

580J*16D

**SINGLE PACKAGE ROOFTOP, GAS HEATING/ELECTRIC COOLING UNIT
WITH PURON® (R-410A) REFRIGERANT**

SIZE: 16



Electrical Data Supplement

NOTE: Read the entire instruction manual before starting the installation

This supplement only applies to 580J size 16 units when the 13th digit of the Model Number is a “3”, as shown in the Model Number Nomenclature diagram below. Check the Unit Nameplate (see Figs. 1 & 2). If the digit in the 13th position is not a “3” discard this document.

MODEL NUMBER NOMENCLATURE

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
5	8	0	J	E	1	6	D	2	4	0	A	3	A	0	A	A

Model

580J = Gas Heating Rooftop Unit

Voltage

E = 460-3-60
P = 208/230-3-60
T = 575-3-60

Cooling Tons

16 = 15 ton

Refrig. System/Gas Heat Options

A = Standard One Stage Cooling Models/Natural Gas Heat
B = Standard One Stage Cooling Models/Low NOx Heat
C = Standard One Stage Cooling Models/SS HX Heat
D = Two Stage Cooling Models
F = Two Stage Cooling Models and
Stainless Steel Gas Heat Exchanger

Heat Level

Standard/Stainless Steel

072 = 72,000	224 = 224,000
115 = 115,000	240 = 240,000
150 = 150,000	250 = 250,000
180 = 180,000	350 = 350,000

Low Nox

060 = 60,000
090 = 90,000
120 = 120,000

Indoor Fan Options

1 = Standard Static Option
2 = Medium Static Option
3 = High Static Option

**Coil Options For Round Tube/Plate Fin Condenser Coil Models Only
(Outdoor – Indoor – Hail Guard)**

A = Al/Cu – Al/Cu
B = Precoat Al/Cu – Al/Cu
C = E-coat Al/Cu – Al/Cu
D = E-coat Al/Cu – E-Coat Al/Cu
E = Cu/Cu – Al/Cu
F = Cu/Cu – Cu/Cu
M = Al/Cu – Al/Cu – Louvered Hail Guards
N = Precoat Al/Cu – Al/Cu – Louvered Hail Guards
P = E-coat Al/Cu – Al/Cu – Louvered Hail Guards
Q = E-coat Al/Cu – E-coat Al/Cu – Louvered Hail Guards
R = Cu/Cu – Al/Cu – Louvered Hail Guards
S = Cu/Cu – Cu/Cu – Louvered Hail Guards


**Coil Options For All Aluminum-Novation Condenser Coil Models Only
(Outdoor – Indoor – Hail Guard)**

G = Al/Al – Al/Cu
H = Al/Al – Cu/Cu
J = Al/Al – E-coat Al/Cu
K = E-coat Al/Al – Al/Cu
L = E-coat Al/Al – E-coat Al/Cu
T = Al/Al – Al/Cu – Louvered Hail Guards
U = Al/Al – Cu/Cu – Louvered Hail Guards
V = Al/Al – E-coat Al/Cu – Louvered Hail Guards
W = E-coat Al/Al – Al/Cu – Louvered Hail Guards
X = E-coat Al/Al – E-coat Al/Cu – Louvered Hail Guards

SAFETY CONSIDERATIONS

Improper installation, adjustment, alteration, service, maintenance, or use can cause explosion, fire, electrical shock or other conditions which may cause personal injury or property damage. Consult a qualified installer, service agency, or your distributor or branch for information or assistance. The qualified installer or agency must use factory-authorized kits or accessories when modifying this product. Refer to the individual instructions packaged with the kits or accessories when installing.

Follow all safety codes. Wear safety glasses and work gloves. Use quenching cloths for brazing operations and have a fire extinguisher available. Read these instructions thoroughly and follow all warnings or cautions attached to the unit. Consult local building codes and appropriate national electrical codes (in USA, ANSI/NFPA70, National Electrical Code (NEC); in Canada, CSA C22.1) for special requirements.

It is important to recognize safety information. This is the safety-alert symbol . When you see this symbol on the unit and in instructions or manuals, be alert to the potential for personal injury.

Understand the signal words DANGER, WARNING, CAUTION, and NOTE. These words are used with the safety-alert symbol. DANGER identifies the most serious hazards which **will** result in severe personal injury or death. WARNING signifies hazards which **could** result in personal injury or death. CAUTION is used to identify unsafe practices, which **may** result in minor personal injury or product and property damage. NOTE is used to highlight suggestions which **will** result in enhanced installation, reliability, or operation.

Nameplate Location

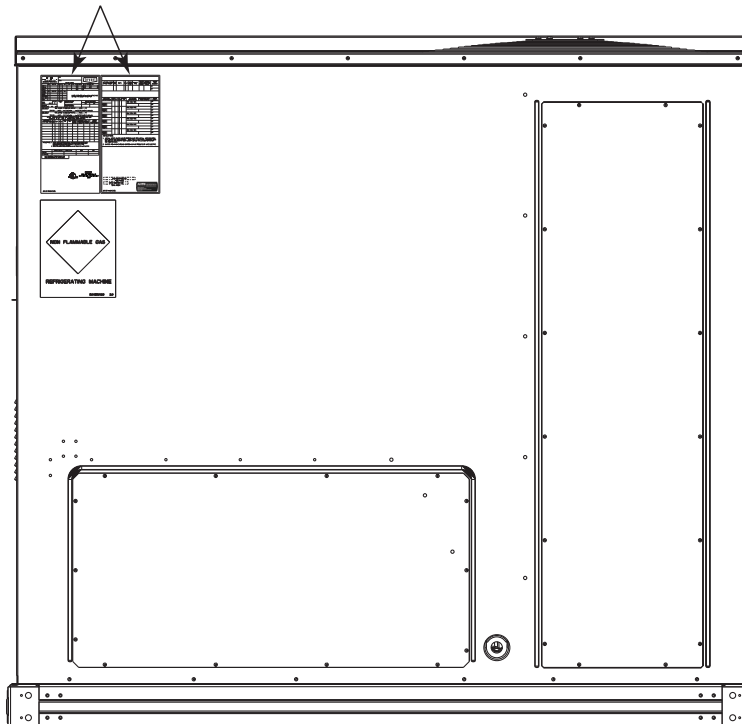


Fig. 1 - Location of Unit Nameplate

CAUTION

ELECTRICAL HAZARD

Failure to follow this caution may result in personal injury or product and property damage.

The electrical data contained in this document is only for use with 48TC size 16 units which display a “3” in the 13th position of the 17 digit model number as displayed on the unit’s nameplate.

See Fig. 1 for location of the unit’s nameplate.




See Fig. 2 for details of the 17 digit model number.

WARNING

ELECTRICAL SHOCK HAZARD

Failure to follow this warning could cause personal injury or death.

Before performing service or maintenance operations on unit, always turn off main power switch to unit and install lockout tag. Unit may have more than one power switch.

BRYANT		MODEL		580JE16D240A3A0AA		bryant	
Heating & Cooling Systems		SERIAL					
1234 WEST MORRIS STREET INDIANAPOLIS, IN 46231 U.S.A.		FACTORY CHARGED		REF. SYSTEM R-410A		TEST PRESSURE GAGE	
COMPR A	QTY	VOLTS AC	PH	HZ	RLA	LRA	
COMPR B							
COMPR C							
FAN MTR	QTY	VOLTS AC	PH	HZ	FLA	CHARGE SYSTEM PER INSTALLATION INSTRUCTIONS FOR OUTDOOR INSTALLATION ONLY COMBINATION COOLING AND HEATING UNIT	
OUTDOOR							
INDOOR							
PWR EXHAUST						POWER SUPPLY	PERMISSIBLE VOLTAGE TO UNIT
COMBUST							
OTHER						VOLTS	PH HZ MAX MIN
ACCESSORY POWER EXHAUST MODEL		VOLTS	PH	HZ	ACCESSORY POWER EXHAUST FLA	MINIMUM CIRCUIT AMPS	MAX FUSE OR HACR BREAKER PER NEC
NONE							MAXIMUM OVERCURRENT PROTECTION DEVICE
							MINIMUM UNIT DISCONNECT
							FLA LRA
MINIMUM CLEARANCE TO COMBUSTIBLE MATERIALS							
TOP		BOTTOM *		SIDES		FLUE SIDE **	
DOWN SUPPLY							
SIDE SUPPLY							
* FOR INSTALLATION ON COMBUSTIBLE FLOORING OR CLASS A,B, OR C ROOFING MATERIAL ** 18 INCHES (457mm) WITH ACCESSORY FLUE DISCHARGE DEFLECTOR							
DEVICE CERTIFIED AS A FORCED AIR FURNACE WITH COOLING UNIT CSA APPROVED FOR NON-RESIDENTIAL USE TO -40° F AMBIENT.							
AIR TEMP RISE		MAX EXTERNAL STATIC PRESSURE		DESIGNED MAXIMUM OUTLET AIR TEMPERATURE			
	INPUT MIN	INPUT MAX	OUTPUT CAP	THERMAL EFFICIENCY	EQUIPED FOR USE WITH		
BTU/HR					GAS		
KW							
GAS SUPPLY PRESSURE		MAX		MIN			
MANIFOLD PRESSURE							
 <p>GAS-FIRED LISTED ANSI Z21.47-CAN/CGA-2.3-(2003) CENTRAL FURNACE</p>				 <p>LISTED COOLING PORTION OF HEATING AND COOLING UNIT 36N2</p>			
CAPACITY Btu/Hr		CAPACITY KW		EER		COP	
COOLING							
HP HEATING							
THIS EQUIPMENT COMPLIES WITH THE 2004 REQUIREMENTS OF ASHRAE 90.1							
MODEL NUMBER BAR CODE							
MODEL NUMBER							
SERIAL NUMBER BAR CODE							
SERIAL NUMBER							
DATE OF MANUFACTURE:							
 <p>Unitary Large AC AHRI Standard 340/360 Certification applies only when the complete system is listed with AHRI.</p>							

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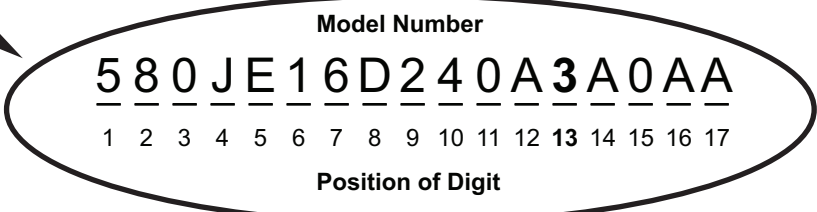


Fig. 2 - Example of Nameplate with Model Number

Table 1 – Unit Wire/Fuse or HACR Breaker Sizing Data

UNIT	NOM. V-Ph-Hz	IFM TYPE	COMBUSTION FAN MOTOR FLA	POWER EXHAUST FLA	NO C.O. or UNPWR C.O.							
					NO P.E.				w/ P.E. (pwr fr/ unit)			
					MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE	
							FLA	LRA			FLA	LRA
580J*16D	208/230-3-60	STD	0.48	3.8	68.3	80	71	396	72.1	80	76	400
		MED			70.8	80	74	413	74.6	90	79	417
		HIGH			77.8/75.8	100/100	82/80	424	81.6/79.6	100/100	87/84	428
	460-3-60	STD	0.25	1.8	34.0	45	35	234	35.8	45	37	236
		MED			35.0	45	37	243	36.8	45	39	245
		HIGH			38.2	50	40	248	40.0	50	42	250
	575-3-60	STD	0.24	3.8	26.5	30	28	184	30.3	40	32	188
		MED			26.5	30	28	184	30.3	40	32	188
		HIGH			29.8	35	31	187	33.6	40	36	191

Table 1 — Unit Wire/Fuse or HACR Breaker Sizing Data (cont)

UNIT	NOM. V-Ph-Hz	IFM TYPE	COMBUSTION FAN MOTOR FLA	POWER EXHAUST FLA	w/ PWRD C.O.							
					NO P.E.				w/ P.E. (pwr fr/ unit)			
					MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE	
							FLA	LRA			FLA	LRA
580J*16D	208/230-3-60	STD	0.48	3.8	73.1	80	77	401	76.9	100	81	405
		MED			75.6	100	80	418	79.4	100	84	422
		HIGH			82.6/80.6	100/100	88/85	429	86.4/84.4	100/100	92/90	433
	460-3-60	STD	0.25	1.8	36.2	45	38	236	38.0	50	40	238
		MED			37.2	50	39	245	39.0	50	41	247
		HIGH			40.4	50	43	250	42.2	50	45	252
	575-3-60	STD	0.24	3.8	28.2	35	30	186	32.0	40	34	190
		MED			28.2	35	30	186	32.0	40	34	190
		HIGH			31.5	40	33	189	35.3	45	38	193

Legend and Notes for Table 1

LEGEND:

- BRKR – Circuit breaker
- CO – Convenience outlet
- DISC – Disconnect
- FLA – Full load amps
- IFM – Indoor fan motor
- LRA – Locked rotor amps
- MCA – Minimum circuit amps
- PE – Power exhaust
- PWRD CO – Powered convenient outlet
- UNPWR CO – Unpowered convenient outlet



Example: Supply voltage is 230-3-60



AB = 224 v
BC = 231 v
AC = 226 v

$$\text{Average Voltage} = \frac{(224 + 231 + 226)}{3} = \frac{681}{3} = 227$$

Determine maximum deviation from average voltage.

(AB) 227 - 224 = 3 v

(BC) 231 - 227 = 4 v

(AC) 227 - 226 = 1 v

Maximum deviation is 4 v.

Determine percent of voltage imbalance.

$$\% \text{ Voltage Imbalance} = 100 \times \frac{4}{227} = 1.76\%$$

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.

NOTES:

- 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 percentage of voltage imbalance.

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