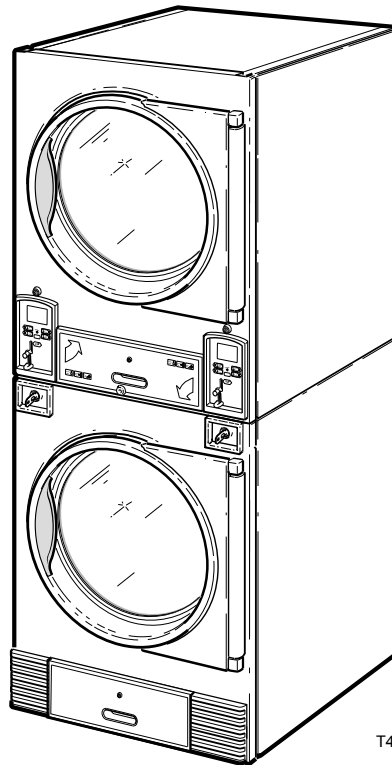


On-Premise Laundry Planning Handbook



T477C

T30 and T45 Tumblers

Refer to Installation manual for full instructions.



Table of Contents

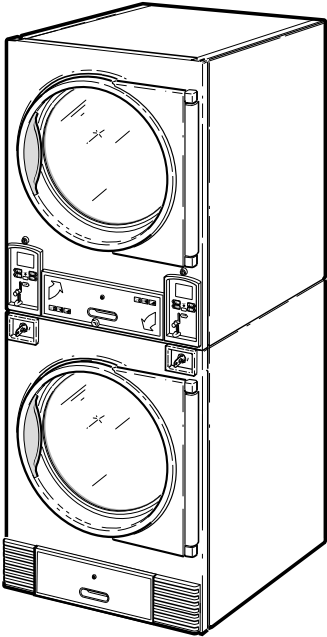
Tumblers – T30 and T45	2
Introduction.....	2
Model Identification.....	2
Specifications and Dimensions.....	4
Cabinet Dimensions.....	5
Exhaust Outlet Locations.....	6
Gas Connection Locations.....	7
Electrical Connection Locations.....	8
Steam Connection Locations.....	9
Installation.....	10
Pre-Installation Inspection.....	10
Exhaust Requirements.....	12
Layout.....	12
Make-Up Air.....	12
Venting.....	12
Individual Venting.....	13
Manifold Venting.....	14
Electrical Requirements for Gas and Steam Models.....	18
Electrical Requirements for Electric Models.....	20

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Tumblers – T30 and T45

Introduction



T477C

Model Identification

	Gas		Steam	Electric
T30	IPD30STG2-ITT30L	IPD30STG2-ITT30N	IPD30STS2-ITT30S	IPD30STE2-ITT30E
T45	IPD45STG2-ITT45L	IPD45STG2-ITT45N	Not Applicable	Not Applicable

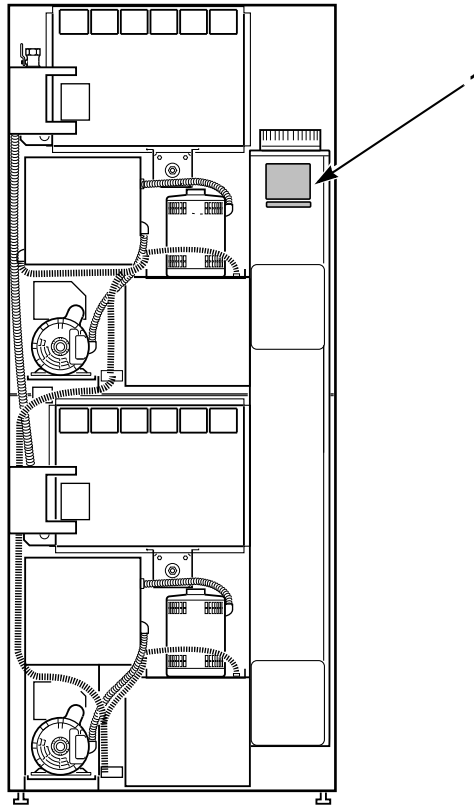
Includes models with the following control suffixes:

- 3O – DX4 OPL
- 3V – DX4 vended
- 3X – DX4 prep for coin

- EO – LED OPL
- QT – dual digital timer

- SD – single drop
- SX – single drop, prep for coin

Tumblers – T30 and T45



1 Serial Plate

TMB1974N

Conversion Table

Multiply	By	To Obtain		Multiply	By	To Obtain
Btu	0.252	kCal		Pounds/sq. inch	0.06895	Bars
Btu	1055	Joules		Pounds/sq. inch	0.070	kg/sq. cm
Inch	25.4	Millimeters		Pounds (lbs.)	0.454	Kilograms
Inches W.C.	0.036	Pounds/sq. inch		Boiler Horsepower	33,479	Btu/hr.
Inches W.C.	0.249	kPa		Boiler Horsepower	34.5	lbs. steam/hr.
lb/inch ² (psi)	6.895	kPa		CFM	0.471	liters/second
ft ³	28.32	Liters		kW	3414	Btu/hr.

Specifications and Dimensions

Specifications		T30	T45
Noise level measured during operation at operator position of 3.3 feet (1 meter) in front of machine and 5.2 feet (1.6 meters) from floor.		66 dBA	67 dBA
Net Weight (approximate): Pounds (kg)		544 (247)	673 (305)
Cylinder Size: Inches (mm)		30 x 26 (762 x 660)	33 x 30 (838 x 762)
Cylinder Capacity (dry weight) Pounds (kg)		2 x 30 (2 x 13.6)	2 x 45 (2 x 20.5)
Drive Motor Horsepower**		1/4	1/2
Fan Motor Horsepower**		1/4	1/2
Maximum Airflow per Pocket**: C.F.M. (l/sec)	50 Hertz	340 (160)	N/A
	60 Hertz	400 (189)	600 (283)
Maximum Static Back Pressure*: Inches W.C. (mbar)	50 Hertz	0.8 (2.0)	N/A
	60 Hertz	0.9 (2.3)	0.9 (2.3)
Gas Models			
Gas Connection		1/2 in. NPT	1/2 in. NPT
Gas Burner Rating**: Btu/hr (kW, Mj/hr)		73,000 (21.4, 77)	95,000 (27.8, 100.2)
Electric Models			
Heating Element Rating**:		21 kW	N/A
Steam Models			
Steam Connection		3/4 in. NPT	N/A
Steam Coil Rating at 100 psig**: Boiler Horsepower (Btu/hr) (recommended operating pressure 80-100 psig)		3.2 (111,000)	N/A

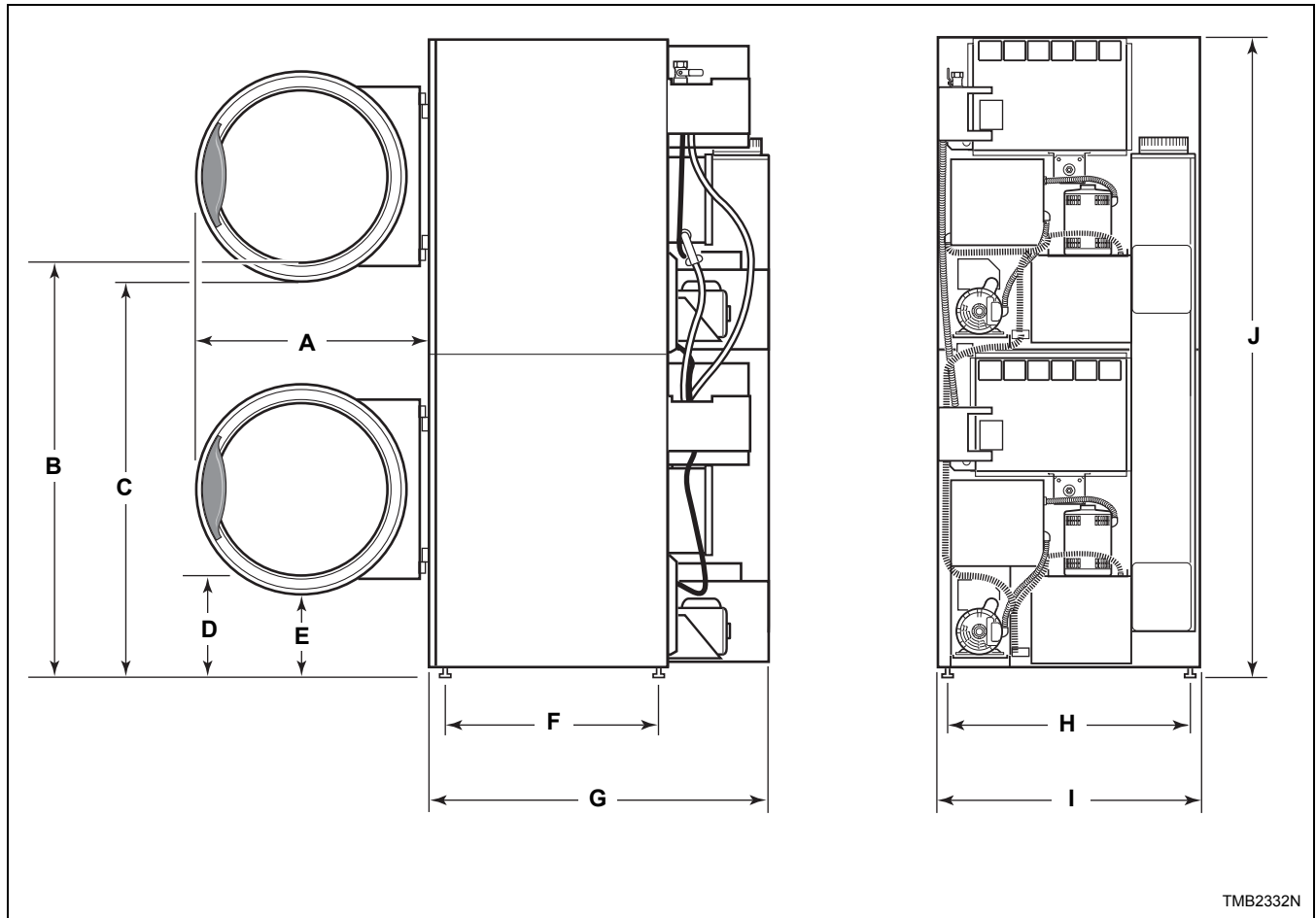
* with both pockets running

** for each pocket

N/A = Not Applicable

Tumblers – T30 and T45

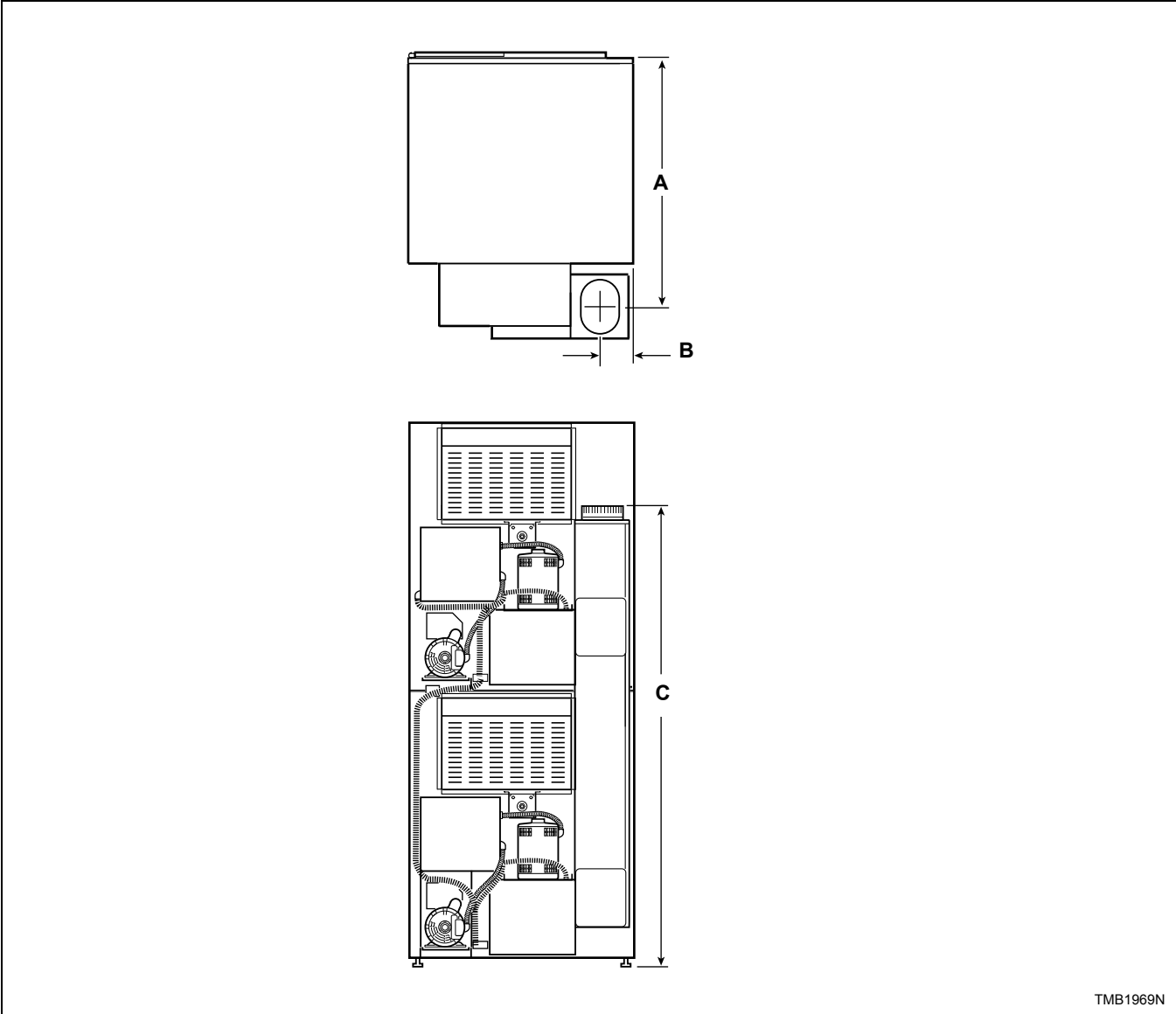
Cabinet Dimensions



Models	A	B	C	D	E
T30	28 in. (711 mm)	49 in. (1245 mm)	48.25 in. (1226 mm)	11.4 in. (290 mm)	10.7 in. (272 mm)
T45	31.88 in. (810 mm)	50.4 in. (1280 mm)	49.3 in. (1252 mm)	10.3 in. (262 mm)	9.3 in. (236 mm)
Models	F	G	H	I	J
T30	25.02 in. (636 mm)	42.76 in. (1086 mm)	27.38 in. (695 mm)	31.5 in. (800 mm)	76.25 in. (1937 mm)
T45	29.37 in. (746 mm)	48.62 in. (1235 mm)	30.50 in. (775 mm)	34.5 in. (876 mm)	81.25 in. (2063.75 mm)

NOTE: To meet ADA compliance, install a 4 inch (102 mm) riser on T30 models only.

Exhaust Outlet Locations

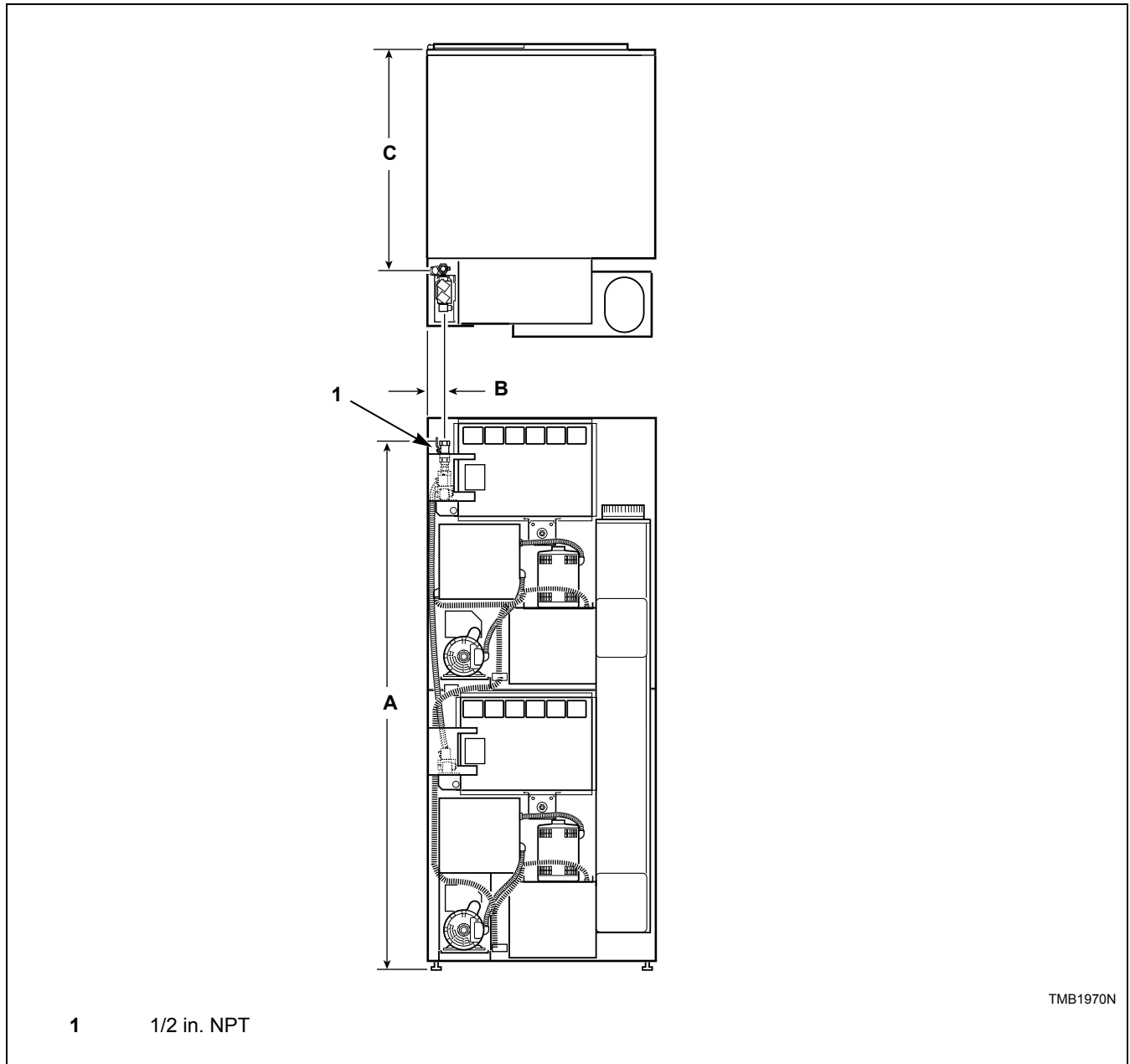


TMB1969N

Models	Rear Exhaust			
	Diameter	A	B	C
T30	Elliptical Fits 8 in. (203 mm)	36.54 in. (928 mm)	4.25 in. (108 mm)	62.42 in. (1585 mm)
T45	Elliptical Fits 10 in. (254 mm)	40.88 in. (1038 mm)	4.75 in. (121 mm)	66.00 in. (1676 mm)

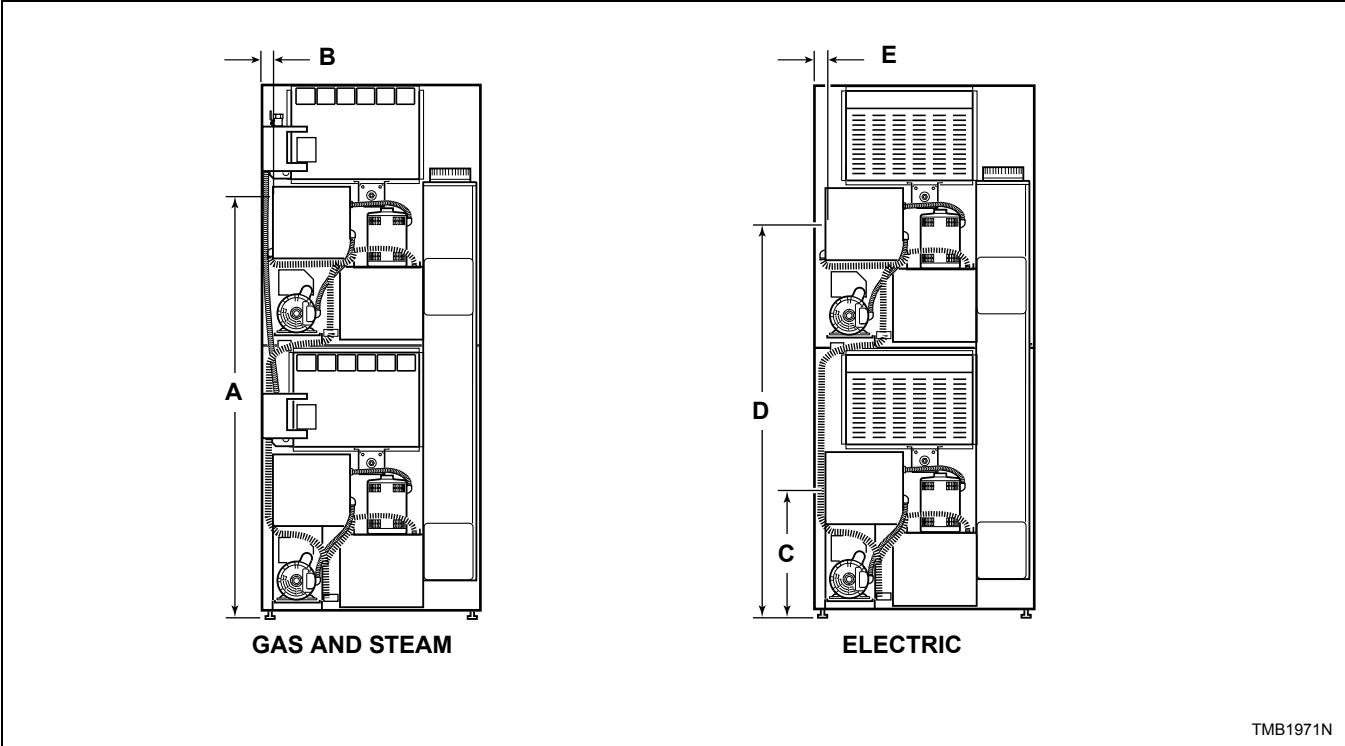
Tumblers – T30 and T45

Gas Connection Locations



Models		Gas Connection		
		A	B	C
T30	Non-CE and Non-Australian	75.20 in. (1910 mm)	1.74 in. (44 mm)	36.84 in. (936 mm)
	CE and Australian	75.28 in. (1912 mm)	2.5 in. (64 mm)	30.60 in. (777 mm)
T45		78.75 in. (2000 mm)	4.12 in. (105 mm)	42.88 in. (1089 mm)

Electrical Connection Locations

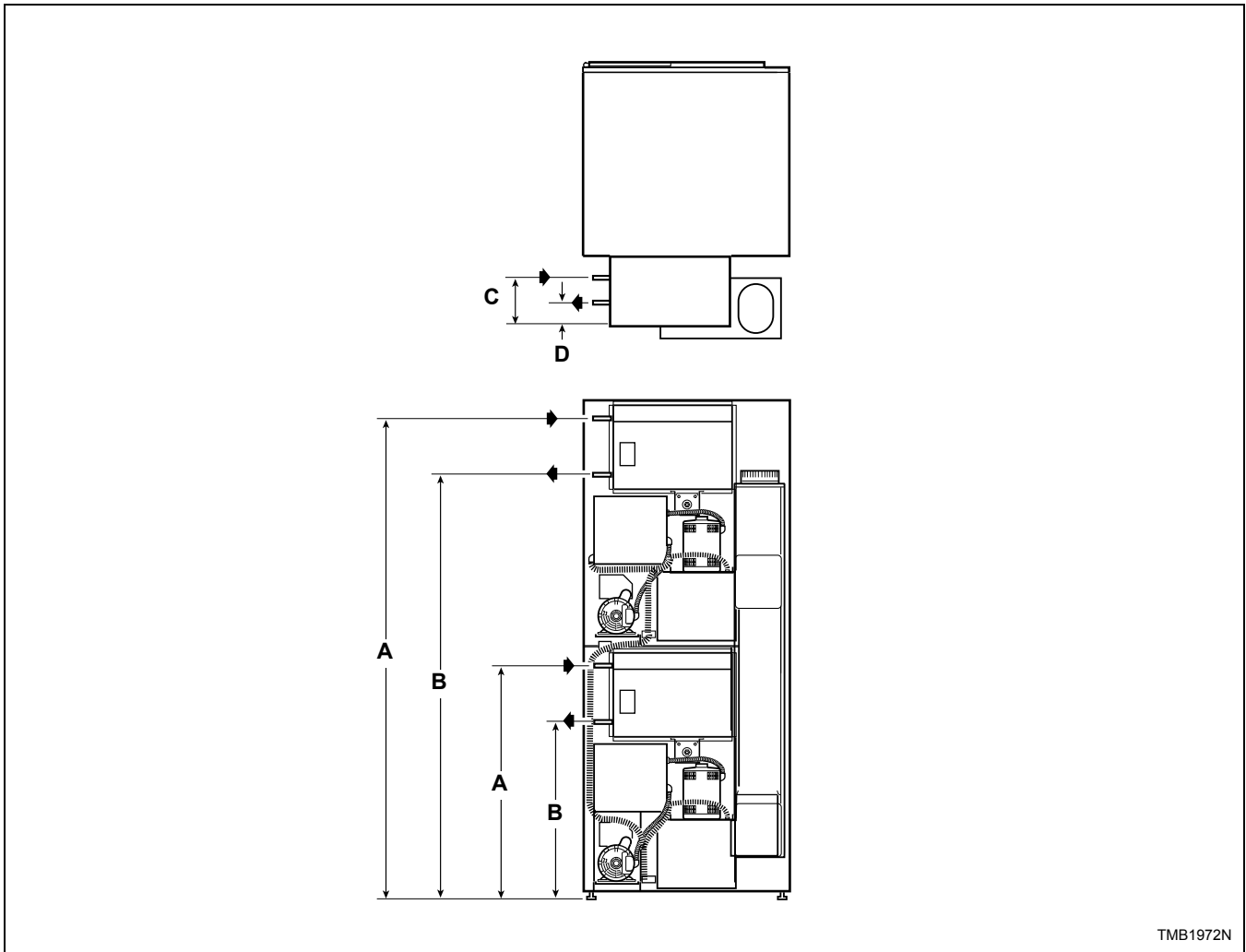


TMB1971N

Models	Electric Service				
	Gas and Steam Models		Electric Models		
	A	B	C	D	E
T30	59 in. (1498 mm)	1.75 in. (44 mm)	35.63 in. (905 mm)	73.21 in. (1859 mm)	2.28 in. (58 mm)
T45	62.5 in. (1588 mm)	1.75 in. (44 mm)	N/A	N/A	N/A

N/A = Not Applicable

Steam Connection Locations



Models	Inlet		Outlet	
	A	C	B	D
T30 (Upper)	73.93 in. (1877 mm)	6.29 in. (160 mm)	62.71 in. (1592 mm)	2.39 in. (61 mm)
T30 (Lower)	36.35 in. (923 mm)	6.29 in. (160 mm)	25.13 in. (638 mm)	2.39 in. (61 mm)

NOTE: All connections use 3/4 inch NPT pipe.

Installation

Pre-Installation Inspection

Upon delivery, visually inspect the crate, carton and parts for any visible shipping damage. If the crate, carton, or cover is damaged or signs of possible damage are evident, have the carrier note the condition on the shipping papers before the shipping receipt is signed, or advise the carrier of the condition as soon as it is discovered.

Remove the crate and protective cover as soon as possible and check the items listed on the packing list. Advise the carrier of any damaged or missing articles as soon as possible. A written claim should be filed with the carrier immediately if articles are damaged or missing.

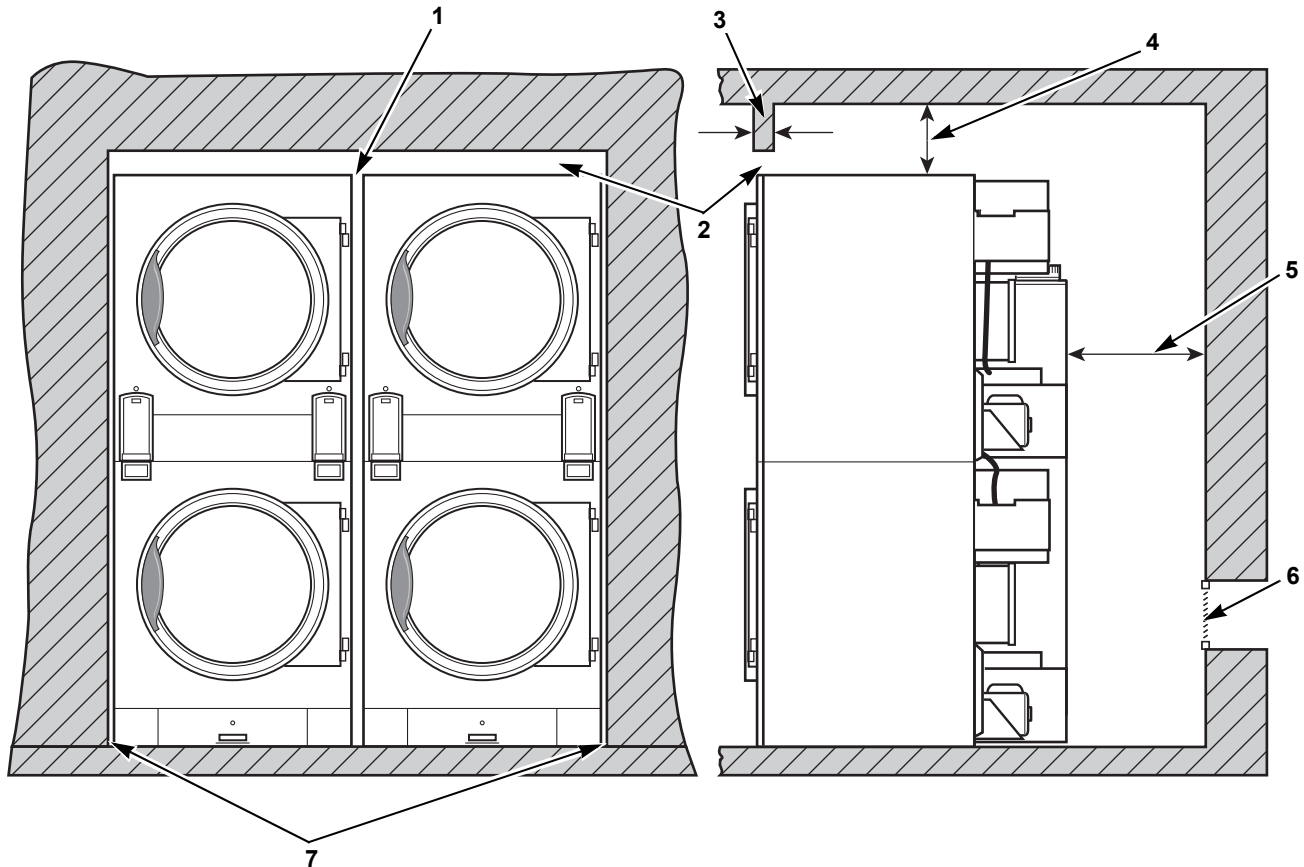
IMPORTANT: Warranty is void unless tumbler is installed according to instructions in this manual. Installation should comply with minimum specifications and requirements detailed herein, and with applicable local gas fitting regulations, municipal building codes, water supply regulations, electrical wiring regulations, and any other relevant statutory regulations. Due to varied requirements, applicable local codes should be thoroughly understood and all pre-installation work arranged for accordingly.



WARNING

To reduce the risk of severe injury, clearance of tumble dryer cabinet from combustible construction must conform to the minimum clearances.

W056R1




TMB2110N

NOTE: Shaded areas indicate adjacent structure.

- 1 0.5 in. (13 mm) recommended between machines for removal or installation.
- 2 Allow 2 – 4 in. (51 – 102 mm) opening at top of machine to aid in removal or installation. A removable trim piece may be used to conceal the opening; zero clearance allowed for trim.
- 3 4 in. (102 mm) Maximum Header Thickness
- 4 12 in. (305 mm) Minimum Clearance
- 5 24 in. (610 mm) Minimum, 36 in. (914 mm) recommended for maintenance purposes.
- 6 Provision for Make-Up Air: Minimum 1.5 square feet T30 models, minimum 2 square feet T45 models. Location for reference only. May be anywhere behind tumbler.
- 7 0.25 in. (6 mm) recommended for removal or installation purposes, zero clearance allowed.

Figure 1

Exhaust Requirements

	WARNING
<p>A drying tumble dryer produces combustible lint. To reduce the risk of fire, the tumble dryer must be exhausted to the outdoors.</p> <p style="text-align: right;">W057R1</p> <p>To reduce the risk of fire and accumulation of combustible gases, DO NOT exhaust tumble dryer air into a window well, gas vent, chimney or enclosed, unventilated area such as an attic wall, ceiling, crawl space under a building, or concealed space of a building.</p> <p style="text-align: right;">W059R1</p>	

Layout

Whenever possible, install tumblers along an outside wall where duct length can be kept to a minimum, and make-up air can be easily accessed. Elbows and long vents tend to increase drying time. Construction must not block the airflow at the rear of the tumbler. Doing so would prevent adequate air supply to the tumbler's combustion chamber.

Make-Up Air

A tumbler is forced air exhausted and requires provisions for make-up air to replace air exhausted by the tumbler.

IMPORTANT: Do not obstruct the flow of combustion and ventilation air.

Make-up air openings should be as close to the tumbler(s) as possible.

The required make-up air opening to the outside for each tumbler (includes both pockets) is:


220 square inches (1418 sq. cm) for T30 models

288 square inches (1856 sq. cm) for T45 models

Make-up air openings with louvers will restrict airflow. The opening must be increased to compensate for area taken up by louvers.

Make-up air openings for a room containing tumbler(s) and/or gas fired hot water heater or other gravity vented appliances must be increased sufficiently to prevent downdrafts in any of the vents when all tumblers are in operation. Do not locate gravity vented appliances in the same room as tumblers. If it is necessary to duct make-up air to the tumbler(s), increase the area of the ductwork by 25% to compensate for any restriction in air movement.

Venting


	WARNING
<p>To reduce the risk of fire due to increased static pressure, we do not recommend installation of in-line secondary lint filters or lint collectors. If secondary systems are mandated, frequently clean the system to assure safe operation.</p> <p style="text-align: right;">W749</p>	

IMPORTANT: Installing in-line filters or lint collectors will cause increased static pressure. Failure to maintain the secondary lint system will decrease tumbler efficiency and may void machine warranty.

For maximum efficiency and minimum lint accumulation, tumbler air must be exhausted to the outdoors by the shortest possible route.

Proper sized exhaust ducts are essential for proper operation. All elbows should be sweep type. Exhaust ducts must be assembled so the interior surfaces are smooth, so the joints do not permit the accumulation of lint. DO NOT use plastic or thin foil ducts – rigid metal ducts are recommended. Use exhaust ducts made of sheet metal or other noncombustible material. DO NOT use sheet metal screws or fasteners on exhaust pipe joints which extend into the duct and catch lint. Use of duct tape or pop-rivets on all seams and joints is recommended, if allowed by local code.

Verify that old ducts are thoroughly cleaned out before installing new tumbler(s).

	WARNING
<p>Improperly sized or assembled ductwork causes excess back pressure which results in slow drying, lint collecting in the duct, lint blowing back into the room, and increased fire hazard.</p> <p style="text-align: right;">W355</p>	

NOTE: Exhaust ducts must be constructed of sheet metal or other noncombustible material. Such ducts must be equivalent in strength and corrosion resistance to ducts made of galvanized sheet steel not less than 0.0195 inches (0.495 mm) thick. Local codes may require additional thickness.

Where the exhaust duct pierces a combustible wall or ceiling the opening must be sized per local codes. The space around the duct may be sealed with non-combustible material. Refer to *Figure 2*.

Tumblers – T30 and T45

IMPORTANT: For best performance provide an individual exhaust duct for each tumbler. Do not install a hot water heater in a room containing tumblers. It is better to have the water heater in a separate room with a separate air inlet.

Individual Venting

For maximum efficiency and performance, it is preferred to exhaust tumbler(s) individually to the outdoors.

IMPORTANT: At no point may the cross sectional area of installed venting be less than the cross sectional area of the exhaust outlet of the tumbler.

The exhaust duct must be designed so the static back pressure measured 12 inches (305 mm) from the exhaust outlet does not exceed the maximum allowable pressure specified on the installation sticker on the rear of the tumbler.

NOTE: Static back pressure must be measured with both pockets running.

The maximum allowable length venting of the same diameter as the exhaust thimble is 14 feet (4.3 m) and two 90° elbows or equivalent. If the equivalent length of a duct required for an installation exceeds the maximum allowable equivalent length, the diameter of a round duct must be increased by 10% for each additional 20 feet (6.1 m). Cross section area of a rectangular duct must be increased by 20% for each additional 20 feet (6.1 m). Refer to *Table 1* to determine equivalent venting.

NOTE: The maximum length of a flexible metal duct must not exceed 2.4 m (7.87 ft.) as required to meet UL2158, clause 7.3.2A.

Duct Diameter	Equivalent Length of Rigid Straight Duct
10 in. (254 mm)	One 90° elbow = 11.6 ft. (3.5 m)
12 in. (305 mm)	One 90° elbow = 14 ft. (4.3 m)
14 in. (355.6 mm)	One 90° elbow = 16 ft. (4.9 m)
16 in. (406.4 mm)	One 90° elbow = 18.7 ft. (5.7 m)
18 in. (457.2 mm)	One 90° elbow = 21 ft. (6.4 m)
Equivalent Length (feet) = 1.17 x Duct Diameter (inches)	

Table 1

Example: A 12 inch (305 mm) diameter duct's equivalent length of 14 feet (4.3 m) of duct and two 90° elbows is:

$$\begin{aligned} \text{Equivalent Length} &= 14 \text{ feet} + (2) 90^\circ \text{ elbows} \\ &= 14 \text{ feet} + 14 \text{ feet} + 14 \text{ feet} \\ &= 42 \text{ feet (12.8 m)} \end{aligned}$$

With the tumbler in operation, and both pockets running, airflow at any point in the duct should be at least 1200 feet per minute (366 meters per meter) to ensure that lint remains airborne. If 1200 feet per minute cannot be maintained, schedule monthly inspections and cleaning of the ductwork.

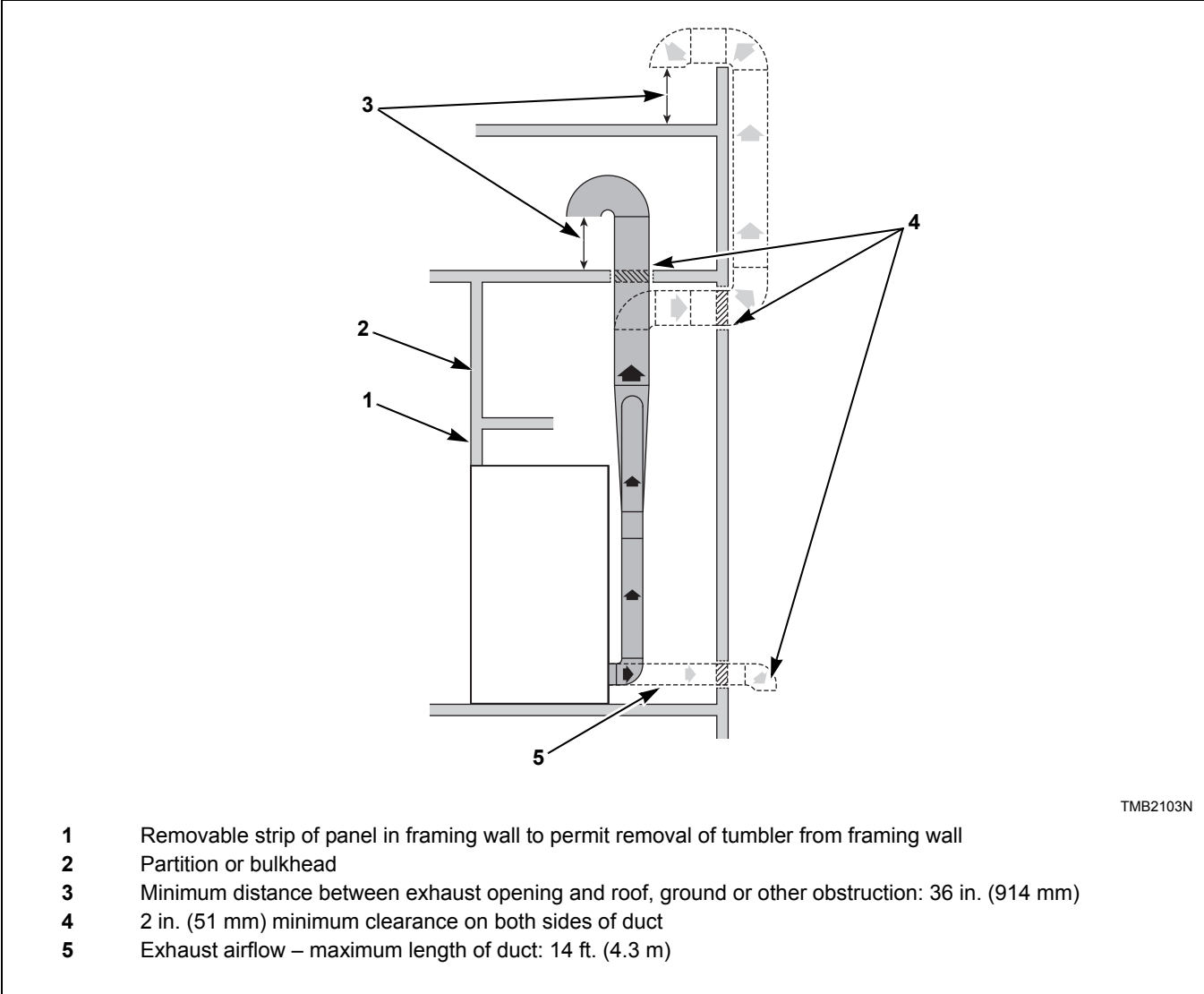


Figure 2

NOTE: Do not install wire mesh or screen in exhaust duct opening to avoid lint build-up or impacting proper discharge of air from tumblers.

NOTE: Where exhaust duct pierces a combustible wall or ceiling, the opening must be sized per local codes.

NOTE: Inside of duct must be smooth. Do not use sheet metal screws to join sections.

Consult your local building code for regulations which may also apply.

Manifold Venting

While it is preferable to exhaust tumblers individually to the outdoors, a main collector duct may be used if it is sized according to *Figure 4* or *Figure 5*. This illustration indicates minimum diameters, and should be increased if the collector length exceeds 14 feet (4.3 m) and two 90° elbows. The diameter of a round duct must be increased by 10% for each additional 20 feet (6.1 m). Cross sectional area of a rectangular or square duct must be increased 20% for each additional 20 feet (6.1 m). Refer to *Table 2* or *Table 3* to determine equivalent ducting sizing. The collector duct may be rectangular or square in cross section, as long as the area is not reduced. Provisions **MUST** be made for lint removal and cleaning of the collector duct.

Tumblers – T30 and T45

The vent collector system must be designed so the static back pressure measured 12 inches (305 mm) from the exhaust outlet does not exceed the maximum allowable pressure specified on the installation sticker on the rear of tumbler. Static back pressure must be measured with all tumblers vented into the collector operating.

NOTE: Never connect a tumbler duct at a 90° angle to the collector duct. Refer to *Figure 3*. Doing so will cause excessive back pressure, resulting in poor performance. Never connect two tumbler exhaust ducts directly across from each other at the point of entry to the collector duct.

With the tumbler in operation, and both pockets running, airflow at any point in the duct should be at least 1200 feet per minute (366 meters per meter) to ensure that lint remains airborne. If 1200 feet per minute cannot be maintained, schedule monthly inspections and cleaning of the ductwork.

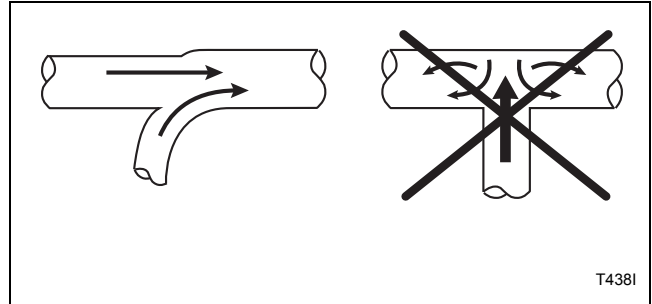


Figure 3

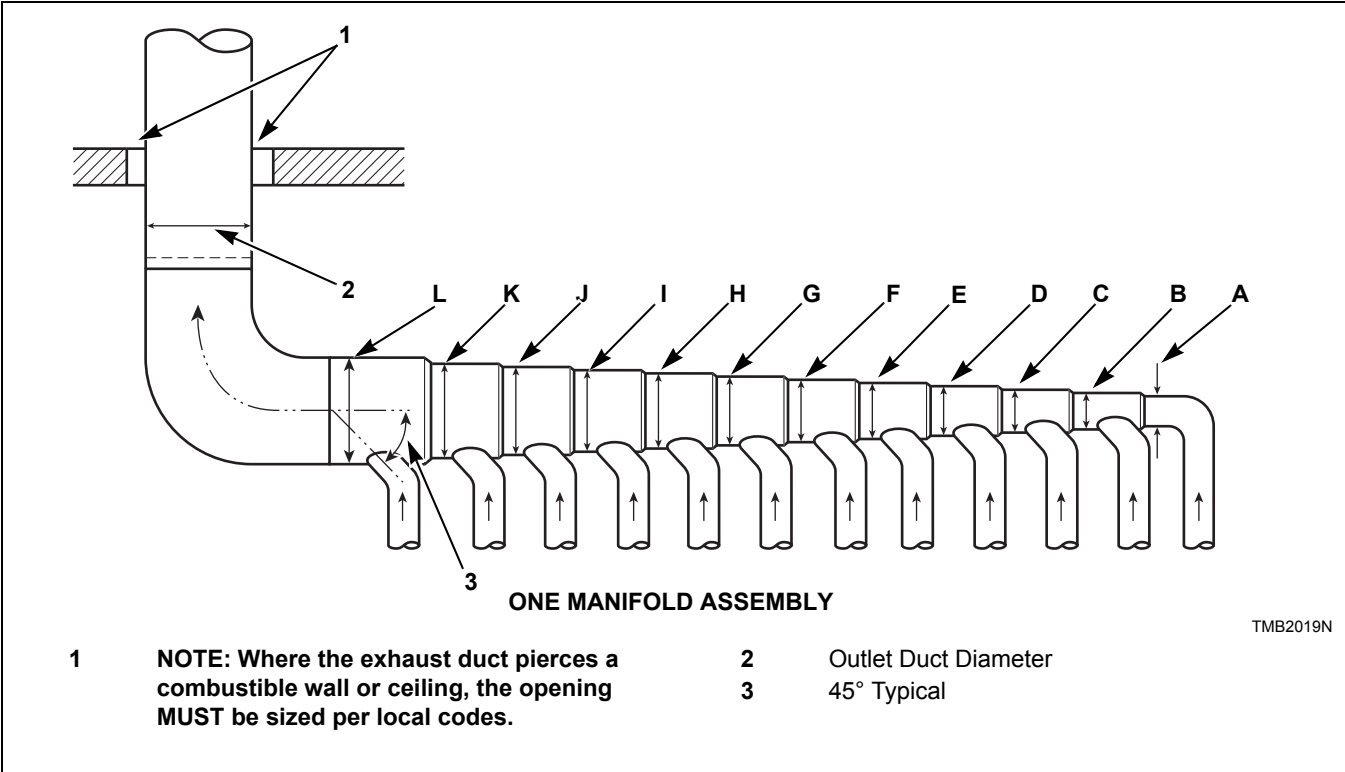


Figure 4

Duct Station	T30	T45
	8 in. (203 mm) Duct	10 in. (254 mm) Duct
A	8 in. (203 mm)	10 in. (254 mm)
B	12 in. (305 mm)	15 in. (381 mm)
C	15 in. (381 mm)	18 in. (457 mm)
D	17 in. (432 mm)	21 in. (533 mm)
E	19 in. (483 mm)	24 in. (610 mm)
F	21 in. (533 mm)	26 in. (660 mm)
G	23 in. (584 mm)	28 in. (711 mm)
H	24 in. (610 mm)	30 in. (762 mm)
I	26 in. (660 mm)	32 in. (813 mm)
J	27 in. (686 mm)	33 in. (838 mm)
K	28 in. (711 mm)	35 in. (889 mm)
L	30 in. (762 mm)	36 in. (914 mm)

Table 2

Tumblers – T30 and T45

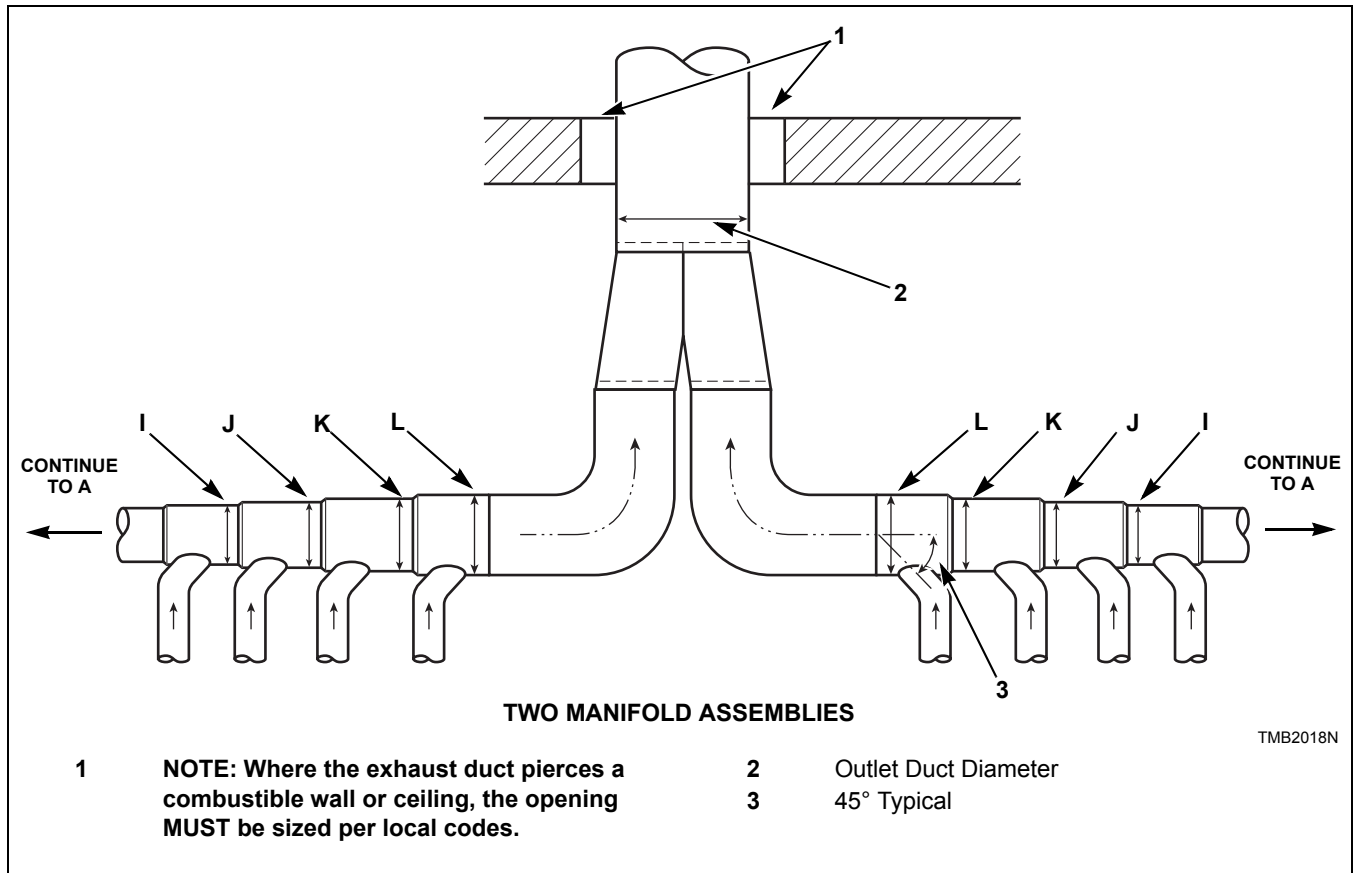


Figure 5

Duct Station	T30	T45
	8 in. (203 mm) Duct	10 in. (254 mm) Duct
A	12 in. (305 mm)	15 in. (381 mm)
B	17 in. (432 mm)	22 in. (559 mm)
C	22 in. (559 mm)	26 in. (660 mm)
D	25 in. (635 mm)	30 in. (762 mm)
E	27 in. (686 mm)	34 in. (864 mm)
F	30 in. (762 mm)	37 in. (940 mm)
G	33 in. (838 mm)	40 in. (1016 mm)
H	34 in. (864 mm)	43 in. (1092 mm)
I	37 in. (940 mm)	46 in. (1168 mm)
J	39 in. (991 mm)	47 in. (1194 mm)
K	40 in. (1016 mm)	50 in. (1270 mm)
L	43 in. (1092 mm)	51 in. (1295 mm)

Table 3

Electrical Requirements for Gas and Steam Models

Refer to *Table 4* and *Table 5*.

NOTE: Minimum wire sizes are obtained from Canadian Electrical Code for 75°C Conductors and are intended for use as a guideline only. Electrical connections should be made only by a qualified electrical contractor in accordance with all applicable local and national requirements.

**For T30 Gas and Steam Models
(For Total Machine):**

NOTE: Electrical specifications below are subject to change without notice. Always refer to product serial plate for most current specifications of product being installed.

NOTE: Use copper conductors only.

NOTE: 3 Phase Only – Each tumbler must be connected to its own individual branch circuit breaker, not fuses, to avoid the possibility of “single phasing” and causing premature failure of the motor(s).

Serial Plate Voltage	Terminal Block Connections Required	Current (Amps)	Recommended Fuse or Breaker Rating (Amps)	Breaker Poles	Recommended Minimum Conductor Size (AWG [mm ²])
120V/60 Hz/1ph	L1, Neutral, and ground	16.0	20	1	12 (3.31)
208-240V/60Hz/1ph	L1, L2, Neutral, and ground	8.0	10	2	14 (2.08)
100V/60Hz/1ph	L1, Neutral, and ground	22.0	30	1	10 (5.26)
200-220V/60Hz/1ph	L1, Neutral, and ground	11.6	15	1	14 (2.08)
100V/50Hz/1ph	L1, Neutral, and ground	24.2	35	1	8 (8.37)
200V/50Hz/1ph	L1, Neutral, and ground	15.0	20	1	12 (3.31)
230-240V/50Hz/1ph	L1, Neutral, and ground	15.0	20	1	12 (3.31)
200-208V/60Hz/3ph	L1, L2, L3, and ground	6.4	10*	3	14 (2.08)
240V/60Hz/3ph	L1, L2, L3, and ground	6.4	10*	3	14 (2.08)
200V/50Hz/3ph	L1, L2, L3, and ground	5.8	10*	3	14 (2.08)
230-240V/50Hz/3ph	L1, L2, L3, and ground	7.0	10*	3	14 (2.08)
380V/50 or 60Hz/3ph	L1, L2, L3, and ground	3.0	10*	3	14 (2.08)
400-415V/50Hz/3ph	L1, L2, L3, and ground	3.2	10*	3	14 (2.08)
460-480V/60Hz/3ph	L1, L2, L3, and ground	3.3	10*	3	14 (2.08)

* 3 Phase machines should not have fuses, breakers only.

Table 4

Tumblers – T30 and T45

For T45 Gas Models (For Total Machine):

Serial Plate Voltage	Terminal Block Connections Required	Current (Amps)	Recommended Fuse or Breaker Rating (Amps)	Breaker Poles	Recommended Minimum Conductor Size (AWG [mm²])
208–240V/60Hz/1ph	L1, L2, Neutral and ground	12.0	15	2	14 (2.08)
200–208V/60Hz/3ph	L1, L2, L3 and ground	9.6	15	3	14 (2.08)
240V/60Hz/3ph	L1, L2, L3 and ground	9.6	15	3	14 (2.08)
200V/50Hz/1ph	L1, Neutral and ground	11.2	15	1	14 (2.08)
230-240V/50Hz/1ph	L1, Neutral and ground	10.8	15	1	14 (2.08)

Table 5

Electrical Requirements for Electric Models

Refer to *Table 6*.

NOTE: Minimum wire sizes are obtained from Canadian Electrical Code for 75°C Conductors and are intended for use as a guideline only. Electrical connections should be made only by a qualified electrical contractor in accordance with all applicable local and national requirements.

NOTE: Electrical specifications below are subject to change without notice. Always refer to product serial plate for most current specifications of product being installed.

NOTE: Connect to individual branch circuit.

NOTE: 3 Phase Only – Each tumbler must be connected to its own individual branch circuit breaker, not fuses, to avoid the possibility of “single phasing” and causing premature failure of the motor(s).

For 21 kW T30 Electric Models:

Serial Plate Voltage	Terminal Block Connections Required	Current (Amps)	Recommended Breaker Rating (Amps)	Breaker Poles	Recommended Minimum Conductor Size (AWG [mm ²])
200-208V/60Hz/3ph*	L1, L2, L3, and ground	62**	80	3	4 (21.2)
200V/50Hz/3ph*	L1, L2, L3, and ground	60**	80	3	4 (21.2)
230-240V/50Hz/3ph*	L1, L2, L3, and ground	55**	70	3	4 (21.2)
240V/60Hz/3ph*	L1, L2, L3, and ground	54**	70	3	4 (21.2)
380V/50 or 60Hz/3ph*	L1, L2, L3, and ground	33**	45	3	8 (8.37)
400-415V/50Hz/3ph*	L1, L2, L3, and ground	31**	40	3	8 (8.37)
460-480V/60Hz/3ph*	L1, L2, L3, and ground	27**	35	3	8 (8.37)

* These serial plate voltages are only options available on the T30 electric models. Current (Amp) is for one pocket only.

** Per heater on T30 electric models, each has two heaters.

Table 6