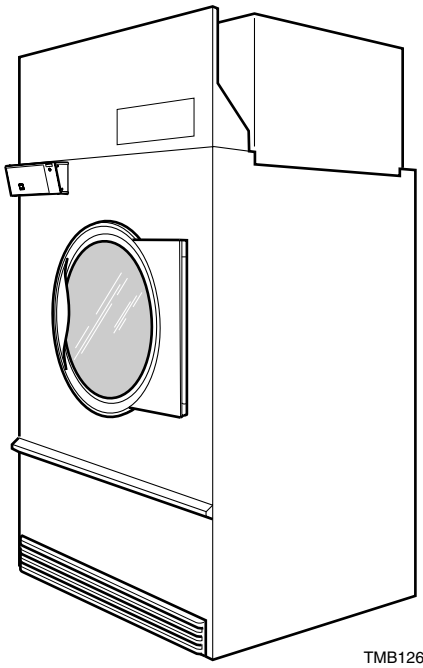
Drying Tumblers

120 Pound Capacity
170 Pound Capacity

Refer to page 3 for Model Identification

CE



TMB1268C

Keep These Instructions for Future Reference.
(If this machine changes ownership, this manual must accompany machine.)

Installation/Operation Supplement

Part No. M414881R7EN
December 2007

Installation must conform with local codes.

WARNING

FOR YOUR SAFETY, the information in this manual must be followed to minimize the risk of fire or explosion or to prevent property damage, personal injury or death.

W033

- **Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.**
- **WHAT TO DO IF YOU SMELL GAS:**
  - **Do not try to light any appliance.**
  - **Do not touch any electrical switch; do not use any phone in your building.**
  - **Clear the room, building or area of all occupants.**
  - **Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.**
  - **If you cannot reach your gas supplier, call the fire department.**
- **Installation and service must be performed by a qualified installer, service agency or the gas supplier.**

W052

FOR YOUR SAFETY

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

W053

IMPORTANT: Information must be obtained from a local gas supplier on instructions to be followed if the user smells gas. These instructions must be posted in a prominent location. Step-by-step instructions of the above safety information must be posted in a prominent location near the tumbler for customer use.

WARNING

To reduce the risk of fire, electric shock, serious injury or death to persons when using the tumbler unit, follow these basic precautions:

- **Read all instructions before using tumbler.**
- **DO NOT tamper with controls.**
- **DO NOT bypass any safety devices.**
- **Always follow the fabric care instructions supplied by the garment manufacturer.**
- **Remove laundry immediately after the tumbler stops.**
- **DO NOT reach into tumbler if cylinder is revolving.**

To avoid creating any flammable vapors which may explode, ignite or cause corrosive damage, DO NOT dry the following materials:

- **Articles that have been cleaned in, soaked in, washed in or spotted with gasoline, dry-cleaning solvents or other flammable/explosive substances.**
- **Plastics or articles containing foam rubber or similarly textured rubberlike materials.**
- **Articles that have traces of flammable substances like cooking oil, machine oil, flammable chemicals or thinner.**
- **Articles containing wax or cleaning chemicals.**
- **Fiberglass curtains or draperies (unless the label says it can be done).**

W440R1

Table of Contents

Introduction

Model Identification

Information in this manual is applicable to these models.

	Gas		Steam/Thermal Oil	
120 Pound	GU120L	PU120N	GU120S	PU120T
	GU120N	SU120L	GU120T	SU120S
	HU120L	SU120N	HU120S	SU120T
	HU120N	UU120L	HU120T	UU120S
	KU120L	UU120N	KU120S	UU120T
	KU120N	XU120L	KU120T	XU120S
	LU120L	XU120N	LU120S	XU120T
	LU120N		LU120T	YU120S
	PU120L		PU120S	YU120T
170 Pound	GU170L	PU170L	GU170S	PU170S
	GU170N	PU170N	GU170T	PU170T
	HU170L	SU170L	HU170S	SU170S
	HU170N	SU170N	HU170T	SU170T
	KU170L	UU170L	KU170S	UU170S
	KU170N	UU170N	KU170T	UU170T
	LU170L	XU170L	LU170S	XU170S
	LU170N	XU170N	LU170T	XU170T

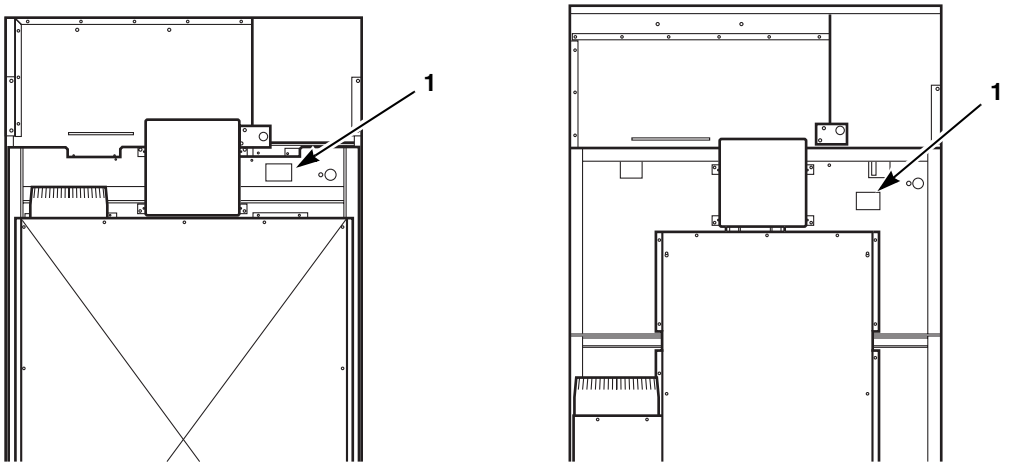
Includes models with the following control suffixes:

RM – reversing OPL Micro
RQ – reversing dual digital timer
RT – reversing manual timer

Wiring Diagram Location

The wiring diagram is located in the junction or contactor box.

Serial Plate Location



120 POUND TUMBLER **170 POUND TUMBLER**

TMB1298N

1 Serial Plate

Safety Information

Save These Instructions

Important Safety Instructions

WARNING

Hazardous Voltage. Can cause shock, burn or cause death. Allow machine power to remain off for two minutes prior to working in and around AC inverter drive.

W359

1. Read all instructions before using the tumbler.
2. Refer to the ***GROUNDING INSTRUCTIONS*** for the proper grounding of the tumbler.
3. Do not dry articles that have been previously cleaned in, washed in, soaked in, or spotted with gasoline, dry-cleaning solvents, or other flammable or explosive substances, as they give off vapors that could ignite or explode.
4. Do not allow children to play on or in the tumbler. This appliance is not intended for use by young children or infirm persons without supervision. Young children should be supervised to ensure that they do not play with the appliance.
5. Before the tumbler is removed from service or discarded, remove the door to the drying compartment and the door to the lint compartment.
6. Do not reach into the tumbler if the cylinder is revolving.
7. Do not install or store the tumbler where it will be exposed to water and/or weather.
8. Do not tamper with the controls.
9. Do not repair or replace any part of the tumbler, or attempt any servicing unless specifically recommended in the user-maintenance instructions or in published user-repair instructions that you understand and have the skills to carry out.
10. Do not use fabric softeners or products to eliminate static unless recommended by the manufacturer of the fabric softener or product.
11. To reduce the risk of fire, **DO NOT DRY** plastics or articles containing foam rubber or similarly textured rubberlike materials.
12. Always clean the lint filter daily.
13. Keep area around the exhaust opening and adjacent surrounding area free from the accumulation of lint, dust and dirt.
14. The interior of the tumbler and the exhaust duct should be cleaned periodically by qualified service personnel.
15. If not installed, operated and maintained in accordance with the manufacturer's instructions or if there is damage to or mishandling of this product's components, use of this product could expose you to substances in the fuel or from fuel combustion which can cause death or serious illness and which are known to the State of California to cause cancer, birth defects or other reproductive harm.
16. Tumbler will not operate with the loading door open. **DO NOT** bypass the door safety switch to permit the tumbler to operate with the door open. The tumbler will stop tumbling when the door is opened. Do not use the tumbler if it does not stop tumbling when the door is opened or starts tumbling without pressing or turning the START mechanism. Remove the tumbler from use and call for service.
17. Tumbler will not operate with lint panel open. **DO NOT** bypass lint panel safety switch to permit the tumbler to operate with the lint panel open.
18. Do not put articles soiled with vegetable or cooking oil in the tumbler, as these oils may not be removed during washing. Due to the remaining oil, the fabric may catch on fire by itself.
19. To reduce the risk of fire, **DO NOT** put clothes which have traces of any flammable substances such as machine oil, flammable chemicals, thinner, etc. or anything containing wax or chemicals such as in mops and cleaning cloths, or anything dry-cleaned at home with dry-cleaning solvent in the tumbler.
20. Use the tumbler only for its intended purpose, drying fabrics.
21. **ALWAYS** disconnect and lockout the electrical power to the tumbler before servicing. Disconnect power by shutting off appropriate breaker or fuse.

22. Install this tumbler according to the *INSTALLATION INSTRUCTIONS*. All connections for electrical power, grounding, and gas supply must comply with local codes and be made by licensed personnel when required.
23. Remove laundry immediately after tumbler stops.
24. Always read and follow manufacturer's instructions on packages of laundry and cleaning aids. Heed all warnings or precautions. To reduce the risk of poisoning or chemical burns, keep them out of reach of children at all times (preferably in a locked cabinet).
25. Do not tumble fiberglass curtains and draperies unless the label says it can be done. If they are dried, wipe out the cylinder with a damp cloth to remove particles of fiberglass.
26. Always follow the fabric care instructions supplied by the garment manufacturer.
27. Never operate the tumbler with any guards and/or panels removed.
28. **DO NOT** operate the tumbler if it is smoking, grinding, has missing or broken parts.
29. **DO NOT** bypass any safety devices.
30. Solvent vapors from dry-cleaning machines create acids when drawn through the heater of the drying unit. These acids are corrosive to the tumbler as well as to the laundry load being dried. Be sure make-up air is free of solvent vapors.
31. Failure to install, maintain, and/or operate this machine according to the manufacturer's instructions may result in conditions which can produce bodily injury and/or property damage.

WARNING

To reduce the risk of serious injury, install lockable door(s) to prevent public access to rear of tumblers.

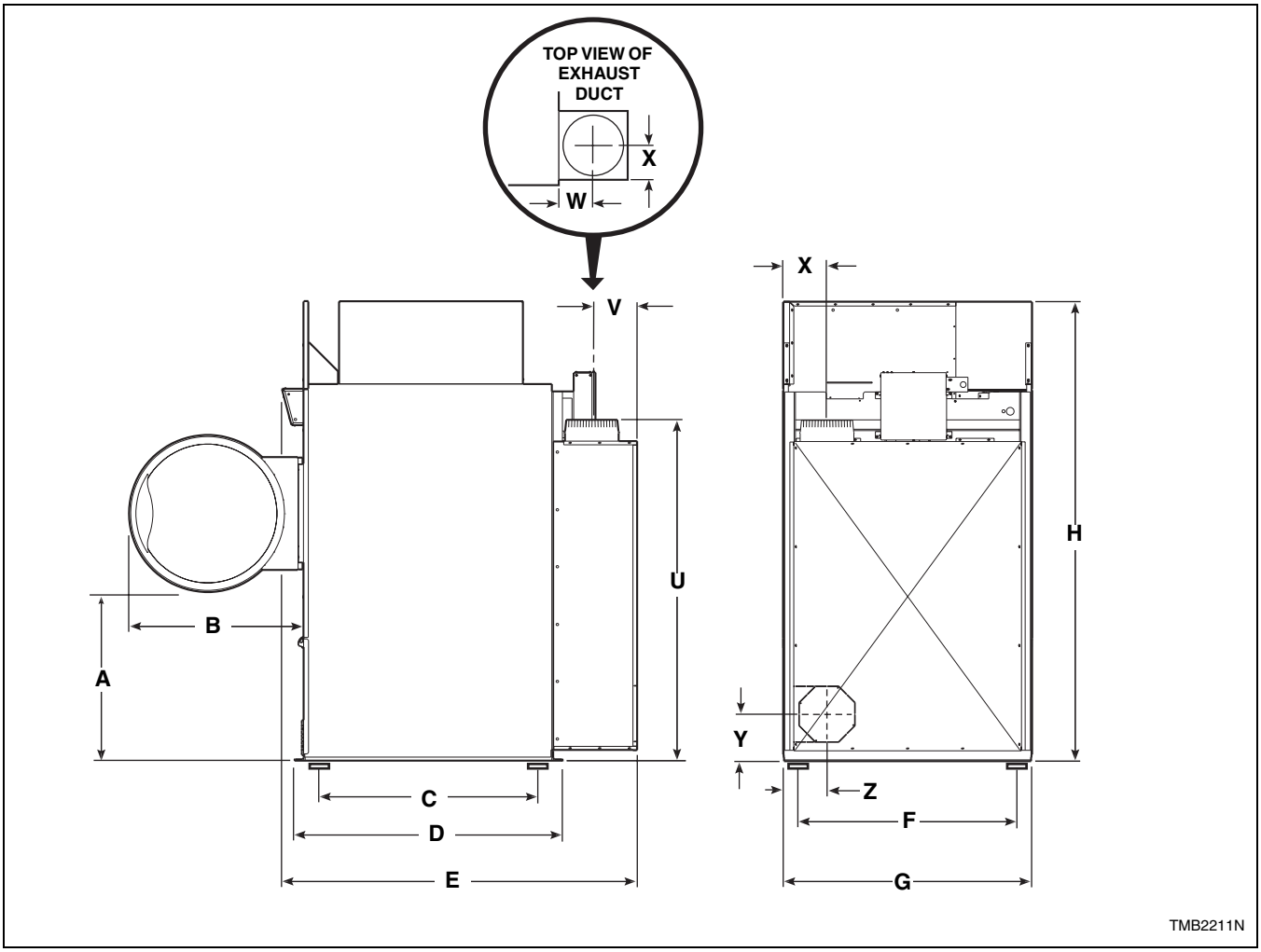
W055

Installation

Specifications and Dimensions

Specifications	120 Pound	170 Pound
Noise level measured during operation at operator position of 1 meter (3.3 feet) in front of machine and 1.6 meters (5.2 feet) from the floor.	66 dBA	66 dBA
Cylinder Size: mm (in.)	1118 x 1041 (44 x 41)	1289 x 1080 (50.75 x 42.5)
Cylinder Capacity dry weight: kg (lbs.)	54.4 (120)	77.1 (170)
Cylinder Motor Horsepower	0.75	0.75
Fan Motor Horsepower	1	3
Air Outlet Diameter: mm (in.)	254 (10)	300 (12)
Maximum Static Back Pressure: mbar (inches W.C.)	0.8 (0.3)	0.8 (0.3)
Maximum Airflow: l/sec (C.F.M.)	755 (1600)	1156 (2450)
Gas Models		
Net Weight (approximate): kg (lbs.)	580 (1275)	716 (1575)
Gas Connection	3/4 in. NPT	1 in. NPT
Gas Burner Rating: Mj/hr (Btu/hr)	316 (300,000)	421 (395,000)
Steam Models		
Net Weight (approximate): kg (lbs.)	625 (1375)	761 (1675)
Steam Connection	3/4 in. NPT	3/4 in. NPT inlet 1 in. NPT outlet
Steam Coil Rating at 100 psig: Boiler Horsepower (Btu/hr)	11.7 (405,000)	18.8 (648,000)

120 Pound Tumbler Dimensions and Exhaust Outlet Locations

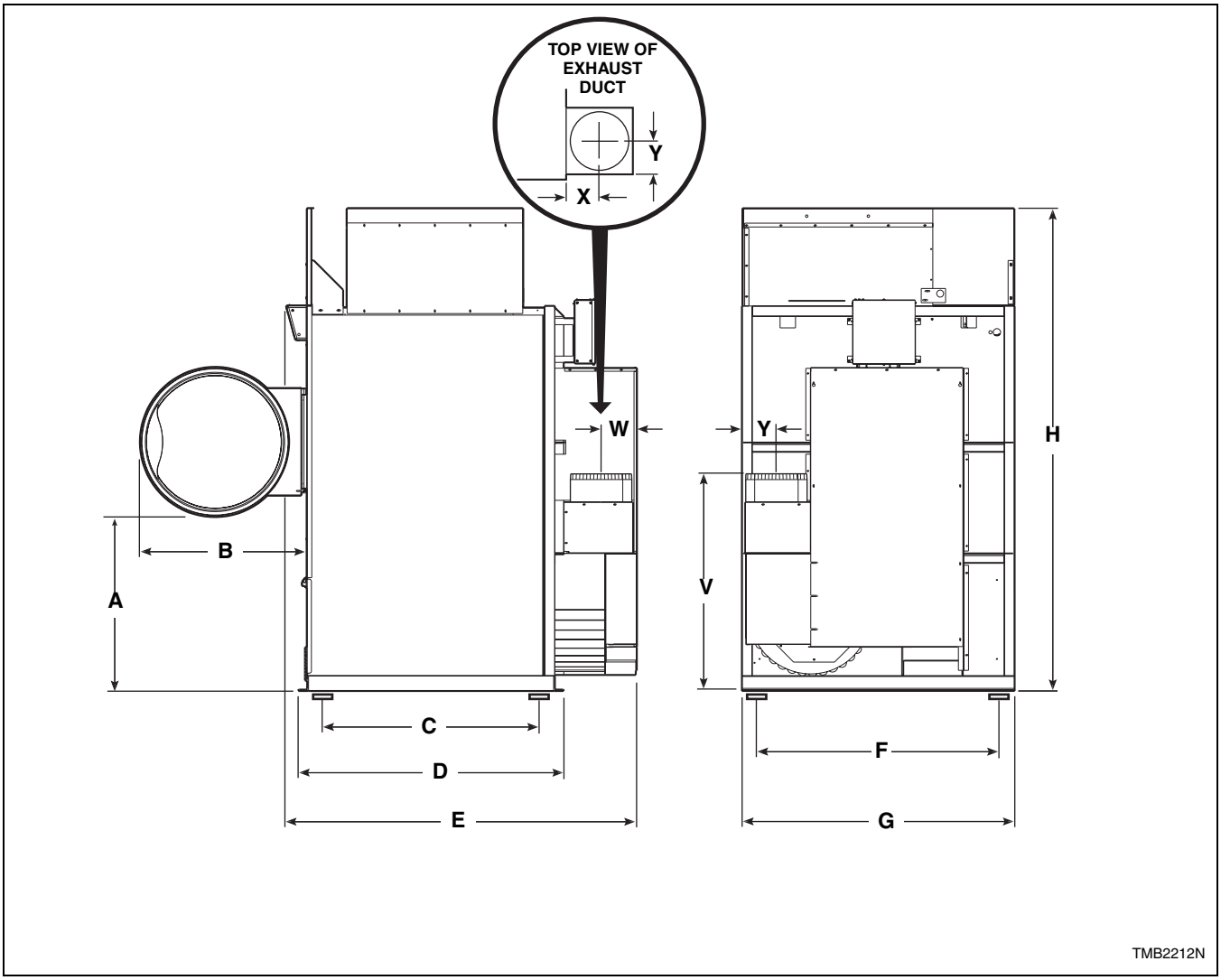


Cabinet Dimensions								
Models	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**
120L/N	797 mm (31.38 in.)	826 mm (32.5 in.)	1242 mm (48.91 in.)	1268 mm (49.91 in.)	1725 mm (67.92 in.)	1153 mm (45.38 in.)	1178 mm (46.38 in.)	2177 mm (85.7 in.)
120S	797 mm (31.38 in.)	826 mm (32.5 in.)	1242 mm (48.91 in.)	1268 mm (49.91 in.)	1725 mm (67.92 in.)	1153 mm (45.38 in.)	1178 mm (46.38 in.)	2121 mm (83.5 in.)

Refer to ***Position and Level the Tumbler*** to temporarily reduce the heights of these models.

Exhaust Outlet Dimensions and Locations						
Models	**U**	**V**	**W**	**X**	**Y**	**Z**
120L/N	1612 mm (63.45 in.)	214 mm (8.44 in.)	190 mm (7.5 in.)	208 mm (8.18 in.)	222 mm (8.75 in.)	208 mm (8.18 in.)
120S	1542 mm (60.7 in.)	214 mm (8.44 in.)	190 mm (7.5 in.)	208 mm (8.18 in.)	222 mm (8.75 in.)	208 mm (8.18 in.)

170 Pound Tumbler Dimensions and Exhaust Outlet Locations

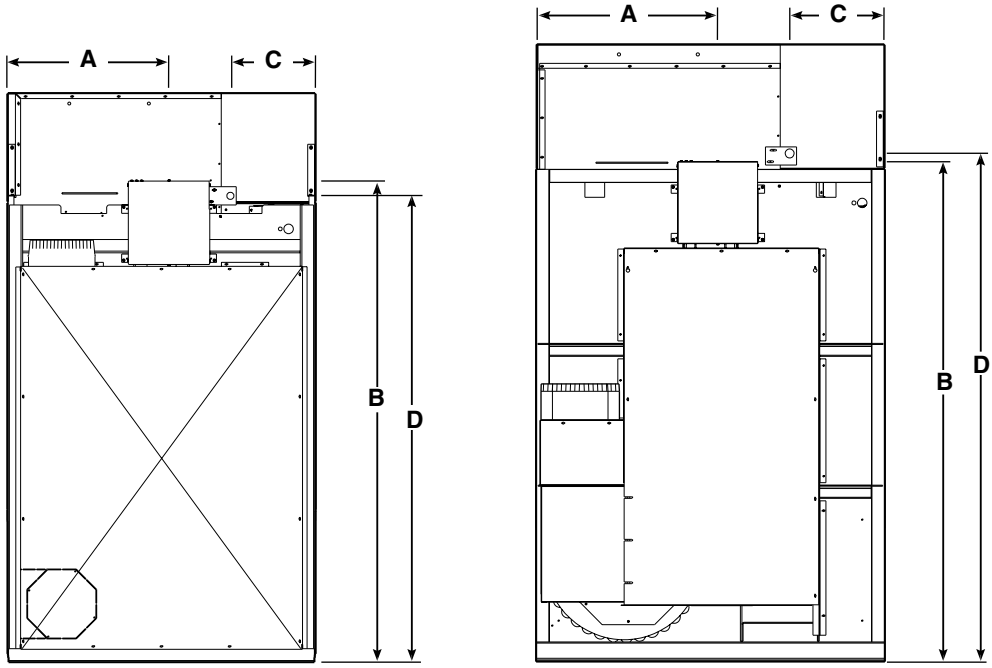


Cabinet Dimensions								
Models	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**
170L/N/S	860 mm (33.86 in.)	826 mm (32.5 in.)	1289 mm (50.75 in.)	1314 mm (51.75 in.)	1749 mm (68.85 in.)	1324 mm (52.12 in.)	1349 mm (53.12 in.)	2388 mm (94 in.)

Refer to ***Position and Level the Tumbler*** to temporarily reduce the heights of these models.

Exhaust Outlet Dimensions and Locations				
Models	**V**	**W**	**X**	**Y**
170L/N/S	1076 mm (42.38 in.)	171 mm (6.75 in.)	222 mm (8.75 in.)	178 mm (7 in.)

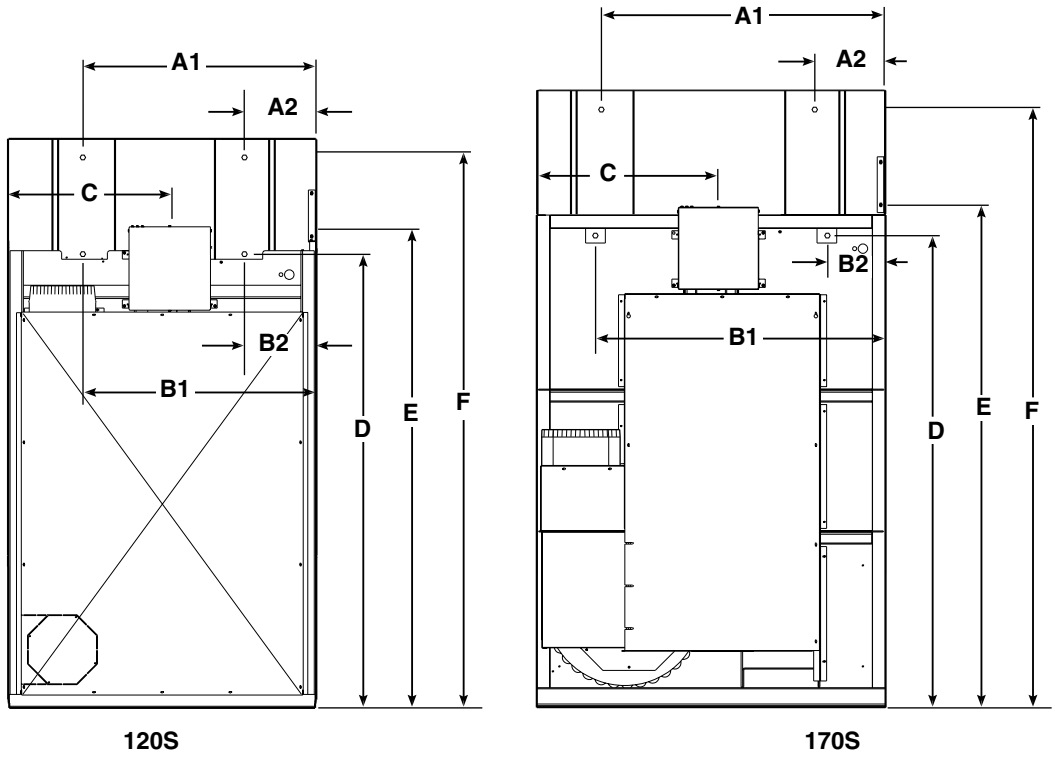
Electric and Gas Connection Locations for Gas Models



Models	Electrical Connection		Gas Connection		
	A	B	C	D	Diameter
120L/N	500 mm (19.69 in.)	1904 mm (74.98 in.)	325 mm (12.78 in.)	1781 mm (70.12 in.)	3/4 in. NPT
170L/N	589 mm (23.18 in.)	2003 mm (78.85 in.)	368 mm (14.5 in.)	1965 mm (77.38 in.)	1 in. NPT

NOTE: These figures are approximate dimensions only.

Electric and Steam Connection Locations for Steam Models



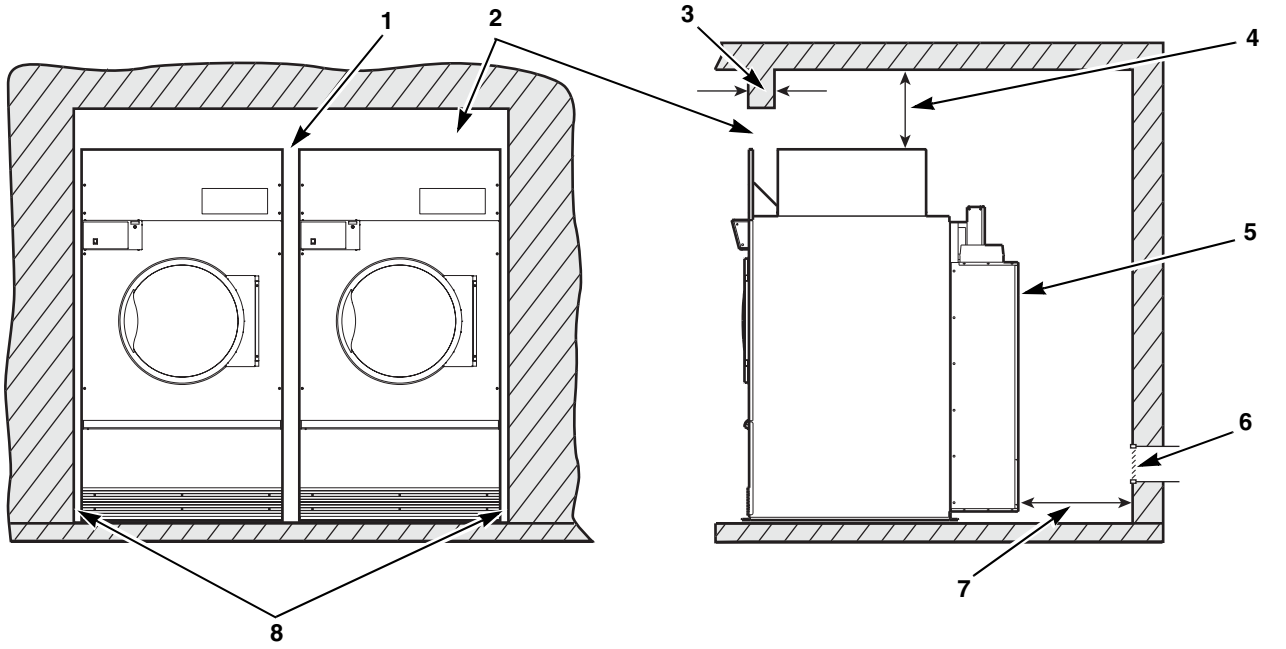
Models	Steam Inlet			
	Diameter	A1	A2	F
120S	3/4 in. NPT	911 mm (35.875 in.)	340 mm (13.375 in.)	2102 mm (82.75 in.)
170S	3/4 in. NPT	956 mm (37.625 in.)	387 mm (15.25 in.)	2235 mm (88 in.)
	Steam Outlet			
	Diameter	B1	B2	D
120S	3/4 in. NPT	879 mm (34.625 in.)	333 mm (13.125 in.)	1740 mm (68.5 in.)
170S	1 in. NPT	1133 mm (44.625 in.)	222 mm (8.75 in.)	1822 mm (71.75 in.)
	Electrical Connection			
	C		E	
120S	500 mm (19.69 in.)		1904 mm (74.98 in.)	
170S	589 mm (23.18 in.)		2003 mm (78.85 in.)	

Position and Level the Tumbler

WARNING

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

W056



TMB2020N

NOTE: Shaded areas indicate adjacent structure.

1	13 mm (0.5 in.) recommended between machines for removal or installation.
2	Allow 51-102 mm (2-4 in.) 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	102 mm (4 in.) maximum header thickness
4	Minimum clearance permitted for remainder: Gas 102 mm (4 in.), Steam 305 mm (12 in.)
5	Guard
6	Provision for Make-Up Air
7	610 mm (24 in.) minimum, 914 mm (36 in.) recommended for maintenance purposes
8	6 mm (0.25 in.) recommended for removal or installation purposes, zero clearance allowed

Figure 1

Fire Suppression System

G, H, K, S and U Models Only

Water Requirements

IMPORTANT: Water must be supplied to the fire suppression system, or the fire suppression system will not operate as intended.

Connection point to the electric water solenoid valve is a 19 mm (3/4 inch) hose. The fire suppression system equipped tumbler must be supplied with a minimum water pipe size of 12,7 mm (1/2 inch) and be provided with a minimum of 138 kPa (20 psi) and a maximum of 827 kPa (120 psi) of pressure at all times. Flowrate must be no less than, but approximately 57 liters (15 gallons) per minute.

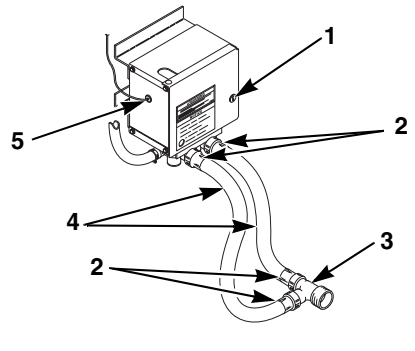
NOTE: Water pressure under 138 kPa (20 pounds per square inch) will cause low flow and water leakage at water solenoid valve.

IMPORTANT: Temperature of the water supply must be kept between 4,4° and 48,9°C (40° and 120°F). If water in the supply line or water solenoid valve freezes, the fire suppression system will not operate.

IMPORTANT: If temperature sensors inside the tumbler register a temperature below 4,4°C (40°F), the fire suppression system control will lock out. This feature protects against operation of the tumbler with a possible frozen water supply. Only when the temperature sensors register a temperature above 4,4°C (40°F) will the machine reset for operation.

IMPORTANT: Flexible supply line/coupling must be used. Solenoid valve failure due to hard plumbing connections will void the warranty. It is recommended that a filter or strainer be installed in the water supply line.

Water Connections



1	Lock
2	Hose Couplings
3	Y Valve
4	Inlet Hoses
5	Opening for Auxiliary Alarm Cable

Figure 2

IMPORTANT: Thread hose couplings onto valve connections finger tight, then turn 1/4 turn with pliers. Do not cross thread or overtighten couplings.

IMPORTANT: Replace all hoses every five years.

NOTE: Longer inlet hoses are available (as optional equipment at extra cost) if the hoses supplied with the tumbler are not long enough for installation. Order hoses as follows:

Part No. 20617 Inlet hose 2.44 m (8 feet)
Part No. 20618 Inlet hose 3.05 m (10 feet)

Electrical Requirements

WARNING

Electrical power must be provided to tumbler at all times. The fire suppression system will be inoperative if the main electrical power supply is disconnected.

W690

No independent external power source or supply connection is necessary. Power to operate the 24 Volt fire suppression system is from the rear junction/ contactor box.

Auxiliary Alarm

During tumbler installation, you have the option to connect a separate alarm system to this auxiliary output. Use of the auxiliary output is not required for the fire suppression system to operate, but may be used for additional protection.

NOTE: The auxiliary output is activated during fire suppression system maintenance test sequence. Consider this fact prior to your system test every three months. (Example: If the external system uses the auxiliary output to call the fire department, inform the fire department before and after the fire suppression system maintenance test.)

Gas Requirements

Natural Gas and Liquefied Petroleum

WARNING

To reduce the risk of fire or explosion, DO NOT CONNECT THE GAS LINE TO THE TUMBLER IF THE GAS SERVICE IS NOT THE SAME AS THAT SPECIFIED ON THE TUMBLER SERIAL PLATE! It will first be necessary to convert the gas burner orifice and gas valve. Appropriate conversion kits are available.

W060

IMPORTANT: Any product revisions or conversions must be made by the Manufacturer's Authorized Dealers, Distributors, or local service personnel.

IMPORTANT: The tumbler must be isolated from the gas supply piping system by closing its individual manual shut-off valve during any pressure testing of the gas supply piping system at test pressure equal to or less than 3.45 kPa, 34.5 mbar (0.5 psi).

IMPORTANT: The tumbler and its manually operated appliance gas valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 3.45 kPa, 34.5 mbar (0.5 psi).

IMPORTANT: The installation must comply with local codes.

WARNING

To reduce the risk of fire or explosion, if the tumbler is to be connected to Liquefied Petroleum (L.P.) gas, a vent to the outdoors must be provided in the room where the tumbler is installed.

W062

NOTE: This manual is only a supplement. Refer to installation/operation manual for full instructions.

European Gas

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the tumbler before servicing.**
- **Close gas shut-off valve to gas tumbler before servicing.**
- **Close steam valve to steam tumbler before servicing.**
- **Never start the tumbler with any guards/ panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the tumbler is properly grounded.**

W002

General Information

This information is to be used when installing gas tumblers in countries, and/or on gases, different than the machine's factory configuration. Tumblers are supplied from the factory for operation on Natural Gas 8914 kcal/m^3 (1000 Btu/cu ft.) or L.P. Gas 22,250 kcal/m^3 (2500 Btu/cu ft.) in the countries of GB/IE/ PT/ES/IT/GR/LU/CH. To install machines in any other country or on any other gas requires some level of modification.

Models are built in two different configurations:

- **Regulated Natural Gas** – Injector is sized for Natural Gas, second family, group H (E) at 20 mbar inlet pressure. Regulator/governor is operational. Gas valve CAN be field-converted to a non-regulating type.
- **Unregulated Liquefied Petroleum (L.P.) Gas** – Injector is sized for L.P. Gas, third family, group 3+ at 28.37 mbar inlet pressure. Regulator/ governor is blocked open. Gas valve CANNOT be field-converted to a regulating type.

Serial plates supplied from the factory are configured for the countries of GB/IE/PT/ES/IT/GR/LU/CH. These instructions pertain to the situations when the country of use or gas supply is different than that on the serial plate.

NOTE: This manual is only a supplement. Refer to installation/operation manual for full instructions.

Gases and Configurations

Country Code	Gas Type	Group	Supply Pressure, mbar	Burner Orifice Pressure, mbar	Capacity/ Model	Diameter, mm	Quantity	Burner Orifice Part No.
DK/NO/ SE/FI/CZ/ EE/LV/LT/ SI/SK	Natural Gas	E	20	8.9 8.0	120 170	4.8 4.8	3 4	M411372 M411372
	L.P. Gas	B/P	30	No Governor	120 170	2.6 3.4	3 3	M411376 M400997
DE**	Natural Gas	E	20	8.9 8.0	120 170	4.8 4.8	3 4	M411372 M411372
	L.P. Gas	B/P	30 and No Governor or 26.4 or 50** and No Governor or 28.7		120 170	2.6 3.4	3 3	M411376 M400997
NL	Natural Gas	LL	25	12.0	120 170	4.8 4.8	3 4	M411372 M411372
	L.P. Gas	B/P	30	No Governor	120 170	2.6 3.4	3 3	M411376 M400997
BE/FR*	Natural Gas	E+	20 or 25	No Governor*	120 170	4.2 3.8	3 4	M402995 M402997
	L.P. Gas	3+	28 or 37	No Governor	120 170	2.6 3.4	3 3	M411376 M400997
GB/IE/PT/ ES/IT/GR/ LU/CH	Natural Gas	E	20	8.9 8.0	120 170	4.8 4.8	3 4	M411372 M411372
	L.P. Gas	3+	28 or 37	No Governor	120 170	2.6 3.4	3 3	M411376 M400997
AT**	Natural Gas	E	20	8.9 8.0	120 170	4.8 4.8	3 4	M411372 M411372
	L.P. Gas	B/P	50**	26.4 28.7	120 170	2.6 3.4	3 3	M411376 M400997
CY/IS/MT	L.P. Gas	B/P	30	No Governor	120 170	2.6 3.4	3 3	M411376 M400997
HU	Natural Gas	H	25	8.9 8.0	120 170	4.8 4.8	3 4	M411372 M411372
	L.P. Gas	B/P	30	No Governor	120 170	2.6 3.4	3 3	M411376 M400997
PL	Natural Gas	H	20	8.9 8.0	120 170	4.8 4.8	3 4	M411372 M411372
	L.P. Gas	3P	37	No Governor	120 170	2.6 3.4	3 3	M411376 M400997

Table 1

Burner orifice information at 0-600 meters (0-2000 feet) altitude.

* For Natural Gas, Group E+ applications, convert using L.P. Gas model and replace burner orifices.

** For L.P. Gas, Group B/P with 50 mbar supply pressure, convert using Natural Gas model and appropriate burner orifices.

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, ceiling, crawl space under a building, or concealed space of a building.

W506

Make-Up Air

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

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

Required Make-Up Air Opening (to the outside) for Each Tumbler	
Models	**Opening**
120 Pound	2323 cm^2 (360 in^2) *free air*
170 Pound	3710 cm^2 (525 in^2) *free air*

Table 2

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

If it is necessary to duct make-up air to tumbler(s), increase area of ductwork by 25% to compensate for any restriction in air movement.

Venting

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 to prevent the accumulation of lint.

DO NOT use plastic or thin foil flexible ducts. Use exhaust ducts made of sheet metal or other noncombustible material. Use duct tape or pop rivets on all seams and joints.

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

NOTE: The ducts must be equivalent in strength and corrosion resistance to ducts made of galvanized sheet steel not less than 0.495 mm (0.0195 inches) thick.

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.

NOTE: This manual is only a supplement. Refer to installation/operation manual for full instructions.

Electrical Requirements

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the tumbler before servicing.**
- **Close gas shut-off valve to gas tumbler before servicing.**
- **Close steam valve to steam tumbler before servicing.**
- **Never start the tumbler with any guards/ panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the tumbler is properly grounded.**

W002

To reduce the risk of fire and electric shock, check with a qualified serviceman for proper grounding procedures. Improper connection of the equipment grounding conductor may result in a risk of electric shock.

W068

To reduce the risk of fire and electric shock, if electrical supply is coming from a three phase service, DO NOT connect a "High Leg" or "Stinger Leg" to a single phase machine. On a three phase machine, if there is a "High Leg" or "Stinger Leg" it should be connected to L3.

W069

Grounding Instructions

NOTE: To ensure protection against shock, this tumbler MUST be electrically grounded in accordance with the local codes or, in the absence of local codes, with the latest edition of the National Electrical Code ANSI/NFPA No. 70.

In the event of malfunction or breakdown, grounding will reduce the risk of electric shock by providing a path of least resistance for electric current. This tumbler must be connected to a grounded metal, permanent wiring system; or an equipment grounding conductor must be run with the circuit conductors and connected to the appropriate ground location.

- Metal conduit and/or BX cable is not considered ground.
- Connecting the Neutral from the electrical service box to the tumbler ground screw does not constitute a ground.
- A dedicated ground conduit (wire) must be connected between the electrical service box ground bar and the tumbler ground screw.

WARNING

All electrical connections should be made by a qualified electrician.

To reduce the risk of electrical shock, de-energize the electrical circuit being connected to the tumbler before making any electrical connections. Never attempt to connect a live circuit.

W070

CAUTION

Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation. Verify proper operation after servicing.

W071

All manually operated models are factory-equipped with an emergency stop button on the front panel.

NOTE: Activation of the emergency stop button stops all machine control circuit functions, but DOES NOT remove all electrical power from machine.

NOTE: This manual is only a supplement. Refer to installation/operation manual for full instructions.

Steam Requirements

Obtain specific steam service pipe sizes from the steam system supplier or a qualified steam fitter.

- Refer to *Figure 3* and *Figure 4* for proper steam pipe configurations.
- When tumbler is on the end of a line of equipment, extend header at least 1.2 meters (4 feet) beyond tumbler. Install shut-off valve, union, check valve and bypass trap at end of line. If the system has a gravity return to the boiler, omit trap.
- Insulate steam supply and return line for safety of operator and safety while servicing tumbler.
- Keep tumbler in good working condition. Repair or replace any worn or defective parts.

WARNING

All system components must have a 8.6 bar (125 psig) working pressure. Shut-off valves must be installed upstream of the steam solenoid valve and downstream of each steam trap so components can be isolated for maintenance or emergency purposes.

All components (solenoid valve, traps) must be supported to minimize loads on the tumbler steam coil connections.

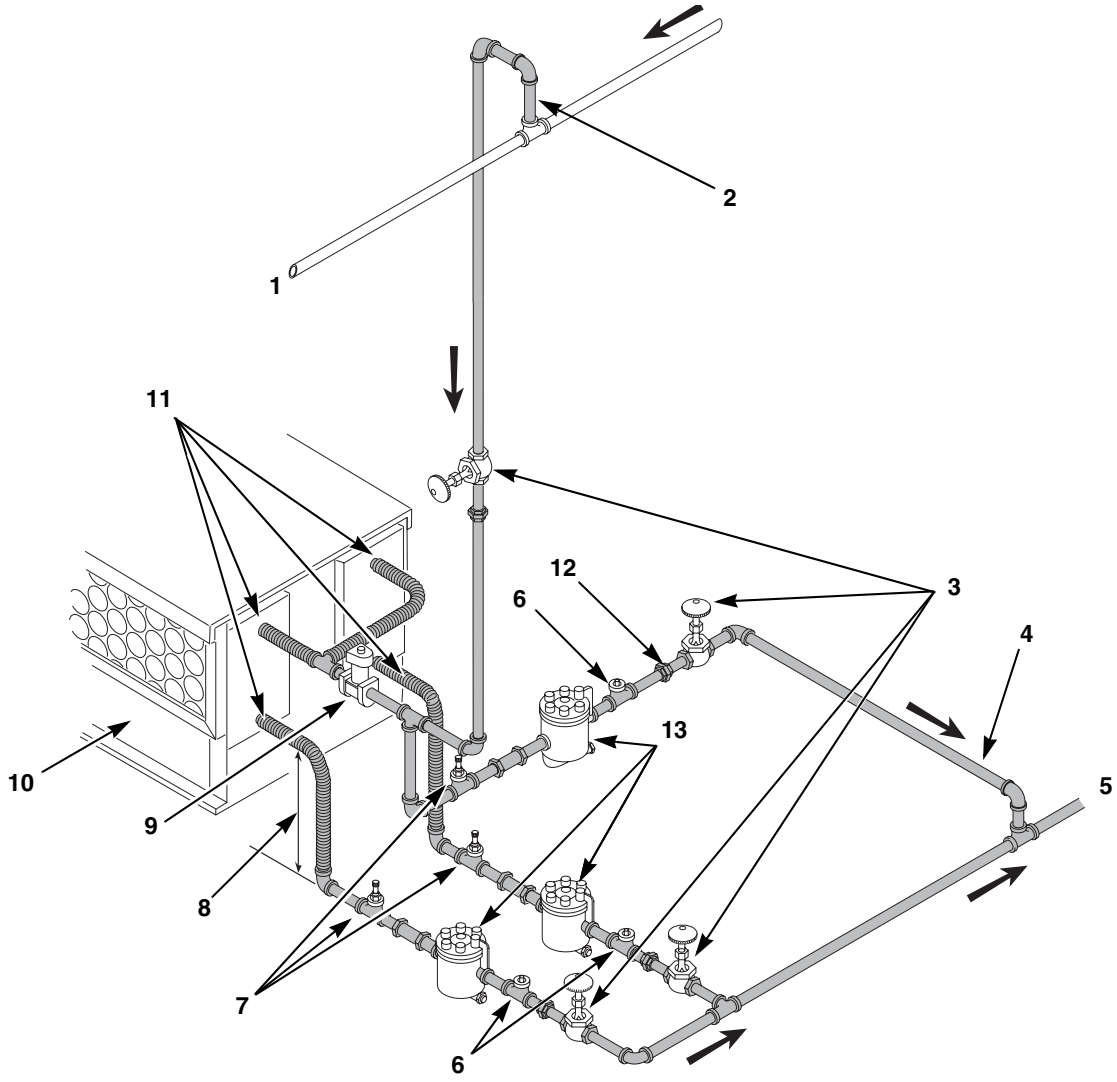
W701

NOTE: This manual is only a supplement. Refer to installation/operation manual for full instructions.

Thermal Oil Prep

It is the responsibility of the customer to install appropriate coil and heating system for thermal oil prep models. Alliance Laundry Systems, LLC. is not responsible for the performance or safety of the customer installed thermal oil system. To ensure proper operation, refer to the ***Specifications and Dimensions*** section for the BTU input of equivalent steam models. Thermal oil systems that do not deliver appropriate BTUs will dry slower. For solenoid valve wiring connections, refer to the Wiring Diagram supplied with tumbler.

120 Pound Tumblers



NOTE: Refer to *Table 3* for sizing of steam lines. Piping must also be sized accordingly for length of runs and number of elbows.

1	Supply	**8**	457 mm (18 in.) Drop
2	305 mm (12 in.) Riser	**9**	Solenoid Valve (Supplied with machine)
3	Shut-Off Valve	**10**	Steam Bonnet
4	Condensate Return Line from Supply Line	**11**	Flexible Line
5	Return	**12**	Union
6	Check Valve	**13**	Trap with Built-in Strainer
7	Vacuum Breaker (optional)		

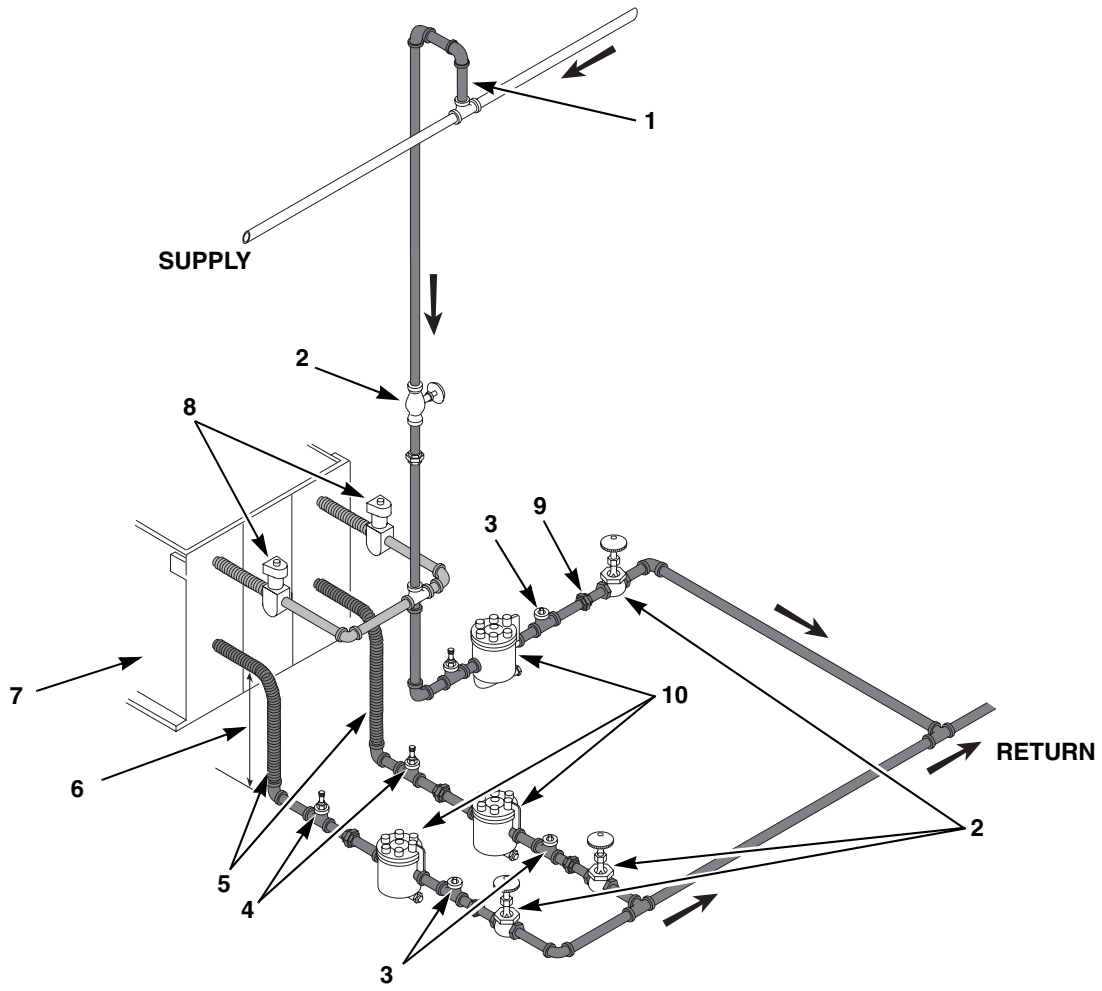
Figure 3

Model	Steam Pressure bar (PSI)	Minimum Pipe Diameter	Steam Trap Size* (Pounds Condensate/Hour)
120S	8.3 - 8.6 (120-125)	1 in. NPT	345
	4.1 - 8.3 (60-120)	1 in. NPT	345
	2.4 - 4.1 (35-60)	1-1/4 in. NPT	345

*Based on maximum PSI.

Table 3

170 Pound Tumblers



NOTE: Refer to *Table 4* for sizing of steam lines. Piping must also be sized accordingly for length of runs and number of elbows.

1	Risers 305 mm (12 in.)	**6**	457 mm (18 in.) Drop
2	Shut-Off Valve	**7**	Steam Bonnet
3	Check Valve	**8**	Solenoid Valve (Supplied with machine)
4	Vacuum Breaker (optional)	**9**	Union
5	Condensate Return Line from Supply Line	**10**	Trap with Built-In Strainer

Figure 4

Model	Steam Pressure bar (PSI)	Minimum Pipe Diameter	Steam Trap Size* (Pounds Condensate/Hour)
170S	7.5 - 8.6 (110-125)	1 in. NPT	517
	4.1 - 7.5 (60-110)	1-1/4 in. NPT	517
	2.4 - 4.1 (35-60)	1-1/2 in. NPT	517

* Based on maximum PSI.

Table 4

Operation

WARNING

To reduce the risk of fire:
- **DO NOT DRY articles containing foam rubber or similarly textured rubberlike materials.**
- **DO NOT DRY plastics, anything containing wax or chemicals such as mops and cleaning cloths, or anything dry-cleaned at home with a dry-cleaning solvent.**
- **DO NOT TUMBLE fiberglass curtains and draperies unless the label says it can be done. If they are dried, wipe out the cylinder with a damp cloth to remove particles of fiberglass.**

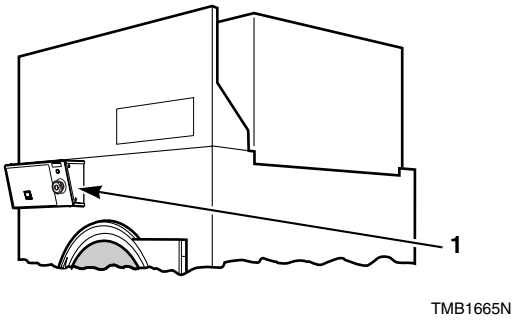
W076

To reduce the risk of serious injury, allow cylinder to stop before cleaning lint screen.

W412

Emergency Stop Button

All CE approved OPL tumblers are factory-equipped with an emergency stop button located on the front panel. Refer to *Figure 5*.



1 Emergency Stop Button

Figure 5

To operate emergency stop button:

a. Press red emergency stop button to stop all action.

b. To restart machine, pull red emergency stop button out and press START pad or button.

NOTE: Activation of the emergency stop button stops all machine control circuit functions, but DOES NOT remove all electrical power from machine.

Operating Instructions

Step 1: Clean Lint Screen/Compartment

Remove any accumulated lint from the lint screen and compartment. Close panel tightly against tumbler frame and lock panel securely, if applicable.

IMPORTANT: Clean lint screen and lint compartment daily. Failure to clean the lint screen daily will result in higher than normal temperatures that may damage laundry.

Step 2: Load Laundry

Open loading door and load cylinder with laundry. DO NOT OVERLOAD.

NOTE: Overloading causes slow drying and wrinkling.

Close loading door. Tumbler will not operate with the door open.

Step 3: Determine Control Type and Temperature Setting

Refer to the various controls in the ***Control Instructions Section***, pages 23 - 26, determine appropriate control and then follow the instructions.

The type of fabric being dried will determine the temperature setting. Consult the fabric care label or fabric manufacturer to determine proper temperature setting.

IMPORTANT: Always follow the fabric care instructions supplied by the garment manufacturer.

Step 4: Remove Laundry

When the cycle is complete, open door and remove the laundry.

Control Instructions

Manual Timer Control

RT Control Suffix

1. Set the HEAT/DRYING timer for the number of minutes (from 0-60) desired.

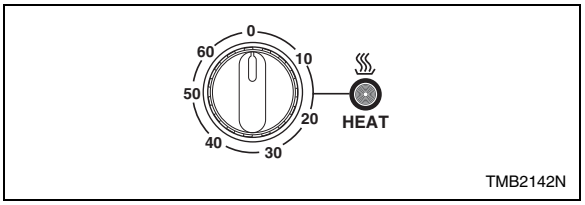


Figure 6

2. Set the COOL DOWN/COOLING timer for the number of minutes (from 0-15) desired.

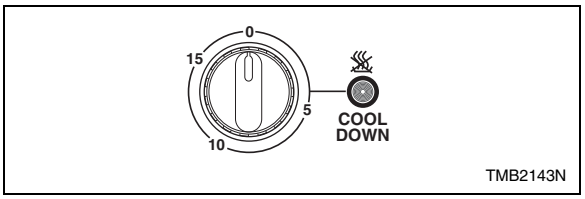


Figure 7

3. Set the TEMPERATURE selector at HIGH, LOW or anywhere between these settings.

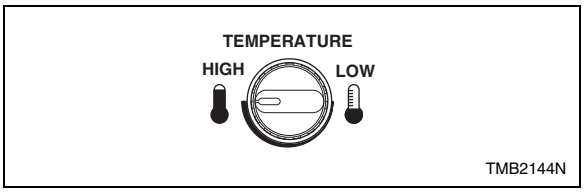


Figure 8

4. Press the PUSH TO START button in, and hold it in for approximately three seconds. This starts the tumbler cycle.

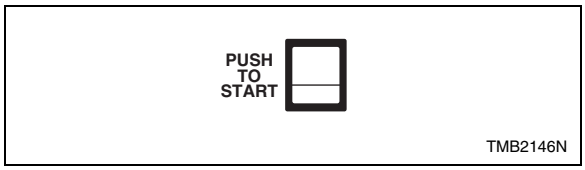


Figure 9

IMPORTANT: If the loading door or lint panel door is opened during the cycle, the heating system will shut off and the motor will stop. To restart the cycle, both doors must be closed and the PUSH TO START button must be pressed in.

5. When the cycle is complete, open door and remove the laundry.

Dual Digital Timer Control

RQ Control Suffix

1. Select HIGH, MED, LOW or NO HEAT by turning the temperature knob.

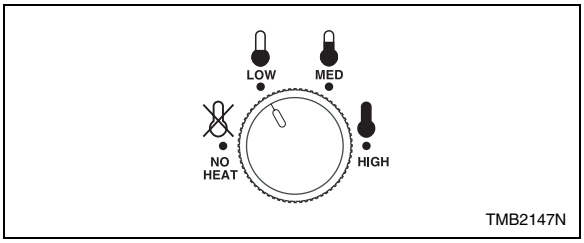


Figure 10

2. Set the HEAT TIME for the number of minutes (from 0-60) desired.

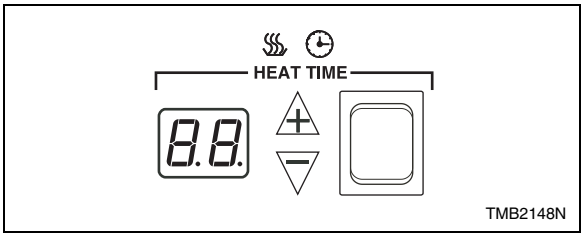


Figure 11

3. Set the COOL DOWN TIME for the number of minutes (from 0-15) desired.

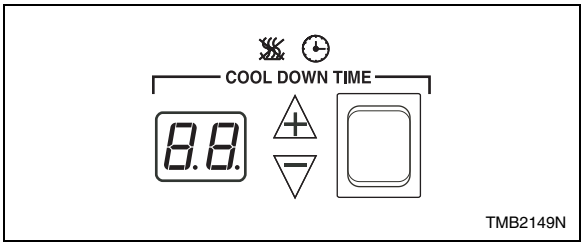


Figure 12

4. Select reversing or nonreversing cylinder rotation settings, if applicable.

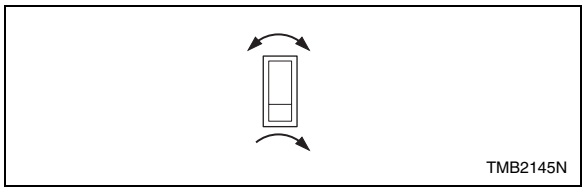


Figure 13

5. Press and release START button to start tumbler. Display will show minutes remaining before end of cycle.

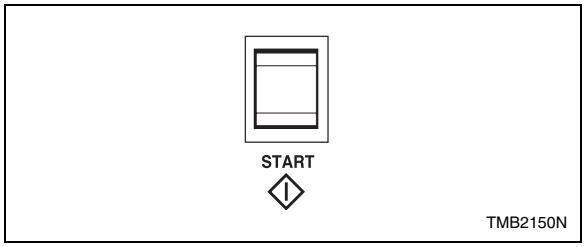


Figure 14

IMPORTANT: To stop the tumbler at any time during the cycle, OPEN DOOR. If the loading door or lint panel door is opened during the cycle, the heating system will shut off and the motor will stop. To restart the cycle, both doors must be closed and the START button must be pressed in.

6. When the cycle is complete, open door and remove the laundry.

Electronic OPL Control

H, L, P, S, U, X and Y Models with RM Control Suffix

1. To use an Automatic Cycle, press an ON/SELECT pad. Select HIGH, MEDIUM, MED LOW, LOW or NO HEAT for items that should not be dried with heat. A light to the left of the selected pad lights up.

   To use a Time Dry or Custom Cycle, refer to the ***Programming Manual***.

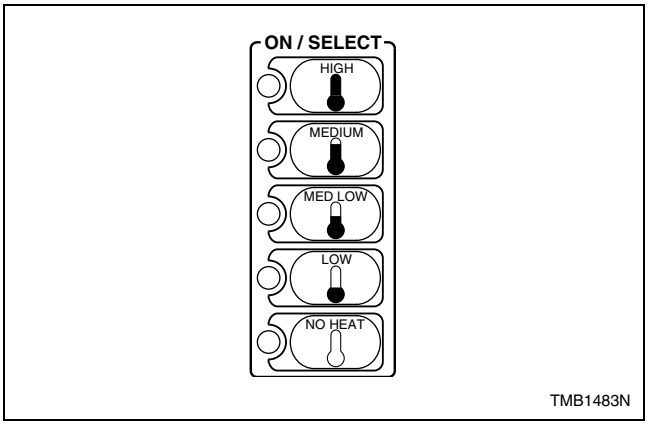


Figure 15

NOTE: Do not press directly on lights or the center of pad. For proper selection, press on pad slightly to the right of center. Refer to *Figure 16*.

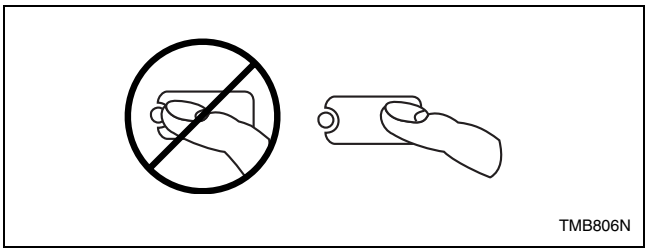


Figure 16

2. Select REVERSING or NON-REVERSING cylinder rotation setting.

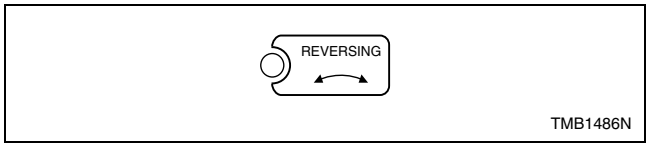


Figure 17

3. Press START pad to start tumbler.

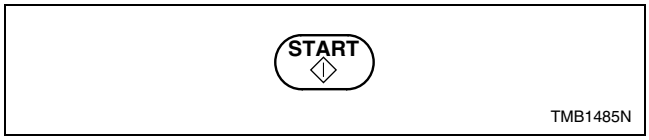


Figure 18

NOTE: All pads can be pressed in any sequence without damaging control or tumbler. To stop the tumbler at any time, open the door or press STOP/RESET.

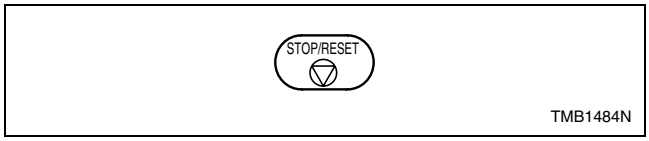


Figure 19

NOTE: The window display will flash. Press STOP/RESET twice (within three seconds) to end the cycle and reset the control to idle status. To restart the tumbler, CLOSE door and press START pad.

IMPORTANT: If the loading door or lint panel door is opened during the cycle, the heating system will shut off and the motor will stop. To restart the cycle, both doors must be closed and the START pad must be pressed.

4. When the cycle is complete, open door and remove the laundry.

G and K Models with RM Control Suffix

1. To use an Automatic Cycle, press a TEMPERATURE pad. Select HIGH, MED, LOW, DELICATE or NO HEAT for items that should not be dried with heat. A light to the left of the selected pad lights up.

   To use a Time Dry or Custom Cycle, refer to the ***Programming Manual.***

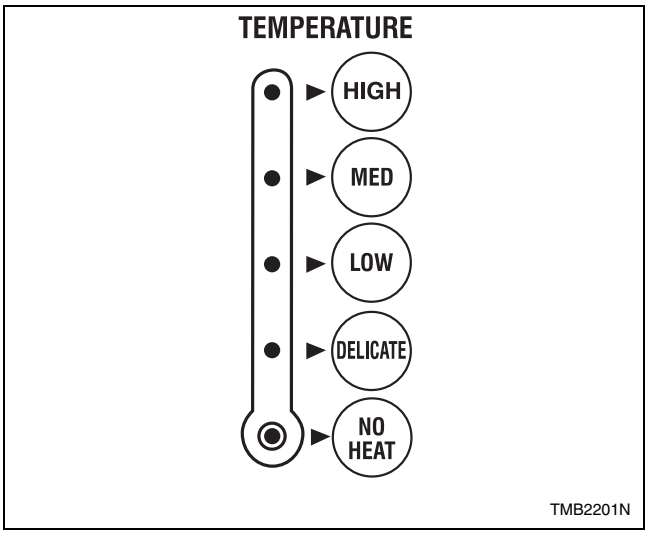


Figure 20

2. Select REVERSING or NONREVERSING cylinder rotation setting.

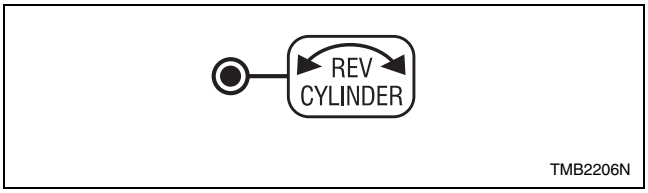


Figure 21

3. Press START pad to start tumbler.

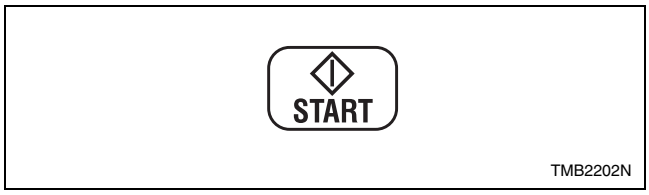


Figure 22

NOTE: All pads can be pressed in any sequence without damaging control or tumbler. To stop the tumbler at any time, open the door or press STOP.

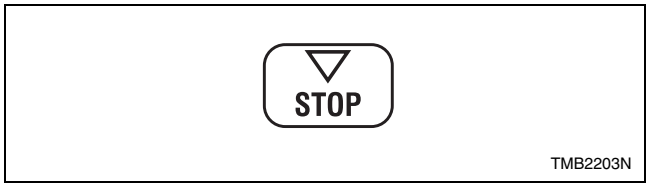


Figure 23

NOTE: The window display will flash. Press STOP twice (within 3 seconds) to end the cycle and reset the control to idle status. To restart the tumbler, CLOSE door and press START pad.

IMPORTANT: If the loading door or lint panel door is opened during the cycle, the heating system will shut off and the motor will stop. To restart the cycle, both doors must be closed and the PUSH TO START button must be pressed in.

4. When the cycle is complete, open door and remove the laundry.

Ignition Control Operation

Diagnostic LED (DGN LED) / Error Codes

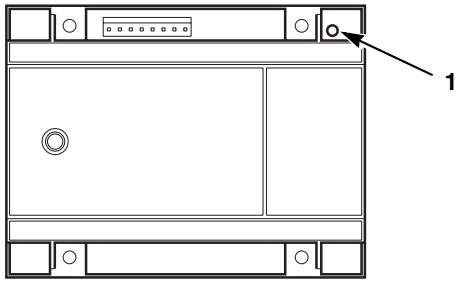
The Diagnostic LED or DGN LED is located by the power connector on the ignition control. Refer to *Figure 24*. The Diagnostic LED will indicate the status of the ignition control. Refer to *Table 5*.

LED Color	Description
Orange-Yellow	Initialization
Green	Standby / Normal Operation
Red	Fault Indication Code

Table 5

The Diagnostic LED will flash error codes one half second on and one half second off. Error codes are separated by a one second pause before the code is repeated.

Error Code	DGN LED status	Fault Type
1	Red	Ignition Control Internal Failure
2	2 Red Flashes	Gas Valve Not Connected
3	3 Red Flashes	Ignition/Flame Sense Failure
4	4 Red Flashes	Reset Switch is Shorted
5	Slow Red and Green Flashes	Low Voltage Detection
6	Fast Red and Orange Flashes	Ignition Control is in Reset Delay



1 Diagnostic (DGN) LED

Figure 24

Disposal of Unit

This appliance is marked according to the European directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).

This symbol on the product or on its packaging indicates that this product shall not be treated as household waste. Refer to *Figure 25*. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. Ensuring this product is disposed of correctly will help prevent potential negative consequences for the environment and human health which could otherwise be caused by inappropriate waste handling of this product. The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, please contact the local city office, household waste disposal service, or the source from which the product was purchased.

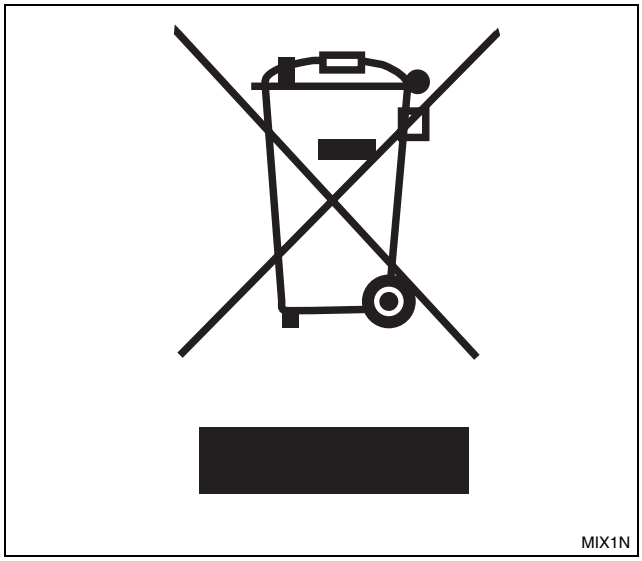


Figure 25