor Shaft Diameter (in.)	Std	5/8	5/8	5/8	7/8
	Alt	5/8	—	7/8	7/8
	High-Static	7/8	7/8	7/8	—
Fan Pulley Pitch Diameter (in.)	Std	7.0	7.0	7.0	8.0
	Alt	7.0	—	7.0	5.9
	High-Static	8.0	8.0	5.8	—
Belt, Quantity...Type...Length (in.)	Std	1...A...48	1...A...48	1...A...49	1...A...53
	Alt	1...A...48	—	1...A...51	1...BX...48
	High-Static	1...A...53	1...A...53	1...BX...48	—
Pulley Center Line Distance (in.)	Std	16.75-19.25	16.75-19.25	15.85-17.50	15.85-17.50
	Alt	16.75-19.25	—	15.85-17.50	15.85-17.50
	High-Static	16.75-19.25	16.75-19.25	15.85-17.50	—
Speed Change per Full Turn of Movable Pulley Flange (rpm)	Std	50	50	50	44
	Alt	50	—	50	50
	High-Static	60	60	60	—
Movable Pulley Maximum Full Turns From Closed Position	Std	5	5	5	5
	Alt	5	—	5	6
	High-Static	5	5	6	—
Factory Setting	Std	5	5	5	5
	Alt	5	—	5	5
	High-Static	5	5	5	—
Factory Speed Setting (rpm)	Std	590	685	685	860
	Alt	685	—	835	887
	High-Static	860	860	887	—
Fan Shaft Diameter at Pulley (in.)		1	1	1	1
EVAPORATOR COIL		3/8-in. OD Enhanced Copper Tubes, Aluminum Double-Wavy Fins, Face Split			
Rows...Fins/in.		3...15	3...15	3...15	4...15
Total Face Area (sq ft)		8.9	8.9	10.0	11.1

LEGEND

Al — Aluminum
Bhp — Brake Horsepower
Cu — Copper

*Evaporator coil fin material/condenser coil fin material. Contact your local representative for details about coated fins.
†Weight of 14-in. roof curb.
**Rollout switch lockout is manually reset by interrupting power to unit or resetting thermostat.

PHYSICAL DATA — 580F091,103,121,151 UNITS (cont)

ASHRAE 90.1 COMPLIANT UNITS (cont)

UNIT SIZE 580F		091		103		121		151	
FURNACE SECTION									
Rollout Switch Cutout Temp (F)**			195		195		195		195
Burner Orifice Diameter (in. ...drill size)									
Natural Gas	Std	**125**	.120...31	**125**	.120...31	**180**	.120...31	**224**	.120...31
		180	.120...31	**180**	.120...31	**224**	.120...31	**250**	.129...30
		224	.120...31	**224**	.120...31	**250**	.129...30	—	—
Liquid Propane	Alt	**125**	.096...41	**125**	.096...41	**180**	.096...41	**224**	.096...41
		180	.096...41	**180**	.096...41	**224**	.096...41	**250**	.102...38
		224	.096...41	**224**	.096...41	**250**	.102...38	—	—
Thermostat Heat Anticipator Setting (amps)									
208/230 v and 575 Stage 1			.14		.14		.14		.14
Stage 2			.20		.20		.20		.20
460 v Stage 1			.14		.14		.14		.14
Stage 2			.20		.20		.20		.20
Gas Input (Btuh) Stage 1		**125**	125,000	**125**	125,000	**180**	120,000	**224**	180,000
		180	120,000	**180**	120,000	**224**	180,000	**250**	200,000
		224	180,000	**224**	180,000	**250**	200,000	—	—
Stage 2		**125**	—	**125**	—	**180**	180,000	**224**	224,000
		180	180,000	**180**	180,000	**224**	224,000	**250**	250,000
		224	224,000	**224**	224,000	**250**	250,000	—	—
Efficiency (Steady State) (%)			80		80		80		80
Temperature Rise Range		**125**	20-50	**125**	20-50	**180**	35-65	**224**	35-65
		180	35-65	**180**	35-65	**224**	35-65	**250**	40-70
		224	45-75	**224**	45-75	**250**	40-70	—	—
Manifold Pressure (in. wg)									
Natural Gas	Std		3.5		3.5		3.5		3.5
Liquid Propane	Alt		3.5		3.5		3.5		3.5
Gas Valve Quantity			1		1		1		1
Gas Valve Pressure Range (Min-Max Allowable)									
Psig			0.180-0.470		0.180-0.470		0.180-0.470		0.180-0.470
in. wg			5.0-13.0		5.0-13.0		5.0-13.0		5.0-13.0
Field Gas Connection Size (in. FPT)		**125**	1/2	**125**	1/2	**180**	3/4	**224**	3/4
		180	3/4	**180**	3/4	**224**	3/4	**250**	3/4
		224	3/4	**224**	3/4	**250**	3/4	—	—
HIGH-PRESSURE SWITCH (psig)									
Standard Compressor					450 ± 50				500 ± 50
Internal Relief (Differential)									
Cutout					428				428
Reset (Auto.)					320				320
LOW-PRESSURE SWITCH (psig)									
Cutout					7 ± 3				
Reset (Auto.)					22 ± 7				
FREEZE PROTECTION THERMOSTAT (F)									
Opens					30 ± 5				
Closes					45 ± 5				
OUTDOOR-AIR INLET SCREENS					Cleanable				
Quantity...Size (in.)					Varies by Option Selected				
RETURN-AIR FILTERS					Throwaway				
Quantity...Size (in.)		4...16 x 20 x 2		4...20 x 20 x 2		4...20 x 20 x 2		4...20 x 20 x 2	

LEGEND

Al — Aluminum
Bhp — Brake Horsepower
Cu — Copper

*Evaporator coil fin material/condenser coil fin material. Contact your local representative for details about coated fins.
†Weight of 14-in. roof curb.
**Rollout switch lockout is manually reset by interrupting power to unit or resetting thermostat.

580F — OPTION/ACCESSORY WEIGHTS

Option / Accessory	036		048		060		072, 073		090, 091		102, 103		120, 121		150, 151	
	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg
Power Exhaust - vertical	50	23	50	23	50	23	50	23	75	34	75	34	75	34	75	34
Power Exhaust - horizontal	30	14	30	14	30	14	30	14	30	14	30	14	30	14	30	14
EconoMi$er (IV or 2)	50	23	50	23	50	23	50	23	75	34	75	34	75	34	75	34
Two Position damper (25%)	22	10	22	10	22	10	22	10	32	15	32	15	32	15	32	15
Two Position damper (100%)	39	18	39	18	39	18	39	18	58	26	58	26	58	26	58	26
Manual Dampers	12	5	12	5	12	5	18	8	18	8	18	8	18	8	18	8
Hail Guard (standard hood assembly)	25	11	25	11	25	11	25	11	38	17	50	23	50	23	50	23
Cu/Cu Condenser Coil	6	3	13	6	13	6	15	7	12	5	23	10	23	10	23	10
Cu/Cu Condenser and Evaporator Coils	12	5	19	9	21	10	26	12	25	11	49	22	49	22	49	22
Roof Curb (14-in. curb)	115	52	115	52	115	52	115	52	143	65	143	65	143	65	143	65
Roof Curb (24-in. curb)	197	89	197	89	197	89	197	89	245	111	245	111	245	111	245	111

UNIT 580F	STD. UNIT WEIGHT LB	STD. UNIT WEIGHT KG	ECONOMI$ERIV WEIGHT LB	ECONOMI$ERIV WEIGHT KG	VERT. ECONIV W/ P.E. WEIGHT LB	VERT. ECONIV W/ P.E. WEIGHT KG	(A) CORNER WEIGHT LB	(A) CORNER WEIGHT KG	(B) CORNER WEIGHT LB	(B) CORNER WEIGHT KG	(C) CORNER WEIGHT LB	(C) CORNER WEIGHT KG	(D) CORNER WEIGHT LB	(D) CORNER WEIGHT KG	"A" PANEL LENGTH
036	460	209	50	22.7	90	40.9	140	63.5	105	47.6	159	72.1	56	25.4	1'-10 3/8" [568.0]
048	470	213	↓	↓	↓	↓	142	64.4	106	48.1	162	73.5	60	27.2	1'-10 3/8" [568.0]
060	490	222	↓	↓	↓	↓	150	68.0	115	52.2	160	72.6	65	29.5	1'-0 3/8" [315.0]
072	565	256	↓	↓	↓	↓	165	74.8	136	61.7	200	90.7	64	29.0	1'-0 3/8" [315.0]

NOTES:

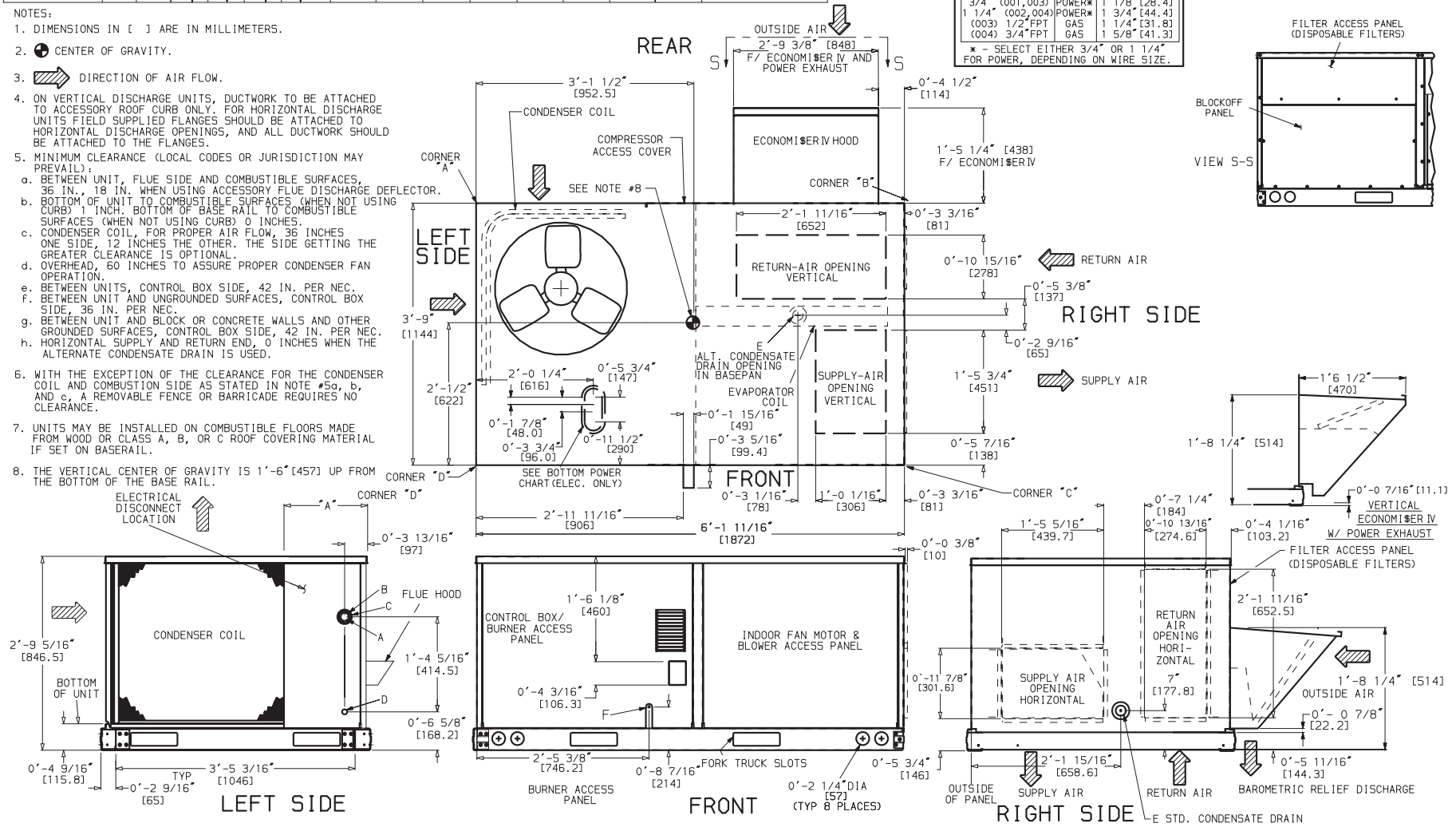
1. DIMENSIONS IN [ ] ARE IN MILLIMETERS.
2. ⊕ CENTER OF GRAVITY.
3. ⇨ DIRECTION OF AIR FLOW.
4. ON VERTICAL DISCHARGE UNITS, DUCTWORK TO BE ATTACHED TO ACCESSORY ROOF CURB ONLY. FOR HORIZONTAL DISCHARGE UNITS FIELD SUPPLIED FLANGES SHOULD BE ATTACHED TO HORIZONTAL DISCHARGE OPENINGS, AND ALL DUCTWORK SHOULD BE ATTACHED TO THE FLANGES.
5. MINIMUM CLEARANCE (LOCAL CODES OR JURISDICTION MAY PREVAIL):
   a. BETWEEN UNIT, FLUE SIDE AND COMBUSTIBLE SURFACES, 36 IN., 18 IN. WHEN USING ACCESSORY FLUE DISCHARGE DEFLECTOR.
   b. BOTTOM OF UNIT TO COMBUSTIBLE SURFACES (WHEN NOT USING CURB) 1 INCH. BOTTOM OF BASE RAIL TO COMBUSTIBLE SURFACES (WHEN NOT USING CURB) 0 INCHES.
   c. CONDENSER COIL, FOR PROPER AIR FLOW, 36 INCHES ONE SIDE, 12 INCHES THE OTHER. THE SIDE GETTING THE GREATER CLEARANCE IS OPTIONAL.
   d. OVERHEAD, 60 INCHES TO ASSURE PROPER CONDENSER FAN OPERATION.
   e. BETWEEN UNITS, CONTROL BOX SIDE, 42 IN. PER NEC.
   f. BETWEEN UNIT AND UNGROUNDED SURFACES, CONTROL BOX SIDE, 36 IN. PER NEC.
   g. BETWEEN UNIT AND BLOCK OR CONCRETE WALLS AND OTHER GROUNDED SURFACES, CONTROL BOX SIDE, 42 IN. PER NEC.
   h. HORIZONTAL SUPPLY AND RETURN END, 0 INCHES WHEN THE ALTERNATE CONDENSATE DRAIN IS USED.
6. WITH THE EXCEPTION OF THE CLEARANCE FOR THE CONDENSER COIL AND COMBUSTION SIDE AS STATED IN NOTE #5a, b, AND c, A REMOVABLE FENCE OR BARRICADE REQUIRES NO CLEARANCE.
7. UNITS MAY BE INSTALLED ON COMBUSTIBLE FLOORS MADE FROM WOOD OR CLASS A, B, OR C ROOF COVERING MATERIAL IF SET ON BASERAIL.
8. THE VERTICAL CENTER OF GRAVITY IS 1'-6" [457] UP FROM THE BOTTOM OF THE BASE RAIL.

BOTTOM POWER CHART:
THESE HOLES REQ'D FOR USE WITH ACCESSORY PACKAGES - CRBTMPWR001A01, 2A01, 3A01, OR 4A01

THREADED CONDUIT SIZE	WIRE USE	REQ'D HOLE SIZES (MAX.)
1/2"	ACC.	7/8" [22.2]
1/2"	24V	7/8" [22.2]
3/4" (001,003)	POWER*	1 1/8" [28.4]
1 1/4" (002,004)	POWER*	1 3/4" [44.4]
(003) 1/2" FPT	GAS	1 1/4" [31.8]
(004) 3/4" FPT	GAS	1 5/8" [41.3]

* - SELECT EITHER 3/4" OR 1 1/4" FOR POWER, DEPENDING ON WIRE SIZE.

	CONNECTION SIZES
A	1 3/8" DIA. [35] FIELD POWER SUPPLY HOLE
B	2" DIA. [51] POWER SUPPLY KNOCK-OUT
C	2 1/2" DIA. [64] POWER SUPPLY KNOCK-OUT
D	7/8" DIA. [22] FIELD CONTROL WIRING HOLE
E	3/4"-14 NPT CONDENSATE DRAIN
F	1/2"-14 NPT GAS CONNECTION



UNIT 580F	STD. UNIT WEIGHT LB	STD. UNIT WEIGHT KG	ECONOMI$ERIV WEIGHT LB	ECONOMI$ERIV WEIGHT KG	VERT. ECONIV W/P.E. WEIGHT LB	VERT. ECONIV W/P.E. WEIGHT KG	(A) CORNER WEIGHT LB	(A) CORNER WEIGHT KG	(B) CORNER WEIGHT LB	(B) CORNER WEIGHT KG	(C) CORNER WEIGHT LB	(C) CORNER WEIGHT KG	(D) CORNER WEIGHT LB	(D) CORNER WEIGHT KG	"J" FT -IN.	"J" MM
073	615	279	50	22.7	90	40.9	147	66.7	142	64.4	160	72.6	166	75.3	2'-9 5/16"	846.5

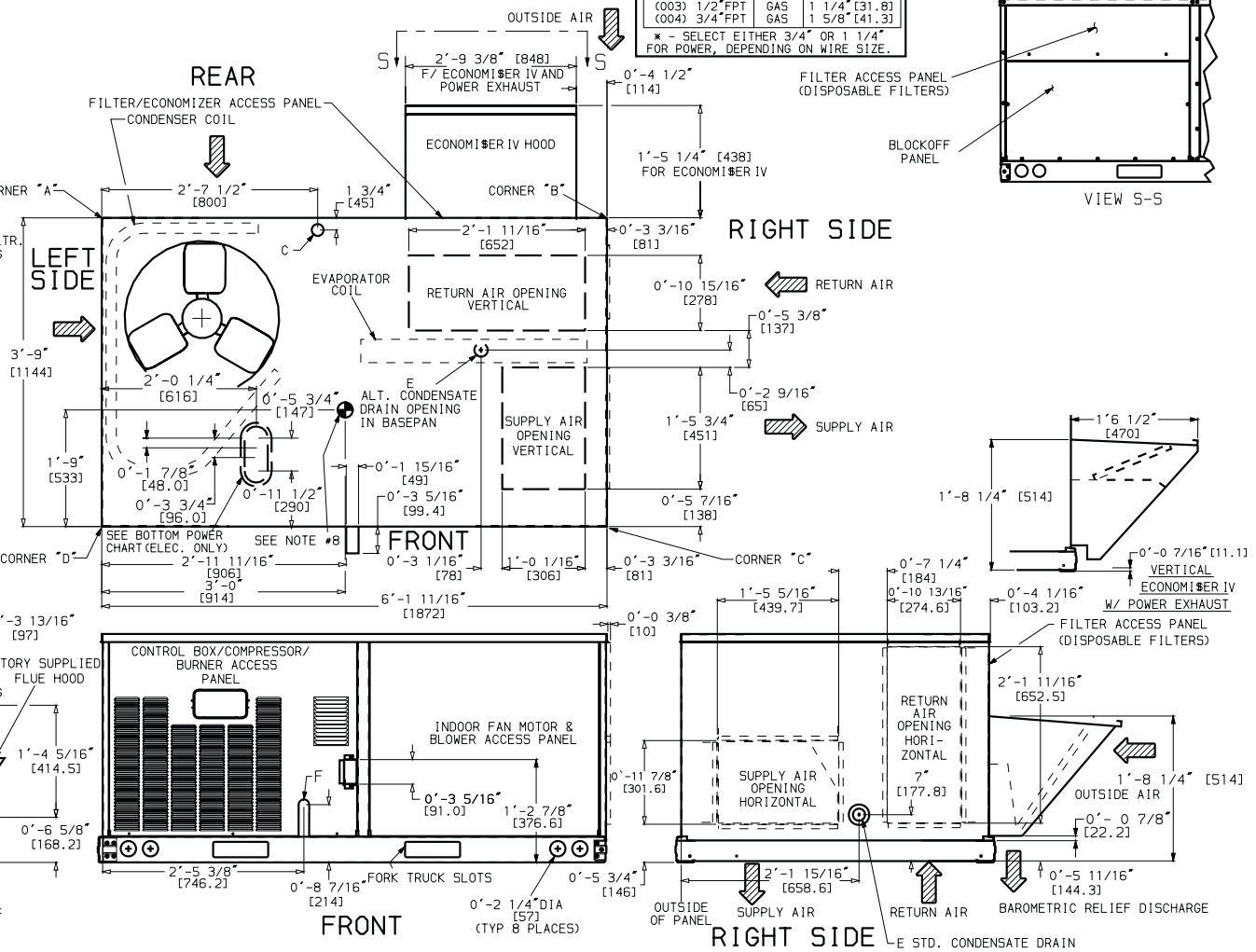
BOTTOM POWER CHART:
THESE HOLES REQ'D FOR USE WITH ACCESSORY PACKAGES - CRBTMPWR001A01, 2A01, 3A01, OR 4A01

THREADED CONDUIT SIZE	WIRE USE	REQ'D HOLE SIZES (MAX.)
1/2"	ACC.	7/8" [22.2]
1/2"	24V	7/8" [22.2]
3/4" (001,003)	POWER*	1 1/8" [28.4]
1 1/4" (002,004)	POWER*	1 3/4" [44.4]
(003) 1/2"FPT	GAS	1 1/4" [31.8]
(004) 3/4"FPT	GAS	1 5/8" [41.3]

* - SELECT EITHER 3/4" OR 1 1/4" FOR POWER, DEPENDING ON WIRE SIZE.

	CONNECTION SIZES
A	1 3/8" DIA. [35] FIELD POWER SUPPLY HOLE
B	2" DIA. [51] POWER SUPPLY KNOCK-OUT
C	1 3/4" DIA.[44] CHARGING PORT HOLE
D	7/8" DIA. [22] FIELD CONTROL WIRING HOLE
E	3/4"-14 NPT CONDENSATE DRAIN
F	1/2"-14 NPT GAS CONNECTION
G	2 1/2" DIA. [64] POWER SUPPLY KNOCK-OUT

NOTES:
1. DIMENSIONS IN [ ] ARE IN MILLIMETERS.
2. ⊕ CENTER OF GRAVITY.
3. ⇨ DIRECTION OF AIR FLOW.
4. ON VERTICAL DISCHARGE UNITS, DUCTWORK TO BE ATTACHED TO ACCESSORY ROOF CURB ONLY. FOR HORIZONTAL DISCHARGE UNITS FIELD SUPPLIED FLANGES SHOULD BE ATTACHED TO HORIZONTAL DISCHARGE OPENINGS, AND ALL DUCTWORK SHOULD BE ATTACHED TO THE FLANGES.
5. MINIMUM CLEARANCE (LOCAL CODES OR JURISDICTION MAY PREVAIL):
   a. BETWEEN UNIT, FLUE SIDE AND COMBUSTIBLE SURFACES, 36 IN.,18 IN. WHEN USING ACCESSORY FLUE DISCHARGE DEFLTR.
   b. BOTTOM OF UNIT TO COMBUSTIBLE SURFACES (WHEN NOT USING CURB) 1 INCH. BOTTOM OF BASE RAIL TO COMBUSTIBLE SURFACES (WHEN NOT USING CURB) 0 INCHES.
   c. CONDENSER COIL, FOR PROPER AIR FLOW, 36 INCHES ONE SIDE, 12 INCHES THE OTHER. THE SIDE GETTING THE GREATER CLEARANCE IS OPTIONAL.
   d. OVERHEAD, 60 INCHES TO ASSURE PROPER CONDENSER FAN OPERATION.
   e. BETWEEN UNITS, CONTROL BOX SIDE, 42 IN. PER NEC.
   f. BETWEEN UNIT AND UNGROUNDED SURFACES, CONTROL BOX SIDE, 36 IN. PER NEC.
   g. BETWEEN UNIT AND BLOCK OR CONCRETE WALLS AND OTHER GROUNDED SURFACES, CONTROL BOX SIDE, 42 IN. PER NEC.
   h. HORIZONTAL SUPPLY AND RETURN END, 0 INCHES WHEN THE ALTERNATE CONDENSATE DRAIN IS USED.
6. WITH THE EXCEPTION OF THE CLEARANCE FOR THE CONDENSER COIL AND COMBUSTION SIDE AS STATED IN NOTE #5a, b, AND c, A REMOVABLE FENCE OR BARRICADE REQUIRES NO CLEARANCE.
7. UNITS MAY BE INSTALLED ON COMBUSTIBLE FLOORS MADE FROM WOOD OR CLASS A, B, OR C ROOF COVERING MATERIAL IF SET ON BASE RAIL.
8. THE VERTICAL CENTER OF GRAVITY IS 1'-6"[457] UP FROM FROM THE BOTTOM OF THE BASE RAIL.



BASE UNIT DIMENSIONS — 580F090,120,150

UNIT 580F	STD. UNIT WEIGHT LB	STD. UNIT WEIGHT KG	ECONOMI$ER IV WEIGHT LB	ECONOMI$ER IV WEIGHT KG	VERT. W/ P.E. LB	VERT. W/ P.E. KG	ECON IV WEIGHT LB	ECON IV WEIGHT KG	CORNER WEIGHT (A) LB	CORNER WEIGHT (A) KG	CORNER WEIGHT (B) LB	CORNER WEIGHT (B) KG	CORNER WEIGHT (C) LB	CORNER WEIGHT (C) KG	CORNER WEIGHT (D) LB	CORNER WEIGHT (D) KG	"H" FT –IN.	"H" MM	"J" FT –IN.	"J" MM	"K" FT –IN.	"K" MM	"L" FT –IN.	"L" MM
090	870	395	75	34.1	145	65.9			189	86	161	73	239	109	280	127	1'-2 7/8"	378	3'-5 5/16"	1050	2'-9 11/16"	856	2'-2 7/16"	672
120	1035	469							225	102	192	87	285	129	333	151	2'-5 7/8"	759	4'-1 5/16"	1253	3'-0 3/8"	924	2'-10 7/16"	875
150	1050	476							228	103	195	88	289	131	338	153	1'-2 7/8"	378	4'-1 5/16"	1253	3'-0 3/8"	924	2'-10 7/16"	875

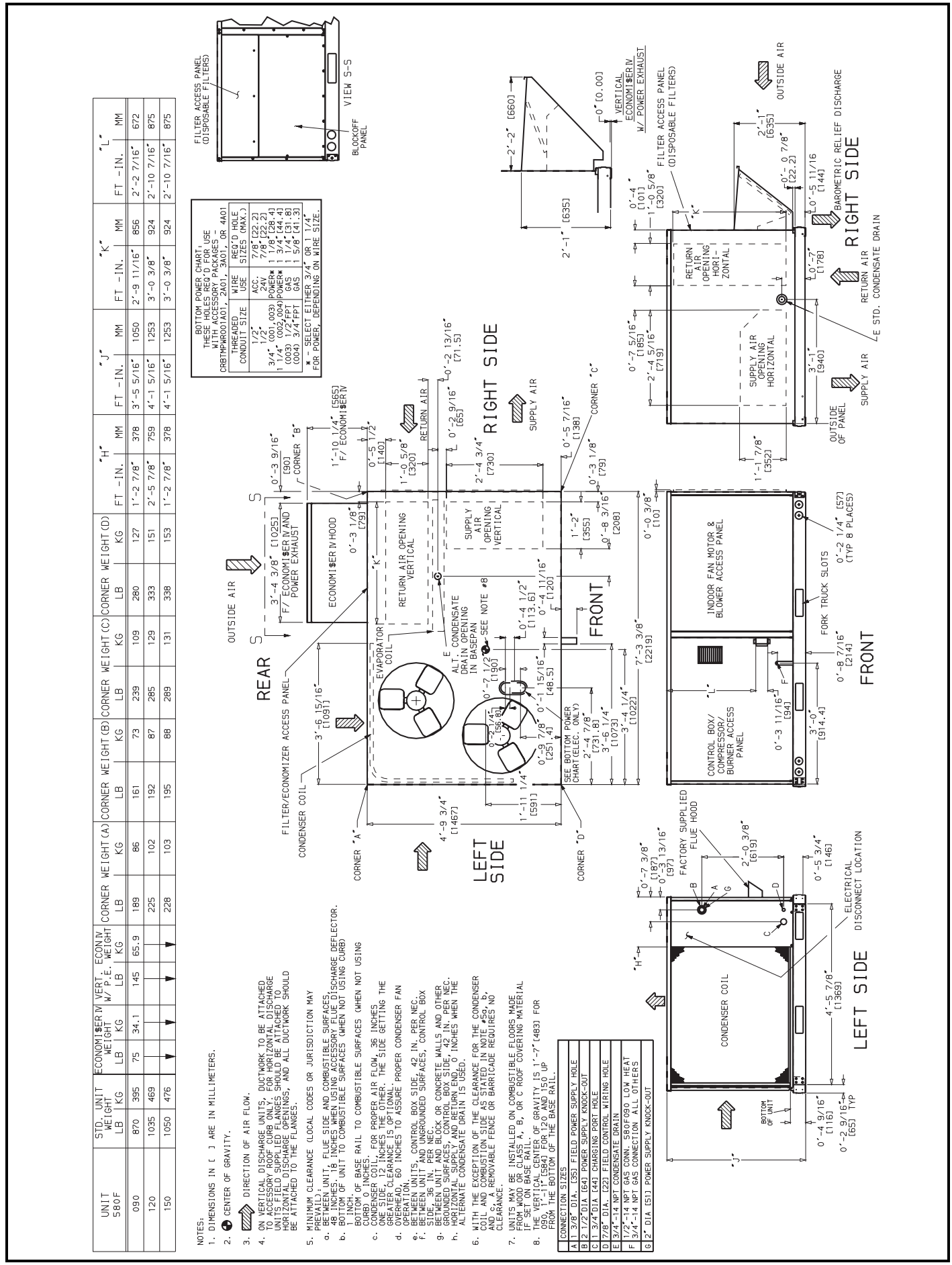
NOTES:
1. DIMENSIONS IN [ ] ARE IN MILLIMETERS.
2. ⊕ CENTER OF GRAVITY.
3. ⇨ DIRECTION OF AIR FLOW.
4. ON VERTICAL DISCHARGE UNITS, DUCTWORK TO BE ATTACHED TO ACCESSORY BASE RAIL. ON HORIZONTAL DISCHARGE UNITS, DUCTWORK SHOULD BE ATTACHED TO HORIZONTAL DISCHARGE OPENINGS, AND ALL DUCTWORK SHOULD BE ATTACHED TO THE FLANGES.
5. MINIMUM CLEARANCE (LOCAL CODES OR JURISDICTION MAY PREVAIL):
   a. 48 INCHES FOR UNIT, FLUE SIDE AND COMBUSTIBLE SURFACES.
   b. BETWEEN UNIT AND 18 INCHES WHEN USING ACCESSORY FLUE DISCHARGE DEFLECTOR.
   c. BOTTOM OF UNIT TO COMBUSTIBLE SURFACES (WHEN NOT USING CURB) 1 INCH.
      BOTTOM OF BASE RAIL TO COMBUSTIBLE SURFACES (WHEN NOT USING CURB) 0 INCHES.
   d. CONDENSER COIL, FOR PROPER AIR FLOW, 36 INCHES
      ONE AIR INLET SIDE. THE SIDE GETTING THE GREATER CLEARANCES OPTIONAL.
      OVERHEAD, 60 INCHES TO ASSURE PROPER CONDENSER FAN OPERATION.
   e. BETWEEN UNITS, CONTROL BOX SIDE, 42 IN. PER NEC.
   f. BETWEEN UNIT AND UNGROUNDED SURFACES, CONTROL BOX SIDE, 36 IN. PER NEC.
   g. BETWEEN UNIT AND BLOCK OR CONCRETE WALLS AND OTHER GROUNDED SURFACES, CONTROL BOX SIDE 42 IN. PER NEC.
   h. HORIZONTAL SUPPLY AND RETURN END, 0 INCHES WHEN THE ALTERNATE CONDENSATE DRAIN IS USED.
6. WITH THE EXCEPTION OF THE CLEARANCE FOR THE CONDENSER COIL AND COMBUSTION SIDE AS STATED IN NOTE #5a, b, AND c, A REMOVABLE FENCE OR BARRICADE REQUIRES NO CLEARANCE.
7. UNITS MAY BE INSTALLED ON COMBUSTIBLE FLOORS MADE FROM WOOD OR CLASS A, B, OR C ROOF COVERING MATERIAL IF SET ON BASE RAIL.
8. THE VERTICAL CENTER OF GRAVITY IS 1'-7" [483] FOR 090, 1'-11" [584] FOR 120 AND 150 UP FROM THE BOTTOM OF THE BASE RAIL.

	CONNECTION SIZES
A	1 3/8" DIA. [35] FIELD POWER SUPPLY HOLE
B	2 1/2" DIA [64] POWER SUPPLY KNOCK-OUT
C	1 3/4" DIA [44] CHARGING PORT HOLE
D	7/8" DIA. [22] FIELD CONTROL WIRING HOLE
E	3/4"-14 NPT CONDENSATE DRAIN
F	1/2"-14 NPT GAS CONN. 580F090 LOW HEAT 3/4"-14 NPT GAS CONNECTION ALL OTHERS
G	2" DIA [51] POWER SUPPLY KNOCK-OUT

BOTTOM POWER CHART;
THESE HOLES REQ'D FOR USE WITH ACCESSORY PACKAGES - CRBTMPWR001A01, 2A01, 3A01, OR 4A01

THREADED CONDUIT SIZE	WIRE USE	REQ'D HOLE SIZES (MAX.)
1/2"	ACC. 24V	7/8" [22.2]
1/2" 3/4" (001,003) 1 1/4" (002,004) 2" (005)	POWER*	7/8" [22.2] 1 1/8" [28.4] 1 3/4" [44.4] 2 1/8" [53.9]
3/4"-FPT	GAS	1 1/8" [41.8]

* - SELECT EITHER 3/4" OR 1 1/4" FOR POWER, DEPENDING ON WIRE SIZE.



UNIT 580F	STD. UNIT WEIGHT LB	STD. UNIT WEIGHT KG	ECONOMI$ER IV WEIGHT LB	ECONOMI$ER IV WEIGHT KG	VERT. ECON IV W/ P.E. WEIGHT LB	VERT. ECON IV W/ P.E. WEIGHT KG	CORNER WEIGHT (A) LB	CORNER WEIGHT (A) KG	CORNER WEIGHT (B) LB.	CORNER WEIGHT (B) KG	CORNER WEIGHT (C) LB	CORNER WEIGHT (C) KG	CORNER WEIGHT (D) LB	CORNER WEIGHT (D) KG	"H" FT -IN.	"H" MM	"J" FT -IN.	"J" MM	"K" FT -IN.	"K" MM	"L" FT -IN.	"L" MM
091	870	395	75	34.1	145	65.9	189	86	161	73	239	109	280	127	2'-0 7/8"	632	3'-5 5/16"	1050	2'-9 11/16"	856	2'-2 7/16"	672
103	880	399	↓	↓	↓	↓	191	87	163	74	242	110	284	129	1' -2 7/8"	378	3'-5 5/16"	1050	2'-9 11/16"	856	2'-2 7/16"	672
121	1035	469	↓	↓	↓	↓	225	102	192	87	285	129	333	151	1' -2 7/8"	378	4'-1 5/16"	1253	3'-0 3/8"	924	2'-10 7/16"	875
151	1050	476	↓	↓	↓	↓	228	103	195	88	289	131	338	153	1'-2 7/8"	378	4'-1 5/16"	1253	3'-0 3/8"	924	2'-10 7/16"	875

NOTES:

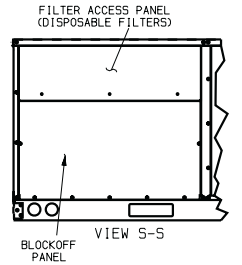
1. DIMENSIONS IN [ ] ARE IN MILLIMETERS.
2. ⊕ CENTER OF GRAVITY.
3. ⇨ DIRECTION OF AIR FLOW.
4. ON VERTICAL DISCHARGE UNITS, DUCTWORK TO BE ATTACHED TO ACCESSORY ROOF CURB ONLY. FOR HORIZONTAL DISCHARGE UNITS FIELD SUPPLIED FLANGES SHOULD BE ATTACHED TO HORIZONTAL DISCHARGE OPENINGS, AND ALL DUCTWORK SHOULD BE ATTACHED TO THE FLANGES.
5. MINIMUM CLEARANCE (LOCAL CODES OR JURISDICTION MAY PREVAIL):
   a. BETWEEN UNIT, FLUE SIDE AND COMBUSTIBLE SURFACES, 48 INCHES. 18 INCHES WHEN USING ACCESSORY FLUE DISCHARGE DEFLECTOR.
   b. BOTTOM OF UNIT TO COMBUSTIBLE SURFACES (WHEN NOT USING CURB) 1 INCH. BOTTOM OF BASE RAIL TO COMBUSTIBLE SURFACES (WHEN NOT USING CURB) 0 INCHES.
   c. CONDENSER COIL, FOR PROPER AIR FLOW, 36 INCHES ONE SIDE, 12 INCHES THE OTHER. THE SIDE GETTING THE GREATER CLEARANCE IS OPTIONAL.
   d. OVERHEAD, 60 INCHES TO ASSURE PROPER CONDENSER FAN OPERATION.
   e. BETWEEN UNITS, CONTROL BOX SIDE, 42 IN. PER NEC.
   f. BETWEEN UNIT AND UNGROUNDED SURFACES, CONTROL BOX SIDE, 36 IN. PER NEC.
   g. BETWEEN UNIT AND BLOCK OR CONCRETE WALLS AND OTHER GROUNDED SURFACES, CONTROL BOX SIDE, 42 IN. PER NEC.
   h. HORIZONTAL SUPPLY AND RETURN END, 0 INCHES WHEN THE ALTERNATE CONDENSATE DRAIN IS USED.
6. WITH THE EXCEPTION OF THE CLEARANCE FOR THE CONDENSER COIL AND COMBUSTION SIDE AS STATED IN NOTE #5a, b, AND c, A REMOVABLE FENCE OR BARRICADE REQUIRES NO CLEARANCE.
7. UNITS MAY BE INSTALLED ON COMBUSTIBLE FLOORS MADE FROM WOOD OR CLASS A, B, OR C ROOF COVERING MATERIAL IF SET ON BASE RAIL.
8. THE VERTICAL CENTER OF GRAVITY IS 1'-7" [483] FOR 091 AND 103, 1'-11" [584] FOR 121 AND 151 UP FROM THE BOTTOM OF THE BASE RAIL.

	CONNECTION SIZES
A	1 3/8" DIA. [35] FIELD POWER SUPPLY HOLE
B	2 1/2"DIA [64] POWER SUPPLY KNOCK-OUT
C	1 3/4"DIA [44] CHARGING PORT HOLE
D	7/8" DIA. [22] FIELD CONTROL WIRING HOLE
E	3/4"-14 NPT CONDENSATE DRAIN
F	1/2"-14 NPT GAS CONN; 580F091 LOW HEAT 3/4"-14 NPT GAS CONN.; ALL OTHERS
G	2" DIA [51] POWER SUPPLY KNOCK-OUT

BOTTOM POWER CHART:
THESE HOLES REQ'D FOR USE WITH ACCESSORY PACKAGES - CRBTMPWR001A01, 2A01, 3A01, OR 4A01

THREADED CONDUIT SIZE	WIRE USE	REQ'D HOLE SIZES (MAX.)
1/2"	ACC.	7/8" [22.2]
1/2"	24V	7/8" [22.2]
3/4" (001,003)	POWER*	1 1/8" [28.4]
1 1/4" (002,004)	POWER*	1 3/4" [44.4]
(003) 1/2" FPT	GAS	1 1/4" [31.8]
(004) 3/4" FPT	GAS	1 5/8" [41.3]

* - SELECT EITHER 3/4" OR 1 1/4" FOR POWER, DEPENDING ON WIRE SIZE.

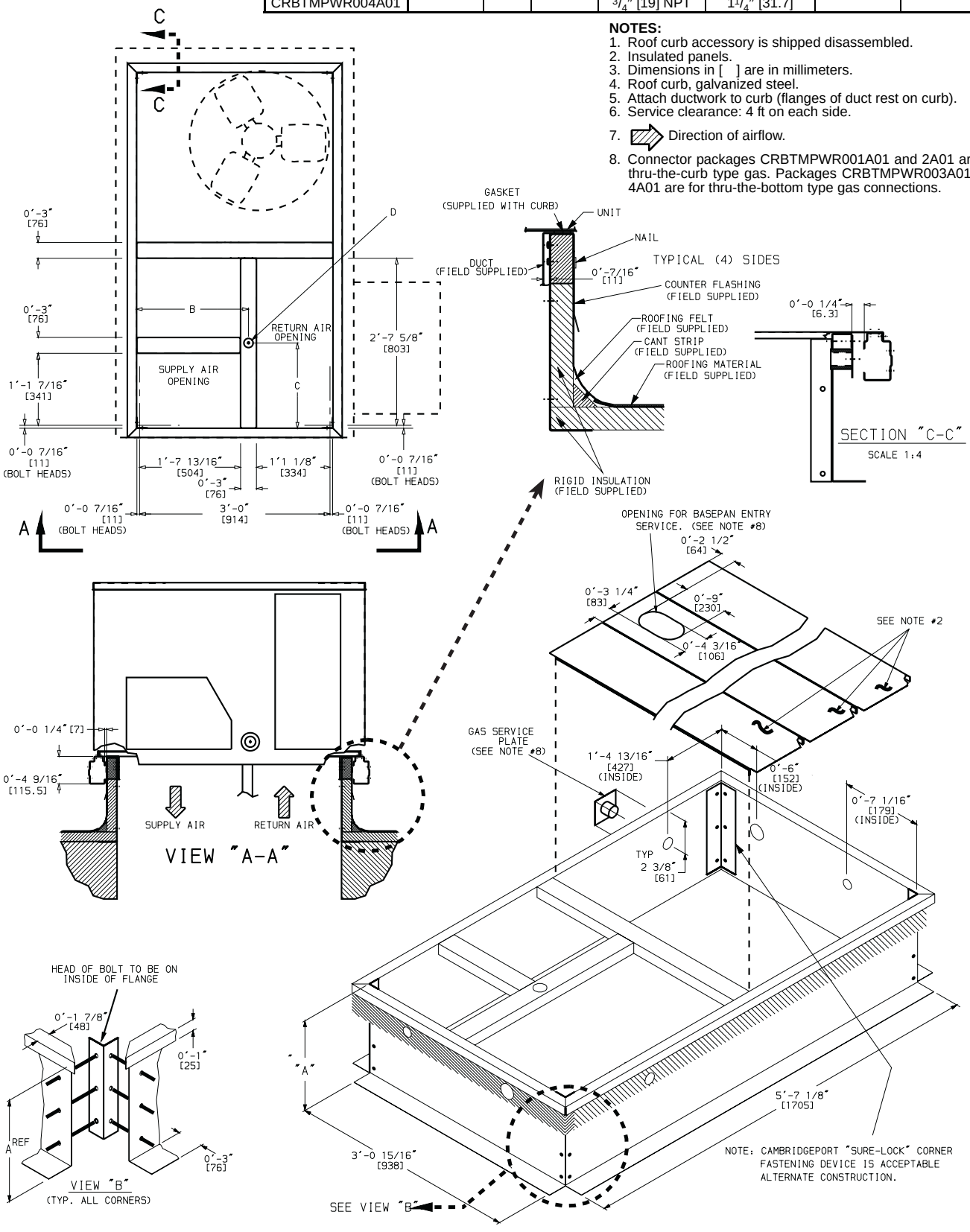


ACCESSORY DIMENSIONS — 580F

ROOF CURB ACCESSORY	A	UNIT SIZE
CRRFCURB001A01	1′-2″ [356]	580F 036-073
CRRFCURB002A01	2′-0″ [610]	

CONNECTOR PKG. ACCY.	B	C	D ALT DRAIN HOLE	GAS	POWER	CONTROL	ACCESSORY POWER
CRBTMPWR001A01	1′-9 11/16″ [551]	1′-4″ [406]	1 3/4″ [44.5]	3/4″ [19] NPT	3/4″ [19] NPT	1/2″ [12.7] NPT	1/2″ [12.7] NPT
CRBTMPWR002A01					1 1/4″ [31.7]		
CRBTMPWR003A01				1/2″ [12.7] NPT	3/4″ [19] NPT		
CRBTMPWR004A01				3/4″ [19] NPT	1 1/4″ [31.7]		

NOTES:
1. Roof curb accessory is shipped disassembled.
2. Insulated panels.
3. Dimensions in [ ] are in millimeters.
4. Roof curb, galvanized steel.
5. Attach ductwork to curb (flanges of duct rest on curb).
6. Service clearance: 4 ft on each side.
7. Direction of airflow.
8. Connector packages CRBTMPWR001A01 and 2A01 are for thru-the-curb type gas. Packages CRBTMPWR003A01 and 4A01 are for thru-the-bottom type gas connections.



Roof Curb

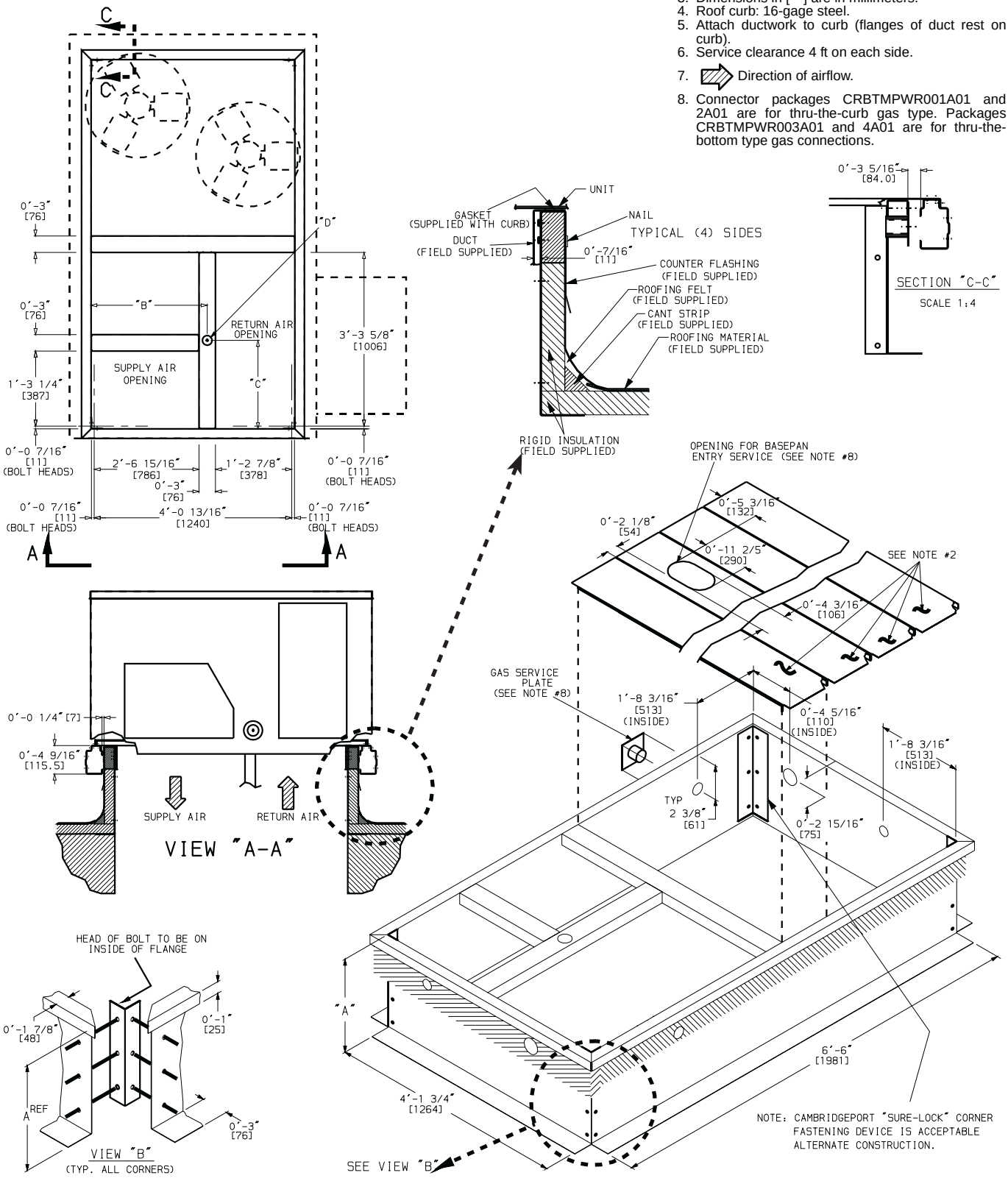
ACCESSORY DIMENSIONS — 580F (cont)

CONNECTOR PKG. ACCY.	B	C	D ALT DRAIN HOLE	GAS	POWER	CONTROL	ACCESSORY POWER
CRBTMPWR001A01	2′-8 7/16″ [827]	1′-10 15/16″ [583]	1 3/4″ [44.5]	3/4″ [19] NPT	3/4″ [19] NPT	1/2″ [12.7] NPT	1/2″ [12.7] NPT
CRBTMPWR002A01					1 1/4″ [31.7]		
CRBTMPWR003A01				1/2″ [12.7] NPT	3/4″ [19] NPT		
CRBTMPWR004A01				3/4″ [19] NPT	1 1/4″ [31.7]		

ROOF CURB ACCESSORY	"A"	UNIT SIZE
CRRFCURB003A01	1′-2″ [356]	580F 090-151
CRRFCURB004A01	2′-0″ [610]	

NOTES:

1. Roof curb accessory is shipped disassembled.
2. Insulated panels: 1-in. thick polyurethane foam, 1 3/4 lb density.
3. Dimensions in [ ] are in millimeters.
4. Roof curb: 16-gage steel.
5. Attach ductwork to curb (flanges of duct rest on curb).
6. Service clearance 4 ft on each side.
7. Direction of airflow.
8. Connector packages CRBTMPWR001A01 and 2A01 are for thru-the-curb gas type. Packages CRBTMPWR003A01 and 4A01 are for thru-the-bottom type gas connections.



Roof Curb Details

SELECTION PROCEDURE (with 580F060 example)

I DETERMINE COOLING AND HEATING REQUIREMENTS AT DESIGN CONDITIONS.

Given:

Required Cooling Capacity (TC) . . . . . 55,000 Btuh
Sensible Heat Capacity (SHC) . . . . . 40,000 Btuh
Required Heating Capacity . . . . . 60,000 Btuh
Condenser Entering Air Temp. . . . . .95 F (Summer)
Evaporator Entering Air Temp. . . . . 80 F edb, 67 F ewb
Evaporator Air Quantity . . . . . .2,000 cfm
External Static Pressure . . . . . 0.6 in. wg
Electrical Characteristics (V-Ph-Hz) 230-3-60

Vertical discharge unit with optional EconoMi$er IV required.

edb — Entering dry-bulb
ewb — Entering wet-bulb

II SELECT UNIT BASED ON REQUIRED COOLING CAPACITY.

Enter Cooling Capacities table for 580F060 (page 33) at condenser entering temperature 95 F, evaporator air entering at 2,000 cfm and 67 F wb. The 580F060 unit will provide a total cooling capacity of 60,900 Btuh and a sensible heating capacity of 45,300 Btuh. For air entering evaporator at temperatures other than 80 F edb, calculate sensible heat capacity correction as required using the formula in the notes following the Cooling Capacities tables.

NOTE: Unit ratings are gross capacities and do not include the effect of evaporator-fan motor heat. To calculate net capacities, see Step V.

III SELECT HEATING CAPACITY OF UNIT TO PROVIDE DESIGN CONDITION REQUIREMENTS.

In the Heating Capacities and Efficiencies table (page 9) note that the 580F060 074 will provide an output capacity of 59,200 Btuh, which is adequate for the given application.

IV DETERMINE FAN SPEED AND POWER REQUIREMENTS AT DESIGN CONDITIONS.

Before entering the Fan Performance tables, calculate the total static pressure required based on unit components. From the given and the Accessory/FIOP Static Pressure table on page 75 find:

External static pressure	0.60 in. wg
EconoMi$er IV static pressure	0.12 in. wg
Total Static	0.72 in. wg

Enter the standard motor Fan Performance table 580F060 Vertical Discharge (page 39) at 2,000 cfm and 0.72 in. wg external static pressure. The standard motor cannot provide 0.87 in. wg external static pressure. Enter the alternate motor Fan Performance table for 580F060, vertical discharge. At 2,000 cfm and 0.72 in. wg external static pressure, find that the rpm is 1219, the Bhp is 1.31, and the watts are 1168 (interpolation required).

V DETERMINE NET COOLING CAPACITY.

Cooling capacities are gross capacities and do not include indoor (evaporator) fan motor (IFM) heat. Use the watts input power to the motor calculated in Section IV above.

IFM Watts = 1168

Determine net cooling capacity using the following formula:

Net capacity = Gross capacity – IFM heat
= 60,900 Btuh – 1168 Watts

$$(3.412 \ \frac{\text{Btuh}}{\text{Watts}})$$

= 60,900 Btuh – 3985 Btuh
= 56,915 Btuh

Net sensible capacity = 45,300 Btuh – 3985 Btuh
= 41,315 Btuh

The calculations show that a 580F060 unit with the alternate motor and drive is the correct selection for the given conditions.

PERFORMANCE DATA

COOLING CAPACITIES

580F036 (3 TONS)

Temp (F) Air Entering Condenser (Edb)		Air Entering Evaporator — Cfm/BF								
		900/0.11			1200/0.14			1500/0.17		
		Air Entering Evaporator — Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	42.8	38.9	35.0	44.8	40.8	37.0	45.8	41.9	38.2
	SHC	20.0	24.5	28.7	21.8	27.5	32.8	23.0	30.0	36.0
	kW	2.91	2.81	2.70	2.99	2.88	2.78	3.02	2.92	2.82
85	TC	40.8	36.9	33.3	42.5	38.7	35.0	43.6	39.9	36.1
	SHC	19.4	23.7	27.9	21.0	26.8	31.8	22.6	29.7	35.1
	kW	3.14	3.01	2.90	3.20	3.08	2.97	3.24	3.14	3.02
95	TC	38.7	34.9	31.4	40.4	36.6	33.0	41.4	37.6	34.1
	SHC	18.6	22.9	27.0	20.3	26.0	30.9	22.0	28.8	34.0
	kW	3.35	3.21	3.09	3.42	3.29	3.16	3.47	3.35	3.22
105	TC	36.5	32.8	29.2	38.1	34.3	30.9	39.0	35.2	32.4
	SHC	17.8	22.1	25.9	19.6	25.2	29.8	21.2	28.0	32.3
	kW	3.55	3.41	3.27	3.63	3.49	3.35	3.68	3.54	3.43
115	TC	34.3	30.7	26.9	35.7	32.1	28.8	36.5	32.9	30.6
	SHC	17.0	21.3	24.8	19.0	24.4	28.8	20.5	27.1	30.6
	kW	3.76	3.60	3.45	3.84	3.68	3.54	3.88	3.74	3.64

580F048 (4 TONS)

Temp (F) Air Entering Condenser (Edb)		Air Entering Evaporator — Cfm/BF								
		1200/0.12			1600/0.15			2000/0.18		
		Air Entering Evaporator — Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	57.9	53.1	48.3	60.4	55.9	51.3	62.2	57.3	52.9
	SHC	27.2	33.3	39.2	29.4	37.2	44.8	31.4	40.3	49.1
	kW	4.07	3.93	3.79	4.17	4.03	3.90	4.24	4.08	3.96
85	TC	55.7	50.8	45.3	57.7	53.4	48.5	59.4	55.0	50.2
	SHC	26.4	32.5	37.8	28.4	36.7	43.6	30.5	40.3	47.9
	kW	4.40	4.24	4.08	4.47	4.35	4.20	4.54	4.42	4.25
95	TC	52.9	48.1	42.5	55.2	50.5	45.7	56.7	52.0	47.4
	SHC	25.5	31.5	36.4	27.6	35.6	42.2	29.7	39.2	46.7
	kW	4.70	4.54	4.36	4.78	4.63	4.47	4.87	4.70	4.56
105	TC	50.1	45.3	39.8	52.3	47.6	42.8	53.6	48.9	44.9
	SHC	24.4	30.3	35.1	26.7	34.5	40.7	28.8	38.1	44.6
	kW	5.00	4.81	4.62	5.10	4.91	4.73	5.17	4.99	4.84
115	TC	47.3	42.6	37.2	49.3	44.6	40.0	50.5	45.9	42.4
	SHC	23.4	29.2	33.7	25.9	33.3	39.3	27.8	37.1	42.4
	kW	5.30	5.07	4.88	5.42	5.19	4.99	5.48	5.28	5.12

580F060 (5 TONS)

Temp (F) Air Entering Condenser (Edb)		Air Entering Evaporator — Cfm/BF								
		1500/0.07			2000/0.09			2500/0.12		
		Air Entering Evaporator — Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	71.0	63.8	55.4	74.5	67.2	59.2	76.5	69.7	62.1
	SHC	33.9	41.5	47.9	37.4	47.4	55.8	40.6	52.8	61.8
	kW	5.04	4.82	4.62	5.20	4.97	4.76	5.29	5.06	4.87
85	TC	69.2	61.0	54.2	72.9	65.6	57.2	75.2	68.1	61.5
	SHC	33.4	40.5	47.3	37.0	46.9	54.9	40.1	52.3	61.3
	kW	5.50	5.27	5.02	5.66	5.41	5.18	5.75	5.50	5.29
95	TC	65.5	56.6	50.4	69.4	60.9	53.1	71.2	63.3	57.8
	SHC	32.1	38.8	45.6	35.8	45.3	52.6	39.1	50.9	57.8
	kW	5.88	5.62	5.37	6.01	5.76	5.53	6.12	5.87	5.67
105	TC	61.9	53.1	47.1	65.4	56.6	50.5	67.1	58.8	54.5
	SHC	30.8	37.5	44.1	34.5	43.7	50.2	37.9	49.3	54.5
	kW	6.25	5.99	5.72	6.38	6.13	5.91	6.50	6.23	6.06
115	TC	58.2	49.7	43.7	61.4	52.3	47.8	63.0	54.3	51.2
	SHC	29.5	36.1	42.5	33.2	42.1	47.8	36.7	47.6	51.2
	kW	6.63	6.35	6.08	6.75	6.49	6.29	6.88	6.59	6.46

Standard Ratings

LEGEND

BF — Bypass Factor
Edb — Entering Dry-Bulb
Ewb — Entering Wet-Bulb
kW — Compressor Motor Power Input
Ldb — Leaving Dry-Bulb
Lwb — Leaving Wet-Bulb
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil.

3. The SHC is based on 80 F edb temperature of air entering evaporator coil. Below 80 F edb, subtract (corr factor x cfm) from SHC. *Above 80 F edb, add (corr factor x cfm) to SHC.*

BYPASS FACTOR (BF)	ENTERING AIR DRY-BULB TEMP (F)					
	79	78	77	76	75	under 75
	81	*82*	*83*	*84*	*85*	over 85
	Correction Factor					
.05	1.04	2.07	3.11	4.14	5.18	
.10	.98	1.96	2.94	3.92	4.90	Use formula
.20	.87	1.74	2.62	3.49	4.36	shown below.
.30	.76	1.53	2.29	3.05	3.82	

Interpolation is permissible.
Correction Factor = 1.10 x (1 – BF) x (edb – 80).

PERFORMANCE DATA (cont)

COOLING CAPACITIES (cont)

580F072 (6 TONS)

Temp (F) Air Entering Condenser (Edb)		Air Entering Evaporator — Cfm/BF											
		1800/0.06			2100/0.08			2400/0.09			3000/0.11		
		Air Entering Evaporator — Ewb (F)											
		72	67	62	72	67	62	72	67	62	72	67	62
75	TC	86.6	80.0	73.6	87.8	80.3	73.2	90.8	84.1	77.2	93.2	86.6	79.7
	SHC	42.2	52.3	62.2	43.0	53.9	65.5	46.5	59.6	71.6	50.1	66.4	78.7
	kW	5.48	5.33	5.21	5.69	5.50	5.32	5.59	5.44	5.29	5.66	5.51	5.35
85	TC	84.1	77.4	71.0	84.0	77.2	69.5	87.8	81.2	74.5	90.1	83.5	77.3
	SHC	41.4	51.3	61.1	41.7	53.1	64.0	45.5	58.6	70.3	49.4	65.4	76.7
	kW	6.17	6.00	5.85	6.21	6.04	5.83	6.27	6.11	5.94	6.35	6.19	6.02
95	TC	81.6	74.7	68.5	81.0	73.5	66.3	84.8	78.2	71.8	87.0	80.4	74.8
	SHC	40.6	50.3	60.0	40.8	51.8	62.8	44.6	57.6	69.1	48.7	64.5	74.7
	kW	6.86	6.67	6.49	6.78	6.54	6.33	6.95	6.77	6.59	7.03	6.86	6.69
105	TC	78.4	71.8	65.6	76.8	69.7	62.5	81.6	74.9	68.9	83.3	76.9	72.1
	SHC	39.4	49.2	58.7	39.4	50.3	61.1	43.5	56.4	67.4	47.4	63.1	72.0
	kW	7.60	7.39	7.20	7.30	7.05	6.80	7.72	7.50	7.31	7.77	7.59	7.41
115	TC	75.1	68.7	62.5	72.5	65.5	58.7	78.0	71.5	66.1	79.5	73.3	69.3
	SHC	38.1	47.9	57.2	37.9	48.7	58.7	42.3	55.1	65.5	46.3	61.6	69.2
	kW	8.36	8.14	7.93	7.81	7.53	7.27	8.49	8.25	8.06	8.55	8.33	8.18

580F073 (6 TONS)

Temp (F) Air Entering Condenser (Edb)		Air Entering Evaporator — Cfm/BF											
		1800/0.06			2100/0.07			2400/0.09			3000/0.11		
		Air Entering Evaporator — Ewb (F)											
		72	67	62	72	67	62	72	67	62	72	67	62
75	TC	81.3	77.8	71.3	82.7	78.7	72.9	84.2	79.7	74.6	85.3	82.5	76.7
	SHC	38.2	51.3	61.6	40.2	54.2	65.9	42.3	57.1	70.2	43.7	64	76.4
	kW	4.69	4.63	4.52	4.73	4.65	4.56	4.77	4.67	4.6	4.8	4.75	4.63
85	TC	78.8	75.6	69	81.1	77.1	70.7	83.3	78.6	72.3	85	80.5	75
	SHC	37.7	50.4	60.5	40	53.9	64.9	42.2	57.5	69.2	44.3	63.6	74.9
	kW	5.21	5.16	5.05	5.27	5.2	5.09	5.34	5.24	5.13	5.39	5.29	5.17
95	TC	77.1	73.3	66.9	79.2	74.8	68.5	81.3	76.2	70.1	82	78	73.3
	SHC	37	49.9	59.7	39.4	53.3	64	41.8	56.8	68.3	43.5	63.4	73.2
	kW	5.8	5.78	5.65	5.87	5.81	5.7	5.94	5.85	5.74	5.95	5.88	5.8
105	TC	75.4	70.7	62.9	76.6	72.1	64.8	77.9	73.4	66.7	79.7	74.9	70.9
	SHC	36.7	48.7	58.2	38.6	52.3	62.2	40.6	55.9	66.3	43	62.4	70.9
	kW	6.49	6.45	6.26	6.53	6.48	6.32	6.56	6.51	6.38	6.61	6.53	6.46
115	TC	72.1	67.9	59	73.6	69	61.1	75.2	70.1	63.3	76.7	71.9	68.1
	SHC	35.3	47.5	57.2	37.6	51.2	60.2	39.9	54.8	63.3	42.2	61.5	68.1
	kW	7.2	7.17	6.94	7.25	7.18	7.01	7.29	7.2	7.08	7.35	7.26	7.15

580F090 ($7^1/_2$ TONS)

Temp (F) Air Entering Condenser (Edb)		Air Entering Evaporator — Cfm/BF											
		2250/0.07			2800/0.09			3000/0.10			3750/0.12		
		Air Entering Evaporator — Ewb (F)											
		72	67	62	72	67	62	72	67	62	72	67	62
75	TC	102.8	94.8	86.2	105.8	98.2	90.0	106.4	99.0	90.8	109.2	101.6	93.6
	SHC	49.4	61.8	73.2	52.6	67.8	81.6	53.6	69.8	84.0	58.2	77.4	92.2
	kW	7.14	6.82	6.50	7.28	6.98	6.68	7.32	7.04	6.72	7.46	7.18	6.86
85	TC	98.2	90.2	81.6	101.8	93.6	85.2	102.6	94.4	86.0	104.6	96.8	89.6
	SHC	48.0	60.2	71.2	51.6	66.4	79.6	52.8	68.6	82.0	56.8	76.0	89.4
	kW	7.66	7.34	7.00	7.82	7.50	7.18	7.86	7.54	7.22	7.98	7.68	7.40
95	TC	93.8	85.2	76.6	97.0	88.4	80.0	97.6	89.0	81.2	99.4	91.2	85.2
	SHC	46.4	58.2	68.8	50.2	64.6	77.2	51.4	66.8	79.0	55.6	74.4	85.2
	kW	8.18	7.84	7.48	8.36	8.00	7.64	8.40	8.04	7.70	8.50	8.16	7.92
105	TC	88.4	79.8	70.8	91.0	82.8	74.6	91.6	83.4	76.0	93.8	85.4	80.6
	SHC	44.6	56.2	66.0	48.2	62.6	74.2	49.4	64.8	75.6	54.2	72.4	80.6
	kW	8.68	8.30	7.98	8.80	8.46	8.14	8.86	8.50	8.20	8.98	8.64	8.42
115	TC	82.8	73.8	66.0	85.2	76.8	69.6	85.6	77.4	71.0	87.6	79.4	76.0
	SHC	42.6	53.8	63.2	46.4	60.4	69.6	47.8	62.6	71.0	52.8	70.4	75.8
	kW	9.16	8.78	8.42	9.30	8.92	8.64	9.34	8.96	8.72	9.48	9.10	8.94

PERFORMANCE DATA (cont)

COOLING CAPACITIES (cont)

580F091 (7 1/2 TONS)

Temp (F) Air Entering Condenser (Edb)		Air Entering Evaporator — Cfm/BF											
		2250/0.10			2800/0.11			3000/0.11			3750/0.14		
		Air Entering Evaporator — Ewb (F)											
		72	67	62	72	67	62	72	67	62	72	67	62
75	TC	105.8	97.6	88.7	108.9	101.1	92.6	109.5	101.9	93.5	112.4	104.6	96.4
	SHC	50.9	63.6	75.4	54.1	69.8	84.0	55.2	71.9	86.5	59.9	79.7	94.9
	kW	6.34	6.05	5.77	6.46	6.19	5.93	6.50	6.25	5.96	6.62	6.37	6.09
85	TC	101.1	92.9	84.0	104.8	96.4	87.7	105.6	97.2	88.5	107.7	99.6	92.2
	SHC	49.4	62.0	73.3	53.1	68.4	81.9	54.4	70.6	84.4	58.5	78.2	92.0
	kW	6.80	6.51	6.21	6.94	6.66	6.37	6.98	6.69	6.41	7.08	6.82	6.57
95	TC	96.6	87.7	78.9	99.9	91.0	82.4	100.5	91.6	83.6	102.3	93.9	87.7
	SHC	47.8	59.9	70.8	51.7	66.5	79.5	52.9	68.8	81.3	57.2	76.6	87.7
	kW	7.26	6.96	6.64	7.42	7.10	6.78	7.46	7.14	6.83	7.54	7.24	7.03
105	TC	91.0	82.1	72.9	93.7	85.2	76.8	94.3	85.9	78.2	96.6	87.9	83.0
	SHC	45.9	57.9	67.9	49.6	64.4	76.4	50.9	66.7	77.8	55.8	74.5	83.0
	kW	7.70	7.37	7.08	7.81	7.51	7.22	7.86	7.54	7.28	7.97	7.67	7.47
115	TC	85.2	76.0	67.9	87.7	79.1	71.6	88.1	79.7	73.1	90.2	81.7	78.2
	SHC	43.9	55.4	65.1	47.8	62.2	71.6	49.2	64.4	73.1	54.4	72.5	78.0
	kW	8.13	7.79	7.47	8.25	7.92	7.67	8.29	7.95	7.74	8.41	8.08	7.93

580F103 (8 1/2 TONS)

Temp (F) Air Entering Condenser (Edb)		Air Entering Evaporator — Cfm/BF											
		2550/0.08			3000/0.09			3400/0.11			4250/0.13		
		Air Entering Evaporator — Ewb											
		72	67	62	72	67	62	72	67	62	72	67	62
75	TC	117.7	104.1	93.4	121.3	107.5	97.2	122.9	109.0	98.7	124.4	111.1	101.8
	SHC	55.7	64.7	76.6	59.3	70.6	85.0	61.3	74.7	91.4	66.8	82.1	99.7
	kW	6.42	6.34	6.26	6.46	6.38	6.30	6.47	6.39	6.33	6.50	6.41	6.35
85	TC	113.8	100.4	89.2	117.9	103.8	93.4	119.6	105.3	94.7	122.1	107.5	97.2
	SHC	54.3	63.3	75.0	58.0	69.4	83.8	60.4	73.4	89.1	65.2	81.7	97.0
	kW	7.35	7.26	7.17	7.41	7.31	7.24	7.43	7.33	7.24	7.46	7.37	7.28
95	TC	109.6	96.2	85.3	113.3	99.7	89.2	115.4	101.1	90.3	118.3	103.2	93.1
	SHC	52.9	61.9	73.1	56.5	67.9	81.7	59.1	71.9	87.3	64.0	80.3	93.1
	kW	8.37	8.27	8.16	8.42	8.33	8.24	8.46	8.34	8.22	8.51	8.40	8.31
105	TC	105.6	92.1	81.3	108.8	95.2	84.6	110.4	96.4	86.3	113.2	98.4	89.1
	SHC	51.4	60.4	71.6	55.2	66.4	80.0	57.5	70.3	85.3	62.5	78.3	89.1
	kW	9.49	9.37	9.27	9.55	9.44	9.34	9.57	9.45	9.35	9.61	9.49	9.41
115	TC	100.4	87.9	76.8	103.1	90.4	80.3	105.1	91.7	82.1	107.6	93.5	85.0
	SHC	49.4	58.6	69.6	52.9	64.7	78.3	55.8	68.5	81.9	60.6	76.6	85.0
	kW	10.63	10.56	10.46	10.70	10.62	10.55	10.74	10.62	10.54	10.80	10.68	10.58
125	TC	95.8	83.0	72.0	98.5	85.5	74.9	99.8	86.6	77.5	101.4	88.2	80.7
	SHC	48.0	56.8	67.5	51.6	62.9	74.9	54.0	66.9	77.5	58.2	74.6	80.7
	kW	11.97	11.83	11.61	12.02	11.89	11.73	12.05	11.92	11.80	12.09	11.97	11.86

580F120 (10 TONS)

Temp (F) Air Entering Condenser (Edb)		Air Entering Evaporator — Cfm/BF								
		3000/0.095			4000/0.125			5000/0.15		
		Air Entering Evaporator — Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	135.8	124.8	112.0	142.4	130.6	119.8	146.5	134.2	123.7
	SHC	66.8	82.6	97.4	73.2	93.4	112.7	79.7	104.4	123.1
	kW	9.76	9.41	9.10	10.00	9.61	9.27	10.17	9.75	9.41
85	TC	130.0	119.6	104.0	136.0	125.0	114.5	140.0	127.9	118.8
	SHC	64.3	80.5	93.8	71.1	91.7	110.2	77.5	101.8	118.7
	kW	10.41	10.07	9.74	10.67	10.28	9.94	10.84	10.41	10.09
95	TC	124.1	113.7	96.7	129.5	118.9	106.9	132.8	122.0	114.1
	SHC	62.2	78.4	90.0	69.1	89.8	105.9	74.9	100.1	114.0
	kW	11.13	10.78	10.40	11.38	10.99	10.63	11.52	11.14	10.83
105	TC	118.1	104.6	87.9	122.7	111.8	98.5	126.0	115.1	108.0
	SHC	60.4	74.9	85.2	66.9	87.7	98.5	73.1	98.3	108.0
	kW	11.93	11.52	11.10	12.13	11.74	11.41	12.27	11.89	11.65
115	TC	115.0	98.0	84.2	120.0	103.8	93.4	122.6	109.8	102.8
	SHC	59.4	72.4	83.4	66.4	84.8	93.4	72.8	96.9	102.8
	kW	12.26	11.82	11.40	12.48	12.06	11.78	12.60	12.20	12.00

PERFORMANCE DATA (cont)

COOLING CAPACITIES (cont)

580F121 (10 TONS)

Temp (F) Air Entering Condenser (Edb)		Air Entering Evaporator — Cfm/BF								
		3000/0.095			4000/0.125			5000/0.15		
		Air Entering Evaporator — Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	138.2	127.0	114.0	145.0	132.9	122.0	149.1	136.6	125.9
	SHC	68.0	84.1	99.1	74.5	95.1	114.7	81.1	106.3	125.3
	kW	8.37	8.07	7.80	8.57	8.24	7.95	8.72	8.36	8.07
85	TC	132.3	121.7	105.9	138.4	127.2	116.6	142.5	130.2	120.9
	SHC	65.5	81.9	95.5	72.4	93.3	112.2	78.9	103.6	120.8
	kW	8.92	8.63	8.35	9.15	8.81	8.52	9.29	8.92	8.65
95	TC	126.3	115.7	98.4	131.8	121.0	108.8	135.2	124.2	116.1
	SHC	63.3	79.8	91.6	70.3	91.4	107.8	76.2	101.9	116.0
	kW	9.54	9.24	8.91	9.75	9.42	9.11	9.87	9.55	9.28
105	TC	120.2	106.5	89.5	124.9	113.8	100.3	128.3	117.2	109.9
	SHC	61.5	76.2	86.7	68.1	89.3	100.3	74.4	100.1	109.9
	kW	10.23	9.87	9.51	10.40	10.06	9.78	10.52	10.19	9.99
115	TC	117.1	99.8	85.7	122.2	105.7	95.1	124.8	111.8	104.6
	SHC	60.5	73.7	84.9	67.6	86.3	95.1	74.1	98.6	104.6
	kW	10.51	10.13	9.77	10.70	10.34	10.10	10.80	10.46	10.29

580F150 (12 1/2 TONS)

Temp (F) Air Entering Condenser (Edb)		Air Entering Evaporator — Cfm/BF											
		3750/0.08			4500/0.09			5000/0.10			6250/0.12		
		Air Entering Evaporator — Ewb (F)											
		72	67	62	72	67	62	72	67	62	72	67	62
75	TC	175.6	162.2	149.2	181.0	167.5	154.2	182.9	170.2	156.4	187.2	174.7	161.8
	SHC	85.7	107.3	128.0	91.4	116.2	140.3	94.2	122.2	146.5	102.1	135.3	160.7
	kW	11.16	10.85	10.57	11.32	11.00	10.69	11.37	11.07	10.73	11.49	11.19	10.87
85	TC	169.3	155.7	140.6	174.2	160.7	147.0	176.9	163.0	149.7	181.5	167.3	155.8
	SHC	83.9	104.8	124.0	89.6	113.9	137.0	92.7	119.7	143.6	100.9	133.4	155.6
	kW	12.15	11.78	11.42	12.31	11.94	11.58	12.39	12.01	11.63	12.53	12.14	11.82
95	TC	161.9	148.9	132.0	166.8	153.5	139.1	169.5	155.7	142.8	173.2	159.5	149.6
	SHC	81.4	102.0	119.8	87.0	111.1	133.2	90.7	117.3	140.2	98.3	130.8	149.6
	kW	13.12	12.72	12.28	13.30	12.89	12.46	13.40	12.97	12.56	13.54	13.11	12.78
105	TC	154.9	141.3	123.0	158.8	145.4	130.2	160.9	147.6	135.0	165.3	151.2	143.2
	SHC	79.0	99.2	115.5	84.5	108.2	128.1	87.8	114.3	134.9	96.6	127.8	143.1
	kW	14.16	13.66	13.17	14.31	13.82	13.35	14.38	13.91	13.48	14.58	14.07	13.77
115	TC	146.2	132.2	113.1	150.5	137.0	122.4	152.3	139.4	127.8	155.2	142.7	136.0
	SHC	76.1	95.7	110.3	81.7	105.2	122.3	85.0	111.6	127.7	92.9	125.0	135.8
	kW	15.09	14.57	14.07	15.30	14.76	14.25	15.37	14.87	14.43	15.49	15.02	14.73

580F151 (12 1/2 TONS)

Temp (F) Air Entering Condenser (Edb)		Air Entering Evaporator — Cfm/BF											
		3750/0.08			4300/0.09			5000/0.11			6250/0.13		
		Air Entering Evaporator — Ewb											
		72	67	62	72	67	62	72	67	62	72	67	62
75	TC	164.6	152.0	139.9	167.3	155.3	142.6	170.9	158.2	146.2	173.9	162.0	151.0
	SHC	81.3	101.9	121.7	84.5	108.1	130.0	88.9	115.9	139.8	96.7	128.7	150.8
	kW	10.24	9.96	9.71	10.31	10.05	9.78	10.42	10.12	9.84	10.50	10.23	9.95
85	TC	159.9	147.1	133.6	162.6	150.2	137.4	166.3	153.0	141.3	169.5	156.8	147.1
	SHC	79.7	99.9	119.1	83.1	106.3	128.0	88.3	114.1	137.7	96.1	127.4	146.9
	kW	11.38	11.05	10.82	11.45	11.14	10.87	11.58	11.20	10.97	11.66	11.32	11.08
95	TC	154.2	141.5	124.4	157.2	144.6	129.3	159.9	147.6	134.5	164.0	150.9	142.3
	SHC	77.9	98.0	114.8	81.8	104.5	124.1	86.3	112.5	133.8	94.4	125.8	142.2
	kW	12.59	12.26	11.95	12.68	12.36	12.04	12.75	12.44	12.15	12.88	12.54	12.31
105	TC	147.8	134.2	114.0	150.7	137.2	119.1	153.3	140.4	136.4	156.4	143.7	136.7
	SHC	75.4	95.2	109.5	79.6	101.9	118.2	84.4	110.6	126.5	92.2	124.0	136.6
	kW	13.84	13.48	13.12	13.92	13.58	13.24	14.01	13.69	13.37	14.06	13.80	13.58
115	TC	139.7	120.4	102.8	142.1	124.2	109.1	145.5	127.5	117.1	148.4	133.2	128.1
	SHC	72.5	89.8	102.6	76.7	97.0	109.1	82.1	105.7	116.6	90.4	120.1	128.0
	kW	15.03	14.70	14.34	15.12	14.80	15.24	15.24	14.90	14.65	15.35	15.04	14.86
125	TC	130.5	107.0	92.5	132.8	109.7	135.5	135.5	112.7	105.0	138.2	121.1	118.3
	SHC	69.8	84.4	92.4	73.7	91.5	99.2	79.0	99.9	104.9	87.7	114.6	118.3
	kW	16.32	15.91	15.67	16.43	16.00	15.79	16.52	16.11	15.97	16.59	16.21	16.10

Standard Ratings

LEGEND

BF — Bypass Factor
Edb — Entering Dry-Bulb
Ewb — Entering Wet-Bulb
kW — Compressor Motor Power Input
Ldb — Leaving Dry-Bulb
Lwb — Leaving Wet-Bulb
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil.

3. The SHC is based on 80 F edb temperature of air entering evaporator coil. Below 80 F edb, subtract (corr factor x cfm) from SHC. *Above 80 F edb, add (corr factor x cfm) to SHC.*

BYPASS FACTOR (BF)	ENTERING AIR DRY-BULB TEMP (F)					
	79	78	77	76	75	under 75
	81	*82*	*83*	*84*	*85*	over 85
	Correction Factor					
.05	1.04	2.07	3.11	4.14	5.18	
.10	.98	1.96	2.94	3.92	4.90	Use formula
.20	.87	1.74	2.62	3.49	4.36	shown below.
.30	.76	1.53	2.29	3.05	3.82	

Interpolation is permissible.
Correction Factor = 1.10 x (1 – BF) x (edb – 80).

PERFORMANCE DATA (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS

580F036 (3 TONS) — STANDARD MOTOR (DIRECT DRIVE)

Airflow (Cfm)	Low Speed						High Speed					
	208 V			230, 460, 575 V			208 V			230, 460, 575 V		
	ESP	Bhp	Watts	ESP	Bhp	Watts	ESP	Bhp	Watts	ESP	Bhp	Watts
900	0.49	0.21	253	0.50	0.23	277	0.51	0.26	307	0.55	0.31	363
1000	0.42	0.23	270	0.43	0.25	292	0.43	0.27	321	0.51	0.32	374
1100	0.37	0.24	287	0.38	0.26	307	0.39	0.28	335	0.46	0.33	385
1200	0.33	0.26	304	0.33	0.27	323	0.34	0.29	349	0.40	0.34	397
1300	0.27	0.27	321	0.28	0.29	338	0.28	0.31	364	0.34	0.34	408
1400	0.20	0.29	338	0.23	0.30	354	0.25	0.32	378	—	—	—
1500	0.16	0.30	355	0.18	0.31	369	0.20	0.33	392	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
ESP — External Static Pressure (in. wg)

See page 74 for general fan performance notes.

580F036 (3 TONS) — ALTERNATE MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
900	**643**	**0.15**	**152**	768	0.22	222	870	0.30	296	958	0.37	373	1037	0.46	454
1000	**683**	**0.19**	**191**	804	0.27	268	904	0.35	348	991	0.43	430	**1069**	**0.52**	**517**
1100	725	0.24	237	842	0.32	321	939	0.41	407	1025	0.50	496	**1102**	**0.59**	**588**
1200	767	0.29	291	880	0.38	382	976	0.48	474	**1060**	**0.57**	**570**	**1136**	**0.67**	**668**
1300	811	0.35	352	920	0.45	451	1013	0.55	550	**1095**	**0.66**	**652**	**1170**	**0.76**	**756**
1400	855	0.43	423	960	0.53	529	**1051**	**0.64**	**636**	**1132**	**0.75**	**744**	**1205**	**0.86**	**855**
1500	900	0.51	504	1002	0.62	617	**1090**	**0.74**	**731**	**1169**	**0.85**	**846**	**1242**	**0.97**	**963**

580F036 (3 TONS) — ALTERNATE MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
900	**1110**	**0.54**	**538**	**1177**	**0.63**	**627**	**1239**	**0.72**	**718**	**1298**	**0.82**	**813**	**1355**	**0.92**	**911**
1000	**1141**	**0.61**	**607**	**1207**	**0.70**	**700**	**1269**	**0.80**	**796**	**1328**	**0.90**	**895**	**1384**	**1.00**	**998**
1100	**1173**	**0.69**	**683**	**1238**	**0.79**	**781**	**1300**	**0.89**	**883**	**1358**	**0.99**	**987**	**1414**	**1.10**	**1094**
1200	**1205**	**0.77**	**768**	**1270**	**0.88**	**872**	**1332**	**0.98**	**979**	**1389**	**1.09**	**1088**	—	—	—
1300	**1239**	**0.87**	**863**	**1303**	**0.98**	**972**	**1364**	**1.09**	**1084**	—	—	—	—	—	—
1400	**1273**	**0.97**	**967**	**1337**	**1.09**	**1082**	—	—	—	—	—	—	—	—	—
1500	**1309**	**1.09**	**1082**	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 685 to 1045 rpm. All other rpms require a field-supplied drive.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 1.20.
3. See page 74 for general fan performance notes.

580F036 (3 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
900	**643**	**0.15**	**152**	**768**	**0.22**	**222**	**870**	**0.30**	**296**	**958**	**0.37**	**373**	**1037**	**0.46**	**454**
1000	**683**	**0.19**	**191**	**804**	**0.27**	**268**	**904**	**0.35**	**348**	**991**	**0.43**	**430**	**1069**	**0.52**	**517**
1100	**725**	**0.24**	**237**	**842**	**0.32**	**321**	**939**	**0.41**	**407**	**1025**	**0.50**	**496**	1102	0.59	588
1200	**767**	**0.29**	**291**	**880**	**0.38**	**382**	**976**	**0.48**	**474**	**1060**	**0.57**	**570**	1136	0.67	668
1300	**811**	**0.35**	**352**	**920**	**0.45**	**451**	**1013**	**0.55**	**550**	1095	0.66	652	1170	0.76	756
1400	**855**	**0.43**	**423**	**960**	**0.53**	**529**	**1051**	**0.64**	**636**	1132	0.75	744	1205	0.86	855
1500	**900**	**0.51**	**504**	**1002**	**0.62**	**617**	1090	0.74	731	1169	0.85	846	1242	0.97	963

580F036 (3 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
900	1110	0.54	538	1177	0.63	627	1239	0.72	718	1298	0.82	813	1355	0.92	911
1000	1141	0.61	607	1207	0.70	700	1269	0.80	796	1328	0.90	895	1384	1.00	998
1100	1173	0.69	683	1238	0.79	781	1300	0.89	883	1358	0.99	987	1414	1.10	1094
1200	1205	0.77	768	1270	0.88	872	1332	0.98	979	1389	1.09	1088	1444	1.21	1200
1300	1239	0.87	863	1303	0.98	972	1364	1.09	1084	1421	1.21	1199	**1475**	**1.32**	**1316**
1400	1273	0.97	967	1337	1.09	1082	1397	1.21	1200	1453	1.33	1320	**1507**	**1.45**	**1443**
1500	1309	1.09	1082	1371	1.21	1204	1430	1.33	1327	**1486**	**1.46**	**1453**	**1540**	**1.59**	**1581**

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 1075 to 1455 rpm. All other rpms require a field-supplied drive.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.
3. See page 74 for general fan performance notes.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

580F048 (4 TONS) — STANDARD MOTOR (DIRECT DRIVE)

Airflow (Cfm)	Low Speed						High Speed					
	208 V			230, 460, 575 V			208 V			230, 460, 575 V		
	ESP	Bhp	Watts	ESP	Bhp	Watts	ESP	Bhp	Watts	ESP	Bhp	Watts
1200	0.68	0.41	458	0.74	0.45	506	0.74	0.51	572	0.85	0.56	632
1300	0.61	0.42	471	0.67	0.46	521	0.66	0.52	589	0.78	0.58	651
1400	0.53	0.45	503	0.59	0.49	556	0.59	0.54	616	0.70	0.60	681
1500	0.45	0.47	536	0.51	0.52	593	0.52	0.56	631	0.63	0.62	698
1600	0.36	0.49	557	0.42	0.54	616	0.45	0.58	654	0.56	0.64	723
1700	0.26	0.52	584	0.32	0.57	646	0.37	0.60	678	0.48	0.66	750
1800	0.15	0.54	610	0.22	0.60	674	0.30	0.62	698	0.41	0.68	772
1900	0.04	0.56	629	0.11	0.62	696	0.23	0.64	720	0.34	0.70	796
2000	—	—	—	—	—	—	0.16	0.66	744	0.26	0.73	823

LEGEND

Bhp — Brake Horsepower Input to Fan
ESP — External Static Pressure (in. wg)

See page 74 for general fan performance notes.

580F048 (4 TONS) — ALTERNATE MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1200	**666**	**0.26**	**257**	778	0.37	367	871	0.47	471	952	0.57	572	1025	0.67	670
1300	**701**	**0.31**	**306**	810	0.43	426	901	0.54	540	981	0.65	651	1053	0.76	760
1400	**737**	**0.36**	**361**	842	0.49	491	931	0.62	616	1010	0.74	738	1081	0.86	856
1500	773	0.42	422	875	0.57	564	963	0.70	699	1040	0.84	831	1110	0.96	960
1600	810	0.49	491	909	0.65	643	994	0.79	790	1070	0.94	932	1140	1.08	1070
1700	847	0.57	567	943	0.73	730	1027	0.89	888	1101	1.05	1040	1170	1.20	1189
1800	885	0.66	652	978	0.83	826	1060	1.00	994	1133	1.16	1157	—	—	—
1900	923	0.75	745	1014	0.94	930	1093	1.11	1109	—	—	—	—	—	—
2000	962	0.85	847	1049	1.05	1043	—	—	—	—	—	—	—	—	—

580F048 (4 TONS) — ALTERNATE MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1200	1093	0.77	767	1155	0.87	861	**1213**	**0.96**	**955**	**1268**	**1.05**	**1047**	**1321**	**1.14**	**1137**
1300	1119	0.87	866	**1181**	**0.98**	**970**	**1239**	**1.08**	**1073**	**1294**	**1.18**	**1175**	—	—	—
1400	1147	0.98	972	**1208**	**1.09**	**1086**	—	—	—	—	—	—	—	—	—
1500	1175	1.09	1086	—	—	—	—	—	—	—	—	—	—	—	—
1600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 770 to 1175 rpm. All other rpms require a field-supplied drive.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 1.20.
3. See page 74 for general fan performance notes.

580F048 (4 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1200	**666**	**0.26**	**257**	**778**	**0.37**	**367**	**871**	**0.47**	**471**	**952**	**0.57**	**572**	**1025**	**0.67**	**670**
1300	**701**	**0.31**	**306**	**810**	**0.43**	**426**	**901**	**0.54**	**540**	**981**	**0.65**	**651**	**1053**	**0.76**	**760**
1400	**737**	**0.36**	**361**	**842**	**0.49**	**491**	**931**	**0.62**	**616**	**1010**	**0.74**	**738**	1081	0.86	856
1500	**773**	**0.42**	**422**	**875**	**0.57**	**564**	**963**	**0.70**	**699**	**1040**	**0.84**	**831**	1110	0.96	960
1600	**810**	**0.49**	**491**	**909**	**0.65**	**643**	**994**	**0.79**	**790**	**1070**	**0.94**	**932**	1140	1.08	1070
1700	**847**	**0.57**	**567**	**943**	**0.73**	**730**	**1027**	**0.89**	**888**	1101	1.05	1040	1170	1.20	1189
1800	**885**	**0.66**	**652**	**978**	**0.83**	**826**	**1060**	**1.00**	**994**	1133	1.16	1157	1200	1.32	1316
1900	**923**	**0.75**	**745**	**1014**	**0.94**	**930**	1093	1.11	1109	1165	1.29	1283	1231	1.46	1453
2000	**962**	**0.85**	**847**	**1049**	**1.05**	**1043**	1127	1.24	1233	1198	1.42	1417	1263	1.61	1598

580F048 (4 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1200	1093	0.77	767	1155	0.87	861	1213	0.96	955	1268	1.05	1047	1321	1.14	1137
1300	1119	0.87	866	1181	0.98	970	1239	1.08	1073	1294	1.18	1175	1346	1.28	1275
1400	1147	0.98	972	1208	1.09	1086	1265	1.21	1199	1320	1.32	1310	1371	1.43	1419
1500	1175	1.09	1086	1235	1.22	1209	1292	1.34	1332	1346	1.46	1452	1397	1.58	1572
1600	1204	1.21	1207	1263	1.35	1340	1320	1.48	1472	1373	1.61	1603	1424	1.74	1732
1700	1233	1.34	1336	1292	1.49	1480	1348	1.63	1622	1401	1.77	1762	1451	1.91	1901
1800	1262	1.48	1473	1321	1.64	1627	1376	1.79	1779	1428	1.94	1930	**1479**	**2.09**	**2078**
1900	1293	1.63	1620	1350	1.79	1784	1405	1.96	1946	**1457**	**2.12**	**2106**	**1506**	**2.28**	**2265**
2000	1323	1.79	1776	1380	1.96	1950	1434	2.13	2123	**1486**	**2.31**	**2293**	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 1075 to 1455 rpm. All other rpms require a field-supplied drive.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.
3. See page 74 for general fan performance notes.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

580F060 (5 TONS) — STANDARD MOTOR (DIRECT DRIVE)

Airflow (Cfm)	Low Speed						Medium Speed						High Speed					
	208 V			230,460,575 V			208 V			230,460,575 V			208 V			230,460,575 V		
	ESP	Bhp	Watts	ESP	Bhp	Watts	ESP	Bhp	Watts	ESP	Bhp	Watts	ESP	Bhp	Watts	ESP	Bhp	Watts
1500	0.69	0.67	750	1.01	0.71	791	1.00	0.70	782	1.20	0.76	845	1.22	0.79	875	1.28	0.85	949
1600	0.49	0.70	780	0.85	0.74	824	0.85	0.74	821	1.06	0.79	883	1.09	0.82	913	1.17	0.89	988
1700	0.29	0.73	810	0.70	0.77	857	0.70	0.77	861	0.93	0.83	921	0.97	0.85	950	1.06	0.92	1027
1800	0.09	0.75	839	0.54	0.80	891	0.55	0.81	900	0.80	0.86	959	0.84	0.89	988	0.95	0.96	1066
1900	—	—	—	0.39	0.83	924	0.40	0.84	940	0.67	0.90	997	0.72	0.92	1025	0.84	0.99	1105
2000	—	—	—	0.23	0.86	957	0.25	0.88	979	0.54	0.93	1035	0.59	0.95	1063	0.73	1.03	1144
2100	—	—	—	0.08	0.89	990	0.10	0.91	1018	0.41	0.96	1073	0.46	0.99	1101	0.62	1.06	1183
2200	—	—	—	—	—	—	—	—	—	0.28	1.00	1111	0.34	1.02	1138	0.51	1.10	1222
2300	—	—	—	—	—	—	—	—	—	0.15	1.03	1149	0.21	1.06	1176	0.40	1.13	1261
2400	—	—	—	—	—	—	—	—	—	0.02	1.07	1187	0.09	1.09	1213	0.29	1.17	1300
2500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.18	1.20	1340

LEGEND

Bhp — Brake Horsepower Input to Fan
ESP — External Static Pressure (in. wg)

See page 74 for general fan performance notes.

580F060 (5 TONS) — THREE-PHASE, ALTERNATE MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	**802**	**0.42**	**370**	912	0.55	489	1006	0.70	624	1088	0.87	773	1163	1.05	935
1600	**840**	**0.49**	**432**	947	0.63	557	1038	0.78	696	1119	0.95	848	1193	1.14	1013
1700	**878**	**0.57**	**502**	982	0.71	632	1071	0.87	776	1151	1.05	932	1224	1.24	1100
1800	917	0.65	581	1017	0.81	716	1105	0.97	864	1183	1.15	1024	1255	1.35	1197
1900	956	0.75	668	1053	0.91	808	1139	1.08	961	1216	1.27	1126	1287	1.47	1302
2000	995	0.86	764	1090	1.02	910	1173	1.20	1067	1249	1.39	1236	**1319**	**1.59**	**1416**
2100	1035	0.98	869	1127	1.15	1021	1209	1.33	1183	1283	1.53	1357	**1351**	**1.74**	**1541**
2200	1075	1.11	984	1164	1.29	1141	1244	1.47	1309	**1317**	**1.68**	**1488**	**1385**	**1.89**	**1676**
2300	1115	1.25	1110	1202	1.43	1273	1280	1.63	1446	**1352**	**1.83**	**1629**	**1418**	**2.05**	**1822**
2400	1155	1.40	1246	1240	1.59	1415	**1316**	**1.79**	**1594**	**1387**	**2.01**	**1782**	**1452**	**2.23**	**1980**
2500	1196	1.57	1394	1278	1.77	1569	**1353**	**1.97**	**1753**	**1422**	**2.19**	**1946**	—	—	—

580F060 (5 TONS) — THREE-PHASE, ALTERNATE MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	1232	1.25	1109	1297	1.46	1295	**1357**	**1.68**	**1492**	**1415**	**1.91**	**1700**	**1469**	**2.16**	**1917**
1600	1262	1.34	1190	**1325**	**1.55**	**1379**	**1385**	**1.78**	**1579**	**1442**	**2.01**	**1788**	**1496**	**2.26**	**2009**
1700	1291	1.44	1281	**1354**	**1.66**	**1472**	**1414**	**1.89**	**1674**	**1470**	**2.12**	**1887**	**1524**	**2.37**	**2109**
1800	**1322**	**1.55**	**1380**	**1384**	**1.77**	**1575**	**1443**	**2.00**	**1779**	**1499**	**2.25**	**1994**	—	—	—
1900	**1352**	**1.68**	**1489**	**1414**	**1.90**	**1687**	**1472**	**2.13**	**1894**	**1528**	**2.38**	**2112**	—	—	—
2000	**1384**	**1.81**	**1607**	**1445**	**2.04**	**1808**	**1502**	**2.27**	**2019**	—	—	—	—	—	—
2100	**1415**	**1.95**	**1736**	**1476**	**2.18**	**1940**	—	—	—	—	—	—	—	—	—
2200	**1448**	**2.11**	**1875**	**1507**	**2.35**	**2083**	—	—	—	—	—	—	—	—	—
2300	**1480**	**2.28**	**2025**	—	—	—	—	—	—	—	—	—	—	—	—
2400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 900 to 1300 rpm. All other rpms require a field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.
3. See page 74 for general fan performance notes.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

580F060 (5 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	**802**	**0.42**	**370**	**912**	**0.55**	**489**	**1006**	**0.70**	**624**	**1088**	**0.87**	**773**	**1163**	**1.05**	**935**
1600	**840**	**0.49**	**432**	**947**	**0.63**	**557**	**1038**	**0.78**	**696**	**1119**	**0.95**	**848**	**1193**	**1.14**	**1013**
1700	**878**	**0.57**	**502**	**982**	**0.71**	**632**	**1071**	**0.87**	**776**	**1151**	**1.05**	**932**	**1224**	**1.24**	**1100**
1800	**917**	**0.65**	**581**	**1017**	**0.81**	**716**	**1105**	**0.97**	**864**	**1183**	**1.15**	**1024**	**1255**	**1.35**	**1197**
1900	**956**	**0.75**	**668**	**1053**	**0.91**	**808**	**1139**	**1.08**	**961**	**1216**	**1.27**	**1126**	**1287**	**1.47**	**1302**
2000	**995**	**0.86**	**764**	**1090**	**1.02**	**910**	**1173**	**1.20**	**1067**	**1249**	**1.39**	**1236**	1319	1.59	1416
2100	**1035**	**0.98**	**869**	**1127**	**1.15**	**1021**	**1209**	**1.33**	**1183**	**1283**	**1.53**	**1357**	1351	1.74	1541
2200	**1075**	**1.11**	**984**	**1164**	**1.29**	**1141**	**1244**	**1.47**	**1309**	1317	1.68	1488	1385	1.89	1676
2300	**1115**	**1.25**	**1110**	**1202**	**1.43**	**1273**	**1280**	**1.63**	**1446**	1352	1.83	1629	1418	2.05	1822
2400	**1155**	**1.40**	**1246**	**1240**	**1.59**	**1415**	1316	1.79	1594	1387	2.01	1782	1452	2.23	1980
2500	**1196**	**1.57**	**1394**	**1278**	**1.77**	**1569**	1353	1.97	1753	1422	2.19	1946	1486	2.42	2149

580F060 (5 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	**1232**	**1.25**	**1109**	**1297**	**1.46**	**1295**	1357	1.68	1492	1415	1.91	1700	1469	2.16	1917
1600	**1262**	**1.34**	**1190**	1325	1.55	1379	1385	1.78	1579	1442	2.01	1788	1496	2.26	2009
1700	**1291**	**1.44**	**1281**	1354	1.66	1472	1414	1.89	1674	1470	2.12	1887	1524	2.37	2109
1800	1322	1.55	1380	1384	1.77	1575	1443	2.00	1779	1499	2.25	1994	1552	2.50	2219
1900	1352	1.68	1489	1414	1.90	1687	1472	2.13	1894	1528	2.38	2112	1580	2.63	2339
2000	1384	1.81	1607	1445	2.04	1808	1502	2.27	2019	1557	2.52	2240	1609	2.78	2470
2100	1415	1.95	1736	1476	2.18	1940	1533	2.43	2155	1587	2.68	2378	—	—	—
2200	1448	2.11	1875	1507	2.35	2083	1563	2.59	2301	1617	2.85	2528	—	—	—
2300	1480	2.28	2025	1539	2.52	2237	1595	2.77	2459	—	—	—	—	—	—
2400	1513	2.46	2187	1571	2.71	2403	—	—	—	—	—	—	—	—	—
2500	1547	2.66	2360	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 1300 to 1685 rpm. All other rpms require a field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.90.
3. See page 74 for general fan performance notes.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

580F072,073 (6 TONS) — STANDARD MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1800	**967**	**0.65**	**579**	1077	0.81	718	1172	0.96	856	1257	1.12	993	1334	1.27	1130
1900	**1007**	**0.75**	**663**	1115	0.91	811	1208	1.08	957	1291	1.24	1101	1368	1.40	1246
2000	**1048**	**0.85**	**757**	1153	1.03	913	1244	1.20	1066	1326	1.37	1219	1401	1.54	1371
2100	1090	0.97	859	1191	1.15	1023	1281	1.33	1185	1361	1.51	1345	1435	1.69	1505
2200	1131	1.09	970	1230	1.29	1143	1318	1.48	1313	1397	1.67	1481	**1470**	**1.86**	**1649**
2300	1173	1.23	1091	1269	1.43	1273	1355	1.63	1451	1433	1.83	1627	**1505**	**2.03**	**1803**
2400	1215	1.38	1223	1309	1.59	1413	1393	1.80	1600	**1470**	**2.01**	**1784**	**1540**	**2.21**	**1967**
2500	1258	1.54	1365	1349	1.76	1564	1431	1.98	1759	**1506**	**2.20**	**1951**	—	—	—
2600	1300	1.71	1518	1389	1.94	1726	**1470**	**2.17**	**1929**	**1544**	**2.40**	**2130**	—	—	—
2700	1343	1.90	1683	1430	2.14	1899	**1509**	**2.38**	**2111**	—	—	—	—	—	—
2800	1386	2.09	1860	**1471**	**2.35**	**2085**	—	—	—	—	—	—	—	—	—
2900	1429	2.31	2050	—	—	—	—	—	—	—	—	—	—	—	—
3000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

580F072,073 (6 TONS) — STANDARD MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1800	1406	1.43	1268	**1473**	**1.58**	**1407**	**1535**	**1.74**	**1548**	**1595**	**1.90**	**1690**	**1652**	**2.06**	**1833**
1900	1438	1.57	1391	**1504**	**1.73**	**1537**	**1567**	**1.90**	**1685**	**1626**	**2.06**	**1833**	**1682**	**2.23**	**1983**
2000	**1471**	**1.72**	**1523**	**1536**	**1.89**	**1677**	**1598**	**2.06**	**1831**	**1657**	**2.24**	**1986**	—	—	—
2100	**1504**	**1.87**	**1665**	**1569**	**2.06**	**1825**	**1630**	**2.24**	**1986**	—	—	—	—	—	—
2200	**1538**	**2.04**	**1816**	**1602**	**2.23**	**1984**	—	—	—	—	—	—	—	—	—
2300	**1572**	**2.23**	**1978**	—	—	—	—	—	—	—	—	—	—	—	—
2400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 1070 to 1460 rpm. All other rpms require a field-supplied drive.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.
3. See page 74 for general fan performance notes.

580F072,073 (6 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1800	**967**	**0.65**	**579**	**1077**	**0.81**	**718**	**1172**	**0.96**	**856**	**1257**	**1.12**	**993**	1334	1.27	1130
1900	**1007**	**0.75**	**663**	**1115**	**0.91**	**811**	**1208**	**1.08**	**957**	**1291**	**1.24**	**1101**	1368	1.40	1246
2000	**1048**	**0.85**	**757**	**1153**	**1.03**	**913**	**1244**	**1.20**	**1066**	1326	1.37	1219	1401	1.54	1371
2100	**1090**	**0.97**	**859**	**1191**	**1.15**	**1023**	**1281**	**1.33**	**1185**	1361	1.51	1345	1435	1.69	1505
2200	**1131**	**1.09**	**970**	**1230**	**1.29**	**1143**	1318	1.48	1313	1397	1.67	1481	1470	1.86	1649
2300	**1173**	**1.23**	**1091**	**1269**	**1.43**	**1273**	1355	1.63	1451	1433	1.83	1627	1505	2.03	1803
2400	**1215**	**1.38**	**1223**	1309	1.59	1413	1393	1.80	1600	1470	2.01	1784	1540	2.21	1967
2500	**1258**	**1.54**	**1365**	1349	1.76	1564	1431	1.98	1759	1506	2.20	1951	1576	2.41	2142
2600	1300	1.71	1518	1389	1.94	1726	1470	2.17	1929	1544	2.40	2130	1613	2.62	2329
2700	1343	1.90	1683	1430	2.14	1899	1509	2.38	2111	1581	2.61	2320	1649	2.85	2527
2800	1386	2.09	1860	1471	2.35	2085	1548	2.60	2305	1619	2.84	2522	—	—	—
2900	1429	2.31	2050	1512	2.57	2283	1588	2.83	2512	—	—	—	—	—	—
3000	1473	2.54	2252	1553	2.81	2494	—	—	—	—	—	—	—	—	—

580F072,073 (6 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1800	1406	1.43	1268	1473	1.58	1407	1535	1.74	1548	1595	1.90	1690	1652	2.06	1833
1900	1438	1.57	1391	1504	1.73	1537	1567	1.90	1685	1626	2.06	1833	1682	2.23	1983
2000	1471	1.72	1523	1536	1.89	1677	1598	2.06	1831	1657	2.24	1986	**1713**	**2.41**	**2142**
2100	1504	1.87	1665	1569	2.06	1825	1630	2.24	1986	**1688**	**2.42**	**2149**	**1744**	**2.60**	**2312**
2200	1538	2.04	1816	1602	2.23	1984	1663	2.42	2152	**1720**	**2.61**	**2321**	**1775**	**2.81**	**2491**
2300	1572	2.23	1978	1635	2.42	2153	**1695**	**2.62**	**2328**	**1753**	**2.82**	**2504**	—	—	—
2400	1607	2.42	2150	1669	2.63	2332	**1729**	**2.83**	**2515**	—	—	—	—	—	—
2500	1642	2.63	2333	**1704**	**2.84**	**2523**	—	—	—	—	—	—	—	—	—
2600	1677	2.85	2527	—	—	—	—	—	—	—	—	—	—	—	—
2700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 1300 to 1685 rpm. All other rpms require a field-supplied drive.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.90.
3. See page 74 for general fan performance notes.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

580F090,091 (7 1/2 TONS) — STANDARD MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	**513**	**0.54**	**505**	595	0.76	713	665	1.01	940	728	1.27	1187	786	1.56	1453
2300	**521**	**0.57**	**531**	601	0.79	741	671	1.04	972	734	1.31	1222	791	1.60	1489
2400	**535**	**0.63**	**584**	615	0.86	802	684	1.11	1038	745	1.39	1293	802	1.68	1566
2500	**551**	**0.69**	**642**	628	0.93	866	696	1.19	1109	757	1.47	1369	813	1.77	1647
2550	**558**	**0.72**	**673**	635	0.97	900	702	1.23	1146	763	1.51	1409	818	1.81	1689
2600	**566**	**0.76**	**705**	642	1.00	935	709	1.27	1183	769	1.55	1450	824	1.86	1732
2700	**582**	**0.83**	**771**	656	1.08	1008	721	1.35	1263	781	1.65	1535	835	1.95	1823
2800	597	0.90	842	670	1.16	1086	734	1.44	1347	793	1.74	1625	**847**	**2.06**	**1917**
2900	613	0.98	918	684	1.25	1169	748	1.54	1436	805	1.84	1720	**859**	**2.16**	**2019**
3000	629	1.07	999	699	1.35	1256	761	1.64	1530	818	1.95	1820	**871**	**2.28**	**2125**
3100	645	1.16	1085	713	1.45	1349	775	1.75	1630	831	2.06	1925	**883**	**2.40**	**2235**
3200	662	1.26	1176	728	1.55	1448	788	1.86	1734	**844**	**2.18**	**2036**	—	—	—
3300	678	1.36	1272	743	1.66	1551	802	1.98	1845	**857**	**2.31**	**2152**	—	—	—
3400	694	1.47	1374	758	1.78	1660	816	2.10	1961	—	—	—	—	—	—
3500	711	1.59	1482	773	1.90	1775	831	2.23	2082	—	—	—	—	—	—
3600	727	1.71	1596	789	2.03	1896	**845**	**2.37**	**2210**	—	—	—	—	—	—
3700	744	1.84	1716	804	2.17	2023	—	—	—	—	—	—	—	—	—
3750	752	1.91	1778	812	2.24	2089	—	—	—	—	—	—	—	—	—

580F090,091 (7 1/2 TONS) — STANDARD MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	839	1.86	1735	**889**	**2.18**	**2032**	—	—	—	—	—	—	—	—	—
2300	**844**	**1.90**	**1773**	**893**	**2.22**	**2073**	—	—	—	—	—	—	—	—	—
2400	**854**	**1.99**	**1855**	**903**	**2.32**	**2159**	—	—	—	—	—	—	—	—	—
2500	**865**	**2.08**	**1940**	—	—	—	—	—	—	—	—	—	—	—	—
2550	**870**	**2.13**	**1985**	—	—	—	—	—	—	—	—	—	—	—	—
2600	**875**	**2.18**	**2031**	—	—	—	—	—	—	—	—	—	—	—	—
2700	**886**	**2.28**	**2126**	—	—	—	—	—	—	—	—	—	—	—	—
2800	**897**	**2.39**	**2227**	—	—	—	—	—	—	—	—	—	—	—	—
2900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3750	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 590 to 840 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.
3. See page 74 for General Fan Performance Notes.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

580F090,091 (7 1/2 TONS) — ALTERNATE MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	**513**	**0.54**	**505**	**595**	**0.76**	**713**	**665**	**1.01**	**940**	728	1.27	1187	786	1.56	1453
2300	**521**	**0.57**	**531**	**601**	**0.79**	**741**	**671**	**1.04**	**972**	734	1.31	1222	791	1.60	1489
2400	**535**	**0.63**	**584**	**615**	**0.86**	**802**	**684**	**1.11**	**1038**	745	1.39	1293	802	1.68	1566
2500	**551**	**0.69**	**642**	**628**	**0.93**	**866**	696	1.19	1109	757	1.47	1369	813	1.77	1647
2550	**558**	**0.72**	**673**	**635**	**0.97**	**900**	702	1.23	1146	763	1.51	1409	818	1.81	1689
2600	**566**	**0.76**	**705**	**642**	**1.00**	**935**	709	1.27	1183	769	1.55	1450	824	1.86	1732
2700	**582**	**0.83**	**771**	**656**	**1.08**	**1008**	721	1.35	1263	781	1.65	1535	835	1.95	1823
2800	**597**	**0.90**	**842**	**670**	**1.16**	**1086**	734	1.44	1347	793	1.74	1625	847	2.06	1917
2900	**613**	**0.98**	**918**	**684**	**1.25**	**1169**	748	1.54	1436	805	1.84	1720	859	2.16	2019
3000	**629**	**1.07**	**999**	699	1.35	1256	761	1.64	1530	818	1.95	1820	871	2.28	2125
3100	**645**	**1.16**	**1085**	713	1.45	1349	775	1.75	1630	831	2.06	1925	883	2.40	2235
3200	**662**	**1.26**	**1176**	728	1.55	1448	788	1.86	1734	844	2.18	2036	—	—	—
3300	**678**	**1.36**	**1272**	743	1.66	1551	802	1.98	1845	857	2.31	2152	—	—	—
3400	694	1.47	1374	758	1.78	1660	816	2.10	1961	—	—	—	—	—	—
3500	711	1.59	1482	773	1.90	1775	831	2.23	2082	—	—	—	—	—	—
3600	727	1.71	1596	789	2.03	1896	845	2.37	2210	—	—	—	—	—	—
3700	744	1.84	1716	804	2.17	2023	—	—	—	—	—	—	—	—	—
3750	752	1.91	1778	812	2.24	2089	—	—	—	—	—	—	—	—	—

580F090,091 (7 1/2 TONS) — ALTERNATE MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	839	1.86	1735	889	2.18	2032	—	—	—	—	—	—	—	—	—
2300	844	1.90	1773	893	2.22	2073	—	—	—	—	—	—	—	—	—
2400	854	1.99	1855	903	2.32	2159	—	—	—	—	—	—	—	—	—
2500	865	2.08	1940	—	—	—	—	—	—	—	—	—	—	—	—
2550	870	2.13	1985	—	—	—	—	—	—	—	—	—	—	—	—
2600	875	2.18	2031	—	—	—	—	—	—	—	—	—	—	—	—
2700	886	2.28	2126	—	—	—	—	—	—	—	—	—	—	—	—
2800	897	2.39	2227	—	—	—	—	—	—	—	—	—	—	—	—
2900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3750	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 685 to 935 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.
3. See page 74 for General Fan Performance Notes.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

580F090,091 (7 1/2 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	**513**	**0.54**	**505**	**595**	**0.76**	**713**	**665**	**1.01**	**940**	**728**	**1.27**	**1187**	**786**	**1.56**	**1453**
2300	**521**	**0.57**	**531**	**601**	**0.79**	**741**	**671**	**1.04**	**972**	**734**	**1.31**	**1222**	**791**	**1.60**	**1489**
2400	**535**	**0.63**	**584**	**615**	**0.86**	**802**	**684**	**1.11**	**1038**	**745**	**1.39**	**1293**	**802**	**1.68**	**1566**
2500	**551**	**0.69**	**642**	**628**	**0.93**	**866**	**696**	**1.19**	**1109**	**757**	**1.47**	**1369**	**813**	**1.77**	**1647**
2550	**558**	**0.72**	**673**	**635**	**0.97**	**900**	**702**	**1.23**	**1146**	**763**	**1.51**	**1409**	**818**	**1.81**	**1689**
2600	**566**	**0.76**	**705**	**642**	**1.00**	**935**	**709**	**1.27**	**1183**	**769**	**1.55**	**1450**	**824**	**1.86**	**1732**
2700	**582**	**0.83**	**771**	**656**	**1.08**	**1008**	**721**	**1.35**	**1263**	**781**	**1.65**	**1535**	**835**	**1.95**	**1823**
2800	**597**	**0.90**	**842**	**670**	**1.16**	**1086**	**734**	**1.44**	**1347**	**793**	**1.74**	**1625**	**847**	**2.06**	**1917**
2900	**613**	**0.98**	**918**	**684**	**1.25**	**1169**	**748**	**1.54**	**1436**	**805**	**1.84**	**1720**	**859**	**2.16**	**2019**
3000	**629**	**1.07**	**999**	**699**	**1.35**	**1256**	**761**	**1.64**	**1530**	**818**	**1.95**	**1820**	871	2.28	2125
3100	**645**	**1.16**	**1085**	**713**	**1.45**	**1349**	**775**	**1.75**	**1630**	**831**	**2.06**	**1925**	883	2.40	2235
3200	**662**	**1.26**	**1176**	**728**	**1.55**	**1448**	**788**	**1.86**	**1734**	**844**	**2.18**	**2036**	895	2.52	2352
3300	**678**	**1.36**	**1272**	**743**	**1.66**	**1551**	**802**	**1.98**	**1845**	**857**	**2.31**	**2152**	908	2.65	2475
3400	**694**	**1.47**	**1374**	**758**	**1.78**	**1660**	**816**	**2.10**	**1961**	870	2.44	2275	920	2.79	2603
3500	**711**	**1.59**	**1482**	**773**	**1.90**	**1775**	**831**	**2.23**	**2082**	884	2.58	2402	933	2.93	2737
3600	**727**	**1.71**	**1596**	**789**	**2.03**	**1896**	**845**	**2.37**	**2210**	897	2.72	2537	946	3.09	2877
3700	**744**	**1.84**	**1716**	**804**	**2.17**	**2023**	860	2.51	2343	911	2.87	2677	959	3.24	3023
3750	**752**	**1.91**	**1778**	**812**	**2.24**	**2089**	867	2.59	2413	918	2.95	2750	966	3.32	3100

580F090,091 (7 1/2 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	**839**	**1.86**	**1735**	889	2.18	2032	935	2.52	2345	980	2.87	2673	1022	3.23	3015
2300	**844**	**1.90**	**1773**	893	2.22	2073	940	2.56	2389	984	2.91	2718	1027	3.28	3062
2400	**854**	**1.99**	**1855**	903	2.32	2159	950	2.66	2478	993	3.02	2812	1035	3.39	3159
2500	865	2.08	1940	913	2.41	2249	959	2.76	2573	1003	3.12	2911	1044	3.50	3261
2550	870	2.13	1985	918	2.46	2296	964	2.81	2622	1008	3.18	2962	1049	3.55	3315
2600	875	2.18	2031	923	2.51	2344	969	2.87	2673	1012	3.23	3014	1054	3.61	3370
2700	886	2.28	2126	934	2.62	2445	979	2.98	2777	1022	3.35	3123	—	—	—
2800	897	2.39	2227	944	2.73	2550	989	3.10	2888	1032	3.47	3238	—	—	—
2900	908	2.50	2333	955	2.85	2661	1000	3.22	3003	1042	3.60	3358	—	—	—
3000	920	2.62	2443	966	2.98	2777	1010	3.35	3123	—	—	—	—	—	—
3100	931	2.75	2560	977	3.11	2899	1021	3.49	3250	—	—	—	—	—	—
3200	943	2.88	2682	989	3.25	3026	1032	3.63	3383	—	—	—	—	—	—
3300	955	3.01	2810	1000	3.39	3159	—	—	—	—	—	—	—	—	—
3400	967	3.16	2945	1012	3.54	3299	—	—	—	—	—	—	—	—	—
3500	980	3.31	3084	1024	3.69	3445	—	—	—	—	—	—	—	—	—
3600	992	3.46	3230	—	—	—	—	—	—	—	—	—	—	—	—
3700	1005	3.63	3383	—	—	—	—	—	—	—	—	—	—	—	—
3750	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 860 to 1080 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 3.70.
3. See page 74 for General Fan Performance Notes.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

580F103 (8 1/2 TONS) — STANDARD MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2550	**558**	**0.72**	**673**	**635**	**0.97**	**900**	702	1.23	1146	763	1.51	1409	818	1.81	1689
2600	**566**	**0.76**	**705**	**642**	**1.00**	**935**	709	1.27	1183	769	1.55	1450	824	1.86	1732
2700	**582**	**0.83**	**771**	**656**	**1.08**	**1008**	721	1.35	1263	781	1.65	1535	835	1.95	1823
2800	**597**	**0.90**	**842**	**670**	**1.16**	**1086**	734	1.44	1347	793	1.74	1625	847	2.06	1917
2900	**613**	**0.98**	**918**	**684**	**1.25**	**1169**	748	1.54	1436	805	1.84	1720	859	2.16	2019
3000	**629**	**1.07**	**999**	699	1.35	1256	761	1.64	1530	818	1.95	1820	871	2.28	2125
3100	**645**	**1.16**	**1085**	713	1.45	1349	775	1.75	1630	831	2.06	1925	883	2.40	2235
3200	**662**	**1.26**	**1176**	728	1.55	1448	788	1.86	1734	844	2.18	2036	—	—	—
3300	**678**	**1.36**	**1272**	743	1.66	1551	802	1.98	1845	857	2.31	2152	—	—	—
3400	694	1.47	1374	758	1.78	1660	816	2.10	1961	—	—	—	—	—	—
3500	711	1.59	1482	773	1.90	1775	831	2.23	2082	—	—	—	—	—	—
3600	727	1.71	1596	789	2.03	1896	845	2.37	2210	—	—	—	—	—	—
3700	744	1.84	1716	804	2.17	2023	—	—	—	—	—	—	—	—	—
3750	752	1.91	1778	812	2.24	2089	—	—	—	—	—	—	—	—	—
3800	761	1.98	1842	820	2.31	2156	—	—	—	—	—	—	—	—	—
3900	777	2.12	1974	—	—	—	—	—	—	—	—	—	—	—	—
4000	794	2.27	2113	—	—	—	—	—	—	—	—	—	—	—	—
4100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4250	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

580F103 (8 1/2 TONS) — STANDARD MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2550	870	2.13	1985	—	—	—	—	—	—	—	—	—	—	—	—
2600	875	2.18	2031	—	—	—	—	—	—	—	—	—	—	—	—
2700	886	2.28	2126	—	—	—	—	—	—	—	—	—	—	—	—
2800	897	2.39	2227	—	—	—	—	—	—	—	—	—	—	—	—
2900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3750	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4250	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 685 to 935 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.
3. See page 74 for General Fan Performance Notes.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

580F103 (8 1/2 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2550	**558**	**0.72**	**673**	**635**	**0.97**	**900**	**702**	**1.23**	**1146**	**763**	**1.51**	**1409**	**818**	**1.81**	**1689**
2600	**566**	**0.76**	**705**	**642**	**1.00**	**935**	**709**	**1.27**	**1183**	**769**	**1.55**	**1450**	**824**	**1.86**	**1732**
2700	**582**	**0.83**	**771**	**656**	**1.08**	**1008**	**721**	**1.35**	**1263**	**781**	**1.65**	**1535**	**835**	**1.95**	**1823**
2800	**597**	**0.90**	**842**	**670**	**1.16**	**1086**	**734**	**1.44**	**1347**	**793**	**1.74**	**1625**	**847**	**2.06**	**1917**
2900	**613**	**0.98**	**918**	**684**	**1.25**	**1169**	**748**	**1.54**	**1436**	**805**	**1.84**	**1720**	**859**	**2.16**	**2019**
3000	**629**	**1.07**	**999**	**699**	**1.35**	**1256**	**761**	**1.64**	**1530**	**818**	**1.95**	**1820**	871	2.28	2125
3100	**645**	**1.16**	**1085**	**713**	**1.45**	**1349**	**775**	**1.75**	**1630**	**831**	**2.06**	**1925**	883	2.40	2235
3200	**662**	**1.26**	**1176**	**728**	**1.55**	**1448**	**788**	**1.86**	**1734**	**844**	**2.18**	**2036**	895	2.52	2352
3300	**678**	**1.36**	**1272**	**743**	**1.66**	**1551**	**802**	**1.98**	**1845**	**857**	**2.31**	**2152**	908	2.65	2475
3400	**694**	**1.47**	**1374**	**758**	**1.78**	**1660**	**816**	**2.10**	**1961**	870	2.44	2275	920	2.79	2603
3500	**711**	**1.59**	**1482**	**773**	**1.90**	**1775**	**831**	**2.23**	**2082**	884	2.58	2402	933	2.93	2737
3600	**727**	**1.71**	**1596**	**789**	**2.03**	**1896**	**845**	**2.37**	**2210**	897	2.72	2537	946	3.09	2877
3700	**744**	**1.84**	**1716**	**804**	**2.17**	**2023**	860	2.51	2343	911	2.87	2677	959	3.24	3023
3750	**752**	**1.91**	**1778**	**812**	**2.24**	**2089**	867	2.59	2413	918	2.95	2750	966	3.32	3100
3800	**761**	**1.98**	**1842**	**820**	**2.31**	**2156**	874	2.66	2484	925	3.03	2824	973	3.41	3177
3900	**777**	**2.12**	**1974**	**835**	**2.46**	**2296**	889	2.82	2630	939	3.19	2977	986	3.58	3336
4000	**794**	**2.27**	**2113**	**851**	**2.62**	**2442**	904	2.99	2784	953	3.36	3137	—	—	—
4100	**811**	**2.42**	**2259**	867	2.78	2595	919	3.16	2944	968	3.54	3304	—	—	—
4200	**828**	**2.59**	**2412**	883	2.95	2755	934	3.34	3110	—	—	—	—	—	—
4250	**837**	**2.67**	**2490**	891	3.04	2838	942	3.43	3197	—	—	—	—	—	—

580F103 (8 1/2 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2550	870	2.13	1985	918	2.46	2296	964	2.81	2622	1008	3.18	2962	1049	3.55	3315
2600	875	2.18	2031	923	2.51	2344	969	2.87	2673	1012	3.23	3014	1054	3.61	3370
2700	886	2.28	2126	934	2.62	2445	979	2.98	2777	1022	3.35	3123	—	—	—
2800	897	2.39	2227	944	2.73	2550	989	3.10	2888	1032	3.47	3238	—	—	—
2900	908	2.50	2333	955	2.85	2661	1000	3.22	3003	1042	3.60	3358	—	—	—
3000	920	2.62	2443	966	2.98	2777	1010	3.35	3123	—	—	—	—	—	—
3100	931	2.75	2560	977	3.11	2899	1021	3.49	3250	—	—	—	—	—	—
3200	943	2.88	2682	989	3.25	3026	1032	3.63	3383	—	—	—	—	—	—
3300	955	3.01	2810	1000	3.39	3159	—	—	—	—	—	—	—	—	—
3400	967	3.16	2945	1012	3.54	3299	—	—	—	—	—	—	—	—	—
3500	980	3.31	3084	1024	3.69	3445	—	—	—	—	—	—	—	—	—
3600	992	3.46	3230	—	—	—	—	—	—	—	—	—	—	—	—
3700	1005	3.63	3383	—	—	—	—	—	—	—	—	—	—	—	—
3750	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4250	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 860 to 1080 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 3.70.
3. See page 74 for General Fan Performance Notes.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

580F120 (10 TONS) — STANDARD MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	726	0.75	656	793	0.94	822	853	1.14	997	910	1.35	1181	**962**	**1.56**	**1373**
3100	746	0.81	713	811	1.01	883	870	1.21	1062	926	1.42	1250	**978**	**1.65**	**1447**
3200	766	0.88	773	829	1.08	947	887	1.29	1131	**942**	**1.51**	**1323**	**993**	**1.74**	**1524**
3300	786	0.95	836	847	1.16	1016	905	1.37	1204	**958**	**1.60**	**1400**	**1008**	**1.83**	**1604**
3400	806	1.03	904	866	1.24	1088	922	1.46	1280	**975**	**1.69**	**1481**	**1024**	**1.92**	**1689**
3500	826	1.11	975	885	1.33	1163	**940**	**1.55**	**1360**	**991**	**1.78**	**1565**	**1040**	**2.03**	**1778**
3600	846	1.20	1050	904	1.42	1243	**958**	**1.65**	**1444**	**1008**	**1.88**	**1654**	**1056**	**2.13**	**1870**
3700	866	1.29	1129	923	1.51	1327	**975**	**1.75**	**1532**	**1025**	**1.99**	**1746**	**1073**	**2.24**	**1967**
3800	886	1.38	1212	**942**	**1.61**	**1415**	**994**	**1.85**	**1625**	**1043**	**2.10**	**1843**	**1089**	**2.36**	**2068**
3900	907	1.48	1299	**961**	**1.72**	**1507**	**1012**	**1.96**	**1722**	**1060**	**2.21**	**1944**	—	—	—
4000	927	1.58	1391	**980**	**1.83**	**1603**	**1030**	**2.08**	**1823**	**1078**	**2.33**	**2049**	—	—	—
4100	**948**	**1.69**	**1487**	**1000**	**1.94**	**1704**	**1049**	**2.20**	**1928**	—	—	—	—	—	—
4200	**968**	**1.81**	**1588**	**1019**	**2.06**	**1809**	**1067**	**2.32**	**2038**	—	—	—	—	—	—
4300	**989**	**1.93**	**1694**	**1039**	**2.19**	**1920**	—	—	—	—	—	—	—	—	—
4400	**1009**	**2.06**	**1804**	**1058**	**2.32**	**2034**	—	—	—	—	—	—	—	—	—
4500	**1030**	**2.19**	**1919**	—	—	—	—	—	—	—	—	—	—	—	—
4600	**1051**	**2.32**	**2039**	—	—	—	—	—	—	—	—	—	—	—	—
4700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

580F120 (10 TONS) — STANDARD MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	**1012**	**1.79**	**1574**	**1060**	**2.03**	**1781**	**1105**	**2.28**	**1997**	—	—	—	—	—	—
3100	**1027**	**1.88**	**1651**	**1073**	**2.12**	**1863**	**1118**	**2.37**	**2081**	—	—	—	—	—	—
3200	**1041**	**1.97**	**1732**	**1088**	**2.22**	**1947**	—	—	—	—	—	—	—	—	—
3300	**1056**	**2.07**	**1817**	**1102**	**2.32**	**2036**	—	—	—	—	—	—	—	—	—
3400	**1071**	**2.17**	**1905**	—	—	—	—	—	—	—	—	—	—	—	—
3500	**1087**	**2.28**	**1998**	—	—	—	—	—	—	—	—	—	—	—	—
3600	**1102**	**2.39**	**2094**	—	—	—	—	—	—	—	—	—	—	—	—
3700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 685 to 935 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.
3. See page 74 for General Fan Performance Notes.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

580F120 (10 TONS) — ALTERNATE MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	**726**	**0.75**	**656**	**793**	**0.94**	**822**	853	1.14	997	910	1.35	1181	962	1.56	1373
3100	**746**	**0.81**	**713**	**811**	**1.01**	**883**	870	1.21	1062	926	1.42	1250	978	1.65	1447
3200	**766**	**0.88**	**773**	**829**	**1.08**	**947**	887	1.29	1131	942	1.51	1323	993	1.74	1524
3300	**786**	**0.95**	**836**	847	1.16	1016	905	1.37	1204	958	1.60	1400	1008	1.83	1604
3400	**806**	**1.03**	**904**	866	1.24	1088	922	1.46	1280	975	1.69	1481	1024	1.92	1689
3500	**826**	**1.11**	**975**	885	1.33	1163	940	1.55	1360	991	1.78	1565	1040	2.03	1778
3600	846	1.20	1050	904	1.42	1243	958	1.65	1444	1008	1.88	1654	1056	2.13	1870
3700	866	1.29	1129	923	1.51	1327	975	1.75	1532	1025	1.99	1746	1073	2.24	1967
3800	886	1.38	1212	942	1.61	1415	994	1.85	1625	1043	2.10	1843	**1089**	**2.36**	**2068**
3900	907	1.48	1299	961	1.72	1507	1012	1.96	1722	1060	2.21	1944	**1106**	**2.48**	**2173**
4000	927	1.58	1391	980	1.83	1603	1030	2.08	1823	1078	2.33	2049	**1123**	**2.60**	**2283**
4100	948	1.69	1487	1000	1.94	1704	1049	2.20	1928	**1095**	**2.46**	**2159**	**1140**	**2.73**	**2397**
4200	968	1.81	1588	1019	2.06	1809	1067	2.32	2038	**1113**	**2.59**	**2274**	**1157**	**2.87**	**2516**
4300	989	1.93	1694	1039	2.19	1920	**1086**	**2.45**	**2153**	**1131**	**2.73**	**2393**	—	—	—
4400	1009	2.06	1804	1058	2.32	2034	**1105**	**2.59**	**2272**	**1149**	**2.87**	**2517**	—	—	—
4500	1030	2.19	1919	1078	2.45	2154	**1124**	**2.73**	**2397**	—	—	—	—	—	—
4600	1051	2.32	2039	**1098**	**2.60**	**2279**	**1143**	**2.88**	**2527**	—	—	—	—	—	—
4700	1071	2.47	2165	**1118**	**2.75**	**2409**	—	—	—	—	—	—	—	—	—
4800	**1092**	**2.62**	**2295**	**1138**	**2.90**	**2545**	—	—	—	—	—	—	—	—	—
4900	**1113**	**2.77**	**2431**	—	—	—	—	—	—	—	—	—	—	—	—
5000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

580F120 (10 TONS) — ALTERNATE MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	1012	1.79	1574	1060	2.03	1781	**1105**	**2.28**	**1997**	**1148**	**2.53**	**2219**	**1190**	**2.79**	**2449**
3100	1027	1.88	1651	1073	2.12	1863	**1118**	**2.37**	**2081**	**1161**	**2.63**	**2308**	**1202**	**2.89**	**2540**
3200	1041	1.97	1732	**1088**	**2.22**	**1947**	**1132**	**2.47**	**2170**	**1174**	**2.73**	**2400**	—	—	—
3300	1056	2.07	1817	**1102**	**2.32**	**2036**	**1146**	**2.58**	**2262**	**1188**	**2.84**	**2496**	—	—	—
3400	1071	2.17	1905	**1116**	**2.43**	**2128**	**1160**	**2.69**	**2359**	—	—	—	—	—	—
3500	**1087**	**2.28**	**1998**	**1131**	**2.53**	**2225**	**1174**	**2.80**	**2459**	—	—	—	—	—	—
3600	**1102**	**2.39**	**2094**	**1146**	**2.65**	**2326**	—	—	—	—	—	—	—	—	—
3700	**1118**	**2.50**	**2195**	**1162**	**2.77**	**2430**	—	—	—	—	—	—	—	—	—
3800	**1134**	**2.62**	**2300**	**1177**	**2.89**	**2539**	—	—	—	—	—	—	—	—	—
3900	**1150**	**2.75**	**2410**	—	—	—	—	—	—	—	—	—	—	—	—
4000	**1167**	**2.88**	**2524**	—	—	—	—	—	—	—	—	—	—	—	—
4100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 835 to 1085 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.90.
3. See page 74 for General Fan Performance Notes.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

580F120 (10 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	**726**	**0.75**	**656**	**793**	**0.94**	**822**	853	1.14	997	910	1.35	1181	962	1.56	1373
3100	**746**	**0.81**	**713**	**811**	**1.01**	**883**	870	1.21	1062	926	1.42	1250	978	1.65	1447
3200	**766**	**0.88**	**773**	**829**	**1.08**	**947**	887	1.29	1131	942	1.51	1323	993	1.74	1524
3300	**786**	**0.95**	**836**	847	1.16	1016	905	1.37	1204	958	1.60	1400	1008	1.83	1604
3400	**806**	**1.03**	**904**	866	1.24	1088	922	1.46	1280	975	1.69	1481	1024	1.92	1689
3500	**826**	**1.11**	**975**	885	1.33	1163	940	1.55	1360	991	1.78	1565	1040	2.03	1778
3600	846	1.20	1050	904	1.42	1243	958	1.65	1444	1008	1.88	1654	1056	2.13	1870
3700	866	1.29	1129	923	1.51	1327	975	1.75	1532	1025	1.99	1746	1073	2.24	1967
3800	886	1.38	1212	942	1.61	1415	994	1.85	1625	1043	2.10	1843	1089	2.36	2068
3900	907	1.48	1299	961	1.72	1507	1012	1.96	1722	1060	2.21	1944	1106	2.48	2173
4000	927	1.58	1391	980	1.83	1603	1030	2.08	1823	1078	2.33	2049	1123	2.60	2283
4100	948	1.69	1487	1000	1.94	1704	1049	2.20	1928	1095	2.46	2159	**1140**	**2.73**	**2397**
4200	968	1.81	1588	1019	2.06	1809	1067	2.32	2038	1113	2.59	2274	**1157**	**2.87**	**2516**
4300	989	1.93	1694	1039	2.19	1920	1086	2.45	2153	**1131**	**2.73**	**2393**	**1175**	**3.01**	**2640**
4400	1009	2.06	1804	1058	2.32	2034	1105	2.59	2272	**1149**	**2.87**	**2517**	**1192**	**3.15**	**2768**
4500	1030	2.19	1919	1078	2.45	2154	1124	2.73	2397	**1168**	**3.01**	**2646**	**1210**	**3.31**	**2901**
4600	1051	2.32	2039	1098	2.60	2279	**1143**	**2.88**	**2527**	**1186**	**3.17**	**2780**	**1228**	**3.46**	**3040**
4700	1071	2.47	2165	1118	2.75	2409	**1162**	**3.03**	**2661**	**1205**	**3.33**	**2919**	**1245**	**3.63**	**3184**
4800	1092	2.62	2295	**1138**	**2.90**	**2545**	**1181**	**3.19**	**2801**	**1223**	**3.49**	**3064**	**1264**	**3.80**	**3333**
4900	1113	2.77	2431	**1158**	**3.06**	**2685**	**1201**	**3.36**	**2947**	**1242**	**3.66**	**3214**	**1282**	**3.97**	**3487**
5000	**1134**	**2.93**	**2572**	**1178**	**3.23**	**2832**	**1220**	**3.53**	**3097**	**1261**	**3.84**	**3369**	**1300**	**4.16**	**3647**

580F120 (10 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	1012	1.79	1574	1060	2.03	1781	1105	2.28	1997	**1148**	**2.53**	**2219**	**1190**	**2.79**	**2449**
3100	1027	1.88	1651	1073	2.12	1863	1118	2.37	2081	**1161**	**2.63**	**2308**	**1202**	**2.89**	**2540**
3200	1041	1.97	1732	1088	2.22	1947	**1132**	**2.47**	**2170**	**1174**	**2.73**	**2400**	**1215**	**3.00**	**2636**
3300	1056	2.07	1817	1102	2.32	2036	**1146**	**2.58**	**2262**	**1188**	**2.84**	**2496**	**1228**	**3.12**	**2735**
3400	1071	2.17	1905	1116	2.43	2128	**1160**	**2.69**	**2359**	**1201**	**2.96**	**2595**	**1241**	**3.23**	**2839**
3500	1087	2.28	1998	**1131**	**2.53**	**2225**	**1174**	**2.80**	**2459**	**1215**	**3.08**	**2699**	**1255**	**3.36**	**2946**
3600	1102	2.39	2094	**1146**	**2.65**	**2326**	**1188**	**2.92**	**2563**	**1229**	**3.20**	**2808**	**1268**	**3.48**	**3058**
3700	1118	2.50	2195	**1162**	**2.77**	**2430**	**1203**	**3.04**	**2672**	**1243**	**3.33**	**2920**	**1282**	**3.62**	**3174**
3800	**1134**	**2.62**	**2300**	**1177**	**2.89**	**2539**	**1218**	**3.17**	**2785**	**1258**	**3.46**	**3036**	**1296**	**3.75**	**3295**
3900	**1150**	**2.75**	**2410**	**1193**	**3.02**	**2653**	**1233**	**3.31**	**2902**	**1273**	**3.60**	**3158**	**1311**	**3.90**	**3420**
4000	**1167**	**2.88**	**2524**	**1208**	**3.16**	**2770**	**1249**	**3.45**	**3024**	**1287**	**3.74**	**3284**	**1325**	**4.04**	**3549**
4100	**1183**	**3.01**	**2642**	**1224**	**3.30**	**2893**	**1264**	**3.59**	**3151**	**1302**	**3.89**	**3414**	**1340**	**4.20**	**3683**
4200	**1200**	**3.15**	**2765**	**1240**	**3.44**	**3020**	**1280**	**3.74**	**3282**	**1318**	**4.04**	**3549**	**1355**	**4.36**	**3823**
4300	**1216**	**3.30**	**2893**	**1257**	**3.59**	**3152**	**1295**	**3.89**	**3418**	**1333**	**4.20**	**3690**	**1370**	**4.52**	**3967**
4400	**1233**	**3.45**	**3025**	**1273**	**3.75**	**3289**	**1311**	**4.05**	**3559**	**1349**	**4.37**	**3834**	**1385**	**4.69**	**4116**
4500	**1250**	**3.60**	**3163**	**1290**	**3.91**	**3431**	**1328**	**4.22**	**3705**	**1364**	**4.54**	**3985**	—	—	—
4600	**1268**	**3.77**	**3306**	**1306**	**4.08**	**3578**	**1344**	**4.39**	**3856**	**1380**	**4.72**	**4140**	—	—	—
4700	**1285**	**3.94**	**3454**	**1323**	**4.25**	**3730**	**1360**	**4.57**	**4013**	**1396**	**4.90**	**4300**	—	—	—
4800	**1303**	**4.11**	**3608**	**1340**	**4.43**	**3888**	**1377**	**4.76**	**4175**	—	—	—	—	—	—
4900	**1320**	**4.29**	**3766**	**1357**	**4.62**	**4051**	**1394**	**4.95**	**4342**	—	—	—	—	—	—
5000	**1338**	**4.48**	**3930**	**1375**	**4.81**	**4219**	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 830 to 1130 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 5.25.
3. See page 74 for General Fan Performance Notes.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

580F121 (10 TONS) — STANDARD MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	**592**	**0.77**	**672**	**658**	**0.93**	**817**	719	1.10	961	775	1.26	1105	828	1.42	1249
3100	**607**	**0.83**	**731**	**672**	**1.00**	**881**	731	1.17	1030	787	1.34	1179	839	1.51	1328
3200	**623**	**0.90**	**794**	686	1.08	949	744	1.26	1103	798	1.43	1257	850	1.61	1410
3300	**638**	**0.98**	**860**	700	1.16	1020	757	1.34	1179	810	1.52	1338	861	1.71	1496
3400	**653**	**1.06**	**931**	714	1.25	1095	770	1.44	1260	822	1.62	1423	872	1.81	1586
3500	**669**	**1.15**	**1005**	728	1.34	1175	783	1.53	1344	835	1.72	1512	884	1.91	1680
3600	685	1.23	1084	742	1.43	1258	796	1.63	1432	847	1.83	1606	895	2.03	1778
3700	700	1.33	1167	757	1.53	1346	810	1.74	1524	860	1.94	1703	907	2.14	1881
3800	716	1.43	1254	771	1.64	1438	823	1.85	1621	873	2.06	1805	919	2.26	1987
3900	732	1.53	1345	786	1.75	1534	837	1.96	1722	886	2.18	1911	932	2.39	2099
4000	748	1.64	1441	801	1.86	1635	851	2.08	1828	899	2.30	2022	—	—	—
4100	764	1.76	1542	816	1.98	1741	865	2.21	1939	—	—	—	—	—	—
4200	780	1.88	1648	831	2.11	1851	879	2.34	2054	—	—	—	—	—	—
4300	796	2.00	1758	846	2.24	1966	—	—	—	—	—	—	—	—	—
4400	812	2.13	1874	861	2.38	2087	—	—	—	—	—	—	—	—	—
4500	828	2.27	1994	—	—	—	—	—	—	—	—	—	—	—	—
4600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

580F121 (10 TONS) — STANDARD MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	878	1.59	1391	925	1.75	1534	**970**	**1.91**	**1676**	**1014**	**2.07**	**1817**	**1055**	**2.23**	**1958**
3100	888	1.68	1475	935	1.85	1623	**979**	**2.02**	**1769**	**1022**	**2.18**	**1916**	**1063**	**2.35**	**2062**
3200	898	1.78	1563	**944**	**1.95**	**1715**	**988**	**2.13**	**1867**	**1031**	**2.30**	**2018**	—	—	—
3300	909	1.88	1654	**954**	**2.06**	**1811**	**998**	**2.24**	**1968**	—	—	—	—	—	—
3400	919	1.99	1749	**964**	**2.18**	**1911**	**1007**	**2.36**	**2073**	—	—	—	—	—	—
3500	930	2.11	1848	**975**	**2.30**	**2015**	—	—	—	—	—	—	—	—	—
3600	**941**	**2.22**	**1951**	—	—	—	—	—	—	—	—	—	—	—	—
3700	**952**	**2.35**	**2058**	—	—	—	—	—	—	—	—	—	—	—	—
3800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 685 to 935 rpm. All other rpms require field-supplied drive.

Refer to page 74 for general Fan Performance Data notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

580F121 (10 TONS) — ALTERNATE MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	**592**	**0.77**	**672**	**658**	**0.93**	**817**	**719**	**1.10**	**961**	**775**	**1.26**	**1105**	**828**	**1.42**	**1249**
3100	**607**	**0.83**	**731**	**672**	**1.00**	**881**	**731**	**1.17**	**1030**	**787**	**1.34**	**1179**	839	1.51	1328
3200	**623**	**0.90**	**794**	**686**	**1.08**	**949**	**744**	**1.26**	**1103**	**798**	**1.43**	**1257**	850	1.61	1410
3300	**638**	**0.98**	**860**	**700**	**1.16**	**1020**	**757**	**1.34**	**1179**	**810**	**1.52**	**1338**	861	1.71	1496
3400	**653**	**1.06**	**931**	**714**	**1.25**	**1095**	**770**	**1.44**	**1260**	**822**	**1.62**	**1423**	872	1.81	1586
3500	**669**	**1.15**	**1005**	**728**	**1.34**	**1175**	**783**	**1.53**	**1344**	835	1.72	1512	884	1.91	1680
3600	**685**	**1.23**	**1084**	**742**	**1.43**	**1258**	**796**	**1.63**	**1432**	847	1.83	1606	895	2.03	1778
3700	**700**	**1.33**	**1167**	**757**	**1.53**	**1346**	**810**	**1.74**	**1524**	860	1.94	1703	907	2.14	1881
3800	**716**	**1.43**	**1254**	**771**	**1.64**	**1438**	**823**	**1.85**	**1621**	873	2.06	1805	919	2.26	1987
3900	**732**	**1.53**	**1345**	**786**	**1.75**	**1534**	837	1.96	1722	886	2.18	1911	932	2.39	2099
4000	**748**	**1.64**	**1441**	**801**	**1.86**	**1635**	851	2.08	1828	899	2.30	2022	944	2.52	2214
4100	**764**	**1.76**	**1542**	**816**	**1.98**	**1741**	865	2.21	1939	912	2.43	2137	957	2.66	2334
4200	**780**	**1.88**	**1648**	831	2.11	1851	879	2.34	2054	925	2.57	2257	969	2.80	2460
4300	**796**	**2.00**	**1758**	846	2.24	1966	894	2.48	2175	939	2.71	2382	—	—	—
4400	**812**	**2.13**	**1874**	861	2.38	2087	908	2.62	2299	952	2.86	2512	—	—	—
4500	**828**	**2.27**	**1994**	877	2.52	2212	922	2.77	2430	—	—	—	—	—	—
4600	845	2.42	2120	892	2.67	2343	—	—	—	—	—	—	—	—	—
4700	861	2.57	2251	907	2.82	2479	—	—	—	—	—	—	—	—	—
4800	877	2.72	2388	—	—	—	—	—	—	—	—	—	—	—	—
4900	894	2.88	2531	—	—	—	—	—	—	—	—	—	—	—	—
5000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

580F121 (10 TONS) — ALTERNATE MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	878	1.59	1391	925	1.75	1534	970	1.91	1676	1014	2.07	1817	1055	2.23	1958
3100	888	1.68	1475	935	1.85	1623	979	2.02	1769	1022	2.18	1916	1063	2.35	2062
3200	898	1.78	1563	944	1.95	1715	988	2.13	1867	1031	2.30	2018	1072	2.47	2169
3300	909	1.88	1654	954	2.06	1811	998	2.24	1968	1040	2.42	2124	1080	2.60	2280
3400	919	1.99	1749	964	2.18	1911	1007	2.36	2073	1049	2.55	2234	1089	2.73	2395
3500	930	2.11	1848	975	2.30	2015	1017	2.49	2182	1058	2.68	2348	1098	2.86	2514
3600	941	2.22	1951	985	2.42	2123	1027	2.61	2295	1068	2.81	2466	—	—	—
3700	952	2.35	2058	996	2.55	2236	1038	2.75	2412	—	—	—	—	—	—
3800	964	2.47	2170	1007	2.68	2352	1048	2.89	2534	—	—	—	—	—	—
3900	976	2.60	2286	1018	2.82	2473	—	—	—	—	—	—	—	—	—
4000	987	2.74	2407	—	—	—	—	—	—	—	—	—	—	—	—
4100	999	2.88	2532	—	—	—	—	—	—	—	—	—	—	—	—
4200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 835 to 1085 rpm. All other rpms require field-supplied drive.

Refer to page 74 for general Fan Performance Data notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.90.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

580F121 (10 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	**592**	**0.77**	**672**	**658**	**0.93**	**817**	**719**	**1.10**	**961**	**775**	**1.26**	**1105**	**828**	**1.42**	**1249**
3100	**607**	**0.83**	**731**	**672**	**1.00**	**881**	**731**	**1.17**	**1030**	**787**	**1.34**	**1179**	839	1.51	1328
3200	**623**	**0.90**	**794**	**686**	**1.08**	**949**	**744**	**1.26**	**1103**	**798**	**1.43**	**1257**	850	1.61	1410
3300	**638**	**0.98**	**860**	**700**	**1.16**	**1020**	**757**	**1.34**	**1179**	**810**	**1.52**	**1338**	861	1.71	1496
3400	**653**	**1.06**	**931**	**714**	**1.25**	**1095**	**770**	**1.44**	**1260**	**822**	**1.62**	**1423**	872	1.81	1586
3500	**669**	**1.15**	**1005**	**728**	**1.34**	**1175**	**783**	**1.53**	**1344**	835	1.72	1512	884	1.91	1680
3600	**685**	**1.23**	**1084**	**742**	**1.43**	**1258**	**796**	**1.63**	**1432**	847	1.83	1606	895	2.03	1778
3700	**700**	**1.33**	**1167**	**757**	**1.53**	**1346**	**810**	**1.74**	**1524**	860	1.94	1703	907	2.14	1881
3800	**716**	**1.43**	**1254**	**771**	**1.64**	**1438**	**823**	**1.85**	**1621**	873	2.06	1805	919	2.26	1987
3900	**732**	**1.53**	**1345**	**786**	**1.75**	**1534**	837	1.96	1722	886	2.18	1911	932	2.39	2099
4000	**748**	**1.64**	**1441**	**801**	**1.86**	**1635**	851	2.08	1828	899	2.30	2022	944	2.52	2214
4100	**764**	**1.76**	**1542**	**816**	**1.98**	**1741**	865	2.21	1939	912	2.43	2137	957	2.66	2334
4200	**780**	**1.88**	**1648**	831	2.11	1851	879	2.34	2054	925	2.57	2257	969	2.80	2460
4300	**796**	**2.00**	**1758**	846	2.24	1966	894	2.48	2175	939	2.71	2382	982	2.95	2589
4400	**812**	**2.13**	**1874**	861	2.38	2087	908	2.62	2299	952	2.86	2512	995	3.10	2725
4500	**828**	**2.27**	**1994**	877	2.52	2212	922	2.77	2430	966	3.02	2648	1008	3.26	2865
4600	845	2.42	2120	892	2.67	2343	937	2.92	2566	980	3.18	2788	1022	3.43	3010
4700	861	2.57	2251	907	2.82	2479	952	3.08	2706	994	3.34	2934	1035	3.60	3161
4800	877	2.72	2388	923	2.99	2621	966	3.25	2853	1008	3.52	3086	1049	3.78	3317
4900	894	2.88	2531	938	3.15	2768	981	3.42	3005	1022	3.69	3242	1062	3.96	3479
5000	910	3.05	2679	954	3.33	2921	996	3.60	3163	1037	3.88	3405	1076	4.15	3647

580F121 (10 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	878	1.59	1391	925	1.75	1534	970	1.91	1676	1014	2.07	1817	1055	2.23	1958
3100	888	1.68	1475	935	1.85	1623	979	2.02	1769	1022	2.18	1916	1063	2.35	2062
3200	898	1.78	1563	944	1.95	1715	988	2.13	1867	1031	2.30	2018	1072	2.47	2169
3300	909	1.88	1654	954	2.06	1811	998	2.24	1968	1040	2.42	2124	1080	2.60	2280
3400	919	1.99	1749	964	2.18	1911	1007	2.36	2073	1049	2.55	2234	1089	2.73	2395
3500	930	2.11	1848	975	2.30	2015	1017	2.49	2182	1058	2.68	2348	1098	2.86	2514
3600	941	2.22	1951	985	2.42	2123	1027	2.61	2295	1068	2.81	2466	1107	3.00	2637
3700	952	2.35	2058	996	2.55	2236	1038	2.75	2412	1078	2.95	2588	1117	3.15	2764
3800	964	2.47	2170	1007	2.68	2352	1048	2.89	2534	1088	3.09	2715	1126	3.30	2895
3900	976	2.60	2286	1018	2.82	2473	1059	3.03	2660	1098	3.24	2846	**1136**	**3.45**	**3031**
4000	987	2.74	2407	1029	2.96	2598	1069	3.18	2790	1108	3.40	2981	**1146**	**3.61**	**3171**
4100	999	2.88	2532	1041	3.11	2729	1080	3.33	2925	1119	3.56	3121	**1156**	**3.78**	**3316**
4200	1012	3.03	2662	1052	3.26	2863	1092	3.49	3065	1130	3.72	3266	**1167**	**3.95**	**3466**
4300	1024	3.19	2796	1064	3.42	3003	1103	3.66	3210	**1141**	**3.89**	**3415**	**1177**	**4.13**	**3621**
4400	1036	3.35	2937	1076	3.59	3148	1114	3.83	3359	**1152**	**4.07**	**3570**	**1188**	**4.31**	**3781**
4500	1049	3.51	3082	1088	3.76	3298	1126	4.00	3514	**1163**	**4.25**	**3730**	**1199**	**4.50**	**3945**
4600	1062	3.68	3232	1100	3.94	3454	**1138**	**4.19**	**3675**	**1174**	**4.44**	**3895**	**1210**	**4.69**	**4116**
4700	1075	3.86	3387	1113	4.12	3614	**1150**	**4.38**	**3840**	**1186**	**4.63**	**4065**	**1221**	**4.89**	**4291**
4800	1088	4.04	3549	1125	4.31	3780	**1162**	**4.57**	**4011**	**1198**	**4.83**	**4241**	—	—	—
4900	1101	4.23	3716	**1138**	**4.50**	**3951**	**1174**	**4.77**	**4188**	—	—	—	—	—	—
5000	1114	4.43	3888	**1151**	**4.70**	**4129**	**1187**	**4.98**	**4370**	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 830 to 1130 rpm. All other rpms require field-supplied drive.

Refer to page 74 for general Fan Performance Data notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 5.25.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

580F150,151 (12½ TONS) — STANDARD MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3700	**728**	**1.36**	**1266**	**789**	**1.58**	**1473**	**848**	**1.81**	**1686**	904	2.04	1906	957	2.29	2132
3800	**744**	**1.46**	**1361**	**804**	**1.69**	**1572**	861	1.92	1790	916	2.16	2015	969	2.41	2246
3900	**760**	**1.57**	**1460**	**819**	**1.80**	**1676**	875	2.04	1899	929	2.28	2128	981	2.53	2364
4000	**777**	**1.68**	**1563**	**834**	**1.91**	**1785**	889	2.16	2012	942	2.41	2247	993	2.67	2487
4100	**793**	**1.79**	**1672**	**850**	**2.04**	**1899**	904	2.29	2132	956	2.54	2371	1006	2.80	2615
4200	**810**	**1.92**	**1786**	865	2.16	2018	918	2.42	2255	969	2.68	2499	1018	2.95	2748
4300	**826**	**2.04**	**1906**	880	2.30	2142	932	2.56	2385	983	2.82	2633	1031	3.10	2888
4400	**843**	**2.18**	**2031**	896	2.44	2272	947	2.70	2520	996	2.97	2773	1044	3.25	3032
4500	860	2.32	2161	912	2.58	2408	962	2.85	2660	1010	3.13	2918	1057	3.41	3182
4600	876	2.46	2297	927	2.73	2549	977	3.01	2807	1024	3.29	3070	1070	3.58	3338
4700	893	2.62	2439	943	2.89	2696	992	3.17	2958	1038	3.46	3226	—	—	—
4800	910	2.77	2587	959	3.06	2849	1007	3.34	3116	1053	3.63	3390	—	—	—
4900	927	2.94	2741	975	3.23	3008	1022	3.52	3280	—	—	—	—	—	—
5000	944	3.11	2901	991	3.40	3173	1037	3.70	3451	—	—	—	—	—	—
5100	961	3.29	3068	1007	3.59	3345	—	—	—	—	—	—	—	—	—
5200	978	3.48	3241	—	—	—	—	—	—	—	—	—	—	—	—
5300	995	3.67	3420	—	—	—	—	—	—	—	—	—	—	—	—
5400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

580F150,151 (12½ TONS) — STANDARD MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3700	1008	2.54	2364	1058	2.79	2602	**1106**	**3.05**	**2846**	**1152**	**3.32**	**3094**	**1198**	**3.59**	**3348**
3800	1019	2.66	2482	1068	2.92	2725	**1116**	**3.19**	**2972**	**1162**	**3.46**	**3226**	—	—	—
3900	1031	2.79	2605	1079	3.06	2852	**1126**	**3.33**	**3104**	**1171**	**3.61**	**3362**	—	—	—
4000	1042	2.93	2733	**1090**	**3.20**	**2984**	**1136**	**3.48**	**3241**	—	—	—	—	—	—
4100	1054	3.07	2866	**1101**	**3.35**	**3122**	**1146**	**3.63**	**3383**	—	—	—	—	—	—
4200	1066	3.22	3004	**1112**	**3.50**	**3264**	—	—	—	—	—	—	—	—	—
4300	1078	3.38	3148	**1123**	**3.66**	**3413**	—	—	—	—	—	—	—	—	—
4400	**1090**	**3.54**	**3297**	—	—	—	—	—	—	—	—	—	—	—	—
4500	**1103**	**3.70**	**3451**	—	—	—	—	—	—	—	—	—	—	—	—
4600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 860 to 1080 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 3.70.
3. See page 74 for General Fan Performance Notes.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

580F150,151 (12 1/2 TONS) — ALTERNATE MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3700	**728**	**1.36**	**1266**	**789**	**1.58**	**1473**	848	1.81	1686	904	2.04	1906	957	2.29	2132
3800	**744**	**1.46**	**1361**	**804**	**1.69**	**1572**	861	1.92	1790	916	2.16	2015	969	2.41	2246
3900	**760**	**1.57**	**1460**	**819**	**1.80**	**1676**	875	2.04	1899	929	2.28	2128	981	2.53	2364
4000	**777**	**1.68**	**1563**	834	1.91	1785	889	2.16	2012	942	2.41	2247	993	2.67	2487
4100	**793**	**1.79**	**1672**	850	2.04	1899	904	2.29	2132	956	2.54	2371	1006	2.80	2615
4200	**810**	**1.92**	**1786**	865	2.16	2018	918	2.42	2255	969	2.68	2499	1018	2.95	2748
4300	**826**	**2.04**	**1906**	880	2.30	2142	932	2.56	2385	983	2.82	2633	1031	3.10	2888
4400	843	2.18	2031	896	2.44	2272	947	2.70	2520	996	2.97	2773	1044	3.25	3032
4500	860	2.32	2161	912	2.58	2408	962	2.85	2660	1010	3.13	2918	1057	3.41	3182
4600	876	2.46	2297	927	2.73	2549	977	3.01	2807	1024	3.29	3070	1070	3.58	3338
4700	893	2.62	2439	943	2.89	2696	992	3.17	2958	1038	3.46	3226	1084	3.75	3500
4800	910	2.77	2587	959	3.06	2849	1007	3.34	3116	1053	3.63	3390	1098	3.93	3668
4900	927	2.94	2741	975	3.23	3008	1022	3.52	3280	1067	3.82	3558	1111	4.12	3841
5000	944	3.11	2901	991	3.40	3173	1037	3.70	3451	1082	4.00	3733	1125	4.31	4021
5100	961	3.29	3068	1007	3.59	3345	1053	3.89	3627	1096	4.20	3915	**1139**	**4.51**	**4208**
5200	978	3.48	3241	1024	3.78	3523	1068	4.09	3811	1111	4.40	4103	**1153**	**4.72**	**4400**
5300	995	3.67	3420	1040	3.98	3707	1084	4.29	4000	1126	4.61	4298	**1168**	**4.93**	**4600**
5400	1012	3.87	3606	1056	4.18	3899	1099	4.50	4196	**1141**	**4.82**	**4499**	**1182**	**5.15**	**4806**
5500	1029	4.07	3799	1073	4.39	4097	1115	4.72	4400	**1156**	**5.05**	**4707**	—	—	—
5600	1046	4.29	3999	1089	4.61	4302	**1131**	**4.94**	**4610**	—	—	—	—	—	—
5700	1063	4.51	4207	1105	4.84	4515	**1146**	**5.18**	**4827**	—	—	—	—	—	—
5800	1080	4.74	4420	1122	5.08	4734	—	—	—	—	—	—	—	—	—
5900	1098	4.98	4642	—	—	—	—	—	—	—	—	—	—	—	—
6000	1115	5.22	4872	—	—	—	—	—	—	—	—	—	—	—	—
6100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

580F150,151 (12 1/2 TONS) — ALTERNATE MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3700	1008	2.54	2364	1058	2.79	2602	1106	3.05	2846	**1152**	**3.32**	**3094**	**1198**	**3.59**	**3348**
3800	1019	2.66	2482	1068	2.92	2725	1116	3.19	2972	**1162**	**3.46**	**3226**	**1206**	**3.74**	**3484**
3900	1031	2.79	2605	1079	3.06	2852	1126	3.33	3104	**1171**	**3.61**	**3362**	**1215**	**3.89**	**3624**
4000	1042	2.93	2733	1090	3.20	2984	**1136**	**3.48**	**3241**	**1180**	**3.76**	**3503**	**1224**	**4.04**	**3770**
4100	1054	3.07	2866	1101	3.35	3122	**1146**	**3.63**	**3383**	**1190**	**3.91**	**3649**	**1233**	**4.20**	**3921**
4200	1066	3.22	3004	1112	3.50	3264	**1157**	**3.79**	**3530**	**1200**	**4.08**	**3801**	**1243**	**4.37**	**4077**
4300	1078	3.38	3148	1123	3.66	3413	**1167**	**3.95**	**3683**	**1210**	**4.24**	**3958**	**1252**	**4.54**	**4238**
4400	1090	3.54	3297	**1135**	**3.82**	**3566**	**1179**	**4.12**	**3841**	**1221**	**4.42**	**4121**	**1262**	**4.72**	**4405**
4500	1103	3.70	3451	**1147**	**4.00**	**3726**	**1190**	**4.29**	**4005**	**1232**	**4.60**	**4289**	**1273**	**4.91**	**4578**
4600	1115	3.87	3612	**1159**	**4.17**	**3891**	**1201**	**4.48**	**4175**	**1243**	**4.79**	**4464**	**1283**	**5.10**	**4757**
4700	1128	4.05	3778	**1171**	**4.36**	**4062**	**1213**	**4.67**	**4350**	**1254**	**4.98**	**4644**	—	—	—
4800	**1141**	**4.24**	**3951**	**1183**	**4.55**	**4239**	**1225**	**4.86**	**4532**	**1265**	**5.18**	**4830**	—	—	—
4900	**1154**	**4.43**	**4130**	**1196**	**4.74**	**4422**	**1237**	**5.06**	**4720**	—	—	—	—	—	—
5000	**1167**	**4.63**	**4314**	**1209**	**4.95**	**4611**	—	—	—	—	—	—	—	—	—
5100	**1181**	**4.83**	**4505**	**1221**	**5.16**	**4808**	—	—	—	—	—	—	—	—	—
5200	**1194**	**5.04**	**4703**	—	—	—	—	—	—	—	—	—	—	—	—
5300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 830 to 1130 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 5.25.
3. See page 74 for General Fan Performance Notes.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS

580F036 (3 TONS) — STANDARD MOTOR (DIRECT DRIVE)

Airflow (Cfm)	Low Speed						High Speed					
	208 V			230, 460, 575 V			208 V			230, 460, 575 V		
	ESP	Bhp	Watts	ESP	Bhp	Watts	ESP	Bhp	Watts	ESP	Bhp	Watts
900	0.54	0.21	253	0.57	0.23	277	0.55	0.26	307	0.60	0.31	363
1000	0.49	0.23	270	0.51	0.25	292	0.52	0.27	321	0.53	0.32	374
1100	0.43	0.24	287	0.45	0.26	307	0.46	0.28	335	0.49	0.33	385
1200	0.39	0.26	304	0.40	0.27	323	0.38	0.29	349	0.43	0.34	397
1300	0.33	0.27	321	0.35	0.29	338	0.35	0.31	364	0.36	0.34	408
1400	0.26	0.29	338	0.28	0.30	354	0.29	0.32	378	—	—	—
1500	0.21	0.30	355	0.23	0.31	369	0.24	0.33	392	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
ESP — External Static Pressure (in. wg)

See page 74 for general fan performance notes.

580F036 (3 TONS) — ALTERNATE MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
900	**607**	**0.14**	**142**	745	0.22	221	856	0.31	304	952	0.39	393	1037	0.49	485
1000	**640**	**0.18**	**174**	775	0.26	261	884	0.35	351	978	0.45	446	**1062**	**0.55**	**545**
1100	**674**	**0.21**	**212**	805	0.31	307	912	0.41	404	1005	0.51	506	**1089**	**0.61**	**611**
1200	708	0.26	256	836	0.36	359	941	0.47	464	1033	0.57	572	**1116**	**0.69**	**683**
1300	743	0.31	307	868	0.42	417	971	0.53	530	**1062**	**0.65**	**645**	**1143**	**0.77**	**764**
1400	780	0.37	364	900	0.49	483	1002	0.61	603	**1091**	**0.73**	**726**	**1172**	**0.86**	**851**
1500	816	0.43	428	934	0.56	556	1033	0.69	685	**1121**	**0.82**	**815**	**1201**	**0.95**	**947**

580F036 (3 TONS) — ALTERNATE MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
900	**1114**	**0.59**	**582**	**1186**	**0.69**	**684**	**1253**	**0.79**	**789**	**1316**	**0.90**	**898**	**1375**	**1.02**	**1010**
1000	**1139**	**0.65**	**648**	**1210**	**0.76**	**754**	**1277**	**0.87**	**865**	**1340**	**0.98**	**979**	**1399**	**1.10**	**1097**
1100	**1165**	**0.72**	**720**	**1236**	**0.84**	**832**	**1302**	**0.95**	**948**	**1364**	**1.07**	**1068**	**1423**	**1.20**	**1191**
1200	**1191**	**0.80**	**799**	**1261**	**0.92**	**917**	**1327**	**1.04**	**1039**	**1389**	**1.17**	**1165**	—	—	—
1300	**1218**	**0.89**	**885**	**1288**	**1.02**	**1010**	**1353**	**1.14**	**1138**	—	—	—	—	—	—
1400	**1246**	**0.99**	**980**	**1315**	**1.12**	**1111**	—	—	—	—	—	—	—	—	—
1500	**1274**	**1.09**	**1083**	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 685 to 1045 rpm. All other rpms require a field-supplied drive.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 1.20.
3. See page 74 for general fan performance notes.

580F036 (3 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
900	**607**	**0.14**	**142**	**745**	**0.22**	**221**	**856**	**0.31**	**304**	**952**	**0.39**	**393**	**1037**	**0.49**	**485**
1000	**640**	**0.18**	**174**	**775**	**0.26**	**261**	**884**	**0.35**	**351**	**978**	**0.45**	**446**	**1062**	**0.55**	**545**
1100	**674**	**0.21**	**212**	**805**	**0.31**	**307**	**912**	**0.41**	**404**	**1005**	**0.51**	**506**	1089	0.61	611
1200	**708**	**0.26**	**256**	**836**	**0.36**	**359**	**941**	**0.47**	**464**	**1033**	**0.57**	**572**	1116	0.69	683
1300	**743**	**0.31**	**307**	**868**	**0.42**	**417**	**971**	**0.53**	**530**	**1062**	**0.65**	**645**	1143	0.77	764
1400	**780**	**0.37**	**364**	**900**	**0.49**	**483**	**1002**	**0.61**	**603**	1091	0.73	726	1172	0.86	851
1500	**816**	**0.43**	**428**	**934**	**0.56**	**556**	**1033**	**0.69**	**685**	1121	0.82	815	1201	0.95	947

580F036 (3 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
900	1114	0.59	582	1186	0.69	684	1253	0.79	789	1316	0.90	898	1375	1.02	1010
1000	1139	0.65	648	1210	0.76	754	1277	0.87	865	1340	0.98	979	1399	1.10	1097
1100	1165	0.72	720	1236	0.84	832	1302	0.95	948	1364	1.07	1068	1423	1.20	1191
1200	1191	0.80	799	1261	0.92	917	1327	1.04	1039	1389	1.17	1165	1448	1.30	1293
1300	1218	0.89	885	1288	1.02	1010	1353	1.14	1138	1414	1.28	1270	**1473**	**1.41**	**1404**
1400	1246	0.99	980	1315	1.12	1111	1379	1.25	1246	1440	1.39	1383	**1499**	**1.53**	**1523**
1500	1274	1.09	1083	1342	1.23	1221	1406	1.37	1362	**1467**	**1.51**	**1505**	**1525**	**1.66**	**1652**

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 1075 to 1455 rpm. All other rpms require a field-supplied drive.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.
3. See page 74 for general fan performance notes.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

580F048 (4 TONS) — STANDARD MOTOR (DIRECT DRIVE)

Airflow (Cfm)	Low Speed						High Speed					
	208 V			230, 460, 575 V			208 V			230, 460, 575 V		
	ESP	Bhp	Watts	ESP	Bhp	Watts	ESP	Bhp	Watts	ESP	Bhp	Watts
1200	0.75	0.41	458	0.81	0.45	506	0.87	0.51	572	0.92	0.56	632
1300	0.68	0.42	471	0.74	0.46	521	0.79	0.52	589	0.85	0.58	651
1400	0.60	0.45	503	0.66	0.49	556	0.71	0.54	616	0.77	0.60	681
1500	0.51	0.47	536	0.58	0.52	593	0.64	0.56	631	0.70	0.62	698
1600	0.42	0.49	557	0.49	0.54	616	0.56	0.58	654	0.63	0.64	723
1700	0.32	0.52	584	0.39	0.57	646	0.48	0.60	678	0.55	0.66	750
1800	0.21	0.54	610	0.29	0.60	674	0.41	0.62	698	0.48	0.68	772
1900	0.09	0.56	629	0.18	0.62	696	0.33	0.64	720	0.41	0.70	796
2000	—	—	—	0.06	0.65	731	0.26	0.66	744	0.33	0.73	823

LEGEND

Bhp — Brake Horsepower Input to Fan
ESP — External Static Pressure (in. wg)

See page 74 for general fan performance notes.

580F048 (4 TONS) — ALTERNATE MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1200	**643**	**0.23**	**234**	**762**	**0.34**	**343**	859	0.46	458	944	0.58	579	1020	0.71	705
1300	**675**	**0.28**	**277**	790	0.40	394	886	0.52	517	969	0.65	644	1044	0.78	777
1400	**707**	**0.33**	**326**	819	0.45	452	913	0.58	581	996	0.72	716	1070	0.86	855
1500	**740**	**0.38**	**382**	849	0.52	515	941	0.66	653	1023	0.80	795	1096	0.95	941
1600	773	0.45	444	879	0.59	586	970	0.73	731	1050	0.88	880	1123	1.04	1034
1700	807	0.52	513	910	0.67	663	999	0.82	817	1078	0.98	973	1150	1.14	1134
1800	841	0.59	589	942	0.75	749	1029	0.91	910	1106	1.08	1074	—	—	—
1900	875	0.68	674	974	0.85	842	1059	1.02	1012	1135	1.19	1184	—	—	—
2000	910	0.77	767	1006	0.95	944	1090	1.13	1122	—	—	—	—	—	—

580F048 (4 TONS) — ALTERNATE MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1200	1089	0.84	837	1153	0.98	974	**1213**	**1.12**	**1115**	—	—	—	—	—	—
1300	1113	0.92	915	**1177**	**1.06**	**1058**	—	—	—	—	—	—	—	—	—
1400	1138	1.01	1000	**1201**	**1.15**	**1149**	—	—	—	—	—	—	—	—	—
1500	1163	1.10	1092	—	—	—	—	—	—	—	—	—	—	—	—
1600	**1189**	**1.20**	**1191**	—	—	—	—	—	—	—	—	—	—	—	—
1700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 770 to 1175 rpm. All other rpms require a field-supplied drive.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 1.20.
3. See page 74 for general fan performance notes.

580F048 (4 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1200	**643**	**0.23**	**234**	**762**	**0.34**	**343**	**859**	**0.46**	**458**	**944**	**0.58**	**579**	**1020**	**0.71**	**705**
1300	**675**	**0.28**	**277**	**790**	**0.40**	**394**	**886**	**0.52**	**517**	**969**	**0.65**	**644**	**1044**	**0.78**	**777**
1400	**707**	**0.33**	**326**	**819**	**0.45**	**452**	**913**	**0.58**	**581**	**996**	**0.72**	**716**	**1070**	**0.86**	**855**
1500	**740**	**0.38**	**382**	**849**	**0.52**	**515**	**941**	**0.66**	**653**	**1023**	**0.80**	**795**	1096	0.95	941
1600	**773**	**0.45**	**444**	**879**	**0.59**	**586**	**970**	**0.73**	**731**	**1050**	**0.88**	**880**	1123	1.04	1034
1700	**807**	**0.52**	**513**	**910**	**0.67**	**663**	**999**	**0.82**	**817**	1078	0.98	973	1150	1.14	1134
1800	**841**	**0.59**	**589**	**942**	**0.75**	**749**	**1029**	**0.91**	**910**	1106	1.08	1074	1177	1.25	1242
1900	**875**	**0.68**	**674**	**974**	**0.85**	**842**	**1059**	**1.02**	**1012**	1135	1.19	1184	1205	1.37	1360
2000	**910**	**0.77**	**767**	**1006**	**0.95**	**944**	1090	1.13	1122	1165	1.31	1302	1234	1.49	1485

580F048 (4 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1200	1089	0.84	837	1153	0.98	974	1213	1.12	1115	1270	1.27	1262	1324	1.42	1413
1300	1113	0.92	915	1177	1.06	1058	1237	1.21	1205	1293	1.36	1358	1347	1.52	1514
1400	1138	1.01	1000	1201	1.15	1149	1261	1.31	1303	1317	1.47	1461	1370	1.63	1623
1500	1163	1.10	1092	1226	1.25	1247	1285	1.41	1407	1341	1.58	1571	1394	1.75	1740
1600	1189	1.20	1191	1252	1.36	1353	1310	1.53	1520	1365	1.70	1690	1418	1.87	1865
1700	1216	1.31	1299	1277	1.48	1468	1335	1.65	1640	1390	1.83	1817	1442	2.01	1998
1800	1242	1.42	1414	1303	1.60	1590	1361	1.78	1770	1415	1.96	1953	**1467**	**2.15**	**2140**
1900	1270	1.55	1538	1330	1.73	1721	1387	1.92	1908	1441	2.11	2098	**1493**	**2.30**	**2292**
2000	1297	1.68	1672	1357	1.87	1862	1414	2.07	2055	**1467**	**2.26**	**2252**	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 1075 to 1455 rpm. All other rpms require a field-supplied drive.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.
3. See page 74 for general fan performance notes.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

580F060 (5 TONS) — STANDARD MOTOR (DIRECT DRIVE)

Airflow (Cfm)	Low Speed						Medium Speed						High Speed					
	208V			230, 460, 575 V			208 V			230, 460, 575 V			208 V			230, 460, 575 V		
	ESP	Bhp	Watts	ESP	Bhp	Watts	ESP	Bhp	Watts	ESP	Bhp	Watts	ESP	Bhp	Watts	ESP	Bhp	Watts
1500	0.74	0.67	750	1.06	0.71	791	1.07	0.70	782	1.27	0.76	845	1.26	0.79	875	1.33	0.85	949
1600	0.54	0.70	780	0.90	0.74	824	0.92	0.74	821	1.13	0.79	883	1.14	0.82	913	1.22	0.89	988
1700	0.34	0.73	810	0.75	0.77	857	0.77	0.77	861	1.00	0.83	921	1.01	0.85	950	1.11	0.92	1027
1800	0.14	0.75	839	0.59	0.80	891	0.62	0.81	900	0.87	0.86	959	0.89	0.88	988	1.00	0.96	1066
1900	—	—	—	0.44	0.83	924	0.47	0.84	940	0.74	0.90	997	0.77	0.92	1025	0.89	0.99	1105
2000	—	—	—	0.28	0.86	957	0.32	0.88	979	0.61	0.93	1035	0.64	0.95	1063	0.78	1.03	1144
2100	—	—	—	0.13	0.89	990	0.17	0.91	1018	0.48	0.96	1073	0.51	0.99	1101	0.67	1.06	1183
2200	—	—	—	—	—	—	0.02	0.95	1058	0.35	1.00	1111	0.39	1.02	1138	0.56	1.10	1222
2300	—	—	—	—	—	—	—	—	—	0.22	1.03	1149	0.26	1.06	1176	0.45	1.13	1261
2400	—	—	—	—	—	—	—	—	—	0.09	1.07	1187	0.14	1.09	1213	0.34	1.17	1300
2500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.23	1.20	1340

LEGEND

Bhp — Brake Horsepower Input to Fan
ESP — External Static Pressure (in. wg)

See page 74 for general fan performance notes.

580F060 (5 TONS) — THREE-PHASE, ALTERNATE MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	**790**	**0.40**	**353**	896	0.53	470	990	0.67	599	1074	0.83	738	1151	1.00	886
1600	**828**	**0.46**	**413**	930	0.60	535	1021	0.75	669	1103	0.91	812	1179	1.09	965
1700	**866**	**0.54**	**479**	964	0.68	607	1053	0.84	746	1133	1.01	894	**1207**	**1.18**	**1051**
1800	905	0.62	553	1000	0.77	687	1085	0.94	831	1164	1.11	984	**1236**	**1.29**	**1146**
1900	944	0.71	635	1036	0.87	775	1119	1.04	924	**1195**	**1.22**	**1082**	**1266**	**1.41**	**1248**
2000	984	0.82	725	1072	0.98	871	1153	1.15	1025	**1227**	**1.34**	**1189**	**1297**	**1.53**	**1360**
2100	1024	0.93	824	1109	1.10	976	1188	1.28	1136	**1260**	**1.47**	**1305**	**1328**	**1.67**	**1481**
2200	1064	1.05	932	1147	1.23	1090	**1223**	**1.41**	**1256**	**1294**	**1.61**	**1430**	**1360**	**1.81**	**1612**
2300	1105	1.18	1050	1185	1.37	1215	**1259**	**1.56**	**1386**	**1328**	**1.76**	**1566**	**1393**	**1.97**	**1752**
2400	1146	1.33	1179	**1223**	**1.52**	**1349**	**1295**	**1.72**	**1527**	**1362**	**1.93**	**1711**	**1426**	**2.14**	**1903**
2500	1187	1.48	1317	**1262**	**1.68**	**1494**	**1332**	**1.89**	**1677**	**1398**	**2.10**	**1868**	**1460**	**2.33**	**2065**

580F060 (5 TONS) — THREE-PHASE, ALTERNATE MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	**1223**	**1.18**	**1045**	**1291**	**1.36**	**1212**	**1355**	**1.56**	**1388**	**1415**	**1.77**	**1573**	**1473**	**1.99**	**1765**
1600	**1249**	**1.27**	**1127**	**1316**	**1.46**	**1298**	**1379**	**1.66**	**1478**	**1439**	**1.87**	**1665**	**1496**	**2.09**	**1860**
1700	**1277**	**1.37**	**1217**	**1342**	**1.57**	**1392**	**1404**	**1.77**	**1575**	**1463**	**1.99**	**1766**	**1520**	**2.21**	**1965**
1800	**1305**	**1.48**	**1316**	**1369**	**1.68**	**1495**	**1430**	**1.89**	**1681**	**1489**	**2.11**	**1876**	**1545**	**2.34**	**2078**
1900	**1333**	**1.60**	**1423**	**1397**	**1.81**	**1606**	**1457**	**2.02**	**1797**	**1514**	**2.25**	**1995**	—	—	—
2000	**1363**	**1.73**	**1540**	**1425**	**1.94**	**1727**	**1484**	**2.16**	**1922**	**1541**	**2.39**	**2124**	—	—	—
2100	**1393**	**1.87**	**1665**	**1454**	**2.09**	**1857**	**1512**	**2.31**	**2056**	—	—	—	—	—	—
2200	**1424**	**2.03**	**1801**	**1484**	**2.25**	**1997**	—	—	—	—	—	—	—	—	—
2300	**1455**	**2.19**	**1946**	—	—	—	—	—	—	—	—	—	—	—	—
2400	**1487**	**2.37**	**2103**	—	—	—	—	—	—	—	—	—	—	—	—
2500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 900 to 1300 rpm. All other rpms require a field-supplied drive.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.
3. See page 74 for general fan performance notes.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

580F060 (5 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	**790**	**0.40**	**353**	**896**	**0.53**	**470**	**990**	**0.67**	**599**	**1074**	**0.83**	**738**	**1151**	**1.00**	**886**
1600	**828**	**0.46**	**413**	**930**	**0.60**	**535**	**1021**	**0.75**	**669**	**1103**	**0.91**	**812**	**1179**	**1.09**	**965**
1700	**866**	**0.54**	**479**	**964**	**0.68**	**607**	**1053**	**0.84**	**746**	**1133**	**1.01**	**894**	**1207**	**1.18**	**1051**
1800	**905**	**0.62**	**553**	**1000**	**0.77**	**687**	**1085**	**0.94**	**831**	**1164**	**1.11**	**984**	**1236**	**1.29**	**1146**
1900	**944**	**0.71**	**635**	**1036**	**0.87**	**775**	**1119**	**1.04**	**924**	**1195**	**1.22**	**1082**	**1266**	**1.41**	**1248**
2000	**984**	**0.82**	**725**	**1072**	**0.98**	**871**	**1153**	**1.15**	**1025**	**1227**	**1.34**	**1189**	**1297**	**1.53**	**1360**
2100	**1024**	**0.93**	**824**	**1109**	**1.10**	**976**	**1188**	**1.28**	**1136**	**1260**	**1.47**	**1305**	1328	1.67	1481
2200	**1064**	**1.05**	**932**	**1147**	**1.23**	**1090**	**1223**	**1.41**	**1256**	**1294**	**1.61**	**1430**	1360	1.81	1612
2300	**1105**	**1.18**	**1050**	**1185**	**1.37**	**1215**	**1259**	**1.56**	**1386**	1328	1.76	1566	1393	1.97	1752
2400	**1146**	**1.33**	**1179**	**1223**	**1.52**	**1349**	**1295**	**1.72**	**1527**	1362	1.93	1711	1426	2.14	1903
2500	**1187**	**1.48**	**1317**	**1262**	**1.68**	**1494**	1332	1.89	1677	1398	2.10	1868	1460	2.33	2065

580F060 (5 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	**1223**	**1.18**	**1045**	**1291**	**1.36**	**1212**	1355	1.56	1388	1415	1.77	1573	1473	1.99	1765
1600	**1249**	**1.27**	**1127**	1316	1.46	1298	1379	1.66	1478	1439	1.87	1665	1496	2.09	1860
1700	**1277**	**1.37**	**1217**	1342	1.57	1392	1404	1.77	1575	1463	1.99	1766	1520	2.21	1965
1800	1305	1.48	1316	1369	1.68	1495	1430	1.89	1681	1489	2.11	1876	1545	2.34	2078
1900	1333	1.60	1423	1397	1.81	1606	1457	2.02	1797	1514	2.25	1995	1570	2.48	2200
2000	1363	1.73	1540	1425	1.94	1727	1484	2.16	1922	1541	2.39	2124	1596	2.63	2333
2100	1393	1.87	1665	1454	2.09	1857	1512	2.31	2056	1568	2.55	2262	1622	2.79	2475
2200	1424	2.03	1801	1484	2.25	1997	1541	2.48	2200	1596	2.71	2411	—	—	—
2300	1455	2.19	1946	1514	2.42	2147	1571	2.65	2355	1625	2.89	2570	—	—	—
2400	1487	2.37	2103	1545	2.60	2308	1601	2.84	2521	—	—	—	—	—	—
2500	1520	2.56	2269	1577	2.79	2480	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 1300 to 1685 rpm. All other rpms require a field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.90.
3. See page 74 for general fan performance notes.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

580F072,073 (6 TONS) — STANDARD MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1800	**919**	**0.63**	**561**	**1010**	**0.75**	**663**	1095	0.87	771	1174	1.00	886	1250	1.14	1008
1900	**960**	**0.73**	**648**	**1047**	**0.85**	**754**	1129	0.98	867	1206	1.11	986	1279	1.25	1111
2000	**1001**	**0.84**	**744**	1085	0.96	855	1163	1.09	972	1238	1.23	1095	1309	1.38	1224
2100	**1043**	**0.96**	**850**	1123	1.09	965	1199	1.22	1086	1271	1.37	1213	1340	1.52	1346
2200	1085	1.09	966	1162	1.22	1086	1235	1.36	1211	1305	1.51	1342	1372	1.67	1479
2300	1127	1.23	1092	1201	1.37	1217	1272	1.52	1347	1340	1.67	1482	1405	1.83	1623
2400	1169	1.38	1229	1241	1.53	1359	1310	1.68	1493	1375	1.84	1633	1439	2.00	1778
2500	1212	1.55	1378	1281	1.70	1513	1348	1.86	1652	1412	2.02	1796	**1473**	**2.19**	**1945**
2600	1255	1.73	1539	1322	1.89	1678	1386	2.05	1822	1448	2.22	1970	**1508**	**2.39**	**2124**
2700	1298	1.93	1713	1363	2.09	1857	1425	2.26	2005	—	—	—	—	—	—
2800	1341	2.14	1899	1404	2.31	2048	—	—	—	—	—	—	—	—	—
2900	1384	2.36	2099	—	—	—	—	—	—	—	—	—	—	—	—
3000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

580F072,073 (6 TONS) — STANDARD MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1800	1321	1.28	1137	1390	1.43	1273	1455	1.59	1415	**1518**	**1.76**	**1563**	**1579**	**1.93**	**1718**
1900	1348	1.40	1243	1415	1.56	1381	**1479**	**1.72**	**1526**	**1541**	**1.89**	**1677**	**1601**	**2.06**	**1834**
2000	1377	1.53	1359	1442	1.69	1500	**1505**	**1.86**	**1648**	**1565**	**2.03**	**1801**	**1624**	**2.21**	**1961**
2100	1406	1.67	1485	**1470**	**1.83**	**1629**	**1531**	**2.00**	**1780**	**1591**	**2.18**	**1936**	**1648**	**2.36**	**2098**
2200	1437	1.83	1621	**1499**	**1.99**	**1769**	**1559**	**2.16**	**1923**	**1617**	**2.34**	**2082**	—	—	—
2300	**1468**	**1.99**	**1769**	**1529**	**2.16**	**1920**	**1587**	**2.34**	**2077**	—	—	—	—	—	—
2400	**1500**	**2.17**	**1928**	**1559**	**2.35**	**2083**	—	—	—	—	—	—	—	—	—
2500	**1533**	**2.36**	**2098**	—	—	—	—	—	—	—	—	—	—	—	—
2600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 1070 to 1460 rpm. All other rpms require a field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.
3. See page 74 for general fan performance notes.

580F072,073 (6 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1800	**919**	**0.63**	**561**	**1010**	**0.75**	**663**	**1095**	**0.87**	**771**	**1174**	**1.00**	**886**	**1250**	**1.14**	**1008**
1900	**960**	**0.73**	**648**	**1047**	**0.85**	**754**	**1129**	**0.98**	**867**	**1206**	**1.11**	**986**	**1279**	**1.25**	**1111**
2000	**1001**	**0.84**	**744**	**1085**	**0.96**	**855**	**1163**	**1.09**	**972**	**1238**	**1.23**	**1095**	1309	1.38	1224
2100	**1043**	**0.96**	**850**	**1123**	**1.09**	**965**	**1199**	**1.22**	**1086**	**1271**	**1.37**	**1213**	1340	1.52	1346
2200	**1085**	**1.09**	**966**	**1162**	**1.22**	**1086**	**1235**	**1.36**	**1211**	1305	1.51	1342	1372	1.67	1479
2300	**1127**	**1.23**	**1092**	**1201**	**1.37**	**1217**	**1272**	**1.52**	**1347**	1340	1.67	1482	1405	1.83	1623
2400	**1169**	**1.38**	**1229**	**1241**	**1.53**	**1359**	1310	1.68	1493	1375	1.84	1633	1439	2.00	1778
2500	**1212**	**1.55**	**1378**	**1281**	**1.70**	**1513**	1348	1.86	1652	1412	2.02	1796	1473	2.19	1945
2600	**1255**	**1.73**	**1539**	1322	1.89	1678	1386	2.05	1822	1448	2.22	1970	1508	2.39	2124
2700	**1298**	**1.93**	**1713**	1363	2.09	1857	1425	2.26	2005	1485	2.43	2158	1544	2.61	2315
2800	1341	2.14	1899	1404	2.31	2048	1464	2.48	2201	1523	2.66	2358	1580	2.84	2520
2900	1384	2.36	2099	1445	2.54	2253	1504	2.71	2410	1561	2.90	2572	—	—	—
3000	1428	2.60	2313	1487	2.78	2471	—	—	—	—	—	—	—	—	—

580F072,073 (6 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1800	1321	1.28	1137	1390	1.43	1273	1455	1.59	1415	1518	1.76	1563	1579	1.93	1718
1900	1348	1.40	1243	1415	1.56	1381	1479	1.72	1526	1541	1.89	1677	1601	2.06	1834
2000	1377	1.53	1359	1442	1.69	1500	1505	1.86	1648	1565	2.03	1801	1624	2.21	1961
2100	1406	1.67	1485	1470	1.83	1629	1531	2.00	1780	1591	2.18	1936	1648	2.36	2098
2200	1437	1.83	1621	1499	1.99	1769	1559	2.16	1923	1617	2.34	2082	1673	2.53	2246
2300	1468	1.99	1769	1529	2.16	1920	1587	2.34	2077	1644	2.52	2239	**1699**	**2.71**	**2406**
2400	1500	2.17	1928	1559	2.35	2083	1616	2.53	2243	1672	2.71	2408	**1726**	**2.90**	**2579**
2500	1533	2.36	2098	1591	2.54	2257	1647	2.73	2421	—	—	—	—	—	—
2600	1566	2.57	2281	1623	2.75	2444	—	—	—	—	—	—	—	—	—
2700	1600	2.79	2477	—	—	—	—	—	—	—	—	—	—	—	—
2800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 1300 to 1685 rpm. All other rpms require a field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.90.
3. See page 74 for general fan performance notes.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

580F090,091 (7 1/2 TONS) — STANDARD MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	**505**	**0.52**	**484**	**586**	**0.73**	**681**	657	0.97	901	722	1.22	1142	782	1.50	1403
2300	**513**	**0.55**	**509**	592	0.76	708	663	1.00	931	727	1.26	1174	787	1.54	1437
2400	**527**	**0.60**	**561**	605	0.82	766	674	1.07	993	738	1.33	1241	796	1.62	1508
2500	**543**	**0.66**	**617**	618	0.89	828	686	1.14	1060	748	1.41	1312	806	1.70	1583
2550	**550**	**0.69**	**647**	625	0.92	860	692	1.17	1095	754	1.45	1349	811	1.74	1623
2600	**558**	**0.73**	**677**	632	0.96	894	698	1.21	1131	759	1.49	1388	816	1.78	1664
2700	**574**	**0.80**	**742**	645	1.03	964	710	1.29	1207	770	1.58	1469	826	1.88	1749
2800	**589**	**0.87**	**811**	659	1.11	1039	723	1.38	1287	782	1.67	1554	837	1.97	1839
2900	605	0.95	885	673	1.20	1119	736	1.47	1372	794	1.76	1644	**848**	**2.07**	**1933**
3000	621	1.03	963	688	1.29	1204	749	1.57	1463	806	1.87	1740	**859**	**2.18**	**2033**
3100	637	1.12	1046	702	1.39	1293	762	1.67	1558	818	1.97	1840	**871**	**2.29**	**2139**
3200	654	1.22	1135	717	1.49	1388	776	1.78	1658	831	2.09	1946	—	—	—
3300	670	1.32	1228	732	1.60	1488	789	1.89	1764	**843**	**2.21**	**2057**	—	—	—
3400	686	1.42	1328	747	1.71	1593	803	2.01	1876	**856**	**2.33**	**2174**	—	—	—
3500	703	1.54	1433	762	1.83	1705	817	2.14	1993	—	—	—	—	—	—
3600	720	1.66	1543	777	1.95	1822	832	2.27	2116	—	—	—	—	—	—
3700	736	1.78	1660	793	2.09	1944	—	—	—	—	—	—	—	—	—
3750	745	1.85	1721	801	2.15	2008	—	—	—	—	—	—	—	—	—

580F090,091 (7 1/2 TONS) — STANDARD MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	838	1.81	1683	**891**	**2.12**	**1981**	—	—	—	—	—	—	—	—	—
2300	**842**	**1.84**	**1719**	**895**	**2.17**	**2019**	—	—	—	—	—	—	—	—	—
2400	**851**	**1.92**	**1793**	**903**	**2.25**	**2097**	—	—	—	—	—	—	—	—	—
2500	**860**	**2.01**	**1873**	**911**	**2.34**	**2180**	—	—	—	—	—	—	—	—	—
2550	**865**	**2.05**	**1914**	**916**	**2.38**	**2223**	—	—	—	—	—	—	—	—	—
2600	**869**	**2.10**	**1957**	—	—	—	—	—	—	—	—	—	—	—	—
2700	**879**	**2.19**	**2046**	—	—	—	—	—	—	—	—	—	—	—	—
2800	**889**	**2.29**	**2140**	—	—	—	—	—	—	—	—	—	—	—	—
2900	**899**	**2.40**	**2239**	—	—	—	—	—	—	—	—	—	—	—	—
3000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3750	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 590 to 840 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.
3. See page 74 for General Fan Performance Notes.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

580F090,091 (7 1/2 TONS) — ALTERNATE MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	**505**	**0.52**	**484**	**586**	**0.73**	**681**	**657**	**0.97**	**901**	722	1.22	1142	782	1.50	1403
2300	**513**	**0.55**	**509**	**592**	**0.76**	**708**	**663**	**1.00**	**931**	727	1.26	1174	787	1.54	1437
2400	**527**	**0.60**	**561**	**605**	**0.82**	**766**	**674**	**1.07**	**993**	738	1.33	1241	796	1.62	1508
2500	**543**	**0.66**	**617**	**618**	**0.89**	**828**	686	1.14	1060	748	1.41	1312	806	1.70	1583
2550	**550**	**0.69**	**647**	**625**	**0.92**	**860**	692	1.17	1095	754	1.45	1349	811	1.74	1623
2600	**558**	**0.73**	**677**	**632**	**0.96**	**894**	698	1.21	1131	759	1.49	1388	816	1.78	1664
2700	**574**	**0.80**	**742**	**645**	**1.03**	**964**	710	1.29	1207	770	1.58	1469	826	1.88	1749
2800	**589**	**0.87**	**811**	**659**	**1.11**	**1039**	723	1.38	1287	782	1.67	1554	837	1.97	1839
2900	**605**	**0.95**	**885**	**673**	**1.20**	**1119**	736	1.47	1372	794	1.76	1644	848	2.07	1933
3000	**621**	**1.03**	**963**	688	1.29	1204	749	1.57	1463	806	1.87	1740	859	2.18	2033
3100	**637**	**1.12**	**1046**	702	1.39	1293	762	1.67	1558	818	1.97	1840	871	2.29	2139
3200	**654**	**1.22**	**1135**	717	1.49	1388	776	1.78	1658	831	2.09	1946	—	—	—
3300	**670**	**1.32**	**1228**	732	1.60	1488	789	1.89	1764	843	2.21	2057	—	—	—
3400	686	1.42	1328	747	1.71	1593	803	2.01	1876	856	2.33	2174	—	—	—
3500	703	1.54	1433	762	1.83	1705	817	2.14	1993	—	—	—	—	—	—
3600	720	1.66	1543	777	1.95	1822	832	2.27	2116	—	—	—	—	—	—
3700	736	1.78	1660	793	2.09	1944	—	—	—	—	—	—	—	—	—
3750	745	1.85	1721	801	2.15	2008	—	—	—	—	—	—	—	—	—

580F090,091 (7 1/2 TONS) — ALTERNATE MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	838	1.81	1683	891	2.12	1981	—	—	—	—	—	—	—	—	—
2300	842	1.84	1719	895	2.17	2019	—	—	—	—	—	—	—	—	—
2400	851	1.92	1793	903	2.25	2097	—	—	—	—	—	—	—	—	—
2500	860	2.01	1873	911	2.34	2180	—	—	—	—	—	—	—	—	—
2550	865	2.05	1914	916	2.38	2223	—	—	—	—	—	—	—	—	—
2600	869	2.10	1957	—	—	—	—	—	—	—	—	—	—	—	—
2700	879	2.19	2046	—	—	—	—	—	—	—	—	—	—	—	—
2800	889	2.29	2140	—	—	—	—	—	—	—	—	—	—	—	—
2900	899	2.40	2239	—	—	—	—	—	—	—	—	—	—	—	—
3000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3750	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 685 to 935 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.
3. See page 74 for General Fan Performance Notes.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

580F090,091 (7 1/2 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	**505**	**0.52**	**484**	**586**	**0.73**	**681**	**657**	**0.97**	**901**	**722**	**1.22**	**1142**	**782**	**1.50**	**1403**
2300	**513**	**0.55**	**509**	**592**	**0.76**	**708**	**663**	**1.00**	**931**	**727**	**1.26**	**1174**	**787**	**1.54**	**1437**
2400	**527**	**0.60**	**561**	**605**	**0.82**	**766**	**674**	**1.07**	**993**	**738**	**1.33**	**1241**	**796**	**1.62**	**1508**
2500	**543**	**0.66**	**617**	**618**	**0.89**	**828**	**686**	**1.14**	**1060**	**748**	**1.41**	**1312**	**806**	**1.70**	**1583**
2550	**550**	**0.69**	**647**	**625**	**0.92**	**860**	**692**	**1.17**	**1095**	**754**	**1.45**	**1349**	**811**	**1.74**	**1623**
2600	**558**	**0.73**	**677**	**632**	**0.96**	**894**	**698**	**1.21**	**1131**	**759**	**1.49**	**1388**	**816**	**1.78**	**1664**
2700	**574**	**0.80**	**742**	**645**	**1.03**	**964**	**710**	**1.29**	**1207**	**770**	**1.58**	**1469**	**826**	**1.88**	**1749**
2800	**589**	**0.87**	**811**	**659**	**1.11**	**1039**	**723**	**1.38**	**1287**	**782**	**1.67**	**1554**	**837**	**1.97**	**1839**
2900	**605**	**0.95**	**885**	**673**	**1.20**	**1119**	**736**	**1.47**	**1372**	**794**	**1.76**	**1644**	**848**	**2.07**	**1933**
3000	**621**	**1.03**	**963**	**688**	**1.29**	**1204**	**749**	**1.57**	**1463**	**806**	**1.87**	**1740**	**859**	**2.18**	**2033**
3100	**637**	**1.12**	**1046**	**702**	**1.39**	**1293**	**762**	**1.67**	**1558**	**818**	**1.97**	**1840**	871	2.29	2139
3200	**654**	**1.22**	**1135**	**717**	**1.49**	**1388**	**776**	**1.78**	**1658**	**831**	**2.09**	**1946**	882	2.41	2249
3300	**670**	**1.32**	**1228**	**732**	**1.60**	**1488**	**789**	**1.89**	**1764**	**843**	**2.21**	**2057**	894	2.54	2365
3400	**686**	**1.42**	**1328**	**747**	**1.71**	**1593**	**803**	**2.01**	**1876**	**856**	**2.33**	**2174**	907	2.67	2488
3500	**703**	**1.54**	**1433**	**762**	**1.83**	**1705**	**817**	**2.14**	**1993**	870	2.46	2297	919	2.81	2616
3600	**720**	**1.66**	**1543**	**777**	**1.95**	**1822**	**832**	**2.27**	**2116**	883	2.60	2425	932	2.95	2750
3700	**736**	**1.78**	**1660**	**793**	**2.09**	**1944**	**846**	**2.41**	**2245**	896	2.75	2560	944	3.10	2889
3750	**745**	**1.85**	**1721**	**801**	**2.15**	**2008**	**853**	**2.48**	**2312**	903	2.82	2630	951	3.18	2962

580F090,091 (7 1/2 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	**838**	**1.81**	**1683**	891	2.12	1981	941	2.46	2297	988	2.82	2629	1033	3.19	2976
2300	**842**	**1.84**	**1719**	895	2.17	2019	944	2.51	2336	992	2.86	2669	1037	3.24	3018
2400	**851**	**1.92**	**1793**	903	2.25	2097	952	2.59	2416	999	2.95	2752	1043	3.33	3104
2500	860	2.01	1873	911	2.34	2180	960	2.68	2502	1006	3.05	2842	1051	3.43	3196
2550	865	2.05	1914	916	2.38	2223	964	2.73	2547	1010	3.10	2888	1054	3.48	3243
2600	869	2.10	1957	920	2.43	2267	968	2.78	2593	1014	3.15	2935	1058	3.53	3292
2700	879	2.19	2046	929	2.53	2360	976	2.88	2689	1022	3.25	3035	1066	3.64	3395
2800	889	2.29	2140	938	2.64	2458	985	2.99	2791	1030	3.37	3140	—	—	—
2900	899	2.40	2239	948	2.75	2561	994	3.11	2898	1039	3.49	3250	—	—	—
3000	910	2.51	2343	958	2.86	2670	1004	3.23	3011	1048	3.61	3366	—	—	—
3100	921	2.63	2453	968	2.98	2783	1013	3.35	3128	—	—	—	—	—	—
3200	932	2.75	2569	978	3.11	2903	1023	3.49	3252	—	—	—	—	—	—
3300	943	2.88	2690	989	3.25	3029	1033	3.63	3382	—	—	—	—	—	—
3400	954	3.02	2816	1000	3.39	3159	—	—	—	—	—	—	—	—	—
3500	966	3.16	2950	1011	3.54	3297	—	—	—	—	—	—	—	—	—
3600	978	3.31	3088	1022	3.69	3442	—	—	—	—	—	—	—	—	—
3700	990	3.47	3233	—	—	—	—	—	—	—	—	—	—	—	—
3750	996	3.55	3308	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 860 to 1080 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 3.70.
3. See page 74 for General Fan Performance Notes.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

580F103 (8 1/2 TONS) — STANDARD MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2550	**550**	**0.69**	**647**	**625**	**0.92**	**860**	692	1.17	1095	754	1.45	1349	811	1.74	1623
2600	**558**	**0.73**	**677**	**632**	**0.96**	**894**	698	1.21	1131	759	1.49	1388	816	1.78	1664
2700	**574**	**0.80**	**742**	**645**	**1.03**	**964**	710	1.29	1207	770	1.58	1469	826	1.88	1749
2800	**589**	**0.87**	**811**	**659**	**1.11**	**1039**	723	1.38	1287	782	1.67	1554	837	1.97	1839
2900	**605**	**0.95**	**885**	**673**	**1.20**	**1119**	736	1.47	1372	794	1.76	1644	848	2.07	1933
3000	**621**	**1.03**	**963**	688	1.29	1204	749	1.57	1463	806	1.87	1740	859	2.18	2033
3100	**637**	**1.12**	**1046**	702	1.39	1293	762	1.67	1558	818	1.97	1840	871	2.29	2139
3200	**654**	**1.22**	**1135**	717	1.49	1388	776	1.78	1658	831	2.09	1946	—	—	—
3300	**670**	**1.32**	**1228**	732	1.60	1488	789	1.89	1764	843	2.21	2057	—	—	—
3400	686	1.42	1328	747	1.71	1593	803	2.01	1876	856	2.33	2174	—	—	—
3500	703	1.54	1433	762	1.83	1705	817	2.14	1993	—	—	—	—	—	—
3600	720	1.66	1543	777	1.95	1822	832	2.27	2116	—	—	—	—	—	—
3700	736	1.78	1660	793	2.09	1944	—	—	—	—	—	—	—	—	—
3750	745	1.85	1721	801	2.15	2008	—	—	—	—	—	—	—	—	—
3800	753	1.91	1783	808	2.22	2074	—	—	—	—	—	—	—	—	—
3900	770	2.05	1912	824	2.37	2209	—	—	—	—	—	—	—	—	—
4000	787	2.20	2047	—	—	—	—	—	—	—	—	—	—	—	—
4100	804	2.35	2189	—	—	—	—	—	—	—	—	—	—	—	—
4200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4250	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

580F103 (8 1/2 TONS) — STANDARD MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2550	865	2.05	1914	916	2.38	2223	—	—	—	—	—	—	—	—	—
2600	869	2.10	1957	—	—	—	—	—	—	—	—	—	—	—	—
2700	879	2.19	2046	—	—	—	—	—	—	—	—	—	—	—	—
2800	889	2.29	2140	—	—	—	—	—	—	—	—	—	—	—	—
2900	899	2.40	2239	—	—	—	—	—	—	—	—	—	—	—	—
3000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3750	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4250	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 685 to 935 rpm. All other rpms require field- supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.
3. See page 74 for General Fan Performance Notes.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

580F103 (8 1/2 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2550	**550**	**0.69**	**647**	**625**	**0.92**	**860**	**692**	**1.17**	**1095**	**754**	**1.45**	**1349**	**811**	**1.74**	**1623**
2600	**558**	**0.73**	**677**	**632**	**0.96**	**894**	**698**	**1.21**	**1131**	**759**	**1.49**	**1388**	**816**	**1.78**	**1664**
2700	**574**	**0.80**	**742**	**645**	**1.03**	**964**	**710**	**1.29**	**1207**	**770**	**1.58**	**1469**	**826**	**1.88**	**1749**
2800	**589**	**0.87**	**811**	**659**	**1.11**	**1039**	**723**	**1.38**	**1287**	**782**	**1.67**	**1554**	**837**	**1.97**	**1839**
2900	**605**	**0.95**	**885**	**673**	**1.20**	**1119**	**736**	**1.47**	**1372**	**794**	**1.76**	**1644**	**848**	**2.07**	**1933**
3000	**621**	**1.03**	**963**	**688**	**1.29**	**1204**	**749**	**1.57**	**1463**	**806**	**1.87**	**1740**	**859**	**2.18**	**2033**
3100	**637**	**1.12**	**1046**	**702**	**1.39**	**1293**	**762**	**1.67**	**1558**	**818**	**1.97**	**1840**	871	2.29	2139
3200	**654**	**1.22**	**1135**	**717**	**1.49**	**1388**	**776**	**1.78**	**1658**	**831**	**2.09**	**1946**	882	2.41	2249
3300	**670**	**1.32**	**1228**	**732**	**1.60**	**1488**	**789**	**1.89**	**1764**	**843**	**2.21**	**2057**	894	2.54	2365
3400	**686**	**1.42**	**1328**	**747**	**1.71**	**1593**	**803**	**2.01**	**1876**	**856**	**2.33**	**2174**	907	2.67	2488
3500	**703**	**1.54**	**1433**	**762**	**1.83**	**1705**	**817**	**2.14**	**1993**	870	2.46	2297	919	2.81	2616
3600	**720**	**1.66**	**1543**	**777**	**1.95**	**1822**	**832**	**2.27**	**2116**	883	2.60	2425	932	2.95	2750
3700	**736**	**1.78**	**1660**	**793**	**2.09**	**1944**	**846**	**2.41**	**2245**	896	2.75	2560	944	3.10	2889
3750	**745**	**1.85**	**1721**	**801**	**2.15**	**2008**	**853**	**2.48**	**2312**	903	2.82	2630	951	3.18	2962
3800	**753**	**1.91**	**1783**	**808**	**2.22**	**2074**	861	2.55	2380	910	2.90	2701	957	3.26	3036
3900	**770**	**2.05**	**1912**	**824**	**2.37**	**2209**	875	2.70	2522	924	3.05	2848	970	3.42	3189
4000	**787**	**2.20**	**2047**	**840**	**2.52**	**2351**	890	2.86	2669	938	3.22	3002	984	3.59	3348
4100	**804**	**2.35**	**2189**	**856**	**2.68**	**2499**	905	3.03	2824	952	3.39	3162	—	—	—
4200	**821**	**2.51**	**2338**	872	2.85	2655	920	3.20	2986	967	3.57	3331	—	—	—
4250	**829**	**2.59**	**2415**	880	2.93	2735	928	3.29	3069	974	3.66	3417	—	—	—

580F103 (8 1/2 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2550	865	2.05	1914	916	2.38	2223	964	2.73	2547	1010	3.10	2888	1054	3.48	3243
2600	869	2.10	1957	920	2.43	2267	968	2.78	2593	1014	3.15	2935	1058	3.53	3292
2700	879	2.19	2046	929	2.53	2360	976	2.88	2689	1022	3.25	3035	1066	3.64	3395
2800	889	2.29	2140	938	2.64	2458	985	2.99	2791	1030	3.37	3140	—	—	—
2900	899	2.40	2239	948	2.75	2561	994	3.11	2898	1039	3.49	3250	—	—	—
3000	910	2.51	2343	958	2.86	2670	1004	3.23	3011	1048	3.61	3366	—	—	—
3100	921	2.63	2453	968	2.98	2783	1013	3.35	3128	—	—	—	—	—	—
3200	932	2.75	2569	978	3.11	2903	1023	3.49	3252	—	—	—	—	—	—
3300	943	2.88	2690	989	3.25	3029	1033	3.63	3382	—	—	—	—	—	—
3400	954	3.02	2816	1000	3.39	3159	—	—	—	—	—	—	—	—	—
3500	966	3.16	2950	1011	3.54	3297	—	—	—	—	—	—	—	—	—
3600	978	3.31	3088	1022	3.69	3442	—	—	—	—	—	—	—	—	—
3700	990	3.47	3233	—	—	—	—	—	—	—	—	—	—	—	—
3750	996	3.55	3308	—	—	—	—	—	—	—	—	—	—	—	—
3800	1002	3.63	3385	—	—	—	—	—	—	—	—	—	—	—	—
3900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4250	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 860 to 1080 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 3.70.
3. See page 74 for General Fan Performance Notes.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

580F120,121 (10 TONS) — STANDARD MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	**555**	**0.72**	**630**	**629**	**0.87**	**765**	696	1.03	904	757	1.19	1048	814	1.36	1198
3100	**568**	**0.78**	**686**	**641**	**0.94**	**825**	706	1.10	968	766	1.27	1115	823	1.45	1269
3200	**582**	**0.85**	**745**	**652**	**1.01**	**888**	717	1.18	1035	776	1.35	1186	832	1.53	1343
3300	**595**	**0.92**	**808**	**664**	**1.09**	**955**	728	1.26	1106	786	1.44	1261	841	1.62	1421
3400	**609**	**1.00**	**874**	**677**	**1.17**	**1026**	739	1.35	1181	797	1.53	1340	851	1.71	1503
3500	**623**	**1.08**	**945**	689	1.25	1100	750	1.43	1259	807	1.62	1422	860	1.81	1589
3600	**636**	**1.16**	**1019**	702	1.34	1179	762	1.53	1341	817	1.72	1508	870	1.91	1679
3700	**650**	**1.25**	**1097**	714	1.44	1261	773	1.63	1428	828	1.82	1598	880	2.02	1772
3800	**664**	**1.34**	**1179**	727	1.54	1347	785	1.73	1518	839	1.93	1693	890	2.13	1870
3900	**678**	**1.44**	**1266**	740	1.64	1438	797	1.84	1613	850	2.04	1791	901	2.25	1973
4000	693	1.55	1356	753	1.75	1533	809	1.95	1712	861	2.16	1894	911	2.37	2080
4100	707	1.65	1451	766	1.86	1632	821	2.07	1816	873	2.28	2002	—	—	—
4200	721	1.77	1551	779	1.98	1736	833	2.19	1924	—	—	—	—	—	—
4300	735	1.89	1656	792	2.10	1845	846	2.32	2037	—	—	—	—	—	—
4400	750	2.01	1764	806	2.23	1958	—	—	—	—	—	—	—	—	—
4500	764	2.14	1879	819	2.37	2077	—	—	—	—	—	—	—	—	—
4600	779	2.28	1998	—	—	—	—	—	—	—	—	—	—	—	—
4700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

580F120,121 (10 TONS) — STANDARD MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	867	1.54	1353	918	1.72	1513	**966**	**1.91**	**1680**	**1012**	**2.11**	**1852**	**1056**	**2.31**	**2029**
3100	876	1.63	1427	926	1.81	1590	**973**	**2.00**	**1760**	**1019**	**2.20**	**1934**	—	—	—
3200	884	1.71	1504	934	1.90	1671	**981**	**2.10**	**1843**	**1026**	**2.30**	**2020**	—	—	—
3300	893	1.81	1586	**942**	**2.00**	**1755**	**988**	**2.20**	**1931**	**1033**	**2.40**	**2111**	—	—	—
3400	902	1.90	1671	**950**	**2.10**	**1844**	**996**	**2.30**	**2022**	—	—	—	—	—	—
3500	911	2.01	1760	**959**	**2.21**	**1937**	—	—	—	—	—	—	—	—	—
3600	920	2.11	1854	**967**	**2.32**	**2033**	—	—	—	—	—	—	—	—	—
3700	929	2.22	1951	—	—	—	—	—	—	—	—	—	—	—	—
3800	**939**	**2.34**	**2053**	—	—	—	—	—	—	—	—	—	—	—	—
3900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 685 to 935 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.
3. See page 74 for General Fan Performance Notes.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

580F120,121 (10 TONS) — ALTERNATE MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	**555**	**0.72**	**630**	**629**	**0.87**	**765**	**696**	**1.03**	**904**	**757**	**1.19**	**1048**	**814**	**1.36**	**1198**
3100	**568**	**0.78**	**686**	**641**	**0.94**	**825**	**706**	**1.10**	**968**	**766**	**1.27**	**1115**	**823**	**1.45**	**1269**
3200	**582**	**0.85**	**745**	**652**	**1.01**	**888**	**717**	**1.18**	**1035**	**776**	**1.35**	**1186**	**832**	**1.53**	**1343**
3300	**595**	**0.92**	**808**	**664**	**1.09**	**955**	**728**	**1.26**	**1106**	**786**	**1.44**	**1261**	841	1.62	1421
3400	**609**	**1.00**	**874**	**677**	**1.17**	**1026**	**739**	**1.35**	**1181**	**797**	**1.53**	**1340**	851	1.71	1503
3500	**623**	**1.08**	**945**	**689**	**1.25**	**1100**	**750**	**1.43**	**1259**	**807**	**1.62**	**1422**	860	1.81	1589
3600	**636**	**1.16**	**1019**	**702**	**1.34**	**1179**	**762**	**1.53**	**1341**	**817**	**1.72**	**1508**	870	1.91	1679
3700	**650**	**1.25**	**1097**	**714**	**1.44**	**1261**	**773**	**1.63**	**1428**	**828**	**1.82**	**1598**	880	2.02	1772
3800	**664**	**1.34**	**1179**	**727**	**1.54**	**1347**	**785**	**1.73**	**1518**	839	1.93	1693	890	2.13	1870
3900	**678**	**1.44**	**1266**	**740**	**1.64**	**1438**	**797**	**1.84**	**1613**	850	2.04	1791	901	2.25	1973
4000	**693**	**1.55**	**1356**	**753**	**1.75**	**1533**	**809**	**1.95**	**1712**	861	2.16	1894	911	2.37	2080
4100	**707**	**1.65**	**1451**	**766**	**1.86**	**1632**	**821**	**2.07**	**1816**	873	2.28	2002	922	2.50	2191
4200	**721**	**1.77**	**1551**	**779**	**1.98**	**1736**	**833**	**2.19**	**1924**	884	2.41	2114	933	2.63	2307
4300	**735**	**1.89**	**1656**	**792**	**2.10**	**1845**	846	2.32	2037	896	2.54	2231	944	2.77	2428
4400	**750**	**2.01**	**1764**	**806**	**2.23**	**1958**	858	2.45	2154	908	2.68	2352	—	—	—
4500	**764**	**2.14**	**1879**	**819**	**2.37**	**2077**	871	2.59	2276	920	2.82	2479	—	—	—
4600	**779**	**2.28**	**1998**	**833**	**2.51**	**2200**	883	2.74	2404	—	—	—	—	—	—
4700	**793**	**2.42**	**2121**	846	2.65	2328	896	2.89	2537	—	—	—	—	—	—
4800	**808**	**2.56**	**2251**	860	2.81	2462	—	—	—	—	—	—	—	—	—
4900	**822**	**2.72**	**2385**	—	—	—	—	—	—	—	—	—	—	—	—
5000	837	2.88	2525	—	—	—	—	—	—	—	—	—	—	—	—

580F120,121 (10 TONS) — ALTERNATE MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	867	1.54	1353	918	1.72	1513	966	1.91	1680	1012	2.11	1852	1056	2.31	2029
3100	876	1.63	1427	926	1.81	1590	973	2.00	1760	1019	2.20	1934	1062	2.41	2114
3200	884	1.71	1504	934	1.90	1671	981	2.10	1843	1026	2.30	2020	1069	2.51	2203
3300	893	1.81	1586	942	2.00	1755	988	2.20	1931	1033	2.40	2111	1076	2.62	2295
3400	902	1.90	1671	950	2.10	1844	996	2.30	2022	1041	2.51	2205	1083	2.73	2393
3500	911	2.01	1760	959	2.21	1937	1004	2.41	2118	1048	2.62	2303	**1091**	**2.84**	**2494**
3600	920	2.11	1854	967	2.32	2033	1013	2.53	2217	1056	2.74	2406	—	—	—
3700	929	2.22	1951	976	2.43	2134	1021	2.65	2322	1064	2.86	2513	—	—	—
3800	939	2.34	2053	985	2.55	2239	1030	2.77	2430	—	—	—	—	—	—
3900	949	2.46	2159	995	2.68	2349	1039	2.90	2543	—	—	—	—	—	—
4000	959	2.59	2269	1004	2.81	2462	—	—	—	—	—	—	—	—	—
4100	969	2.72	2384	—	—	—	—	—	—	—	—	—	—	—	—
4200	979	2.85	2504	—	—	—	—	—	—	—	—	—	—	—	—
4300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 835 to 1085 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.90.
3. See page 74 for General Fan Performance Notes.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

580F120,121 (10 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	**555**	**0.72**	**630**	**629**	**0.87**	**765**	**696**	**1.03**	**904**	**757**	**1.19**	**1048**	**814**	**1.36**	**1198**
3100	**568**	**0.78**	**686**	**641**	**0.94**	**825**	**706**	**1.10**	**968**	**766**	**1.27**	**1115**	**823**	**1.45**	**1269**
3200	**582**	**0.85**	**745**	**652**	**1.01**	**888**	**717**	**1.18**	**1035**	**776**	**1.35**	**1186**	832	1.53	1343
3300	**595**	**0.92**	**808**	**664**	**1.09**	**955**	**728**	**1.26**	**1106**	**786**	**1.44**	**1261**	841	1.62	1421
3400	**609**	**1.00**	**874**	**677**	**1.17**	**1026**	**739**	**1.35**	**1181**	**797**	**1.53**	**1340**	851	1.71	1503
3500	**623**	**1.08**	**945**	**689**	**1.25**	**1100**	**750**	**1.43**	**1259**	**807**	**1.62**	**1422**	860	1.81	1589
3600	**636**	**1.16**	**1019**	**702**	**1.34**	**1179**	**762**	**1.53**	**1341**	**817**	**1.72**	**1508**	870	1.91	1679
3700	**650**	**1.25**	**1097**	**714**	**1.44**	**1261**	**773**	**1.63**	**1428**	**828**	**1.82**	**1598**	880	2.02	1772
3800	**664**	**1.34**	**1179**	**727**	**1.54**	**1347**	**785**	**1.73**	**1518**	839	1.93	1693	890	2.13	1870
3900	**678**	**1.44**	**1266**	**740**	**1.64**	**1438**	**797**	**1.84**	**1613**	850	2.04	1791	901	2.25	1973
4000	**693**	**1.55**	**1356**	**753**	**1.75**	**1533**	**809**	**1.95**	**1712**	861	2.16	1894	911	2.37	2080
4100	**707**	**1.65**	**1451**	**766**	**1.86**	**1632**	**821**	**2.07**	**1816**	873	2.28	2002	922	2.50	2191
4200	**721**	**1.77**	**1551**	**779**	**1.98**	**1736**	833	2.19	1924	884	2.41	2114	933	2.63	2307
4300	**735**	**1.89**	**1656**	**792**	**2.10**	**1845**	846	2.32	2037	896	2.54	2231	944	2.77	2428
4400	**750**	**2.01**	**1764**	**806**	**2.23**	**1958**	858	2.45	2154	908	2.68	2352	955	2.91	2553
4500	**764**	**2.14**	**1879**	**819**	**2.37**	**2077**	871	2.59	2276	920	2.82	2479	966	3.06	2684
4600	**779**	**2.28**	**1998**	833	2.51	2200	883	2.74	2404	932	2.97	2611	978	3.21	2820
4700	**793**	**2.42**	**2121**	846	2.65	2328	896	2.89	2537	944	3.13	2747	989	3.37	2960
4800	**808**	**2.56**	**2251**	860	2.81	2462	909	3.05	2674	956	3.29	2889	1001	3.54	3106
4900	**822**	**2.72**	**2385**	873	2.96	2601	922	3.21	2818	968	3.46	3037	1013	3.71	3258
5000	837	2.88	2525	887	3.13	2745	935	3.38	2966	981	3.63	3189	1024	3.89	3414

580F120,121 (10 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	867	1.54	1353	918	1.72	1513	966	1.91	1680	1012	2.11	1852	1056	2.31	2029
3100	876	1.63	1427	926	1.81	1590	973	2.00	1760	1019	2.20	1934	1062	2.41	2114
3200	884	1.71	1504	934	1.90	1671	981	2.10	1843	1026	2.30	2020	1069	2.51	2203
3300	893	1.81	1586	942	2.00	1755	988	2.20	1931	1033	2.40	2111	1076	2.62	2295
3400	902	1.90	1671	950	2.10	1844	996	2.30	2022	1041	2.51	2205	1083	2.73	2393
3500	911	2.01	1760	959	2.21	1937	1004	2.41	2118	1048	2.62	2303	1091	2.84	2494
3600	920	2.11	1854	967	2.32	2033	1013	2.53	2217	1056	2.74	2406	1098	2.96	2600
3700	929	2.22	1951	976	2.43	2134	1021	2.65	2322	1064	2.86	2513	1106	3.09	2710
3800	939	2.34	2053	985	2.55	2239	1030	2.77	2430	1073	2.99	2625	1114	3.22	2824
3900	949	2.46	2159	995	2.68	2349	1039	2.90	2543	1081	3.12	2741	1122	3.35	2943
4000	959	2.59	2269	1004	2.81	2462	1048	3.03	2660	1090	3.26	2861	1130	3.49	3067
4100	969	2.72	2384	1014	2.94	2581	1057	3.17	2782	1098	3.40	2987	**1139**	**3.64**	**3195**
4200	979	2.85	2504	1024	3.08	2705	1066	3.31	2909	1107	3.55	3117	**1147**	**3.79**	**3329**
4300	990	3.00	2629	1034	3.23	2833	1076	3.46	3040	1117	3.71	3252	**1156**	**3.95**	**3467**
4400	1000	3.14	2758	1044	3.38	2966	1085	3.62	3177	1126	3.87	3392	**1165**	**4.11**	**3611**
4500	1011	3.30	2892	1054	3.54	3104	1095	3.78	3319	**1135**	**4.03**	**3537**	**1174**	**4.28**	**3759**
4600	1022	3.45	3032	1064	3.70	3247	1105	3.95	3466	**1145**	**4.20**	**3688**	**1183**	**4.46**	**3913**
4700	1033	3.62	3176	1075	3.87	3395	1115	4.12	3618	**1155**	**4.38**	**3843**	**1193**	**4.64**	**4072**
4800	1044	3.79	3326	1085	4.04	3549	1126	4.30	3775	**1164**	**4.56**	**4004**	**1202**	**4.83**	**4237**
4900	1055	3.97	3482	1096	4.22	3708	**1136**	**4.49**	**3938**	**1174**	**4.75**	**4171**	**1212**	**5.02**	**4406**
5000	1066	4.15	3642	1107	4.41	3873	**1146**	**4.68**	**4106**	**1184**	**4.95**	**4342**	**1221**	**5.22**	**4582**

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 830 to 1130 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 5.25.
3. See page 74 for General Fan Performance Notes.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

580F150,151 (12 1/2 TONS) — STANDARD MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3700	**676**	**1.19**	**1106**	**747**	**1.42**	**1328**	**811**	**1.66**	**1552**	871	1.91	1779	927	2.15	2008
3800	**690**	**1.27**	**1185**	**760**	**1.52**	**1414**	**823**	**1.76**	**1644**	882	2.01	1876	938	2.26	2111
3900	**705**	**1.36**	**1269**	**773**	**1.61**	**1503**	**835**	**1.86**	**1739**	894	2.12	1977	948	2.38	2217
4000	**719**	**1.45**	**1357**	**786**	**1.71**	**1597**	**848**	**1.97**	**1838**	905	2.23	2082	959	2.50	2328
4100	**734**	**1.55**	**1449**	**799**	**1.82**	**1695**	860	2.08	1942	917	2.35	2192	970	2.62	2443
4200	**748**	**1.66**	**1545**	**813**	**1.93**	**1797**	872	2.20	2050	928	2.47	2305	981	2.75	2562
4300	**763**	**1.76**	**1646**	**826**	**2.04**	**1903**	885	2.32	2162	940	2.60	2423	992	2.88	2686
4400	**778**	**1.88**	**1751**	**840**	**2.16**	**2014**	898	2.44	2279	952	2.73	2546	1004	3.02	2814
4500	**792**	**1.99**	**1860**	**853**	**2.28**	**2130**	910	2.57	2401	964	2.87	2673	1015	3.16	2947
4600	**807**	**2.12**	**1975**	867	2.41	2250	923	2.71	2527	976	3.01	2805	1027	3.31	3085
4700	**822**	**2.25**	**2094**	881	2.55	2375	936	2.85	2658	989	3.15	2942	1038	3.46	3227
4800	**837**	**2.38**	**2218**	895	2.69	2505	949	3.00	2794	1001	3.31	3083	1050	3.62	3375
4900	**852**	**2.52**	**2347**	909	2.83	2640	963	3.15	2935	1014	3.46	3230	—	—	—
5000	867	2.66	2482	923	2.98	2781	976	3.30	3081	1026	3.63	3383	—	—	—
5100	882	2.81	2622	937	3.14	2926	989	3.47	3232	—	—	—	—	—	—
5200	897	2.97	2766	951	3.30	3077	1003	3.63	3389	—	—	—	—	—	—
5300	912	3.13	2917	966	3.47	3233	—	—	—	—	—	—	—	—	—
5400	927	3.30	3073	980	3.64	3395	—	—	—	—	—	—	—	—	—
5500	943	3.47	3234	—	—	—	—	—	—	—	—	—	—	—	—
5600	958	3.65	3402	—	—	—	—	—	—	—	—	—	—	—	—
5700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

580F150,151 (12 1/2 TONS) — STANDARD MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3700	981	2.40	2240	1031	2.65	2473	1079	2.91	2709	**1125**	**3.16**	**2948**	**1169**	**3.42**	**3189**
3800	990	2.52	2348	1040	2.77	2587	**1088**	**3.03**	**2828**	**1133**	**3.30**	**3073**	**1177**	**3.56**	**3319**
3900	1000	2.64	2459	1050	2.90	2705	**1097**	**3.17**	**2951**	**1142**	**3.43**	**3201**	**1186**	**3.70**	**3452**
4000	1011	2.76	2576	1059	3.03	2826	**1106**	**3.30**	**3079**	**1151**	**3.58**	**3334**	—	—	—
4100	1021	2.89	2697	1069	3.17	2953	**1116**	**3.44**	**3210**	—	—	—	—	—	—
4200	1031	3.03	2822	1079	3.31	3083	**1125**	**3.59**	**3347**	—	—	—	—	—	—
4300	1042	3.16	2951	**1089**	**3.45**	**3218**	—	—	—	—	—	—	—	—	—
4400	1053	3.31	3085	**1100**	**3.60**	**3357**	—	—	—	—	—	—	—	—	—
4500	1064	3.46	3224	—	—	—	—	—	—	—	—	—	—	—	—
4600	1075	3.61	3367	—	—	—	—	—	—	—	—	—	—	—	—
4700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 860 to 1080 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 3.70.
3. See page 74 for General Fan Performance Notes.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

580F150,151 (12½ TONS) — ALTERNATE MOTOR (BELT DRIVE)*

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3700	**676**	**1.19**	**1106**	**747**	**1.42**	**1328**	**811**	**1.66**	**1552**	871	1.91	1779	927	2.15	2008
3800	**690**	**1.27**	**1185**	**760**	**1.52**	**1414**	**823**	**1.76**	**1644**	882	2.01	1876	938	2.26	2111
3900	**705**	**1.36**	**1269**	**773**	**1.61**	**1503**	835	1.86	1739	894	2.12	1977	948	2.38	2217
4000	**719**	**1.45**	**1357**	**786**	**1.71**	**1597**	848	1.97	1838	905	2.23	2082	959	2.50	2328
4100	**734**	**1.55**	**1449**	**799**	**1.82**	**1695**	860	2.08	1942	917	2.35	2192	970	2.62	2443
4200	**748**	**1.66**	**1545**	**813**	**1.93**	**1797**	872	2.20	2050	928	2.47	2305	981	2.75	2562
4300	**763**	**1.76**	**1646**	**826**	**2.04**	**1903**	885	2.32	2162	940	2.60	2423	992	2.88	2686
4400	**778**	**1.88**	**1751**	840	2.16	2014	898	2.44	2279	952	2.73	2546	1004	3.02	2814
4500	**792**	**1.99**	**1860**	853	2.28	2130	910	2.57	2401	964	2.87	2673	1015	3.16	2947
4600	**807**	**2.12**	**1975**	867	2.41	2250	923	2.71	2527	976	3.01	2805	1027	3.31	3085
4700	**822**	**2.25**	**2094**	881	2.55	2375	936	2.85	2658	989	3.15	2942	1038	3.46	3227
4800	837	2.38	2218	895	2.69	2505	949	3.00	2794	1001	3.31	3083	1050	3.62	3375
4900	852	2.52	2347	909	2.83	2640	963	3.15	2935	1014	3.46	3230	1062	3.78	3528
5000	867	2.66	2482	923	2.98	2781	976	3.30	3081	1026	3.63	3383	1074	3.95	3685
5100	882	2.81	2622	937	3.14	2926	989	3.47	3232	1039	3.80	3540	1086	4.13	3849
5200	897	2.97	2766	951	3.30	3077	1003	3.63	3389	1052	3.97	3702	1099	4.31	4017
5300	912	3.13	2917	966	3.47	3233	1016	3.81	3551	1065	4.15	3870	1111	4.49	4191
5400	927	3.30	3073	980	3.64	3395	1030	3.99	3719	1078	4.34	4044	1123	4.69	4370
5500	943	3.47	3234	994	3.82	3563	1044	4.17	3892	1091	4.53	4223	**1136**	**4.88**	**4555**
5600	958	3.65	3402	1009	4.01	3736	1057	4.37	4071	1104	4.73	4408	**1149**	**5.09**	**4746**
5700	973	3.83	3575	1023	4.20	3915	1071	4.56	4256	1117	4.93	4599	—	—	—
5800	988	4.03	3754	1038	4.40	4100	1085	4.77	4447	1130	5.14	4796	—	—	—
5900	1004	4.22	3939	1052	4.60	4292	1099	4.98	4645	—	—	—	—	—	—
6000	1019	4.43	4131	1067	4.81	4489	1113	5.20	4848	—	—	—	—	—	—
6100	1034	4.64	4329	1082	5.03	4693	—	—	—	—	—	—	—	—	—
6200	1050	4.86	4533	—	—	—	—	—	—	—	—	—	—	—	—
6300	1065	5.09	4744	—	—	—	—	—	—	—	—	—	—	—	—

580F150,151 (12½ TONS) — ALTERNATE MOTOR (BELT DRIVE)* (cont)

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3700	981	2.40	2240	1031	2.65	2473	1079	2.91	2709	1125	3.16	2948	**1169**	**3.42**	**3189**
3800	990	2.52	2348	1040	2.77	2587	1088	3.03	2828	**1133**	**3.30**	**3073**	**1177**	**3.56**	**3319**
3900	1000	2.64	2459	1050	2.90	2705	1097	3.17	2951	**1142**	**3.43**	**3201**	**1186**	**3.70**	**3452**
4000	1011	2.76	2576	1059	3.03	2826	1106	3.30	3079	**1151**	**3.58**	**3334**	**1194**	**3.85**	**3591**
4100	1021	2.89	2697	1069	3.17	2953	1116	3.44	3210	**1160**	**3.72**	**3471**	**1203**	**4.00**	**3733**
4200	1031	3.03	2822	1079	3.31	3083	1125	3.59	3347	**1169**	**3.87**	**3612**	**1212**	**4.16**	**3880**
4300	1042	3.16	2951	1089	3.45	3218	**1135**	**3.74**	**3487**	**1179**	**4.03**	**3758**	**1221**	**4.32**	**4031**
4400	1053	3.31	3085	1100	3.60	3357	**1145**	**3.90**	**3632**	**1188**	**4.19**	**3909**	**1230**	**4.49**	**4187**
4500	1064	3.46	3224	1110	3.76	3502	**1155**	**4.06**	**3782**	**1198**	**4.36**	**4064**	**1239**	**4.66**	**4348**
4600	1075	3.61	3367	1121	3.91	3650	**1165**	**4.22**	**3937**	**1208**	**4.53**	**4224**	**1249**	**4.84**	**4514**
4700	1086	3.77	3515	**1131**	**4.08**	**3805**	**1175**	**4.39**	**4096**	**1217**	**4.71**	**4389**	**1258**	**5.02**	**4684**
4800	1097	3.93	3668	**1142**	**4.25**	**3963**	**1186**	**4.57**	**4260**	**1228**	**4.89**	**4559**	**1268**	**5.21**	**4860**
4900	1109	4.10	3826	**1153**	**4.43**	**4128**	**1196**	**4.75**	**4430**	**1238**	**5.08**	**4734**	—	—	—
5000	1120	4.28	3990	**1164**	**4.61**	**4296**	**1207**	**4.94**	**4604**	—	—	—	—	—	—
5100	**1132**	**4.46**	**4159**	**1175**	**4.79**	**4471**	**1218**	**5.13**	**4784**	—	—	—	—	—	—
5200	**1144**	**4.65**	**4333**	**1187**	**4.99**	**4651**	—	—	—	—	—	—	—	—	—
5300	**1155**	**4.84**	**4512**	**1198**	**5.19**	**4836**	—	—	—	—	—	—	—	—	—
5400	**1167**	**5.04**	**4697**	—	—	—	—	—	—	—	—	—	—	—	—
5500	**1179**	**5.24**	**4889**	—	—	—	—	—	—	—	—	—	—	—	—
5600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 830 to 1130 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 5.25.
3. See page 74 for General Fan Performance Notes.

PERFORMANCE DATA (cont)

GENERAL NOTES FOR FAN PERFORMANCE DATA TABLES

1. Values include losses for filters, unit casing, and wet coils. See this page for accessory/FIOP static pressure information.
2. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using fan motors up to the wattage ratings shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected. See Evaporator-Fan Motor Performance table on page 79 for additional information.
3. Use of a field-supplied motor may affect wire sizing. Contact your Bryant representative for details.
4. Interpolation is permissible. Do not extrapolate. (Belt drive units only.)

OUTDOOR SOUND POWER (Total Unit)

UNIT 580F	SOUND RATING 60 Hz (dB)	A-WEIGHTED (dB)	OCTAVE BANDS							
			63	125	250	500	1000	2000	4000	8000
036-072	81	80.5	56.8	75.8	72.4	72.9	74.8	75.4	71.3	69.1
073	80	80.0	59.1	68.9	68.7	71.9	74.0	68.9	65.7	59.0
090	87	86.4	83.2	87.4	83.5	82.8	83.0	77.7	71.8	67.0
091, 103	82	82.0	62.2	69.3	71.5	74.7	76.2	72.9	68.7	61.5
120	88	87.6	97.6	90.4	85.7	84.8	83.9	77.5	71.3	65.8
121	84	84.0	64.6	71.7	73.3	76.9	77.6	73.7	70.6	63.7
150	87	86.4	83.7	87.2	83.4	82.8	83.0	77.7	71.8	67.0
151	86	86.0	63.7	69.9	72.5	78.2	81.1	77.3	73.3	66.8

NOTE: Indoor sound power is available in Bryant's Electronic Catalog program (ECAT) for specific operating parameters.

ACCESSORY/FIOP ECONOMIZER IV AND ECONOMI$ER2 STATIC PRESSURE* (in. wg) — 580F036-073

COMPONENT	CFM							
	1250	1500	1750	2000	2250	2500	2750	3000
Vertical EconoMi$er IV and EconoMi$er2	0.045	0.065	0.08	0.12	0.145	0.175	0.22	0.255
Horizontal EconoMi$er IV and EconoMi$er2	—	—	0.1	0.125	0.15	0.18	0.225	0.275

LEGEND

FIOP — Factory-Installed Option

*The static pressure must be added to external static pressure. The sum and the evaporator entering-air cfm should be used in conjunction with the Fan Performance tables to determine indoor blower rpm and watts.

ACCESSORY/FIOP ECONOMISER IV AND ECONOMI$ER2 STATIC PRESSURE* (in. wg) — 580F090-151

COMPONENT	CFM													
	2250	2500	2750	3000	3250	3500	3750	4000	4250	4500	4750	5000	5250	6250
Vertical EconoMi$er IV and EconoMi$er2	0.06	0.075	0.09	0.115	0.13	0.15	0.17	0.195	0.22	0.25	0.285	0.325	0.36	—
Horizontal EconoMi$er IV and EconoMi$er2	—	0.1	0.125	0.15	0.18	0.21	0.25	0.275	0.3	0.34	0.388	—	—	—

LEGEND

FIOP — Factory-Installed Option

*The static pressure must be added to external static pressure. The sum and the evaporator entering-air cfm should then be used in conjunction with the Fan Performance tables to determine blower rpm and watts.

PERFORMANCE DATA (cont)

FAN RPM AT MOTOR PULLEY SETTINGS* — 580F036-073

UNIT 580F	MOTOR PULLEY TURNS OPEN												
	0	1/2	1	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	5 1/2	6
036†	1045	1009	973	937	901	865	829	793	757	721	685	—	—
036**	1455	1423	1392	1360	1328	1297	1265	1233	1202	1170	1138	1107	1075
048†	1175	1135	1094	1054	1013	973	932	892	851	811	770	—	—
048**	1455	1423	1392	1360	1328	1297	1265	1233	1202	1170	1138	1107	1075
060†	1300	1266	1233	1200	1166	1133	1100	1066	1033	1000	966	933	900
060**	1685	1647	1608	1570	1531	1493	1454	1416	1377	1339	1300	—	—
072,073††	1460	1421	1382	1343	1304	1265	1226	1187	1148	1109	1070	—	—
072,073**	1685	1647	1608	1570	1531	1493	1454	1416	1377	1399	1300	—	—

*Approximate fan rpm shown.
†Indicates alternate motor and drive package.
**Indicates high-static motor and drive package.
††Indicates standard motor and drive package.

FAN RPM AT MOTOR PULLEY SETTINGS* — 580F090-151

UNIT 580F	MOTOR PULLEY TURNS OPEN												
	0	1/2	1	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	5 1/2	6
090,091†	840	815	790	765	740	715	690	665	635	615	590	—	—
090,091**	935	910	885	860	835	810	785	760	735	710	685	—	—
090,091††	1080	1025	1007	988	970	952	933	915	897	878	860	—	—
103†	935	910	885	860	835	810	785	760	735	710	685	—	—
103††	1080	1025	1007	988	970	952	933	915	897	878	860	—	—
120,121†	935	910	885	860	835	810	785	760	735	710	685	—	—
120,121***	1085	1060	1035	1010	985	960	935	910	885	860	835	—	—
120,121††	1130	1112	1087	1062	1037	1012	987	962	937	912	887	862	830
150,151†	1080	1060	1035	1015	990	970	950	925	905	880	860	—	—
150,151***	1130	1112	1087	1062	1037	1012	987	962	937	912	887	862	830

*Approximate fan rpm shown.
†Indicates standard motor and drive package.
**Indicates alternate drive package only.
††Indicates high-static motor and drive package.
***Indicates alternate motor and drive package.

ALTITUDE COMPENSATION* — 580F036-073 STANDARD UNITS

ELEVATION (ft)	74,000 AND 115,000 BTUH NOMINAL INPUT		150,000 BTUH NOMINAL INPUT	
	Natural Gas Orifice Size†	Liquid Propane Orifice Size†	Natural Gas Orifice Size†	Liquid Propane Orifice Size†
0-2,000	33	43	30	37
2,000	36	44	31	39
3,000	36	45	31	40
4,000	37	45	32	41
5,000	38	46	32	42
6,000	40	47	34	43
7,000	41	48	35	43
8,000	42	49	36	44
9,000	43	50	37	45
10,000	44	50	39	46
11,000	45	51	41	47
12,000	46	52	42	48
13,000	47	52	43	49
14,000	48	53	44	50

*As the height above sea level increases, there is less oxygen per cubic foot of air. Therefore, heat input rate should be reduced at higher altitudes.
†Orifices available through your local Bryant distributor.

ALTITUDE COMPENSATION* — 580F036-073 LOW NOx UNITS

ELEVATION (ft)	60,000 AND 90,000 BTUH NOMINAL INPUT	120,000 BTUH NOMINAL INPUT
	Natural Gas Orifice Size†	Natural Gas Orifice Size
0-2,000	38	32
2,000	40	33
3,000	41	35
4,000	42	36
5,000	43	37
6,000	43	38
7,000	44	39
8,000	45	41
9,000	46	42
10,000	47	43
11,000	48	44
12,000	49	44
13,000	50	46
14,000	51	47

*As the height above sea level increases, there is less oxygen per cubic foot of air. Therefore, the input rate should be reduced at higher altitudes.
†Orifices are available through your local Bryant distributor.

ALTITUDE COMPENSATION* — 580F090-151

ELEVATION (ft)	125,000,180,000, AND 224,000 BTUH NOMINAL INPUT		250,000 BTUH NOMINAL INPUT	
	Natural Gas Orifice Size†	Liquid Propane Orifice Size†	Natural Gas Orifice Size†	Liquid Propane Orifice Size†
0-2,000	31	41	30	38
2,000	32	42	30	39
3,000	32	42	31	40
4,000	32	42	32	41
5,000	33	43	33	42
6,000	34	43	34	43
7,000	35	44	35	43
8,000	36	44	36	44
9,000	37	45	37	44
10,000	38	46	38	45
11,000	39	47	39	45
12,000	40	47	40	46
13,000	41	48	41	47
14,000	42	48	42	47

*As the height above sea level increases, there is less oxygen per cubic foot of air. Therefore, heat input rate should be reduced at higher altitudes.
†Orifices available through your local Bryant distributor.

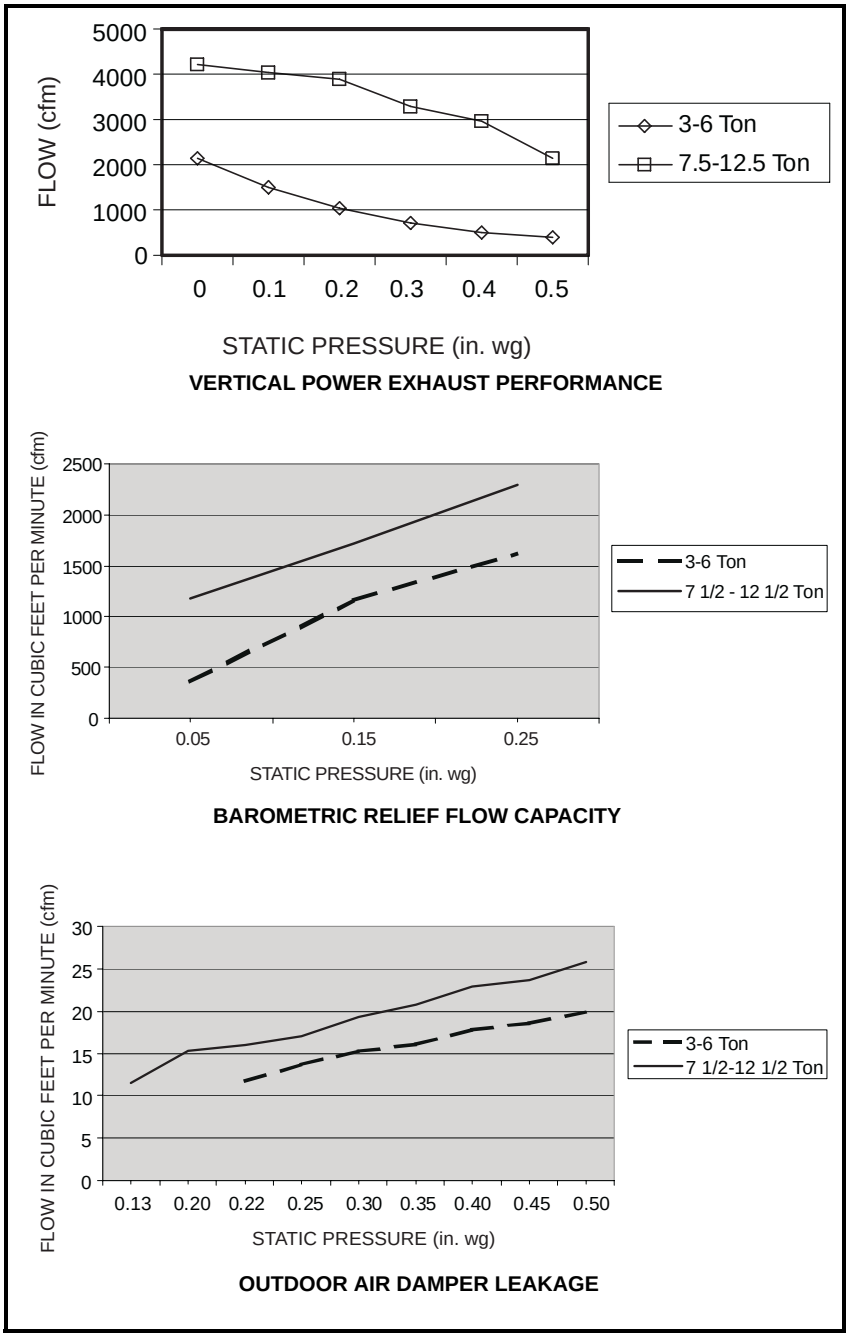
ALTITUDE DERATING FACTOR*

ELEVATION (ft)	MAXIMUM HEATING VALUE (Btu/ft³)
0-2,000	1,100
2,001-3,000	1,050
3,001-4,000	1,000
4,001-5,000	950
5,001-6,000	900

*Derating of the unit is not required unless the heating value of the gas exceeds the values listed in the table above, or if the elevation exceeds 6000 ft. Derating conditions must be 4% per thousand ft above 2000 ft. For example, at 4000 ft, if the heating value of the gas exceeds 1000 Btu/ft³, the unit will require a 16% derating. For elevations above 6000 ft, the same formula applies. For example, at 7000 ft, the unit will require a 28% derating of the maximum heating value per the National Fuel Gas Code.

IMPORTANT: Local utility companies may be reducing heat content of gas at altitudes above 2000 ft. If this is being done, changing spuds may not be required.

PERFORMANCE DATA (cont)

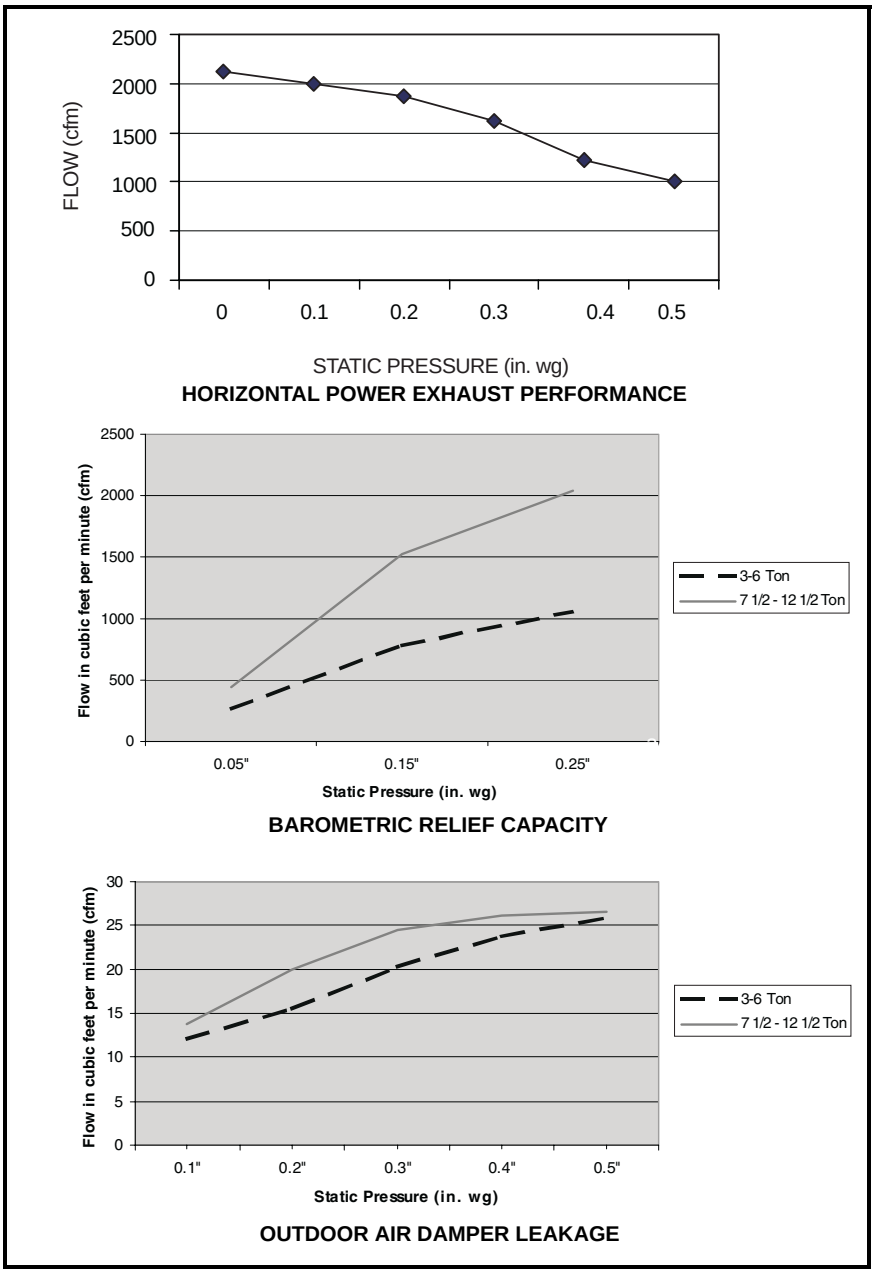


Vertical EconoMi$er IV and EconoMi$er2 Performance Data (580F036-151)

POWER EXHAUST OPTIONS

VERTICAL — MOUNTED IN ECONOMIZER HOOD				
POWER EXHAUST PART NO.	**POWER EXHAUST DESCRIPTION**	**APPLICATION USAGE**	**POWER OUTPUT (Hp per fan)**	**NO. FANS**
CRPWREXH030A01	Power Exhaust System (208/230-1-60)	036-073	0.23	2
CRPWREXH021A01	Power Exhaust System (460-3-60)	036-073	0.24	2
CRPWREXH022A01	Power Exhaust System (208/230-1-60)	090-151	0.47	2
CRPWREXH023A01	Power Exhaust System (460-3-60)	090-151	0.37	2
HORIZONTAL — MOUNTED IN RETURN DUCTWORK				
POWER EXHAUST PART NO.	**POWER EXHAUST DESCRIPTION**	**APPLICATION USAGE**	**POWER OUTPUT (Hp per fan)**	**NO. FANS**
CRPWREXH028A01	Horizontal Power Exhaust (208/230-1-60)	All	0.48	1
CRPWREXH029A01	Horizontal Power Exhaust (460-3-60)	All	0.48	1

PERFORMANCE DATA (cont)



Horizontal EconoMi$er IV and EconoMi$er2 Performance Data (580F036-151)

OPTIONAL POWER EXHAUST

POWER REQUIREMENTS

UNIT SIZE	AMPS AT 230 V (2 Fans Running)	MOCP		
		230 VAC	460 VAC	575 VAC
580F036-073	1.40 Amps at 60 Hz	15.0 amps	15.0 amps	15.0 amps
580F090-151	3.04 Amps at 60 Hz			

LEGEND

MOCP — Maximum Overcurrent Protection

EVAPORATOR-FAN MOTOR EFFICIENCY

UNIT 580F	MOTOR EFFICIENCY (%)
036,048	75
060	74/84*
072, 073	84
090-121	80
150, 151	87

*Single phase/three-phase.

NOTE: The EPACT (Energy Policy Act of 1992) regulates energy requirements for specific types of indoor fan motors. Motors regulated by EPACT include any general purpose, T-frame (three-digit, 143 and larger), single-speed, foot mounted, polyphase, squirrel cage induction motors of NEMA (National Electrical Manufacturers Association) design A and B, manufactured for use in the United States. Ranging from 1 to 200 Hp, these continuous-duty motors operate on 230 and 460 volt, 60 Hz power. If a motor does not fit into these specifications, the motor does not have to be replaced by an EPACT-compliant energy-efficient motor. Variable-speed motors are exempt from EPACT compliance requirements. Therefore, the indoor-fan motors for these units are exempt from these requirements.

PERFORMANCE DATA (cont)

EVAPORATOR-FAN MOTOR PERFORMANCE

UNIT 580F	EVAPORATOR-FAN MOTOR	UNIT VOLTAGE	MAXIMUM ACCEPTABLE CONTINUOUS BHP*	MAXIMUM ACCEPTABLE OPERATING WATTS	MAXIMUM AMP DRAW
036	Standard	208/230	0.34	440	2.8
		460			1.3
		575			1.3
	Alternate	208/230	1.20	1000	4.9
		460			2.1
		575			2.1
	High Static	208/230	2.40	2120	6.0
		460			3.0
		575			3.0
048	Standard	208/230	0.75	850	3.5
		460			1.8
		575			1.8
	Alternate	208/230	1.20	1000	4.9
		460			2.1
		575			2.1
	High Static	208/230	2.40	2120	6.0
		460			3.0
		575			3.0
060	Standard	208/230	1.20	1340	5.9
		460			3.2
		575			3.2
	Alternate	208/230	1.30/2.40†	2120	6.6/5.2†
		460			2.6
		575			3.0
	High Static	208/230	2.90	2562	8.6
		460			3.9
		575			3.9
072,073	Standard	208/230	2.40	2120	5.2
		460			3.0
		575			3.0
	High Static	208/230	2.90	2562	8.6
		460			3.9
		575			3.9
090,091	Standard, Alternate	208/230	2.40	2120	6.7
		460			3.0
		575			3.0
	High Static	208/230	3.70	3313	12.2
		460			5.5
		575			5.5
103	Standard	208/230	2.40	2120	6.7
		460			3.0
		575			3.0
	High Static	208/230	3.70	3313	12.2
		460			5.5
		575			5.5
120,121	Standard	208/230	2.40	2120	6.7
		460			3.0
		575			3.0
	Alternate	208/230	2.90	2615	8.6
		460			3.9
		575			3.9
	High Static	208/230	5.25	4400	17.3
		460			8.5
		575			8.5
150, 151	Standard	208/230	3.70	3313	12.2
		460			5.5
		575			5.5
	Alternate	208/230	5.25	4400	17.3
		460			8.5
		575			8.5

LEGEND

BHP — Brake Horsepower

*Extensive motor and electrical testing on these units ensures that the full horsepower range of the motors can be utilized with confidence. Using your fan motors up to the horsepower ratings shown in this table will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected.

†Single phase/three-phase.

NOTE: High-static motor not available on single-phase units.

ELECTRICAL DATA

UNIT SIZE 580F	NOMINAL V-PH-Hz	IFM TYPE	CONV OUTLET	VOLTAGE RANGE		COMPRESSOR (each)			OFM (each)		IFM FLA	COMBUSTION FAN MOTOR	POWER SUPPLY		MINIMUM UNIT DISCONNECT SIZE*	
				Min	Max	Qty	RLA	LRA	Qty	FLA		FLA	MCA	MOCP†	FLA	LRA
036 (3 Ton)	208/230-3-60	STD	NO	187	254	1	10.2	75	1	1.4	3.5	0.6	17.7	25	17	85
			YES										23.7	25	23	90
		ALT	NO								4.9		19.1	25	19	90
			YES										25.1	30	25	95
		HIGH	NO								5.2		19.4	25	19	109
			YES										25.4	30	25	114
	460-3-60	STD	NO	414	508	1	4.4	40	1	0.8	1.3	0.3	7.6	15	7	44
			YES										10.3	15	10	47
		ALT	NO								2.1		8.4	15	8	48
			YES										11.1	15	11	50
		HIGH	NO								2.6		8.9	15	9	57
			YES										11.6	15	11	59
	575-3-60	ALT	NO	518	632	1	3.7	31	1	0.6	1.9	0.3	7.1	15	7	37
			YES										9.3	15	9	39
		HIGH	NO								2.0		7.2	15	8	44
			YES										9.4	15	10	45
048 (4 Ton)	208/230-3-60	STD	NO	187	254	1	15.4	90	1	1.4	3.5	0.6	24.2	30	23	101
			YES										30.2	35	29	106
		ALT	NO								4.9		25.6	30	25	105
			YES										31.6	35	30	110
		HIGH	NO								5.2		25.9	30	25	124
			YES										31.9	35	31	129
	460-3-60	STD	NO	414	508	1	8.3	45	1	0.8	1.8	0.3	13.0	20	13	51
			YES										15.7	20	15	53
		ALT	NO								2.1		13.3	20	13	53
			YES										16.0	20	15	55
		HIGH	NO								2.6		13.8	20	13	62
			YES										16.5	20	16	64
	575-3-60	ALT	NO	518	632	1	6.4	36	1	0.6	1.9	0.3	10.5	15	10	42
			YES										12.7	15	12	43
		HIGH	NO								2.0		10.6	15	10	49
			YES										12.8	15	12	50

LEGEND

FLA — Full Load Amps
HACR — Heating, Air Conditioning and Refrigeration
IFM — Indoor (Evaporator) Fan Motor
LRA — Locked Rotor Amps
MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection
NEC — National Electrical Code
OFM — Outdoor (Condenser) Fan Motor
RLA — Rated Load Amps

*Used to determine minimum disconnect per NEC.
†Fuse or HACR circuit breaker.

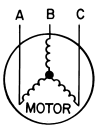
NOTES:

1. In compliance with NEC requirements for multimotor and combination load equipment (refer to NEC Articles 430 and 440), the overcurrent protective device for the unit shall be fuse or HACR breaker. Canadian units may be fuse or circuit breaker.
2. **Unbalanced 3-Phase Supply Voltage**
   Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percent of voltage imbalance.

   % Voltage Imbalance

   $$= 100 \times \frac{\text{max voltage deviation from average voltage}}{\text{average voltage}}$$

   Example: Supply voltage is 460-3-60.

   AB = 452 v
   BC = 464 v
   AC = 455 v

   $$\text{Average Voltage} = \frac{452 + 464 + 455}{3}$$

   $$= \frac{1371}{3}$$

   $$= 457$$

   Determine maximum deviation from average voltage.
   (AB) 457 – 452 = 5 v
   (BC) 464 – 457 = 7 v
   (AC) 457 – 455 = 2 v

   Maximum deviation is 7 v.

   Determine percent of voltage imbalance.

   $$\% \text{ Voltage Imbalance} = 100 \times \frac{7}{457}$$

   $$= 1.53\%$$

   This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

   IMPORTANT: If the supply voltage phase imbalance is more than 2%, contact your local electric utility company immediately.
3. For units with power exhaust: If a single power source is to be used, size wire to include power exhaust MCA and MOCP. Check MCA and MOCP when power exhaust is powered through the unit (must be in accordance with NEC and/or local codes). Determine the new MCA including the power exhaust using the following formula:

   MCA New = MCA unit only + MCA of Power Exhaust

   For example, using a 580F060 unit with MCA = 28.9 and MOCP = 35, with CRPWREXH030A01 power exhaust.

   MCA New = 28.9 amps + 1.6 amps = 30.5 amps

   If the new MCA does not exceed the published MOCP, then MOCP would not change. The MOCP in this example is 35 amps, the MCA New is below 35, therefore the MOCP is acceptable. If "MCA New" is larger than the published MOCP, raise the MOCP to the next larger size. For separate power, the MOCP for the power exhaust will be 15 amps per NEC.

POWER EXHAUST ELECTRICAL DATA

POWER EXHAUST PART NO.	APPLICATION USAGE	MCA (230 V)	MCA (460 V)	MCA (575 V)	MOCP (separate power source only)
CRPWREXH030A01	036-073*	1.6	N/A	0.64	15
CRPWREXH021A01	036-073	N/A	0.68	N/A	15
CRPWREXH022A01	090-151*	3.4	N/A	1.32	15
CRPWREXH023A01	090-151	N/A	1.4	N/A	15
CRPWREXH028A01	ALL*	1.7	N/A	0.68	15
CRPWREXH029A01	ALL	N/A	0.7	N/A	15

*Single or three phase.

ELECTRICAL DATA (cont)

UNIT SIZE 580F	NOMINAL V-PH-Hz	IFM TYPE	CONV OUTLET	VOLTAGE RANGE		COMPRESSOR (each)			OFM (each)		IFM FLA	COMBUSTION FAN MOTOR	POWER SUPPL		MINIMUM UNIT DISCONNECT SIZE*	
				Min	Max	Qty	RLA	LRA	Qty	FLA		FLA	MCA	MOCP†	FLA	LRA
060 (5 Ton)	208/230-3-60	STD	NO	187	254	1	16	114	1	1.4	5.9	0.6	27.3	35	27	128
			YES										33.3	40	32	133
		ALT	NO								5.2		26.6	35	26	148
			YES										32.6	35	32	153
		HIGH	NO								7.5		28.9	35	29	174
			YES										34.9	40	34	179
	460-3-60	STD	NO	414	508	1	7.4	64	1	0.8	3.1	0.3	13.2	20	13	71
			YES										15.9	20	15	74
		ALT	NO								2.6		12.7	15	12	81
			YES										15.4	20	15	84
		HIGH	NO								3.4		13.5	20	13	93
			YES										16.2	20	16	96
	575-3-60	ALT	NO	518	632	1	6.2	52	1	0.6	1.9	0.3	10.4	15	11	65
			YES										12.6	15	12	66
		HIGH	NO								2.0		11.2	15	11	74
			YES								2.0		13.5	15	13	74
072 (6 Ton)	208/230-3-60	STD	NO	187	254	1	20.6	146	1	1.4	5.2	0.6	32.4	40	31	180
			YES										38.4	45	37	184
		HIGH	NO								7.5		34.7	40	34	205
			YES										40.7	45	39	210
	460-3-60	STD	NO	414	508	1	9.5	73	1	0.9	2.6	0.3	15.3	20	15	90
			YES										18.0	20	17	92
		HIGH	NO								3.4		16.1	20	16	103
			YES										18.8	25	18	105
	575-3-60	STD	NO	518	632	1	7.6	58.4	1	0.6	2.0	0.3	12.1	15	12	71
			YES										13.3	20	13	72
		HIGH	NO								2.8		12.9	15	13	80
			YES										14.1	20	15	81
073 (6 Ton)	208/230-3-60	STD	NO	187	254	1	20.6	146	1	1.4	5.2	0.6	32.4	40	31	180
			YES										38.4	45	37	184
		HIGH	NO								7.5		34.7	40	34	205
			YES										40.7	45	39	210
	460-3-60	STD	NO	414	508	1	9.5	73	1	0.9	2.6	0.3	15.4	20	15	90
			YES										18.0	20	17	92
		HIGH	NO								3.4		16.2	20	16	103
			YES										18.8	25	18	105
	575-3-60	STD	NO	518	632	1	7.6	62	1	0.6	1.9	0.3	12.3	15	13	75
			YES										14.4	20	15	77
		HIGH	NO								2.0		13.1	20	14	84
			YES										15.3	20	16	86
090 ($7^1/_2$ Ton)	208/230-3-60	STD	NO	187	254	2	14	91	2	1.4	5.8	0.6	40.1	45	42	229
			YES										46.1	50	48	233
		ALT	NO								5.8		40.1	45	42	229
			YES										46.1	50	48	233
		HIGH	NO								10.6		44.9	50	48	273
			YES										50.9	60	53	273
	460-3-60	STD	NO	414	508	2	6.4	42	2	0.7	2.6	0.3	18.4	20	19	108
			YES										24.4	25	22	110
		ALT	NO								2.6		18.4	20	19	108
			YES										24.4	25	22	110
		HIGH	NO								4.8		20.6	25	22	130
			YES										23.3	30	24	132
	575-3-60	STD	NO	518	632	2	5.2	39	2	0.6	2.0	0.3	14.9	20	16	97
			YES										20.9	25	18	99
		ALT	NO								2.0		14.9	20	16	97
			YES										20.9	25	18	99
		HIGH	NO								2.8		16.7	20	18	114
			YES										19.4	25	20	117
091 ($7^1/_2$ Ton)	208/230-3-60	STD	NO	187	254	2	14	91	2	1.4	5.8	0.6	40.1	45	42	229
			YES										44.9	50	48	234
		ALT	NO								5.8		40.1	45	42	229
			YES										44.9	50	48	234
		HIGH	NO								10.6		44.9	50	48	273
			YES										49.7	60	53	277
	460-3-60	STD	NO	414	508	2	6.4	42	2	0.7	2.6	0.3	18.4	20	19	108
			YES										20.6	25	22	110
		ALT	NO								2.6		18.4	20	19	108
			YES										20.6	25	22	110
		HIGH	NO								4.8		20.6	25	22	130
			YES										22.8	25	24	132
	575-3-60	STD	NO	518	632	2	5.2	39	2	0.6	2.0	0.3	14.9	20	16	97
			YES										16.6	20	18	99
		ALT	NO								2.0		14.9	20	16	97
			YES										16.6	20	18	99
		HIGH	NO								2.8		16.7	20	18	114
			YES										18.4	20	20	116

ELECTRICAL DATA (cont)

UNIT SIZE 580F	NOMINAL V-PH-Hz	IFM TYPE	CONV OUTLET	VOLTAGE RANGE		COMPRESSOR (each)			OFM (each)		IFM FLA	COMBUSTION FAN MOTOR	POWER SUPPLY		MINIMUM UNIT DISCONNECT SIZE*	
				Min	Max	Qty	RLA	LRA	Qty	FLA		FLA	MCA	MOCP†	FLA	LRA
103 (8 1/2 Ton)	208/230-3-60	STD	NO	187	254	2	17.3	120.0	2	1.4	5.8	0.6	44.3	50	46	272
			YES										49.1	60	52	277
		HIGH	NO								10.6		49.1	60	52	316
			YES										53.9	60	57	320
	460-3-60	STD	NO	414	508	2	7.9	70.0	2	0.7	2.6	0.3	21.0	25	22	149
			YES										23.2	30	24	151
		HIGH	NO								4.8		23.2	30	24	171
			YES										25.4	30	27	173
	575-3-60	STD	NO	518	632	2	5.5	50.0	2	0.6	2.0	0.3	16.7	20	17	109
			YES										18.4	25	19	111
		HIGH	NO								2.8		18.5	25	19	126
			YES										20.2	25	21	128
120 (10 Ton)	208/230-3-60	STD	NO	187	254	2	15.8	130	2	1.4	5.8	0.6	44.2	50	46	307
			YES										50.2	60	52	311
		ALT	NO								7.5		45.9	50	48	326
			YES										51.9	60	54	330
		HIGH	NO								15.0		53.4	60	57	374
			YES										59.4	70	62	378
	460-3-60	STD	NO	414	508	2	7.9	64	2	0.7	2.6	0.3	21.8	25	23	152
			YES										27.8	30	25	154
		ALT	NO								3.4		22.6	25	24	191
			YES										25.3	30	26	193
		HIGH	NO								7.4		26.6	30	28	185
			YES										29.3	35	31	187
	575-3-60	STD	NO	518	632	2	6.6	52	2	0.6	2.0	0.3	18.1	25	19	123
			YES										24.1	25	21	109
		ALT	NO								2.0		18.7	25	20	155
			YES										24.7	25	22	141
		HIGH	NO								2.8		21.9	30	23	150
			YES										24.6	30	25	136
121 (10 Ton)	208/230-3-60	STD	NO	187	254	2	15.8	130	2	1.4	5.8	0.6	44.6	50	46	307
			YES										49.4	60	52	312
		ALT	NO								7.5		46.3	60	48	326
			YES										51.1	60	54	331
		HIGH	NO								15.0		53.8	60	57	374
			YES										58.6	70	62	379
	460-3-60	STD	NO	414	508	2	7.9	64	2	0.7	2.6	0.3	22.0	25	23	152
			YES										24.2	30	25	154
		ALT	NO								3.4		22.8	25	24	191
			YES										25.0	30	26	193
		HIGH	NO								7.4		26.8	30	28	185
			YES										29.0	35	30	187
	575-3-60	STD	NO	518	632	2	6.6	52	2	0.6	2.0	0.3	18.1	20	19	123
			YES										19.8	25	21	125
		ALT	NO								2.8		18.7	20	20	150
			YES										20.4	25	22	156
		HIGH	NO								3.3		21.9	25	23	155
			YES										23.6	25	25	151

LEGEND

FLA — Full Load Amps
HACR — Heating, Air Conditioning and Refrigeration
IFM — Indoor (Evaporator) Fan Motor
LRA — Locked Rotor Amps
MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection
NEC — National Electrical Code
OFM — Outdoor (Condenser) Fan Motor
RLA — Rated Load Amps

*Used to determine minimum disconnect per NEC.
†Fuse or HACR circuit breaker.

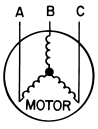
NOTES:

1. In compliance with NEC requirements for multimotor and combination load equipment (refer to NEC Articles 430 and 440), the overcurrent protective device for the unit shall be fuse or HACR breaker. Canadian units may be fuse or circuit breaker.
2. **Unbalanced 3-Phase Supply Voltage**
   Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percent of voltage imbalance.

   % Voltage Imbalance

   $$= 100 \times \frac{\text{max voltage deviation from average voltage}}{\text{average voltage}}$$

   Example: Supply voltage is 460-3-60.

   AB = 452 v
   BC = 464 v
   AC = 455 v

   $$\text{Average Voltage} = \frac{452 + 464 + 455}{3}$$

   $$= \frac{1371}{3}$$

   $$= 457$$

   Determine maximum deviation from average voltage.
   (AB) 457 – 452 = 5 v
   (BC) 464 – 457 = 7 v
   (AC) 457 – 455 = 2 v
   Maximum deviation is 7 v.

   Determine percent of voltage imbalance.

   $$\text{\% Voltage Imbalance} = 100 \times \frac{7}{457}$$

   $$= 1.53\%$$

   This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

   IMPORTANT: If the supply voltage phase imbalance is more than 2%, contact your local electric utility company immediately.
3. For units with power exhaust: If a single power source is to be used, size wire to include power exhaust MCA and MOCP. Check MCA and MOCP when power exhaust is powered through the unit (must be in accordance with NEC and/or local codes). Determine the new MCA including the power exhaust using the following formula:

   MCA New = MCA unit only + MCA of Power Exhaust

   For example, using a 580F060 unit with MCA = 28.9 and MOCP = 35, with CRPWREXH030A01 power exhaust.

   MCA New = 28.9 amps + 1.6 amps = 30.5 amps

   If the new MCA does not exceed the published MOCP, then MOCP would not change. The MOCP in this example is 35 amps, the MCA New is below 35, therefore the MOCP is acceptable. If "MCA New" is larger than the published MOCP, raise the MOCP to the next larger size. For separate power, the MOCP for the power exhaust will be 15 amps per NEC.

POWER EXHAUST ELECTRICAL DATA

POWER EXHAUST PART NO.	APPLICATION USAGE	MCA (230 V)	MCA (460 V)	MCA (575 V)	MOCP (separate power source only)
CRPWREXH030A01	036-073*	1.6	N/A	0.64	15
CRPWREXH021A01	036-073	N/A	0.68	N/A	15
CRPWREXH022A01	090-151*	3.4	N/A	1.32	15
CRPWREXH023A01	090-151	N/A	1.4	N/A	15
CRPWREXH028A01	ALL*	1.7	N/A	0.68	15
CRPWREXH029A01	ALL	N/A	0.7	N/A	15

*Single or three phase.

ELECTRICAL DATA (cont)

UNIT SIZE 580F	NOMINAL V-PH-Hz	IFM TYPE	CONV OUTLET	VOLTAGE RANGE		COMPRESSOR (each)			OFM (each)		IFM FLA	COMBUSTION FAN MOTOR	POWER SUPPLY		MINIMUM UNIT DISCONNECT SIZE*	
				Min	Max	Qty	RLA	LRA	Qty	FLA		FLA	MCA	MOCP†	FLA	LRA
150 (12½ Ton)	208/230-3-60	STD	NO	187	254	2	23	146	2	1.4	10.6	0.6	65.2	80	68	383
			YES										71.2	80	74	387
		HIGH	NO								15.0		69.6	80	73	406
			YES										75.6	80	79	410
	460-3-60	STD	NO	414	508	2	10.4	73	2	0.7	4.8	0.3	29.6	35	31	192
			YES										35.6	40	34	194
		HIGH	NO								7.4		32.2	35	34	203
			YES										34.9	40	37	205
	575-3-60	STD	NO	518	632	2	8.3	58.4	2	0.6	2.0	0.3	23.6	30	25	154
			YES										29.6	35	27	156
		HIGH	NO								2.8		25.7	30	27	163
			YES										31.7	35	29	165
151 (12½ Ton)	208/230-3-60	STD	NO	187	254	2	19	156	2	1.4	10.6	0.6	56.2	70	59	359
			YES										61.0	70	65	364
		HIGH	NO								15.0		60.6	70	64	378
			YES										65.4	80	70	383
	460-3-60	STD	NO	414	508	2	9	75	2	0.7	4.8	0.3	26.5	30	28	174
			YES										28.7	35	30	176
		HIGH	NO								7.4		29.1	35	31	213
			YES										31.3	35	33	215
	575-3-60	STD	NO	518	632	2	7.4	54	2	0.6	3.3	0.3	21.6	25	23	127
			YES										23.3	30	25	129
		HIGH	NO								5.6		23.7	25	25	159
			YES								5.6		25.4	30	27	160

LEGEND

FLA — Full Load Amps
HACR — Heating, Air Conditioning and Refrigeration
IFM — Indoor (Evaporator) Fan Motor
LRA — Locked Rotor Amps
MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection
NEC — National Electrical Code
OFM — Outdoor (Condenser) Fan Motor
RLA — Rated Load Amps

*Used to determine minimum disconnect per NEC.
†Fuse or HACR circuit breaker.

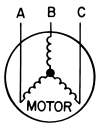
NOTES:

1. In compliance with NEC requirements for multimotor and combination load equipment (refer to NEC Articles 430 and 440), the overcurrent protective device for the unit shall be fuse or HACR breaker. Canadian units may be fuse or circuit breaker.
2. **Unbalanced 3-Phase Supply Voltage**
   Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percent of voltage imbalance.

   % Voltage Imbalance

   $$= 100 \times \frac{\text{max voltage deviation from average voltage}}{\text{average voltage}}$$

   Example: Supply voltage is 460-3-60.

   AB = 452 v
   BC = 464 v
   AC = 455 v

   $$\text{Average Voltage} = \frac{452 + 464 + 455}{3}$$

   $$= \frac{1371}{3}$$

   $$= 457$$

   Determine maximum deviation from average voltage.
   (AB) 457 – 452 = 5 v
   (BC) 464 – 457 = 7 v
   (AC) 457 – 455 = 2 v
   Maximum deviation is 7 v.

   Determine percent of voltage imbalance.

   $$\% \text{ Voltage Imbalance} = 100 \times \frac{7}{457}$$

   $$= 1.53\%$$

   This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

   IMPORTANT: If the supply voltage phase imbalance is more than 2%, contact your local electric utility company immediately.
3. For units with power exhaust: If a single power source is to be used, size wire to include power exhaust MCA and MOCP. Check MCA and MOCP when power exhaust is powered through the unit (must be in accordance with NEC and/or local codes). Determine the new MCA including the power exhaust using the following formula:

   MCA New = MCA unit only + MCA of Power Exhaust

   For example, using a 580F060 unit with MCA = 28.9 and MOCP = 35, with CRPWREXH030A01 power exhaust.

   MCA New = 28.9 amps + 1.6 amps = 30.5 amps

   If the new MCA does not exceed the published MOCP, then MOCP would not change. The MOCP in this example is 35 amps, the MCA New is below 35, therefore the MOCP is acceptable. If "MCA New" is larger than the published MOCP, raise the MOCP to the next larger size. For separate power, the MOCP for the power exhaust will be 15 amps per NEC.

POWER EXHAUST ELECTRICAL DATA

POWER EXHAUST PART NO.	APPLICATION USAGE	MCA (230 V)	MCA (460 V)	MCA (575 V)	MOCP (separate power source only)
CRPWREXH030A01	036-073*	1.6	N/A	0.64	15
CRPWREXH021A01	036-073	N/A	0.68	N/A	15
CRPWREXH022A01	090-151*	3.4	N/A	1.32	15
CRPWREXH023A01	090-151	N/A	1.4	N/A	15
CRPWREXH028A01	ALL*	1.7	N/A	0.68	15
CRPWREXH029A01	ALL	N/A	0.7	N/A	15

*Single or three phase.

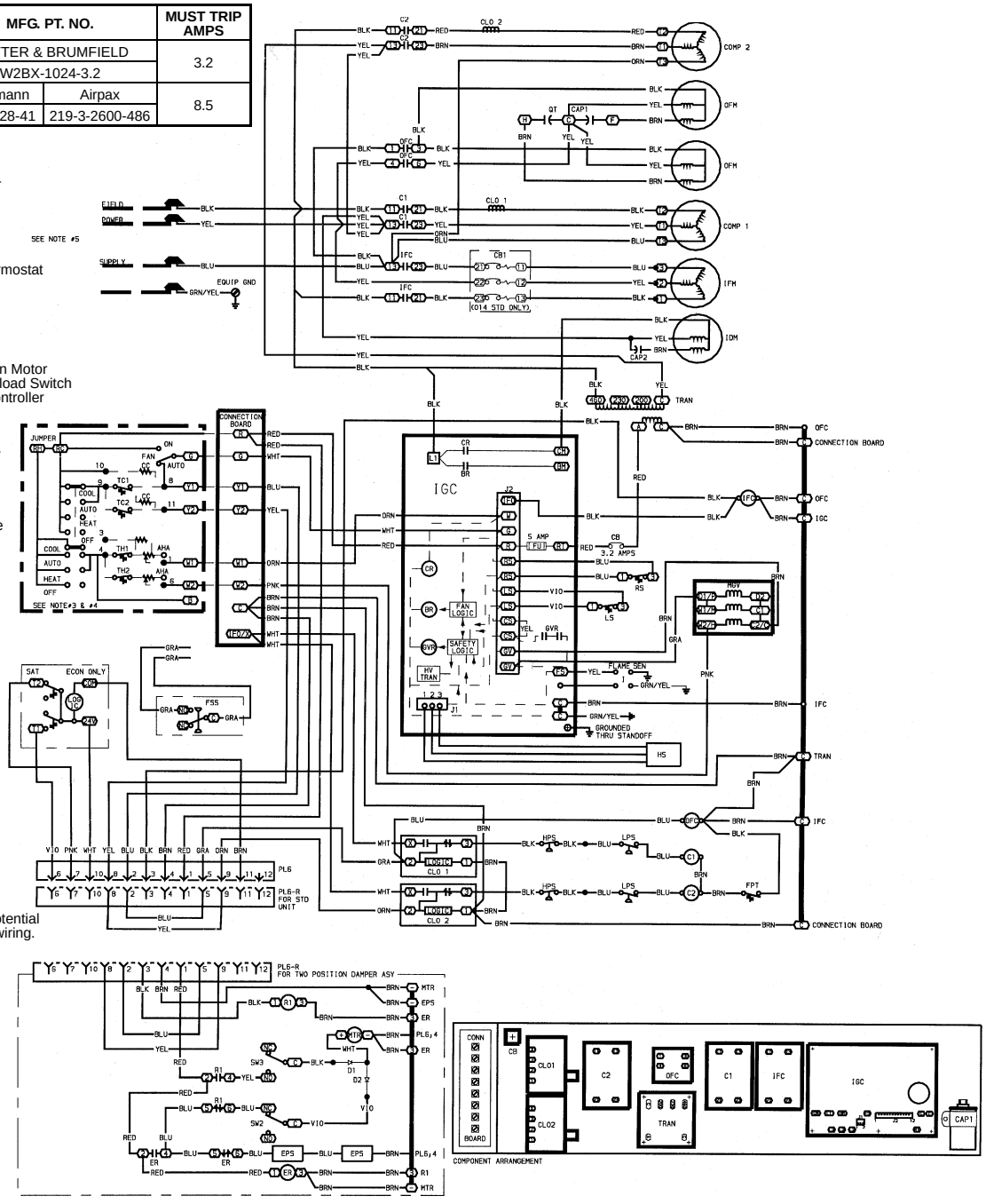
TYPICAL WIRING SCHEMATICS — 580F036-151
(580F090, 460-3-60 Shown)

CIRCUIT BREAKER	VOLTS	MFG. PT. NO.		MUST TRIP AMPS
CB	24 V	POTTER & BRUMFIELD		3.2
		W2BX-1024-3.2		
CB1 (150,151 Std)	460-3-60	Heinemann	Airpax	8.5
		CF3-Z228-41	219-3-2600-486	

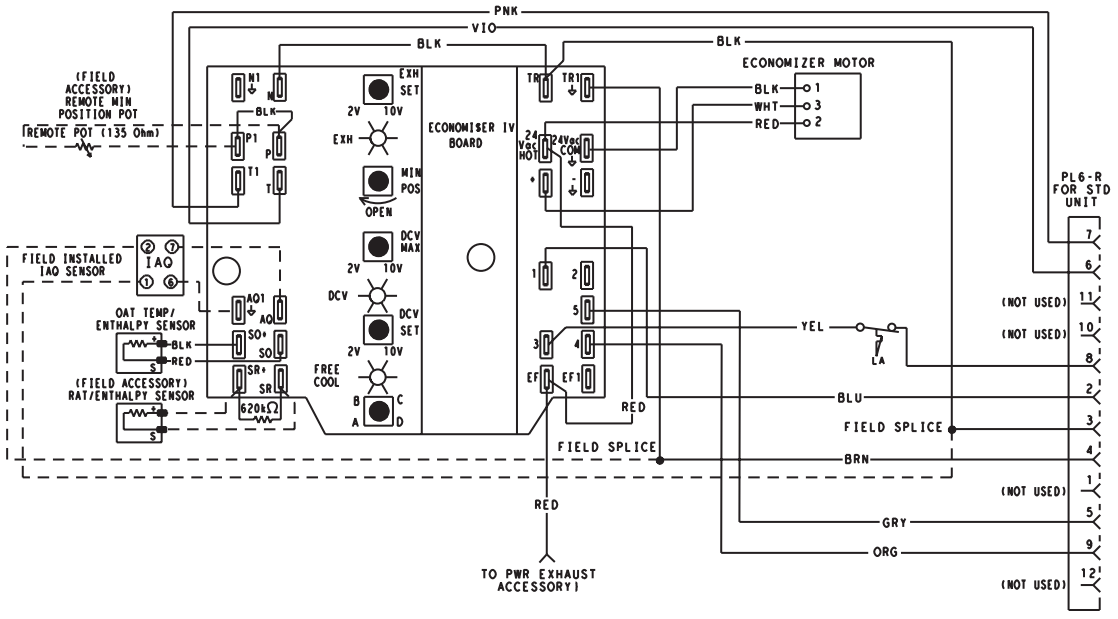
LEGEND

C	—	Contactor, Compressor
CAP	—	Capacitor
CB	—	Circuit Breaker
CLO	—	Compressor Lockout
COMP	—	Compressor Motor
EQUIP	—	Equipment
FPT	—	Freeze Protection Thermostat
GND	—	Ground
HPS	—	High-Pressure Switch
HS	—	Hall Effect Sensor
I	—	Ignitor
IDM	—	Induced Draft Motor
IFC	—	Indoor Fan Contactor
IFM	—	Indoor (Evaporator) Fan Motor
IFMOVL	—	Indoor Fan Motor Overload Switch
IGC	—	Integrated Gas Unit Controller
LPS	—	Low-Pressure Switch
LS	—	Limit Switch
MGV	—	Main Gas Valve
OFC	—	Outdoor Fan Contactor
OFM	—	Outdoor Fan Motor
P	—	Plug
PL	—	Plug Assembly
QT	—	Quadruple Terminal
RAT	—	Return Air Temperature Sensor
RS	—	Rollout Switch
SAT	—	Mixed-Air Temperature Sensor
SEN	—	Sensor
TRAN	—	Transformer

- Field Splice
- Marked Wire
- Terminal (Marked)
- Terminal (Unmarked)
- Terminal Block
- Splice
- Splice (Marked)
- Factory Wiring
- Field Control Wiring
- Field Power Wiring
- Accessory or Optional Wiring
- To indicate common potential only. Not to represent wiring.



TYPICAL WIRING SCHEMATICS — 580F036-151 (cont)



LEGEND

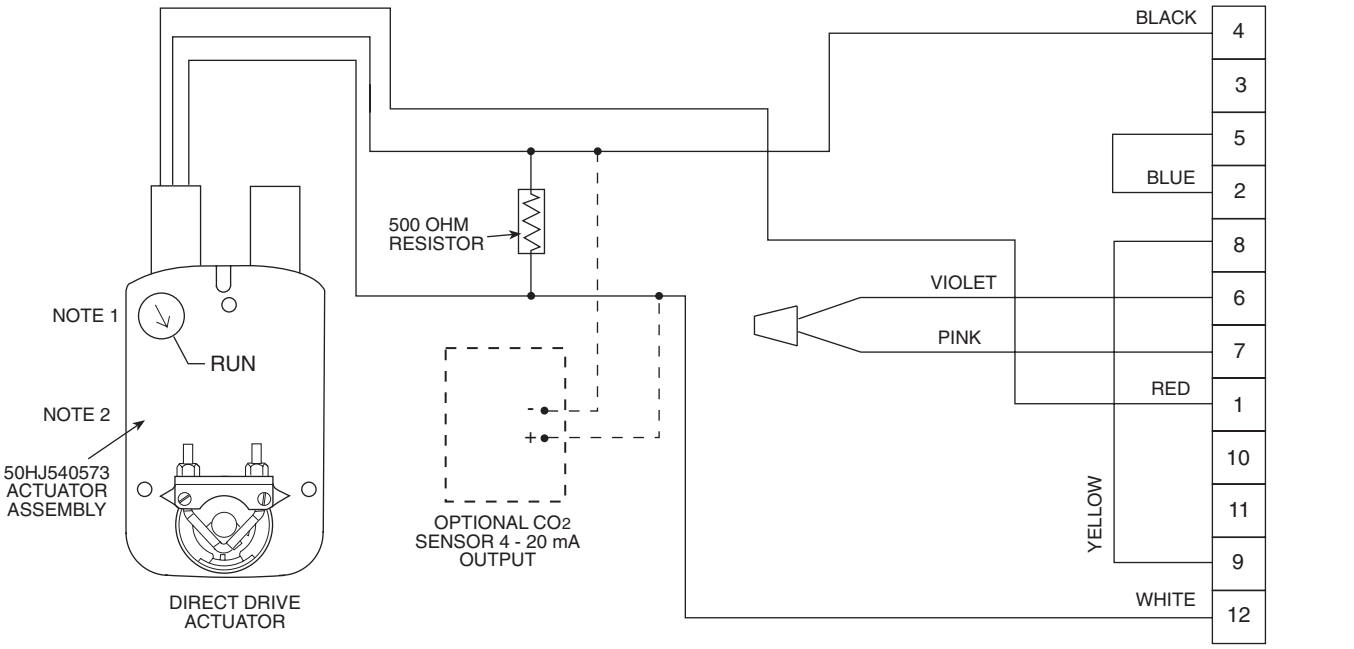
IAQ — Indoor Air Quality
LA — Low Ambient Lockout Device
POT — Potentiometer
OAT — Outdoor-Air Temperature
RAT — Return-Air Temperature

NOTE:
Potentiometer Defaults Settings:

Power Exhaust	Middle
Minimum Pos.	Fully Closed
DCV Max.	Middle
DCV Set	Middle
Enthalpy	C Setting

ECONOMIZER NOTES:
1. 620 ohm, 1 watt 5% resister should be removed only when using differential enthalpy or dry bulb.
2. If a separate field supplied 24v transformer is used for the IAQ sensor power supply, it cannot have the secondary of the transformer grounded.
3. For field installed remote minimum position POT, remove black wire jumper between P and P1 and set control minimum position POT to the minimum position.

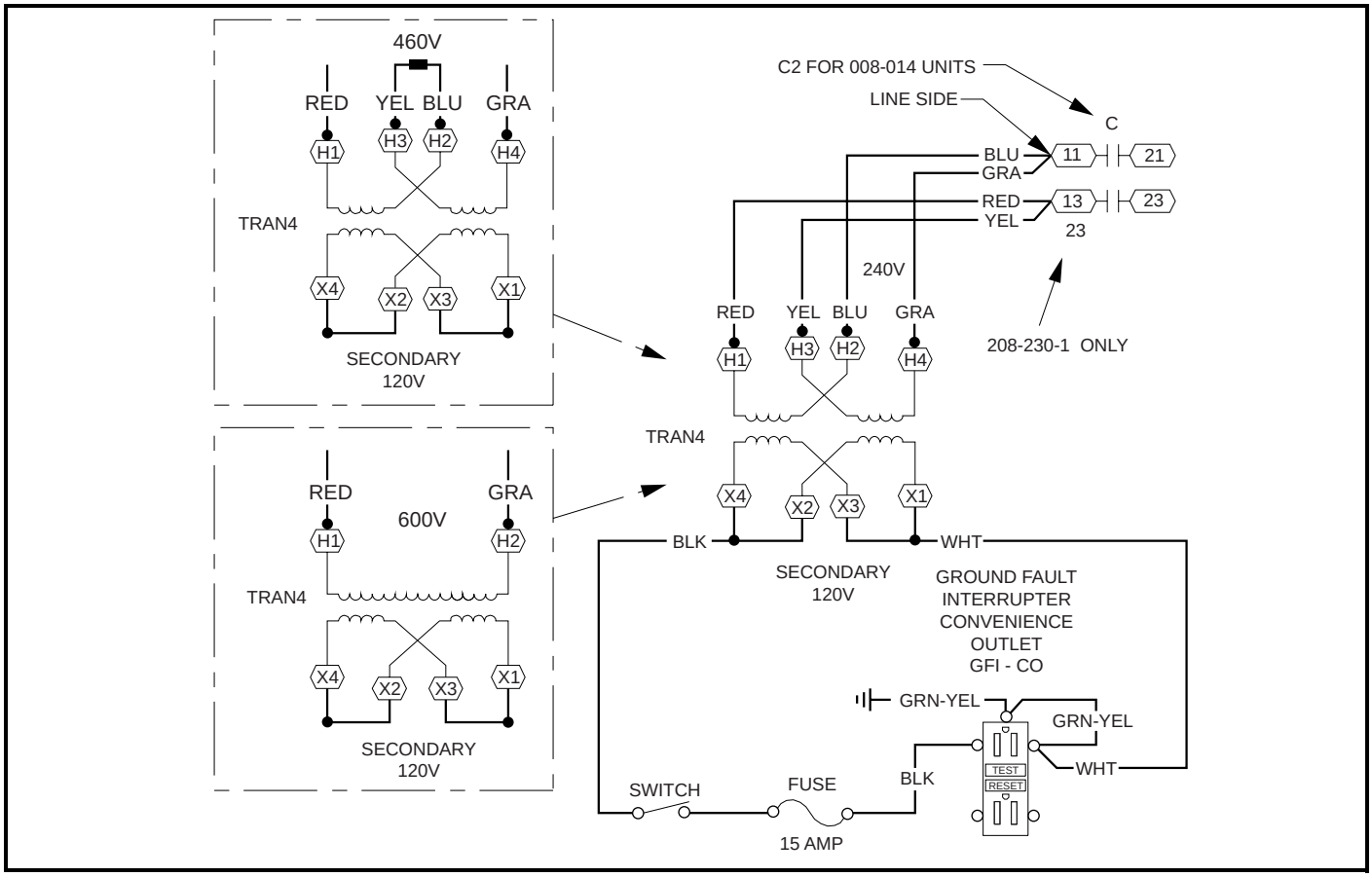
EconoMi$er IV Wiring — 580F036-151 Units



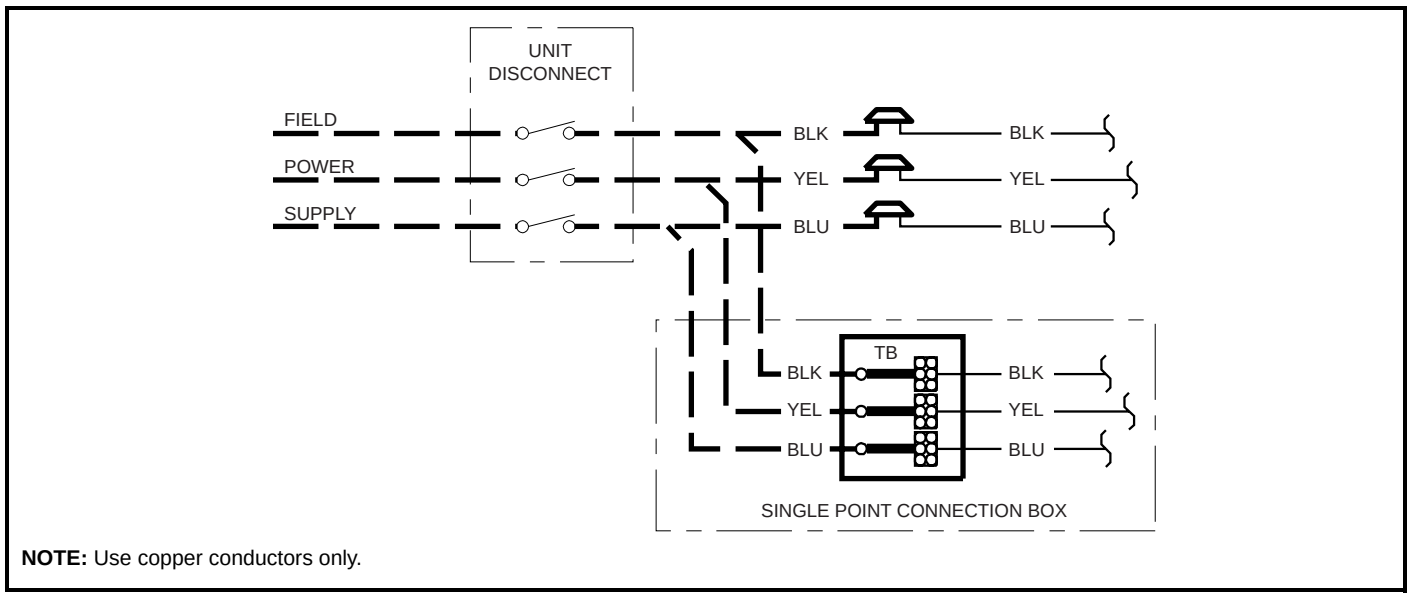
NOTES:
1. Switch on actuator must be in run position for economizer to operate.
2. 50HJ540573 actuator consists of the 50HJ540567 actuator and a harness with 500-ohm resistor.

EconoMi$er2 Wiring — 580F036-151 Units

TYPICAL WIRING SCHEMATICS — 580F (cont)



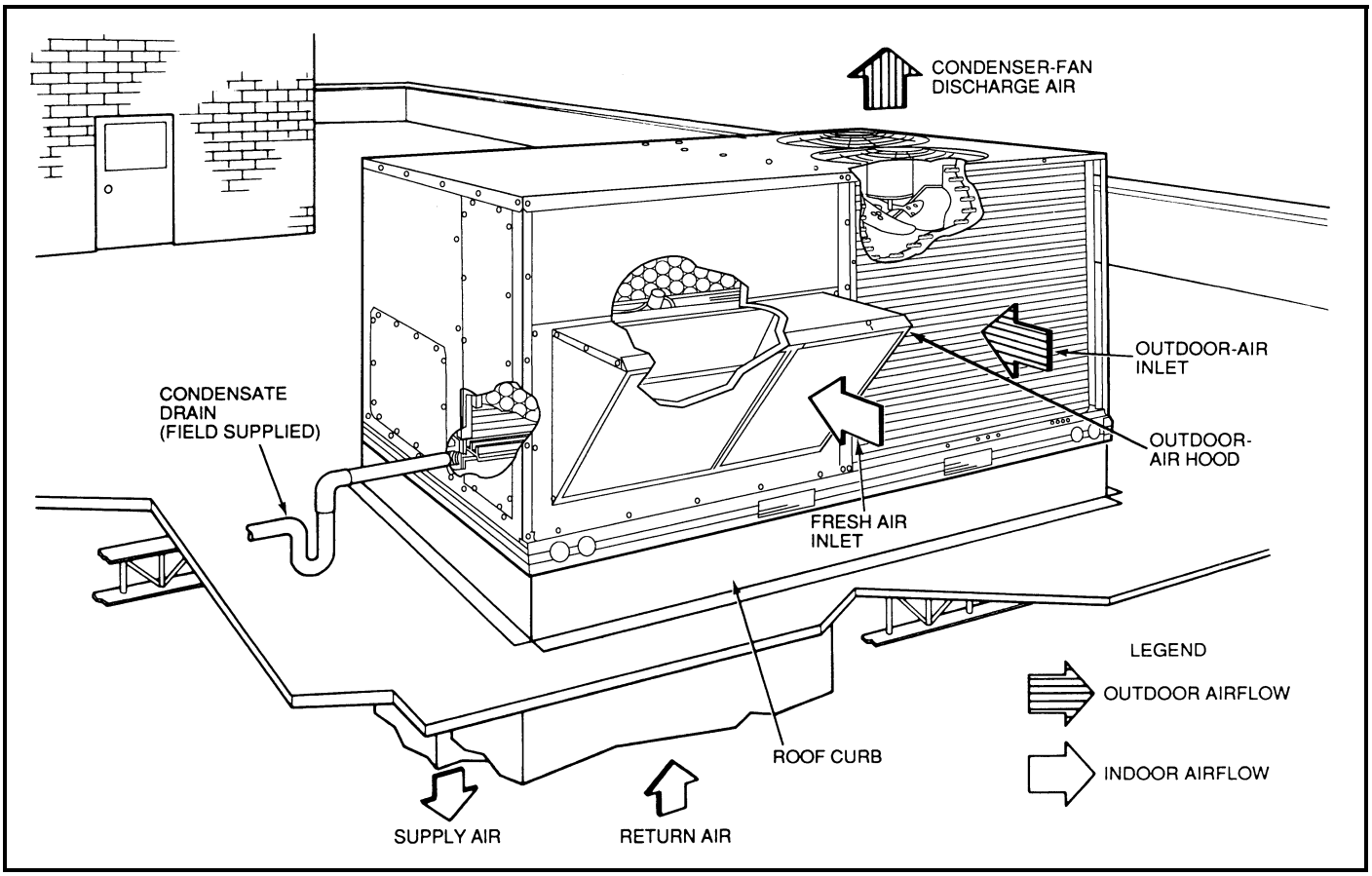
Convenience Outlet (Optional) — Sizes 580F036-151



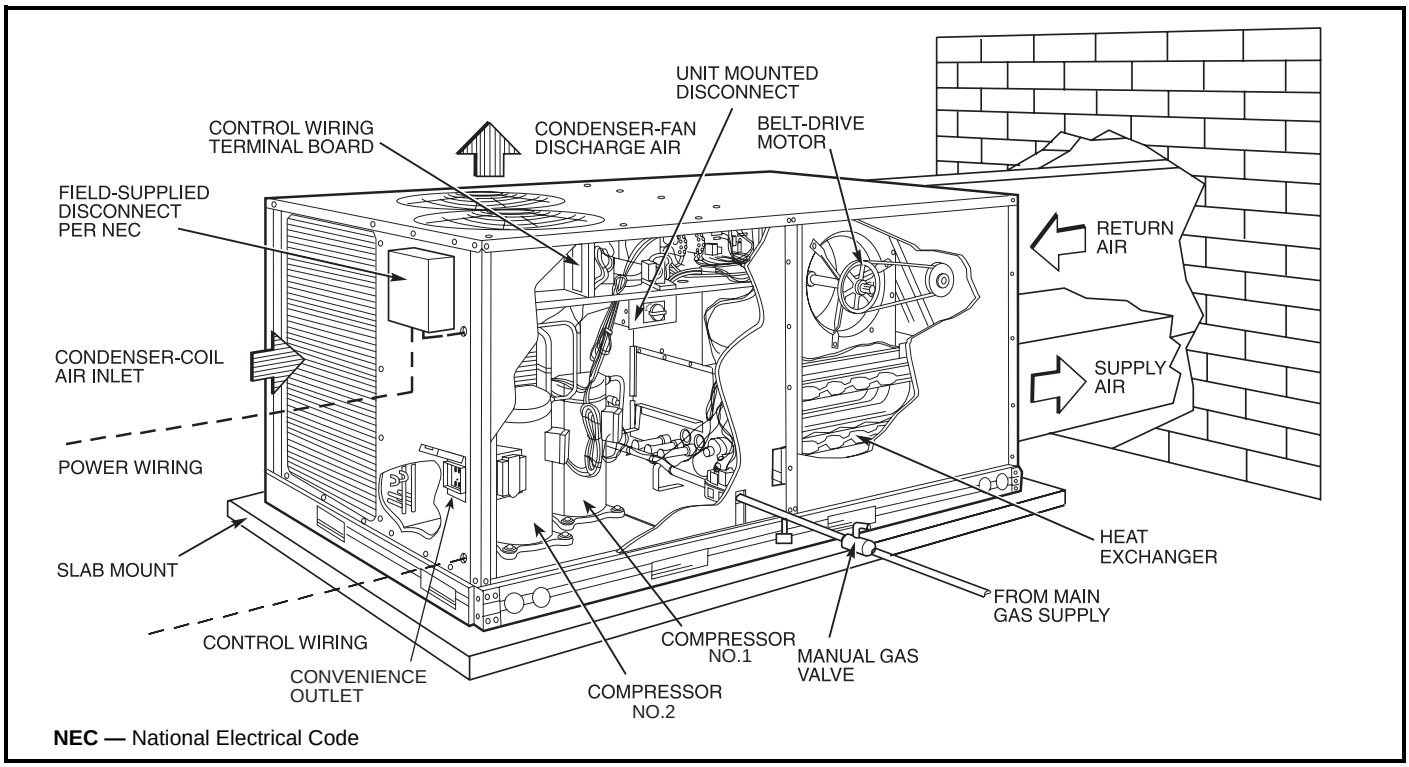
NOTE: Use copper conductors only.

Non-Fused Disconnect (Optional) — Sizes 580F036-151

TYPICAL PIPING AND WIRING — 580F036-151



Vertical Discharge Ducting



NEC — National Electrical Code

Horizontal Discharge Ducting

PHYSICAL DATA — 581B036-072

UNIT SIZE 581B		036	048	060	072
NOMINAL CAPACITY		3	4	5	6
OPERATING WEIGHT (lb)					
Unit		530	540	560	635
COMPRESSOR		Scroll			
Quantity		1	1	1	1
Oil (oz)		42	53	50	60
REFRIGERANT TYPE		R-22			
Operating Charge (lb-oz)					
Standard Unit		5-8	10-2	10- 0	12-8
Unit With Perfect Humidity Dehumidification Package		9-0	15-8	17-0	21-0
CONDENSER FAN		Propeller			
Quantity...Diameter (in.)		1...22	1...22	1...22	1...22
Nominal Cfm		3500	3500	4100	4100
Motor Hp...Rpm		1/4...825	1/4...825	1/4...1100	1/4...1100
Watts Input (Total)		180	180	320	320
CONDENSER COIL		3/8-in. OD Enhanced Copper Tubes, Aluminum Lanced Fins			
Standard Unit					
Rows...Fins/in.		1...17	2...17	2...17	2...17
Total Face Area (sq ft)		14.6	16.5	16.5	16.5
Unit with Perfect Humidity Dehumidification Package					
Rows...Fins/in.		1...17	1...17	1...17	1...17
Total Face Area (sq ft)		3.9	3.9	3.9	3.9
EVAPORATOR COIL		3/8-in. OD Enhanced Copper Tubes, Aluminum Double-Wavy Fins, Acutrol™ Metering Device			
Rows...Fins/in.		2...15	2...15	4...15	4...15
Total Face Area (sq ft)		5.5	5.5	5.5	5.5
EVAPORATOR FAN		Centrifugal Type, Belt Drive			
Quantity...Size (in.)		1...10 x 10	1...10 x 10	1...10 x 10	1...10 x 10
Nominal Cfm		1200	1600	2000	2400
Maximum Continuous Bhp	Std	1.20	1.20	1.30/2.40*	2.40
	Hi-Static	2.40	2.40	2.90	2.90
Motor Frame Size	Std	48	48	48/56*	56
	Hi-Static	56	56	56	56
Fan Rpm Range	Std	680-1044	770-1185	1035-1460	1119-1585
	Hi-Static	1075-1455	1075-1455	1300-1685	1300-1685
Motor Bearing Type		Ball	Ball	Ball	Ball
Maximum Fan Rpm		2100	2100	2100	2100
Motor Pulley Pitch Diameter A/B (in.)	Std	1.9/2.9	1.9/2.0	2.4/3.4	2.4/3.4
	Hi-Static	2.8/3.8	2.8/3.8	3.4/4.4	3.4/3.4
Nominal Motor Shaft Diameter (in.)	Std	1/2	1/2	5/8	5/8
	Hi-Static	5/8	5/8	5/8	7/8
Fan Pulley Pitch Diameter (in.)	Std	4.5	4.0	4.0	3.7
	Hi-Static	4.5	4.5	4.5	4.5
Belt — Type...Length (in.)	Std	1...A...36	1...A...36	1....4...40	1...A...38
	Hi-Static	1...A...39	1...A...39	1...A...40	1...A...40
Pulley Center Line Distance (in.)		10.0-12.4	10.0-12.4	14.7-15.5	14.7-15.5
Speed Change per Full Turn of	Std	65	70	75	95
Movable Pulley Flange (rpm)	Hi-Static	65	65	60	60
Movable Pulley Maximum Full	Std	5	5	6	5
Turns from Closed Position	Hi-Static	6	6	5	5
Factory Setting — Full Turns Open	Std	3	3	3	3
	Hi-Static	3 1/2	3 1/2	3 1/2	3 1/2
Factory Speed Setting (rpm)	Std	826	936	1248	1305
	Hi-Static	1233	1233	1396	1396
Fan Shaft Diameter at Pulley (in.)		5/8	5/8	5/8	5/8

LEGEND

Bhp — Brake Horsepower

*Single phase/three phase.
†Indicates automatic reset.
**60,000 and 72,000 Btuh heat input units have 2 burners. 90,000 and 120,000 Btuh heat input units have 3 burners. 115,000 Btuh heat input units and 150,000 Btuh Heat input units have 3 burners.
††An LP kit is available as an accessory.
||California compliant three-phase models.
***California SCAQMD compliant low NO_x models have combustion products that are controlled to 40 nanograms per joule or less.

PHYSICAL DATA — 581B036-072 (cont)

UNIT SIZE 581B		036	048	060	072
FURNACE SECTION					
Rollout Switch Cutout Temp (F)†		195	195	195	195
Burner Orifice Diameter (in. ...drill size)**					
Natural Gas — Std	071/072	.113...33	.113...33	.113...33	.113...33
	114/115	.113...33	.113...33	.113...33	.113...33
	149/150	—	.129...30	.129...30	.129...30
	060N	.102...38	.102...38	.102...38	—
	090N	.102...38	.102...38	.102...38	—
	120N	—	.116...32	.116...32	—
Liquid Propane — Alt††	071/072	.089...43	.089...43	.089...43	.089...43
	114115	.089...43	.089...43	.089...43	.089...43
	149/150	—	.102...38	.102...38	.102...38
Thermostat Heat Anticipator Setting (amps)					
208/230/460 v					
First Stage		.14	.14	.14	.14
Second Stage		.14	.14	.14	.14
Gas Input (Btuh)					
First Stage/Second Stage (3-phase units)	072	50,000/ 72,000	50,000/ 72,000	50,000/ 72,000	50,000/ 72,000
	115	82,000/115,000	82,000/115,000	82,000/115,000	82,000/115,000
	150	—	120,000/150,000	120,000/150,000	120,000/150,000
	071II	—/ 72,000	—/ 72,000	—/ 72,000	—
	114II	—/115,000	—/115,000	—/115,000	—
	149II	—	—/150,000	—/150,000	—
	060N***	—/ 60,000	—/ 60,000	—/ 60,000	—
	090N***	—/ 90,000	—/ 90,000	—/ 90,000	—
	120N***	—	—/120,000	—/120,000	—
Efficiency (Steady State) (%)	072	82	82	82	82
	115	80	81	81	81
	150	—	80	80	80
	071	82	82	82	—
	114	80	81	81	—
	149	—	80	80	—
	060N	80	80	80	—
	090N	80	80	80	—
	120N	—	80	80	—
Temperature Rise Range	072	25-55	25-55	25-55	25-55
	115	55-85	35-65	35-65	35-65
	150	—	50-80	50-80	50-80
	071	25-55	25-55	25-55	—
	114	55-85	35-65	35-65	—
	149	—	50-80	50-80	—
	060N	20-50	20-50	20-50	—
	090N	30-60	30-60	30-60	—
	120N	—	40-70	40-70	—
Manifold Pressure (in. wg)					
Natural Gas — Std		3.5	3.5	3.5	3.5
Liquid Propane — Alt†		3.5	3.5	3.5	3.5
Gas Valve Quantity		1	1	1	1
Gas Valve Pressure Range (Min-Max Allowable)					
Psig		0.180-0.470	0.180-0.470	0.180-0.470	0.180-0.470
in. wg		5.0-13.0	5.0-13.0	5.0-13.0	5.0-13.0
Maximum Static Pressure (in. wg)		1.0	1.0	1.0	1.0
Field Gas Connection Size (in. FPT)		1/2	1/2	1/2	1/2
HIGH-PRESSURE SWITCH (psig)					
Standard Compressor Internal Relief		450 ± 50			
Cutout		428			
Reset (Auto.)		320			
LOSS-OF-CHARGE SWITCH/LOW-PRESSURE SWITCH (Liquid Llne) (psig)					
Cutout		7 ± 3			
Reset (Auto.)		22 ± 5			
FREEZE PROTECTION THERMOSTAT					
Opens (F)		30 ± 5			
Closes (F)		45 ± 5			
OUTDOOR-AIR INLET SCREENS		Cleanable			
Quantity...Size (in.)		Varies By Option Selected			
RETURN-AIR FILTERS		Throwaway			
Quantity...Size (in.)		2...16 x 25 x 2			4...16 x 16 x 2

LEGEND

Bhp — Brake Horsepower

*Single phase/three phase.
†Indicates automatic reset.
**60,000 and 72,000 Btuh heat input units have 2 burners. 90,000 and 120,000 Btuh heat input units have 3 burners. 115,000 Btuh heat input units and 150,000 Btuh Heat input units have 3 burners.
††An LP kit is available as an accessory. In order to convert a Low NOx unit to LP gas, the baffle must be removed. Low NOx units converted to LP gas are no longer California SCAQMD compliant.
||California compliant three-phase models.
***California SCAQMD compliant low NO_x models have combustion products that are controlled to 40 nanograms per joule or less.

PHYSICAL DATA — 581B090-150

UNIT SIZE 581B		090	102	120	150
NOMINAL CAPACITY (tons)		7 1/2	8 1/2	10	12 1/2
OPERATING WEIGHT (lb)					
Unit		870	1015	1035	1050
COMPRESSOR			Scroll		
Quantity		2	2	2	2
Oil (oz) (each compressor)		53	50	50	60
REFRIGERANT TYPE			R-22		
Operating Charge (lb-oz)					
Standard Unit					
Circuit 1 (first stage)		7-10	9- 8	9-10	9-8
Circuit 2 (second stage)		8- 2	8-13	10-10	9-5
Unit With Perfect Humidity Dehumidification Package					
Circuit 1 (first stage)		13-0	16-0	16-8	15-3
Circuit 2 (second stage)		13-6	16-8	17-8	16-6
CONDENSER FAN			Propeller		
Quantity...Diameter (in.)		2...22	2...22	2...22	2...22
Nominal Cfm		6500	6500	7000	7000
Motor Hp...Rpm		1/4...1100	1/4...1100	1/4...1100	1/4...1100
Watts Input (Total)		650	650	650	650
CONDENSER COIL			3/8-in. OD Enhanced Copper Tubes, Aluminum Lanced Fins		
Standard Unit					
Rows...Fins/in.		2...17	2...17	2...17	2...17
Total Face Area (sq ft)		20.5	25.0	25.0	25.0
Unit with Perfect Humidity Dehumidification Package					
Rows...Fins/in.		1...17	1...17	1...17	1...17
Total Face Area (sq ft)		6.3	8.4	8.4	8.4
EVAPORATOR FAN			Centrifugal		
Size (in.)		15 x 15	15 x 15	15 x 15	15 x 15
Type Drive		Belt	Belt	Belt	Belt
Nominal Cfm		3000	3400	4000	5000
Maximum Continuous Bhp	Std	2.90	2.90	3.70	5.25
	Hi-Static	4.20	4.20	5.25	—
Motor Frame		56	56	56	56
Fan Rpm Range	Std	840-1085	840-1085	860-1080	830-1130
	Hi-Static	860-1080	860-1080	830-1130	—
Motor Bearing Type		Ball	Ball	Ball	Ball
Maximum Fan Rpm		2100	2100	2100	2100
Motor Pulley Pitch Diameter	Std	3.4/4.4	3.4/4.4	4.0/5.0	2.8/3.8
A/B (in.)	Hi-Static	4.0/5.0	4.0/5.0	2.8/3.8	—
Nominal Motor Shaft Diameter (in.)		7/8	7/8	7/8	7/8
Fan Pulley Pitch Diameter (in.)	Std	7.0	7.0	8.0	5.8
	Hi-Static	8.0	8.0	5.8	—
Belt — Type...Length (in.)	Std	A...48	A...51	A...53	BX...48
	Hi-Static	A...53	A...53	BX...45	—
Pulley Center Line Distance (in.)		16.75-19.25	16.75-19.25	15.85-17.50	15.85-17.50
Speed Change per Full Turn of	Std	50	50	45	60
Movable Pulley Flange (rpm)	Hi-Static	60	60	60	—
Movable Pulley Maximum Full	Std	5	5	5	6
Turns from Closed Position	Hi-Static	5	5	6	—
Factory Setting — Full Turns Open	Std	5	5	5	5
	Hi-Static	5	5	5	—
Factory Speed Setting (rpm)	Std	840	840	860	887
	Hi-Static	860	860	890	—
Fan Shaft Diameter at Pulley (in.)		1	1	1	1
EVAPORATOR COIL			3/8-in. OD Enhanced Copper Tubes, Aluminum Double-Wavy Fins		
Rows...Fins/in.		3...15	4...15	4...15	4...15
Total Face Area (sq ft)		8.9	11.1	11.1	11.1

LEGEND

Bhp — Brake Horsepower

*Single phase/three phase.
†Indicates automatic reset.

**72,000 Btuh heat input units have 2 burners.
115,000 Btuh heat input units and 150,000 Btuh Heat input units have 3 burners.
††An LP kit is available as an accessory.

PHYSICAL DATA — 581B090-150 (cont)

UNIT SIZE 581B	090		102		120		150	
FURNACE SECTION								
Rollout Switch Cutout Temp (F)†	195		195		195		195	
Burner Orifice Diameter (in. ...drill size)**								
Natural Gas — Std	**125**	.120...31	**125**	.120...31	**180**	.120...31	**180**	.120...31
	180	.120...31	**180**	.120...31	**224**	.120...31	**224**	.129...30
	224	.120...31	**224**	.120...31	**250**	.129...30	—	—
Liquid Propane — Alt††	**125**	.096...41	**125**	.096...41	**180**	.096...41	**180**	.096...41
	180	.096...41	**180**	.096...41	**224**	.096...41	**224**	.102...38
	224	.096...41	**224**	.096...41	**250**	.102...38	—	—
Thermostat Heat Anticipator Setting (amps)								
Stage 1		.14		.14		.14		.14
		.14		.14		.14		.14
		.14		.14		.14		
Stage 2		.14		.14		.20		.20
		.20		.20		.20		.20
		.20		.20		.20		
Gas Input (Btuh) Stage 1	**125**	90,000	**125**	90,000	**180**	120,000	**180**	120,000
	180	120,000	**180**	120,000	**224**	180,000	**224**	180,000
	224	180,000	**224**	180,000	**250**	200,000	—	—
Stage 2	**125**	125,000	**125**	125,000	**180**	180,000	**180**	180,000
	180	180,000	**180**	180,000	**224**	224,000	**224**	224,000
	224	224,000	**224**	224,000	**250**	250,000	—	—
Efficiency (Steady State) (%)		82		82		82		82
		82		82		82		80
		82		82		80		
Temperature Rise Range	**125**	20-50	**125**	20-50	**180**	35-65	**180**	35-65
	180	35-65	**180**	35-65	**224**	35-65	**224**	40-70
	224	45-75	**224**	45-75	**250**	40-70	—	—
Manifold Pressure (in. wg)								
Natural Gas — Std		3.5		3.5		3.5		3.5
Liquid Propane — Alt††		3.5		3.5		3.5		3.5
Gas Valve Quantity		1		1		1		1
Gas Valve Pressure Range (Min-Max Allowable)								
Psig		0.180-0.470		0.180-0.470		0.180-0.470		0.180-0.470
in. wg		5.0-13.0		5.0-13.0		5.0-13.0		5.0-13.0
Field Gas Connection Size (in. FPT)	**125**	.50	**125**	.50	**180**	.75	**180**	.75
	180	.75	**180**	.75	**224**	.75	**224**	.75
	224	.75	**224**	.75	**250**	.75	—	—
HIGH-PRESSURE SWITCH (psig)								
Standard Compressor Internal Relief	450 ± 50							
Cutout	428							
Reset (Auto.)	320							
LOSS-OF-CHARGE SWITCH/LOW-PRESSURE SWITCH (Liquid Line) (psig)								
Cutout	7 ± 3							
Reset (Auto.)	22 ± 7							
FREEZE PROTECTION THERMOSTAT								
Opens (F)	30 ± 5							
Closes (F)	45 ± 5							
OUTDOOR-AIR INLET SCREENS	Cleanable							
Quantity...Size (in.)	1...20 x 25 x 1 1...16 x 25 x 1							
RETURN-AIR FILTERS	Throwaway							
Quantity...Size (in.)	4...16 x 20 x 2		4...20 x 20 x 2		4...20 x 20 x 2		4...20 x 20 x 2	

LEGEND

Bhp — Brake Horsepower

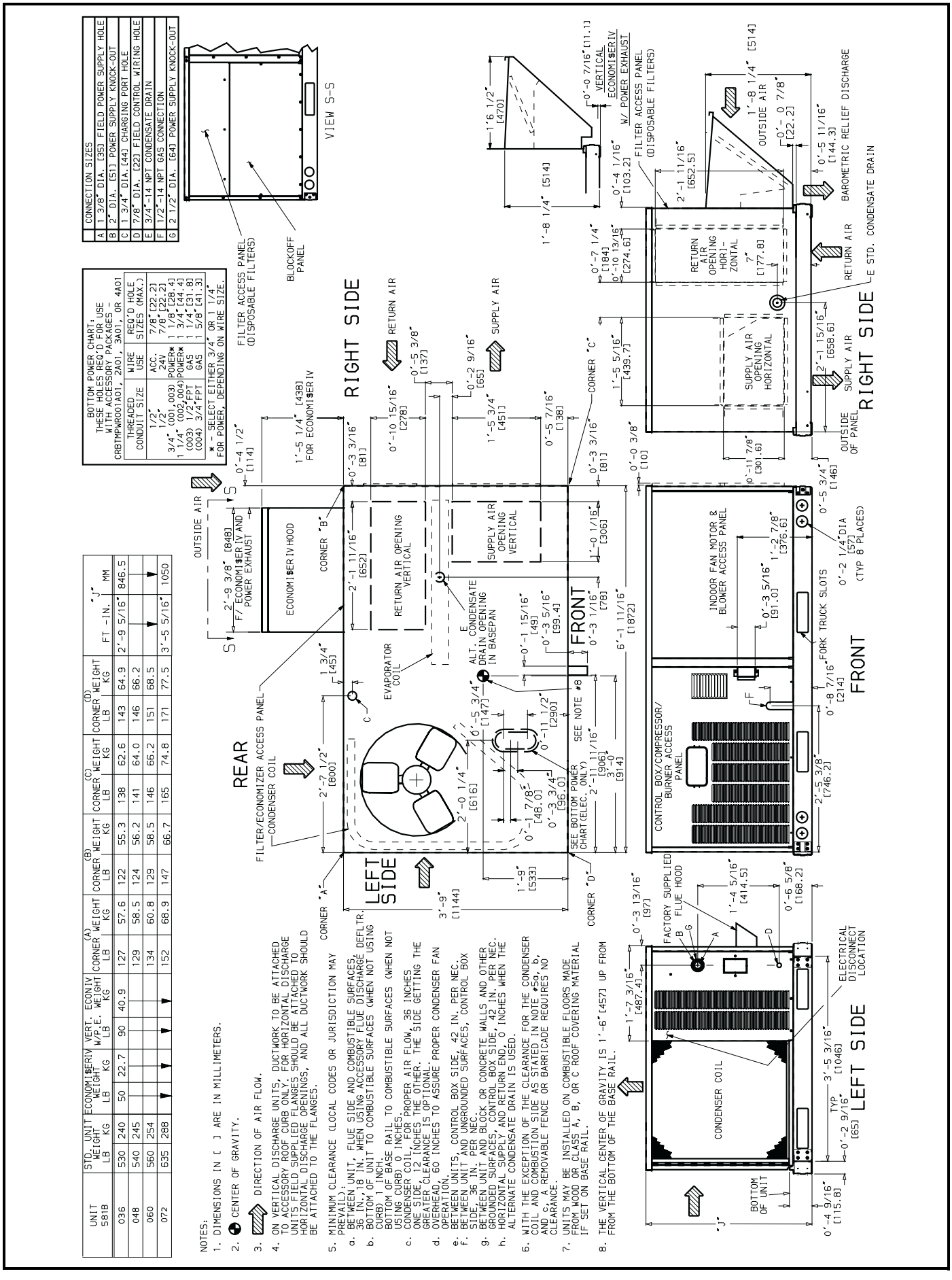
*Single phase/three phase.
†Indicates automatic reset.

**180,000 Btuh heat input units have 2 burners.
224,000 Btuh heat input units and 250,000 Btuh Heat input units have 3 burners.
††An LP kit is available as an accessory.

581B — OPTION/ACCESSORY WEIGHTS

Option / Accessory	036		048		060		072		090		102		120		150	
	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg
Perfect Humidity Dehumidification System	15	7	23	10	25	11	29	13	44	20	51	23	51	23	51	23
Power Exhaust - vertical	50	23	50	23	50	23	50	23	75	34	75	34	75	34	75	34
Power Exhaust - horizontal	30	14	30	14	30	14	30	14	30	14	30	14	30	14	30	14
EconoMi$er (IV or 2)	50	23	50	23	50	23	50	23	75	34	75	34	75	34	75	34
Two Position damper (25%)	22	10	22	10	22	10	22	10	32	15	32	15	32	15	32	15
Two Position damper (100%)	39	18	39	18	39	18	39	18	58	26	58	26	58	26	58	26
Manual Dampers	12	5	12	5	12	5	18	8	18	8	18	8	18	8	18	8
Hail Guard (louvered)	16	7	16	7	16	7	16	7	34	15	34	15	34	15	34	15
Hail Guard (standard hood assembly)	25	11	25	11	25	11	25	11	38	17	50	23	50	23	50	23
Cu/Cu Condenser Coil	6	3	13	6	13	6	15	7	12	5	23	10	23	10	23	10
Cu/Cu Condenser and Evaporator Coils	12	5	19	9	21	10	26	12	25	11	49	22	49	22	49	22
Roof Curb (14-in. curb)	115	52	115	52	115	52	115	52	143	65	143	65	143	65	143	65
Roof Curb (24-in. curb)	197	89	197	89	197	89	197	89	245	111	245	111	245	111	245	111

BASE UNIT DIMENSIONS — 581B036-072



UNIT 581B	STD. UNIT WEIGHT LB	STD. UNIT WEIGHT KG	ECONOMI$ER IV WEIGHT LB	ECONOMI$ER IV WEIGHT KG	VERT. W/P.E. LB	VERT. W/P.E. KG	(A) CORNER WEIGHT LB	(A) CORNER WEIGHT KG	(B) CORNER WEIGHT LB	(B) CORNER WEIGHT KG	(C) CORNER WEIGHT LB	(C) CORNER WEIGHT KG	(D) CORNER WEIGHT LB	(D) CORNER WEIGHT KG	FT - IN.	"J" MM
036	530	240	50	22.7	90	40.9	127	57.6	122	55.3	138	62.6	143	64.9	2'-9 5/16"	846.5
048	540	245					129	58.5	124	56.2	141	64.0	146	66.2		
060	560	254					134	60.8	129	58.5	146	66.2	151	68.5		
072	635	288					152	68.9	147	66.7	165	74.8	171	77.5	3'-5 5/16"	1050

BOTTOM POWER CHART:
THESE HOLES REQ'D FOR USE WITH ACCESSORY PACKAGES - CRBTMPWR001A01, 2A01, 3A01, OR 4A01

THREADED CONDUIT SIZE	WIRE USE	REQ'D HOLE SIZES (MAX.)
1/2" 3/4", 1/2" 1 1/4" (003) 1/2" FPT (004) 3/4 FPT	ACC. 24V (001, 003) POWER* (002, 004) POWER* GAS GAS	7/8" [22.2] 7/8" [22.2] 1 1/8" [28.4] 1 3/4" [44.4] 1 1/4" [31.8] 1 5/8" [41.3]

* - SELECT EITHER 3/4" OR 1 1/4" FOR POWER, DEPENDING ON WIRE SIZE.

	CONNECTION SIZES
A	1 3/8" DIA. [35] FIELD POWER SUPPLY HOLE
B	2" DIA. [51] POWER SUPPLY KNOCK-OUT
C	1 3/4" DIA. [44] CHARGING PORT HOLE
D	7/8" DIA. [22] FIELD CONTROL WIRING HOLE
E	3/4"-14 NPT CONDENSATE DRAIN
F	1/2"-14 NPT GAS CONNECTION
G	2 1/2" DIA. [64] POWER SUPPLY KNOCK-OUT

NOTES:
1. DIMENSIONS IN [ ] ARE IN MILLIMETERS.
2. ◐ CENTER OF GRAVITY.
3. ⇨ DIRECTION OF AIR FLOW.
4. ON VERTICAL DISCHARGE UNITS, DUCTWORK TO BE ATTACHED TO ACCESSORY ROOF CURB ONLY. FOR HORIZONTAL DISCHARGE UNITS FIELD SUPPLIED FLANGES SHOULD BE ATTACHED TO HORIZONTAL DISCHARGE OPENINGS, AND ALL DUCTWORK SHOULD BE ATTACHED TO THE FLANGES.
5. MINIMUM CLEARANCE (LOCAL CODES OR JURISDICTION MAY PREVAIL):
   a. BETWEEN UNIT, FLUE SIDE AND COMBUSTIBLE SURFACES, 36 IN.,18 IN. WHEN USING ACCESSORY FLUE DISCHARGE DEFLTR.
   b. BOTTOM OF UNIT TO COMBUSTIBLE SURFACES (WHEN NOT USING CURB) 1 INCH.
      BOTTOM OF BASE RAIL TO COMBUSTIBLE SURFACES (WHEN NOT USING CURB) 0 INCHES.
   c. CONDENSER COIL, FOR PROPER AIR FLOW, 36 INCHES ONE SIDE, 12 INCHES THE OTHER. THE SIDE GETTING THE GREATER CLEARANCE IS OPTIONAL.
   d. OVERHEAD, 60 INCHES TO ASSURE PROPER CONDENSER FAN OPERATION.
   e. BETWEEN UNITS, CONTROL BOX SIDE, 42 IN. PER NEC.
   f. BETWEEN UNIT AND UNGROUNDED SURFACES, CONTROL BOX SIDE, 36 IN. PER NEC.
   g. BETWEEN UNIT AND BLOCK OR CONCRETE WALLS AND OTHER GROUNDED SURFACES, CONTROL BOX SIDE, 42 IN. PER NEC.
   h. HORIZONTAL SUPPLY AND RETURN END, 0 INCHES WHEN THE ALTERNATE CONDENSATE DRAIN IS USED.
6. WITH THE EXCEPTION OF THE CLEARANCE FOR THE CONDENSER COIL AND COMBUSTION SIDE AS STATED IN NOTE #5a, b, AND c, A REMOVABLE FENCE OR BARRICADE REQUIRES NO CLEARANCE.
7. UNITS MAY BE INSTALLED ON COMBUSTIBLE FLOORS MADE FROM WOOD OR CLASS A, B, OR C ROOF COVERING MATERIAL IF SET ON BASE RAIL.
8. THE VERTICAL CENTER OF GRAVITY IS 1'-6" [457] UP FROM FROM THE BOTTOM OF THE BASE RAIL.

BASE UNIT DIMENSIONS — 581B090-150

UNIT 581B	STD UNIT WEIGHT		ECONOMI$ER IV WEIGHT		VERT. ECON IV W/P.E. WEIGHT		(A) CORNER WEIGHT		(B) CORNER WEIGHT		(C) CORNER WEIGHT		(D) CORNER WEIGHT		"H"		"J"		"K"		"L"	
	Lb	Kg	Lb	Kg	Lb	Kg	Lb	Kg	Lb	Kg	Lb	Kg	Lb	Kg	ft-in.	mm	ft-in.	mm	ft-in.	mm	ft-in.	mm
090	870	395	75	34.1	145	65.9	189	86	161	73	239	109	280	127	2-0$^{7}/_{8}$	632	3-5$^{5}/_{16}$	1050	2-9$^{11}/_{16}$	856	2- 2$^{7}/_{16}$	672
102	1015	460	75	34.1	145	65.9	223	101	188	85	279	126	327	148	1-2$^{7}/_{8}$	378	4-1$^{5}/_{16}$	1253	3-0$^{3}/_{8}$	924	2-10$^{7}/_{16}$	875
120	1035	469	75	34.1	145	65.9	225	102	192	87	285	129	333	151	1-2$^{7}/_{8}$	378	4-1$^{5}/_{16}$	1253	3-0$^{3}/_{8}$	924	2-10$^{7}/_{16}$	875
150	1050	476	75	34.1	145	65.9	228	103	195	88	289	131	338	153	1-2$^{7}/_{8}$	378	4-1$^{5}/_{16}$	1253	3-0$^{3}/_{8}$	924	2-10$^{7}/_{16}$	875

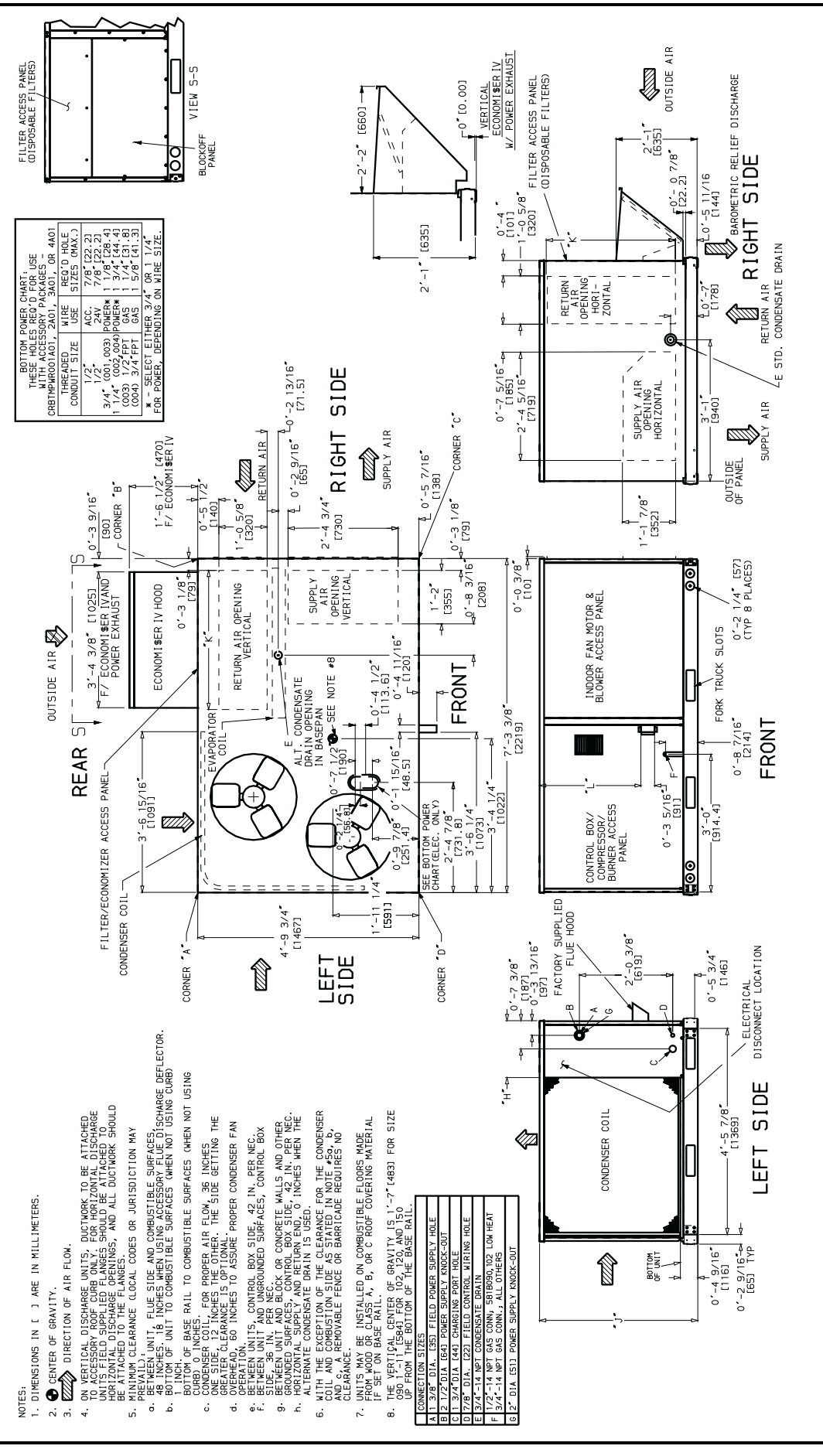
NOTES:
1. DIMENSIONS IN [ ] ARE IN MILLIMETERS.
2. ◆ CENTER OF GRAVITY.
3. DIRECTION OF AIR FLOW.
4. ON VERTICAL DISCHARGE UNITS, DUCTWORK TO BE ATTACHED TO ACCESSORY ROOF CURB ONLY. FOR HORIZONTAL DISCHARGE UNITS, ALL DUCTWORK SHOULD BE ATTACHED TO THE HORIZONTAL DISCHARGE OPENINGS, AND ALL DUCTWORK SHOULD BE ATTACHED TO THE FLANGES.
5. MINIMUM CLEARANCE (LOCAL CODES OR JURISDICTION MAY PREVAIL):
   a. BETWEEN UNIT, FLUE SIDE AND COMBUSTIBLE SURFACES, 48 INCHES. 18 INCHES WHEN USING ACCESSORY FLUE DISCHARGE DEFLECTOR.
   b. BOTTOM OF UNIT TO COMBUSTIBLE SURFACES (WHEN NOT USING CURB) 0 INCHES.
      BOTTOM OF BASE RAIL TO COMBUSTIBLE SURFACES (WHEN NOT USING CURB) 0 INCHES.
   c. CONDENSER COIL, FOR PROPER AIR FLOW, 36 INCHES ONE SIDE, 12 INCHES THE OTHER. THE SIDE GETTING THE GREATER CLEARANCE IS OPTIONAL.
   d. OPERATION, 60 INCHES TO ASSURE PROPER CONDENSER FAN OPERATION.
   e. BETWEEN UNITS, CONTROL BOX SIDE, 42 IN. PER NEC.
   f. BETWEEN UNIT AND UNGROUNDED SURFACES, CONTROL BOX SIDE, 36 IN. PER NEC.
   g. BETWEEN UNIT AND BLOCK OR CONCRETE WALLS AND OTHER GROUNDED SURFACES, CONTROL BOX SIDE, 42 IN. PER NEC.
   h. BETWEEN UNITS, CONTROL BOX SIDE, 42 INCHES. 0 INCHES WHEN THE ALTERNATE CONDENSATE DRAIN IS USED.
6. WITH THE EXCEPTION OF THE CLEARANCE FOR THE CONDENSER COIL AND COMBUSTION SIDE AS STATED IN NOTE #5a, b, AND c, A REMOVABLE FENCE OR BARRICADE REQUIRES NO CLEARANCE.
7. UNITS MAY BE INSTALLED ON COMBUSTIBLE FLOORS MADE FROM WOOD OR CLASS A, B, OR C ROOF COVERING MATERIAL IF SET ON BASE RAIL.
8. THE VERTICAL CENTER OF GRAVITY IS 1'-7" [483] FOR SIZE 090 1'-11" [584] FOR 102, 120, AND 150 UP FROM THE BOTTOM OF THE BASE RAIL.

	CONNECTION SIZES
A	1 3/8" DIA. [35] FIELD POWER SUPPLY HOLE
B	2 1/2" DIA [64] POWER SUPPLY KNOCK-OUT
C	1 3/4" DIA [44] CHARGING PORT HOLE
D	7/8" DIA. [22] FIELD CONTROL WIRING HOLE
E	3/4"-14 NPT CONDENSATE DRAIN
F	1/2"-14 NPT GAS CONN; 581B090,102 LOW HEAT
F	3/4"-14 NPT GAS CONN.; ALL OTHERS
G	2" DIA. [51] POWER SUPPLY KNOCK-OUT

BOTTOM POWER CHART:
THESE HOLES REQ'D FOR USE WITH ACCESSORY PACKAGES - CRBTMPWR001A01, 2A01, 3A01, OR 4A01

THREADED CONDUIT SIZE	WIRE USE	REQ'D HOLE SIZES (MAX.)
1/2"	ACC.	7/8" [22.2]
1/2"	24V	7/8" [22.2]
3/4" (001,003)	POWER*	1 1/8" [28.4]
1 1/4" (002,004)	POWER*	1 3/4" [44.4]
(003) 1/2" FPT	GAS	1 1/4" [31.8]
(004) 3/4" FPT	GAS	1 5/8" [41.3]

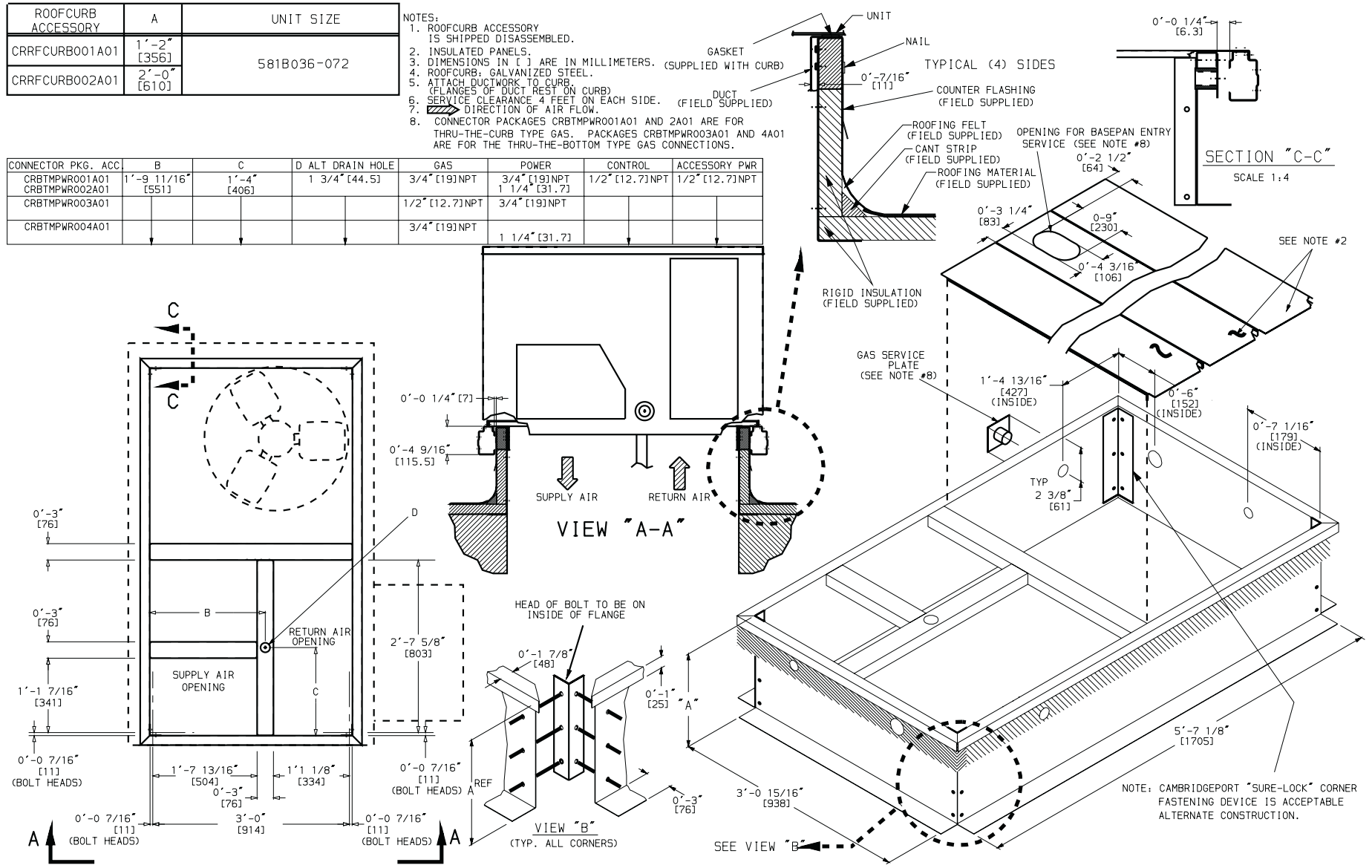
* - SELECT EITHER 3/4" OR 1 1/4" FOR POWER, DEPENDING ON WIRE SIZE.



ROOFCURB ACCESSORY	A	UNIT SIZE
CRRFCURB001A01	1′-2″ [356]	581B036-072
CRRFCURB002A01	2′-0″ [610]	

NOTES:
1. ROOFCURB ACCESSORY IS SHIPPED DISASSEMBLED.
2. INSULATED PANELS.
3. DIMENSIONS IN [ ] ARE IN MILLIMETERS.
4. ROOFCURB: GALVANIZED STEEL.
5. ATTACH DUCTWORK TO CURB. (FLANGES OF DUCT REST ON CURB)
6. SERVICE CLEARANCE 4 FEET ON EACH SIDE.
7. ▨ DIRECTION OF AIR FLOW.
8. CONNECTOR PACKAGES CRBTMPWR001A01 AND 2A01 ARE FOR THRU-THE-CURB TYPE GAS. PACKAGES CRBTMPWR003A01 AND 4A01 ARE FOR THE THRU-THE-BOTTOM TYPE GAS CONNECTIONS.

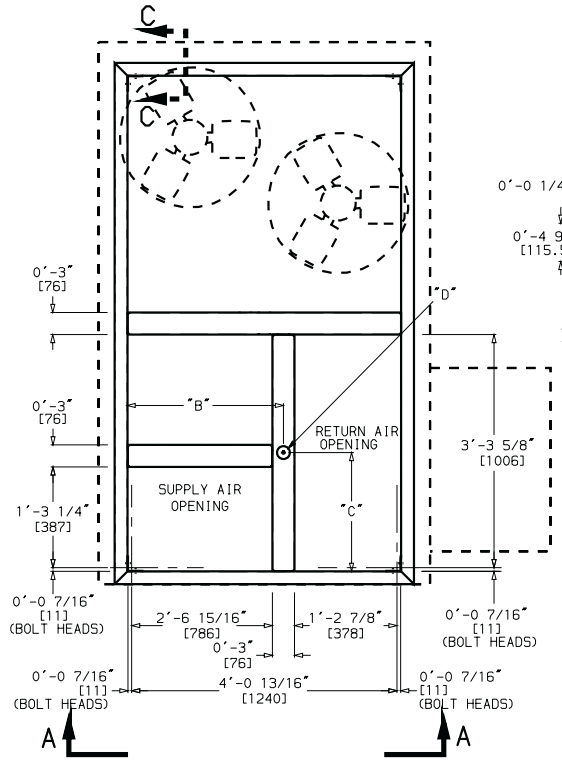
CONNECTOR PKG. ACC.	B	C	D ALT DRAIN HOLE	GAS	POWER	CONTROL	ACCESSORY PWR
CRBTMPWR001A01 CRBTMPWR002A01	1′-9 11/16″ [551]	1′-4″ [406]	1 3/4″ [44.5]	3/4″ [19] NPT	3/4″ [19] NPT 1 1/4″ [31.7]	1/2″ [12.7] NPT	1/2″ [12.7] NPT
CRBTMPWR003A01	↓	↓	↓	1/2″ [12.7] NPT	3/4″ [19] NPT	↓	↓
CRBTMPWR004A01	↓	↓	↓	3/4″ [19] NPT	1 1/4″ [31.7]	↓	↓

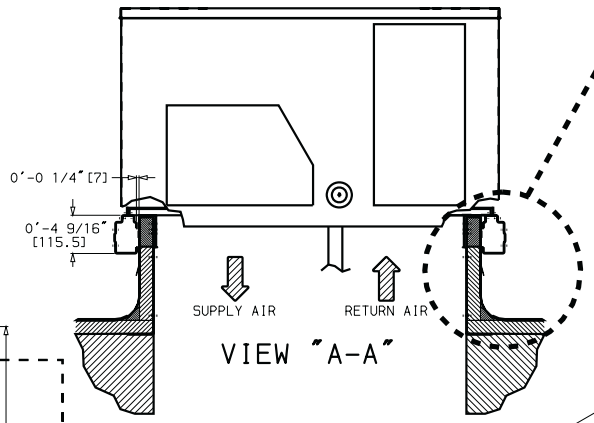


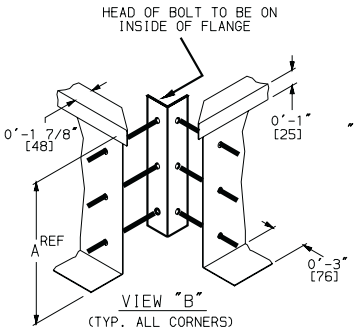
ROOFCURB ACCESSORY	A	UNIT SIZE
CRRFCURB003A01	1'-2" [356]	581B090-150
CRRFCURB004A01	2'-0" [610]	

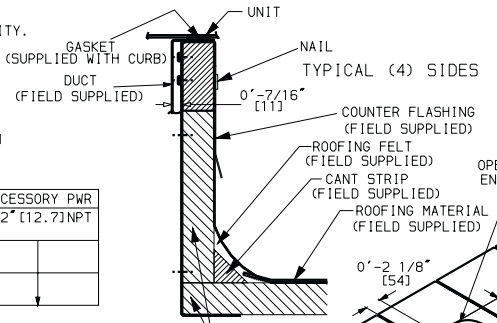
NOTES:
1. ROOFCURB ACCESSORY IS SHIPPED DISASSEMBLED.
2. INSULATED PANELS: 1" THK. POLYURETHANE FOAM, 1-3/4 # DENSITY.
3. DIMENSIONS IN [ ] ARE IN MILLIMETERS.
4. ROOFCURB: 16 GAGE STEEL.
5. ATTACH DUCTWORK TO CURB. (FLANGES OF DUCT REST ON CURB)
6. SERVICE CLEARANCE 4' ON EACH SIDE.
7. ▨ DIRECTION OF AIR FLOW.
8. CONNECTOR PACKAGES CRBTMPWR001A01 AND 2A01 ARE FOR THRU-THE-CURB GAS TYPE. PACKAGES CRBTMPWR003A01 AND 4A01 ARE FOR THE THRU-THE-BOTTOM TYPE GAS CONNECTIONS.

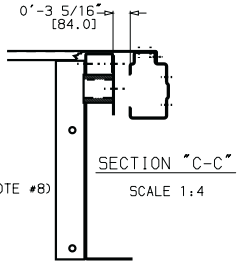
CONNECTOR PKG. ACC.	B	C	D ALT DRAIN HOLE	GAS	POWER	CONTROL	ACCESSORY PWR
CRBTMPWR001A01 CRBTMPWR002A01	2'-8 7/16" [827]	1'-10 15/16" [583]	1 3/4" [44.5]	3/4" [19] NPT	3/4" [19] NPT 1 1/4" [31.7]	1/2" [12.7] NPT	1/2" [12.7] NPT
CRBTMPWR003A01				1/2" [12.7] NPT	3/4" [19] NPT		
CRBTMPWR004A01				3/4" [19] NPT	1 1/4" [31.7]		

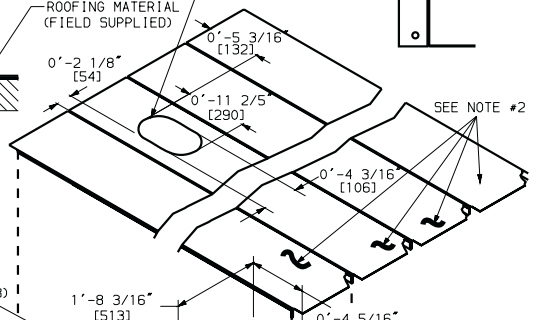


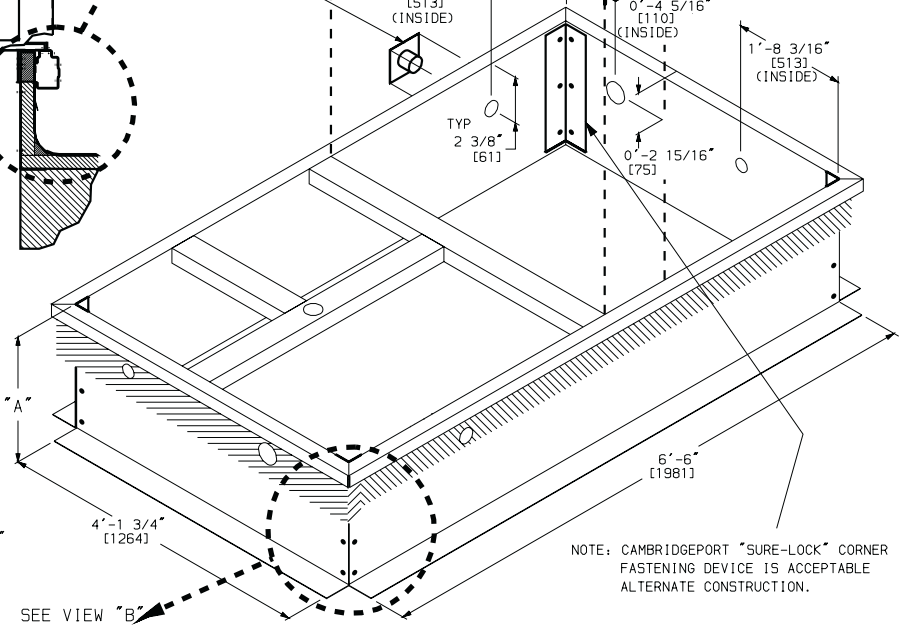












SELECTION PROCEDURE (With 581B048 Example)

I DETERMINE COOLING AND HEATING REQUIREMENTS AT DESIGN CONDITIONS.

Given:

Required Cooling Capacity (TC) . . . . . 44,600 Btuh
Sensible Heat Capacity (SHC). . . . . 32,000 Btuh
Required Heating Capacity . . . . . 85,000 Btuh
Condenser Entering-Air Temperature . . . . . 95 F
Evaporator Entering-Air Temperature . . . . . 82 F edb, 67 F ewb
Evaporator Air Quantity . . . . . .1600 cfm
External Static Pressure (ESP) . . . . . 0.75 in. wg
Electrical Characteristics (V-Ph-Hz). 230-1-60

II SELECT UNIT BASED ON REQUIRED COOLING CAPACITY.

Enter the Cooling Capacities table (page 92) at condenser entering temperature of 95 F, evaporator-air entering at 1600 cfm and 80 F db and 67 F wb. The 581B--048115 unit will provide cooling capacity of 48,900 Btuh and a sensible heat capacity of 34,700 Btuh. For evaporator-air temperature other than 80 F edb, calculate sensible heat capacity correction, as required, using the formula found in Note 3 following the Cooling Capacities tables.

For this example:

Correction factor = 1.10 x (1 – .21) x (82 – 80) = 1.738

Multiply the correction factor of 1.738 by 1600 cfm (a total of 2781). From the Gross Cooling Capacities tables find that the sensible heat capacity at 80 F is 34.7 MBtuh (equivalent to 34,700 Btuh). Add 34,700 and 2781 to get the corrected sensible heat capacity of 37,481.

NOTE: Unit ratings are gross capacities and do not include the effect of evaporator-fan motor heat. To calculate net capacities, see Step V.

III SELECT HEATING CAPACITY OF UNIT TO PROVIDE DESIGN CONDITION REQUIREMENTS.

In the Heating Capacities and Efficiencies table (page 10) note that unit 581B--048115 will provide output capacity of 93,150 Btuh, which is adequate for the given application.

IV DETERMINE FAN SPEED AND POWER REQUIREMENTS AT DESIGN CONDITIONS.

Before entering the Fan Performance tables, calculate the total static pressure required based on unit components. From the given and the Pressure Drop tables (page 133), find:

External static pressure .75 in. wg
Total static pressure = .75 in. wg

Enter the Fan Performance table for 581B--048115 vertical discharge unit on page 104. At 1600 cfm and 0.75 in. wg interpolation is required. The rpm is 1051. The bhp is 0.90. The watts are 897. The factory-installed standard motor and drive are sufficient for operation.

V DETERMINE NET COOLING CAPACITY.

Cooling capacities are gross and do not include indoor-fan motor (IFM) heat. Determine net capacity using the following formula:

Net capacity = gross capacity – IFM heat
= 48,900 Btuh – 897 Watts $\left(3.413 \frac{\text{Btuh}}{\text{Watts}}\right)$
= 48,900 Btuh – 3061 Btuh
Net capacity = 45,839 Btuh

Net sensible capacity = 37,481 Btuh – 3061 Btuh
= 34,420 Btuh

PERFORMANCE DATA

COOLING CAPACITIES, STANDARD UNITS

581B036 (3 TONS)

Temp (F) Air Ent Condenser (Edb)		Air Entering Evaporator — Cfm/BF								
		900/0.14			1200/0.17			1500/0.20		
		Air Entering Evaporator — Ewb								
		72	67	62	72	67	62	72	67	62
75	TC	41.9	38.7	35.7	43.5	40.8	37.7	44.8	41.8	39.0
	SHC	20.4	25.2	29.7	21.8	28.2	33.8	23.3	30.7	37.0
	kW	2.19	2.16	2.12	2.21	2.18	2.15	2.23	2.19	2.16
85	TC	40.7	37.5	34.5	42.1	39.3	36.4	43.5	40.4	37.6
	SHC	19.9	24.7	29.2	21.5	27.7	33.2	23.2	30.3	36.4
	kW	2.46	2.42	2.39	2.47	2.44	2.41	2.50	2.45	2.42
95	TC	39.3	36.1	33.1	40.8	37.8	34.9	42.0	38.9	36.1
	SHC	19.5	24.1	28.4	21.1	27.2	32.5	22.8	29.9	35.6
	kW	2.75	2.71	2.66	2.77	2.73	2.69	2.79	2.74	2.71
105	TC	37.7	34.6	31.7	39.3	36.2	33.4	40.1	37.2	34.7
	SHC	18.8	23.5	27.8	20.7	26.6	31.8	22.1	29.3	34.7
	kW	3.06	3.02	2.98	3.09	3.04	3.01	3.10	3.06	3.03
115	TC	36.0	33.0	29.7	37.4	34.5	31.5	38.1	35.5	33.2
	SHC	18.3	22.9	26.7	19.9	26.1	30.9	21.3	28.7	33.2
	kW	3.41	3.36	3.31	3.43	3.39	3.34	3.44	3.41	3.37
125	TC	34.2	31.3	27.8	35.6	32.7	29.4	36.3	33.6	31.9
	SHC	17.6	22.2	25.8	19.4	25.4	29.4	20.8	28.0	31.8
	kW	3.78	3.73	3.66	3.80	3.76	3.71	3.81	3.78	3.75

581B048 (4 TONS)

Temp (F) Air Ent Condenser (Edb)		Air Entering Evaporator — Cfm/BF											
		1200/0.17			1450/0.19			1600/0.21			2000/0.24		
		Air Entering Evaporator — Ewb (F)											
		72	67	62	72	67	62	72	67	62	72	67	62
75	TC	54.0	50.7	44.2	55.9	52.2	47.7	56.4	52.8	49.1	58.1	54.5	50.6
	SHC	26.1	32.7	37.5	27.6	35.1	41.8	28.2	36.2	43.8	30.2	39.5	47.5
	kW	2.81	2.80	2.76	2.83	2.81	2.78	2.83	2.80	2.79	2.84	2.82	2.79
85	TC	52.2	48.9	41.9	54.1	50.4	45.9	54.5	51.0	47.2	55.3	52.3	48.7
	SHC	25.4	32.0	36.4	26.9	34.5	40.8	27.5	35.7	42.8	28.6	38.5	46.6
	kW	3.20	3.19	3.15	3.22	3.20	3.17	3.22	3.20	3.18	3.22	3.20	3.18
95	TC	50.7	46.9	39.5	51.9	48.4	43.5	52.5	48.9	45.2	53.9	50.1	46.7
	SHC	24.9	31.1	35.0	26.1	33.6	39.6	26.8	34.7	41.8	28.8	37.5	45.6
	kW	3.64	3.61	3.57	3.65	3.62	3.60	3.65	3.62	3.60	3.67	3.63	3.61
105	TC	48.8	44.5	36.7	49.8	46.2	40.7	50.2	46.7	42.1	51.5	48.2	44.7
	SHC	24.3	30.2	33.6	25.3	32.8	38.2	26.0	33.9	40.3	27.9	37.4	44.4
	kW	4.12	4.09	4.03	4.12	4.09	4.06	4.12	4.09	4.07	4.14	4.11	4.08
115	TC	46.5	41.1	34.3	47.7	43.3	37.0	48.0	44.4	38.5	48.9	45.7	42.0
	SHC	23.4	28.9	32.4	24.9	31.8	36.3	25.4	33.4	38.3	27.1	36.9	42.0
	kW	4.64	4.59	4.53	4.65	4.62	4.55	4.64	4.63	4.56	4.65	4.63	4.60
125	TC	43.8	37.5	32.4	45.1	39.0	33.8	45.3	40.1	35.4	46.3	42.6	38.8
	SHC	22.5	27.4	31.5	24.1	30.2	33.7	24.7	31.9	35.4	26.5	35.9	38.8
	kW	5.19	5.13	5.05	5.20	5.15	5.09	5.19	5.17	5.11	5.20	5.19	5.15

581B060 (5 TONS)

Temp (F) Air Ent Condenser (Edb)		Air Entering Evaporator — Cfm/BF											
		1500/0.08			1750/0.09			2000/0.11			2500/0.13		
		Air Entering Evaporator — Ewb (F)											
		72	67	62	72	67	62	72	67	62	72	67	62
75	TC	70.8	65.4	58.5	72.5	67.3	61.1	73.0	68.4	62.8	74.8	70.3	64.8
	SHC	34.1	42.7	49.9	35.7	45.5	54.2	36.8	48.0	57.8	39.6	53.0	63.4
	kW	3.53	3.49	3.44	3.55	3.50	3.46	3.55	3.51	3.47	3.57	3.54	3.48
85	TC	68.9	63.2	55.3	70.5	65.1	57.9	72.2	66.4	60.2	73.2	68.1	62.9
	SHC	33.5	41.8	48.4	35.0	44.8	52.8	37.0	47.6	56.8	39.3	52.5	62.4
	kW	3.98	3.94	3.87	4.00	3.96	3.90	4.03	3.97	3.92	4.04	3.99	3.94
95	TC	66.8	60.6	52.4	68.3	62.5	54.3	69.3	63.8	56.6	71.2	65.6	60.6
	SHC	32.8	40.7	47.0	34.5	43.8	51.1	36.0	46.7	55.0	39.1	51.8	60.5
	kW	4.48	4.43	4.35	4.50	4.45	4.37	4.51	4.46	4.40	4.55	4.48	4.44
105	TC	64.3	57.7	49.9	65.9	59.8	51.7	66.9	61.1	54.1	68.4	62.8	58.4
	SHC	32.0	39.6	45.8	33.7	42.8	49.7	35.3	45.7	53.5	38.4	51.0	58.4
	kW	5.03	4.96	4.87	5.05	4.99	4.90	5.06	5.00	4.93	5.08	5.02	4.98
115	TC	61.5	54.8	47.3	62.8	56.7	49.1	64.0	58.2	51.6	65.4	59.9	56.1
	SHC	31.0	38.4	44.5	32.5	41.6	48.2	34.4	44.6	51.6	37.4	50.0	56.1
	kW	5.61	5.55	5.46	5.62	5.58	5.49	5.65	5.60	5.52	5.67	5.61	5.57
125	TC	58.7	51.6	44.5	59.9	53.4	46.2	60.8	54.9	49.0	62.2	56.8	53.5
	SHC	30.0	37.2	43.1	31.7	40.4	46.2	33.3	43.4	48.9	36.4	48.9	53.4
	kW	6.27	6.19	6.09	6.28	6.21	6.13	6.29	6.24	6.17	6.31	6.27	6.22

Standard Ratings

LEGEND

BF — Bypass Factor
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Compressor Motor Power Input
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil.

3. The SHC is based on 80 F edb temperature of air entering evaporator coil. Below 80 F edb, subtract (corr factor x cfm) from SHC. *Above 80 F edb, add (corr factor x cfm) to SHC.* Correction Factor = 1.10 x (1 – BF) x (edb – 80).

PERFORMANCE DATA (cont)

COOLING CAPACITIES, STANDARD UNITS (cont)

581B072 (6 TONS)

Temp (F) Air Ent Condenser (Edb)		Air Entering Evaporator — Cfm/BF											
		1800/0.05			2100/0.06			2400/0.06			3000/0.08		
		Air Entering Evaporator — Ewb (F)											
		72	67	62	72	67	62	72	67	62	72	67	62
75	TC	86.7	80.7	74.4	88.8	82.7	76.6	90.5	84.4	78.2	92.6	86.3	81.0
	SHC	43.0	53.7	63.8	45.0	57.4	68.9	47.2	61.2	73.6	51.2	67.4	80.7
	kW	4.58	4.46	4.33	4.63	4.50	4.38	4.67	4.55	4.41	4.72	4.58	4.47
85	TC	84.1	78.2	72.0	86.4	80.3	74.1	88.2	81.7	75.7	90.2	84.0	78.8
	SHC	42.0	52.6	62.7	44.5	56.6	68.0	46.8	60.2	72.5	50.6	67.4	78.7
	kW	5.10	4.97	4.85	5.16	5.03	4.90	5.21	5.06	4.93	5.26	5.12	4.99
95	TC	81.3	75.3	69.2	83.4	77.3	71.3	85.1	78.9	72.9	87.2	80.6	76.2
	SHC	41.0	51.4	61.4	43.4	55.3	66.6	45.8	59.2	71.2	50.2	65.8	76.2
	kW	5.65	5.52	5.39	5.71	5.57	5.44	5.77	5.62	5.48	5.83	5.66	5.55
105	TC	77.9	72.0	66.1	80.0	73.8	68.0	81.6	75.3	69.6	83.4	77.1	73.2
	SHC	39.7	50.2	60.0	42.2	54.0	65.2	44.6	57.8	69.3	49.0	64.5	73.2
	kW	6.22	6.08	5.94	6.29	6.13	6.00	6.34	6.17	6.04	6.40	6.22	6.12
115	TC	74.7	68.4	61.8	75.9	70.0	64.1	77.6	71.3	66.5	78.7	73.0	70.1
	SHC	38.7	48.8	58.1	40.8	52.6	63.2	43.3	56.4	66.4	46.9	63.2	70.0
	kW	6.84	6.68	6.49	6.87	6.71	6.56	6.93	6.75	6.63	6.96	6.80	6.72
125	TC	70.3	63.6	57.2	71.8	65.5	59.1	72.9	66.8	61.9	74.0	68.6	66.4
	SHC	37.2	47.0	55.8	39.5	51.0	59.1	41.7	55.0	61.9	45.4	61.8	66.3
	kW	7.43	7.25	7.03	7.48	7.30	7.13	7.51	7.35	7.22	7.54	7.41	7.33

581B090 (7 1/2 TONS)

Temp (F) Air Ent Condenser (Edb)		Air Entering Evaporator — Cfm/BF								
		2250/0.10			3000/0.11			3750/0.14		
		Air Entering Evaporator — Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	105.5	96.9	87.6	107.3	99.6	90.7	110.3	101.9	93.8
	SHC	50.6	63.6	75.7	53.3	69.2	83.7	58.0	76.6	92.2
	kW	5.15	5.07	5.04	5.16	5.11	5.06	5.20	5.13	5.07
85	TC	102.5	93.6	83.6	105.1	96.5	87.5	107.7	99.0	90.6
	SHC	49.7	62.4	73.9	52.8	68.4	82.2	57.3	75.9	90.0
	kW	5.86	5.79	5.73	5.89	5.82	5.77	5.93	5.86	5.78
95	TC	98.9	90.1	79.3	101.6	92.9	83.5	103.8	95.3	87.4
	SHC	48.5	61.2	71.9	51.9	67.2	80.2	56.2	74.9	87.3
	kW	6.65	6.58	6.49	6.69	6.61	6.53	6.72	6.64	6.57
105	TC	95.3	86.2	75.7	97.6	88.8	79.6	100.0	91.0	84.1
	SHC	47.3	59.6	70.2	50.7	65.9	78.0	55.3	73.6	84.1
	kW	7.51	7.44	7.31	7.55	7.48	7.36	7.59	7.50	7.41
115	TC	91.0	82.0	71.6	93.2	84.5	75.4	95.6	86.6	80.7
	SHC	45.9	58.0	68.1	49.3	64.2	75.3	54.2	72.1	80.7
	kW	8.43	8.33	8.20	8.46	8.37	8.27	8.52	8.42	8.34
125	TC	86.2	77.8	68.1	88.3	80.0	71.9	90.0	81.9	77.2
	SHC	44.1	56.4	66.3	47.5	62.6	71.8	52.1	70.1	77.2
	kW	9.38	9.29	9.14	9.43	9.34	9.24	9.47	9.38	9.32

581B102 (8 1/2 TONS)

Temp (F) Air Ent Condenser (Edb)		Air Entering Evaporator — Cfm/BF															
		2550/0.11				3000/0.12				3400/0.13				4250/0.17			
		Air Entering Evaporator — Ewb (F)															
		57	62	67	72	57	62	67	57	62	67	72	57	62	67	72	57
75	TC	94.6	101.0	110.0	119.2	100.4	104.4	113.4	121.8	104.2	106.8	115.8	123.4	109.8	111.0	119.0	125.8
	SHC	94.6	84.4	69.4	54.4	100.4	92.4	75.0	57.2	104.2	99.0	80.0	59.8	109.8	110.4	89.4	64.2
	kW	5.72	5.76	5.76	5.82	5.74	5.76	5.80	5.86	5.74	5.76	5.82	5.88	5.76	5.78	5.84	5.90
85	TC	91.0	97.4	106.8	115.8	97.4	101.0	110.0	119.6	101.2	103.0	112.0	121.6	108.0	108.0	116.0	123.4
	SHC	91.0	83.0	68.8	53.2	97.4	91.2	74.2	57.0	101.2	97.6	78.8	59.6	108.0	108.0	89.4	64.2
	kW	6.46	6.5	6.52	6.58	6.50	6.52	6.54	6.60	6.50	6.52	6.54	6.64	6.54	6.54	6.60	6.64
95	TC	85.2	91.4	103.0	112.8	93.4	96.6	106.2	116.0	98.2	99.2	108.4	117.8	104.6	104.6	111.6	121.2
	SHC	85.2	80.4	67.2	52.6	93.4	89.4	73.0	55.8	98.2	96.2	78.2	58.8	104.6	104.6	88.0	64.6
	kW	7.24	7.28	7.36	7.42	7.30	7.32	7.38	7.44	7.34	7.36	7.4	7.46	7.36	7.36	7.42	7.50
105	TC	80.0	82.2	98.6	108.6	87.0	87.8	101.6	111.8	93.4	93.6	103.8	114.0	101.0	100.8	106.8	116.6
	SHC	80.0	76.6	65.6	51.2	87.0	85.6	71.6	54.8	93.4	93.2	76.6	57.8	101.0	100.8	86.8	63.6
	kW	8.08	8.12	8.26	8.32	8.16	8.16	8.28	8.36	8.20	8.20	8.3	8.38	8.28	8.28	8.30	8.40
115	TC	73.6	74.6	89.4	103.4	81.0	81.2	95.2	106.4	86.2	86.2	98.4	108.4	96.4	96.4	101.6	111.8
	SHC	73.6	73.0	62.2	49.6	81.0	81.2	69.4	53.0	86.2	86.2	75.0	56.4	96.4	96.4	85.4	62.8
	kW	9.00	9.00	9.16	9.28	9.08	9.08	9.22	9.30	9.14	9.14	9.26	9.34	9.22	9.22	9.30	9.38
125	TC	68.6	68.6	80.2	98.2	74.4	74.4	84.0	101.0	79.2	79.2	86.8	102.8	88.0	88.0	93.8	105.6
	SHC	68.6	68.6	59.0	48.0	74.4	74.4	65.4	51.6	79.2	79.2	71.0	54.6	88.0	88.0	82.8	61.0
	kW	9.98	9.98	10.14	10.32	10.06	10.06	10.18	10.36	10.14	10.14	10.22	10.38	10.24	10.24	10.28	10.42

Standard Ratings

LEGEND

BF — Bypass Factor
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Compressor Motor Power Input
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil.

3. The SHC is based on 80 F edb temperature of air entering evaporator coil. Below 80 F edb, subtract (corr factor x cfm) from SHC. *Above 80 F edb, add (corr factor x cfm) to SHC.* Correction Factor = 1.10 x (1 – BF) x (edb – 80).

PERFORMANCE DATA (cont)

COOLING CAPACITIES, STANDARD UNITS (cont)

581B120 (10 TONS)

Temp (F) Air Ent Condenser (Edb)		Air Entering Evaporator — Cfm/BF											
		3000/0.03			3200/0.03			4000/0.04			5000/0.04		
		Air Entering Evaporator — Ewb											
		72	67	62	72	67	62	72	67	62	72	67	62
75	TC	140.3	129.4	115.0	141.2	130.4	118.1	145.2	134.0	122.1	147.5	136.6	125.3
	SHC	65.6	82.2	97.4	66.7	84.4	101.5	71.3	93.1	113.5	77.9	103.7	124.7
	kW	7.35	7.21	7.12	7.37	7.23	7.13	7.46	7.31	7.17	7.51	7.37	7.22
85	TC	137.7	125.3	110.0	138.9	126.6	113.6	142.6	130.6	117.7	144.6	133.3	122.3
	SHC	65.0	81.2	95.2	66.3	83.6	99.7	71.0	92.8	112.0	76.9	103.1	122.2
	kW	8.29	8.13	8.02	8.32	8.16	8.03	8.40	8.24	8.09	8.45	8.31	8.16
95	TC	133.8	120.7	103.0	135.1	121.9	107.2	138.8	125.8	112.8	141.7	128.5	118.5
	SHC	63.9	79.6	92.2	65.2	82.0	97.0	70.6	91.5	109.7	76.9	102.5	118.4
	kW	9.33	9.16	8.98	9.35	9.18	9.00	9.44	9.27	9.07	9.51	9.33	9.19
105	TC	128.7	115.4	96.5	129.8	116.6	99.7	133.7	120.3	107.1	136.7	122.8	114.5
	SHC	62.3	77.6	89.4	63.6	80.2	93.5	69.4	89.6	106.8	76.0	100.6	114.3
	kW	10.46	10.28	10.00	10.47	10.30	10.07	10.57	10.38	10.21	10.66	10.43	10.31
115	TC	123.2	109.1	90.8	124.3	110.3	92.2	127.9	114.4	100.8	130.9	116.8	110.1
	SHC	60.4	75.1	86.6	61.9	77.8	90.0	67.6	87.6	100.7	74.6	98.7	109.9
	kW	11.66	11.47	11.20	11.68	11.51	11.25	11.77	11.60	11.41	11.89	11.66	11.58
125	TC	117.5	101.8	86.2	118.5	103.0	87.4	121.6	107.1	96.0	124.1	110.3	104.8
	SHC	58.5	72.5	84.5	60.0	75.0	87.3	65.8	85.1	96.0	72.5	96.9	104.8
	kW	12.99	12.77	12.50	13.02	12.81	12.55	13.10	12.92	12.74	13.19	13.01	12.91

581B150 (12 1/2 TONS)

Temp (F) Air Ent Condenser (Edb)		Air Entering Evaporator — Cfm/BF											
		3750/0.08			4300/0.09			5000/0.11			6250/0.13		
		Air Entering Evaporator — Ewb											
		72	67	62	72	67	62	72	67	62	72	67	62
75	TC	167.1	154.3	142.0	169.8	157.7	144.8	173.5	160.6	148.4	176.5	164.5	153.3
	SHC	82.5	103.5	123.6	85.8	109.7	132.0	90.3	117.7	141.9	98.2	130.7	153.1
	kW	9.44	9.18	8.95	9.50	9.26	9.01	9.60	9.33	9.07	9.68	9.43	9.17
85	TC	162.3	149.3	135.6	165.1	152.5	139.5	168.8	155.3	143.5	172.1	159.2	149.3
	SHC	80.9	101.4	120.9	84.4	107.9	129.9	89.6	115.8	139.8	97.6	129.3	149.1
	kW	10.49	10.18	9.97	10.55	10.27	10.02	10.67	10.32	10.11	10.75	10.43	10.21
95	TC	156.5	143.7	126.3	159.6	146.8	131.3	162.3	149.8	136.5	166.5	153.2	144.5
	SHC	79.1	99.5	116.5	83.0	106.1	126.0	87.6	114.2	135.8	95.8	127.7	144.4
	kW	11.60	11.30	11.01	11.69	11.39	11.10	11.75	11.47	11.20	11.87	11.56	11.35
105	TC	150.0	136.2	115.7	153.0	139.3	120.9	155.6	142.5	138.5	158.8	145.9	138.8
	SHC	76.5	96.7	111.2	80.8	103.5	120.0	85.7	112.3	128.4	93.6	125.9	138.7
	kW	12.76	12.42	12.09	12.83	12.52	12.20	12.91	12.62	12.32	12.96	12.72	12.52
115	TC	141.8	122.2	104.4	144.3	126.1	110.8	147.7	129.4	118.9	150.7	135.2	130.1
	SHC	73.6	91.2	104.2	77.9	98.5	110.8	83.4	107.3	118.4	91.8	121.9	129.9
	kW	13.85	13.55	13.22	13.94	13.64	13.35	14.05	13.73	13.50	14.15	13.86	13.70
125	TC	132.5	108.6	93.9	134.8	111.4	100.7	137.6	114.4	106.6	140.3	122.9	120.1
	SHC	70.9	85.7	93.8	74.8	92.9	100.7	80.2	101.4	106.5	89.0	116.3	120.1
	kW	15.04	14.66	14.44	15.14	14.75	14.55	15.23	14.85	14.72	15.29	14.94	14.84

Standard Ratings

LEGEND

BF — Bypass Factor
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Compressor Motor Power Input
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil.

3. The SHC is based on 80 F edb temperature of air entering evaporator coil. Below 80 F edb, subtract (corr factor x cfm) from SHC.
Above 80 F edb, add (corr factor x cfm) to SHC.
Correction Factor = 1.10 x (1 – BF) x (edb – 80).

PERFORMANCE DATA (cont)

COOLING CAPACITIES — UNITS WITH PERFECT HUMIDITY™ ADAPTIVE DEHUMIDIFICATION SYSTEM OPTION

581B036 (3 TONS) — SUBCOOLING MODE

Temp (F) Air Ent Condenser (Edb)		Air Entering Evaporator — Cfm/BF								
		900/0.14			1200/0.17			1500/0.20		
		Air Entering Evaporator — Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	41.3	37.3	34.3	43.5	39.2	35.9	45.5	41.6	38.2
	SHC	17.5	22.4	26.7	19.6	25.5	31.2	21.5	28.5	35.2
	kW	2.19	2.14	2.10	2.21	2.16	2.14	2.24	2.19	2.16
85	TC	38.6	34.4	31.6	41.3	37.5	33.3	43.5	38.6	35.5
	SHC	15.2	20.1	25.1	17.1	23.2	29.0	18.9	26.3	32.9
	kW	2.46	2.40	2.37	2.47	2.43	2.40	2.51	2.45	2.42
95	TC	35.9	31.4	28.8	39.2	35.9	30.6	41.3	35.7	32.9
	SHC	13.0	17.9	23.3	14.5	21.1	26.9	16.1	24.2	30.6
	kW	2.74	2.68	2.63	2.76	2.74	2.67	2.80	2.75	2.71
105	TC	33.8	29.7	27.4	36.3	32.2	28.7	38.1	32.8	30.4
	SHC	10.9	15.8	21.0	12.5	18.9	24.6	14.0	21.7	28.1
	kW	3.05	3.00	2.97	3.09	3.04	2.99	3.12	3.07	3.03
115	TC	31.8	28.0	25.5	33.2	28.7	26.5	34.9	30.0	27.9
	SHC	9.0	13.7	18.4	10.3	16.8	22.3	11.9	19.3	25.2
	kW	3.40	3.36	3.31	3.45	3.38	3.32	3.48	3.41	3.37
125	TC	28.7	26.3	23.4	29.7	25.5	22.9	31.3	27.1	25.5
	SHC	6.9	12.2	17.3	7.9	14.5	20.6	9.2	17.3	22.3
	kW	3.78	3.73	3.66	3.84	3.77	3.71	3.87	3.79	3.75

581B036 (3 TONS) — HOT GAS REHEAT MODE

Temp (F) Air Ent Condenser (Edb)		Air Entering Evaporator — Ewb (F)								
		75 Dry Bulb 62.5 Wet Bulb (50% Relative)			75 Dry Bulb 64 Wet Bulb (55% Relative)			75 Dry Bulb 65.3 Wet Bulb (60% Relative)		
		Air Entering Evaporator — Cfm								
		900	1200	1500	900	1200	1500	900	1200	1500
80	TC	12.83	15.84	18.20	13.24	16.31	18.73	13.58	16.72	19.18
	SHC	4.06	5.69	6.98	2.21	3.83	5.12	.59	2.20	3.50
	kW	2.12	2.12	2.12	2.13	2.13	2.13	2.14	2.14	2.14
75	TC	13.61	16.44	18.67	14.03	16.93	19.20	14.39	17.34	19.67
	SHC	4.62	6.16	7.37	2.89	4.43	5.65	1.40	2.93	4.15
	kW	2.11	2.11	2.11	2.12	2.12	2.12	2.14	2.14	2.14
70	TC	14.39	17.05	19.14	14.82	17.54	19.68	15.19	17.96	20.15
	SHC	5.17	6.62	7.77	3.58	5.03	6.18	2.20	3.65	4.80
	kW	2.10	2.10	2.10	2.12	2.12	2.12	2.13	2.13	2.13
60	TC	15.95	18.26	20.08	16.40	18.77	20.63	16.79	19.21	21.11
	SHC	6.27	7.55	8.56	4.95	6.23	7.24	3.81	5.09	6.10
	kW	2.09	2.09	2.09	2.11	2.11	2.11	2.12	2.12	2.12
50	TC	17.50	19.48	21.02	17.98	20.00	21.58	18.40	20.45	22.07
	SHC	7.37	8.47	9.35	6.32	7.43	8.30	5.42	6.52	7.39
	kW	2.07	2.07	2.07	2.10	2.10	2.10	2.12	2.12	2.12
40	TC	19.06	20.69	21.07	19.56	21.23	22.54	20.00	21.70	23.03
	SHC	8.47	9.40	10.13	7.71	8.63	9.36	7.02	7.95	8.69
	kW	2.06	2.06	2.06	2.08	2.08	2.08	2.11	2.11	2.11

LEGEND

BF — Bypass Factor
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Compressor Motor Power Input
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil.

3. The SHC is based on 80 F edb temperature of air entering evaporator coil.
Below 80 F edb, subtract (corr factor x cfm) from SHC.
Above 80 F edb, add (corr factor x cfm) to SHC.
Correction Factor = 1.10 x (1 – BF) x (edb – 80).

PERFORMANCE DATA (cont)

COOLING CAPACITIES — UNITS WITH PERFECT HUMIDITY™ ADAPTIVE DEHUMIDIFICATION SYSTEM OPTION (cont)

581B048 (4 TONS) — SUBCOOLING MODE

Temp (F) Air Ent Condenser (Edb)		Air Entering Evaporator — Cfm/BF											
		1200/0.17			1450/0.19			1600/0.21			2000/0.24		
		Air Entering Evaporator — Ewb (F)											
		72	67	62	72	67	62	72	67	62	72	67	62
75	TC	52.9	47.5	41.5	55.7	50.9	47.5	57.0	51.7	48.1	60.5	55.6	52.1
	SHC	22.7	28.4	33.4	26.1	34.1	38.9	25.9	33.7	41.6	29.4	39.1	47.5
	kW	2.87	2.86	2.82	2.89	2.87	2.84	2.89	2.86	2.85	2.90	2.88	2.85
85	TC	49.2	43.8	37.1	52.1	47.2	43.6	52.9	47.9	43.7	55.4	51.4	47.0
	SHC	19.8	25.5	30.4	22.2	29.5	35.8	22.4	31.1	38.7	24.2	36.0	44.3
	kW	3.26	3.25	3.21	3.28	3.26	3.23	3.28	3.26	3.24	3.28	3.26	3.24
95	TC	45.8	40.1	32.8	48.2	43.6	39.4	48.8	44.0	39.3	51.7	47.4	43.0
	SHC	17.2	22.5	27.3	18.4	24.8	32.6	19.0	28.1	35.9	20.7	33.0	41.0
	kW	3.71	3.68	3.64	3.72	3.69	3.67	3.72	3.69	3.67	3.74	3.70	3.68
105	TC	41.6	37.0	29.7	43.2	38.9	35.4	43.9	39.7	34.7	46.5	41.4	37.5
	SHC	13.5	19.5	23.9	14.7	21.7	29.2	15.0	23.7	30.6	16.4	27.8	35.1
	kW	4.20	4.17	4.11	4.20	4.17	4.14	4.20	4.17	4.15	4.22	4.19	4.16
115	TC	37.2	33.2	27.1	38.4	34.0	30.8	39.4	35.5	30.0	41.3	35.2	31.9
	SHC	9.9	16.4	20.7	11.3	18.5	25.6	11.2	19.7	25.4	12.4	22.4	28.6
	kW	4.73	4.68	4.62	4.74	4.71	4.64	4.73	4.72	4.65	4.74	4.72	4.69
125	TC	32.4	28.1	24.9	33.8	28.1	27.4	35.3	30.5	26.6	36.1	32.0	28.7
	SHC	7.2	12.9	18.3	8.4	14.5	21.9	16.8	21.1	21.2	9.5	18.3	24.1
	kW	5.29	5.23	5.15	5.30	5.25	5.19	5.29	5.27	5.21	5.30	5.29	5.25

581B048 (4 TONS) — HOT GAS REHEAT MODE*

Temp (F) Air Ent Condenser (Edb)		Air Entering Evaporator — Ewb (F)								
		75 Dry Bulb 62.5 Wet Bulb (50% Relative)			75 Dry Bulb 64 Wet Bulb (55% Relative)			75 Dry Bulb 65.3 Wet Bulb (60% Relative)		
		Air Entering Evaporator — Cfm								
		1200	1450	1600	1200	1450	1600	1200	1450	1600
80	TC	12.13	14.30	15.43	14.98	17.20	18.36	17.44	19.71	20.90
	SHC	1.01	1.60	1.90	–0.18	0.41	0.72	–1.20	–0.61	–0.30
	kW	2.76	2.76	2.76	2.75	2.75	2.75	2.74	2.74	2.74
75	TC	13.25	15.28	16.34	15.96	18.05	19.14	18.31	20.44	21.56
	SHC	1.60	2.14	2.43	0.50	1.05	1.34	–0.45	0.11	0.40
	kW	7.54	7.54	7.57	7.61	7.64	7.66	7.66	7.70	7.71
70	TC	14.37	16.27	17.26	16.94	18.90	19.92	19.17	21.17	22.22
	SHC	2.18	2.69	2.96	1.17	1.69	1.96	0.30	0.82	1.10
	kW	2.70	2.70	2.70	2.70	2.70	2.70	2.70	2.70	2.70
60	TC	16.60	18.24	19.10	18.91	20.60	21.48	20.91	22.64	23.54
	SHC	3.35	3.79	4.03	2.52	2.97	3.21	1.80	2.25	2.50
	kW	2.64	2.64	2.64	2.65	2.65	2.65	2.65	2.65	2.65
50	TC	18.83	20.22	20.94	20.87	22.30	23.04	22.65	24.10	24.86
	SHC	4.51	4.89	5.09	3.86	4.25	4.45	3.30	3.69	3.89
	kW	2.59	2.59	2.59	2.60	2.60	2.60	2.61	2.61	2.61
40	TC	21.06	22.19	22.78	22.84	24.00	24.61	24.38	25.57	26.19
	SHC	5.68	5.99	6.16	5.21	5.53	5.69	4.80	5.12	5.29
	kW	2.53	2.53	2.53	2.55	2.55	2.55	2.57	2.57	2.57

LEGEND

BF — Bypass Factor
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Compressor Motor Power Input
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

*Negative SHC value indicates that the air entering the coil is being heated.

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil.

3. The SHC is based on 80 F edb temperature of air entering evaporator coil.
Below 80 F edb, subtract (corr factor x cfm) from SHC.
Above 80 F edb, add (corr factor x cfm) to SHC.
Correction Factor = 1.10 x (1 – BF) x (edb – 80).

PERFORMANCE DATA (cont)

COOLING CAPACITIES — UNITS WITH PERFECT HUMIDITY™ ADAPTIVE DEHUMIDIFICATION SYSTEM OPTION (cont)

581B060 (5 TONS) — SUBCOOLING MODE

Temp (F) Air Ent Condenser (Edb)		Air Entering Evaporator — Cfm/BF											
		1500/0.08			1750/0.09			2000/0.11			2500/0.13		
		Air Entering Evaporator — Ewb (F)											
		72	67	62	72	67	62	72	67	62	72	67	62
75	TC	69.9	62.7	56.2	74.7	67.3	61.0	78.5	71.2	64.8	81.7	75.5	69.3
	SHC	29.0	36.9	43.9	31.7	40.5	51.2	34.5	44.2	55.4	37.8	52.0	62.8
	kW	3.61	3.55	3.51	3.64	3.58	3.49	3.65	3.60	3.51	3.62	3.58	3.51
85	TC	65.9	59.1	51.7	70.6	63.2	56.3	75.5	66.8	60.7	78.1	70.8	65.1
	SHC	25.3	34.0	41.9	27.5	37.6	48.0	30.7	41.6	52.0	33.8	47.4	58.0
	kW	4.05	3.97	3.91	4.07	4.01	3.92	4.11	4.00	3.95	4.08	4.02	3.96
95	TC	61.9	55.2	47.7	66.5	58.8	51.3	70.4	61.9	55.7	74.2	65.9	60.6
	SHC	21.6	31.1	40.0	23.5	34.5	44.6	26.0	38.6	47.9	30.0	42.8	52.6
	kW	4.53	4.43	4.35	4.55	4.47	4.37	4.56	4.42	4.41	4.58	4.49	4.44
105	TC	57.7	51.1	44.9	61.8	54.5	47.7	65.1	57.2	50.8	68.4	60.3	56.1
	SHC	18.1	27.8	35.7	20.0	31.2	40.1	22.1	34.3	43.5	26.1	38.9	48.5
	kW	5.05	4.93	4.84	5.09	4.97	4.88	5.11	4.96	4.92	5.11	5.03	4.98
115	TC	53.4	47.2	42.0	56.6	50.0	44.2	59.6	52.5	46.2	62.6	54.9	51.6
	SHC	14.7	24.6	31.5	16.5	27.8	35.7	18.2	30.0	39.0	22.1	34.9	44.3
	kW	5.60	5.49	5.40	5.64	5.52	5.45	5.69	5.55	5.48	5.69	5.61	5.57
125	TC	48.7	42.0	36.9	51.3	45.0	39.0	54.1	46.8	40.9	56.9	49.2	45.9
	SHC	10.9	19.6	28.0	12.5	22.2	31.5	13.5	24.0	34.0	16.5	28.0	38.8
	kW	6.26	6.12	6.02	6.28	6.18	6.09	6.33	6.18	6.13	6.33	6.27	6.22

581B060 (5 TONS) — HOT GAS REHEAT MODE*

Temp (F) Air Ent Condenser (Edb)		Air Entering Evaporator — Ewb (F)								
		75 Dry Bulb 62.5 Wet Bulb (50% Relative)			75 Dry Bulb 64 Wet Bulb (55% Relative)			75 Dry Bulb 65.3 Wet Bulb (60% Relative)		
		Air Entering Evaporator — Cfm								
		1500	1750	2000	1500	1750	2000	1500	1750	2000
80	TC	17.67	19.23	20.59	17.51	19.09	20.48	17.37	18.98	20.39
	SHC	–0.39	0.07	0.46	–1.61	–1.15	–0.75	–2.67	–2.21	–1.80
	kW	3.45	3.45	3.45	3.48	3.48	3.48	3.50	3.50	3.50
75	TC	18.55	20.03	21.32	18.45	19.95	21.27	18.36	19.89	21.23
	SHC	0.28	0.71	1.09	–0.85	–0.42	–0.04	–1.83	–1.39	–1.01
	kW	3.43	3.43	3.43	3.46	3.46	3.46	3.49	3.49	3.49
70	TC	19.44	20.83	22.06	19.39	20.81	22.06	19.35	20.80	22.07
	SHC	0.95	1.36	1.71	–0.09	0.32	0.68	–0.99	–0.58	–0.22
	kW	3.42	3.42	3.42	3.45	3.45	3.45	3.48	3.48	3.48
60	TC	21.20	22.44	23.53	21.27	22.54	23.65	21.33	22.62	23.75
	SHC	2.30	2.65	2.95	1.44	1.80	2.11	0.70	1.06	1.37
	kW	3.38	3.38	3.38	3.42	3.42	3.42	3.46	3.46	3.46
50	TC	22.96	24.05	25.00	23.15	24.26	25.23	23.31	24.43	25.42
	SHC	3.64	3.94	4.20	2.97	3.27	3.53	2.39	2.69	2.96
	kW	3.35	3.35	3.35	3.40	3.40	3.40	3.43	3.43	3.43
40	TC	24.73	25.66	26.48	25.03	25.98	26.81	25.28	26.25	27.10
	SHC	4.99	5.23	5.45	4.50	4.75	4.96	4.07	4.32	4.54
	kW	3.32	3.32	3.32	3.37	3.37	3.37	3.41	3.41	3.41

LEGEND

BF — Bypass Factor
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Compressor Motor Power Input
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

*Negative SHC value indicates that the air entering the coil is being heated.

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil.

3. The SHC is based on 80 F edb temperature of air entering evaporator coil.
   Below 80 F edb, subtract (corr factor x cfm) from SHC.
   Above 80 F edb, add (corr factor x cfm) to SHC.
   Correction Factor = 1.10 x (1 – BF) x (edb – 80).

PERFORMANCE DATA (cont)

COOLING CAPACITIES — UNITS WITH PERFECT HUMIDITY™ ADAPTIVE DEHUMIDIFICATION SYSTEM OPTION (cont)

581B072 (6 TONS) — SUBCOOLING MODE

Temp (F) Air Ent Condenser (Edb)		Air Entering Evaporator — Cfm/BF											
		1800/0.05			2100/0.06			2400/0.06			3000/0.08		
		Air Entering Evaporator — Ewb (F)											
		72	67	62	72	67	62	72	67	62	72	67	62
75	TC	82.6	75.6	68.5	84.9	78.0	70.9	85.9	79.5	73.5	89.1	82.7	77.0
	SHC	36.0	44.8	55.4	37.5	49.1	59.7	38.8	51.1	64.0	41.8	58.1	70.2
	kW	4.60	4.52	4.36	4.67	4.57	4.46	4.70	4.57	4.45	4.77	4.61	4.51
85	TC	78.2	71.6	64.5	80.9	73.4	65.8	82.0	74.4	67.9	85.8	78.2	72.3
	SHC	31.4	41.2	51.7	33.0	44.7	55.8	34.7	47.4	60.1	37.6	54.3	66.7
	kW	5.16	5.03	4.89	5.22	5.11	4.96	5.26	5.09	4.97	5.32	5.17	5.04
95	TC	73.8	67.4	60.2	76.3	68.3	60.5	77.5	69.3	62.3	82.0	72.8	67.5
	SHC	27.0	37.6	47.9	28.2	40.0	51.6	30.2	43.7	56.2	33.6	49.2	62.9
	kW	5.75	5.60	5.44	5.80	5.66	5.48	5.84	5.68	5.53	5.90	5.73	5.60
105	TC	68.4	62.6	55.9	71.4	64.3	56.2	72.1	64.6	58.3	75.7	67.0	62.4
	SHC	22.3	33.5	43.5	23.4	36.5	48.0	25.4	38.4	50.2	29.1	45.2	56.2
	kW	6.37	6.22	6.06	6.45	6.27	6.10	6.46	6.29	6.16	6.53	6.36	6.24
115	TC	63.4	57.8	50.7	66.0	60.1	51.5	66.4	59.6	54.5	68.8	60.8	57.5
	SHC	18.1	29.5	38.9	18.8	32.9	44.1	20.7	33.3	43.8	24.3	41.4	49.7
	kW	7.04	6.89	6.68	7.10	6.91	6.74	7.12	6.95	6.83	7.16	7.01	6.92
125	TC	55.5	49.6	45.8	58.4	52.4	46.1	57.6	52.1	49.5	59.2	52.8	53.1
	SHC	15.3	24.0	35.2	15.7	27.5	39.0	17.5	27.5	38.4	20.9	34.6	44.4
	kW	7.80	7.61	7.38	7.83	7.67	7.49	7.89	7.72	7.58	7.92	7.78	7.70

581B072 (6 TONS) — HOT GAS REHEAT MODE*

Temp (F) Air Ent Condenser (Edb)		Air Entering Evaporator — Ewb (F)								
		75 Dry Bulb 62.5 Wet Bulb (50% Relative)			75 Dry Bulb 64 Wet Bulb (55% Relative)			75 Dry Bulb 65.3 Wet Bulb (60% Relative)		
		Air Entering Evaporator — Cfm								
		1800	2100	2400	1800	2100	2400	1800	2100	2400
80	TC	27.41	28.12	28.75	27.25	27.98	28.62	27.12	27.86	28.51
	SHC	5.74	7.61	9.25	1.68	3.52	5.14	–1.85	–0.03	1.58
	kW	4.40	4.39	4.39	4.44	4.44	4.44	4.49	4.49	4.49
75	TC	27.98	28.66	29.24	27.89	28.58	29.18	27.81	28.52	29.13
	SHC	5.73	7.48	9.02	1.92	3.65	5.18	–1.38	0.34	1.85
	kW	4.45	4.45	4.45	4.50	4.50	4.50	4.55	4.55	4.55
70	TC	28.55	29.19	29.74	28.53	29.18	29.74	28.51	29.17	29.74
	SHC	5.71	7.35	8.79	2.17	3.79	5.22	–0.91	0.70	2.12
	kW	4.51	4.51	4.51	4.57	4.57	4.57	4.62	4.62	4.62
60	TC	29.70	30.25	30.74	29.80	30.37	30.86	29.89	30.47	30.97
	SHC	5.67	7.09	8.34	2.65	4.06	5.29	0.04	1.43	2.65
	kW	4.62	4.62	4.62	4.69	4.69	4.69	4.75	4.75	4.75
50	TC	30.84	31.32	31.73	31.07	31.56	31.98	31.27	31.77	32.20
	SHC	5.63	6.83	7.89	3.14	4.33	5.37	0.98	2.15	3.19
	kW	4.74	4.74	4.74	4.82	4.82	4.82	4.89	4.89	4.89
40	TC	31.99	32.38	32.73	32.35	32.75	33.12	32.66	33.07	33.43
	SHC	5.60	6.57	7.43	3.63	4.59	5.44	1.92	2.88	3.72
	kW	4.86	4.86	4.86	4.95	4.95	4.95	5.02	5.02	5.02

LEGEND

BF — Bypass Factor
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Compressor Motor Power Input
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

*Negative SHC value indicates that the air entering the coil is being heated.

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil.

3. The SHC is based on 80 F edb temperature of air entering evaporator coil.
Below 80 F edb, subtract (corr factor x cfm) from SHC.
Above 80 F edb, add (corr factor x cfm) to SHC.
Correction Factor = 1.10 x (1 – BF) x (edb – 80).

PERFORMANCE DATA (cont)

COOLING CAPACITIES — UNITS WITH PERFECT HUMIDITY™ ADAPTIVE DEHUMIDIFICATION SYSTEM OPTION (cont)

581B090 (7 1/2 TONS) — SUBCOOLING MODE

TEMP (F) AIR ENT CONDENSER (Edb)		AIR ENTERING EVAPORATOR — Cfm/BF								
		2250/0.10			3000/0.11			3750/0.14		
		Air Entering Evaporator — Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	98.4	91.1	81.1	103.7	97.9	91.8	105.8	101.3	94.1
	SHC	44.5	55.4	67.0	50.4	65.4	80.5	54.5	72.4	89.5
	kW	5.05	4.96	4.87	5.09	5.04	4.97	5.16	5.04	4.99
85	TC	94.2	85.8	76.9	100.3	92.4	85.2	103.5	96.8	89.0
	SHC	39.7	51.3	62.7	46.2	58.3	75.7	50.6	68.2	84.3
	kW	5.74	5.65	5.55	5.81	5.75	5.64	5.89	5.74	5.70
95	TC	89.9	80.5	72.6	96.9	86.8	78.6	101.1	92.2	83.8
	SHC	34.8	47.2	58.3	41.9	51.2	71.0	46.6	63.9	79.1
	kW	6.42	6.33	6.22	6.52	6.45	6.31	6.62	6.43	6.40
105	TC	84.6	75.3	68.0	91.6	81.3	73.4	94.5	86.3	78.4
	SHC	30.0	42.5	53.9	36.9	49.3	66.4	41.4	59.2	73.8
	kW	7.26	7.16	7.05	7.36	7.25	7.15	7.46	7.29	7.23
115	TC	79.2	70.1	63.3	86.2	75.8	68.1	87.9	80.3	72.9
	SHC	25.2	37.8	49.4	31.9	47.4	61.9	36.1	54.4	68.5
	kW	8.10	7.99	7.87	8.20	8.05	7.98	8.30	8.14	8.05
125	TC	72.8	64.5	57.2	78.0	69.8	62.3	81.6	73.2	69.2
	SHC	20.1	33.4	44.1	25.4	42.5	56.5	31.1	48.9	64.7
	kW	9.10	8.94	8.83	9.23	9.05	8.95	9.26	9.10	8.99

581B090 (7 1/2 TONS) — HOT GAS REHEAT MODE*

Temp (F) Air Ent Condenser (Edb)		Air Entering Evaporator — Ewb (F)								
		75 Dry Bulb 62.5 Wet Bulb (50% Relative)			75 Dry Bulb 64 Wet Bulb (55% Relative)			75 Dry Bulb 65.3 Wet Bulb (60% Relative)		
		Air Entering Evaporator — Cfm								
		2250	3000	3750	2250	3000	3750	2250	3000	3750
80	TC	37.74	40.54	42.68	38.48	41.35	43.55	39.12	42.05	44.29
	SHC	10.67	15.63	19.63	5.01	9.84	13.74	0.10	4.82	8.63
	kW	4.92	4.92	4.92	4.97	4.97	4.97	5.01	5.01	5.01
75	TC	37.34	39.95	41.95	38.08	40.75	42.81	38.72	41.45	43.55
	SHC	9.83	14.48	18.24	4.52	9.05	12.70	–0.09	4.34	7.91
	kW	5.19	5.19	5.19	5.25	5.25	5.25	5.30	5.30	5.30
70	TC	36.93	39.36	41.22	37.67	40.16	42.07	38.31	40.85	42.80
	SHC	8.99	13.33	16.84	4.02	8.26	11.67	–0.28	3.86	7.19
	kW	5.46	5.46	5.46	5.52	5.52	5.52	5.58	5.58	5.58
60	TC	36.13	38.18	39.75	36.87	38.97	40.58	37.51	39.66	41.31
	SHC	7.31	11.04	14.04	3.04	6.67	9.60	–0.66	2.89	5.75
	kW	5.99	5.99	5.99	6.08	6.08	6.08	6.15	6.15	6.15
50	TC	35.32	37.00	38.29	36.06	37.78	39.10	36.75	38.46	39.81
	SHC	5.63	8.74	11.25	2.06	5.09	7.53	–1.03	1.93	4.32
	kW	6.52	6.52	6.52	6.63	6.63	6.63	6.73	6.73	6.73
40	TC	34.52	35.82	36.82	35.26	36.60	37.62	35.90	37.27	38.32
	SHC	3.94	6.44	8.45	1.08	3.51	5.47	–1.41	0.97	2.88
	kW	7.05	7.05	7.05	7.18	7.18	7.18	7.30	7.30	7.30

LEGEND

BF — Bypass Factor
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Compressor Motor Power Input
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

*Negative SHC value indicates that the air entering the coil is being heated.

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil.

3. The SHC is based on 80 F edb temperature of air entering evaporator coil.
Below 80 F edb, subtract (corr factor x cfm) from SHC.
Above 80 F edb, add (corr factor x cfm) to SHC.
Correction Factor = 1.10 x (1 – BF) x (edb – 80).

PERFORMANCE DATA (cont)

COOLING CAPACITIES — UNITS WITH PERFECT HUMIDITY™ ADAPTIVE DEHUMIDIFICATION SYSTEM OPTION (cont)

581B102 (8 1/2 TONS) — SUBCOOLING MODE

Temp (F) Air Ent Condenser (Edb)		Air Entering Evaporator — Cfm/BF											
		2550/0.08			3000/0.09			3400/0.11			4250/0.13		
		Air Entering Evaporator — Ewb (F)											
		72	67	62	72	67	62	72	67	62	72	67	62
75	TC	114.1	104.1	97.8	116.3	108.5	103.4	117.6	111.9	108.0	122.2	118.9	111.4
	SHC	49.8	64.2	81.2	52.6	70.8	89.0	55.4	76.9	95.4	62.0	87.0	107.2
	kW	5.57	5.46	5.44	5.59	5.50	5.44	5.60	5.51	5.44	5.62	5.62	5.69
85	TC	107.3	98.4	92.6	111.0	101.8	98.0	113.0	104.2	102.0	117.1	111.4	106.1
	SHC	42.2	58.3	76.0	47.1	64.5	83.5	51.2	70.2	89.2	57.3	81.2	101.2
	kW	6.32	6.30	6.15	6.32	6.27	6.18	6.34	6.22	6.20	6.30	6.31	6.45
95	TC	101.9	92.4	86.8	105.3	95.5	92.8	107.4	97.7	96.5	112.1	103.7	100.3
	SHC	35.4	51.9	70.3	40.1	58.5	77.9	44.9	64.9	83.7	52.1	74.0	94.8
	kW	7.06	7.13	6.93	7.06	7.06	6.95	7.06	6.99	6.98	7.01	7.04	7.17
105	TC	94.5	85.4	77.0	97.6	88.3	82.4	99.9	90.6	88.0	104.1	96.1	94.0
	SHC	29.7	45.7	63.2	33.9	52.2	70.1	38.0	58.3	75.7	44.4	67.6	88.5
	kW	7.99	8.00	7.81	8.01	7.97	7.85	8.02	7.94	7.89	7.96	7.96	8.08
115	TC	86.4	75.0	68.3	89.3	80.2	74.1	91.4	83.2	78.4	96.5	88.4	87.1
	SHC	24.0	38.7	56.4	27.4	45.6	62.9	31.1	51.9	67.0	37.0	60.8	81.8
	kW	8.91	8.83	8.66	8.93	8.86	8.76	8.97	8.86	8.84	8.91	8.93	8.90
125	TC	78.6	65.5	60.2	81.3	68.9	64.7	83.3	71.6	68.2	88.5	78.8	78.9
	SHC	18.3	32.0	48.8	21.2	38.0	53.5	24.1	44.1	57.5	29.4	53.3	73.8
	kW	9.81	9.65	9.53	9.86	9.68	9.64	9.89	9.71	9.75	9.90	9.72	9.88

581B102 (8 1/2 TONS) — HOT GAS REHEAT MODE

Temp (F) Air Ent Condenser (Edb)		Air Entering Evaporator — Ewb (F)											
		75 Dry Bulb 62.5 Wet Bulb (50% Relative)				75 Dry Bulb 64 Wet Bulb (55% Relative)				75 Dry Bulb 65.3 Wet Bulb (60% Relative)			
		Air Entering Evaporator — Cfm											
		2550	3000	3400	4250	2550	3000	3400	4250	2550	3000	3400	4250
80	TC	43.44	46.26	48.45	52.38	45.26	48.15	50.39	54.43	46.84	49.79	52.08	56.20
	SHC	12.34	16.78	20.29	26.74	5.79	10.15	13.60	19.93	0.11	4.40	7.80	14.03
	kW	6.31	6.31	6.31	6.31	6.05	6.05	6.05	6.05	5.83	5.83	5.83	5.83
75	TC	44.33	47.00	49.06	52.78	46.12	48.85	50.97	54.78	47.67	50.46	52.63	56.52
	SHC	12.92	17.12	20.44	26.54	6.81	10.94	14.20	20.20	1.51	5.58	8.79	14.70
	kW	6.38	6.38	6.8	6.38	6.15	6.15	6.15	6.15	5.95	5.95	5.95	5.95
70	TC	45.22	47.73	49.68	53.18	46.98	49.55	51.55	55.14	48.51	51.14	53.18	56.84
	SHC	13.50	17.47	20.59	26.34	7.83	11.73	14.81	20.46	2.92	6.76	9.79	15.36
	kW	6.46	6.46	6.46	6.46	6.25	6.25	6.25	6.25	6.07	6.07	6.07	6.07
60	TC	46.99	49.19	50.90	53.97	48.70	50.96	52.71	55.86	50.18	52.49	54.27	57.49
	SHC	14.67	18.15	20.90	25.95	9.88	13.31	16.01	20.99	5.73	9.11	11.78	16.68
	kW	6.60	6.60	6.60	6.60	6.45	6.45	6.45	6.45	6.32	6.32	6.32	6.32
50	TC	48.77	50.66	52.13	54.77	50.42	52.36	53.87	56.57	51.85	53.83	55.37	58.14
	SHC	15.83	18.83	21.20	25.56	11.93	14.89	17.22	21.51	8.55	11.47	13.77	18.01
	kW	6.74	6.74	6.74	6.74	6.64	6.64	6.64	6.64	6.56	6.56	6.56	6.56
40	TC	50.54	52.13	53.35	55.56	52.14	53.76	55.02	57.29	53.53	55.18	56.47	58.78
	SHC	17.00	19.52	21.51	25.16	13.98	16.47	18.43	22.04	11.36	13.82	15.76	19.33
	kW	6.88	6.88	6.88	6.88	6.84	6.84	6.84	6.84	6.81	6.81	6.81	6.81

LEGEND

BF — Bypass Factor
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Compressor Motor Power Input
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil.

3. The SHC is based on 80 F edb temperature of air entering evaporator coil.
Below 80 F edb, subtract (corr factor x cfm) from SHC.
Above 80 F edb, add (corr factor x cfm) to SHC.
Correction Factor = 1.10 x (1 – BF) x (edb – 80).

PERFORMANCE DATA (cont)

COOLING CAPACITIES — UNITS WITH PERFECT HUMIDITY™ ADAPTIVE DEHUMIDIFICATION SYSTEM OPTION (cont)

581B120 (10 TONS) — SUBCOOLING MODE

Temp (F) Air Ent Condenser (Edb)		Air Entering Evaporator — Cfm/BF											
		3000/0.03			3200/0.03			4000/0.04			5000/0.04		
		Air Entering Evaporator — Ewb (F)											
		72	67	62	72	67	62	72	67	62	72	67	62
75	TC	134.3	122.5	111.4	135.8	124.3	113.0	138.4	129.5	123.5	143.3	136.5	130.2
	SHC	60.0	76.1	93.7	61.3	79.1	97.4	68.0	89.5	109.4	75.2	100.9	123.3
	kW	7.03	6.84	6.72	7.01	6.89	6.77	7.10	6.92	6.77	7.15	7.03	6.88
85	TC	127.6	115.4	104.6	128.9	118.1	107.0	132.5	121.5	116.6	137.2	128.0	122.9
	SHC	51.5	68.8	87.2	53.9	72.0	91.2	61.0	82.7	102.4	68.6	93.6	115.9
	kW	7.96	7.86	7.59	7.94	7.78	7.51	8.02	7.84	7.69	8.02	7.94	7.79
95	TC	120.9	108.3	97.8	121.9	111.8	101.0	126.5	113.4	109.7	131.1	119.4	115.5
	SHC	43.0	61.5	80.6	46.5	64.8	84.9	53.9	75.9	95.4	62.0	86.2	108.4
	kW	8.88	8.87	8.46	8.86	8.66	8.26	8.94	8.76	8.60	8.89	8.85	8.69
105	TC	112.0	99.9	90.4	113.1	103.2	93.4	117.2	105.0	100.7	122.1	110.5	105.9
	SHC	36.1	54.1	73.8	38.8	57.8	78.9	45.6	68.2	86.8	53.0	78.3	99.7
	kW	10.0	10.0	9.6	10.0	9.8	9.5	10.1	9.9	9.8	10.1	10.0	9.9
115	TC	103.0	91.5	83.1	104.3	94.6	85.9	107.8	96.7	91.7	113.0	101.6	96.4
	SHC	29.2	46.7	66.9	31.2	50.7	72.9	37.3	60.6	78.3	44.0	70.3	90.9
	kW	11.2	11.1	10.8	11.2	11.0	10.7	11.3	11.1	11.0	11.3	11.2	11.1
125	TC	94.1	83.1	75.7	95.5	86.0	78.3	98.5	88.3	82.7	104.0	92.7	86.8
	SHC	22.3	39.3	60.1	23.5	43.7	66.8	29.0	52.9	69.7	35.0	62.4	82.2
	kW	12.35	12.15	11.94	12.38	12.13	11.92	12.48	12.27	12.25	12.53	12.30	12.28

581B120 (10 TONS) — HOT GAS REHEAT MODE*

Temp (F) Air Ent Condenser (Edb)		Air Entering Evaporator — Ewb (F)											
		75 Dry Bulb 62.5 Wet Bulb (50% Relative)				75 Dry Bulb 64 Wet Bulb (55% Relative)				75 Dry Bulb 65.3 Wet Bulb (60% Relative)			
		Air Entering Evaporator — Cfm											
		3000	3200	4000	5000	3000	3200	4000	5000	3000	3200	4000	5000
80	TC	49.15	50.16	53.80	57.72	51.04	52.08	55.86	59.94	52.67	53.74	57.65	61.86
	SHC	9.58	12.02	20.74	29.89	2.88	5.29	13.88	22.89	–2.92	-0.55	7.93	16.83
	kW	7.39	7.38	7.38	7.37	7.45	7.45	7.44	7.43	7.50	7.50	7.49	7.49
75	TC	49.60	50.61	54.30	58.28	51.45	52.50	56.33	60.45	53.05	54.14	58.09	62.34
	SHC	10.07	12.38	20.60	29.23	3.82	6.09	14.20	22.70	–1.60	0.64	8.65	17.05
	kW	7.56	7.56	7.55	7.55	7.63	7.63	7.62	7.62	7.69	7.69	7.69	7.68
70	TC	50.04	51.07	54.81	58.83	51.86	52.92	56.80	60.96	53.43	54.53	58.52	62.82
	SHC	10.56	12.73	20.47	28.58	4.75	6.89	14.52	22.52	–0.28	1.83	9.36	17.26
	kW	7.73	7.73	7.72	7.72	7.81	7.81	7.81	7.80	7.89	7.88	7.88	7.87
60	TC	50.93	51.98	55.81	59.93	52.68	53.77	57.73	61.99	54.20	55.32	59.39	63.77
	SHC	11.54	13.44	20.19	27.28	6.62	8.49	15.16	22.15	2.36	4.21	10.79	17.70
	kW	8.07	8.07	8.07	8.06	8.18	8.18	8.17	8.17	8.27	8.27	8.26	8.26
50	TC	51.82	52.90	56.81	61.03	53.50	54.62	58.66	63.01	54.96	56.10	60.26	64.73
	SHC	12.53	14.14	19.92	25.98	8.50	10.09	15.80	21.78	5.00	6.58	12.22	18.14
	kW	8.42	8.42	8.41	8.41	8.54	8.54	8.54	8.54	8.66	8.65	8.65	8.65
40	TC	52.71	53.81	57.82	62.13	54.32	55.46	59.59	64.04	55.72	56.89	61.13	65.69
	SHC	13.51	14.85	19.64	24.67	10.37	11.70	16.43	21.41	7.64	8.96	13.65	18.58
	kW	8.76	8.76	8.76	8.75	8.91	8.91	8.91	8.90	9.04	9.04	9.04	9.03

LEGEND

BF — Bypass Factor
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Compressor Motor Power Input
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

*Negative SHC value indicates that the air entering the coil is being heated.

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil.

3. The SHC is based on 80 F edb temperature of air entering evaporator coil.
Below 80 F edb, subtract (corr factor x cfm) from SHC.
Above 80 F edb, add (corr factor x cfm) to SHC.
Correction Factor = 1.10 x (1 – BF) x (edb – 80).

PERFORMANCE DATA (cont)

COOLING CAPACITIES — UNITS WITH PERFECT HUMIDITY™ ADAPTIVE DEHUMIDIFICATION SYSTEM OPTION (cont)

581B150 (12 1/2 TONS) — SUBCOOLING MODE

Temp (F) Air Ent Condenser (Edb)		Air Entering Evaporator — Cfm/BF											
		3750/0.08			4300/0.09			5000/0.11			6250/0.13		
		Air Entering Evaporator — Ewb (F)											
		72	67	62	72	67	62	72	67	62	72	67	62
75	TC	156.3	144.2	132.3	160.0	148.4	136.2	162.8	150.6	138.2	169.0	157.5	145.6
	SHC	66.6	87.6	112.1	72.5	94.8	121.3	76.9	99.6	127.5	87.0	115.5	142.7
	kW	9.28	8.98	8.59	9.35	9.08	8.80	9.40	9.18	8.9	9.43	9.18	8.93
85	TC	147.6	136.2	123.7	150.7	140.1	127.2	154.1	140.8	127.9	161.1	148.0	135.4
	SHC	58.7	80.0	103.8	63.5	86.5	112.2	68.7	91.0	118.1	77.7	107.8	133.2
	kW	10.29	9.93	9.58	10.36	10.08	9.77	10.40	10.34	10.03	10.45	10.18	9.88
95	TC	138.9	128.2	115.1	141.4	131.8	118.3	145.3	131.0	117.6	153.1	138.4	125.1
	SHC	50.8	72.3	95.5	54.4	78.1	103.2	60.5	82.3	108.7	68.5	100.0	123.7
	kW	11.29	10.87	10.57	11.37	11.08	10.74	11.40	11.50	11.1	11.46	11.17	10.83
105	TC	129.1	117.8	105.8	131.7	121.0	108.7	134.8	119.9	107.7	140.9	126.9	115.9
	SHC	42.1	63.5	86.5	45.4	69.0	93.9	51.2	74.2	101.3	57.7	90.2	113.6
	kW	12.59	12.14	11.82	12.67	12.34	11.96	12.70	12.67	12.28	12.79	12.46	12.08
115	TC	119.2	107.3	96.4	122.1	110.2	99.0	124.2	108.8	97.8	128.7	115.3	106.7
	SHC	33.5	54.8	77.5	36.4	59.8	84.7	41.9	66.1	93.8	46.8	80.5	103.5
	kW	13.90	13.40	13.08	13.98	13.59	13.18	14.00	13.83	13.41	14.11	13.75	13.33
125	TC	109.4	96.9	87.1	112.4	99.4	89.3	113.7	97.7	87.8	116.5	103.8	97.5
	SHC	24.8	46.0	68.5	27.4	50.7	75.5	32.6	58.0	86.4	36.0	70.7	93.5
	kW	15.20	14.67	14.33	15.28	14.85	14.40	15.30	15.00	14.54	15.44	15.04	14.58

581B150 (12 1/2 TONS) — HOT GAS REHEAT MODE*

Temp (F) Air Ent Condenser (Edb)		Air Entering Evaporator — Ewb (F)											
		75 Dry Bulb 62.5 Wet Bulb (50% Relative)				75 Dry Bulb 64 Wet Bulb (55% Relative)				75 Dry Bulb 65.3 Wet Bulb (60% Relative)			
		Air Entering Evaporator — Cfm											
		3750	4300	5000	6250	3750	4300	5000	6250	3750	4300	5000	6250
80	TC	43.54	45.21	47.05	49.78	45.46	47.16	49.05	51.85	47.11	48.86	50.78	53.64
	SHC	–4.36	0.76	6.50	15.20	–9.51	–4.35	1.45	10.22	–13.97	–8.77	–2.93	5.90
	kW	8.70	8.70	8.70	8.70	8.82	8.82	8.82	8.82	8.92	8.92	8.92	8.92
75	TC	44.45	46.02	47.75	50.32	46.33	47.94	49.71	52.34	47.96	49.60	51.41	54.10
	SHC	–3.84	0.96	6.36	14.53	–8.66	–3.81	1.63	9.86	–12.84	–7.96	–2.48	5.82
	kW	8.90	8.90	8.90	8.90	9.03	9.03	9.03	9.03	9.14	9.14	9.14	9.14
70	TC	45.36	46.82	48.45	50.86	47.20	48.71	50.37	52.84	48.80	50.34	52.04	54.55
	SHC	–3.32	1.17	6.21	13.85	–7.81	–3.28	1.80	9.50	–11.71	–7.14	–2.02	5.74
	kW	9.10	9.10	9.10	9.10	9.24	9.24	9.24	9.24	9.36	9.36	9.36	9.36
60	TC	47.17	48.44	49.84	51.93	48.95	50.25	51.69	53.83	50.49	51.82	53.29	55.47
	SHC	–2.28	1.59	5.93	12.50	–6.12	–2.22	2.16	8.79	–9.45	–5.52	–1.11	5.57
	kW	9.51	9.51	9.51	9.51	9.66	9.66	9.66	9.66	9.80	9.80	9.80	9.80
50	TC	48.98	50.05	51.24	53.00	50.70	51.80	53.01	54.82	52.18	53.31	54.55	56.39
	SHC	–1.24	2.00	5.64	11.15	–4.43	–1.15	2.52	8.07	–7.18	–3.89	–0.19	5.41
	kW	9.91	9.91	9.91	9.91	10.09	10.09	10.09	10.09	10.24	10.24	10.24	10.24
40	TC	50.79	51.67	52.64	54.07	52.44	53.34	54.33	55.80	53.87	54.79	55.80	57.30
	SHC	–0.20	2.41	5.35	9.80	–2.73	–.019	2.87	7.36	–4.92	–2.26	0.72	5.24
	kW	10.31	10.31	10.31	10.31	10.51	10.51	10.51	10.51	10.68	10.68	10.68	10.68

LEGEND

BF — Bypass Factor
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Compressor Motor Power Input
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

*Negative SHC value indicates that the air entering the coil is being heated.

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil.

3. The SHC is based on 80 F edb temperature of air entering evaporator coil.
Below 80 F edb, subtract (corr factor x cfm) from SHC.
Above 80 F edb, add (corr factor x cfm) to SHC.
Correction Factor = 1.10 x (1 – BF) x (edb – 80).

PERFORMANCE DATA (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS

581B036 (3 TONS) — STANDARD MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
900	**567**	**0.15**	**145**	688	0.22	222	786	0.30	296	871	0.37	368	947	0.44	437
1000	**599**	**0.18**	**177**	717	0.27	265	814	0.35	349	897	0.43	430	972	0.51	509
1100	**632**	**0.22**	**215**	747	0.31	313	842	0.41	407	925	0.50	498	999	0.59	587
1200	**666**	**0.26**	**257**	778	0.37	367	871	0.47	471	952	0.57	572	1025	0.67	670
1300	701	0.31	306	810	0.43	426	901	0.54	540	981	0.65	651	**1053**	**0.76**	**760**
1400	737	0.36	361	842	0.49	491	931	0.62	616	1010	0.74	738	**1081**	**0.86**	**856**
1500	773	0.42	422	875	0.57	564	963	0.70	699	1040	0.84	831	**1110**	**0.96**	**960**

581B036 (3 TONS) — STANDARD MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
900	1016	0.51	505	**1080**	**0.57**	**572**	**1139**	**0.64**	**637**	**1195**	**0.71**	**702**	**1249**	**0.77**	**765**
1000	1041	0.59	587	**1104**	**0.67**	**662**	**1163**	**0.74**	**737**	**1219**	**0.81**	**811**	**1272**	**0.89**	**883**
1100	**1066**	**0.68**	**674**	**1129**	**0.76**	**759**	**1188**	**0.85**	**843**	**1243**	**0.93**	**925**	**1296**	**1.01**	**1007**
1200	**1093**	**0.77**	**767**	**1155**	**0.87**	**861**	**1213**	**0.96**	**955**	**1268**	**1.05**	**1047**	**1321**	**1.14**	**1137**
1300	**1119**	**0.87**	**866**	**1181**	**0.98**	**970**	**1239**	**1.08**	**1073**	**1294**	**1.18**	**1175**	—	—	—
1400	**1147**	**0.98**	**972**	**1208**	**1.09**	**1086**	—	—	—	—	—	—	—	—	—
1500	**1175**	**1.09**	**1086**	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Motor drive range: 680 to 1044 rpm. All other rpms require field-supplied drive.

Refer to this page for general Fan Performance Data notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 1.20.

581B048 (3 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
900	**567**	**0.15**	**145**	**688**	**0.22**	**222**	**786**	**0.30**	**296**	**871**	**0.37**	**368**	**947**	**0.44**	**437**
1000	**599**	**0.18**	**177**	**717**	**0.27**	**265**	**814**	**0.35**	**349**	**897**	**0.43**	**430**	**972**	**0.51**	**509**
1100	**632**	**0.22**	**215**	**747**	**0.31**	**313**	**842**	**0.41**	**407**	**925**	**0.50**	**498**	**999**	**0.59**	**587**
1200	**666**	**0.26**	**257**	**778**	**0.37**	**367**	**871**	**0.47**	**471**	**952**	**0.57**	**572**	**1025**	**0.67**	**670**
1300	**701**	**0.31**	**306**	**810**	**0.43**	**426**	**901**	**0.54**	**540**	**981**	**0.65**	**651**	**1053**	**0.76**	**760**
1400	**737**	**0.36**	**361**	**842**	**0.49**	**491**	**931**	**0.62**	**616**	**1010**	**0.74**	**738**	1081	0.86	856
1500	**773**	**0.42**	**422**	**875**	**0.57**	**564**	**963**	**0.70**	**699**	**1040**	**0.84**	**831**	1110	0.96	960

581B048 (3 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
900	**1016**	**0.51**	**505**	1080	0.57	572	1139	0.64	637	1195	0.71	702	1249	0.77	765
1000	**1041**	**0.59**	**587**	1104	0.67	662	1163	0.74	737	1219	0.81	811	1272	0.89	883
1100	**1066**	**0.68**	**674**	1129	0.76	759	1188	0.85	843	1243	0.93	925	1296	1.01	1007
1200	1093	0.77	767	1155	0.87	861	1213	0.96	955	1268	1.05	1047	1321	1.14	1137
1300	1119	0.87	866	1181	0.98	970	1239	1.08	1073	1294	1.18	1175	1346	1.28	1275
1400	1147	0.98	972	1208	1.09	1086	1265	1.21	1199	1320	1.32	1310	1371	1.43	1419
1500	1175	1.09	1086	1235	1.22	1209	1292	1.34	1332	1346	1.46	1452	1397	1.58	1572

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Motor drive range: 1075 to 1455 rpm. All other rpms require field-supplied drive.

Refer to this page for general Fan Performance Data notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.

GENERAL NOTES FOR FAN PERFORMANCE DATA TABLES

1. Static pressure losses (i.e., EconoMi$er IV) must be added to external static pressure before entering Fan Performance table.
2. Interpolation is permissible. Do not extrapolate.
3. Fan performance is based on wet coils, clean filters, and casing losses. See Accessory/FIOP Static Pressure table on page 133.
4. Extensive motor and drive testing on these units ensures that the full horsepower and watts range of the motor can be utilized with confidence. Using the fan motors up to the watts or bhp rating shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected.
5. Use of a field-supplied motor may affect wire size. Contact your Bryant representative for details.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

581B048 (4 TONS) — STANDARD MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1200	**666**	**0.26**	**257**	778	0.37	367	871	0.47	471	952	0.57	572	1025	0.67	670
1300	**701**	**0.31**	**306**	810	0.43	426	901	0.54	540	981	0.65	651	1053	0.76	760
1400	**737**	**0.36**	**361**	842	0.49	491	931	0.62	616	1010	0.74	738	1081	0.86	856
1500	773	0.42	422	875	0.57	564	963	0.70	699	1040	0.84	831	1110	0.96	960
1600	810	0.49	491	909	0.65	643	994	0.79	790	1070	0.94	932	1140	1.08	1070
1700	847	0.57	567	943	0.73	730	1027	0.89	888	1101	1.05	1040	1170	1.20	1189
1800	885	0.66	652	978	0.83	826	1060	1.00	994	1133	1.16	1157	—	—	—
1900	923	0.75	745	1014	0.94	930	1093	1.11	1109	—	—	—	—	—	—
2000	962	0.85	847	1049	1.05	1043	—	—	—	—	—	—	—	—	—

581B048 (4 TONS) — STANDARD MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1200	1093	0.77	767	1155	0.87	861	**1213**	**0.96**	**955**	**1268**	**1.05**	**1047**	**1321**	**1.14**	**1137**
1300	1119	0.87	866	1181	0.98	970	**1239**	**1.08**	**1073**	**1294**	**1.18**	**1175**	—	—	—
1400	1147	0.98	972	**1208**	**1.09**	**1086**	—	—	—	—	—	—	—	—	—
1500	1175	1.09	1086	—	—	—	—	—	—	—	—	—	—	—	—
1600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Motor drive range: 770 to 1185 rpm. All other rpms require field-supplied drive.

Refer to page 107 for general Fan Performance Data notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 1.20.

581B048 (4 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1200	**666**	**0.26**	**257**	**778**	**0.37**	**367**	**871**	**0.47**	**471**	**952**	**0.57**	**572**	**1025**	**0.67**	**670**
1300	**701**	**0.31**	**306**	**810**	**0.43**	**426**	**901**	**0.54**	**540**	**981**	**0.65**	**651**	**1053**	**0.76**	**760**
1400	**737**	**0.36**	**361**	**842**	**0.49**	**491**	**931**	**0.62**	**616**	**1010**	**0.74**	**738**	1081	0.86	856
1500	**773**	**0.42**	**422**	**875**	**0.57**	**564**	**963**	**0.70**	**699**	**1040**	**0.84**	**831**	1110	0.96	960
1600	**810**	**0.49**	**491**	**909**	**0.65**	**643**	**994**	**0.79**	**790**	**1070**	**0.94**	**932**	1140	1.08	1070
1700	**847**	**0.57**	**567**	**943**	**0.73**	**730**	**1027**	**0.89**	**888**	1101	1.05	1040	1170	1.20	1189
1800	**885**	**0.66**	**652**	**978**	**0.83**	**826**	**1060**	**1.00**	**994**	1133	1.16	1157	1200	1.32	1316
1900	**923**	**0.75**	**745**	**1014**	**0.94**	**930**	1093	1.11	1109	1165	1.29	1283	1231	1.46	1453
2000	**962**	**0.85**	**847**	**1049**	**1.05**	**1043**	1127	1.24	1233	1198	1.42	1417	1263	1.61	1598

581B048 (4 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1200	1093	0.77	767	1155	0.87	861	1213	0.96	955	1268	1.05	1047	1321	1.14	1137
1300	1119	0.87	866	1181	0.98	970	1239	1.08	1073	1294	1.18	1175	1346	1.28	1275
1400	1147	0.98	972	1208	1.09	1086	1265	1.21	1199	1320	1.32	1310	1371	1.43	1419
1500	1175	1.09	1086	1235	1.22	1209	1292	1.34	1332	1346	1.46	1452	1397	1.58	1572
1600	1204	1.21	1207	1263	1.35	1340	1320	1.48	1472	1373	1.61	1603	1424	1.74	1732
1700	1233	1.34	1336	1292	1.49	1480	1348	1.63	1622	1401	1.77	1762	1451	1.91	1901
1800	1262	1.48	1473	1321	1.64	1627	1376	1.79	1779	1428	1.94	1930	**1479**	**2.09**	**2078**
1900	1293	1.63	1620	1350	1.79	1784	1405	1.96	1946	**1457**	**2.12**	**2106**	**1506**	**2.28**	**2265**
2000	1323	1.79	1776	1380	1.96	1950	1434	2.13	2123	**1486**	**2.31**	**2293**	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Motor drive range: 1075 to 1455 rpm. All other rpms require field-supplied drive.

Refer to page 107 for general Fan Performance Data notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

581B060 (5 TONS) — STANDARD MOTOR (BELT DRIVE)* — SINGLE-PHASE UNITS

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	**848**	**0.42**	**371**	**968**	**0.55**	**486**	1069	0.68	600	1158	0.80	715	1238	0.94	831
1600	**887**	**0.49**	**433**	**1004**	**0.63**	**556**	1103	0.76	678	1190	0.90	800	1269	1.04	922
1700	**927**	**0.57**	**502**	1040	0.71	633	1137	0.86	763	1223	1.00	892	1302	1.15	1022
1800	**967**	**0.65**	**579**	1077	0.81	718	1172	0.96	856	1257	1.12	993	1334	1.27	1130
1900	**1007**	**0.75**	**663**	1115	0.91	811	1208	1.08	957	1291	1.24	1101	—	—	—
2000	1048	0.85	757	1153	1.03	913	1244	1.20	1066	—	—	—	—	—	—
2100	1090	0.97	859	1191	1.15	1023	—	—	—	—	—	—	—	—	—
2200	1131	1.09	970	1230	1.29	1143	—	—	—	—	—	—	—	—	—
2300	1173	1.23	1091	—	—	—	—	—	—	—	—	—	—	—	—
2400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

581B060 (5 TONS) — STANDARD MOTOR (BELT DRIVE)* — SINGLE-PHASE UNITS (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	1312	1.07	948	1380	1.20	1067	—	—	—	—	—	—	—	—	—
1600	1342	1.18	1047	—	—	—	—	—	—	—	—	—	—	—	—
1700	1374	1.30	1153	—	—	—	—	—	—	—	—	—	—	—	—
1800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Motor drive range: 1035 to 1460 rpm. All other rpms require field-supplied drive.

Refer to page 107 for general Fan Performance Data notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 1.30.

581B060 (5 TONS) — STANDARD MOTOR (BELT DRIVE)* — THREE-PHASE UNITS

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	**848**	**0.42**	**371**	**968**	**0.55**	**486**	1069	0.68	600	1158	0.80	715	1238	0.94	831
1600	**887**	**0.49**	**433**	**1004**	**0.63**	**556**	1103	0.76	678	1190	0.90	800	1269	1.04	922
1700	**927**	**0.57**	**502**	1040	0.71	633	1137	0.86	763	1223	1.00	892	1302	1.15	1022
1800	**967**	**0.65**	**579**	1077	0.81	718	1172	0.96	856	1257	1.12	993	1334	1.27	1130
1900	**1007**	**0.75**	**663**	1115	0.91	811	1208	1.08	957	1291	1.24	1101	1368	1.40	1246
2000	1048	0.85	757	1153	1.03	913	1244	1.20	1066	1326	1.37	1219	1401	1.54	1371
2100	1090	0.97	859	1191	1.15	1023	1281	1.33	1185	1361	1.51	1345	1435	1.69	1505
2200	1131	1.09	970	1230	1.29	1143	1318	1.48	1313	1397	1.67	1481	**1470**	**1.86**	**1649**
2300	1173	1.23	1091	1269	1.43	1273	1355	1.63	1451	1433	1.83	1627	**1505**	**2.03**	**1803**
2400	1215	1.38	1223	1309	1.59	1413	1393	1.80	1600	**1470**	**2.01**	**1784**	**1540**	**2.21**	**1967**
2500	1258	1.54	1365	1349	1.76	1564	1431	1.98	1759	**1506**	**2.20**	**1951**	—	—	—

581B060 (5 TONS) — STANDARD MOTOR (BELT DRIVE)* — THREE-PHASE UNITS (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	1312	1.07	948	1380	1.20	1067	1445	1.34	1189	**1506**	**1.48**	**1312**	**1564**	**1.62**	**1437**
1600	1342	1.18	1047	1411	1.32	1173	**1474**	**1.46**	**1300**	**1535**	**1.61**	**1429**	**1593**	**1.76**	**1560**
1700	1374	1.30	1153	1441	1.45	1286	**1505**	**1.60**	**1420**	**1565**	**1.75**	**1555**	**1622**	**1.91**	**1692**
1800	1406	1.43	1268	**1473**	**1.58**	**1407**	**1535**	**1.74**	**1548**	**1595**	**1.90**	**1690**	**1652**	**2.06**	**1833**
1900	1438	1.57	1391	**1504**	**1.73**	**1537**	**1567**	**1.90**	**1685**	**1626**	**2.06**	**1833**	**1682**	**2.23**	**1983**
2000	**1471**	**1.72**	**1523**	**1536**	**1.89**	**1677**	**1598**	**2.06**	**1831**	**1657**	**2.24**	**1986**	—	—	—
2100	**1504**	**1.87**	**1665**	**1569**	**2.06**	**1825**	**1630**	**2.24**	**1986**	—	—	—	—	—	—
2200	**1538**	**2.04**	**1816**	**1602**	**2.23**	**1984**	—	—	—	—	—	—	—	—	—
2300	**1572**	**2.23**	**1978**	—	—	—	—	—	—	—	—	—	—	—	—
2400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Motor drive range: 1035 to 1460 rpm. All other rpms require field-supplied drive.

Refer to page 107 for general Fan Performance Data notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

581B060 (5 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	**848**	**0.42**	**371**	**968**	**0.55**	**486**	**1069**	**0.68**	**600**	**1158**	**0.80**	**715**	**1238**	**0.94**	**831**
1600	**887**	**0.49**	**433**	**1004**	**0.63**	**556**	**1103**	**0.76**	**678**	**1190**	**0.90**	**800**	**1269**	**1.04**	**922**
1700	**927**	**0.57**	**502**	**1040**	**0.71**	**633**	**1137**	**0.86**	**763**	**1223**	**1.00**	**892**	1302	1.15	1022
1800	**967**	**0.65**	**579**	**1077**	**0.81**	**718**	**1172**	**0.96**	**856**	**1257**	**1.12**	**993**	1334	1.27	1130
1900	**1007**	**0.75**	**663**	**1115**	**0.91**	**811**	**1208**	**1.08**	**957**	**1291**	**1.24**	**1101**	1368	1.40	1246
2000	**1048**	**0.85**	**757**	**1153**	**1.03**	**913**	**1244**	**1.20**	**1066**	1326	1.37	1219	1401	1.54	1371
2100	**1090**	**0.97**	**859**	**1191**	**1.15**	**1023**	**1281**	**1.33**	**1185**	1361	1.51	1345	1435	1.69	1505
2200	**1131**	**1.09**	**970**	**1230**	**1.29**	**1143**	1318	1.48	1313	1397	1.67	1481	1470	1.86	1649
2300	**1173**	**1.23**	**1091**	**1269**	**1.43**	**1273**	1355	1.63	1451	1433	1.83	1627	1505	2.03	1803
2400	**1215**	**1.38**	**1223**	1309	1.59	1413	1393	1.80	1600	1470	2.01	1784	1540	2.21	1967
2500	**1258**	**1.54**	**1365**	1349	1.76	1564	1431	1.98	1759	1506	2.20	1951	1576	2.41	2142

581B060 (5 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	1312	1.07	948	1380	1.20	1067	1445	1.34	1189	1506	1.48	1312	1564	1.62	1437
1600	1342	1.18	1047	1411	1.32	1173	1474	1.46	1300	1535	1.61	1429	1593	1.76	1560
1700	1374	1.30	1153	1441	1.45	1286	1505	1.60	1420	1565	1.75	1555	1622	1.91	1692
1800	1406	1.43	1268	1473	1.58	1407	1535	1.74	1548	1595	1.90	1690	1652	2.06	1833
1900	1438	1.57	1391	1504	1.73	1537	1567	1.90	1685	1626	2.06	1833	1682	2.23	1983
2000	1471	1.72	1523	1536	1.89	1677	1598	2.06	1831	1657	2.24	1986	**1713**	**2.41**	**2142**
2100	1504	1.87	1665	1569	2.06	1825	1630	2.24	1986	**1688**	**2.42**	**2149**	**1744**	**2.60**	**2312**
2200	1538	2.04	1816	1602	2.23	1984	1663	2.42	2152	**1720**	**2.61**	**2321**	**1775**	**2.81**	**2491**
2300	1572	2.23	1978	1635	2.42	2153	**1695**	**2.62**	**2328**	**1753**	**2.82**	**2504**	—	—	—
2400	1607	2.42	2150	1669	2.63	2332	**1729**	**2.83**	**2515**	—	—	—	—	—	—
2500	1642	2.63	2333	**1704**	**2.84**	**2523**	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Motor drive range: 1300 to 1685 rpm. All other rpms require field-supplied drive.

Refer to page 107 for general Fan Performance Data notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.90.

581B072 (6 TONS) — STANDARD MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1800	**967**	**0.63**	**563**	**1075**	**0.80**	**715**	1170	0.97	861	1255	1.13	1002	1333	1.28	1139
1900	**1008**	**0.72**	**643**	**1112**	**0.91**	**805**	1205	1.08	960	1289	1.25	1111	1366	1.42	1258
2000	**1049**	**0.82**	**731**	1151	1.02	903	1241	1.20	1068	1323	1.38	1228	1399	1.56	1384
2100	**1091**	**0.93**	**827**	1189	1.14	1008	1278	1.33	1183	1358	1.52	1353	1433	1.71	1519
2200	1133	1.05	933	1229	1.26	1123	1315	1.47	1308	1393	1.67	1487	1467	1.87	1662
2300	1176	1.18	1047	1268	1.40	1247	1352	1.62	1441	1429	1.84	1630	1501	2.04	1815
2400	1218	1.32	1170	1308	1.55	1380	1390	1.78	1584	1466	2.01	1782	1537	2.23	1977
2500	1261	1.47	1304	1349	1.72	1523	1429	1.96	1736	1503	2.19	1945	—	—	—
2600	1305	1.63	1448	1390	1.89	1677	1468	2.14	1900	1540	2.38	2117	—	—	—
2700	1348	1.80	1602	1431	2.07	1841	1507	2.33	2073	—	—	—	—	—	—
2800	1392	1.99	1768	1472	2.27	2016	—	—	—	—	—	—	—	—	—
2900	1435	2.19	1945	—	—	—	—	—	—	—	—	—	—	—	—
3000	1479	2.40	2135	—	—	—	—	—	—	—	—	—	—	—	—

581B072 (6 TONS) — STANDARD MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1800	1406	1.43	1273	1475	1.58	1403	1540	1.72	1531	**1601**	**1.87**	**1657**	**1660**	**2.00**	**1780**
1900	1438	1.58	1401	1505	1.73	1541	1569	1.89	1678	**1630**	**2.04**	**1813**	**1689**	**2.19**	**1945**
2000	1470	1.73	1537	1537	1.90	1686	**1600**	**2.06**	**1833**	**1660**	**2.23**	**1977**	**1718**	**2.38**	**2118**
2100	1502	1.89	1681	1568	2.07	1840	**1631**	**2.25**	**1996**	—	—	—	—	—	—
2200	1535	2.06	1834	**1600**	**2.25**	**2002**	—	—	—	—	—	—	—	—	—
2300	1569	2.25	1996	—	—	—	—	—	—	—	—	—	—	—	—
2400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Motor drive range: 1119 to 1585 rpm. All other rpms require field-supplied drive.

Refer to page 107 for general Fan Performance Data notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

581B072 (6 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1800	**967**	**0.63**	**563**	**1075**	**0.80**	**715**	**1170**	**0.97**	**861**	**1255**	**1.13**	**1002**	1333	1.28	1139
1900	**1008**	**0.72**	**643**	**1112**	**0.91**	**805**	**1205**	**1.08**	**960**	**1289**	**1.25**	**1111**	1366	1.42	1258
2000	**1049**	**0.82**	**731**	**1151**	**1.02**	**903**	**1241**	**1.20**	**1068**	1323	1.38	1228	1399	1.56	1384
2100	**1091**	**0.93**	**827**	**1189**	**1.14**	**1008**	**1278**	**1.33**	**1183**	1358	1.52	1353	1433	1.71	1519
2200	**1133**	**1.05**	**933**	**1229**	**1.26**	**1123**	1315	1.47	1308	1393	1.67	1487	1467	1.87	1662
2300	**1176**	**1.18**	**1047**	**1268**	**1.40**	**1247**	1352	1.62	1441	1429	1.84	1630	1501	2.04	1815
2400	**1218**	**1.32**	**1170**	1308	1.55	1380	1390	1.78	1584	1466	2.01	1782	1537	2.23	1977
2500	**1261**	**1.47**	**1304**	1349	1.72	1523	1429	1.96	1736	1503	2.19	1945	1572	2.42	2149
2600	1305	1.63	1448	1390	1.89	1677	1468	2.14	1900	1540	2.38	2117	1608	2.62	2331
2700	1348	1.80	1602	1431	2.07	1841	1507	2.33	2073	1578	2.59	2301	1645	2.84	2524
2800	1392	1.99	1768	1472	2.27	2016	1547	2.54	2258	1616	2.81	2495	—	—	—
2900	1435	2.19	1945	1514	2.48	2203	1587	2.76	2455	—	—	—	—	—	—
3000	1479	2.40	2135	1556	2.70	2402	—	—	—	—	—	—	—	—	—

581B072 (6 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1800	1406	1.43	1273	1475	1.58	1403	1540	1.72	1531	1601	1.87	1657	1660	2.00	1780
1900	1438	1.58	1401	1505	1.73	1541	1569	1.89	1678	1630	2.04	1813	**1689**	**2.19**	**1945**
2000	1470	1.73	1537	1537	1.90	1686	1600	2.06	1833	1660	2.23	1977	**1718**	**2.38**	**2118**
2100	1502	1.89	1681	1568	2.07	1840	1631	2.25	1996	**1690**	**2.42**	**2149**	**1747**	**2.59**	**2300**
2200	1535	2.06	1834	1600	2.25	2002	1662	2.44	2167	**1721**	**2.62**	**2330**	**1778**	**2.80**	**2490**
2300	1569	2.25	1996	1633	2.45	2174	**1694**	**2.64**	**2348**	**1752**	**2.84**	**2520**	—	—	—
2400	1603	2.44	2167	1666	2.65	2355	**1727**	**2.86**	**2539**	—	—	—	—	—	—
2500	1638	2.64	2349	**1700**	**2.87**	**2546**	—	—	—	—	—	—	—	—	—
2600	1673	2.86	2541	—	—	—	—	—	—	—	—	—	—	—	—
2700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Motor drive range: 1300 to 1685 rpm. All other rpms require field-supplied drive.

Refer to page 107 for general Fan Performance Data notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.90.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

581B090 (7 1/2 TONS) — STANDARD MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	**513**	**0.54**	**505**	**595**	**0.76**	**713**	**665**	**1.01**	**940**	**728**	**1.27**	**1187**	**786**	**1.56**	**1453**
2300	**521**	**0.57**	**531**	**601**	**0.79**	**741**	**671**	**1.04**	**972**	**734**	**1.31**	**1222**	**791**	**1.60**	**1489**
2400	**535**	**0.63**	**584**	**615**	**0.86**	**802**	**684**	**1.11**	**1038**	**745**	**1.39**	**1293**	**802**	**1.68**	**1566**
2500	**551**	**0.69**	**642**	**628**	**0.93**	**866**	**696**	**1.19**	**1109**	**757**	**1.47**	**1369**	**813**	**1.77**	**1647**
2550	**558**	**0.72**	**673**	**635**	**0.97**	**900**	**702**	**1.23**	**1146**	**763**	**1.51**	**1409**	**818**	**1.81**	**1689**
2600	**566**	**0.76**	**705**	**642**	**1.00**	**935**	**709**	**1.27**	**1183**	**769**	**1.55**	**1450**	**824**	**1.86**	**1732**
2700	**582**	**0.83**	**771**	**656**	**1.08**	**1008**	**721**	**1.35**	**1263**	**781**	**1.65**	**1535**	**835**	**1.95**	**1823**
2800	**597**	**0.90**	**842**	**670**	**1.16**	**1086**	**734**	**1.44**	**1347**	**793**	**1.74**	**1625**	847	2.06	1917
2900	**613**	**0.98**	**918**	**684**	**1.25**	**1169**	**748**	**1.54**	**1436**	**805**	**1.84**	**1720**	859	2.16	2019
3000	**629**	**1.07**	**999**	**699**	**1.35**	**1256**	**761**	**1.64**	**1530**	**818**	**1.95**	**1820**	871	2.28	2125
3100	**645**	**1.16**	**1085**	**713**	**1.45**	**1349**	**775**	**1.75**	**1630**	**831**	**2.06**	**1925**	883	2.40	2235
3200	**662**	**1.26**	**1176**	**728**	**1.55**	**1448**	**788**	**1.86**	**1734**	844	2.18	2036	895	2.52	2352
3300	**678**	**1.36**	**1272**	**743**	**1.66**	**1551**	**802**	**1.98**	**1845**	857	2.31	2152	908	2.65	2475
3400	**694**	**1.47**	**1374**	**758**	**1.78**	**1660**	**816**	**2.10**	**1961**	870	2.44	2275	920	2.79	2603
3500	**711**	**1.59**	**1482**	**773**	**1.90**	**1775**	**831**	**2.23**	**2082**	884	2.58	2402	—	—	—
3600	**727**	**1.71**	**1596**	**789**	**2.03**	**1896**	845	2.37	2210	897	2.72	2537	—	—	—
3700	**744**	**1.84**	**1716**	**804**	**2.17**	**2023**	860	2.51	2343	911	2.87	2677	—	—	—
3750	**752**	**1.91**	**1778**	**812**	**2.24**	**2089**	867	2.59	2413	—	—	—	—	—	—

581B090 (7 1/2 TONS) — STANDARD MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	**839**	**1.86**	**1735**	889	2.18	2032	935	2.52	2345	980	2.87	2673	—	—	—
2300	844	1.90	1773	893	2.22	2073	940	2.56	2389	—	—	—	—	—	—
2400	854	1.99	1855	903	2.32	2159	950	2.66	2478	—	—	—	—	—	—
2500	865	2.08	1940	913	2.41	2249	959	2.76	2573	—	—	—	—	—	—
2550	870	2.13	1985	918	2.46	2296	964	2.81	2622	—	—	—	—	—	—
2600	875	2.18	2031	923	2.51	2344	969	2.87	2673	—	—	—	—	—	—
2700	886	2.28	2126	934	2.62	2445	—	—	—	—	—	—	—	—	—
2800	897	2.39	2227	944	2.73	2550	—	—	—	—	—	—	—	—	—
2900	908	2.50	2333	955	2.85	2661	—	—	—	—	—	—	—	—	—
3000	920	2.62	2443	—	—	—	—	—	—	—	—	—	—	—	—
3100	931	2.75	2560	—	—	—	—	—	—	—	—	—	—	—	—
3200	943	2.88	2682	—	—	—	—	—	—	—	—	—	—	—	—
3300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3750	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 840 to 1085 rpm. All other rpms require field- supplied drive.

Refer to page 107 for general Fan Performance Data notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.90.

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

581B090 (7 1/2 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	**513**	**0.54**	**505**	**595**	**0.76**	**713**	**665**	**1.01**	**940**	**728**	**1.27**	**1187**	**786**	**1.56**	**1453**
2300	**521**	**0.57**	**531**	**601**	**0.79**	**741**	**671**	**1.04**	**972**	**734**	**1.31**	**1222**	**791**	**1.60**	**1489**
2400	**535**	**0.63**	**584**	**615**	**0.86**	**802**	**684**	**1.11**	**1038**	**745**	**1.39**	**1293**	**802**	**1.68**	**1566**
2500	**551**	**0.69**	**642**	**628**	**0.93**	**866**	**696**	**1.19**	**1109**	**757**	**1.47**	**1369**	**813**	**1.77**	**1647**
2550	**558**	**0.72**	**673**	**635**	**0.97**	**900**	**702**	**1.23**	**1146**	**763**	**1.51**	**1409**	**818**	**1.81**	**1689**
2600	**566**	**0.76**	**705**	**642**	**1.00**	**935**	**709**	**1.27**	**1183**	**769**	**1.55**	**1450**	**824**	**1.86**	**1732**
2700	**582**	**0.83**	**771**	**656**	**1.08**	**1008**	**721**	**1.35**	**1263**	**781**	**1.65**	**1535**	**835**	**1.95**	**1823**
2800	**597**	**0.90**	**842**	**670**	**1.16**	**1086**	**734**	**1.44**	**1347**	**793**	**1.74**	**1625**	**847**	**2.06**	**1917**
2900	**613**	**0.98**	**918**	**684**	**1.25**	**1169**	**748**	**1.54**	**1436**	**805**	**1.84**	**1720**	**859**	**2.16**	**2019**
3000	**629**	**1.07**	**999**	**699**	**1.35**	**1256**	**761**	**1.64**	**1530**	**818**	**1.95**	**1820**	871	2.28	2125
3100	**645**	**1.16**	**1085**	**713**	**1.45**	**1349**	**775**	**1.75**	**1630**	**831**	**2.06**	**1925**	883	2.40	2235
3200	**662**	**1.26**	**1176**	**728**	**1.55**	**1448**	**788**	**1.86**	**1734**	**844**	**2.18**	**2036**	895	2.52	2352
3300	**678**	**1.36**	**1272**	**743**	**1.66**	**1551**	**802**	**1.98**	**1845**	**857**	**2.31**	**2152**	908	2.65	2475
3400	**694**	**1.47**	**1374**	**758**	**1.78**	**1660**	**816**	**2.10**	**1961**	870	2.44	2275	920	2.79	2603
3500	**711**	**1.59**	**1482**	**773**	**1.90**	**1775**	**831**	**2.23**	**2082**	884	2.58	2402	933	2.93	2737
3600	**727**	**1.71**	**1596**	**789**	**2.03**	**1896**	**845**	**2.37**	**2210**	897	2.72	2537	946	3.09	2877
3700	**744**	**1.84**	**1716**	**804**	**2.17**	**2023**	860	2.51	2343	911	2.87	2677	959	3.24	3023
3750	**752**	**1.91**	**1778**	**812**	**2.24**	**2089**	867	2.59	2413	918	2.95	2750	966	3.32	3100

581B090 (7 1/2 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	**839**	**1.86**	**1735**	889	2.18	2032	935	2.52	2345	980	2.87	2673	1022	3.23	3015
2300	**844**	**1.90**	**1773**	893	2.22	2073	940	2.56	2389	984	2.91	2718	1027	3.28	3062
2400	**854**	**1.99**	**1855**	903	2.32	2159	950	2.66	2478	993	3.02	2812	1035	3.39	3159
2500	865	2.08	1940	913	2.41	2249	959	2.76	2573	1003	3.12	2911	1044	3.50	3261
2550	870	2.13	1985	918	2.46	2296	964	2.81	2622	1008	3.18	2962	1049	3.55	3315
2600	875	2.18	2031	923	2.51	2344	969	2.87	2673	1012	3.23	3014	1054	3.61	3370
2700	886	2.28	2126	934	2.62	2445	979	2.98	2777	1022	3.35	3123	1063	3.74	3483
2800	897	2.39	2227	944	2.73	2550	989	3.10	2888	1032	3.47	3238	1073	3.86	3601
2900	908	2.50	2333	955	2.85	2661	1000	3.22	3003	1042	3.60	3358	**1083**	**4.00**	**3725**
3000	920	2.62	2443	966	2.98	2777	1010	3.35	3123	1052	3.74	3484	**1093**	**4.14**	**3856**
3100	931	2.75	2560	977	3.11	2899	1021	3.49	3250	1063	3.88	3615	—	—	—
3200	943	2.88	2682	989	3.25	3026	1032	3.63	3383	1074	4.02	3752	—	—	—
3300	955	3.01	2810	1000	3.39	3159	1043	3.78	3521	**1084**	**4.18**	**3896**	—	—	—
3400	967	3.16	2945	1012	3.54	3299	1055	3.93	3667	—	—	—	—	—	—
3500	980	3.31	3084	1024	3.69	3445	1066	4.09	3817	—	—	—	—	—	—
3600	992	3.46	3230	1036	3.86	3596	—	—	—	—	—	—	—	—	—
3700	1005	3.63	3383	1048	4.03	3755	—	—	—	—	—	—	—	—	—
3750	1011	3.71	3462	1054	4.11	3836	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 860 to 1080 rpm. All other rpms require field- supplied drive.

Refer to page 107 for general Fan Performance Data notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 4.20.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

581B102 (8 1/2 TONS) — STANDARD MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2500	**541**	**0.50**	**467**	**624**	**0.66**	**614**	**701**	**0.83**	**771**	**771**	**1.00**	**936**	**837**	**1.19**	**1109**
2600	**556**	**0.55**	**513**	**637**	**0.71**	**665**	**711**	**0.89**	**827**	**781**	**1.07**	**996**	845	1.26	1173
2700	**571**	**0.60**	**562**	**650**	**0.77**	**720**	**722**	**0.95**	**885**	**790**	**1.14**	**1059**	854	1.33	1241
2800	**586**	**0.66**	**615**	**663**	**0.83**	**777**	**734**	**1.02**	**948**	**800**	**1.21**	**1126**	863	1.41	1312
2900	**601**	**0.72**	**672**	**676**	**0.90**	**839**	**745**	**1.09**	**1014**	**811**	**1.28**	**1197**	872	1.49	1387
3000	**616**	**0.79**	**732**	**689**	**0.97**	**904**	**757**	**1.16**	**1083**	**821**	**1.36**	**1271**	882	1.57	1465
3100	**632**	**0.85**	**796**	**703**	**1.04**	**972**	**769**	**1.24**	**1157**	**832**	**1.45**	**1349**	892	1.66	1548
3200	**648**	**0.93**	**864**	**717**	**1.12**	**1045**	**782**	**1.32**	**1235**	843	1.53	1431	902	1.75	1635
3300	**663**	**1.00**	**936**	**731**	**1.20**	**1122**	**795**	**1.41**	**1316**	855	1.63	1517	912	1.85	1725
3400	**679**	**1.09**	**1012**	**745**	**1.29**	**1203**	**808**	**1.50**	**1402**	867	1.72	1608	923	1.95	1820
3500	**695**	**1.17**	**1092**	**760**	**1.38**	**1288**	**821**	**1.60**	**1492**	879	1.83	1703	934	2.06	1920
3600	**711**	**1.26**	**1177**	**774**	**1.48**	**1379**	**834**	**1.70**	**1587**	891	1.93	1802	945	2.17	2024
3700	**728**	**1.36**	**1266**	**789**	**1.58**	**1473**	848	1.81	1686	904	2.04	1906	957	2.29	2132
3800	**744**	**1.46**	**1361**	**804**	**1.69**	**1572**	861	1.92	1790	916	2.16	2015	969	2.41	2246
3900	**760**	**1.57**	**1460**	**819**	**1.80**	**1676**	875	2.04	1899	929	2.28	2128	981	2.53	2364
4000	**777**	**1.68**	**1563**	**834**	**1.91**	**1785**	889	2.16	2012	942	2.41	2247	993	2.67	2487
4100	**793**	**1.79**	**1672**	850	2.04	1899	904	2.29	2132	956	2.54	2371	1006	2.80	2615
4200	**810**	**1.92**	**1786**	865	2.16	2018	918	2.42	2255	969	2.68	2499	—	—	—
4300	**826**	**2.04**	**1906**	880	2.30	2142	932	2.56	2385	983	2.82	2633	—	—	—

581B102 (8 1/2 TONS) — STANDARD MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2500	900	1.38	1289	959	1.58	1476	1015	1.79	1669	1069	2.00	1868	**1121**	**2.22**	**2073**
2600	907	1.46	1357	965	1.66	1548	1021	1.87	1745	1074	2.09	1948	**1125**	**2.31**	**2158**
2700	914	1.53	1429	972	1.74	1624	1027	1.96	1825	1079	2.18	2032	**1130**	**2.41**	**2245**
2800	922	1.61	1505	979	1.83	1704	1033	2.05	1909	1085	2.27	2120	**1135**	**2.51**	**2337**
2900	931	1.70	1584	986	1.92	1787	1040	2.14	1996	**1091**	**2.37**	**2211**	**1141**	**2.61**	**2432**
3000	939	1.79	1667	994	2.01	1874	1047	2.24	2087	**1098**	**2.47**	**2307**	**1147**	**2.71**	**2532**
3100	948	1.88	1753	1002	2.11	1965	1054	2.34	2183	**1105**	**2.58**	**2406**	**1153**	**2.83**	**2635**
3200	957	1.98	1844	1011	2.21	2060	1062	2.45	2283	**1112**	**2.69**	**2510**	—	—	—
3300	967	2.08	1939	1020	2.32	2160	1070	2.56	2386	**1119**	**2.81**	**2618**	—	—	—
3400	977	2.19	2039	1029	2.43	2264	1079	2.67	2494	—	—	—	—	—	—
3500	987	2.30	2143	1038	2.54	2372	**1088**	**2.80**	**2607**	—	—	—	—	—	—
3600	998	2.41	2251	1048	2.66	2485	—	—	—	—	—	—	—	—	—
3700	1008	2.54	2364	1058	2.79	2602	—	—	—	—	—	—	—	—	—
3800	1019	2.66	2482	—	—	—	—	—	—	—	—	—	—	—	—
3900	1031	2.79	2605	—	—	—	—	—	—	—	—	—	—	—	—
4000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 840 to 1085 rpm. All other rpms require field-supplied drive.

Refer to page 107 for general Fan Performance Data notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.90.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

581B102 (8 1/2 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2500	**541**	**0.50**	**467**	**624**	**0.66**	**614**	**701**	**0.83**	**771**	**771**	**1.00**	**936**	**837**	**1.19**	**1109**
2600	**556**	**0.55**	**513**	**637**	**0.71**	**665**	**711**	**0.89**	**827**	**781**	**1.07**	**996**	**845**	**1.26**	**1173**
2700	**571**	**0.60**	**562**	**650**	**0.77**	**720**	**722**	**0.95**	**885**	**790**	**1.14**	**1059**	**854**	**1.33**	**1241**
2800	**586**	**0.66**	**615**	**663**	**0.83**	**777**	**734**	**1.02**	**948**	**800**	**1.21**	**1126**	863	1.41	1312
2900	**601**	**0.72**	**672**	**676**	**0.90**	**839**	**745**	**1.09**	**1014**	**811**	**1.28**	**1197**	872	1.49	1387
3000	**616**	**0.79**	**732**	**689**	**0.97**	**904**	**757**	**1.16**	**1083**	**821**	**1.36**	**1271**	882	1.57	1465
3100	**632**	**0.85**	**796**	**703**	**1.04**	**972**	**769**	**1.24**	**1157**	**832**	**1.45**	**1349**	892	1.66	1548
3200	**648**	**0.93**	**864**	**717**	**1.12**	**1045**	**782**	**1.32**	**1235**	**843**	**1.53**	**1431**	902	1.75	1635
3300	**663**	**1.00**	**936**	**731**	**1.20**	**1122**	**795**	**1.41**	**1316**	**855**	**1.63**	**1517**	912	1.85	1725
3400	**679**	**1.09**	**1012**	**745**	**1.29**	**1203**	**808**	**1.50**	**1402**	867	1.72	1608	923	1.95	1820
3500	**695**	**1.17**	**1092**	**760**	**1.38**	**1288**	**821**	**1.60**	**1492**	879	1.83	1703	934	2.06	1920
3600	**711**	**1.26**	**1177**	**774**	**1.48**	**1379**	**834**	**1.70**	**1587**	891	1.93	1802	945	2.17	2024
3700	**728**	**1.36**	**1266**	**789**	**1.58**	**1473**	**848**	**1.81**	**1686**	904	2.04	1906	957	2.29	2132
3800	**744**	**1.46**	**1361**	**804**	**1.69**	**1572**	861	1.92	1790	916	2.16	2015	969	2.41	2246
3900	**760**	**1.57**	**1460**	**819**	**1.80**	**1676**	875	2.04	1899	929	2.28	2128	981	2.53	2364
4000	**777**	**1.68**	**1563**	**834**	**1.91**	**1785**	889	2.16	2012	942	2.41	2247	993	2.67	2487
4100	**793**	**1.79**	**1672**	**850**	**2.04**	**1899**	904	2.29	2132	956	2.54	2371	1006	2.80	2615
4200	**810**	**1.92**	**1786**	865	2.16	2018	918	2.42	2255	969	2.68	2499	1018	2.95	2748
4300	**826**	**2.04**	**1906**	880	2.30	2142	932	2.56	2385	983	2.82	2633	1031	3.10	2888

581B102 (8 1/2 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2500	900	1.38	1289	959	1.58	1476	1015	1.79	1669	1069	2.00	1868	**1121**	**2.22**	**2073**
2600	907	1.46	1357	965	1.66	1548	1021	1.87	1745	1074	2.09	1948	**1125**	**2.31**	**2158**
2700	914	1.53	1429	972	1.74	1624	1027	1.96	1825	1079	2.18	2032	**1130**	**2.41**	**2245**
2800	922	1.61	1505	979	1.83	1704	1033	2.05	1909	**1085**	**2.27**	**2120**	**1135**	**2.51**	**2337**
2900	931	1.70	1584	986	1.92	1787	1040	2.14	1996	**1091**	**2.37**	**2211**	**1141**	**2.61**	**2432**
3000	939	1.79	1667	994	2.01	1874	1047	2.24	2087	**1098**	**2.47**	**2307**	**1147**	**2.71**	**2532**
3100	948	1.88	1753	1002	2.11	1965	1054	2.34	2183	**1105**	**2.58**	**2406**	**1153**	**2.83**	**2635**
3200	957	1.98	1844	1011	2.21	2060	1062	2.45	2283	**1112**	**2.69**	**2510**	**1160**	**2.94**	**2743**
3300	967	2.08	1939	1020	2.32	2160	1070	2.56	2386	**1119**	**2.81**	**2618**	**1167**	**3.06**	**2855**
3400	977	2.19	2039	1029	2.43	2264	1079	2.67	2494	**1127**	**2.93**	**2730**	**1174**	**3.19**	**2971**
3500	987	2.30	2143	1038	2.54	2372	**1088**	**2.80**	**2607**	**1135**	**3.05**	**2847**	**1181**	**3.32**	**3092**
3600	998	2.41	2251	1048	2.66	2485	**1097**	**2.92**	**2724**	**1144**	**3.18**	**2968**	**1189**	**3.45**	**3218**
3700	1008	2.54	2364	1058	2.79	2602	**1106**	**3.05**	**2846**	**1152**	**3.32**	**3094**	**1198**	**3.59**	**3348**
3800	1019	2.66	2482	1068	2.92	2725	**1116**	**3.19**	**2972**	**1162**	**3.46**	**3226**	**1206**	**3.74**	**3484**
3900	1031	2.79	2605	1079	3.06	2852	**1126**	**3.33**	**3104**	**1171**	**3.61**	**3362**	**1215**	**3.89**	**3624**
4000	1042	2.93	2733	**1090**	**3.20**	**2984**	**1136**	**3.48**	**3241**	**1180**	**3.76**	**3503**	**1224**	**4.04**	**3770**
4100	1054	3.07	2866	**1101**	**3.35**	**3122**	**1146**	**3.63**	**3383**	**1190**	**3.91**	**3649**	**1233**	**4.20**	**3921**
4200	1066	3.22	3004	**1112**	**3.50**	**3264**	**1157**	**3.79**	**3530**	**1200**	**4.08**	**3801**	—	—	—
4300	1078	3.38	3148	**1123**	**3.66**	**3413**	**1167**	**3.95**	**3683**	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 860 to 1080 rpm. All other rpms require field-supplied drive.

Refer to page 107 for general Fan Performance Data notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 4.20.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

581B120 (10 TONS) — STANDARD MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	**616**	**0.79**	**732**	**689**	**0.97**	**904**	**757**	**1.16**	**1083**	**821**	**1.36**	**1271**	882	1.57	1465
3100	**632**	**0.85**	**796**	**703**	**1.04**	**972**	**769**	**1.24**	**1157**	**832**	**1.45**	**1349**	892	1.66	1548
3200	**648**	**0.93**	**864**	**717**	**1.12**	**1045**	**782**	**1.32**	**1235**	**843**	**1.53**	**1431**	902	1.75	1635
3300	**663**	**1.00**	**936**	**731**	**1.20**	**1122**	**795**	**1.41**	**1316**	**855**	**1.63**	**1517**	912	1.85	1725
3400	**679**	**1.09**	**1012**	**745**	**1.29**	**1203**	**808**	**1.50**	**1402**	867	1.72	1608	923	1.95	1820
3500	**695**	**1.17**	**1092**	**760**	**1.38**	**1288**	**821**	**1.60**	**1492**	879	1.83	1703	934	2.06	1920
3600	**711**	**1.26**	**1177**	**774**	**1.48**	**1379**	**834**	**1.70**	**1587**	891	1.93	1802	945	2.17	2024
3700	**728**	**1.36**	**1266**	**789**	**1.58**	**1473**	**848**	**1.81**	**1686**	904	2.04	1906	957	2.29	2132
3800	**744**	**1.46**	**1361**	**804**	**1.69**	**1572**	861	1.92	1790	916	2.16	2015	969	2.41	2246
3900	**760**	**1.57**	**1460**	**819**	**1.80**	**1676**	875	2.04	1899	929	2.28	2128	981	2.53	2364
4000	**777**	**1.68**	**1563**	**834**	**1.91**	**1785**	889	2.16	2012	942	2.41	2247	993	2.67	2487
4100	**793**	**1.79**	**1672**	**850**	**2.04**	**1899**	904	2.29	2132	956	2.54	2371	1006	2.80	2615
4200	**810**	**1.92**	**1786**	865	2.16	2018	918	2.42	2255	969	2.68	2499	1018	2.95	2748
4300	**826**	**2.04**	**1906**	880	2.30	2142	932	2.56	2385	983	2.82	2633	1031	3.10	2888
4400	**843**	**2.18**	**2031**	896	2.44	2272	947	2.70	2520	996	2.97	2773	1044	3.25	3032
4500	860	2.32	2161	912	2.58	2408	962	2.85	2660	1010	3.13	2918	1057	3.41	3182
4600	876	2.46	2297	927	2.73	2549	977	3.01	2807	1024	3.29	3070	1070	3.58	3338
4700	893	2.62	2439	943	2.89	2696	992	3.17	2958	1038	3.46	3226	—	—	—
4800	910	2.77	2587	959	3.06	2849	1007	3.34	3116	1053	3.63	3390	—	—	—
4900	927	2.94	2741	975	3.23	3008	1022	3.52	3280	—	—	—	—	—	—
5000	944	3.11	2901	991	3.40	3173	1037	3.70	3451	—	—	—	—	—	—

581B120 (10 TONS) — STANDARD MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	939	1.79	1667	994	2.01	1874	1047	2.24	2087	**1098**	**2.47**	**2307**	**1147**	**2.71**	**2532**
3100	948	1.88	1753	1002	2.11	1965	1054	2.34	2183	**1105**	**2.58**	**2406**	**1153**	**2.83**	**2635**
3200	957	1.98	1844	1011	2.21	2060	1062	2.45	2283	**1112**	**2.69**	**2510**	**1160**	**2.94**	**2743**
3300	967	2.08	1939	1020	2.32	2160	1070	2.56	2386	**1119**	**2.81**	**2618**	**1167**	**3.06**	**2855**
3400	977	2.19	2039	1029	2.43	2264	1079	2.67	2494	**1127**	**2.93**	**2730**	**1174**	**3.19**	**2971**
3500	987	2.30	2143	1038	2.54	2372	**1088**	**2.80**	**2607**	**1135**	**3.05**	**2847**	**1181**	**3.32**	**3092**
3600	998	2.41	2251	1048	2.66	2485	**1097**	**2.92**	**2724**	**1144**	**3.18**	**2968**	**1189**	**3.45**	**3218**
3700	1008	2.54	2364	1058	2.79	2602	**1106**	**3.05**	**2846**	**1152**	**3.32**	**3094**	**1198**	**3.59**	**3348**
3800	1019	2.66	2482	1068	2.92	2725	**1116**	**3.19**	**2972**	**1162**	**3.46**	**3226**	—	—	—
3900	1031	2.79	2605	1079	3.06	2852	**1126**	**3.33**	**3104**	**1171**	**3.61**	**3362**	—	—	—
4000	1042	2.93	2733	**1090**	**3.20**	**2984**	**1136**	**3.48**	**3241**	—	—	—	—	—	—
4100	1054	3.07	2866	**1101**	**3.35**	**3122**	**1146**	**3.63**	**3383**	—	—	—	—	—	—
4200	1066	3.22	3004	**1112**	**3.50**	**3264**	—	—	—	—	—	—	—	—	—
4300	1078	3.38	3148	**1123**	**3.66**	**3413**	—	—	—	—	—	—	—	—	—
4400	**1090**	**3.54**	**3297**	—	—	—	—	—	—	—	—	—	—	—	—
4500	**1103**	**3.70**	**3451**	—	—	—	—	—	—	—	—	—	—	—	—
4600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 860 to 1080 rpm. All other rpms require field-supplied drive.

Refer to page 107 for general Fan Performance Data notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 3.70.

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

581B120 (10 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	**616**	**0.79**	**732**	**689**	**0.97**	**904**	**757**	**1.16**	**1083**	**821**	**1.36**	**1271**	882	1.57	1465
3100	**632**	**0.85**	**796**	**703**	**1.04**	**972**	**769**	**1.24**	**1157**	832	1.45	1349	892	1.66	1548
3200	**648**	**0.93**	**864**	**717**	**1.12**	**1045**	**782**	**1.32**	**1235**	843	1.53	1431	902	1.75	1635
3300	**663**	**1.00**	**936**	**731**	**1.20**	**1122**	**795**	**1.41**	**1316**	855	1.63	1517	912	1.85	1725
3400	**679**	**1.09**	**1012**	**745**	**1.29**	**1203**	**808**	**1.50**	**1402**	867	1.72	1608	923	1.95	1820
3500	**695**	**1.17**	**1092**	**760**	**1.38**	**1288**	**821**	**1.60**	**1492**	879	1.83	1703	934	2.06	1920
3600	**711**	**1.26**	**1177**	**774**	**1.48**	**1379**	834	1.70	1587	891	1.93	1802	945	2.17	2024
3700	**728**	**1.36**	**1266**	**789**	**1.58**	**1473**	848	1.81	1686	904	2.04	1906	957	2.29	2132
3800	**744**	**1.46**	**1361**	**804**	**1.69**	**1572**	861	1.92	1790	916	2.16	2015	969	2.41	2246
3900	**760**	**1.57**	**1460**	**819**	**1.80**	**1676**	875	2.04	1899	929	2.28	2128	981	2.53	2364
4000	**777**	**1.68**	**1563**	834	1.91	1785	889	2.16	2012	942	2.41	2247	993	2.67	2487
4100	**793**	**1.79**	**1672**	850	2.04	1899	904	2.29	2132	956	2.54	2371	1006	2.80	2615
4200	**810**	**1.92**	**1786**	865	2.16	2018	918	2.42	2255	969	2.68	2499	1018	2.95	2748
4300	**826**	**2.04**	**1906**	880	2.30	2142	932	2.56	2385	983	2.82	2633	1031	3.10	2888
4400	843	2.18	2031	896	2.44	2272	947	2.70	2520	996	2.97	2773	1044	3.25	3032
4500	860	2.32	2161	912	2.58	2408	962	2.85	2660	1010	3.13	2918	1057	3.41	3182
4600	876	2.46	2297	927	2.73	2549	977	3.01	2807	1024	3.29	3070	1070	3.58	3338
4700	893	2.62	2439	943	2.89	2696	992	3.17	2958	1038	3.46	3226	1084	3.75	3500
4800	910	2.77	2587	959	3.06	2849	1007	3.34	3116	1053	3.63	3390	1098	3.93	3668
4900	927	2.94	2741	975	3.23	3008	1022	3.52	3280	1067	3.82	3558	1111	4.12	3841
5000	944	3.11	2901	991	3.40	3173	1037	3.70	3451	1082	4.00	3733	1125	4.31	4021

581B120 (10 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	939	1.79	1667	994	2.01	1874	1047	2.24	2087	1098	2.47	2307	**1147**	**2.71**	**2532**
3100	948	1.88	1753	1002	2.11	1965	1054	2.34	2183	1105	2.58	2406	**1153**	**2.83**	**2635**
3200	957	1.98	1844	1011	2.21	2060	1062	2.45	2283	1112	2.69	2510	**1160**	**2.94**	**2743**
3300	967	2.08	1939	1020	2.32	2160	1070	2.56	2386	1119	2.81	2618	**1167**	**3.06**	**2855**
3400	977	2.19	2039	1029	2.43	2264	1079	2.67	2494	1127	2.93	2730	**1174**	**3.19**	**2971**
3500	987	2.30	2143	1038	2.54	2372	1088	2.80	2607	**1135**	**3.05**	**2847**	**1181**	**3.32**	**3092**
3600	998	2.41	2251	1048	2.66	2485	1097	2.92	2724	**1144**	**3.18**	**2968**	**1189**	**3.45**	**3218**
3700	1008	2.54	2364	1058	2.79	2602	1106	3.05	2846	**1152**	**3.32**	**3094**	**1198**	**3.59**	**3348**
3800	1019	2.66	2482	1068	2.92	2725	1116	3.19	2972	**1162**	**3.46**	**3226**	**1206**	**3.74**	**3484**
3900	1031	2.79	2605	1079	3.06	2852	1126	3.33	3104	**1171**	**3.61**	**3362**	**1215**	**3.89**	**3624**
4000	1042	2.93	2733	1090	3.20	2984	**1136**	**3.48**	**3241**	**1180**	**3.76**	**3503**	**1224**	**4.04**	**3770**
4100	1054	3.07	2866	1101	3.35	3122	**1146**	**3.63**	**3383**	**1190**	**3.91**	**3649**	**1233**	**4.20**	**3921**
4200	1066	3.22	3004	1112	3.50	3264	**1157**	**3.79**	**3530**	**1200**	**4.08**	**3801**	**1243**	**4.37**	**4077**
4300	1078	3.38	3148	1123	3.66	3413	**1167**	**3.95**	**3683**	**1210**	**4.24**	**3958**	**1252**	**4.54**	**4238**
4400	1090	3.54	3297	**1135**	**3.82**	**3566**	**1179**	**4.12**	**3841**	**1221**	**4.42**	**4121**	**1262**	**4.72**	**4405**
4500	1103	3.70	3451	**1147**	**4.00**	**3726**	**1190**	**4.29**	**4005**	**1232**	**4.60**	**4289**	**1273**	**4.91**	**4578**
4600	1115	3.87	3612	**1159**	**4.17**	**3891**	**1201**	**4.48**	**4175**	**1243**	**4.79**	**4464**	**1283**	**5.10**	**4757**
4700	1128	4.05	3778	**1171**	**4.36**	**4062**	**1213**	**4.67**	**4350**	**1254**	**4.98**	**4644**	—	—	—
4800	**1141**	**4.24**	**3951**	**1183**	**4.55**	**4239**	**1225**	**4.86**	**4532**	**1265**	**5.18**	**4830**	—	—	—
4900	**1154**	**4.43**	**4130**	**1196**	**4.74**	**4422**	**1237**	**5.06**	**4720**	—	—	—	—	—	—
5000	**1167**	**4.63**	**4314**	**1209**	**4.95**	**4611**	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 830 to 1130 rpm. All other rpms require field- supplied drive.

Refer to page 107 for general Fan Performance Data notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 5.25.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

581B150 (12 1/2 TONS) — STANDARD MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3700	**728**	**1.36**	**1266**	**789**	**1.58**	**1473**	848	1.81	1686	904	2.04	1906	957	2.29	2132
3800	**744**	**1.46**	**1361**	**804**	**1.69**	**1572**	861	1.92	1790	916	2.16	2015	969	2.41	2246
3900	**760**	**1.57**	**1460**	**819**	**1.80**	**1676**	875	2.04	1899	929	2.28	2128	981	2.53	2364
4000	**777**	**1.68**	**1563**	834	1.91	1785	889	2.16	2012	942	2.41	2247	993	2.67	2487
4100	**793**	**1.79**	**1672**	850	2.04	1899	904	2.29	2132	956	2.54	2371	1006	2.80	2615
4200	**810**	**1.92**	**1786**	865	2.16	2018	918	2.42	2255	969	2.68	2499	1018	2.95	2748
4300	**826**	**2.04**	**1906**	880	2.30	2142	932	2.56	2385	983	2.82	2633	1031	3.10	2888
4400	843	2.18	2031	896	2.44	2272	947	2.70	2520	996	2.97	2773	1044	3.25	3032
4500	860	2.32	2161	912	2.58	2408	962	2.85	2660	1010	3.13	2918	1057	3.41	3182
4600	876	2.46	2297	927	2.73	2549	977	3.01	2807	1024	3.29	3070	1070	3.58	3338
4700	893	2.62	2439	943	2.89	2696	992	3.17	2958	1038	3.46	3226	1084	3.75	3500
4800	910	2.77	2587	959	3.06	2849	1007	3.34	3116	1053	3.63	3390	1098	3.93	3668
4900	927	2.94	2741	975	3.23	3008	1022	3.52	3280	1067	3.82	3558	1111	4.12	3841
5000	944	3.11	2901	991	3.40	3173	1037	3.70	3451	1082	4.00	3733	1125	4.31	4021
5100	961	3.29	3068	1007	3.59	3345	1053	3.89	3627	1096	4.20	3915	**1139**	**4.51**	**4208**
5200	978	3.48	3241	1024	3.78	3523	1068	4.09	3811	1111	4.40	4103	**1153**	**4.72**	**4400**
5300	995	3.67	3420	1040	3.98	3707	1084	4.29	4000	1126	4.61	4298	**1168**	**4.93**	**4600**
5400	1012	3.87	3606	1056	4.18	3899	1099	4.50	4196	**1141**	**4.82**	**4499**	**1182**	**5.15**	**4806**
5500	1029	4.07	3799	1073	4.39	4097	1115	4.72	4400	**1156**	**5.05**	**4707**	—	—	—
5600	1046	4.29	3999	1089	4.61	4302	**1131**	**4.94**	**4610**	—	—	—	—	—	—
5700	1063	4.51	4207	1105	4.84	4515	**1146**	**5.18**	**4827**	—	—	—	—	—	—
5800	1080	4.74	4420	1122	5.08	4734	—	—	—	—	—	—	—	—	—
5900	1098	4.98	4642	—	—	—	—	—	—	—	—	—	—	—	—
6000	1115	5.22	4872	—	—	—	—	—	—	—	—	—	—	—	—
6100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

581B150 (12 1/2 TONS) — STANDARD MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3700	1008	2.54	2364	1058	2.79	2602	1106	3.05	2846	**1152**	**3.32**	**3094**	**1198**	**3.59**	**3348**
3800	1019	2.66	2482	1068	2.92	2725	1116	3.19	2972	**1162**	**3.46**	**3226**	**1206**	**3.74**	**3484**
3900	1031	2.79	2605	1079	3.06	2852	1126	3.33	3104	**1171**	**3.61**	**3362**	**1215**	**3.89**	**3624**
4000	1042	2.93	2733	1090	3.20	2984	**1136**	**3.48**	**3241**	**1180**	**3.76**	**3503**	**1224**	**4.04**	**3770**
4100	1054	3.07	2866	1101	3.35	3122	**1146**	**3.63**	**3383**	**1190**	**3.91**	**3649**	**1233**	**4.20**	**3921**
4200	1066	3.22	3004	1112	3.50	3264	**1157**	**3.79**	**3530**	**1200**	**4.08**	**3801**	**1243**	**4.37**	**4077**
4300	1078	3.38	3148	1123	3.66	3413	**1167**	**3.95**	**3683**	**1210**	**4.24**	**3958**	**1252**	**4.54**	**4238**
4400	1090	3.54	3297	**1135**	**3.82**	**3566**	**1179**	**4.12**	**3841**	**1221**	**4.42**	**4121**	**1262**	**4.72**	**4405**
4500	1103	3.70	3451	**1147**	**4.00**	**3726**	**1190**	**4.29**	**4005**	**1232**	**4.60**	**4289**	**1273**	**4.91**	**4578**
4600	1115	3.87	3612	**1159**	**4.17**	**3891**	**1201**	**4.48**	**4175**	**1243**	**4.79**	**4464**	**1283**	**5.10**	**4757**
4700	1128	4.05	3778	**1171**	**4.36**	**4062**	**1213**	**4.67**	**4350**	**1254**	**4.98**	**4644**	—	—	—
4800	**1141**	**4.24**	**3951**	**1183**	**4.55**	**4239**	**1225**	**4.86**	**4532**	**1265**	**5.18**	**4830**	—	—	—
4900	**1154**	**4.43**	**4130**	**1196**	**4.74**	**4422**	**1237**	**5.06**	**4720**	—	—	—	—	—	—
5000	**1167**	**4.63**	**4314**	**1209**	**4.95**	**4611**	—	—	—	—	—	—	—	—	—
5100	**1181**	**4.83**	**4505**	**1221**	**5.16**	**4808**	—	—	—	—	—	—	—	—	—
5200	**1194**	**5.04**	**4703**	—	—	—	—	—	—	—	—	—	—	—	—
5300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 830 to 1130 rpm. All other rpms require field-supplied drive.

Refer to page 107 for general Fan Performance Data notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 5.25.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS

581B036 (3 TONS) — STANDARD MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
900	**553**	**0.14**	**134**	681	0.22	221	782	0.32	316	870	0.42	417	948	0.53	526
1000	**582**	**0.16**	**163**	707	0.26	257	807	0.36	358	894	0.47	466	971	0.58	580
1100	**612**	**0.20**	**196**	734	0.30	297	833	0.41	405	919	0.52	519	995	0.64	639
1200	**643**	**0.23**	**234**	762	0.34	343	859	0.46	458	944	0.58	579	1020	0.71	705
1300	**675**	**0.28**	**277**	790	0.40	394	886	0.52	517	969	0.65	644	1044	0.78	777
1400	707	0.33	326	819	0.45	452	913	0.58	581	996	0.72	716	**1070**	**0.86**	**855**
1500	740	0.38	382	849	0.52	515	941	0.66	653	1023	0.80	795	**1096**	**0.95**	**941**

581B036 (3 TONS) — STANDARD MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
900	1019	0.64	640	**1084**	**0.76**	**760**	**1146**	**0.89**	**885**	**1203**	**1.02**	**1016**	**1258**	**1.16**	**1152**
1000	1042	0.70	700	**1107**	**0.83**	**825**	**1168**	**0.96**	**956**	**1225**	**1.10**	**1091**	—	—	—
1100	**1065**	**0.77**	**765**	**1130**	**0.90**	**896**	**1190**	**1.04**	**1032**	**1247**	**1.18**	**1173**	—	—	—
1200	**1089**	**0.84**	**837**	**1153**	**0.98**	**974**	**1213**	**1.12**	**1115**	—	—	—	—	—	—
1300	**1113**	**0.92**	**915**	**1177**	**1.06**	**1058**	—	—	—	—	—	—	—	—	—
1400	**1138**	**1.01**	**1000**	**1201**	**1.15**	**1149**	—	—	—	—	—	—	—	—	—
1500	**1163**	**1.10**	**1092**	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Motor drive range: 680 to 1044 rpm. All other rpms require field- supplied drive.

See page 107 for general fan performance notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 1.20.

581B036 (3 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
900	**553**	**0.14**	**134**	**681**	**0.22**	**221**	**782**	**0.32**	**316**	**870**	**0.42**	**417**	**948**	**0.53**	**526**
1000	**582**	**0.16**	**163**	**707**	**0.26**	**257**	**807**	**0.36**	**358**	**894**	**0.47**	**466**	**971**	**0.58**	**580**
1100	**612**	**0.20**	**196**	**734**	**0.30**	**297**	**833**	**0.41**	**405**	**919**	**0.52**	**519**	**995**	**0.64**	**639**
1200	**643**	**0.23**	**234**	**762**	**0.34**	**343**	**859**	**0.46**	**458**	**944**	**0.58**	**579**	**1020**	**0.71**	**705**
1300	**675**	**0.28**	**277**	**790**	**0.40**	**394**	**886**	**0.52**	**517**	**969**	**0.65**	**644**	**1044**	**0.78**	**777**
1400	**707**	**0.33**	**326**	**819**	**0.45**	**452**	**913**	**0.58**	**581**	**996**	**0.72**	**716**	**1070**	**0.86**	**855**
1500	**740**	**0.38**	**382**	**849**	**0.52**	**515**	**941**	**0.66**	**653**	**1023**	**0.80**	**795**	1096	0.95	941

581B036 (3 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
900	**1019**	**0.64**	**640**	1084	0.76	760	1146	0.89	885	1203	1.02	1016	1258	1.16	1152
1000	**1042**	**0.70**	**700**	1107	0.83	825	1168	0.96	956	1225	1.10	1091	1279	1.24	1232
1100	**1065**	**0.77**	**765**	1130	0.90	896	1190	1.04	1032	1247	1.18	1173	1301	1.33	1319
1200	1089	0.84	837	1153	0.98	974	1213	1.12	1115	1270	1.27	1262	1324	1.42	1413
1300	1113	0.92	915	1177	1.06	1058	1237	1.21	1205	1293	1.36	1358	1347	1.52	1514
1400	1138	1.01	1000	1201	1.15	1149	1261	1.31	1303	1317	1.47	1461	1370	1.63	1623
1500	1163	1.10	1092	1226	1.25	1247	1285	1.41	1407	1341	1.58	1571	1394	1.75	1740

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Motor drive range: 1075 to 1455 rpm. All other rpms require field-supplied drive.

See page 107 for general fan performance notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

581B048 (4 TONS) — STANDARD MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1200	**643**	**0.23**	**234**	**762**	**0.34**	**343**	859	0.46	458	944	0.58	579	1020	0.71	705
1300	**675**	**0.28**	**277**	790	0.40	394	886	0.52	517	969	0.65	644	1044	0.78	777
1400	**707**	**0.33**	**326**	819	0.45	452	913	0.58	581	996	0.72	716	1070	0.86	855
1500	**740**	**0.38**	**382**	849	0.52	515	941	0.66	653	1023	0.80	795	1096	0.95	941
1600	773	0.45	444	879	0.59	586	970	0.73	731	1050	0.88	880	1123	1.04	1034
1700	807	0.52	513	910	0.67	663	999	0.82	817	1078	0.98	973	1150	1.14	1134
1800	841	0.59	589	942	0.75	749	1029	0.91	910	1106	1.08	1074	—	—	—
1900	875	0.68	674	974	0.85	842	1059	1.02	1012	1135	1.19	1184	—	—	—
2000	910	0.77	767	1006	0.95	944	1090	1.13	1122	—	—	—	—	—	—

581B048 (4 TONS) — STANDARD MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1200	1089	0.84	837	1153	0.98	974	**1213**	**1.12**	**1115**	—	—	—	—	—	—
1300	1113	0.92	915	1177	1.06	1058	—	—	—	—	—	—	—	—	—
1400	1138	1.01	1000	**1201**	**1.15**	**1149**	—	—	—	—	—	—	—	—	—
1500	1163	1.10	1092	—	—	—	—	—	—	—	—	—	—	—	—
1600	**1189**	**1.20**	**1191**	—	—	—	—	—	—	—	—	—	—	—	—
1700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Motor drive range: 770 to 1185 rpm. All other rpms require field-supplied drive.

See page 107 for general fan performance notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 1.20.

581B048 (4 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1200	**643**	**0.23**	**234**	**762**	**0.34**	**343**	**859**	**0.46**	**458**	**944**	**0.58**	**579**	**1020**	**0.71**	**705**
1300	**675**	**0.28**	**277**	**790**	**0.40**	**394**	**886**	**0.52**	**517**	**969**	**0.65**	**644**	**1044**	**0.78**	**777**
1400	**707**	**0.33**	**326**	**819**	**0.45**	**452**	**913**	**0.58**	**581**	**996**	**0.72**	**716**	**1070**	**0.86**	**855**
1500	**740**	**0.38**	**382**	**849**	**0.52**	**515**	**941**	**0.66**	**653**	**1023**	**0.80**	**795**	1096	0.95	941
1600	**773**	**0.45**	**444**	**879**	**0.59**	**586**	**970**	**0.73**	**731**	**1050**	**0.88**	**880**	1123	1.04	1034
1700	**807**	**0.52**	**513**	**910**	**0.67**	**663**	**999**	**0.82**	**817**	1078	0.98	973	1150	1.14	1134
1800	**841**	**0.59**	**589**	**942**	**0.75**	**749**	**1029**	**0.91**	**910**	1106	1.08	1074	1177	1.25	1242
1900	**875**	**0.68**	**674**	**974**	**0.85**	**842**	**1059**	**1.02**	**1012**	1135	1.19	1184	1205	1.37	1360
2000	**910**	**0.77**	**767**	**1006**	**0.95**	**944**	1090	1.13	1122	1165	1.31	1302	1234	1.49	1485

581B048 (4 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1200	1089	0.84	837	1153	0.98	974	1213	1.12	1115	1270	1.27	1262	1324	1.42	1413
1300	1113	0.92	915	1177	1.06	1058	1237	1.21	1205	1293	1.36	1358	1347	1.52	1514
1400	1138	1.01	1000	1201	1.15	1149	1261	1.31	1303	1317	1.47	1461	1370	1.63	1623
1500	1163	1.10	1092	1226	1.25	1247	1285	1.41	1407	1341	1.58	1571	1394	1.75	1740
1600	1189	1.20	1191	1252	1.36	1353	1310	1.53	1520	1365	1.70	1690	1418	1.87	1865
1700	1216	1.31	1299	1277	1.48	1468	1335	1.65	1640	1390	1.83	1817	1442	2.01	1998
1800	1242	1.42	1414	1303	1.60	1590	1361	1.78	1770	1415	1.96	1953	**1467**	**2.15**	**2140**
1900	1270	1.55	1538	1330	1.73	1721	1387	1.92	1908	1441	2.11	2098	**1493**	**2.30**	**2292**
2000	1297	1.68	1672	1357	1.87	1862	1414	2.07	2055	**1467**	**2.26**	**2252**	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Motor drive range: 1075 to 1455 rpm. All other rpms require field-supplied drive.

See page 107 for general fan performance notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

581B060 (5 TONS) — STANDARD MOTOR (BELT DRIVE)* — SINGLE-PHASE UNITS

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	**800**	**0.39**	**350**	**904**	**0.49**	**438**	**999**	**0.60**	**535**	1087	0.72	640	1169	0.85	753
1600	**839**	**0.46**	**412**	**938**	**0.57**	**505**	**1030**	**0.68**	**605**	1115	0.80	714	1195	0.93	829
1700	**879**	**0.54**	**483**	**974**	**0.65**	**580**	1062	0.77	684	1144	0.90	796	1221	1.03	914
1800	**919**	**0.63**	**561**	**1010**	**0.75**	**663**	1095	0.87	771	1174	1.00	886	1250	1.14	1008
1900	**960**	**0.73**	**648**	1047	0.85	754	1129	0.98	867	1206	1.11	986	1279	1.25	1111
2000	**1001**	**0.84**	**744**	1085	0.96	855	1163	1.09	972	1238	1.23	1095	—	—	—
2100	1043	0.96	850	1123	1.09	965	1199	1.22	1086	—	—	—	—	—	—
2200	1085	1.09	966	1162	1.22	1086	—	—	—	—	—	—	—	—	—
2300	1127	1.23	1092	—	—	—	—	—	—	—	—	—	—	—	—
2400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

581B060 (5 TONS) — STANDARD MOTOR (BELT DRIVE)* — SINGLE-PHASE UNITS (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	1247	0.98	873	1320	1.13	1002	1390	1.28	1137	—	—	—	—	—	—
1600	1270	1.07	952	1342	1.22	1083	—	—	—	—	—	—	—	—	—
1700	1295	1.17	1040	—	—	—	—	—	—	—	—	—	—	—	—
1800	1321	1.28	1137	—	—	—	—	—	—	—	—	—	—	—	—
1900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Motor drive range: 1035 to 1460 rpm. All other rpms require field-supplied drive.

See page 107 for general fan performance notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 1.30.

581B060 (5 TONS) — STANDARD MOTOR (BELT DRIVE)* — THREE-PHASE UNITS

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	**800**	**0.39**	**350**	**904**	**0.49**	**438**	**999**	**0.60**	**535**	1087	0.72	640	1169	0.85	753
1600	**839**	**0.46**	**412**	**938**	**0.57**	**505**	**1030**	**0.68**	**605**	1115	0.80	714	1195	0.93	829
1700	**879**	**0.54**	**483**	**974**	**0.65**	**580**	1062	0.77	684	1144	0.90	796	1221	1.03	914
1800	**919**	**0.63**	**561**	**1010**	**0.75**	**663**	1095	0.87	771	1174	1.00	886	1250	1.14	1008
1900	**960**	**0.73**	**648**	1047	0.85	754	1129	0.98	867	1206	1.11	986	1279	1.25	1111
2000	**1001**	**0.84**	**744**	1085	0.96	855	1163	1.09	972	1238	1.23	1095	1309	1.38	1224
2100	1043	0.96	850	1123	1.09	965	1199	1.22	1086	1271	1.37	1213	1340	1.52	1346
2200	1085	1.09	966	1162	1.22	1086	1235	1.36	1211	1305	1.51	1342	1372	1.67	1479
2300	1127	1.23	1092	1201	1.37	1217	1272	1.52	1347	1340	1.67	1482	1405	1.83	1623
2400	1169	1.38	1229	1241	1.53	1359	1310	1.68	1493	1375	1.84	1633	1439	2.00	1778
2500	1212	1.55	1378	1281	1.70	1513	1348	1.86	1652	1412	2.02	1796	**1473**	**2.19**	**1945**

581B060 (5 TONS) — STANDARD MOTOR (BELT DRIVE)* — THREE-PHASE UNITS (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	1247	0.98	873	1320	1.13	1002	1390	1.28	1137	1457	1.44	1280	**1522**	**1.61**	**1430**
1600	1270	1.07	952	1342	1.22	1083	1411	1.37	1221	**1476**	**1.54**	**1365**	**1540**	**1.71**	**1517**
1700	1295	1.17	1040	1365	1.32	1173	1432	1.48	1313	**1497**	**1.64**	**1459**	**1559**	**1.82**	**1612**
1800	1321	1.28	1137	1390	1.43	1273	1455	1.59	1415	**1518**	**1.76**	**1563**	**1579**	**1.93**	**1718**
1900	1348	1.40	1243	1415	1.56	1381	**1479**	**1.72**	**1526**	**1541**	**1.89**	**1677**	**1601**	**2.06**	**1834**
2000	1377	1.53	1359	1442	1.69	1500	**1505**	**1.86**	**1648**	**1565**	**2.03**	**1801**	**1624**	**2.21**	**1961**
2100	1406	1.67	1485	**1470**	**1.83**	**1629**	**1531**	**2.00**	**1780**	**1591**	**2.18**	**1936**	**1648**	**2.36**	**2098**
2200	1437	1.83	1621	**1499**	**1.99**	**1769**	**1559**	**2.16**	**1923**	**1617**	**2.34**	**2082**	—	—	—
2300	**1468**	**1.99**	**1769**	**1529**	**2.16**	**1920**	**1587**	**2.34**	**2077**	—	—	—	—	—	—
2400	**1500**	**2.17**	**1928**	**1559**	**2.35**	**2083**	—	—	—	—	—	—	—	—	—
2500	**1533**	**2.36**	**2098**	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Motor drive range: 1035 to 1460 rpm. All other rpms require field-supplied drive.

See page 107 for general fan performance notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

581B060 (5 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	**800**	**0.39**	**350**	**904**	**0.49**	**438**	**999**	**0.60**	**535**	**1087**	**0.72**	**640**	**1169**	**0.85**	**753**
1600	**839**	**0.46**	**412**	**938**	**0.57**	**505**	**1030**	**0.68**	**605**	**1115**	**0.80**	**714**	**1195**	**0.93**	**829**
1700	**879**	**0.54**	**483**	**974**	**0.65**	**580**	**1062**	**0.77**	**684**	**1144**	**0.90**	**796**	**1221**	**1.03**	**914**
1800	**919**	**0.63**	**561**	**1010**	**0.75**	**663**	**1095**	**0.87**	**771**	**1174**	**1.00**	**886**	**1250**	**1.14**	**1008**
1900	**960**	**0.73**	**648**	**1047**	**0.85**	**754**	**1129**	**0.98**	**867**	**1206**	**1.11**	**986**	**1279**	**1.25**	**1111**
2000	**1001**	**0.84**	**744**	**1085**	**0.96**	**855**	**1163**	**1.09**	**972**	**1238**	**1.23**	**1095**	1309	1.38	1224
2100	**1043**	**0.96**	**850**	**1123**	**1.09**	**965**	**1199**	**1.22**	**1086**	**1271**	**1.37**	**1213**	1340	1.52	1346
2200	**1085**	**1.09**	**966**	**1162**	**1.22**	**1086**	**1235**	**1.36**	**1211**	1305	1.51	1342	1372	1.67	1479
2300	**1127**	**1.23**	**1092**	**1201**	**1.37**	**1217**	**1272**	**1.52**	**1347**	1340	1.67	1482	1405	1.83	1623
2400	**1169**	**1.38**	**1229**	**1241**	**1.53**	**1359**	1310	1.68	1493	1375	1.84	1633	1439	2.00	1778
2500	**1212**	**1.55**	**1378**	**1281**	**1.70**	**1513**	1348	1.86	1652	1412	2.02	1796	1473	2.19	1945

581B060 (5 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	**1247**	**0.98**	**873**	1320	1.13	1002	1390	1.28	1137	1457	1.44	1280	1522	1.61	1430
1600	**1270**	**1.07**	**952**	1342	1.22	1083	1411	1.37	1221	1476	1.54	1365	1540	1.71	1517
1700	**1295**	**1.17**	**1040**	1365	1.32	1173	1432	1.48	1313	1497	1.64	1459	1559	1.82	1612
1800	1321	1.28	1137	1390	1.43	1273	1455	1.59	1415	1518	1.76	1563	1579	1.93	1718
1900	1348	1.40	1243	1415	1.56	1381	1479	1.72	1526	1541	1.89	1677	1601	2.06	1834
2000	1377	1.53	1359	1442	1.69	1500	1505	1.86	1648	1565	2.03	1801	1624	2.21	1961
2100	1406	1.67	1485	1470	1.83	1629	1531	2.00	1780	1591	2.18	1936	1648	2.36	2098
2200	1437	1.83	1621	1499	1.99	1769	1559	2.16	1923	1617	2.34	2082	1673	2.53	2246
2300	1468	1.99	1769	1529	2.16	1920	1587	2.34	2077	1644	2.52	2239	**1699**	**2.71**	**2406**
2400	1500	2.17	1928	1559	2.35	2083	1616	2.53	2243	1672	2.71	2408	**1726**	**2.90**	**2579**
2500	1533	2.36	2098	1591	2.54	2257	1647	2.73	2421	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Motor drive range: 1300 to 1685 rpm. All other rpms require field-supplied drive.

See page 107 for general fan performance notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.90.

581B072 (6 TONS) — STANDARD MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1800	**913**	**0.64**	**569**	**1010**	**0.80**	**715**	**1098**	**0.98**	**869**	1178	1.16	1032	1252	1.35	1203
1900	**952**	**0.73**	**652**	**1046**	**0.91**	**805**	1131	1.09	965	1210	1.28	1134	1282	1.48	1311
2000	**992**	**0.84**	**744**	**1083**	**1.02**	**903**	1166	1.21	1070	1242	1.40	1245	1313	1.61	1427
2100	**1032**	**0.95**	**844**	1120	1.14	1010	1200	1.33	1184	1275	1.54	1365	1345	1.75	1553
2200	**1073**	**1.07**	**954**	1158	1.27	1127	1236	1.47	1307	1308	1.68	1495	1377	1.90	1689
2300	**1114**	**1.21**	**1074**	1196	1.41	1254	1272	1.62	1440	1343	1.84	1634	1409	2.07	1834
2400	1155	1.36	1204	1234	1.57	1391	1308	1.78	1584	1377	2.01	1784	1443	2.24	1990
2500	1196	1.51	1345	1273	1.73	1538	1345	1.96	1738	1412	2.19	1945	—	—	—
2600	1238	1.69	1497	1312	1.91	1697	1382	2.14	1904	1448	2.38	2117	—	—	—
2700	1280	1.87	1660	1352	2.10	1867	1420	2.34	2081	—	—	—	—	—	—
2800	1322	2.07	1835	1392	2.31	2050	—	—	—	—	—	—	—	—	—
2900	1364	2.28	2023	—	—	—	—	—	—	—	—	—	—	—	—
3000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

581B072 (6 TONS) — STANDARD MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1800	1322	1.56	1382	1388	1.77	1568	1451	1.98	1762	1510	2.21	1962	—	—	—
1900	1351	1.68	1495	1416	1.90	1686	1477	2.12	1885	1536	2.35	2090	—	—	—
2000	1380	1.82	1617	1444	2.04	1814	1505	2.27	2017	—	—	—	—	—	—
2100	1411	1.97	1748	1473	2.20	1950	—	—	—	—	—	—	—	—	—
2200	1441	2.13	1890	1503	2.36	2097	—	—	—	—	—	—	—	—	—
2300	1473	2.30	2041	—	—	—	—	—	—	—	—	—	—	—	—
2400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Motor drive range: 1119 to 1585 rpm. All other rpms require field-supplied drive.

See page 107 for general fan performance notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

581B072 (6 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1800	**913**	**0.64**	**569**	**1010**	**0.80**	**715**	**1098**	**0.98**	**869**	**1178**	**1.16**	**1032**	**1252**	**1.35**	**1203**
1900	**952**	**0.73**	**652**	**1046**	**0.91**	**805**	**1131**	**1.09**	**965**	**1210**	**1.28**	**1134**	**1282**	**1.48**	**1311**
2000	**992**	**0.84**	**744**	**1083**	**1.02**	**903**	**1166**	**1.21**	**1070**	**1242**	**1.40**	**1245**	1313	1.61	1427
2100	**1032**	**0.95**	**844**	**1120**	**1.14**	**1010**	**1200**	**1.33**	**1184**	**1275**	**1.54**	**1365**	1345	1.75	1553
2200	**1073**	**1.07**	**954**	**1158**	**1.27**	**1127**	**1236**	**1.47**	**1307**	1308	1.68	1495	1377	1.90	1689
2300	**1114**	**1.21**	**1074**	**1196**	**1.41**	**1254**	**1272**	**1.62**	**1440**	1343	1.84	1634	1409	2.07	1834
2400	**1155**	**1.36**	**1204**	**1234**	**1.57**	**1391**	1308	1.78	1584	1377	2.01	1784	1443	2.24	1990
2500	**1196**	**1.51**	**1345**	**1273**	**1.73**	**1538**	1345	1.96	1738	1412	2.19	1945	1477	2.43	2157
2600	**1238**	**1.69**	**1497**	1312	1.91	1697	1382	2.14	1904	1448	2.38	2117	1511	2.63	2335
2700	**1280**	**1.87**	**1660**	1352	2.10	1867	1420	2.34	2081	1484	2.59	2300	1546	2.84	2526
2800	1322	2.07	1835	1392	2.31	2050	1458	2.56	2270	1521	2.81	2496	—	—	—
2900	1364	2.28	2023	1432	2.53	2245	1496	2.78	2472	—	—	—	—	—	—
3000	1406	2.50	2224	1472	2.76	2452	—	—	—	—	—	—	—	—	—

581B072 (6 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1800	1322	1.56	1382	1388	1.77	1568	1451	1.98	1762	1510	2.21	1962	1568	2.44	2169
1900	1351	1.68	1495	1416	1.90	1686	1477	2.12	1885	1536	2.35	2090	1593	2.59	2302
2000	1380	1.82	1617	1444	2.04	1814	1505	2.27	2017	1563	2.51	2227	1619	2.75	2443
2100	1411	1.97	1748	1473	2.20	1950	1533	2.43	2159	1590	2.67	2374	—	—	—
2200	1441	2.13	1890	1503	2.36	2097	1562	2.60	2311	1618	2.85	2532	—	—	—
2300	1473	2.30	2041	1533	2.54	2254	1591	2.79	2474	—	—	—	—	—	—
2400	1505	2.48	2203	1564	2.73	2422	—	—	—	—	—	—	—	—	—
2500	1537	2.68	2376	—	—	—	—	—	—	—	—	—	—	—	—
2600	1571	2.88	2560	—	—	—	—	—	—	—	—	—	—	—	—
2700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Motor drive range: 1300 to 1686 rpm. All other rpms require field-supplied drive.

See page 107 for general fan performance notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.90.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

581B090 (7 1/2 TONS) — STANDARD MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	**505**	**0.52**	**484**	**586**	**0.73**	**681**	**657**	**0.97**	**901**	**722**	**1.22**	**1142**	**782**	**1.50**	**1403**
2300	**513**	**0.55**	**509**	**592**	**0.76**	**708**	**663**	**1.00**	**931**	**727**	**1.26**	**1174**	**787**	**1.54**	**1437**
2400	**527**	**0.60**	**561**	**605**	**0.82**	**766**	**674**	**1.07**	**993**	**738**	**1.33**	**1241**	**796**	**1.62**	**1508**
2500	**543**	**0.66**	**617**	**618**	**0.89**	**828**	**686**	**1.14**	**1060**	**748**	**1.41**	**1312**	**806**	**1.70**	**1583**
2550	**550**	**0.69**	**647**	**625**	**0.92**	**860**	**692**	**1.17**	**1095**	**754**	**1.45**	**1349**	**811**	**1.74**	**1623**
2600	**558**	**0.73**	**677**	**632**	**0.96**	**894**	**698**	**1.21**	**1131**	**759**	**1.49**	**1388**	**816**	**1.78**	**1664**
2700	**574**	**0.80**	**742**	**645**	**1.03**	**964**	**710**	**1.29**	**1207**	**770**	**1.58**	**1469**	**826**	**1.88**	**1749**
2800	**589**	**0.87**	**811**	**659**	**1.11**	**1039**	**723**	**1.38**	**1287**	**782**	**1.67**	**1554**	**837**	**1.97**	**1839**
2900	**605**	**0.95**	**885**	**673**	**1.20**	**1119**	**736**	**1.47**	**1372**	**794**	**1.76**	**1644**	848	2.07	1933
3000	**621**	**1.03**	**963**	**688**	**1.29**	**1204**	**749**	**1.57**	**1463**	**806**	**1.87**	**1740**	859	2.18	2033
3100	**637**	**1.12**	**1046**	**702**	**1.39**	**1293**	**762**	**1.67**	**1558**	**818**	**1.97**	**1840**	871	2.29	2139
3200	**654**	**1.22**	**1135**	**717**	**1.49**	**1388**	**776**	**1.78**	**1658**	**831**	**2.09**	**1946**	882	2.41	2249
3300	**670**	**1.32**	**1228**	**732**	**1.60**	**1488**	**789**	**1.89**	**1764**	843	2.21	2057	894	2.54	2365
3400	**686**	**1.42**	**1328**	**747**	**1.71**	**1593**	**803**	**2.01**	**1876**	856	2.33	2174	907	2.67	2488
3500	**703**	**1.54**	**1433**	**762**	**1.83**	**1705**	**817**	**2.14**	**1993**	870	2.46	2297	919	2.81	2616
3600	**720**	**1.66**	**1543**	**777**	**1.95**	**1822**	**832**	**2.27**	**2116**	883	2.60	2425	—	—	—
3700	**736**	**1.78**	**1660**	**793**	**2.09**	**1944**	846	2.41	2245	896	2.75	2560	—	—	—
3750	**745**	**1.85**	**1721**	**801**	**2.15**	**2008**	853	2.48	2312	903	2.82	2630	—	—	—

581B090 (7 1/2 TONS) — STANDARD MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	**838**	**1.81**	**1683**	891	2.12	1981	941	2.46	2297	988	2.82	2629	—	—	—
2300	842	1.84	1719	895	2.17	2019	944	2.51	2336	992	2.86	2669	—	—	—
2400	851	1.92	1793	903	2.25	2097	952	2.59	2416	—	—	—	—	—	—
2500	860	2.01	1873	911	2.34	2180	960	2.68	2502	—	—	—	—	—	—
2550	865	2.05	1914	916	2.38	2223	964	2.73	2547	—	—	—	—	—	—
2600	869	2.10	1957	920	2.43	2267	968	2.78	2593	—	—	—	—	—	—
2700	879	2.19	2046	929	2.53	2360	976	2.88	2689	—	—	—	—	—	—
2800	889	2.29	2140	938	2.64	2458	—	—	—	—	—	—	—	—	—
2900	899	2.40	2239	948	2.75	2561	—	—	—	—	—	—	—	—	—
3000	910	2.51	2343	958	2.86	2670	—	—	—	—	—	—	—	—	—
3100	921	2.63	2453	—	—	—	—	—	—	—	—	—	—	—	—
3200	932	2.75	2569	—	—	—	—	—	—	—	—	—	—	—	—
3300	943	2.88	2690	—	—	—	—	—	—	—	—	—	—	—	—
3400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3750	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 840 to 1085 rpm. All other rpms require field-supplied drive.

See page 107 for general fan performance notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.90.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

581B090 (7 1/2 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	**505**	**0.52**	**484**	**586**	**0.73**	**681**	**657**	**0.97**	**901**	**722**	**1.22**	**1142**	**782**	**1.50**	**1403**
2300	**513**	**0.55**	**509**	**592**	**0.76**	**708**	**663**	**1.00**	**931**	**727**	**1.26**	**1174**	**787**	**1.54**	**1437**
2400	**527**	**0.60**	**561**	**605**	**0.82**	**766**	**674**	**1.07**	**993**	**738**	**1.33**	**1241**	**796**	**1.62**	**1508**
2500	**543**	**0.66**	**617**	**618**	**0.89**	**828**	**686**	**1.14**	**1060**	**748**	**1.41**	**1312**	**806**	**1.70**	**1583**
2550	**550**	**0.69**	**647**	**625**	**0.92**	**860**	**692**	**1.17**	**1095**	**754**	**1.45**	**1349**	**811**	**1.74**	**1623**
2600	**558**	**0.73**	**677**	**632**	**0.96**	**894**	**698**	**1.21**	**1131**	**759**	**1.49**	**1388**	**816**	**1.78**	**1664**
2700	**574**	**0.80**	**742**	**645**	**1.03**	**964**	**710**	**1.29**	**1207**	**770**	**1.58**	**1469**	**826**	**1.88**	**1749**
2800	**589**	**0.87**	**811**	**659**	**1.11**	**1039**	**723**	**1.38**	**1287**	**782**	**1.67**	**1554**	**837**	**1.97**	**1839**
2900	**605**	**0.95**	**885**	**673**	**1.20**	**1119**	**736**	**1.47**	**1372**	**794**	**1.76**	**1644**	**848**	**2.07**	**1933**
3000	**621**	**1.03**	**963**	**688**	**1.29**	**1204**	**749**	**1.57**	**1463**	**806**	**1.87**	**1740**	**859**	**2.18**	**2033**
3100	**637**	**1.12**	**1046**	**702**	**1.39**	**1293**	**762**	**1.67**	**1558**	**818**	**1.97**	**1840**	871	2.29	2139
3200	**654**	**1.22**	**1135**	**717**	**1.49**	**1388**	**776**	**1.78**	**1658**	**831**	**2.09**	**1946**	882	2.41	2249
3300	**670**	**1.32**	**1228**	**732**	**1.60**	**1488**	**789**	**1.89**	**1764**	**843**	**2.21**	**2057**	894	2.54	2365
3400	**686**	**1.42**	**1328**	**747**	**1.71**	**1593**	**803**	**2.01**	**1876**	**856**	**2.33**	**2174**	907	2.67	2488
3500	**703**	**1.54**	**1433**	**762**	**1.83**	**1705**	**817**	**2.14**	**1993**	870	2.46	2297	919	2.81	2616
3600	**720**	**1.66**	**1543**	**777**	**1.95**	**1822**	**832**	**2.27**	**2116**	883	2.60	2425	932	2.95	2750
3700	**736**	**1.78**	**1660**	**793**	**2.09**	**1944**	**846**	**2.41**	**2245**	896	2.75	2560	944	3.10	2889
3750	**745**	**1.85**	**1721**	**801**	**2.15**	**2008**	**853**	**2.48**	**2312**	903	2.82	2630	951	3.18	2962

581B090 (7 1/2 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	**838**	**1.81**	**1683**	891	2.12	1981	941	2.46	2297	988	2.82	2629	1033	3.19	2976
2300	**842**	**1.84**	**1719**	895	2.17	2019	944	2.51	2336	992	2.86	2669	1037	3.24	3018
2400	**851**	**1.92**	**1793**	903	2.25	2097	952	2.59	2416	999	2.95	2752	1043	3.33	3104
2500	860	2.01	1873	911	2.34	2180	960	2.68	2502	1006	3.05	2842	1051	3.43	3196
2550	865	2.05	1914	916	2.38	2223	964	2.73	2547	1010	3.10	2888	1054	3.48	3243
2600	869	2.10	1957	920	2.43	2267	968	2.78	2593	1014	3.15	2935	1058	3.53	3292
2700	879	2.19	2046	929	2.53	2360	976	2.88	2689	1022	3.25	3035	1066	3.64	3395
2800	889	2.29	2140	938	2.64	2458	985	2.99	2791	1030	3.37	3140	1073	3.76	3503
2900	899	2.40	2239	948	2.75	2561	994	3.11	2898	1039	3.49	3250	**1082**	**3.88**	**3616**
3000	910	2.51	2343	958	2.86	2670	1004	3.23	3011	1048	3.61	3366	**1090**	**4.01**	**3736**
3100	921	2.63	2453	968	2.98	2783	1013	3.35	3128	1057	3.74	3488	**1099**	**4.14**	**3861**
3200	932	2.75	2569	978	3.11	2903	1023	3.49	3252	1066	3.88	3616	—	—	—
3300	943	2.88	2690	989	3.25	3029	1033	3.63	3382	1076	4.02	3749	—	—	—
3400	954	3.02	2816	1000	3.39	3159	1044	3.77	3518	**1086**	**4.17**	**3889**	—	—	—
3500	966	3.16	2950	1011	3.54	3297	1054	3.92	3660	—	—	—	—	—	—
3600	978	3.31	3088	1022	3.69	3442	1065	4.08	3808	—	—	—	—	—	—
3700	990	3.47	3233	1034	3.85	3591	—	—	—	—	—	—	—	—	—
3750	996	3.55	3308	1040	3.93	3669	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 860 to 1080 rpm. All other rpms require field-supplied drive.

See page 107 for general fan performance notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 4.20.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

581B102 (8 1/2 TONS) — STANDARD MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2500	**513**	**0.45**	**423**	**603**	**0.62**	**576**	**682**	**0.78**	**732**	**753**	**0.96**	**892**	**817**	**1.13**	**1055**
2600	**526**	**0.50**	**463**	**614**	**0.67**	**621**	**692**	**0.84**	**783**	**761**	**1.02**	**948**	**825**	**1.20**	**1117**
2700	**539**	**0.54**	**505**	**625**	**0.72**	**670**	**702**	**0.90**	**837**	**770**	**1.08**	**1008**	**834**	**1.27**	**1182**
2800	**552**	**0.59**	**551**	**637**	**0.77**	**721**	**712**	**0.96**	**894**	**780**	**1.15**	**1070**	842	1.34	1250
2900	**565**	**0.64**	**599**	**648**	**0.83**	**775**	**722**	**1.02**	**954**	**789**	**1.22**	**1136**	851	1.42	1321
3000	**579**	**0.70**	**651**	**660**	**0.89**	**832**	**732**	**1.09**	**1017**	**799**	**1.29**	**1204**	860	1.50	1395
3100	**592**	**0.76**	**706**	**672**	**0.96**	**893**	**743**	**1.16**	**1083**	**808**	**1.37**	**1276**	869	1.58	1471
3200	**606**	**0.82**	**764**	**684**	**1.03**	**957**	**754**	**1.24**	**1153**	**818**	**1.45**	**1351**	878	1.66	1552
3300	**620**	**0.88**	**825**	**696**	**1.10**	**1024**	**765**	**1.31**	**1225**	**829**	**1.53**	**1429**	888	1.75	1636
3400	**634**	**0.95**	**890**	**709**	**1.17**	**1095**	**777**	**1.40**	**1302**	**839**	**1.62**	**1511**	897	1.85	1723
3500	**648**	**1.03**	**958**	**721**	**1.25**	**1169**	**788**	**1.48**	**1381**	850	1.71	1597	907	1.95	1815
3600	**662**	**1.10**	**1030**	**734**	**1.34**	**1246**	**800**	**1.57**	**1465**	860	1.81	1686	917	2.05	1909
3700	**676**	**1.19**	**1106**	**747**	**1.42**	**1328**	**811**	**1.66**	**1552**	871	1.91	1779	927	2.15	2008
3800	**690**	**1.27**	**1185**	**760**	**1.52**	**1414**	**823**	**1.76**	**1644**	882	2.01	1876	938	2.26	2111
3900	**705**	**1.36**	**1269**	**773**	**1.61**	**1503**	**835**	**1.86**	**1739**	894	2.12	1977	948	2.38	2217
4000	**719**	**1.45**	**1357**	**786**	**1.71**	**1597**	848	1.97	1838	905	2.23	2082	959	2.50	2328
4100	**734**	**1.55**	**1449**	**799**	**1.82**	**1695**	860	2.08	1942	917	2.35	2192	970	2.62	2443
4200	**748**	**1.66**	**1545**	**813**	**1.93**	**1797**	872	2.20	2050	928	2.47	2305	981	2.75	2562
4300	**763**	**1.76**	**1646**	**826**	**2.04**	**1903**	885	2.32	2162	940	2.60	2423	992	2.88	2686

581B102 (8 1/2 TONS) — STANDARD MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2500	877	1.31	1222	933	1.49	1392	986	1.68	1565	1037	1.87	1742	1085	2.06	1921
2600	885	1.38	1289	940	1.57	1464	993	1.76	1643	1043	1.96	1824	**1091**	**2.15**	**2008**
2700	892	1.46	1359	948	1.65	1540	1000	1.85	1723	1049	2.05	1909	**1097**	**2.25**	**2099**
2800	900	1.54	1432	955	1.74	1618	1007	1.94	1807	1056	2.14	1998	**1103**	**2.35**	**2192**
2900	908	1.62	1508	963	1.82	1699	1014	2.03	1893	1063	2.24	2089	**1110**	**2.45**	**2289**
3000	917	1.70	1587	970	1.91	1784	1021	2.13	1983	1070	2.34	2185	**1117**	**2.56**	**2389**
3100	925	1.79	1670	979	2.01	1872	1029	2.23	2076	1077	2.45	2283	**1123**	**2.67**	**2492**
3200	934	1.88	1756	987	2.10	1963	1037	2.33	2172	1085	2.56	2384	**1131**	**2.79**	**2599**
3300	943	1.98	1845	995	2.21	2057	1045	2.44	2272	**1092**	**2.67**	**2490**	—	—	—
3400	952	2.08	1939	1004	2.31	2156	1053	2.55	2376	**1100**	**2.79**	**2599**	—	—	—
3500	961	2.18	2035	1013	2.42	2258	1062	2.66	2483	—	—	—	—	—	—
3600	971	2.29	2135	1022	2.53	2364	1070	2.78	2595	—	—	—	—	—	—
3700	981	2.40	2240	1031	2.65	2473	—	—	—	—	—	—	—	—	—
3800	990	2.52	2348	1040	2.77	2587	—	—	—	—	—	—	—	—	—
3900	1000	2.64	2459	1050	2.90	2705	—	—	—	—	—	—	—	—	—
4000	1011	2.76	2576	—	—	—	—	—	—	—	—	—	—	—	—
4100	1021	2.89	2697	—	—	—	—	—	—	—	—	—	—	—	—
4200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 840 to 1085 rpm. All other rpms require field-supplied drive.

See page 107 for general fan performance notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.90.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

581B102 (8 1/2 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2500	**513**	**0.45**	**423**	**603**	**0.62**	**576**	**682**	**0.78**	**732**	**753**	**0.96**	**892**	**817**	**1.13**	**1055**
2600	**526**	**0.50**	**463**	**614**	**0.67**	**621**	**692**	**0.84**	**783**	**761**	**1.02**	**948**	**825**	**1.20**	**1117**
2700	**539**	**0.54**	**505**	**625**	**0.72**	**670**	**702**	**0.90**	**837**	**770**	**1.08**	**1008**	**834**	**1.27**	**1182**
2800	**552**	**0.59**	**551**	**637**	**0.77**	**721**	**712**	**0.96**	**894**	**780**	**1.15**	**1070**	**842**	**1.34**	**1250**
2900	**565**	**0.64**	**599**	**648**	**0.83**	**775**	**722**	**1.02**	**954**	**789**	**1.22**	**1136**	**851**	**1.42**	**1321**
3000	**579**	**0.70**	**651**	**660**	**0.89**	**832**	**732**	**1.09**	**1017**	**799**	**1.29**	**1204**	860	1.50	1395
3100	**592**	**0.76**	**706**	**672**	**0.96**	**893**	**743**	**1.16**	**1083**	**808**	**1.37**	**1276**	869	1.58	1471
3200	**606**	**0.82**	**764**	**684**	**1.03**	**957**	**754**	**1.24**	**1153**	**818**	**1.45**	**1351**	878	1.66	1552
3300	**620**	**0.88**	**825**	**696**	**1.10**	**1024**	**765**	**1.31**	**1225**	**829**	**1.53**	**1429**	888	1.75	1636
3400	**634**	**0.95**	**890**	**709**	**1.17**	**1095**	**777**	**1.40**	**1302**	**839**	**1.62**	**1511**	897	1.85	1723
3500	**648**	**1.03**	**958**	**721**	**1.25**	**1169**	**788**	**1.48**	**1381**	**850**	**1.71**	**1597**	907	1.95	1815
3600	**662**	**1.10**	**1030**	**734**	**1.34**	**1246**	**800**	**1.57**	**1465**	860	1.81	1686	917	2.05	1909
3700	**676**	**1.19**	**1106**	**747**	**1.42**	**1328**	**811**	**1.66**	**1552**	871	1.91	1779	927	2.15	2008
3800	**690**	**1.27**	**1185**	**760**	**1.52**	**1414**	**823**	**1.76**	**1644**	882	2.01	1876	938	2.26	2111
3900	**705**	**1.36**	**1269**	**773**	**1.61**	**1503**	**835**	**1.86**	**1739**	894	2.12	1977	948	2.38	2217
4000	**719**	**1.45**	**1357**	**786**	**1.71**	**1597**	**848**	**1.97**	**1838**	905	2.23	2082	959	2.50	2328
4100	**734**	**1.55**	**1449**	**799**	**1.82**	**1695**	860	2.08	1942	917	2.35	2192	970	2.62	2443
4200	**748**	**1.66**	**1545**	**813**	**1.93**	**1797**	872	2.20	2050	928	2.47	2305	981	2.75	2562
4300	**763**	**1.76**	**1646**	**826**	**2.04**	**1903**	885	2.32	2162	940	2.60	2423	992	2.88	2686

581B102 (8 1/2 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2500	877	1.31	1222	933	1.49	1392	986	1.68	1565	1037	1.87	1742	**1085**	**2.06**	**1921**
2600	885	1.38	1289	940	1.57	1464	993	1.76	1643	1043	1.96	1824	**1091**	**2.15**	**2008**
2700	892	1.46	1359	948	1.65	1540	1000	1.85	1723	1049	2.05	1909	**1097**	**2.25**	**2099**
2800	900	1.54	1432	955	1.74	1618	1007	1.94	1807	1056	2.14	1998	**1103**	**2.35**	**2192**
2900	908	1.62	1508	963	1.82	1699	1014	2.03	1893	1063	2.24	2089	**1110**	**2.45**	**2289**
3000	917	1.70	1587	970	1.91	1784	1021	2.13	1983	1070	2.34	2185	**1117**	**2.56**	**2389**
3100	925	1.79	1670	979	2.01	1872	1029	2.23	2076	1077	2.45	2283	**1123**	**2.67**	**2492**
3200	934	1.88	1756	987	2.10	1963	1037	2.33	2172	**1085**	**2.56**	**2384**	**1131**	**2.79**	**2599**
3300	943	1.98	1845	995	2.21	2057	1045	2.44	2272	**1092**	**2.67**	**2490**	**1138**	**2.91**	**2710**
3400	952	2.08	1939	1004	2.31	2156	1053	2.55	2376	**1100**	**2.79**	**2599**	**1145**	**3.03**	**2824**
3500	961	2.18	2035	1013	2.42	2258	1062	2.66	2483	**1108**	**2.91**	**2711**	**1153**	**3.15**	**2942**
3600	971	2.29	2135	1022	2.53	2364	1070	2.78	2595	**1116**	**3.03**	**2827**	**1161**	**3.29**	**3063**
3700	981	2.40	2240	1031	2.65	2473	1079	2.91	2709	**1125**	**3.16**	**2948**	**1169**	**3.42**	**3189**
3800	990	2.52	2348	1040	2.77	2587	**1088**	**3.03**	**2828**	**1133**	**3.30**	**3073**	**1177**	**3.56**	**3319**
3900	1000	2.64	2459	1050	2.90	2705	**1097**	**3.17**	**2951**	**1142**	**3.43**	**3201**	**1186**	**3.70**	**3452**
4000	1011	2.76	2576	1059	3.03	2826	**1106**	**3.30**	**3079**	**1151**	**3.58**	**3334**	**1194**	**3.85**	**3591**
4100	1021	2.89	2697	1069	3.17	2953	**1116**	**3.44**	**3210**	**1160**	**3.72**	**3471**	**1203**	**4.00**	**3733**
4200	1031	3.03	2822	1079	3.31	3083	**1125**	**3.59**	**3347**	**1169**	**3.87**	**3612**	**1212**	**4.16**	**3880**
4300	1042	3.16	2951	**1089**	**3.45**	**3218**	**1135**	**3.74**	**3487**	**1179**	**4.03**	**3758**	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 860 to 1080 rpm. All other rpms require field-supplied drive.

See page 107 for general fan performance notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 4.20.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

581B120 (10 TONS) — STANDARD MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	**579**	**0.70**	**651**	**660**	**0.89**	**832**	**732**	**1.09**	**1017**	**799**	**1.29**	**1204**	860	1.50	1395
3100	**592**	**0.76**	**706**	**672**	**0.96**	**893**	**743**	**1.16**	**1083**	**808**	**1.37**	**1276**	869	1.58	1471
3200	**606**	**0.82**	**764**	**684**	**1.03**	**957**	**754**	**1.24**	**1153**	**818**	**1.45**	**1351**	878	1.66	1552
3300	**620**	**0.88**	**825**	**696**	**1.10**	**1024**	**765**	**1.31**	**1225**	**829**	**1.53**	**1429**	888	1.75	1636
3400	**634**	**0.95**	**890**	**709**	**1.17**	**1095**	**777**	**1.40**	**1302**	**839**	**1.62**	**1511**	897	1.85	1723
3500	**648**	**1.03**	**958**	**721**	**1.25**	**1169**	**788**	**1.48**	**1381**	**850**	**1.71**	**1597**	907	1.95	1815
3600	**662**	**1.10**	**1030**	**734**	**1.34**	**1246**	**800**	**1.57**	**1465**	860	1.81	1686	917	2.05	1909
3700	**676**	**1.19**	**1106**	**747**	**1.42**	**1328**	**811**	**1.66**	**1552**	871	1.91	1779	927	2.15	2008
3800	**690**	**1.27**	**1185**	**760**	**1.52**	**1414**	**823**	**1.76**	**1644**	882	2.01	1876	938	2.26	2111
3900	**705**	**1.36**	**1269**	**773**	**1.61**	**1503**	**835**	**1.86**	**1739**	894	2.12	1977	948	2.38	2217
4000	**719**	**1.45**	**1357**	**786**	**1.71**	**1597**	**848**	**1.97**	**1838**	905	2.23	2082	959	2.50	2328
4100	**734**	**1.55**	**1449**	**799**	**1.82**	**1695**	860	2.08	1942	917	2.35	2192	970	2.62	2443
4200	**748**	**1.66**	**1545**	**813**	**1.93**	**1797**	872	2.20	2050	928	2.47	2305	981	2.75	2562
4300	**763**	**1.76**	**1646**	**826**	**2.04**	**1903**	885	2.32	2162	940	2.60	2423	992	2.88	2686
4400	**778**	**1.88**	**1751**	**840**	**2.16**	**2014**	898	2.44	2279	952	2.73	2546	1004	3.02	2814
4500	**792**	**1.99**	**1860**	**853**	**2.28**	**2130**	910	2.57	2401	964	2.87	2673	1015	3.16	2947
4600	**807**	**2.12**	**1975**	867	2.41	2250	923	2.71	2527	976	3.01	2805	1027	3.31	3085
4700	**822**	**2.25**	**2094**	881	2.55	2375	936	2.85	2658	989	3.15	2942	1038	3.46	3227
4800	**837**	**2.38**	**2218**	895	2.69	2505	949	3.00	2794	1001	3.31	3083	1050	3.62	3375
4900	**852**	**2.52**	**2347**	909	2.83	2640	963	3.15	2935	1014	3.46	3230	—	—	—
5000	867	2.66	2482	923	2.98	2781	976	3.30	3081	1026	3.63	3383	—	—	—

581B120 (10 TONS) — STANDARD MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	917	1.70	1587	970	1.91	1784	1021	2.13	1983	1070	2.34	2185	**1117**	**2.56**	**2389**
3100	925	1.79	1670	979	2.01	1872	1029	2.23	2076	1077	2.45	2283	**1123**	**2.67**	**2492**
3200	934	1.88	1756	987	2.10	1963	1037	2.33	2172	**1085**	**2.56**	**2384**	**1131**	**2.79**	**2599**
3300	943	1.98	1845	995	2.21	2057	1045	2.44	2272	**1092**	**2.67**	**2490**	**1138**	**2.91**	**2710**
3400	952	2.08	1939	1004	2.31	2156	1053	2.55	2376	**1100**	**2.79**	**2599**	**1145**	**3.03**	**2824**
3500	961	2.18	2035	1013	2.42	2258	1062	2.66	2483	**1108**	**2.91**	**2711**	**1153**	**3.15**	**2942**
3600	971	2.29	2135	1022	2.53	2364	1070	2.78	2595	**1116**	**3.03**	**2827**	**1161**	**3.29**	**3063**
3700	981	2.40	2240	1031	2.65	2473	1079	2.91	2709	**1125**	**3.16**	**2948**	**1169**	**3.42**	**3189**
3800	990	2.52	2348	1040	2.77	2587	**1088**	**3.03**	**2828**	**1133**	**3.30**	**3073**	**1177**	**3.56**	**3319**
3900	1000	2.64	2459	1050	2.90	2705	**1097**	**3.17**	**2951**	**1142**	**3.43**	**3201**	**1186**	**3.70**	**3452**
4000	1011	2.76	2576	1059	3.03	2826	**1106**	**3.30**	**3079**	**1151**	**3.58**	**3334**	—	—	—
4100	1021	2.89	2697	1069	3.17	2953	**1116**	**3.44**	**3210**	—	—	—	—	—	—
4200	1031	3.03	2822	1079	3.31	3083	**1125**	**3.59**	**3347**	—	—	—	—	—	—
4300	1042	3.16	2951	**1089**	**3.45**	**3218**	—	—	—	—	—	—	—	—	—
4400	1053	3.31	3085	**1100**	**3.60**	**3357**	—	—	—	—	—	—	—	—	—
4500	1064	3.46	3224	—	—	—	—	—	—	—	—	—	—	—	—
4600	1075	3.61	3367	—	—	—	—	—	—	—	—	—	—	—	—
4700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 860 to 1080 rpm. All other rpms require field-supplied drive.

See page 107 for general fan performance notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 3.70.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

581B120 (10 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	**579**	**0.70**	**651**	**660**	**0.89**	**832**	**732**	**1.09**	**1017**	**799**	**1.29**	**1204**	860	1.50	1395
3100	**592**	**0.76**	**706**	**672**	**0.96**	**893**	**743**	**1.16**	**1083**	**808**	**1.37**	**1276**	869	1.58	1471
3200	**606**	**0.82**	**764**	**684**	**1.03**	**957**	**754**	**1.24**	**1153**	**818**	**1.45**	**1351**	878	1.66	1552
3300	**620**	**0.88**	**825**	**696**	**1.10**	**1024**	**765**	**1.31**	**1225**	**829**	**1.53**	**1429**	888	1.75	1636
3400	**634**	**0.95**	**890**	**709**	**1.17**	**1095**	**777**	**1.40**	**1302**	839	1.62	1511	897	1.85	1723
3500	**648**	**1.03**	**958**	**721**	**1.25**	**1169**	**788**	**1.48**	**1381**	850	1.71	1597	907	1.95	1815
3600	**662**	**1.10**	**1030**	**734**	**1.34**	**1246**	**800**	**1.57**	**1465**	860	1.81	1686	917	2.05	1909
3700	**676**	**1.19**	**1106**	**747**	**1.42**	**1328**	**811**	**1.66**	**1552**	871	1.91	1779	927	2.15	2008
3800	**690**	**1.27**	**1185**	**760**	**1.52**	**1414**	**823**	**1.76**	**1644**	882	2.01	1876	938	2.26	2111
3900	**705**	**1.36**	**1269**	**773**	**1.61**	**1503**	835	1.86	1739	894	2.12	1977	948	2.38	2217
4000	**719**	**1.45**	**1357**	**786**	**1.71**	**1597**	848	1.97	1838	905	2.23	2082	959	2.50	2328
4100	**734**	**1.55**	**1449**	**799**	**1.82**	**1695**	860	2.08	1942	917	2.35	2192	970	2.62	2443
4200	**748**	**1.66**	**1545**	**813**	**1.93**	**1797**	872	2.20	2050	928	2.47	2305	981	2.75	2562
4300	**763**	**1.76**	**1646**	**826**	**2.04**	**1903**	885	2.32	2162	940	2.60	2423	992	2.88	2686
4400	**778**	**1.88**	**1751**	840	2.16	2014	898	2.44	2279	952	2.73	2546	1004	3.02	2814
4500	**792**	**1.99**	**1860**	853	2.28	2130	910	2.57	2401	964	2.87	2673	1015	3.16	2947
4600	**807**	**2.12**	**1975**	867	2.41	2250	923	2.71	2527	976	3.01	2805	1027	3.31	3085
4700	**822**	**2.25**	**2094**	881	2.55	2375	936	2.85	2658	989	3.15	2942	1038	3.46	3227
4800	837	2.38	2218	895	2.69	2505	949	3.00	2794	1001	3.31	3083	1050	3.62	3375
4900	852	2.52	2347	909	2.83	2640	963	3.15	2935	1014	3.46	3230	1062	3.78	3528
5000	867	2.66	2482	923	2.98	2781	976	3.30	3081	1026	3.63	3383	1074	3.95	3685

581B120 (10 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	917	1.70	1587	970	1.91	1784	1021	2.13	1983	1070	2.34	2185	1117	2.56	2389
3100	925	1.79	1670	979	2.01	1872	1029	2.23	2076	1077	2.45	2283	1123	2.67	2492
3200	934	1.88	1756	987	2.10	1963	1037	2.33	2172	1085	2.56	2384	**1131**	**2.79**	**2599**
3300	943	1.98	1845	995	2.21	2057	1045	2.44	2272	1092	2.67	2490	**1138**	**2.91**	**2710**
3400	952	2.08	1939	1004	2.31	2156	1053	2.55	2376	1100	2.79	2599	**1145**	**3.03**	**2824**
3500	961	2.18	2035	1013	2.42	2258	1062	2.66	2483	1108	2.91	2711	**1153**	**3.15**	**2942**
3600	971	2.29	2135	1022	2.53	2364	1070	2.78	2595	1116	3.03	2827	**1161**	**3.29**	**3063**
3700	981	2.40	2240	1031	2.65	2473	1079	2.91	2709	1125	3.16	2948	**1169**	**3.42**	**3189**
3800	990	2.52	2348	1040	2.77	2587	1088	3.03	2828	**1133**	**3.30**	**3073**	**1177**	**3.56**	**3319**
3900	1000	2.64	2459	1050	2.90	2705	1097	3.17	2951	**1142**	**3.43**	**3201**	**1186**	**3.70**	**3452**
4000	1011	2.76	2576	1059	3.03	2826	1106	3.30	3079	**1151**	**3.58**	**3334**	**1194**	**3.85**	**3591**
4100	1021	2.89	2697	1069	3.17	2953	1116	3.44	3210	**1160**	**3.72**	**3471**	**1203**	**4.00**	**3733**
4200	1031	3.03	2822	1079	3.31	3083	1125	3.59	3347	**1169**	**3.87**	**3612**	**1212**	**4.16**	**3880**
4300	1042	3.16	2951	1089	3.45	3218	**1135**	**3.74**	**3487**	**1179**	**4.03**	**3758**	**1221**	**4.32**	**4031**
4400	1053	3.31	3085	1100	3.60	3357	**1145**	**3.90**	**3632**	**1188**	**4.19**	**3909**	**1230**	**4.49**	**4187**
4500	1064	3.46	3224	1110	3.76	3502	**1155**	**4.06**	**3782**	**1198**	**4.36**	**4064**	**1239**	**4.66**	**4348**
4600	1075	3.61	3367	1121	3.91	3650	**1165**	**4.22**	**3937**	**1208**	**4.53**	**4224**	**1249**	**4.84**	**4514**
4700	1086	3.77	3515	**1131**	**4.08**	**3805**	**1175**	**4.39**	**4096**	**1217**	**4.71**	**4389**	**1258**	**5.02**	**4684**
4800	1097	3.93	3668	**1142**	**4.25**	**3963**	**1186**	**4.57**	**4260**	**1228**	**4.89**	**4559**	**1268**	**5.21**	**4860**
4900	1109	4.10	3826	**1153**	**4.43**	**4128**	**1196**	**4.75**	**4430**	**1238**	**5.08**	**4734**	—	—	—
5000	1120	4.28	3990	**1164**	**4.61**	**4296**	**1207**	**4.94**	**4604**	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 830 to 1130 rpm. All other rpms require field-supplied drive.

See page 107 for general fan performance notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 5.25.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

581B150 (12 1/2 TONS) — STANDARD MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3700	**676**	**1.19**	**1106**	**747**	**1.42**	**1328**	**811**	**1.66**	**1552**	871	1.91	1779	927	2.15	2008
3800	**690**	**1.27**	**1185**	**760**	**1.52**	**1414**	**823**	**1.76**	**1644**	882	2.01	1876	938	2.26	2111
3900	**705**	**1.36**	**1269**	**773**	**1.61**	**1503**	835	1.86	1739	894	2.12	1977	948	2.38	2217
4000	**719**	**1.45**	**1357**	**786**	**1.71**	**1597**	848	1.97	1838	905	2.23	2082	959	2.50	2328
4100	**734**	**1.55**	**1449**	**799**	**1.82**	**1695**	860	2.08	1942	917	2.35	2192	970	2.62	2443
4200	**748**	**1.66**	**1545**	**813**	**1.93**	**1797**	872	2.20	2050	928	2.47	2305	981	2.75	2562
4300	**763**	**1.76**	**1646**	**826**	**2.04**	**1903**	885	2.32	2162	940	2.60	2423	992	2.88	2686
4400	**778**	**1.88**	**1751**	840	2.16	2014	898	2.44	2279	952	2.73	2546	1004	3.02	2814
4500	**792**	**1.99**	**1860**	853	2.28	2130	910	2.57	2401	964	2.87	2673	1015	3.16	2947
4600	**807**	**2.12**	**1975**	867	2.41	2250	923	2.71	2527	976	3.01	2805	1027	3.31	3085
4700	**822**	**2.25**	**2094**	881	2.55	2375	936	2.85	2658	989	3.15	2942	1038	3.46	3227
4800	837	2.38	2218	895	2.69	2505	949	3.00	2794	1001	3.31	3083	1050	3.62	3375
4900	852	2.52	2347	909	2.83	2640	963	3.15	2935	1014	3.46	3230	1062	3.78	3528
5000	867	2.66	2482	923	2.98	2781	976	3.30	3081	1026	3.63	3383	1074	3.95	3685
5100	882	2.81	2622	937	3.14	2926	989	3.47	3232	1039	3.80	3540	1086	4.13	3849
5200	897	2.97	2766	951	3.30	3077	1003	3.63	3389	1052	3.97	3702	1099	4.31	4017
5300	912	3.13	2917	966	3.47	3233	1016	3.81	3551	1065	4.15	3870	1111	4.49	4191
5400	927	3.30	3073	980	3.64	3395	1030	3.99	3719	1078	4.34	4044	1123	4.69	4370
5500	943	3.47	3234	994	3.82	3563	1044	4.17	3892	1091	4.53	4223	**1136**	**4.88**	**4555**
5600	958	3.65	3402	1009	4.01	3736	1057	4.37	4071	1104	4.73	4408	**1149**	**5.09**	**4746**
5700	973	3.83	3575	1023	4.20	3915	1071	4.56	4256	1117	4.93	4599	—	—	—
5800	988	4.03	3754	1038	4.40	4100	1085	4.77	4447	1130	5.14	4796	—	—	—
5900	1004	4.22	3939	1052	4.60	4292	1099	4.98	4645	—	—	—	—	—	—
6000	1019	4.43	4131	1067	4.81	4489	1113	5.20	4848	—	—	—	—	—	—
6100	1034	4.64	4329	1082	5.03	4693	—	—	—	—	—	—	—	—	—
6200	1050	4.86	4533	—	—	—	—	—	—	—	—	—	—	—	—
6300	1065	5.09	4744	—	—	—	—	—	—	—	—	—	—	—	—

581B150 (12 1/2 TONS) — STANDARD MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3700	981	2.40	2240	1031	2.65	2473	1079	2.91	2709	1125	3.16	2948	**1169**	**3.42**	**3189**
3800	990	2.52	2348	1040	2.77	2587	1088	3.03	2828	**1133**	**3.30**	**3073**	**1177**	**3.56**	**3319**
3900	1000	2.64	2459	1050	2.90	2705	1097	3.17	2951	**1142**	**3.43**	**3201**	**1186**	**3.70**	**3452**
4000	1011	2.76	2576	1059	3.03	2826	1106	3.30	3079	**1151**	**3.58**	**3334**	**1194**	**3.85**	**3591**
4100	1021	2.89	2697	1069	3.17	2953	1116	3.44	3210	**1160**	**3.72**	**3471**	**1203**	**4.00**	**3733**
4200	1031	3.03	2822	1079	3.31	3083	1125	3.59	3347	**1169**	**3.87**	**3612**	**1212**	**4.16**	**3880**
4300	1042	3.16	2951	1089	3.45	3218	**1135**	**3.74**	**3487**	**1179**	**4.03**	**3758**	**1221**	**4.32**	**4031**
4400	1053	3.31	3085	1100	3.60	3357	**1145**	**3.90**	**3632**	**1188**	**4.19**	**3909**	**1230**	**4.49**	**4187**
4500	1064	3.46	3224	1110	3.76	3502	**1155**	**4.06**	**3782**	**1198**	**4.36**	**4064**	**1239**	**4.66**	**4348**
4600	1075	3.61	3367	1121	3.91	3650	**1165**	**4.22**	**3937**	**1208**	**4.53**	**4224**	**1249**	**4.84**	**4514**
4700	1086	3.77	3515	**1131**	**4.08**	**3805**	**1175**	**4.39**	**4096**	**1217**	**4.71**	**4389**	**1258**	**5.02**	**4684**
4800	1097	3.93	3668	**1142**	**4.25**	**3963**	**1186**	**4.57**	**4260**	**1228**	**4.89**	**4559**	**1268**	**5.21**	**4860**
4900	1109	4.10	3826	**1153**	**4.43**	**4128**	**1196**	**4.75**	**4430**	**1238**	**5.08**	**4734**	—	—	—
5000	1120	4.28	3990	**1164**	**4.61**	**4296**	**1207**	**4.94**	**4604**	—	—	—	—	—	—
5100	**1132**	**4.46**	**4159**	**1175**	**4.79**	**4471**	**1218**	**5.13**	**4784**	—	—	—	—	—	—
5200	**1144**	**4.65**	**4333**	**1187**	**4.99**	**4651**	—	—	—	—	—	—	—	—	—
5300	**1155**	**4.84**	**4512**	**1198**	**5.19**	**4836**	—	—	—	—	—	—	—	—	—
5400	**1167**	**5.04**	**4697**	—	—	—	—	—	—	—	—	—	—	—	—
5500	**1179**	**5.24**	**4889**	—	—	—	—	—	—	—	—	—	—	—	—
5600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 830 to 1130 rpm. All other rpms require field-supplied drive.

See page 107 for general fan performance notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 5.25.

PERFORMANCE DATA (cont)

FAN RPM AT MOTOR PULLEY SETTING WITH STANDARD MOTOR* — 581B036-150

UNIT 581B	MOTOR PULLEY TURNS OPEN												
	0	1/2	1	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	5 1/2	6
036	1044	1008	971	935	898	862	826	789	753	716	680	—	—
048	1185	1144	1102	1061	1019	978	936	895	853	812	770	—	—
060	1460	1425	1389	1354	1318	1283	1248	1212	1177	1141	1106	1070	1035
072	1585	1538	1492	1445	1399	1352	1305	1259	1212	1166	1119	—	—
090,102	1085	1060	1035	1010	985	960	935	910	890	865	840	—	—
120	1080	1060	1035	1015	990	970	950	925	905	880	860	—	—
150	1130	1112	1087	1062	1037	1212	987	962	937	912	887	962	830

*Approximate fan rpm shown (standard motor/drive).

FAN RPM AT MOTOR PULLEY SETTING WITH HIGH-STATIC MOTOR* — 581B036-150

UNIT 581B	MOTOR PULLEY TURNS OPEN												
	0	1/2	1	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	5 1/2	6
036	1455	1423	1392	1360	1328	1297	1265	1233	1202	1170	1138	1107	1075
048	1455	1423	1392	1360	1328	1297	1265	1233	1202	1170	1138	1107	1075
060	1685	1589	1557	1525	1493	1460	1428	1396	1364	1332	1300	—	—
072	1685	1589	1557	1525	1493	1460	1428	1396	1364	1332	1300	—	—
090	1080	1025	1007	988	970	952	933	915	897	878	860	—	—
102	1080	1025	1007	988	970	952	933	915	897	878	860	—	—
120	1130	1112	1087	1062	1037	1212	987	962	937	912	887	962	830

*Approximate fan rpm shown (high-static motor/drive).

ALTITUDE COMPENSATION* — 581B036-072

ELEVATION (ft)	72,000 AND 115,000/ 60,000 and 90,000 BTUH NOMINAL INPUT		150,000/120,000 BTUH NOMINAL INPUT	
	Natural Gas Orifice Size†	Liquid Propane Orifice Size†	Natural Gas Orifice Size	Liquid Propane Orifice Size†
0-2,000	33/38	43	30/32	38
2,000	34/39	43	30/33	39
3,000	35/40	44	31/34	40
4,000	36/41	44	32/35	41
5,000	36/41	44	33/35	42
6,000	37/42	45	34/36	43
7,000	37/42	45	35/37	43
8,000	38/43	46	36/37	44
9,000	39/43	47	37/38	44
10,000	41/44	48	38/40	45
11,000	43/45	48	39/41	45
12,000	44/45	49	40/42	46
13,000	44/46	49	41/43	47
14,000	45/47	50	42/43	47

*As the height above sea level increases, there is less oxygen per cubic foot of air. Therefore, the input rate should be reduced at higher altitudes.
†Orifices are available through your local Bryant distributor.

ALTITUDE COMPENSATION* — 581B090-150

ELEVATION (ft)	125,000, 180,000, AND 224,000 BTUH NOMINAL INPUT		250,000 BTUH NOMINAL INPUT	
	Natural Gas Orifice Size†	Liquid Propane Orifice Size†	Natural Gas Orifice Size†	Liquid Propane Orifice Size†
0-2,000	31	41	30	38
2,000	32	42	30	39
3,000	32	42	31	40
4,000	32	42	32	41
5,000	33	43	33	42
6,000	34	43	34	43
7,000	35	44	35	43
8,000	36	44	36	44
9,000	37	45	37	44
10,000	38	46	38	45
11,000	39	47	39	45
12,000	40	47	40	46
13,000	41	48	41	47
14,000	42	48	42	47

*As the height above sea level increases, there is less oxygen per cubic foot of air. Therefore, the input rate should be reduced at higher altitudes.
†Orifices are available through your local Bryant distributor.

ALTITUDE DERATING FACTOR*

ELEVATION	MAXIMUM HEATING VALUE (Btu/ft³)
0-2000	1100
2001-3000	1050
3001-4000	1000
4001-5000	950
5001-6000	900

*Derating of the unit is not required unless the heating value of the gas exceeds the values listed in the table above, or if the elevation exceeds 6000 ft. Derating conditions must be 4% per thousand ft above 2000 ft. For example, at 4000 ft, if the heating value of the gas exceeds 1000 Btu/ft³, the unit will require a 16% derating. For elevations above 6000 ft, the same formula applies. For example, at 7000 ft, the unit will require a 28% derating of the maximum heating value per the National Fuel Gas Code.

IMPORTANT: Local utility companies may be reducing heat content of gas at altitudes above 2000 ft. If this is being done, changing spuds may not be required.

PERFORMANCE DATA (cont)

OUTDOOR SOUND POWER (TOTAL UNIT)

UNIT 581B	SOUND RATING (dB)	OCTAVE BANDS							
		63	125	250	500	1000	2000	4000	8000
036,048	76	55.9	66.0	64.0	66.2	68.4	64.5	61.7	57.3
060,072	80	59.1	68.9	68.7	71.9	74.0	68.9	65.7	59.0
090,102	82	62.2	69.3	71.5	74.7	76.2	72.9	68.7	61.5
120	84	64.6	71.1	73.3	76.9	77.6	73.7	70.6	63.7
150	86	63.7	69.9	72.5	78.2	81.1	77.3	73.3	66.8

LEGEND

dB — Sound Levels (decibels)

NOTE: The indoor sound power is available in Bryant's Electronic Catalog program (ECAT) for specific operating parameters.

EVAPORATOR-FAN MOTOR EFFICIENCY

UNIT SIZE 581B	EFFICIENCY%
036,048	75
060	74/84*
072	84
090,102	80
120	85
150	87

*Single phase/3 phase.

NOTES:

1. Convert bhp to watts using the following formula:

$$\text{watts} = \frac{\text{bhp (746)}}{\text{motor efficiency}}$$

2. The EPACT (Energy Policy Act of 1992) regulates energy requirements for specific types of indoor fan motors. Motors regulated by EPACT include any general purpose, T-frame (three-digit, 143 and larger), single-speed, foot mounted, polyphase, squirrel cage induction motors of NEMA (National Electrical Manufacturers Association) design A and B, manufactured for use in the United States. Ranging from 1 to 200 Hp, these continuous-duty motors operate on 230 and 460 volt, 60 Hz power. If a motor does not fit into these specifications, the motor does not have to be replaced by an EPACT-compliant energy-efficient motor. Variable-speed motors are exempt from EPACT compliance requirements. Therefore, the indoor fan motors for Bryant 581B036-150 units are exempt from these requirements.

ACCESSORY/FIOP STATIC PRESSURE* (in. wg) — 581B036-072

COMPONENT	CFM										
	600	800	1000	1250	1500	1750	2000	2250	2500	2750	3000
Vertical EconoMi$er IV and EconoMi$er2	0.10	0.20	0.35	0.045	0.065	0.08	0.12	0.145	0.175	0.22	0.255
Horizontal EconoMi$er IV and EconoMi$er2	—	—	—	—	—	0.1	0.125	0.15	0.18	0.225	0.275

LEGEND

FIOP — Factory-Installed Option

*The static pressure must be added to external static pressure. The sum and the evaporator entering-air cfm should be used in conjunction with the Fan Performance tables to determine indoor blower rpm and watts.

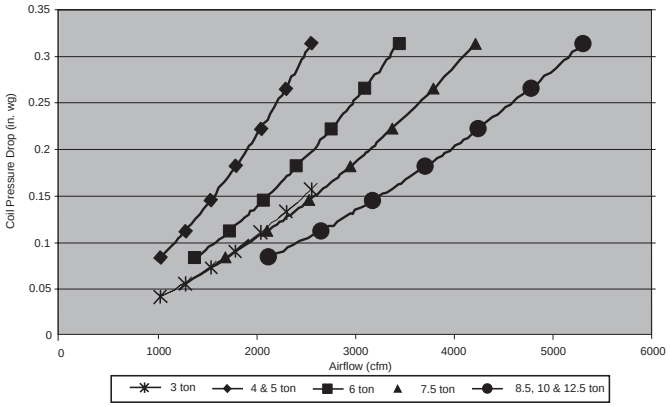
ACCESSORY/FIOP STATIC PRESSURE* (in. wg) — 581B090-150

COMPONENT	CFM													
	2250	2500	2750	3000	3250	3500	3750	4000	4250	4500	4750	5000	5250	6250
Vertical EconoMi$er IV and EconoMi$er2	0.06	0.075	0.09	0.115	0.13	0.15	0.17	0.195	0.22	0.25	0.285	0.325	0.36	—
Horizontal EconoMi$er IV and EconoMi$er2	—	0.1	0.125	0.15	0.18	0.21	0.25	0.275	0.3	0.34	0.388	—	—	—

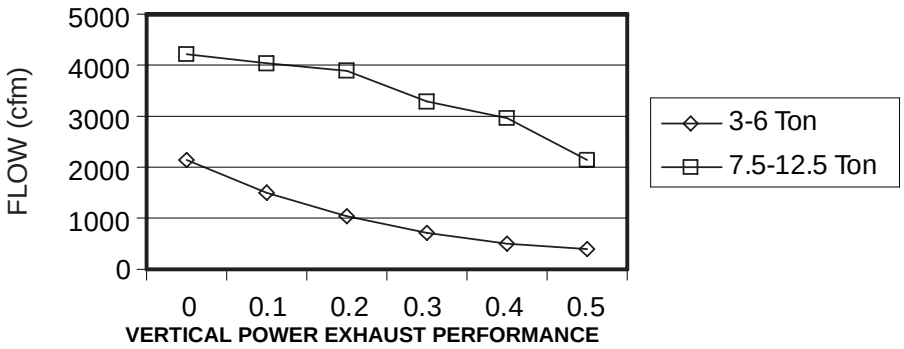
LEGEND

FIOP — Factory-Installed Option

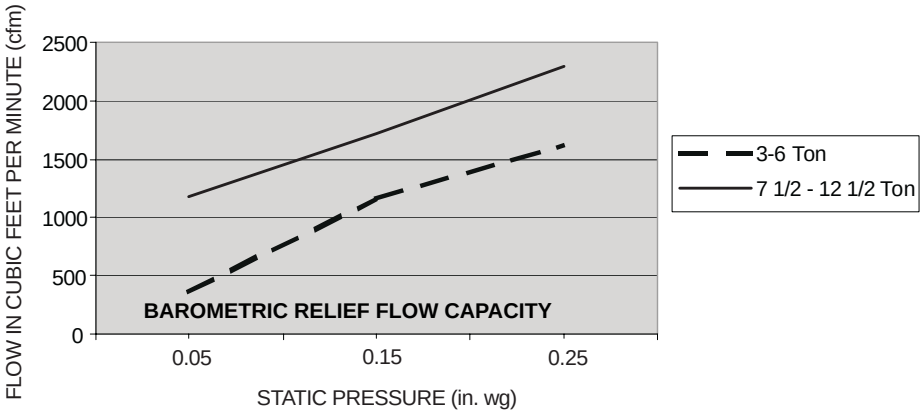
*The static pressure must be added to external static pressure. The sum and the evaporator entering-air cfm should be used in conjunction with the Fan Performance tables to determine indoor blower rpm and watts.

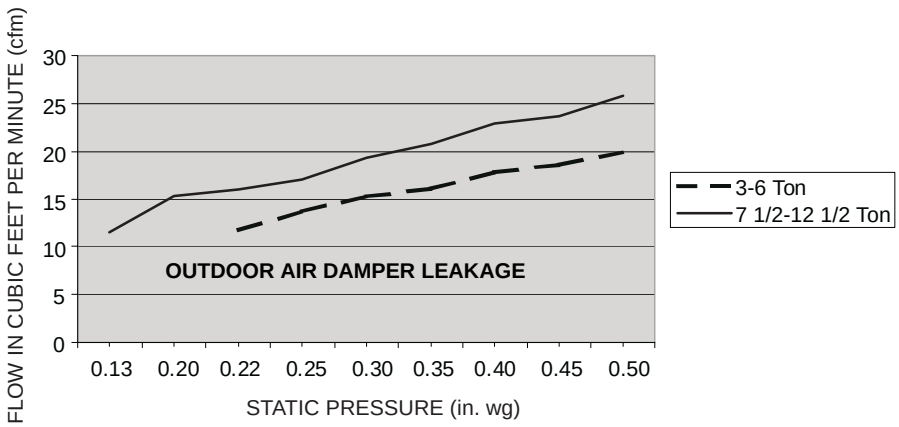


Perfect Humidity™ Adaptive Dehumidification Coil Pressure Drop (Subcooling and Reheat Modes of Operation)



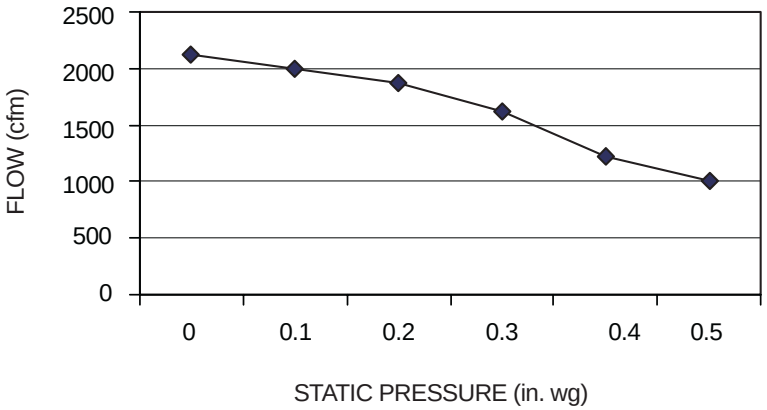
VERTICAL POWER EXHAUST PERFORMANCE



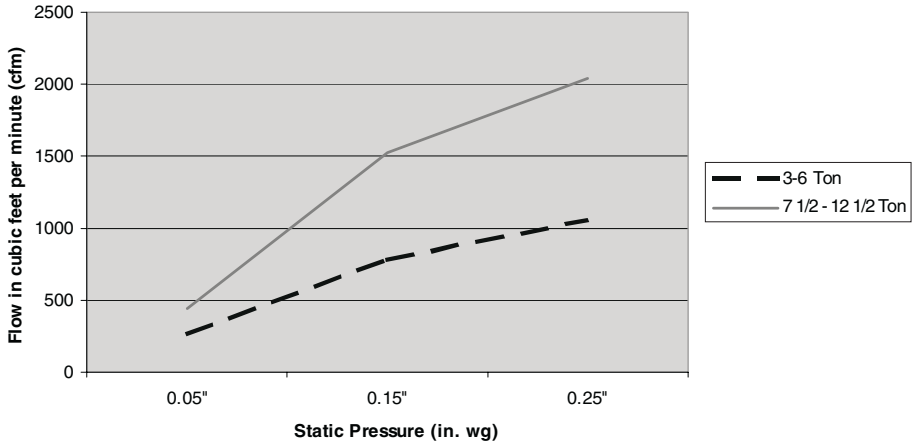


Vertical EconoMi$er IV and EconoMi$er2 Performance Data (581B036-150)

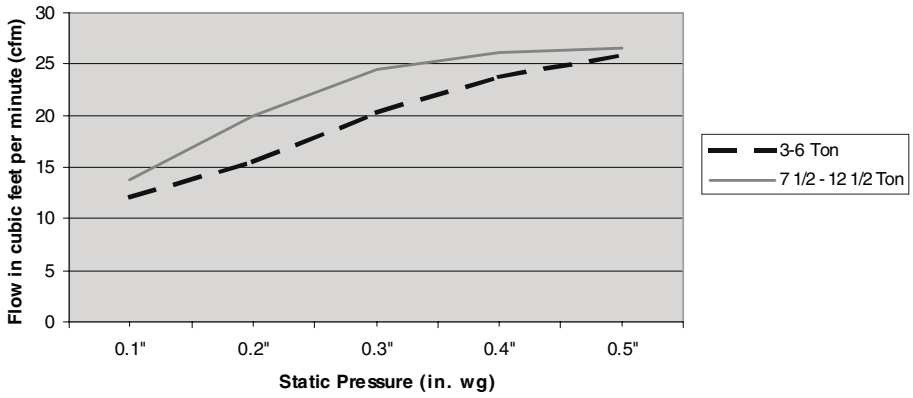
PERFORMANCE DATA (cont)



HORIZONTAL POWER EXHAUST PERFORMANCE



BAROMETRIC RELIEF CAPACITY



OUTDOOR AIR DAMPER LEAKAGE

Horizontal EconoMi$er IV and EconoMi$er2 Performance Data (581B036-150)

PERFORMANCE DATA (cont)

EVAPORATOR-FAN MOTOR PERFORMANCE — STANDARD MOTOR

UNIT 581B	UNIT VOLTAGE	UNIT PHASE	MAXIMUM CONTINUOUS BHP*	MAXIMUM OPERATING WATTS*	MAXIMUM AMP DRAW
036	208/230	Single	1.20	1000	4.9
	208/230	Three	1.20	1000	4.9
	460				2.2
	575				2.2
048	208/230	Single	1.20	1000	4.9
	208/230	Three	1.20	1000	4.9
	460				2.2
	575				2.2
060	208/230	Single	1.30	1650	10.1
	208/230	Three	2.40	2120	6.7
	460				3.0
	575				3.0
072	208/230	Three	2.40	2120	6.7
	460				3.0
	575				3.0
090,102	208/230	Three	2.90	2615	8.6
	460				3.9
	575				3.9
120	208/230	Three	3.70	3775	12.2
	460				5.5
	575				5.5
150	208/230	Three	5.25	4400	17.3
	460				8.5
	575				8.5

LEGEND

Bhp — Brake Horsepower

*Extensive motor and electrical testing on these units ensures that the full horsepower and watts range of the motors can be utilized with confidence. Using fan motors up to the ratings shown in this table will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected.

EVAPORATOR-FAN MOTOR PERFORMANCE — HIGH-STATIC MOTOR

UNIT 581B	UNIT VOLTAGE	UNIT PHASE	MAXIMUM CONTINUOUS BHP*	MAXIMUM OPERATING WATTS*	MAXIMUM AMP DRAW
036	208/230	Three	2.40	2120	6.7
	460				3.0
	575				3.0
048	208/230	Three	2.40	2120	6.7
	460				3.0
	575				3.0
060	208/230	Three	2.90	2615	8.6
	460				3.9
	575				3.9
072	208/230	Three	2.90	2615	8.6
	460				3.9
	575				3.9
090,102	208/230	Three	4.20	3775	12.2
	460				5.5
	575				5.5
120	208/230	Three	5.25	4400	17.3
	460				8.5
	575				8.5

LEGEND

Bhp — Brake Horsepower

*Extensive motor and electrical testing on these units ensures that the full horsepower and watts range of the motors can be utilized with confidence. Using fan motors up to the ratings shown in this table will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected.

PERFORMANCE DATA (cont)

POWER EXHAUST OPTIONS

VERTICAL — MOUNTED IN ECONOMIZER HOOD				
POWER EXHAUST PART NO.	**POWER EXHAUST DESCRIPTION**	**APPLICATION USAGE**	**POWER OUTPUT (Hp per fan)**	**NO. FANS**
CRPWREXH030A01	Power Exhaust System (208/230-1-60)	036-072*	0.23	2
CRPWREXH021A01	Power Exhaust System (460-3-60)	036-072	0.24	2
CRPWREXH022A01	Power Exhaust System (208/230-1-60)	090-150*	0.47	2
CRPWREXH023A01	Power Exhaust System (460-3-60)	090-150	0.37	2
HORIZONTAL — MOUNTED IN RETURN DUCTWORK				
POWER EXHAUST| PART NO.	**POWER EXHAUST DESCRIPTION**	**APPLICATION USAGE**	**POWER OUTPUT (Hp per fan)**	**NO. FANS**
CRPWREXH028A01	Horizontal Power Exhaust (208/230-1-60)	All*	0.48	1
CRPWREXH029A01	Horizontal Power Exhaust (460-3-60)	All	0.48	1

*Single or three phase rooftop unit.

POWER EXHAUST POWER REQUIREMENTS

POWER EXHAUST SIZE	AMPS AT 230 V (2 FANS RUNNING)	MOCP		
		230 VAC	460 VAC	575 VAC
3 to 6 Ton	1.40 amps at 60 Hz	15.0 amps	15.0 amps	15.0 amps
$7^1/_2$ to $12^1/_2$ Ton	3.04 amps at 60 Hz			

LEGEND

MOCP — Maximum Overcurrent Protection

ELECTRICAL DATA

581B036-150 UNITS

UNIT SIZE 581B	NOMINAL V-PH-Hz	IFM TYPE	CONV OUTLET	VOLTAGE RANGE		COMPRESSOR (each)			OFM (each)		IFM FLA	COMBUSTION FAN MOTOR	POWER SUPPLY*		MINIMUM UNIT DISCONNECT SIZE†	
				Min	Max	Qty	RLA	LRA	Qty	FLA		FLA	MCA	MOCP**	FLA	LRA
036 (3 Tons)	208/230-1-60	STD	NO	187	254	1	16	88	1	0.7	4.9	0.6	25.6	30	25	101
			YES										31.6	35	30	106
	208/230-3-60	STD	NO	187	254	1	10.3	77	1	0.7	4.9	0.6	18.5	25	18	90
			YES										24.5	30	24	95
		HIGH	NO								5.2		19.4	25	19	120
			YES										25.4	30	25	124
	460-3-60	STD	NO	414	508	1	5.1	39	1	0.4	2.2	0.3	9.0	15	9	46
			YES										11.7	15	11	48
		HIGH	NO								2.6		9.4	15	9	60
			YES										12.1	15	12	63
	575-3-60	STD	NO	518	632	1	4.2	31	1	0.4	1.9	0.3	7.6	10	7	36
			YES										9.7	15	9	38
		HIGH	NO								2.0		7.7	10	8	43
			YES										9.8	15	10	44
		PH	NO						1	0.4	2.6	0.9	8.3	10	8	52
			YES										10.4	15	10	54
048 (4 Tons)	208/230-1-60	STD	NO	187	254	1	23.7	126	1	0.7	4.9	0.6	35.2	45	34	139
			YES										41.2	50	39	144
	208/230-3-60	STD	NO	187	254	1	13.5	93	1	0.7	4.9	0.6	22.5	30	22	106
			YES										28.5	35	27	111
		HIGH	NO								5.8		23.4	30	23	136
			YES										29.4	35	29	140
	460-3-60	STD	NO	414	508	1	6.4	46.5	1	0.4	2.2	0.3	10.6	15	10	54
			YES										13.3	15	13	56
		HIGH	NO								2.6		11.0	15	11	68
			YES										13.7	15	13	70
	575-3-60	STD	NO	518	632	1	6.4	40	1	0.4	1.9	0.3	10.3	15	10	45
			YES										12.5	15	12	47
		HIGH	NO								2.0		10.4	15	10	52
			YES										12.6	15	12	53
		PH	NO						1	0.4	2.6	0.9	11.0	15	11	61
			YES										13.2	15	13	63
060 (5 Tons)	208/230-1-60	STD	NO	187	254	1	28.8	169	1	1.5	6.6	0.6	44.1	60	42	206
			YES										50.1	60	48	210
	208/230-3-60	STD	NO	187	254	1	17.3	123	1	1.5	5.8	0.6	28.9	35	28	168
			YES										34.9	40	34	173
		HIGH	NO								7.5		30.6	35	30	187
			YES										36.6	40	36	192
	460-3-60	STD	NO	414	508	1	9	62	1	0.8	2.6	0.3	14.7	20	14	84
			YES										17.4	20	17	87
		HIGH	NO								3.4		15.5	20	15	94
			YES										18.2	20	18	96
	575-3-60	STD	NO	518	632	1	7.1	50	1	0.6	2.0	0.3	11.5	15	11	63
			YES										13.6	15	13	64
		HIGH	NO								2.8		12.3	15	12	72
			YES										14.4	20	14	73
		PH	NO						1	0.8	3.4	0.3	12.2	15	12	76
			YES										14.4	20	14	77
072 (6 Tons)	208/230-3-60	STD	NO	187	254	1	20.5	156	1	1.4	5.8	0.6	32.8	40	32	200
			YES										38.8	45	37	205
		HIGH	NO								7.5	0.6	34.5	40	34	219
			YES										40.5	45	39	224
	460-3-60	STD	NO	414	508	1	9.6	75	1	0.6	2.6	0.3	15.2	20	15	97
			YES										17.9	20	17	99
		HIGH	NO								3.4	0.3	16.0	20	16	107
			YES										18.7	25	18	109
	575-3-60	STD	NO	518	632	1	7.7	56	1	0.8	2.0	0.3	12.4	15	12	69
			YES										14.6	20	14	70
		HIGH	NO								2.8		13.2	20	13	79
			YES										15.4	20	15	80
		PH	NO						1	0.6	3.4	0.3	12.8	15	13	81
			YES										15.0	20	15	83
090 ($7^1/_2$ Tons)	208/230-3-60	STD	NO	187	254	2	12.4	88	2	1.4	7.5	0.6	38.2	45	40	242
			YES										44.2	50	46	247
		HIGH	NO								10.6		41.3	45	44	267
			YES										47.3	50	49	271
	460-3-60	STD	NO	414	508	2	6.4	44	2	0.7	3.4	0.3	19.2	25	20	121
			YES										21.9	25	23	123
		HIGH	NO								4.8		20.6	25	22	134
			YES										23.3	25	24	136
	575-3-60	STD	NO	518	632	2	4.8	34	2	0.6	2.8	0.3	14.6	20	15	95
			YES										16.8	20	17	95
		HIGH	NO								3.3		15.3	20	17	104
			YES										17.5	20	19	104
		PH	NO						2	0.7	4.8	0.3	15.8	20	17	104
			YES										17.9	20	19	104

ELECTRICAL DATA (cont)

581B036-150 UNITS

UNIT SIZE 581B	NOMINAL V-PH-Hz	IFM TYPE	CONV OUTLET	VOLTAGE RANGE		COMPRESSOR (each)			OFM (each)		IFM FLA	COMBUSTION FAN MOTOR	POWER SUPPLY*		MINIMUM UNIT DISCONNECT SIZE†	
				Min	Max	Qty	RLA	LRA	Qty	FLA		FLA	MCA	MOCP**	FLA	LRA
102 (8 1/2 Tons)	208/230-3-60	STD	NO	187	254	2	13.1	105	2	1.4	7.5	0.6	40.2	45	42	276
			YES										46.2	50	48	281
		HIGH	NO								10.6		43.3	50	46	301
			YES										49.3	60	51	305
	460-3-60	STD	NO	414	508	2	7.4	55	2	0.7	3.4	0.3	21.5	25	23	143
			YES										24.2	30	25	145
		HIGH	NO								4.8		22.9	25	24	156
			YES										25.6	30	27	158
	575-3-60	STD	NO	518	632	2	6.4	44	2	0.6	2.8	0.3	18.2	20	19	115
			YES										20.4	25	21	116
		HIGH	NO								3.3		18.9	25	20	124
			YES										21.1	25	22	126
		PH	NO							0.7	4.8	0.3	19.4	25	20	124
			YES										21.5	25	22	126
120 (10 Tons)	208/230-3-60	STD	NO	187	254	2	17.6	125	2	1.4	10.6	0.6	53.0	60	56	341
			YES										59.0	70	61	345
		HIGH	NO								15.0	0.6	57.4	70	61	364
			YES										63.4	70	66	369
	460-3-60	STD	NO	414	508	2	8.3	62.5	2	0.7	4.8	0.3	24.9	30	26	171
			YES										27.6	30	29	173
		HIGH	NO								7.4		27.5	30	29	182
			YES										30.2	35	32	184
	575-3-60	STD	NO	518	632	2	6.3	50	2	0.6	3.3	0.3	19.1	25	20	136
			YES										21.3	25	22	138
		HIGH	NO								5.6	0.3	21.0	25	23	146
			YES										23.1	25	25	148
		PH	NO						2	0.7	7.4	0.3	21.2	25	23	146
			YES										23.4	25	25	148
150 (12 1/2 Tons)	208/230-3-60	STD	NO	187	254	2	19	156	2	1.4	15.0	0.6	60.6	70	64	426
			YES										66.6	70	70	431
	460-3-60	STD	NO	414	508	2	9	75	2	0.7	7.4	0.3	29.1	35	31	207
			YES										31.8	35	33	209
	575-3-60	ST	NO	518	632	2	7.4	54	2	0.6	5.6	0.3	23.5	30	25	154
			YES										25.6	30	27	156
		PH	NO						2	0.7	7.4	0.3	23.7	30	25	154
			YES										25.9	30	27	156

LEGEND

CONV — Convenience Outlet
FLA — Full Load Amps
HACR — Heating, Air Conditioning and Refrigeration
IFM — Indoor (Evaporator) Fan Motor
LRA — Locked Rotor Amps
MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection
NEC — National Electrical Code
OFM — Outdoor (Condenser) Fan Motor
PH — Perfect Humidity™ Dehumidification System
RLA — Rated Load Amps
UL — Underwriters' Laboratories

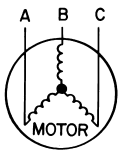
*The values listed in this table do not include power exhaust. See table at right for power exhaust requirements.
†Used to determine minimum disconnect per NEC.
**Fuse or HACR circuit breaker.

NOTES:

1. In compliance with NEC requirements for multimotor and combination load equipment (refer to NEC Articles 430 and 440), the overcurrent protective device for the unit shall be fuse or HACR breaker. The UL, Canada units may be fuse or circuit breaker.
2. Electrical data based on 95 F ambient outdoor-air temperature ± 10% voltage.
3. **Unbalanced 3-Phase Supply Voltage**
   Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percent of voltage imbalance.

$$= 100 \times \frac{\text{max voltage deviation from average voltage}}{\text{average voltage}}$$

Example: Supply voltage is 460-3-60.



AB = 452 v
BC = 464 v
AC = 455 v

$$\text{Average Voltage} = \frac{452 + 464 + 455}{3}$$

$$= \frac{1371}{3}$$

$$= 457$$

Determine maximum deviation from average voltage.
(AB) 457 – 452 = 5 v
(BC) 464 – 457 = 7 v
(AC) 457 – 455 = 2 v

Maximum deviation is 7 v.

Determine percent of voltage imbalance.

$$\text{\% Voltage Imbalance} = 100 \times \frac{7}{457}$$

$$= 1.53\%$$

This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

IMPORTANT: If the supply voltage phase imbalance is more than 2%, contact your local electric utility company immediately.

POWER EXHAUST ELECTRICAL DATA

POWER EXHAUST PART NO.	APPLICATION USAGE	MCA (230 V)	MCA (460 V)	MCA (575 V)	MOCP (separate power source only)
CRPWREXH030A01	036-072*	1.6	N/A	0.64	15
CRPWREXH021A01	036-072	N/A	0.68	N/A	15
CRPWREXH022A01	090-150*	3.4	N/A	1.32	15
CRPWREXH023A01	090-150	N/A	1.4	N/A	15
CRPWREXH028A01	ALL*	1.7	N/A	0.68	15
CRPWREXH029A01	ALL	N/A	0.7	N/A	15

N/A — Not Available

*Single or three phase.

NOTE: If a single power source is to be used, size wire to include power exhaust MCA and MOCP.

Check MCA and MOCP when power exhaust is powered through the unit. Determine the new MCA including the power exhaust using the following formula:

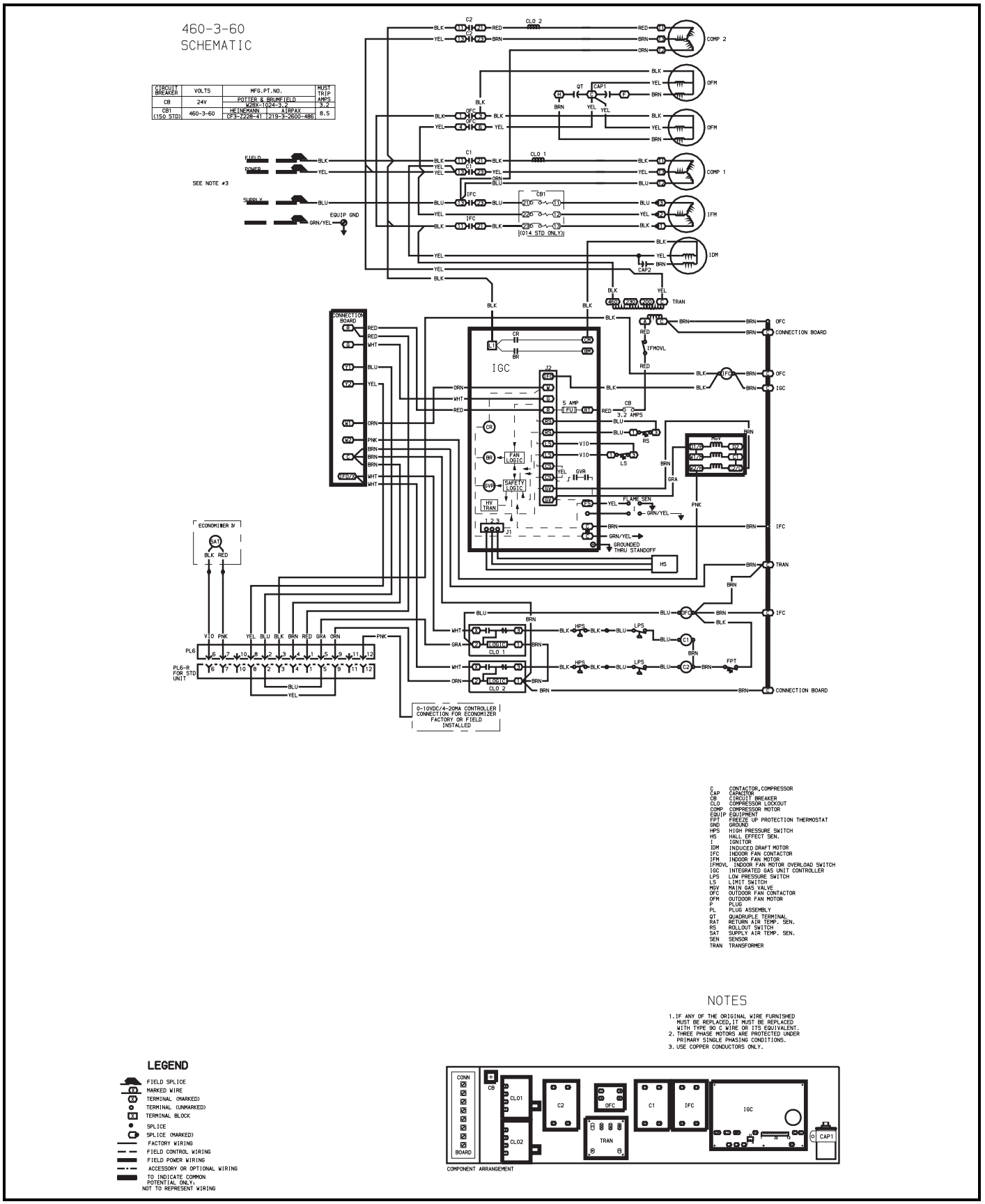
MCA New = MCA unit only + MCA of Power Exhaust

For example, using a 581B060 unit with MCA = 28.9 and MOCP = 35, with CRPWREXH030A01 power exhaust.

MCA New = 28.9 amps + 1.6 amps = 30.5 amps

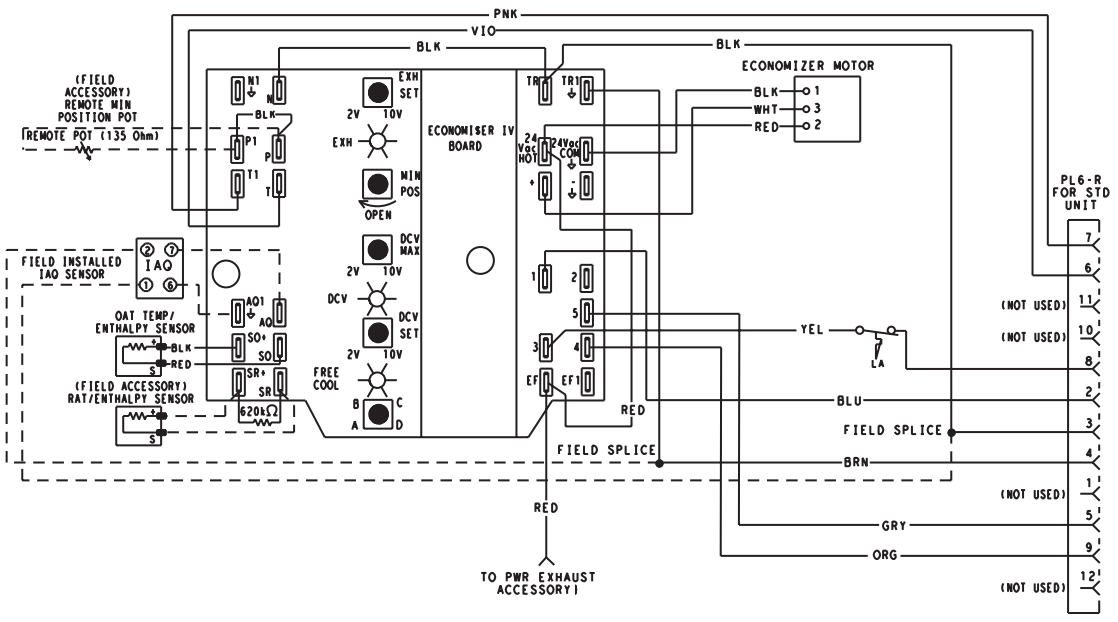
If the new MCA does not exceed the published MOCP, then MOCP would not change. The MOCP in this example is 35 amps and the MCA New is below 35; therefore the MOCP is acceptable. If "MCA New" is larger than the published MOCP, raise the MOCP to the next larger size. For separate power, the MOCP for the power exhaust will be 15 amps per NEC.

TYPICAL WIRING SCHEMATICS — 581B



SIZES 036-150 (581B090, 460-3-60 Shown)

TYPICAL WIRING SCHEMATICS — 581B (cont)



LEGEND

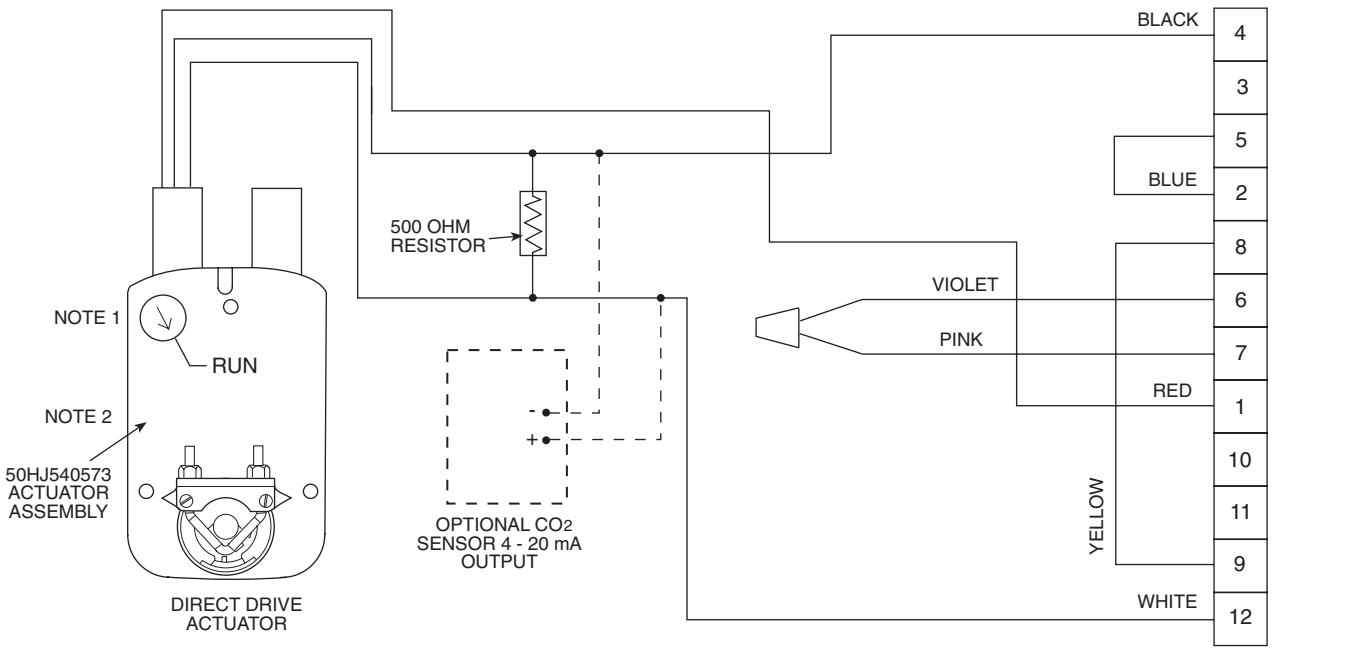
IAQ — Indoor Air Quality
LA — Low Ambient Lockout Device
POT — Potentiometer
OAT — Outdoor-Air Temperature
RAT — Return-Air Temperature

NOTE:
Potentiometer Defaults Settings:

Power Exhaust	Middle
Minimum Pos.	Fully Closed
DCV Max.	Middle
DCV Set	Middle
Enthalpy	C Setting

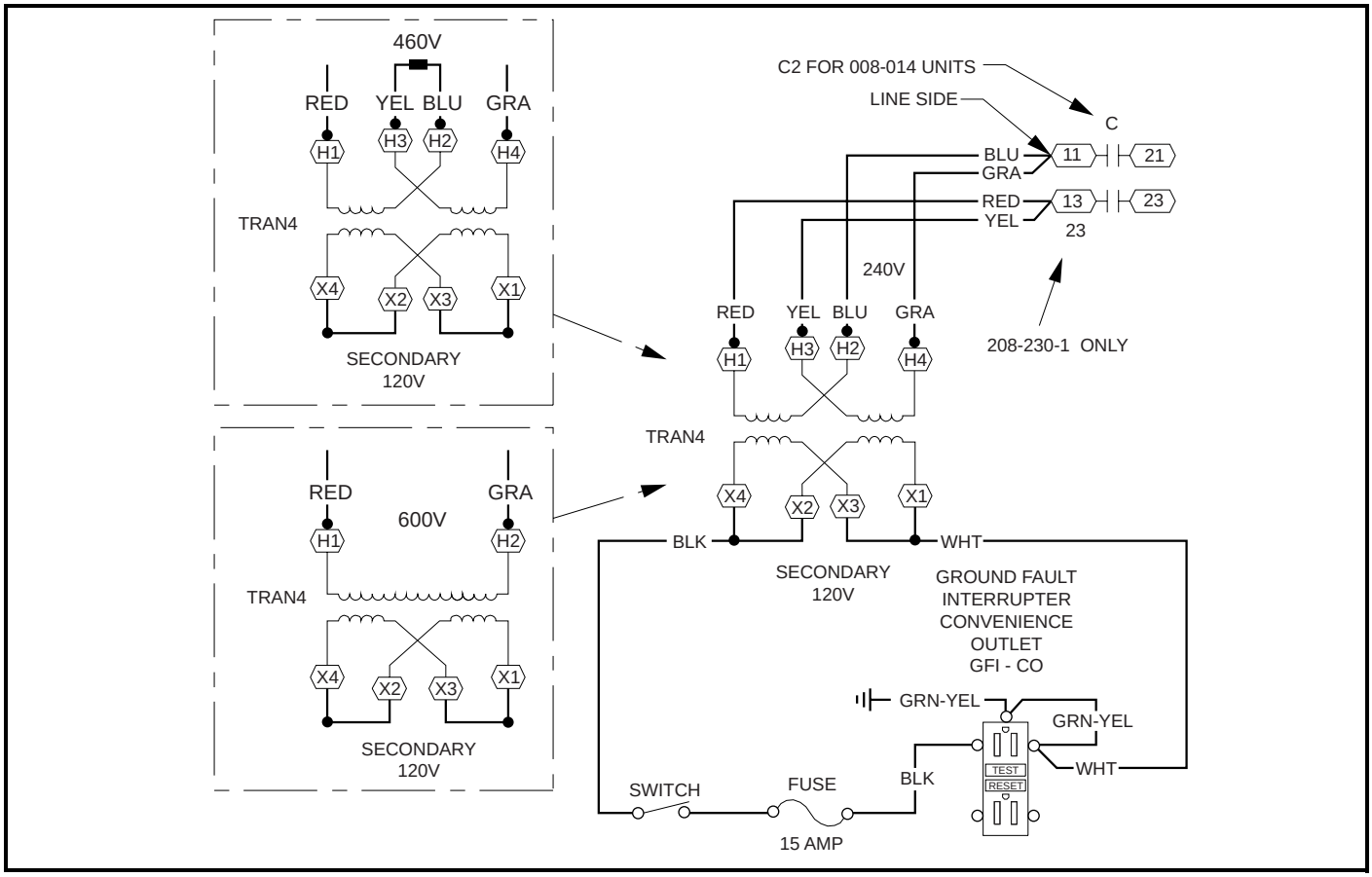
ECONOMIZER NOTES:
1. 620 ohm, 1 watt 5% resister should be removed only when using differential enthalpy or dry bulb.
2. If a separate field supplied 24v transformer is used for the IAQ sensor power supply, it cannot have the secondary of the transformer grounded.
3. For field installed remote minimum position POT, remove black wire jumper between P and P1 and set control minimum position POT to the minimum position.

EconoMi$er IV Wiring — 581B036-150 Units

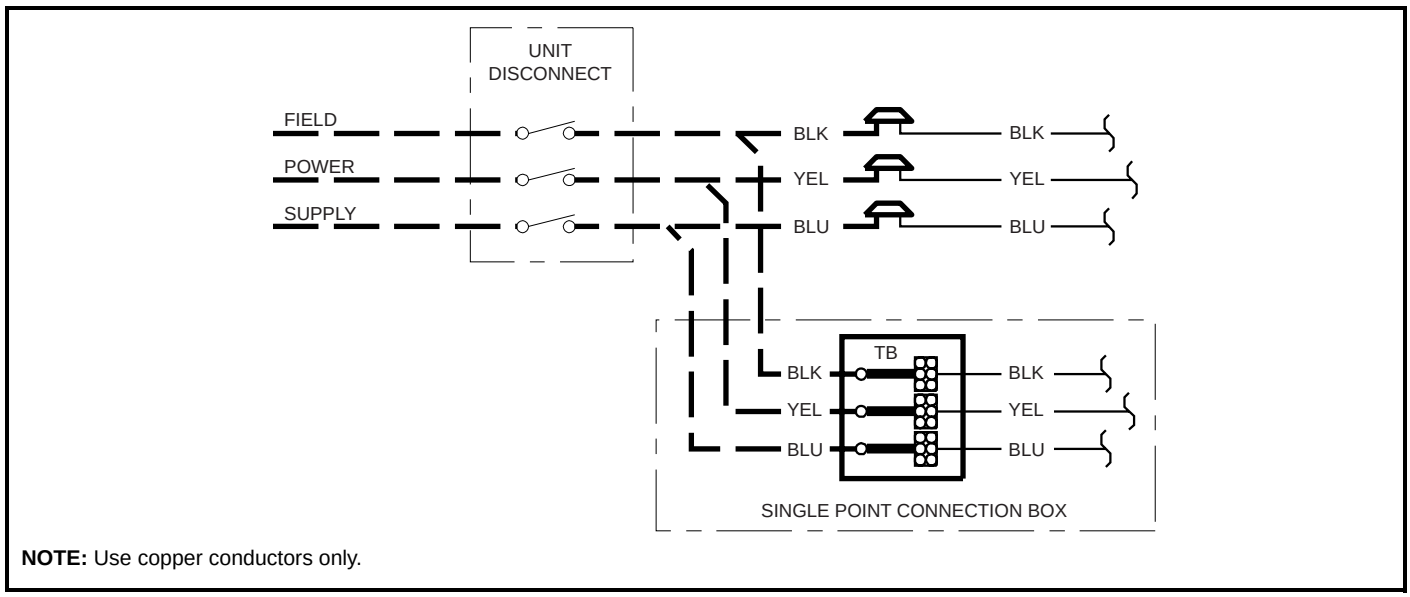


NOTES:
1. Switch on actuator must be in run position for economizer to operate.
2. 50HJ540573 actuator consists of the 50HJ540567 actuator and a harness with 500-ohm resistor.

EconoMi$er2 Wiring — 581B036-150 Units



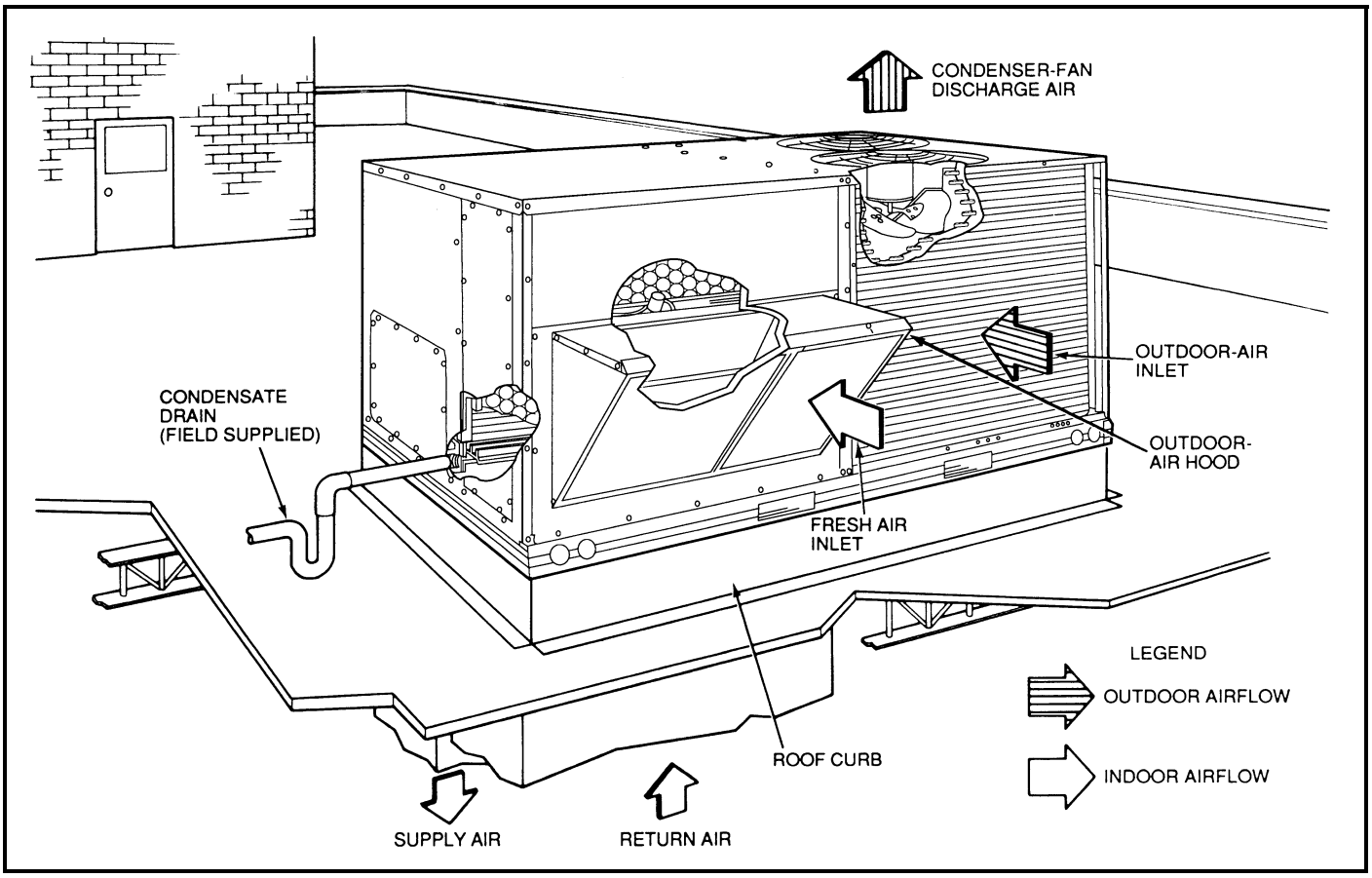
Convenience Outlet (Optional) — Sizes 581B036-150



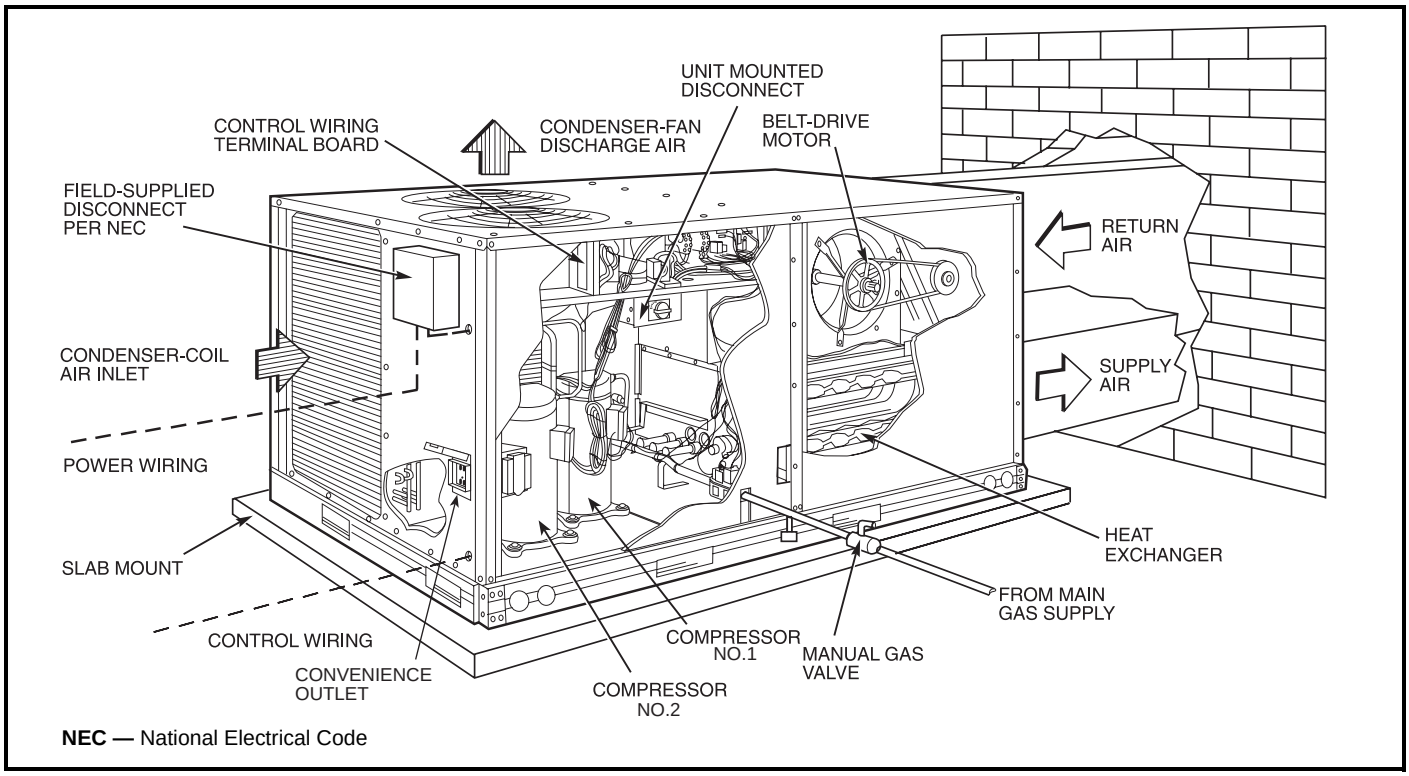
NOTE: Use copper conductors only.

Non-Fused Disconnect (Optional) — Sizes 581B036-150

TYPICAL PIPING AND WIRING — 581B036-150



Vertical Discharge Ducting



NEC — National Electrical Code

Horizontal Discharge Ducting

PACKAGED ROOFTOP ELECTRIC COOLING UNIT WITH GAS HEAT — CONSTANT VOLUME APPLICATION

HVAC GUIDE SPECIFICATIONS

SIZE RANGE: 3 TO 12½ TONS, NOMINAL (COOLING)
60,000 TO 250,000 BTUH, NOMINAL (INPUT HEATING)

BRYANT MODEL NUMBERS: **580F, 581B**

581B036-121 UNITS ARE ENERGY STAR QUALIFIED

PART 1 — GENERAL

1.01 SYSTEM DESCRIPTION

Outdoor rooftop mounted, electrically controlled heating and cooling unit utilizing a hermetic compressor(s) for cooling duty and gas combustion for heating duty. Unit shall discharge supply air vertically or horizontally as shown on contract drawings.

1.02 QUALITY ASSURANCE

A. Unit well exceeds ASHRAE 90.1-2001 Energy Standards. Units 581B036-120 are Energy Star qualified.

B. Unit shall be rated in accordance with ARI Standards 210 or 360. Designed in accordance with UL Standard 1995.

C. Unit shall be designed to conform to ASHRAE 15, latest revision.

D. Unit shall be UL-tested and certified in accordance with ANSI Z21.47 Standards and UL-listed and certified under Canadian standards as a total package for safety requirements.

E. Roof curb shall be designed to conform to NRCA Standards.

F. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.

G. Unit casing shall be capable of withstanding 500-hour salt spray exposure per ASTM B117 (scribed specimen).

H. Unit shall be designed in accordance with ISO 9001:2000, and shall be manufactured in a facility registered to ISO 9001:2000.

I. Each unit shall be subjected to a completely automated run testing on the assembly line. A factory-supplied printout indicating tested pressures, amperages, data, and inspectors; providing certification of the unit status at the time of manufacture, shall be available upon request.

1.03 DELIVERY, STORAGE, AND HANDLING

Unit shall be stored and handled per manufacturer's recommendations.

PART 2 — PRODUCTS

2.01 EQUIPMENT (STANDARD)

A. General:

Factory assembled, single-piece heating and cooling unit. Contained within the unit enclosure shall be all factory wiring, piping, controls, refrigerant charge (R-22), and special features required prior to field start-up.

B. Unit Cabinet:

1. Unit cabinet shall be constructed of galvanized steel, and shall be bonderized and coated with a pre-painted baked enamel finish on all externally exposed surfaces. The color of this pre-painted steel is referred to as "American Sterling," a gray color. Bryant's paint specification for this color is PH184.
   Color: American Sterling, this gray color is to match federal standard 595a, #26231.
   Gloss (per ASTM 0523, 60 deg. F): 60.
   Hardness of paint film: H-2H pencil hardness.
2. Evaporator fan compartment interior cabinet surfaces shall be insulated with a minimum ½-in. thick, 1 lb density, flexible fiberglass insulation, neoprene coated on the air side. Aluminum foil-faced fiberglass insulation shall be used in the gas heat compartment.
3. Cabinet panels shall be easily removable for servicing.
4. Holes shall be provided in the base rails for rigging shackles to facilitate maneuvering and overhead rigging.
5. Unit shall have a factory-installed, sloped condensate drain pan made of a non-corrosive material, providing a minimum ¾-in.-14 NPT connection with both vertical and horizontal drains, and shall comply with ASHRAE Standard 62.
6. Unit shall have a factory-installed filter access panel to provide filter access with tool-less removal.
7. Unit shall have standard thru-the-bottom gas and power connection capability (accessory kit is required).

C. Fans:

1. Evaporator Fan:
   a. Fan shall be direct or belt driven as shown on the equipment drawings. Belt drive shall include an adjustable-pitch motor pulley.
   b. Fan wheel shall be double-inlet type with forward-curved blades.
   c. Bearings shall be sealed, permanently lubricated ball-bearing type for longer life and lower maintenance.
2. Evaporator fan shall be made from steel with a corrosion-resistant finish and shall be dynamically balanced.
3. Bryant rooftop evaporator fan motors smaller than 5 hp are specifically designed for Bryant and are rated in maximum continuous Bhp or maximum continuous watts. The motors do not have a horsepower rating on the nameplate.
4. Condenser fan shall be of the direct-driven (with totally enclosed motors) propeller type and shall discharge air vertically.
5. Condenser fan shall have aluminum blades riveted to corrosion-resistant steel spiders and shall be dynamically balanced.
6. Induced-draft blower shall be of the direct-driven, single inlet, forward-curved centrifugal type, made from steel with a corrosion-resistant finish and shall be dynamically balanced.

D. Compressor(s):

1. Fully hermetic type, internally protected scroll-type.
2. Factory mounted on rubber grommets and internally spring mounted for vibration isolation.
3. On dual electrically and mechanically independent circuits (090-150).

E. Coils:

1. Standard evaporator and condenser coils shall have aluminum lanced plate fins mechanically bonded to seamless internally grooved ⅜-in. OD copper tubes with all joints brazed.

2. Dual compressor models (size 090-150) shall have face-split type evaporator coil (circuit no. 1 on bottom).
3. Testing:
   a. Evaporator and condenser coils shall be qualified to UL 1995 burst test at 2,200 psi.
   b. Evaporator and condenser coils shall be leak tested to 150 psig and pressure tested to 400 psig.
4. Optional Coils:
   a. Optional pre-coated aluminum-fin coils shall have a durable epoxy-phenolic coating to provide protection in mildly corrosive coastal environments. Coating shall be applied to the aluminum fin stock prior to the fin stamping process to create an inert barrier between the aluminum fin and copper tube. Epoxy-phenolic barrier shall minimize galvanic action between dissimilar metals.
   b. Copper-fin coils shall be constructed of copper fins mechanically bonded to copper tubes and copper tube sheets. Galvanized steel tube sheets shall not be acceptable. A polymer strip shall prevent coil assembly from contacting the sheet metal coil pan to minimize potential for galvanic corrosion between coil and pan. All copper construction shall provide protection in moderate coastal environments.
   c. E-Coated aluminum-fin coils shall have a flexible epoxy polymer coating uniformly applied to all coil surface areas without material bridging between fins. Coating process shall ensure complete coil encapsulation. Color shall be high gloss black with gloss — 60 deg of 65 to 90% per ASTM D523-89. Uniform dry film thickness from 0.8 to 1.2 mil on all surface areas including fin edges. Superior hardness characteristics of 2H per ASTM D3363-92A and cross-hatch adhesion of 4B-5B per ASTM D3359-93. Impact resistance shall be up to 160 in.-lb (ASTM D2794-93). Humidity and water immersion resistance shall be up to minimum 1000 and 250 hours respectively (ASTM D2247-92 and ASTM D870-92). Corrosion durability shall be confirmed through testing to be no less than 1000 hours salt spray per ASTM B117-90. Coil construction shall be aluminum fins mechanically bonded to copper tubes.
   d. E-Coated copper-fin coils shall have a flexible epoxy polymer coating uniformly applied to all coil surface areas without material bridging between fins. Coating process shall ensure complete coil encapsulation. Color shall be high gloss black with gloss — 60 deg of 65 to 90% per ASTM D523-89. Uniform dry film thickness from 0.8 to 1.2 mil on all surface areas including fin edges. Superior hardness characteristics of 2H per ASTM D3363-92A and cross-hatch adhesion of 4B-5B per ASTM D3359-93. Impact resistance shall be up to 160 in.-lb (ASTM D2794-93). Humidity and water immersion resistance shall be up to minimum 1000 and 250 hours respectively (ASTM D2247-92 and ASTM D870-92). Corrosion durability shall be confirmed through testing to be no less than 1000 hours salt spray per ASTM B117-90. Coil construction shall be copper fins mechanically bonded to copper tubes with copper tube sheets. Galvanized steel tube sheets shall not be acceptable. A polymer strip shall prevent coil assembly from contacting sheet metal coil pan to maintain coating integrity and minimize corrosion potential between coil and pan.

F. Heating Section:
   1. Induced-draft combustion type with energy saving direct-spark ignition system and redundant main gas valve.
   2. Heat Exchanger:
      a. The standard heat exchanger shall be of the tubular-section type constructed of a minimum of 20-gage steel coated with a nominal 1.2 mil aluminum-silicone alloy for corrosion resistance.
      b. The optional stainless steel heat exchanger shall be of the tubular-section type, constructed of a minimum of 20-gage type 409 stainless steel.
   3. Burners shall be of the in-shot type constructed of aluminum-coated steel.
   4. All gas piping shall enter the unit cabinet at a single location on side of unit (horizontal plane).
   5. The integrated gas controller (IGC) board shall include gas heat operation fault notification using an LED (light-emitting diode).
   6. Unit shall be equipped with anti-cycle protection with one short cycle on unit flame rollout switch or 4 continuous short cycles on the high-temperature limit switch. Fault indication shall be made using an LED.
   7. The IGC board shall contain algorithms that modify evaporator-fan operation to prevent future cycling on high-temperature limit switch.
   8. The LED shall be visible without removal of control box access panel.

G. Refrigerant Components:

   Refrigerant circuit components shall include:
   1. Fixed orifice metering system.
   2. Refrigerant filter drier.
   3. Service gage connections on suction, discharge, and liquid lines.

H. Filter Section:
   1. Standard filter section shall consist of factory-installed, low velocity, throwaway 2-in. thick fiberglass filters of commercially available sizes.
   2. Filter face velocity shall not exceed 320 fpm at nominal airflows.
   3. Filter section should use only one size filter.
   4. Filters shall be accessible through an access panel with “no-tool” removal.

I. Controls and Safeties:
   1. Unit Controls:

      Unit shall be complete with self-contained low-voltage control circuit protected by a fuse on the 24-v transformer side (090-150 units have a resettable circuit breaker).
   2. Safeties:
      a. Unit shall incorporate a solid-state compressor protector which provides anti-cycle reset capability at the space thermostat, should any of the following standard safety devices trip and shut off compressor.
         1) Compressor overtemperature, overcurrent.
         2) Loss-of-charge/low-pressure switch.
         3) Freeze-protection thermostat, evaporator coil.
         4) High-pressure switch.
         5) Automatic reset motor thermal overload protector.

The lockout protection shall be easily disconnected at the control board, if necessary.

b. Heating section shall be provided with the following minimum protections:

1) High-temperature limit switches.
2) Induced draft motor speed sensor.
3) Flame rollout switch.
4) Flame proving controls.

J. Operating Characteristics:

1. Unit shall be capable of starting and running at 125 F ambient outdoor temperature, meeting maximum load criteria of ARI Standard 210/240 or 360 at ± 10% voltage.
2. Compressor with standard controls shall be capable of operation down to 25 F ambient outdoor temperature.

K. Electrical Requirements:

All unit power wiring shall enter unit cabinet at a single factory-predrilled location.

L. Motors:

1. Compressor motors shall be cooled by refrigerant gas passing through motor windings and shall have line break thermal and current overload protection.
2. Evaporator-fan motor shall have permanently lubricated bearings and inherent automatic-reset thermal overload protection. Evaporator motors are designed specifically for Bryant and do *not* have conventional horsepower (HP) ratings listed on the motor nameplate. Motors are designed and qualified in the "air-over" location downstream of the cooling coil and carry a maximum continuous bhp rating that is the maximum application bhp rating for the motor; no "safety factors" above that rating may be applied.
3. Totally enclosed condenser-fan motor shall have permanently lubricated bearings, and inherent automatic-reset thermal overload protection.
4. Induced-draft motor shall have permanently lubricated sealed bearings and inherent automatic-reset thermal overload protection.

M. Special Features:

Certain features are not applicable when the features designated * are specified. For assistance in amending the specifications, contact your local Bryant Sales Office.

1. Roof Curbs (Horizontal and Vertical):
   a. Formed galvanized steel with wood nailer strip and shall be capable of supporting entire unit weight.
   b. Permits installation and securing of ductwork to curb prior to mounting unit on the curb.

* 2. Integrated Economizers:
   a. Integrated integral modulating type capable of simultaneous economizer and compressor operation. During economizer operation, up to two compressors on sizes 090-150 will operate.
   b. Available as a factory-installed option in vertical supply/return configuration only. (Available as a field-installed accessory for dedicated horizontal and/or vertical supply return configurations.)
   c. Includes all hardware and controls to provide cooling with outdoor air.
   d. Equipped with low-leakage dampers, not to exceed 2% leakage at 1 in. wg pressure differential.
   e. Capable of introducing up to 100% outdoor air.
   f. EconoMi$er IV and EconoMi$er2 shall be equipped with a barometric relief damper capable of relieving up to 100% return air.
   g. Designed to close damper(s) during loss-of-power situations with spring return built into motor.
   h. Dry bulb outdoor-air temperature sensor shall be provided as standard. Outdoor air sensor set point is adjustable and shall range from 40 to 100 F. For the EconoMi$er IV, the return air sensor, indoor enthalpy sensor, and outdoor enthalpy sensor shall be provided as field-installed accessories to provide enthalpy control, differential enthalpy control, and differential dry bulb temperature control. For the EconoMi$er2, the enthalpy, differential temperature (adjustable), and differential enthalpy control shall be provided as field-installed accessories.
   i. EconoMi$er IV controller shall use a mixed air thermistor mounted on the evaporator fan housing to control EconoMi$er IV operation to a supply air temperature of 55 F.
   j. The EconoMi$er IV and EconoMi$er2 shall have a gear-driven parallel blade design.
   k. EconoMi$er IV controller shall provide control of internal building pressure through its accessory power exhaust function. Factory set at 100%, with a range of 0% to 100%.
   l. EconoMi$er2 shall be capable of control from a 4 to 20 mA signal through optional 4 to 20 mA design without microprocessor control (required for PremierLink™ or third party control interface).
   m. EconoMi$er IV controller Occupied Minimum Damper Position Setting maintains the minimum airflow into the building during occupied period providing design ventilation rate for full occupancy (damper position during heating). A remote potentiometer may be used to override the set point.
   n. EconoMi$er IV controller Unoccupied Minimum Damper Position Setting — The EconoMi$er IV dampers shall be closed when the unit is in the occupied mode.
   o. EconoMi$er IV controller IAQ/DCV Maximum Damper Position Setting — Setting the maximum position of the damper prevents the introduction of large amounts of hot or cold air into the space. This position is intended to satisfy the base minimum ventilation rate.
   p. EconoMi$er IV controller IAQ/DCV control modulates the outdoor-air damper to provide ventilation based on the optional 2 to 10 vdc CO_2 sensor input.
   q. Compressor lockout sensor (opens at 35 F, closes at 50 F).
   r. Actuator shall be direct coupled to economizer gear, eliminating linkage arms and rods.
   s. Control LEDs:
      1) When the outdoor air damper is capable of providing free cooling, the "Free Cool" LED shall illuminate.
      2) The IAQ LED indicates when the module is on the DCV mode.
      3) The EXH LED indicates when the exhaust fan contact is closed.

t. Remote Minimum Position Control — A field-installed accessory remote potentiometer allows the outdoor air damper to be opened or closed beyond the minimum position in the occupied mode for modified ventilation.

3. Manual Outdoor-Air Damper:

Manual damper package shall consist of damper, birdscreen, and rainhood which can be preset to admit up to 50% outdoor air for year round ventilation.

* 4. 100% Two-Position Damper:

a. Two-position damper package shall include single blade damper and motor. Admits up to 100% outdoor air.

b. Damper shall close upon indoor (evaporator) fan shutoff.

c. Designed to close damper during loss of power situations.

d. Equipped with 15% barometric relief damper.

* 5. 25% Two-Position Damper:

a. Two-position damper package shall include single blade damper and motor. Admits up to 25% outdoor air.

b. Damper shall close upon indoor (evaporator) fan shutoff.

* 6. Head Pressure Control Package:

Consists of solid-state control and condenser-coil temperature sensor to maintain condensing temperature between 90 F and 110 F at outdoor ambient temperatures down to –20 F by condenser-fan speed modulation or condenser-fan cycling and wind baffles.

7. Propane Conversion Kit:

Package shall contain all the necessary hardware and instructions to convert a standard natural gas unit for use with liquefied propane (valid up to 2000 ft elevation).

* 8. Electronic Programmable Thermostat:

Units shall be capable of using deluxe full-featured electronic thermostat. Thermostat shall use built-in compressor cycle delay control for both heating and cooling duty. Thermostat shall be capable of working with third party direct digital controls.

9. Light Commercial Thermidistat™ Device:

Field-installed wall-mounted thermostat is used to control temperature and activation of the dehumidification package. The Thermidistat device can be set for humidity settings from 50% to 90% relative humidity. Automatic humidity control adjusts indoor humidity based on the outdoor temperature sensor.

* 10. Flue Shield:

Flue shield shall provide protection from the hot sides of the gas flue hood.

* 11. Thermostat and Subbase:

Thermostat and subbase shall provide staged cooling and heating automatic (or manual) changeover, fan control, and indicator light.

* 12. Condenser Coil Hail Guard Assembly:

Hail guard shall protect against damage from hail and flying debris.

13. Unit-Mounted, Non-Fused Disconnect Switch:

Switch shall be factory-installed, internally mounted. NEC and UL approved non-fused switch shall provide unit power shutoff. Switch shall be accessible from outside the unit and shall provide power off lockout capability.

14. Convenience Outlet:

Outlet shall be factory-installed and internally mounted with easily accessible 115-v female receptacle. Shall include 15 amp GFI receptacle with independent fuse protection. Voltage required to operate convenience outlet shall be provided by a factory-installed step-down transformer powered from the LOAD (RTU) side of the unit power supply. Shall be accessible from outside the unit.

15. High-Static Indoor Fan Motor(s) and Drive(s) (036-120):

High-static motor(s) and drive(s) shall be factory-installed to provide additional performance range.

16. Flue Discharge Deflector:

Flue discharge deflector directs unit exhaust vertically instead of horizontally.

17. Condenser Coil Grille:

The grille protects the condenser coil from damage by large objects without increasing unit clearances.

18. Compressor Cycle Delay:

Unit shall be prevented from restarting for minimum of 5 minutes after shutdown.

19. Thru-the-Bottom Utility Connectors:

Kit shall provide connectors to permit gas and electrical connections to be brought to the unit through the basepan.

20. Fan/Filter Status Switch:

Switch shall provide status of indoor (evaporator) fan (ON/OFF) or filter (CLEAN/DIRTY). Status shall be displayed over communication bus when used with direct digital controls or with an indicator light at the thermostat.

21. Power Exhaust Accessory for EconoMi$er IV or EconoMi$er2:

Power exhaust shall be used in conjunction with EconoMi$er IV or EconoMi$er2 to provide system exhaust of up to 100% of return air (vertical only). The power exhaust is a field-installed accessory (separate vertical and horizontal design).

NOTE: Horizontal power exhaust is intended to mount in return ductwork.

As the outdoor-air damper opens and closes, *both* propeller fans are energized and deenergized through the EconoMi$er IV controller. The set point is factory set at 100% of outdoor-air, and is adjustable 0 to 100% to meet specific job requirements. Available in 208/230-1-60 v or 460-3-60 v. An LED light on the controller indicates when the power exhaust is operating.

For the EconoMi$er2, the power exhaust shall be controlled by the third party controls.

22. Outdoor Air Enthalpy Sensor (EconoMi$er IV or EconoMi$er2):

The outdoor air enthalpy sensor shall be used with the EconoMi$er IV or EconoMi$er2 device to provide single enthalpy control. When used in conjunction with a return air enthalpy sensor, the EconoMi$er IV or EconoMi$er2 device will provide differential enthalpy control. The sensor allows the EconoMi$er IV or EconoMi$er2 controller to determine if outside air is suitable for free cooling.

23. Return Air Enthalpy Sensor (EconoMi$er IV or EconoMi$er2):

    The return air enthalpy sensor shall be used with the EconoMi$er IV or EconoMi$er2 device. When used in conjunction with an outdoor air enthalpy sensor, the EconoMi$er IV or EconoMi$er2 device will provide differential enthalpy control.

24. Return Air Temperature Sensor (EconoMi$er IV or EconoMi$er2):

    The return air temperature sensor shall be used with the EconoMi$er IV or EconoMi$er2 device. When used in conjunction with the standard outdoor air temperature sensor, the EconoMi$er IV or EconoMi$er2 device will provide differential temperature control.

25. Indoor Air Quality (CO_2) Sensor (EconoMi$er2):
    a. Shall have the ability to provide demand ventilation indoor air quality (IAQ) control through the EconoMi$er2 with an IAQ sensor.
    b. The IAQ sensor shall be available in duct mount, wall mount, and wall mount with LED display. The set point shall have adjustment capability.
    c. Requires EconoMi$er2 control option.

26. Indoor Air Quality (CO_2) Room Sensor (EconoMi$er IV):

    Sensor shall have the ability to provide demand ventilation control through the EconoMi$er IV. The IAQ sensor shall be wall mounted with an LED display in parts per million. The set point shall have adjustment capability.

27. Return Air CO_2 Sensor (EconoMi$er IV):

    Sensor shall have the ability to provide demand ventilation control through the EconoMi$er IV. The IAQ sensor shall be duct mounted. The set point shall have adjustment capability.

28. Gas Heat options (sizes 004-006):
    a. Single-stage gas heat shall be provided in lieu of two-stage heat.
    b. NOx reduction shall be provided to reduce nitrous oxide emissions to meet the California Air Quality Management NOx requirement of 40 nanograms/joule or less.
    c. Primary tubes on low NOx units shall be 409 stainless steel. Other components shall be aluminized steel.

29. Ultraviolet Germicidal Lamps:

    Ultraviolet germicidal lamps are designed to eliminate odor causing mold and fungus that may develop in the wet area of the evaporator section of the unit. The high output, low temperature germicidal lamps are field installed in the evaporator section of the unit, aimed at the evaporator coil and condensate pan. The short wavelength ultraviolet light inhibits and kills mold, fungus and microbial growth. The lamps have an output rating at 45F in 400 fpm airflow of 120 microwatts/cm^2 at 1 meter.

30. Perfect Humidity™ Adaptive Dehumidification System (581B only):
    a. The Perfect Humidity dehumidification system shall be factory-installed in the rooftop units, and shall provide greater dehumidification of the occupied space by two modes of dehumidification operations beside its normal design cooling mode:
        1) Subcooling mode further subcools the hot liquid refrigerant leaving the condenser coil when both temperature and humidity in the space are not satisfied.
        2) Hot gas reheat mode shall mix a portion of the hot gas from the discharge of the compressor with the hot liquid refrigerant leaving the condenser coil to create a two-phase heat transfer in the system, resulting in a neutral leaving-air temperature when only humidity in the space is not satisfied.
    b. The system shall consist of a subcooling/reheat dehumidification coil located downstream of the standard evaporator coil. This dehumidification coil is a two-row coil with the exception of the 036 unit, which has a one-row coil.
    c. The system shall include crankcase heater(s) for the scroll compressor(s).
    d. The system shall include a low outdoor air temperature switch to lock out both subcooling and hot gas reheat mode when the outdoor-air temperature is below 40 F.
    e. The system shall include a Motormaster® low ambient control to ensure the normal design cooling mode capable of down to 0° F low ambient operation.
    f. The system shall include a low-pressure switch on the suction line to ensure low pressure start-up of hot gas reheat mode at lower outdoor temperature condition.
    g. The system operation may be controlled by a field-installed, wall-mounted humidistat. The dehumidification circuit will then operate only when needed. Field connections for the humidistat are made in the low-voltage compartment of the unit control box. The sensor can be set for any level between 55% and 80% relative humidity.
    h. The system shall include a thermostatic expansion valve (TXV) to ensure a positive superheat condition and a balance of pressure drop.
    i. For units with two compressors (sizes 090-150), depending on the conditions required to maintain the space set points, one or both compressors can operate in subcooling mode, one compressor could operate in subcooling mode while the other operates in hot gas reheat mode, or one or both compressors can operate in hot gas reheat mode.

31. Humidistat:

    Field-installed, wall-mounted humidistat is used to control activation of the dehumidification package. The humidistat can be set for humidity levels between 20% and 80% relative humidity.

32. Hinged Panel Option:

    Hinged panel option provides hinged access panels for the filter, compressor, evaporator fan, and control box areas. Filter hinged panels permit tool-less entry for changing filters. Each hinged panel is permanently attached to the rooftop unit.

33. Louvered Hail Guard:

    The hail guard shall protect the entire outdoor coil surface from direct or indirect (from adjacent surfaces) hail damage. Hail guard shall have a pressure drop of 2%.

PHYSICAL DATA — 581C

UNIT SIZE 581C		024	036	048	060
NOMINAL CAPACITY (tons)		2	3	4	5
OPERATING WEIGHT(lb)					
Base Unit**		530	540	560	635
COMPRESSOR			Scroll		
Quantity		1	1	1	1
Oil (oz)		25	42	56	53
REFRIGERANT TYPE			R-22		
Standard Unit		5---3	7---11	8---8	12---11
Unit With Perfect Humidity Adaptive Dehumidification System		10---2	14---0	14---13	21---0
CONDENSER FAN			Propeller		
Quantity...Diameter (in.)		1...22	1...22	1...22	1...22
Nominal Cfm		3000	3500	3500	4100
Motor Hp...Rpm		1/8...825	1/8...825	1/8...825	1/4...1100
Watts Input (Total)		180	180	180	320
CONDENSER COIL			Enhanced Copper Tubes, Aluminum LancedFins		
Rows...Fins/in.		1...17	1...17	2...17	2...17
Total Face Area (sq ft)		14.6	14.6	16.5	16.5
EVAPORATOR COIL			Enhanced Copper Tubes, Aluminum Double-Wavy Fins		
Standard Unit					
Rows...Fins/in.		2...15	2...15	2...15	4...15
Total Face Area (sq ft)		4.2	5.5	5.5	5.5
Perfect Humidity Coil Adaptive Dehumidification System					
Rows...Fins/in.		1...17	1...17	2...17	2...17
Total Face Area (sq ft)		3.5	3.9	3.9	3.9
EVAPORATOR FAN			Centrifugal Type, Belt Drive		
Quantity...Size (in.)		1...10 x 10	1...10 x 10	1...10 x 10	1...10 x 10
Nominal Cfm		800	1200	1600	2000
Maximum Continuous Bhp	**Std**	0.58	1.20	1.20	1.30/2.40*
	Hi-Static	2.40	2.40	2.40	2.90
Motor Frame Size	**Std**	48	48	48	48/56†
	Hi-Static		56	56	56
Motor Rpm	**Std**	1620	1620	1620	1725
	Hi-Static		1725	1725	1725
Fan Rpm Range	**Std**	400-1000	680-1044	770-1185	1035-1460
	Hi-Static		1075-1455	1075-1455	1300-1685
Motor Bearing Type		Ball	Ball	Ball	Ball
Maximum Fan Rpm		1620	2100	2100	2100
Motor Pulley Pitch Diameter A/B (in.)	**Std**	2.4/3.2	1.9/2.9	1.9/2.0	2.4/3.4
	Hi-Static		2.8/3.8	2.8/3.8	3.4/4.4
Nominal Motor Shaft Diameter (in.)	**Std**	5/8	1/2	1/2	5/8
	Hi-Static	7/8	5/8	5/8	5/8
Fan Pulley Pitch Diameter (in.)	**Std**	4.0	4.5	4.0	4.0
	Hi-Static	4.5	4.5	4.0	4.5
Belt — Type...Length (in.)	**Std**	1...A...36	1...A...36	1....4...36	1...A...40
	Hi-Static	1...A...39	1...A...39	1...A...39	1...A...40
Pulley Center Line Distance (in.)		10.0 -12.4	10.0-12.4	10.0-12.4	14.7-15.5
Speed Change per Full Turn of Movable Pulley Flange (rpm)	**Std**	60	65	70	75
	Hi-Static		65	65	60
Movable Pulley Maximum Full Turns from Closed Position	**Std**	5	5	5	6
	Hi-Static		6	6	5
Factory Setting — Full Turns Open	**Std**	3	3	3	3
	Hi-Static		31/2	31/2	31/2
Factory Speed Setting(rpm)	**Std**	756	826	936	1248
	Hi-Static		1233	1233	1396
Fan Shaft Diameter at Pulley (in.)		5/8	5/8	5/8	5/8

LEGEND

Bhp — Brake Horsepower

*Single/three phase.
**Base unit weight does not include any options or accessories. See Options and Accessory weight tables for additional weight information.
†Indicates automatic reset.

PHYSICAL DATA — 581C

UNIT SIZE 581C		024	036	048	060
FURNACE SECTION					
Rollout Switch Cutout Temp(F)†		195	195	195	195
Burner Orifice Diameter (in....drill size)**					
Natural Gas—Std*	**071/072**		.113...33	.113...33	.113...33
	114/115	.089...43	.113...33	.113...33	.113...33
	149/150		—	.129...30	.129...30
	060N	—	.113...33	.113...33	.113...33
	090N	—	.113...33	.113...33	.113...33
	120N	—	—	.129...30	.129...30
		.089...43	.102...38	.102...38	.102...38
		—	.102...38	.102...38	.102...38
		—	—	.116...32	.116...32
Liquid Propane—Alt††	**071/072**	.073...49	.089...43	.089...43	.089...43
	114/115		.089...43	.089...43	.089...43
	149/150		—	.104...37	.104...37
		—	.089...43	.089...43	.089...43
		—	.089...43	.089...43	.089...43
		—	—	.102...37	.104...37
		—			
		—			
		—			
		—			
Thermostat Heat Anticipator Setting (amps)					
208/230/460/575v					
First Stage		0.14	0.14	0.14	0.14
Second Stage		0.14	0.14	0.14	0.14
Gas Input (Btuh)					
First Stage/Second Stage	**072**	50,000/—	‖ 50,000/72,000	‖ 50,000/72,000	‖ 50,000/72,000
	115		‖ 82,000/115,000	‖ 82,000/115,000	‖ 82,000/115,000
	150		—	‖ 120,000/150,000	‖ 120,000/150,000
	17111	—	*** —/72,000	*** —/72,000	*** —/72,000
	17211	—	*** —/115,000	*** —/115,000	*** —/115,000
	14911	—	—	*** —/150,000	*** —/150,000
	060N***	—	††† —/60,000	††† —/60,000	††† —/60,000
	0960N***	—	††† —/90,000	††† —/90,000	††† —/90,000
	120N***	—	—	††† —/120,000	††† —/120,000
Efficiency (Steady State) (%)	**072**	81	82.8	82.8	82.8
	115		80	81	81
	150		—	80.4	80.4
	071	—	82	82	82
	114	—	80	81	81
	149	—	—	80	80
	060N	—	80.2	80.2	80.2
	090N	81	81	81	81
	120N	—	—	80.7	80.7
Temperature Rise Range	**072**		25-55	25-25	25-55
	115	25-65	55-85	35-65	35-65
	150		—	50-80	50-80
	071	—	25-55	25-55	25-55
	114	—	55-85	35-65	35-65
	149	—	—	50-80	50-80
	060N	—	20-50	20-50	20-50
	090N	—	30-60	30-60	30-60
	120N	—	—	40-70	40-70
Manifold Pressure (in.wg)					
Natural Gas—Std		3.5	3.5	3.5	3.5
Liquid Propane—Alt††		3.5	3.5	3.5	3.5
Gas Valve Quanity		1	1	1	1
Gas Valve Pressure Range (Min-Max Allowable)					
psig		0.180-0.70	0.180-0.70	0.180-0.70	0.180-0.70
in wg		5.0-13.0	5.0-13.0	5.0-13.0	5.0-13.0
Field Gas Connection Size (in. FPT)		1/2	1/2	1/2	1/2
HIGH-PRESSURE SWITCH (psig)					
Standard CompressorInternal Relief		450±50			
Cutout		428			
Reset (Auto.)		320			
LOSS-OF-CHARGE SWITCH (LiquidLIne) (psig)					
Cutout		7±3			
Reset(Auto.)		22±5			
FREEZE PROTECTION THERMOSTAT					
Opens(F)		30±5			
Closes(F)		45±5			
OUTDOOR-AIR INLET SCREENS		Cleanable Screen quantity and size varies with option selected.			
RETURN-AIRFILTERS		Throw away			
Quantity...Size (in.)		2...16x25x2			

LEGEND

Bhp — Brake Horsepower

*Single phase/three phase. Stainless steel models use the same orifices as equivalent standard heat exchangers.
†Indicates automatic reset.
**60,000 and <72,000 Btuh heat input units have 2 burners. 90,000 and 120,000 Btuh heat input units have 3 burners. 115,000 Btuh heat input units and 150,000 Btuh Heat input units have 3 burners.
†† An LP kit is available as an accessory. If an LP kit is used with Low NOx units, the Low NOx baffle must be removed and the units will no longer be classified as Low NOx units.
‖Three-phase standard models have heating inputs as shown. Single-phase standard models have one-stage heating with heating input values as follows:
048-060, 036 — 72,000 Btuh
048-060, 036 — 115,000 Btuh
048-060 — 150,000 Btuh (shown in heating capacity tables)
***California compliant three-phase models.
†††California SCAQMD compliant low NO_x models have combustion products that are controlled to 40 nanograms per joule or less.
NOTE: Capacities for stainless steel heat exchanger units (S/R/T) are the same as standard units (D/E/F).

BASE UNIT DIMENSIONS — 581C024-060

581C024-060

UNIT	STD. UNIT WEIGHT LBS.	KG.	ECONOMI$ER+ WEIGHT LBS.	KG.	VERT. ECON+ W/P.E. WEIGHT LBS.	KG.	(A) CORNER WEIGHT LBS.	KG.	(B) CORNER WEIGHT LBS.	KG.	(C) CORNER WEIGHT LBS.	KG.	(D) CORNER WEIGHT LBS.	KG.	FT.-IN.	"J" MM
581C024	530	240	50	22.7	90	40.9	127	57.6	122	55.3	138	62.6	143	64.9	2'-9 5/16"	846.5
581C036	540	245					129	58.5	124	56.2	141	64.0	146	66.2	2'-9 5/16"	846.5
581C048	560	254					134	60.8	129	58.5	146	66.2	151	68.5	2'-9 5/16"	846.5
581C060	615	279					147	66.7	142	64.4	160	72.6	166	75.3	3'-5 5/16"	1050

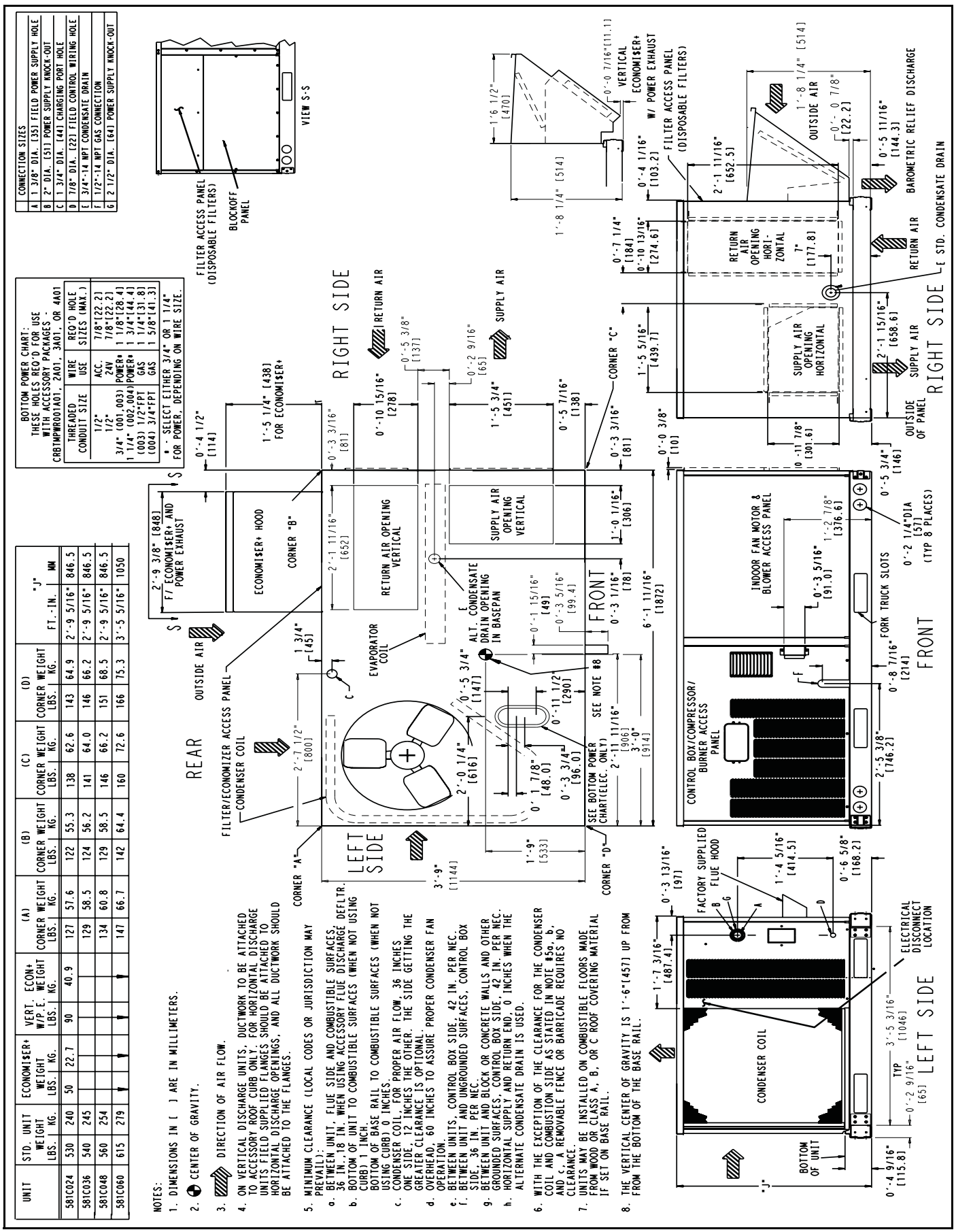
BOTTOM POWER CHART:
THESE HOLES REQ'D FOR USE WITH ACCESSORY PACKAGES - CRBTMPWR001A01, 2A01, 3A01, OR 4A01

THREADED CONDUIT SIZE	WIRE USE	REQ'D HOLE SIZES (MAX.)
1/2"	ACC.	7/8"[22.2]
1/2"	24V	7/8"[22.2]
3/4" (001,003)	POWER*	1 1/8"[28.4]
1 1/4" (002,004)	POWER*	1 3/4"[44.4]
(003) 1/2"FPT	GAS	1 1/4"[31.8]
(004) 3/4"FPT	GAS	1 5/8"[41.3]

* - SELECT EITHER 3/4" OR 1 1/4" FOR POWER, DEPENDING ON WIRE SIZE.

	CONNECTION SIZES
A	1 3/8" DIA. [35] FIELD POWER SUPPLY HOLE
B	2" DIA. [51] POWER SUPPLY KNOCK-OUT
C	1 3/4" DIA. [44] CHARGING PORT HOLE
D	7/8" DIA. [22] FIELD CONTROL WIRING HOLE
E	3/4"-14 NPT CONDENSATE DRAIN
F	1/2"-14 NPT GAS CONNECTION
G	2 1/2" DIA. [64] POWER SUPPLY KNOCK-OUT

NOTES:
1. DIMENSIONS IN [ ] ARE IN MILLIMETERS.
2. CENTER OF GRAVITY.
3. DIRECTION OF AIR FLOW.
4. ON VERTICAL DISCHARGE UNITS, DUCTWORK TO BE ATTACHED TO ACCESSORY ROOF CURB ONLY. FOR HORIZONTAL DISCHARGE UNITS FIELD SUPPLIED FLANGES SHOULD BE ATTACHED TO HORIZONTAL DISCHARGE OPENINGS, AND ALL DUCTWORK SHOULD BE ATTACHED TO THE FLANGES.
5. MINIMUM CLEARANCE (LOCAL CODES OR JURISDICTION MAY PREVAIL):
   a. BETWEEN UNIT, FLUE SIDE AND COMBUSTIBLE SURFACES, 36 IN., 18 IN. WHEN USING ACCESSORY FLUE DISCHARGE DEFLTR.
   b. BOTTOM OF UNIT TO COMBUSTIBLE SURFACES (WHEN NOT USING CURB) 1 INCH.
      BOTTOM OF BASE RAIL TO COMBUSTIBLE SURFACES (WHEN NOT USING CURB) 0 INCHES.
   c. CONDENSER COIL, FOR PROPER AIR FLOW, 36 INCHES ONE SIDE, 12 INCHES THE OTHER. THE SIDE GETTING THE GREATER CLEARANCE IS OPTIONAL.
   d. OVERHEAD, 60 INCHES TO ASSURE PROPER CONDENSER FAN OPERATION.
   e. BETWEEN UNITS, CONTROL BOX SIDE, 42 IN. PER NEC.
   f. BETWEEN UNIT AND UNGROUNDED SURFACES, CONTROL BOX SIDE, 36 IN. PER NEC.
   g. BETWEEN UNIT AND BLOCK OR CONCRETE WALLS AND OTHER GROUNDED SURFACES, CONTROL BOX SIDE, 42 IN. PER NEC.
   h. HORIZONTAL SUPPLY AND RETURN END, 0 INCHES WHEN THE ALTERNATE CONDENSATE DRAIN IS USED.
6. WITH THE EXCEPTION OF THE CLEARANCE FOR THE CONDENSER COIL AND COMBUSTION SIDE AS STATED IN NOTE #5a, b, AND c, A REMOVABLE FENCE OR BARRICADE REQUIRES NO CLEARANCE.
7. UNITS MAY BE INSTALLED ON COMBUSTIBLE FLOORS MADE FROM WOOD OR CLASS A, B, OR C ROOF COVERING MATERIAL IF SET ON BASE RAIL.
8. THE VERTICAL CENTER OF GRAVITY IS 1'-6"[457] UP FROM FROM THE BOTTOM OF THE BASE RAIL.



PERFORMANCE DATA — 581C

COOLING CAPACITIES — 581C024-060 STANDARD UNITS

581C024 (2 Tons)													
Temp (F)		Air Entering Evaporator -- CFM/BF											
Air Ent		600/0.12				800/0.14				1000/0.18			
Condenser		Air Entering Evaporator -- Ewb (F)											
(Edb)		57	62	67	72	57	62	67	72	57	62	67	72
75	TCG	22.6	24.3	26.7	29	25	25.7	28.1	30.2	26.6	26.8	29	30.9
	SHG	21.7	19.5	16.4	13	24	22.9	18.6	14.1	25.6	25.4	20.6	15.1
	CMP	1.18	1.19	1.2	1.21	1.19	1.19	1.2	1.21	1.19	1.2	1.21	1.22
85	TCG	21.3	23	25.7	28	24.2	24.7	27.2	29.6	25.9	25.9	27.9	30.2
	SHG	20.5	19	16	12.7	23.3	22.4	18.4	14.1	24.9	24.9	20.3	15.1
	CMP	1.36	1.37	1.38	1.39	1.38	1.38	1.39	1.4	1.38	1.38	1.39	1.4
95	TCG	19.9	21	24.7	27.2	23.1	23.3	26	28.6	25	24.9	26.9	29.3
	SHG	19.1	18.2	15.7	12.4	22.2	21.9	18.1	13.9	24	24	20.2	15.1
	CMP	1.56	1.57	1.59	1.6	1.58	1.58	1.59	1.61	1.59	1.59	1.6	1.61
105	TCG	18.4	18.8	23.2	26	21.3	21.3	24.8	27.4	23.9	23.9	25.6	28.2
	SHG	17.7	17.3	15.1	12	20.5	20.5	17.7	13.5	23	23	19.9	14.8
	CMP	1.78	1.78	1.81	1.82	1.8	1.8	1.82	1.83	1.81	1.81	1.82	1.84
115	TCG	16.6	16.5	20.5	24.7	19.7	19.7	22.4	26	22	22	24.1	26.7
	SHG	16	15.9	14.1	11.6	19	19	16.9	13.1	21.1	21.1	19.5	14.5
	CMP	2.01	2.01	2.05	2.08	2.05	2.05	2.06	2.08	2.06	2.06	2.07	2.09
125	TCG	15	15	17.7	22.2	17.7	17.7	19.6	24.4	19.7	19.8	20.5	25.2
	SHG	14.5	14.5	13.2	10.8	17	17	16	12.7	19	19	18.3	14.1
	CMP	2.27	2.27	2.3	2.34	2.3	2.3	2.32	2.35	2.32	2.32	2.33	2.36

581C036 (3 Tons)													
Temp (F)		Air Entering Evaporator -- CFM/BF											
Air Ent		900/0.10				1200/0.13				1500/0.16			
Condenser		Air Entering Evaporator -- Ewb (F)											
(Edb)		57	62	67	72	57	62	67	72	57	62	67	72
75	TCG	32	34.5	38.9	42.8	35.1	37.1	40.9	44.9	38.1	38.5	42.2	45.9
	SHG	32	28.9	25	20.4	35.1	33.6	28.3	22.3	38.1	37.4	31.2	23.9
	CMP	1.94	1.96	1.98	2	1.96	1.97	1.99	2.01	1.98	1.98	2	2.02
85	TCG	30.9	33.2	37.5	41.4	33.8	34.9	39.4	43.3	36.9	37	40.5	44.3
	SHG	30.9	28.3	24.5	19.8	33.8	32.5	27.8	21.8	36.9	36.7	30.7	23.3
	CMP	2.19	2.21	2.24	2.26	2.22	2.23	2.25	2.27	2.24	2.24	2.26	2.28
95	TCG	29.5	31.4	35.4	39.7	31.8	32.3	37.7	41.5	35.1	35.2	38.8	42.5
	SHG	29.5	27.3	23.6	19.2	31.8	31.2	27.2	21.2	35	35.2	30	22.8
	CMP	2.47	2.49	2.52	2.54	2.5	2.51	2.54	2.56	2.53	2.53	2.54	2.56
105	TCG	28	29.5	33	38	29.5	29.5	34.7	39.7	32.3	32.2	36.8	40.8
	SHG	28	26.4	22.6	18.6	29.4	29.4	26	20.7	32.3	32.2	29.5	22.5
	CMP	2.78	2.79	2.83	2.86	2.81	2.81	2.85	2.87	2.84	2.84	2.86	2.88
115	TCG	26.3	27.1	30.7	35.2	27.6	27.6	31.1	37.6	29.6	29.5	32.9	38.5
	SHG	26.3	25.3	21.7	17.7	27.6	27.6	24.5	20	29.6	29.5	27.8	21.9
	CMP	3.1	3.11	3.16	3.2	3.15	3.15	3.18	3.22	3.17	3.17	3.2	3.23
125	TCG	24.4	24.7	28.1	32.1	25.5	25.5	27.5	33.7	27	27	28.5	35.8
	SHG	24.4	24.1	20.7	16.6	25.5	25.4	22.9	18.8	27	27	26	21.2
	CMP	3.45	3.46	3.51	3.56	3.51	3.51	3.53	3.59	3.53	3.53	3.55	3.6

LEGEND

BF — Bypass Factor
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
COMP — Compressor Power kw
SHG — Gross Sensible Capacity (1000 Btuh)
TCG — Compressor Cooling Capicity (1000 Btuh)

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil.

3. The SHC is based on 80 F edb temperature of air entering evaporator coil.
   Below 80 F edb, subtract (corr factor x cfm) from SHC.
   Above 80 F edb, add (corr factor x cfm) to SHC.
   Correction Factor = 1.10 x (1 – BF) x (edb – 80)

COOLING CAPACITIES — 581C024-060 STANDARD UNITS (cont)

581C048 (4 Tons)										
Temp (F)		Air Entering Evaporator -- CFM/BF								
Air Ent		1200/0.05			1600/0.07			2000/0.09		
Condenser		Air Entering Evaporator -- Ewb (F)								
(Edb)		62	67	72	62	67	72	62	67	72
75	TCG	46.3	51.1	55.7	48.8	53.5	58	50.7	54.9	59.1
	SHG	39.9	33.8	27.1	46.3	38.6	29.8	50.6	42.7	32
	CMP	2.36	2.37	2.38	2.37	2.38	2.39	2.37	2.38	2.39
85	TCG	42.9	49	54	46.2	51.5	56.4	49.2	52.8	57.4
	SHG	38.5	33	26.6	45.2	37.9	29.4	49.1	42.2	31.7
	CMP	2.69	2.71	2.72	2.71	2.72	2.74	2.72	2.72	2.74
95	TCG	38.7	45.8	51.9	42.6	48.8	54.2	46.8	50.4	55.5
	SHG	36.5	31.8	25.9	42.5	37.1	28.9	46.8	41.6	31.4
	CMP	3.05	3.08	3.11	3.07	3.1	3.12	3.1	3.11	3.12
105	TCG	34.4	41.1	49.1	39	43.8	51.5	43.3	46.3	52.8
	SHG	34.3	30	24.9	39	35.3	28.2	43.3	40.4	30.9
	CMP	3.42	3.48	3.53	3.47	3.5	3.54	3.5	3.52	3.54
115	TCG	31.4	36.3	44.7	35.8	38.4	47.3	39.2	40.6	49.5
	SHG	31.4	28.1	23.5	35.8	33.3	26.9	39.2	38.1	30.1
	CMP	3.85	3.9	3.96	3.9	3.92	3.98	3.93	3.94	4
125	TCG	28.2	31.1	39.8	31.9	33	41.6	35.3	35.4	43.9
	SHG	28.1	26.2	21.8	31.9	31.1	25.1	35.3	35.4	28.4
	CMP	4.31	4.35	4.42	4.36	4.37	4.44	4.4	4.4	4.46

581C060 (5 Tons)																	
Temp (F)		Indoor Entering Air -- CFM/BF															
Outdoor		1500/0.26				1750/.31				2000/.35				2500/.45			
Air Ent		Indoor Entering Air -- Ewb (F)															
(Edb)		57	62	67	72	57	62	67	72	57	62	67	72	57	62	67	72
75	TCG	57	60.2	66.5	72	60.3	62.3	68.5	73.8	63.2	64.1	69.7	75.6	67.4	67.4	71.8	77.6
	SHG	55.3	50.5	42.4	33.5	58.6	55.2	45.7	35.4	61.3	59.5	48.6	37.4	65.5	65.5	54.4	40.7
	CMP	3.1	3.11	3.12	3.14	3.11	3.12	3.13	3.15	3.11	3.12	3.13	3.16	3.12	3.12	3.14	3.17
85	TCG	54.1	56.9	64	70.2	58.3	59.7	65.9	72	60.9	61.4	67.3	73.4	65.3	65.2	69.6	75.3
	SHG	52.6	49.1	41.4	33	56.6	54.1	44.8	35	59.2	58.4	48	36.9	63.4	63.4	54.4	40.4
	CMP	3.5	3.52	3.54	3.56	3.52	3.53	3.54	3.57	3.53	3.54	3.54	3.58	3.54	3.54	3.56	3.59
95	TCG	50.2	53	61.1	67.5	55	55.6	62.9	69.3	58.6	58.6	64.3	70.6	62.8	62.8	66.4	72.7
	SHG	48.8	47.4	40.3	32.2	53.4	52.3	43.8	34.2	56.9	56.8	47.2	36.1	61	61	53.4	40
	CMP	3.94	3.95	3.99	4.02	3.97	3.97	4.01	4.03	3.99	3.99	4.02	4.03	4.01	4.01	4.02	4.05
105	TCG	47.4	47.9	56.5	64.3	50.9	51	59.5	66.1	54.7	54.8	60.9	67.4	59.9	60	62.9	69
	SHG	46	45.2	38.7	31.1	49.5	49.5	42.6	33.2	53.1	53.2	45.9	35.2	58.2	58.3	52.4	38.8
	CMP	4.42	4.42	4.48	4.51	4.44	4.44	4.5	4.53	4.47	4.47	4.51	4.54	4.5	4.5	4.52	4.54
115	TCG	43.1	43.2	50.3	60.8	47.3	47.3	52.6	62.6	50.1	50.1	55.6	63.9	56	55.9	58.2	65.4
	SHG	41.8	42	36.4	30	45.9	45.9	40.2	32.1	48.7	48.7	44.1	34.2	54.4	54.3	50.8	37.9
	CMP	4.92	4.92	4.98	5.05	4.96	4.96	5	5.07	4.98	4.98	5.02	5.08	5.03	5.03	5.05	5.08
125	TCG	39	39	43.9	55.7	42.3	42.3	46.9	58.5	46.1	46.1	48.2	59.7	50.9	50.9	51.3	61.4
	SHG	37.9	37.9	34.1	28.3	41.1	41	38.2	30.8	44.8	44.8	41.6	32.9	49.4	49.4	48.2	36.9
	CMP	5.47	5.46	5.52	5.62	5.51	5.51	5.55	5.64	5.54	5.54	5.56	5.66	5.59	5.59	5.59	5.66

LEGEND

BF — Bypass Factor
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
COMP — Compressor Power kw
SHG — Gross Sensible Capacity (1000 Btuh)
TCG — Compressor Cooling Capicity (1000 Btuh)

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil.

3. The SHC is based on 80 F edb temperature of air entering evaporator coil.
   Below 80 F edb, subtract (corr factor x cfm) from SHC.
   Above 80 F edb, add (corr factor x cfm) to SHC.
   Correction Factor = 1.10 x (1 – BF) x (edb – 80).

PERFORMANCE DATA — 581C

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS

581C (2 Tons) - STANDARD MOTOR (BELT DRIVE)												
AIRFLOW (Cfm)	EXTERNALSTATIC PRESSURE (in. wg)											
	0.1		0.2		0.4		0.6		0.8		1.0	
	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp
600	**500**	**0.08**	**531**	**0.08**	**607**	0.14	713	0.21	788	0.29	878	0.37
700	**529**	**0.09**	**567**	0.09	633	0.16	739	0.24	816	0.32	**902**	0.41
800	**547**	**0.1**	**592**	0.12	660	0.19	761	0.27	845	0.37	**937**	0.47
900	**570**	**0.13**	**620**	0.14	691	0.22	793	0.32	**870**	**0.42**	**957**	0.53
1000	**599**	**0.15**	650	0.16	717	0.26	818	0.36	894	0.47	981	0.58

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Motor drive range: 680 to 1044 rpm. All other rpms require field-supplied drive.

Refer to page 107 for general Fan Performance Data notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 1.20.

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS

581C036 (3 TONS) — STANDARD MOTOR (BELT DRIVE)*															
Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
900	**567**	**0.15**	**145**	688	0.22	222	786	0.30	296	871	0.37	368	947	0.44	437
1000	**599**	**0.18**	**177**	717	0.27	265	814	0.35	349	897	0.43	430	972	0.51	509
1100	**632**	**0.22**	**215**	747	0.31	313	842	0.41	407	925	0.50	498	999	0.59	587
1200	**666**	**0.26**	**257**	778	0.37	367	871	0.47	471	952	0.57	572	1025	0.67	670
1300	701	0.31	306	810	0.43	426	901	0.54	540	981	0.65	651	**1053**	**0.76**	**760**
1400	737	0.36	361	842	0.49	491	931	0.62	616	1010	0.74	738	**1081**	**0.86**	**856**
1500	773	0.42	422	875	0.57	564	963	0.70	699	1040	0.84	831	**1110**	**0.96**	**960**

581C036 (3 TONS) — STANDARD MOTOR (BELT DRIVE)* (cont)															
Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
900	1016	0.51	505	**1080**	**0.57**	**572**	**1139**	**0.64**	**637**	**1195**	**0.71**	**702**	**1249**	**0.77**	**765**
1000	1041	0.59	587	**1104**	**0.67**	**662**	**1163**	**0.74**	**737**	**1219**	**0.81**	**811**	**1272**	**0.89**	**883**
1100	**1066**	**0.68**	**674**	**1129**	**0.76**	**759**	**1188**	**0.85**	**843**	**1243**	**0.93**	**925**	**1296**	**1.01**	**1007**
1200	**1093**	**0.77**	**767**	**1155**	**0.87**	**861**	**1213**	**0.96**	**955**	**1268**	**1.05**	**1047**	**1321**	**1.14**	**1137**
1300	**1119**	**0.87**	**866**	**1181**	**0.98**	**970**	**1239**	**1.08**	**1073**	**1294**	**1.18**	**1175**	—	—	—
1400	**1147**	**0.98**	**972**	**1208**	**1.09**	**1086**	—	—	—	—	—	—	—	—	—
1500	**1175**	**1.09**	**1086**	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Motor drive range: 680 to 1044 rpm. All other rpms require field-supplied drive.

Refer to page 107 for general Fan Performance Data notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 1.20.

581C036 (3 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*															
Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
900	**567**	**0.15**	**145**	**688**	**0.22**	**222**	**786**	**0.30**	**296**	**871**	**0.37**	**368**	**947**	**0.44**	**437**
1000	**599**	**0.18**	**177**	**717**	**0.27**	**265**	**814**	**0.35**	**349**	**897**	**0.43**	**430**	**972**	**0.51**	**509**
1100	**632**	**0.22**	**215**	**747**	**0.31**	**313**	**842**	**0.41**	**407**	**925**	**0.50**	**498**	**999**	**0.59**	**587**
1200	**666**	**0.26**	**257**	**778**	**0.37**	**367**	**871**	**0.47**	**471**	**952**	**0.57**	**572**	**1025**	**0.67**	**670**
1300	**701**	**0.31**	**306**	**810**	**0.43**	**426**	**901**	**0.54**	**540**	**981**	**0.65**	**651**	**1053**	**0.76**	**760**
1400	**737**	**0.36**	**361**	**842**	**0.49**	**491**	**931**	**0.62**	**616**	**1010**	**0.74**	**738**	1081	0.86	856
1500	**773**	**0.42**	**422**	**875**	**0.57**	**564**	**963**	**0.70**	**699**	**1040**	**0.84**	**831**	1110	0.96	960

581C036 (3 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
900	**1016**	**0.51**	**505**	1080	0.57	572	1139	0.64	637	1195	0.71	702	1249	0.77	765
1000	**1041**	**0.59**	**587**	1104	0.67	662	1163	0.74	737	1219	0.81	811	1272	0.89	883
1100	**1066**	**0.68**	**674**	1129	0.76	759	1188	0.85	843	1243	0.93	925	1296	1.01	1007
1200	1093	0.77	767	1155	0.87	861	1213	0.96	955	1268	1.05	1047	1321	1.14	1137
1300	1119	0.87	866	1181	0.98	970	1239	1.08	1073	1294	1.18	1175	1346	1.28	1275
1400	1147	0.98	972	1208	1.09	1086	1265	1.21	1199	1320	1.32	1310	1371	1.43	1419
1500	1175	1.09	1086	1235	1.22	1209	1292	1.34	1332	1346	1.46	1452	1397	1.58	1572

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Motor drive range: 1075 to 1455 rpm. All other rpms require field-supplied drive.

Refer to page 107 for general Fan Performance Data notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

581C048 (4 TONS) — STANDARD MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1200	**666**	**0.26**	**257**	778	0.37	367	871	0.47	471	952	0.57	572	1025	0.67	670
1300	**701**	**0.31**	**306**	810	0.43	426	901	0.54	540	981	0.65	651	1053	0.76	760
1400	**737**	**0.36**	**361**	842	0.49	491	931	0.62	616	1010	0.74	738	1081	0.86	856
1500	773	0.42	422	875	0.57	564	963	0.70	699	1040	0.84	831	1110	0.96	960
1600	810	0.49	491	909	0.65	643	994	0.79	790	1070	0.94	932	1140	1.08	1070
1700	847	0.57	567	943	0.73	730	1027	0.89	888	1101	1.05	1040	1170	1.20	1189
1800	885	0.66	652	978	0.83	826	1060	1.00	994	1133	1.16	1157	—	—	—
1900	923	0.75	745	1014	0.94	930	1093	1.11	1109	—	—	—	—	—	—
2000	962	0.85	847	1049	1.05	1043	—	—	—	—	—	—	—	—	—

581C048 (4 TONS) — STANDARD MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1200	1093	0.77	767	1155	0.87	861	**1213**	**0.96**	**955**	**1268**	**1.05**	**1047**	**1321**	**1.14**	**1137**
1300	1119	0.87	866	1181	0.98	970	**1239**	**1.08**	**1073**	**1294**	**1.18**	**1175**	—	—	—
1400	1147	0.98	972	**1208**	**1.09**	**1086**	—	—	—	—	—	—	—	—	—
1500	1175	1.09	1086	—	—	—	—	—	—	—	—	—	—	—	—
1600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Motor drive range: 770 to 1185 rpm. All other rpms require field-supplied drive.

Refer to page 107 for general Fan Performance Data notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 1.20.

581C048 (4 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1200	**666**	**0.26**	**257**	**778**	**0.37**	**367**	**871**	**0.47**	**471**	**952**	**0.57**	**572**	**1025**	**0.67**	**670**
1300	**701**	**0.31**	**306**	**810**	**0.43**	**426**	**901**	**0.54**	**540**	**981**	**0.65**	**651**	**1053**	**0.76**	**760**
1400	**737**	**0.36**	**361**	**842**	**0.49**	**491**	**931**	**0.62**	**616**	**1010**	**0.74**	**738**	1081	0.86	856
1500	**773**	**0.42**	**422**	**875**	**0.57**	**564**	**963**	**0.70**	**699**	**1040**	**0.84**	**831**	1110	0.96	960
1600	**810**	**0.49**	**491**	**909**	**0.65**	**643**	**994**	**0.79**	**790**	**1070**	**0.94**	**932**	1140	1.08	1070
1700	**847**	**0.57**	**567**	**943**	**0.73**	**730**	**1027**	**0.89**	**888**	1101	1.05	1040	1170	1.20	1189
1800	**885**	**0.66**	**652**	**978**	**0.83**	**826**	**1060**	**1.00**	**994**	1133	1.16	1157	1200	1.32	1316
1900	**923**	**0.75**	**745**	**1014**	**0.94**	**930**	1093	1.11	1109	1165	1.29	1283	1231	1.46	1453
2000	**962**	**0.85**	**847**	**1049**	**1.05**	**1043**	1127	1.24	1233	1198	1.42	1417	1263	1.61	1598

PERFORMANCE DATA — 581C

581C048 (4 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1200	1093	0.77	767	1155	0.87	861	1213	0.96	955	1268	1.05	1047	1321	1.14	1137
1300	1119	0.87	866	1181	0.98	970	1239	1.08	1073	1294	1.18	1175	1346	1.28	1275
1400	1147	0.98	972	1208	1.09	1086	1265	1.21	1199	1320	1.32	1310	1371	1.43	1419
1500	1175	1.09	1086	1235	1.22	1209	1292	1.34	1332	1346	1.46	1452	1397	1.58	1572
1600	1204	1.21	1207	1263	1.35	1340	1320	1.48	1472	1373	1.61	1603	1424	1.74	1732
1700	1233	1.34	1336	1292	1.49	1480	1348	1.63	1622	1401	1.77	1762	1451	1.91	1901
1800	1262	1.48	1473	1321	1.64	1627	1376	1.79	1779	1428	1.94	1930	**1479**	**2.09**	**2078**
1900	1293	1.63	1620	1350	1.79	1784	1405	1.96	1946	**1457**	**2.12**	**2106**	**1506**	**2.28**	**2265**
2000	1323	1.79	1776	1380	1.96	1950	1434	2.13	2123	**1486**	**2.31**	**2293**	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Motor drive range: 1075 to 1455 rpm. All other rpms require field-supplied drive.

Refer to page 107 for general Fan Performance Data notes.

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

581C060 (5 TONS) — STANDARD MOTOR (BELT DRIVE)* — SINGLE-PHASE UNITS

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	**848**	**0.42**	**371**	**968**	**0.55**	**486**	1069	0.68	600	1158	0.80	715	1238	0.94	831
1600	**887**	**0.49**	**433**	**1004**	**0.63**	**556**	1103	0.76	678	1190	0.90	800	1269	1.04	922
1700	**927**	**0.57**	**502**	1040	0.71	633	1137	0.86	763	1223	1.00	892	1302	1.15	1022
1800	**967**	**0.65**	**579**	1077	0.81	718	1172	0.96	856	1257	1.12	993	1334	1.27	1130
1900	**1007**	**0.75**	**663**	1115	0.91	811	1208	1.08	957	1291	1.24	1101	—	—	—
2000	1048	0.85	757	1153	1.03	913	1244	1.20	1066	—	—	—	—	—	—
2100	1090	0.97	859	1191	1.15	1023	—	—	—	—	—	—	—	—	—
2200	1131	1.09	970	1230	1.29	1143	—	—	—	—	—	—	—	—	—
2300	1173	1.23	1091	—	—	—	—	—	—	—	—	—	—	—	—
2400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

581C060 (5 TONS) — STANDARD MOTOR (BELT DRIVE)* — SINGLE-PHASE UNITS (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	1312	1.07	948	1380	1.20	1067	—	—	—	—	—	—	—	—	—
1600	1342	1.18	1047	—	—	—	—	—	—	—	—	—	—	—	—
1700	1374	1.30	1153	—	—	—	—	—	—	—	—	—	—	—	—
1800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Motor drive range: 1035 to 1460 rpm. All other rpms require field-supplied drive.

Refer to page 107 for general Fan Performance Data notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 1.30.

581C060 (5 TONS) — STANDARD MOTOR (BELT DRIVE)* — THREE-PHASE UNITS

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	**848**	**0.42**	**371**	**968**	**0.55**	**486**	1069	0.68	600	1158	0.80	715	1238	0.94	831
1600	**887**	**0.49**	**433**	**1004**	**0.63**	**556**	1103	0.76	678	1190	0.90	800	1269	1.04	922
1700	**927**	**0.57**	**502**	1040	0.71	633	1137	0.86	763	1223	1.00	892	1302	1.15	1022
1800	**967**	**0.65**	**579**	1077	0.81	718	1172	0.96	856	1257	1.12	993	1334	1.27	1130
1900	**1007**	**0.75**	**663**	1115	0.91	811	1208	1.08	957	1291	1.24	1101	1368	1.40	1246
2000	1048	0.85	757	1153	1.03	913	1244	1.20	1066	1326	1.37	1219	1401	1.54	1371
2100	1090	0.97	859	1191	1.15	1023	1281	1.33	1185	1361	1.51	1345	1435	1.69	1505
2200	1131	1.09	970	1230	1.29	1143	1318	1.48	1313	1397	1.67	1481	**1470**	**1.86**	**1649**
2300	1173	1.23	1091	1269	1.43	1273	1355	1.63	1451	1433	1.83	1627	**1505**	**2.03**	**1803**
2400	1215	1.38	1223	1309	1.59	1413	1393	1.80	1600	**1470**	**2.01**	**1784**	**1540**	**2.21**	**1967**
2500	1258	1.54	1365	1349	1.76	1564	1431	1.98	1759	**1506**	**2.20**	**1951**	—	—	—

PERFORMANCE DATA — 581C

581C060 (5 TONS) — STANDARD MOTOR (BELT DRIVE)* — THREE-PHASE UNITS (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	1312	1.07	948	1380	1.20	1067	1445	1.34	1189	**1506**	**1.48**	**1312**	**1564**	**1.62**	**1437**
1600	1342	1.18	1047	1411	1.32	1173	**1474**	**1.46**	**1300**	**1535**	**1.61**	**1429**	**1593**	**1.76**	**1560**
1700	1374	1.30	1153	1441	1.45	1286	**1505**	**1.60**	**1420**	**1565**	**1.75**	**1555**	**1622**	**1.91**	**1692**
1800	1406	1.43	1268	**1473**	**1.58**	**1407**	**1535**	**1.74**	**1548**	**1595**	**1.90**	**1690**	**1652**	**2.06**	**1833**
1900	1438	1.57	1391	**1504**	**1.73**	**1537**	**1567**	**1.90**	**1685**	**1626**	**2.06**	**1833**	**1682**	**2.23**	**1983**
2000	**1471**	**1.72**	**1523**	**1536**	**1.89**	**1677**	**1598**	**2.06**	**1831**	**1657**	**2.24**	**1986**	—	—	—
2100	**1504**	**1.87**	**1665**	**1569**	**2.06**	**1825**	**1630**	**2.24**	**1986**	—	—	—	—	—	—
2200	**1538**	**2.04**	**1816**	**1602**	**2.23**	**1984**	—	—	—	—	—	—	—	—	—
2300	**1572**	**2.23**	**1978**	—	—	—	—	—	—	—	—	—	—	—	—
2400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Motor drive range: 1035 to 1460 rpm. All other rpms require field-supplied drive.

Refer to page 107 for general Fan Performance Data notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

581C060 (5 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	**848**	**0.42**	**371**	**968**	**0.55**	**486**	**1069**	**0.68**	**600**	**1158**	**0.80**	**715**	**1238**	**0.94**	**831**
1600	**887**	**0.49**	**433**	**1004**	**0.63**	**556**	**1103**	**0.76**	**678**	**1190**	**0.90**	**800**	**1269**	**1.04**	**922**
1700	**927**	**0.57**	**502**	**1040**	**0.71**	**633**	**1137**	**0.86**	**763**	**1223**	**1.00**	**892**	1302	1.15	1022
1800	**967**	**0.65**	**579**	**1077**	**0.81**	**718**	**1172**	**0.96**	**856**	**1257**	**1.12**	**993**	1334	1.27	1130
1900	**1007**	**0.75**	**663**	**1115**	**0.91**	**811**	**1208**	**1.08**	**957**	**1291**	**1.24**	**1101**	1368	1.40	1246
2000	**1048**	**0.85**	**757**	**1153**	**1.03**	**913**	**1244**	**1.20**	**1066**	1326	1.37	1219	1401	1.54	1371
2100	**1090**	**0.97**	**859**	**1191**	**1.15**	**1023**	**1281**	**1.33**	**1185**	1361	1.51	1345	1435	1.69	1505
2200	**1131**	**1.09**	**970**	**1230**	**1.29**	**1143**	1318	1.48	1313	1397	1.67	1481	1470	1.86	1649
2300	**1173**	**1.23**	**1091**	**1269**	**1.43**	**1273**	1355	1.63	1451	1433	1.83	1627	1505	2.03	1803
2400	**1215**	**1.38**	**1223**	1309	1.59	1413	1393	1.80	1600	1470	2.01	1784	1540	2.21	1967
2500	**1258**	**1.54**	**1365**	1349	1.76	1564	1431	1.98	1759	1506	2.20	1951	1576	2.41	2142

581C060 (5 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	1312	1.07	948	1380	1.20	1067	1445	1.34	1189	1506	1.48	1312	1564	1.62	1437
1600	1342	1.18	1047	1411	1.32	1173	1474	1.46	1300	1535	1.61	1429	1593	1.76	1560
1700	1374	1.30	1153	1441	1.45	1286	1505	1.60	1420	1565	1.75	1555	1622	1.91	1692
1800	1406	1.43	1268	1473	1.58	1407	1535	1.74	1548	1595	1.90	1690	1652	2.06	1833
1900	1438	1.57	1391	1504	1.73	1537	1567	1.90	1685	1626	2.06	1833	1682	2.23	1983
2000	1471	1.72	1523	1536	1.89	1677	1598	2.06	1831	1657	2.24	1986	**1713**	**2.41**	**2142**
2100	1504	1.87	1665	1569	2.06	1825	1630	2.24	1986	**1688**	**2.42**	**2149**	**1744**	**2.60**	**2312**
2200	1538	2.04	1816	1602	2.23	1984	1663	2.42	2152	**1720**	**2.61**	**2321**	**1775**	**2.81**	**2491**
2300	1572	2.23	1978	1635	2.42	2153	**1695**	**2.62**	**2328**	**1753**	**2.82**	**2504**	—	—	—
2400	1607	2.42	2150	1669	2.63	2332	**1729**	**2.83**	**2515**	—	—	—	—	—	—
2500	1642	2.63	2333	**1704**	**2.84**	**2523**	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Motor drive range: 1300 to 1685 rpm. All other rpms require field-supplied drive.

Refer to page 107 for general Fan Performance Data notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.90.

PERFORMANCE DATA — 581C

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS

581C024 (2Tons)												
AIRFLOW (Cfm)	EXTERNALSTATIC PRESSURE (in. wg)											
	0.1		0.2		0.4		0.6		0.8		1.0	
	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp
600	**490**	**0.08**	**521**	**0.08**	**597**	**0.14**	703	0.21	788	0.29	868	0.37
700	**519**	**0.09**	**557**	**0.09**	623	0.16	729	0.24	816	0.32	**892**	**0.41**
800	**537**	**0.1**	**582**	**0.12**	650	0.19	751	0.27	845	0.37	**927**	**0.47**
900	**560**	**0.13**	**610**	**0.14**	681	0.22	783	0.32	**870**	**0.42**	**947**	**0.53**
1000	**589**	**0.15**	640	0.16	707	0.26	808	0.36	**894**	**0.47**	**971**	**0.58**

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Motor drive range: 680 to 1044 rpm. All other rpms require field-supplied drive.

See page 107 for general fan performance notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 1.20.

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS

581C036 (3 TONS) — STANDARD MOTOR (BELT DRIVE)*															
Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
900	**553**	**0.14**	**134**	681	0.22	221	782	0.32	316	870	0.42	417	948	0.53	526
1000	**582**	**0.16**	**163**	707	0.26	257	807	0.36	358	894	0.47	466	971	0.58	580
1100	**612**	**0.20**	**196**	734	0.30	297	833	0.41	405	919	0.52	519	995	0.64	639
1200	**643**	**0.23**	**234**	762	0.34	343	859	0.46	458	944	0.58	579	1020	0.71	705
1300	**675**	**0.28**	**277**	790	0.40	394	886	0.52	517	969	0.65	644	1044	0.78	777
1400	707	0.33	326	819	0.45	452	913	0.58	581	996	0.72	716	**1070**	**0.86**	**855**
1500	740	0.38	382	849	0.52	515	941	0.66	653	1023	0.80	795	**1096**	**0.95**	**941**

581C036 (3 TONS) — STANDARD MOTOR (BELT DRIVE)* (cont)															
Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
900	1019	0.64	640	**1084**	**0.76**	**760**	**1146**	**0.89**	**885**	**1203**	**1.02**	**1016**	**1258**	**1.16**	**1152**
1000	1042	0.70	700	**1107**	**0.83**	**825**	**1168**	**0.96**	**956**	**1225**	**1.10**	**1091**	—	—	—
1100	**1065**	**0.77**	**765**	**1130**	**0.90**	**896**	**1190**	**1.04**	**1032**	**1247**	**1.18**	**1173**	—	—	—
1200	**1089**	**0.84**	**837**	**1153**	**0.98**	**974**	**1213**	**1.12**	**1115**	—	—	—	—	—	—
1300	**1113**	**0.92**	**915**	**1177**	**1.06**	**1058**	—	—	—	—	—	—	—	—	—
1400	**1138**	**1.01**	**1000**	**1201**	**1.15**	**1149**	—	—	—	—	—	—	—	—	—
1500	**1163**	**1.10**	**1092**	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Motor drive range: 680 to 1044 rpm. All other rpms require field- supplied drive.

See page 107 for general fan performance notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 1.20.

581C036 (3 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*															
Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
900	**553**	**0.14**	**134**	**681**	**0.22**	**221**	**782**	**0.32**	**316**	**870**	**0.42**	**417**	**948**	**0.53**	**526**
1000	**582**	**0.16**	**163**	**707**	**0.26**	**257**	**807**	**0.36**	**358**	**894**	**0.47**	**466**	**971**	**0.58**	**580**
1100	**612**	**0.20**	**196**	**734**	**0.30**	**297**	**833**	**0.41**	**405**	**919**	**0.52**	**519**	**995**	**0.64**	**639**
1200	**643**	**0.23**	**234**	**762**	**0.34**	**343**	**859**	**0.46**	**458**	**944**	**0.58**	**579**	**1020**	**0.71**	**705**
1300	**675**	**0.28**	**277**	**790**	**0.40**	**394**	**886**	**0.52**	**517**	**969**	**0.65**	**644**	**1044**	**0.78**	**777**
1400	**707**	**0.33**	**326**	**819**	**0.45**	**452**	**913**	**0.58**	**581**	**996**	**0.72**	**716**	**1070**	**0.86**	**855**
1500	**740**	**0.38**	**382**	**849**	**0.52**	**515**	**941**	**0.66**	**653**	**1023**	**0.80**	**795**	1096	0.95	941

581C036 (3 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
900	**1019**	**0.64**	**640**	1084	0.76	760	1146	0.89	885	1203	1.02	1016	1258	1.16	1152
1000	**1042**	**0.70**	**700**	1107	0.83	825	1168	0.96	956	1225	1.10	1091	1279	1.24	1232
1100	**1065**	**0.77**	**765**	1130	0.90	896	1190	1.04	1032	1247	1.18	1173	1301	1.33	1319
1200	1089	0.84	837	1153	0.98	974	1213	1.12	1115	1270	1.27	1262	1324	1.42	1413
1300	1113	0.92	915	1177	1.06	1058	1237	1.21	1205	1293	1.36	1358	1347	1.52	1514
1400	1138	1.01	1000	1201	1.15	1149	1261	1.31	1303	1317	1.47	1461	1370	1.63	1623
1500	1163	1.10	1092	1226	1.25	1247	1285	1.41	1407	1341	1.58	1571	1394	1.75	1740

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Motor drive range: 1075 to 1455 rpm. All other rpms require field-supplied drive.

See page 107 for general fan performance notes.

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

581C048 (4 TONS) — STANDARD MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1200	**643**	**0.23**	**234**	**762**	**0.34**	**343**	859	0.46	458	944	0.58	579	1020	0.71	705
1300	**675**	**0.28**	**277**	790	0.40	394	886	0.52	517	969	0.65	644	1044	0.78	777
1400	**707**	**0.33**	**326**	819	0.45	452	913	0.58	581	996	0.72	716	1070	0.86	855
1500	**740**	**0.38**	**382**	849	0.52	515	941	0.66	653	1023	0.80	795	1096	0.95	941
1600	773	0.45	444	879	0.59	586	970	0.73	731	1050	0.88	880	1123	1.04	1034
1700	807	0.52	513	910	0.67	663	999	0.82	817	1078	0.98	973	1150	1.14	1134
1800	841	0.59	589	942	0.75	749	1029	0.91	910	1106	1.08	1074	—	—	—
1900	875	0.68	674	974	0.85	842	1059	1.02	1012	1135	1.19	1184	—	—	—
2000	910	0.77	767	1006	0.95	944	1090	1.13	1122	—	—	—	—	—	—

581C048 (4 TONS) — STANDARD MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1200	1089	0.84	837	1153	0.98	974	**1213**	**1.12**	**1115**	—	—	—	—	—	—
1300	1113	0.92	915	1177	1.06	1058	—	—	—	—	—	—	—	—	—
1400	1138	1.01	1000	**1201**	**1.15**	**1149**	—	—	—	—	—	—	—	—	—
1500	1163	1.10	1092	—	—	—	—	—	—	—	—	—	—	—	—
1600	**1189**	**1.20**	**1191**	—	—	—	—	—	—	—	—	—	—	—	—
1700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Motor drive range: 770 to 1185 rpm. All other rpms require field-supplied drive.

See page 107 for general fan performance notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 1.20.

581C048 (4 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1200	**643**	**0.23**	**234**	**762**	**0.34**	**343**	**859**	**0.46**	**458**	**944**	**0.58**	**579**	**1020**	**0.71**	**705**
1300	**675**	**0.28**	**277**	**790**	**0.40**	**394**	**886**	**0.52**	**517**	**969**	**0.65**	**644**	**1044**	**0.78**	**777**
1400	**707**	**0.33**	**326**	**819**	**0.45**	**452**	**913**	**0.58**	**581**	**996**	**0.72**	**716**	**1070**	**0.86**	**855**
1500	**740**	**0.38**	**382**	**849**	**0.52**	**515**	**941**	**0.66**	**653**	**1023**	**0.80**	**795**	1096	0.95	941
1600	**773**	**0.45**	**444**	**879**	**0.59**	**586**	**970**	**0.73**	**731**	**1050**	**0.88**	**880**	1123	1.04	1034
1700	**807**	**0.52**	**513**	**910**	**0.67**	**663**	**999**	**0.82**	**817**	1078	0.98	973	1150	1.14	1134
1800	**841**	**0.59**	**589**	**942**	**0.75**	**749**	**1029**	**0.91**	**910**	1106	1.08	1074	1177	1.25	1242
1900	**875**	**0.68**	**674**	**974**	**0.85**	**842**	**1059**	**1.02**	**1012**	1135	1.19	1184	1205	1.37	1360
2000	**910**	**0.77**	**767**	**1006**	**0.95**	**944**	1090	1.13	1122	1165	1.31	1302	1234	1.49	1485

PERFORMANCE DATA — 581C

581C048 (4 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1200	1089	0.84	837	1153	0.98	974	1213	1.12	1115	1270	1.27	1262	1324	1.42	1413
1300	1113	0.92	915	1177	1.06	1058	1237	1.21	1205	1293	1.36	1358	1347	1.52	1514
1400	1138	1.01	1000	1201	1.15	1149	1261	1.31	1303	1317	1.47	1461	1370	1.63	1623
1500	1163	1.10	1092	1226	1.25	1247	1285	1.41	1407	1341	1.58	1571	1394	1.75	1740
1600	1189	1.20	1191	1252	1.36	1353	1310	1.53	1520	1365	1.70	1690	1418	1.87	1865
1700	1216	1.31	1299	1277	1.48	1468	1335	1.65	1640	1390	1.83	1817	1442	2.01	1998
1800	1242	1.42	1414	1303	1.60	1590	1361	1.78	1770	1415	1.96	1953	**1467**	**2.15**	**2140**
1900	1270	1.55	1538	1330	1.73	1721	1387	1.92	1908	1441	2.11	2098	**1493**	**2.30**	**2292**
2000	1297	1.68	1672	1357	1.87	1862	1414	2.07	2055	**1467**	**2.26**	**2252**	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Motor drive range: 1075 to 1455 rpm. All other rpms require field-supplied drive. *See page 107 for general fan performance notes.*

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

581C060 (5 TONS) — STANDARD MOTOR (BELT DRIVE)* — SINGLE-PHASE UNITS

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	**800**	**0.39**	**350**	**904**	**0.49**	**438**	**999**	**0.60**	**535**	1087	0.72	640	1169	0.85	753
1600	**839**	**0.46**	**412**	**938**	**0.57**	**505**	**1030**	**0.68**	**605**	1115	0.80	714	1195	0.93	829
1700	**879**	**0.54**	**483**	**974**	**0.65**	**580**	1062	0.77	684	1144	0.90	796	1221	1.03	914
1800	**919**	**0.63**	**561**	**1010**	**0.75**	**663**	1095	0.87	771	1174	1.00	886	1250	1.14	1008
1900	**960**	**0.73**	**648**	1047	0.85	754	1129	0.98	867	1206	1.11	986	1279	1.25	1111
2000	**1001**	**0.84**	**744**	1085	0.96	855	1163	1.09	972	1238	1.23	1095	—	—	—
2100	1043	0.96	850	1123	1.09	965	1199	1.22	1086	—	—	—	—	—	—
2200	1085	1.09	966	1162	1.22	1086	—	—	—	—	—	—	—	—	—
2300	1127	1.23	1092	—	—	—	—	—	—	—	—	—	—	—	—
2400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

581C060 (5 TONS) — STANDARD MOTOR (BELT DRIVE)* — SINGLE-PHASE UNITS (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	1247	0.98	873	1320	1.13	1002	1390	1.28	1137	—	—	—	—	—	—
1600	1270	1.07	952	1342	1.22	1083	—	—	—	—	—	—	—	—	—
1700	1295	1.17	1040	—	—	—	—	—	—	—	—	—	—	—	—
1800	1321	1.28	1137	—	—	—	—	—	—	—	—	—	—	—	—
1900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Motor drive range: 1035 to 1460 rpm. All other rpms require field-supplied drive.

See page 107 for general fan performance notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 1.30.

581C060 (5 TONS) — STANDARD MOTOR (BELT DRIVE)* — THREE-PHASE UNITS

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	**800**	**0.39**	**350**	**904**	**0.49**	**438**	**999**	**0.60**	**535**	1087	0.72	640	1169	0.85	753
1600	**839**	**0.46**	**412**	**938**	**0.57**	**505**	**1030**	**0.68**	**605**	1115	0.80	714	1195	0.93	829
1700	**879**	**0.54**	**483**	**974**	**0.65**	**580**	1062	0.77	684	1144	0.90	796	1221	1.03	914
1800	**919**	**0.63**	**561**	**1010**	**0.75**	**663**	1095	0.87	771	1174	1.00	886	1250	1.14	1008
1900	**960**	**0.73**	**648**	1047	0.85	754	1129	0.98	867	1206	1.11	986	1279	1.25	1111
2000	**1001**	**0.84**	**744**	1085	0.96	855	1163	1.09	972	1238	1.23	1095	1309	1.38	1224
2100	1043	0.96	850	1123	1.09	965	1199	1.22	1086	1271	1.37	1213	1340	1.52	1346
2200	1085	1.09	966	1162	1.22	1086	1235	1.36	1211	1305	1.51	1342	1372	1.67	1479
2300	1127	1.23	1092	1201	1.37	1217	1272	1.52	1347	1340	1.67	1482	1405	1.83	1623
2400	1169	1.38	1229	1241	1.53	1359	1310	1.68	1493	1375	1.84	1633	1439	2.00	1778
2500	1212	1.55	1378	1281	1.70	1513	1348	1.86	1652	1412	2.02	1796	**1473**	**2.19**	**1945**

PERFORMANCE DATA — 581C

581C060 (5 TONS) — STANDARD MOTOR (BELT DRIVE)* — THREE-PHASE UNITS (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	1247	0.98	873	1320	1.13	1002	1390	1.28	1137	1457	1.44	1280	**1522**	**1.61**	**1430**
1600	1270	1.07	952	1342	1.22	1083	1411	1.37	1221	**1476**	**1.54**	**1365**	**1540**	**1.71**	**1517**
1700	1295	1.17	1040	1365	1.32	1173	1432	1.48	1313	**1497**	**1.64**	**1459**	**1559**	**1.82**	**1612**
1800	1321	1.28	1137	1390	1.43	1273	1455	1.59	1415	**1518**	**1.76**	**1563**	**1579**	**1.93**	**1718**
1900	1348	1.40	1243	1415	1.56	1381	**1479**	**1.72**	**1526**	**1541**	**1.89**	**1677**	**1601**	**2.06**	**1834**
2000	1377	1.53	1359	1442	1.69	1500	**1505**	**1.86**	**1648**	**1565**	**2.03**	**1801**	**1624**	**2.21**	**1961**
2100	1406	1.67	1485	**1470**	**1.83**	**1629**	**1531**	**2.00**	**1780**	**1591**	**2.18**	**1936**	**1648**	**2.36**	**2098**
2200	1437	1.83	1621	**1499**	**1.99**	**1769**	**1559**	**2.16**	**1923**	**1617**	**2.34**	**2082**	—	—	—
2300	**1468**	**1.99**	**1769**	**1529**	**2.16**	**1920**	**1587**	**2.34**	**2077**	—	—	—	—	—	—
2400	**1500**	**2.17**	**1928**	**1559**	**2.35**	**2083**	—	—	—	—	—	—	—	—	—
2500	**1533**	**2.36**	**2098**	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Motor drive range: 1035 to 1460 rpm. All other rpms require field-supplied drive.

See page 107 for general fan performance notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

581C060 (5 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	**800**	**0.39**	**350**	**904**	**0.49**	**438**	**999**	**0.60**	**535**	**1087**	**0.72**	**640**	**1169**	**0.85**	**753**
1600	**839**	**0.46**	**412**	**938**	**0.57**	**505**	**1030**	**0.68**	**605**	**1115**	**0.80**	**714**	**1195**	**0.93**	**829**
1700	**879**	**0.54**	**483**	**974**	**0.65**	**580**	**1062**	**0.77**	**684**	**1144**	**0.90**	**796**	**1221**	**1.03**	**914**
1800	**919**	**0.63**	**561**	**1010**	**0.75**	**663**	**1095**	**0.87**	**771**	**1174**	**1.00**	**886**	**1250**	**1.14**	**1008**
1900	**960**	**0.73**	**648**	**1047**	**0.85**	**754**	**1129**	**0.98**	**867**	**1206**	**1.11**	**986**	**1279**	**1.25**	**1111**
2000	**1001**	**0.84**	**744**	**1085**	**0.96**	**855**	**1163**	**1.09**	**972**	**1238**	**1.23**	**1095**	1309	1.38	1224
2100	**1043**	**0.96**	**850**	**1123**	**1.09**	**965**	**1199**	**1.22**	**1086**	**1271**	**1.37**	**1213**	1340	1.52	1346
2200	**1085**	**1.09**	**966**	**1162**	**1.22**	**1086**	**1235**	**1.36**	**1211**	1305	1.51	1342	1372	1.67	1479
2300	**1127**	**1.23**	**1092**	**1201**	**1.37**	**1217**	**1272**	**1.52**	**1347**	1340	1.67	1482	1405	1.83	1623
2400	**1169**	**1.38**	**1229**	**1241**	**1.53**	**1359**	1310	1.68	1493	1375	1.84	1633	1439	2.00	1778
2500	**1212**	**1.55**	**1378**	**1281**	**1.70**	**1513**	1348	1.86	1652	1412	2.02	1796	1473	2.19	1945

581C060 (5 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	**1247**	**0.98**	**873**	1320	1.13	1002	1390	1.28	1137	1457	1.44	1280	1522	1.61	1430
1600	**1270**	**1.07**	**952**	1342	1.22	1083	1411	1.37	1221	1476	1.54	1365	1540	1.71	1517
1700	**1295**	**1.17**	**1040**	1365	1.32	1173	1432	1.48	1313	1497	1.64	1459	1559	1.82	1612
1800	1321	1.28	1137	1390	1.43	1273	1455	1.59	1415	1518	1.76	1563	1579	1.93	1718
1900	1348	1.40	1243	1415	1.56	1381	1479	1.72	1526	1541	1.89	1677	1601	2.06	1834
2000	1377	1.53	1359	1442	1.69	1500	1505	1.86	1648	1565	2.03	1801	1624	2.21	1961
2100	1406	1.67	1485	1470	1.83	1629	1531	2.00	1780	1591	2.18	1936	1648	2.36	2098
2200	1437	1.83	1621	1499	1.99	1769	1559	2.16	1923	1617	2.34	2082	1673	2.53	2246
2300	1468	1.99	1769	1529	2.16	1920	1587	2.34	2077	1644	2.52	2239	**1699**	**2.71**	**2406**
2400	1500	2.17	1928	1559	2.35	2083	1616	2.53	2243	1672	2.71	2408	**1726**	**2.90**	**2579**
2500	1533	2.36	2098	1591	2.54	2257	1647	2.73	2421	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Motor drive range: 1300 to 1685 rpm. All other rpms require field-supplied drive.

See page 107 for general fan performance notes.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.90.

PERFORMANCE DATA — 581C

FAN RPM AT MOTOR PULLEY SETTING WITH STANDARD MOTOR* — 581C024-060

UNIT 581C	MOTOR PULLEY TURNS OPEN												
	0	1/2	1	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	5 1/2	6
024	936	906	876	846	816	786	756	726	696	656	639	—	—
036	1044	1008	971	935	898	862	826	789	753	716	680	—	—
048	1185	1144	1102	1061	1019	978	936	895	853	812	770	—	—
060	1460	1425	1389	1354	1318	1283	1248	1212	1177	1141	1106	1070	1035

*Approximate fan rpm shown (standard motor/drive).

FAN RPM AT MOTOR PULLEY SETTING WITH HIGH-STATIC MOTOR* — 581C030-060

UNIT 581C	MOTOR PULLEY TURNS OPEN												
	0	1/2	1	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	5 1/2	6
030	1455	1423	1392	1360	1328	1297	1265	1233	1202	1170	1138	1107	1075
048	1455	1423	1392	1360	1328	1297	1265	1233	1202	1170	1138	1107	1075
060	1685	1589	1557	1525	1493	1460	1428	1396	1364	1332	1300	—	—

*Approximate fan rpm shown (high-static motor/drive).

EVAPORATOR-FAN MOTOR PERFORMANCE — STANDARD MOTOR — 581C024-060

UNIT 581C	UNIT PHASE	MAXIMUM CONTINUOUS BHP*	MAXIMUM OPERATING WATTS*	UNIT VOLTAGE	MAXIMUM AMP DRAW
024	Single	0.58	580	208/230	2.0
036	Single	1.20	1000	208/230	4.9
	Three	1.20	1000	208/230	4.9
				460	2.2
				575	2.2
048	Single	1.20	1000	208/230	4.9
	Three	1.20	1000	208/230	4.9
				460	2.2
				575	2.2
060	Single	1.30	1650	208/230	9.2
	Three	2.40	2120	208/230	6.7
				460	3.0
				575	3.0

LEGEND

Bhp — Brake Horsepower

*Extensive motor and electrical testing on these units ensures that the full horsepower and watts range of the motors can be utilized with confidence. Using the fan motors up to the ratings shown in this table will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected.

EVAPORATOR-FAN MOTOR PERFORMANCE — HIGH-STATIC MOTORS — 581C036-060

UNIT 581C	UNIT PHASE	MAXIMUM CONTINUOUS BHP*	MAXIMUM OPERATING WATTS*	UNIT VOLTAGE	MAXIMUM AMP DRAW
036	Three	2.40	2120	208/230	6.7
				460	3.0
				575	3.0
048	Three	2.40	2120	208/230	6.7
				460	3.0
				575	3.0
060	Three	2.90	2615	208/230	8.6
				460	3.9
				575	3.9

LEGEND

Bhp — Brake Horsepower

*Extensive motor and electrical testing on these units ensures that the full horsepower and watts range of the motors can be utilized with confidence. Using the fan motors up to the ratings shown in this table will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected.

EVAPORATOR-FAN MOTOR EFFICIENCY — 581C024-060

UNIT SIZE 581C	EFFICIENCY%
024, 036, 048	75
060	74/84*

*Single phase/3 phase.

NOTES:

1. Convert bhp to watts using the following formula:

$$\text{watts} = \frac{\text{bhp (746)}}{\text{motor efficiency}}$$

2. The EPACT (Energy Policy Act of 1992) regulates energy requirements for specific types of indoor fan motors. Motors regulated by EPACT include any general purpose, T-frame (three-digit, 143 and larger), single-speed, foot mounted, polyphase, squirrel cage induction motors of NEMA (National Electrical Manufacturers Association) design A and B, manufactured for use in the United States. Ranging from 1 to 200 Hp, these continuous-duty motors operate on 230 and 460 volt, 60 Hz power. If a motor does not fit into these specifications, the motor does not have to be replaced by an EPACT-compliant energy-efficient motor. Variable-speed motors are exempt from EPACT compliance requirements. Therefore, the indoor fan motors for Bryant 581C024-060 units are exempt from these requirements.

ACCESSORY/FIOP STATIC PRESSURE* (in. wg) — 581C024-060

COMPONENT	CFM										
	600	800	1000	1250	1500	1750	2000	2250	2500	2750	3000
Vertical EconoMi$er IV and EconoMi$er2	0.10	0.20	0.35	0.045	0.065	0.08	0.12	0.145	0.175	0.22	0.255
Horizontal EconoMi$er IV and EconoMi$er2	—	—	—	—	—	0.1	0.125	0.15	0.18	0.225	0.275

LEGEND

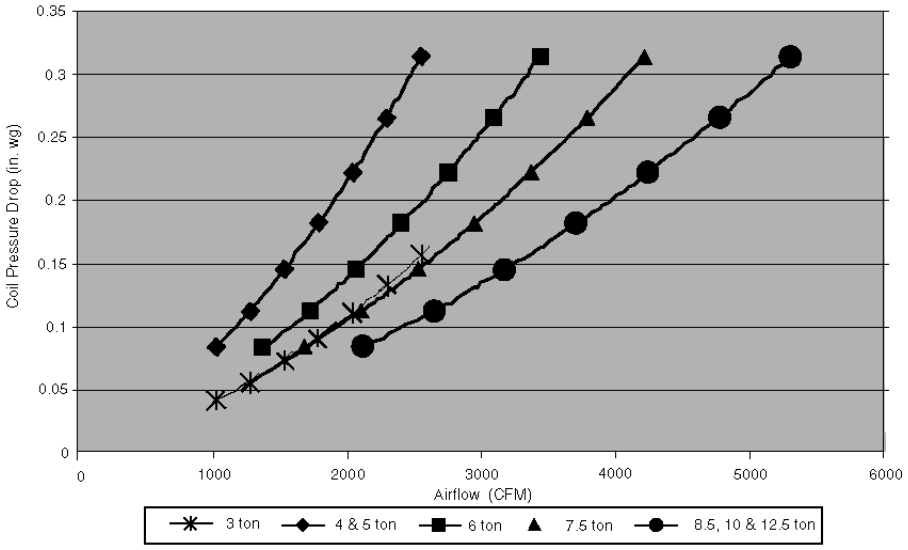
FIOP — Factory-Installed Option

*The static pressure must be added to external static pressure. The sum and the evaporator entering-air cfm should be used in conjunction with the Fan Performance tables to determine indoor blower rpm and watts.

581C - OPTION/ACCESSORY WEIGHTS

Option / Accessory	024		036		048		060	
	lb	kg	lb	kg	lb	kg	lb	kg
Perfect Humidity Dehumidification System	13	6	15	7	23	10	25	11
Power Exhaust - vertical	50	23	50	23	50	23	50	23
Power Exhaust - horizontal	30	14	30	14	30	14	30	14
EconoMi$er (IV or 2)	50	23	50	23	50	23	50	23
Two Position damper (25%)	22	10	22	10	22	10	22	10
Two Position damper (100%)	39	18	39	18	39	18	39	18
Manual Dampers	12	5	12	5	12	5	12	5
Hail Guard (louvered)	16	7	16	7	16	7	16	7
Hail Guard (standard hood assembly)	25	11	25	11	25	11	25	11
Cu/Cu Condenser Coil	5	2	6	3	13	6	13	6
Cu/Cu Condenser and Evaporator Coils	10	5	12	5	19	9	21	10
Roof Curb (14-in. curb)	115	52	115	52	115	52	115	52
Roof Curb (24-in. curb)	197	89	197	89	197	89	197	89

PERFECT HUMIDITY™ ADAPTIVE DEHUMIDIFICATION COIL PRESSURE DROP



ALTITUDE COMPENSATION* — 581C024-060 STANDARD UNIT

ELEVATION (ft)	50,000 BTUH NOMINAL INPUT	
	Natural Gas Orifice Size†	Liquid Propane Orifice Size†
0-2,000	43	49
2,000	44	50
3,000	44	50
4,000	44	50
5,000	45	51
6,000	45	51
7,000	46	51
8,000	47	52
9,000	47	52
10,000	48	52
11,000	49	53
12,000	50	54
13,000	51	55
14,000	52	56

*As the height above sea level increases, there is less oxygen per cubic foot of air. Therefore, heat input rate should be reduced at higher altitudes.
†Orifices available through your Bryant distributor.

ALTITUDE COMPENSATION* — 581C024-060 LOW NOx UNITS

ELEVATION (ft)	60,000 AND 90,000 BTUH NOMINAL INPUT	120,000 BTUH NOMINAL INPUT
	Natural Gas Orifice Size†	Natural Gas Orifice Size
0-2,000	38	32
2,000	40	33
3,000	41	35
4,000	42	36
5,000	43	37
6,000	43	38
7,000	44	39
8,000	45	41
9,000	46	42
10,000	47	43
11,000	48	44
12,000	49	44
13,000	50	46
14,000	51	47

*As the height above sea level increases, there is less oxygen per cubic foot of air. Therefore, heat input rate should be reduced at higher altitudes.
†Orifices available through your Bryant distributor.

ALTITUDE DERATING FACTOR*

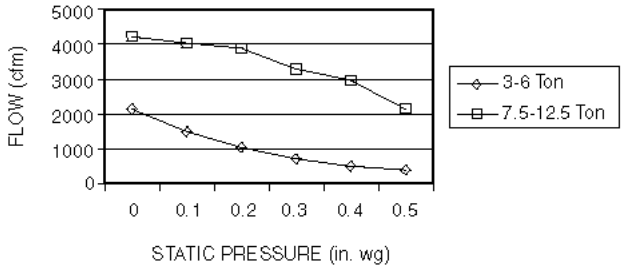
ELEVATION	MAXIMUM HEATING VALUE AT SEA LEVEL (Btu/ft³)
0-2000	1100
2001-3000	1050
3001-4000	1000
4001-5000	950
5001-6000	900

*Derating of the gas heating equipment to compensate for the effects of altitude is always required. Orifice change is not required if the fuel heating value (at sea level) is below the limits listed in the table at left. Derating conditions must be 4% per thousand ft above 2000 ft. For example, at 4000 ft, if the heating value of the gas exceeds 1000 Btu/ft³, the unit will require a 16% derating. For elevations above 6000 ft, the same formula applies. For example, at 7000 ft, the unit will require a 28% derating of the maximum heating value per the National Fuel Gas Code.

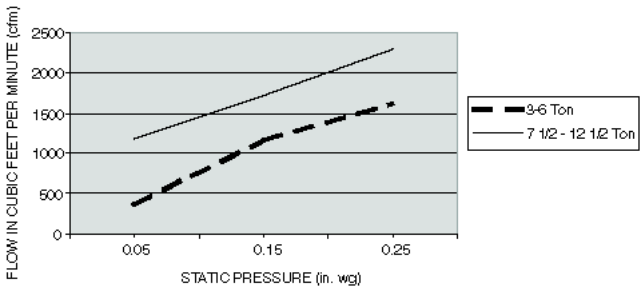
IMPORTANT: Local utility companies may be reducing heat content of gas at altitudes above 2000 ft. If this is being done, changing spuds may not be required.

PERFORMANCE DATA — 581C

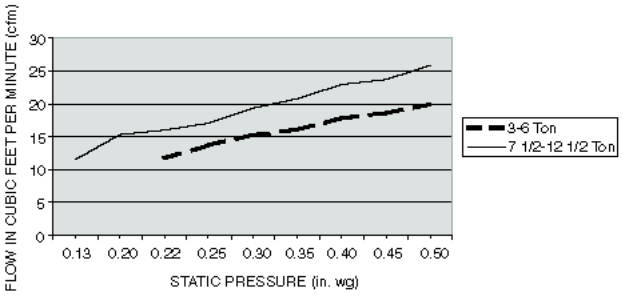
VERTICAL ECONOMI$ER IV AND ECONOMI$ER2 PERFORMANCE DATA



VERTICAL POWER EXHAUST PERFORMANCE

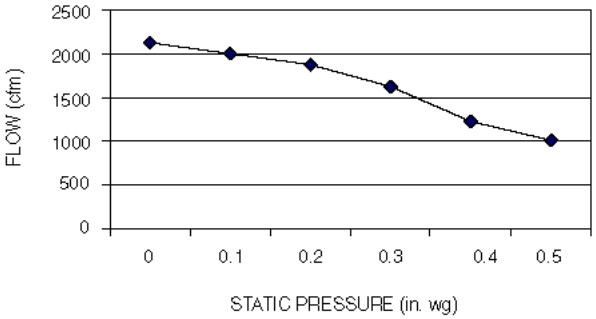


BAROMETRIC RELIEF FLOW CAPACITY

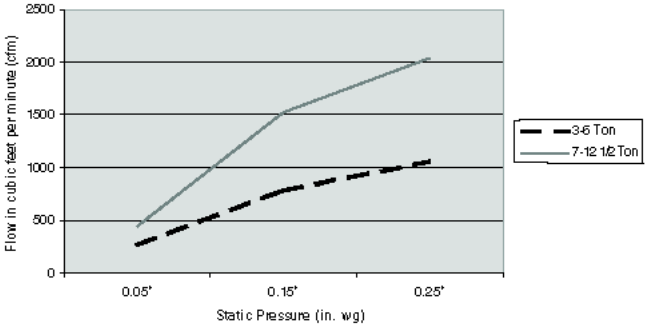


OUTDOOR AIR DAMPER LEAKAGE

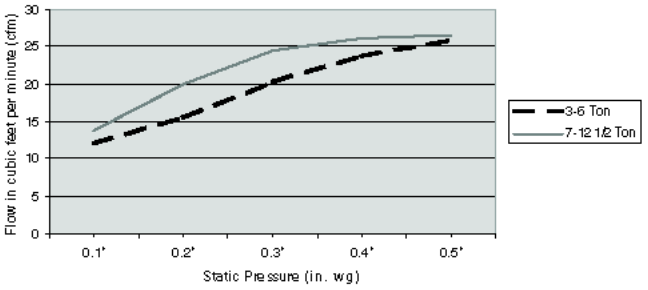
HORIZONTAL ECONOMI$ER IV AND ECONOMI$ER2 PERFORMANCE DATA



HORIZONTAL POWER EXHAUST PERFORMANCE



BAROMETRIC RELIEF CAPACITY



OUTDOOR AIR DAMPER LEAKAGE

Vertical - Mounted in Economizer Hood				
Power Exhaust Part No.	**Power Exhaust Description**	**Application Usage**	**Power Output (Hp per fan)**	**Fans per PE**
CRPWREXH021A01	Power Exhaust System (460-3-60)	036-060	0.24	2
CRPWREXH030A01	Power Exhaust System (208/230-1-60)	036-060	0.23	2

Horizontal - Mounted in Return Ductwork				
Power Exhaust Part No.	**Power Exhaust Description**	**Application Usage**	**Power Output (Hp per fan)**	**Fans per PE**
CRPWREXH028A01	Power Exhaust System (208/230-1-60)	ALL*	0.48	1
CRPWREXH029A01	Power Exhaust System (460-3-60)	ALL	0.48	1

* Single or three phase rooftop unit.

SOUND DATA

UNIT 581C	ARI RATING (decibels)	A-WEIGHTED (db)	OCTAVE BANDS							
			63	125	250	500	1000	2000	4000	8000
024-048	76	76.0	55.9	66.0	64.0	66.2	68.4	64.5	61.7	57.3
060	80	80.0	59.1	68.9	68.7	71.9	74.0	68.9	65.7	59.0

LEGEND

ARI — Air Conditioning and Refrigeration Institute

NOTE: Indoor sound power is available in Bryant's Electronic Catalog Program (ECAT) for specific operating parameters.

PERFORMANCE DATA — 581C

581C024-036

UNIT SIZE	NOMINAL V-PH-Hz	IFM TYPE	VOLTAGE RANGE		COMPRESSOR			OFM		COMBUSTION FAN MOTOR	IFM	CONV OUTLET	POWER SUPPLY *		MINIMUM UNIT DISCONNECT SIZE	
			Min	Max	QTY	RLA	LRA	QTY	FLA	FLA	FLA		MCA	MOCP **	FLA	LRA
024 (2 tons)	208/ 230-1-60	STD	187	254	1	10.9	63	1	0.7	0.6	2.0	NO	16.3	20	15.6	69
												YES	22.3	25	21.2	73
036 (3 tons)	208/ 230-1-60	STD	187	254	1	16	88	1	0.7	0.6	4.9	NO	25.6	30	24.8	101
												YES	31.6	35	30.4	106
	208/ 230-3-60	STD	187	254	1	10.3	77	1	0.7	0.6	4.9	NO	18.5	25	18.3	90
												YES	24.5	30	23.8	95
		HS									5.8	NO	19.4	25	19.3	120
												YES	25.4	30	24.9	124
	460-3-60	STD	414	508	1	5.1	39	1	0.4	0.3	2.2	NO	9.0	15	8.9	46
												YES	11.7	15	11.4	48
		HS									2.6	NO	9.4	15	9.3	60
												YES	12.1	15	11.8	63
	575-3-60	STD	518	632	1	4.2	31	1	0.4	0.3†	1.9	NO	7.6	10	7.5	36
												YES	9.7	15	9.5	38
		HS									2.0	NO	7.7	10	7.6	43
												YES	9.8	15	9.6	44
		Perfect Humidity						1	0.4†		2.6†	NO	7.7	10	8.0	48
												YES	9.8	15	9.6	50

LEGEND

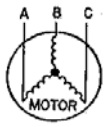
FLA — Full Load Amps
HACR — Heating, Air Conditioning and Refrigeration
IFM — Indoor (Evaporator) Fan Motor
LRA — Locked Rotor Amps
MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection
NEC — National Electrical Code
OFM — Outdoor (Condenser) Fan Motor
RLA — Rated Load Amps
UL — Underwriters' Laboratories

*The values listed in this table do not include power exhaust. See table at right for power exhaust requirements.
**Fuse or HACR circuit breaker.
†460v motor

NOTES:
1. In compliance with NEC requirements for multimotor and combination load equipment (refer to NEC Articles 430 and 440), the overcurrent protective device for the unit shall be fuse or HACR breaker. The UL, Canada units may be fuse or circuit breaker.
2. Electrical data based on 95 F ambient outdoor-air temperature ± 10% voltage.
3. **Unbalanced 3-Phase Supply Voltage**
Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percent of voltage imbalance.

$$= 100 \times \frac{\text{max voltage deviation from average voltage}}{\text{average voltage}}$$

Example: Supply voltage is 460-3-60.



AB = 452 v
BC = 464 v
AC = 455 v

$$\text{Average Voltage} = \frac{452 + 464 + 455}{3}$$

$$= \frac{1371}{3}$$

$$= 457$$

Determine maximum deviation from average voltage.
(AB) 457 – 452 = 5 v
(BC) 464 – 457 = 7 v
(AC) 457 – 455 = 2 v
Maximum deviation is 7 v.

Determine percent of voltage imbalance.

$$\% \text{ Voltage Imbalance} = 100 \times \frac{7}{457}$$

$$= 1.53\%$$

This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

IMPORTANT: If the supply voltage phase imbalance is more than 2%, contact your local electric utility company immediately.

POWER EXHAUST ELECTRICAL DATA

POWER EXHAUST PART NO.	Application usage	MCA (230 v)	MCA (460 v)	MCA (575 v)	MOCP (for separate power source)
CRPWREXH030A01	036-072	1.6	N/A	0.64	15
CRPWREXH021A01	036-072	N/A	0.68	N/A	15
CRPWREXH028A01	ALL*	1.7	N/A	0.68	15
CRPWREXH029A01	ALL	N/A	0.7	N/A	15

*** —** Single or three phase rooftop unit
N/A — Not available

NOTE: If a single power source is to be used, size wire to include power exhaust MCA and MOCP.

Check MCA and MOCP when power exhaust is powered through the unit. Determine the new MCA including the power exhaust using the following formula:

MCA New = MCA unit only + MCA of Power Exhaust

For example, using a 581B060—unit with MCA = 28.9 and MOCP = 35, with CRPWREXH030A01 power exhaust.

MCA New = 28.9 amps + 1.6 amps = 30.5 amps

If the new MCA does not exceed the published MOCP, then MOCP would not change. The MOCP in this example is 35 amps and the MCA New is below 35; therefore the MOCP is acceptable. If "MCA New" is larger than the published MOCP, raise the MOCP to the next larger size. For separate power, the MOCP for the power exhaust will be 15 amps per NEC.

PERFORMANCE DATA — 581C

581C048-060 UNITS

UNIT SIZE	NOMINAL V-PH-Hz	IFM TYPE	VOLTAGE RANGE		COMPRESSOR			OFM		COMBUSTION FAN MOTOR	IFM	CONV OUTLET	POWER SUPPLY *		MINIMUM UNIT DISCONNECT SIZE	
			Min	Max	QTY	RLA	LRA	QTY	FLA	FLA	FLA		MCA	MOCP**	FLA	LRA
048 (4 tons)	208/230-1-60	STD	197	254	1	21	115	1	1.5	0.6	4.9	NO	32.7	40	31.5	130
												YES	38.7	45	37.0	135
	208/230-3-60	STD	187	254	1	14.1	95	1	1.5	0.6	4.9	NO	24.0	30	23.6	110
												YES	30.0	35	29.1	115
		HS									5.8	NO	24.9	30	24.6	140
												YES	30.9	35	30.1	145
	460-3-60	STD	414	508	1	7.1	45	1	0.8	0.3	2.2	NO	11.9	15	11.6	53
												YES	14.6	20	14.1	55
		HS									2.6	NO	12.3	15	12.1	67
												YES	15.0	20	14.6	70
	575-3-60	STD	518	632	1	6.1	38	1	0.6	0.3†	1.9	NO	10.1	15	9.9	44
												YES	12.3	15	11.9	46
		HS									2.0	NO	10.2	15	10.0	51
												YES	12.4	15	12.0	52
		Perfect Humidity						1	0.8†		2.6†	NO	10.3	15	10.1	56
												YES	12.5	15	12.1	58
060 (5 tons)	208/230-1-60	STD	187	254	1	25	150	1	1.5	0.6	6.6	NO	39.4	50	38.1	187
												YES	45.4	60	43.6	191
	208/230-3-60	STD	187	254	1	17.3	123	1	1.5	0.6	5.8	NO	28.9	35	28.3	168
												YES	34.9	40	33.8	173
		HS									7.5	NO	30.6	35	30.2	187
												YES	36.6	40	35.8	192
	460-3-60	STD	414	508	1	8.4	70	1	0.8	0.3†	2.6	NO	13.9	20	13.6	92
												YES	16.6	20	16.1	95
		HS									3.4	NO	14.7	20	14.5	102
												YES	17.4	20	17.0	104
	575-3-60	STD	518	632	1	7.1	53	1	0.6	0.3†	2.0	NO	11.5	15	11.2	66
												YES	13.6	15	13.2	67
		HS									2.8	NO	12.3	15	12.1	75
												YES	14.4	20	14.1	76
		Perfect Humidity						1	1.9†		3.4†	NO	12.2	15	12.0	79
												YES	14.4	20	14.0	80

LEGEND

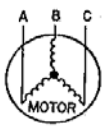
FLA — Full Load Amps
HACR — Heating, Air Conditioning and Refrigeration
IFM — Indoor (Evaporator) Fan Motor
LRA — Locked Rotor Amps
MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection
NEC — National Electrical Code
OFM — Outdoor (Condenser) Fan Motor
RLA — Rated Load Amps
UL — Underwriters' Laboratories

*The values listed in this table do not include power exhaust. See table at right for power exhaust requirements.
**Fuse or HACR circuit breaker.
†460v motor

NOTES:
1. In compliance with NEC requirements for multimotor and combination load equipment (refer to NEC Articles 430 and 440), the overcurrent protective device for the unit shall be fuse or HACR breaker. The UL, Canada units may be fuse or circuit breaker.
2. Electrical data based on 95 F ambient outdoor-air temperature ± 10% voltage.
3. **Unbalanced 3-Phase Supply Voltage**
   Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percent of voltage imbalance.

$$= 100 \times \frac{\text{max voltage deviation from average voltage}}{\text{average voltage}}$$

Example: Supply voltage is 460-3-60.



AB = 452 v
BC = 464 v
AC = 455 v

$$\text{Average Voltage} = \frac{452 + 464 + 455}{3}$$

$$= \frac{1371}{3}$$

$$= 457$$

Determine maximum deviation from average voltage.
(AB) 457 – 452 = 5 v
(BC) 464 – 457 = 7 v
(AC) 457 – 455 = 2 v

Maximum deviation is 7 v.

Determine percent of voltage imbalance.

$$\text{\% Voltage Imbalance} = 100 \times \frac{7}{457}$$

$$= 1.53\%$$

This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

IMPORTANT: If the supply voltage phase imbalance is more than 2%, contact your local electric utility company immediately.

POWER EXHAUST ELECTRICAL DATA

POWER EXHAUST PART NO.	Application usage	MCA (230 v)	MCA (460 v)	MCA (575 v)	MOCP (for separate power source)
CRPWREXH030A01	036-072	1.6	N/A	0.64	15
CRPWREXH021A01	036-072	N/A	0.68	N/A	15
CRPWREXH028A01	ALL*	1.7	N/A	0.68	15
CRPWREXH029A01	ALL	N/A	0.7	N/A	15

*** —** Single or three phase rooftop unit
N/A — Not available

NOTE: If a single power source is to be used, size wire to include power exhaust MCA and MOCP.

Check MCA and MOCP when power exhaust is powered through the unit. Determine the new MCA including the power exhaust using the following formula:

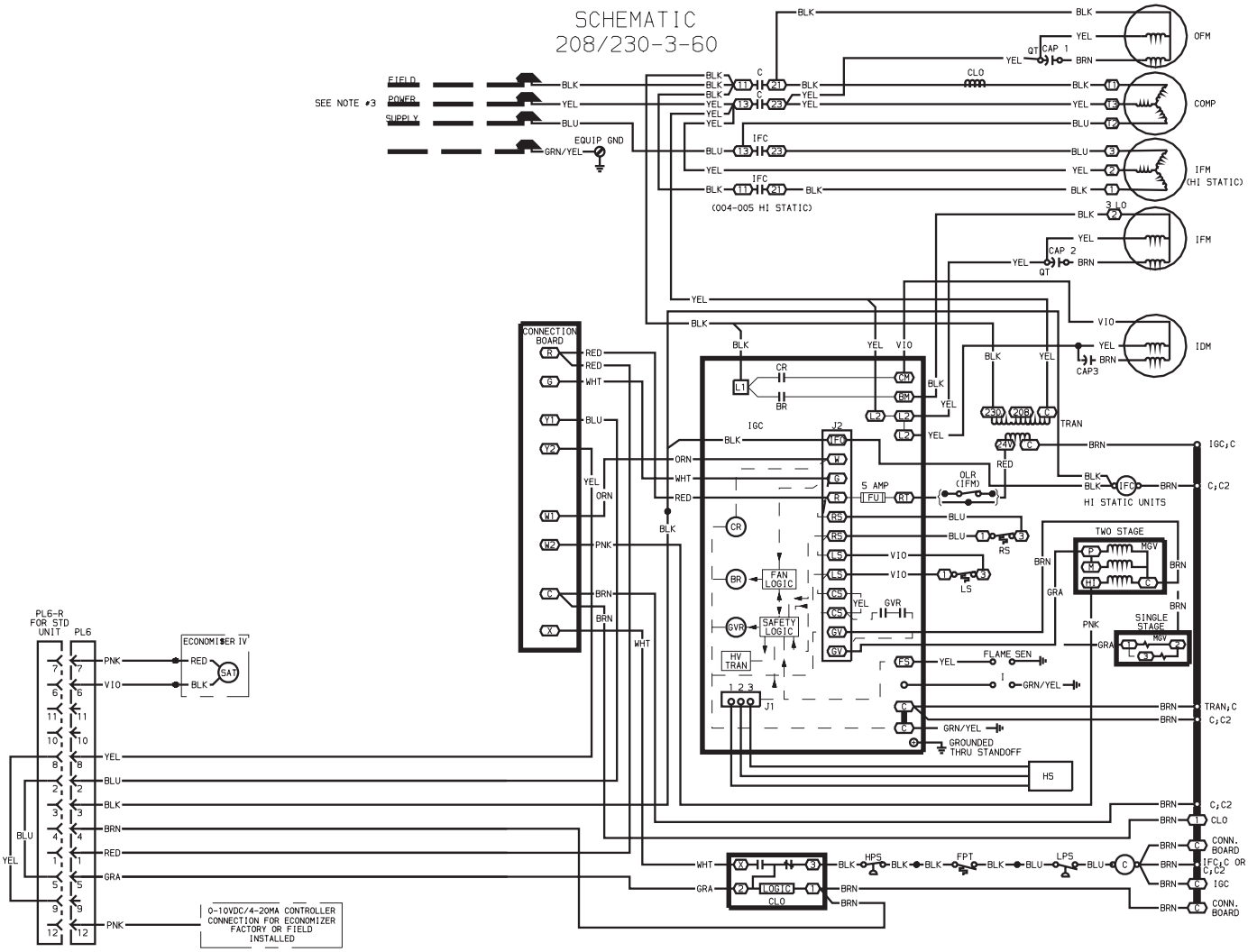
MCA New = MCA unit only + MCA of Power Exhaust

For example, using a 581B060—5 unit with MCA = 28.9 and MOCP = 35, with CRPWREXH030A01 power exhaust.

MCA New = 28.9 amps + 1.6 amps = 30.5 amps

If the new MCA does not exceed the published MOCP, then MOCP would not change. The MOCP in this example is 35 amps and the MCA New is below 35; therefore the MOCP is acceptable. If "MCA New" is larger than the published MOCP, raise the MOCP to the next larger size. For separate power, the MOCP for the power exhaust will be 15 amps per NEC.

TYPICAL WIRING SCHEMATICS — 581C



NOTES:
1. If any of the original wire furnished must be replaced, it must be replaced with type 90 C wire or its equivalent.
2. Three phase motors are protected under primary single phasing conditions.
3. Use copper conductors only.
4. TRAN is wired for 230 v unit. If unit is to be run with 208 v power supply, disconnect BLK wire from 230 v tap (ORN) and connect to 208 v tap (RED). Insulate end of 230 v tap.

LEGEND

C — Contactor, Compressor
CAP — Capacitor
CLO — Compressor Lockout
COMP — Compressor Motor
EQUIP — Equipment
FPT — Freeze Up Protection Thermostat
FU — Fuse
GND — Ground
HPS — High-Pressure Switch
HS — Hall-Effect Sensor
I — Ignitor
IDM — Induced-Draft Motor
IFC — Indoor Fan Contactor
IFM — Indoor Fan Motor
IGC — Integrated Gas Unit Controller
LPS — Low-Pressure Switch
LS — Limit Switch
MGV — Main Gas Valve

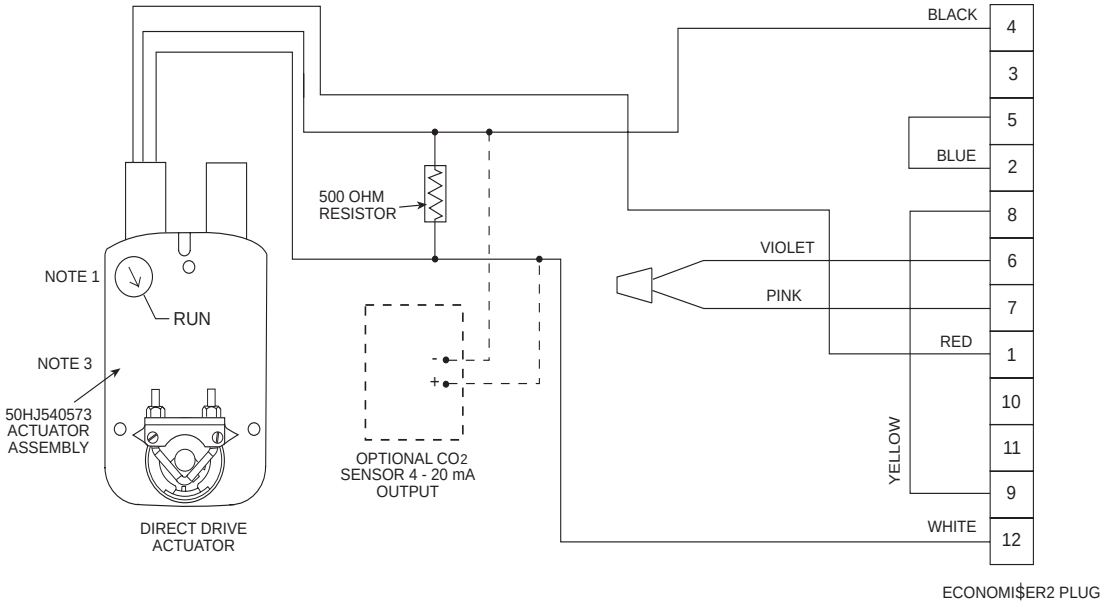
OFM — Outdoor (Condenser) Fan Motor
OLR — Overload Relay
P — Plug
PL — Plug Assembly
QT — Quadruple Terminal
RS — Rollout Switch
SAT — Supply Air Temperature Sensor
TRAN — Transformer

Field Splice
Marked Wire (X)
Terminal (Marked) (X)
Terminal (Unmarked)
Terminal Block (X)

Splice
Splice (Marked)
Factory Wiring
Field Control Wiring
Field Power Wiring
Accessory or Optional Wiring
To indicate common potential only; not to represent wiring.

TYPICAL WIRING SCHEMATICS — 581C

ECONOMI$ER2 WIRING — 581C024-060 UNIT



NOTES:
1. Switch on actuator must be in run position for economizer to operate.
2. PremierLink™ control requires that the standard 50HJ540569 outside-air sensor be replaced by either the CROASENR001A00 dry bulb sensor or HH57A077 enthalpy sensor.
3. 50HJ540573 actuator consists of the 50HJ540567 actuator and a harness with 500-ohm resistor.

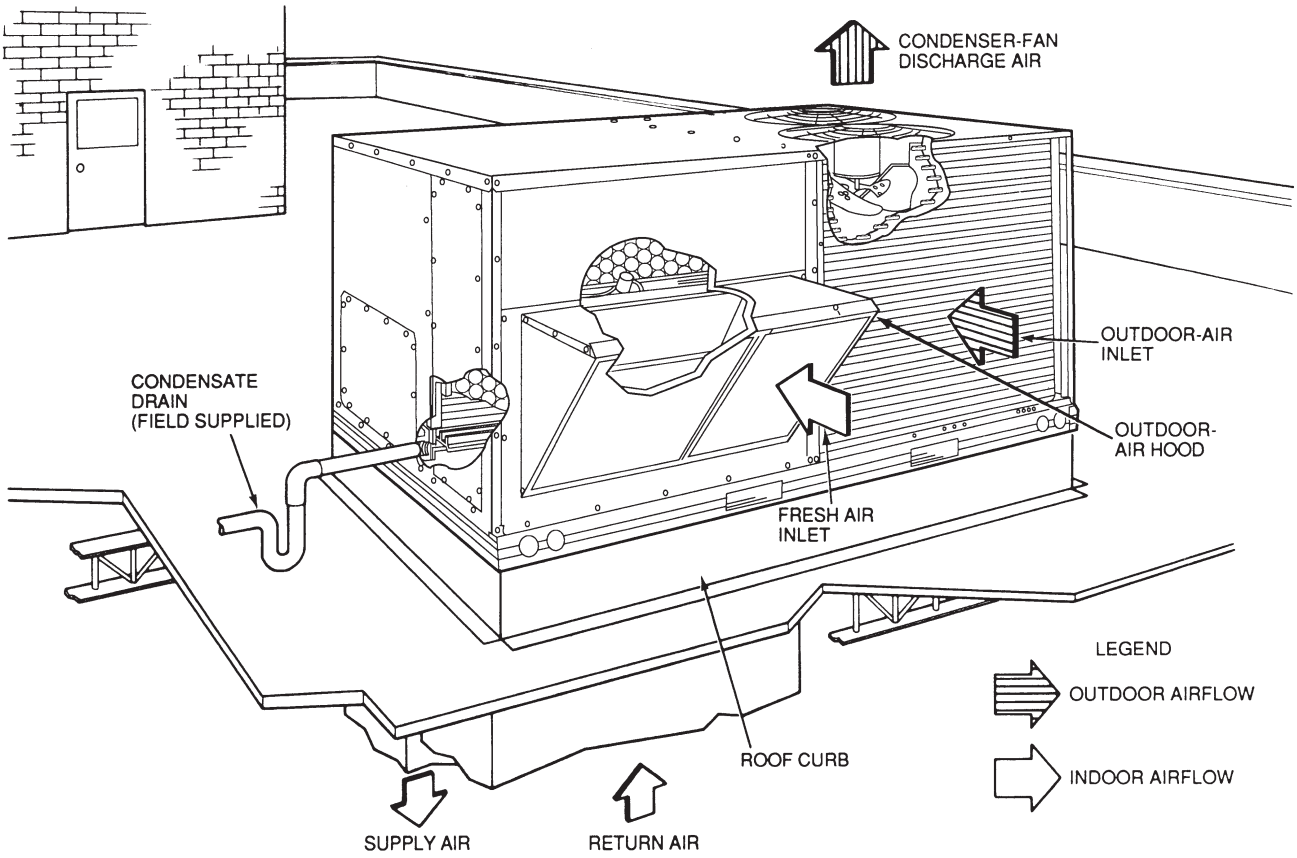
LEGEND

OAT — Outdoor Air Temperature Sensor

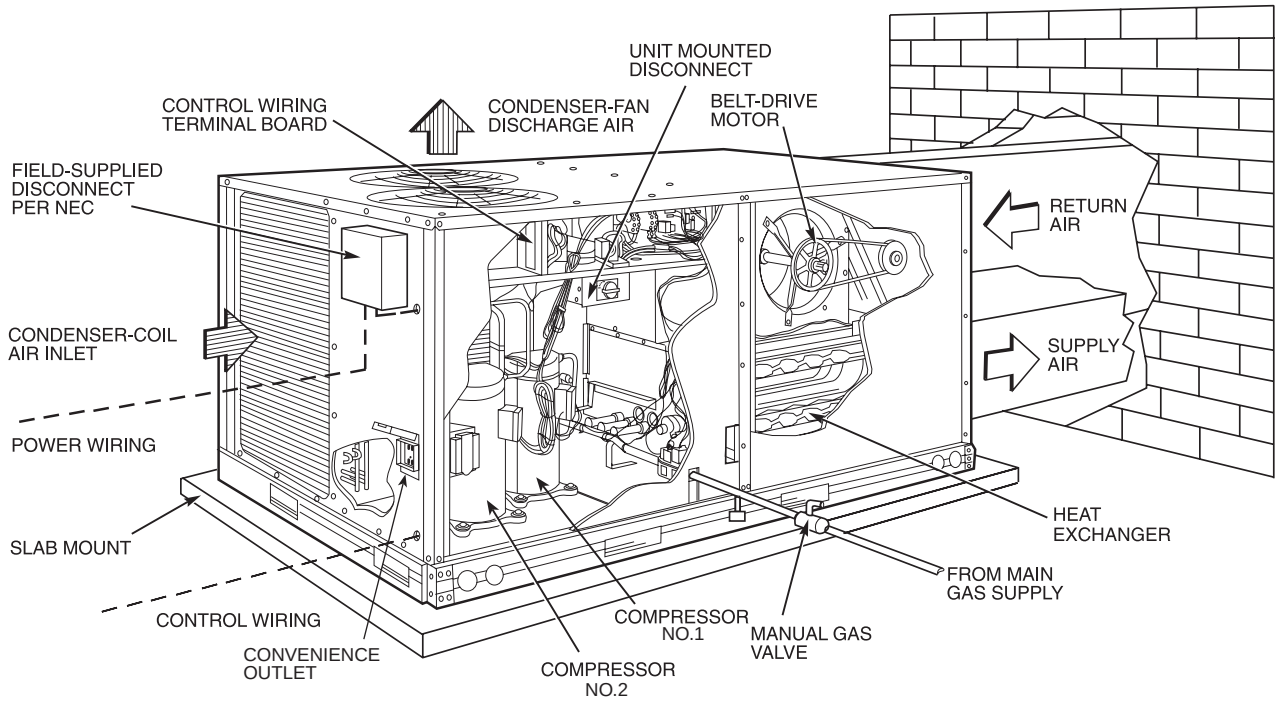
NOTES:
1. Switch on actuator must be in run position for economizer to operate.
2. 50HJ540573 actuator consists of the 50HJ540567 actuator and a harness with 500-ohm resistor.

TYPICAL PIPING AND WIRING — 581C 024-060

VERTICAL DISCHARGE DUCTING



HORIZONTAL DISCHARGE DUCTING



NEC — National Electrical Code

Packaged Rooftop Electric Cooling Unit with Gas Heat – Constant Volume Application

HVAC Guide Specifications

Size Range: **24,000 to 60,000 Btuh, Nominal (Input Heating)**
2 to 5 Tons, Nominal (Cooling)

581C 024-060 UNITS ARE ENERGY STAR QUALIFIED

Bryant Model Number: 581C

PART 1 — General

1.01 SYSTEM DESCRIPTION

Outdoor rooftop mounted, electrically controlled heating and cooling unit utilizing a hermetic compressor(s) for cooling duty and gas combustion for heating duty. Unit shall discharge supply air vertically or horizontally as shown on contract drawings.

1.02 QUALITY ASSURANCE

A. Unit exceeds ASHRAE 90.1-2004 Energy Standards. Units 003-006 are Energy Star qualified.
B. Unit shall be rated in accordance with ARI Standards 210 or 360 as applicable. Designed in accordance with UL Standard 1995.
C. Unit shall be designed to conform to ASHRAE 15, latest revision.
D. Unit shall be UL-tested and certified in accordance with ANSI Z21.47 Standards and UL-listed and certified under Canadian standards as a total package for safety requirements.
E. Roof curb shall be designed to conform to NRCA Standards.
F. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.
G. Unit casing shall be capable of withstanding 500-hour salt spray exposure per ASTM B117 (scribed specimen).
H. Unit shall be designed in accordance with ISO 9001:2000, and shall be manufactured in a facility registered to ISO 9001:2000.
I. Each unit shall be subjected to a completely automated run testing on the assembly line. A factory-supplied printout indicating tested pressures, amperages, data, and inspectors; providing certification of the unit status at the time of manufacture; shall be available upon request.

0.01 DELIVERY, STORAGE, AND HANDLING

Unit shall be stored and handled per manufacturer's recommendations.

PART 2 — Product

2.01 EQUIPMENT (STANDARD)

A. General:

Factory assembled, single-piece heating and cooling unit. Contained within the unit enclosure shall be all factory wiring, piping, controls, refrigerant charge (R-22), and special features required prior to field start-up.

B. Unit Cabinet:
1. Unit cabinet shall be constructed of galvanized steel, and shall be bonderized and coated with a prepainted baked enamel finish on all externally exposed surfaces. The color of this pre-painted steel is referred to as "American Sterling," a gray color. Bryant's paint specification for this color is PH184.
Color: American Sterling, this gray color is to match federal standard 595a, #26231.
Gloss (per ASTM 0523, 60 deg. F): 60.
Hardness of paint film: H-2H pencil hardness.
2. Evaporator fan compartment interior cabinet surfaces shall be insulated with a minimum $^1/_2$-in. thick, 1 lb density, flexible fiberglass insulation, neoprene coated on the air side. Aluminum foil-faced fiberglass insulation shall be used in the gas heat compartment.
3. Cabinet panels shall be easily removable for servicing.
4. Holes shall be provided in the base rails for rigging shackles to facilitate maneuvering and overhead rigging.
5. Unit shall have a factory-installed, sloped condensate drain pan made of a non-corrosive material, providing a minimum $^3/_4$-in.-14 NPT. connection with both vertical and horizontal drains, and shall comply with ASHRAE Standard 62.
6. Unit shall have a factory-installed filter access panel to provide filter access with tool-less removal.
7. Unit shall have standard thru-the-bottom gas and power connection capability (accessory kit is required).

C. Fans:
1. Evaporator Fan:
a. Fan shall be belt driven as shown on the equipment drawings. Belt drive shall include an adjustable-pitch motor pulley.
b. Fan wheel shall be double-inlet type with forward-curved blades.
c. Bearings shall be sealed, permanently lubricated ball-bearing type for longer life and lower maintenance.
2. Evaporator fan shall be made from steel with a corrosion-resistant finish and shall be dynamically balanced.
3. Condenser fan shall be of the direct-driven (with totally enclosed motors) propeller type and shall discharge air vertically.
4. Condenser fan shall have aluminum blades riveted to corrosion-resistant steel spiders and shall be dynamically balanced.
5. Induced-draft blower shall be of the direct-driven, single inlet, forward-curved centrifugal type, made from steel with a corrosion-resistant finish and shall be dynamically balanced.

D. Compressor(s):
1. Fully hermetic type, internally protected scroll-type.
2. Factory mounted on rubber grommets and internally spring mounted for vibration isolation.
3. Units shall be electrically and mechanically single circuits (one compressor per circuit).

E. Coils:
1. Standard evaporator and condenser coils shall have aluminum lanced plate fins mechanically bonded to seamless internally grooved copper tubes with all joints brazed.

2. Testing:
   a. Evaporator and condenser coils shall be qualified to UL 1995 burst test at 2,200 psi.
   b. Evaporator and condenser coils shall be leak tested to 150 psig and pressure tested to 400 psig.
3. Optional Coils:
   a. Optional pre-coated aluminum-fin coils shall have a durable epoxy-phenolic coating to provide protection in mildly corrosive coastal environments. Coating shall be applied to the aluminum fin stock prior to the fin stamping process to create an inert barrier between the aluminum fin and copper tube. Epoxy-phenolic barrier shall minimize galvanic action between dissimilar metals.
   b. Copper-fin coils shall be constructed of copper fins mechanically bonded to copper tubes and copper tube sheets. Galvanized steel tube sheets shall not be acceptable. A polymer strip shall prevent coil assembly from contacting the sheet metal coil pan to minimize potential for galvanic corrosion between coil and pan. All copper construction shall provide protection in moderate coastal environments.
   c. E-Coated aluminum-fin coils shall have a flexible epoxy polymer coating uniformly applied to all coil surface areas without material bridging between fins. Coating process shall ensure complete coil encapsulation. Color shall be high gloss black with gloss — 60 deg of 65 to 90% per ASTM D523-89. Uniform dry film thickness from 0.8 to 1.2 mil on all surface areas including fin edges. Superior hardness characteristics of 2H per ASTM D3363-92A and cross-hatch adhesion of 4B-5B per ASTM D3359-93. Impact resistance shall be up to 160 in.-lb (ASTM D2794-93). Humidity and water immersion resistance shall be up to minimum 1000 and 250 hours respectively (ASTM D2247-92 and ASTM D870-92). Corrosion durability shall be confirmed through testing to be no less than 1000 hours salt spray per ASTM B117-90. Coil construction shall be aluminum fins mechanically bonded to copper tubes.
   d. E-Coated copper-fin coils shall have a flexible epoxy polymer coating uniformly applied to all coil surface areas without material bridging between fins. Coating process shall ensure complete coil encapsulation. Color shall be high gloss black with gloss — 60 deg of 65 to 90% per ASTM D523-89. Uniform dry film thickness from 0.8 to 1.2 mil on all surface areas including fin edges. Superior hardness characteristics of 2H per ASTM D3363-92A and cross-hatch adhesion of 4B-5B per ASTM D3359-93. Impact resistance shall be up to 160 in.-lb (ASTM D2794-93). Humidity and water immersion resistance shall be up to minimum 1000 and 250 hours respectively (ASTM D2247-92 and ASTM D870-92). Corrosion durability shall be confirmed through testing to be no less than 1000 hours salt spray per ASTM B117-90. Coil construction shall be copper fins mechanically bonded to copper tubes with copper tube sheets. Galvanized steel tube sheets shall not be acceptable. A polymer strip shall prevent coil assembly from contacting sheet metal coil pan to maintain coating integrity and minimize corrosion potential between coil and pan.

F. Heating Section:
   1. Induced-draft combustion type with energy saving direct-spark ignition system and redundant main gas valve.
   2. Heat Exchanger:
      a. The standard heat exchanger shall be of the tubular-section type constructed of a minimum of 20-gage steel coated with a nominal 1.2 mil aluminum-silicone alloy for corrosion resistance.
      b. The optional stainless steel heat exchanger shall be of the tubular-section type, constructed of a minimum of 20-gage type 409 stainless steel.
   3. Burners shall be of the in-shot type constructed of aluminum-coated steel.
   4. All gas piping shall enter the unit cabinet at a single location on side of unit (horizontal plane).
   5. The integrated gas controller (IGC) board shall include gas heat operation fault notification using an LED (light-emitting diode).
   6. Unit shall be equipped with anti-cycle protection with one short cycle on unit flame rollout switch or 4 continuous short cycles on the high-temperature limit switch. Fault indication shall be made using an LED.
   7. The IGC board shall contain algorithms that modify evaporator-fan operation to prevent future cycling on high-temperature limit switch.
   8. The LED shall be visible without removal of control box access panel.

G. Refrigerant Components:

   Refrigerant circuit components shall include:
   1. Fixed orifice metering system (Acutrol™ device).
   2. Refrigerant filter drier.
   3. Service gage connections on suction, discharge, and liquid lines.

H. Filter Section:
   1. Standard filter section shall consist of factory-installed, low velocity, throwaway 2-in. thick fiberglass filters of commercially available sizes.
   2. Filter face velocity shall not exceed 320 fpm at nominal airflows.
   3. Filter section should use only one size filter.
   4. Filters shall be accessible through an access panel with “no-tool” removal.

I. Controls and Safeties:
   1. Unit Controls:

      Unit shall be complete with self-contained low-voltage control circuit protected by a fuse on the 24-v transformer side.
   2. Safeties:
      a. a.Unit shall incorporate a solid-state compressor protector which provides anti-cycle reset capability at the space thermostat, should any of the following standard safety devices trip and shut off compressor.
         1) Compressor overtemperature, overcurrent.
         2) Loss-of-charge/low-pressure switch.
         3) Freeze-protection thermostat, evaporator coil.
         4) High-pressure switch.
         5) Automatic reset motor thermal overload protector.

The lockout protection shall be easily disconnected at the control board, if necessary.

b. Heating section shall be provided with the following minimum protections:
   1) High-temperature limit switches.
   2) Induced draft motor speed sensor.
   3) Flame rollout switch.
   4) Flame proving controls.

J. Operating Characteristics:
1. Unit shall be capable of starting and running at 125 F ambient outdoor temperature, meeting maximum load criteria of ARI Standard 210/240 or 360 at ± 10% voltage.
2. Compressor with standard controls shall be capable of operation down to 25 F ambient outdoor temperature.

K. Electrical Requirements:

All unit power wiring shall enter unit cabinet at a single factory-predrilled location.

L. Motors:
1. Compressor motors shall be cooled by refrigerant gas passing through motor windings and shall have line break thermal and current overload protection.
2. Evaporator-fan motor shall have permanently lubricated bearings and inherent automatic-reset thermal overload protection. Evaporator motors are designed specifically for Carrier and do *not* have conventional horsepower (HP) ratings listed on the motor nameplate. Motors are designed and qualified in the "air-over" location downstream of the cooling coil and carry a maximum continuous bhp rating that is the maximum application bhp rating for the motor; no "safety factors" above that rating may be applied.
3. Totally enclosed condenser-fan motor shall have permanently lubricated bearings, and inherent automatic-reset thermal overload protection.
4. Induced-draft motor shall have permanently lubricated sealed bearings and inherent automatic-reset thermal overload protection.

M. Special Features:

Certain features are not applicable when the features designated * are specified. For assistance in amending the specifications, contact your local Bryant Sales Office.

1. Roof Curbs (Horizontal and Vertical):
   a. Formed galvanized steel with wood nailer strip and shall be capable of supporting entire unit weight.
   b. Permits installation and securing of ductwork to curb prior to mounting unit on the curb.

*2. Integrated Economizers:
   a. Integrated integral modulating type capable of simultaneous economizer and compressor operation.
   b. Available as a factory-installed option in vertical supply/return configuration only. (Available as a field-installed accessory for dedicated horizontal and/or vertical supply return configurations.)
   c. Includes all hardware and controls to provide cooling with outdoor air.
   d. Equipped with low-leakage dampers, not to exceed 2% leakage at 1 in. wg pressure differential.
   e. Capable of introducing up to 100% outdoor air.
   f. EconoMi$er IV and EconoMi$er2 shall be equipped with a barometric relief damper capable of relieving up to 100% return air.
   g. Designed to close damper(s) during loss-of-power situations with spring return built into motor.
   h. Dry bulb outdoor-air temperature sensor shall be provided as standard. Outdoor air sensor set point is adjustable and shall range from 40 to 100 F. For the EconoMi$er IV, the return air sensor, indoor enthalpy sensor, and outdoor enthalpy sensor shall be provided as field-installed accessories to provide enthalpy control, differential enthalpy control, and differential dry bulb temperature control. For the EconoMi$er2, the enthalpy, differential temperature (adjustable), and differential enthalpy control shall be provided as field-installed accessories.
   i. The EconoMi$er IV and EconoMi$er2 shall have a gear-driven parallel blade design.
   j. EconoMi$er IV microprocessor control shall provide control of internal building pressure through its accessory power exhaust function. Factory set at 100%, with a range of 0% to 100%.
   k. EconoMi$er2 shall be capable of control from a 4 to 20 mA signal through optional 4 to 20 mA design without microprocessor control (required for PremierLink™ or third party control interface).
   l. EconoMi$er IV Microprocessor Occupied Minimum Damper Position Setting maintains the minimum airflow into the building during occupied period providing design ventilation rate for full occupancy (damper position during heating). A remote potentiometer may be used to override the set point.
   m. EconoMi$er IV Microprocessor Unoccupied Minimum Damper Position Setting — The EconoMi$er IV dampers shall be closed when the unit is in the occupied mode.
   n. EconoMi$er IV Microprocessor IAQ/DCV Maximum Damper Position Setting — Setting the maximum position of the damper prevents the introduction of large amounts of hot or cold air into the space. This position is intended to satisfy the base minimum ventilation rate.
   o. EconoMi$er IV Microprocessor IAQ/DCV control modulates the outdoor-air damper to provide ventilation based on the optional 2 to 10 vdc CO_2 sensor input.
   p. Compressor lockout sensor (opens at 35 F, closes at 50 F).
   q. Actuator shall be direct coupled to economizer gear, eliminating linkage arms and rods.
   r. Control LEDs:
      1) When the outdoor air damper is capable of providing free cooling, the "Free Cool" LED shall illuminate.
      2) The IAQ LED indicates when the module is on the DCV mode.
      3) The EXH LED indicates when the exhaust fan contact is closed.
   s. Remote Minimum Position Control — A field-installed accessory remote potentiometer allows the outdoor air damper to be opened or closed beyond the minimum position in the occupied mode for modified ventilation.

3. Manual Outdoor-Air Damper:

   Manual damper package shall consist of damper, birdscreen, and rainhood which can be preset to admit up to 50% outdoor air for year round ventilation.

*4. 100% Two-Position Damper:

   a. Two-position damper package shall include single blade damper and motor. Admits up to 100% outdoor air.
   b. Damper shall close upon indoor (evaporator) fan shutoff.
   c. Designed to close damper during loss of power situations.
   d. Equipped with 15% barometric relief damper.

5. 25% Two-Position Damper:

   a. Two-position damper package shall include single blade damper and motor. Admits up to 25% outdoor air.
   b. Damper shall close upon indoor (evaporator) fan shutoff.

*6. Head Pressure Control Package:

   Consists of solid-state control and condenser-coil temperature sensor to maintain condensing temperature between 90 F and 110 F at outdoor ambient temperatures down to –20 F by condenser-fan speed modulation or condenser-fan cycling and wind baffles.

7. LP (Liquid Propane) Conversion Kit:

   Package shall contain all the necessary hardware and instructions to convert a standard natural gas unit for use with liquefied propane (valid up to 2000 ft elevation).

*8. Electronic Programmable Thermostat:

   Units shall be capable of using deluxe full-featured electronic thermostat. Thermostat shall use built-in compressor cycle delay control for both heating and cooling duty. Thermostat shall be capable of working with Carrier direct digital controls.

9. Light Commercial Thermidistat™ Device:

   Field-installed wall-mounted thermostat is used to control temperature and activation of the dehumidification package. The Thermidistat device can be set for humidity settings from 50% to 90% relative humidity. Automatic humidity control adjusts indoor humidity based on the outdoor temperature sensor.

*10. Flue Shield:

   Flue shield shall provide protection from the hot sides of the gas flue hood.

*11. Thermostat and Subbase:

   Thermostat and subbase shall provide staged cooling and heating automatic (or manual) changeover, fan control, and indicator light.

*12. Condenser Coil Hail Guard Assembly:

   Hail guard shall protect against damage from hail and flying debris.

13. Unit-Mounted, Non-Fused Disconnect Switch:

   Switch shall be factory-installed, internally mounted. NEC and UL approved non-fused switch shall provide unit power shutoff. Switch shall be accessible from outside the unit and shall provide power off lockout capability.

14. Convenience Outlet:

   Outlet shall be factory-installed and internally mounted with easily accessible 115-v female receptacle. Shall include 15 amp GFI receptacle with independent fuse protection. Voltage required to operate convenience outlet shall be provided by a factory-installed step-down transformer powered from the LOAD (RTU) side of the unit power supply. Shall be accessible from outside the unit.

15. High-Static Indoor Fan Motor(s) and Drive(s) (004-012):

   High-static motor(s) and drive(s) shall be factory-installed to provide additional performance range.

16. Flue Discharge Deflector:

   Flue discharge deflector directs unit exhaust vertically instead of horizontally.

17. Condenser Coil Grille:

   The grille protects the condenser coil from damage by large objects without increasing unit clearances.

18. Compressor Cycle Delay:

   Unit shall be prevented from restarting for minimum of 5 minutes after shutdown.

19. Thru-the-Bottom Utility Connectors:

   Kit shall provide connectors to permit gas and electrical connections to be brought to the unit through the basepan.

20. Fan/Filter Status Switch:

   Switch shall provide status of indoor (evaporator) fan (ON/OFF) or filter (CLEAN/DIRTY). Status shall be displayed over communication bus when used with direct digital controls or with an indicator light at the thermostat.

21. Energy$Recycler™ Energy Recovery System:

   The package shall be an outdoor rooftop, surface mounted, electronically controlled, air-to-air heat pump unit utilizing a hermetic compressor for cooling and heating duty.

   The Energy$Recycler system shall recover energy from building exhaust air and pre-condition ventilation air to allow higher ventilation requirements and minimizing energy cost.

   This option shall be available with the following:

   a. A mounting kit for the Energy$Recycler device for cantilever mounting off of the rooftop unit with out the use of a slab or a roof curb.
   b. A field-installed 460-v to 208/230-v transformer to provide power when the 208-230/1/60 or 100 size Energy$Recycler device is used with a 460-v rooftop unit.
   c. A field-installed 575-v to 208/230-v transformer to provide power when an Energy$Recycler device is used with a 575-v unit.

22. Power Exhaust Accessory for EconoMi$er IV or EconoMi$er2:

   Power exhaust shall be used in conjunction with EconoMi$er IV or EconoMi$er2 to provide system exhaust of up to 100% of return air (vertical only). The power exhaust is a field-installed accessory (separate vertical and horizontal design).

   NOTE: Horizontal power exhaust is intended to mount in return ductwork.

   As the outdoor-air damper opens and closes, *both* propeller fans are energized and deenergized through the EconoMi$er IV controller. The set point is factory set at 100% of outdoor-air, and is adjustable 0 to 100% to meet specific job requirements. Available in 208/230-1-60 v or 460-3-60 v. An LED light on the controller indicates when the power exhaust is operating.

For the EconoMi$er2, the power exhaust shall be controlled by the or third party controls.

23. Outdoor Air Enthalpy Sensor (EconoMi$er IV or EconoMi$er2):

    The outdoor air enthalpy sensor shall be used with the EconoMi$er IV or EconoMi$er2 device to provide single enthalpy control. When used in conjunction with a return air enthalpy sensor, the EconoMi$er IV or EconoMi$er2 device will provide differential enthalpy control. The sensor allows the EconoMi$er IV or EconoMi$er2 controller to determine if outside air is suitable for free cooling.

24. Return Air Enthalpy Sensor (EconoMi$er IV or EconoMi$er2):

    The return air enthalpy sensor shall be used with the EconoMi$er IV or EconoMi$er2 device. When used in conjunction with an outdoor air enthalpy sensor, the EconoMi$er IV or EconoMi$er2 device will provide differential enthalpy control.

25. Return Air Temperature Sensor (EconoMi$er IV or EconoMi$er2):

    The return air temperature sensor shall be used with the EconoMi$er IV or EconoMi$er2 device. When used in conjunction with the standard outdoor air temperature sensor, the EconoMi$er IV or EconoMi$er2 device will provide differential temperature control.

26. Indoor Air Quality (CO_2) Sensor (EconoMi$er2):
    a. Shall have the ability to provide demand ventilation indoor air quality (IAQ) control through the EconoMi$er2 with an IAQ sensor.
    b. The IAQ sensor shall be available in duct mount, wall mount, and wall mount with LED display. The set point shall have adjustment capability.
    c. Requires EconoMi$er2, or Apollo control options.

27. Indoor Air Quality (CO_2) Room Sensor (EconoMi$er IV):

    Sensor shall have the ability to provide demand ventilation control through the EconoMi$er IV. The IAQ sensor shall be wall mounted with an LED display in parts per million. The set point shall have adjustment capability.

28. Return Air CO_2 Sensor (EconoMi$er IV):

    Sensor shall have the ability to provide demand ventilation control through the EconoMi$er IV. The IAQ sensor shall be duct mounted. The set point shall have adjustment capability.

29. Gas Heat options (sizes 036-060):
    a. Single-stage gas heat shall be provided in lieu of two-stage heat.
    b. NOx reduction shall be provided to reduce nitrous oxide emissions to meet the California Air Quality Management NOx requirement of 40 nanograms/joule or less.
    c. Primary tubes on low NOx units shall be 409 stainless steel. Other components shall be aluminized steel.

30. Ultraviolet Germicidal Lamps:

    Ultraviolet germicidal lamps are designed to eliminate odor causing mold and fungus that may develop in the wet area of the evaporator section of the unit. The high output, low temperature germicidal lamps are field installed in the evaporator section of the unit, aimed at the evaporator coil and condensate pan. The short wavelength ultraviolet light inhibits and kills mold, fungus and microbial growth. The lamps have an output rating at 45F in 400 fpm airflow of 120 microwatts/cm^2 at 1 meter.

31. Perfect Humidity™ Adaptive Dehumidification System:
    a. The Perfect Humidity dehumidification system shall be factory-installed in the rooftop unit, and shall provide greater dehumidification of the occupied space by two modes of dehumidification operations beside its normal design cooling mode:
        1) Subcooling mode further subcools the hot liquid refrigerant leaving the condenser coil when both temperature and humidity in the space are not satisfied.
        2) Hot gas reheat mode shall mix a portion of the hot gas from the discharge of the compressor with the hot liquid refrigerant leaving the condenser coil to create a two-phase heat transfer in the system, resulting in a neutral leaving-air temperature when only humidity in the space is not satisfied.
    b. The system shall consist of a subcooling/ reheat dehumidification coil located downstream of the standard evaporator coil. This dehumidification coil is a two-row coil on the 005 and 006 units, and a one-row coil on 003 and 004 units.
    c. The system shall include crankcase heater(s) for the scroll compressor(s).
    d. The system shall include a low outdoor air temperature switch to lock out both subcooling and hot gas reheat mode when the outdoor-air temperature is below 40 F.
    e. The system shall include a Motormaster® low ambient control to ensure the normal design cooling mode capable of down to 0° F low ambient operation.
    f. The system shall include a low-pressure switch on the suction line to ensure low pressure start-up of hot gas reheat mode at lower outdoor temperature condition.
    g. The system operation may be controlled by a field-installed, wall-mounted humidistat. The dehumidification circuit will then operate only when needed. Field connections for the humidistat are made in the low-voltage compartment of the unit control box. The sensor can be set for any level between 55% and 80% relative humidity.
    h. The system shall include a Thermal Expansion Valve (TXV) to ensure a positive superheat condition and a balance of pressure drop.

32. Humidistat:

    Field-installed, wall-mounted humidistat is used to control activation of the dehumidification package. The humidistat can be set for humidity levels between 20% and 80% relative humidity.

33. Hinged Panel Option:

    Hinged panel option provides hinged access panels for the filter, compressor, evaporator fan, and control box areas. Filter hinged panels permit tool-less entry for changing filters. Each hinged panel is permanently attached to the rooftop unit.

PHYSICAL DATA — 579F180-300

UNIT 579F		180		216	240	300
		208/230, 460 v	575 v			
NOMINAL CAPACITY (tons)		15		18	20	25
OPERATING WEIGHT (lb)		1650		1800	1850	2000
Economizer		90		90	90	90
Roof Curb		200		200	200	200
COMPRESSOR		Scroll				
Quantity...Model (Ckt 1, Ckt 2)		2...SR*942AE		1...SM120, 1...SR*782AE	1...SM120, 1...SM110	1...SM161, 1...SM120
Number of Refrigerant Circuits		2		2	2	2
Oil (oz) (Ckt 1, Ckt 2)		90, 90		110, 72	110,110	112, 110
Stages of Capacity Control (%)		50/50		60/40	52/48	56/44
REFRIGERANT TYPE		R-22				
Expansion Device		TXV				
Operating Charge (lb-oz)						
Circuit 1*		10-13		15-2	16-3	21-0
Circuit 2		10-5		11-5	14-8	15-4
CONDENSER COIL		Cross-Hatched 3/8-in. Copper Tubes, Aluminum Lanced, Aluminum Pre-Coated, or Copper Plate Fins				
Rows...Fins/in.		2...17		3...15	3...15	4...15
Total Face Area (sq ft)		21.7		21.7	21.7	21.7
CONDENSER FAN		Propeller Type				
Nominal Cfm		10,400		9300	13,700	12,500
Quantity...Diameter (in.)		3...22		3...22	2...30	2...30
Motor Hp...Rpm		1/2...1050		1/2...1050	1...1075	1...1075
Watts Input (Total)		1100		1100	3400	3400
EVAPORATOR COIL		Cross-Hatched 3/8-in. Copper Tubes, Aluminum Lanced or Copper Plate Fins, Face Split				
Rows...Fins/in.		2...17		3...15	3...15	4...15
Total Face Area (sq ft)		17.5		17.5	17.5	17.5
EVAPORATOR FAN		Centrifugal Type				
Quantity...Size (in.)		2...10 x 10	2...10 x 10	2...12 x 12	2...12 x 12	2...12 x 12
Type Drive		Belt	Belt	Belt	Belt	Belt
Nominal Cfm		6000	6000	7200	8000	10,000
Motor Hp		3.7	3.0	5	7.5	10
Motor Nominal Rpm		1725	1725	1745	1745	1740
Maximum Continuous Bhp		4.25	3.45	5.90	8.7 [208/230, 575 v] 9.5 [460 v]	10.2 [208/230, 575 v] 11.8 [460 v]
Motor Frame Size		56H	56H	184T	213T	215T
Nominal Rpm High/Low		—	—	—	—	—
Fan r/s Range	**Low-Medium Static**	891-1179	1159-1429	910-1095	1002-1225	1066-1283
	High Static	1227-1550	—	1069-1287	1193-1458	1332-1550
Motor Bearing Type		Ball	Ball	Ball	Ball	Ball
Maximum Allowable Rpm		1550	1550	1550	1550	1550
Motor Pulley Pitch Diameter Min/Max (in.)	**Low-Medium Static**	3.1/4.1	4.3/5.3	4.9/5.9	5.4/6.6	4.9/5.9
	High Static	3.7/4.7	—	4.9/5.9	5.4/6.6	4.9/5.9
Nominal Motor Shaft Diameter (in.)		7/8	7/8	1 1/8	1 3/8	1 3/8
Fan Pulley Pitch Diameter (in.)	**Low-Medium Static**	6.0	6.4	9.4	9.4	8.0
	High Static	5.2	—	8.0	7.9	6.4
Nominal Fan Shaft Diameter (in.)		1 3/16	1 3/16	1 7/16	1 7/16	1 7/16
Belt, Quantity...Type...Length (in.)	**Low-Medium Static**	1...BX...42	1...BX...45	1...BX...50	1...BX...54	2...BX...50
	High Static	1...BX...42	—	1...BX...48	1...BX...50	2...BX...47
Pulley Center Line Distance (in.)		13.5-15.5	13.5-15.5	13.3-14.8	14.6-15.4	14.6-15.4
Speed Change per Full Turn of Movable Pulley Flange (rpm)	**Low-Medium Static**	48	44	37	37	36
	High Static	55	—	34	44	45
Movable Pulley Maximum Full Turns From Closed Position		5	5	5	5	5
Factory Speed		3.5	3.5	3.5	3.5	3.5
Factory Speed Setting (rpm)	**Low-Medium Static**	1035	1296	1002	1120	1182
	High Static	1389	—	1178	1328	1470
Fan Shaft Diameter at Pulley (in.)		1 3/16	1 3/16	1 7/16	1 7/16	1 7/16

LEGEND

Bhp — Brake Horsepower
TXV — Thermostatic Expansion Valve

*Circuit 1 uses the lower portion of condenser coil and lower portion of evaporator coils; and Circuit 2 uses the upper portion of both coils.
†Rollout switch is manual reset.
**The 579F300 units requires 2-in. industrial-grade filters capable of handling face velocities of up to 625 ft/min (such as American Air Filter no. 5700 or equivalent).

NOTE: The 579F units have a low-pressure switch (standard) located on the suction side.

PHYSICAL DATA — 579F180-300 (cont)

UNIT 579F		180	216	240	300
FURNACE SECTION					
Rollout Switch Cutout Temp (F)†		190	190	190	190
Burner Orifice Diameter (in. ...drill size)					
Natural Gas		0.1285...30/0.136...29	0.1285...30/0.136...29	0.1285...30/0.136...29	0.1285...30/0.136...29
Thermostat Heat Anticipator Setting (amps)					
208/230, 575	Stage 1	0.98	0.98	0.98	0.98
	Stage 2	0.44	0.44	0.44	0.44
460 v	Stage 1	0.80	0.80	0.80	0.80
	Stage 2	0.44	0.44	0.44	0.44
Gas Input	Stage 1	172,000/225,000	206,000/270,000	206,000/270,000	206,000/270,000
	Stage 2	230,000/300,000	275,000/360,000	275,000/360,000	275,000/360,000
Efficiency (Steady State) (%)		81	81	81	81
Temperature Rise Range		15-45/20-50	15-45/20-50	15-45/20-50	15-45/20-50
Manifold Pressure (in. wg)					
Natural Gas		3.3	3.3	3.3	3.3
Gas Valve Quantity		1	1	1	1
Field Gas Connection Size (in.-FPT)		3/4	3/4	3/4	3/4
HIGH-PRESSURE SWITCH (psig)					
Cutout		426			
Reset (Auto)		320			
LOW-PRESSURE SWITCH (psig)					
Cutout		27			
Reset (Auto)		44			
FREEZE PROTECTION THERMOSTAT (F)					
Opens		30 ± 5			
Closes		45 ± 5			
OUTDOOR-AIR INLET SCREENS		Cleanable			
Quantity...Size (in.)		2...20 x 25 x 1 1...20 x 20 x 1			
RETURN-AIR FILTERS		Throwaway**			
Quantity...Size (in.)		4...20 x 20 x 2 4...16 x 20 x 2			
POWER EXHAUST		1/2 Hp, 208/230-460 v Motor Direct Drive, Propeller-Fan (Factory-Wired for 460 v)			

LEGEND

Bhp — Brake Horsepower
TXV — Thermostatic Expansion Valve

*Circuit 1 uses the lower portion of condenser coil and lower portion of evaporator coils; and Circuit 2 uses the upper portion of both coils.

†Rollout switch is manual reset.

**The 579F300 units requires 2-in. industrial-grade filters capable of handling face velocities of up to 625 ft/min (such as American Air Filter no. 5700 or equivalent).

NOTE: The 579F units have a low-pressure switch (standard) located on the suction side.

OPERATING AND RIGGING WEIGHTS

UNIT	BASE UNIT OPERATING WEIGHTS*							
	180		216		240		300	
	lb	kg	lb	kg	lb	kg	lb	kg
579F	1650	748	1800	816	1850	839	2000	907

*Base unit weight does not include electric heaters, copper coils, economizer, power exhaust, barometric relief or crating. See Options and Accessories table below for more information.

NOTE: For 180 and 216 unit sizes add 75 lb (34 kg) for domestic crating. For 240 and 300 unit sizes add 135 lb (61 kg). For export crating add 500 lb (227 kg).

OPTIONS AND ACCESSORIES (Weight Adders)

OPTION/ ACCESSORY	OPTION/ACCESSORY WEIGHTS							
	180		216		240		300	
	lb	kg	lb	kg	lb	kg	lb	kg
Barometric Relief Damper	50	23	50	23	50	23	50	23
Power Exhaust	85	39	85	39	85	39	85	39
EconoMi$er IV	90	41	90	41	90	41	90	41
Cu Condenser Coil	150	68	150	68	150	68	150	68
Cu Condenser and Evaporator Coils	280	127	280	127	280	127	280	127
Roof Curb (14-in. curb)	200	91	200	91	200	91	200	91
Horizontal Adapter Curb (Pre-Assembled)	250	113	250	113	250	113	250	113
Horizontal Adapter Curb (Field-Assembled)	343	156	343	156	343	156	343	156
Hail Guard	60	27	60	27	60	27	60	27

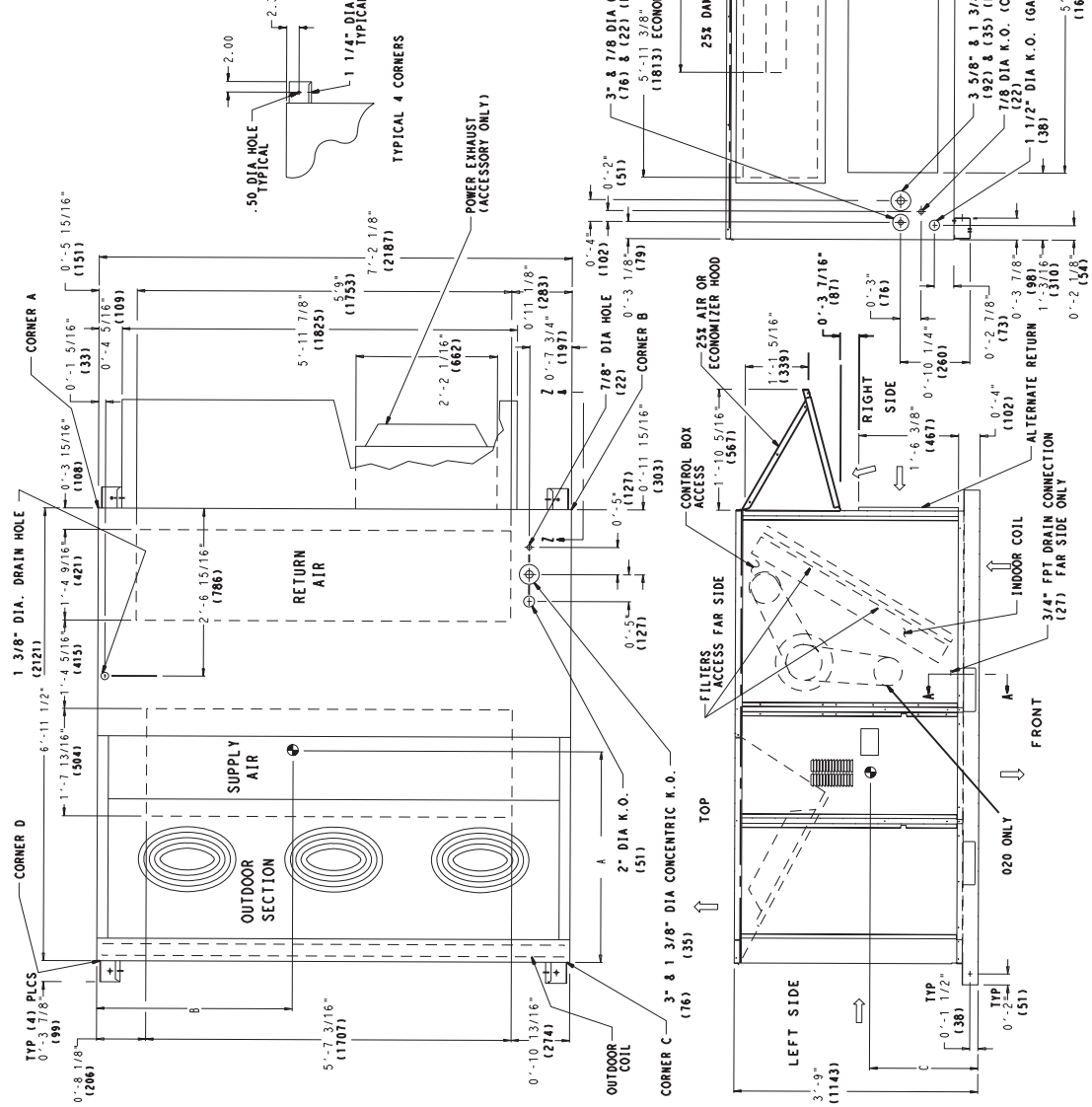
LEGEND

Cu — Copper

BASE UNIT DIMENSIONS — 579F180,216

UNIT 579F	STD UNIT WEIGHT		ECONOMIZER WEIGHT		CORNER A		CORNER B		CORNER C		CORNER D		DIM A		DIM B		DIM C	
	Lb	Kg	Lb	Kg	Lb	Kg	Lb	Kg	Lb	Kg	Lb	Kg	ft-in.	mm	ft-in.	mm	ft-in.	mm
180	1650	748	90	41	423	192	386	175	403	183	438	199	3-5	1041	3-5	1041	1-10	559
216	1800	816	90	41	432	196	410	186	461	209	472	214	3-3	991	3-7	1092	1-8	508

NOTES:
1. Refer to print for roof curb accessory dimensions.
2. Dimensions in ( ) are in millimeters.
3. Center of Gravity.
4. Direction of airflow.
5. Ductwork to be attached to accessory roof curb only.
6. Minimum clearance:
   - Rear: 7'-0" (2134) for coil removal. This dimension can be reduced to 4'-0" (1219) if conditions permit coil removal from the top.
   - 4'-0" (1219) to combustible surfaces, all four sides (includes between units).
   - Left side: 4'-0" (1219) for proper condenser coil airflow.
   - Front: 4'-0" (1219) for control box access.
   - Right side: 4'-0" (1219) for proper operation of damper and power exhaust if so equipped.
   - Top: 6'-0" (1829) to assure proper condenser fan operation.
   - Bottom: 14" (356) to combustible surfaces (when not using curb).
   - Control box side: 3'-0" (914) to ungrounded surfaces, non-combustible.
   - Control box side: 3'-6" (1067) to block or concrete walls, or other grounded surfaces.
   - Local codes or jurisdiction may prevail.
7. With the exception of clearance for the condenser coil and the damper/power exhaust as stated in Note #6, a removable fence or barricade requires no clearance.
8. Dimensions are from outside of corner post. Allow 0'-5/16" (8) on each side for top cover drip edge.
9. See drawing 50TJ500352 for service option details.

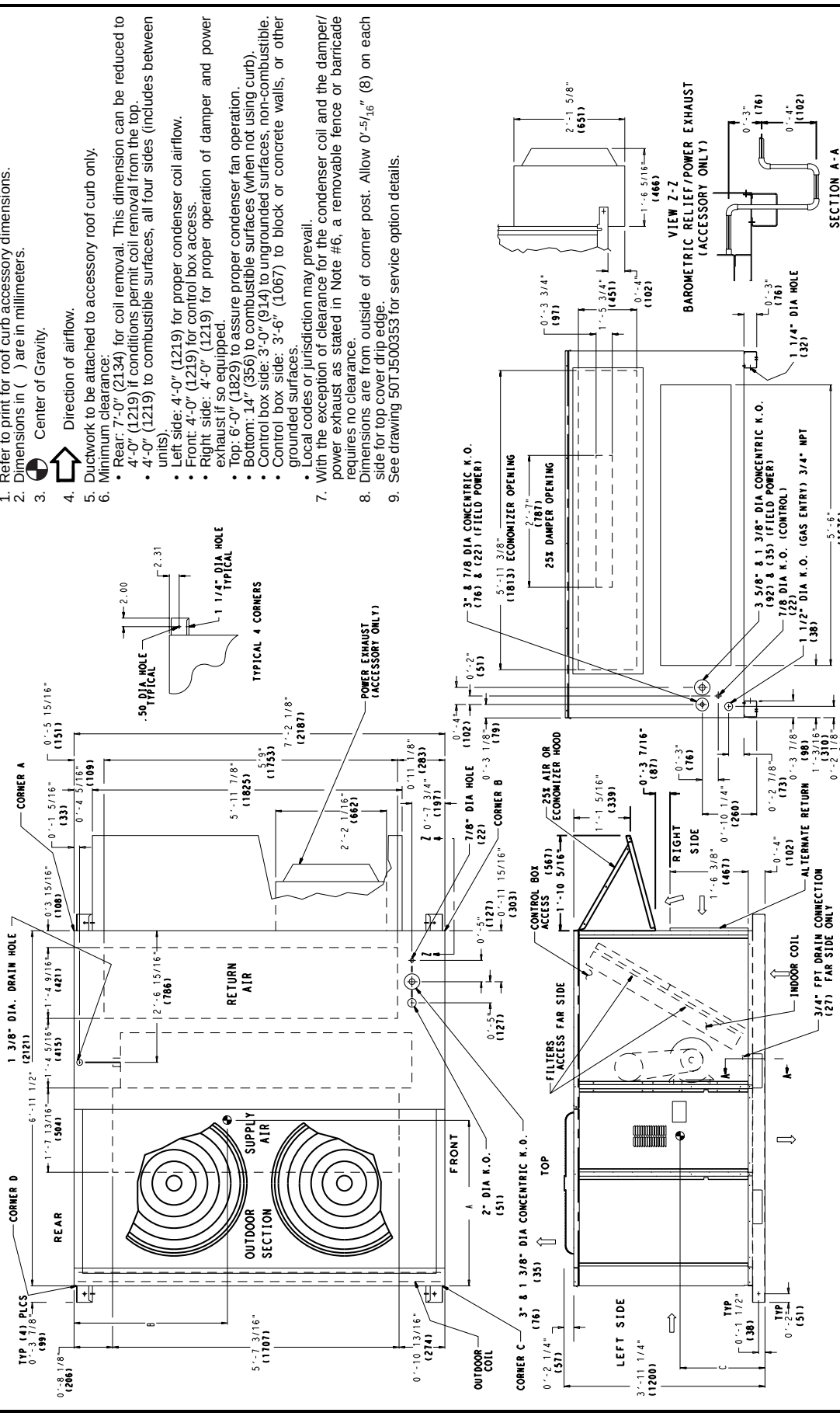


BASE UNIT DIMENSIONS — 579F240,300

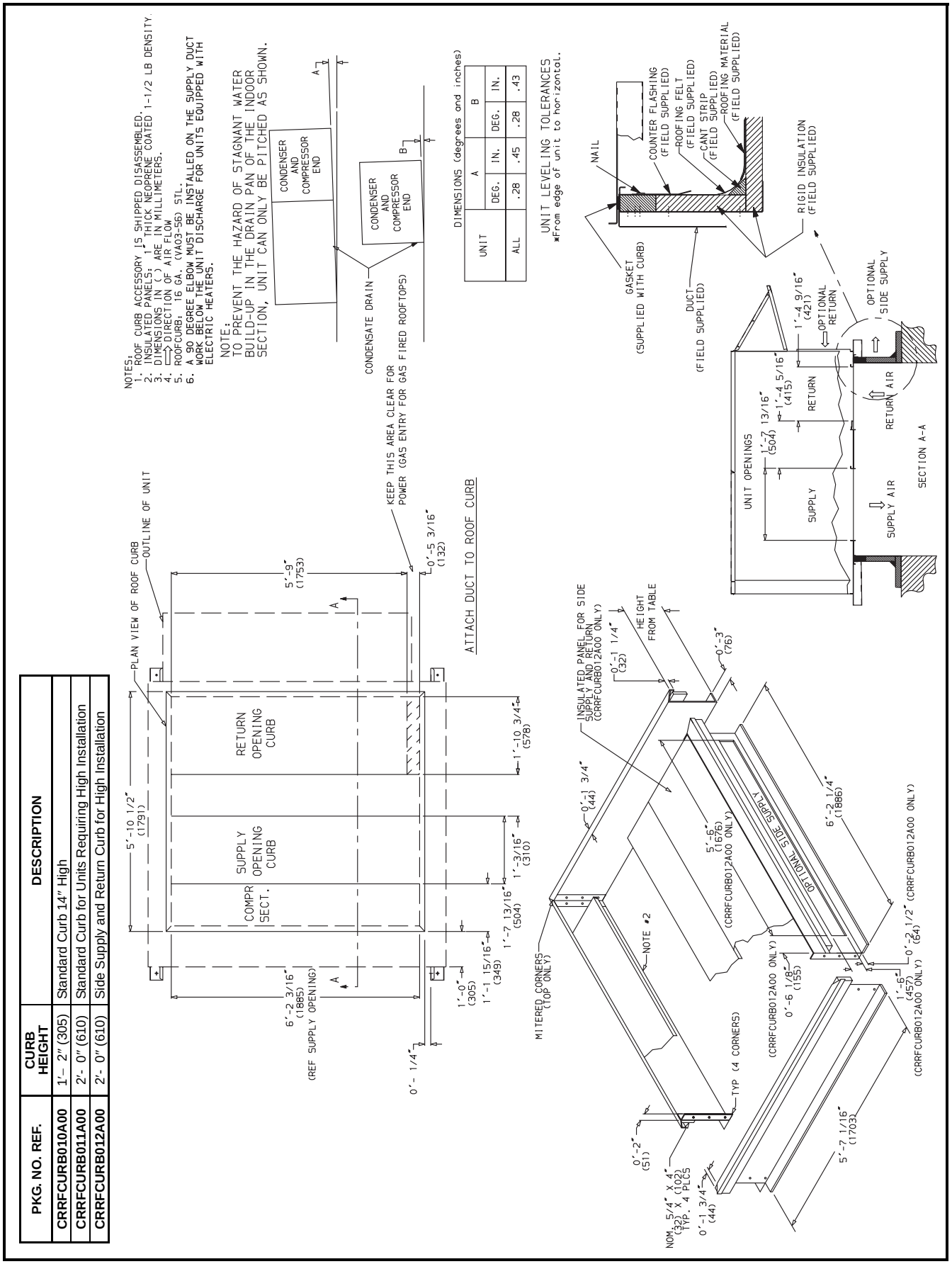
UNIT 579F	STD UNIT WEIGHT		ECONOMIZER WEIGHT		CORNER A		CORNER B		CORNER C		CORNER D		DIM A		DIM B		DIM C	
	Lb	Kg	Lb	Kg	Lb	Kg	Lb	Kg	Lb	Kg	Lb	Kg	ft-in.	mm	ft-in.	mm	ft-in.	mm
240	1850	839	90	41	443	201	406	184	476	216	525	238	3-2	965	3-5	1041	1-8	508
300	2000	907	90	41	471	214	428	194	526	239	574	260	3-2	965	3-5	1041	1-8	508

NOTES:

1. Refer to print for roof curb accessory dimensions.
2. Dimensions in ( ) are in millimeters.
3. Center of Gravity.
4. Direction of airflow.
5. Ductwork to be attached to accessory roof curb only.
6. Minimum clearance:
   - Rear: 7'-0" (2134) for coil removal. This dimension can be reduced to 4'-0" (1219) if conditions permit coil removal from the top.
   - 4'-0" (1219) to combustible surfaces, all four sides (includes between units).
   - Left side: 4'-0" (1219) for proper condenser coil airflow.
   - Front: 4'-0" (1219) for control box access.
   - Right side: 4'-0" (1219) for proper operation of damper and power exhaust if so equipped.
   - Top: 6'-0" (1829) to assure proper condenser fan operation.
   - Bottom: 14" (356) to combustible surfaces (when not using curb).
   - Control box side: 3'-0" (914) to ungrounded surfaces, non-combustible.
   - Control box side: 3'-6" (1067) to block or concrete walls, or other grounded surfaces.
   - Local codes or jurisdiction may prevail.
7. With the exception of clearance for the condenser coil and the damper/power exhaust as stated in Note #6, a removable fence or barricade requires no clearance.
8. Dimensions are from outside of corner post. Allow 0'-5 $\frac{5}{16}$" (8) on each side for top cover drip edge.
9. See drawing 50TJ500353 for service option details.

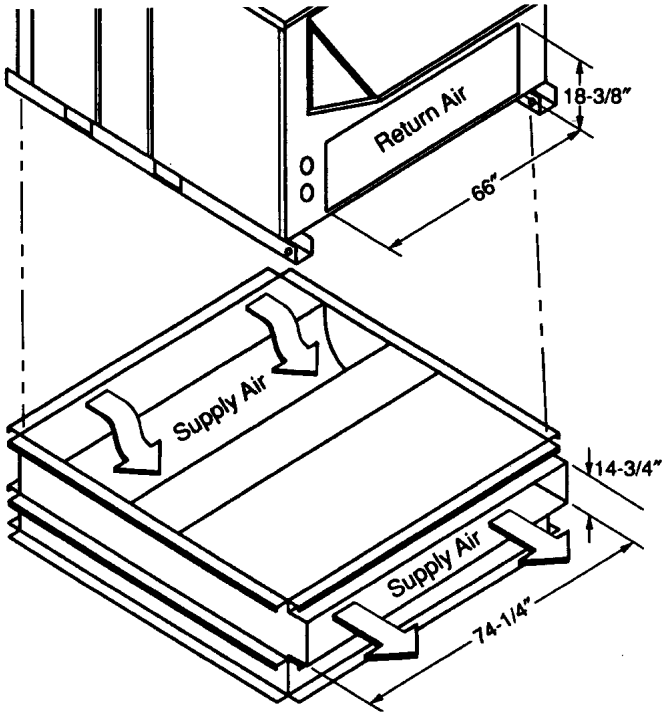


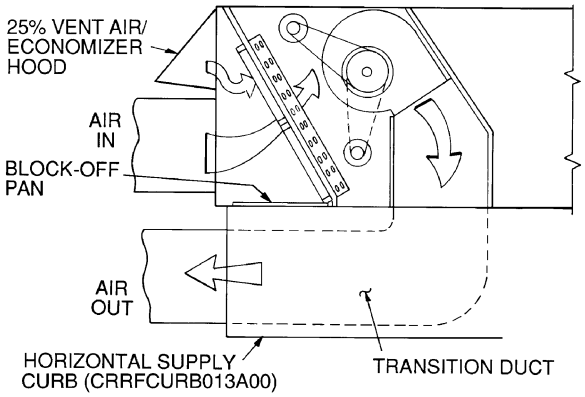
PKG. NO. REF.	CURB HEIGHT	DESCRIPTION
CRRFCURB010A00	1′– 2″ (305)	Standard Curb 14″ High
CRRFCURB011A00	2′- 0″ (610)	Standard Curb for Units Requiring High Installation
CRRFCURB012A00	2′- 0″ (610)	Side Supply and Return Curb for High Installation

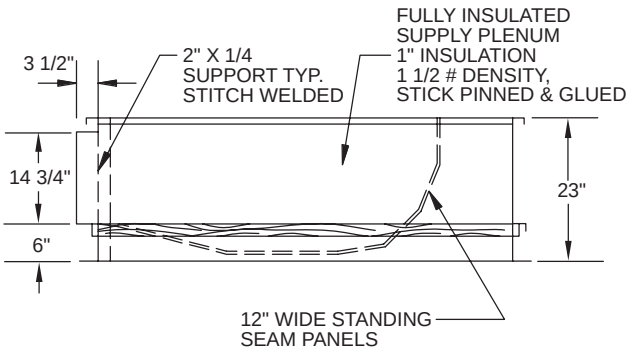


Horizontal and Vertical Roof Curbs — 579F180-300

579F-180-300





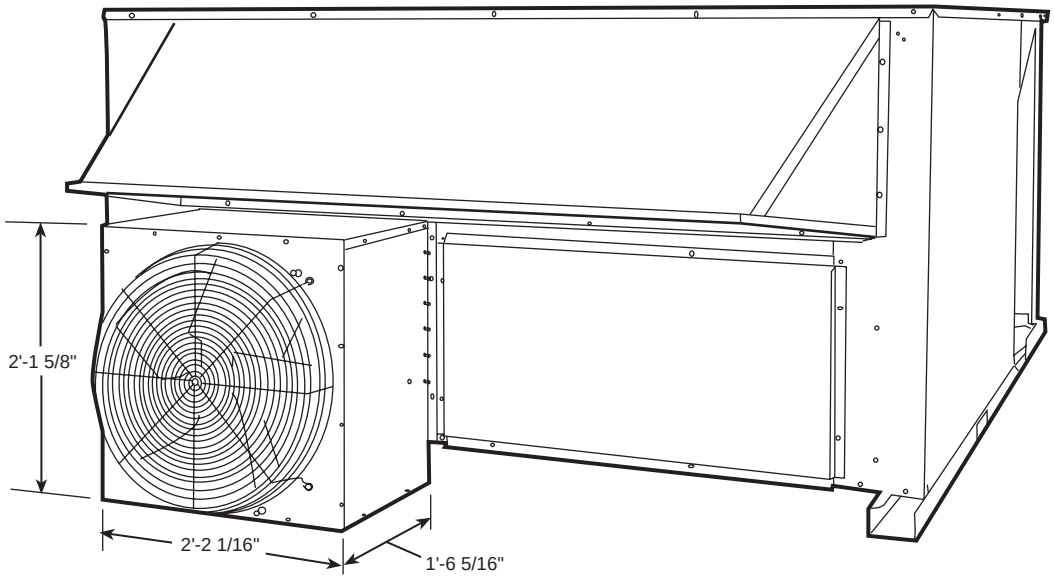


NOTE: CRRFCURB013A00 is a fully factory preassembled horizontal adapter and includes an insulated transition duct. The pressure drop through the adapter curb is negligible.

For horizontal return applications: The power exhaust and barometric relief dampers must be installed in the return air duct.

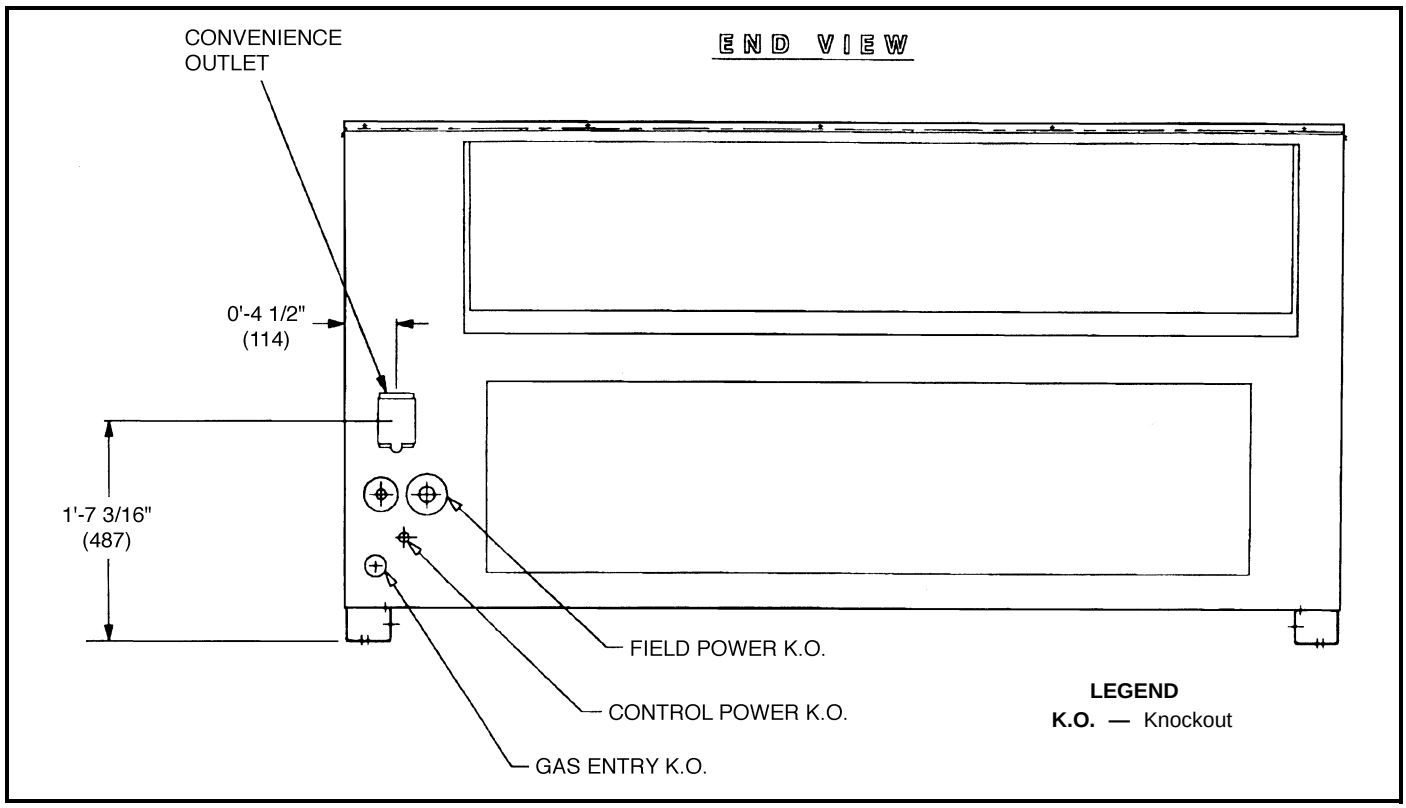
ACCESSORY PACKAGE NO.	CURB HEIGHT	DESCRIPTION
CRRFCURB013A00	1′-11″ (584)	Pre-Assembled, Roof Curb, Horizontal Adapter

Horizontal Supply/Return Adapter Installation (579F180-300)

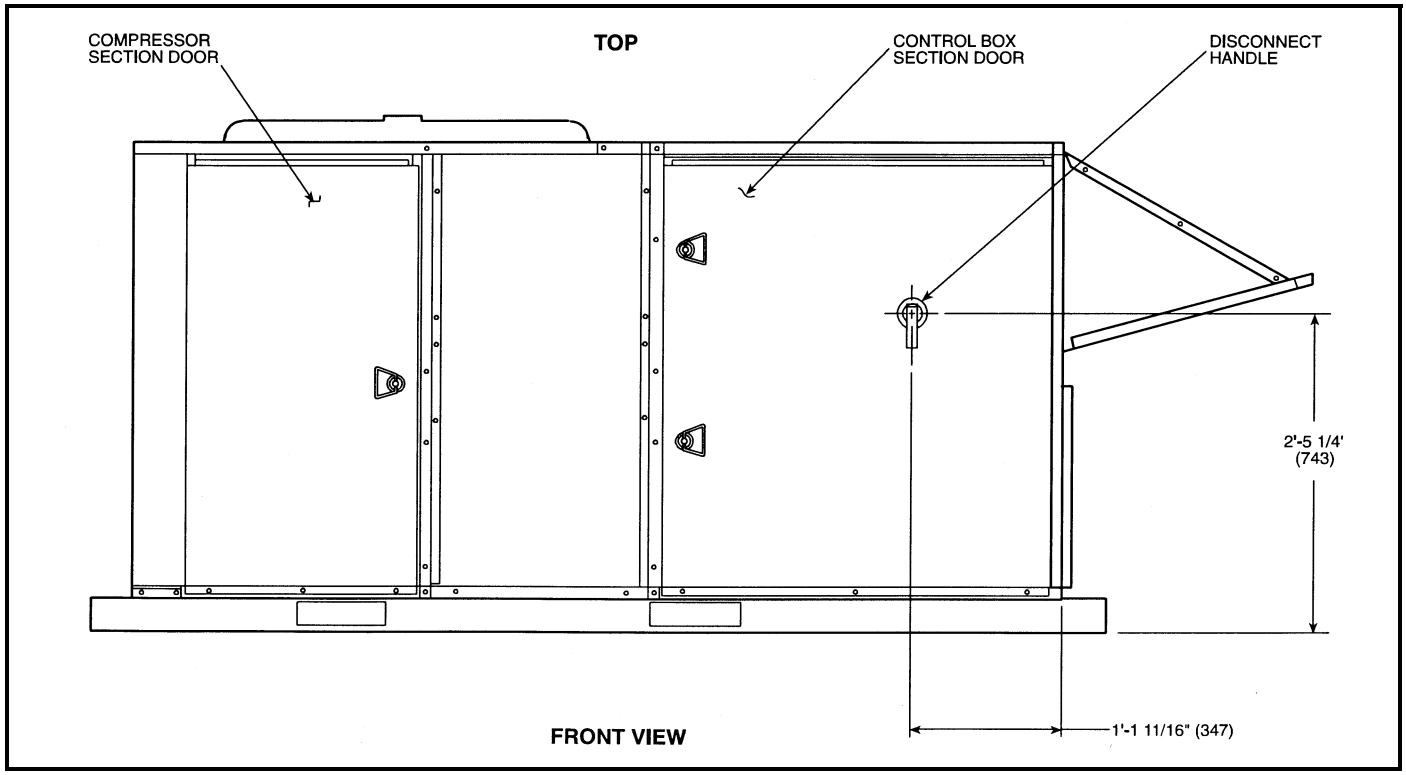


For horizontal return applications: The power exhaust relief must be installed in the return air duct.

Barometric Relief/Power Exhaust



Factory-Installed Convenience Outlet



Factory-Installed Non-Fused Disconnect

SELECTION PROCEDURE (With 579F180 Example)

I DETERMINE COOLING AND HEATING REQUIREMENTS AT DESIGN CONDITIONS.

Given:

Required Cooling Capacity . . . . . 170,000 Btuh
Sensible Heat Capacity . . . . . 111,000 Btuh
Required Heating Capacity . . . . . 200,000 Btuh
Condenser Entering Air Temp. . . . . .95 F (Summer)
Evaporator Entering Air Temp. . . . . 80 F edb, 67 F ewb
Evaporator Air Quantity . . . . . .4,500 cfm
External Static Pressure . . . . . 0.6 in. wg
Electrical Characteristics (V-Ph-Hz) 460-3-60

Vertical discharge unit with optional EconoMi$er IV required.

edb — Entering dry-bulb
ewb — Entering wet-bulb

II SELECT UNIT BASED ON REQUIRED COOLING CAPACITY.

Enter Cooling Capacities table for 579F180300 (page 152) at condenser entering temperature 95 F, evaporator air entering at 4,500 cfm and 67 F wb. The 579F180300 unit will provide a total cooling capacity of 179,000 Btuh and a sensible heating capacity of 117,000 Btuh. For air entering evaporator at temperatures other than 80 F edb, calculate sensible heat capacity correction as required using the formula in the notes following the Cooling Capacities tables.

NOTE: Unit ratings are gross capacities and do not include the effect of evaporator-fan motor heat. To calculate net capacities, see Step V.

III SELECT HEATING CAPACITY OF UNIT TO PROVIDE DESIGN CONDITION REQUIREMENTS.

In the ARI Heating Capacities and Efficiencies table (page 12) note that the 579F180300 will provide an output capacity of 243,000 Btuh, which is adequate for the given application.

IV DETERMINE FAN SPEED AND POWER REQUIREMENTS AT DESIGN CONDITIONS.

Before entering the Fan Performance tables, calculate the total static pressure required based on unit components. From the given and the Accessory/FIOP Static Pressure table on page 164 find:

External static pressure	0.60 in. wg
EconoMi$er IV static pressure	0.04 in. wg
Total static pressure	0.64 in. wg

Enter the Fan Performance table 579F180300 (page 161) at 4,500 cfm and 0.64 in. wg external static pressure. By interpolation, find that the rpm is 1017 and the watts are 1743.

V DETERMINE NET COOLING CAPACITY.

Cooling capacities are gross capacities and do not include indoor (evaporator) fan motor (IFM) heat. Use the watts input power to the motor calculated in Section IV above.

IFM Watts = 1743

Determine net cooling capacity using the following formula:

Net capacity = Gross capacity – IFM heat
= 179,000 Btuh – 1743 Watts

$$(3.412 \frac{\text{Btuh}}{\text{Watts}})$$

= 179,000 Btuh – 5947 Btuh
= 173,053 Btuh

Net sensible capacity = 117,000 Btuh – 5947 Btuh
= 111,053 Btuh

The calculations show that a 579F180300 unit with the standard motor and standard low-medium static drive is the correct selection for the given conditions.

PERFORMANCE DATA — 579F

COOLING CAPACITIES

579F180 (15 Tons)

Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm													
		4500							5250						
		Evaporator Air — Ewb (F)/BF													
		54/0.48	58/0.32	62/0.22	67/0.20	72/0.19	76/0.24	80/0.04	54/0.54	58/0.39	62/0.25	67/0.23	72/0.21	76/0.23	80/0.04
75	TC	—	168	177	192	209	225	240	171	171	182	197	214	229	246
	SHC	—	152	142	123	103	85	69	171	150	151	130	108	88	69
	kW	—	12.4	12.6	13.0	13.3	13.6	13.9	12.5	12.6	12.7	13.1	13.4	13.7	14.0
85	TC	159	164	171	186	202	219	233	166	172	175	190	207	222	237
	SHC	159	148	139	120	100	83	66	166	151	148	127	105	86	67
	kW	13.7	13.8	14.1	14.4	14.8	15.5	15.4	13.9	14.0	14.1	14.5	14.9	15.2	15.5
95	TC	154	159	165	179	195	210	226	161	164	169	183	199	214	229
	SHC	154	142	136	117	98	80	64	161	155	145	124	102	83	64
	kW	15.3	15.4	15.5	15.9	16.3	16.7	17.3	15.5	15.5	15.7	16.0	16.5	16.8	17.1
105	TC	149	154	158	172	187	201	216	156	156	162	176	191	205	222
	SHC	149	137	133	114	95	78	61	156	156	142	121	99	81	62
	kW	16.9	17.0	17.1	17.6	18.0	18.4	18.7	17.2	17.1	17.2	17.7	18.1	18.5	19.1
115	TC	144	145	152	165	179	193	207	150	151	156	168	183	196	210
	SHC	144	142	130	111	92	75	58	150	151	137	118	96	78	58
	kW	18.6	18.6	18.9	19.3	19.8	20.2	20.6	18.9	18.9	19.0	19.5	19.9	20.3	20.7
117	TC	143	143	150	163	178	191	205	149	149	154	167	181	194	208
	SHC	143	142	129	110	91	74	57	149	149	136	117	96	77	58
	kW	18.9	19.0	19.2	19.7	20.2	20.5	20.9	19.2	19.2	19.4	19.8	20.3	20.7	21.0
120	TC	141	141	148	161	175	—	—	147	148	152	164	179	—	—
	SHC	141	141	128	109	90	—	—	147	148	135	116	95	—	—
	kW	19.5	19.5	19.8	20.2	20.7	—	—	19.8	19.8	19.9	20.4	20.8	—	—

579F180 (15 Tons) (cont)

Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm													
		6000							6750						
		Evaporator Air — Ewb (F)/BF													
		54/0.58	58/0.43	62/0.30	67/0.25	72/0.23	76/0.24	80/0.04	54/0.62	58/0.48	62/0.36	67/0.28	72/0.25	76/0.25	80/0.03
75	TC	178	174	185	200	218	233	250	183	179	183	203	221	236	253
	SHC	178	171	159	136	112	91	70	183	179	161	142	116	93	70
	kW	12.7	12.7	12.8	13.1	13.5	13.8	14.1	12.8	12.7	12.8	13.2	13.5	13.9	14.1
85	TC	173	173	179	193	210	227	244	178	178	183	196	213	228	247
	SHC	173	172	156	133	109	89	68	178	178	161	139	113	91	68
	kW	14.1	14.1	14.2	14.6	15.0	15.8	16.2	14.2	14.2	14.3	14.7	15.1	15.3	16.3
95	TC	167	167	173	186	203	217	232	173	173	177	189	205	220	235
	SHC	167	167	152	130	106	86	64	173	173	157	137	111	88	65
	kW	15.7	15.6	15.8	16.1	16.6	16.9	17.2	15.8	15.8	15.9	16.2	16.6	17.0	17.3
105	TC	162	162	167	179	194	208	223	168	167	171	181	197	211	225
	SHC	162	162	147	127	104	83	61	168	167	152	133	108	85	62
	kW	17.3	17.3	17.4	17.8	18.2	18.5	18.9	17.4	17.4	17.5	17.9	18.3	18.6	18.9
115	TC	156	156	160	171	186	199	213	160	160	165	173	188	201	215
	SHC	156	156	143	124	101	80	59	160	160	145	130	104	82	59
	kW	19.1	19.1	19.1	19.6	20.0	20.4	20.7	19.2	19.2	19.3	19.6	20.1	20.5	20.8
117	TC	154	155	159	169	184	197	211	159	159	163	171	186	199	—
	SHC	154	155	142	124	100	79	58	159	159	144	129	104	82	—
	kW	19.4	19.4	19.5	19.9	20.4	20.8	21.1	19.6	19.6	19.7	20.0	20.4	20.8	—
120	TC	153	153	157	167	181	—	—	157	157	161	169	—	—	—
	SHC	153	153	140	122	99	—	—	157	157	142	128	—	—	—
	kW	19.9	19.9	20.0	20.4	20.9	—	—	20.1	20.1	20.2	20.5	—	—	—

LEGEND

BF — Bypass Factor
Edb — Entering Dry-Bulb
Ewb — Entering Wet-Bulb
kW — Compressor Motor Power Input
ldb — Leaving Dry-Bulb
lwb — Leaving Wet-Bulb
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil

3. The SHC is based on 80 F edb temperature of air entering evaporator coil. Below 80 F edb, subtract (corr factor x cfm) from SHC. *Above 80 F edb, add (corr factor x cfm) to SHC.*

BYPASS FACTOR (BF)	ENTERING AIR DRY-BULB TEMP (F)					
	79	78	77	76	75	under 75
	81	*82*	*83*	*84*	*85*	*over 85*
	Correction Factor					
0.05	1.04	2.07	3.11	4.14	5.18	Use formula shown below.
0.10	0.98	1.96	2.94	3.92	4.91	
0.20	0.87	1.74	2.62	3.49	4.36	
0.30	0.76	1.53	2.29	3.05	3.82	
0.40	0.65	1.31	1.96	2.62	3.27	
0.50	0.55	1.09	1.64	2.18	2.73	
0.60	0.44	0.87	1.31	1.74	2.18	
0.70	0.33	0.65	0.98	1.31	1.64	

Interpolation is permissible.
Correction Factor = 1.10 x (1 – BF) x (edb – 80).

PERFORMANCE DATA — 579F (cont)

COOLING CAPACITIES (cont)

579F180 (15 Tons) (cont)								
Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm						
		7500						
		Evaporator Air — Ewb (F)/BF						
		54/0.65	58/0.52	62/0.41	67/0.30	72/0.28	76/0.27	80/0.03
75	TC	188	183	193	206	223	239	256
	SHC	188	183	170	148	120	95	70
	kW	12.9	12.8	13.0	13.2	13.6	13.9	14.2
85	TC	183	183	187	199	215	233	249
	SHC	183	183	167	145	117	94	68
	kW	14.4	14.4	14.4	14.7	15.1	15.9	16.3
95	TC	177	177	181	191	207	222	237
	SHC	177	177	161	142	114	90	65
	kW	15.9	15.9	16.0	16.3	16.7	17.0	17.3
105	TC	171	171	175	183	199	213	228
	SHC	171	171	154	138	111	87	62
	kW	17.6	17.6	17.7	18.0	18.4	18.7	19.0
115	TC	164	164	169	175	190	203	217
	SHC	164	164	146	135	108	84	59
	kW	19.4	19.4	19.5	19.7	20.2	20.5	20.9
117	TC	163	163	167	173	188	201	—
	SHC	163	163	145	134	107	84	—
	kW	19.7	19.7	19.9	20.0	20.5	20.9	—
120	TC	161	161	165	170	—	—	—
	SHC	161	161	143	133	—	—	—
	kW	20.2	20.3	20.4	20.6	—	—	—

LEGEND

BF — Bypass Factor
Edb — Entering Dry-Bulb
Ewb — Entering Wet-Bulb
kW — Compressor Motor Power Input
ldb — Leaving Dry-Bulb
lwb — Leaving Wet-Bulb
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil

3. The SHC is based on 80 F edb temperature of air entering evaporator coil. Below 80 F edb, subtract (corr factor x cfm) from SHC. *Above 80 F edb, add (corr factor x cfm) to SHC.*

BYPASS FACTOR (BF)	ENTERING AIR DRY-BULB TEMP (F)					
	79	78	77	76	75	under 75
	81	*82*	*83*	*84*	*85*	*over 85*
	Correction Factor					
0.05	1.04	2.07	3.11	4.14	5.18	Use formula shown below.
0.10	0.98	1.96	2.94	3.92	4.91	
0.20	0.87	1.74	2.62	3.49	4.36	
0.30	0.76	1.53	2.29	3.05	3.82	
0.40	0.65	1.31	1.96	2.62	3.27	
0.50	0.55	1.09	1.64	2.18	2.73	
0.60	0.44	0.87	1.31	1.74	2.18	
0.70	0.33	0.65	0.98	1.31	1.64	

Interpolation is permissible.
Correction Factor = 1.10 x (1 – BF) x (edb – 80).

PERFORMANCE DATA — 579F (cont)

COOLING CAPACITIES (cont)

579F216 (18 Tons)															
Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm													
		5400							6000						
		Evaporator Air — Ewb (F)/BF													
		54/0.49	58/0.31	62/0.20	67/0.18	72/0.16	76/0.19	80/0.05	54/0.53	58/0.35	62/0.23	67/0.19	72/0.17	76/0.19	80/0.05
75	TC	194	198	206	223	243	260	277	200	203	210	227	246	263	—
	SHC	194	178	169	146	121	99	79	200	191	177	152	125	102	—
	kW	13.6	13.7	13.9	14.2	14.6	15.0	15.2	13.7	13.8	14.0	14.4	14.7	15.1	—
85	TC	189	192	200	217	235	252	269	195	195	204	220	239	255	—
	SHC	189	176	166	143	118	97	76	195	195	174	149	123	100	—
	kW	15.1	15.2	15.4	15.9	16.3	16.6	16.9	15.3	15.3	15.7	16.0	16.4	16.8	—
95	TC	183	184	193	209	227	243	—	189	190	196	212	230	246	—
	SHC	183	181	162	140	115	94	—	189	190	170	146	120	97	—
	kW	16.8	16.8	17.1	17.6	18.0	18.4	—	17.0	17.0	17.2	17.6	18.1	18.5	—
105	TC	177	178	185	201	218	234	—	183	185	189	204	221	237	—
	SHC	177	178	159	137	112	91	—	183	185	166	143	116	94	—
	kW	18.6	18.6	18.8	19.3	19.8	20.2	—	18.8	18.6	18.9	19.4	19.9	20.3	—
115	TC	171	171	177	192	209	224	—	176	177	181	195	212	226	—
	SHC	171	171	154	133	109	88	—	176	177	161	139	113	90	—
	kW	20.5	20.5	20.7	21.2	21.8	22.1	—	20.7	20.7	20.8	21.3	21.8	22.2	—
117	TC	170	170	176	191	207	222	—	175	175	180	193	210	224	—
	SHC	170	170	154	132	108	87	—	175	175	160	138	112	90	—
	kW	20.9	20.9	21.1	21.6	22.1	22.5	—	21.1	21.1	21.2	21.7	22.2	22.6	—
120	TC	168	168	173	188	204	—	—	173	173	177	191	207	—	—
	SHC	168	168	152	131	107	—	—	173	173	159	137	111	—	—
	kW	21.5	21.5	21.7	22.2	22.7	—	—	21.7	21.7	21.8	22.3	22.8	—	—

579F216 (18 Tons) (cont)															
Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm													
		7000							8000						
		Evaporator Air — Ewb (F)/BF													
		54/0.58	58/0.42	62/0.29	67/0.21	72/0.20	76/0.20	80/0.05	54/0.62	58/0.48	62/0.36	67/0.23	72/0.22	76/0.21	80/0.04
75	TC	209	209	215	232	251	268	—	216	217	221	236	255	272	—
	SHC	209	209	189	162	132	106	—	216	217	198	171	138	109	—
	kW	13.9	13.9	14.1	14.5	14.9	15.2	—	14.1	14.1	14.2	14.5	15.0	15.3	—
85	TC	203	204	209	224	243	260	—	211	211	215	228	247	263	—
	SHC	203	204	185	159	129	103	—	211	211	192	168	135	107	—
	kW	15.5	15.5	15.7	16.1	16.5	16.9	—	15.7	15.7	15.8	16.2	16.6	17.0	—
95	TC	197	197	202	216	235	251	—	204	204	209	220	238	254	—
	SHC	197	197	180	156	126	100	—	204	204	185	165	132	104	—
	kW	17.2	17.2	17.4	17.8	18.2	18.7	—	17.4	17.4	17.6	17.9	18.3	18.7	—
105	TC	191	191	195	208	225	241	—	197	197	202	211	228	244	—
	SHC	191	191	175	152	123	97	—	197	197	177	161	128	100	—
	kW	19.0	19.0	19.2	19.5	20.0	20.5	—	19.2	19.2	19.3	19.6	20.1	20.6	—
115	TC	184	184	188	199	215	230	—	190	190	194	202	218	—	—
	SHC	184	184	168	149	119	94	—	190	190	170	158	125	—	—
	kW	21.0	21.0	21.1	21.5	22.0	22.4	—	21.1	21.1	21.2	21.6	22.1	—	—
117	TC	183	183	187	197	214	228	—	188	188	192	200	216	—	—
	SHC	183	183	166	148	118	93	—	188	188	171	157	124	—	—
	kW	21.3	21.4	21.5	21.8	22.4	22.7	—	21.5	21.5	21.7	22.0	22.5	—	—
120	TC	180	180	185	194	210	—	—	186	186	190	197	—	—	—
	SHC	180	180	163	147	117	—	—	186	186	172	156	—	—	—
	kW	21.9	22.0	22.1	22.4	23.0	—	—	22.1	22.1	22.2	22.5	—	—	—

LEGEND

BF — Bypass Factor
Edb — Entering Dry-Bulb
Ewb — Entering Wet-Bulb
kW — Compressor Motor Power Input
ldb — Leaving Dry-Bulb
lwb — Leaving Wet-Bulb
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil

3. The SHC is based on 80 F edb temperature of air entering evaporator coil. Below 80 F edb, subtract (corr factor x cfm) from SHC. *Above 80 F edb, add (corr factor x cfm) to SHC.*

BYPASS FACTOR (BF)	ENTERING AIR DRY-BULB TEMP (F)					
	79	78	77	76	75	under 75
	81	*82*	*83*	*84*	*85*	*over 85*
	Correction Factor					
0.05	1.04	2.07	3.11	4.14	5.18	Use formula shown below.
0.10	0.98	1.96	2.94	3.92	4.91	
0.20	0.87	1.74	2.62	3.49	4.36	
0.30	0.76	1.53	2.29	3.05	3.82	
0.40	0.65	1.31	1.96	2.62	3.27	
0.50	0.55	1.09	1.64	2.18	2.73	
0.60	0.44	0.87	1.31	1.74	2.18	
0.70	0.33	0.65	0.98	1.31	1.64	

Interpolation is permissible.
Correction Factor = 1.10 x (1 – BF) x (edb – 80).

PERFORMANCE DATA — 579F (cont)

COOLING CAPACITIES (cont)

579F216 (18 Tons) (cont)								
Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm						
		9000						
		Evaporator Air — Ewb (F)/BF						
		54/0.65	58/0.53	62/0.40	67/0.25	72/0.23	76/0.23	80/0.05
75	TC	223	223	228	239	258	275	—
	SHC	223	223	202	181	144	113	—
	kW	14.3	14.3	14.4	14.6	15.0	15.4	—
85	TC	216	217	222	231	250	266	—
	SHC	216	217	194	177	141	110	—
	kW	15.8	15.9	16.0	16.3	16.7	17.1	—
95	TC	210	210	215	223	241	257	—
	SHC	210	210	187	174	138	107	—
	kW	17.6	17.6	17.7	18.0	18.4	18.8	—
105	TC	202	202	207	214	231	—	—
	SHC	202	202	184	170	134	—	—
	kW	19.4	19.4	19.5	19.7	20.2	—	—
115	TC	195	195	196	204	221	—	—
	SHC	195	195	192	166	131	—	—
	kW	21.3	21.3	21.4	21.7	22.2	—	—
117	TC	193	193	194	202	219	—	—
	SHC	193	193	192	166	130	—	—
	kW	21.7	21.7	21.7	22.0	22.6	—	—
120	TC	191	191	191	199	—	—	—
	SHC	191	191	191	164	—	—	—
	kW	22.3	22.3	22.3	22.6	—	—	—

LEGEND

BF — Bypass Factor
Edb — Entering Dry-Bulb
Ewb — Entering Wet-Bulb
kW — Compressor Motor Power Input
ldb — Leaving Dry-Bulb
lwb — Leaving Wet-Bulb
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil

3. The SHC is based on 80 F edb temperature of air entering evaporator coil. Below 80 F edb, subtract (corr factor x cfm) from SHC. *Above 80 F edb, add (corr factor x cfm) to SHC.*

BYPASS FACTOR (BF)	ENTERING AIR DRY-BULB TEMP (F)					
	79	78	77	76	75	under 75
	81	*82*	*83*	*84*	*85*	*over 85*
	Correction Factor					
0.05	1.04	2.07	3.11	4.14	5.18	Use formula shown below.
0.10	0.98	1.96	2.94	3.92	4.91	
0.20	0.87	1.74	2.62	3.49	4.36	
0.30	0.76	1.53	2.29	3.05	3.82	
0.40	0.65	1.31	1.96	2.62	3.27	
0.50	0.55	1.09	1.64	2.18	2.73	
0.60	0.44	0.87	1.31	1.74	2.18	
0.70	0.33	0.65	0.98	1.31	1.64	

Interpolation is permissible.
Correction Factor = 1.10 x (1 – BF) x (edb – 80).

PERFORMANCE DATA — 579F (cont)

COOLING CAPACITIES (cont)

579F240 (20 Tons)															
Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm													
		6,000							7,000						
		Evaporator Air — Ewb (F)/BF													
		54/0.48	58/0.31	62/0.21	67/0.19	72/0.17	76/0.22	80/0.05	54/0.54	58/0.37	62/0.25	67/0.21	72/0.19	76/0.21	80/0.04
75	TC	217	222	232	252	274	294	316	227	231	238	254	281	297	322
	SHC	217	199	189	163	136	112	90	227	217	202	172	143	115	91
	kW	15.1	15.2	15.4	15.8	16.2	16.6	17.0	15.3	15.4	15.5	15.9	16.4	16.5	17.2
85	TC	212	217	226	244	266	285	306	222	225	231	250	272	291	312
	SHC	212	194	185	159	133	109	87	222	211	198	170	140	113	88
	kW	16.9	17.2	17.3	17.6	18.0	18.4	18.8	17.1	17.3	17.3	17.7	18.2	18.6	19.0
95	TC	206	208	217	236	257	276	295	215	216	223	241	262	281	301
	SHC	206	197	181	156	129	106	84	215	213	194	166	136	110	84
	kW	18.9	18.8	19.0	19.5	20.0	20.4	20.8	19.0	19.0	19.2	19.6	20.1	20.5	21.0
105	TC	199	202	209	227	247	265	285	208	209	215	232	252	270	—
	SHC	199	190	177	152	126	103	80	208	209	189	163	132	107	—
	kW	20.8	20.9	21.1	21.6	22.0	22.5	22.9	21.0	21.0	21.2	21.7	22.2	22.6	—
115	TC	192	194	200	218	237	254	—	202	202	207	222	242	259	—
	SHC	192	192	173	149	122	99	—	202	202	183	159	129	103	—
	kW	23.0	22.9	23.3	23.8	24.3	24.8	—	23.2	23.2	23.5	23.9	24.5	24.9	—
117	TC	191	191	199	216	235	252	—	200	200	205	220	240	257	—
	SHC	191	191	172	148	121	99	—	200	200	182	158	128	102	—
	kW	23.5	23.5	23.7	24.2	24.8	25.2	—	23.8	23.8	23.9	24.4	24.9	25.3	—
120	TC	189	189	196	213	232	249	—	197	198	203	217	236	—	—
	SHC	189	189	170	147	120	98	—	197	198	181	156	127	—	—
	kW	24.2	24.2	24.4	25.0	25.5	25.9	—	24.5	24.5	24.6	25.1	25.6	—	—

579F240 (20 Tons) (cont)															
Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm													
		8,000							9,000						
		Evaporator Air — Ewb (F)/BF													
		54/0.58	58/0.43	62/0.30	67/0.23	72/0.21	76/0.22	80/0.04	54/0.62	58/0.48	62/0.35	67/0.24	72/0.23	76/0.23	80/0.04
75	TC	236	238	241	259	286	302	328	244	244	250	267	290	307	—
	SHC	236	232	211	181	149	119	91	244	244	222	192	155	123	—
	kW	15.5	15.5	15.6	15.9	16.5	16.6	17.3	15.7	15.7	15.8	16.1	16.6	16.7	—
85	TC	231	230	237	254	276	296	—	237	238	243	258	281	300	—
	SHC	231	230	209	179	146	117	—	237	238	216	189	152	121	—
	kW	17.5	17.3	17.4	17.8	18.3	18.7	—	17.5	17.6	17.6	18.0	18.4	18.8	—
95	TC	223	223	229	245	267	285	—	231	230	235	249	270	289	—
	SHC	223	223	203	176	142	114	—	231	230	209	185	148	117	—
	kW	19.2	19.2	19.3	19.8	20.2	20.6	—	19.5	19.4	19.5	19.8	20.3	20.8	—
105	TC	216	216	221	236	256	274	—	222	223	228	239	260	278	—
	SHC	216	216	197	172	139	110	—	222	223	202	181	145	114	—
	kW	21.3	21.3	21.4	21.8	22.3	22.7	—	21.4	21.5	21.6	21.9	22.4	22.8	—
115	TC	208	209	213	226	246	263	—	214	214	220	229	249	266	—
	SHC	208	209	190	168	135	107	—	214	214	193	177	141	110	—
	kW	23.5	23.5	23.7	24.0	24.6	25.0	—	23.7	23.7	23.9	24.2	24.7	25.1	—
117	TC	207	207	212	224	243	260	—	213	213	219	227	246	263	—
	SHC	207	207	188	167	134	106	—	213	213	191	176	140	109	—
	kW	24.0	24.0	24.1	24.5	25.0	25.5	—	24.2	24.2	24.2	24.6	25.1	25.6	—
120	TC	204	205	209	221	240	—	—	210	210	215	224	243	—	—
	SHC	204	205	185	166	133	—	—	210	210	193	175	139	—	—
	kW	24.7	24.7	24.8	25.2	25.7	—	—	24.9	24.9	25.0	25.3	25.8	—	—

LEGEND

BF — Bypass Factor
Edb — Entering Dry-Bulb
Ewb — Entering Wet-Bulb
kW — Compressor Motor Power Input
ldb — Leaving Dry-Bulb
lwb — Leaving Wet-Bulb
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil

3. The SHC is based on 80 F edb temperature of air entering evaporator coil. Below 80 F edb, subtract (corr factor x cfm) from SHC. *Above 80 F edb, add (corr factor x cfm) to SHC.*

BYPASS FACTOR (BF)	ENTERING AIR DRY-BULB TEMP (F)					
	79	78	77	76	75	under 75
	81	*82*	*83*	*84*	*85*	*over 85*
	Correction Factor					
0.05	1.04	2.07	3.11	4.14	5.18	Use formula shown below.
0.10	0.98	1.96	2.94	3.92	4.91	
0.20	0.87	1.74	2.62	3.49	4.36	
0.30	0.76	1.53	2.29	3.05	3.82	
0.40	0.65	1.31	1.96	2.62	3.27	
0.50	0.55	1.09	1.64	2.18	2.73	
0.60	0.44	0.87	1.31	1.74	2.18	
0.70	0.33	0.65	0.98	1.31	1.64	

Interpolation is permissible.
Correction Factor = 1.10 x (1 – BF) x (edb – 80).

PERFORMANCE DATA — 579F (cont)

COOLING CAPACITIES (cont)

579F240 (20 Tons) (cont)								
Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm						
		10,000						
		Evaporator Air — Ewb (F)/BF						
		54/0.65	58/0.52	62/0.40	67/0.26	72/0.24	76/0.24	80/0.04
75	TC	250	250	256	267	294	314	—
	SHC	250	250	227	200	161	127	—
	kW	15.8	15.8	15.9	16.1	16.7	17.1	—
85	TC	243	244	249	262	284	303	—
	SHC	243	244	220	198	158	124	—
	kW	17.6	17.8	17.7	18.0	18.5	18.9	—
95	TC	236	236	241	252	274	292	—
	SHC	236	236	212	194	154	121	—
	kW	19.5	19.5	19.7	19.9	20.4	20.9	—
105	TC	228	228	234	242	263	281	—
	SHC	228	228	203	190	151	117	—
	kW	21.6	21.6	21.8	22.0	22.5	22.9	—
115	TC	220	220	223	232	251	268	—
	SHC	220	220	207	186	147	113	—
	kW	23.9	23.9	23.9	24.2	24.7	25.2	—
117	TC	218	218	221	230	249	266	—
	SHC	218	218	205	185	146	112	—
	kW	24.3	24.3	24.4	24.7	25.2	25.6	—
120	TC	215	215	218	226	245	—	—
	SHC	215	215	203	183	145	—	—
	kW	25.1	25.1	25.1	25.4	25.9	—	—

LEGEND

BF — Bypass Factor
Edb — Entering Dry-Bulb
Ewb — Entering Wet-Bulb
kW — Compressor Motor Power Input
ldb — Leaving Dry-Bulb
lwb — Leaving Wet-Bulb
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil

3. The SHC is based on 80 F edb temperature of air entering evaporator coil. Below 80 F edb, subtract (corr factor x cfm) from SHC. *Above 80 F edb, add (corr factor x cfm) to SHC.*

BYPASS FACTOR (BF)	ENTERING AIR DRY-BULB TEMP (F)					
	79	78	77	76	75	under 75
	81	*82*	*83*	*84*	*85*	*over 85*
	Correction Factor					
0.05	1.04	2.07	3.11	4.14	5.18	Use formula shown below.
0.10	0.98	1.96	2.94	3.92	4.91	
0.20	0.87	1.74	2.62	3.49	4.36	
0.30	0.76	1.53	2.29	3.05	3.82	
0.40	0.65	1.31	1.96	2.62	3.27	
0.50	0.55	1.09	1.64	2.18	2.73	
0.60	0.44	0.87	1.31	1.74	2.18	
0.70	0.33	0.65	0.98	1.31	1.64	

Interpolation is permissible.
Correction Factor = 1.10 x (1 – BF) x (edb – 80).

PERFORMANCE DATA — 579F (cont)

COOLING CAPACITIES (cont)

579F300 (25 Tons)															
Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm													
		7,000							8,000						
		Evaporator Air — Ewb (F)/BF													
		54/0.44	58/0.26	62/0.13	67/0.12	72/0.12	76/0.19	80/0.01	54/0.49	58/0.32	62/0.15	67/0.14	72/0.13	76/0.17	80/0.00
75	TC	—	256	270	298	325	349	370	266	268	280	304	324	352	379
	SHC	—	243	229	198	164	133	106	266	251	246	209	168	137	107
	kW	—	19.3	20.0	20.3	21.0	21.6	22.2	19.5	19.6	19.9	20.5	20.9	21.8	22.4
85	TC	249	251	265	289	315	340	361	260	262	272	294	321	344	367
	SHC	249	238	226	194	160	130	103	260	254	243	205	167	135	104
	kW	21.3	21.3	21.7	22.4	23.1	24.3	24.4	21.6	21.6	22.0	22.5	23.3	23.9	24.6
95	TC	244	245	257	279	306	328	349	254	256	262	284	310	332	355
	SHC	244	230	223	190	156	127	99	254	249	238	201	163	131	100
	kW	23.6	23.5	24.1	24.6	25.6	26.2	26.7	23.8	23.9	24.1	24.8	25.5	26.2	26.9
105	TC	237	238	247	269	293	315	336	246	247	253	274	298	319	343
	SHC	237	233	218	185	152	122	95	246	245	233	197	159	127	96
	kW	25.9	25.9	26.3	27.0	27.8	28.5	29.2	26.3	26.3	26.5	27.2	28.0	28.7	29.5
115	TC	229	231	237	258	283	302	322	238	239	243	264	286	306	328
	SHC	229	225	213	181	148	119	91	238	239	228	193	155	123	91
	kW	28.6	28.6	28.9	29.6	30.3	31.2	31.9	28.9	28.9	29.1	29.7	30.6	31.4	32.1
117	TC	228	230	236	256	279	299	—	237	237	241	260	283	304	—
	SHC	228	225	212	180	147	118	—	237	237	227	192	154	122	—
	kW	29.1	29.1	29.4	30.2	31.0	31.7	—	29.4	29.5	29.6	30.4	31.2	31.9	—
120	TC	226	226	232	252	276	—	—	234	234	238	257	280	—	—
	SHC	226	225	211	179	145	—	—	234	234	225	190	152	—	—
	kW	30.0	30.0	30.3	30.9	31.8	—	—	30.3	30.3	30.5	31.1	32.0	—	—

579F300 (25 Tons) (cont)															
Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm													
		9,000							10,000						
		Evaporator Air — Ewb (F)/BF													
		54/0.53	58/0.37	62/0.18	67/0.15	72/0.14	76/0.17	80/0.00	54/0.57	58/0.41	62/0.23	67/0.16	72/0.15	76/0.17	80/0.00
75	TC	277	276	286	310	336	361	385	286	284	291	314	341	365	390
	SHC	277	269	261	221	178	142	108	286	284	274	232	186	147	108
	kW	19.8	19.5	20.0	20.6	21.3	22.0	22.6	20.0	20.2	20.2	20.8	21.5	22.1	22.7
85	TC	271	272	277	300	326	349	373	278	278	282	304	330	354	378
	SHC	271	264	257	217	175	139	104	278	278	269	228	182	143	105
	kW	22.2	21.9	22.1	22.7	23.4	24.1	24.8	22.1	22.1	22.2	22.8	23.6	24.2	24.9
95	TC	263	263	268	289	316	337	360	270	270	273	293	319	341	364
	SHC	263	263	251	213	171	135	100	270	270	262	223	177	139	101
	kW	24.1	24.1	24.3	24.9	25.9	26.4	27.1	24.4	24.4	24.4	25.1	25.8	26.5	27.2
105	TC	255	255	258	278	302	326	346	261	262	264	282	306	328	352
	SHC	255	255	246	208	166	132	96	261	262	254	219	173	135	97
	kW	26.5	26.5	26.6	27.3	28.1	29.0	29.6	26.8	26.8	26.9	27.5	28.3	29.0	29.8
115	TC	247	246	249	267	290	311	—	253	253	255	270	293	315	—
	SHC	247	246	239	204	162	127	—	253	253	245	214	168	131	—
	kW	29.1	29.2	29.3	30.0	30.8	31.5	—	29.3	29.3	29.6	30.1	30.9	31.7	—
117	TC	244	244	247	265	288	308	—	251	251	253	268	291	—	—
	SHC	244	244	237	203	161	126	—	251	251	243	213	168	—	—
	kW	29.7	29.7	29.8	30.4	31.3	32.1	—	30.0	30.0	30.0	30.6	31.4	—	—
120	TC	241	242	244	261	—	—	—	248	248	250	264	—	—	—
	SHC	241	242	235	201	—	—	—	248	248	239	212	—	—	—
	kW	30.6	30.6	30.7	31.3	—	—	—	30.8	30.8	31.0	31.5	—	—	—

LEGEND

BF — Bypass Factor
Edb — Entering Dry-Bulb
Ewb — Entering Wet-Bulb
kW — Compressor Motor Power Input
ldb — Leaving Dry-Bulb
lwb — Leaving Wet-Bulb
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil

3. The SHC is based on 80 F edb temperature of air entering evaporator coil. Below 80 F edb, subtract (corr factor x cfm) from SHC. *Above 80 F edb, add (corr factor x cfm) to SHC.*

BYPASS FACTOR (BF)	ENTERING AIR DRY-BULB TEMP (F)					
	79	78	77	76	75	under 75
	81	*82*	*83*	*84*	*85*	*over 85*
	Correction Factor					
0.05	1.04	2.07	3.11	4.14	5.18	Use formula shown below.
0.10	0.98	1.96	2.94	3.92	4.91	
0.20	0.87	1.74	2.62	3.49	4.36	
0.30	0.76	1.53	2.29	3.05	3.82	
0.40	0.65	1.31	1.96	2.62	3.27	
0.50	0.55	1.09	1.64	2.18	2.73	
0.60	0.44	0.87	1.31	1.74	2.18	
0.70	0.33	0.65	0.98	1.31	1.64	

Interpolation is permissible.
Correction Factor = 1.10 x (1 – BF) x (edb – 80).

PERFORMANCE DATA — 579F (cont)

COOLING CAPACITIES (cont)

579F300 (25 Tons) (cont)								
Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm						
		11,250						
		Evaporator Air — Ewb (F)/BF						
		54/0.61	58/0.47	62/0.30	67/0.16	72/0.17	76/0.17	80/0.00
75	TC	295	295	298	319	342	367	392
	SHC	295	295	285	245	193	151	108
	kW	20.3	20.3	20.4	20.9	21.2	21.5	21.9
85	TC	288	287	289	310	334	359	384
	SHC	288	287	278	241	190	148	106
	kW	22.5	22.4	22.4	23.1	23.7	24.4	25.3
95	TC	278	278	280	318	323	346	—
	SHC	278	278	269	150	186	144	—
	kW	24.6	24.6	24.7	30.0	26.0	26.7	—
105	TC	269	269	272	285	310	332	—
	SHC	269	269	259	232	182	140	—
	kW	27.0	27.0	27.1	27.6	28.4	29.1	—
115	TC	259	260	262	273	297	318	—
	SHC	259	260	247	227	177	136	—
	kW	29.7	29.6	29.8	30.2	31.1	31.8	—
117	TC	257	257	261	271	294	—	—
	SHC	257	257	245	226	176	—	—
	kW	30.3	30.3	30.3	30.7	31.6	—	—
120	TC	254	254	257	267	—	—	—
	SHC	254	254	242	224	—	—	—
	kW	31.1	31.1	31.3	31.6	—	—	—

LEGEND

BF — Bypass Factor
Edb — Entering Dry-Bulb
Ewb — Entering Wet-Bulb
kW — Compressor Motor Power Input
ldb — Leaving Dry-Bulb
lwb — Leaving Wet-Bulb
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil

3. The SHC is based on 80 F edb temperature of air entering evaporator coil. Below 80 F edb, subtract (corr factor x cfm) from SHC. *Above 80 F edb, add (corr factor x cfm) to SHC.*

BYPASS FACTOR (BF)	ENTERING AIR DRY-BULB TEMP (F)					
	79	78	77	76	75	under 75
	81	*82*	*83*	*84*	*85*	*over 85*
	Correction Factor					
0.05	1.04	2.07	3.11	4.14	5.18	Use formula shown below.
0.10	0.98	1.96	2.94	3.92	4.91	
0.20	0.87	1.74	2.62	3.49	4.36	
0.30	0.76	1.53	2.29	3.05	3.82	
0.40	0.65	1.31	1.96	2.62	3.27	
0.50	0.55	1.09	1.64	2.18	2.73	
0.60	0.44	0.87	1.31	1.74	2.18	
0.70	0.33	0.65	0.98	1.31	1.64	

Interpolation is permissible.
Correction Factor = 1.10 x (1 – BF) x (edb – 80).

PERFORMANCE DATA — 579F (cont)

FAN PERFORMANCE — 579F180-300 UNITS

579F180230 (15 TONS) *

Airflow (Cfm)	Available External Static Pressure (in. wg)																	
	0.2			0.4			0.6			0.8			1.0			1.2		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
4500	809	1.53	1317	906	1.74	1502	994	1.96	1690	1078	2.18	1882	1156	2.41	2077	1230	2.64	2275
4800	850	1.76	1516	942	1.98	1706	1027	2.20	1899	1107	2.43	2094	1183	2.66	2293	1255	2.89	2495
5100	892	2.01	1733	979	2.24	1928	1061	2.46	2125	1138	2.70	2325	1211	2.93	2528	1281	3.17	2733
5400	934	2.28	1970	1017	2.52	2169	1096	2.75	2371	1170	2.99	2575	1241	3.22	2781	1309	3.47	2990
5700	976	2.58	2225	1056	2.82	2429	1132	3.06	2635	1204	3.30	2843	1272	3.54	3053	1338	3.79	3266
6000	1019	2.90	2500	1096	3.14	2709	1168	3.38	2919	1238	3.63	3131	1304	3.88	3345	1368	4.13	3562
6300	1063	3.24	2795	1136	3.49	3008	1206	3.74	3223	1273	3.99	3439	1337	4.24	3657	—	—	—
6600	1106	3.61	3111	1177	3.86	3329	1244	4.11	3547	1309	4.37	3767	—	—	—	—	—	—
6900	1150	4.00	3448	1218	4.26	3670	—	—	—	—	—	—	—	—	—	—	—	—
7200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

579F180230 (15 TONS)* (cont)

Airflow (Cfm)	Available External Static Pressure (in. wg)														
	1.4			1.6			1.8			1.9			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
4500	1301	2.87	2477	1369	3.11	2683	1434	3.35	2891	1497	3.47	2997	1497	3.60	3103
4800	1324	3.13	2700	1390	3.37	2909	1454	3.62	3120	1515	3.74	3226	1515	3.87	3334
5100	1349	3.41	2942	1413	3.66	3153	1475	3.90	3367	1535	4.03	3475	1535	4.16	3584
5400	1374	3.71	3202	1437	3.96	3416	1498	4.21	3633	—	—	—	—	—	—
5700	1402	4.04	3481	1463	4.29	3699	—	—	—	—	—	—	—	—	—
6000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Standard low-medium static drive range is 891 to 1179 rpm (208/230 v and 460 v) or 1159 to 1429 (575 v). Alternate high-static drive range is 1227 to 1550 (208/230 v and 460 v only). Other rpms require a field-supplied drive.

Refer to page 194 for general Fan Performance Data notes.

NOTE: Maximum continuous bhp is 4.25 (208/230 v and 460 v) or 3.45 (575 v) and the maximum continuous watts are 3775 (208/230 v and 460 v) or 3065 (575 v). Do not adjust motor rpm such that motor maximum bhp and/or watts is exceeded at the maximum operating cfm.

579F216275 AND 240275 (18 AND 20 TONS) *

Airflow (Cfm)	Available External Static Pressure (in. wg)																	
	0.2			0.4			0.6			0.8			1.0			1.2		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
5,500	755	2.27	1908	831	2.58	2171	901	2.91	2443	968	3.24	2723	1031	3.58	3009	1091	3.93	3302
6,000	810	2.72	2287	881	3.04	2556	947	3.37	2833	1010	3.71	3116	1070	4.05	3406	1127	4.40	3702
6,500	866	3.22	2710	932	3.55	2985	994	3.88	3266	1054	4.23	3554	1111	4.57	3847	1166	4.93	4146
7,000	923	3.78	3177	985	4.11	3458	1044	4.45	3744	1100	4.80	4036	1155	5.15	4333	1207	5.51	4635
7,500	980	4.39	3690	1038	4.73	3976	1094	5.07	4267	1148	5.43	4564	1200	5.78	4864	1250	6.15	5170
8,000	1038	5.06	4251	1093	5.40	4542	1146	5.75	4838	1197	6.11	5138	1246	6.47	5443	1294	6.84	5752
8,500	1096	5.78	4859	1148	6.13	5156	1198	6.49	5456	1247	6.85	5761	1294	7.22	6070	1340	7.59	6382
9,000	1154	6.56	5517	1204	6.92	5818	1251	7.28	6123	1298	7.65	6432	1343	8.02	6745	1388	8.40	7062
9,500	1213	7.40	6224	1260	7.77	6531	1306	8.13	6840	1350	8.51	7154	1394	8.88	7471	1436	9.26	7791
10,000	1272	8.30	6983	1317	8.67	7294	1360	9.05	7608	1403	9.43	7926	1445	9.81	8247	1486	10.19	8570

579F216275 AND 240275 (18 AND 20 TONS)* (cont)

Airflow (Cfm)	Available External Static Pressure (in. wg)														
	1.4			1.6			1.8			1.9			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
5,500	1149	4.28	3602	1204	4.65	3907	1258	5.02	4217	1284	5.20	4375	1309	5.39	4533
6,000	1183	4.76	4003	1236	5.13	4310	1288	5.50	4622	1313	5.68	4780	1337	5.87	4939
6,500	1219	5.29	4450	1270	5.66	4759	1320	6.03	5073	1344	6.22	5232	1368	6.41	5391
7,000	1258	5.88	4942	1307	6.25	5253	1355	6.62	5569	1378	6.81	5729	1402	7.00	5890
7,500	1299	6.52	5480	1346	6.89	5794	1392	7.27	6113	1415	7.46	6273	1437	7.65	6435
8,000	1341	7.21	6065	1387	7.59	6383	1392	7.97	6704	1453	8.16	6866	1475	8.36	7300
8,500	1385	7.97	6699	1429	8.35	7019	1472	8.73	7343	1493	8.93	7506	1514	9.12	7670
9,000	1431	8.78	7382	1473	9.15	7705	1515	9.55	8032	1535	9.75	8196	—	—	—
9,500	1478	9.65	8114	1519	10.04	8441	—	—	—	—	—	—	—	—	—
10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Standard low-medium static drive range for the 216 size is 910 to 1095 rpm. Standard low-medium static drive range for the 240 size is 1002 to 1225 rpm. Alternate high-static drive range for the 216 size is 1069 to 1287. Alternate high-static drive range for the 240 size is 1193 to 1458 rpm. Other rpms require a field-supplied drive.

Refer to page 194 for general Fan Performance Data notes.

NOTE: Maximum continuous bhp for the 216 size is 5.90. Maximum continuous bhp for the 240 size is 8.70 (208/230 and 575 v) or 9.50 (460 v). The maximum continuous watts for the 216 size is 5180. The maximum continuous watts for the 240 size is 7915 (208/230 and 575 v) or 8640 (460 v). Do not adjust motor rpm such that motor maximum bhp and/or watts is exceeded at the maximum operating cfm.

PERFORMANCE DATA — 579F (cont)

FAN PERFORMANCE — 579F180-300 UNITS (cont)

579F300275 (25 TONS) *

Airflow (Cfm)	Available External Static Pressure (in. wg)																	
	0.2			0.4			0.6			0.8			1.0			1.2		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
7,000	941	3.35	2,769	1002	3.80	3,140	1061	4.27	3528	1117	4.76	3,934	1171	5.27	4,356	1224	5.80	4,794
7,500	999	4.05	3,348	1057	4.53	3,742	1112	5.02	4152	1166	5.54	4,579	1218	6.07	5,216	1268	6.63	5,478
8,000	1058	4.85	4,007	1113	5.35	4,424	1165	5.87	4856	1216	6.41	5,304	1266	6.97	5,766	1314	7.55	6,243
8,500	1117	5.74	4,750	1169	6.28	5,190	1219	6.83	5645	1268	7.40	6,114	1315	7.98	6,597	1361	8.58	7,094
9,000	1177	6.75	5,583	1226	7.31	6,047	1274	7.89	6524	1320	8.48	7,015	1365	9.09	7,520	1410	9.72	8,037
9,500	1237	7.98	6,511	1284	8.46	6,999	1329	9.07	7499	1374	9.69	8,012	1417	10.33	8,538	1459	10.98	9,076
10,000	1297	9.12	7,450	1342	9.74	8,051	1385	10.37	8574	1428	11.02	9,110	1469	11.68	9,657	1510	12.36	10,217
10,500	1358	10.49	8,674	1400	11.14	9,209	1442	11.80	9755	1483	12.47	10,314	1523	13.16	10,883	—	—	—
11,000	1418	12.00	9,919	1459	12.67	10,478	—	—	—	—	—	—	—	—	—	—	—	—
11,250	1449	12.80	10,585	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

579F300275 (25 TONS) * (cont)

Airflow (Cfm)	Available External Static Pressure (in. wg)								
	1.4			1.6			1.8		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
7,000	1274	6.35	5248	1323	6.92	5,718	1371	5.54	6204
7,500	1316	7.20	6960	1364	7.79	6,437	1410	6.41	6939
8,000	1360	8.14	6734	1406	8.76	7,239	1450	7.40	7759
8,500	1406	9.20	7605	1449	9.83	8,129	1492	8.48	8666
9,000	1453	10.36	8568	1495	11.02	9,111	1536	9.69	9667
9,500	1501	11.64	9627	1541	12.32	10,190	—	—	—
10,000	—	—	—	—	—	—	—	—	—
10,500	—	—	—	—	—	—	—	—	—
11,000	—	—	—	—	—	—	—	—	—
11,250	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Standard low-medium static drive range is 1066 to 1283 rpm. Alternate high-static drive range is 1332 to 1550. Other rpms require a field-supplied drive.

Refer to page 194 for general Fan Performance Data notes.

NOTE: Maximum continuous bhp is 10.20 (208/230 and 575 v) or 11.80 (460 v) and the maximum continuous watts are 9510 (208/230 and 575 v) or 11,000 (460 v). Do not adjust motor rpm such that motor maximum bhp and/or watts is exceeded at the maximum operating cfm.

579F180300 (15 TONS)*

Airflow (Cfm)	Available External Static Pressure (in. wg)																	
	0.2			0.4			0.6			0.8			1.0			1.2		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
4500	819	1.55	1335	914	1.76	1518	1001	1.98	1705	1083	2.20	1894	1160	2.42	2088	1234	2.65	2284
4800	861	1.78	1538	951	2.00	1726	1035	2.22	1916	1113	2.45	2110	1188	2.68	2307	1259	2.91	2507
5100	904	2.04	1759	989	2.26	1952	1069	2.49	2147	1145	2.72	2345	1218	2.95	2545	1287	3.17	2749
5400	947	2.32	1999	1300	2.55	2197	1105	2.78	2396	1179	3.01	2598	1248	3.25	2802	1315	3.49	3009
5700	990	2.62	2259	1068	2.85	2461	1142	3.09	2665	1213	3.33	2871	1280	3.57	3079	1345	3.81	3289
6000	1034	2.94	2539	1109	3.18	2745	1180	3.42	2953	1248	3.67	3163	1313	3.91	3375	1376	4.16	3589
6300	1078	3.29	2840	1150	3.54	3050	1218	3.78	3262	1284	4.03	3476	1348	4.28	3692	—	—	—
6600	1123	3.67	3161	1192	3.91	3376	1258	4.16	3592	—	—	—	—	—	—	—	—	—
6900	1167	4.06	3504	1234	4.32	3723	—	—	—	—	—	—	—	—	—	—	—	—
7200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

579F180300 (15 TONS) * (cont)

Airflow (Cfm)	Available External Static Pressure (in. wg)														
	1.4			1.6			1.8			1.9			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
4500	1304	2.88	2484	1371	3.12	2688	1435	3.36	2895	1467	3.48	2999	1497	3.60	3104
4800	1327	3.14	2711	1393	3.38	2917	1456	3.62	3126	1486	3.75	3232	1517	3.87	3338
5100	1353	3.43	2955	1417	3.67	3165	1478	3.92	3377	1508	4.04	3484	1537	4.16	3592
5400	1380	3.73	3219	1442	3.98	3432	1502	4.23	3646	1531	4.35	3755	—	—	—
5700	1408	4.06	3503	1468	4.31	3718	—	—	—	—	—	—	—	—	—
6000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Standard low-medium static drive range is 891 to 1179 rpm (208/230 v and 460 v) or 1159 to 1429 (575 v). Alternate high-static drive range is 1227 to 1550 (208/230 v and 460 v only). Other rpms require a field-supplied drive.

Refer to page 194 for general Fan Performance Data notes.

NOTE: Maximum continuous bhp is 4.25 (208/230 v and 460 v) or 3.45 (575 v) and the maximum continuous watts are 3775 (208/230 v and 460 v) or 3065 (575 v). Do not adjust motor rpm such that motor maximum bhp and/or watts is exceeded at the maximum operating cfm.

FAN PERFORMANCE — 579F180-300 UNITS (cont)

579F216360 and 240360 (18 AND 20 TONS) *

Airflow (Cfm)	Available External Static Pressure (in. wg)																	
	0.2			0.4			0.6			0.8			1.0			1.2		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
5,500	795	2.43	2043	866	2.74	2306	934	3.07	2578	998	3.40	2856	1059	3.74	3142	1117	4.08	3434
6,000	854	2.92	2452	921	3.24	2722	984	3.57	3998	1044	3.90	3281	1102	4.25	3570	1158	4.60	3865
6,500	914	3.46	2909	977	3.79	3184	1036	4.12	3465	1093	4.46	3752	1148	4.81	4045	1201	5.16	4343
7,000	975	4.06	3414	1034	4.39	3695	1090	4.73	3981	1144	5.08	4272	1196	5.43	4569	1246	5.79	4870
7,500	1037	4.72	3969	1092	5.06	4255	1145	5.41	4546	1196	5.76	4842	1256	6.12	5142	1294	6.48	5447
8,000	1099	5.44	4575	1150	5.79	4866	1201	6.14	5162	1249	6.50	5462	1297	6.86	5766	1343	7.22	6075
8,500	1161	6.22	5232	1210	6.57	5529	1258	6.93	5829	1304	7.29	6134	1349	7.66	6443	1393	8.03	6755
9,000	1223	7.07	5943	1270	7.43	6245	1315	7.79	6550	1360	8.16	6869	1403	8.53	7171	1445	8.90	7487
9,500	1286	7.98	6708	1331	8.34	7014	1374	8.71	7324	1416	9.08	7638	1457	9.46	7954	1498	9.84	8274
10,000	1349	8.95	7528	1392	9.32	7839	1433	9.70	8154	1473	10.07	8471	—	—	—	—	—	—

579F216360 and 240360 (18 AND 20 TONS) * (cont)

Airflow (Cfm)	Available External Static Pressure (in. wg)														
	1.4			1.6			1.8			1.9			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
5,500	1173	4.44	3732	1227	4.80	4036	1279	5.17	4345	1304	5.35	4502	1329	5.54	4629
6,000	1211	4.95	4165	1263	5.32	4471	1313	5.69	4782	1337	5.87	4939	1361	6.06	5097
6,500	1252	5.53	4646	1302	5.89	4954	1350	6.26	5267	1373	6.56	5425	1396	6.64	5584
7,000	1295	6.16	5176	1343	6.52	5487	1389	6.90	5802	1412	7.09	5961	1434	7.28	6121
7,500	1340	6.85	5756	1386	7.22	6070	1431	7.60	6387	1452	7.79	6547	1474	7.98	6709
8,000	1388	7.60	6388	1431	7.97	6704	1474	8.35	7240	1495	8.54	7186	1516	8.74	7348
8,500	1436	8.41	7071	1478	8.79	7390	1520	9.17	7713	1540	9.37	7876	—	—	—
9,000	1486	9.28	7807	1527	9.67	8130	—	—	—	—	—	—	—	—	—
9,500	1538	10.22	8597	—	—	—	—	—	—	—	—	—	—	—	—
10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Standard low-medium static drive range for the 216 size is 910 to 1095 rpm. Standard low-medium static drive range for the 240 size is 1002 to 1225 rpm. Alternate high-static drive range for the 216 size is 1069 to 1287. Alternate high-static drive range for the 240 size is 1193 to 1458 rpm. Other rpms require a field-supplied drive.

Refer to this page for general Fan Performance Data notes.

NOTE: Maximum continuous bhp for the 216 size is 5.90. Maximum continuous bhp for the 240 size is 8.70 (208/230 and 575 v) or 9.50 (460 v). The maximum continuous watts for the 216 size is 5180. The maximum continuous watts for the 240 size is 7915 (208/230 and 575 v) or 8640 (460 v). Do not adjust motor rpm such that motor maximum bhp and/or watts is exceeded at the maximum operating cfm.

579F300360 (25 TONS) *

Airflow (Cfm)	Available External Static Pressure (in. wg)																	
	0.2			0.4			0.6			0.8			1.0			1.2		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
7,000	992	4.05	3,348	1051	4.44	3,668	1106	4.83	3995	1160	5.24	4331	1212	5.65	4675	1262	6.08	5026
7,500	1055	4.77	3,947	1110	5.17	4,277	1162	5.58	4615	1214	6.00	4960	1263	6.43	5312	1311	6.86	5672
8,000	1118	5.58	4,610	1170	5.99	4,950	1220	6.41	5298	1268	6.84	5653	1315	7.27	6014	1361	7.72	6382
8,500	1182	6.46	5,339	1231	6.88	5,690	1278	7.31	6047	1324	7.75	6411	1369	8.20	6782	1413	8.66	7158
9,000	1246	7.42	6,136	1292	7.86	6,498	1337	8.30	6865	1381	8.75	7239	1424	9.21	7618	1466	9.68	8003
9,500	1310	8.47	7,005	1354	8.92	7,377	1397	9.38	7754	1439	9.84	8137	1480	10.31	8525	1520	10.79	8918
10,000	1374	9.61	7,947	1416	10.07	8,329	1457	10.54	8715	1497	11.02	9107	1537	11.50	9504	—	—	—
10,500	1439	10.84	8,964	1479	11.32	9,356	1518	11.79	9752	—	—	—	—	—	—	—	—	—
11,000	1503	12.17	10,059	1542	12.65	10,460	—	—	—	—	—	—	—	—	—	—	—	—
11,250	1536	12.86	10,636	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

579F300360 (25 TONS) * (cont)

Airflow (Cfm)	Available External Static Pressure (in. wg)								
	1.4			1.6			1.8		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
7,000	1311	6.51	5385	1359	6.96	5751	1405	6.00	6124
7,500	1358	7.30	6039	1403	7.76	6412	1448	6.84	6792
8,000	1406	8.17	6767	1560	8.63	7137	1492	7.75	7524
8,500	1456	9.12	7541	1498	9.59	7929	1539	8.75	8323
9,000	1507	10.15	8393	1548	10.63	8790	—	—	—
9,500	—	—	—	—	—	—	—	—	—
10,000	—	—	—	—	—	—	—	—	—
10,500	—	—	—	—	—	—	—	—	—
11,000	—	—	—	—	—	—	—	—	—
11,250	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

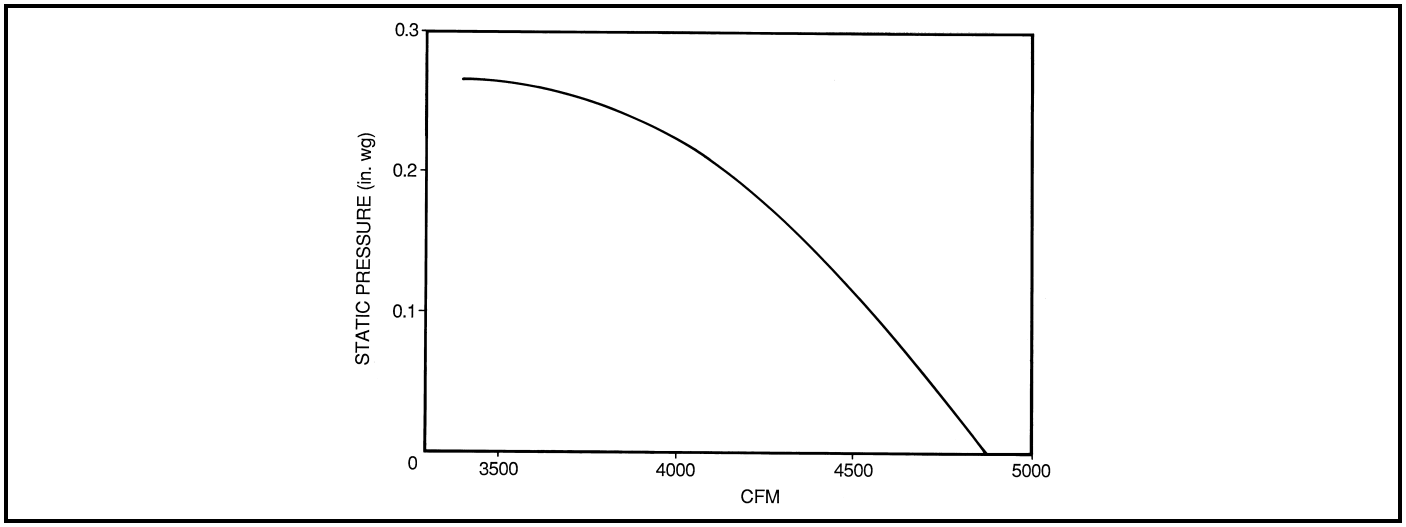
*Standard low-medium static drive range is 1066 to 1283 rpm. Alternate high-static drive range is 1332 to 1550. Other rpms require a field-supplied drive.

Refer to this page for general Fan Performance Data notes.

NOTE: Maximum continuous bhp is 10.20 (208/230 and 575 v) or 11.80 (460 v) and the maximum continuous watts are 9510 (208/230 and 575 v) or 11,000 (460 v). Do not adjust motor rpm such that motor maximum bhp and/or watts is exceeded at the maximum operating cfm.

GENERAL NOTES FOR FAN PERFORMANCE DATA TABLES

1. Static pressure losses (i.e., EconoMi$er IV) must be added to external static pressure before entering Fan Performance table.
2. Interpolation is permissible. Do not extrapolate.
3. Fan performance is based on wet coils, clean filters, and casing losses. See Accessory/FIOP Static Pressure table on page 193.
4. Extensive motor and drive testing on these units ensures that the full horsepower and watts range of the motor can be utilized with confidence. Using fan motors up to the watts or bhp rating shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected.
5. Use of a field-supplied motor may affect wire sizing. Contact your Bryant representative for details.



Fan Performance Using Accessory Power Exhaust (579F180-300)

ALTITUDE COMPENSATION* — 579F180-300

ELEVATION (ft)	NATURAL GAS ORIFICE SIZE†	
	Low Heat	High Heat
0-3,000	30	29
3,000- 7,000	31	30
7,000- 9,000	32	31
9,000-10,000	33	31
above 10,000	35	32

*Includes a 4% input reduction per each 1,000 feet.
†Orifices available through your Bryant distributor.

ALTITUDE DERATING FACTOR*

ELEVATION (ft)	MAXIMUM HEATING VALUE (Btu/ft³)
0-2,000	1,100
2,001-3,000	1,050
3,001-4,000	1,000
4,001-5,000	950
5,001-6,000	900

*Derating of the unit is not required unless the heating value of the gas exceeds the values listed in the table above, or if the elevation exceeds 6000 ft. Derating conditions must be 4% per thousand ft above 2000 ft. For example, at 4000 ft, if the heating value of the gas exceeds 1000 Btu/ft³, the unit will require a 16% derating. For elevations above 6000 ft, the same formula applies. For example, at 7000 ft, the unit will require a 28% derating of the maximum heating value per the National Fuel Gas Code.

IMPORTANT: Local utility companies may be reducing heat content of gas at altitudes above 2000 ft. If this is being done, then changing spuds may not be required.

PERFORMANCE DATA — 579F (cont)

ALTITUDE COMPENSATION — 579F180-300 (LP Gas Units)

ELEVATION (ft)	LIQUID PROPANE ORIFICE SIZE
	Low Heat and High Heat
0-2,000	36
2,000	37
3,000	38
4,000	38
5,000	39
6,000	40
7,000	41
8,000	41
9,000	42
10,000	43

OUTDOOR SOUND POWER

UNIT 579F	SOUND RATING (60 Hz)	A-WEIGHTED (dB)	OCTAVE BANDS							
			63	125	250	500	1000	2000	4000	8000
180	88 dB	87.8	90.8	88.7	86.4	84.3	83.5	78.4	75.6	66.8
216	88 dB	87.8	90.8	88.7	86.4	84.3	83.5	78.4	75.6	66.8
240	95 dB	94.1	98.7	92.3	93.8	90.9	89.6	85.9	80.3	74.3
300	95 dB	94.1	98.7	92.3	93.8	90.9	89.6	85.9	80.3	74.3

NOTE: Indoor sound power is available in Bryant's Electronic Catalog program (ECAT) for specific operating parameters.

ACCESSORY/FIOP STATIC PRESSURE (in. wg)* — 579F180-300

COMPONENT	CFM								
	4500	5000	5400	6000	7200	7500	9000	10,000	11,250
EconoMi$er IV and EconoMi$er2	0.040	0.050	0.060	0.070	0.090	0.100	0.110	0.120	0.140

LEGEND

FIOP — Factory-Installed Option

*The static pressure must be added to external static pressure. The sum and the evaporator entering-air cfm should then be used in conjunction with the Fan Performance tables to determine blower rpm and watts.

FAN RPM AT MOTOR PULLEY SETTINGS*

UNIT 579F	MOTOR PULLEY TURNS OPEN												
	0	1/2	1	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	5 1/2	6
180† (208/230 and 460-v)	††	††	1179	1150	1121	1093	1064	1035	1006	978	949	920	891
180**	††	††	1559	1522	1488	1455	1422	1389	1356	1323	1289	1256	1227
180† (575-v)	††	††	1429	1403	1376	1349	1323	1296	1269	1242	1215	1188	1159
216†	††	††	1095	1077	1058	1040	1021	1002	984	965	947	928	910
216**	††	††	1287	1265	1243	1222	1200	1178	1156	1134	1112	1091	1069
240†	††	††	1225	1209	1187	1165	1143	1120	1098	1076	1053	1031	1002
240**	††	††	1458	1434	1407	1381	1354	1328	1301	1275	1248	1222	1193
300†	††	††	1283	1269	1247	1225	1203	1182	1160	1138	1116	1095	1066
300**	††	††	—	—	1551	1524	1497	1470	1443	1415	1388	1361	1332

*Approximate fan rpm shown.
†Indicates standard drive package.
**Indicates alternate drive package.
††Due to belt and pulley size, pulley cannot be set to this number of turns open.

PERFORMANCE DATA — 579F (cont)

EVAPORATOR-FAN MOTOR DATA

UNIT 579F	UNIT VOLTAGE	MAXIMUM ACCEPTABLE CONTINUOUS BHP*	MAXIMUM ACCEPTABLE CONTINUOUS BkW*	MAXIMUM ACCEPTABLE OPERATING WATTS	MAXIMUM AMP DRAW
180	208/230	4.25	3.17	3,775	10.5
	460	4.25	3.17	3,775	4.8
	575	3.45	2.59	3,065	3.9
216	208/230	5.90	4.40	5,180	15.8
	460				7.9
	575				6.0
240	208/230	8.70	6.49	7,915	22.0
	460	9.50	7.08	8,640	13.0
	575	8.70	6.49	7,915	10.0
300	208/230	10.20	7.61	9,510	28.0
	460	11.80	8.80	11,000	14.6
	575	10.20	7.61	9,510	13.0

LEGEND

BHP — Brake Horsepower
BkW — Brake Kilowatts

*Extensive motor and electrical testing on these units ensures that the full horsepower (brake kilowatt) range of the motors can be utilized with confidence. Using fan motors up to the horsepower (brake kilowatt) ratings shown in this table will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected.

NOTE: All indoor-fan motors 5 hp and larger meet the minimum efficiency requirements as established by the Energy Policy Act of 1992 (EPACT) effective October 24, 1997.

EVAPORATOR-FAN MOTOR EFFICIENCY

UNIT 579F	MOTOR EFFICIENCY (%)
180 (3.0 Hp)	81.7
180 (3.7 Hp)	85.8
216 (5 Hp)	87.5
240 (7.5 Hp)	88.5
300 (10 Hp)	89.5

NOTE: All indoor-fan motors 5 hp and larger meet the minimum efficiency requirements as established by the Energy Policy Act of 1992 (EPACT) effective October 24, 1997.

ELECTRICAL DATA

UNIT 579F	NOMINAL VOLTAGE (3 Ph, 60 Hz)	VOLTAGE RANGE		COMPRESSOR No. 1		COMPRESSOR No. 2		OFM			IFM		POWER EXHAUST		COMBUSTION FAN MOTOR	POWER SUPPLY	
		Min	Max	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	Hp	FLA	FLA	LRA	FLA	MCA	MOCP*
180 (15 Tons)	208/230	187	253	28.8	195	28.8	195	3	0.5	1.7	3.7	10.5/11.0	—	—	0.57	81/81	100/100
													4.6	18.8	0.57	85/86	110/110
	460	414	508	14.7	95	14.7	95	3	0.5	0.8	3.7	4.8	—	—	0.30	40	50
													2.3	6.0	0.30	43	50
	575	518	633	10.8	80	10.8	80	3	0.5	0.8	3.0	3.9	—	—	0.57	30	40
													2.1	4.8	0.57	32	40
216 (18 Tons)	208/230	187	253	30.1	225	28.8	195	3	0.5	1.7	5.0	15.8/15.8	—	—	0.57	87/87	110/110
													4.6	18.8	0.57	92/92	110/110
	460	414	508	15.5	114	14.7	95	3	0.5	0.8	5.0	7.9	—	—	0.30	44	50
													2.3	6.0	0.30	47	60
	575	518	633	12.1	80	10.8	80	3	0.5	0.8	5.0	6.0	—	—	0.57	34	40
													2.1	4.8	0.57	36	40
240 (20 Tons)	208/230	187	253	37.8	239	30.1	225	2	1	6.6	7.5	25.0/25.0	—	—	0.57	116/116	150/150
													4.6	18.8	0.57	120/120	150/150
	460	414	508	17.2	125	15.5	114	2	1	3.3	7.5	13.0	—	—	0.30	57	70
													2.3	6.0	0.30	59	70
	575	518	633	12.4	80	12.1	80	2	1	3.4	7.5	10.0	—	—	0.57	44	50
													2.1	4.8	0.57	46	50
300 (25 Tons)	208/230	187	253	41.0	350	37.8	239	2	1	6.6	10.0	28.0/28.0	—	—	0.57	130/130	150/150
													4.6	18.8	0.57	135/135	175/175
	460	414	508	21.8	158	17.2	125	2	1	3.3	10.0	14.6	—	—	0.30	66	80
													2.3	6.0	0.30	68	80
	575	518	633	17.3	125	12.4	80	2	1	3.4	10.0	13.0	—	—	0.57	54	70
													2.1	4.8	0.57	56	70

LEGEND

FLA — Full Load Amps
HACR — Heating, Air Conditioning and Refrigeration
IFM — Indoor (Evaporator) Fan Motor
LRA — Locked Rotor Amps
MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection
NEC — National Electrical Code
OFM — Outdoor (Condenser) Fan Motor
RLA — Rated Load Amps

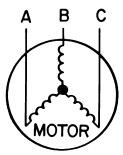
*Fuse or HACR circuit breaker.

NOTES:

1. In compliance with NEC requirements for multimotor and combination load equipment (refer to NEC Articles 430 and 440), the overcurrent protective device for the unit shall be fuse or HACR breaker. Canadian units may be fuse or circuit breaker.
2. **Unbalanced 3-Phase Supply Voltage**
   Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percent voltage imbalance.
   % Voltage Imbalance

$$= 100 \times \frac{\text{max voltage deviation from average voltage}}{\text{average voltage}}$$

EXAMPLE: Supply voltage is 460-3-60.



AB = 452 v
BC = 464 v
AC = 455 v

$$\text{Average Voltage} = \frac{452 + 464 + 455}{3}$$

$$= \frac{1371}{3}$$

$$= 457$$

Determine maximum deviation from average voltage.
(AB) 457 – 452 = 5 v
(BC) 464 – 457 = 7 v
(AC) 457 – 455 = 2 v

Maximum deviation is 7 v.

Determine percent voltage imbalance.

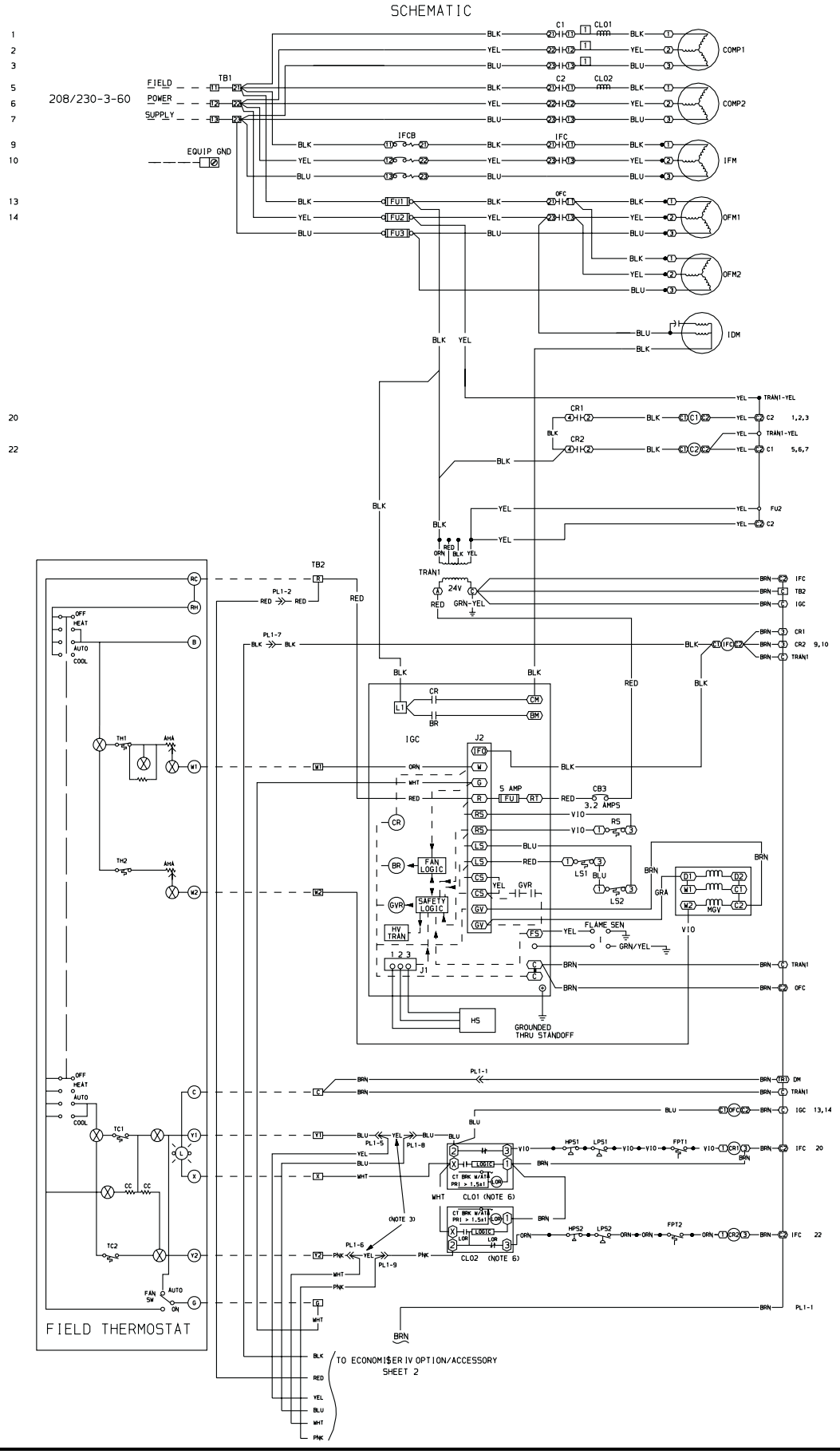
$$\text{\% Voltage Imbalance} = 100 \times \frac{7}{457}$$

$$= 1.53\%$$

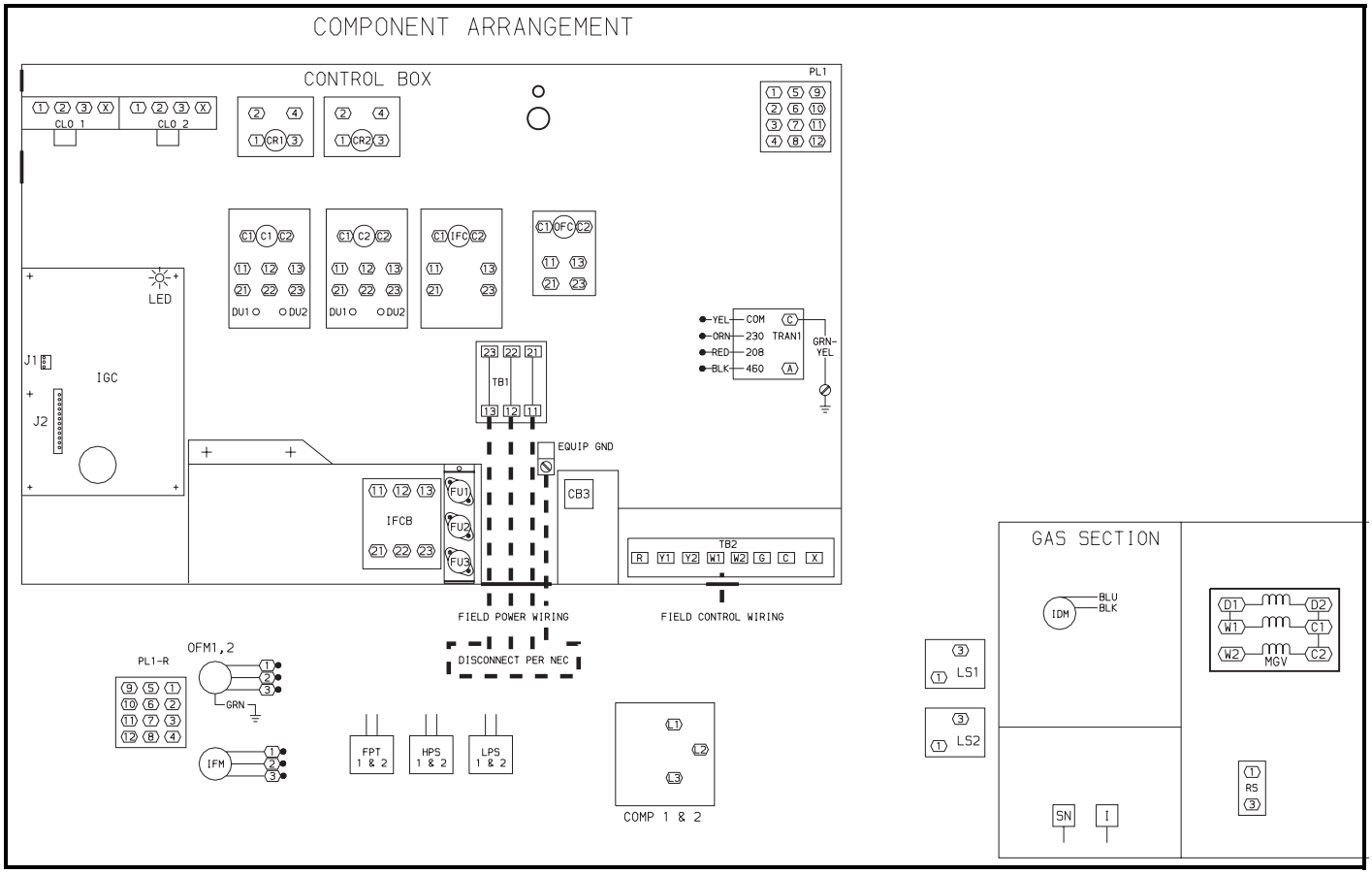
This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

IMPORTANT: If the supply voltage phase imbalance is more than 2%, contact your local electric utility company immediately.

TYPICAL WIRING SCHEMATICS — 579F
(579F240, 208/230 V Shown)



TYPICAL WIRING SCHEMATICS — 579F
(579F240, 208/230 V Shown) (cont)



LEGEND AND NOTES

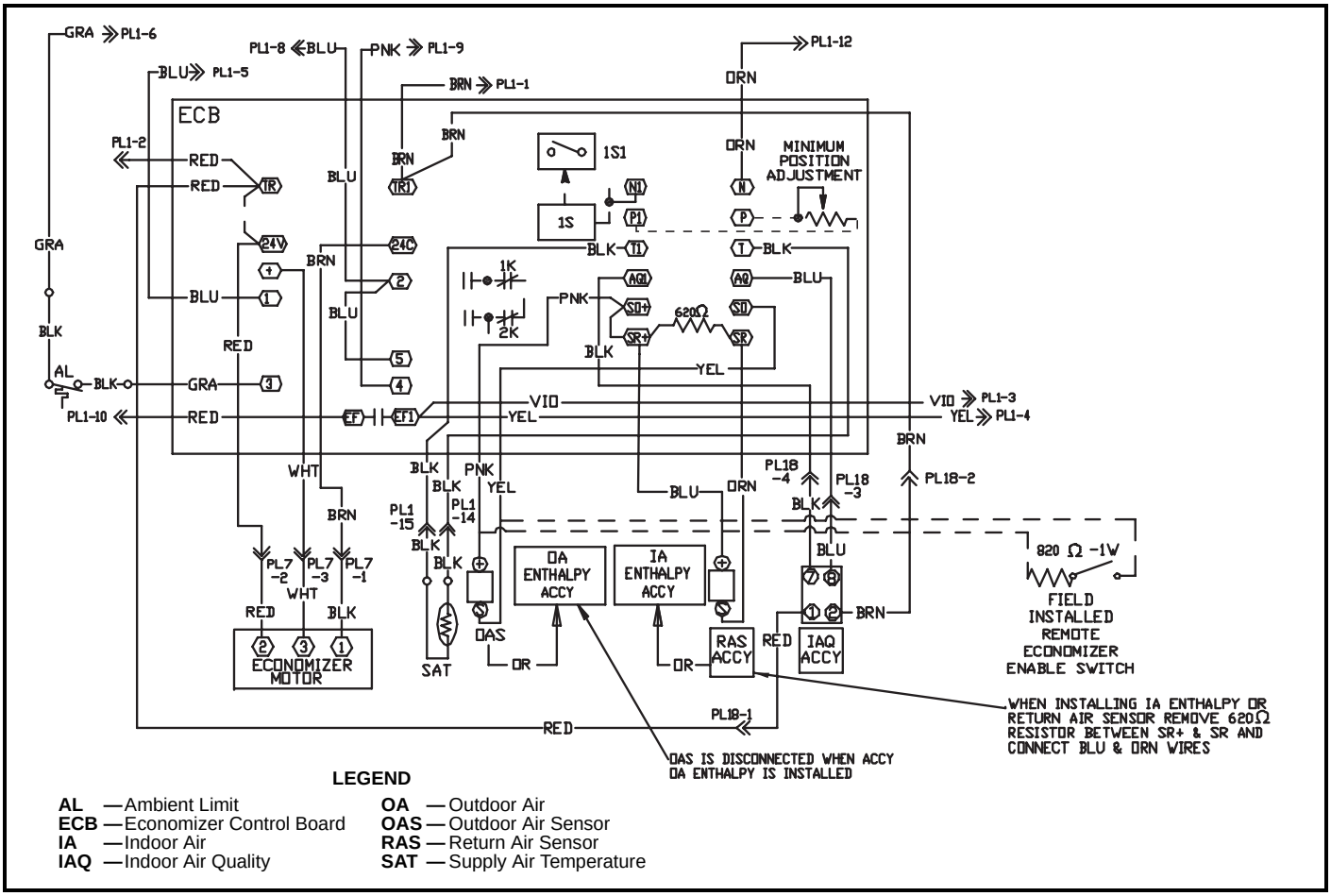
LEGEND

AHA — Adjustable Heat Anticipator
BKR W/AT — Breaker with Amp Turns
C — Contactor, Compressor
CB — Circuit Breaker
CC — Cooling Compensator
CLO — Compressor Lockout
COMP — Compressor Motor
CR — Control Relay
CT — Control Transformer
DM — Damper Motor
DU — Dummy Terminal
EQUIP — Equipment
FPT — Freeze Protection Thermostat
FU — Fuse
GND — Ground
HPS — High-Pressure Switch
HS — Hall Effect Sensor
HV — High Voltage
I — Ignitor
IDM — Induced-Draft Motor
IFC — Indoor-Fan Contactor
IFCB — Indoor-Fan Circuit Breaker
IFM — Indoor-Fan Motor
IGC — Integrated Gas Unit Controller
L — Light
LED — Light-Emitting Diode
LOR — Lockout Relay
LPS — Low-Pressure Switch
LS — Limit Switch
MGV — Main Gas Valve
NEC — National Electrical Code
OFC — Outdoor-Fan Contactor
OFM — Outdoor-Fan Motor
PL — Plug Assembly
PRI — Primary
RS — Rollout Switch
SN — Sensor
SR — Solenoid Relay
SW — Switch
TB — Terminal Block
TC — Thermostat Cooling
TH — Thermostat Heating
TRAN — Transformer

Terminal (Marked)
Terminal (Unmarked)
Terminal Block
Splice
Splice (Marked)
Splice (Field Supplied)
Factory Wiring
Field Control Wiring
Field Power Wiring
Accessory or Optional Wiring
To indicate common potential only; not to represent wiring.

NOTES:
1. Compressor and fan motors thermally protected; 3-phase motors protected against primary single-phasing conditions.
2. If any of the original wire furnished must be replaced, it must be replaced with type 90 C wire or its equivalent.
3. Jumpers are omitted when unit is equipped with economizer.
4. IFCB must trip amps is equal to or less than 140% full load amps.
5. On 208/230-v unit, TRAN1 is factory wired to ORN lead for 230-v power supply. If unit is to run on 208-v power supply, TRAN1 must be rewired. Disconnect the BLK wire on TRAN1 and connect wire to 208-v RED wire. Insulate 230-v ORN wire.
6. The CLO locks out the compressor to prevent short cycling on compressor overload and safety devices. Before replacing CLO, check these devices.
7. Number(s) indicates the line location of used contacts. A bracket over (2) numbers signifies a single-pole, double-throw contact. An underlined number signifies a normally closed contact. A plain (no line) number signifies a normally open contact.

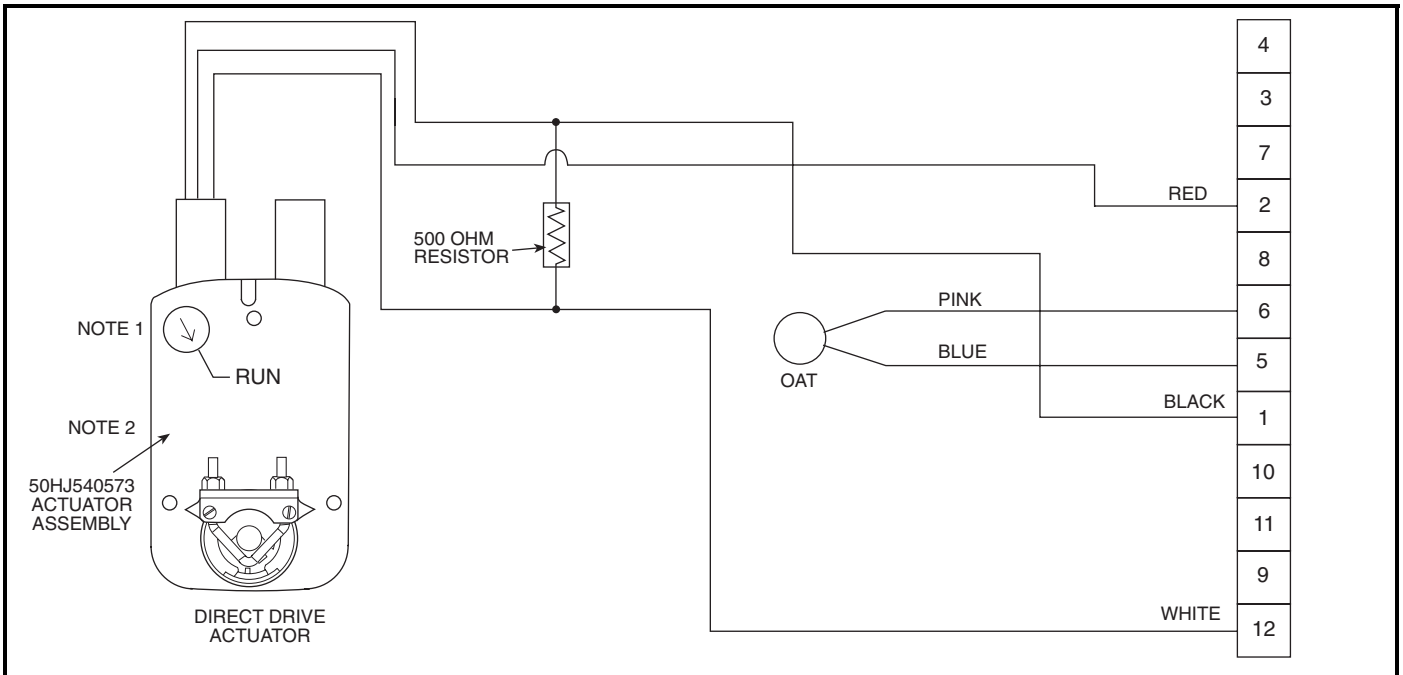
TYPICAL WIRING SCHEMATICS — 579F (cont)



LEGEND

AL — Ambient Limit
ECB — Economizer Control Board
IA — Indoor Air
IAQ — Indoor Air Quality
OA — Outdoor Air
OAS — Outdoor Air Sensor
RAS — Return Air Sensor
SAT — Supply Air Temperature

EconoMi$er IV Wiring — 579F180-300 Units

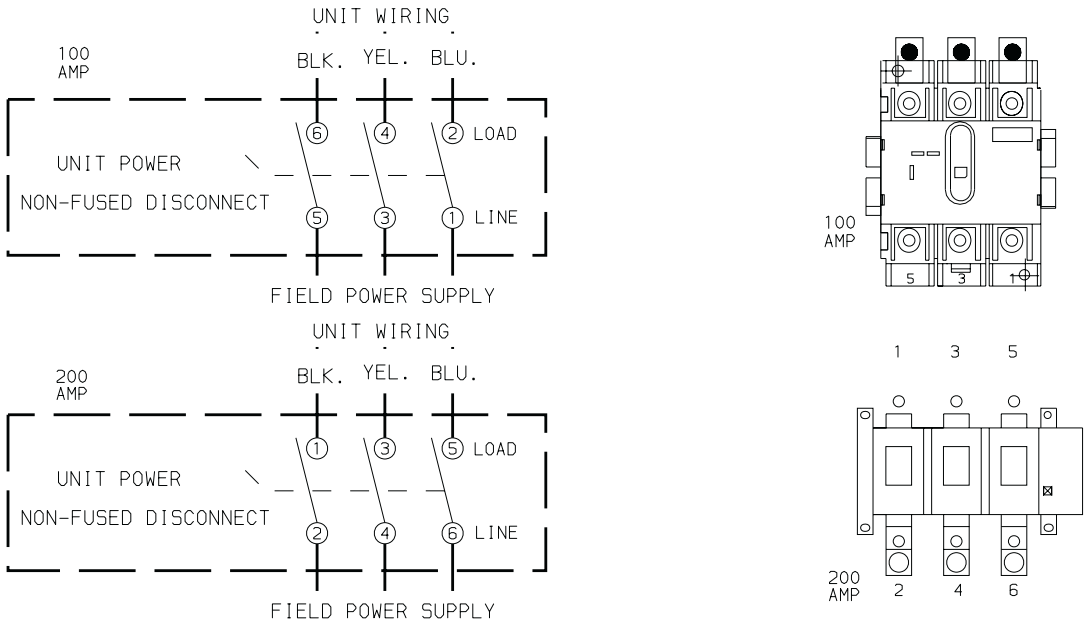


LEGEND

OAT — Outdoor Air Temperature Sensor

NOTES:
1. Switch on actuator must be in run position for economizer to operate.
2. 50HJ540573 actuator consists of the 50HJ540567 actuator and a harness with 500-ohm resistor.

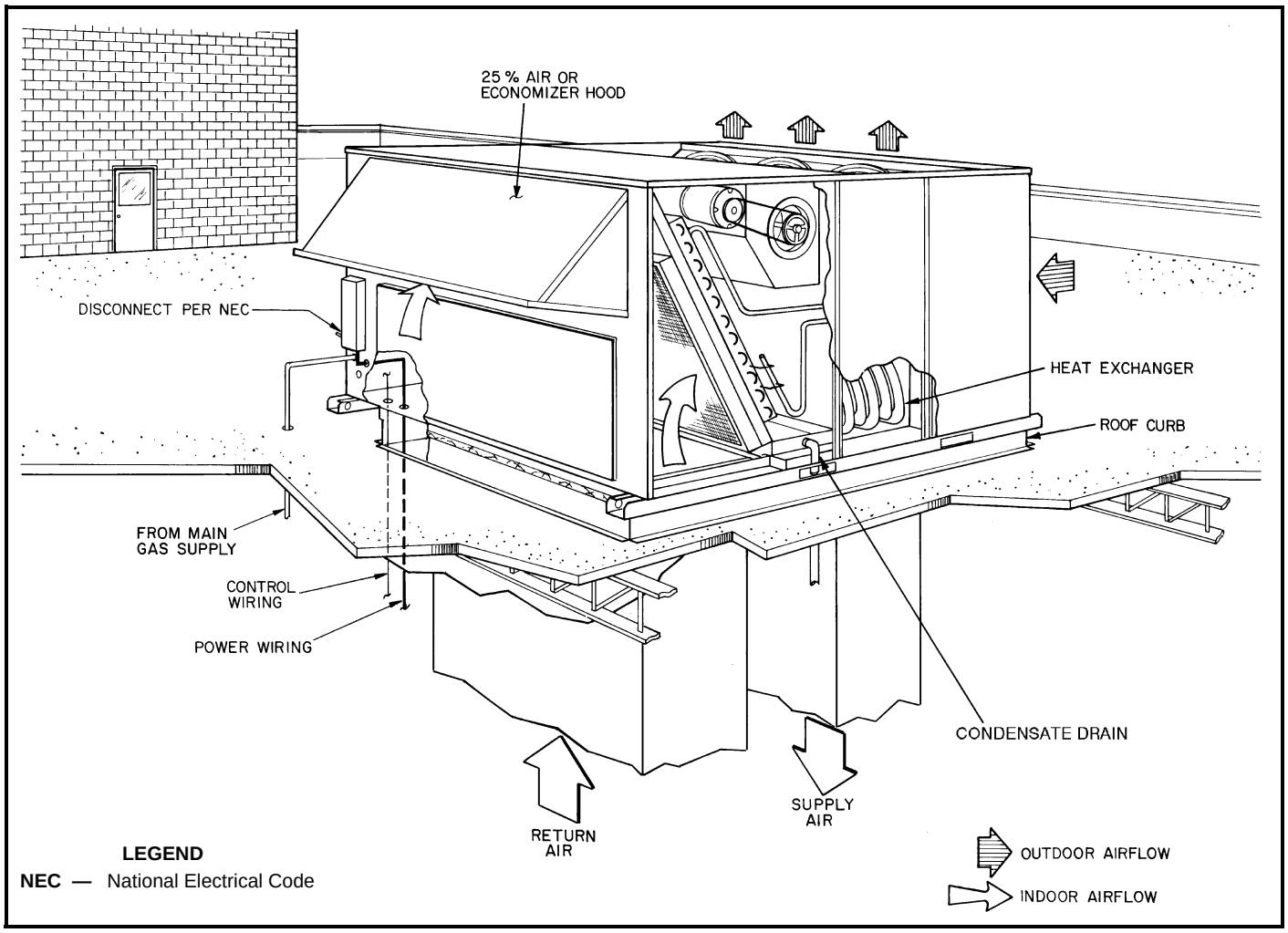
EconoMi$er2 Wiring — 579F180-300 Units



NOTES:
1. If the Non-Fused Disconnect Service Option is ordered for these units, the Non-Fused Disconnect will be factory-installed.
2. The Disconnect takes the place of TB-1 as shown on the unit wiring diagram label and the component arrangement label.

Non-Fused Disconnect (Optional) — 579F180-300

TYPICAL PIPING AND WIRING — 579F180-300
(579F180 Shown)



LEGEND

NEC — National Electrical Code

PHYSICAL DATA — 580F180-300

UNIT 580F		180	210	240	300
NOMINAL CAPACITY (tons)		15	18	20	25
OPERATING WEIGHT					
Unit		1800	1850	1900	2270
EconoMi$er IV		80	80	80	80
COMPRESSOR/MANUFACTURER		Scroll, Copeland			
Quantity...Model (Ckt 1, Ckt 2)		1...ZR94KC, 1...ZR72KC	1...ZR108KC, 1...ZR94KC	1...ZR125KC, 1...ZR108KC	1...ZR4140KC, 2...ZR144KC
Capacity Stages (%)		60, 40	55, 45	55, 45	60, 40
Number of Refrigerant Circuits		2	2	2	2
Oil (oz) (Ckt 1, Ckt 2)		85, 60	106, 81	106,106	136, 106
REFRIGERANT TYPE		R-22			
Expansion Device		TXV			
Operating Charge (lb-oz)					
Circuit 1*		19-8	19-8	19-11	26-13
Circuit 2		13-8	19-2	13-14	25-10
CONDENSER COIL		Cross-Hatched 3/8-in. Copper Tubes, Aluminum Lanced, Aluminum Pre-Coated, or Copper Plate Fins			
Rows...Fins/in.		4...15	4...15	4...15	3...15 (2 coils)
Total Face Area (sq ft)		21.7	21.7	21.7	43.4
CONDENSER FAN		Propeller Type			
Nominal Cfm		10,500	10,500	14,200	21,000
Quantity...Diameter (in.)		3...22	3...22	2...30	6...22
Motor Hp...Rpm		1/2...1050	1/2...1050	1...1075	1/2...1050
Watts Input (Total)		1100	1100	3400	2200
EVAPORATOR COIL		Cross-Hatched 3/8-in. Copper Tubes, Aluminum Lanced or Copper Plate Fins, Face Split			
Rows...Fins/in.		4...15	4...15	4...15	4...15
Total Face Area (sq ft)		17.5	17.5	17.5	17.5
EVAPORATOR FAN		Centrifugal Type			
Quantity...Size (in.)		2...12 x 12	2...12 x 12	2...12 x 12	2...12 x 12
Type Drive		Belt	Belt	Belt	Belt
Nominal Cfm		6000	7200	8000	10,000
Motor Hp		5	5	7.5	10
Motor Nominal Rpm		1745	1745	1745	1740
Maximum Continuous Bhp		6.13	5.90	8.7 [208/230, 575 v] 9.5 [460 v]	10.2 [208/230, 575 v] 11.8 [460 v]
Motor Frame Size		184T	184T	213T	215T
Nominal Rpm High/Low		—	—	—	—
Fan Rpm Range	**Low-Medium Static**	873-1021	910-1095	1002-1151	1066-1283
	High Static	1025-1200	1069-1287	1193-1369	1332-1550
Motor Bearing Type		Ball	Ball	Ball	Ball
Maximum Allowable Rpm		1550	1550	1550	1550
Motor Pulley Pitch Diameter	**Low-Medium Static**	4.9/5.9	4.9/5.9	5.4/6.6	4.9/5.9
Min/Max (in.)	**High Static**	4.9/5.9	4.9/5.9	5.4/6.6	4.9/5.9
Nominal Motor Shaft Diameter (in.)		1 1/8	1 1/8	1 3/8	1 3/8
Fan Pulley Pitch Diameter (in.)	**Low-Medium Static**	9.4	9.4	9.4	8.0
	High Static	8.0	8.0	7.9	6.4
Nominal Fan Shaft Diameter (in.)		1 7/16	1 7/16	1 7/16	1 7/16
Belt, Quantity...Type...Length (in.)	**Low-Medium Static**	1...BX...50	1...BX...50	1...BX...53	2...BX...50
	High Static	1...BX...48	1...BX...48	1...BX...50	2...BX...47
Pulley Center Line Distance (in.)		13.3-14.8	13.3-14.8	14.6-15.4	14.6-15.4
Speed Change per Full Turn of	**Low-Medium Static**	37	37	37	36
Movable Pulley Flange (rpm)	**High Static**	44	34	44	45
Movable Pulley Maximum Full Turns From Closed Position		4	6	6	6
Factory Speed		3.5	3.5	3.5	3.5
Factory Speed Setting (rpm)	**Low-Medium Static**	965	1002	1095	1182
	High Static	1134	1178	1303	1470
Fan Shaft Diameter at Pulley (in.)		1 7/16	1 7/16	1 7/16	1 7/16

LEGEND

Bhp — Brake Horsepower
TXV — Thermostatic Expansion Valve

*Circuit 1 uses the lower portion of the condenser coil and lower portion of the evaporator coils; and Circuit 2 uses the upper portion of both coils.
†Rollout switch is manual reset.
**The 580F300 unit requires 2-in. industrial-grade filters capable of handling face velocities up to 625 ft/min (such as American Air Filter no. 5700 or equivalent).

NOTE: The 580F180-300 units have a low-pressure switch (standard) located on the suction side.

PHYSICAL DATA — 580F180-300 (cont)

UNIT 580F		180	210	240	300
FURNACE SECTION					
Rollout Switch Cutout Temp (F)†		190	190	190	190
Burner Orifice Diameter (in. ...drill size)					
Natural Gas		0.1285...30/0.136...29	0.1285...30/0.136...29	0.1285...30/0.136...29	0.1285...30/0.136...29
Thermostat Heat Anticipator Setting (amps)					
208/230, 575 v	Stage 1	0.98	0.98	0.98	0.98
	Stage 2	0.44	0.44	0.44	0.44
460 v	Stage 1	0.80	0.80	0.80	0.80
	Stage 2	0.44	0.44	0.44	0.44
Gas Input	Stage 1	206,000/270,000	206,000/270,000	206,000/270,000	206,000/270,000
	Stage 2	275,000/360,000	275,000/360,000	275,000/360,000	275,000/360,000
Efficiency (Steady-State) (%)		81	81	81	81
Temperature Rise Range		15-45/20-50	15-45/20-50	15-45/20-50	15-45/20-50
Manifold Pressure (in. wg)					
Natural Gas		3.3	3.3	3.3	3.3
Gas Valve Quantity		1	1	1	1
Gas Valve Pressure Range					
in. wg		5.5-13.5	5.5-13.5	5.5-13.5	5.5-13.5
psig		0.235-0.487	0.235-0.487	0.235-0.487	0.235-0.487
Field Gas Connection Size (in.-FPT)		3/4	3/4	3/4	3/4
HIGH-PRESSURE SWITCH (psig)					
Cutout		426			
Reset (Auto)		320			
LOW-PRESSURE SWITCH (psig)					
Cutout		27			
Reset (Auto)		44			
FREEZE PROTECTION THERMOSTAT (F)					
Opens		30 ± 5			
Closes		45 ± 5			
OUTDOOR-AIR INLET SCREENS		Cleanable			
Quantity...Size (in.)		2...20 x 25 x 1 1...20 x 20 x 1			
RETURN-AIR FILTERS		Throwaway**			
Quantity...Size (in.)		4...20 x 20 x 2 4...16 x20 x 2			
POWER EXHAUST		1/2 Hp, 208/230-460 v Motor Direct Drive, Propeller-Fan (Factory-Wired for 460 v)			

LEGEND

Bhp — Brake Horsepower
TXV — Thermostatic Expansion Valve

*Circuit 1 uses the lower portion of the condenser coil and lower portion of the evaporator coils; and Circuit 2 uses the upper portion of both coils.
†Rollout switch is manual reset.
**The 580F300 unit requires 2-in. industrial-grade filters capable of handling face velocities up to 625 ft/min (such as American Air Filter no. 5700 or equivalent).

NOTE: The 580F180-300 units have a low-pressure switch (standard) located on the suction side.

OPERATING AND RIGGING WEIGHTS

UNIT	BASE UNIT OPERATING WEIGHTS*							
	180		210		240		300	
	lb	kg	lb	kg	lb	kg	lb	kg
580F	1800	816	1850	839	1900	862	2270	1030

*Base unit weight does not include copper coils, economizer, power exhaust, barometric relief or crating. See Options and Accessories table below for more information.

NOTE: For 180 or 210 unit, add 75 lb (34 kg) for domestic crating. For 240 unit, add 135 lb (61 kg). For 300 unit, add 175 lb (79 kg) for domestic crating.

OPTIONS AND ACCESSORIES (Weight Adders)

OPTION/ ACCESSORY	OPTION/ACCESSORY WEIGHTS							
	180		210		240		300	
	lb	kg	lb	kg	lb	kg	lb	kg
Barometric Relief Damper	50	23	50	23	50	23	50	23
Power Exhaust	85	39	85	39	85	39	85	39
EconoMi$er IV	90	41	90	41	90	41	90	41
Cu Condenser Coil	150	68	150	68	150	68	150	68
Cu Condenser and Evaporator Coils	280	127	280	127	280	127	280	127
Roof Curb (14-in. curb)	200	91	200	91	200	91	200	91
Horizontal Adapter Curb (Pre-Assembled)	250	113	250	113	250	113	250	113
Horizontal Adapter Curb (Field-Assembled)	348	156	343	156	343	156	343	156
Hail Guard	60	27	60	27	60	27	60	27

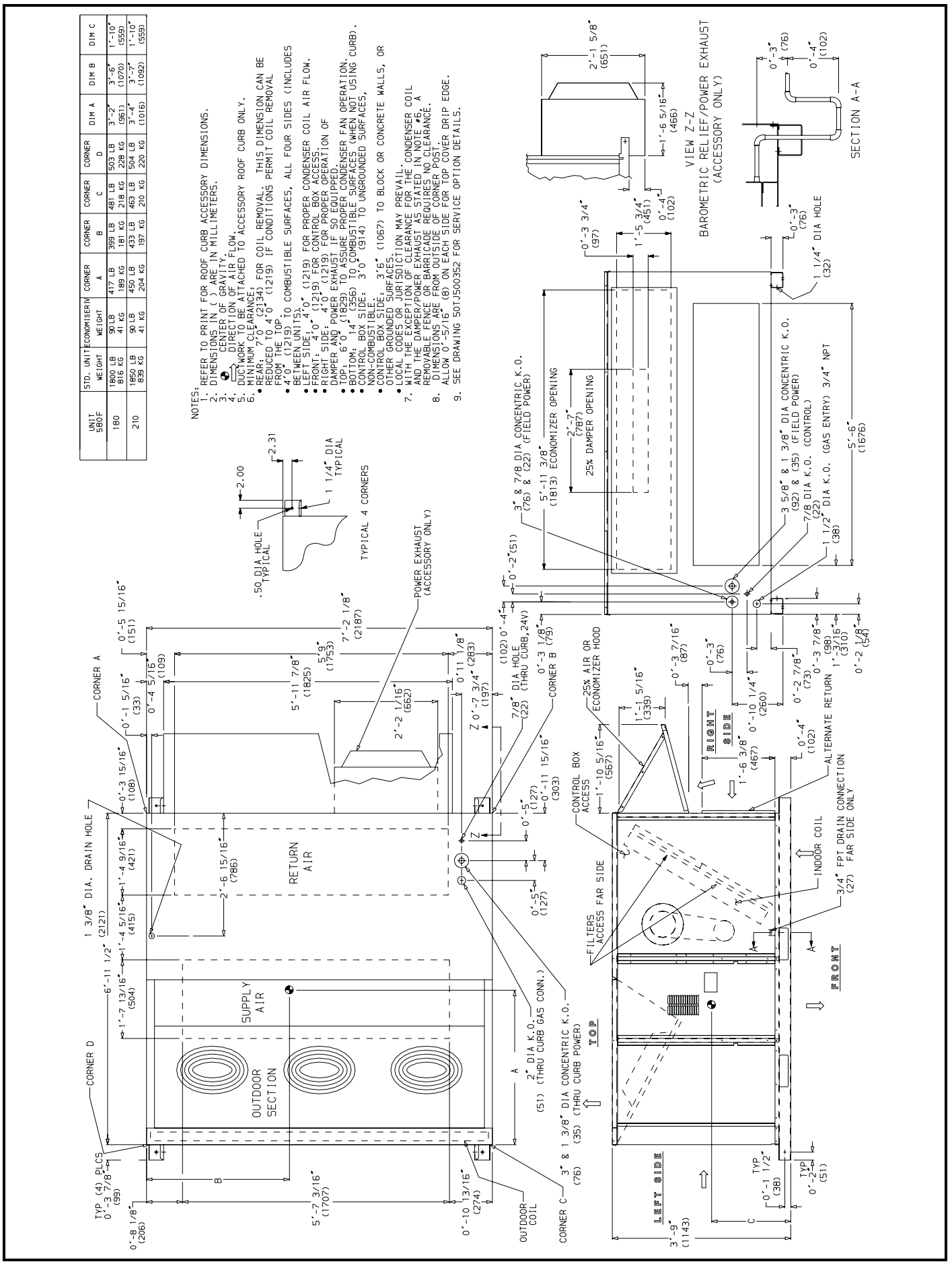
LEGEND

Cu — Copper

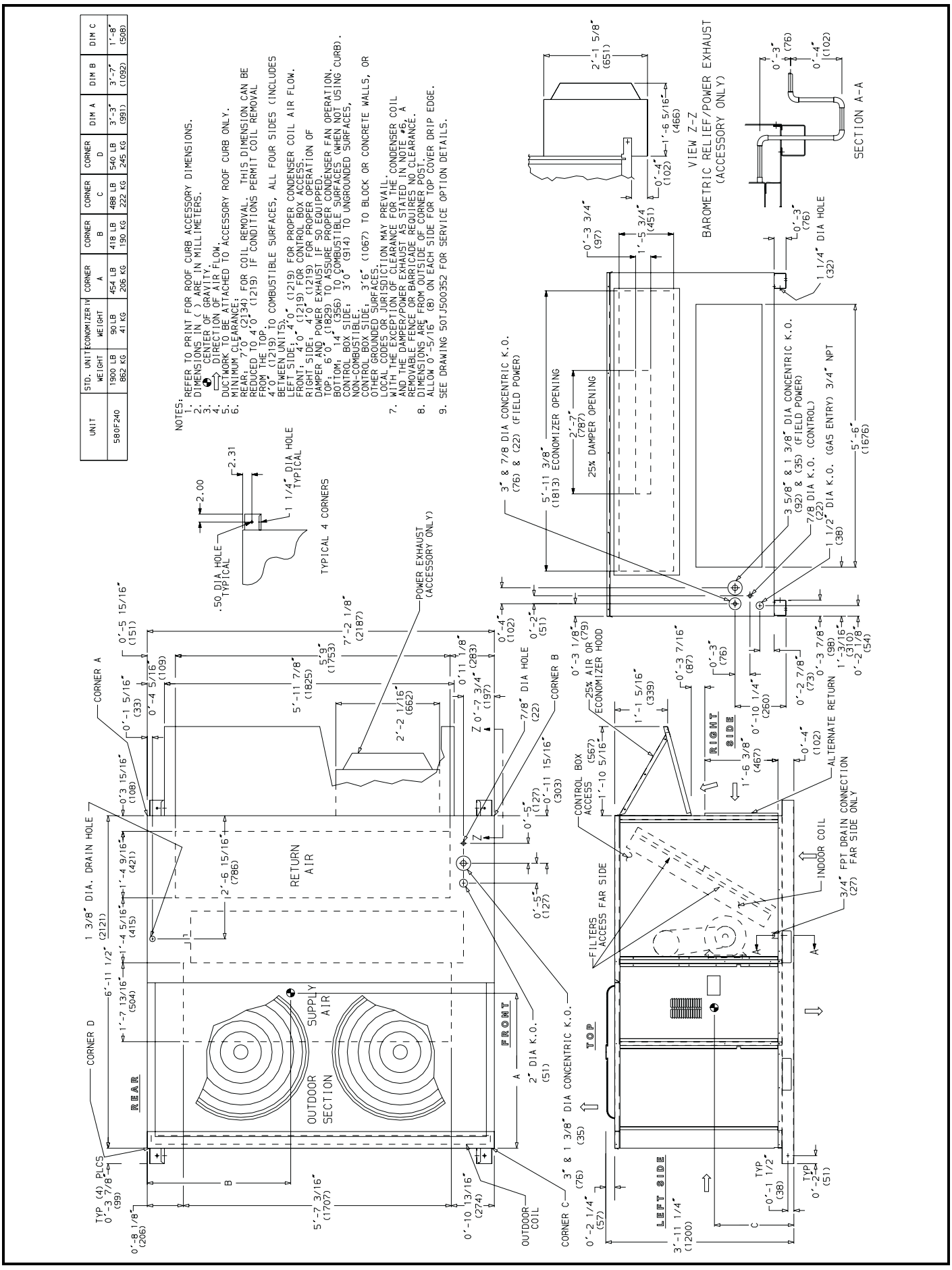
BASE UNIT DIMENSIONS — 580F180, 210

UNIT 580F	STD. UNIT WEIGHT	ECONOMISER WEIGHT	CORNER A	CORNER B	CORNER C	CORNER D	DIM A	DIM B	DIM C
180	1800 LB 816 KG	90 LB 41 KG	417 LB 189 KG	399 LB 181 KG	481 LB 219 KG	503 LB 228 KG	3'-2" (961)	3'-6" (1070)	1'-10" (559)
210	1850 LB 839 KG	90 LB 41 KG	450 LB 204 KG	433 LB 197 KG	463 LB 210 KG	504 LB 220 KG	3'-4" (1016)	3'-7" (1092)	1'-10" (559)

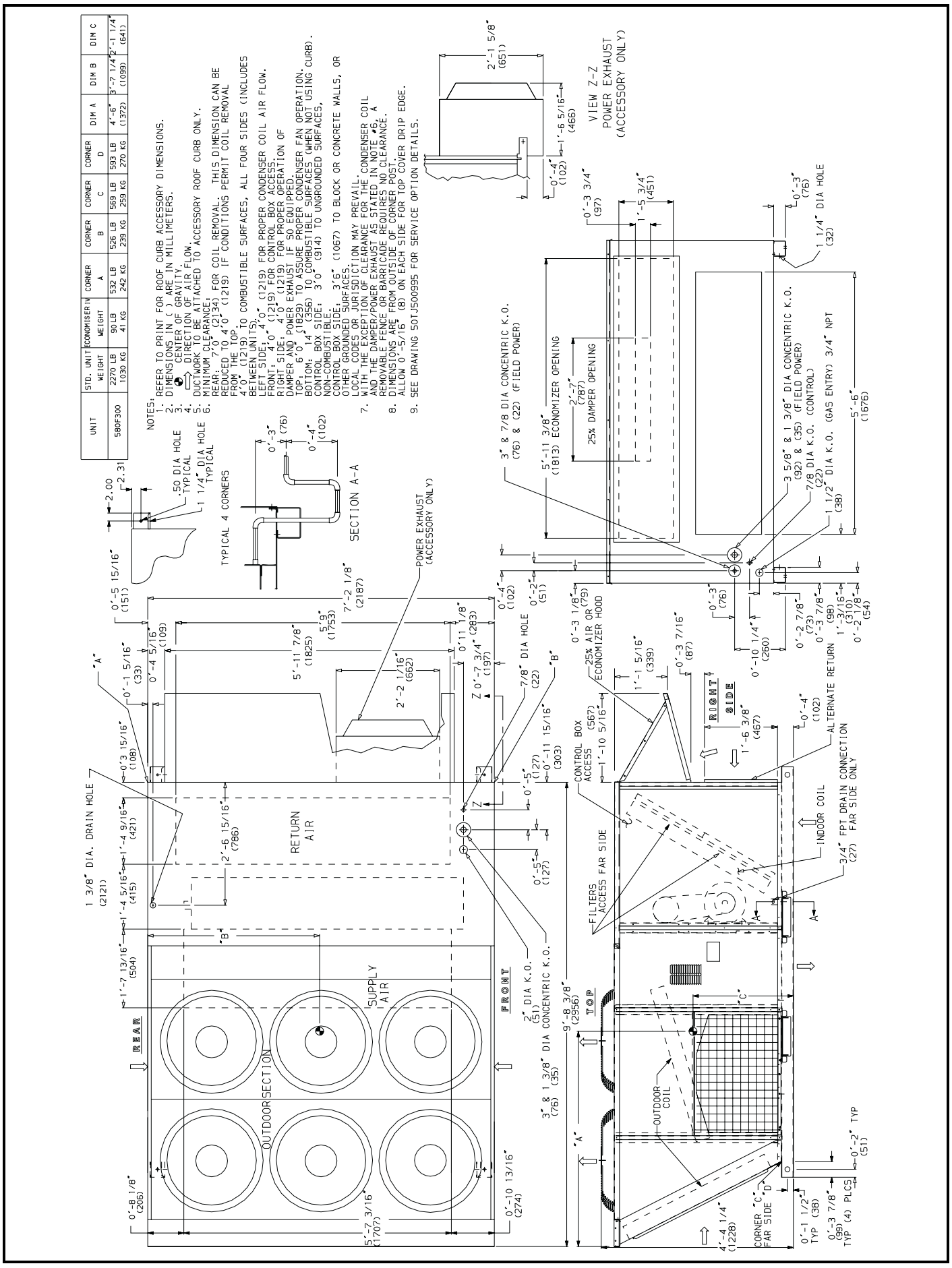
NOTES:
1. REFER TO PRINT FOR ROOF CURB ACCESSORY DIMENSIONS.
2. DIMENSIONS IN ( ) ARE IN MILLIMETERS.
3. ⊕ CENTER OF GRAVITY.
4. ⇨ DIRECTION OF AIR FLOW.
5. DUCTWORK TO BE ATTACHED TO ACCESSORY ROOF CURB ONLY.
6. MINIMUM CLEARANCE:
   - REAR: 7'0" (2134) FOR COIL REMOVAL. THIS DIMENSION CAN BE REDUCED TO 4'0" (1219) IF CONDITIONS PERMIT COIL REMOVAL FROM THE TOP.
   - 4'0" (1219) TO COMBUSTIBLE SURFACES, ALL FOUR SIDES (INCLUDES BETWEEN UNITS).
   - LEFT SIDE: 4'0" (1219) FOR PROPER CONDENSER COIL AIR FLOW.
   - FRONT: 4'0" (1219) FOR CONTROL BOX ACCESS.
   - RIGHT SIDE: 4'0" (1219) FOR PROPER OPERATION OF DAMPER AND POWER EXHAUST IF SO EQUIPPED.
   - TOP: 6'0" (1829) TO ASSURE PROPER CONDENSER FAN OPERATION.
   - BOTTOM: 14" (356) TO COMBUSTIBLE SURFACES (WHEN NOT USING CURB).
   - CONTROL BOX SIDE: 3'0" (914) TO UNGROUNDED SURFACES, NON-COMBUSTIBLE.
   - CONTROL BOX SIDE: 3'6" (1067) TO BLOCK OR CONCRETE WALLS, OR OTHER GROUNDED SURFACES.
   - LOCAL CODES OR JURISDICTION MAY PREVAIL.
7. WITH THE EXCEPTION OF CLEARANCE FOR THE CONDENSER COIL AND THE DAMPER/POWER EXHAUST AS STATED IN NOTE #6, A REMOVABLE FENCE OR BARRICADE REQUIRES NO CLEARANCE. DIMENSIONS ARE FROM OUTSIDE OF CORNER POST. ALLOW 0'-5/16" (8) ON EACH SIDE FOR TOP COVER DRIP EDGE.
8. SEE DRAWING 50TJ500352 FOR SERVICE OPTION DETAILS.



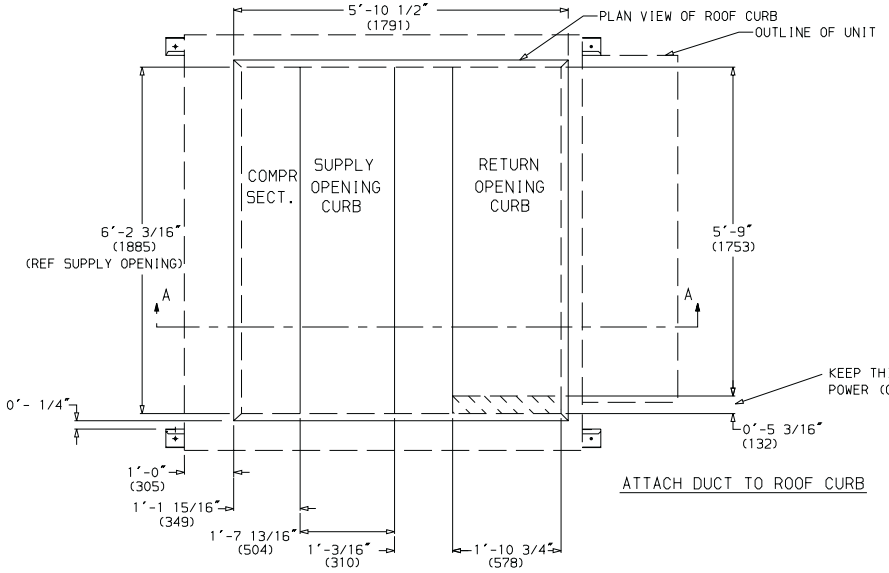
BASE UNIT DIMENSIONS — 580F240



BASE UNIT DIMENSIONS — 580F300



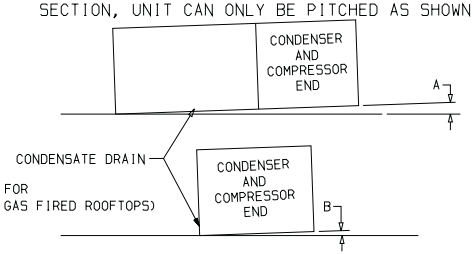
PKG. NO. REF.	CURB HEIGHT	DESCRIPTION
CRRFCURB010A00	1′– 2″ (305)	Standard Curb 14″ High
CRRFCURB011A00	2′- 0″ (610)	Standard Curb for Units Requiring High Installation
CRRFCURB012A00	2′- 0″ (610)	Side Supply and Return Curb for High Installation



ATTACH DUCT TO ROOF CURB

NOTES:
1. ROOF CURB ACCESSORY IS SHIPPED DISASSEMBLED.
2. INSULATED PANELS: 1″ THICK NEOPRENE COATED 1-1/2 LB DENSITY.
3. DIMENSIONS IN ( ) ARE IN MILLIMETERS.
4. ⇨ DIRECTION OF AIR FLOW
5. ROOFCURB: 16 GA. (VA03-56) STL.
6. A 90 DEGREE ELBOW MUST BE INSTALLED ON THE SUPPLY DUCT WORK BELOW THE UNIT DISCHARGE FOR UNITS EQUIPPED WITH . ELECTRIC HEATERS.

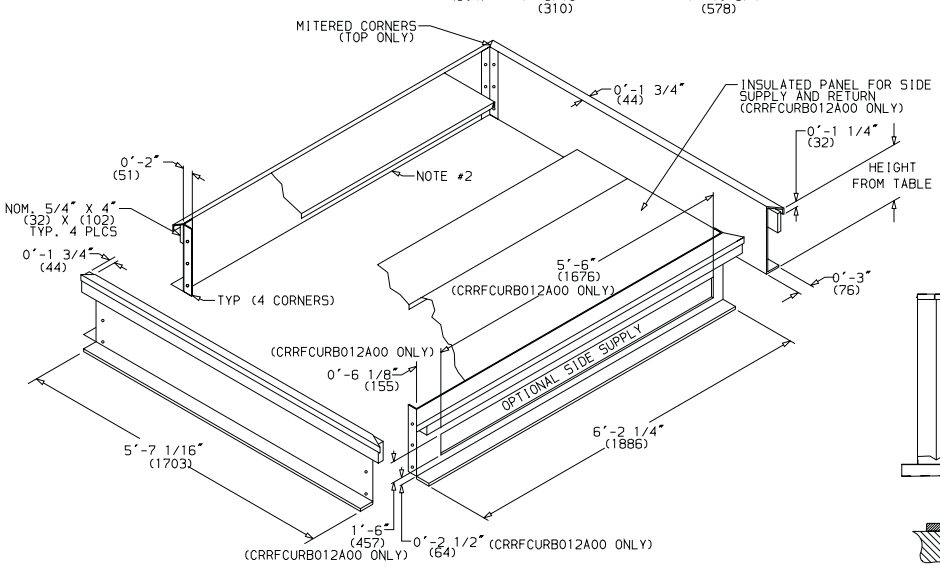
NOTE:
TO PREVENT THE HAZARD OF STAGNANT WATER BUILD-UP IN THE DRAIN PAN OF THE INDOOR SECTION, UNIT CAN ONLY BE PITCHED AS SHOWN.

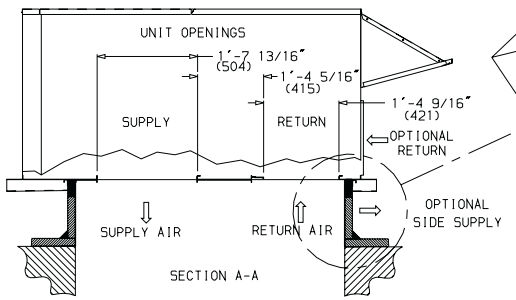


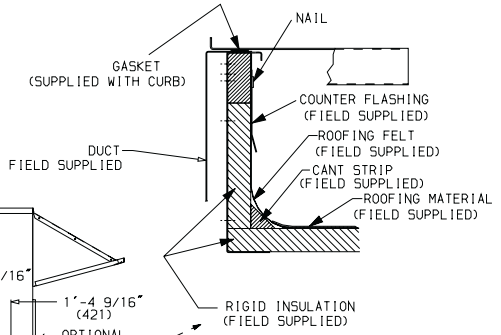
DIMENSIONS (degrees and inches)

UNIT	A		B	
	DEG.	IN.	DEG.	IN.
ALL	.28	.45	.28	.43

UNIT LEVELING TOLERANCES
*From edge of unit to horizontal.

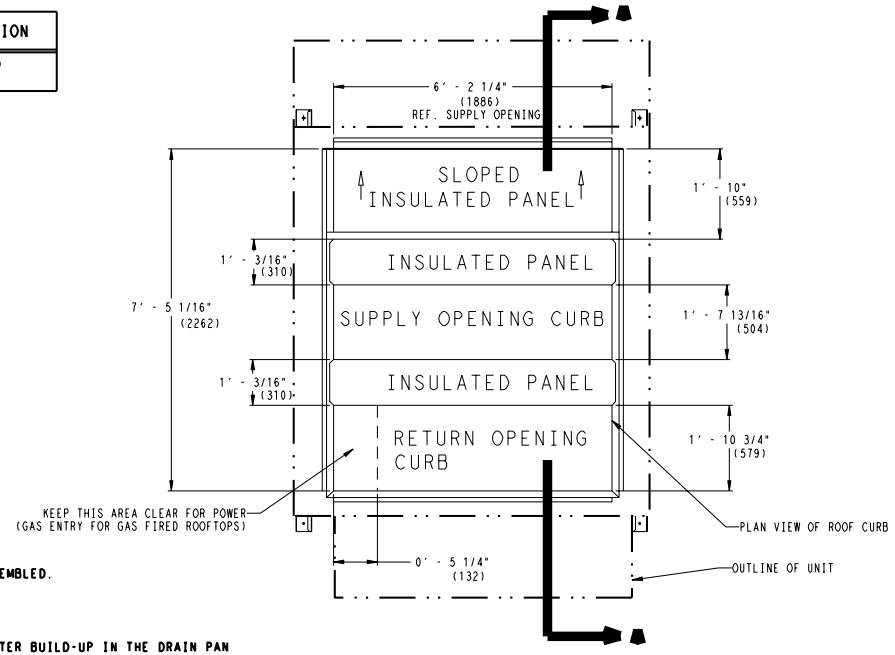






Horizontal and Vertical Roof Curbs
580F180-240

ROOFCURB ACCESSORY	CURB HEIGHT	DESCRIPTION
CRRFCURB025A00	1'-2" [356]	ROOF CURB 14" HIGH

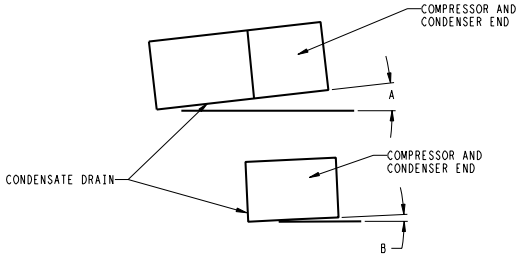


ATTACH DUCT WORK TO UNITS

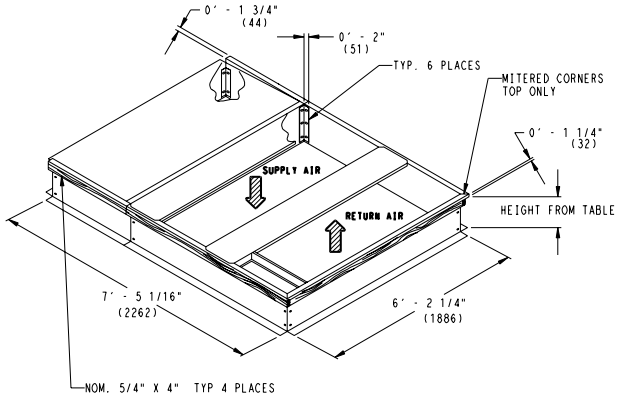
DIMENSIONS (DEGREES AND INCHES)

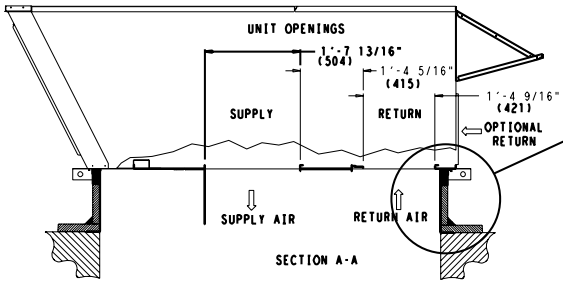
UNIT	A		B	
	DEG.	IN.	DEG.	IN.
ALL	.28	.45	.28	.43

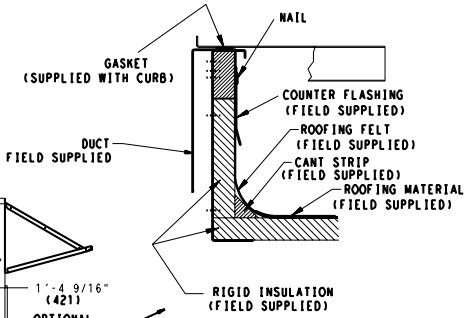
MAX CURB LEVELING TOLERANCES:
FROM EDGE OF UNIT TO HORIZONTAL



NOTES:
1. ROOFCURB ACCESSORY IS SHIPPED DISASSEMBLED.
2. DIMENSIONS IN ( ) ARE IN MILLIMETERS.
3. ▨ DIRECTION OF AIRFLOW.
4. ROOF CURB: 16 GA. (VA03-56) STEEL.
5. TO PREVENT THE HAZARD OF STAGNANT WATER BUILD-UP IN THE DRAIN PAN OF THE INDOOR SECTION, UNIT CAN ONLY BE PITCHED AS SHOWN.
6. INSULATED PANELS: 1" THICK NEOPRENE COATED 1-1/2 LB DENSITY.
7. A 90° ELBOW MUST BE INSTALLED ON THE SUPPLY DUCT WORK BELOW THE UNIT DISCHARGE FOR UNITS EQUIPPED WITH ELECTRIC HEATERS.

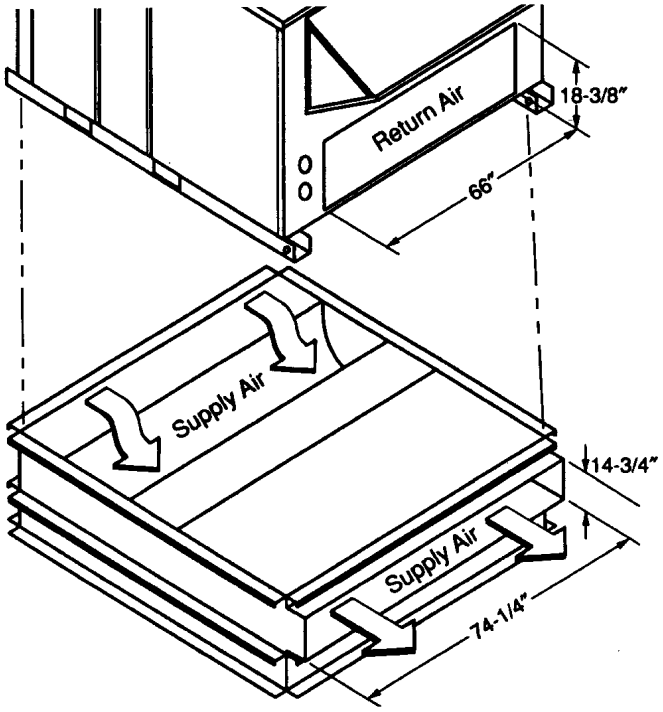


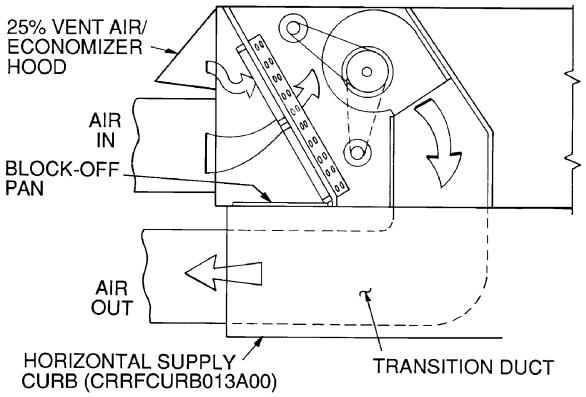


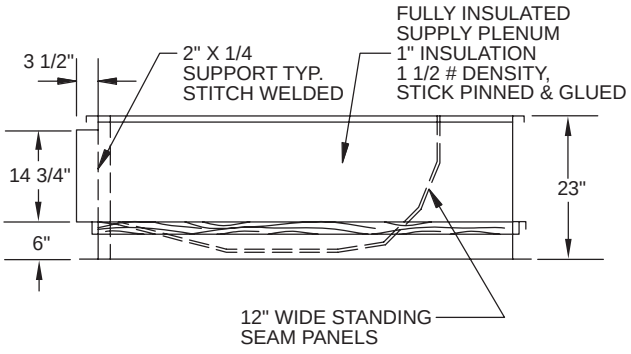


Vertical Roof Curbs
580F300

ACCESSORY DIMENSIONS — 580F (cont)





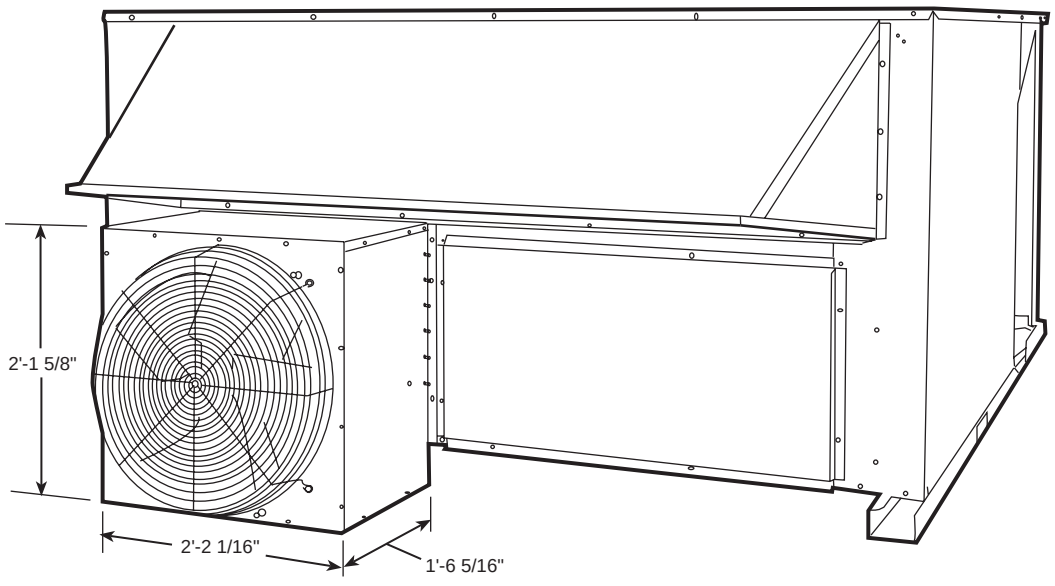


NOTE: CRRFCURB013A00 is a fully factory preassembled horizontal adapter and includes an insulated transition duct. The pressure drop through the adapter curb is negligible.

For horizontal return applications: The power exhaust and barometric relief dampers must be installed in the return air duct.

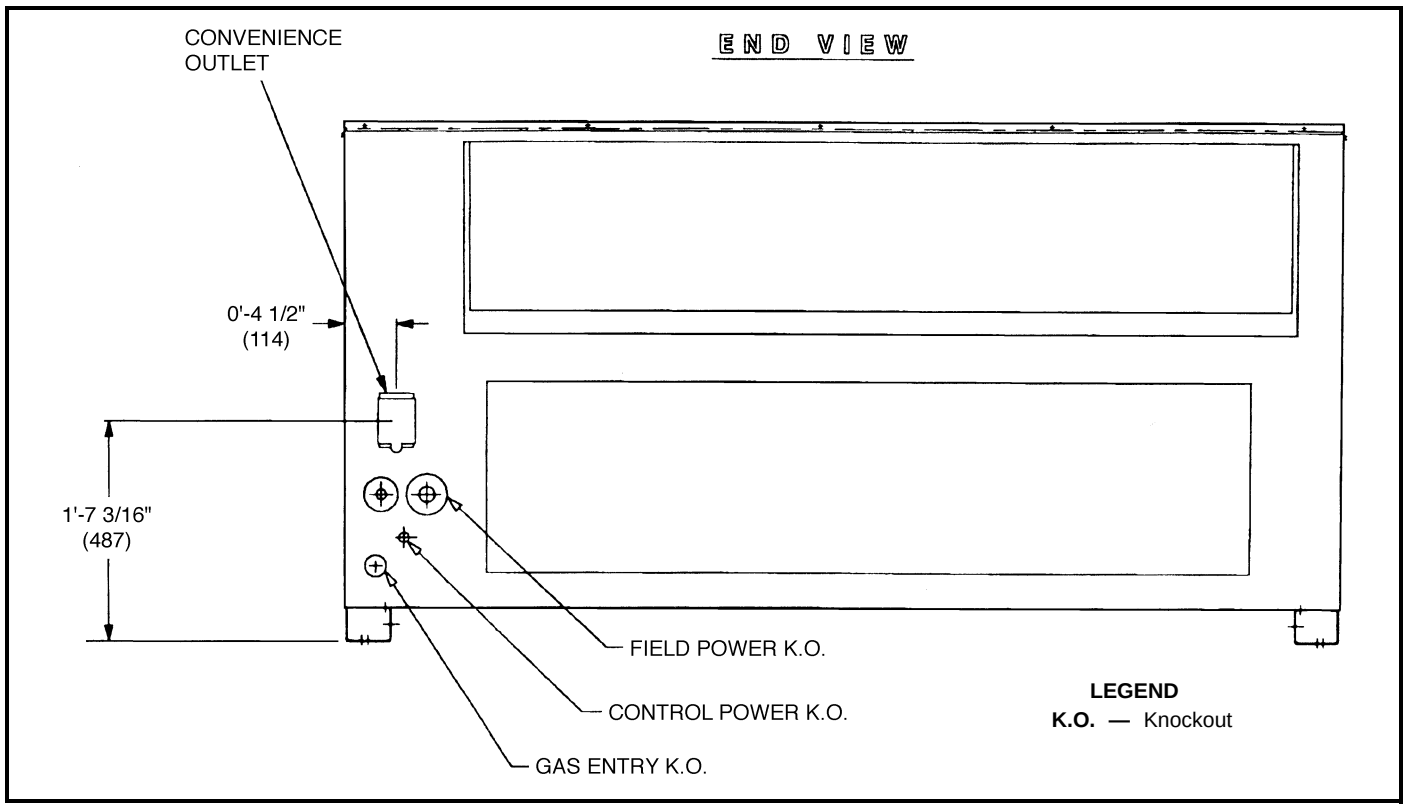
ACCESSORY PACKAGE NO.	CURB HEIGHT	DESCRIPTION
CRRFCURB013A00	1′-11″ (584)	Pre-Assembled, Roof Curb, Horizontal Adapter

Horizontal Supply/Return Adapter Installation (580F180-240)

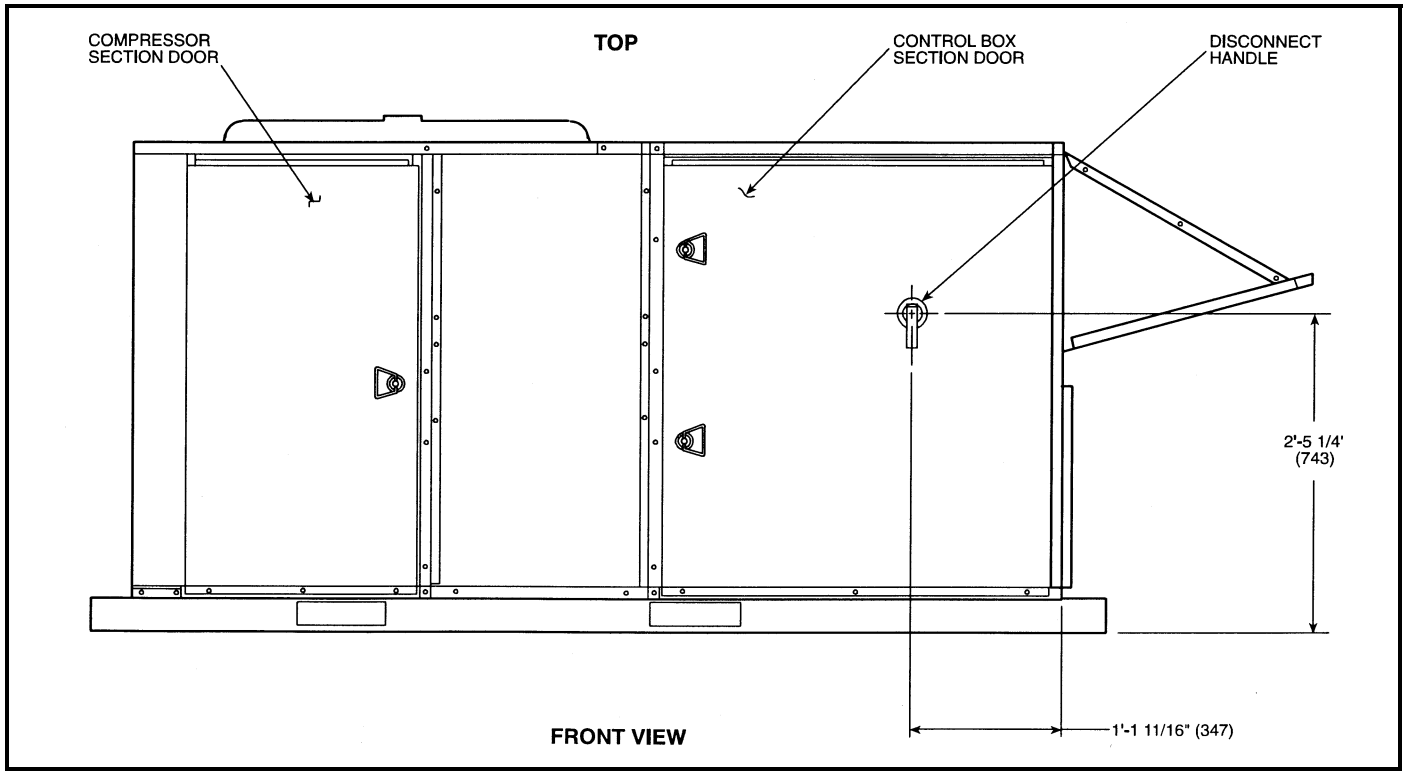


For horizontal return applications: The power exhaust relief must be installed in the return air duct.

Barometric Relief/Power Exhaust



Factory-Installed Convenience Outlet



Factory-Installed Non-Fused Disconnect (180-300)

SELECTION PROCEDURE (With 580F240 Example)

I DETERMINE COOLING AND HEATING REQUIREMENTS AT DESIGN CONDITIONS.

Given:

Required Cooling Capacity . . . . . 230,000 Btuh
Sensible Heat Capacity (SHC) . . . . . 170,000 Btuh
Required Heating Capacity . . . . . 215,000 Btuh
Condenser Entering Air Temp. . . . . .95 F (Summer)
Evaporator Entering Air Temp. . . . . 80 F edb, 67 F ewb
Evaporator Air Quantity . . . . . .8,000 cfm
External Static Pressure . . . . . 0.6 in. wg
Electrical Characteristics (V-Ph-Hz) 460-3-60

Vertical discharge unit with optional EconoMi$er IV required.

edb — Entering dry-bulb
ewb — Entering wet-bulb

II SELECT UNIT BASED ON REQUIRED COOLING CAPACITY.

Enter Cooling Capacities table for 580F240 (page 183) at condenser entering temperature 95 F, evaporator air entering at 8,000 cfm and 67 F wb. The unit will provide a total cooling capacity of 249,000 Btuh and a sensible heating capacity (SHC) of 188,000 Btuh. For air entering evaporator at temperatures other than 80 F edb, calculate SHC correction as required.

NOTE: Unit ratings are gross capacities and do not include the effect of evaporator-fan motor heat. To calculate net capacities, see Step V.

III SELECT HEATING CAPACITY OF UNIT TO PROVIDE DESIGN CONDITION REQUIREMENTS.

In the ARI Heating Capacities and Efficiencies table note that the 580F240360 will provide an output capacity of 292,000 Btuh, which is adequate for the given application.

IV DETERMINE FAN SPEED AND POWER REQUIREMENTS AT DESIGN CONDITIONS.

Before entering the Fan Performance tables, calculate the total static pressure required based on unit components. From the given and the Accessory/FIOP Static Pressure table on page 191 find:

External static pressure	0.60 in. wg
EconoMi$er IV static pressure	0.10 in. wg
Total static pressure	0.70 in. wg

Enter the Fan Performance table 580F240360 at 8,000 cfm and 0.70 in. wg external static pressure. By interpolation, find that the rpm is 1243 and the watts are 5368.

V DETERMINE NET COOLING CAPACITY.

Cooling capacities are gross capacities and do not include indoor (evaporator) fan motor (IFM) heat. Use the watts input power to the motor calculated in Section IV above.

IFM Watts = 5368

Determine net cooling capacity using the following formula:

Net capacity = Gross capacity – IFM heat
= 249,000 Btuh – 5368 Watts

$$(3.412\ \frac{\text{Btuh}}{\text{Watts}})$$

= 249,000 Btuh – 18,316 Btuh
= 230,684 Btuh

Net sensible capacity = 188,000 Btuh – 18,316 Btuh
= 169,684 Btuh

The calculations show that a 580F240360 unit with the standard motor and standard low-medium static drive is the correct selection for the given conditions.

PERFORMANCE DATA

COOLING CAPACITIES

580F180 (15 TONS)

Temp (F) Air Entering Condenser (Edb)		Air Entering Evaporator — Cfm/BF														
		4,500/0.010			5,250/0.120			6,000/0.140			6,750/0.150			7,500/0.160		
		Air Entering Evaporator — Ewb (F)														
		62	67	72	62	67	72	62	67	72	62	67	72	62	67	72
75	TC	175.7	191.8	210.9	180.5	196.4	214.9	183.3	201.0	218.9	187.1	203.0	222.9	189.2	205.0	224.9
	SHC	145.5	123.0	99.9	156.2	131.5	104.9	167.8	139.1	110.6	175.3	146.3	115.0	183.7	155.8	119.4
	kW	14.0	14.4	15.0	14.2	14.6	15.1	14.3	14.7	15.2	14.4	14.9	15.4	14.5	14.9	15.4
85	TC	168.8	185.1	203.0	173.3	189.2	207.0	177.1	192.8	210.9	179.7	196.0	214.9	182.3	198.0	216.9
	SHC	141.7	119.8	97.1	151.6	128.6	101.9	162.4	135.9	106.7	171.1	143.1	111.0	179.1	150.2	116.4
	kW	15.2	15.6	16.1	15.3	15.8	16.3	15.5	15.9	16.5	15.6	16.1	16.6	15.7	16.1	16.7
95	TC	161.8	177.5	194.4	166.4	181.5	199.0	169.0	184.7	203.0	171.7	187.7	205.0	174.5	189.4	207.0
	SHC	138.7	116.8	93.9	147.5	125.2	99.1	157.6	132.7	103.3	167.2	139.9	108.3	173.9	146.5	112.2
	kW	16.4	16.9	17.4	16.6	17.0	17.6	16.7	17.2	17.7	16.8	17.3	17.8	16.9	17.4	17.9
105	TC	154.6	169.3	185.3	158.6	173.1	189.2	161.2	175.9	192.0	164.0	178.1	194.6	167.4	179.7	196.2
	SHC	133.9	113.6	90.7	143.7	121.4	95.7	154.2	129.0	100.3	161.8	136.1	104.7	167.2	142.7	108.7
	kW	17.6	18.2	18.7	17.8	18.3	18.8	17.9	18.5	18.9	18.1	18.5	19.1	18.2	18.6	19.1
115	TC	147.1	160.8	175.5	150.4	164.2	179.1	152.4	166.4	181.9	155.8	168.6	184.3	159.6	169.7	185.7
	SHC	130.1	110.2	87.4	139.7	117.8	92.1	149.3	125.4	96.7	155.6	131.9	101.1	159.2	139.1	105.3
	kW	19.0	19.5	20.0	19.1	19.7	20.2	19.2	19.8	20.2	19.4	19.9	20.4	19.5	19.9	20.4
118	TC	144.7	158.0	172.5	147.7	161.2	175.9	150.0	163.4	178.3	153.4	165.4	180.7	157.0	166.8	182.1
	SHC	129.0	109.1	86.4	138.5	116.6	91.1	147.7	124.2	95.5	153.4	130.7	99.9	156.8	137.7	104.1
	kW	19.4	19.9	20.4	19.5	20.0	20.6	19.6	20.2	20.6	19.8	20.2	20.8	19.9	20.4	20.8
120	TC	142.9	156.2	170.5	145.9	159.2	—	148.3	161.2	—	151.8	163.2	—	155.4	164.8	—
	SHC	128	108	86	138	116	—	146	123	—	152	130	—	155	137	—
	kW	19.6	20.2	20.6	19.8	20.2	—	19.9	20.4	—	20.0	20.4	—	20.2	20.6	—

580F210 (18 TONS)

Temp (F) Air Entering Condenser (Edb)		Air Entering Evaporator — Cfm/BF														
		5,400/0.095			6,000/0.105			7,000/0.120			8,000/0.140			9,000/0.150		
		Air Entering Evaporator — Ewb (F)														
		62	67	72	62	67	72	62	67	72	62	67	72	62	67	72
75	TC	227	247	269	232	251	274	237	255	277	241	258	280	248	261	283
	SHC	200	167	134	215	178	141	231	194	152	241	205	160	248	219	167
	kW	15.9	16.5	17.2	16.1	16.7	17.3	16.3	16.8	17.5	16.5	16.9	17.6	16.7	17.0	17.7
85	TC	219	238	259	224	242	265	229	247	269	235	250	272	241	252	273
	SHC	197	164	131	210	175	137	225	188	145	234	200	153	240	214	163
	kW	17.2	17.8	18.5	17.4	17.9	18.6	17.6	18.1	18.8	17.8	18.3	19.0	18.0	18.3	19.0
95	TC	210	229	248	214	233	253	219	237	258	225	239	261	231	242	263
	SHC	192	160	126	205	171	133	218	183	141	225	194	148	231	206	156
	kW	18.5	19.2	19.9	18.7	19.3	20.0	19.0	19.5	20.2	19.2	19.6	20.3	19.4	19.7	20.4
105	TC	200	218	237	205	222	241	210	225	245	216	228	249	221	230	250
	SHC	186	155	123	199	166	129	210	178	136	216	190	143	221	201	150
	kW	19.9	20.5	21.2	20.1	20.7	21.3	20.4	20.8	21.5	20.6	21.0	21.7	20.8	21.0	21.8
115	TC	190	207	225	195	210	228	201	213	232	206	216	235	211	217	236
	SHC	181	151	118	193	161	124	201	173	132	206	185	139	211	196	146
	kW	21.3	21.9	22.6	21.5	22.1	22.8	21.8	22.2	22.9	22.0	22.4	23.1	22.2	22.4	23.1
120	TC	185	200	218	189	205	221	196	207	225	201	209	227	205	210	229
	SHC	179	149	117	189	159	122	196	171	130	201	182	137	205	193	144
	kW	22.1	22.6	—	22.3	22.8	—	22.5	22.9	—	22.7	—	—	22.9	—	—

LEGEND

BF — Bypass Factor
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Compressor Power
SHC — Gross Sensible Capacity (1000 Btuh)
TC — Gross Cooling Capacity (1000 Btuh)

PERFORMANCE DATA (cont)

COOLING CAPACITIES (cont)

580F240 (20 TONS)

Temp (F) Air Entering Condenser (Edb)		Air Entering Evaporator — Cfm/BF														
		6,000/0.04			7,000/0.05			8,000/0.06			9,000/0.07			10,000/0.08		
		Air Entering Evaporator — Ewb (F)														
		62	67	72	62	67	72	62	67	72	62	67	72	62	67	72
75	TC	237	258	282	242	264	288	247	268	291	252	271	295	258	274	298
	SHC	204	171	138	221	184	146	237	199	156	247	210	164	257	221	172
	kW	16.7	17.4	18.1	16.9	17.6	18.3	17.1	17.8	18.5	17.3	17.9	18.6	17.5	18.0	18.7
85	TC	229	249	272	234	254	278	239	260	283	245	262	286	250	265	287
	SHC	201	167	135	216	180	142	231	193	150	240	203	157	250	217	167
	kW	18.1	18.7	19.5	18.3	18.9	19.7	18.5	19.1	19.9	18.7	19.3	20.1	18.8	19.4	20.1
95	TC	220	239	261	225	245	267	230	249	271	235	251	275	241	255	277
	SHC	195	163	130	211	176	138	224	188	145	233	199	152	241	210	160
	kW	19.4	20.2	20.9	19.7	20.4	21.2	19.9	20.6	21.3	20.1	20.6	21.4	20.3	20.8	21.6
105	TC	209	228	249	216	234	254	220	237	259	225	240	262	230	242	263
	SHC	189	159	126	206	171	134	217	183	140	225	195	148	230	205	154
	kW	20.9	21.5	22.3	21.2	21.8	22.5	21.4	22.0	22.7	21.6	22.1	22.9	21.8	22.2	23.0
115	TC	200	217	237	205	222	241	211	225	244	216	227	248	221	229	249
	SHC	185	154	122	199	166	129	209	178	136	216	189	143	221	200	150
	kW	22.5	23.1	23.8	22.7	23.3	24.0	22.9	23.4	24.2	23.2	23.6	24.4	23.4	23.7	24.4
120	TC	194	211	230	199	216	234	205	218	237	210	220	240	214	222	241
	SHC	183	152	121	195	164	126	204	175	134	210	186	141	214	196	148
	kW	23.2	23.8	24.6	23.5	24.0	—	23.7	24.2	—	23.9	24.4	—	24.1	24.4	—

580F300 (25 TONS)

Temp (F) Air Entering Condenser (Edb)		Air Entering Evaporator — Cfm/BF																			
		7,000/0.05				8,000/0.06				9,000/0.07				10,000/0.08				11,250/0.09			
		Air Entering Evaporator — Ewb (F)																			
		57	62	67	72	57	62	67	72	57	62	67	72	57	62	67	72	57	62	67	72
75	TC	256	271	299	327	267	278	305	336	276	283	309	341	285	286	313	344	294	294	316	347
	SHC	256	232	196	159	267	249	208	166	276	265	220	173	285	281	232	182	294	294	252	198
	kW	18.0	18.3	18.9	19.6	18.3	18.5	19.1	19.8	18.5	18.7	19.2	19.9	18.7	18.8	19.4	20.1	19.0	19.0	19.5	20.2
85	TC	248	262	288	316	259	267	293	322	267	273	298	328	276	276	302	331	284	285	305	336
	SHC	248	228	192	154	259	244	204	161	267	259	216	169	276	274	228	175	284	284	244	187
	kW	20.0	20.4	20.9	21.5	20.3	20.4	21	21.7	20.6	20.6	21.2	21.9	20.8	20.8	21.3	22	21	21	21.5	22.1
95	TC	241	252	277	303	251	257	281	309	259	262	286	314	266	267	290	317	274	275	293	321
	SHC	241	223	187	149	251	239	198	157	259	254	210	164	266	265	222	171	274	275	238	180
	kW	22.4	22.6	23.1	23.7	22.6	22.7	23.3	23.9	22.8	22.9	23.4	24	23	23	23.5	24.2	23.2	23.2	23.6	24.2
105	TC	233	243	266	289	242	247	270	295	250	252	273	299	256	258	277	303	264	265	280	306
	SHC	233	218	182	145	242	233	194	152	250	248	206	159	256	257	217	166	264	265	232	176
	kW	24.9	25.1	25.6	26.2	25.2	25.3	25.8	26.3	25.4	25.4	25.9	26.5	25.6	25.6	26	26.6	25.8	25.8	26.1	26.7
115	TC	225	232	254	277	234	236	258	281	241	242	261	285	247	247	264	288	254	255	267	291
	SHC	225	214	178	140	234	228	189	148	241	241	201	155	247	247	211	162	253	255	227	171
	kW	27.9	27.9	28.5	29	28	28.1	28.6	29.2	28.2	28.2	28.7	29.2	28.4	28.4	28.8	29.3	28.7	28.7	28.9	29.5
125	TC	216	221	241	263	224	225	245	267	231	231	248	269	237	236	251	273	243	242	253	276
	SHC	216	208	173	136	223	221	184	142	230	231	196	149	236	236	206	157	243	242	221	166
	kW	30.9	31.1	31.6	32	31.2	31.2	31.7	32.2	31.4	31.4	31.7	32.3	31.6	31.6	31.9	32.3	31.7	31.7	31.9	32.5

LEGEND

BF — Bypass Factor
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Compressor Power
SHC — Gross Sensible Capacity (1000 Btuh)
TC — Gross Cooling Capacity (1000 Btuh)

PERFORMANCE DATA (cont)

FAN PERFORMANCE — 580F180-300 UNITS

580F180275*															
Airflow (Cfm)	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
4500	753	1307	1.53	761	1330	1.56	840	1572	1.84	912	1822	2.14	980	2080	2.44
4800	747	1384	1.62	790	1515	1.78	866	1765	2.07	936	2023	2.37	1002	2289	2.68
5100	741	1465	1.72	820	1718	2.01	893	1977	2.32	961	2243	2.63	1280	2516	2.95
5700	810	1911	2.24	882	2182	2.56	950	2459	2.88	1014	2741	3.21	1075	3029	3.55
6000	844	2164	2.54	914	2444	2.87	980	2730	3.20	1042	3021	3.54	1100	3317	3.89
6300	879	2439	2.86	947	2729	3.20	1010	3023	3.55	1070	3322	3.90	1127	3626	4.25
6600	915	2737	3.21	980	3035	3.56	1041	3338	3.91	1099	3645	4.28	1155	3957	4.64
6900	950	3057	3.59	1013	3364	3.95	1072	3675	4.31	1129	3991	4.68	1183	4311	5.06
7200	986	3401	3.99	1047	3717	4.36	1104	4037	4.74	1159	4361	5.11	1211	4689	5.50
7500	1022	3770	4.42	1081	4095	4.80	1136	4423	5.19	1189	4755	5.58	1241	5091	5.97

580F180275* (cont)															
Airflow (Cfm)	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
4500	1044	2345	2.75	1105	2619	3.07	1163	2899	3.40	1218	3187	3.74	1271	3481	4.08
4800	1065	2561	3.00	1124	2841	3.33	1180	3127	3.67	1235	3420	4.01	1287	3720	4.36
5100	1086	2795	3.28	1144	3082	3.61	1199	3375	3.96	1252	3674	4.31	1304	3979	4.67
5700	1132	3324	3.90	1187	3624	4.25	1240	3929	4.61	1291	4241	4.97	1341	4558	5.35
6000	1157	3619	4.24	1210	3925	4.60	1262	4239	4.97	1312	4557	5.34	1361	4880	5.72
6300	1182	3935	4.62	1234	4249	4.98	1285	4569	5.36	1334	4894	5.74	—	—	—
6600	1208	4274	5.01	1259	4595	5.39	1309	4922	5.77	—	—	—	—	—	—
6900	1235	4636	5.44	1285	4964	5.82	—	—	—	—	—	—	—	—	—
7200	1262	5021	5.89	—	—	—	—	—	—	—	—	—	—	—	—
7500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

580F180275* (cont)															
Airflow (Cfm)	Available External Static Pressure (in. wg)														
	2.2			2.4			2.6			2.8			3.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
4500	1322	3781	4.43	1372	4088	4.79	1419	4400	5.16	1466	4719	5.53	1511	5042	5.91
4800	1337	4280	4.72	1386	4337	5.09	1433	4655	5.46	1479	4978	5.84	—	—	—
5100	1353	4290	5.03	1401	4607	5.40	1448	4930	5.78	—	—	—	—	—	—
5700	1388	4881	5.72	—	—	—	—	—	—	—	—	—	—	—	—
6000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Standard low-medium static drive range is 873 to 1021 rpm. Alternate high-static drive range is 1025 to 1200. Other rpms require a field-supplied drive.

Refer to page 221 for general Fan Performance Data notes.

NOTE: Maximum continuous bhp for the standard motor is 6.13. The maximum continuous watts is 5180. Do not adjust motor rpm such that motor maximum bhp and/or watts is exceeded at the maximum operating cfm.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — 580F180-300 UNITS (cont)

580F180360*															
Airflow (Cfm)	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
4500	753	1307	1.53	786	1404	1.65	861	1644	1.93	932	1893	2.22	997	2150	2.52
4800	747	1384	1.62	818	1603	1.88	890	1852	2.17	958	2108	2.47	1022	2373	2.78
5100	775	1571	1.84	850	1822	2.14	920	2079	2.44	986	2344	2.75	1048	2616	3.07
5700	849	2054	2.41	918	2323	2.73	982	2598	3.05	1044	2879	3.38	1102	3166	3.71
6000	886	2329	2.73	952	2607	3.06	1015	2891	3.39	1074	3180	3.73	1130	3474	4.08
6300	924	2628	3.08	987	2915	3.42	1047	3207	3.76	1105	3504	4.11	1160	3807	4.46
6600	962	2951	3.46	1023	3246	3.81	1081	3547	4.16	1136	3853	4.52	1190	4163	4.88
6900	1000	3298	3.87	1059	3603	4.23	1115	3912	4.59	1168	4225	4.96	1220	4543	5.33
7200	1038	3672	4.31	1095	3986	4.67	1149	4303	5.05	1201	4625	5.42	1251	4950	5.81
7500	1077	4072	4.78	1131	4394	5.15	1184	4720	5.54	1234	5050	5.92	—	—	—

580F180360* (cont)															
Airflow (Cfm)	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
4500	1060	2414	2.83	1119	2685	3.15	1175	2964	3.48	1230	3250	3.81	1282	3542	4.15
4800	1082	2644	3.10	1140	2922	3.43	1195	3207	3.76	1248	3498	4.10	1299	3795	4.45
5100	1106	2894	3.39	1163	3178	3.73	1216	3470	4.07	1268	3767	4.42	1319	4071	4.77
5700	1157	3459	4.06	1211	3757	4.41	1262	4061	4.76	1312	4371	5.13	1360	4686	5.50
6000	1184	3774	4.43	1236	4080	4.79	1287	4391	5.15	1335	4707	5.52	1382	5029	5.90
6300	1212	4114	4.83	1263	4427	5.19	1312	4745	5.57	1359	5067	5.94	—	—	—
6600	1241	4478	5.25	1290	4798	5.63	1338	5122	6.01	—	—	—	—	—	—
6900	1270	4866	5.71	—	—	—	—	—	—	—	—	—	—	—	—
7200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

580F180360* (cont)															
Airflow (Cfm)	Available External Static Pressure (in. wg)														
	2.2			2.4			2.6			2.8			3.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
4500	1332	3841	4.50	1381	4145	4.86	1428	4456	5.23	1473	4772	5.60	1518	5095	5.98
4800	1349	4100	4.81	1397	4409	5.17	1443	4725	5.54	1488	5046	5.92	—	—	—
5100	1367	4380	5.14	1414	4695	5.51	1460	5180	5.88	—	—	—	—	—	—
5700	1407	5007	5.87	—	—	—	—	—	—	—	—	—	—	—	—
6000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Standard low-medium static drive range is 873 to 1021 rpm. Alternate high-static drive range is 1025 to 1200. Other rpms require a field-supplied drive.

Refer to page 221 for general Fan Performance Data notes.

NOTE: Maximum continuous bhp for the standard motor is 6.13. The maximum continuous watts is 5180. Do not adjust motor rpm such that motor maximum bhp and/or watts is exceeded at the maximum operating cfm.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — 580F180-300 UNITS (cont)

580F210275 (18 TONS)*

Airflow (Cfm)	Available External Static Pressure (in. wg)																	
	0.2			0.4			0.6			0.8			1.0			1.2		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
5,500	755	2.27	1908	831	2.58	2171	901	2.91	2443	968	3.24	2723	1031	3.58	3009	1091	3.93	3302
6,000	810	2.72	2287	881	3.04	2556	947	3.37	2833	1010	3.71	3116	1070	4.05	3406	1127	4.40	3702
6,500	866	3.22	2710	932	3.55	2985	994	3.88	3266	1054	4.23	3554	1111	4.57	3847	1166	4.93	4146
7,000	923	3.78	3177	985	4.11	3458	1044	4.45	3744	1100	4.80	4036	1155	5.15	4333	1207	5.51	4635
7,500	980	4.39	3690	1038	4.73	3976	1094	5.07	4267	1148	5.43	4564	1200	5.78	4864	1250	6.15	5170
8,000	1038	5.06	4251	1093	5.40	4542	1146	5.75	4838	1197	6.11	5138	1246	6.47	5443	1294	6.84	5752
8,500	1096	5.78	4859	1148	6.13	5156	1198	6.49	5456	1247	6.85	5761	1294	7.22	6070	1340	7.59	6382
9,000	1154	6.56	5517	1204	6.92	5818	1251	7.28	6123	1298	7.65	6432	1343	8.02	6745	1388	8.40	7062
9,500	1213	7.40	6224	1260	7.77	6531	1306	8.13	6840	1350	8.51	7154	1394	8.88	7471	1436	9.26	7791
10,000	1272	8.30	6983	1317	8.67	7294	1360	9.05	7608	1403	9.43	7926	1445	9.81	8247	1486	10.19	8570

580F210275 (18 TONS)* (cont)

Airflow (Cfm)	Available External Static Pressure (in. wg)														
	1.4			1.6			1.8			1.9			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
5,500	1149	4.28	3602	1204	4.65	3907	1258	5.02	4217	1284	5.20	4375	1309	5.39	4533
6,000	1183	4.76	4003	1236	5.13	4310	1288	5.50	4622	1313	5.68	4780	1337	5.87	4939
6,500	1219	5.29	4450	1270	5.66	4759	1320	6.03	5073	1344	6.22	5232	1368	6.41	5391
7,000	1258	5.88	4942	1307	6.25	5253	1355	6.62	5569	1378	6.81	5729	1402	7.00	5890
7,500	1299	6.52	5480	1346	6.89	5794	1392	7.27	6113	1415	7.46	6273	1437	7.65	6435
8,000	1341	7.21	6065	1387	7.59	6383	1392	7.97	6704	1453	8.16	6866	1475	8.36	7300
8,500	1385	7.97	6699	1429	8.35	7019	1472	8.73	7343	1493	8.93	7506	1514	9.12	7670
9,000	1431	8.78	7382	1473	9.15	7705	1515	9.55	8032	1535	9.75	8196	—	—	—
9,500	1478	9.65	8114	1519	10.04	8441	—	—	—	—	—	—	—	—	—
10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Standard low-medium static drive range is 910 to 1095 rpm. Alternate high-static drive range is 1069 to 1287. Other rpms require a field-supplied drive.

Refer to page 221 for general Fan Performance Data notes.

NOTE: Maximum continuous bhp is 5.90. The maximum continuous watts is 5180.

580F210360 (18 TONS)*

Airflow (Cfm)	Available External Static Pressure (in. wg)																	
	0.2			0.4			0.6			0.8			1.0			1.2		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
5,500	795	2.43	2043	866	2.74	2306	934	3.07	2578	998	3.40	2856	1059	3.74	3142	1117	4.08	3434
6,000	854	2.92	2452	921	3.24	2722	984	3.57	3998	1044	3.90	3281	1102	4.25	3570	1158	4.60	3865
6,500	914	3.46	2909	977	3.79	3184	1036	4.12	3465	1093	4.46	3752	1148	4.81	4045	1201	5.16	4343
7,000	975	4.06	3414	1034	4.39	3695	1090	4.73	3981	1144	5.08	4272	1196	5.43	4569	1246	5.79	4870
7,500	1037	4.72	3969	1092	5.06	4255	1145	5.41	4546	1196	5.76	4842	1256	6.12	5142	1294	6.48	5447
8,000	1099	5.44	4575	1150	5.79	4866	1201	6.14	5162	1249	6.50	5462	1297	6.86	5766	1343	7.22	6075
8,500	1161	6.22	5232	1210	6.57	5529	1258	6.93	5829	1304	7.29	6134	1349	7.66	6443	1393	8.03	6755
9,000	1223	7.07	5943	1270	7.43	6245	1315	7.79	6550	1360	8.16	6869	1403	8.53	7171	1445	8.90	7487
9,500	1286	7.98	6708	1331	8.34	7014	1374	8.71	7324	1416	9.08	7638	1457	9.46	7954	1498	9.84	8274
10,000	1349	8.95	7528	1392	9.32	7839	1433	9.70	8154	1473	10.07	8471	—	—	—	—	—	—

580F210360 (18 TONS)* (cont)

Airflow (Cfm)	Available External Static Pressure (in. wg)														
	1.4			1.6			1.8			1.9			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
5,500	1173	4.44	3732	1227	4.80	4036	1279	5.17	4345	1304	5.35	4502	1329	5.54	4629
6,000	1211	4.95	4165	1263	5.32	4471	1313	5.69	4782	1337	5.87	4939	1361	6.06	5097
6,500	1252	5.53	4646	1302	5.89	4954	1350	6.26	5267	1373	6.56	5425	1396	6.64	5584
7,000	1295	6.16	5176	1343	6.52	5487	1389	6.90	5802	1412	7.09	5961	1434	7.28	6121
7,500	1340	6.85	5756	1386	7.22	6070	1431	7.60	6387	1452	7.79	6547	1474	7.98	6709
8,000	1388	7.60	6388	1431	7.97	6704	1474	8.35	7260	1495	8.54	7186	1516	8.74	7348
8,500	1436	8.41	7071	1478	8.79	7390	1520	9.17	7713	1540	9.37	7876	—	—	—
9,000	1486	9.28	7807	1527	9.67	8130	—	—	—	—	—	—	—	—	—
9,500	1538	10.22	8597	—	—	—	—	—	—	—	—	—	—	—	—
10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Standard low-medium static drive range is 910 to 1095 rpm. Alternate high-static drive range is 1069 to 1287. Other rpms require a field-supplied drive.

Refer to page 221 for general Fan Performance Data notes.

NOTE: Maximum continuous bhp is 5.90. The maximum continuous watts is 5180.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — 580F180-300 UNITS (cont)

580F240275 (20 TONS)*

Cfm	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
6,000	824	2607	3.09	894	2844	3.37	961	3085	3.66	1023	3330	3.95	1083	3578	4.24
6,500	881	3030	3.59	947	3266	3.88	1009	3507	4.16	1069	3751	4.45	1126	3998	4.74
7,000	939	3488	4.14	1001	3725	4.42	1060	3965	4.70	1116	4208	4.99	1170	4454	5.28
7,500	998	3982	4.72	1055	4218	5.00	1111	4458	5.29	1165	4701	5.58	1217	4946	5.87
8,000	1056	4512	5.35	1111	4748	5.63	1164	4988	5.92	1215	5230	6.20	1264	5474	6.49
8,500	1116	5077	6.02	1167	5314	6.30	1218	5553	6.59	1266	5795	6.87	1314	6039	7.16
9,000	1175	5678	6.74	1224	5915	7.02	1272	6154	7.30	1319	6395	7.59	1364	6639	7.88
9,500	1235	6315	7.49	1282	6552	7.77	1327	6791	8.06	1372	7033	8.34	1415	7276	8.63
10,000	1295	6988	8.29	1340	7225	8.57	1383	7465	8.86	1426	7706	9.14	1468	7949	9.43

580F240275 (20 TONS)* (cont)

Cfm	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
6,000	1141	3829	4.54	1196	4082	4.84	1249	4337	5.15	1301	4596	5.45	1351	4856	5.76
6,500	1181	4247	5.04	1234	4499	5.34	1285	4753	5.64	1334	5009	5.94	1383	5267	6.25
7,000	1223	4702	5.58	1274	4953	5.88	1323	5205	6.18	1371	5460	6.48	1417	5716	6.78
7,500	1267	5194	6.16	1316	5443	6.46	1363	5694	6.76	1409	5947	7.06	1454	6202	7.36
8,000	1313	5721	6.79	1359	5970	7.08	1405	6220	7.38	1449	6472	7.68	1493	6726	7.98
8,500	1360	6285	7.46	1405	6533	7.75	1449	6783	8.05	1491	7034	8.34	1533	7286	8.64
9,000	1408	6885	8.17	1451	7132	8.46	1494	7381	8.76	1535	7631	9.05	—	—	—
9,500	1458	7521	8.92	1499	7768	9.22	1540	8180	9.51	—	—	—	—	—	—
10,000	1508	8193	9.72	1549	8440	10.01	—	—	—	—	—	—	—	—	—

580F240275 (20 TONS)* (cont)

Cfm	Available External Static Pressure (in. wg)														
	2.2			2.4			2.6			2.8			3.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
6,000	1399	5118	6.07	1446	5381	6.38	1492	5647	6.70	1537	5914	7.02	—	—	—
6,500	1429	5527	6.56	1475	5789	6.87	1520	6052	7.18	—	—	—	—	—	—
7,000	1462	5974	7.09	1507	6234	7.40	1550	6495	7.71	—	—	—	—	—	—
7,500	1498	6459	7.66	1540	6717	7.97	—	—	—	—	—	—	—	—	—
8,000	1535	6981	8.28	—	—	—	—	—	—	—	—	—	—	—	—
8,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Standard low-medium static drive range is 1002 to 1151 rpm. Alternate high-static drive range is 1193 to 1369. Other rpms require a field-supplied drive.

Refer to page 221 for general Fan Performance Data notes.

NOTE: Maximum continuous bhp for the standard motor is 8.70 (for 208/230 and 575-v units) and 9.50 (for 460-v units). The maximum continuous watts is 7915 (for 208/230 and 575-v units) and 8640 (for 460-v units). Do not adjust motor rpm such that motor maximum bhp and/or watts is exceeded at the maximum operating cfm. See Evaporator Fan Motor Performance table for additional information.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — 580F180-300 UNITS (cont)

580F240360 (20 TONS)*

Cfm	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
6,000	868	2752	3.26	934	2987	3.54	997	3227	3.83	1058	3470	4.12	1115	3716	4.41
6,500	929	3201	3.80	991	3436	4.08	1051	3675	4.36	1108	3917	4.65	1162	4163	4.94
7,000	991	3687	4.37	1049	3923	4.65	1105	4161	4.94	1159	4403	5.22	1211	4647	5.51
7,500	1054	4211	5.00	1109	4447	5.28	1161	4686	5.56	1213	4926	5.84	1262	5170	6.13
8,000	1117	4773	5.66	1168	5009	5.94	1218	5247	6.22	1267	5488	6.51	1314	5731	6.80
8,500	1180	5373	6.37	1229	5609	6.65	1277	5847	6.94	1323	6088	7.22	1368	6331	7.51
9,000	1244	6011	7.13	1290	6247	7.41	1335	6485	7.69	1380	6726	7.98	1423	6968	8.27
9,500	1308	6687	7.93	1352	6924	8.21	1395	7162	8.50	1437	7402	8.78	1479	7644	9.07
10,000	1372	7401	8.78	1414	7638	9.06	1455	7876	9.34	1496	8117	9.63	1535	8358	9.92

580F240360 (20 TONS)* (cont)

Cfm	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
6,000	1171	3965	4.70	1224	4216	5.00	1276	4469	5.30	1326	4726	5.61	1374	4983	5.91
6,500	1215	4410	5.23	1266	4659	5.53	1316	4911	5.83	1364	5165	6.13	1411	5421	6.43
7,000	1262	4894	5.81	1311	5142	6.10	1358	5392	6.40	1404	5645	6.70	1449	5899	7.00
7,500	1310	5415	6.42	1357	5663	6.72	1403	5912	7.01	1447	6164	7.31	1490	6416	7.61
8,000	1360	5976	7.09	1405	6222	7.38	1449	6471	7.68	1492	6721	7.97	1533	6973	8.27
8,500	1412	6575	7.80	1455	6821	8.09	1497	7068	8.39	1538	7318	8.68	—	—	—
9,000	1465	7212	8.56	1506	7457	8.85	1547	7705	9.14	—	—	—	—	—	—
9,500	1519	7888	9.36	—	—	—	—	—	—	—	—	—	—	—	—
10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

580F240360 (20 TONS)* (cont)

Cfm	Available External Static Pressure (in. wg)														
	2.2			2.4			2.6			2.8			3.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
6,000	1422	5243	6.22	1468	5505	6.53	1513	5768	6.84	—	—	—	—	—	—
6,500	1456	5679	6.74	1501	5938	7.04	1544	6199	7.35	—	—	—	—	—	—
7,000	1493	6155	7.30	1536	6412	7.61	—	—	—	—	—	—	—	—	—
7,500	1533	6670	7.91	—	—	—	—	—	—	—	—	—	—	—	—
8,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Standard low-medium static drive range is 1002 to 1151 rpm. Alternate high-static drive range is 1193 to 1369. Other rpms require a field-supplied drive.

Refer to page 221 for general Fan Performance Data notes.

NOTE: Maximum continuous bhp for the standard motor is 8.70 (for 208/230 and 575-v units) and 9.50 (for 460-v units). The maximum continuous watts is 7915 (for 208/230 and 575-v units) and 8640 (for 460-v units). Do not adjust motor rpm such that motor maximum bhp and/or watts is exceeded at the maximum operating cfm. See Evaporator Fan Motor Performance table for more information.

PERFORMANCE DATA (cont)\

FAN PERFORMANCE — 580F180-300 UNITS (cont)

580F300275 (25 TONS)*

Airflow (Cfm)	Available External Static Pressure (in. wg)																	
	0.2			0.4			0.6			0.8			1.0			1.2		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
7,000	941	3.35	2,769	1002	3.80	3,140	1061	4.27	3528	1117	4.76	3,934	1171	5.27	4,356	1224	5.80	4,794
7,500	999	4.05	3,348	1057	4.53	3,742	1112	5.02	4152	1166	5.54	4,579	1218	6.07	5,210	1268	6.63	5,478
8,000	1058	4.85	4,007	1113	5.35	4,424	1165	5.87	4856	1216	6.41	5,304	1266	6.97	5,766	1314	7.55	6,243
8,500	1117	5.74	4,750	1169	6.28	5,190	1219	6.83	5645	1268	7.40	6,114	1315	7.98	6,597	1361	8.58	7,094
9,000	1177	6.75	5,583	1226	7.31	6,047	1274	7.89	6524	1320	8.48	7,015	1365	9.09	7,520	1410	9.72	8,037
9,500	1237	7.98	6,511	1284	8.46	6,999	1329	9.07	7499	1374	9.69	8,012	1417	10.33	8,538	1459	10.98	9,076
10,000	1297	9.12	7,450	1342	9.74	8,051	1385	10.37	8574	1428	11.02	9,110	1469	11.68	9,657	1510	12.36	10,217
10,500	1358	10.49	8,674	1400	11.14	9,209	1442	11.80	9755	1483	12.47	10,314	1523	13.16	10,883	—	—	—
11,000	1418	12.00	9,919	1459	12.67	10,478	—	—	—	—	—	—	—	—	—	—	—	—
11,250	1449	12.80	10,585	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

580F300275 (25 TONS)* (cont)

Airflow (Cfm)	Available External Static Pressure (in. wg)								
	1.4			1.6			1.8		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
7,000	1274	6.35	5248	1323	6.92	5,718	1371	5.54	6204
7,500	1316	7.20	6960	1364	7.79	6,437	1410	6.41	6939
8,000	1360	8.14	6734	1406	8.76	7,239	1450	7.40	7759
8,500	1406	9.20	7605	1449	9.83	8,129	1492	8.48	8666
9,000	1453	10.36	8568	1495	11.02	9,111	1536	9.69	9667
9,500	1501	11.64	9627	1541	12.32	10,190	—	—	—
10,000	—	—	—	—	—	—	—	—	—
10,500	—	—	—	—	—	—	—	—	—
11,000	—	—	—	—	—	—	—	—	—
11,250	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Standard low-medium static drive range is 1066 to 1283 rpm. Alternate high-static drive range is 1332 to 1550. Other rpms require a field-supplied drive.

Refer to this page for general Fan Performance Data notes.

NOTE: Maximum continuous bhp is 10.20 (208/230 and 575 v) or 11.80 (460 v) and the maximum continuous watts are 9510 (208/230 and 575 v) or 11,000 (460 v). Do not adjust motor rpm such that motor maximum bhp and/or watts is exceeded at the maximum operating cfm. See Evaporator Fan Motor Performance table for more information.

580F300360 (25 TONS)*

Airflow (Cfm)	Available External Static Pressure (in. wg)																	
	0.2			0.4			0.6			0.8			1.0			1.2		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
7,000	992	4.05	3,348	1051	4.44	3,668	1106	4.83	3995	1160	5.24	4331	1212	5.65	4675	1262	6.08	5026
7,500	1055	4.77	3,947	1110	5.17	4,277	1162	5.58	4615	1214	6.00	4960	1263	6.43	5312	1311	6.86	5672
8,000	1118	5.58	4,610	1170	5.99	4,950	1220	6.41	5298	1268	6.84	5653	1315	7.27	6014	1361	7.72	6382
8,500	1182	6.46	5,339	1231	6.88	5,690	1278	7.31	6047	1324	7.75	6411	1369	8.20	6782	1413	8.66	7158
9,000	1246	7.42	6,136	1292	7.86	6,498	1337	8.30	6865	1381	8.75	7239	1424	9.21	7618	1466	9.68	8003
9,500	1310	8.47	7,005	1354	8.92	7,377	1397	9.38	7754	1439	9.84	8137	1480	10.31	8525	1520	10.79	8918
10,000	1374	9.61	7,947	1416	10.07	8,329	1457	10.54	8715	1497	11.02	9107	1537	11.50	9504	—	—	—
10,500	1439	10.84	8,964	1479	11.32	9,356	1518	11.79	9752	—	—	—	—	—	—	—	—	—
11,000	1503	12.17	10,059	1542	12.65	10,460	—	—	—	—	—	—	—	—	—	—	—	—
11,250	1536	12.86	10,636	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

580F300360 (25 TONS)* (cont)

Airflow (Cfm)	Available External Static Pressure (in. wg)								
	1.4			1.6			1.8		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
7,000	1311	6.51	5385	1359	6.96	5751	1405	6.00	6124
7,500	1358	7.30	6039	1403	7.76	6412	1448	6.84	6792
8,000	1406	8.17	6767	1560	8.63	7137	1492	7.75	7524
8,500	1456	9.12	7541	1498	9.59	7929	1539	8.75	8323
9,000	1507	10.15	8393	1548	10.63	8790	—	—	—
9,500	—	—	—	—	—	—	—	—	—
10,000	—	—	—	—	—	—	—	—	—
10,500	—	—	—	—	—	—	—	—	—
11,000	—	—	—	—	—	—	—	—	—
11,250	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

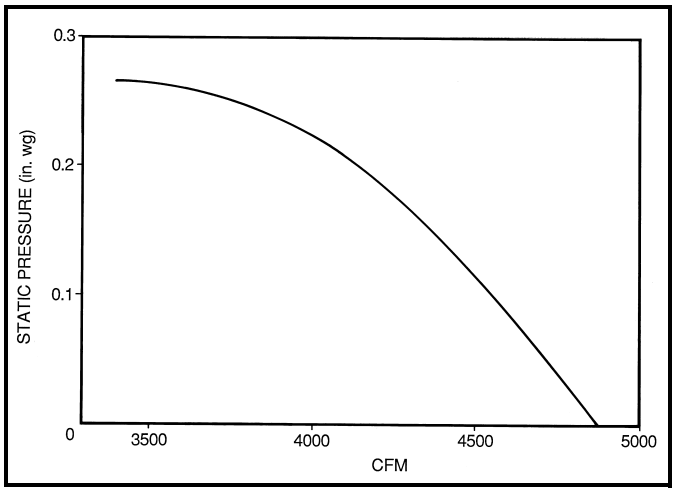
*Standard low-medium static drive range is 1066 to 1283 rpm. Alternate high-static drive range is 1332 to 1550. Other rpms require a field-supplied drive.

Refer to this page for general Fan Performance Data notes.

NOTE: Maximum continuous bhp is 10.20 (208/230 and 575 v) or 11.80 (460 v) and the maximum continuous watts are 9510 (208/230 and 575 v) or 11,000 (460 v). Do not adjust motor rpm such that motor maximum bhp and/or watts is exceeded at the maximum operating cfm. See Evaporator Fan Motor Performance table for more information.

GENERAL NOTES FOR FAN PERFORMANCE DATA TABLES

1. Static pressure losses (i.e., EconoMi$er IV) must be added to external static pressure before entering Fan Performance table.
2. Interpolation is permissible. Do not extrapolate.
3. Fan performance is based on wet coils, clean filters, and casing losses. See Accessory/FIOP Static Pressure table on page 223.
4. Extensive motor and drive testing on these units ensures that the full horsepower and watts range of the motor can be utilized with confidence. Using fan motors up to the watts or bhp rating shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected.
5. Use of a field-supplied motor may affect wire size. Contact your Bryant representative for details.



Fan Performance Using Accessory Power Exhaust (580F180-300)

ALTITUDE COMPENSATION* — 580F180-300

ELEVATION (ft)	NATURAL GAS ORIFICE SIZE†	
	Low Heat	High Heat
0-3,000	30	29
3,000- 7,000	31	30
7,000- 9,000	32	31
9,000-10,000	33	31
above 10,000	35	32

*Includes a 4% input reduction per each 1,000 feet.
†Orifices available through your Bryant dealer.

ALTITUDE DERATING FACTOR*

ELEVATION (ft)	MAXIMUM HEATING VALUE (Btu/ft³)
0-2,000	1,100
2,001-3,000	1,050
3,001-4,000	1,000
4,001-5,000	950
5,001-6,000	900

*Derating of the unit is not required unless the heating value of the gas exceeds the values listed in the table above, or if the elevation exceeds 6000 ft. Derating conditions must be 4% per thousand ft above 2000 ft. For example, at 4000 ft, if the heating value of the gas exceeds 1000 Btu/ft³, the unit will require a 16% derating. For elevations above 6000 ft, the same formula applies. For example, at 7000 ft, the unit will require a 28% derating of the maximum heating value per the National Fuel Gas Code.

IMPORTANT: Local utility companies may be reducing heat content of gas at altitudes above 2000 ft. If this is being done, changing spuds may not be required.

ALTITUDE COMPENSATION — 580F180-300 (LP Gas Units)

ELEVATION (ft)	LIQUID PROPANE ORIFICE SIZE
	Low Heat and High Heat
0-2,000	36
2,000	37
3,000	38
4,000	38
5,000	39
6,000	40
7,000	41
8,000	41
9,000	42
10,000	43

OUTDOOR SOUND POWER

UNIT 580F	SOUND RATING (60 Hz)	A-WEIGHTED (dB)	OCTAVE BANDS							
			63	125	250	500	1000	2000	4000	8000
180	88 dB	87.6	90.8	88.7	86.4	84.3	83.5	78.4	75.6	66.8
210	88 dB	87.8	90.8	88.7	86.4	84.3	83.5	78.4	75.6	66.8
240	94 dB	94.4	99.7	93.0	93.7	91.8	89.7	85.9	80.7	74.4
300	94 dB	94.1	98.7	92.3	93.8	90.9	89.6	85.9	80.3	74.3

LEGEND

Bels — Sound Levels (1 bel = 10 decibels)

NOTE: Indoor sound power is available in Bryant's Electronic Catalog program (ECAT) for specific operating parameters.

PERFORMANCE DATA (cont)

ACCESSORY/FIOP STATIC PRESSURE (in. wg)* — 580F180-300

COMPONENT	CFM								
	4500	5000	5400	6000	7200	7500	9000	10,000	11,250
EconoMi$er IV and EconoMi$er2	0.040	0.050	0.060	0.070	0.090	0.100	0.110	0.120	0.140

LEGEND

FIOP — Factory-Installed Option

*The static pressure must be added to external static pressure. The sum and the evaporator entering-air cfm should then be used in conjunction with the Fan Performance tables to determine blower rpm and watts.

FAN RPM AT MOTOR PULLEY SETTINGS*

UNIT 580F	MOTOR PULLEY TURNS OPEN												
	0	1/2	1	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	5 1/2	6
180†	††	††	††	††	1021	1002	984	965	947	928	910	891	873
180**	††	††	††	††	1200	1178	1156	1134	1112	1091	1069	1047	1025
210†	††	††	1095	1077	1058	1040	1021	1002	984	965	947	928	910
210**	††	††	1287	1265	1243	1222	1200	1178	1156	1134	1112	1091	1069
240†	††	††	††	††	1151	1132	1114	1095	1077	1058	1040	1021	1002
240**	††	††	††	††	1369	1347	1325	1303	1281	1259	1237	1215	1193
300†	††	††	1283	1269	1247	1225	1203	1182	1160	1138	1116	1095	1066
300**	††	††	††	††	1551	1524	1497	1470	1443	1415	1388	1361	1332

*Approximate fan rpm shown.
†Indicates standard drive package.
**Indicates alternate drive package.
††Due to belt and pulley size, pulley cannot be set to this number of turns open.

EVAPORATOR-FAN MOTOR PERFORMANCE

UNIT 580F	UNIT VOLTAGE	MAXIMUM ACCEPTABLE CONTINUOUS BHP*	MAXIMUM ACCEPTABLE CONTINUOUS BkW*	MAXIMUM ACCEPTABLE OPERATING WATTS	MAXIMUM AMP DRAW
180	208/230	6.13	4.57	5,180	15.8
	460				7.9
	575				6.0
210	208/230	5.90	4.40	5,180	15.8
	460				7.9
	575				6.0
240	208/230	8.70	6.49	7,915	22.0
	460	9.50	7.08	8,640	13.0
	575	8.70	6.49	7,915	10.0
300	208/230	10.20	7.61	9,510	28.0
	460	11.80	8.80	11,000	14.6
	575	10.20	7.61	9,510	13.0

LEGEND

BHP — Brake Horsepower
BkW — Brake Kilowatts

*Extensive motor and electrical testing on these units ensures that the full horsepower (brake kilowatt) range of the motors can be utilized with confidence. Using your fan motors up to the horsepower (brake kilowatt) ratings shown in this table will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected.

NOTE: All indoor-fan motors 5 hp and larger meet the minimum efficiency requirements as established by the Energy Policy Act of 1992 (EPACT) effective October 24, 1997.

EVAPORATOR-FAN MOTOR EFFICIENCY

UNIT 580F	MOTOR EFFICIENCY (%)
5 Hp	87.5
7.5 Hp	88.5
10 Hp	89.5

NOTE: The EPACT (Energy Policy Act of 1992) regulates energy requirements for specific types of indoor fan motors. Motors regulated by EPACT include any general purpose, T-frame (three-digit, 143 and larger), single-speed, foot mounted, polyphase, squirrel cage induction motors of NEMA (National Electrical Manufacturers Association) design A and B, manufactured for use in the United States. Ranging from 1 to 200 Hp, these continuous-duty motors operate on 230 and 460 volt, 60 Hz power. If a motor does not fit into these specifications, the motor does not have to be replaced by an EPACT-compliant energy-efficient motor. Variable-speed motors are exempt from EPACT compliance requirements. Therefore, the indoor-fan motors for these units are exempt from these requirements.

ELECTRICAL DATA

UNIT 580F	NOMINAL VOLTAGE (3 Ph, 60 Hz)	VOLTAGE RANGE		COMPRESSOR						OFM			IFM		POWER EXHAUST		COMBUSTION FAN MOTOR	POWER SUPPLY	
				No. 1		No. 1A		No. 2											
		Min	Max	RLA	LRA	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	Hp	FLA	FLA	LRA	FLA	MCA	MOCP*
180	208/230	187	253	32.1	195	—	—	20.7	156	3	0.5	1.7	5.0	15.8/15.8	—	—	0.57	82/82	110/110
															4.6	18.8	0.57	86/86	110/110
	460	414	508	16.4	95	—	—	10	70	3	0.5	0.8	5.0	7.9	—	—	0.30	41	50
															2.3	6.0	0.30	43	50
	575	518	633	12	80	—	—	8.2	54	3	0.5	0.75	5.0	6.0	—	—	0.57	31	40
															2.1	4.8	0.57	34	40
210	208/230	187	253	30.1	225	—	—	28.8	195	3	0.5	1.7	5.0	15.8/15.8	—	—	0.57	87/87	110/110
															4.6	18.8	0.57	92/92	110/110
	460	414	508	15.5	114	—	—	14.7	95	3	0.5	0.8	5.0	7.9	—	—	0.30	44	50
															2.3	6.0	0.30	47	60
	575	518	632.5	12.1	80	—	—	10.7	80	3	0.5	0.75	5.0	6.0	—	—	0.57	34	40
															2.1	4.8	0.57	36	40
240	208/230	187	253	42	239	—	—	33.6	225	2	1	6.6	7.5	25.0/25.0	—	—	0.57	124/124	150/150
															4.6	18.8	0.57	129/129	150/150
	460	414	508	19.2	125	—	—	17.3	114	2	1	3.3	7.5	13.0	—	—	0.30	61	80
															2.3	6.0	0.30	63	80
	575	518	633	13.8	80.0	—	—	13.5	80.0	2	1.0	3.4	7.5	10.0	—	—	0.57	48	60
															2.1	4.8	0.57	50	60
300	208/230	187.2	253	20.7	156	20.7	156	47.1	245	6	0.5	1.7	10.0	28.0/28.0	—	—	0.57	138/138	175/175
															4.6	18.8	0.57	143/143	150/175
	460	414	508	10	75	10	75	19.6	125	6	0.5	0.8	10.0	14.6	—	—	0.30	64	80
															2.3	6	0.30	66	80
	575	517.5	632.5	8.2	54	8.2	54	15.8	100	6	0.5	0.8	10.0	13.0	—	—	0.57	54	60
															2.1	4.8	0.57	56	70

LEGEND

FLA — Full Load Amps
HACR — Heating, Air Conditioning and Refrigeration
IFM — Indoor (Evaporator) Fan Motor
LRA — Locked Rotor Amps
MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection
NEC — National Electrical Code
OFM — Outdoor (Condenser) Fan Motor
RLA — Rated Load Amps

*Fuse or HACR circuit breaker.

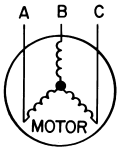
NOTES:

1. In compliance with NEC requirements for multimotor and combination load equipment (refer to NEC Articles 430 and 440), the overcurrent protective device for the unit shall be fuse or HACR breaker. Canadian units may be fuse or circuit breaker.
2. **Unbalanced 3-Phase Supply Voltage**
   Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percent voltage imbalance.

% Voltage Imbalance

$$= 100 \times \frac{\text{max voltage deviation from average voltage}}{\text{average voltage}}$$

EXAMPLE: Supply voltage is 460-3-60.



AB = 452 v
BC = 464 v
AC = 455 v

$$\text{Average Voltage} = \frac{452 + 464 + 455}{3}$$

$$= \frac{1371}{3}$$

$$= 457$$

Determine maximum deviation from average voltage.
(AB) 457 – 452 = 5 v
(BC) 464 – 457 = 7 v
(AC) 457 – 455 = 2 v

Maximum deviation is 7 v.

Determine percent voltage imbalance.

$$\% \text{ Voltage Imbalance} = 100 \times \frac{7}{457}$$

$$= 1.53\%$$

This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

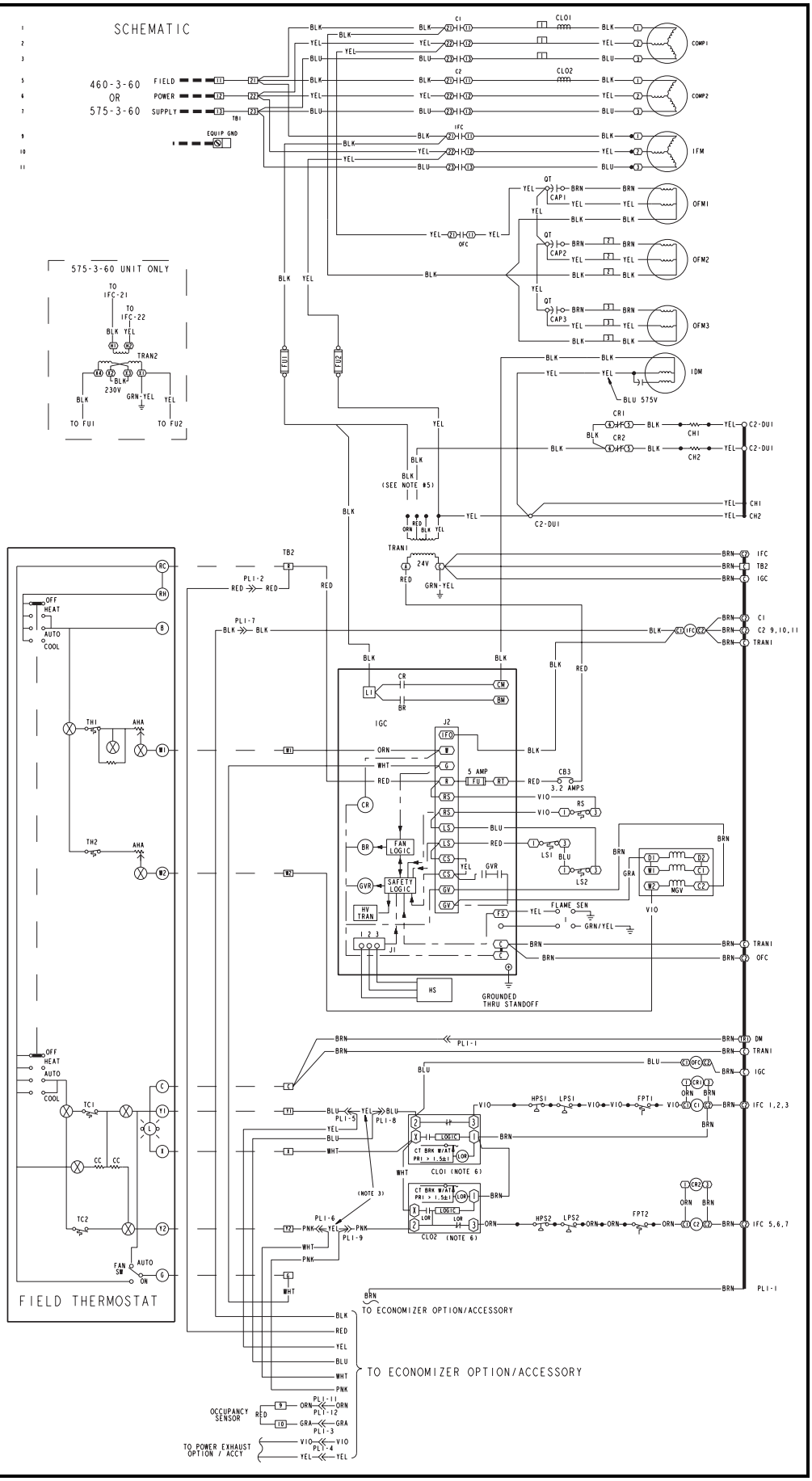
IMPORTANT: If the supply voltage phase imbalance is more than 2%, contact your local electric utility company immediately.

TYPICAL WIRING SCHEMATICS — 580F

LEGEND

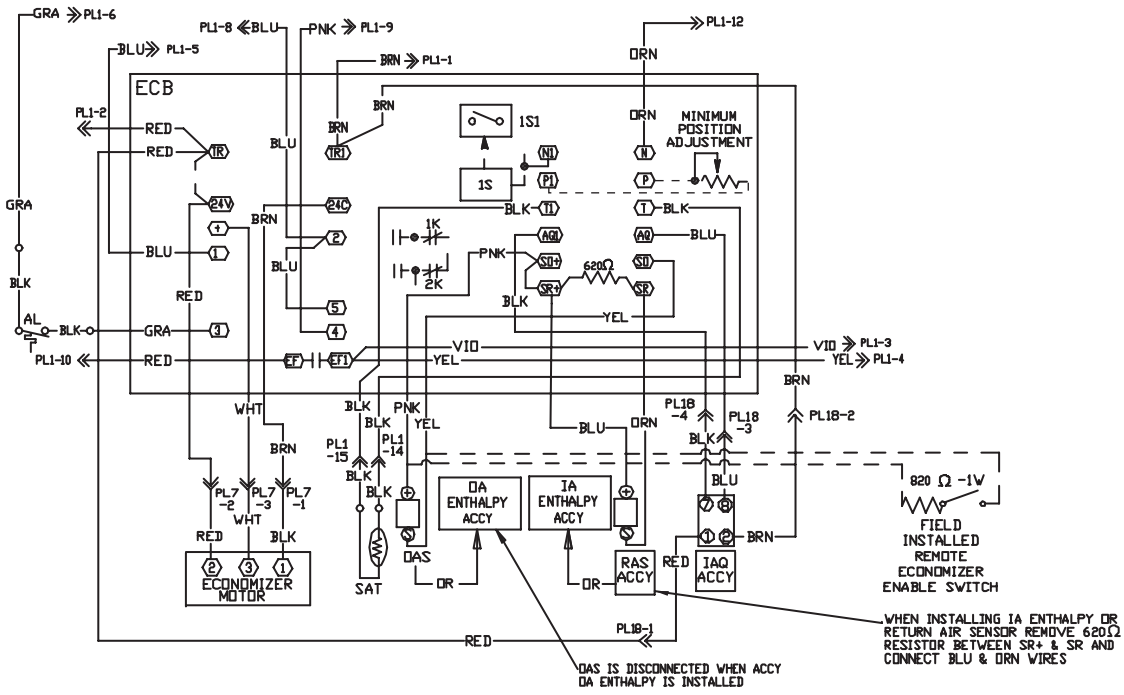
AHA — Adjustable Heat Anticipator
C — Contactor, Compressor
CAP — Capacitor
CB — Circuit Breaker
CC — Cooling Compensator
CH — Crankcase Heater
CLO — Compressor Lockout
COMP — Compressor Motor
CR — Control Relay
DU — Dummy Terminal
EQUIP — Equipment
FPT — Freeze Protection Thermostat
FU — Fuse
GND — Ground
HPS — High-Pressure Switch
HS — Hall Effect Sensor
HV — High Voltage
I — Ignitor
IDM — Induced-Draft Motor
IFC — Indoor-Fan Contactor
IFCB — Indoor-Fan Circuit Breaker
IFM — Indoor-Fan Motor
IGC — Integrated Gas Unit Controller
L — Light
LOR — Lockout Relay
LPS — Low-Pressure Switch
LS — Limit Switch
MGV — Main Gas Valve
OFC — Outdoor-Fan Contactor
OFM — Outdoor-Fan Motor
PL — Plug Assembly
PRI — Primary
QT — Quadruple Terminal
R — Relay
RS — Rollout Switch
SEN — Sensor
SW — Switch
TB — Terminal Block
TC — Thermostat, Cooling
TH — Thermostat, Heating
TRAN — Transformer

Terminal (Marked)
Terminal (Unmarked)
Terminal Block
Splice
Factory Wiring
Field Wiring
Option/Accessory Wiring
To indicate common potential only, not to represent wiring.



Typical Wiring Schematic — 580F180, 460-3-60 Shown

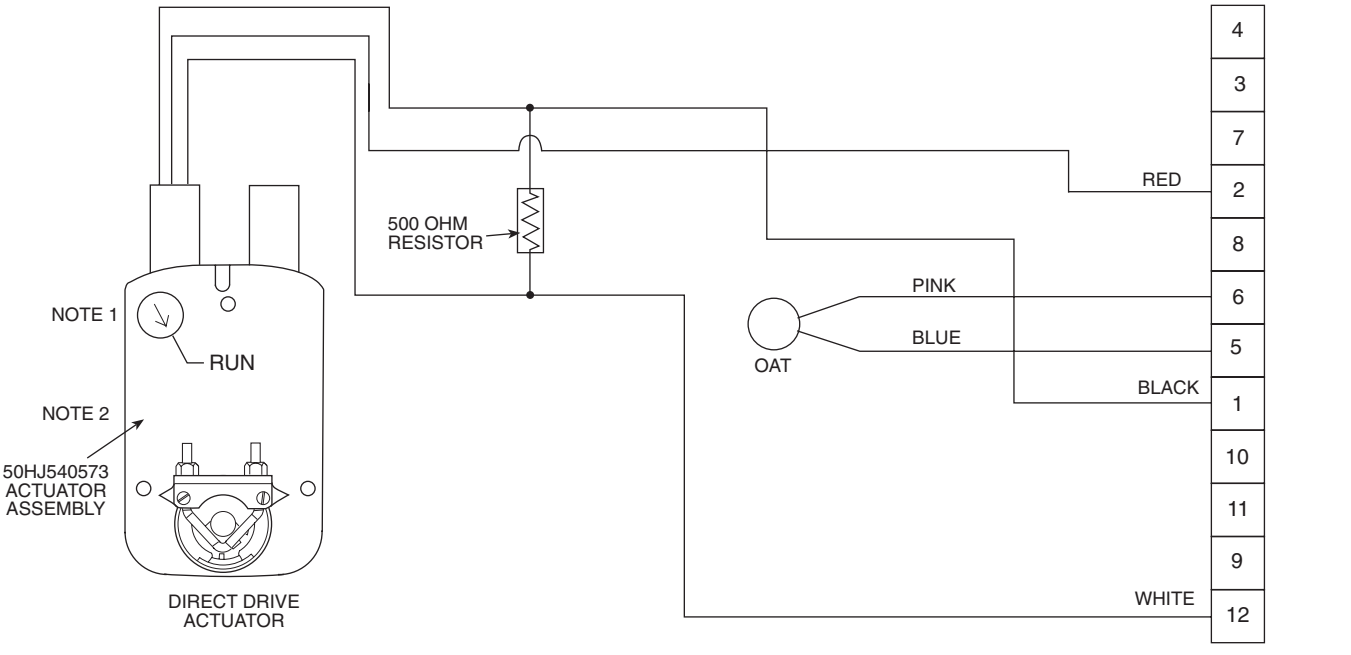
TYPICAL WIRING SCHEMATICS — 580F (cont)



LEGEND

AL — Ambient Limit
ECB — Economizer Control Board
IA — Indoor Air
IAQ — Indoor Air Quality
OA — Outdoor Air
OAS— Outdoor Air Sensor
RAS— Return Air Sensor
SAT — Supply Air Temperature

EconoMi$er IV Wiring — 580F180-300

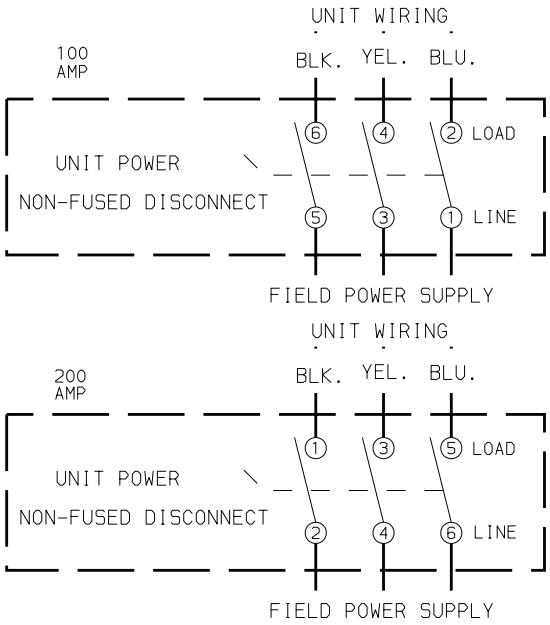


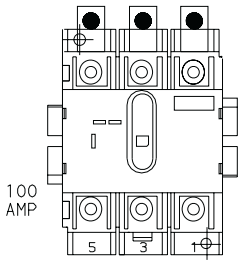
LEGEND

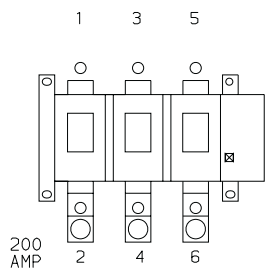
OAT — Outdoor Air Temperature Sensor

NOTES:
1. Switch on actuator must be in run position for economizer to operate.
2. 50HJ540573 actuator consists of the 50HJ540567 actuator and a harness with 500-ohm resistor.

EconoMi$er2 Wiring — 580F180-300



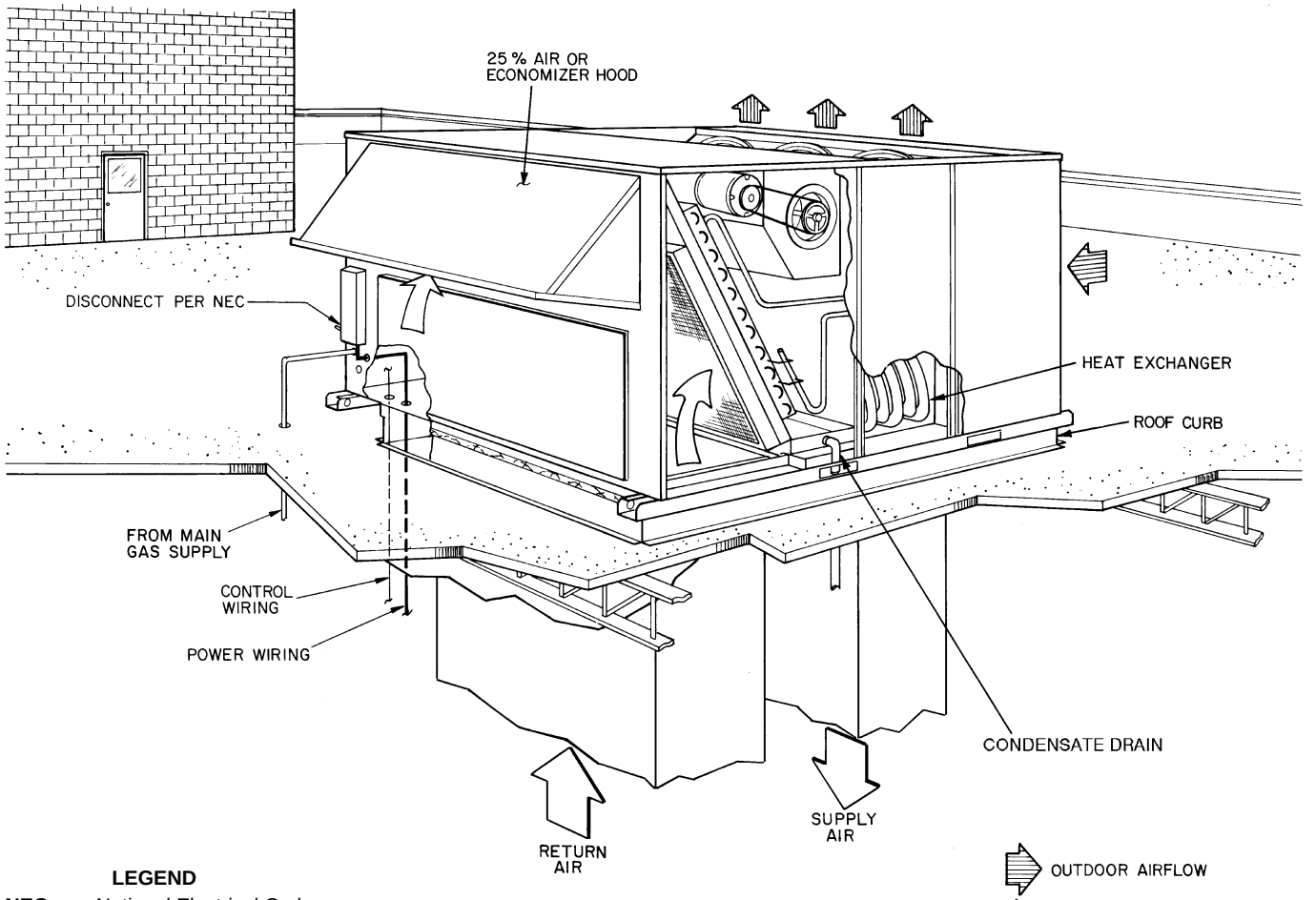




NOTES:
1. If the Non-Fused Disconnect Service Option is ordered for these units, the Non-Fused Disconnect will be factory-installed.
2. The Disconnect takes the place of TB-1 as shown on the unit wiring diagram label and the component arrangement label.

Non-Fused Disconnect (Optional) — 580F180-300

TYPICAL PIPING AND WIRING — 580F180-300



LEGEND

NEC — National Electrical Code

PHYSICAL DATA — 581A155,180

UNIT 581A		155			180		
		208/230	460	575	208/230	460	575
NOMINAL CAPACITY (tons)			12			15	
OPERATING WEIGHT (lb)							
Unit							
Al/Al*			1725			1800	
Al/Cu*			1875			1950	
Cu/Cu*			2005			2080	
EconoMi$er IV			90			90	
EconoMi$er2			85			85	
Roof Curb†			200			200	
Hot Gas Reheat Dehumidification Package			—			40	
COMPRESSOR							
Quantity...Model (Ckt 1, Ckt 2)			2...ZR72KC			1...ZR94KC, 1...ZR72KC	
Number of Refrigerant Circuits			2			2	
Loading (% of full capacity)			0,53,100			0,60,100	
Crankcase Heater Watts			70			70	
Oil (oz) (Ckt 1, Ckt 2)			60,60			85,60	
REFRIGERANT TYPE			R-22				
Expansion Device			TXV				
Operating Charge (lb)							
Circuit 1**			20.7			19.5	
Circuit 2			13.4			13.45	
CONDENSER FAN			Propeller Type				
Nominal Cfm			10,500			10,500	
Quantity...Diameter (in.)			3...22			3...22	
Motor Hp...Rpm			1/2...1050			1/2...1050	
Watts Input (Total)			1100			1100	
CONDENSER COIL			Cross-Hatched 3/8-in. Copper Tubes, Aluminum Lanced, Aluminum Pre-Coated, or Copper Plate Fins				
Rows...Fins/in.			4...15			4...15	
Total Face Area (sq ft)			21.7			21.7	
EVAPORATOR FAN			Centrifugal Type				
Quantity...Size (in.)			2...12 X 12			2...12 x 12	
Type Drive			Belt			Belt	
Nominal Cfm			5200			6000	
Std Motor Hp		2.9		3.0		5	
Opt Motor Hp		3.7		N/A		N/A	
Motor Nominal Rpm			1725			1745	
Std Maximum Continuous Bhp		3.13		3.38		6.13	
Opt Maximum Continuous Bhp		4.26		N/A			
Motor Frame Size			56H			184T	
Fan Rpm Range	Low-Medium Static	895-1147		895-1147		873-1021	
	High Static	1040-1315		N/A		1025-1200	
Motor Bearing Type			Ball			Ball	
Maximum Allowable Rpm			1550			1550	
Motor Pulley Pitch Dia.	Low-Medium Static	3.1/4.1		3.1/4.1		4.9/5.9	
	High Static	3.7/4.7		N/A		4.9/5.9	
Nominal Motor Shaft Diameter (in.)		7/8		7/8		1 1/8	
Fan Pulley Pitch Diameter (in.)	Low-Medium Static	6.0		6.0		9.4	
	High Static	6.0		6.0		8.0	
Nominal Fan Shaft Diameter (in.)		1 3/16		1 3/16		1 7/16	
Belt, Quantity...Type... Length (in.)	Low-Medium Static	1...BX...45		1...BX...45		1...BX...50	
	High Static	1...BX...45		1...BX...45		1...BX...48	
Pulley Center Line Distance (in.)		14.5-16.0		14.5-16.0		13.3-14.8	
Speed Change per Full Turn of Movable							
Pulley Flange (Rpm)	Low-Medium Static	45		45		37	
	High Static	45		N/A		44	
Movable Pulley Maximum							
Full Turns From Closed Position		6		6		4††	
Factory Speed		3.5		3.5		3.5	
Factory Speed Setting (Rpm)	Low-Medium Static	987		987		965	
	High Static	1155		N/A		1134	
EVAPORATOR COIL			Cross-Hatched 3/8-in. Copper Tubes, Aluminum Lanced or Copper Plate Fins, Face Split				
Rows...Fins/in.			4...15			4...15	
Total Face Area (sq ft)			17.5			17.5	
FURNACE SECTION							
Rollout Switch Cutout Temp (F)***			190			190	
Burner Orifice Diameter (in...drill size)							
Natural Gas	Std		0.1285...30/ 0.136...29			0.1285...30/ 0.136...29	
Liquid Propane†††	Alt		0.1065...36/0.1065...36			0.1065...36/0.1065...36	
Thermostat Heat Anticipator Setting							
208/230/460/575 v							
Stage 1 (amps)		0.98	0.8	0.98	0.98	0.8	0.98
Stage 2 (amps)		0.44	0.44	0.44	0.44	0.44	0.44
Gas Input (Btuh) Stage 1			172,000/230,000			206,000/270,000	
Stage 2			225,000/300,000			275,000/360,000	
Efficiency (Steady State) (%)			81			81	
Temperature Rise Range			15-45/30-60			15-45/20-50	
Manifold Pressure (in. wg)							
Natural Gas	Std		3.3			3.3	
Liquid Propane†††	Alt		3.3			3.3	
Gas Valve Quantity			1			1	
Gas Valve Pressure Range (Min-Max Allowable) (in. wg)			5.5-13.5			5.5-13.5	
(psig)			.235-.487			.235-.487	
Field Gas Connection Size (in.-FPT)			3/4			3/4	
HIGH-PRESSURE SWITCH (psig)							
Cutout			426				
Reset (Auto.)			320				
LOW-PRESSURE SWITCH (psig)							
Cutout			27				
Reset (Auto.)			44				
FREEZE PROTECTION THERMOSTAT (F)							
Opens			30 ± 5				
Closes			45 ± 5				
OUTDOOR-AIR INLET SCREENS			Cleanable				
Quantity...Size (in.)			2...20 x 25 x 1 1...20 x 20 x 1				
RETURN-AIR FILTERS			Throwaway				
Quantity...Size (in.)			4...20 x 20 x 2 4...16 x 20 x 2				

LEGEND

Al — Aluminum
Bhp — Brake Horsepower
Cu — Copper
TXV — Thermostatic Expansion Valve

*Evaporator coil fin material/condenser coil fin material.
†Weight of 14-in. roof curb.
**Circuit 1 uses the lower portion of condenser coil and lower portion of evaporator coils, and Circuit 2 uses the upper portion of both coils.
††Due to belt and pulley style, moveable pulley cannot be set to 0 to 1/2 turns open.
***Rollout switch is manual reset.
†††A Liquid Propane kit is available as an accessory. Kit may be used at elevations as high as 2000 ft.

PHYSICAL DATA — 581A210-300

UNIT 581A		210	240	300
NOMINAL CAPACITY (tons)		18	20	25
OPERATING WEIGHT (lb)				
Al/Al		2224	2272	2526
COMPRESSOR				
Quantity		3	3	2
Number of Refrigerant Circuits		3	3	2
Oil (ounces) Ckt A...Ckt B...Ckt C		68...68...90	90...90...90	110...110...NA
REFRIGERANT TYPE				
Expansion Device		TXV	TXV	TXV
Operating Charge (lb)				
Circuit A		13.1	13.8	21.8
Circuit B		12.7	13.9	20.3
Circuit C		15.2	15.5	NA
CONDENSER FAN				
Nominal Cfm (Total, all fans)		14,000	14,000	21,000
Quantity...Diameter (in.)		4...22	4...22	6...22
Motor Hp...Rpm		1/4...1100	1/4...1100	1/4...1100
Watts Input (Total)		1400	1400	2100
CONDENSER COIL				
Rows...Fins/in.		2...17	2...17	2...17
Total Face Area (sq ft)		57.78	57.78	66.67
EVAPORATOR FAN				
Quantity...Size		2...15x11	2...15x11	2...15x11
Type Drive		Belt	Belt	Belt
Nominal Cfm		7000	8000	10,000
Motor Bearing Type		Ball	Ball	Ball
Maximum Allowable Fan Rpm		1400	1400	1400
EVAPORATOR COIL				
Rows...Fins/in.		3...15	4...15	4...15
Total Face Area (sq ft)		23.33	23.33	27.22
FURNACE SECTION				
Rollout Switch Cutout Temp (F)		225	225	225
Burner Orifice Diameter (in. ...drill size)		0.136...29	0.136...29	0.136...29
Gas		Natural	Natural	Natural
Thermostat Heat Anticipator Setting				
Stage 1 (amps)		0.98	0.98	0.98
Stage 2 (amps)		0.44	0.44	0.44
Gas Input (Btuh) HIGH HEAT	Stage 1	317,000	317,000	317,000
	Stage 2	400,000	400,000	400,000
Efficiency (Steady State) %	Vertical	82	82	82
Temperature Rise Range		25-55	25-55	25-55
Gas Input (Btuh) MEDIUM HEAT	Stage 1	281,000	281,000	281,000
	Stage 2	365,000	365,000	365,000
Efficiency (Steady State) %	Vertical	81	81	81
Temperature Rise Range		25-55	25-55	25-55
Gas Input (Btuh) LOW HEAT	Stage 1	199,000	199,000	199,000
	Stage 2	250,000	250,000	250,000
Efficiency (Steady State) %	Vertical	82	82	82
Temperature Rise Range (F)		15-45	15-45	15-45
Manifold Pressure				
Natural Gas (in. wg)	Vertical	3.00	3.00	3.00
Natural Gas (in. wg)	Horizontal	2.95	2.95	2.95
Gas Valve Quantity		1	1	1
Gas Valve Pressure Range	(in. wg)	5.5-13.0	5.5-13.0	5.5-13.0
Min-Max Allowable	(psig)	.235-.469	.235-.469	.235-.469
Field Gas Connection Size (in. FPT)		3/4	3/4	3/4
HIGH-PRESSURE SWITCH (psig)				
Cutout		426	426	426
Reset (Auto)		320	320	320
OUTDOOR-AIR INLET SCREENS				
Quantity...Size (in.)		3...20x25	3...20x25	3...20x25
RETURN-AIR FILTERS				
Quantity...Size (in.)		9...16x25	9...16x25	9...18x24

LEGEND

TXV — Thermostatic Expansion Valve

PHYSICAL DATA (cont)

EVAPORATOR FAN DATA — 581A210-300 VERTICAL SUPPLY/RETURN UNITS

581A	210		240		300	
	203/230 and 460 V	575 V	203/230 and 460 V	575 V	203/230 and 460 V	575 V
LOW RANGE						
Motor Hp	3.7	3	5	5	5	5
Motor Nominal RPM	1725	1725	1745	1745	1745	1745
Maximum Continuous Bhp	4.25	3.45	5.75	5.75	5.75	5.75
Maximum Continuous Watts	3698	3149	4900	4900	4900	4900
Motor Frame Size	56HZ	56HZ	S184T	184T	S184T	184T
Motor Shaft Diameter (in.)	7/8	7/8	1 1/8	1 1/8	1 1/8	1 1/8
Fan Rpm Range	647-886	810-1072	949-1206	949-1206	805-1007	805-1007
Motor Pulley Min. Pitch Diameter (in.)	2.7	3.1	3.7	3.7	4.8	4.8
Motor Pulley Max. Pitch Diameter (in.)	3.7	4.1	4.7	4.7	6.0	6.0
Blower Pulley Pitch Diameter (in.)	7.2	6.6	6.8	6.8	10.4	10.4
Blower Pulley Shaft Diameter (in.)	1.1875	1.1875	1.1875	1.1875	1.1875	1.1875
Blower Pulley Type	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
Pulley Center Line Distance (in.)	11.293-13.544	11.286-14.475	9.81-13.055	9.81-13.055	9.81-13.055	9.81-13.055
Belt, Quantity...Type...Length (in.)	1...BX...38	1...BX...38	1...BX...38	1...BX...38	1...BX...45	1...BX...45
Speed Change Per Turn — Moveable Pulley (rpm)	48	52	51	51	40	40
Moveable Pulley Maximum Full Turns	6	6	6	6	6	6
Factory Speed Setting (rpm)	767	941	1078	1078	906	906
HIGH RANGE						
Motor Hp	5	5	7.5	7.5	7.5	7.5
Motor Nominal Rpm	1745	1745	1745	1745	1745	1745
Maximum Continuous Bhp	5.75	5.75	8.63	8.63	8.63	8.63
Maximum Continuous Watts	4900	4900	7267	7267	7267	7267
Motor Frame Size	S184T	184T	S213T	S213T	S213T	S213T
Motor Shaft Diameter (in.)	1 1/8	1 1/8	1 3/8	1 3/8	1 3/8	1 3/8
Fan Rpm Range	897-1139	873-1108	941-1176	941-1176	941-1176	941-1176
Motor Pulley Min. Pitch Diameter (in.)	3.7	3.7	4.8	4.8	4.8	4.8
Motor Pulley Max. Pitch Diameter (in.)	4.7	4.7	6.0	6.0	6.0	6.0
Blower Pulley Pitch Diameter (in.)	7.2	7.4	8.9	8.9	8.9	8.9
Blower Pulley Shaft Diameter (in.)	1.1875	1.1875	1.1875	1.1875	1.1875	1.1875
Blower Pulley Type	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
Pulley Center Line Distance (in.)	9.81-13.055	9.81-13.055	9.025-12.179	9.025-12.179	9.025-12.179	9.025-12.179
Belt, Quantity...Type...Length (in.)	1...BX...38	1...BX...38	1...BX...42	1...BX...42	1...BX...42	1...BX...42
Speed Change Per Turn — Moveable Pulley (rpm)	48	47	47	47	47	47
Moveable Pulley Maximum Full Turns	6	6	6	6	6	6
Factory Speed Setting (rpm)	1018	991	1059	1059	1059	1059

LEGEND

Bhp — Brake Horsepower

EVAPORATOR FAN DATA — 581A210-300 HORIZONTAL SUPPLY/RETURN UNITS

581A	210		240		300	
	203/230 and 460 V	575 V	203/230 and 460 V	575 V	203/230 and 460 V	575 V
LOW RANGE						
Motor Hp	3.7	3	3.7	5	5	5
Motor Nominal Rpm	1725	1725	1725	1745	1745	1745
Maximum Continuous Bhp	4.25	3.45	4.25	5.75	5.75	5.75
Maximum Continuous Watts	3698	3149	3698	4900	4900	4900
Motor Frame Size	56HZ	56HZ	56HZ	184T	S184T	184T
Motor Shaft Diameter (in.)	7/8	7/8	7/8	1 1/8	1 1/8	1 1/8
Fan Rpm Range	896-1227	863-1141	896-1227	873-1108	805-1007	805-1007
Motor Pulley Min. Pitch Diameter (in.)	2.7	3.1	2.7	3.7	4.8	4.8
Motor Pulley Max. Pitch Diameter (in.)	3.7	4.1	3.7	4.7	6.0	6.0
Blower Pulley Pitch Diameter (in.)	5.2	6.2	5.2	7.4	10.4	10.4
Blower Pulley Shaft Diameter (in.)	1.1875	1.1875	1.1875	1.1875	1.1875	1.1875
Blower Pulley Type	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
Pulley Center Line Distance (in.)	11.293-13.544	11.286-14.475	11.293-13.544	9.81-13.055	9.81-13.055	9.81-13.055
Belt, Quantity...Type...Length (in.)	1...BX...35	1...BX...38	1...BX...35	1...BX...38	1...BX...45	1...BX...45
Speed Change Per Turn — Moveable Pulley (rpm)	66	56	66	47	40	40
Moveable Pulley Maximum Full Turns	6	6	6	6	6	6
Factory Speed Setting (rpm)	1062	1002	1062	991	906	906
HIGH RANGE						
Motor Hp	5	5	5	5	7.5	7.5
Motor Nominal Rpm	1745	1745	1745	1745	1745	1745
Maximum Continuous Bhp	5.75	5.75	5.75	5.75	8.63	8.63
Maximum Continuous Watts	4900	4900	4900	4900	7267	7267
Motor Frame Size	S184T	184T	S184T	184T	S213T	S213T
Motor Shaft Diameter (in.)	1 1/8	1 1/8	1 1/8	1 1/8	1 3/8	1 3/8
Fan Rpm Range	1113-1414	1042-1285	1113-1414	1113-1414	941-1176	941-1176
Motor Pulley Min. Pitch Diameter (in.)	3.7	4.3	3.7	3.7	4.8	4.8
Motor Pulley Max. Pitch Diameter (in.)	4.7	5.3	4.7	4.7	6.0	6.0
Blower Pulley Pitch Diameter (in.)	5.8	7.2	5.8	5.8	8.9	8.9
Blower Pulley Shaft Diameter (in.)	1.1875	1.1875	1.1875	1.1875	1.1875	1.1875
Blower Pulley Type	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
Pulley Center Line Distance (in.)	9.81-13.055	9.81-13.055	9.81-13.055	9.81-13.055	9.025-12.179	9.025-12.179
Belt, Quantity...Type...Length (in.)	1...BX...35	1...BX...38	1...BX...35	1...BX...35	1...BX...42	1...BX...42
Speed Change Per Turn — Moveable Pulley (rpm)	60	48	60	60	47	47
Moveable Pulley Maximum Full Turns	6	6	6	6	6	6
Factory Speed Setting (rpm)	1264	1164	1264	1264	1059	1059

LEGEND

Bhp — Brake Horsepower

PHYSICAL DATA (cont)

OPERATING AND RIGGING WEIGHTS — 581A155,180

UNIT	BASE UNIT OPERATING WEIGHTS*			
	155		180	
	lb	kg	lb	kg
581A	1725	782	1800	816

*Base unit weight does not include electric heaters, copper coils, economizer, power exhaust, barometric relief or crating. See Options and Accessories table below for more information.

NOTE: For 155 and 180 unit sizes add 75 lb (34 kg) for domestic crating. For export crating add 500 lb (227 kg).

OPTIONS AND ACCESSORIES — 581A155,180 (Weight Adders)

OPTION/ ACCESSORY	OPTION/ACCESSORY WEIGHTS			
	48HJ015		48HJ017	
	lb	kg	lb	kg
Barometric Relief Damper	50	23	50	23
Power Exhaust	85	39	85	39
EconoMi$er IV	90	41	90	41
EconoMi$er2	85	39	85	39
Cu Condenser Coil	150	68	150	68
Cu Condenser and Evaporator Coils	280	127	280	127
Roof Curb (14-in. curb)	200	91	200	91
Horizontal Adapter Roof Curb (Preassembled)	250	113	250	113
Horizontal Adapter Roof Curb (Field-assembled)	343	156	343	156
Hail Guard	60	27	60	27
Hot Gas Reheat Dehumidification Package	—	—	40	18

LEGEND

Cu — Copper

OPTIONS AND ACCESSORIES — 581A210-300 (Weight Adders)

OPTION/ ACCESSORY	OPTION/ACCESSORY WEIGHTS					
	581A210		581A240		581A300	
	lb	kg	lb	kg	lb	kg
Barometric Relief Damper	50	23	50	23	50	23
Power Exhaust	125	57	125	57	125	57
Economizer	170	77	170	77	195	88
Cu Condenser Coil	162	73	162	73	202	92
Cu Condenser and Evaporator Coils	316	143	290	132	365	166
5-Cell Gas Heat Assembly	85	39	85	39	85	39
8-Cell Gas Heat Assembly	113	51	113	51	113	51
Roof Curb (14 inch)	210	95	210	95	210	95
Optional Indoor Motor	28	13	28	13	20	9
Two-Position Damper	45	20	45	20	45	20
Hail Guard	85	39	85	39	100	45
Horizontal Airflow	90	41	90	41	90	41
Hot Gas Reheat	70	32	70	32	85	39
CO_2 Sensor	5	2	5	2	5	2
Return Smoke Detector	5	2	5	2	5	2
Supply Smoke Detector	5	2	5	2	5	2
Non-Fused Disconnect	15	7	15	7	15	7
Non-Powered Convenience Outlet	20	9	20	9	20	9
Enthalpy Sensor	2	1	2	1	2	1
Differential Enthalpy Sensor	3	1	3	1	3	1
Drip Edge	5	2	5	2	5	2
Manual Damper	25	11	25	11	25	11

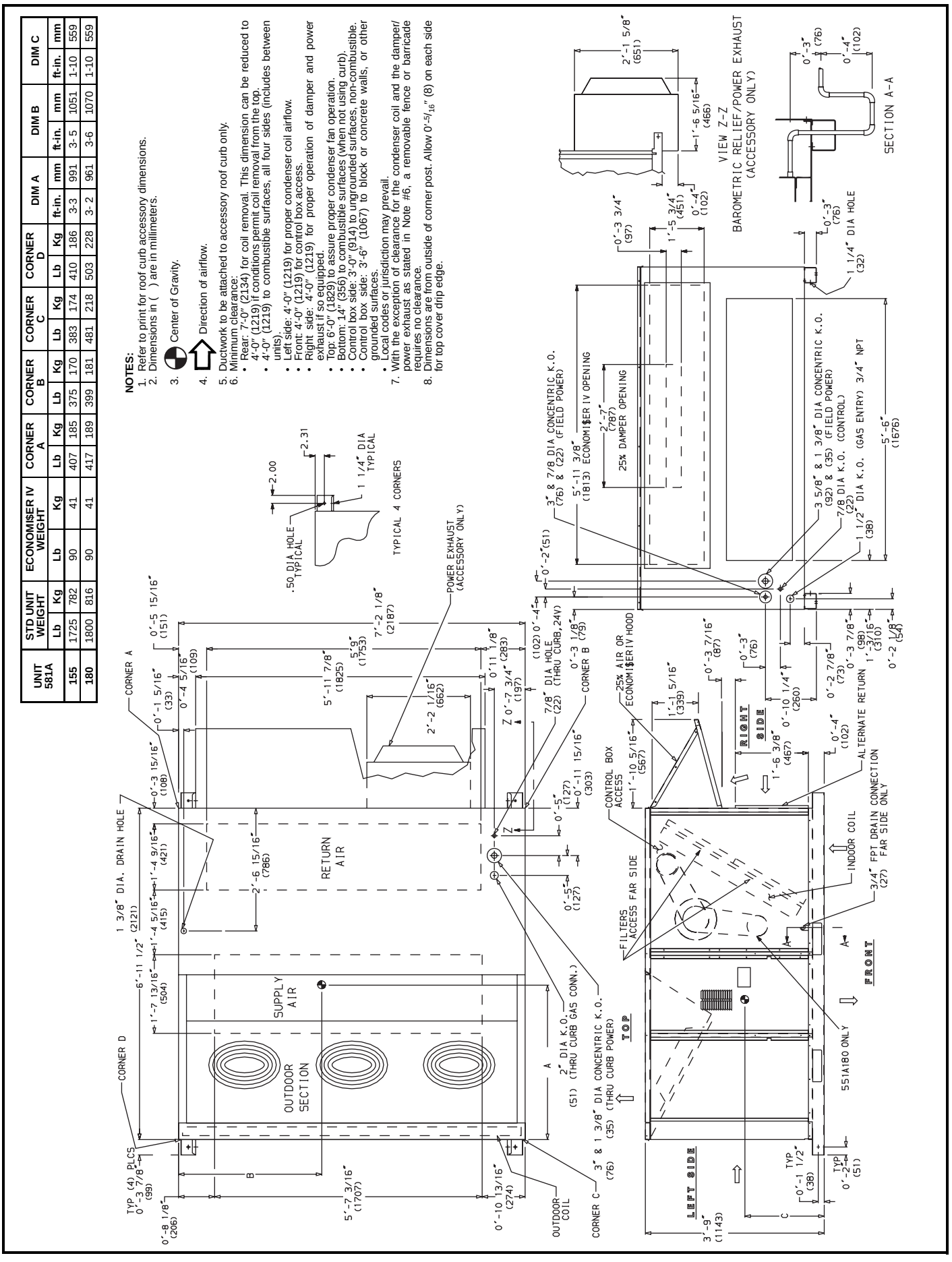
LEGEND

Cu — Copper
HACR — Heating, Air Conditioning and Refrigeration

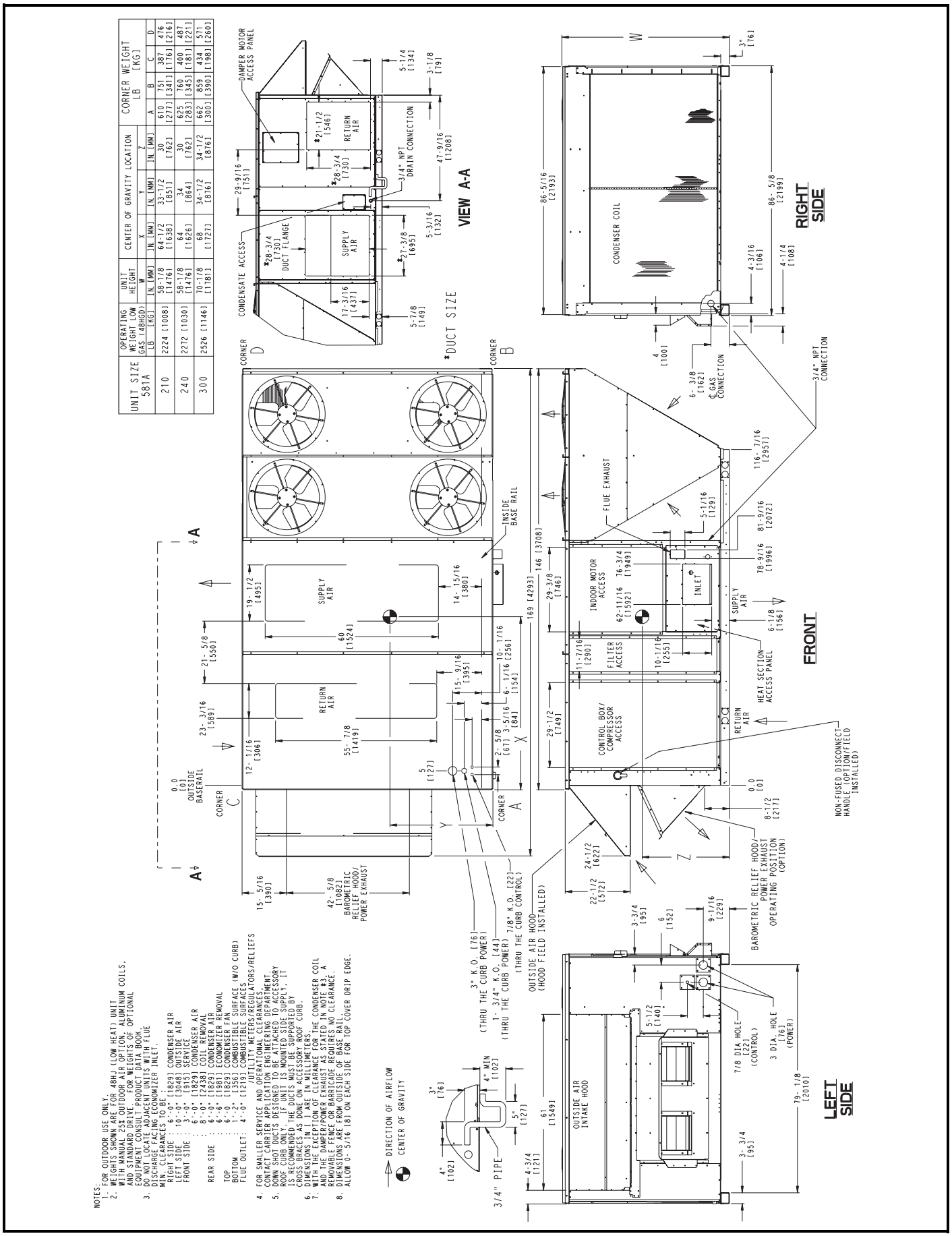
BASE UNIT DIMENSIONS — 581A155,180

UNIT 581A	STD UNIT WEIGHT		ECONOMISER IV WEIGHT		CORNER A		CORNER B		CORNER C		CORNER D		DIM A		DIM B		DIM C	
	Lb	Kg	Lb	Kg	Lb	Kg	Lb	Kg	Lb	Kg	Lb	Kg	ft-in.	mm	ft-in.	mm	ft-in.	mm
155	1725	782	90	41	407	185	375	170	383	174	410	186	3-3	991	3-5	1051	1-10	559
180	1800	816	90	41	417	189	399	181	481	218	503	228	3-2	961	3-6	1070	1-10	559

NOTES:
1. Refer to print for roof curb accessory dimensions.
2. Dimensions in ( ) are in millimeters.
3. Center of Gravity.
4. Direction of airflow.
5. Ductwork to be attached to accessory roof curb only.
6. Minimum clearance:
   - Rear: 7'-0" (2134) for coil removal. This dimension can be reduced to 4'-0" (1219) if conditions permit coil removal from the top.
   - 4'-0" (1219) to combustible surfaces, all four sides (includes between units).
   - Left side: 4'-0" (1219) for proper condenser coil airflow.
   - Front 4'-0" (1219) for control box access.
   - Right side: 4'-0" (1219) for proper operation of damper and power exhaust if so equipped.
   - Top: 6'-0" (1829) to assure proper condenser fan operation.
   - Bottom: 14" (356) to combustible surfaces (when not using curb).
   - Control box side: 3'-0" (914) to ungrounded surfaces, non-combustible.
   - Control box side: 3'-6" (1067) to block or concrete walls, or other grounded surfaces.
   - Local codes or jurisdiction may prevail.
7. With the exception of clearance for the condenser coil and the damper/power exhaust as stated in Note #6, a removable fence or barricade requires no clearance.
8. Dimensions are from outside of corner post. Allow 0'-5/16" (8) on each side for top cover drip edge.



BASE UNIT DIMENSIONS — 581A210-300



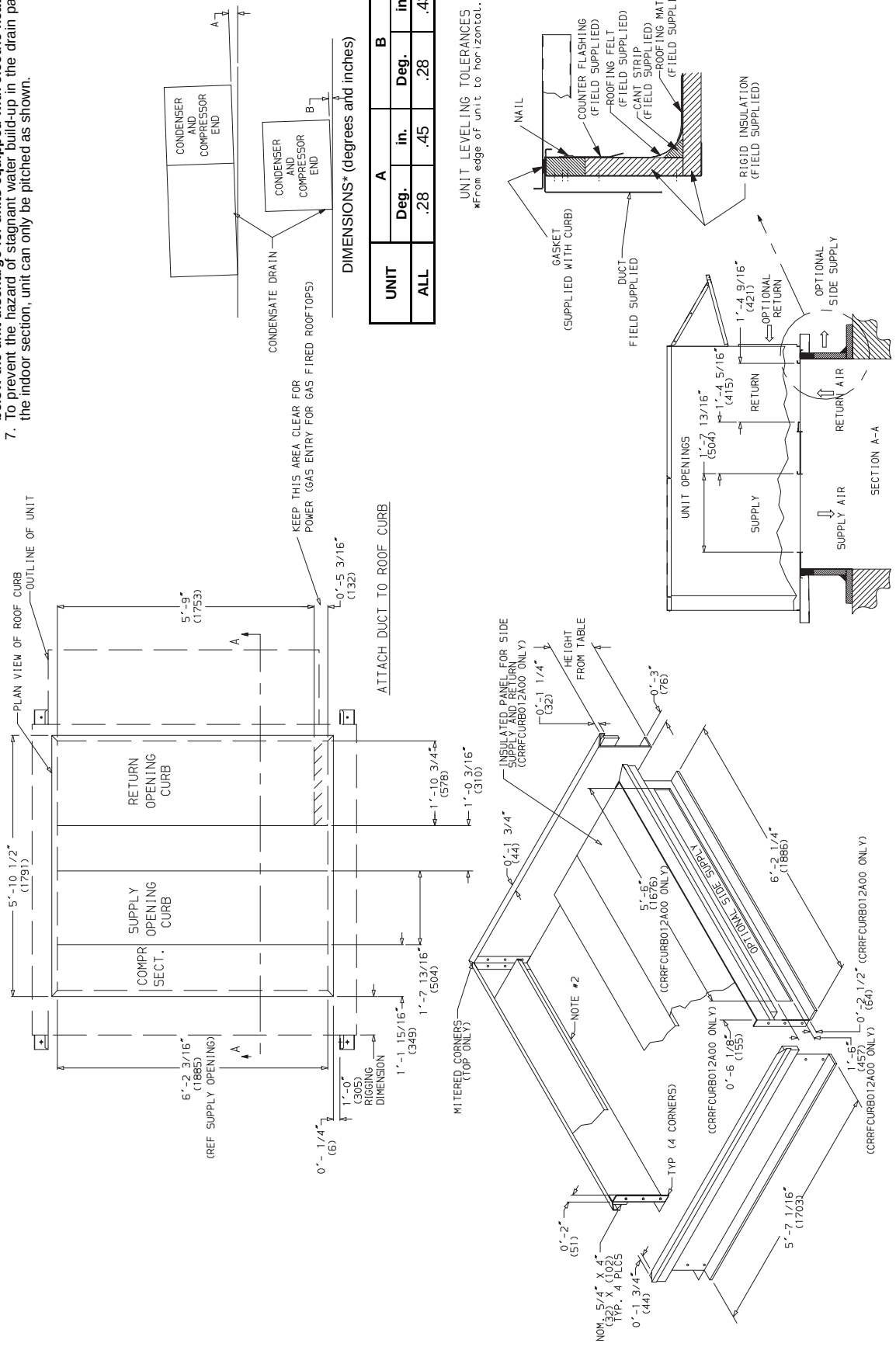
PKG. NO. REF.	CURB HEIGHT	DESCRIPTION
CRRFCURB010A00	1'-2" (305)	Standard Curb 14" High
CRRFCURB011A00	2'-0" (610)	Standard Curb for Units Requiring High Installation
CRRFCURB012A00	2'-0" (610)	Side Supply and Return Curb for High Installation

NOTES:
1. Roof curb accessory is shipped disassembled.
2. Insulated panels: 1" thick neoprene coated $1\frac{1}{2}$ lb density.
3. Dimensions in ( ) are in millimeters.
4. ⇧ Direction of airflow.
5. Roof curb: 16 ga. (VA03-56) stl.
6. **A 90 degree elbow must be installed on the supply ductwork below the unit discharge for units equipped with electric heaters.**
7. To prevent the hazard of stagnant water build-up in the drain pan of the indoor section, unit can only be pitched as shown.

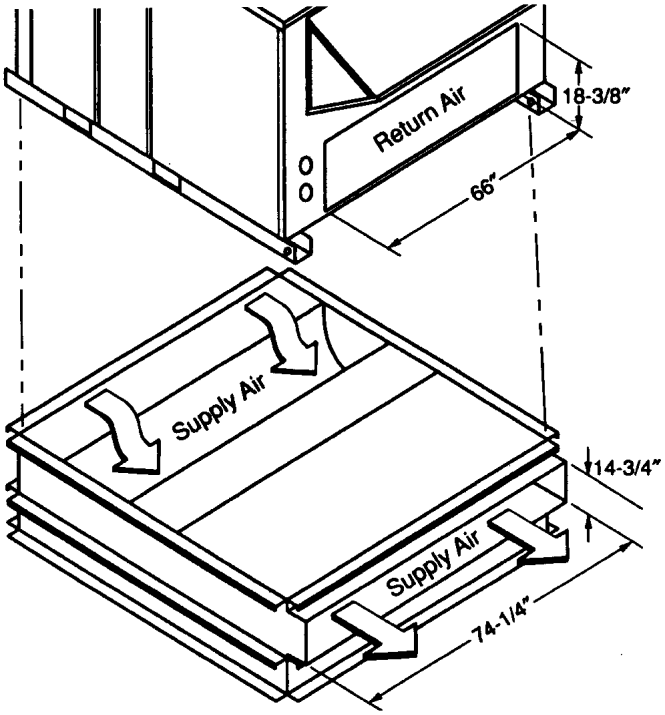
UNIT	A		B	
	Deg.	in.	Deg.	in.
ALL	.28	.45	.28	.43

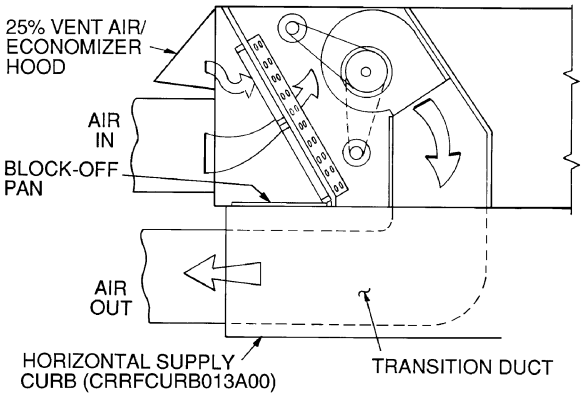
DIMENSIONS* (degrees and inches)

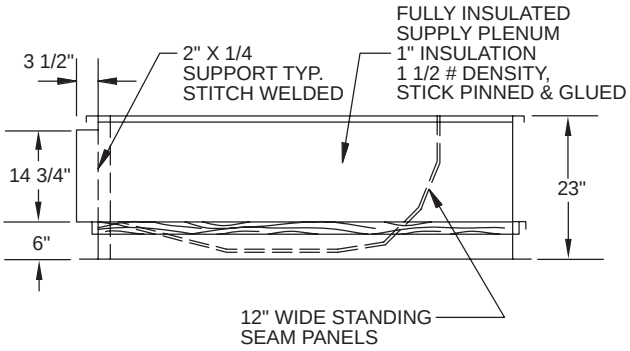
UNIT LEVELING TOLERANCES
*From edge of unit to horizontal.



581A155,180





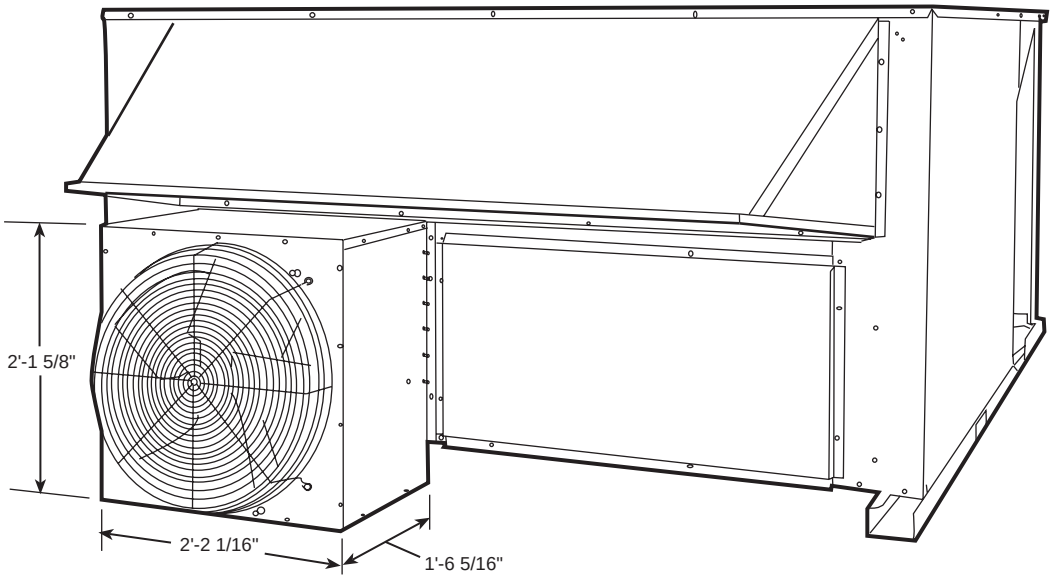


NOTE: CRRFCURB013A00 is a fully factory preassembled horizontal adapter and includes an insulated transition duct. The pressure drop through the adapter curb is negligible.

For horizontal return applications: The power exhaust and barometric relief dampers must be installed in the return air duct.

ACCESSORY PACKAGE NO.	CURB HEIGHT	DESCRIPTION
CRRFCURB013A00	1′-11″ (584)	Pre-Assembled, Horizontal Adapter Roof Curb

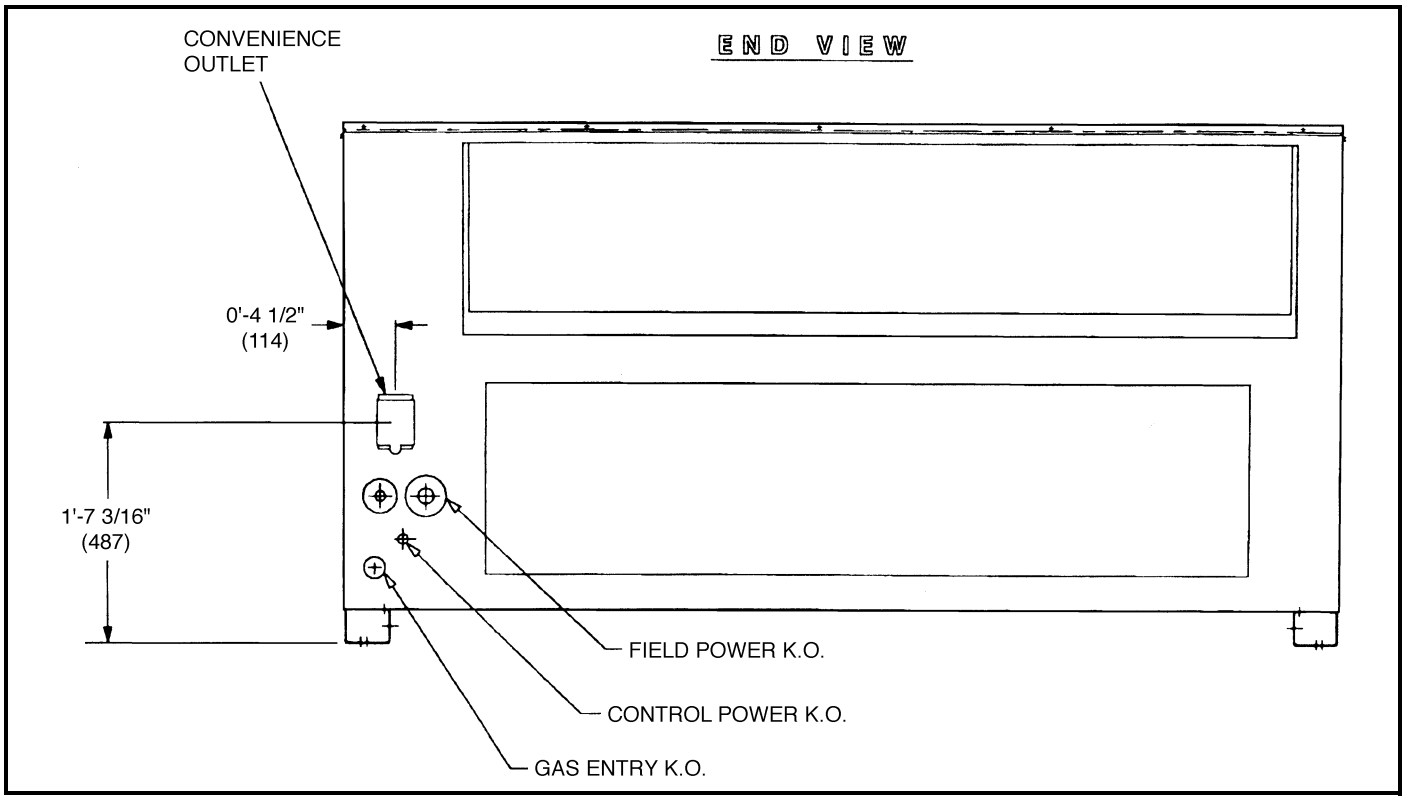
Horizontal Supply/Return Adapter Installation (581A155,180)



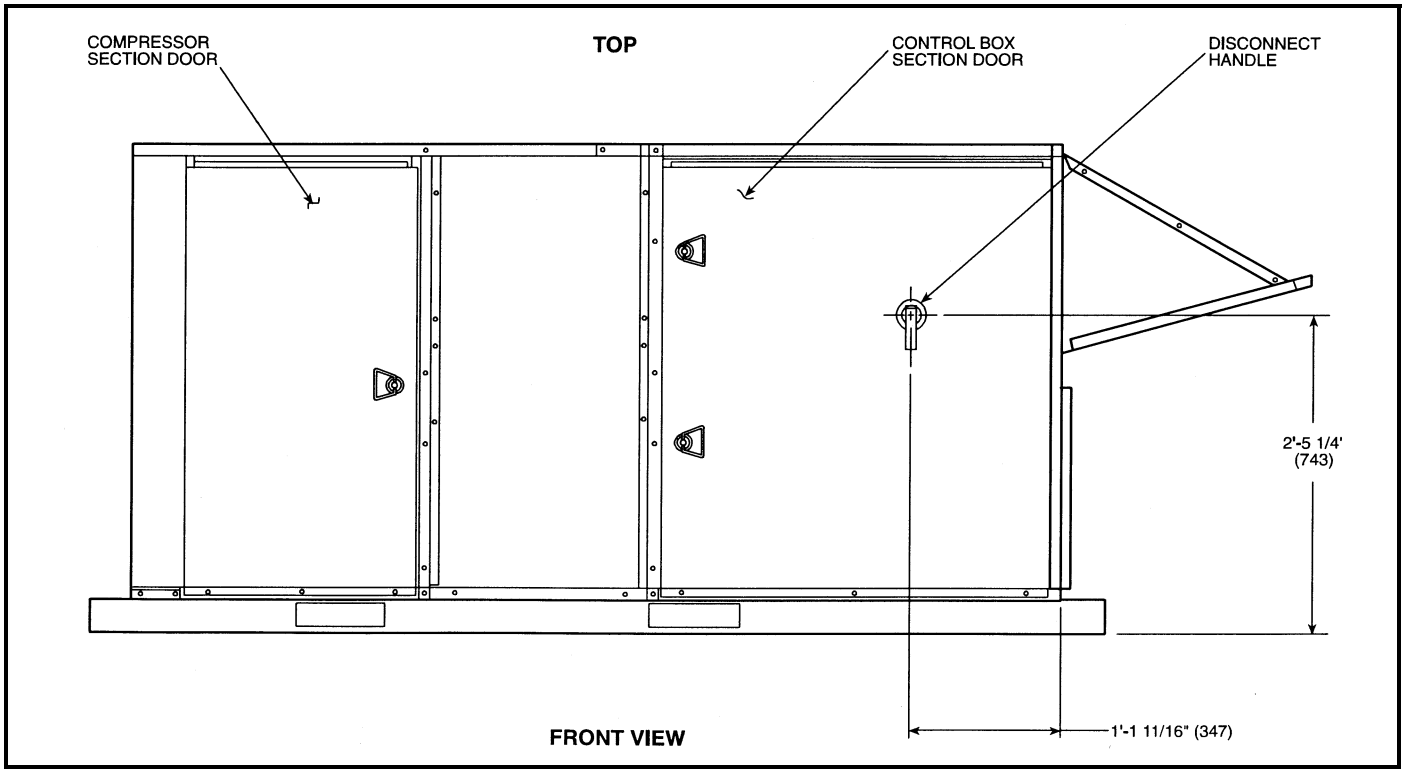
For horizontal return applications: The power exhaust relief must be installed in the return air duct.

Barometric Relief/Power Exhaust

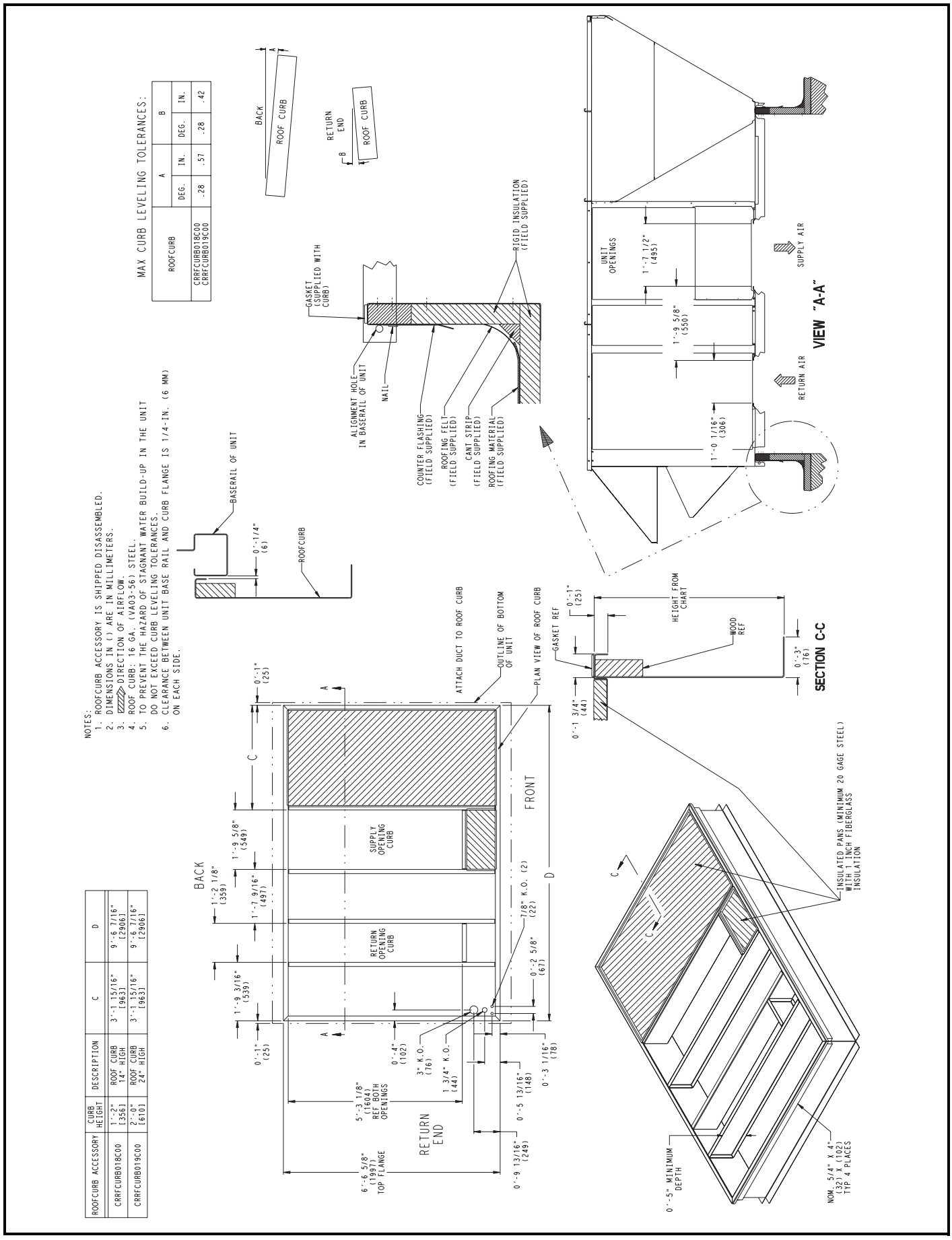
ACCESSORY DIMENSIONS (cont)



Factory-Installed Convenience Outlet



Factory-Installed Non-Fused Disconnect


NOTES:
1. ROOFCURB ACCESSORY IS SHIPPED DISASSEMBLED.
2. DIMENSIONS IN ( ) ARE IN MILLIMETERS.
3. DIRECTION OF AIRFLOW.
4. ROOF CURB: 16 GA. (VA03-56) STEEL.
5. TO PREVENT THE HAZARD OF STAGNANT WATER BUILD-UP IN THE UNIT DO NOT EXCEED CURB LEVELING TOLERANCES:
6. CLEARANCE BETWEEN UNIT BASE RAIL AND CURB FLANGE IS 1/4-IN. (6 MM) ON EACH SIDE.
MAX CURB LEVELING TOLERANCES:
ROOFCURB
A DEG. .28 IN. .57
B DEG. .28 IN. .42
CRRFCURB018C00 CRRFCURB019C00
BACK
ROOF CURB
RETURN END
BASERAIL OF UNIT
ROOFCURB
0'-1/4" (6)
GASKET (SUPPLIED WITH CURB)
ALIGNMENT HOLE IN BASERAIL OF UNIT
NAIL
COUNTER FLASHING (FIELD SUPPLIED)
ROOFING FELT (FIELD SUPPLIED)
CANT STRIP (FIELD SUPPLIED)
ROOFING MATERIAL (FIELD SUPPLIED)
RIGID INSULATION (FIELD SUPPLIED)
UNIT OPENINGS
1'-7 1/2" (495)
1'-9 5/8" (550)
1'-0 1/16" (306)
SUPPLY AIR
RETURN AIR
VIEW "A-A"
ROOFCURB ACCESSORY | CURB HEIGHT | DESCRIPTION | C | D
CRRFCURB018C00 | 1'-2" [356] | ROOF CURB 14" HIGH | 3'-1 15/16" [963] | 9'-6 7/16" [2906]
CRRFCURB019C00 | 2'-0" [610] | ROOF CURB 24" HIGH | 3'-1 15/16" [963] | 9'-6 7/16" [2906]
BACK
1'-2 1/8" (359)
1'-9 5/8" (549)
1'-7 9/16" (497)
1'-9 3/16" (539)
0'-1" (25)
SUPPLY OPENING CURB
RETURN OPENING CURB
5'-3 1/8" (1604) REF BOTH OPENINGS
6'-6 5/8" (1997) TOP FLANGE
RETURN END
0'-4" (102)
3" K.O. (76)
1 3/4" K.O. (44)
0'-5 13/16" (148)
0'-9 13/16" (249)
0'-3 1/16" (78)
7/8" K.O. (2) (22)
0'-2 5/8" (67)
ATTACH DUCT TO ROOF CURB
OUTLINE OF BOTTOM OF UNIT
PLAN VIEW OF ROOF CURB
FRONT
0'-1" (25)
GASKET REF
HEIGHT FROM CHART
WOOD REF
0'-3" (76)
0'-1 3/4" (44)
SECTION C-C
INSULATED PANS (MINIMUM 20 GAGE STEEL) WITH 1 INCH FIBERGLASS INSULATION
0'-5" MINIMUM DEPTH
NOM. 5/4" X 4" (32) X (102) TYP 4 PLACES

SELECTION PROCEDURE

I DETERMINE COOLING AND HEATING REQUIREMENTS AT DESIGN CONDITIONS.

Given:

Required Gross Cooling Capacity (TC) . . . . . 168,000 Btuh
Gross Sensible Heat Capacity (SHC) . . . . . 121,000 Btuh
Required Heating Capacity . . . . . 190,000 Btuh
Condenser Entering Air Temperature . . . . . 95 F Summer
Indoor Air Temperature . . . . . 80 F edb, 67 F ewb
Evaporator Air Quantity . . . . . 6,000 cfm
External Static Pressure . . . . . 1.40 in. wg
Electrical Characteristics (V-Ph-Hz) 230-3-60

II SELECT UNIT BASED ON REQUIRED COOLING CAPACITY.

Enter Cooling Capacities table for 581A180 at condenser entering temperature of 95 F, evaporator air quantity of 6,000 cfm, and indoor air temperature of 67 F. The 581A180 unit will provide a total cooling capacity of 190,000 Btuh and a SHC of 136,000 Btuh. For evaporator air temperatures other than 80 F, calculate SHC correction using formula in notes under cooling capacity tables.

Unit meets design conditions for TC and SHC.

NOTE: Unit ratings are gross capacities and do not include the effect of indoor fan motor heat. To calculate net capacities, see Step V.

III SELECT HEATING CAPACITY OF UNIT TO PROVIDE DESIGN CONDITION REQUIREMENT.

In Heating Capacities and Efficiencies table, note that 581A180275 unit will provide 223,000 Btuh with an input of 275,000 Btuh.

IV DETERMINE FAN SPEED AND POWER REQUIREMENTS AT DESIGN CONDITIONS.

Before entering the Fan Performance tables, calculate the total static pressure required based on unit components. Tabulated fan performance includes filters and wet evaporator coil. Refer to Accessory/FIOP Static Pressure table for added pressure drops.

Calculate pressure drop:

Design External Static Pressure	1.40
EconoMi$er IV	0.07
	1.47 in. wg (ESP)

Enter Fan Performance tables for 581A180 (low heat units) at 6,000 cfm and 1.47 in. wg. The rpm is 1228 and the Bhp is 4.73. The factory-installed 5 hp motor and alternate high-static drive are sufficient for this operation.

V DETERMINE NET COOLING CAPACITIES.

Cooling capacities are gross capacities and do not include indoor (evaporator) fan motor (IFM) heat. To determine input power to the motor, enter the Fan Performance tables for 581A180 (low heat units) at 6,000 cfm and 1.47 in. wg. Input watts to the motor are 4035.

Determine net cooling capacity and net sensible cooling capacity using the following formulas:

IFM Heat = Input Watts x 3.412 Btuh/Watt
= 4035 x 3.412
= 13,767 Btuh

Net Capacity = Gross Capacity – IFM Heat
= 190,000 – 13,767
= 176,233 Btuh

Net Sensible Cap. = Gross Sensible Cap. – IFM Heat
= 136,000 – 13,767
= 122,233 Btuh

The calculations show that a 581A180275 unit is the correct selection for the given conditions.

VI SELECT THE UNIT THAT CORRESPONDS TO POWER SOURCE AVAILABLE.

The electrical data table shows that the 230-3-60 unit is available.

PERFORMANCE DATA

COOLING CAPACITIES — STANDARD UNITS

581A155 (12 Tons)

Temp (F) Air Ent Cond		Evap Air — Cfm/BF																			
		3600/0.01							4375/0.01							5000/0.01						
		Evap Air — Ewb (F)																				
		54	58	62	67	72	76	80	54	58	62	67	72	76	80	54	58	62	67	72	76	80
60	TC	152	156	161	174	189	201	213	161	164	167	180	195	207	218	169	171	172	184	199	211	222
	SHC	152	144	135	114	92.9	75.4	57.5	161	156	150	125	99.6	78.7	57.5	169	166	162	134	105	81.3	57.4
	kW	7.56	7.65	7.74	8.01	8.33	8.6	8.86	7.76	7.82	7.88	8.14	8.46	8.72	8.97	7.92	7.95	7.98	8.24	8.55	8.82	9.06
70	TC	148	152	156	169	183	195	206	157	160	162	174	189	200	211	165	166	167	179	193	204	214
	SHC	148	141	133	112	90.6	73.2	55.4	157	153	148	123	97.3	76.5	55.3	165	162	160	132	103	79.1	55.3
	kW	8.5	8.58	8.67	8.97	9.26	9.53	9.8	8.7	8.75	8.81	9.07	9.39	9.66	9.91	8.86	8.89	8.91	9.16	9.49	9.76	9.99
75	TC	146	150	154	166	181	192	204	155	158	160	172	186	197	208	163	164	164	176	189	201	212
	SHC	146	139	132	111	89.7	72.2	54.6	155	151	146	122	96.2	75.5	54.6	163	161	158	131	101	78.1	54.5
	kW	9.02	9.1	9.18	9.45	9.8	10.1	10.4	9.22	9.27	9.31	9.58	9.91	10.2	10.5	9.39	9.41	9.43	9.68	9.99	10.3	10.6
85	TC	142	145	149	161	175	186	196	151	153	154	166	179	190	200	158	159	159	170	183	194	203
	SHC	142	136	129	109	87.4	70	52.4	151	147	144	119	93.9	73.2	52.3	158	157	155	128	99.1	75.8	52.2
	kW	10.1	10.2	10.3	10.6	10.9	11.2	11.5	10.3	10.4	10.4	10.7	11	11.3	11.6	10.5	10.5	10.5	10.8	11.1	11.4	11.7
95	TC	138	141	143	155	168	179	189	147	148	149	160	173	183	192	153	153	154	164	177	187	195
	SHC	138	133	127	106	85	67.7	50.1	147	144	141	117	91.6	70.9	50	153	153	152	126	96.9	73.5	49.9
	kW	11.4	11.4	11.5	11.8	12.2	12.4	12.7	11.6	11.6	11.6	11.9	12.3	12.6	12.8	11.8	11.8	11.8	12	12.4	12.7	12.9
105	TC	134	136	138	149	162	172	181	141	142	143	153	166	176	184	148	148	148	157	169	179	186
	SHC	134	129	124	104	82.4	65.3	47.7	141	139	137	114	89	68.4	47.5	148	148	148	123	94.3	70.9	47.4
	kW	12.7	12.8	12.8	13.2	13.5	13.8	14.1	12.9	13	13	13.3	13.6	13.9	14.2	13.1	13.1	13.1	13.4	13.7	14	14.3
115	TC	129	130	132	143	155	164	172	136	137	138	146	158	168	175	142	142	142	149	161	171	177
	SHC	129	125	121	101	79.8	62.7	45.1	136	135	133	111	86.3	65.9	45	142	142	142	120	91.6	68.4	45
	kW	14.2	14.2	14.3	14.6	15	15.3	15.6	14.4	14.4	14.5	14.7	15.1	15.5	15.7	14.6	14.6	14.6	14.8	15.2	15.6	15.7
125	TC	124	125	126	136	147	156	163	131	131	132	140	150	159	165	136	136	136	142	153	162	167
	SHC	124	121	118	98.2	77	60.1	42.5	131	130	128	109	83.5	63.2	42.5	136	136	136	117	88.7	65.7	42.4
	kW	15.8	15.8	15.9	16.2	16.6	17	17.2	16.1	16.1	16.1	16.4	16.7	17.1	17.3	16.3	16.2	16.2	16.4	16.8	17.2	17.4

581A155 (12 Tons) (cont)

Temp (F) Air Ent Cond		Evap Air — Cfm/BF													
		5625/0.02							6250/0.02						
		Evap Air — Ewb (F)													
		54	58	62	67	72	76	80	54	58	62	67	72	76	80
60	TC	175	175	176	187	202	214	224	180	180	180	190	204	216	226
	SHC	175	173	171	142	110	83.8	57.3	180	180	180	151	115	86.2	57.2
	kW	8.03	8.05	8.07	8.3	8.61	8.87	9.1	8.14	8.15	8.16	8.36	8.66	8.93	9.14
70	TC	170	171	171	181	195	207	216	175	176	176	184	198	209	218
	SHC	170	169	168	140	108	81.5	55.2	175	176	176	148	113	84	55.1
	kW	8.98	8.99	9.01	9.23	9.55	9.81	10	9.09	9.1	9.11	9.3	9.61	9.87	10.1
75	TC	168	168	169	179	192	203	213	173	173	173	181	195	206	215
	SHC	168	167	166	139	107	80.5	54.4	173	173	173	147	112	83	54.3
	kW	9.5	9.51	9.52	9.75	10.1	10.3	10.6	9.62	9.62	9.62	9.81	10.1	10.4	10.6
85	TC	163	163	164	172	185	196	205	168	168	168	175	188	198	206
	SHC	163	162	162	136	104	78.2	52.2	168	168	168	145	109	80.6	52.1
	kW	10.6	10.6	10.6	10.9	11.2	11.5	11.7	10.7	10.7	10.8	10.9	11.2	11.5	11.8
95	TC	158	158	158	166	178	189	196	162	162	162	168	180	190	197
	SHC	158	157	157	134	102	75.9	49.8	162	162	162	142	107	78.3	49.7
	kW	11.9	11.9	11.9	12.1	12.4	12.7	12.9	12	12	12	12.1	12.5	12.8	13
105	TC	152	152	152	159	171	181	187	157	157	157	161	173	182	188
	SHC	152	152	152	131	99.3	73.3	47.4	157	157	157	139	104	75.7	47.4
	kW	13.2	13.2	13.2	13.4	13.8	14.1	14.3	13.4	13.4	13.4	13.5	13.9	14.2	14.4
115	TC	146	146	146	151	163	172	177	150	150	150	153	165	174	178
	SHC	146	146	146	128	96.6	70.7	44.9	150	150	150	136	102	73.1	44.8
	kW	14.7	14.7	14.7	14.9	15.3	15.6	15.8	14.9	14.9	14.9	14.9	15.4	15.7	15.8
125	TC	140	140	140	144	155	163	167	144	144	144	146	156	164	168
	SHC	140	140	140	125	93.7	67.9	42.4	144	144	144	133	98.7	70.2	42.3
	kW	16.4	16.4	16.4	16.5	16.9	17.2	17.4	16.5	16.5	16.5	16.6	17	17.3	17.4

LEGEND

BF — Bypass Factor
Edb — Entering Dry-Bulb
Ewb — Entering Wet-Bulb
kW — Compressor Motor Power Input
ldb — Leaving Dry-Bulb
lwb — Leaving Wet-Bulb
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil

3. The SHC is based on 80 F edb temperature of air entering evaporator coil. Below 80 F edb, subtract (corr factor x cfm) from SHC. *Above 80 F edb, add (corr factor x cfm) to SHC.*

BYPASS FACTOR (BF)	ENTERING AIR DRY-BULB TEMP (F)					
	79	78	77	76	75	under 75
	81	*82*	*83*	*84*	*85*	*over 85*
	Correction Factor					
.05	1.04	2.07	3.11	4.14	5.18	Use formula shown below.
.10	.98	1.96	2.94	3.92	4.90	
.20	.87	1.74	2.62	3.49	4.36	
.30	.76	1.53	2.29	3.05	3.82	

Interpolation is permissible.
Correction Factor = 1.10 x (1 – BF) x (edb – 80).

4. Use chart below for bypass factor.

CFM	ENTERING WET-BULB (F)						
	54	58	62	67	72	76	80
	Bypass Factor						
3600	0.355	0.158	0.054	0.038	0.049	0.000	0.000
4375	0.439	0.255	0.112	0.043	0.057	0.000	0.000
5000	0.486	0.314	0.126	0.054	0.037	0.000	0.000
5625	0.525	0.360	0.174	0.066	0.073	0.000	0.000
6250	0.551	0.410	0.202	0.080	0.079	0.000	0.000

PERFORMANCE DATA (cont)

COOLING CAPACITIES — STANDARD UNITS (cont)

581A180 (15 Tons)

Temp (F) Air Ent Cond		Evap Air — Cfm/BF																			
		4500/0.01							5250/0.01							6000/0.01						
		Evap Air — Ewb (F)																				
		54	58	62	67	72	76	80	54	58	62	67	72	76	80	54	58	62	67	72	76	80
60	TC	180.5	184.6	188.7	203.5	219.9	233.7	247	189.3	191.7	194.2	208.7	224.1	238	251	198.1	198.8	199.6	212.9	229.3	242	255
	SHC	180.5	172.4	159.4	132.3	104.7	87.9	65.7	189.3	183.2	173.2	142.8	110.4	91	65.5	198.1	195.1	185.1	153.1	116.7	94	65.4
	kW	9.41	9.49	9.58	9.87	10.19	10.47	10.78	9.58	9.63	9.68	9.97	10.29	10.57	10.87	9.75	9.77	9.79	10.07	10.39	10.67	10.95
70	TC	176.7	180.5	184.4	199	215.1	227.8	242	185.3	187.5	189.8	203	219.2	231.8	245	193	194.5	195.1	208.1	224.3	237	248
	SHC	176.7	169	155.8	129.4	102.4	86	63.9	185.3	179.7	169.3	138.9	108	89.1	63.8	193	191.4	181	149.7	114.2	92.2	63.7
	kW	10.5	10.57	10.64	10.96	11.35	11.62	11.95	10.68	10.72	10.76	11.06	11.45	11.72	12.04	10.85	10.87	10.89	11.17	11.55	11.82	12.13
75	TC	174.7	177.5	181	196	213	224.2	238	182.3	184.4	186	201	217	229.2	242	190.9	191.3	189	204	219	233.1	246
	SHC	174.7	167.2	147	124	99	84.9	62.9	182.3	177.9	160	133	105	88	62.8	190.9	189.5	173	143	113	91	62.7
	kW	11.07	11.14	11.2	11.6	12	12.23	12.57	11.25	11.3	11.3	11.7	12.1	12.33	12.66	11.45	11.45	11.4	11.8	12.1	12.44	12.75
85	TC	169.6	172.2	175	190	205	218.1	230.8	177.2	179	180	194	209	221.9	233.3	185.6	185.9	183	198	212	225.7	237
	SHC	169.6	163.3	145	121	97	82.5	60.7	177.2	174.1	157	130	102	85.6	60.5	185.6	184.7	168	139	106	88.6	60.4
	kW	12.29	12.35	12.3	12.7	13.1	13.5	13.86	12.47	12.51	12.5	12.8	13.2	13.61	13.96	12.67	12.68	12.6	12.9	13.3	13.71	14.05
95	TC	164.3	166.5	168	182	197	209.8	221.2	171.7	172.6	172	187	201	213.4	224.6	179.1	179.3	176	190	203	217.1	228
	SHC	164.3	158.9	142	118	93	79.8	57.9	171.7	168.8	154	127	98	82.8	57.9	179.1	178.7	164	136	102	86	57.8
	kW	13.59	13.65	13.5	13.9	14.3	14.85	15.23	13.8	13.82	13.6	14	14.4	14.96	15.32	14	14	13.8	14.1	14.5	15.07	15.43
105	TC	158.1	159.8	161	174	188	200.3	212.4	165.2	166	165	178	191	203.8	214.6	172.3	172.3	169	181	193	207.3	216.8
	SHC	158.1	154.2	138	115	91	76.8	55.2	165.2	163.1	150	124	95	79.9	55.1	172.3	172.2	158	132	98	83	54.9
	kW	14.97	15.02	14.8	15.2	15.6	16.28	16.69	15.19	15.21	14.9	15.3	15.7	16.39	16.77	15.41	15.4	15.1	15.4	15.7	16.5	16.86
115	TC	151.8	152.8	152	165	179	190.6	201.3	158.4	158.8	157	168	180	194	204.5	165	164.9	161	171	181	197.3	206.6
	SHC	151.8	149.1	134	111	87	73.7	52.1	158.4	157	145	120	91	76.7	52.1	165	164.9	151	128	94	79.8	51.9
	kW	16.45	16.48	16.1	16.5	16.9	17.79	18.21	16.68	16.68	16.2	16.6	17	17.91	18.3	16.89	16.88	16.4	16.7	17	18.01	18.39
125	TC	144.7	145.4	146	157.1	170.5	180.7	191.1	150.8	151.1	151.5	160.2	172.9	183.9	192	156.8	156.9	157	163.2	175.4	186.2	193.9
	SHC	144.7	143.5	123.4	102.2	81.16	70.4	48.9	150.8	150.2	135.2	109.6	85.15	73.4	48.8	156.8	156.9	145.6	117.4	89.3	76.4	48.7
	kW	17.96	18.01	18.05	18.49	18.99	19.44	19.85	18.18	18.22	18.25	18.6	19.11	19.5	19.89	18.42	18.44	18.46	18.72	19.14	19.65	19.93

581A180 (15 Tons) (cont)

Temp (F) Air Ent Cond		Evap Air — Cfm/BF													
		6750/0.01							7500/0.02						
		Evap Air — Ewb (F)													
		54	58	62	67	72	76	80	54	58	62	67	72	76	80
60	TC	203.8	204.2	204.6	216.3	231.7	244	257	209.5	209.5	209.6	218.8	235	248	259
	SHC	203.8	201.8	191.2	164.1	124.1	97	65.4	209.5	209.5	196.6	173.7	138.1	100	65.2
	kW	9.88	9.88	9.89	10.13	10.45	10.72	11	9.99	9.99	9.99	10.19	10.51	10.78	11.05
70	TC	199.6	199.8	200.1	210.5	226.5	239	250	205.2	205.1	205.1	213.8	228.8	241	252
	SHC	199.6	197.8	187	159.7	121.3	95.2	63.5	205.2	205.1	192.4	169.8	134.5	98.2	63.5
	kW	10.99	10.99	11	11.24	11.6	11.88	12.18	11.12	11.11	11.11	11.31	11.65	11.94	12.22
75	TC	196.4	196.6	194	206	220	235	247	201.9	201.9	198	208	223	237	249
	SHC	196.4	195.7	181	153	120	94	62.5	201.9	201.9	186	163	163	97.1	62.5
	kW	11.58	11.58	11.6	11.9	12.2	12.5	12.8	11.71	11.7	11.7	11.9	11.9	12.56	12.84
85	TC	191	191.1	188	200	213	227.8	239	196.4	196.4	192	202	214	229.8	241
	SHC	191	190.5	175	148	115	91.6	60.2	196.4	196.4	180	157	119	94.6	60.2
	kW	12.81	12.81	12.7	13	13.3	13.77	14.1	12.96	12.95	12.8	13.1	13.4	13.84	14.13
95	TC	184.4	184.5	181	192	205	219.1	229.7	189.7	189.7	185	194	206	221.1	230.5
	SHC	184.4	184.2	170	144	108	88.9	57.7	189.7	189.7	174	153	113	91.9	57.6
	kW	14.15	14.15	13.9	14.2	14.6	15.14	15.47	14.29	14.29	14	14.3	14.6	15.2	15.51
105	TC	176.7	176.7	173	182	194	209.2	218.5	181.9	181.9	177	184	194	211.1	220.1
	SHC	176.7	176.7	162	140	103	86	54.9	181.9	181.9	166	148	107	88.9	54.7
	kW	15.55	15.55	15.2	15.5	15.8	16.57	16.9	15.7	15.7	15.3	15.5	15.8	16.64	16.94
115	TC	169.5	169.4	166	172	183	198.2	207.1	173.9	173.8	169	174	183	200	208.6
	SHC	169.5	169.4	155	136	98	82.7	51.8	173.9	173.8	158	142	101	85.6	51.7
	kW	17.05	17.04	16.6	16.8	17.1	18.08	18.42	17.2	17.2	16.7	16.9	17.1	18.15	18.45
125	TC	160.9	161.1	161.2	165.6	177.4	187.9	195.4	165.1	165.2	165.4	167.8	179.2	188.6	196
	SHC	160.9	161.1	150.7	125.6	95.04	79.4	48.7	165.1	165.2	155.2	133.2	105.3	82.3	48.6
	kW	18.57	18.59	18.62	18.81	19.18	19.68	20.06	18.72	18.75	18.78	18.91	19.33	19.71	20.09

LEGEND

BF — Bypass Factor
Edb — Entering Dry-Bulb
Ewb — Entering Wet-Bulb
kW — Compressor Motor Power Input
ldb — Leaving Dry-Bulb
lwb — Leaving Wet-Bulb
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil

3. The SHC is based on 80 F edb temperature of air entering evaporator coil. Below 80 F edb, subtract (corr factor x cfm) from SHC. *Above 80 F edb, add (corr factor x cfm) to SHC.*

BYPASS FACTOR (BF)	ENTERING AIR DRY-BULB TEMP (F)					
	79	78	77	76	75	under 75
	81	*82*	*83*	*84*	*85*	*over 85*
	Correction Factor					
.05	1.04	2.07	3.11	4.14	5.18	Use formula shown below.
.10	.98	1.96	2.94	3.92	4.90	
.20	.87	1.74	2.62	3.49	4.36	
.30	.76	1.53	2.29	3.05	3.82	

Interpolation is permissible.
Correction Factor = 1.10 x (1 – BF) x (edb – 80).

4. Use chart below for bypass factor.

CFM	ENTERING WET-BULB (F)						
	54	58	62	67	72	76	80
	Bypass Factor						
4500	0.396	0.193	0.054	0.053	0.067	0.000	0.000
5250	0.455	0.272	0.077	0.065	0.077	0.000	0.000
6000	0.504	0.337	0.121	0.077	0.088	0.000	0.000
6750	0.544	0.390	0.193	0.094	0.100	0.000	0.000
7500	0.578	0.436	0.244	0.108	0.114	0.000	0.000

PERFORMANCE DATA (cont)

COOLING CAPACITIES — STANDARD UNITS (cont)

581A210 (18 Tons)

Temp (F) Air Ent Cond		Evap Air — Cfm/BF																			
		5400/0.05							6300/0.06							7200/0.07						
		Evap Air — Ewb (F)																				
		54	58	62	67	72	76	80	54	58	62	67	72	76	80	54	58	62	67	72	76	80
60	TC	202	206	211	229	248	263	279	212	215	218	235	254	269	285	220	221	223	239	259	273	289
	SHC	202	193	184	155	124	99.3	74.7	212	205	199	166	131	103	74.9	220	216	213	177	138	106	75
	kW	10.2	10.3	10.4	10.6	10.8	11	11.2	10.4	10.4	10.4	10.7	10.9	11.1	11.3	10.5	10.5	10.5	10.7	11	11.2	11.4
70	TC	197	202	206	223	242	256	272	207	209	212	228	247	262	277	215	216	217	233	252	267	282
	SHC	197	189	181	152	122	97	72.5	207	202	196	163	129	101	72.7	215	212	210	174	135	104	72.8
	kW	11.4	11.5	11.5	11.8	12	12.2	12.5	11.6	11.6	11.6	11.9	12.1	12.3	12.6	11.7	11.7	11.7	11.9	12.2	12.4	12.6
75	TC	195	199	203	219	238	253	268	204	206	209	225	244	258	273	212	213	214	229	248	263	277
	SHC	195	187	180	150	120	95.8	71.3	204	199	195	162	127	99.3	71.4	212	210	208	173	134	103	71.5
	kW	12.1	12.2	12.2	12.5	12.7	13	13.2	12.3	12.3	12.3	12.6	12.8	13	13.3	12.4	12.4	12.4	12.6	12.9	13.1	13.3
85	TC	190	193	196	213	231	246	260	199	201	202	218	236	251	264	206	207	208	222	240	255	268
	SHC	190	183	177	148	118	93.4	68.8	199	195	191	159	125	96.9	68.9	206	205	204	170	131	100	69
	kW	13.5	13.5	13.6	13.8	14.1	14.4	14.6	13.6	13.7	13.7	13.9	14.2	14.5	14.7	13.7	13.8	13.8	14	14.3	14.5	14.8
95	TC	184	187	190	205	222	236	250	193	194	195	210	227	241	254	200	200	201	214	231	245	258
	SHC	184	179	173	144	114	90.2	65.9	193	190	187	156	121	93.7	66.1	200	199	199	167	128	97.1	66.2
	kW	15	15	15.1	15.4	15.7	15.9	16.2	15.1	15.2	15.2	15.5	15.8	16	16.3	15.3	15.3	15.3	15.5	15.8	16.1	16.3
105	TC	178	180	182	197	213	228	240	186	187	188	201	217	232	244	193	193	193	205	221	235	247
	SHC	178	173	169	141	111	87.3	62.9	186	184	183	152	118	90.8	63.1	193	193	193	163	124	94.1	63.2
	kW	16.6	16.7	16.7	17	17.3	17.7	17.9	16.8	16.8	16.8	17.1	17.4	17.8	18	16.9	16.9	16.9	17.2	17.5	17.8	18
115	TC	171	172	174	188	203	217	228	179	179	179	192	207	221	232	185	185	185	195	210	224	235
	SHC	171	168	165	137	107	83.6	59.6	179	178	178	149	114	87.1	59.7	185	185	185	159	121	90.4	59.9
	kW	18.4	18.4	18.4	18.8	19.1	19.4	19.7	18.6	18.6	18.6	18.9	19.2	19.5	19.8	18.7	18.7	18.7	19	19.3	19.6	19.9
125	TC	164	165	165	178	192	205	216	171	171	171	182	196	208	219	177	177	177	185	199	211	222
	SHC	164	162	160	134	104	79.8	56.1	171	171	171	145	110	83.2	56.3	177	177	177	155	117	86.5	56.4
	kW	20.2	20.3	20.3	20.6	21	21.3	21.6	20.4	20.4	20.4	20.8	21.1	21.4	21.7	20.6	20.6	20.6	20.8	21.2	21.5	21.8

581A210 (18 Tons) (cont)

Temp (F) Air Ent Cond		Evap Air — Cfm/BF													
		8100/0.08							9000/0.09						
		Evap Air — Ewb (F)													
		54	58	62	67	72	76	80	54	58	62	67	72	76	80
60	TC	227	227	228	243	262	277	293	233	233	233	246	265	280	295
	SHC	227	226	224	187	144	109	75.1	233	233	233	198	151	113	75.1
	kW	10.5	10.6	10.6	10.7	11	11.2	11.4	10.6	10.6	10.6	10.8	11	11.3	11.5
70	TC	222	222	222	236	255	271	284	228	228	227	239	258	272	287
	SHC	222	221	221	185	142	107	72.8	228	228	227	195	148	110	72.9
	kW	11.8	11.8	11.8	12	12.2	12.5	12.7	11.9	11.9	11.8	12	12.3	12.5	12.7
75	TC	219	219	219	232	251	266	280	225	224	224	235	254	268	282
	SHC	219	218	218	183	140	106	71.6	225	224	224	193	147	109	71.7
	kW	12.5	12.5	12.5	12.7	12.9	13.2	13.4	12.6	12.5	12.5	12.7	13	13.2	13.4
85	TC	213	213	213	225	243	258	271	218	218	218	228	245	260	273
	SHC	213	213	213	180	138	103	69.1	218	218	218	190	144	107	69.2
	kW	13.8	13.8	13.8	14.1	14.3	14.6	14.8	13.9	13.9	13.9	14.1	14.4	14.6	14.8
95	TC	206	206	206	217	234	248	260	211	211	211	220	236	250	262
	SHC	206	206	206	177	134	100	66.3	211	211	211	187	141	103	66.4
	kW	15.4	15.4	15.4	15.6	15.9	16.1	16.4	15.5	15.5	15.5	15.6	15.9	16.2	16.4
105	TC	199	199	199	208	224	238	249	203	203	204	210	226	240	251
	SHC	199	199	199	173	131	97.2	63.2	203	203	204	183	137	100	63.4
	kW	17	17.1	17.1	17.3	17.6	17.9	18.1	17.2	17.2	17.2	17.3	17.6	17.9	18.1
115	TC	191	191	191	198	213	226	237	195	195	195	201	215	228	238
	SHC	191	191	191	169	127	93.5	60	195	195	195	179	133	96.6	60
	kW	18.8	18.8	18.8	19	19.3	19.7	19.9	18.9	18.9	18.9	19.1	19.4	19.7	19.9
125	TC	182	182	182	188	201	213	224	186	186	186	190	203	215	225
	SHC	182	182	182	165	123	89.6	56.5	186	186	186	174	129	92.6	56.6
	kW	20.7	20.7	20.7	20.9	21.2	21.6	21.9	20.9	20.9	20.9	21	21.3	21.6	21.9

LEGEND

BF — Bypass Factor
Edb — Entering Dry-Bulb
Ewb — Entering Wet-Bulb
kW — Compressor Motor Power Input
ldb — Leaving Dry-Bulb
lwb — Leaving Wet-Bulb
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil

3. The SHC is based on 80 F edb temperature of air entering evaporator coil. Below 80 F edb, subtract (corr factor x cfm) from SHC. *Above 80 F edb, add (corr factor x cfm) to SHC.*

BYPASS FACTOR (BF)	ENTERING AIR DRY-BULB TEMP (F)					
	79	78	77	76	75	under 75
	81	*82*	*83*	*84*	*85*	*over 85*
	Correction Factor					
.05	1.04	2.07	3.11	4.14	5.18	Use formula shown below.
.10	.98	1.96	2.94	3.92	4.90	
.20	.87	1.74	2.62	3.49	4.36	
.30	.76	1.53	2.29	3.05	3.82	

Interpolation is permissible.
Correction Factor = 1.10 x (1 – BF) x (edb – 80).

4. Use chart below for bypass factor.

CFM	ENTERING WET-BULB (F)						
	54	58	62	67	72	76	80
	Bypass Factor						
5400	0.424	0.238	0.125	0.120	0.138	0.000	0.000
6300	0.478	0.304	0.153	0.132	0.145	0.000	0.000
7200	0.525	0.364	0.190	0.144	0.153	0.000	0.000
8100	0.562	0.414	0.231	0.156	0.162	0.000	0.000
9000	0.594	0.456	0.281	0.168	0.170	0.000	0.000

PERFORMANCE DATA (cont)

COOLING CAPACITIES — STANDARD UNITS (cont)

581A240 (20 Tons)

Temp (F) Air Ent Cond		Evap Air — Cfm/BF																			
		6,000/0.04							7,000/0.05							8,000/0.05						
		Evap Air — Ewb (F)																				
		54	58	62	67	72	76	80	54	58	62	67	72	76	80	54	58	62	67	72	76	80
60	TC	235	242	248	267	288	306	323	247	251	256	274	296	312	330	257	259	262	279	300	317	333
	SHC	235	224	212	178	143	115	86.6	247	238	230	191	151	119	87	257	251	246	204	159	123	86.7
	kW	11.5	11.6	11.7	12	12.4	12.7	13	11.7	11.8	11.8	12.1	12.5	12.8	13.1	11.9	11.9	11.9	12.2	12.6	12.9	13.1
70	TC	231	237	242	261	282	300	316	242	246	250	268	289	305	323	252	254	256	273	293	310	326
	SHC	231	220	209	175	141	113	84.5	242	234	227	189	149	117	84.9	252	247	243	201	156	120	84.6
	kW	13.1	13.2	13.3	13.6	14	14.3	14.6	13.3	13.3	13.4	13.7	14.1	14.4	14.8	13.4	13.5	13.5	13.8	14.2	14.5	14.8
75	TC	228	234	239	257	278	295	311	239	243	246	264	285	301	318	249	250	252	269	290	305	322
	SHC	228	218	208	174	139	112	83.1	239	232	225	187	147	115	83.6	249	245	241	199	155	119	83.5
	kW	13.9	14	14.1	14.5	14.9	15.2	15.6	14.1	14.2	14.2	14.6	15	15.3	15.7	14.3	14.3	14.4	14.7	15.1	15.4	15.8
85	TC	223	227	231	250	270	287	303	234	236	238	256	277	292	310	243	244	245	261	282	296	314
	SHC	223	213	204	171	136	109	80.5	234	227	221	184	144	112	80.9	243	240	236	196	152	116	81.3
	kW	15.6	15.7	15.8	16.2	16.6	17.1	17.4	15.8	15.9	15.9	16.3	16.8	17.2	17.6	16	16.1	16.1	16.5	16.9	17.3	17.7
95	TC	216	219	223	241	260	277	292	226	228	230	247	267	282	298	235	235	236	251	272	285	303
	SHC	216	208	200	167	132	105	77.2	226	221	217	180	141	109	77.7	235	233	231	192	148	112	78
	kW	17.4	17.5	17.6	18.1	18.6	19	19.4	17.7	17.7	17.8	18.2	18.7	19.1	19.6	17.9	17.9	17.9	18.3	18.9	19.2	19.7
105	TC	208	211	214	231	249	265	279	218	219	220	236	256	270	285	226	226	226	241	260	273	290
	SHC	208	202	195	163	129	101	73.6	218	215	212	176	137	105	74	226	226	225	188	145	108	74.4
	kW	19.3	19.4	19.5	20	20.6	21	21.5	19.6	19.6	19.7	20.2	20.8	21.2	21.6	19.9	19.9	19.9	20.3	20.9	21.3	21.8
115	TC	200	202	204	220	237	253	266	209	210	210	225	243	257	271	217	217	217	229	248	260	275
	SHC	200	195	190	158	124	97.2	69.5	209	207	206	171	132	101	70	217	217	217	183	140	104	70.4
	kW	21.3	21.4	21.5	22	22.7	23.2	23.6	21.7	21.7	21.7	22.2	22.9	23.3	23.8	21.9	21.9	21.9	22.4	23	23.4	23.9
125	TC	191	192	193	208	224	239	251	199	199	200	212	230	243	255	207	207	206	216	232	245	257
	SHC	191	188	185	153	120	92.8	65.3	199	199	199	166	128	96.4	65.7	207	207	206	178	135	99.8	65.5
	kW	23.5	23.5	23.6	24.2	24.8	25.4	25.9	23.8	23.8	23.8	24.4	25	25.5	26	24.1	24.1	24.1	24.5	25.1	25.7	26.1

581A240 (20 Tons) (cont)

Temp (F) Air Ent Cond		Evap Air — Cfm/BF													
		9,000/0.06							10,000/0.07						
		Evap Air — Ewb (F)													
		54	58	62	67	72	76	80	54	58	62	67	72	76	80
60	TC	265	266	267	284	305	321	338	272	272	272	287	307	325	340
	SHC	265	262	260	216	166	126	87	272	271	271	227	173	130	86.7
	kW	12	12	12	12.3	12.7	12.9	13.2	12.1	12.1	12.1	12.4	12.7	13	13.3
70	TC	260	261	261	277	298	315	331	266	267	267	281	301	317	333
	SHC	260	258	256	213	164	124	85	266	267	267	225	171	127	84.7
	kW	13.6	13.6	13.6	13.9	14.3	14.6	14.9	13.7	13.7	13.7	14	14.3	14.6	15
75	TC	256	257	258	273	294	310	326	263	263	263	277	296	312	327
	SHC	256	255	254	211	162	123	83.7	263	263	263	223	169	126	83.4
	kW	14.5	14.5	14.5	14.8	15.2	15.5	15.8	14.6	14.6	14.6	14.9	15.2	15.6	15.9
85	TC	250	250	250	265	285	301	316	257	256	256	268	287	303	317
	SHC	250	250	249	208	159	120	81	257	256	256	220	166	123	80.7
	kW	16.2	16.2	16.2	16.5	17	17.4	17.7	16.4	16.4	16.4	16.6	17	17.4	17.7
95	TC	242	242	242	255	274	288	304	248	248	248	258	276	292	306
	SHC	242	242	242	204	155	116	77.8	248	248	248	215	162	120	77.6
	kW	18.1	18.1	18.1	18.4	18.9	19.3	19.7	18.3	18.3	18.2	18.5	19	19.4	19.7
105	TC	233	233	233	244	263	275	291	239	239	239	247	264	279	291
	SHC	233	233	233	200	152	112	74.2	239	239	239	211	158	116	73.9
	kW	20.1	20.1	20.1	20.4	21	21.4	21.8	20.3	20.2	20.2	20.5	21	21.5	21.8
115	TC	223	223	223	232	250	262	276	229	228	228	235	251	263	276
	SHC	223	223	223	195	147	108	70.2	229	228	228	206	154	111	69.9
	kW	22.2	22.1	22.1	22.5	23.1	23.5	24	22.3	22.3	22.3	22.6	23.1	23.6	24
125	TC	213	212	212	219	234	247	258	218	217	217	222	235	248	259
	SHC	213	212	212	189	142	103	65.4	218	217	217	200	148	106	65.2
	kW	24.3	24.3	24.3	24.6	25.2	25.7	26.2	24.5	24.5	24.5	24.7	25.3	25.8	26.2

LEGEND

BF — Bypass Factor
Edb — Entering Dry-Bulb
Ewb — Entering Wet-Bulb
kW — Compressor Motor Power Input
ldb — Leaving Dry-Bulb
lwb — Leaving Wet-Bulb
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil

3. The SHC is based on 80 F edb temperature of air entering evaporator coil. Below 80 F edb, subtract (corr factor x cfm) from SHC. *Above 80 F edb, add (corr factor x cfm) to SHC.*

BYPASS FACTOR (BF)	ENTERING AIR DRY-BULB TEMP (F)					
	79	78	77	76	75	under 75
	81	*82*	*83*	*84*	*85*	*over 85*
	Correction Factor					
.05	1.04	2.07	3.11	4.14	5.18	
.10	.98	1.96	2.94	3.92	4.90	Use formula
.20	.87	1.74	2.62	3.49	4.36	shown below.
.30	.76	1.53	2.29	3.05	3.82	

Interpolation is permissible.
Correction Factor = 1.10 x (1 – BF) x (edb – 80).

4. Use chart below for bypass factor.

CFM	ENTERING WET-BULB (F)						
	54	58	62	67	72	76	80
	Bypass Factor						
6,000	0.386	0.197	0.108	0.109	0.134	0.000	0.000
7,000	0.444	0.260	0.131	0.121	0.138	0.000	0.000
8,000	0.492	0.321	0.163	0.133	0.145	0.000	0.000
9,000	0.532	0.375	0.205	0.146	0.154	0.000	0.000
10,000	0.566	0.420	0.245	0.158	0.164	0.000	0.000

PERFORMANCE DATA (cont)

COOLING CAPACITIES — STANDARD UNITS (cont)

581A300 (25 Tons)

Temp (F) Air Ent Cond		Evap Air — Cfm/BF																				
		7,500/0.05							8,250/0.06							9,500/0.07						
		Evap Air — Ewb (F)																				
		54	58	62	67	72	76	80	54	58	62	67	72	76	80	54	58	62	67	72	76	80
60	TC	287	296	304	331	359	385	408	297	304	310	336	367	390	414	311	315	319	345	375	398	421
	SHC	287	274	261	220	178	145	110	297	285	273	229	185	148	110	311	303	294	246	194	152	111
	kW	15.5	15.7	15.9	16.5	17.3	17.9	18.6	15.7	15.9	16	16.7	17.4	18.1	18.7	16	16.1	16.2	16.9	17.6	18.3	19
70	TC	279	286	293	318	345	367	392	288	293	298	323	350	372	397	301	303	306	329	357	381	403
	SHC	279	267	255	214	173	139	105	288	278	268	224	178	142	105	301	294	287	239	188	147	105
	kW	17	17.2	17.3	18	18.7	19.3	20	17.2	17.3	17.5	18.1	18.8	19.4	20.1	17.5	17.6	17.7	18.3	19	19.7	20.3
75	TC	275	281	287	311	338	360	383	283	288	293	316	343	365	388	296	298	300	323	349	372	394
	SHC	275	264	252	212	170	136	102	283	274	265	221	176	139	103	296	290	284	237	185	144	103
	kW	17.9	18.1	18.2	18.8	19.5	20.1	20.8	18.1	18.2	18.4	18.9	19.7	20.3	20.9	18.4	18.5	18.5	19.1	19.8	20.5	21.1
85	TC	267	272	277	299	324	345	366	274	278	282	304	329	350	370	286	287	289	311	334	355	375
	SHC	267	257	247	207	165	131	97.3	274	267	259	216	171	134	97.3	286	282	278	232	180	139	97.3
	kW	19.8	19.9	20	20.6	21.2	21.8	22.4	20	20.1	20.1	20.7	21.4	22	22.6	20.2	20.3	20.3	20.9	21.5	22.1	22.7
95	TC	259	263	267	288	311	331	350	267	270	273	293	315	335	354	278	279	281	299	322	340	358
	SHC	259	251	242	202	160	126	92.5	267	261	255	212	166	129	92.5	278	276	273	227	175	134	92.4
	kW	22.1	22.2	22.3	22.8	23.4	23.9	24.5	22.3	22.4	22.5	22.9	23.5	24	24.6	22.6	22.6	22.6	23.1	23.6	24.2	24.7
105	TC	253	256	260	279	301	318	335	260	262	264	282	304	322	338	269	270	270	287	308	326	342
	SHC	253	246	239	198	156	122	87.9	260	255	250	207	162	125	87.8	269	268	267	222	171	129	87.7
	kW	24.9	25	25.1	25.4	25.9	26.4	26.9	25.1	25.1	25.1	25.5	26	26.5	26.9	25.2	25.2	25.2	25.6	26.1	26.6	27.1
115	TC	246	249	252	270	291	305	320	253	255	256	274	294	309	323	262	262	262	277	298	312	328
	SHC	246	240	235	195	152	118	83.5	253	250	246	204	158	121	83.4	262	261	261	218	167	125	83.9
	kW	28.1	28.2	28.3	28.6	29	29.3	29.6	28.3	28.3	28.3	28.6	29	29.4	29.7	28.4	28.4	28.4	28.7	29.1	29.4	29.9
125	TC	238	240	242	259	279	293	305	245	246	246	262	281	295	310	253	253	253	266	284	298	313
	SHC	238	234	230	190	148	114	79.2	245	243	240	199	153	116	79.7	253	253	253	214	162	120	79.9
	kW	31.6	31.7	31.7	32	32.4	32.6	32.9	31.8	31.8	31.8	32.1	32.4	32.7	33	31.9	31.9	31.9	32.1	32.5	32.7	33.1

581A300 (25 Tons) (cont)

Temp (F) Air Ent Cond		Evap Air — Cfm/BF													
		10,750/0.08							12,000/0.09						
		Evap Air — Ewb (F)													
		54	58	62	67	72	76	80	54	58	62	67	72	76	80
60	TC	322	324	327	351	380	404	429	332	333	334	357	386	410	432
	SHC	322	317	313	260	203	157	111	332	330	329	276	212	162	111
	kW	16.3	16.4	16.4	17	17.8	18.5	19.2	16.6	16.6	16.6	17.2	18	18.6	19.2
70	TC	311	312	314	336	364	386	408	320	320	321	341	368	392	414
	SHC	311	308	305	255	198	151	105	320	320	319	269	206	156	106
	kW	17.8	17.8	17.9	18.4	19.2	19.8	20.5	18	18	18	18.5	19.3	20	20.6
75	TC	306	307	308	329	356	378	398	315	315	315	333	360	383	404
	SHC	306	304	302	252	195	149	103	315	314	314	266	203	153	103
	kW	18.7	18.7	18.7	19.3	20	20.6	21.3	18.9	18.9	18.9	19.4	20.1	20.8	21.4
85	TC	295	296	297	315	340	362	379	303	303	303	319	344	365	385
	SHC	295	295	294	246	189	144	97.3	303	303	303	260	198	148	97.9
	kW	20.5	20.5	20.5	21	21.7	22.3	22.8	20.7	20.7	20.7	21.1	21.8	22.4	23
95	TC	286	286	286	303	327	344	364	293	293	294	307	330	347	366
	SHC	286	286	286	241	185	138	93	293	293	294	255	193	142	92.8
	kW	22.7	22.7	22.7	23.1	23.8	24.3	24.9	22.9	22.9	22.9	23.2	23.9	24.4	24.9
105	TC	277	277	277	290	312	329	347	284	284	285	295	314	331	352
	SHC	277	277	277	236	179	133	88.3	284	284	285	250	188	137	88.7
	kW	25.4	25.4	25.4	25.7	26.2	26.7	27.2	25.5	25.6	25.6	25.8	26.3	26.7	27.3
115	TC	268	269	269	281	300	315	332	274	274	275	283	303	317	333
	SHC	268	269	269	232	176	129	84.4	274	274	275	245	184	133	84
	kW	28.5	28.5	28.5	28.7	29.2	29.5	30	28.6	28.6	28.6	28.8	29.2	29.5	30
125	TC	260	259	259	269	287	300	316	265	265	264	271	289	302	318
	SHC	260	259	259	227	171	125	80	265	265	264	240	179	129	80.1
	kW	32	32	32	32.1	32.5	32.8	33.2	32.1	32.1	32.1	32.2	32.5	32.8	33.3

LEGEND

BF — Bypass Factor
Edb — Entering Dry-Bulb
Ewb — Entering Wet-Bulb
kW — Compressor Motor Power Input
ldb — Leaving Dry-Bulb
lwb — Leaving Wet-Bulb
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil

3. The SHC is based on 80 F edb temperature of air entering evaporator coil. Below 80 F edb, subtract (corr factor x cfm) from SHC. *Above 80 F edb, add (corr factor x cfm) to SHC.*

BYPASS FACTOR (BF)	ENTERING AIR DRY-BULB TEMP (F)					
	79	78	77	76	75	under 75
	81	*82*	*83*	*84*	*85*	*over 85*
	Correction Factor					
.05	1.04	2.07	3.11	4.14	5.18	Use formula shown below.
.10	.98	1.96	2.94	3.92	4.90	
.20	.87	1.74	2.62	3.49	4.36	
.30	.76	1.53	2.29	3.05	3.82	

Interpolation is permissible.
Correction Factor = 1.10 x (1 – BF) x (edb – 80).

4. Use chart below for bypass factor.

CFM	ENTERING WET-BULB (F)						
	54	58	62	67	72	76	80
	Bypass Factor						
7,500	0.407	0.208	0.097	0.104	0.123	0.000	0.000
8,250	0.443	0.256	0.110	0.112	0.128	0.000	0.000
9,500	0.494	0.324	0.138	0.123	0.136	0.000	0.000
10,750	0.536	0.380	0.181	0.134	0.145	0.000	0.000
12,000	0.571	0.427	0.232	0.145	0.154	0.000	0.000

PERFORMANCE DATA (cont)

COOLING CAPACITIES, UNITS WITH HOT GAS REHEAT OPTION

581A181 (15 TONS) UNIT WITH HOT GAS REHEAT IN COOLING MODE

Temp (F) Air Entering Condenser (Edb)		Air Entering Evaporator — Cfm/BF																			
		4500/0.02				5250/0.03				6000/0.04				6750/0.04				7500/0.05			
		Air Entering Evaporator — Ewb (F)																			
		57	62	67	72	57	62	67	72	57	62	67	72	57	62	67	72	57	62	67	72
75	TC	166	179	193	214	175	186	202	221	183	191	208	227	190	195	212	232	197	199	216	236
	SHC	165	152	129	108	175	166	140	115	183	178	150	121	190	189	159	127	197	196	168	133
	kW	10.4	10.6	10.7	10.9	10.5	10.6	10.8	11.0	10.6	10.7	10.9	11.1	10.7	10.7	10.9	11.2	10.8	10.8	11.0	11.2
85	TC	162	174	189	209	171	180	195	216	179	185	200	222	186	189	205	226	192	194	208	230
	SHC	162	150	127	106	171	163	137	113	179	175	147	119	186	185	156	125	192	192	164	131
	kW	11.7	11.9	12.1	12.3	11.8	12.0	12.1	12.4	11.9	12.0	12.2	12.5	12.0	12.1	12.3	12.5	12.1	12.1	12.3	12.6
95	TC	158	169	182	202	166	174	187	209	174	179	194	214	181	183	198	218	187	188	201	221
	SHC	158	148	126	104	166	160	134	110	174	172	145	116	181	180	154	122	187	187	163	128
	kW	12.7	12.9	13.1	13.3	12.9	13.0	13.2	13.4	13.0	13.0	13.2	13.5	13.1	13.1	13.3	13.6	13.1	13.2	13.4	13.6
105	TC	153	163	178	195	162	168	181	201	169	172	188	206	175	177	191	209	181	181	194	213
	SHC	153	145	123	101	162	157	133	107	169	167	142	113	175	175	151	119	181	181	160	125
	kW	14.1	14.2	14.4	14.7	14.2	14.3	14.5	14.8	14.3	14.3	14.6	14.8	14.4	14.4	14.6	14.9	14.5	14.5	14.7	14.9
115	TC	148	156	171	188	157	161	176	193	163	165	180	197	169	170	183	201	174	175	185	203
	SHC	148	141	120	98	157	153	130	104	163	162	139	110	169	169	148	116	174	174	156	122
	kW	15.5	15.6	15.8	16.1	15.6	15.7	15.9	16.2	15.7	15.8	16.0	16.3	15.8	15.8	16.1	16.3	15.9	15.9	16.1	16.4
125	TC	143	149	163	179	151	153	168	184	157	158	171	188	163	163	174	190	167	167	176	192
	SHC	143	138	117	95	151	149	126	101	157	156	136	107	163	163	144	112	167	167	153	118
	kW	17.0	17.1	17.4	17.7	17.2	17.2	17.5	17.8	17.3	17.3	17.6	17.8	17.4	17.4	17.6	17.9	17.5	17.5	17.6	17.9

581A181 (15 TONS) UNIT WITH HOT GAS REHEAT — A IN REHEAT, B AND C OFF

Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm/BF														
		4500/0.12			5250/0.14			6000/.015			6750/0.18			7500/0.18		
		Evaporator Air — Relative Humidity (%)														
		50	55	60	50	55	60	50	55	60	50	55	60	50	55	60
65	TC	55	57	59	56	58	59	56	58	60	57	59	60	57	59	61
	SHC	34	32	30	36	34	32	37	35	33	38	36	35	40	38	36
	kW	4.4	4.5	4.5	4.4	4.5	4.5	4.4	4.5	4.5	4.4	4.5	4.5	4.4	4.5	4.5
75	TC	42	44	45	43	44	46	43	45	46	43	45	46	44	45	47
	SHC	22	19	17	23	21	18	25	22	20	26	24	21	28	25	23
	kW	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
85	TC	29	30	31	29	31	32	30	31	32	30	32	33	31	32	33
	SHC	9	6	3	11	8	5	13	10	7	14	11	8	16	12	9
	kW	5.2	5.2	5.3	5.2	5.2	5.3	5.2	5.2	5.3	5.2	5.2	5.3	5.2	5.2	5.3
95	TC	15	16	17	16	17	18	16	18	18	17	18	19	17	18	19
	SHC	–3	–7	–11	–1	–5	–9	1	–3	–7	2	–2	–5	4	0	–4
	kW	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6

581A181 (15 TONS) UNIT WITH HOT GAS REHEAT — A AND B IN REHEAT, C OFF

Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm/BF														
		4500/0.12			5250/0.14			6000/.015			6750/0.18			7500/0.18		
		Evaporator Air — Relative Humidity (%)														
		50	55	60	50	55	60	50	55	60	50	55	60	50	55	60
65	TC	81	84	86	82	85	87	83	86	88	84	87	89	85	87	90
	SHC	34	32	30	36	33	31	37	35	33	39	36	34	40	38	36
	kW	7.8	7.9	7.9	7.8	7.9	7.9	7.8	7.9	7.9	7.8	7.9	7.9	7.8	7.9	7.9
75	TC	62	64	66	62	65	67	63	66	68	64	66	68	64	67	69
	SHC	22	19	16	24	21	18	25	22	20	27	24	21	28	25	22
	kW	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5
85	TC	42	44	46	43	45	46	43	45	47	44	46	48	44	46	48
	SHC	10	6	2	12	8	4	14	10	6	15	11	8	16	13	9
	kW	9.2	9.2	9.3	9.2	9.2	9.3	9.2	9.2	9.3	9.2	9.2	9.3	9.2	9.2	9.3
95	TC	23	24	26	23	25	26	24	25	27	24	26	27	24	26	27
	SHC	–2	–7	–11	0	–5	–9	2	–3	–7	3	–1	–6	5	0	–4
	kW	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9

LEGEND

BF — Bypass Factor
Edb — Entering Dry-Bulb
Ewb — Entering Wet-Bulb
kW — Compressor Motor Power Input
ldb — Leaving Dry-Bulb
lwb — Leaving Wet-Bulb
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil

3. The SHC is based on 80 F edb temperature of air entering evaporator coil. Below 80 F edb, subtract (corr factor x cfm) from SHC. *Above 80 F edb, add (corr factor x cfm) to SHC.*

BYPASS FACTOR (BF)	ENTERING AIR DRY-BULB TEMP (F)					
	79	78	77	76	75	under 75
	81	*82*	*83*	*84*	*85*	*over 85*
	Correction Factor					
.05	1.04	2.07	3.11	4.14	5.18	Use formula shown below.
.10	.98	1.96	2.94	3.92	4.90	
.20	.87	1.74	2.62	3.49	4.36	
.30	.76	1.53	2.29	3.05	3.82	

Interpolation is permissible.
Correction Factor = 1.10 x (1 – BF) x (edb – 80).

PERFORMANCE DATA (cont)

COOLING CAPACITIES, UNITS WITH HOT GAS REHEAT OPTION (cont)

581A181 (15 TONS) UNIT WITH HOT GAS REHEAT — A AND B IN REHEAT, C ON

Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm/BF														
		4500/0.12			5250/0.14			6000/.015			6750/0.18			7500/0.18		
		Evaporator Air — Relative Humidity (%)														
		50	55	60	50	55	60	50	55	60	50	55	60	50	55	60
65	TC	133	140	146	134	141	147	135	142	148	136	143	149	137	144	150
	SHC	73	69	65	75	71	67	77	73	69	79	75	71	81	76	72
	kW	10.7	10.7	10.8	10.7	10.7	10.8	10.7	10.7	10.8	10.7	10.7	10.8	10.7	10.7	10.8
75	TC	116	123	128	117	123	129	117	124	130	118	125	131	118	126	132
	SHC	61	55	50	63	57	52	65	59	54	66	61	56	68	62	57
	kW	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
85	TC	98	105	111	99	106	112	99	106	112	100	107	113	100	107	113
	SHC	48	41	35	50	43	37	52	45	39	54	46	40	55	48	42
	kW	12.9	13.0	13.0	12.9	13.0	13.0	12.9	13.0	13.0	12.9	13.0	13.0	12.9	13.0	13.0
95	TC	81	88	94	81	88	94	81	88	95	81	89	95	81	89	95
	SHC	36	28	21	38	29	22	39	31	24	41	32	25	42	34	26
	kW	14.0	14.1	14.1	14.0	14.1	14.1	14.0	14.1	14.1	14.0	14.1	14.1	14.0	14.1	14.1

581A210 (18 TONS) UNIT WITH HOT GAS REHEAT IN COOLING MODE

Temp (F) Air Entering Condenser (Edb)		Air Entering Evaporator — Cfm/BF																			
		5400/0.03				6300/0.04				7200/0.05				8100/0.06				9000/0.07			
		Air Entering Evaporator — Ewb (F)																			
		57	62	67	72	57	62	67	72	57	62	67	72	57	62	67	72	57	62	67	72
75	TC	183	198	215	236	192	206	224	245	201	212	230	252	210	216	235	257	217	222	240	262
	SHC	182	169	143	120	192	184	156	127	201	197	166	134	210	209	177	141	217	218	186	147
	kW	11.5	11.7	11.9	12.2	11.6	11.8	12.1	12.4	11.7	11.9	12.2	12.5	11.9	11.9	12.2	12.5	12.0	12.0	12.3	12.6
85	TC	179	192	210	231	188	200	217	239	197	205	223	244	205	210	227	249	212	215	232	254
	SHC	179	166	142	117	188	181	153	125	197	194	163	131	205	206	173	138	212	213	183	145
	kW	12.8	13.1	13.3	13.7	13.0	13.2	13.5	13.8	13.2	13.3	13.6	13.9	13.3	13.4	13.7	14.0	13.4	13.5	13.7	14.1
95	TC	175	186	202	223	184	193	209	229	193	198	215	236	200	203	219	241	206	208	223	245
	SHC	175	163	142	114	184	177	151	121	193	191	160	128	200	200	170	135	206	207	180	142
	kW	14.1	14.3	14.6	14.9	14.3	14.4	14.7	15.1	14.4	14.5	14.8	15.2	14.6	14.6	14.9	15.3	14.7	14.7	15.0	15.4
105	TC	170	180	197	215	179	186	201	222	187	192	208	226	194	197	212	230	200	202	215	235
	SHC	170	160	136	111	179	174	147	118	187	186	158	125	194	195	168	131	200	201	178	138
	kW	15.6	15.8	16.1	16.5	15.8	15.9	16.2	16.6	15.9	16.0	16.3	16.7	16.1	16.1	16.4	16.8	16.2	16.2	16.5	16.9
115	TC	165	173	189	208	173	179	195	214	181	184	199	218	187	189	203	222	193	194	205	225
	SHC	165	157	133	109	173	170	144	116	181	181	154	122	187	188	164	128	193	194	173	134
	kW	17.2	17.4	17.7	18.1	17.4	17.5	17.8	18.2	17.5	17.6	17.9	18.3	17.7	17.7	18.0	18.4	17.8	17.9	18.1	18.5
125	TC	159	166	181	199	167	171	186	203	174	177	190	207	180	182	193	210	186	187	196	213
	SHC	159	154	130	105	167	166	140	112	174	175	151	118	180	181	160	124	186	187	170	130
	kW	18.9	19.1	19.5	19.9	19.1	19.2	19.6	20.0	19.3	19.4	19.7	20.1	19.5	19.5	19.8	20.1	19.6	19.6	19.8	20.2

581A210 (18 TONS) UNIT WITH HOT GAS REHEAT — A IN REHEAT, B AND C OFF

Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm/BF														
		5400/0.03			6300/0.04			7200/0.05			8100/0.06			9000/0.07		
		Evaporator Air — Relative Humidity (%)														
		50	55	60	50	55	60	50	55	60	50	55	60	50	55	60
65	TC	61	63	65	62	64	66	63	65	66	63	65	67	64	66	68
	SHC	38	35	34	40	37	35	41	39	37	43	41	39	44	42	40
	kW	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
75	TC	47	48	50	47	49	51	48	50	51	48	50	52	49	51	52
	SHC	24	21	18	26	23	20	28	25	22	29	26	24	31	28	25
	kW	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
85	TC	32	33	35	32	34	35	33	34	36	33	35	36	34	35	37
	SHC	11	7	3	13	9	5	14	11	7	16	12	9	17	14	10
	kW	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
95	TC	17	18	19	18	19	20	18	19	20	19	20	21	19	20	21
	SHC	–3	–8	–12	–1	–6	–10	1	–4	–8	3	–2	–6	4	0	–4
	kW	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3

LEGEND

BF — Bypass Factor
Edb — Entering Dry-Bulb
Ewb — Entering Wet-Bulb
kW — Compressor Motor Power Input
ldb — Leaving Dry-Bulb
lwb — Leaving Wet-Bulb
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil

3. The SHC is based on 80 F edb temperature of air entering evaporator coil. Below 80 F edb, subtract (corr factor x cfm) from SHC. *Above 80 F edb, add (corr factor x cfm) to SHC.*

BYPASS FACTOR (BF)	ENTERING AIR DRY-BULB TEMP (F)					
	79	78	77	76	75	under 75
	81	*82*	*83*	*84*	*85*	*over 85*
	Correction Factor					
.05	1.04	2.07	3.11	4.14	5.18	Use formula shown below.
.10	.98	1.96	2.94	3.92	4.90	
.20	.87	1.74	2.62	3.49	4.36	
.30	.76	1.53	2.29	3.05	3.82	

Interpolation is permissible.
Correction Factor = 1.10 x (1 – BF) x (edb – 80).

PERFORMANCE DATA (cont)

COOLING CAPACITIES, UNITS WITH HOT GAS REHEAT OPTION (cont)

581A210 (18 TONS) UNIT WITH HOT GAS REHEAT — A AND B IN REHEAT, C OFF

Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm/BF														
		5400/0.03			6300/0.04			7200/0.05			8100/0.06			9000/0.07		
		Evaporator Air — Relative Humidity (%)														
		50	55	60	50	55	60	50	55	60	50	55	60	50	55	60
65	TC	90	93	95	91	94	97	92	95	98	93	96	99	94	97	100
	SHC	38	35	33	40	37	35	41	39	37	43	40	38	44	42	40
	kW	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8
75	TC	68	71	73	69	72	74	70	73	75	71	74	76	72	74	77
	SHC	24	21	18	26	23	20	28	25	22	30	26	23	31	28	25
	kW	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
85	TC	47	49	51	47	50	52	48	50	52	49	51	53	49	51	53
	SHC	11	7	3	13	9	5	15	11	7	17	12	9	18	14	10
	kW	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3
95	TC	25	27	29	26	27	29	26	28	29	26	28	30	27	29	30
	SHC	–2	–8	–12	0	–5	–10	2	–3	–8	3	–2	–6	5	0	–5
	kW	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1

581A210 (18 TONS) UNIT WITH HOT GAS REHEAT — A AND B IN REHEAT, C ON

Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm/BF														
		5400/0.03			6300/0.04			7200/0.05			8100/0.06			9000/0.07		
		Evaporator Air — Relative Humidity (%)														
		50	55	60	50	55	60	50	55	60	50	55	60	50	55	60
65	TC	147	155	162	148	157	164	150	158	165	151	160	167	152	161	168
	SHC	81	76	72	84	79	75	86	81	77	88	83	79	90	85	80
	kW	11.9	12.0	12.0	11.9	12.0	12.0	11.9	12.0	12.0	11.9	12.0	12.0	11.9	12.0	12.0
75	TC	128	136	143	129	137	144	130	138	146	131	139	147	132	140	148
	SHC	67	61	56	70	63	58	72	65	60	74	67	62	76	69	63
	kW	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2
85	TC	108	117	124	109	118	125	110	118	126	110	119	127	111	120	127
	SHC	54	46	39	56	48	41	58	50	43	60	52	45	61	53	46
	kW	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5
95	TC	89	98	105	89	98	106	89	98	106	90	99	107	90	99	107
	SHC	40	31	23	42	33	25	44	34	26	45	36	28	47	37	29
	kW	15.8	15.7	15.7	15.8	15.7	15.7	15.8	15.7	15.7	15.8	15.7	15.7	15.8	15.7	15.7

581A240 (20 TONS) UNIT WITH HOT GAS REHEAT IN COOLING MODE

Temp (F) Air Entering Condenser (Edb)		Air Entering Evaporator — Cfm/BF																			
		6000/0.04				7000/0.05				8000/0.06				9000/0.07				10,000/0.08			
		Air Entering Evaporator — Ewb (F)																			
		57	62	67	72	57	62	67	72	57	62	67	72	57	62	67	72	57	62	67	72
75	TC	216	234	255	279	226	243	265	290	237	251	273	298	247	256	279	305	256	263	284	310
	SHC	213	199	171	141	225	217	185	151	237	232	198	159	247	241	211	168	256	251	223	176
	kW	13.9	14.2	14.6	15.0	14.0	14.4	14.8	15.3	14.3	14.5	15.0	15.4	14.5	14.6	15.1	15.6	14.6	14.8	15.2	15.7
85	TC	211	227	249	272	221	237	258	282	232	243	265	287	242	250	270	293	250	255	275	300
	SHC	209	194	168	141	221	214	182	148	232	228	195	155	242	237	206	163	250	244	220	173
	kW	15.4	15.8	16.2	16.7	15.7	16.0	16.4	16.9	15.9	16.1	16.6	17.1	16.1	16.3	16.7	17.2	16.3	16.4	16.8	17.4
95	TC	207	220	240	262	217	228	250	269	228	235	254	278	236	241	259	286	243	247	264	290
	SHC	205	192	164	134	217	209	179	142	228	222	190	152	236	230	202	161	243	236	214	169
	kW	17.2	17.5	17.9	18.4	17.4	17.7	18.2	18.6	17.7	17.9	18.3	18.8	17.9	18.0	18.4	19.0	18.1	18.2	18.6	19.1
105	TC	201	214	232	253	211	221	238	261	221	228	247	266	229	234	251	271	236	239	255	278
	SHC	197	190	161	131	211	206	172	140	221	216	188	146	229	223	200	155	236	229	212	165
	kW	19.0	19.3	19.8	20.3	19.3	19.5	20.0	20.6	19.5	19.7	20.2	20.7	19.8	19.9	20.3	20.8	20.0	20.0	20.4	21.0
115	TC	195	206	224	245	205	213	230	252	214	219	236	258	221	225	240	262	228	231	243	265
	SHC	191	185	158	129	205	201	171	137	214	209	183	145	221	215	194	152	228	221	207	160
	kW	21.0	21.3	21.8	22.4	21.3	21.5	22.0	22.7	21.6	21.7	22.2	22.8	21.8	21.9	22.3	22.9	22.0	22.1	22.4	23.0
125	TC	189	198	215	235	198	204	221	239	207	210	225	244	214	216	229	248	220	222	232	251
	SHC	184	179	154	125	198	194	167	132	207	201	179	139	214	207	191	147	220	212	202	154
	kW	23.1	23.4	24.0	24.7	23.5	23.7	24.2	24.8	23.8	23.9	24.4	25.0	24.0	24.1	24.5	25.1	24.2	24.3	24.6	25.2

LEGEND

BF — Bypass Factor
Edb — Entering Dry-Bulb
Ewb — Entering Wet-Bulb
kW — Compressor Motor Power Input
ldb — Leaving Dry-Bulb
lwb — Leaving Wet-Bulb
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil

3. The SHC is based on 80 F edb temperature of air entering evaporator coil. Below 80 F edb, subtract (corr factor x cfm) from SHC. *Above 80 F edb, add (corr factor x cfm) to SHC.*

BYPASS FACTOR (BF)	ENTERING AIR DRY-BULB TEMP (F)					
	79	78	77	76	75	under 75
	81	*82*	*83*	*84*	*85*	*over 85*
	Correction Factor					
.05	1.04	2.07	3.11	4.14	5.18	Use formula shown below.
.10	.98	1.96	2.94	3.92	4.90	
.20	.87	1.74	2.62	3.49	4.36	
.30	.76	1.53	2.29	3.05	3.82	

Interpolation is permissible.
Correction Factor = 1.10 x (1 – BF) x (edb – 80).

PERFORMANCE DATA (cont)

COOLING CAPACITIES, UNITS WITH HOT GAS REHEAT OPTION (cont)

581A240 (20 TONS) UNIT WITH HOT GAS REHEAT — A IN REHEAT, B AND C OFF

Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm/BF														
		6000/0.04			7000/0.05			8000/0.06			9000/0.07			10,000/0.08		
		Evaporator Air — Relative Humidity (%)														
		50	55	60	50	55	60	50	55	60	50	55	60	50	55	60
65	TC	73	75	77	73	76	78	74	76	79	75	77	79	75	78	80
	SHC	45	42	40	47	44	42	49	47	44	51	48	46	53	50	48
	kW	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
75	TC	55	57	59	56	58	60	56	58	60	57	59	61	57	59	61
	SHC	29	25	22	31	27	24	33	30	26	35	31	28	37	33	30
	kW	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
85	TC	38	40	41	38	40	42	39	40	42	39	41	42	39	41	43
	SHC	13	8	4	15	10	7	17	13	9	19	14	10	21	16	12
	kW	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2
95	TC	20	22	23	21	22	24	21	22	24	21	23	24	21	23	24
	SHC	–4	–9	–14	–1	–7	–11	1	–4	–9	3	–3	–7	5	–1	–6
	kW	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7

581A240 (20 TONS) UNIT WITH HOT GAS REHEAT — A AND B IN REHEAT, C OFF

Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm/BF														
		6000/0.04			7000/0.05			8000/0.06			9000/0.07			10,000/0.08		
		Evaporator Air — Relative Humidity (%)														
		50	55	60	50	55	60	50	55	60	50	55	60	50	55	60
65	TC	106	110	113	108	111	114	109	113	116	110	114	117	111	115	118
	SHC	45	42	39	47	44	41	49	46	44	51	48	46	53	50	47
	kW	10.7	10.7	10.8	10.7	10.7	10.8	10.7	10.7	10.8	10.7	10.7	10.8	10.7	10.7	10.8
75	TC	81	84	87	82	85	88	83	86	89	83	87	89	84	87	90
	SHC	29	25	21	31	27	24	34	29	26	36	31	28	37	33	30
	kW	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6
85	TC	56	58	61	56	59	61	56	59	61	57	59	62	57	60	62
	SHC	13	8	3	16	10	6	18	13	8	20	15	10	22	16	12
	kW	12.6	12.7	12.7	12.6	12.7	12.7	12.6	12.7	12.7	12.6	12.7	12.7	12.6	12.7	12.7
95	TC	30	33	34	30	32	34	30	32	34	30	32	34	30	32	34
	SHC	–3	–9	–14	0	–6	–12	2	–4	–10	4	–2	–8	6	0	–6
	kW	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6

581A240 (20 TONS) UNIT WITH HOT GAS REHEAT — A AND B IN REHEAT, C ON

Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm/BF														
		6000/0.04			7000/0.05			8000/0.06			9000/0.07			10,000/0.08		
		Evaporator Air — Relative Humidity (%)														
		50	55	60	50	55	60	50	55	60	50	55	60	50	55	60
65	TC	177	185	191	177	185	192	178	186	192	178	186	193	178	186	193
	SHC	98	92	86	100	94	88	101	95	90	103	97	92	104	98	93
	kW	14.5	14.6	14.7	14.5	14.6	14.7	14.5	14.6	14.7	14.5	14.6	14.7	14.5	14.6	14.7
75	TC	154	161	168	154	162	169	155	162	169	155	163	169	155	163	170
	SHC	81	73	66	83	75	69	85	78	71	87	80	73	89	81	75
	kW	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1
85	TC	131	138	145	131	139	145	131	139	146	132	139	146	132	140	146
	SHC	63	54	46	66	57	49	69	60	52	71	62	54	73	64	56
	kW	17.7	17.7	17.8	17.7	17.7	17.8	17.7	17.7	17.8	17.7	17.7	17.8	17.7	17.7	17.8
95	TC	107	115	122	108	115	122	108	116	122	108	116	123	109	116	123
	SHC	46	35	25	50	39	29	53	42	32	55	45	35	58	47	38
	kW	19.3	19.3	19.3	19.3	19.3	19.3	19.3	19.3	19.3	19.3	19.3	19.3	19.3	19.3	19.3

LEGEND

BF — Bypass Factor
Edb — Entering Dry-Bulb
Ewb — Entering Wet-Bulb
kW — Compressor Motor Power Input
ldb — Leaving Dry-Bulb
lwb — Leaving Wet-Bulb
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil

3. The SHC is based on 80 F edb temperature of air entering evaporator coil. Below 80 F edb, subtract (corr factor x cfm) from SHC. *Above 80 F edb, add (corr factor x cfm) to SHC.*

BYPASS FACTOR (BF)	ENTERING AIR DRY-BULB TEMP (F)					
	79	78	77	76	75	under 75
	81	*82*	*83*	*84*	*85*	*over 85*
	Correction Factor					
.05	1.04	2.07	3.11	4.14	5.18	Use formula shown below.
.10	.98	1.96	2.94	3.92	4.90	
.20	.87	1.74	2.62	3.49	4.36	
.30	.76	1.53	2.29	3.05	3.82	

Interpolation is permissible.
Correction Factor = 1.10 x (1 – BF) x (edb – 80).

PERFORMANCE DATA (cont)

COOLING CAPACITIES, UNITS WITH HOT GAS REHEAT OPTION (cont)

581A300 (25 TONS) UNIT WITH HOT GAS REHEAT IN COOLING MODE

Temp (F) Air Entering Condenser (Edb)		Air Entering Evaporator — Cfm/BF																			
		7000/0.042				8250/0.052				9500/0.062				10,750/0.072				12,000/0.082			
		Air Entering Evaporator — Ewb (F)																			
		57	62	67	72	57	62	67	72	57	62	67	72	57	62	67	72	57	62	67	72
75	TC	245	268	293	318	259	282	303	333	274	291	314	340	289	301	322	348	305	309	332	356
	SHC	245	229	197	162	259	254	213	173	274	271	230	183	289	287	247	195	305	298	267	203
	kW	16.4	17.0	17.6	18.2	16.7	17.4	17.9	18.6	17.1	17.6	18.2	18.8	17.5	17.8	18.4	19.0	18.0	18.1	18.6	19.2
85	TC	233	259	278	309	256	273	293	324	271	282	305	330	285	290	312	337	298	303	321	343
	SHC	233	228	186	158	256	252	211	171	271	264	229	180	285	276	246	191	298	295	261	201
	kW	17.9	18.7	19.3	19.9	18.5	19.1	19.7	20.4	19.0	19.4	20.0	20.8	19.3	19.6	20.2	21.1	19.8	19.9	20.4	21.3
95	TC	230	252	276	303	251	265	284	314	269	274	290	326	274	282	300	332	283	293	308	334
	SHC	230	225	191	156	251	249	202	166	269	269	220	181	274	274	238	190	283	280	259	197
	kW	20.0	20.8	21.4	22.1	20.7	21.2	21.5	22.4	21.3	21.4	21.9	23.0	21.5	21.7	22.1	23.2	21.6	22.0	22.5	23.3
105	TC	226	245	268	292	242	253	277	301	255	264	284	308	266	275	290	314	278	281	294	319
	SHC	226	223	188	153	242	241	205	163	255	255	221	171	265	265	240	185	278	278	253	194
	kW	22.0	22.8	23.3	24.3	22.7	23.1	23.7	24.7	23.1	23.4	24.0	25.0	23.6	23.7	24.3	25.2	24.0	24.1	24.4	25.4
115	TC	221	233	258	281	232	242	267	290	247	253	274	297	253	260	275	302	267	269	279	306
	SHC	221	217	183	149	232	230	200	160	247	246	217	170	253	254	233	179	267	267	248	189
	kW	24.3	25.1	25.7	26.7	24.8	25.4	26.1	27.1	25.3	25.8	26.4	27.2	25.8	26.0	26.5	27.3	26.1	26.3	26.7	27.4
125	TC	216	223	247	268	225	230	253	275	237	240	256	280	247	248	260	285	254	255	263	288
	SHC	216	212	181	145	225	223	196	155	237	236	211	163	247	247	228	174	254	254	242	184
	kW	26.9	27.1	28.0	29.0	27.4	27.5	28.3	29.4	27.8	27.9	28.5	29.6	28.2	28.3	28.7	29.8	28.5	28.6	28.9	29.9

581A300 (25 TONS) UNIT WITH HOT GAS REHEAT — A IN REHEAT, B OFF

Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm/BF														
		7500/0.045			8250/0.055			9500/0.065			10,750/0.075			12,000/0.085		
		Evaporator Air — Relative Humidity (%)														
		50	55	60	50	55	60	50	55	60	50	55	60	50	55	60
65	TC	79	83	87	80	84	88	81	85	89	82	86	90	83	87	91
	SHC	39	33	28	41	35	30	43	37	32	45	39	34	47	41	36
	kW	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
75	TC	56	61	65	57	62	66	59	63	67	60	64	68	61	65	69
	SHC	18	11	5	20	12	6	22	15	8	24	16	10	26	18	12
	kW	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
85	TC	34	38	42	35	39	43	37	41	45	38	42	46	39	43	47
	SHC	–2	–11	–19	–1	–10	–18	1	–8	–16	3	–7	–14	4	–5	–13
	kW	11	11	12	11	12	12	12	12	12	12	12	12	12	12	12
95	TC	12	16	19	13	17	21	15	19	22	16	20	24	17	22	25
	SHC	–23	–33	–42	–22	–32	–41	–20	–31	–40	–19	–30	–39	–17	–28	–38
	kW	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12

581A300 (25 TONS) UNIT WITH HOT GAS REHEAT — A IN REHEAT, B ON

Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm/BF														
		7500/0.045			8250/0.055			9500/0.065			10,750/0.075			12,000/0.085		
		Evaporator Air — Relative Humidity (%)														
		50	55	60	50	55	60	50	55	60	50	55	60	50	55	60
65	TC	211	222	231	215	226	235	220	232	241	226	237	247	230	242	252
	SHC	123	115	109	129	121	115	139	131	124	147	139	133	155	147	140
	kW	19	19	20	19	19	20	19	19	20	19	20	20	19	20	20
75	TC	182	193	202	185	196	205	189	200	210	192	204	214	196	208	218
	SHC	103	93	85	110	100	91	120	110	101	128	118	110	136	126	118
	kW	20	21	21	20	21	21	21	21	21	21	21	21	21	21	21
85	TC	153	164	174	155	166	176	157	169	178	159	171	181	161	173	184
	SHC	84	72	62	90	78	68	100	88	78	110	97	87	118	106	95
	kW	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
95	TC	124	135	145	125	136	146	125	137	147	126	138	148	127	139	149
	SHC	64	50	38	71	57	45	81	67	55	91	76	64	99	85	72
	kW	23	23	23	23	23	23	23	23	24	23	23	24	23	24	24

LEGEND

BF — Bypass Factor
Edb — Entering Dry-Bulb
Ewb — Entering Wet-Bulb
kW — Compressor Motor Power Input
ldb — Leaving Dry-Bulb
lwb — Leaving Wet-Bulb
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil

3. The SHC is based on 80 F edb temperature of air entering evaporator coil. Below 80 F edb, subtract (corr factor x cfm) from SHC. *Above 80 F edb, add (corr factor x cfm) to SHC.*

BYPASS FACTOR (BF)	ENTERING AIR DRY-BULB TEMP (F)					
	79	78	77	76	75	under 75
	81	*82*	*83*	*84*	*85*	*over 85*
	Correction Factor					
.05	1.04	2.07	3.11	4.14	5.18	Use formula shown below.
.10	.98	1.96	2.94	3.92	4.90	
.20	.87	1.74	2.62	3.49	4.36	
.30	.76	1.53	2.29	3.05	3.82	

Interpolation is permissible.
Correction Factor = 1.10 x (1 – BF) x (edb – 80).

PERFORMANCE DATA (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS

581A155 (12 TONS) WITH STANDARD MOTOR (Low Heat Units)*

Airflow (Cfm)	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3750	597	895	0.84	692	967	1.07	781	1150	1.33	858	1342	1.59	928	1527	1.85
4000	625	1014	0.98	714	1097	1.21	800	1292	1.48	876	1495	1.75	945	1689	2.03
4250	653	1141	1.13	737	1236	1.36	820	1442	1.64	895	1656	1.93	963	1859	2.22
4500	682	1274	1.29	761	1382	1.54	840	1599	1.82	914	1824	2.11	982	2037	2.42
4750	711	1415	1.48	786	1538	1.73	861	1765	2.01	934	2001	2.32	1001	2224	2.63
5000	740	1563	1.68	812	1702	1.94	884	1940	2.22	954	2188	2.53	1020	2419	2.86
5250	769	1719	1.89	839	1875	2.16	907	2125	2.45	974	2384	2.77	1039	2625	3.10
5500	799	1884	2.13	867	2060	2.41	931	2321	2.70	996	2592	3.02	1059	2841	3.36
5750	828	2058	2.38	894	2256	2.67	956	2528	2.97	1018	2810	3.29	1080	3069	3.64
6000	857	2243	2.64	923	2464	2.96	982	2748	3.26	1041	3042	3.59	1101	3308	3.94
6250	885	2438	2.93	951	2687	3.27	1008	2981	3.58	1065	3286	3.91	1122	3559	4.26

581A155 (12 TONS) WITH STANDARD MOTOR (Low Heat Units)* (cont)

Airflow (Cfm)	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3750	992	1756	2.12	1053	1988	2.40	1112	2236	2.68	1169	2497	2.97	1224	2769	3.27
4000	1009	1931	2.31	1069	2173	2.59	1126	2431	2.88	1181	2702	3.18	1234	2984	3.48
4250	1026	2114	2.51	1085	2366	2.80	1141	2634	3.10	1194	2914	3.40	1246	3206	3.72
4500	1044	2304	2.72	1102	2566	3.02	1157	2844	3.33	1209	3133	3.65	1260	3433	3.97
4750	1062	2504	2.95	1120	2775	3.26	1174	3062	3.58	1226	3360	3.91	1275	3666	4.23
5000	1081	2712	3.19	1138	2993	3.52	1191	3288	3.85	1242	3592	4.18	1291	3905	4.52
5250	1100	2931	3.44	1156	3220	3.79	1209	3523	4.13	1260	3832	4.47	1308	4148	4.82
5500	1119	3160	3.72	1175	3457	4.07	1228	3765	4.43	1278	4077	4.78	1326	4395	5.14
5750	1138	3399	4.00	1194	3702	4.37	1246	4014	4.74	1296	4328	5.11	1343	4644	5.48
6000	1158	3649	4.31	1213	3957	4.69	1265	4270	5.07	1315	4581	5.45	—	—	—
6250	1179	3910	4.64	1233	4219	5.02	1284	4531	5.41	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Standard low-medium static drive range is 895 to 1147 rpm. Other rpms require a field-supplied drive.

Refer to page 262 for general Fan Performance Data notes.

NOTES:

1. Field-supplied motor required.
2. Maximum continuous bhp for the standard motor is 3.13 (for 208/230 and 460-v units) or 3.38 (for 575-v units). The maximum continuous watts is 2700 (for 208/230 and 460-v units) or 3065 (for 575-v units). Do not adjust motor rpm such that motor maximum bhp and/or watts is exceeded at the maximum operating cfm. See Evaporator Fan Motor Data tables for more information.
3. Fan performance is identical for horizontal discharge applications using Bryant horizontal adapter curb.

581A155 (12 TONS) WITH OPTIONAL MOTOR (Low Heat Units)*

Airflow (Cfm)	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3750	597	895	0.84	692	967	1.07	781	1150	1.33	858	1342	1.59	928	1527	1.85
4000	625	1014	0.98	714	1097	1.21	800	1292	1.48	876	1495	1.75	945	1689	2.03
4250	653	1141	1.13	737	1236	1.36	820	1442	1.64	895	1656	1.93	963	1859	2.22
4500	682	1274	1.29	761	1382	1.54	840	1599	1.82	914	1824	2.11	982	2037	2.42
4750	711	1415	1.48	786	1538	1.73	861	1765	2.01	934	2001	2.32	1001	2224	2.63
5000	740	1563	1.68	812	1702	1.94	884	1940	2.22	954	2188	2.53	1020	2419	2.86
5250	769	1719	1.89	839	1875	2.16	907	2125	2.45	974	2384	2.77	1039	2625	3.10
5500	799	1884	2.13	867	2060	2.41	931	2321	2.70	996	2592	3.02	1059	2841	3.36
5750	828	2058	2.38	894	2256	2.67	956	2528	2.97	1018	2810	3.29	1080	3069	3.64
6000	857	2243	2.64	923	2464	2.96	982	2748	3.26	1041	3042	3.59	1101	3308	3.94
6250	885	2438	2.93	951	2687	3.27	1008	2981	3.58	1065	3286	3.91	1122	3559	4.26

581A155 (12 TONS) WITH OPTIONAL MOTOR (Low Heat Units)* (cont)

Airflow (Cfm)	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3750	992	1756	2.12	1053	1988	2.40	1112	2236	2.68	1169	2497	2.97	1224	2769	3.27
4000	1009	1931	2.31	1069	2173	2.59	1126	2431	2.88	1181	2702	3.18	1234	2984	3.48
4250	1026	2114	2.51	1085	2366	2.80	1141	2634	3.10	1194	2914	3.40	1246	3206	3.72
4500	1044	2304	2.72	1102	2566	3.02	1157	2844	3.33	1209	3133	3.65	1260	3433	3.97
4750	1062	2504	2.95	1120	2775	3.26	1174	3062	3.58	1226	3360	3.91	1275	3666	4.23
5000	1081	2712	3.19	1138	2993	3.52	1191	3288	3.85	1242	3592	4.18	1291	3905	4.52
5250	1100	2931	3.44	1156	3220	3.79	1209	3523	4.13	1260	3832	4.47	1308	4148	4.82
5500	1119	3160	3.72	1175	3457	4.07	1228	3765	4.43	1278	4077	4.78	1326	4395	5.14
5750	1138	3399	4.00	1194	3702	4.37	1246	4014	4.74	1296	4328	5.11	1343	4644	5.48
6000	1158	3649	4.31	1213	3957	4.69	1265	4270	5.07	1315	4581	5.45	—	—	—
6250	1179	3910	4.64	1233	4219	5.02	1284	4531	5.41	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Alternate high-static drive range is 1040 to 1315 (for 208/230 and 460-v units). The alternate high-static drive is not available for 575-v units. Other rpms require a field-supplied drive.

Refer to page 262 for general Fan Performance Data notes.

NOTES:

1. Field-supplied motor required.
2. Maximum continuous bhp for the optional motor is 4.26. Maximum continuous watts for the optional motor is 3610. Do not adjust motor rpm such that motor maximum bhp and/or watts is exceeded at the maximum operating cfm. See Evaporator Fan Motor Data tables for more information.
3. Fan performance is identical for horizontal discharge applications using Bryant horizontal adapter curb.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

581A155 (12 TONS) WITH STANDARD MOTOR (High Heat Units)*

Airflow (Cfm)	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3750	622	888	0.89	713	1027	1.13	795	1234	1.37	869	1454	1.63	936	1584	1.89
4000	652	1015	1.04	738	1168	1.28	818	1388	1.54	890	1620	1.80	956	1756	2.07
4250	682	1151	1.20	763	1317	1.45	841	1550	1.72	911	1793	1.99	976	1937	2.27
4500	713	1295	1.38	790	1474	1.63	864	1719	1.91	934	1973	2.20	997	2126	2.49
4750	744	1448	1.58	817	1641	1.84	889	1896	2.12	956	2159	2.42	1019	2326	2.72
5000	776	1610	1.80	845	1817	2.06	914	2081	2.35	979	2353	2.66	1041	2536	2.97
5250	808	1783	2.04	874	2003	2.31	940	2277	2.60	1003	2556	2.91	1064	2757	3.24
5500	840	1967	2.29	903	2200	2.57	966	2482	2.87	1028	2768	3.19	1087	2991	3.52
5750	872	2163	2.57	933	2410	2.86	993	2699	3.16	1053	2990	3.49	1110	3237	3.83
6000	905	2373	2.87	963	2634	3.16	1021	2929	3.47	1078	3225	3.81	1134	3497	4.15
6250	937	2596	3.19	994	2872	3.49	1049	3172	3.81	1105	3473	4.15	1159	3769	4.50

581A155 (12 TONS) WITH STANDARD MOTOR (High Heat Units)* (cont)

Airflow (Cfm)	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3750	999	1829	2.15	1059	2091	2.42	1117	2343	2.70	1174	2521	2.99	1228	2801	3.29
4000	1017	2010	2.35	1076	2279	2.63	1132	2540	2.91	1186	2738	3.21	1239	3023	3.51
4250	1036	2198	2.56	1093	2474	2.85	1148	2743	3.14	1201	2962	3.44	1253	3251	3.75
4500	1056	2395	2.78	1112	2675	3.08	1166	2951	3.39	1217	3194	3.70	1267	3487	4.01
4750	1077	2601	3.03	1132	2885	3.34	1184	3168	3.65	1235	3435	3.97	1284	3731	4.29
5000	1098	2816	3.29	1152	3104	3.61	1204	3392	3.93	1253	3683	4.26	1301	3981	4.59
5250	1120	3042	3.56	1173	3332	3.90	1224	3626	4.23	1273	3940	4.57	1320	4239	4.91
5500	1142	3279	3.86	1195	3570	4.20	1245	3870	4.55	1293	4203	4.89	1339	4501	5.24
5750	1165	3528	4.18	1217	3819	4.53	1266	4125	4.88	1313	4471	5.24	—	—	—
6000	1188	3789	4.51	1239	4080	4.88	1288	4389	5.24	—	—	—	—	—	—
6250	1212	4062	4.87	1262	4351	5.24	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Standard low-medium static drive range is 895 to 1147 rpm. Other rpms require a field-supplied drive.

Refer to page 262 for general Fan Performance Data notes.

NOTES:

1. Field-supplied motor required.
2. Maximum continuous bhp for the standard motor is 3.13 (for 208/230 and 460-v units) or 3.38 (for 575-v units). The maximum continuous watts is 2700 (for 208/230 and 460-v units) or 3065 (for 575-v units). Do not adjust motor rpm such that motor maximum bhp and/or watts is exceeded at the maximum operating cfm. See Evaporator Fan Motor Data tables for more information.
3. Fan performance is identical for horizontal discharge applications using Bryant horizontal adapter curb.

581A155 (12 TONS) WITH OPTIONAL MOTOR (High Heat Units)*

Airflow (Cfm)	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3750	622	888	0.89	713	1027	1.13	795	1234	1.37	869	1454	1.63	936	1584	1.89
4000	652	1015	1.04	738	1168	1.28	818	1388	1.54	890	1620	1.80	956	1756	2.07
4250	682	1151	1.20	763	1317	1.45	841	1550	1.72	911	1793	1.99	976	1937	2.27
4500	713	1295	1.38	790	1474	1.63	864	1719	1.91	934	1973	2.20	997	2126	2.49
4750	744	1448	1.58	817	1641	1.84	889	1896	2.12	956	2159	2.42	1019	2326	2.72
5000	776	1610	1.80	845	1817	2.06	914	2081	2.35	979	2353	2.66	1041	2536	2.97
5250	808	1783	2.04	874	2003	2.31	940	2277	2.60	1003	2556	2.91	1064	2757	3.24
5500	840	1967	2.29	903	2200	2.57	966	2482	2.87	1028	2768	3.19	1087	2991	3.52
5750	872	2163	2.57	933	2410	2.86	993	2699	3.16	1053	2990	3.49	1110	3237	3.83
6000	905	2373	2.87	963	2634	3.16	1021	2929	3.47	1078	3225	3.81	1134	3497	4.15
6250	937	2596	3.19	994	2872	3.49	1049	3172	3.81	1105	3473	4.15	1159	3769	4.50

581A155 (12 TONS) WITH OPTIONAL MOTOR (High Heat Units)* (cont)

Airflow (Cfm)	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3750	999	1829	2.15	1059	2091	2.42	1117	2343	2.70	1174	2521	2.99	1228	2801	3.29
4000	1017	2010	2.35	1076	2279	2.63	1132	2540	2.91	1186	2738	3.21	1239	3023	3.51
4250	1036	2198	2.56	1093	2474	2.85	1148	2743	3.14	1201	2962	3.44	1253	3251	3.75
4500	1056	2395	2.78	1112	2675	3.08	1166	2951	3.39	1217	3194	3.70	1267	3487	4.01
4750	1077	2601	3.03	1132	2885	3.34	1184	3168	3.65	1235	3435	3.97	1284	3731	4.29
5000	1098	2816	3.29	1152	3104	3.61	1204	3392	3.93	1253	3683	4.26	1301	3981	4.59
5250	1120	3042	3.56	1173	3332	3.90	1224	3626	4.23	1273	3940	4.57	1320	4239	4.91
5500	1142	3279	3.86	1195	3570	4.20	1245	3870	4.55	1293	4203	4.89	1339	4501	5.24
5750	1165	3528	4.18	1217	3819	4.53	1266	4125	4.88	1313	4471	5.24	—	—	—
6000	1188	3789	4.51	1239	4080	4.88	1288	4389	5.24	—	—	—	—	—	—
6250	1212	4062	4.87	1262	4351	5.24	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Alternate high-static drive range is 1040 to 1315. Other rpms require a field-supplied drive.

Refer to page 262 for general Fan Performance Data notes.

NOTES:

1. Field-supplied motor required.
2. Maximum continuous bhp for the optional motor is 4.26. The maximum continuous watts is 3610. Do not adjust motor rpm such that motor maximum bhp and/or watts is exceeded at the maximum operating cfm. See Evaporator Fan Motor Data tables for more information.
3. Fan performance is identical for horizontal discharge applications using Bryant horizontal adapter curb.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

581A180 (15 TONS) (Low Heat Units)*

Airflow (Cfm)	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
4500	753	1307	1.53	761	1330	1.56	840	1572	1.84	912	1822	2.14	980	2080	2.44
4800	747	1384	1.62	790	1515	1.78	866	1765	2.07	936	2023	2.37	1002	2289	2.68
5100	741	1465	1.72	820	1718	2.01	893	1977	2.32	961	2243	2.63	1025	2516	2.95
5700	810	1911	2.24	882	2182	2.56	950	2459	2.88	1014	2741	3.21	1075	3029	3.55
6000	844	2164	2.54	914	2444	2.87	980	2730	3.20	1042	3021	3.54	1100	3317	3.89
6300	879	2439	2.86	947	2729	3.20	1010	3023	3.55	1070	3322	3.90	1127	3626	4.25
6600	915	2737	3.21	980	3035	3.56	1041	3338	3.91	1099	3645	4.28	1155	3957	4.64
6900	950	3057	3.59	1013	3364	3.95	1072	3675	4.31	1129	3991	4.68	1183	4311	5.06
7200	986	3401	3.99	1047	3717	4.36	1104	4037	4.74	1159	4361	5.11	1211	4689	5.50
7500	1022	3770	4.42	1081	4095	4.80	1136	4423	5.19	1189	4755	5.58	1241	5091	5.97

581A180 (15 TONS) (Low Heat Units)* (cont)

Airflow (Cfm)	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
4500	1044	2345	2.75	1105	2619	3.07	1163	2899	3.40	1218	3187	3.74	1271	3481	4.08
4800	1065	2561	3.00	1124	2841	3.33	1180	3127	3.67	1235	3420	4.01	1287	3720	4.36
5100	1086	2795	3.28	1144	3082	3.61	1199	3375	3.96	1252	3674	4.31	1304	3979	4.67
5700	1132	3324	3.90	1187	3624	4.25	1240	3929	4.61	1291	4241	4.97	1341	4558	5.35
6000	1157	3619	4.24	1210	3925	4.60	1262	4239	4.97	1312	4557	5.34	1361	4880	5.72
6300	1182	3935	4.62	1234	4249	4.98	1285	4569	5.36	1334	4894	5.74	—	—	—
6600	1208	4274	5.01	1259	4595	5.39	1309	4922	5.77	—	—	—	—	—	—
6900	1235	4636	5.44	1285	4964	5.82	—	—	—	—	—	—	—	—	—
7200	1262	5021	5.89	—	—	—	—	—	—	—	—	—	—	—	—
7500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

581A180 (15 TONS) (Low Heat Units)* (cont)

Airflow (Cfm)	Available External Static Pressure (in. wg)														
	2.2			2.4			2.6			2.8			3.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
4500	1322	3781	4.43	1372	4088	4.79	1419	4400	5.16	1466	4719	5.53	1511	5042	5.91
4800	1337	4025	4.72	1386	4337	5.09	1433	4655	5.46	1479	4978	5.84	—	—	—
5100	1353	4290	5.03	1401	4607	5.40	1448	4930	5.78	—	—	—	—	—	—
5700	1388	4881	5.72	—	—	—	—	—	—	—	—	—	—	—	—
6000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

*Standard low-medium static drive range is 873 to 1021 rpm. Alternate high-static drive range is 1025 to 1200. Other rpms require a field-supplied drive.

Refer to page 262 for general Fan Performance Data notes.

NOTES:

1. Maximum continuous bhp for the standard motor is 6.13. The maximum continuous watts is 5180. Do not adjust motor rpm such that motor maximum bhp and/or watts is exceeded at the maximum operating cfm. See Evaporator Fan Motor Data tables for more information.
2. Fan performance is identical for horizontal discharge applications using Bryant horizontal adapter curb.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

581A180 (15 TONS) (High Heat Units)*

Airflow (Cfm)	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
4500	753	1307	1.53	786	1404	1.65	861	1644	1.93	932	1893	2.22	997	2150	2.52
4800	747	1384	1.62	818	1603	1.88	890	1852	2.17	958	2108	2.47	1022	2373	2.78
5100	775	1571	1.84	850	1822	2.14	920	2079	2.44	986	2344	2.75	1048	2616	3.07
5700	849	2054	2.41	918	2323	2.73	982	2598	3.05	1044	2879	3.38	1102	3166	3.71
6000	886	2329	2.73	952	2607	3.06	1015	2891	3.39	1074	3180	3.73	1130	3474	4.08
6300	924	2628	3.08	987	2915	3.42	1047	3207	3.76	1105	3504	4.11	1160	3807	4.46
6600	962	2951	3.46	1023	3246	3.81	1081	3547	4.16	1136	3853	4.52	1190	4163	4.88
6900	1000	3298	3.87	1059	3603	4.23	1115	3912	4.59	1168	4225	4.96	1220	4543	5.33
7200	1038	3672	4.31	1095	3986	4.67	1149	4303	5.05	1201	4625	5.42	1251	4950	5.81
7500	1077	4072	4.78	1131	4394	5.15	1184	4720	5.54	1234	5050	5.92	—	—	—

581A180 (15 TONS) (High Heat Units)* (cont)

Airflow (Cfm)	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
4500	1060	2414	2.83	1119	2685	3.15	1175	2964	3.48	1230	3250	3.81	1282	3542	4.15
4800	1082	2644	3.10	1140	2922	3.43	1195	3207	3.76	1248	3498	4.10	1299	3795	4.45
5100	1106	2894	3.39	1163	3178	3.73	1216	3470	4.07	1268	3767	4.42	1319	4071	4.77
5700	1157	3459	4.06	1211	3757	4.41	1262	4061	4.76	1312	4371	5.13	1360	4686	5.50
6000	1184	3774	4.43	1236	4080	4.79	1287	4391	5.15	1335	4707	5.52	1382	5029	5.90
6300	1212	4114	4.83	1263	4427	5.19	1312	4745	5.57	1359	5067	5.94	—	—	—
6600	1241	4478	5.25	1290	4798	5.63	1338	5122	6.01	—	—	—	—	—	—
6900	1270	4866	5.71	—	—	—	—	—	—	—	—	—	—	—	—
7200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

581A180 (15 TONS) (High Heat Units)* (cont)

Airflow (Cfm)	Available External Static Pressure (in. wg)														
	2.2			2.4			2.6			2.8			3.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
4500	1332	3841	4.50	1381	4145	4.86	1428	4456	5.23	1473	4772	5.60	1518	5095	5.98
4800	1349	4100	4.81	1397	4409	5.17	1443	4725	5.54	1488	5046	5.92	—	—	—
5100	1367	4380	5.14	1414	4695	5.51	1460	5016	5.88	—	—	—	—	—	—
5700	1407	5007	5.87	—	—	—	—	—	—	—	—	—	—	—	—
6000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Standard low-medium static drive range is 873 to 1021 rpm. Alternate high-static drive range is 1025 to 1200. Other rpms require a field-supplied drive.

Refer to page 262 for general Fan Performance Data notes.

NOTES:

1. Maximum continuous bhp for the standard motor is 6.13. The maximum continuous watts is 5180. Do not adjust motor rpm such that motor maximum bhp and/or watts is exceeded at the maximum operating cfm. See Evaporator Fan Motor Data tables for more information.
2. Fan performance is identical for horizontal discharge applications using Bryant horizontal adapter curb.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

581A210 (18 TONS) (Low Heat Units)*															
Airflow (Cfm)	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3500	460	591	0.68	548	774	0.89	623	951	1.09	692	1126	1.29	755	1301	1.50
4000	499	774	0.89	581	976	1.12	653	1170	1.35	717	1361	1.56	777	1551	1.78
4500	538	990	1.14	617	1212	1.39	685	1423	1.64	746	1630	1.88	803	1835	2.11
5000	579	1243	1.43	654	1485	1.71	719	1715	1.97	778	1938	2.23	832	2158	2.48
5500	621	1536	1.77	693	1798	2.07	755	2045	2.35	811	2285	2.63	864	2520	2.90
6000	664	1871	2.15	732	2152	2.48	792	2417	2.78	846	2673	3.07	897	2925	3.36
6500	707	2250	2.59	772	2550	2.93	830	2834	3.26	883	3106	3.57	932	3373	3.88
7000	751	2676	3.08	813	2994	3.44	869	3295	3.79	920	3585	4.12	967	3868	4.45
7500	795	3150	3.62	855	3487	4.01	909	3805	4.38	958	4112	4.73	1004	4411	5.07
8000	839	3676	4.23	897	4029	4.63	949	4366	5.02	997	4689	5.39	1042	5004	5.75
8500	884	4253	4.89	940	4625	5.32	990	4978	5.73	1037	5318	6.12	1080	5649	6.50

581A210 (18 TONS) (Low Heat Units)* (cont)															
Airflow (Cfm)	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3500	814	1476	1.70	871	1650	1.90	924	1825	2.10	975	1999	2.30	1023	2173	2.50
4000	834	1740	2.00	888	1930	2.22	939	2119	2.44	988	2308	2.65	1035	2497	2.87
4500	857	2039	2.35	909	2243	2.58	958	2446	2.81	1005	2650	3.05	1051	2853	3.28
5000	884	2376	2.73	933	2594	2.98	980	2811	3.23	1026	3028	3.48	1070	3244	3.73
5500	913	2753	3.17	960	2984	3.43	1006	3215	3.70	1049	3445	3.96	1092	3674	4.23
6000	945	3172	3.65	990	3417	3.93	1034	3662	4.21	1076	3905	4.49	1117	4147	4.77
6500	978	3636	4.18	1022	3895	4.48	1064	4153	4.78	1104	4409	5.07	1144	4665	5.37
7000	1012	4145	4.77	1055	4419	5.08	1095	4691	5.39	1135	4960	5.70	1173	5229	6.01
7500	1047	4703	5.41	1089	4992	5.74	1128	5277	6.07	1167	5561	6.40	1204	5842	6.72
8000	1084	5311	6.11	1124	5615	6.46	1163	5915	6.80	1200	6211	7.14	1236	6506	7.48
8500	1121	5972	6.87	1160	6290	7.23	1198	6604	7.60	1234	6914	7.95	1269	7223	8.31

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive ranges:
Low Range: 647-886 (208/230 and 460-v), 810-1072 (575-v)
High Range: 897-1139 (208/230 and 460-v), 873-1108 (575-v)
All other rpms require field-supplied drive.

Refer to page 262 for general Fan Performance Data notes.

NOTE: Maximum continuous bhp is:
Low Range: 4.25 (208/230 and 460-v), 3.45 (575-v)
High Range: 5.75

PERFORMANCE DATA (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

581A210 (18 TONS) (Medium Heat Units)*															
Airflow (Cfm)	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3500	470	611	0.70	556	791	0.91	630	967	1.11	697	1141	1.31	760	1314	1.51
4000	511	802	0.92	591	1001	1.15	661	1194	1.37	725	1383	1.59	784	1572	1.81
4500	553	1029	1.18	629	1248	1.44	695	1458	1.68	756	1663	1.91	812	1866	2.15
5000	597	1297	1.49	669	1534	1.76	732	1761	2.03	789	1982	2.28	843	2201	2.53
5500	641	1606	1.85	709	1862	2.14	770	2106	2.42	825	2343	2.70	876	2577	2.96
6000	686	1961	2.26	751	2234	2.57	809	2495	2.87	862	2749	3.16	911	2997	3.45
6500	732	2363	2.72	794	2653	3.05	849	2931	3.37	900	3201	3.68	948	3465	3.99
7000	779	2815	3.24	837	3122	3.59	891	3416	3.93	940	3702	4.26	986	3981	4.58
7500	826	3320	3.82	882	3642	4.19	933	3953	4.55	980	4254	4.89	1025	4549	5.23
8000	873	3879	4.46	926	4217	4.85	975	4542	5.22	1021	4860	5.59	1065	5169	5.95
8500	921	4495	5.17	972	4847	5.57	1019	5189	5.97	1063	5521	6.35	1105	5846	6.72

581A210 (18 TONS) (Medium Heat Units)* (cont)															
Airflow (Cfm)	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3500	818	1488	1.71	874	1661	1.91	927	1835	2.11	978	2008	2.31	1026	2182	2.51
4000	840	1760	2.02	893	1948	2.24	943	2136	2.46	992	2324	2.67	1039	2512	2.89
4500	865	2068	2.38	915	2270	2.61	964	2472	2.84	1011	2673	3.07	1056	2876	3.31
5000	893	2417	2.78	942	2632	3.03	988	2848	3.28	1033	3063	3.52	1076	3278	3.77
5500	925	2808	3.23	971	3037	3.49	1016	3266	3.76	1059	3494	4.02	1100	3721	4.28
6000	958	3243	3.73	1003	3486	4.01	1045	3728	4.29	1087	3970	4.57	1127	4210	4.84
6500	993	3725	4.28	1036	3982	4.58	1077	4238	4.87	1117	4492	5.17	1156	4745	5.46
7000	1029	4256	4.90	1071	4528	5.21	1111	4797	5.52	1150	5064	5.82	1187	5330	6.13
7500	1067	4838	5.56	1107	5124	5.89	1146	5407	6.22	1184	5688	6.54	1220	5967	6.86
8000	1106	5474	6.30	1145	5774	6.64	1182	6071	6.98	1219	6365	7.32	1254	6657	7.66
8500	1145	6165	7.09	1183	6479	7.45	1220	6790	7.81	1255	7098	8.16	1290	7403	8.51

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive ranges:
Low Range: 647-886 (208/230 and 460-v), 810-1072 (575-v)
High Range: 897-1139 (208/230 and 460-v), 873-1108 (575-v)
All other rpms require field-supplied drive.

Refer to page 262 for general Fan Performance Data notes.

NOTE: Maximum continuous bhp is:
Low Range: 4.25 (208/230 and 460-v), 3.45 (575-v)
High Range: 5.75

PERFORMANCE DATA (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

581A210 (18 TONS) (High Heat Units)*															
Airflow (Cfm)	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3500	470	611	0.70	556	791	0.91	630	967	1.11	697	1141	1.31	760	1314	1.51
4000	511	802	0.92	591	1001	1.15	661	1194	1.37	725	1383	1.59	784	1572	1.81
4500	553	1029	1.18	629	1248	1.44	695	1458	1.68	756	1663	1.91	812	1866	2.15
5000	597	1297	1.49	669	1534	1.76	732	1761	2.03	789	1982	2.28	843	2201	2.53
5500	641	1606	1.85	709	1862	2.14	770	2106	2.42	825	2343	2.70	876	2577	2.96
6000	686	1961	2.26	751	2234	2.57	809	2495	2.87	862	2749	3.16	911	2997	3.45
6500	732	2363	2.72	794	2653	3.05	849	2931	3.37	900	3201	3.68	948	3465	3.99
7000	779	2815	3.24	837	3122	3.59	891	3416	3.93	940	3702	4.26	986	3981	4.58
7500	826	3320	3.82	882	3642	4.19	933	3953	4.55	980	4254	4.89	1025	4549	5.23
8000	873	3879	4.46	926	4217	4.85	975	4542	5.22	1021	4860	5.59	1065	5169	5.95
8500	921	4495	5.17	972	4847	5.57	1019	5189	5.97	1063	5521	6.35	1105	5846	6.72

581A210 (18 TONS) (High Heat Units)* (cont)															
Airflow (Cfm)	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3500	818	1488	1.71	874	1661	1.91	927	1835	2.11	978	2008	2.31	1026	2182	2.51
4000	840	1760	2.02	893	1948	2.24	943	2136	2.46	992	2324	2.67	1039	2512	2.89
4500	865	2068	2.38	915	2270	2.61	964	2472	2.84	1011	2673	3.07	1056	2876	3.31
5000	893	2417	2.78	942	2632	3.03	988	2848	3.28	1033	3063	3.52	1076	3278	3.77
5500	925	2808	3.23	971	3037	3.49	1016	3266	3.76	1059	3494	4.02	1100	3721	4.28
6000	958	3243	3.73	1003	3486	4.01	1045	3728	4.29	1087	3970	4.57	1127	4210	4.84
6500	993	3725	4.28	1036	3982	4.58	1077	4238	4.87	1117	4492	5.17	1156	4745	5.46
7000	1029	4256	4.90	1071	4528	5.21	1111	4797	5.52	1150	5064	5.82	1187	5330	6.13
7500	1067	4838	5.56	1107	5124	5.89	1146	5407	6.22	1184	5688	6.54	1220	5967	6.86
8000	1106	5474	6.30	1145	5774	6.64	1182	6071	6.98	1219	6365	7.32	1254	6657	7.66
8500	1145	6165	7.09	1183	6479	7.45	1220	6790	7.81	1255	7098	8.16	1290	7403	8.51

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive ranges:
Low Range: 647-886 (208/230 and 460-v), 810-1072 (575-v)
High Range: 897-1139 (208/230 and 460-v), 873-1108 (575-v)
All other rpms require field-supplied drive.

Refer to page 262 for general Fan Performance Data notes.

NOTE: Maximum continuous bhp is:
Low Range: 4.25 (208/230 and 460-v), 3.45 (575-v)
High Range: 5.75

PERFORMANCE DATA (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

581A240 (20 TONS) (Low Heat Units)*

Airflow (Cfm)	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
5,000	590	1276	1.47	663	1516	1.74	727	1745	2.01	786	1968	2.26	840	2189	2.52
5,500	633	1579	1.82	703	1838	2.11	764	2084	2.40	820	2324	2.67	872	2560	2.94
6,000	677	1925	2.21	744	2203	2.53	803	2467	2.84	857	2723	3.13	907	2974	3.42
6,500	722	2317	2.67	786	2614	3.01	842	2896	3.33	894	3167	3.64	942	3434	3.95
7,000	767	2758	3.17	828	3073	3.53	883	3371	3.88	933	3660	4.21	979	3942	4.53
7,500	813	3250	3.74	871	3582	4.12	924	3897	4.48	972	4202	4.83	1017	4500	5.18
8,000	859	3795	4.36	915	4143	4.77	966	4475	5.15	1012	4797	5.52	1056	5110	5.88
8,500	906	4394	5.05	959	4759	5.47	1008	5107	5.87	1053	5445	6.26	1096	5774	6.64
9,000	952	5051	5.81	1004	5432	6.25	1051	5797	6.67	1095	6150	7.07	1136	6494	7.47
9,500	999	5767	6.63	1049	6163	7.09	1094	6544	7.53	1137	6913	7.95	1177	7272	8.36
10,000	1047	6544	7.53	1094	6956	8.00	1138	7352	8.46	1180	7736	8.90	1219	8111	9.33

581A240 (20 TONS) (Low Heat Units)* (cont)

Airflow (Cfm)	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
5,000	891	2408	2.77	940	2625	3.02	987	2843	3.27	1032	3060	3.52	1076	3277	3.77
5,500	921	2792	3.21	968	3024	3.48	1014	3255	3.74	1057	3485	4.01	1099	3716	4.27
6,000	954	3221	3.70	999	3467	3.99	1042	3711	4.27	1084	3955	4.55	1125	4198	4.83
6,500	988	3696	4.25	1032	3956	4.55	1073	4214	4.85	1114	4470	5.14	1153	4726	5.44
7,000	1024	4219	4.85	1066	4493	5.17	1106	4764	5.48	1145	5034	5.79	1183	5303	6.10
7,500	1060	4792	5.51	1101	5080	5.84	1140	5365	6.17	1178	5649	6.50	1215	5930	6.82
8,000	1098	5417	6.23	1138	5719	6.58	1176	6018	6.92	1213	6315	7.26	1249	6610	7.60
8,500	1137	6096	7.01	1175	6413	7.38	1212	6726	7.74	1248	7036	8.09	1283	7344	8.45
9,000	1176	6831	7.86	1214	7163	8.24	1250	7490	8.61	1285	7814	8.99	1319	8135	9.36
9,500	1216	7624	8.77	1253	7970	9.17	1288	8312	9.56	1322	8649	9.95	1355	8984	10.33
10,000	1256	8478	9.75	1292	8838	10.16	1327	9193	10.57	1360	9545	10.98	1393	9893	11.38

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive ranges:
Low Range: 949-1206
High Range: 941-1176
All other rpms require field-supplied drive.

Refer to page 262 for general Fan Performance Data notes.

NOTE: Maximum continuous bhp is:
Low Range: 5.75
High Range: 8.63

PERFORMANCE DATA (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

581A240 (20 TONS) (Medium Heat Units)*															
Airflow (Cfm)	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
5,000	607	1329	1.53	677	1565	1.80	740	1791	2.06	797	2013	2.31	850	2231	2.57
5,500	652	1648	1.90	719	1902	2.19	779	2145	2.47	833	2382	2.74	884	2616	3.01
6,000	699	2013	2.32	763	2285	2.63	819	2545	2.93	872	2798	3.22	921	3046	3.50
6,500	746	2428	2.79	807	2716	3.12	861	2993	3.44	911	3262	3.75	958	3525	4.05
7,000	794	2895	3.33	851	3198	3.68	904	3491	4.02	952	3776	4.34	998	4055	4.66
7,500	842	3415	3.93	897	3735	4.30	947	4043	4.65	994	4343	5.00	1038	4637	5.33
8,000	891	3992	4.59	943	4327	4.98	991	4650	5.35	1036	4966	5.71	1079	5274	6.07
8,500	940	4628	5.32	990	4977	5.72	1036	5316	6.11	1080	5646	6.49	1121	5970	6.87
9,000	990	5325	6.12	1037	5688	6.54	1082	6042	6.95	1124	6386	7.35	1163	6724	7.73
9,500	1039	6085	7.00	1085	6462	7.43	1128	6829	7.85	1168	7188	8.27	1207	7541	8.67
10,000	1089	6911	7.95	1133	7301	8.40	1174	7682	8.83	1213	8055	9.26	1251	8421	9.69

581A240 (20 TONS) (Medium Heat Units)* (cont)															
Airflow (Cfm)	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
5,000	900	2448	2.82	949	2664	3.06	995	2879	3.31	1040	3095	3.56	1083	3310	3.81
5,500	933	2847	3.27	979	3077	3.54	1023	3305	3.80	1066	3534	4.06	1108	3762	4.33
6,000	967	3292	3.79	1011	3535	4.07	1054	3778	4.35	1095	4019	4.62	1135	4260	4.90
6,500	1003	3785	4.35	1046	4043	4.65	1087	4298	4.94	1127	4553	5.24	1165	4806	5.53
7,000	1041	4330	4.98	1082	4601	5.29	1122	4870	5.60	1160	5138	5.91	1197	5404	6.22
7,500	1079	4926	5.67	1119	5212	5.99	1158	5495	6.32	1195	5776	6.64	1231	6055	6.96
8,000	1119	5578	6.42	1158	5878	6.76	1195	6174	7.10	1231	6468	7.44	1267	6761	7.78
8,500	1160	6288	7.23	1198	6601	7.59	1234	6912	7.95	1269	7219	8.30	1303	7524	8.65
9,000	1202	7056	8.12	1238	7384	8.49	1273	7708	8.87	1308	8029	9.23	1341	8347	9.60
9,500	1244	7887	9.07	1279	8228	9.46	1314	8566	9.85	1347	8900	10.24	1379	9231	10.62
10,000	1287	8781	10.10	1321	9137	10.51	1355	9488	10.91	1387	9836	11.31	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive ranges:
Low Range: 949-1206
High Range: 941-1176
All other rpms require field-supplied drive.

Refer to page 261 for general Fan Performance Data notes.

NOTE: Maximum continuous bhp is:
Low Range: 5.75
High Range: 8.63

PERFORMANCE DATA (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

581A240 (20 TONS) (High Heat Units)*															
Airflow (Cfm)	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
5,000	607	1329	1.53	677	1565	1.80	740	1791	2.06	797	2013	2.31	850	2231	2.57
5,500	652	1648	1.90	719	1902	2.19	779	2145	2.47	833	2382	2.74	884	2616	3.01
6,000	699	2013	2.32	763	2285	2.63	819	2545	2.93	872	2798	3.22	921	3046	3.50
6,500	746	2428	2.79	807	2716	3.12	861	2993	3.44	911	3262	3.75	958	3525	4.05
7,000	794	2895	3.33	851	3198	3.68	904	3491	4.02	952	3776	4.34	998	4055	4.66
7,500	842	3415	3.93	897	3735	4.30	947	4043	4.65	994	4343	5.00	1038	4637	5.33
8,000	891	3992	4.59	943	4327	4.98	991	4650	5.35	1036	4966	5.71	1079	5274	6.07
8,500	940	4628	5.32	990	4977	5.72	1036	5316	6.11	1080	5646	6.49	1121	5970	6.87
9,000	990	5325	6.12	1037	5688	6.54	1082	6042	6.95	1124	6386	7.35	1163	6724	7.73
9,500	1039	6085	7.00	1085	6462	7.43	1128	6829	7.85	1168	7188	8.27	1207	7541	8.67
10,000	1089	6911	7.95	1133	7301	8.40	1174	7682	8.83	1213	8055	9.26	1251	8421	9.69

581A240 (20 TONS) (High Heat Units)* (cont)															
Airflow (Cfm)	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
5,000	900	2448	2.82	949	2664	3.06	995	2879	3.31	1040	3095	3.56	1083	3310	3.81
5,500	933	2847	3.27	979	3077	3.54	1023	3305	3.80	1066	3534	4.06	1108	3762	4.33
6,000	967	3292	3.79	1011	3535	4.07	1054	3778	4.35	1095	4019	4.62	1135	4260	4.90
6,500	1003	3785	4.35	1046	4043	4.65	1087	4298	4.94	1127	4553	5.24	1165	4806	5.53
7,000	1041	4330	4.98	1082	4601	5.29	1122	4870	5.60	1160	5138	5.91	1197	5404	6.22
7,500	1079	4926	5.67	1119	5212	5.99	1158	5495	6.32	1195	5776	6.64	1231	6055	6.96
8,000	1119	5578	6.42	1158	5878	6.76	1195	6174	7.10	1231	6468	7.44	1267	6761	7.78
8,500	1160	6288	7.23	1198	6601	7.59	1234	6912	7.95	1269	7219	8.30	1303	7524	8.65
9,000	1202	7056	8.12	1238	7384	8.49	1273	7708	8.87	1308	8029	9.23	1341	8347	9.60
9,500	1244	7887	9.07	1279	8228	9.46	1314	8566	9.85	1347	8900	10.24	1379	9231	10.62
10,000	1287	8781	10.10	1321	9137	10.51	1355	9488	10.91	1387	9836	11.31	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive ranges:
Low Range: 949-1206
High Range: 941-1176
All other rpms require field-supplied drive.

Refer to page 261 for general Fan Performance Data notes.

NOTE: Maximum continuous bhp is:
Low Range: 5.75
High Range: 8.63

PERFORMANCE DATA (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

581A300 (25 TONS) (Low Heat Units)*															
Airflow (Cfm)	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
6,500	750	2,468	2.84	806	2,767	3.18	854	3,031	3.49	898	3,298	3.79	943	3,584	4.12
7,000	797	2,942	3.38	853	3,276	3.77	899	3,557	4.09	941	3,832	4.41	982	4,118	4.74
7,500	845	3,468	3.99	900	3,840	4.42	945	4,142	4.76	985	4,430	5.09	1024	4,721	5.43
8,000	892	4,045	4.65	948	4,462	5.13	991	4,789	5.51	1030	5,092	5.86	1067	5,391	6.20
8,500	939	4,677	5.38	995	5,141	5.91	1038	5,497	6.32	1076	5,818	6.69	1112	6,129	7.05
9,000	986	5,364	6.17	1042	5,882	6.76	1085	6,269	7.21	1122	6,611	7.60	1157	6,936	7.98
9,500	1033	6,108	7.03	1090	6,684	7.69	1132	7,105	8.17	1169	7,470	8.59	1203	7,813	8.99
10,000	1079	6,911	7.95	1137	7,550	8.68	1180	8,007	9.21	1216	8,399	9.66	1249	8,761	10.08
10,500	1126	7,773	8.94	1184	8,480	9.75	1227	8,978	10.33	1263	9,399	10.81	1296	9,782	11.25
11,000	1172	8,696	10.00	1232	9,475	10.90	1274	10,017	11.52	1310	10,468	12.04	1342	10,876	12.51
11,500	1219	9,681	11.13	1279	10,539	12.12	1322	11,127	12.80	1357	11,611	13.35	—	—	—
12,000	1265	10,732	12.34	1326	11,669	13.42	—	—	—	—	—	—	—	—	—
12,500	1311	11,848	13.63	—	—	—	—	—	—	—	—	—	—	—	—

581A300 (25 TONS) (Low Heat Units)* (cont)															
Airflow (Cfm)	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
6,500	988	3,900	4.49	1035	4,250	4.89	1082	4,634	5.33	1130	5,053	5.81	1177	5,499	6.32
7,000	1024	4,426	5.09	1066	4,760	5.48	1109	5,126	5.90	1153	5,524	6.35	1197	5,953	6.85
7,500	1063	5,026	5.78	1101	5,351	6.15	1141	5,702	6.56	1181	6,081	6.99	1222	6,490	7.46
8,000	1104	5,698	6.55	1140	6,020	6.92	1176	6,361	7.32	1213	6,727	7.74	1251	7,118	8.19
8,500	1146	6,443	7.41	1180	6,765	7.78	1214	7,103	8.17	1249	7,459	8.58	1283	7,837	9.01
9,000	1190	7,259	8.35	1222	7,586	8.73	1255	7,925	9.11	1287	8,276	9.52	1319	8,645	9.94
9,500	1235	8,148	9.37	1266	8,483	9.76	1296	8,824	10.15	1327	9,176	10.55	1357	9,541	10.97
10,000	1280	9,111	10.48	1310	9,456	10.88	1340	9,804	11.28	1369	10,158	11.68	1398	10,522	12.10
10,500	1326	10,147	11.67	1355	10,505	12.08	1384	10,862	12.49	—	—	—	—	—	—
11,000	1372	11,259	12.95	—	—	—	—	—	—	—	—	—	—	—	—
11,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive ranges:
Low Range: 805-1007
High Range: 941-1176
All other rpms require field-supplied drive.

Refer to page 261 for general Fan Performance Data notes.

NOTE: Maximum continuous bhp is:
Low Range: 5.75
High Range: 8.63

PERFORMANCE DATA (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

581A300 (25 TONS) (Medium Heat Units)*															
Airflow (Cfm)	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
6,500	775	2,600	2.99	825	2,872	3.30	871	3,130	3.60	915	3,400	3.91	959	3,692	4.25
7,000	826	3,115	3.58	875	3,408	3.92	918	3,679	4.23	959	3,954	4.55	1000	4,245	4.88
7,500	878	3,690	4.24	925	4,006	4.61	966	4,292	4.94	1005	4,575	5.26	1043	4,868	5.60
8,000	929	4,326	4.98	975	4,667	5.37	1015	4,970	5.72	1052	5,265	6.06	1088	5,564	6.40
8,500	981	5,029	5.78	1026	5,395	6.20	1064	5,717	6.58	1100	6,025	6.93	1134	6,332	7.28
9,000	1033	5,799	6.67	1076	6,191	7.12	1114	6,533	7.51	1148	6,856	7.89	1181	7,173	8.25
9,500	1085	6,640	7.64	1128	7,058	8.12	1164	7,421	8.54	1198	7,761	8.93	1229	8,091	9.31
10,000	1137	7,553	8.69	1179	8,000	9.20	1214	8,385	9.64	1247	8,741	10.05	1278	9,086	10.45
10,500	1190	8,542	9.82	1230	9,016	10.37	1265	9,424	10.84	1297	9,799	11.27	1327	10,158	11.68
11,000	1242	9,609	11.05	1282	10,111	11.63	1316	10,542	12.12	1347	10,937	12.58	1376	11,311	13.01
11,500	1294	10,756	12.37	1333	11,287	12.98	1367	11,741	13.50	—	—	—	—	—	—
12,000	1347	11,985	13.78	—	—	—	—	—	—	—	—	—	—	—	—
12,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

581A300 (25 TONS) (Medium Heat Units)* (cont)															
Airflow (Cfm)	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
6,500	1004	4,016	4.62	1050	4,374	5.03	1098	4,769	5.48	1145	5,195	5.97	1192	5646	6.49
7,000	1041	4,559	5.24	1083	4,902	5.64	1126	5,277	6.07	1170	5,685	6.54	1214	6122	7.04
7,500	1081	5,179	5.96	1120	5,512	6.34	1159	5,872	6.75	1199	6,261	7.20	1240	6680	7.68
8,000	1124	5,875	6.76	1160	6,203	7.13	1196	6,553	7.54	1233	6,928	7.97	1270	7329	8.43
8,500	1168	6,647	7.64	1202	6,974	8.02	1235	7,318	8.42	1269	7,684	8.84	1304	8071	9.28
9,000	1214	7,495	8.62	1245	7,825	9.00	1277	8,168	9.39	1309	8,527	9.81	1341	8905	10.24
9,500	1260	8,421	9.69	1290	8,756	10.07	1320	9,100	10.47	1351	9,457	10.88	1381	9830	11.31
10,000	1308	9,425	10.84	1337	9,768	11.23	1365	10,116	11.63	1394	10,474	12.05	—	—	—
10,500	1356	10,510	12.09	1384	10,862	12.49	—	—	—	—	—	—	—	—	—
11,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
11,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive ranges:
Low Range: 805-1007
High Range: 941-1176
All other rpms require field-supplied drive.

Refer to page 261 for general Fan Performance Data notes.

NOTE: Maximum continuous bhp is:
Low Range: 5.75
High Range: 8.63

PERFORMANCE DATA (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

581A300 (25 TONS) (High Heat Units)*															
Airflow (Cfm)	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
6,500	775	2,600	2.99	825	2,872	3.30	871	3,130	3.60	915	3,400	3.91	959	3,692	4.25
7,000	826	3,115	3.58	875	3,408	3.92	918	3,679	4.23	959	3,954	4.55	1000	4,245	4.88
7,500	878	3,690	4.24	925	4,006	4.61	966	4,292	4.94	1005	4,575	5.26	1043	4,868	5.60
8,000	929	4,326	4.98	975	4,667	5.37	1015	4,970	5.72	1052	5,265	6.06	1088	5,564	6.40
8,500	981	5,029	5.78	1026	5,395	6.20	1064	5,717	6.58	1100	6,025	6.93	1134	6,332	7.28
9,000	1033	5,799	6.67	1076	6,191	7.12	1114	6,533	7.51	1148	6,856	7.89	1181	7,173	8.25
9,500	1085	6,640	7.64	1128	7,058	8.12	1164	7,421	8.54	1198	7,761	8.93	1229	8,091	9.31
10,000	1137	7,553	8.69	1179	8,000	9.20	1214	8,385	9.64	1247	8,741	10.05	1278	9,086	10.45
10,500	1190	8,542	9.82	1230	9,016	10.37	1265	9,424	10.84	1297	9,799	11.27	1327	10,158	11.68
11,000	1242	9,609	11.05	1282	10,111	11.63	1316	10,542	12.12	1347	10,937	12.58	1376	11,311	13.01
11,500	1294	10,756	12.37	1333	11,287	12.98	1367	11,741	13.50	—	—	—	—	—	—
12,000	1347	11,985	13.78	—	—	—	—	—	—	—	—	—	—	—	—
12,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

581A300 (25 TONS) (High Heat Units)* (cont)															
Airflow (Cfm)	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
6,500	1004	4,016	4.62	1050	4,374	5.03	1098	4,769	5.48	1145	5,195	5.97	1192	5646	6.49
7,000	1041	4,559	5.24	1083	4,902	5.64	1126	5,277	6.07	1170	5,685	6.54	1214	6122	7.04
7,500	1081	5,179	5.96	1120	5,512	6.34	1159	5,872	6.75	1199	6,261	7.20	1240	6680	7.68
8,000	1124	5,875	6.76	1160	6,203	7.13	1196	6,553	7.54	1233	6,928	7.97	1270	7329	8.43
8,500	1168	6,647	7.64	1202	6,974	8.02	1235	7,318	8.42	1269	7,684	8.84	1304	8071	9.28
9,000	1214	7,495	8.62	1245	7,825	9.00	1277	8,168	9.39	1309	8,527	9.81	1341	8905	10.24
9,500	1260	8,421	9.69	1290	8,756	10.07	1320	9,100	10.47	1351	9,457	10.88	1381	9830	11.31
10,000	1308	9,425	10.84	1337	9,768	11.23	1365	10,116	11.63	1394	10,474	12.05	—	—	—
10,500	1356	10,510	12.09	1384	10,862	12.49	—	—	—	—	—	—	—	—	—
11,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
11,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive ranges:
Low Range: 805-1007
High Range: 941-1176
All other rpms require field-supplied drive.

Refer to this page for general Fan Performance Data notes.

NOTE: Maximum continuous bhp is:
Low Range: 5.75
High Range: 8.63

GENERAL NOTES FOR FAN PERFORMANCE DATA TABLES

1. Static pressure losses (i.e., EconoMi$er IV) must be added to external static pressure before entering Fan Performance table.
2. Interpolation is permissible. Do not extrapolate.
3. Fan performance is based on wet coils, clean filters, and casing losses. See Accessory/FIOP Static Pressure table on page 273.
4. Extensive motor and drive testing on these units ensures that the full horsepower and watts range of the motor can be utilized with confidence. Using the fan motors up to the watts or bhp rating shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected.
5. Use of a field-supplied motor may affect wire size. Contact your Bryant representative for details.
6. Field-supplied drive requires changing belt and motor pulley to meet desired airflow. See application data or contact your local Bryant representative for details.

PERFORMANCE DATA (cont)

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

581A210 (18 TONS) (Low Heat Units)*															
Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3,500	635	1064	1.22	709	1278	1.47	776	1492	1.72	838	1708	1.96	896	1924	2.21
4,000	707	1402	1.61	773	1627	1.87	835	1853	2.13	892	2080	2.39	947	2307	2.65
4,500	780	1802	2.07	840	2037	2.34	897	2273	2.61	950	2510	2.89	1001	2465	2.84
5,000	853	2264	2.60	909	2510	2.89	961	2756	3.17	1011	2710	3.12	1059	3015	3.47
5,500	928	2794	3.21	979	3049	3.51	1028	3012	3.46	1075	3333	3.83	1120	3661	4.21
6,000	1003	3047	3.50	1051	3376	3.88	1096	3714	4.27	1140	4059	4.67	1182	4411	5.07
6,500	1079	3812	4.38	1123	4166	4.79	1166	4529	5.21	1207	4898	5.63	1247	5274	6.07
7,000	1155	4697	5.40	1196	5078	5.84	1236	5465	6.29	1275	5859	6.74	1313	6260	7.20
7,500	1231	5714	6.57	1270	6120	7.04	1308	6533	7.51	1345	6952	8.00	1381	7378	8.49
8,000	1308	6871	7.90	1344	7303	8.40	1380	7741	8.90	—	—	—	—	—	—
8,500	1385	8177	9.40	—	—	—	—	—	—	—	—	—	—	—	—
9,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

581A210 (18 TONS) (Low Heat Units)* (cont)															
Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3,500	951	2143	2.46	1003	2120	2.44	1052	2387	2.75	1100	2662	3.06	1146	2944	3.39
4,000	998	2535	2.92	1048	2548	2.93	1095	2835	3.26	1141	3129	3.60	1184	3432	3.95
4,500	1050	2756	3.17	1097	3055	3.51	1142	3363	3.87	1185	3678	4.23	1227	4001	4.60
5,000	1105	3329	3.83	1150	3651	4.20	1192	3979	4.58	1234	4315	4.96	1274	4658	5.36
5,500	1163	3997	4.60	1205	4342	4.99	1246	4692	5.40	1286	5051	5.81	1324	5415	6.23
6,000	1224	4771	5.49	1263	5138	5.91	1302	5511	6.34	1340	5892	6.78	1377	6278	7.22
6,500	1286	5658	6.51	1324	6048	6.96	1361	6445	7.41	1397	6847	7.87	—	—	—
7,000	1350	6668	7.67	1386	7081	8.14	—	—	—	—	—	—	—	—	—
7,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive ranges:
Low Range: 896-1227 (208/230 and 460-v), 863-1141 (575-v)
High Range: 1113-1414 (208/230 and 460-v), 1042-1285 (575-v)
All other rpms require field-supplied drive.

Refer to page 261 for general Fan Performance Data notes.

NOTE: Maximum continuous bhp is:
Low Range: 4.25 (208/230 and 460-v), 3.45 (575-v)
High Range: 5.75

PERFORMANCE DATA (cont)

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

581A210 (18 TONS) (Medium Heat Units)*															
Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3,500	645	1105	1.27	720	1329	1.53	788	1549	1.78	851	1767	2.03	910	1982	2.28
4,000	718	1454	1.67	785	1692	1.95	848	1926	2.22	906	2158	2.48	962	2388	2.75
4,500	792	1866	2.15	853	2117	2.43	911	2364	2.72	965	2609	3.00	1017	2583	2.97
5,000	867	2343	2.69	923	2605	3.00	977	2865	3.30	1027	2845	3.27	1076	3163	3.64
5,500	943	2889	3.32	995	3162	3.64	1044	3158	3.63	1092	3497	4.02	1138	3843	4.42
6,000	1019	3177	3.65	1067	3532	4.06	1113	3892	4.48	1158	4259	4.90	1201	4631	5.33
6,500	1096	3973	4.57	1141	4354	5.01	1184	4742	5.45	1226	5136	5.91	1267	5535	6.37
7,000	1173	4894	5.63	1215	5304	6.10	1256	5719	6.58	1295	6140	7.06	1334	6567	7.55
7,500	1250	5952	6.85	1290	6389	7.35	1328	6832	7.86	1366	7281	8.37	—	—	—
8,000	1328	7153	8.23	1365	7620	8.76	—	—	—	—	—	—	—	—	—
8,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

581A210 (18 TONS) (Medium Heat Units)* (cont)															
Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3,500	965	2195	2.53	1018	2181	2.51	1068	2442	2.81	1116	2708	3.11	1162	2979	3.43
4,000	1014	2364	2.72	1064	2644	3.04	1112	2930	3.37	1158	3221	3.70	1202	3517	4.05
4,500	1067	2882	3.31	1114	3187	3.67	1160	3498	4.02	1204	3814	4.39	1246	4135	4.76
5,000	1123	3489	4.01	1168	3820	4.39	1211	4156	4.78	1253	4497	5.17	1294	4844	5.57
5,500	1182	4194	4.82	1224	4551	5.23	1266	4913	5.65	1306	5280	6.07	1345	5652	6.50
6,000	1243	5008	5.76	1283	5391	6.20	1323	5779	6.65	1361	6172	7.10	1398	6569	7.56
6,500	1306	5939	6.83	1345	6349	7.30	1382	6763	7.78	—	—	—	—	—	—
7,000	1371	6997	8.05	—	—	—	—	—	—	—	—	—	—	—	—
7,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive ranges:
Low Range: 896-1227 (208/230 and 460-v), 863-1141 (575-v)
High Range: 1113-1414 (208/230 and 460-v), 1042-1285 (575-v)
All other rpms require field-supplied drive.

Refer to page 261 for general Fan Performance Data notes.

NOTE: Maximum continuous bhp is:
Low Range: 4.25 (208/230 and 460-v), 3.45 (575-v)
High Range: 5.75

PERFORMANCE DATA (cont)

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

581A210 (18 TONS) (High Heat Units)*															
Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3,500	645	1105	1.27	720	1329	1.53	788	1549	1.78	851	1767	2.03	910	1982	2.28
4,000	718	1454	1.67	785	1692	1.95	848	1926	2.22	906	2158	2.48	962	2388	2.75
4,500	792	1866	2.15	853	2117	2.43	911	2364	2.72	965	2609	3.00	1017	2583	2.97
5,000	867	2343	2.69	923	2605	3.00	977	2865	3.30	1027	2845	3.27	1076	3163	3.64
5,500	943	2889	3.32	995	3162	3.64	1044	3158	3.63	1092	3497	4.02	1138	3843	4.42
6,000	1019	3177	3.65	1067	3532	4.06	1113	3892	4.48	1158	4259	4.90	1201	4631	5.33
6,500	1096	3973	4.57	1141	4354	5.01	1184	4742	5.45	1226	5136	5.91	1267	5535	6.37
7,000	1173	4894	5.63	1215	5304	6.10	1256	5719	6.58	1295	6140	7.06	1334	6567	7.55
7,500	1250	5952	6.85	1290	6389	7.35	1328	6832	7.86	1366	7281	8.37	—	—	—
8,000	1328	7153	8.23	1365	7620	8.76	—	—	—	—	—	—	—	—	—
8,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

581A210 (18 TONS) (High Heat Units)* (cont)															
Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3,500	965	2195	2.53	1018	2181	2.51	1068	2442	2.81	1116	2708	3.11	1162	2979	3.43
4,000	1014	2364	2.72	1064	2644	3.04	1112	2930	3.37	1158	3221	3.70	1202	3517	4.05
4,500	1067	2882	3.31	1114	3187	3.67	1160	3498	4.02	1204	3814	4.39	1246	4135	4.76
5,000	1123	3489	4.01	1168	3820	4.39	1211	4156	4.78	1253	4497	5.17	1294	4844	5.57
5,500	1182	4194	4.82	1224	4551	5.23	1266	4913	5.65	1306	5280	6.07	1345	5652	6.50
6,000	1243	5008	5.76	1283	5391	6.20	1323	5779	6.65	1361	6172	7.10	1398	6569	7.56
6,500	1306	5939	6.83	1345	6349	7.30	1382	6763	7.78	—	—	—	—	—	—
7,000	1371	6997	8.05	—	—	—	—	—	—	—	—	—	—	—	—
7,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive ranges:
Low Range: 896-1227 (208/230 and 460-v), 863-1141 (575-v)
High Range: 1113-1414 (208/230 and 460-v), 1042-1285 (575-v)
All other rpms require field-supplied drive.

Refer to page 261Refer to page 261 for general Fan Performance Data notes.

NOTE: Maximum continuous bhp is:
Low Range: 4.25 (208/230 and 460-v), 3.45 (575-v)
High Range: 5.75

PERFORMANCE DATA (cont)

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

581A240 (20 TONS) (Low Heat Units)*															
Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3,500	642	1082	1.24	714	1296	1.49	781	1510	1.74	843	1726	1.98	901	1943	2.23
4,000	714	1426	1.64	780	1651	1.90	841	1877	2.16	898	2103	2.42	952	2330	2.68
4,500	787	1831	2.11	847	2067	2.38	904	2303	2.65	957	2540	2.92	1008	2501	2.88
5,000	862	2301	2.65	917	2547	2.93	969	2793	3.21	1019	2755	3.17	1066	3062	3.52
5,500	937	2838	3.26	988	3094	3.56	1036	3067	3.53	1083	3390	3.90	1127	3719	4.28
6,000	1013	3113	3.58	1060	3445	3.96	1105	3783	4.35	1149	4130	4.75	1191	4484	5.16
6,500	1089	3893	4.48	1133	4250	4.89	1175	4615	5.31	1216	4986	5.73	1256	5364	6.17
7,000	1166	4798	5.52	1207	5181	5.96	1247	5570	6.41	1285	5965	6.86	1323	6369	7.32
7,500	1243	5837	6.71	1282	6244	7.18	1319	6658	7.66	1355	7080	8.14	1391	7507	8.63
8,000	1320	7017	8.07	1356	7450	8.57	1392	7890	9.08	—	—	—	—	—	—
8,500	1398	8350	9.60	—	—	—	—	—	—	—	—	—	—	—	—
9,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

581A240 (20 TONS) (Low Heat Units)* (cont)															
Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3,500	955	2160	2.48	1007	2142	2.46	1056	2409	2.77	1104	2684	3.09	1149	2968	3.41
4,000	1004	2299	2.64	1053	2578	2.96	1100	2865	3.29	1145	3160	3.63	1189	3463	3.98
4,500	1056	2793	3.21	1103	3093	3.56	1147	3402	3.91	1191	3718	4.28	1233	4041	4.65
5,000	1112	3376	3.88	1156	3699	4.25	1199	4029	4.63	1240	4366	5.02	1280	4710	5.42
5,500	1171	4057	4.67	1212	4402	5.06	1253	4754	5.47	1292	5114	5.88	1331	5480	6.30
6,000	1232	4845	5.57	1271	5213	6.00	1310	5588	6.43	1348	5970	6.87	1384	6358	7.31
6,500	1295	5749	6.61	1333	6141	7.06	1369	6538	7.52	—	—	—	—	—	—
7,000	1360	6778	7.80	1396	7193	8.27	—	—	—	—	—	—	—	—	—
7,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive ranges:
Low Range: 896-1227 (208/230 and 460-v), 873-1108 (575-v)
High Range: 1113-1414
All other rpms require field-supplied drive.

Refer to page 261 for general Fan Performance Data notes.

NOTE: Maximum continuous bhp is:
Low Range: 4.25 (208/230 and 460-v), 5.75 (575-v)
High Range: 5.75

PERFORMANCE DATA (cont)

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

581A240 (20 TONS) (Medium Heat Units)*															
Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3,500	652	1123	1.29	726	1347	1.55	793	1567	1.80	856	1784	2.05	914	2000	2.30
4,000	725	1479	1.70	792	1716	1.97	854	1950	2.24	912	2182	2.51	967	2412	2.77
4,500	800	1897	2.18	861	2148	2.47	918	2395	2.75	972	2639	3.04	1024	2620	3.01
5,000	875	2383	2.74	931	2645	3.04	984	2904	3.34	1035	2892	3.33	1083	3212	3.69
5,500	952	2937	3.38	1003	2883	3.32	1053	3217	3.70	1100	3558	4.09	1145	3905	4.49
6,000	1029	3249	3.74	1077	3605	4.15	1123	3966	4.56	1167	4334	4.98	1210	4707	5.41
6,500	1106	4061	4.67	1151	4445	5.11	1194	4834	5.56	1236	5229	6.01	1276	5629	6.47
7,000	1184	5003	5.75	1226	5414	6.23	1266	5831	6.71	1306	6253	7.19	1344	6681	7.68
7,500	1262	6083	7.00	1302	6522	7.50	1340	6967	8.01	1377	7417	8.53	—	—	—
8,000	1341	7312	8.41	1378	7779	8.95	—	—	—	—	—	—	—	—	—
8,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

581A240 (20 TONS) (Medium Heat Units)* (cont)															
Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3,500	970	2213	2.55	1022	2203	2.53	1072	2464	2.83	1120	2730	3.14	1166	3002	3.45
4,000	1019	2393	2.75	1069	2673	3.07	1117	2959	3.40	1163	3251	3.74	1207	3548	4.08
4,500	1073	2920	3.36	1120	3226	3.71	1165	3537	4.07	1209	3854	4.43	1252	4176	4.80
5,000	1130	3537	4.07	1174	3870	4.45	1218	4207	4.84	1259	4549	5.23	1300	4896	5.63
5,500	1189	4257	4.90	1232	4614	5.31	1273	4977	5.72	1313	5345	6.15	1352	5719	6.58
6,000	1251	5086	5.85	1292	5469	6.29	1331	5859	6.74	1369	6253	7.19	—	—	—
6,500	1315	6035	6.94	1354	6446	7.41	1391	6861	7.89	—	—	—	—	—	—
7,000	1381	7114	8.18	—	—	—	—	—	—	—	—	—	—	—	—
7,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive ranges:
Low Range: 896-1227 (208/230 and 460-v), 873-1108 (575-v)
High Range: 1113-1414
All other rpms require field-supplied drive.

Refer to page 261 for general Fan Performance Data notes.

NOTE: Maximum continuous bhp is:
Low Range: 4.25 (208/230 and 460-v), 5.75 (575-v)
High Range: 5.75

PERFORMANCE DATA (cont)

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

581A240 (20 TONS) (High Heat Units)*															
Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3,500	652	1123	1.29	726	1347	1.55	793	1567	1.80	856	1784	2.05	914	2000	2.30
4,000	725	1479	1.70	792	1716	1.97	854	1950	2.24	912	2182	2.51	967	2412	2.77
4,500	800	1897	2.18	861	2148	2.47	918	2395	2.75	972	2639	3.04	1024	2620	3.01
5,000	875	2383	2.74	931	2645	3.04	984	2904	3.34	1035	2892	3.33	1083	3212	3.69
5,500	952	2937	3.38	1003	2883	3.32	1053	3217	3.70	1100	3558	4.09	1145	3905	4.49
6,000	1029	3249	3.74	1077	3605	4.15	1123	3966	4.56	1167	4334	4.98	1210	4707	5.41
6,500	1106	4061	4.67	1151	4445	5.11	1194	4834	5.56	1236	5229	6.01	1276	5629	6.47
7,000	1184	5003	5.75	1226	5414	6.23	1266	5831	6.71	1306	6253	7.19	1344	6681	7.68
7,500	1262	6083	7.00	1302	6522	7.50	1340	6967	8.01	1377	7417	8.53	—	—	—
8,000	1341	7312	8.41	1378	7779	8.95	—	—	—	—	—	—	—	—	—
8,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

581A240 (20 TONS) (High Heat Units)* (cont)															
Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3,500	970	2213	2.55	1022	2203	2.53	1072	2464	2.83	1120	2730	3.14	1166	3002	3.45
4,000	1019	2393	2.75	1069	2673	3.07	1117	2959	3.40	1163	3251	3.74	1207	3548	4.08
4,500	1073	2920	3.36	1120	3226	3.71	1165	3537	4.07	1209	3854	4.43	1252	4176	4.80
5,000	1130	3537	4.07	1174	3870	4.45	1218	4207	4.84	1259	4549	5.23	1300	4896	5.63
5,500	1189	4257	4.90	1232	4614	5.31	1273	4977	5.72	1313	5345	6.15	1352	5719	6.58
6,000	1251	5086	5.85	1292	5469	6.29	1331	5859	6.74	1369	6253	7.19	—	—	—
6,500	1315	6035	6.94	1354	6446	7.41	1391	6861	7.89	—	—	—	—	—	—
7,000	1381	7114	8.18	—	—	—	—	—	—	—	—	—	—	—	—
7,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive ranges:
Low Range: 896-1227 (208/230 and 460-v), 873-1108 (575-v)
High Range: 1113-1414
All other rpms require field-supplied drive.

Refer to page 261 for general Fan Performance Data notes.

NOTE: Maximum continuous bhp is:
Low Range: 4.25 (208/230 and 460-v), 5.75 (575-v)
High Range: 5.75

PERFORMANCE DATA (cont)

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

581A300 (25 TONS) (Low Heat Units)*															
Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
6,500	786	2,658	3.06	819	2,835	3.26	857	3,052	3.51	899	3,304	3.80	943	3,586	4.12
7,000	842	3,208	3.69	871	3,386	3.89	905	3,599	4.14	943	3,847	4.42	983	4,123	4.74
7,500	898	3,827	4.40	925	4,006	4.61	955	4,217	4.85	989	4,460	5.13	1026	4,733	5.44
8,000	955	4,518	5.20	979	4,699	5.40	1007	4,908	5.65	1037	5,148	5.92	1070	5,416	6.23
8,500	1012	5,284	6.08	1034	5,466	6.29	1059	5,675	6.53	1087	5,912	6.80	1117	6,176	7.10
9,000	1069	6,127	7.05	1090	6,312	7.26	1113	6,521	7.50	1138	6,757	7.77	1165	7,017	8.07
9,500	1127	7,050	8.11	1146	7,238	8.32	1167	7,448	8.57	1190	7,682	8.84	1215	7,940	9.13
10,000	1184	8,057	9.27	1202	8,247	9.49	1221	8,460	9.73	1243	8,693	10.00	1266	8,948	10.29
10,500	1242	9,149	10.52	1258	9,344	10.75	1276	9,557	10.99	1296	9,791	11.26	1318	10,046	11.55
11,000	1299	10,331	11.88	1315	10,529	12.11	1332	10,745	12.36	1350	10,979	12.63	1370	11,232	12.92
11,500	1357	11,604	13.35	1372	11,806	13.58	—	—	—	—	—	—	—	—	—
12,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

581A300 (25 TONS) (Low Heat Units)* (cont)															
Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
6,500	988	3,900	4.49	1035	4,248	4.89	1082	4,632	5.33	1129	5,050	5.81	1177	5,499	6.32
7,000	1024	4,428	5.09	1066	4,760	5.48	1109	5,124	5.89	1153	5,521	6.35	1197	5,950	6.84
7,500	1063	5,031	5.79	1102	5,354	6.16	1141	5,703	6.56	1181	6,081	6.99	1221	6,487	7.46
8,000	1105	5,709	6.57	1140	6,025	6.93	1176	6,364	7.32	1213	6,729	7.74	1250	7,116	8.18
8,500	1149	6,465	7.44	1181	6,777	7.79	1215	7,109	8.18	1249	7,463	8.58	1283	7,838	9.02
9,000	1194	7,302	8.40	1225	7,608	8.75	1256	7,935	9.13	1287	8,282	9.53	1319	8,649	9.95
9,500	1242	8,222	9.46	1270	8,524	9.80	1298	8,847	10.17	1328	9,189	10.57	1358	9,548	10.98
10,000	1290	9,227	10.61	1316	9,525	10.96	1343	9,845	11.32	1370	10,181	11.71	1399	10,536	12.12
10,500	1340	10,321	11.87	1364	10,617	12.21	1389	10,932	12.57	—	—	—	—	—	—
11,000	1391	11,505	13.23	—	—	—	—	—	—	—	—	—	—	—	—
11,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive ranges:
Low Range: 805-1007
High Range: 941-1176
All other rpms require field-supplied drive.

Refer to page 261 for general Fan Performance Data notes.

NOTE: Maximum continuous bhp is:
Low Range: 5.75
High Range: 8.63

PERFORMANCE DATA (cont)

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

581A300 (25 TONS) (Medium Heat Units)*															
Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
6,500	799	2,730	3.14	833	2,914	3.35	872	3,135	3.61	914	3,392	3.90	958	3,687	4.24
7,000	856	3,294	3.79	887	3,481	4.00	921	3,699	4.25	958	3,950	4.54	999	4,235	4.87
7,500	913	3,929	4.52	941	4,118	4.74	972	4,335	4.99	1006	4,582	5.27	1042	4,860	5.59
8,000	971	4,637	5.33	996	4,829	5.55	1024	5,046	5.80	1055	5,290	6.08	1088	5,562	6.40
8,500	1029	5,421	6.24	1052	5,617	6.46	1078	5,835	6.71	1106	6,077	6.99	1136	6,345	7.30
9,000	1087	6,285	7.23	1108	6,484	7.46	1132	6,703	7.71	1158	6,946	7.99	1185	7,211	8.29
9,500	1145	7,231	8.32	1165	7,433	8.55	1187	7,655	8.80	1211	7,898	9.08	1236	8,161	9.39
10,000	1203	8,262	9.50	1222	8,468	9.74	1243	8,693	10.00	1265	8,936	10.28	1288	9,199	10.58
10,500	1261	9,381	10.79	1279	9,592	11.03	1299	9,820	11.29	1319	10,065	11.58	1341	10,327	11.88
11,000	1320	10,592	12.18	1337	10,807	12.43	1355	11,038	12.70	1374	11,284	12.98	1394	11,547	13.28
11,500	1378	11,896	13.68	—	—	—	—	—	—	—	—	—	—	—	—
12,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

581A300 (25 TONS) (Medium Heat Units)* (cont)															
Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
6,500	1005	4,020	4.62	1052	4,390	5.05	1100	4,791	5.51	1148	5,221	6.00	1195	5673	6.52
7,000	1041	4,555	5.24	1084	4,908	5.64	1128	5,294	6.09	1172	5,710	6.57	1217	6153	7.08
7,500	1080	5,168	5.94	1119	5,508	6.33	1160	5,878	6.76	1201	6,279	7.22	1242	6708	7.71
8,000	1122	5,862	6.74	1158	6,190	7.12	1195	6,548	7.53	1233	6,934	7.97	1272	7347	8.45
8,500	1167	6,638	7.63	1200	6,959	8.00	1234	7,305	8.40	1269	7,677	8.83	1304	8076	9.29
9,000	1214	7,499	8.63	1244	7,813	8.99	1275	8,149	9.37	1308	8,511	9.79	1340	8896	10.23
9,500	1262	8,447	9.72	1290	8,754	10.07	1319	9,084	10.45	1349	9,437	10.85	1379	9812	11.28
10,000	1312	9,482	10.91	1338	9,785	11.25	1365	10,110	11.63	1392	10,454	12.02	—	—	—
10,500	1363	10,608	12.20	1387	10,909	12.55	—	—	—	—	—	—	—	—	—
11,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
11,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive ranges:
Low Range: 805-1007
High Range: 941-1176
All other rpms require field-supplied drive.

Refer to page 261 for general Fan Performance Data notes.

NOTE: Maximum continuous bhp is:
Low Range: 5.75
High Range: 8.63

PERFORMANCE DATA (cont)

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

581A300 (25 TONS) (High Heat Units)*															
Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
6,500	799	2,730	3.14	833	2,914	3.35	872	3,135	3.61	914	3,392	3.90	958	3,687	4.24
7,000	856	3,294	3.79	887	3,481	4.00	921	3,699	4.25	958	3,950	4.54	999	4,235	4.87
7,500	913	3,929	4.52	941	4,118	4.74	972	4,335	4.99	1006	4,582	5.27	1042	4,860	5.59
8,000	971	4,637	5.33	996	4,829	5.55	1024	5,046	5.80	1055	5,290	6.08	1088	5,562	6.40
8,500	1029	5,421	6.24	1052	5,617	6.46	1078	5,835	6.71	1106	6,077	6.99	1136	6,345	7.30
9,000	1087	6,285	7.23	1108	6,484	7.46	1132	6,703	7.71	1158	6,946	7.99	1185	7,211	8.29
9,500	1145	7,231	8.32	1165	7,433	8.55	1187	7,655	8.80	1211	7,898	9.08	1236	8,161	9.39
10,000	1203	8,262	9.50	1222	8,468	9.74	1243	8,693	10.00	1265	8,936	10.28	1288	9,199	10.58
10,500	1261	9,381	10.79	1279	9,592	11.03	1299	9,820	11.29	1319	10,065	11.58	1341	10,327	11.88
11,000	1320	10,592	12.18	1337	10,807	12.43	1355	11,038	12.70	1374	11,284	12.98	1394	11,547	13.28
11,500	1378	11,896	13.68	—	—	—	—	—	—	—	—	—	—	—	—
12,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

581A300 (25 TONS) (High Heat Units)* (cont)															
Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
6,500	1005	4,020	4.62	1052	4,390	5.05	1100	4,791	5.51	1148	5,221	6.00	1195	5673	6.52
7,000	1041	4,555	5.24	1084	4,908	5.64	1128	5,294	6.09	1172	5,710	6.57	1217	6153	7.08
7,500	1080	5,168	5.94	1119	5,508	6.33	1160	5,878	6.76	1201	6,279	7.22	1242	6708	7.71
8,000	1122	5,862	6.74	1158	6,190	7.12	1195	6,548	7.53	1233	6,934	7.97	1272	7347	8.45
8,500	1167	6,638	7.63	1200	6,959	8.00	1234	7,305	8.40	1269	7,677	8.83	1304	8076	9.29
9,000	1214	7,499	8.63	1244	7,813	8.99	1275	8,149	9.37	1308	8,511	9.79	1340	8896	10.23
9,500	1262	8,447	9.72	1290	8,754	10.07	1319	9,084	10.45	1349	9,437	10.85	1379	9812	11.28
10,000	1312	9,482	10.91	1338	9,785	11.25	1365	10,110	11.63	1392	10,454	12.02	—	—	—
10,500	1363	10,608	12.20	1387	10,909	12.55	—	—	—	—	—	—	—	—	—
11,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
11,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

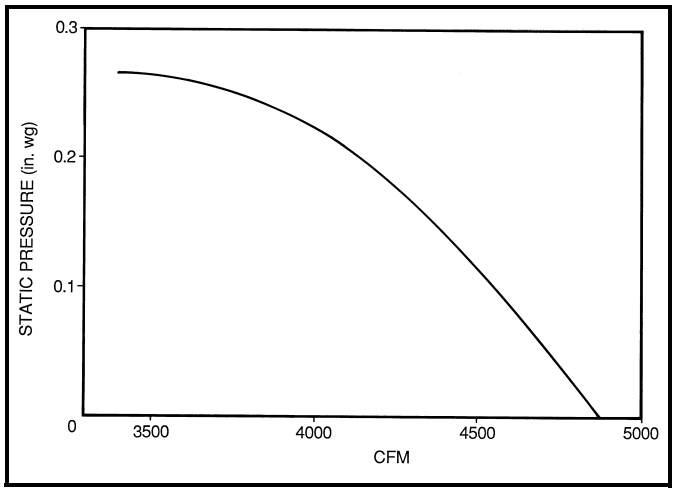
LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive ranges:
Low Range: 805-1007
High Range: 941-1176
All other rpms require field-supplied drive.

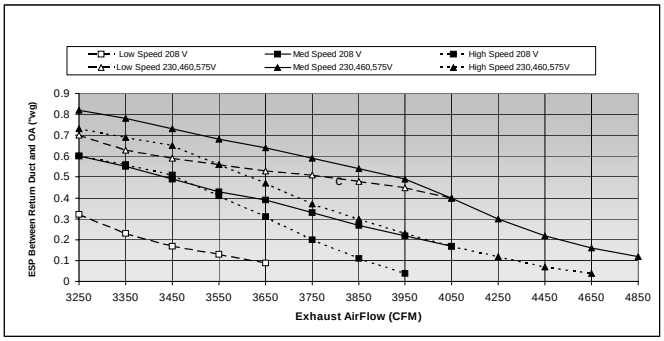
Refer to page 261 for general Fan Performance Data notes.

NOTE: Maximum continuous bhp is:
Low Range: 5.75
High Range: 8.63



Fan Performance Using Accessory Power Exhaust (581A155,180)

POWER EXHAUST PERFORMANCE (581A210-300)



ALTITUDE COMPENSATION* — 581A155,180 (Natural Gas Units)

ELEVATION (ft)	NATURAL GAS ORIFICE SIZE†	
	Low Heat	High Heat
0-3,000	30	29
3,000- 7,000	31	30
7,000- 9,000	32	31
9,000-10,000	33	31
above 10,000	35	32

*Includes a 4% input reduction per each 1,000 feet.
†Orifices available through your Bryant dealer.

ALTITUDE COMPENSATION — 581A155,180 (LP Gas Units)

ELEVATION (ft)	LIQUID PROPANE ORIFICE SIZE
	Low Heat and High Heat
0-2,000	36
2,000	37
3,000	38
4,000	38
5,000	39
6,000	40
7,000	41
8,000	41
9,000	42
10,000	43

ALTITUDE COMPENSATION — 581A210-300 (Natural Gas)

ELEVATION (ft)	ORIFICE SIZE — NATURAL GAS			
	Low Heat	Medium Heat	High Heat (6 Cell)	High Heat (8 Cell)
0-2,000	29	30	29	29
2,000	29	30	29	29
3,000	30	31	30	30
4,000	30	31	30	30
5,000	30	31	30	30
6,000	30	31	30	30
7,000	31	32	31	31
8,000	31	32	31	31
9,000	31	32	31	31
above 10,000	32	33	32	32

ALTITUDE COMPENSATION — 581A210-300 (LP Gas)

ELEVATION (ft)	ORIFICE SIZE — LP GAS			
	Low Heat	Medium Heat	High Heat (6 Cell)	High Heat (8 Cell)
0-2,000	35	38	35	35
2,000	36	39	36	36
3,000	36	39	36	36
4,000	37	40	37	37
5,000	37	40	37	37
6,000	38	41	38	38
7,000	39	42	39	39
8,000	40	43	40	40
9,000	41	44	41	41
above 10,000	42	45	42	42

ALTITUDE DERATING FACTOR*

ELEVATION (ft)	MAXIMUM HEATING VALUE (Btu/ft³)
0-2,000	1,100
2,001-3,000	1,050
3,001-4,000	1,000
4,001-5,000	950
5,001-6,000	900

*Derating of the unit is not required unless the heating value of the gas exceeds the values listed in the table above, or if the elevation exceeds 6000 ft. Derating conditions must be 4% per thousand ft above 2000 ft. For example, at 4000 ft, if the heating value of the gas exceeds 1000 Btu/ft³, the unit will require a 16% derating. For elevations above 6000 ft, the same formula applies. For example, at 7000 ft, the unit will require a 28% derating of the maximum heating value per the National Fuel Gas Code.

IMPORTANT: Local utility companies may be reducing heat content of gas at altitudes above 2000 ft. If this is being done, changing spuds may not be required.

EVAPORATOR-FAN MOTOR EFFICIENCY — 581A155,180

MOTOR HORSEPOWER	MOTOR EFFICIENCY (%)
3.0	81.7
2.9, 3.7	85.8
5.0	87.5

NOTE: All indoor-fan motors 5 hp and larger meet the minimum efficiency requirements as established by the Energy Policy Act of 1992 (EPACT) effective October 24, 1997.

PERFORMANCE DATA (cont)

ACCESSORY/FIOP STATIC PRESSURE (in. wg)* — 581A155,180

COMPONENT	CFM								
	4500	5000	5400	6000	7200	7500	9000	10,000	11,250
EconoMi$er IV	0.040	0.050	0.060	0.070	0.090	0.100	0.110	0.120	0.140

LEGEND

FIOP — Factory-Installed Option

*The static pressure must be added to external static pressure. The sum and the evaporator entering-air cfm should then be used in conjunction with the Fan Performance tables to determine blower rpm and watts.

INDOOR SOUND DATA (TOTAL UNIT) — 581A155,180

UNIT 581A	SOUND RATING-dB (60 Hz)	A-WEIGHTED (dB)	SOUND POWER (dB)							
			Octave Bands							
			63	125	250	500	1000	2000	4000	8000
155	87	87.3	87.1	89.9	86.4	84.0	82.7	79.0	73.9	68.6
180	88	88.0	95.7	88.9	87.2	85.2	91.9	79.5	72.7	66.0

EVAPORATOR FAN MOTOR PERFORMANCE — 581A155,180

UNIT 581A	NOMINAL HP	VOLTAGE	MAX WATTS	EFF. %	MAX BHP	MAX BkW	MAX AMPS
155 (Standard Motor)	2.9	208	2700	85.8	3.13	2.34	9.46
	2.9	230	2700	85.8	3.13	2.34	8.6
	2.9	460	2700	85.8	3.13	2.34	4.3
	3	575	3065	81.7	3.38	2.53	3.9
155 (Optional Motor)	3.7	208	3610	85.8	4.38	3.27	10.5
	3.7	230	3610	85.8	4.38	3.27	10.5
	3.7	460	3610	85.8	4.38	3.27	4.8
180	5	208	5180	87.5	6.13	4.57	15.8
	5	230	5180	87.5	6.13	4.57	15.8
	5	460	5180	87.5	6.13	4.57	7.9
	5	575	5180	87.5	6.13	4.57	6.0

LEGEND

BHP — Brake Horsepower
BkW — Brake Kilowatts

FAN RPM AT MOTOR PULLEY SETTINGS* — 581A155,180

UNIT 581A	MOTOR PULLEY TURNS OPEN												
	0	1/2	1	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	5 1/2	6
155†	1147	1124	1101	1078	1055	1032	1010	987	964	941	918	895	††
155**	1315	1292	1269	1246	1223	1200	1178	1155	1132	1109	1086	1063	1040
180†	††	††	††	††	1021	1002	984	965	947	928	910	891	873
180**	††	††	††	††	1200	1178	1156	1134	1112	1091	1069	1047	1025

*Approximate fan rpm shown.
†Indicates standard drive package.
**Indicates alternate drive package.
††Due to belt and pulley style, pulley cannot be set to this number of turns open.

PERFORMANCE DATA (cont)

OUTDOOR SOUND POWER (TOTAL UNIT)

UNIT 581A	ARI RATING (decibels)	A-WEIGHTED (db)	OCTAVE BANDS							
			63	125	250	500	1000	2000	4000	8000
155,180	88	87.6	90.8	88.7	86.4	84.3	83.5	78.4	75.6	66.8
210, 240	82	81.7	90.2	84.8	80.7	79.0	77.6	71.4	66.7	60.7
300	85	84.9	90.0	86.3	83.6	82.9	80.3	74.9	71.4	66.5

LEGEND

ARI — Air Conditioning and Refrigeration Institute

NOTE: Indoor sound power is available in Bryant's Electronic Catalog Program (ECAT) for specific operating parameters.

FAN RPM AT MOTOR PULLEY SETTINGS* — 581A210-300

581A	DRIVE	MOTOR PULLEY TURNS OPEN												
		0	1/2	1	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	5 1/2	6
210 (208/230 and 460 volt)	**Low Range Vertical**	647	667	687	707	727	747	767	786	806	826	846	866	886
	High Range Vertical	897	917	937	958	978	998	1018	1038	1058	1079	1099	1119	1139
	Low Range Horizontal	896	924	951	979	1006	1034	1062	1089	1117	1144	1172	1199	1227
	High Range Horizontal	1113	1138	1163	1188	1213	1238	1264	1289	1314	1339	1364	1389	1414
210 (575 volt)	**Low Range Vertical**	810	832	854	876	897	919	941	963	985	1007	1028	1050	1072
	High Range Vertical	873	893	912	932	951	971	991	1010	1030	1049	1069	1088	1108
	Low Range Horizontal	863	886	909	933	956	979	1002	1025	1048	1072	1095	1118	1141
	High Range Horizontal	1042	1062	1083	1103	1123	1143	1164	1184	1204	1224	1245	1265	1285
240 (208/230 and 460 volt)	**Low Range Vertical**	949	970	992	1013	1035	1056	1078	1099	1120	1142	1163	1185	1206
	High Range Vertical	941	961	980	1000	1019	1039	1059	1078	1098	1117	1137	1156	1176
	Low Range Horizontal	896	924	951	979	1006	1034	1062	1089	1117	1144	1172	1199	1227
	High Range Horizontal	1113	1138	1163	1188	1213	1238	1264	1289	1314	1339	1364	1389	1414
240 (575 volt)	**Low Range Vertical**	949	970	992	1013	1035	1056	1078	1099	1120	1142	1163	1185	1206
	High Range Vertical	941	961	980	1000	1019	1039	1059	1078	1098	1117	1137	1156	1176
	Low Range Horizontal	873	893	912	932	951	971	991	1010	1030	1049	1069	1088	1108
	High Range Horizontal	1113	1138	1163	1188	1213	1238	1264	1289	1314	1339	1364	1389	1414
300 (all voltages)	**Low Range Vertical**	805	822	839	856	872	889	906	923	940	957	973	990	1007
	High Range Vertical	941	961	980	1000	1019	1039	1059	1078	1098	1117	1137	1156	1176
	Low Range Horizontal	805	822	839	856	872	889	906	923	940	957	973	990	1007
	High Range Horizontal	941	961	980	1000	1019	1039	1059	1078	1098	1117	1137	1156	1176

*Approximate fan rpm shown.

PERFORMANCE DATA (cont)

EVAPORATOR FAN MOTOR SPECIFICATIONS — 581A210-300

UNIT 581A	DRIVE	ORIENTATION	MOTOR P/N	NOMINAL HP	VOLTAGE	MAX WATTS	EFFICIENCY %	MAX BHP	MAX BkW	MAX AMPS
210	Low	Vertical	HD60FK651	3.7	208	3698	85.8	4.25	3.17	10.6
			HD60FK651	3.7	230	3698	85.8	4.25	3.17	9.6
			HD60FK651	3.7	460	3698	85.8	4.25	3.17	4.8
			HD58DL575	3	575	3149	81.7	3.45	2.57	3.9
	High	Vertical	HD60FL650	5	208	4900	87.5	5.75	4.29	16.7
			HD60FL650	5	230	4900	87.5	5.75	4.29	15.2
			HD60FL650	5	460	4900	87.5	5.75	4.29	7.6
			HD60FL575	5	575	4900	87.5	5.75	4.29	6.1
	Low	Horizontal	HD60FK651	3.7	208	3698	85.8	4.25	3.17	10.6
			HD60FK651	3.7	230	3698	85.8	4.25	3.17	9.6
			HD60FK651	3.7	460	3698	85.8	4.25	3.17	4.8
			HD58DL575	3	575	3149	81.7	3.45	2.57	3.9
	High	Horizontal	HD60FL650	5	208	4900	87.5	5.75	4.29	16.7
			HD60FL650	5	230	4900	87.5	5.75	4.29	15.2
			HD60FL650	5	460	4900	87.5	5.75	4.29	7.6
			HD60FL575	5	575	4900	87.5	5.75	4.29	6.1
240	Low	Vertical	HD60FL650	5	208	4900	87.5	5.75	4.29	16.7
			HD60FL650	5	230	4900	87.5	5.75	4.29	15.2
			HD60FL650	5	460	4900	87.5	5.75	4.29	7.6
			HD60FL575	5	575	4900	87.5	5.75	4.29	6.1
	High	Vertical	HD62FL650	7.5	208	7267	88.5	8.63	6.43	24.2
			HD62FL650	7.5	230	7267	88.5	8.63	6.43	22
			HD62FL650	7.5	460	7267	88.5	8.63	6.43	11
			HD62FL575	7.5	575	7267	88.5	8.63	6.43	9
	Low	Horizontal	HD60FK651	3.7	208	3698	85.8	4.25	3.17	10.6
			HD60FK651	3.7	230	3698	85.8	4.25	3.17	9.6
			HD60FK651	3.7	460	3698	85.8	4.25	3.17	4.8
			HD60FL575	5	575	4900	87.5	5.75	4.29	6.1
	High	Horizontal	HD60FL650	5	208	4900	87.5	5.75	4.29	16.7
			HD60FL650	5	230	4900	87.5	5.75	4.29	15.2
			HD60FL650	5	460	4900	87.5	5.75	4.29	7.6
			HD60FL575	5	575	4900	87.5	5.75	4.29	6.1
300	Mid-Low	Vertical	HD60FL650	5	208	4900	87.5	5.75	4.29	16.7
			HD60FL650	5	230	4900	87.5	5.75	4.29	15.2
			HD60FL650	5	460	4900	87.5	5.75	4.29	7.6
			HD60FL575	5	575	4900	87.5	5.75	4.29	6.1
	Mid-High	Vertical	HD62FL650	7.5	208	7267	88.5	8.63	6.43	24.2
			HD62FL650	7.5	230	7267	88.5	8.63	6.43	22
			HD62FL650	7.5	460	7267	88.5	8.63	6.43	11
			HD62FL575	7.5	575	7267	88.5	8.63	6.43	9
	Mid-Low	Horizontal	HD60FL650	5	208	4900	87.5	5.75	4.29	16.7
			HD60FL650	5	230	4900	87.5	5.75	4.29	15.2
			HD60FL650	5	460	4900	87.5	5.75	4.29	7.6
			HD60FL575	5	575	4900	87.5	5.75	4.29	6.1
	Mid-High	Horizontal	HD62FL650	7.5	208	7267	88.5	8.63	6.43	24.2
			HD62FL650	7.5	230	7267	88.5	8.63	6.43	22
			HD62FL650	7.5	460	7267	88.5	8.63	6.43	11
			HD62FL575	7.5	575	7267	88.5	8.63	6.43	9

LEGEND

BHP — Brake Horsepower
BkW — Brake Kilowatts

ACCESSORY/FIOP STATIC PRESSURE (in. wg) — 581A210-300

COMPONENT	CFM																
	4,000	4,500	5,000	5,500	6,000	6,500	7,000	7,500	8,000	8,500	9,000	9,500	10,000	10,500	11,000	11,500	12,000
Economizer	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.10	0.11	0.12	0.13	0.15	0.16	0.17	0.19	0.20

LEGEND

FIOP — Factory-Installed Option

*The static pressure must be added to the external static pressure. The sum and the evaporator entering-air cfm should then be used in conjunction with the Fan Performance tables to determine blower rpm and watts.

ELECTRICAL DATA — 581A (cont)

ELECTRICAL DATA — 581A155,180

UNIT 581A	NOMINAL VOLTAGE (3 Ph, 60 Hz)	VOLTAGE RANGE		COMPRESSOR No. 1		COMPRESSOR No. 2		OFM			IFM		POWER EXHAUST		COMBUSTION FAN MOTOR	POWER SUPPLY	
		Min	Max	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	Hp	FLA	FLA	LRA	FLA	MCA	MOCP*
155 (Standard IFM)	208/230	187	253	20.7	156	20.7	156	3	0.5	1.70	2.9	8.8/ 8.4	—	—	0.57	60/60	80/80
													4.6	18.8	0.57	65/65	80/80
	460	414	506	10.0	75	10.0	75	3	0.5	0.80	2.9	4.2	—	—	0.30	29	35
													2.3	6.0	0.30	31	40
	575	518	633	8.2	54	8.2	54	3	0.5	0.75	3.0	3.9	—	—	0.57	25	30
													2.1	4.8	0.57	27	30
155 (Optional IFM)	208/230	187	253	20.7	156	20.7	156	3	0.5	1.70	3.7	10.5/11.0	—	—	0.57	62/63	80/80
													4.6	18.8	0.57	67/67	80/80
	460	414	506	10.0	75	10.0	75	3	0.5	0.80	3.7	4.8	—	—	0.30	30	35
													2.3	6.0	0.30	32	40
180	208/230	187	253	32.1	195	20.7	156	3	0.5	1.70	5.0	15.8/15.8	—	—	0.57	82/82	110/110
													4.6	18.8	0.57	86/86	110/110
	460	414	506	16.4	95	10.0	75	3	0.5	0.80	5.0	7.9	—	—	0.30	41	50
													2.3	6.0	0.30	43	50
	575	518	633	12.0	80	8.2	54	3	0.5	0.75	5.0	6.0	—	—	0.57	31	40
													2.1	4.8	0.57	34	45

LEGEND

FLA — Full Load Amps
HACR — Heating, Air Conditioning and Refrigeration
IFM — Indoor (Evaporator) Fan Motor
LRA — Locked Rotor Amps
MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection
NEC — National Electrical Code
OFM — Outdoor (Condenser) Fan Motor
RLA — Rated Load Amps

*Fuse or HACR circuit breaker.

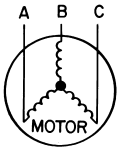
NOTES:

1. In compliance with NEC requirements for multimotor and combination load equipment (refer to NEC Articles 430 and 440), the overcurrent protective device for the unit shall be fuse or HACR breaker. Canadian units may be fuse or circuit breaker.
2. **Unbalanced 3-Phase Supply Voltage**
   Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percent of voltage imbalance.

   % Voltage Imbalance

   $$= 100 \times \frac{\text{max voltage deviation from average voltage}}{\text{average voltage}}$$

Example: Supply voltage is 460-3-60.



AB = 452 v
BC = 464 v
AC = 455 v

$$\text{Average Voltage} = \frac{452 + 464 + 455}{3}$$

$$= \frac{1371}{3}$$

$$= 457$$

Determine maximum deviation from average voltage.

(AB) 457 – 452 = 5 v
(BC) 464 – 457 = 7 v
(AC) 457 – 455 = 2 v

Maximum deviation is 7 v.

Determine percent of voltage imbalance.

$$\text{\% Voltage Imbalance} = 100 \times \frac{7}{457}$$

$$= 1.53\%$$

This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

IMPORTANT: If the supply voltage phase imbalance is more than 2%, contact your local electric utility company immediately.

ELECTRICAL DATA — 581A (cont)

ELECTRICAL DATA — 581A210-300 WITHOUT CONVENIENCE OUTLET

UNIT 581A	NOMINAL VOLTAGE (3 Ph, 60 Hz)	VOLTAGE RANGE		COMPRESSOR						OFM			IFM		POWER EXHAUST			COMBUSTION FAN MOTOR	POWER SUPPLY		DISCONNECT SIZE
				No. 1		No. 2		No. 3													
		Min	Max	RLA	LRA	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	Hp	FLA	Qty	Hp	FLA (ea)	FLA	MCA	MOCP*	FLA
210	208/230	187	253	16.7	130	16.7	130	22.4	184	4	0.25	1.5	3.7	10.6/ 9.6	—	—	—	0.5	78/ 77	100/ 90	83/ 82
															2	1	5.9		90/ 89	100/100	97/ 96
													5	16.7/15.2	—	—	—		84/ 83	100/100	90/ 89
															2	1	5.9		96/ 94	100/100	104/102
													7.5	24.2/22	—	—	—		92/ 89	100/100	99/ 96
															2	1	5.9		104/101	125/110	112/110
	460	414	506	9	70	9	70	10.7	90	4	0.25	0.7	3.7	4.8	—	—	—	0.3	39	45	42
															2	1	3.1		45	50	49
													5	7.6	—	—	—		42	50	45
															2	1	3.1		48	50	52
													7.5	11	—	—	—		45	50	49
															2	1	3.1		51	60	56
	575	518	633	7	55	7	55	9.3	73	4	0.25	0.7	3	3.9	—	—	—	0.24	32	40	35
															2	1	2.4		37	45	40
													5	6.1	—	—	—		35	40	37
															2	1	2.4		39	45	43
													7.5	9	—	—	—		37	45	40
															2	1	2.4		42	50	46
240	208/230	187	253	22.4	184	22.4	184	22.4	184	4	0.25	1.5	3.7	10.6/ 9.6	—	—	—	0.5	89/ 88	100/100	96/ 95
															2	1	5.9		101/100	110/110	110/109
													5	16.7/15.2	—	—	—		96/ 94	100/100	103/102
															2	1	5.9		107/106	125/125	117/115
													7.5	24.2/22	—	—	—		103/101	125/110	112/109
															2	1	5.9		115/113	125/125	126/123
													10	30.8/28	—	—	—		112/108	125/125	120/116
															2	1	5.9		124/120	150/125	133/130
	460	414	506	10.7	90	10.7	90	10.7	90	4	0.25	0.7	3.7	4.8	—	—	—	0.3	42	50	46
															2	1	3.1		49	50	53
													5	7.6	—	—	—		45	50	49
															2	1	3.1		51	60	56
													7.5	11	—	—	—		49	50	53
															2	1	3.1		55	60	60
													10	14	—	—	—		52	60	56
															2	1	3.1		59	60	63
	575	518	633	9.3	73	9.3	73	9.3	73	4	0.25	0.7	5	6.1	—	—	—	0.24	39	45	42
															2	1	2.4		44	50	48
													7.5	9	—	—	—		42	50	46
															2	1	2.4		47	50	51
													10	11	—	—	—		44	50	48
															2	1	2.4		49	60	53
300	208/230	187	253	47.1	245	47.1	245	—	—	6	0.25	1.5	5	16.7/15.2	—	—	—	0.5	132/130	175/175	138/136
															2	1	5.9		143/142	175/175	151/150
													7.5	24.2/22	—	—	—		139/137	175/175	147/144
															2	1	5.9		151/149	175/175	160/158
													10	30.8/28	—	—	—		146/143	175/175	154/151
															2	1	5.9		158/155	200/200	168/164
	460	414	506	19.6	125	19.6	125	—	—	6	0.25	0.7	5	7.6	—	—	—	0.3	56	60	59
															2	1	3.1		62	80	66
													7.5	11	—	—	—		59	60	63
															2	1	3.1		66	80	70
													10	14	—	—	—		62	80	66
															2	1	3.1		69	80	73
	575	518	633	15.8	100	15.8	100	—	—	6	0.25	0.7	5	6.1	—	—	—	0.24	46	60	48
															2	1	2.4		51	60	54
													7.5	9	—	—	—		49	60	52
															2	1	2.4		54	60	57
													10	11	—	—	—		51	60	54
															2	1	2.4		56	60	59

LEGEND

FLA — Full Load Amps
HACR — Heating, Air Conditioning and Refrigeration
IFM — Indoor (Evaporator) Fan Motor
LRA — Locked Rotor Amps
MCA — Minimum Circuit Amps
MCA — Minimum Circuit Amps
MOCP— Maximum Overcurrent Protection
NEC — National Electrical Code
OFM — Outdoor (Condenser) Fan Motor
RLA — Rated Load Amps

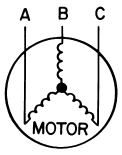
*Fuse or HACR circuit breaker.

NOTES:

1. In compliance with NEC requirements for multimotor and combination load equipment (refer to NEC Articles 430 and 440), the overcurrent protective device for the unit shall be fuse or HACR breaker. Canadian units may be fuse or circuit breaker.
2. **Unbalanced 3-Phase Supply Voltage**
   Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percent of voltage imbalance.
   % Voltage Imbalance

$$= 100 \times \frac{\text{max voltage deviation from average voltage}}{\text{average voltage}}$$

Example: Supply voltage is 460-3-60.



AB = 452 v
BC = 464 v
AC = 455 v

$$\text{Average Voltage} = \frac{452 + 464 + 455}{3}$$

$$= \frac{1371}{3}$$

$$= 457$$

Determine maximum deviation from average voltage.

(AB) 457 – 452 = 5 v
(BC) 464 – 457 = 7 v
(AC) 457 – 455 = 2 v

Maximum deviation is 7 v.

Determine percent of voltage imbalance.

$$\text{\% Voltage Imbalance} = 100 \times \frac{7}{457}$$

$$= 1.53\%$$

This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

IMPORTANT: If the supply voltage phase imbalance is more than 2%, contact your local electric utility company immediately.

ELECTRICAL DATA — 581A (cont)

ELECTRICAL DATA — 581A210-300 WITH OPTIONAL CONVENIENCE OUTLET

UNIT 581A	NOMINAL VOLTAGE (3 Ph, 60 Hz)	VOLTAGE RANGE		COMPRESSOR No. 1		COMPRESSOR No. 2		COMPRESSOR No. 3		OFM			IFM		POWER EXHAUST			COMBUSTION FAN MOTOR	POWER SUPPLY		DISCONNECT SIZE
		Min	Max	RLA	LRA	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	Hp	FLA	Qty	Hp	FLA (ea)	FLA	MCA	MOCP*	FLA
210	208/230	187	253	16.7	130	16.7	130	22.4	184	4	0.25	1.5	3.7	10.6/ 9.6	—	—	—	0.5	83/ 82	100/100	89/ 88
															2	1	5.9		95/ 94	100/100	103/101
													5	16.7/15.2	—	—	—		89/ 88	100/100	96/ 94
															2	1	5.9		101/ 99	110/100	110/108
													7.5	24.2/22	—	—	—		97/ 94	100/100	105/102
															2	1	5.9		109/106	125/125	118/116
	460	414	506	9	70	9	70	10.7	90	4	0.25	0.7	3.7	4.8	—	—	—	0.3	42	50	45
															2	1	3.1		48	50	52
													5	7.6	—	—	—		45	50	48
															2	1	3.1		51	60	56
													7.5	11	—	—	—		48	50	52
															2	1	3.1		54	60	59
	575	518	633	7	55	7	55	9.3	73	4	0.25	0.7	3	3.9	—	—	—	0.24	35	40	38
															2	1	2.4		40	45	43
													5	6.1	—	—	—		38	45	40
															2	1	2.4		42	50	46
													7.5	9	—	—	—		40	45	44
															2	1	2.4		45	50	49
240	208/230	187	253	22.4	184	22.4	184	22.4	184	4	0.25	1.5	3.7	10.6/ 9.6	—	—	—	0.5	94/ 93	100/100	102/101
															2	1	5.9		106/105	125/125	116/115
													5	16.7/15.2	—	—	—		101/ 99	110/100	109/107
															2	1	5.9		112/111	125/125	123/121
													7.5	24.2/22	—	—	—		108/106	125/125	118/115
															2	1	5.9		120/118	125/125	131/129
													10	30.8/28	—	—	—		117/113	125/125	125/122
															2	1	5.9		129/125	150/150	139/136
	460	414	506	10.7	90	10.7	90	10.7	90	4	0.25	0.7	3.7	4.8	—	—	—	0.3	45	50	49
															2	1	3.1		52	60	56
													5	7.6	—	—	—		48	50	52
															2	1	3.1		54	60	59
													7.5	11	—	—	—		52	60	56
															2	1	3.1		58	60	63
													10	14	—	—	—		55	60	60
															2	1	3.1		62	70	67
	575	518	633	9.3	73	9.3	73	9.3	73	4	0.25	0.7	5	6.1	—	—	—	0.24	42	50	46
															2	1	2.4		47	50	51
													7.5	9	—	—	—		45	50	49
															2	1	2.4		50	50	55
													10	11	—	—	—		47	50	51
															2	1	2.4		52	60	57
300	208/230	187	253	47.1	245	47.1	245	—	—	6	0.25	1.5	5	16.7/15.2	—	—	—	0.5	137/135	175/175	144/142
															2	1	5.9		148/147	175/175	157/155
													7.5	24.2/22	—	—	—		144/142	175/175	152/150
															2	1	5.9		156/154	200/200	166/163
													10	30.8/28	—	—	—		151/148	175/175	160/157
															2	1	5.9		163/160	200/200	173/170
	460	414	506	19.6	125	19.6	125	—	—	6	0.25	0.7	5	7.6	—	—	—	0.3	59	60	62
															2	1	3.1		65	80	69
													7.5	11	—	—	—		62	80	66
															2	1	3.1		69	80	73
													10	14	—	—	—		65	80	69
															2	1	3.1		72	90	77
	575	518	633	15.8	100	15.8	100	-	-	6	0.25	0.7	5	6.1	—	—	—	0.24	49	60	52
															2	1	2.4		54	60	57
													7.5	9	—	—	—		52	60	55
															2	1	2.4		57	60	60
													10	11	—	—	—		54	60	57
															2	1	2.4		59	60	63

LEGEND

FLA — Full Load Amps
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NOTES:

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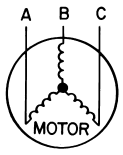
   Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percent of voltage imbalance.

   % Voltage Imbalance

   $$= 100 \times \frac{\text{max voltage deviation from average voltage}}{\text{average voltage}}$$

Example: Supply voltage is 460-3-60.



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BC = 464 v
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$$\text{Average Voltage} = \frac{452 + 464 + 455}{3}$$

$$= \frac{1371}{3}$$

$$= 457$$

Determine maximum deviation from average voltage.

(AB) 457 – 452 = 5 v
(BC) 464 – 457 = 7 v
(AC) 457 – 455 = 2 v

Maximum deviation is 7 v.

Determine percent of voltage imbalance.

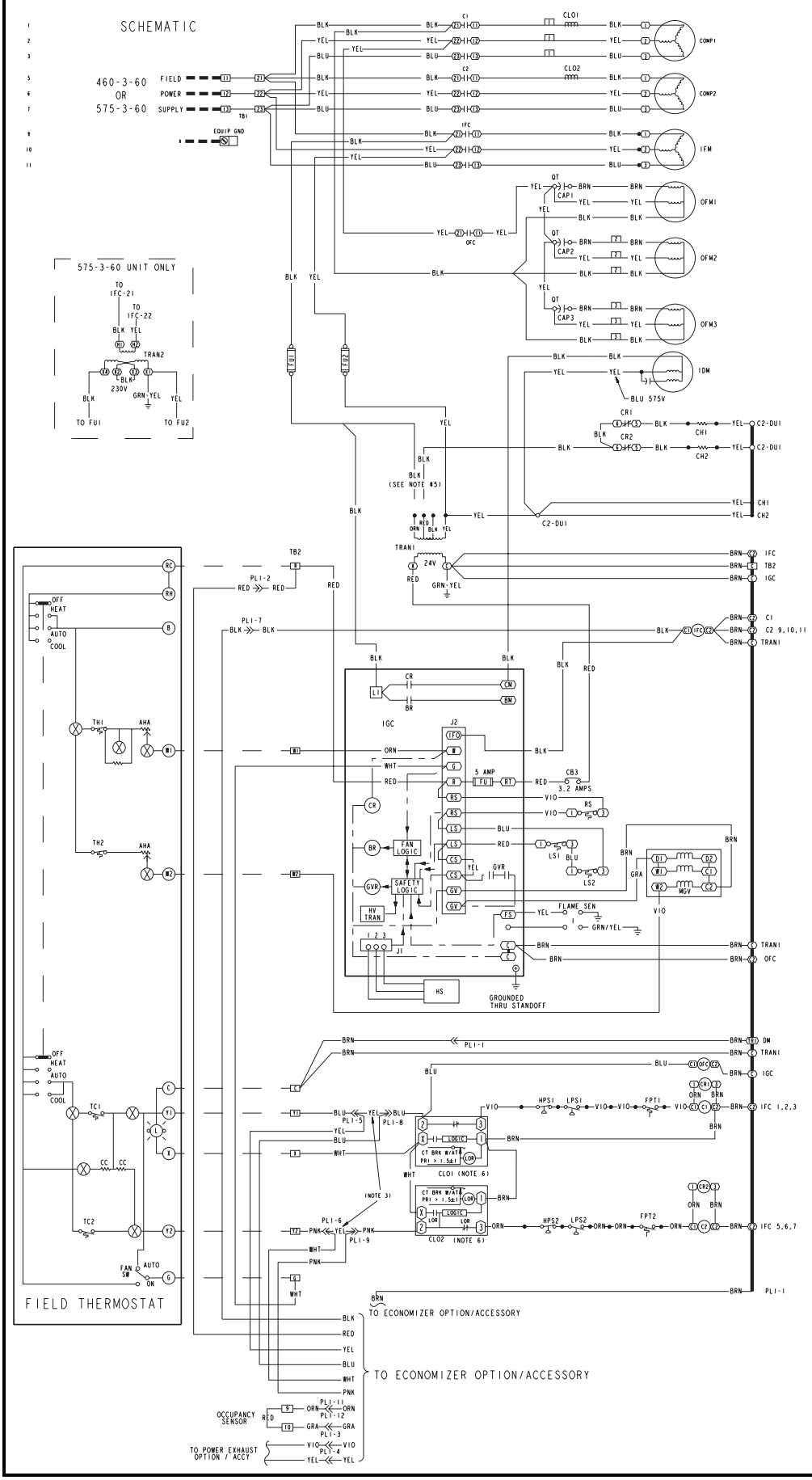
$$\text{\% Voltage Imbalance} = 100 \times \frac{7}{457}$$

$$= 1.53\%$$

This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

IMPORTANT: If the supply voltage phase imbalance is more than 2%, contact your local electric utility company immediately.

TYPICAL WIRING SCHEMATICS — 581A



LEGEND

AHA	—	Adjustable Heat Anticipator
C	—	Contactor, Compressor
CAP	—	Capacitor
CB	—	Circuit Breaker
CC	—	Cooling Compensator
CH	—	Crankcase Heater
CLO	—	Compressor Lockout
COMP	—	Compressor Motor
CR	—	Control Relay
DM	—	Damper Motor
DU	—	Dummy Terminal
EQUIP	—	Equipment
FPT	—	Freeze Protection Thermostat
FU	—	Fuse
GND	—	Ground
HPS	—	High-Pressure Switch
HS	—	Hall Effect Sensor
HV	—	High Voltage
I	—	Ignitor
IDM	—	Induced Draft Motor
IFC	—	Indoor Fan Contactor
IFM	—	Indoor (Evaporator) Fan Motor
IGC	—	Integrated Gas Unit Controller
L	—	Light
LOR	—	Lockout Relay
LPS	—	Low-Pressure Switch
LS	—	Limit Switch
MGV	—	Main Gas Valve
OFC	—	Outdoor Fan Contactor
OFM	—	Outdoor Fan Motor
PL	—	Plug Assembly
PRI	—	Primary
QT	—	Quadruple Terminal
RS	—	Rollout Switch
SW	—	Switch
TB	—	Terminal Block
TC	—	Thermostat-Cooling
TH	—	Thermostat-Heating
TRAN	—	Transformer

Terminal (Marked)

Terminal (Unmarked)

Terminal Block

Splice

Factory Wiring

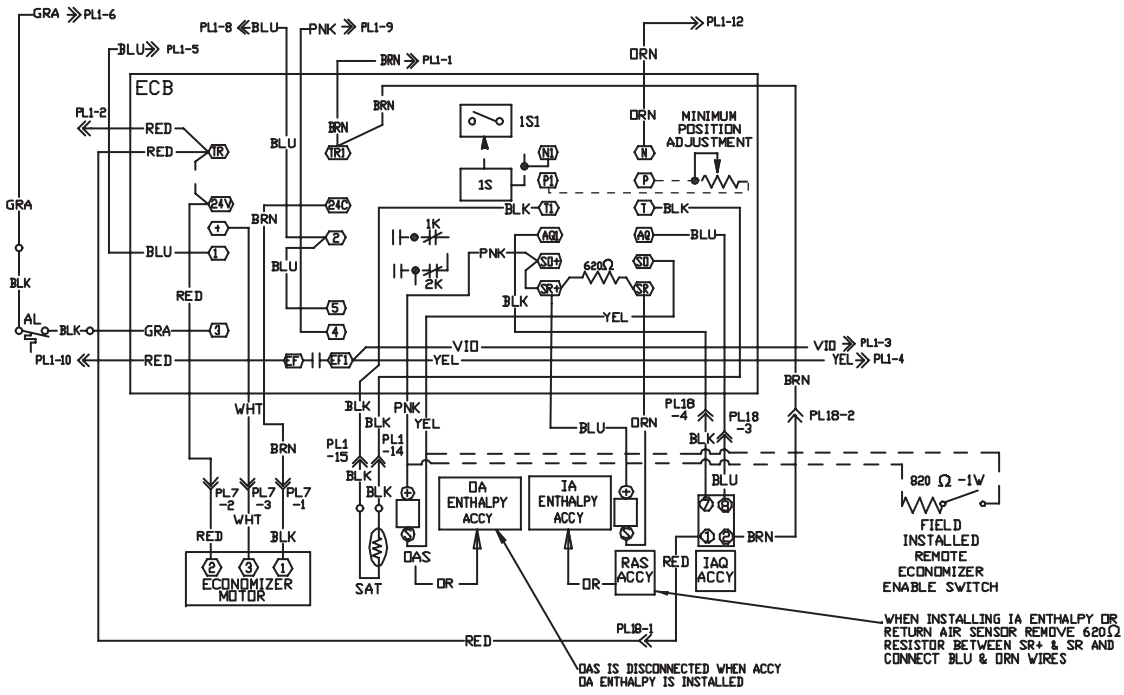
Field Wiring

Option/Accessory Wiring

To indicate common potential only. Not to represent wiring.

581A155, 460-3-60 Shown

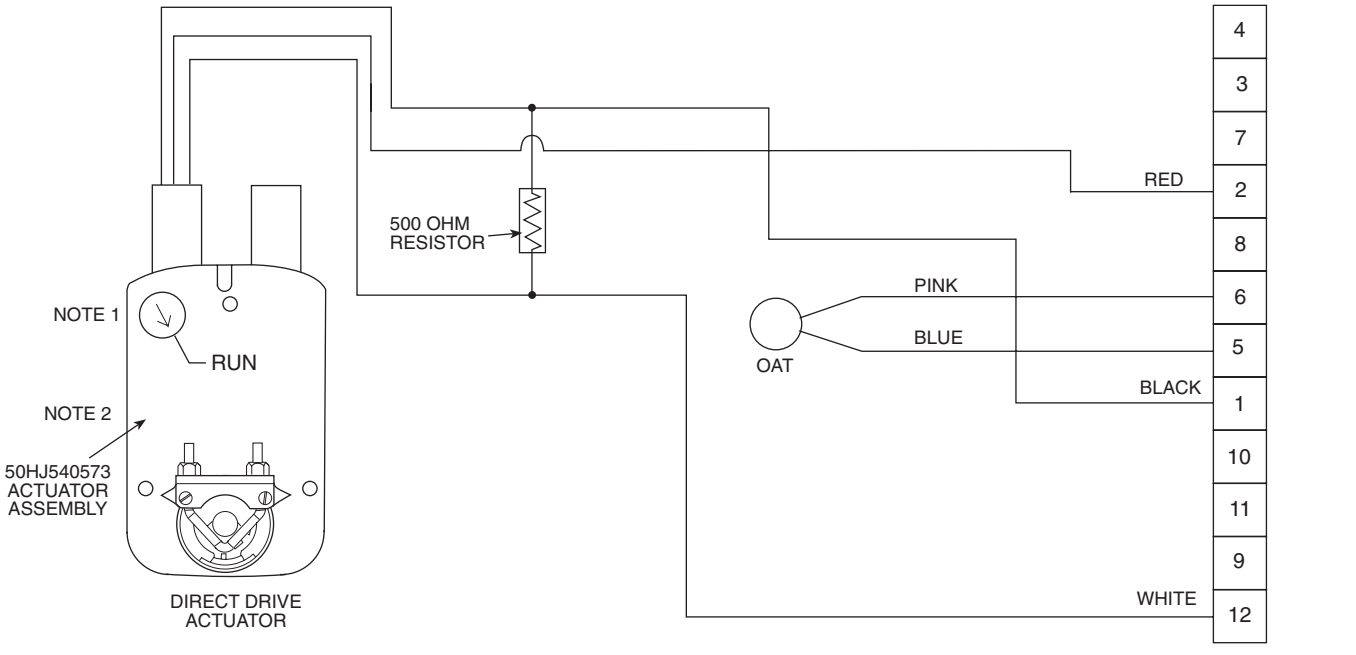
TYPICAL WIRING SCHEMATICS — 581A



LEGEND

AL — Ambient Limit
ECB — Economizer Control Board
IA — Indoor Air
IAQ — Indoor Air Quality
OA — Outdoor Air
OAS— Outdoor Air Sensor
RAS— Return Air Sensor
SAT — Supply Air Temperature

EconoMi$er IV Wiring — 581A155,180



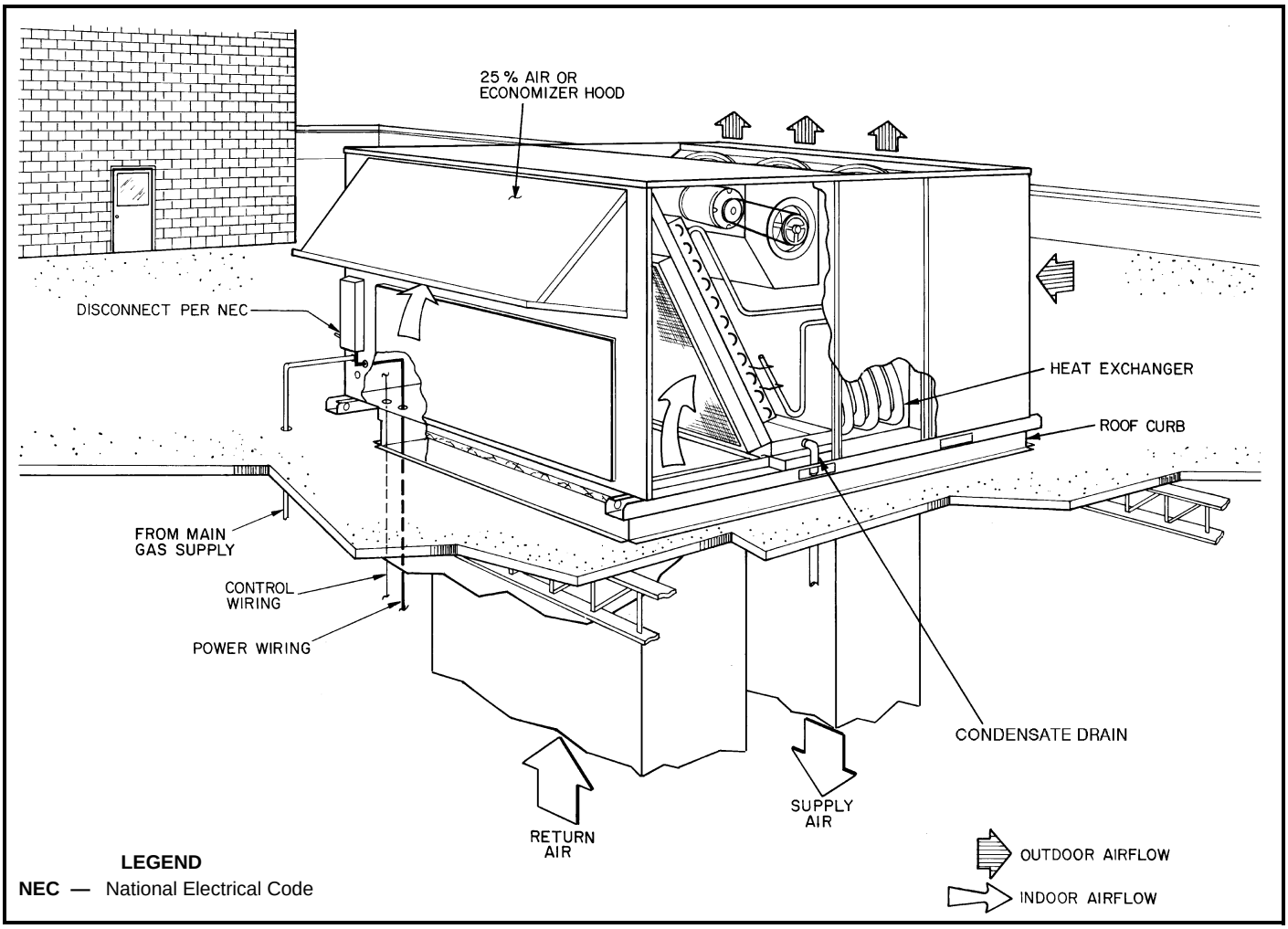
LEGEND

OAT — Outdoor Air Temperature Sensor

NOTES:
1. Switch on actuator must be in run position for economizer to operate.
2. 50HJ540573 actuator consists of the 50HJ540567 actuator and a harness with 500-ohm resistor.

EconoMi$er2 Wiring — 581A155,180

TYPICAL PIPING AND WIRING — 581A (581A155 Shown)



LEGEND

NEC — National Electrical Code

PACKAGED ROOFTOP ELECTRIC COOLING UNIT WITH GAS HEAT — CONSTANT VOLUME APPLICATION

HVAC GUIDE SPECIFICATIONS

SIZE RANGE: 13 AND 15 TONS (581A), 15 TO 25 TONS (579F, 580F), NOMINAL (COOLING)

230,000 TO 360,000 BTUH, NOMINAL (INPUT HEATING) (GAS UNITS)

BRYANT MODEL NUMBERS: **580F, 579F, 581A**

PART 1 — GENERAL

1.01 SYSTEM DESCRIPTION

Unit is an outdoor rooftop mounted, electrically controlled heating and cooling unit utilizing scroll hermetic compressors for cooling duty and gas combustion for heating duty. Supply air shall be discharged downward or horizontally (with horizontal supply/return curb adapter assembly), as shown on contract drawings. Standard unit shall include a manual outdoor-air inlet.

1.02 QUALITY ASSURANCE

A. Unit shall be rated in accordance with ARI Standards 270 and 360 and all units shall be designed in accordance with UL Standard 1995.

NOTE: Size 300 units are beyond the scope of ARI certification guidelines.

B. Unit shall be designed to conform to ASHRAE 15.

C. Unit shall be ETL and ETL, Canada tested and certified in accordance with ANSI Z21.47 Standards as a total package.

D. Roof curb shall be designed to conform to NRCA Standards.

E. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.

F. Unit casing shall be capable of withstanding 500-hour salt spray exposure per ASTM B117 (scribed specimen).

G. Unit shall be manufactured in a facility registered to ISO 9001:2000.

1.03 DELIVERY, STORAGE, AND HANDLING

Unit shall be stored and handled per manufacturer's recommendations.

PART 2 — PRODUCTS

2.01 EQUIPMENT (STANDARD)

A. General:

Each unit shall be a factory assembled, single-piece heating and cooling unit. Contained within the unit enclosure shall be all factory wiring, piping, controls, refrigerant charge (R-22), and special features required prior to field start-up.

B. Unit Cabinet:

1. Constructed of galvanized steel (G90 — 1.8 oz. of zinc per square foot of sheet metal), bonderized and primer-coated on both sides and coated with a baked polyester thermosetting powdercoating finish on the outer surface. The color of this pre-painted steel is referred to as "American Sterling," a gray color. Bryant's paint specification for this color is PH184.
Color: American Sterling, this gray color is to match federal standard 595a, #26231.
Gloss (per ASTM 0523, 60 deg. F): 60.
Hardness of paint film: H-2H pencil hardness.

2. Indoor blower compartment interior surfaces shall be insulated with a minimum $^1/_2$-in. thick, 1 lb density fiberglass insulation. Fiberglass insulation shall be bonded with a thermosetting resin (8 to 12% by weight nominal, phenol formaldehyde typical), and coated with an acrylic or other material that meets the NFPA 90 flame retardance requirements and has an "R" Value of 3.70. Aluminum foil-faced fiberglass insulation shall be used in the gas heat compartment.

3. Cabinet panels shall be easily removable for servicing. Cabinet panels are minimum 20 gage. Panels shall have $^1/_2$-in. thick, 1.5-lb. density insulation.

4. Filters shall be accessible through an access panel.

5. Holes shall be provided in the base rails (minimum 12 gage) for rigging shackles to facilitate overhead rigging.

6. Unit shall contain a sloped drain pan, to prevent standing water from accumulating. Pan shall be fabricated of hot dipped zinc coated minimum spangle steel. Zinc coating shall be G90 designation according to ASTM Standard A653. Unit shall contain a factory-installed nonferrous main condensate drain connection.

C. Fans:

1. Indoor blower (evaporator fan):

a. Fan shall be belt driven. Belt drive shall include an adjustable pulley. The standard fan drive shall have a factory-installed low-medium external static pressure capable fan drive. The alternate fan drive option shall have a factory-installed external high static pressure capable fan drive.

b. Fan wheel shall be made from steel with a corrosion-resistant finish. It shall be a dynamically balanced, double-inlet type with forward-curved blades.

2. Condenser fans shall be of the direct-driven propeller type, with corrosion-resistant blades riveted to corrosion-resistant steel supports. They shall be dynamically balanced and discharge air upwards.

3. Induced-draft blower shall be of the direct-driven, single inlet, forward-curved, centrifugal type. It shall be made from steel with a corrosion-resistant finish and shall be dynamically balanced.

D. Compressor(s):

1. Fully hermetic, scroll type, internally protected.

2. Factory spring-shock mounted and internally spring mounted for vibration isolation.

3. On electrically and mechanically independent refrigerant circuits.

4. All compressors shall have 70 W crankcase heaters.

E. Coils:

1. Standard evaporator and condenser coils shall have aluminum plate fins mechanically bonded to seamless internally grooved copper tubes with all joints brazed.

2. Coils shall be leak tested at 150 psig and pressure tested at 450 psig.

F. Heating Section:

1. Induced-draft combustion type with energy saving direct-spark ignition system and redundant main gas valve.

2. a. The heat exchanger shall be of the tubular-section type constructed of a minimum of 20-gage steel coated with a nominal 1.2 mil aluminum-silicone alloy for corrosion resistance.

b. The optional stainless steel heat exchangers shall be tubular-section design and shall be constructed of a minimum 20 gage, 409 stainless steel.

3. Burners shall be of the in-shot type constructed of aluminum-coated steel.
4. All gas piping shall enter the unit at a single location.
5. Gas piping shall be capable of being routed through the roof curb directly into unit.

G. Refrigerant Components:

Refrigerant circuit components shall include:

1. Thermostatic expansion valve (TXV).
2. Filter driers.
3. Gage port and connections on suction, discharge, and liquid lines.

H. Filter Section:

Standard filter section shall consist of 2 sizes of factory-installed 2-in. thick throwaway fiberglass filters of commercially available sizes. Filters shall be approximately 10% efficient with an airside pressure drop of approximately 0.07 in. wg (clean).

I. Controls and Safeties:

1. Unit Controls:
   a. Economizer control (optional).
   b. Capacity control (2-step).
   c. Unit shall be complete with self-contained low-voltage control circuit.

J. Safeties:

a. Unit shall incorporate a solid-state compressor lockout which provides reset capability at the space thermostat, should any of the following safety devices trip and shut off compressor:
   1) Compressor lockout protection provided for either internal or external overload.
   2) Low-pressure switch.
   3) Dual freezestats (evaporator coil).
   4) High-pressure switch.
b. Supply-air thermostat shall be located in the unit.
c. Heating section shall be provided with the following minimum protections:
   1) High-temperature limit switch.
   2) Induced-draft motor speed sensor.
   3) Flame rollout switch.
   4) Flame proving controls.
   5) Redundant gas valve.

K. Operating Characteristics:

1. Unit shall be capable of starting and running at 120 F ambient outdoor temperature per maximum load criteria of ARI Standard 360.
2. Unit with standard controls will operate in cooling down to an outdoor ambient temperature of 40 F.
3. Unit shall be provided with fan time delay to prevent cold air delivery.

L. Electrical Requirements:

All unit power wiring shall enter unit cabinet at a single location.

M. Motors:

1. Compressor motors shall be cooled by refrigerant gas passing through motor windings and shall have line break thermal and current overload protection.
2. All fan motors shall have permanently lubricated, sealed bearings and inherent automatic-reset thermal overload protection or manual reset calibrated circuit breakers.
3. All indoor-fan motors 5 hp and larger shall meet the minimum efficiency requirements as established by the Energy Policy Act of 1992 (EPACT) effective October 24, 1997.

N. Special Features:

Certain features are not applicable when the features designated * are specified. For assistance in amending the specifications, contact your local Bryant Sales Office.

1. Coils:
   a. Optional pre-coated aluminum-fin coils shall have a durable epoxy-phenolic coating to provide protection in mildly corrosive coastal environments. Coating shall be applied to the aluminum fin stock prior to the fin stamping process to create an inert barrier between the aluminum fin and copper tube. Epoxy-phenolic barrier shall minimize galvanic action between dissimilar metals.
   b. Optional copper-fin coils shall be constructed of copper fins mechanically bonded to copper tubes and copper tube sheets. Galvanized steel tube sheets shall not be acceptable. A polymer strip shall prevent coil assembly from contacting the sheet metal coil pan to minimize potential for galvanic corrosion between coil and pan. All copper construction shall provide protection in moderate coastal environments.
   c. E-Coated aluminum-fin coils shall have a flexible epoxy polymer coating uniformly applied to all coil surface areas without material bridging between fins. Coating process shall ensure complete coil encapsulation. Color shall be high gloss black with gloss — 60 deg of 65 to 90% per ASTM D523-89. Uniform dry film thickness from 0.8 to 1.2 mil on all surface areas including fin edges. Superior hardness characteristics of 2H per ASTM D3363-92A and cross-hatch adhesion of 4B-5B per ASTM D3359-93. Impact resistance shall be up to 160 in./lb (ASTM D2794-93). Humidity and water immersion resistance shall be up to minimum 1000 and 250 hours respectively (ASTM D2247-92 and ASTM D870-92). Corrosion durability shall be confirmed through testing to be no less than 1000 hours salt spray per ASTM B117-90. Coil construction shall be aluminum fins mechanically bonded to copper tubes.
   d. E-Coated copper-fin coils shall have a flexible epoxy polymer coating uniformly applied to all coil surface areas without material bridging between fins. Coating process shall ensure complete coil encapsulation. Color shall be high gloss black with gloss — 60 deg of 65 to 90% per ASTM D523-89. Uniform dry film thickness from 0.8 to 1.2 mil on all surface areas including fin edges. Superior hardness characteristics of 2H per ASTM D3363-92A and cross-hatch adhesion of 4B-5B per ASTM D3359-93. Impact resistance shall be up to 160 in./lb (ASTM D2794-93). Humidity and water immersion resistance shall be up to minimum 1000 and 250 hours respectively (ASTM D2247-92 and ASTM D870-92). Corrosion durability shall be confirmed through testing to be no less than 1000 hours salt spray per ASTM B117-90. Coil construction shall be copper fins mechanically bonded to copper tubes with copper tube sheets. Galvanized steel tube sheets shall not be acceptable. A polymer strip shall prevent coil assembly from contacting sheet metal coil pan to maintain coating integrity and minimize corrosion potential between coil and pan.

2. Roof Curbs (Horizontal and Vertical):
   a. Formed of 16-gage galvanized steel with wood nailer strip and shall be capable of supporting entire unit weight.
   b. Permits installing and securing ductwork to curb prior to mounting unit on the curb.
3. Horizontal Adapter Roof Curb:

   Includes factory-assembled adapter and internal duct and substantially improves evaporator fan static performance (static regain).

   NOTE: Power exhaust or barometric relief must be mounted in the return ductwork when used in conjunction with this accessory.

* 4. Integrated Economizers:
   a. Integrated integral modulating type capable of simultaneous economizer and compressor operation.
   b. Available as a factory-installed option in vertical supply/return configuration only. (Available as a field-installed accessory for horizontal and/or vertical supply return configurations.)
   c. Includes all hardware and controls to provide cooling with outdoor air.
   d. Equipped with low-leakage dampers, not to exceed 2% leakage at 1 in. wg pressure differential.
   e. Capable of introducing up to 100% outdoor air.
   f. EconoMi$er IV and EconoMi$er2 shall be equipped with a barometric relief damper.
   g. Designed to close damper(s) during loss-of-power situations with spring return built into motor.
   h. Dry bulb outdoor-air temperature sensor shall be provided as standard. Outdoor air sensor set point is adjustable and shall range from 40 to 100 F. For the EconoMi$er IV, the return air sensor, indoor enthalpy sensor, and outdoor enthalpy sensor shall be provided as field-installed accessories to provide enthalpy control, differential enthalpy control, and differential dry bulb temperature control. For the EconoMi$er2, the enthalpy, differential temperature (adjustable), and differential enthalpy control shall be provided as field-installed accessories.
   i. EconoMi$er IV controller shall use a mixed air thermistor mounted on the evaporator fan housing to control EconoMi$er IV operation to a supply air temperature of 55 F.
   j. The EconoMi$er IV and EconoMi$er2 shall have a gear-driven parallel blade design.
   k. EconoMi$er IV controller shall provide control of internal building pressure through its accessory power exhaust function. Factory set at 100%, with a range of 0% to 100%.
   l. EconoMi$er2 shall be capable of control from a 4 to 20 mA signal through optional 4 to 20 mA design without microprocessor control (required for third party control interface).
   m. EconoMi$er IV controller Occupied Minimum Damper Position Setting maintains the minimum airflow into the building during occupied period providing design ventilation rate for full occupancy (damper position during heating). A remote potentiometer may be used to override the set point.
   n. EconoMi$er IV controller Unoccupied Minimum Damper Position Setting — The EconoMi$er IV dampers shall be completely closed when the unit is in the occupied mode.
   o. EconoMi$er IV controller IAQ/DCV Maximum Damper Position Setting — Setting the maximum position of the damper prevents the introduction of large amounts of hot or cold air into the space. This position is intended to satisfy the base minimum ventilation rate.
   p. EconoMi$er IV controller IAQ/DCV control modulates the outdoor-air damper to provide ventilation based on the optional 2 to 10 vdc CO_2 sensor input.
   q. Compressor lockout sensor (opens at 35 F, closes at 50 F).
   r. Actuator shall be direct coupled to economizer gear, eliminating linkage arms and rods.
   s. Control LEDs:
      1) When the outdoor air damper is capable of providing free cooling, the “Free Cool” LED shall illuminate.
      2) The IAQ LED indicates when the module is on the DCV mode.
      3) The EXH LED indicates when the exhaust fan contact is closed.
   t. Remote Minimum Position Control — A field-installed accessory remote potentiometer allows the outdoor air damper to be opened or closed beyond the minimum position in the occupied mode for modified ventilation.
5. Two-Position Damper:

   Two-position damper package shall include single blade damper and 24-v motor. Admits up to 25% outdoor air, and shall close upon unit shutoff. Damper shall cover 3.8-in. high by 17.75-in. wide (117.8 sq. in.) opening in return air upper panel.
6. Accessory Compressor Cycle Delay:

   Compressor shall be prevented from restarting for a minimum of 5 minutes after shutdown.

* 7. Thermostats and Subbases:

   To provide staged heating and cooling in addition to automatic (or manual) changeover and fan control.

* 8. Barometric Relief Damper Package:
   a. Package shall include damper, seals, hardware, and hoods to relieve excess internal pressure.
   b. Damper shall close due to gravity upon unit shutdown.
   c. Damper package must be field-installed in return-air ductwork when used with optional side return connections.

* 9. Power Exhaust:

   Package shall include an exhaust (propeller style) fan, $^1/_2$ Hp 208-230, 460 v (factory-wired for 460 v) direct drive motor, and damper for vertical flow units with economizer to control over-pressurization of building. Power Exhaust package must be field-installed in return-air ductwork when used with optional side return connections.

* 10. Head Pressure Control Package:

   Consists of an accessory outdoor-air package and a solid-state control with condenser coil temperature sensor for controlling condenser-fan motor speed to maintain condensing temperature between 90 F and 100 F at outdoor ambient temperature down to –20 F.

11. Low-Ambient Kits:

    When used, allows units to operate at lower outdoor ambient temperatures. Sizes 155, 180, 210/216, and 300 will operate down to 10 F. Size 240 will operate down to 25 F.

* 12. Enthalpy Sensor:

    a. For use with Economi$er IV only.

    b. Capable of comparing heat content (temperature and humidity) of outdoor air and indoor air and controlling economizer cut-in point at the most economical level.

    NOTE: Two accessory enthalpy sensors are required for differential enthalpy control.

* 13. Electronic Programmable Thermostat:

    Capable of using deluxe full-featured electronic thermostat.

14. Winter Start Time-Delay Relay:

    Used in conjunction with the accessory low-ambient kit or head pressure control device, permits operation in cooling at lower outdoor ambient temperatures. See price pages for more information.

15. Liquid Propane Conversion Kit:

    Kit shall contain all the necessary hardware and instructions to convert a standard natural gas unit for use with liquefied propane gas.

16. Hinged Access Panels for the Filter, Compressors, Evaporator Fan, and Control Box Areas:

    Filter hinged access panels permit tool-less entry for changing filters. Evaporator fan hinged access panel shall be field-convertible to a tool-less entry by removing and discarding screws. Each external hinged access panel shall be permanently attached to the rooftop unit.

17. Convenience Outlet:

    Shall be factory-installed and internally mounted with an externally accessible 115-v, 15 amp. GFI, female receptacle with hinged cover. Voltage required to operate convenience outlet shall be provided by a field-installed separate branch circuit.

18. Non-Fused Disconnect Switch:

    Shall be factory-installed, internally mounted, NEC and UL approved non-fused switch shall provide unit power shutoff. The control access door shall be interlocked with the non-fused disconnect. The disconnect switch must be in the OFF position to open the control box access door. Shall be accessible from outside the unit and shall provide power off lockout capability.

19. Alternate Drive:

    Shall provide higher static drive capability to enhance evaporator-fan performance rpm range.

20. Hail Guard, Condenser Coil Grille:

    Shall protect the condenser coil from hail, flying debris, and damage by large objects without increasing unit clearances.

21. Ultraviolet Germicidal Lamps:

    Ultraviolet germicidal lamps are designed to eliminate odor causing mold and fungus that may develop in the wet area of the evaporator section of the unit. The high output, low temperature germicidal lamps are field installed in the evaporator section of the unit, aimed at the evaporator coil and condensate pan. The short wavelength ultraviolet light inhibits and kills mold, fungus and microbial growth. The lamps have an output rating at 45 F in 400 fpm airflow of 120 microwatts/cm^2 at 1 meter.

22. Stainless Steel Condensate Pan:

    Stainless steel condensate pans shall be available for condensate collection.

23. Light Commercial Thermidistat™ Device:

    Shall regulate temperature and humidity from one location. Automatic humidity control adjusts indoor humidity level between 50 and 90% RH (relative humidity) based on the outdoor temperature sensor.

24. Fan/Filter Status Switch:

    Provides status of indoor (evaporator) fan (ON/OFF) or filter (CLEAN/DIRTY). Status shall be displayed over communication bus when used with direct digital controls or with an indicator light at the thermostat.

25. Manual Outdoor-Air Damper:

    Manual damper package shall consist of damper, birdscreen, and rainhood which can be preset to admit up to 50% outdoor air for year-round ventilation.

26. High-Static Motor(s) and Drive(s):

    High-static motor(s) and drive(s) shall be factory-installed to provide additional performance range.

27. Indoor Air Quality (CO_2) Sensor:

    a. Shall have the ability to provide demand ventilation indoor air quality (IAQ) control through the economizer with an IAQ sensor.

    b. The IAQ sensor shall be available in duct mount, wall mount, and wall mount with LED display. The set point shall have adjustment capability.

28. Return Air CO_2 Sensor (EconoMi$er IV):

    Sensor shall have the ability to provide demand ventilation control through the EconoMi$er IV. The IAQ sensor shall be duct mounted. The set point shall have adjustment capability.

29. Outdoor Air Enthalpy Sensor (EconoMi$er IV or EconoMi$er2):

    The outdoor air enthalpy sensor shall be used to provide single enthalpy control. When used in conjunction with a return air enthalpy sensor, the controller will provide differential enthalpy control. The sensor allows the controller to determine if outside air is suitable for free cooling.

30. Return Air Enthalpy Sensor (EconoMi$er IV or EconoMi$er2):

    The return air enthalpy sensor shall be used with the EconoMi$er IV or EconoMi$er2 device. When used in conjunction with an outdoor air enthalpy sensor, the controller will provide differential enthalpy control.

31. Return Air Temperature Sensor (EconoMi$er IV or EconoMi$er2):

    The return air temperature sensor shall be used with the EconoMi$er IV or EconoMi$er2 device. When used in conjunction with the standard outdoor air temperature sensor, the EconoMi$er IV or EconoMi$er2 device will provide differential temperature control.

32. Indoor Air Quality (CO_2) Room Sensor (EconoMi$er IV):

    Sensor shall have the ability to provide demand ventilation control through the EconoMi$er IV. The IAQ sensor shall be wall mounted with an LED display in parts per million. The set point shall have adjustment capability.

PACKAGED ROOFTOP ELECTRIC COOLING UNIT WITH GAS HEAT — CONSTANT VOLUME APPLICATION

HVAC GUIDE SPECIFICATIONS

SIZE RANGE: 18 TO 25 TONS NOMINAL (COOLING)
250,000 TO 400,000 BTUH, NOMINAL (INPUT HEATING)

BRYANT MODEL NUMBERS: **581A**

PART 1 — GENERAL

1.01 SYSTEM DESCRIPTION

Unit is an outdoor rooftop mounted, electrically controlled heating and cooling unit utilizing scroll hermetic compressors with crankcase heaters for cooling duty and gas combustion heat for heating duty. Supply air shall be discharged downward or horizontally, as shown on contract drawings.

1.02 QUALITY ASSURANCE

A. Unit shall well exceed the energy efficiency requirements of ASHRAE standard 90.1-2001. Unit shall be Energy Star qualified.

B. Unit shall be rated in accordance with ARI Standards 270 and 360 and all units shall be designed in accordance with UL Standard 1995.

C. Unit shall be designed to conform to ASHRAE 15.

D. Unit shall be UL and UL, Canada, tested and certified in accordance with ANSI Z21.47 Standards as a total package.

E. Roof curb shall be designed to conform to NRCA Standards.

F. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.

G. Unit casing shall be capable of withstanding 500-hour salt spray exposure per ASTM B117 (scribed specimen).

H. Unit shall be manufactured in a facility registered to ISO 9001:2000.

1.03 DELIVERY, STORAGE, AND HANDLING

Unit shall be stored and handled per manufacturer's recommendations.

PART 2 — PRODUCTS

2.01 EQUIPMENT (STANDARD)

A. General:

The 581A unit shall be a factory assembled, single-piece heating and cooling unit. Contained within the unit enclosure shall be all factory wiring, piping, controls, refrigerant charge (R-22), and special features required prior to field start-up.

B. Unit Cabinet:

1. Constructed of galvanized steel (G90 — 1.8 oz. of zinc per square foot of sheet metal), bonderized and primer-coated on both sides and coated with a baked polyester thermosetting powdercoating finish on the outer surface. The color of this pre-painted steel is referred to as "American Sterling," a gray color. Bryant's paint specification for this color is PH184.
Color: American Sterling, this gray color is to match federal standard 595a, #26231.
Gloss (per ASTM 0523, 60 deg. F): 60.
Hardness of paint film: H-2H pencil hardness.
2. Indoor blower compartment interior surfaces shall be insulated with a minimum $^1/_2$-in. thick, 1 lb density fiberglass insulation. Fiberglass insulation shall be bonded with a thermosetting resin (8 to 12% by weight nominal, phenol formaldehyde typical), and coated with an acrylic or other material that meets the NFPA 90 flame retardance requirements and has an ''R'' Value of 3.70. Aluminum foil-faced fiberglass insulation shall be used in the gas heat compartment.
3. Cabinet panels shall have minimum $^1/_2$-in. thick, 1.5-lb. density insulation. Each external access panel shall be permanently attached to the rooftop unit. Panels shall also include tiebacks.
4. Filters shall be accessible through an access panel.
5. Holes shall be provided in the base rails (minimum 14 gage) for rigging shackles and level travel and movement during overhead rigging operations.
6. Fork lift slots shall be available from two sides of the unit (end and side).
7. Unit shall contain a sloped drain pan, to prevent standing water from accumulating. Pan shall be fabricated of epoxy powder coated steel.

C. Fans:

1. Indoor blower (evaporator fan):
   a. Centrifugal supply air blower shall have pillow-block ball bearings and adjustable belt drive. Blower assembly shall slide out of unit for servicing.
   b. Fan wheel shall be made from steel with a corrosion resistant finish. It shall be a dynamically balanced, double-inlet type with forward-curved blades.
   c. The indoor fan system (blower wheels, motors, belts, and both bearings) shall slide out for easy access.
2. Condenser fans shall be of the direct-driven propeller type, with corrosion-resistant blades riveted to corrosion-resistant steel supports. They shall be dynamically balanced and discharge air upwards. Condenser fan motors shall be totally enclosed and be of a shaft down design.
3. Induced-draft blower shall be of the direct-driven, single inlet, forward-curved, centrifugal type. It shall be made from steel with a corrosion-resistant finish and shall be dynamically balanced.

D. Compressor(s):

1. Fully hermetic, scroll type, internally protected.
2. Factory spring-shock mounted and internally spring mounted for vibration isolation.
3. On electrically and mechanically independent refrigerant circuits.
4. Reverse rotation protection capability.
5. Crankcase heaters shall only be activated during compressor OFF mode.

E. Coils:

1. Standard evaporator and condenser coils shall have copper or aluminum plate fins mechanically bonded to seamless internally grooved copper tubes with all joints brazed.
2. Coils shall be leak tested at 150 psig (1034 kPa) and pressure tested at 450 psig (3103 kPa).

3. Optional pre-coated aluminum-fin coils shall have a durable epoxy-phenolic coating to provide protection in mildly corrosive coastal environments. Coating shall be applied to the aluminum fin stock prior to the fin stamping process to create an inert barrier between the aluminum fin and copper tube. Epoxy-phenolic barrier shall minimize galvanic action between dissimilar metals.
4. Copper-fin coils shall be constructed of copper fins mechanically bonded to copper tubes and copper tube sheets. Galvanized steel tube sheets shall not be acceptable. A polymer strip shall prevent coil assembly from contacting the sheet metal coil pan to minimize potential for galvanic corrosion between coil and pan. All copper construction shall provide protection in moderate coastal environments.
5. E-Coated aluminum-fin coils shall have a flexible epoxy polymer coating uniformly applied to all coil surface areas without material bridging between fins. Coating process shall ensure complete coil encapsulation. Color shall be high gloss black with gloss — 60 deg of 65 to 90% per ASTM D523-89. Uniform dry film thickness from 0.8 to 1.2 mil on all surface areas including fin edges. Superior hardness characteristics of 2H per ASTM D3363-92A and cross-hatch adhesion of 4B-5B per ASTM D3359-93. Impact resistance shall be up to 160 in./lb (ASTM D2794-93). Humidity and water immersion resistance shall be up to minimum 1000 and 250 hours respectively (ASTM D2247-92 and ASTM D870-92). Corrosion durability shall be confirmed through testing to be no less than 1000 hours salt spray per ASTM B117-90. Coil construction shall be aluminum fins mechanically bonded to copper tubes.
6. E-Coated copper-fin coils shall have a flexible epoxy polymer coating uniformly applied to all coil surface areas without material bridging between fins. Coating process shall ensure complete coil encapsulation. Color shall be high gloss black with gloss — 60 deg of 65 to 90% per ASTM D523-89. Uniform dry film thickness from 0.8 to 1.2 mil on all surface areas including fin edges. Superior hardness characteristics of 2H per ASTM D3363-92A and cross-hatch adhesion of 4B-5B per ASTM D3359-93. Impact resistance shall be up to 160 in./lb (ASTM D2794-93). Humidity and water immersion resistance shall be up to minimum 1000 and 250 hours respectively (ASTM D2247-92 and ASTM D870-92). Corrosion durability shall be confirmed through testing to be no less than 1000 hours salt spray per ASTM B117-90. Coil construction shall be copper fins mechanically bonded to copper tubes with copper tube sheets. Galvanized steel tube sheets shall not be acceptable. A polymer strip shall prevent coil assembly from contacting sheet metal coil pan to maintain coating integrity and minimize corrosion potential between coil and pan.

F. Heating Section:

1. Induced-draft combustion type with energy saving direct-spark ignition system and redundant main gas valve with 2-stage capability.
2. The heat exchanger shall be of the tubular-section type constructed of a minimum of 20-gage steel coated with a nominal 1.2 mil aluminum-silicone alloy for corrosion resistance.
3. Burners shall be of the in-shot type constructed of aluminum-coated steel.
4. All gas piping shall enter the unit at a single location.
5. Stainless steel heat exchanger (minimum 20 Ga type 409 stainless steel) shall be available.

G. Refrigerant Components:

Each refrigerant circuit shall include:

1. Thermostatic expansion valve (TXV) with removable power element.
2. Filter driers.
3. Gage port and connections on suction and discharge.

H. Filter Section:

Standard filter section shall consist of factory-installed 2-in. thick throwaway fiberglass filters.

I. Controls and Safeties:

1. Electro-Mechanical Control:
   a. Economizer control (optional).
   b. Capacity control (2-step).
   c. Unit shall be complete with self-contained low-voltage control circuit.
2. Safeties:
   a. Unit shall incorporate a solid-state compressor lockout which provides optional reset capability at the space thermostat, should any of the following safety devices trip and shut off compressor:
      1) Compressor lockout protection provided for either internal or external overload.
      2) Low-pressure protection.
      3) Freeze protection (evaporator coil).
      4) High-pressure protection (high pressure switch or internal).
   b. Induced draft heating section shall be provided with the following minimum protections:
      1) High-temperature limit switch.
      2) Induced-draft motor speed sensor.
      3) Flame rollout switch.
      4) Flame proving controls.
      5) Redundant gas valve.

J. Operating Characteristics:

1. Unit shall be capable of starting and running at 125 F ambient outdoor temperature per maximum load criteria of ARI Standard 360.
2. Unit with standard controls will operate in cooling down to an outdoor ambient temperature of 40 F.
3. Size 18 and 20 ton units shall have 3 fully independent refrigerant circuits to allow for 33% capacity per circuit.

K. Electrical Requirements:

All unit power wiring shall enter unit cabinet at a single location.

L. Motors:

1. Compressor motors shall be cooled by refrigerant gas passing through motor windings and shall have line break thermal and current overload protection.
2. All fan motors shall have permanently lubricated, sealed bearings and inherent automatic-reset thermal overload protection or manual reset calibrated circuit breakers.
3. All indoor-fan motors 5 hp and larger shall meet the minimum efficiency requirements as established by the Energy Policy Act of 1992 (EPACT), effective October 24, 1997.

M. Special Features:

Certain features are not applicable when the features designated * are specified. For assistance in amending the specifications, contact your local Bryant Sales Office.

1. Full Perimeter Roof Curbs (Horizontal and Vertical):
   a. Formed of 14-gage galvanized steel with wood nailer strip and shall be capable of supporting entire unit weight.
   b. Permits installing and securing ductwork to curb prior to mounting unit on the curb.
   c. Retrofit roof curb kit shall be available for fit up to existing Bryant roof curbs.

* 2. Integrated Economizer:
   a. Integrated integral modulating type capable of simultaneous economizer and compressor operation.
   b. Available as a factory-installed option in vertical supply/return configuration only. (Available as a field-installed accessory for dedicated horizontal and/or vertical supply return configurations.)
   c. Includes all hardware and controls to provide cooling with outdoor air.
   d. Equipped with low-leakage dampers, not to exceed 2% leakage at 1 in. wg pressure differential.
   e. Capable of introducing up to 100% outdoor air.
   f. EconoMi$er IV shall be equipped with a barometric relief damper.
   g. Designed to close damper(s) during loss-of-power situations with spring return built into motor.
   h. Dry bulb outdoor-air temperature sensor shall be provided as standard. Outdoor air sensor set point is adjustable and shall range from 40 to 100 F. For the EconoMi$er IV, the return air sensor, indoor enthalpy sensor, and outdoor enthalpy sensor shall be provided as field-installed accessories to provide enthalpy control, differential enthalpy control, and differential dry bulb temperature control.
   i. EconoMi$er IV controller shall use a mixed air thermistor mounted on the evaporator fan housing to control EconoMi$er IV operation to a supply air temperature of 55 F.
   j. The EconoMi$er IV shall have a gear-driven parallel blade design.
   k. EconoMi$er IV controller shall provide control of internal building pressure through its accessory power exhaust function. Factory set at 100%, with a range of 0% to 100%.
   l. EconoMi$er IV controller Occupied Minimum Damper Position Setting maintains the minimum airflow into the building during occupied period providing design ventilation rate for full occupancy (damper position during heating). A remote potentiometer may be used to override the set point.
   m. EconoMi$er IV controller Unoccupied Minimum Damper Position Setting — The EconoMi$er IV dampers shall be completely closed when the unit is in the occupied mode.
   n. EconoMi$er IV controller IAQ/DCV control modulates the outdoor-air damper to provide ventilation based on the optional 2 to 10 vdc CO_2 sensor input.
   o. Compressor lockout sensor (opens at 35 F, closes at 50 F).
   p. Actuator shall be direct coupled to economizer gear, eliminating linkage arms and rods.
   q. Control LEDs:
      1) When the outdoor air damper is capable of providing free cooling, the “Free Cool” LED shall illuminate.
      2) The IAQ LED indicates when the module is on the DCV mode.
      3) The EXH LED indicates when the exhaust fan contact is closed.
   r. Remote Minimum Position Control — A field-installed accessory remote potentiometer allows the outdoor air damper to be opened or closed beyond the minimum position in the occupied mode for modified ventilation.

* 3. Barometric Relief Damper Package:
   a. Package shall include damper, seals, hardware, and hoods to relieve excess internal pressure.
   b. Damper shall close due to gravity upon unit shutdown.

* 4. Power Exhaust:

Package shall include an exhaust (centrifugal style) fan, 1 Hp 208-230, 460 v (factory-wired for 460 v) direct-drive motor, and damper for vertical flow units with economizer to control over-pressurization of building.

* 5. Thermostats and Subbases:

Units shall provide staged heating and cooling in addition to automatic (or manual) changeover and fan control.

6. Hot Gas Bypass Dehumidification Package:

The dehumidification package is a factory-installed option that provides increased dehumidification by diverting hot gas from the compressor to the HGRH coil to provide approximately 75 F leaving air temperature dehumidifying the air but NOT overcooling the space. The package consists of a single row, 12.25 sq ft subcooling coil located on the leaving air-side of the evaporator coil. The location of this coil in the indoor airstream greatly enhances the latent capacity of the unit.

The package shall be equipped with low pressure switch(es) and TXVs. Low pressure switch(es) prevents evaporator coil freeze-up and TXVs assure a positive superheat condition. If the operation of the Hot Gas Reheat (HGRH) coil is controlled by a field-installed wall-mounted humidistat, the dehumidification circuit will then operate only when needed. Optional field connections for the humidistat are made in the low voltage compartment of the unit control box.

7. Humidistat:

Field-installed, wall-mounted humidistat is used to control activation of the dehumidification package. The humidistat can be set for humidity levels between 20% and 80% relative humidity.

* 8. Electronic Programmable Thermostat:

Thermostat shall be capable of using deluxe full-featured electronic thermostat.

9. Liquefied Propane Conversion Kit:

Kit shall contain all the necessary hardware and instructions to convert a standard natural gas unit for use with liquefied propane gas.

10. Convenience Outlet:

Outlet shall be factory-installed and internally mounted with an externally accessible 115-v, 15 amp GFI, female receptacle with hinged cover. A step down transformer shall be included so no additional wiring is necessary.

11. Non-Fused Disconnect Switch:

    Switch shall be factory-installed, internally mounted, NEC and UL approved. Non-fused switch shall provide unit power shutoff. Shall be accessible from outside the unit and shall provide power off lockout capability.

12. Hail Guard, Condenser Coil Grille:

    Grille shall protect the condenser coil from hail, flying debris, and damage by large objects without increasing unit clearances.

13. Horizontal Kit:

    Horizontal kit shall contain all the necessary hardware to convert a vertical airflow unit to a horizontal airflow unit.

    The unit shall also be available as a horizontal airflow unit directly from the factory.

14. Return Air Smoke Detector:

    The smoke detector shall send input to the controller to shut down the unit in case smoke is detected. The smoke detector shall be factory installed in the return air section or shall be available as a field-installed accessory.

15. Two-Position Damper:

    The damper shall admit up to 25% outdoor air and shall close upon shutdown. The package shall include a single-blade damper and motor.

16. Manual Damper:

    The damper shall have a manually adjustable outside air intake for up to 33% outside air.

17. 30% Filters:

    The filters shall be 30% efficient. The filters shall be 2-in., pleated filters.

18. Standard Motor with Alternate Drive:

    The alternate drive shall provide high-static drive capability to enhance evaporator fan performance.

19. Alternate Motor with Standard Drive:

    The alternate motor shall provide high-static motor capability to enhance evaporator fan performance.

20. Alternate Motor with Optional Drive:

    The alternate motor and optional drive shall provide high-static motor and drive capability to enhance evaporator fan performance.

21. Four-in. Filter Capability:

    The unit shall be capable of accepting 4-in. filters by removal of the factory-supplied 2-in. filters and filter rack and installation of a specially designed filter bracket.

22. Supply Air Smoke Detector:

    The smoke detector shall send input to the controller to shut down the unit in case smoke is detected. The smoke detector shall be factory installed in the supply air section or shall be available as a field-installed accessory.

23. Supply and Return Air Smoke Detector:

    The smoke detector shall send input to the controller to shut down the unit in case smoke is detected. The smoke detector shall be factory installed in the supply and return air sections or shall be available as a field-installed accessory.

24. HACR Breaker:

    The HACR circuit breaker shall be factory installed.

25. Thru-the-Curb Utility Connectors:

    Kit shall provide connectors to permit gas and electrical connections to be brought to the unit through the roof curb.

26. Condensate Overflow Switch:

    The condensate overflow switch shall close when the condensate level in the pan rises above switch.

27. Outdoor Air Enthalpy Sensor (EconoMi$er IV):

    The outdoor air enthalpy sensor is used to sense outdoor air enthalpy for the EconoMi$er IV device. The outdoor air humidity sensor, in conjunction with the standard outdoor air temperature sensor, shall be used with the EconoMi$er IV device to provide outdoor enthalpy. Outdoor air enthalpy shall be calculated by the EconoMi$er IV device from the outdoor air temperature and enthalpy readings. When the outdoor air enthalpy sensor is installed, the EconoMi$er IV can perform Outdoor Air Enthalpy control. With the additional installation of an accessory return air temperature sensor and return air enthalpy sensor, differential enthalpy control can also be performed.

28. Return Air Enthalpy Sensor (EconoMi$er IV):

    The return air enthalpy sensor is used to sense return air enthalpy for the EconoMi$er IV device. The return air enthalpy sensor, in conjunction with the accessory return air temperature sensor, shall be used with the EconoMi$er IV device to provide return air enthalpy. Return air enthalpy shall be calculated by the EconoMi$er IV device from the return air temperature and humidity readings. With the additional installation of an accessory return air temperature sensor and outdoor air enthalpy sensor, differential enthalpy control can also be performed.

29. Return Air Temperature Sensor (EconoMi$er IV):

    The return air temperature sensor is used to sense return air temperature for the EconoMi$er IV device. When the return air temperature sensor is installed, the EconoMi$er IV can perform Differential Temperature control. The return air temperature sensor, in conjunction with the accessory return air humidity sensor, shall be used with the EconoMi$er IV device to provide return air enthalpy. Return air enthalpy shall be calculated by the EconoMi$er IV device from the return air temperature and humidity readings. With the additional installation of an accessory return air enthalpy sensor and outdoor air humidity sensor, differential enthalpy control can also be performed.

30. Indoor Air Quality (CO_2) Room Sensor (EconoMi$er IV:

    Sensor shall have the ability to provide demand ventilation control through the EconoMi$er IV. The IAQ sensor shall be wall mounted with an LED display in parts per million. The set point shall have adjustment capability.

31. Return Air CO_2 Sensor (EconoMi$er IV):

    Sensor shall have the ability to provide demand ventilation control through the EconoMi$er IV. The IAQ sensor shall be duct mounted. The set point shall have adjustment capability.

OPERATING SEQUENCE, SIZE 024-151 UNITS

Cooling, Units Without Economizer — When thermostat calls for cooling, terminals G and Y1 are energized. The indoor-fan contactor (IFC) and compressor contactor are energized and indoor-fan motor, compressor, and outdoor fan starts. The outdoor-fan motor runs continuously while unit is cooling.

For units with 2 stages of cooling, if the thermostat calls for a second stage of cooling by energizing Y2, compressor contactor no. 2 (C2) is energized and compressor no. 2 starts.

Heating, Units Without Economizer — When the thermostat calls for heating, terminal W1 is energized. To prevent thermostat short-cycling, the unit is locked into the Heating mode for at least 1 minute when W1 is energized. The induced-draft motor is energized and the burner ignition sequence begins. The indoor (evaporator) fan motor (IFM) is energized 45 seconds after a flame is ignited. On units equipped for two stages of heat, when additional heat is needed, W2 is energized and the high-fire solenoid on the main gas valve (MGV) is energized. When the thermostat is satisfied and W1 is deenergized, the IFM stops after a 45-second time-off delay.

**Cooling, Units With EconoMi$er IV —** When free cooling is not available, the compressors will be controlled by the zone thermostat. When free cooling is available, the outdoor-air damper is modulated by the EconoMi$er IV control to provide a 50 to 55 F mixed-air temperature into the zone. As the mixed-air temperature fluctuates above 55 or below 50 F, the dampers will be modulated (open or close) to bring the mixed-air temperature back within control.

If mechanical cooling is utilized with free cooling, the outdoor-air damper will maintain its current position at the time the compressor is started. If the increase in cooling capacity causes the mixed-air temperature to drop below 45 F, then the outdoor-air damper position will be decreased to the minimum position. If the mixed-air temperature continues to fall, the outdoor-air damper will close. Control returns to normal once the mixed-air temperature rises above 48 F.

If optional power exhaust is installed, as the outdoor-air damper opens and closes, the power exhaust fans will be energized and deenergized.

If field-installed accessory CO_2 sensors are connected to the EconoMi$er IV control, a demand controlled ventilation strategy will begin to operate. As the CO_2 level in the zone increases above the CO_2 set point, the minimum position of the damper will be increased proportionally. As the CO_2 level decreases because of the increase in fresh air, the outdoor-air damper will be proportionally closed.

For EconoMi$er IV operation, there must be a thermostat call for the fan (G). If the unit is occupied and the fan is on, the damper will operate at minimum position. Otherwise, the damper will be closed when the thermostat is satisfied.

When the EconoMi$er IV control is in the occupied mode and a call for cooling exists (Y1 on the thermostat), the control will first check for indoor fan operation. If the fan is not on, then cooling will not be activated. If the fan is on, then the control will open the EconoMi$er IV damper to the minimum position.

On the initial power to the EconoMi$er IV control, it will take the damper up to $2^1/_2$ minutes before it begins to position itself. Any change in damper position will take up to 30 seconds to initiate. Damper movement from full closed to full open (or vice versa) will take between $1^1/_2$ and $2^1/_2$ minutes.

If free cooling can be used as determined from the appropriate changeover command (switch, dry bulb, enthalpy curve, differential dry bulb, or differential enthalpy), then the control will modulate the dampers open to maintain the mixed-air temperature set point at 50 to 55 F.

If there is a further demand for cooling (cooling second stage — Y2 is energized), then the control will bring on compressor stage 1 to maintain the mixed-air temperature set point. The EconoMi$er IV damper will be open at maximum position. EconoMi$er IV operation is limited to a single compressor.

Heating, Units With Economizer

NOTE: The units have 2 stages of heat.

When the thermostat calls for heating, power is sent to W1 on the IGC (integrated gas unit controller) board. An LED (light-emitting diode) on the IGC board will be on during normal operation. A check is made to ensure that the rollout switch and limit switch are closed and the induced-draft motor is running. The induced-draft motor is then energized, and when speed is proven with the hall effect sensor on the motor, the ignition activation period begins. The burners will ignite within 5 seconds.

If the burners do not light, there is a 22-second delay before another 5-second attempt. If the burners still do not light, this sequence is repeated for 15 minutes. After the 15 minutes have elapsed, if the burners still have not lit, heating is locked out. To reset the control, break 24-v power to the thermostat.

When ignition occurs the IGC board will continue to monitor the condition of the rollout and limit switches, the hall effect sensor, as well as the flame sensor. If the unit is controlled through a room thermostat set for fan auto., 45 seconds after ignition occurs, the indoor-fan motor will be energized (and the outdoor-air dampers will open to their minimum position). If for some reason the overtemperature limit opens prior to the start of the indoor fan blower, on the next attempt, the 45-second delay will be shortened to 5 seconds less than the time from initiation of heat to when the limit tripped. Gas will not be interrupted to the burners and heating will continue. Once modified, the fan on delay will not change back to 45 seconds unless power is reset to the control.

When additional heat is required, W2 closes and initiates power to the second stage of the main gas valve. When the thermostat is satisfied, W1 and W2 open and the gas valve closes, interrupting the flow of gas to the main burners. If the call for W1 lasted less than 1 minute, the heating cycle will not terminate until 1 minute after W1 became active. If the unit is controlled through a room thermostat set for fan auto., the indoor-fan motor will continue to operate for an additional 45 seconds then stop (and the outdoor-air dampers will close). If the overtemperature limit opens after the indoor motor is stopped within 10 minutes of W1 becoming inactive, on the next cycle the time will be extended by 15 seconds. The maximum delay is 3 minutes. Once modified, the fan off delay will not change back to 45 seconds unless power is reset to the control.

When the thermostat is satisfied and W1 and W2 are deenergized, the IFM continues to run and the economizer damper then moves to the minimum position.

OPERATING SEQUENCE, 580F180-300, 579F150-300 AND 581A155,180

Cooling, Units Without Economizer — When thermostat calls for cooling, terminals G and Y1 are energized. The indoor (evaporator) fan contactor (IFC) and compressor contactor no. 1 (C1) are energized, and evaporator-fan motor (IFM), compressor no. 1 and condenser fan(s) start. The condenser-fan motor(s) runs continuously while unit is cooling. When the thermostat calls for a second stage of cooling by energizing Y2, compressor contactor no. 2 (C2) is energized and compressor no. 2 starts.

Heating, Units Without Economizer — When the thermostat calls for heating, power is sent to W on the IGC (integrated gas unit controller) board. An LED (light-emitting diode) on the IGC board will be on during normal operation. A check is made to ensure that the rollout switch and limit switch are closed. The induced-draft motor is then energized, and when speed is proven with the hall effect sensor on the motor, the ignition activation period begins. The burners will ignite within 5 seconds.

If the burners do not light, there is a 22-second delay before another 5-second attempt. If the burners still do not light, this sequence is repeated for 15 minutes. After the 15 minutes have elapsed, if the burners still have not lit, heating is locked out. To reset the control, break 24-v power to the thermostat.

When ignition occurs the IGC board will continue to monitor the condition of the rollout and limit switches, the hall effect sensor, as well as the flame sensor. If the unit is controlled through a room thermostat set for fan auto., 45 seconds after ignition occurs, the indoor-fan motor will be energized. If for some reason the overtemperature limit opens prior to the start of the indoor fan blower, on the next attempt, the 45-second delay will be shortened to 5 seconds less than the time from initiation of heat to when the limit tripped. Gas will not be interrupted to the burners and heating will continue. Once modified, the fan on delay will not change back to 45 seconds unless power is reset to the control.

When additional heat is required, W2 closes and initiates power to the second stage of the main gas valve. When the thermostat is satisfied, W1 and W2 open and the gas valve closes, interrupting the flow of gas to the main burners. If the call for W1 lasted less than 1 minute, the heating cycle will not terminate until 1 minute after W1 became active. If the unit is controlled through a room thermostat set for fan auto., the indoor-fan motor will continue to operate for an additional 45 seconds then stop. If the overtemperature limit opens after the indoor motor is stopped within 10 minutes of W1 becoming inactive, on the next cycle the time will be extended by 15 seconds. The maximum delay is 3 minutes. Once modified, the fan off delay will not change back to 45 seconds unless power is reset to the control.

An LED indicator is provided on the IGC to monitor operation. The IGC is located by removing the side panel and viewing the IGC through the view port located in the control box access panel. During normal operation, the LED is continuously on.

**Cooling, Units With EconoMi$er IV —** When free cooling is not available, the compressors will be controlled by the zone thermostat. When free cooling is available, the outdoor-air damper is modulated by the EconoMi$er IV control to provide a 50 to 55 F mixed-air temperature into the zone. As the mixed-air temperature fluctuates above 55 or below 50 F, the dampers will be modulated (open or close) to bring the mixed-air temperature back within control.

If mechanical cooling is utilized with free cooling, the outdoor-air damper will maintain its current position at the time the compressor is started. If the increase in cooling capacity causes the mixed-air temperature to drop below 45 F, then the outdoor-air damper position will be decreased to the minimum position. If the mixed-air temperature continues to fall, the outdoor-air damper will close. Control returns to normal once the mixed-air temperature rises above 48 F.

If optional power exhaust is installed, as the outdoor-air damper opens and closes, the power exhaust fans will be energized and deenergized.

If field-installed accessory CO_2 sensors are connected to the EconoMi$er IV control, a demand controlled ventilation strategy will begin to operate. As the CO_2 level in the zone increases above the CO_2 set point, the minimum position of the damper will be increased proportionally. As the CO_2 level decreases because of the increase in fresh air, the outdoor-air damper will be proportionally closed.

For EconoMi$er IV operation, there must be a thermostat call for the fan (G). If the unit is occupied and the fan is on, the damper will operate at minimum position. Otherwise, the damper will be closed.

When the EconoMi$er IV control is in the occupied mode and a call for cooling exists (Y1 on the thermostat), the control will first check for indoor fan operation. If the fan is not on, then cooling will not be activated. If the fan is on, then the control will open the EconoMi$er IV damper to the minimum position.

On the initial power to the EconoMi$er IV control, it will take the damper up to $2^1/_2$ minutes before it begins to position itself. Any change in damper position will take up to 30 seconds to initiate. Damper movement from full closed to full open (or vice versa) will take between $1^1/_2$ and $2^1/_2$ minutes.

If free cooling can be used as determined from the appropriate changeover command (switch, dry bulb, enthalpy curve, differential dry bulb, or differential enthalpy), then the control will modulate the dampers open to maintain the mixed-air temperature set point at 50 to 55 F.

If there is a further demand for cooling (cooling second stage — Y2 is energized), then the control will bring on compressor stage 1 to maintain the mixed-air temperature set point. The EconoMi$er IV damper will be open at maximum position. EconoMi$er IV operation is limited to a single compressor.

Heating, Units With Economizer

NOTE: The units have 2 stages of heat.

When the thermostat calls for heating, power is sent to W1 on the IGC (integrated gas unit controller) board. An LED (light-emitting diode) on the IGC board will be on during normal operation. A check is made to ensure that the rollout switch and limit switch are closed and the induced-draft motor is running. The induced-draft motor is then energized, and when speed is proven with the hall effect sensor on the motor, the ignition activation period begins. The burners will ignite within 5 seconds.

If the burners do not light, there is a 22-second delay before another 5-second attempt. If the burners still do not light, this sequence is repeated for 15 minutes. After the 15 minutes have elapsed, if the burners still have not lit, heating is locked out. To reset the control, break 24-v power to the thermostat.

When ignition occurs the IGC board will continue to monitor the condition of the rollout and limit switches, the hall effect sensor, as well as the flame sensor. If the unit is controlled through a room thermostat set for fan auto., 45 seconds after ignition occurs, the indoor-fan motor will be energized (and the outdoor-air dampers will open to their minimum position). If for some reason the overtemperature limit opens prior to the start of the indoor fan blower, on the next attempt, the 45-second delay will be shortened to 5 seconds less than the time from initiation of heat to when the limit tripped. Gas will not be interrupted to the burners and heating will continue. Once modified, the fan on delay will not change back to 45 seconds unless power is reset to the control.

When additional heat is required, W2 closes and initiates power to the second stage of the main gas valve. When the thermostat is satisfied, W1 and W2 open and the gas valve closes, interrupting the flow of gas to the main burners. If the call for W1 lasted less than 1 minute, the heating cycle will not terminate until 1 minute after W1 became active. If the unit is controlled through a room thermostat set for fan auto., the indoor-fan motor will continue to operate for an additional 45 seconds then stop (and the outdoor-air dampers will close). If the overtemperature limit opens after the indoor motor is stopped within 10 minutes of W1 becoming inactive, on the next cycle the time will be extended by 15 seconds. The maximum delay is 3 minutes. Once modified, the fan off delay will not change back to 45 seconds unless power is reset to the control.

When the thermostat is satisfied and W1 and W2 are deenergized, the IFM continues to run and the economizer damper then moves to the minimum position.

Units With Hot Gas Bypass Dehumidification Package — When thermostat calls for cooling, terminals G and Y1 and Y2 and the compressor contactors C1 and C2 are energized. The indoor (evaporator) fan motor (IFM), compressor, and outdoor (condenser) fan motor (OFM) start. The OFM runs continuously while the unit is in cooling. As shipped from the factory, hot gas bypass dehumidification circuit is always energized. If hot gas bypass circuit modulation is desired, a field-installed, wall-mounted humidistat is required.

If the hot gas bypass humidistat is installed and calls for the hot gas bypass subcooler coil to operate, the humidistat internal switch closes. This energizes and closes the liquid line solenoid valve coil (LLSV) of the hot gas bypass circuit, forcing the hot liquid refrigerant of the liquid line to enter the subcooler coil. As the hot liquid passes through the subcooler coil, it is exposed to the cold supply airflow coming off from the evaporator coil and the liquid is further cooled to a temperature approaching the evaporator coil leaving-air temperature. The state of the refrigerant leaving the subcooler coil is a highly subcooled liquid refrigerant. The liquid then enters a thermostatic expansion valve (TXV) where the liquid is dropped to a lower pressure. The TXV does not have a pressure drop great enough to change the liquid to a 2-phase fluid. The TXV can throttle the pressure drop of the liquid refrigerant and maintain proper conditions at the compressor suction valve over a wide range of operating conditions. The liquid then enters a second fixed restrictor expansion device for a second pressure drop to a 2-phase fluid. The liquid proceeds to the evaporator coil at a temperature lower than normal cooling operation. This lower temperature is what increases the latent capacity of the rooftop. The 2-phase refrigerant passes through the evaporator and is changed into a vapor. The air passing over the evaporator coil will become colder than during normal operation as a result of the colder refrigerant temperatures. However, as it passes over the subcooler coil, the air will be warmed slightly.

As the refrigerant leaves the evaporator, the refrigerant passes a low-pressure switch in the suction line. This low-pressure switch will de-activate the hot gas bypass package when the suction pressure reaches 60 psig. The low-pressure switch is an added safety device to protect against evaporator coil freeze-up. The low-pressure switch will only de-activate and open the liquid line solenoid valve in the hot gas bypass circuit. The compressors will continue to run as long as there is a call for cooling, regardless of the position of the low-pressure switch. The solenoid valve and the hot gas bypass package will be re-activated only when the call for cooling has been satisfied, the low-pressure switch has closed, and a new call for cooling exists. The crankcase heaters on the scroll compressor provide additional protection for the compressor due to the additional refrigerant charge in the subcooler.

When the humidistat is satisfied, the humidistat internal switch opens cutting power to and opening the LLSV. The refrigerant is routed back through the evaporator and the subcooler coil is removed from the refrigerant loop.

When the thermostat is satisfied, C1 and C2 are deenergized and the compressor and OFM shut off. After a 30-second delay, the IFM shuts off. If the thermostat fan selector switch is in the ON position, the IFM will run continuously.

OPERATING SEQUENCE, 581A210-300

Cooling, Units Without Economizer — When thermostat calls for cooling, terminals G and Y1 are energized. The indoor-fan contactor (IFC) and compressor contactors A1 and B1 (except 300 units) are energized and indoor-fan motor, compressor, and outdoor fan starts. The outdoor fan motor runs continuously while unit is cooling. If further cooling is required, the Y2 output from the thermostat energizes compressor contactor C1 (B1 on 300 units).

Heating, Units Without Economizer

NOTE: The 581A210-300 units have 2 stages of heat.

When the thermostat calls for heating, power is sent to W on the IGC (integrated gas unit controller) board. An LED (light-emitting diode) on the IGC board will be on during normal operation. A check is made to ensure that the rollout switch and limit switch are closed and the induced-draft motor is running. The induced-draft motor is then energized, and when speed is proven with the hall effect sensor on the motor, the ignition activation period begins. The burners will ignite within 5 seconds.

If the burners do not light, there is a 22-second delay before another 5-second attempt. If the burners still do not light, this sequence is repeated for 15 minutes. After the 15 minutes have elapsed, if the burners still have not lit, heating is locked out. To reset the control, break 24-v power to the thermostat. When ignition occurs the IGC board will continue to monitor the condition of the rollout and limit switches, the hall effect sensor, as well as the flame sensor. If the unit is controlled through a room thermostat set for fan auto., 45 seconds after ignition occurs, the indoor-fan motor will be energized (and the outdoor-air dampers will open to their minimum position). If for some reason the overtemperature limit opens prior to the start of the indoor fan blower, on the next attempt, the 45-second delay will be shortened to 5 seconds less than the time from initiation of heat to when the limit tripped. Gas will not be interrupted to the burners and heating will continue.

Once modified, the fan on delay will not change back to 45 seconds unless power is reset to the control.

When additional heat is required, W2 closes and initiates power to the second stage of the main gas valve. When the thermostat is satisfied, W1 and W2 open and the gas valve closes, interrupting the flow of gas to the main burners. If the call for W1 lasted less than 1 minute, the heating cycle will not terminate until 1 minute after W1 became active. If the unit is controlled through a room thermostat set for fan auto., the indoor-fan motor will continue to operate for an additional 45 seconds then stop (and the outdoor-air dampers will close).

If the overtemperature limit opens after the indoor motor is stopped within 10 minutes of W1 becoming inactive, on the next cycle the time will be extended by 15 seconds. The maximum delay is 3 minutes. Once modified, the fan off delay will not change back to 45 seconds unless power is reset to the control.

A LED indicator is provided on the IGC to monitor operation. The IGC is located by removing the side panel and viewing the IGC through the view port located in the control box access panel. During normal operation, the LED is continuously on.

**Cooling, Units With EconoMi$er IV —** When free cooling is not available, the compressors will be controlled by the zone thermostat. When free cooling is available, the outdoor-air damper is modulated by the EconoMi$er IV control to provide a 50 to 55 F mixed-air temperature into the zone. As the mixed-air temperature fluctuates above 55 or below 50 F, the dampers will be modulated (open or close) to bring the mixed-air temperature back within control.

If mechanical cooling is utilized with free cooling, the outdoor-air damper will maintain its current position at the time the compressor is started. If the increase in cooling capacity causes the mixed-air temperature to drop below 45 F, then the outdoor-air damper position will be decreased to the minimum position. If the mixed-air temperature continues to fall, the outdoor-air damper will close. Control returns to normal once the mixed-air temperature rises above 48 F.

If optional power exhaust is installed, as the outdoor-air damper opens and closes, the power exhaust fans will be energized and deenergized.

If field-installed accessory CO_2 sensors are connected to the EconoMi$er IV control, a demand controlled ventilation strategy will begin to operate. As the CO_2 level in the zone increases above the CO_2 set point, the minimum position of the damper will be increased proportionally. As the CO_2 level decreases because of the increase in fresh air, the outdoor-air damper will be proportionally closed.

For EconoMi$er IV operation, there must be a thermostat call for the fan (G). If the unit is occupied and the fan is on, the damper will operate at minimum position. Otherwise, the damper will be closed.

When the EconoMi$er IV control is in the occupied mode and a call for cooling exists (Y1 on the thermostat), the control will first check for indoor fan operation. If the fan is not on, then cooling will not be activated. If the fan is on, then the control will open the EconoMi$er IV damper to the minimum position.

On the initial power to the EconoMi$er IV control, it will take the damper up to $2^1/_2$ minutes before it begins to position itself. Any change in damper position will take up to 30 seconds to initiate. Damper movement from full closed to full open (or vice versa) will take between $1^1/_2$ and $2^1/_2$ minutes.

If free cooling can be used as determined from the appropriate changeover command (switch, dry bulb, enthalpy curve, differential dry bulb, or differential enthalpy), then the control will modulate the dampers open to maintain the mixed-air temperature set point at 50 to 55 F.

If there is a further demand for cooling (cooling second stage — Y2 is energized), then the control will bring on compressor stage 1 to maintain the mixed-air temperature set point. The EconoMi$er IV damper will be open at maximum position. EconoMi$er IV operation is limited to a single compressor.

Heating, Units With Economizer

NOTE: The units have 2 stages of heat.

When the thermostat calls for heating, power is sent to W1 on the IGC (integrated gas unit controller) board. An LED (light-emitting diode) on the IGC board will be on during normal operation. A check is made to ensure that the rollout switch and limit switch are closed and the induced-draft motor is running. The induced-draft motor is then energized, and when speed is proven with the hall effect sensor on the motor, the ignition activation period begins. The burners will ignite within 5 seconds.

If the burners do not light, there is a 22-second delay before another 5-second attempt. If the burners still do not light, this sequence is repeated for 15 minutes. After the 15 minutes have elapsed, if the burners still have not lit, heating is locked out. To reset the control, break 24-v power to the thermostat.

When ignition occurs the IGC board will continue to monitor the condition of the rollout and limit switches, the hall effect sensor, as well as the flame sensor. If the unit is controlled through a room thermostat set for fan auto., 45 seconds after ignition occurs, the indoor-fan motor will be energized (and the outdoor-air dampers will open to their minimum position). If for some reason the overtemperature limit opens prior to the start of the indoor fan blower, on the next attempt, the 45-second delay will be shortened to 5 seconds less than the time from initiation of heat to when the limit tripped. Gas will not be interrupted to the burners and heating will continue. Once modified, the fan on delay will not change back to 45 seconds unless power is reset to the control.

When additional heat is required, W2 closes and initiates power to the second stage of the main gas valve. When the thermostat is satisfied, W1 and W2 open and the gas valve closes, interrupting the flow of gas to the main burners. If the call for W1 lasted less than 1 minute, the heating cycle will not terminate until 1 minute after W1 became active. If the unit is controlled through a room thermostat set for fan auto., the indoor-fan motor will continue to operate for an additional 45 seconds then stop (and the outdoor-air dampers will close). If the overtemperature limit opens after the indoor motor is stopped within 10 minutes of W1 becoming inactive, on the next cycle the time will be extended by 15 seconds. The maximum delay is 3 minutes. Once modified, the fan off delay will not change back to 45 seconds unless power is reset to the control.

When the thermostat is satisfied and W1 and W2 are deenergized, the IFM continues to run and the economizer damper then moves to the minimum position.

APPLICATION DATA

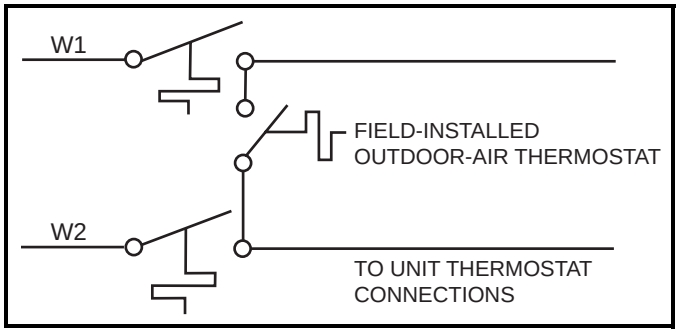
1. **CONDENSATE DRAIN PAN —** A sloped condensate drain pan is supplied on all units. The condensate pan must be externally trapped. Condensate drains are located on both the bottom and end of the unit.
2. **DUCTWORK —** All ductwork must be attached to flanges. If no flanges are present, they must be field supplied. Secure vertical discharge ductwork to roof curb. For horizontal discharge applications, attach ductwork to flanges. Field-supplied flanges can be attached to horizontal discharge openings and all ductwork attached to flanges.
3. **THERMOSTAT —** Use of 2-stage cooling thermostat is recommended for all units equipped with economizer. A 2-stage cooling thermostat is required for size 090-300 units with integrated economizer.
4. **HEATING-TO-COOLING CHANGEOVER —** All units are automatic changeover from heating to cooling when automatic changeover thermostat and subbase are used.
5. **AIRFLOW —** Units are draw-thru on cooling and blow-thru on heating.
6. **MAXIMUM AIRFLOW —** To minimize possibility of condensate blow-off from evaporator, airflow through units should not exceed 500 cfm/ton (sizes 024-240) and 11,250 cfm (size 300).
7. **MINIMUM AIRFLOW —** Minimum airflow for cooling is 300 cfm/ton (sizes 036-240) and 280 cfm/ton (300 units). Refer to Heating Capacities and Efficiencies table for minimum heating airflow.
8. **MINIMUM AMBIENT OPERATING TEMPERATURE —** Minimum ambient operating temperature for size 036-150 standard units is 25 F. With accessory Motormaster® I, II, or IV units can operate at outdoor temperatures down to –20 F.

   Unit sizes 155-300 are designed to operate at outdoor temperatures down to 40 F. With accessory Motormaster I or Motormaster V control, units can operate at outdoor temperatures down to –20 F.

   NOTE: Under most application circumstances, if the rooftop unit is equipped with an economizer, low ambient controls are not required. Unless the outdoor air is unsatisfactory for free cooling due to high temperature, excessive humidity, or poor air quality, outdoor air should be used.
9. **MAXIMUM OPERATING OUTDOOR-AIR TEMPERATURE —** Maximum outdoor operating temperature for cooling is shown below (60 Hz):

581B,C024-150	125 F
580F036-151	115 F
579F/580F180-240	120 F
579F/580F300	125 F
581A036-155	125 F
581A180	120 F
581A210	125 F
581A240	125 F
581A300	125 F

10. **HIGH ALTITUDES —** These may require a change to the gas orifice. Refer to Altitude Compensation tables.
11. **MINIMUM HEATING ENTERING AIR TEMPERATURE —** The minimum temperature of air entering the dimpled heat exchanger is 50 F continuous and 45 F intermittent for aluminum heat exchangers and 40 F continuous and 35 F intermittent for stainless steel heat exchangers. To operate at lower mixed-air temperatures, a field-supplied outdoor-air thermostat must be used to initiate both stages of heat when the temperature is below the minimum required temperature to ensure full fire operation. Wire the outdoor-air thermostat (part no. HH22AG106) in series with the second stage gas valve as shown below. Set the outdoor-air thermostat at 35 F for stainless steel heat exchangers or 45 F for aluminum heat exchangers. This temperature setting will bring on the second stage of heat whenever the ambient temperature is below the thermostat set point. Indoor comfort may be compromised when heating is initiated using low entering air temperatures with insufficient heating temperature rise.



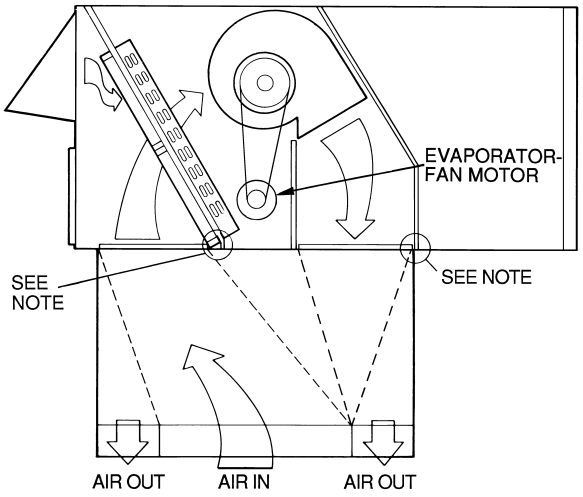
Wiring of Outdoor-Air Thermostat

12. **MOTOR DATA —** Due to Bryant's internal unit design (draw-thru over the motor), air path, and specially designed motors, the full horsepower (maximum continuous bhp) listed in the Physical Data tables and the notes following each Fan Performance table can be utilized with extreme confidence.

    Using Bryant motors to the values listed in the Physical Data, Fan Performance, and Evaporator-Fan Motor Data tables *will not* result in nuisance tripping or premature motor failure. In addition, the unit warranty will not be affected.
13. **THRU-THE-BOTTOM CONNECTIONS —** The accessory thru-the-bottom connections are needed to ensure proper connections when routing wiring and piping through the basepan and roof curb. This accessory is used for electric and control power only or electric, control power, and gas piping depending on which accessory is selected.
14. **FIELD-SUPPLIED FAN DRIVES —** If the factory drive sets must be changed to obtain other wheel speeds, consult the nearest Browning Manufacturing Co. sales office with the required new wheel speed and the data from Physical Data tables (center distances, motor and fan shaft diameters, motor horsepower) for a modified drive set selection. For minor speed changes, the fan sheave size should be changed. (Do not reduce the size of the motor sheave; this will result in reduced belt horse-power ratings and reduced belt life.) All indoor fan pulleys are adjustable. See physical data tables for rpm adjustment ranges.
15. **CONDENSER COIL PROTECTION**
    a. **PRE-COATED ALUMINUM FIN COILS** have a durable epoxy-phenolic coating applied to the fin prior to the fin stamping process to provide protection in mildly corrosive coastal environments. Pre-coated coils have an inert barrier between the aluminum fin and copper tube. This barrier electrically disconnects the dissimilar metals to minimize the potential for galvanic corrosion. This economical option provides substantial corrosion protection beyond the standard uncoated coil construction.
    b. **COPPER-FIN COILS** provide increased corrosion resistance in moderate coastal environments where industrial air pollution is not present. All copper coils eliminate bimetallic construction to eliminate the potential for galvanic corrosion. Application in industrial environments is not recommended due to potential attack from sulfur, sulfur oxide, nitrogen oxides, carbon and several other industrial airborne contaminants. In moderate seacoast environments, copper-fin coils have extended life compared to standard or pre-coated aluminum-fin coils.

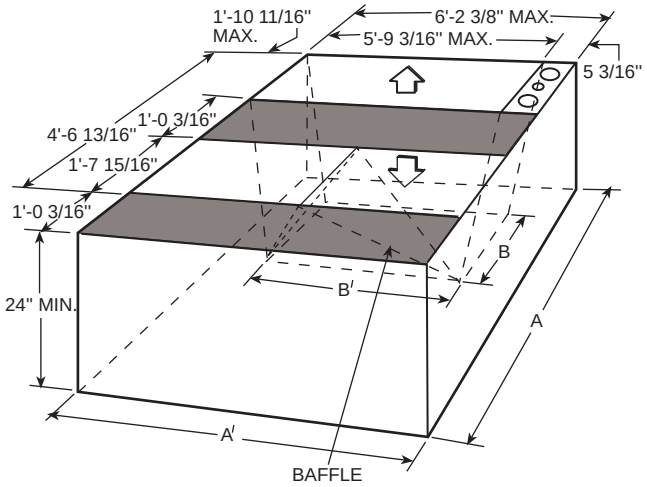
APPLICATION DATA (cont)

CONCENTRIC DUCT DISTRIBUTION



NOTE: Do not drill in this area, damage to basepan may result in water leak.

CONCENTRIC DUCT DETAILS



Shaded area indicates block-off panels.

NOTE: Dimensions A, A′ and B, B′ are obtained from field-supplied ceiling diffuser.

Concentric Duct Details

c. **E-COATED ALUMINUM FIN** coils undergo a precisely controlled scientific process that bonds an impermeable epoxy coating to the specially prepared fin coil surface. E-Coating produces a smooth, consistent coating that is less brittle, more resilient and more durable than previous postcoating processes. E-Coated aluminum-fin coils offer economical protection and improved coil life in many contaminated environments.

d. **E-COATED COPPER-FIN COILS** provide maximum protection in virtually all environments, this option combines the continuous, impenetrable barrier of the E-Coating process with the natural resistance of an all-copper construction. E-Coated copper-fin coil assemblies ensure long life, even in environments that combine harsh coastal conditions with industrial contamination.

16. **ECONOMI$ER IV —** The EconoMi$er IV factory-installed economizer package includes a gear-driven damper system that modulates the return air and outdoor air supply to the rooftop unit in order to take advantage of “free cooling” with outdoor air when conditions are suitable. The system utilizes industry proven technology available for integrating the use of outdoor air for cooling with mechanical cooling for 3 through 25-ton rooftop units. The intuitive EconoMi$er IV microprocessor-based controller optimizes and enhances rooftop operation through reduced energy consumption, optimal zone comfort, and efficient equipment cycling. This is accomplished by operating the compressors when the outdoor air temperature is too warm, integrating the compressors with outdoor air when free cooling is available, and locking out the compressor when outdoor air temperature is too cold. The detailed sequence of operation is described in the Controls section with a brief description of selected application items here.

a. **THERMOSTAT INTERFACE —** The EconoMi$er IV control was designed to work with conventional thermostats that have Y1 (cooling stage 1), Y2 (cooling stage 2), W1 (heat stage 1), W2 (heat stage 2), and G (fan). In addition, the EconoMi$er IV will support an occupied/unoccupied switch (typically integrated into the thermostat or Thermidistat™ device). When the switch is closed, it provides a 24-vac signal to the unit for occupied mode, and provides no signal to indicate unoccupied mode. The EconoMi$er IV control can be configured to allow different minimum economizer damper positions and to allow the use of mechanical cooling in the occupied mode.

CONDENSER COIL PROTECTION APPLICATIONS

DESCRIPTION (*Dura-Shield* Option)	ENVIRONMENT				
	Standard, Non-Corrosive	Mild Coastal	Severe Coastal	Industrial	Combined Coastal and Industrial
Standard, Al/Cu	X				
Pre-Coated Al/Cu		X			
Cu/Cu		X			
E-Coated Al/Cu				X	X
E-Coated Cu/Cu			X		

LEGEND

Al/Cu — Aluminum Fin with Copper Tube Coil
Cu/Cu — Copper Fin with Copper Tube Coil
Dura-Shield — Family of Coil Protection Options
E-Coated — Extremely Flexible and Durable Epoxy Coating Uniformly Applied to the Coil Surfaces
Pre-Coated — Epoxy Coating Applied to Fin Stock Material

b. **CONTROL FEATURES —** The EconoMi$er IV controller provides superior functionality for rooftop unit operation. EconoMi$er IV control features are included as follows:

Remote Minimum Position — The EconoMi$er IV controller can be used with a field-supplied and field-installed remote minimum position control switch that will enable and disable the EconoMi$er IV to open or close the damper beyond the minimum position for modified ventilation, providing 2 to 10 vdc output.

NOTE: Minimum position signal takes priority over the DCV (demand control ventilation) maximum position signal.

Demand Control Ventilation (DCV) — The EconoMi$er IV has DCV capability when using an IAQ sensor. This sensor is typically installed in the return duct or occupied space. When implementing a DCV control scheme with the EconoMi$er IV, the control algorithm will modulate the position of the damper between two user-configured damper positions, Maximum DCV Position and Minimum Occupied position. Design airflow rates for these two damper positions should be such that when the damper is at the Maximum DCV position, enough fresh ventilation air will be brought in to remove contaminants and CO_2 generated by sources other than people (i.e., since in unoccupied mode). The Maximum DCV position is intended to satisfy the IAQ “Base Ventilation Rate.” The Minimum Occupied position design airflow rate should be sufficient to satisfy ventilation requirements for removing CO_2 from all sources including people at the maximum occupancy.

IAQ Sensors — EconoMi$er IV can be utilized with any IAQ (CO_2) sensor that provides a 2 to 10 vdc output. The controller will modulate the outdoor air damper to provide ventilation based on the sensor output and the IAQ setting of the controller. When used, an IAQ sensor will modulate the damper from the minimum position (base ventilation rate based on CO_2 levels) to maximum position (full occupancy ventilation rate).

Damper Operation — The EconoMi$er IV allows the damper to be configured for two adjustable damper positions including maximum position and occupied minimum positions. The two (2) position damper capability is a unique feature of EconoMi$er IV and includes operation flexibility as follows:

1. Minimum Occupied Position: This adjustable position allows a minimum ventilation (base ventilation rate) airflow rate through the unit during occupied periods.
2. Demand Control Ventilation (DCV) Maximum Position: A DCV maximum occupied position is provided when using an IAQ sensor for DCV. See DCV and Control sections for sequence. The DCV Maximum Position limits outdoor airflow into the rooftop when the DCV routine overrides the mixed air sensor. Setting the DCV Maximum Position of the outdoor air damper prevents large amounts of hot or cold air into the space.

IMPORTANT: When the DCV Maximum Position is set below the minimum position, the minimum position overrides the maximum position, negating most DCV functions.

Power Exhaust — The EconoMi$er IV has the capability to control one stage of power exhaust for maintaining air balance and pressurization. Control is activated based on outdoor air damper position (adjustable); factory-set at the “middle” position (dampers halfway open).

Compressor Staging — The EconoMi$er IV is an integrated economizer and has the ability to utilize simultaneous outdoor air and compressors. The EconoMi$er IV can be configured to support economizer and compressor operation. Only one or two compressor operation is available with 3 to $12^1/_2$ ton units.

c. **CHANGEOVER STRATEGIES —** The EconoMi$er IV controller can be configured to accommodate all available economizer control strategies that place the rooftop unit in economizer mode including:

Remote Minimum Position — Used when a remote signal from a remote minimum position control will enable and disable the EconoMi$er IV (remote enable control).

Outdoor Dry Bulb — EconoMi$er IV will be enabled based on the outdoor-air temperature. This is provided standard with the EconoMi$er IV.

Differential Dry Bulb — EconoMi$er IV will be enabled whenever the outdoor-air temperature is lower than the return-air temperature.

Outside Air Enthalpy — EconoMi$er IV will be enabled based on the outside air enthalpy curves as shown in the EconoMi$er IV Changeover diagram below. The A, B, C, and D curves shown have been in use for many years and have been included as part of the latest ASHRAE 90.1 energy efficiency code. The curves are designed to take into consideration both outdoor temperature and humidity. These curves are used to set up the EconoMi$er IV controller to use the EconoMi$er IV for free cooling when the conditions to the left of the curve exist. When the conditions are to the right of the curve, then outdoor air cooling will not be used and the outdoor air damper position will be set at the minimum position.

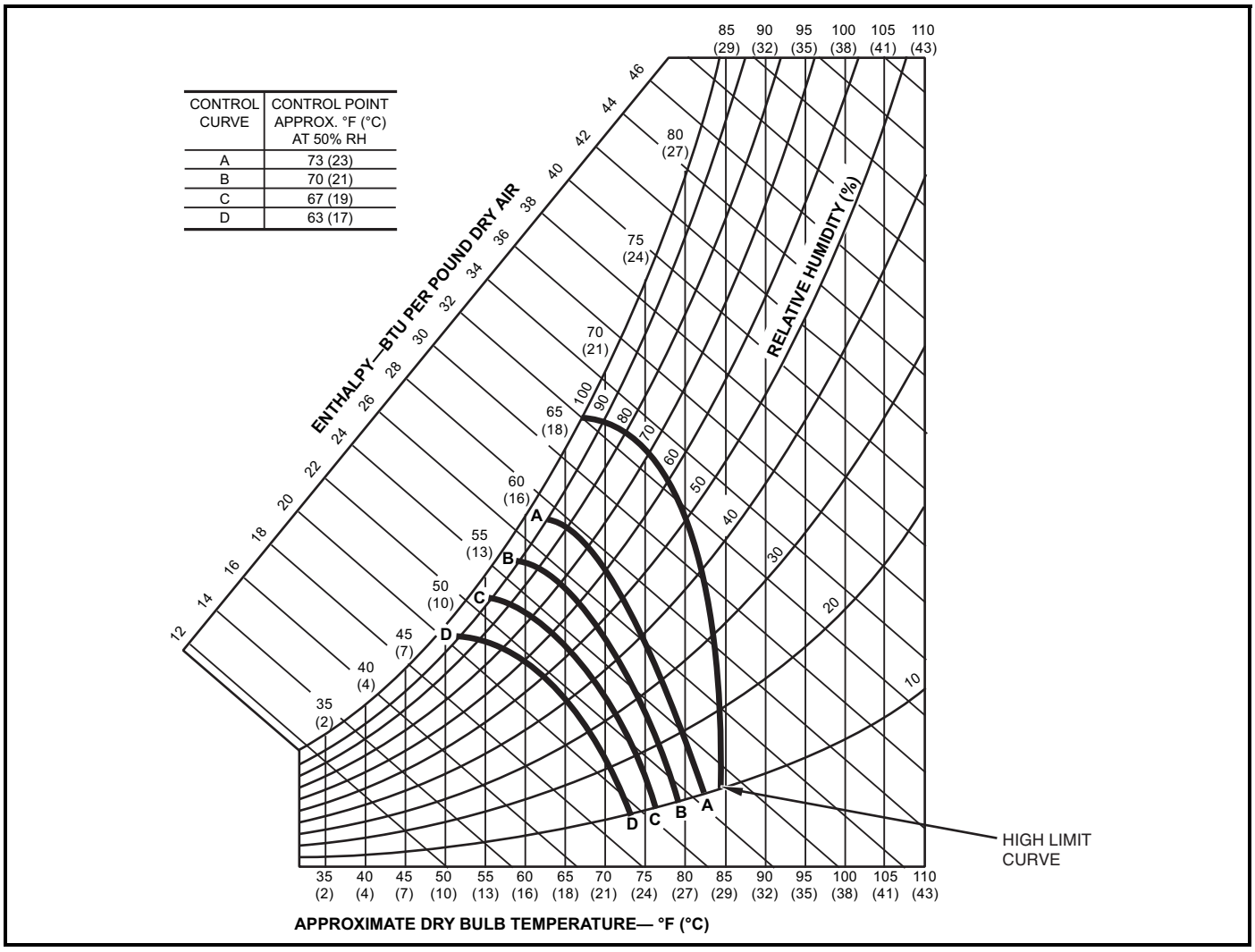
Deciding which curve is used is a function of the outdoor climate and the type of economizer utilized. Since EconoMi$er IV is a fully integrated economizer, the range where outdoor air can be utilized for free cooling is expanded and the A and B curves may be used. The control point table in the EconoMi$er IV Changeover diagram below provides assistance for whether the A and B curves will be suitable. In general terms, a hot and humid climate may be a reason not to use the A curve, while a cooler climate might be more applicable for using the A or B curve.

The EconoMi$er IV has expanded outdoor air capability. For a changeover economizer which cannot utilize simultaneous economizer and compression, both A and B curves would potentially be undesirable since the temperature and humidity levels are too high without compression assistance to provide effective cooling. Therefore, most changeover economizers utilize the D curve.

Differential Enthalpy — The EconoMi$er IV will be enabled based on the comparison of the enthalpy of the return air and outside air. When the outside air enthalpy is lower than he return side, the unit will be in economizer mode.

Using the EconoMi$er IV controller for implementing different control changeover strategies requires the use of different combinations of dry bulb and humidity sensors as outlined in the EconoMi$er IV Sensor Usage table.

APPLICATION DATA (cont)



Economizer Changeover Curves

ECONOMI$ER IV SENSOR USAGE CHART

APPLICATION	ECONOMI$ERIV WITH OUTDOOR AIR DRY BULB SENSOR	ECONOMI$ERIV WITH SINGLE ENTHALPY SENSOR
	Accessories Required	**Accessories Required**
Outdoor Air Dry Bulb	None. The outdoor air dry bulb sensor is factory installed.	CRTEMPSN002A00*
Differential Dry Bulb	CRTEMPSN002A00*	(2) CRTEMPSN002A00*
Single Enthalpy	HH57AC078	None. The single enthalpy sensor is factory installed.
Differential Enthalpy	HH57AC078 and CRENTDIF004A00*	CRENTDIF004A00*
CO_2 for DCV Control using a Wall-Mounted CO_2 Sensor	CGCDXSEN004A00	
CO_2 for DCV Control using a Duct-Mounted CO_2 Sensor	CGCDXSEN004A00† and CGCDXASP001A00**	

*CRENTDIF004A00 and CRTEMPSN002A00 accessories are used on many different base units. As such, these kits may contain parts that will not be needed for installation.
†CGCDXSEN004A00 is an accessory CO_2 sensor.
**CGCDXASP001A00 is an accessory aspirator box required for duct-mounted applications.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

UNIT MUST BE INSTALLED IN ACCORDANCE
WITH INSTALLATION INSTRUCTIONS

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