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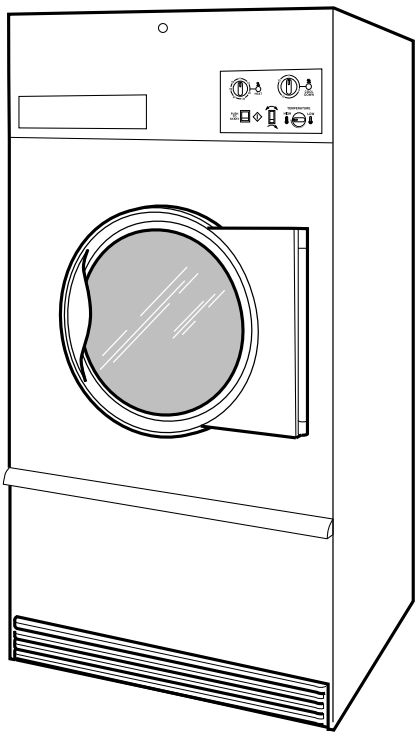
On-Premise Laundry Planning Handbook



TM795C

50 and 75 Pound Tumblers Through Serial No. 0904002963

Refer to Installation manual for full instructions.

IPSO

4-08-44R3
June 2011

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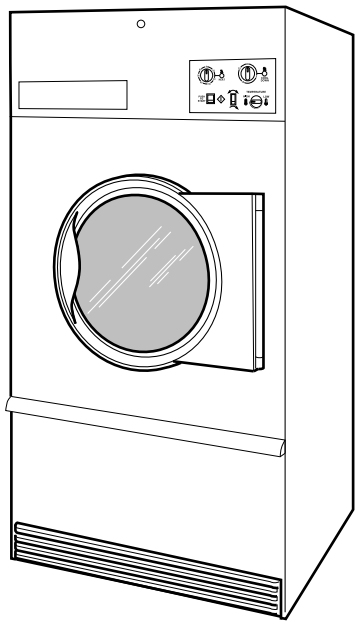
Tumblers – 50 and 75

Introduction



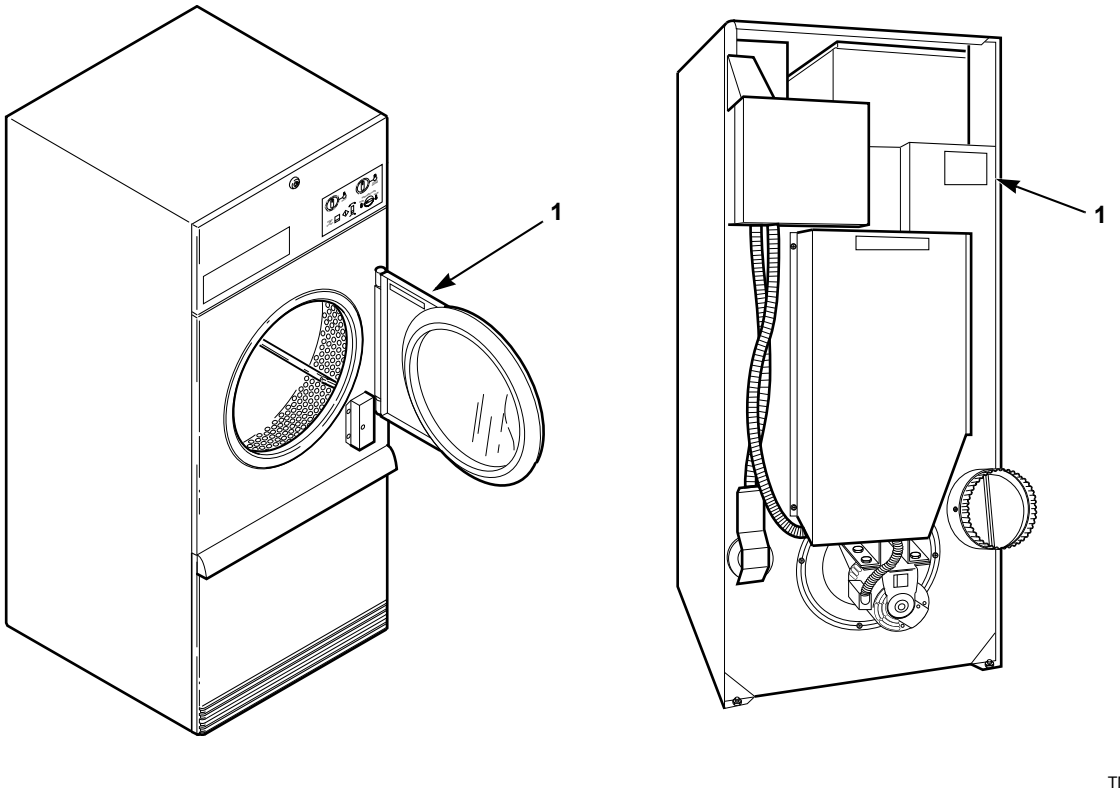
TMB795C

Model Identification

	Gas		Steam/Thermal Oil		Electric
50 Pound	IPD50G2-IT050L	IPD50G2-IT050N	IPD50S2-IT050S	IPD50S2-IT050T	IPD50E2-IT050E
75 Pound	IPD75G2-IT075L	IPD75G2-IT075N	IPD75S2-IT075S	IPD75S2-IT075T	IPD75E2-IT075E

Includes models with the following control suffixes:

3V – DX4 vended
3X – DX4 prep for coin
DO – DMP OPL
QT – dual digital timer
RD – reversing DMP OPL
RQ – reversing dual digital timer
SD – single drop
SX – single drop, prep for coin



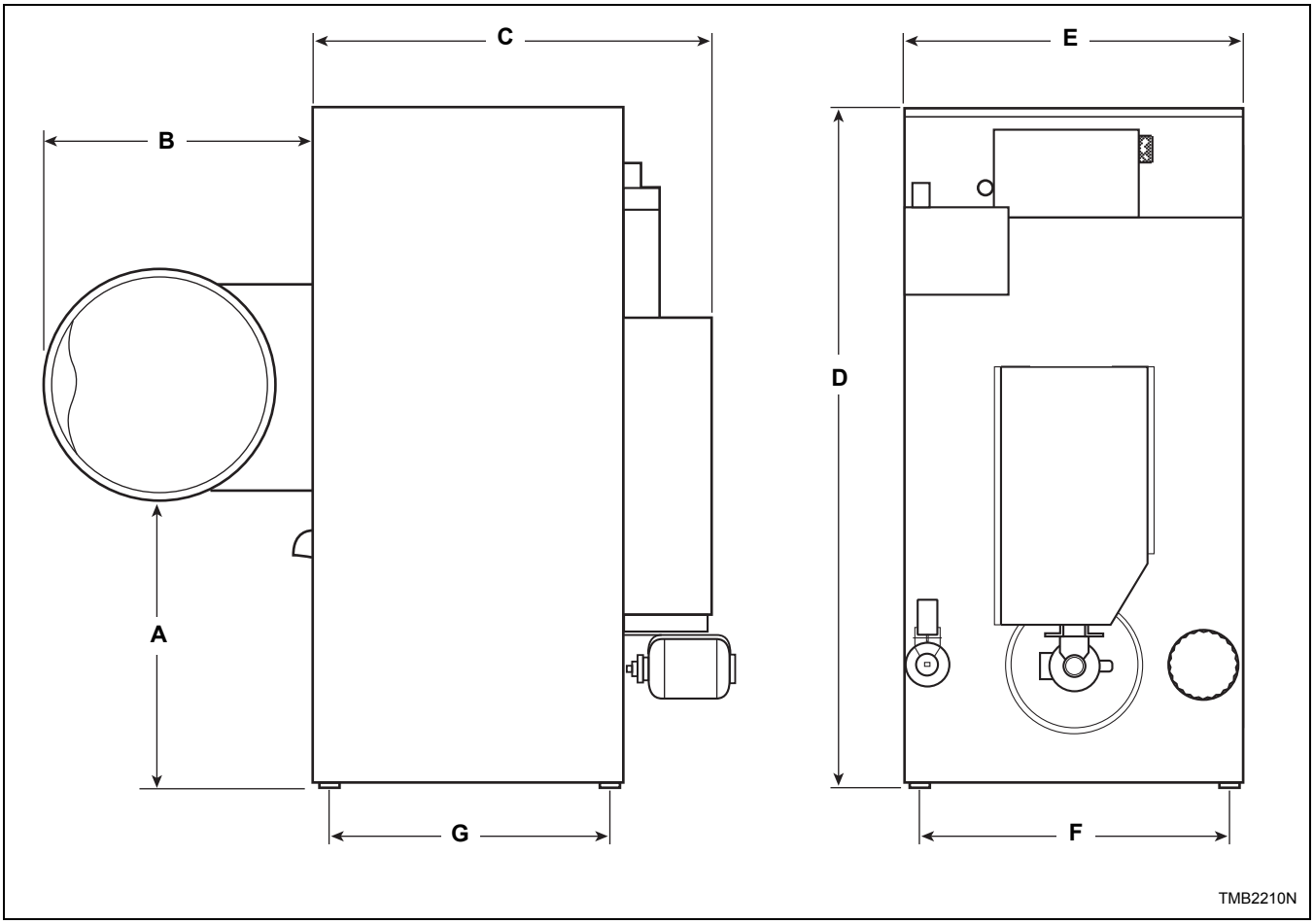
1 Serial Plate

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	50 Pound	75 Pound
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.	63 dBA	69 dBA
Net Weight (approximate): Pounds (kg)	545 (247)	615 (279)
Cylinder Size: Inches (mm)	37 x 30 (940 x 762)	37 x 36 (940 x 914)
Cylinder Capacity (dry weight): Pounds (kg)	50 (22.7)	75 (34)
Air Outlet Diameter: Inches (mm)	8 (203)	8 (203)
Maximum Static Back Pressure: W.C.I. (mbar)	0.5 (1.3)	0.5 (1.3)
Maximum Airflow: C.F.M. (L/sec.)	750 (354)	Gas/Steam 60 Hz 920 (434) Gas/Steam 50 Hz 750 (354) Electric 750 (354)
Motor Horsepower: **Nonreversing** **Reversing** **Fan** **Cylinder**	 1/2 1/3 1/3	 3/4 1/3 1/3
Gas Models		
Gas Connection	1/2 in. NPT	1/2 in. NPT
Gas Burner Rating: Btu/hr0 (Mj/hr.)	120,000 (126.6)	165,000 (174.1)
Electric Models		
Heating Element Rating: Kilowatts (kW)	21 kW (240 V/50 Hz) 30 kW (other voltages)	30 kW
Steam Models		
Steam Connection	3/4 in. NPT	3/4 in. NPT
Steam Coil Rating at 100 psig: Boiler Horsepower (Btu/hr.) (recommended operating pressure 80-100 psig)	5.1 (177,500)	6.1 (210,300)

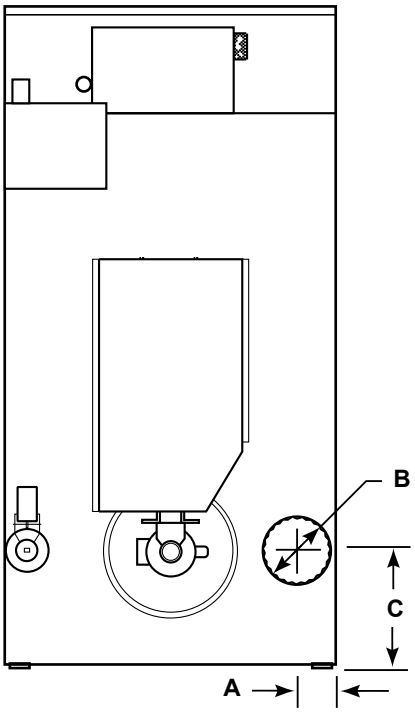
Cabinet Dimensions



Models	A		B		C	D	E	F	G
	*	**	*	**					
50 Pound Gas and Electric	30.75 in. (781 mm)	28.75 in. (730 mm)	28.25 in. (717 mm)	33.87 in. (860 mm)	47 in. (1194 mm)	76.625 in. (1946 mm)	38.625 in. (981 mm)	33 in. (838 mm)	29.5 in. (749 mm)
50 Pound Steam	30.75 in. (781 mm)	28.75 in. (730 mm)	28.25 in. (717 mm)	33.87 in. (860 mm)	47 in. (1194 mm)	80 in. (2032 mm)	38.625 in. (981 mm)	33 in. (838 mm)	29.5 in. (749 mm)
75 Pound Gas and Electric	30.75 in. (781 mm)	28.75 in. (730 mm)	28.25 in. (717 mm)	33.87 in. (860 mm)	53 in. (1346 mm)	76.625 in. (1946 mm)	38.625 in. (981 mm)	33 in. (838 mm)	35.5 in. (902 mm)
75 Pound Steam	30.75 in. (781 mm)	28.75 in. (730 mm)	28.25 in. (717 mm)	33.87 in. (860 mm)	53 in. (1346 mm)	80 in. (2032 mm)	38.625 in. (981 mm)	33 in. (838 mm)	35.5 in. (902 mm)

* A, H, S and U models prior to Serial No. 0308001307 and all other models.
** A, H, N, S and U models after Serial No. 0308001307.

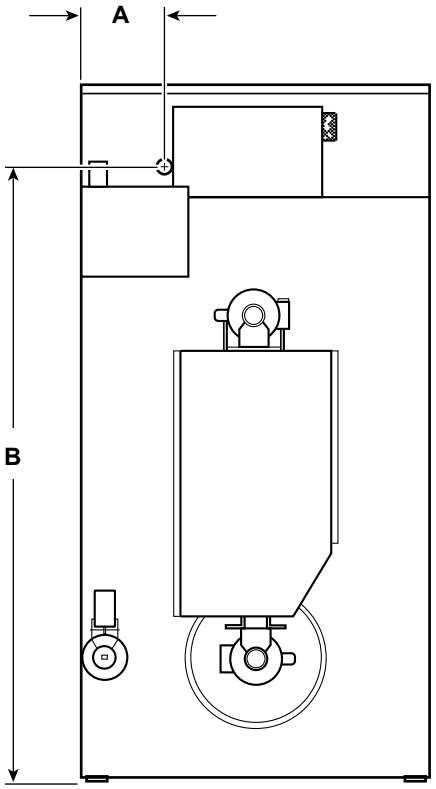
Exhaust Outlet Locations



TMB811N

A	B	C
5.375 in. (137 mm)	8 in. (203 mm)	13.375 in. (340 mm)

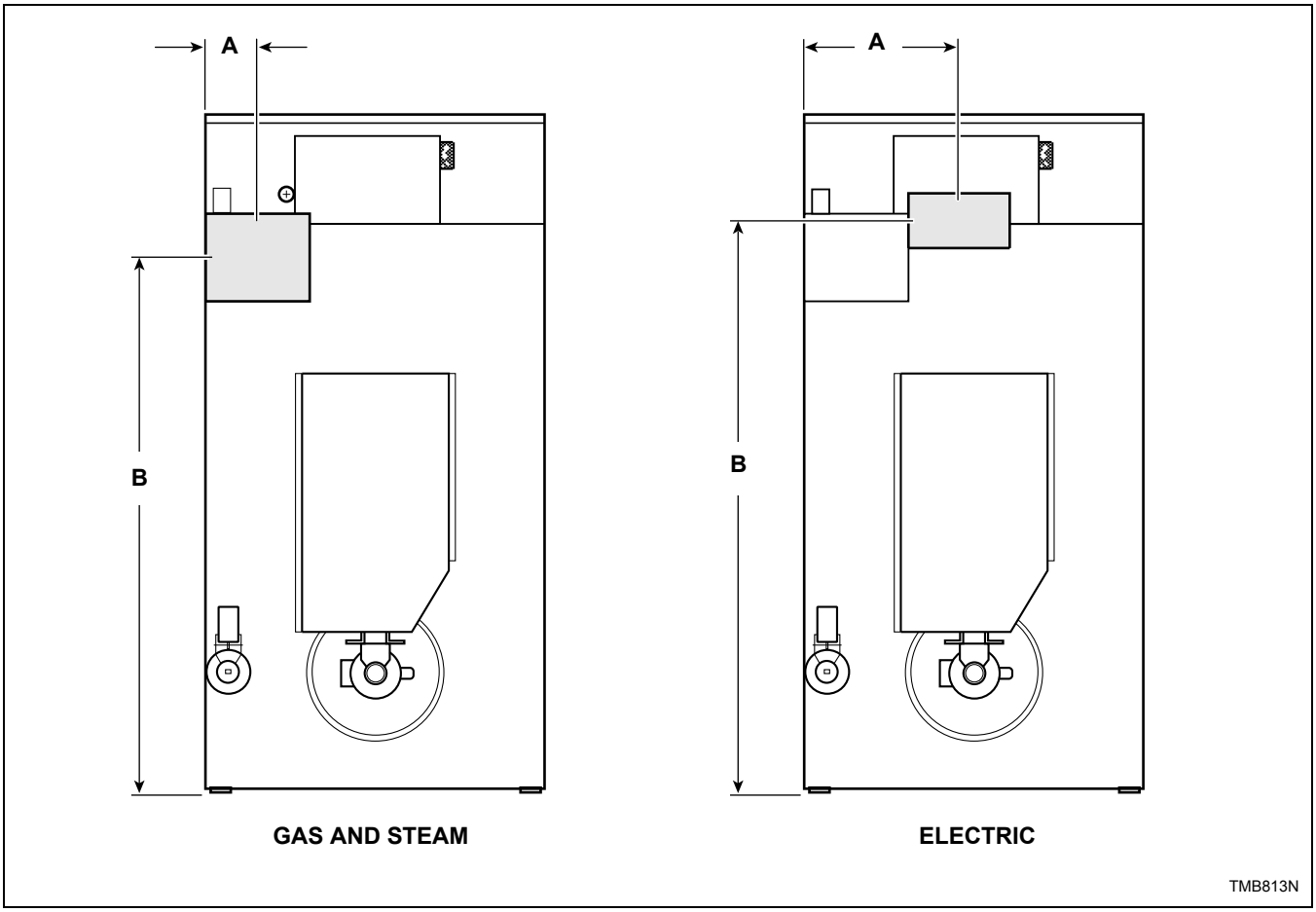
Gas Connection Locations



TMB812N

Models	Diameter	A	B
50 Pound	1/2 in. NPT	15.5 in. (394 mm)	65.75 in. (1670 mm)
75 Pound	1/2 in. NPT	15.75 in. (400 mm)	65.75 in. (1670 mm)

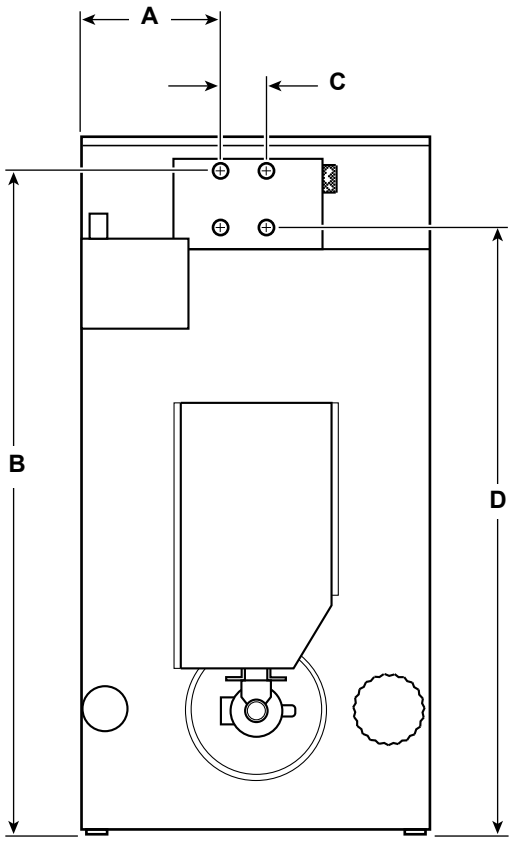
Electrical Connection Locations



Models	A	B
Gas and Steam	9.5 in. (241 mm)	63.5 in. (1613 mm)
Electric	19 in. (483 mm)	64 in. (1626 mm)

NOTE: These figures are approximate dimensions only.

Steam Connection Locations



TMB814N

Diameter	A	B	C	D
3/4 in. NPT	15.25 in. (387 mm)	72.75 in. (1848 mm)	7.5 in. (190 mm)	64.75 in. (1645 mm)

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.

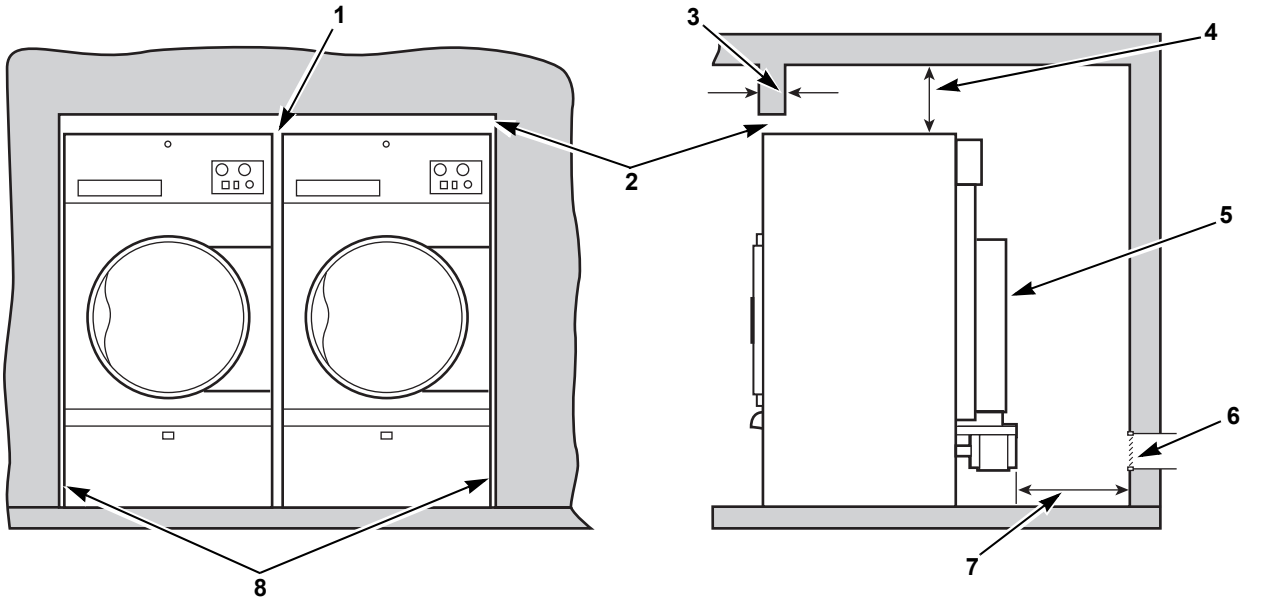
IMPORTANT: Warranty is void unless tumbler is installed according to instructions in this manual. Installation should comply with minimum specifications and requirements detailed herein, and with applicable local gas fitting regulations, municipal building codes, water supply regulations, electrical 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.

Tumbler Enclosure

WARNING

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

W056



TMB2131N

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 permitted for remainder
5	Guard
6	Provision for make-up air
7	24 in. (610 mm) minimum, 36 in. (914 mm) recommended for maintenance purposes
8	0.25 in. (6 mm) recommended for removal or installation purposes, zero clearance allowed

Figure 1

Exhaust Requirements

WARNING

A drying tumbler produces combustible lint. To reduce the risk of fire, the tumbler must be exhausted to the outdoors.

W057

To reduce the risk of fire and accumulation of combustible gases, DO NOT exhaust tumbler 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.

W059

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 the 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 is:

Required Make-Up Air Opening (to the outside) for Each Tumbler	
Model	**Opening**
50 Pound	144 in^2 (928 cm^2)
75 Pound	195 in^2 (1258 cm^2)

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 between tumbler(s) and make-up air openings. 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

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.

W749

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 flexible 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

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.

W355

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 noncombustible material. Refer to *Figure 2*.

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 the tumbler 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 7.87 ft. (2.4 m) as required to meet UL2158, claus 7.3.2A.

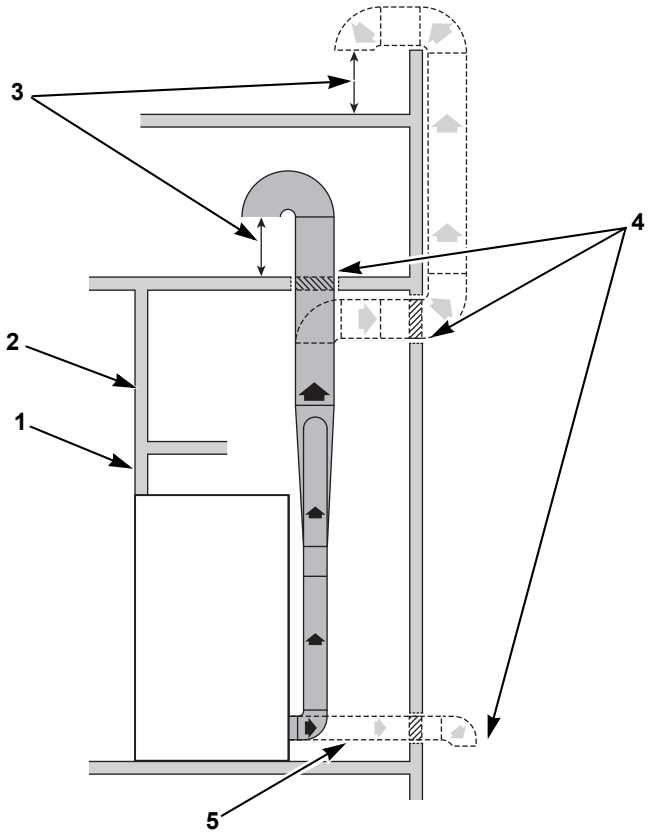
Duct Diameter	Equivalent Length of Rigid Straight Duct
6 in. (152 mm)	One 90° elbow = 7 ft. (2.1 m)
8 in. (203 mm)	One 90° elbow = 9.3 ft. (2.83 m)
10 in. (254 mm)	One 90° elbow = 11.6 ft. (3.5 m)
12 in. (305 mm)	One 90° elbow = 14 ft. (4.3 m)
14 in. (356 mm)	One 90° elbow = 16 ft. (4.9 m)
16 in. (406 mm)	One 90° elbow = 18.7 ft. (5.7 m)
18 in. (457 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:

Equivalent Length = 14 feet + (2) 90° elbows
= 14 feet + 14 feet + 14 feet
= 42 feet (12.8 meters)

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



1	Removable strip of panel in framing wall to permit removal of tumbler from framing wall
2	Partition or bulkhead
3	Minimum distance between exhaust opening and roof, ground or other obstruction: 36 in. (914 mm)
4	2 in. (51 mm) minimum clearance on both sides of duct
5	Exhaust airflow – maximum length of duct: 14 ft. (4.3 m)

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* and *Figure 5*. This illustration indicates minimum diameters, which should be increased if the collector length exceeds 14 feet (4.3 meters) and two 90° elbows. The diameter of a round duct must be increased by 10% for each additional 20 feet (6.1 meters). Cross sectional area of a rectangular or square duct must be increased 20% for each additional 20 feet (6.1 meters). Refer to *Table 2* and *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.

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

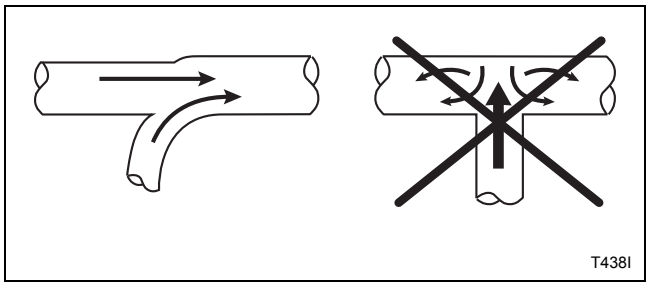
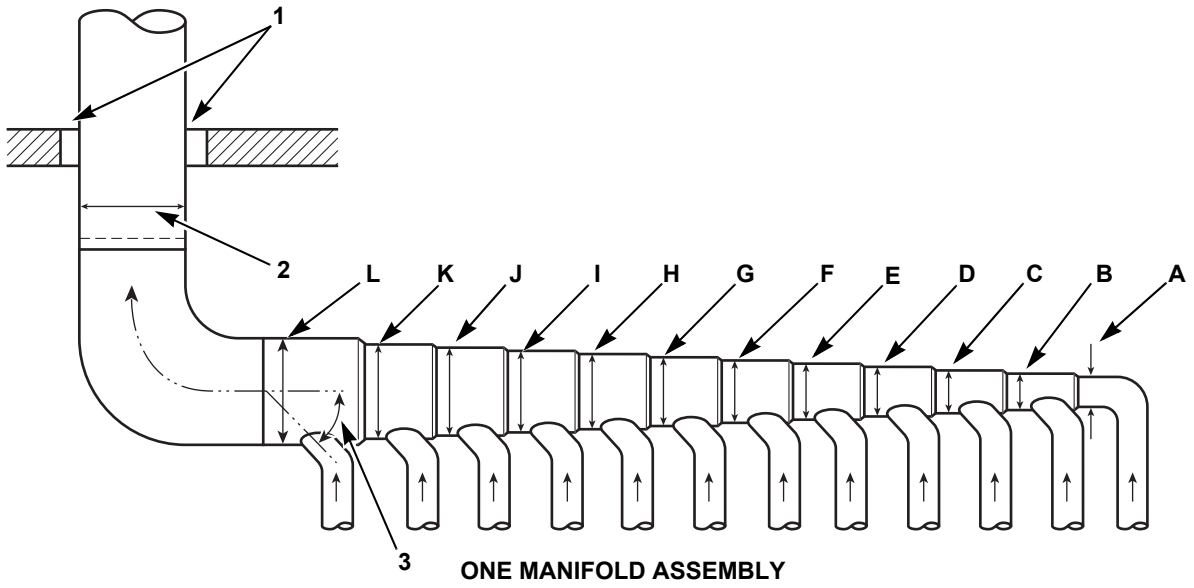


Figure 3

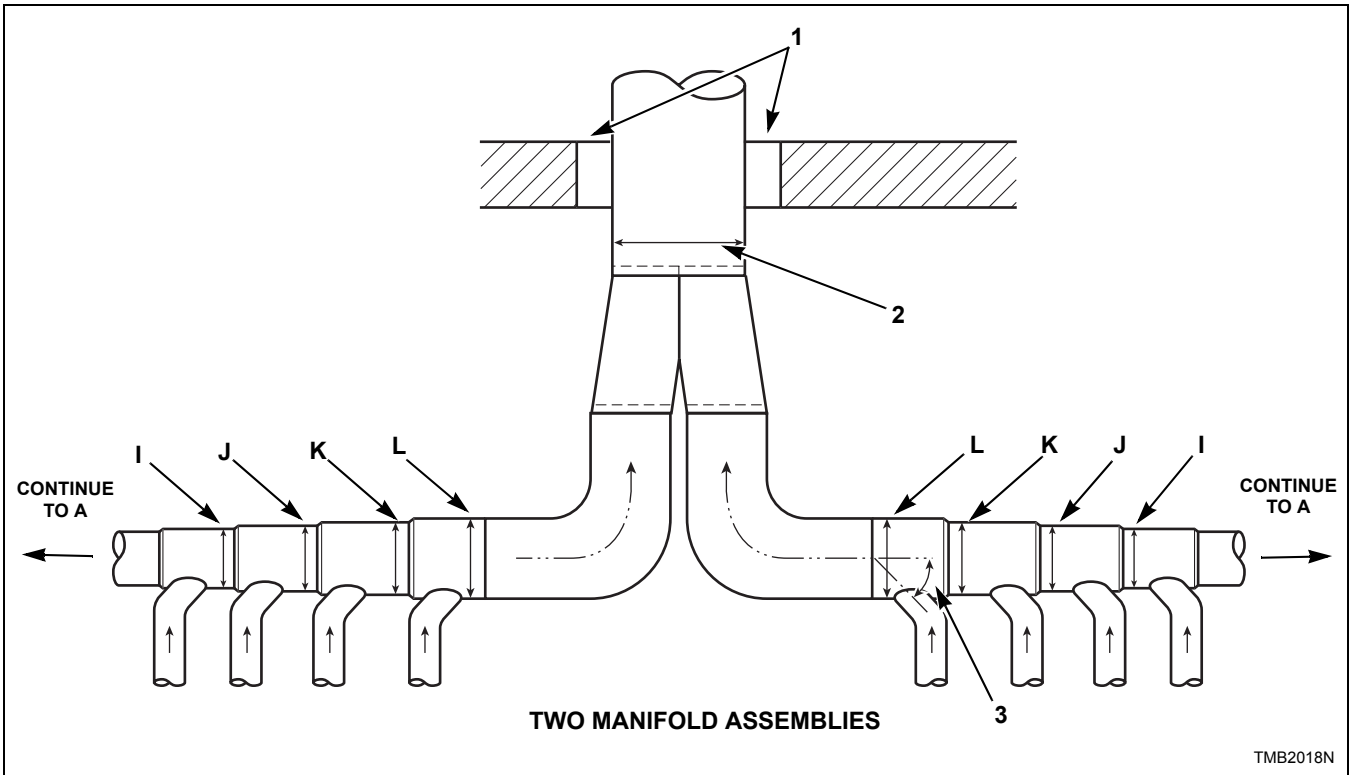


1	**NOTE: Where the exhaust duct pierces a combustible wall or ceiling, the opening MUST be sized per local codes.**	**2**	Outlet duct diameter
		3	45° typical

Figure 4

Duct Station	8 in. (203 mm) Duct
A	8 in. (203 mm)
B	12 in. (305 mm)
C	15 in. (381 mm)
D	17 in. (432 mm)
E	19 in. (483 mm)
F	21 in. (533 mm)
G	23 in. (584 mm)
H	25 in. (635 mm)
I	26 in. (660 mm)
J	27 in. (686 mm)
K	29 in. (737 mm)
L	30 in. (762 mm)

Table 2



1	**NOTE: Where the exhaust duct pierces a combustible wall or ceiling, the opening MUST be sized per local codes.**	**2**	Outlet duct diameter
		3	45° typical

Figure 5

Duct Station	8 in. (203 mm) Duct
A	13 in. (330 mm)
B	17 in. (432 mm)
C	18 in. (457 mm)
D	24 in. (610 mm)
E	27 in. (686 mm)
F	30 in. (762 mm)
G	33 in. (838 mm)
H	34 in. (864 mm)
I	37 in. (940 mm)
J	39 in. (991 mm)
K	40 in. (1016 mm)
L	42 in. (1067 mm)

Table 3

50 Pound Gas and Steam Models

Refer to *Table 4*.

NOTE: Wire sizes were obtained from the Canadian Electrical Code for 75 C. wire and are intended for use as a guideline only. Electrical connections should be made 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: Use copper conductors only.

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).

Serial Plate Rating	Terminal Block Connections Required	Serial Plate Amps		Recommended Circuit	
		Nonreversing	Reversing	Breaker Rating	Wire Size AWG (mm^2)
120V/60Hz/1ph	L1, Neutral and ground	9.3	N/A	15A – 1 pole	14 (2.08)
200-208V/60Hz/1ph	L1, Neutral and ground	5.1	N/A	10A – 1 pole	14 (2.08)
200-208-240V/60Hz/1ph	L1, L2 and ground	5.1	N/A	10A – 2 pole	14 (2.08)
230-240V/50Hz/1ph	L1, Neutral and ground	6.3	6.9	15A – 1 pole	14 (2.08)
200-208V/60Hz/3ph	L1, L2, L3 and ground	2.8	4.0	10A – 3 pole	14 (2.08)
200V/50Hz/3ph	L1, L2, L3 and ground	3.3	4.2	10A – 3 pole	14 (2.08)
240V/60Hz/3ph	L1, L2, L3 and ground	2.8	4.0	10A – 3 pole	14 (2.08)
230-240V/50Hz/3ph	L1, L2, L3 and ground	3.1	4.3	10A – 3 pole	14 (2.08)
380V/50 or 60Hz/3ph	L1, L2, L3 and ground	1.6	2.0	10A – 3 pole	14 (2.08)
400-415V/50Hz/3ph	L1, L2, L3 and ground	1.6	2.0	10A – 3 pole	14 (2.08)
440V/60Hz/3ph	L1, L2, L3 and ground	1.4	1.9	10A – 3 pole	14 (2.08)
460-480V/60Hz/3ph	L1, L2, L3 and ground	1.4	1.9	10A – 3 pole	14 (2.08)

N/A = Not Applicable

Table 4

75 Pound Gas and Steam Models

Refer to *Table 5*.

NOTE: Wire size and breaker ratings were obtained from the Canadian Electrical Code for 75 C. wire and are intended for use as a guideline only. Electrical connections should be made 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: Use copper conductors only.

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).

Serial Plate Rating	Terminal Block Connections Required	Serial Plate Amps		Recommended Circuit	
		Nonreversing	Reversing	Breaker Rating	Wire Size AWG (mm^2)
120V/60Hz/1ph	L1, Neutral and ground	13.8	N/A	20A – 1 pole	12 (3.31)
200-208V/60Hz/1ph	L1, Neutral and ground	7.6	N/A	15A – 1 pole	14 (2.08)
200-208-240V/60Hz/1ph	L1, L2 and ground	7.6	N/A	15A – 2 pole	14 (2.08)
230-240V/50Hz/1ph	L1, Neutral and ground	6.7	7.0	15A – 1 pole	14 (2.08)
200-208V/60Hz/3ph	L1, L2, L3 and ground	3.8	4.3	10A – 3 pole	14 (2.08)
200V/50Hz/3ph	L1, L2, L3 and ground	3.5	4.5	10A – 3 pole	14 (2.08)
240V/60Hz/3ph	L1, L2, L3 and ground	3.8	4.3	10A – 3 pole	14 (2.08)
230-240V/50Hz/3ph	L1, L2, L3 and ground	3.5	4.9	10A – 3 pole	14 (2.08)
380V/50 or 60Hz/3ph	L1, L2, L3 and ground	1.8	2.1	10A – 3 pole	14 (2.08)
400-415V/50Hz/3ph	L1, L2, L3 and ground	1.8	2.1	10A – 3 pole	14 (2.08)
440V/60Hz/3ph	L1, L2, L3 and ground	1.9	2.1	10A – 3 pole	14 (2.08)
460-480V/60Hz/3ph	L1, L2, L3 and ground	1.9	2.1	10A – 3 pole	14 (2.08)

N/A = Not Applicable

Table 5

50 and 75 Pound Electric Models

Refer to *Table 6*.

NOTE: Wire size and breaker ratings were obtained from the Canadian Electrical Code for 75 C. wire and are intended for use as a guideline only. Electrical connections should be made 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: Use copper conductors only.

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).

Serial Plate Rating	Terminal Block Connections Required	Serial Plate Amps		Recommended Circuit	
		Nonreversing	Reversing	Breaker Rating	Wire Size AWG (mm^2)
240V/50Hz/1ph (50 Pound only)	L1, Neutral and Ground	93	95	125A – 1 pole	1 (42.4)
200-208V/60Hz/3ph	L1, L2, L3 and ground	89	88	125A – 3 pole	1 (42.4)
200V/50Hz/3ph	L1, L2, L3 and ground	84	85	125A – 3 pole	1 (42.4)
230V/50Hz/3ph	L1, L2, L3 and ground	73	75	100A – 3 pole	3 (26.7)
240V/50Hz/3ph	L1, L2, L3 and ground	79	78	100A – 3 pole	3 (26.7)
240V/60Hz/3ph	L1, L2, L3 and ground	79	78	100A – 3 pole	3 (26.7)
380V/50 or 60Hz/3ph	L1, L2, L3 and ground	47	48	60A – 3 pole	6 (13.3)
400-415V/50Hz/3ph	L1, L2, L3 and ground	43	44	60A – 3 pole	6 (13.3)
440V/60Hz/3ph	L1, L2, L3 and ground	41	41	51A – 3 pole	6 (13.3)
480V/60Hz/3ph	L1, L2, L3 and ground	38	38	50A – 3 pole	6 (13.3)

Table 6