

AD-120i / M-120p

Installation/Operator Manual

WARNING:

FIRE OR EXPLOSION HAZARD

Failure to follow safety warnings exactly could result in serious injury, death or property damage.

- 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 appliances.
 - 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.

AVERTISSEMENT:

RISQUE D'INCENDIE OU D'EXPLOSION

Le non-respect des avertissements de sécurité pourrait entraîner des blessures graves, la mort ou des dommages matériels.

- N'entreposer pas et n'utilisez pas d'essence ni d'autres vapeurs ou liquides inflammables dans le voisinage de cet appareil ou de tout autre appareil.
- **QUE FAIRE SI VOUS SENTEZ UNE ODEUR DE GAZ**
 - Ne tentez pas d'allumer d'appareil.
 - Ne touchez à aucun interrupteur. Ne vous servez pas des téléphones se trouvant dans le bâtiment où vous vous trouvez.
 - Évacuez la pièce, le bâtiment ou la zone.
 - Appelez immédiatement votre fournisseur de gaz depuis un voisin. Suivez les instructions du fournisseur.
 - Si vous ne pouvez rejoindre le fournisseur de gaz, appelez le service des incendies.
- L'installation et l'entretien doivent être assurés par un installateur ou un service d'entretien qualifié ou par le fournisseur de gaz.



American Dryer Corporation

88 Currant Road, Fall River MA 02720-4781 USA
Telephone: +1 (269) 923-3000 / Fax: +1 (508) 678-9447
e-mail: mdl-service@whirlpool.com / www.adclaundry.com

Retain This Manual in a Safe Place for Future Reference

This product embodies advanced concepts in engineering, design, and safety. If this product is properly maintained, it will provide many years of safe, efficient, and trouble free operation.

Only qualified technicians should service this equipment.

OBSERVE ALL SAFETY PRECAUTIONS displayed on the equipment or specified in the installation manual included with the dryer.



This is the safety alert symbol.

This symbol alerts you to potential hazards that can kill or hurt you and others.

⚠ WARNING You can be killed or seriously injured if you don't follow instructions.

The following **"FOR YOUR SAFETY CAUTION"** must be posted near the dryer in a prominent location.

FOR YOUR SAFETY

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

POUR VOTRE SÉCURITÉ

Ne pas entreposer ni utiliser d'essence ni d'autres vapeurs ou liquides inflammables à proximité de cet appareil ou de tout autre appareil.

We have tried to make this manual as complete as possible and hope you will find it useful. The manufacturer reserves the right to make changes from time to time, without notice or obligation, in prices, specifications, colors, and material, and to change or discontinue models. The illustrations included in this manual may not depict your particular dryer exactly.

IMPORTANT

For your convenience, log the following information:

DATE OF PURCHASE _____ MODEL NO. _____

RESELLER'S NAME _____

SERIAL NUMBER(S) _____

Replacement parts can be obtained from your reseller or the ADC factory. When ordering replacement parts from the factory, you can FAX your order to ADC at +1 (508) 678-9447 or telephone your order directly to the ADC Parts Department at +1 (269) 923-3000. Please specify the dryer model number and serial number in addition to the description and part number, so that your order is processed accurately and promptly.

These instructions are only valid if the following country code is on the appliance... If this code is not present on the appliance, it is necessary to refer to the technical instructions which will provide the necessary information concerning the modification of the appliance to the condition of use for the country.

In accordance with EN ISO 3166-1, the names of countries shall be represented by the following codes:

GB United Kingdom

IE Ireland

"IMPORTANT NOTE TO PURCHASER"

Information must be obtained from your local gas supplier on the instructions to be followed if the user smells gas. These instructions must be posted in a prominent location near the dryer.

In the State of Massachusetts, the following installation instructions apply:

- Installations and repairs must be performed by a qualified or licensed contractor, plumber, or gas fitter qualified or licensed by the State of Massachusetts.
- Acceptable Shut-off Devices: Gas Cocks and Ball Valves installed for use shall be listed.
- A flexible gas connector, when used, must not exceed 4 feet (121.9 cm).

IMPORTANT

You must disconnect and lockout the electric supply and the gas supply or the steam supply before any covers or guards are removed from the machine to allow access for cleaning, adjusting, installation, or testing of any equipment per OSHA standards.

Please observe all safety precautions displayed on the equipment and/or specified in the installation manual included with the dryer.

Before installation, check that the local distribution conditions, nature of gas and pressure, and adjustment of the appliances are compatible.

CAUTION

Dryer(s) should never be left unattended while in operation.

When discarding or storing your old clothes dryer, remove the door.

Lorsque vous entreposez ou mettez votre sècheuse au rebut, enlevez-en la porte.

Caution: Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper operation.

Attention: Au moment de l'entretien des commandes, étiquetez tous les fils avant de les débrancher. Des erreurs de câblage peuvent entraîner un fonctionnement inadéquat.

FOR YOUR SAFETY

Do not dry mop heads in the dryer. Do not use dryer in the presence of dry cleaning fumes.

The dryers must not be installed or stored in an area where it will be exposed to water and/or weather.

The wiring diagram for the dryer is located behind the control panel.

WARNING

Children should not be allowed to play on or near the dryer(s). Children should be supervised if near dryer(s) in operation.

Under no circumstances should the dryer door switch(es), lint door/drawer switch(es), or heat safety circuit(s) ever be disabled.

DO NOT MODIFY THIS APPLIANCE.

The dryer must never be operated with any of the back guards, outer tops, or service panels removed. Personal injury or fire could result.

The dryer must never be operated without the lint filter/screen in place, even if an external lint collection system is used.

If the hi-limit switch trips, a service call is required to investigate the reason and resolve the issue.

Table of Contents

Safety Precautions	4
Specifications	6
Component Identification	8
Installation Procedures	8
Location Requirements	8
Unpacking / Setting Up	9
Dryer Enclosure Requirements	10
Fresh Air Supply Requirements	11
Exhaust Requirements	11
Electrical Information	16
Gas Information	20
Steam Information	24
Water Information	26
Preparation for Operation / Start-Up	26
Preoperational Test	27
Preoperational Instructions	28
Shutdown Instructions	28
Service / Parts Information	28
Warranty Information	28
Routine Maintenance	29
Procedure for Functional Check of Replacement Components	30
Rating Plate Information	31
Programming	32

List of Acronyms

DSI	Direct Spark Ignition
HVAC	Heating, Ventilating, and Air-Conditioning
in WC	Inches of Water Column
L.C.D.	Liquid Crystal Display
L.E.D.	Light Emitting Diode
OSHA	Occupational Safety and Health Administration
R.M.A.	Return Material Authorization
UL	Underwriters Laboratory

Safety Precautions

WARNING

For your safety, the information in this manual must be followed to minimize the risk of fire or explosion and to prevent property damage, personal injury, or loss of life.

The dryer must never be operated with any of the back guards, outer tops, or service panels removed. Personal injury or fire could result.

Failure to properly install, maintain, and/or operate dryer according to this manual and operator's manuals included with dryer may result in conditions which can cause serious injury, death and/or property damage.

WARNING – Risk of Fire

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

Do not spray aerosols in the vicinity of this appliance while it is in operation.

Purchaser and user should consult the local gas supplier for proper instructions to be followed in the event the user smells gas. The instructions should be posted in a prominent location.

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 gas supplier.

Dryers must be exhausted to the outdoors.

Although the manufacturer produces a very versatile dryer, there are some articles that, due to fabric composition or cleaning method, should not be dried in it.

WARNING

Dry only water washed fabrics. Do not dry articles spotted or washed in dry cleaning solvents, combustible detergents, industrial chemicals, or "all purpose" cleaner. Explosion could result.

Do not dry rags or articles coated or contaminated with gasoline, kerosene, oil, paint, or wax. Explosion could result.

Items that have been spotted or soaked with vegetable or cooking oil constitute a fire hazard and should not be placed in a tumble dryer.

Do not dry mop heads. Contamination by wax or flammable solvents will create a fire hazard.

Do not use heat for drying articles that contain plastic, foam, sponge rubber, or similarly textured rubber materials. Drying in a heated tumbler may damage plastics or rubber and also may be a fire hazard.

The possible presence of residual quantities of aggressive or decomposed chemicals in the load may produce damage to the machine and harmful fumes.

A program should be established for the inspection and cleaning of lint in the burner area, exhaust ductwork, and area around the back of the dryer. The frequency of inspection and cleaning can best be determined from experience at each location.

WARNING

The collection of lint in the burner area and exhaust ductwork can create a potential fire hazard.

For personal safety, the dryer must be electrically grounded in accordance with local codes and/or National Electric Code ANSI/NFPA 70, or in Canada, Canadian Electric Code CSA C22.1.

NOTE: Failure to electrically ground the dryer properly will void the warranty.

WARNING

Personal injury or fire could result should the dryer door switch, lint door/drawer, or heat safety circuit ever be disabled.

Remove articles from the dryer as soon as the drying cycle has been completed.

WARNING

Articles left in the dryer after the drying and cooling cycles have been completed can create a fire hazard.

For safety, proper operation, and optimum performance, the dryer must not be operated with a load less than 66% of its rated capacity.

WARNING

You must disconnect and lockout the electric supply and the gas supply or the steam supply before any covers or guards are removed from the machine to allow access for cleaning, adjusting, installation, or testing of any equipment per OSHA standards.

IMPORTANT: The dryer must be installed in a location/ environment, which the ambient temperature remains between 40° F (4.44° C) and 130° F (54.44° C).

The operation of this appliance may affect the operation of other types of gas appliances, which take their air for safe combustion from the same room. If in doubt, consult the appliance manufacturer(s).

Use this dryer only for its intended purpose, drying fabrics.

The "cool down" cycle of tumble dryers should be used to reduce the temperature of the items. They should not be removed from the tumble dryer or piled or stacked while hot.

NOTES _____

To reduce the risk of personal injury, install lockable doors to prevent public access to the rear of the dryers.

[illegible]

An external means of power removal (disconnect device) must be provided by the installer.

IMPORTANT: This appliance must only be installed and operated in the country of destination indicated on the dryer's rating plate. If the appliance is to be installed and operated in a country other than the one indicated on the rating plate, a new rating plate must be obtained from American Dryer Corporation.

IEC335 applies.

This appliance must only operate with the gas type indicated on the dryer's rating plate. If the appliance is converted (gas type is changed), a new rating plate must be obtained from American Dryer Corporation.

Disconnect power before attempting to reset any manual hi-limit!

This dryer is equipped with two manual reset hi-limit thermostats. The burner hi-limit is located in the top center of the dryer behind the control door. The exhaust hi-limit is located in the duct above the lint trap. The exhaust thermostat must be removed to be reset.

Specifications

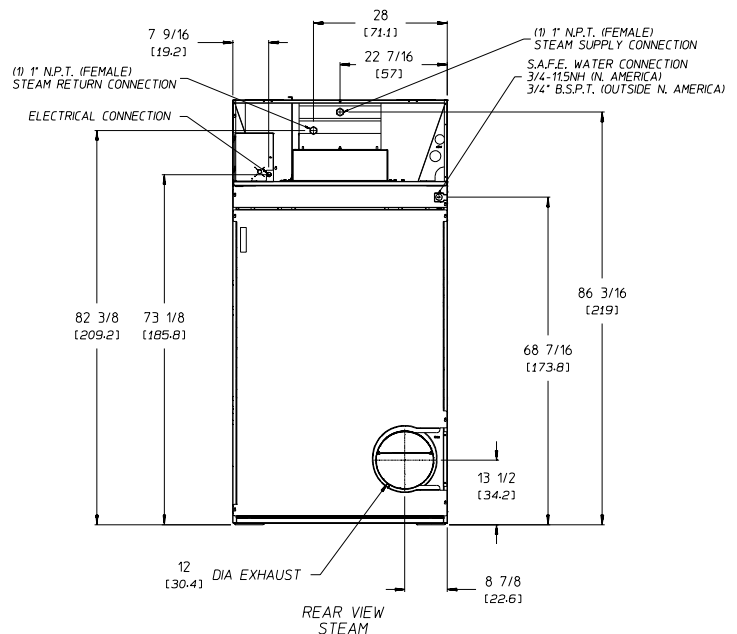
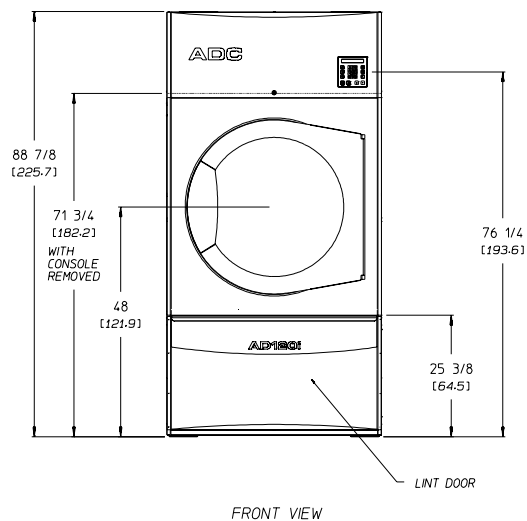
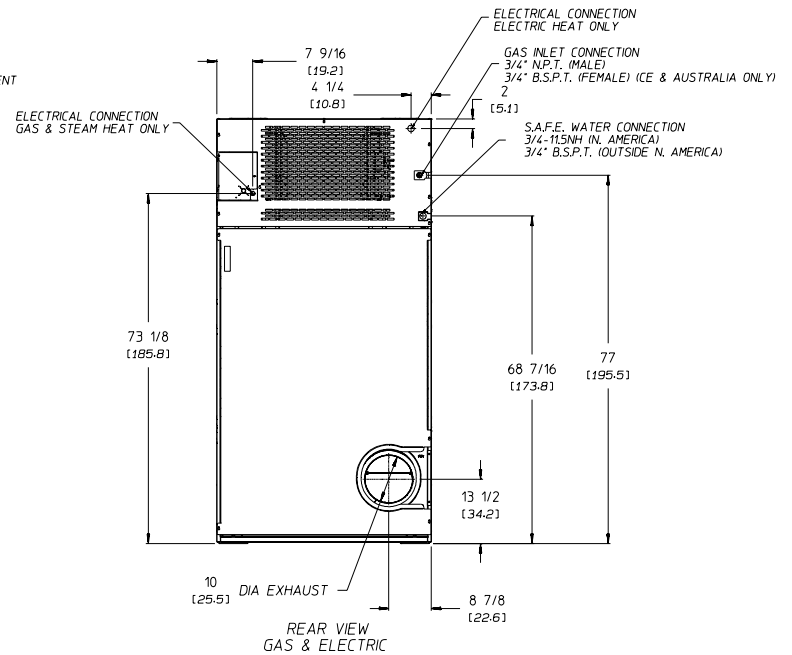
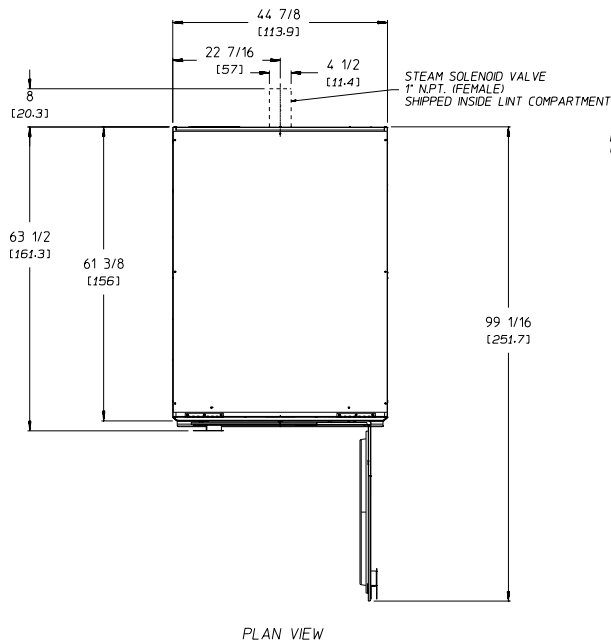
MAXIMUM CAPACITY (DRY WEIGHT)				120 lb	54.43 kg
TUMBLER DIAMETER				42"	106.68 cm
TUMBLER DEPTH				44-1/4"	112.39 cm
TUMBLER VOLUME				35.5 cu ft	1005.25 L
TUMBLER / DRIVE MOTOR				2 hp	1.49 kW
BLOWER / FAN MOTOR GAS / STEAM				1 hp / 3 hp	0.75 kW / 2.24 kW
CABINET WIDTH				44-7/8"	113.98 cm
CABINET DEPTH				61-3/8"	155.89 cm
CABINET HEIGHT				88-7/8"	225.74 cm
DOOR OPENING (DIAMETER)				31-3/8"	79.69 cm
DOOR SILL HEIGHT				32-1/4"	81.91 cm
WATER CONNECTION				3/4"-11.5 NH (North America)	
				3/4" B.S.P.T. (Outside North America)	
DRYERS PER 20' / 40' CONTAINER				4 / 9	
DRYERS PER 48' / 53' TRUCK				10 / 12	
AIRBORNE SOUND LEVEL				69 dB(A)	
GAS	VOLTAGE AVAILABLE			120-480V 1,3ø 2,3,4w 50/60 Hz	
	APPROXIMATE NET WEIGHT			1,440 lb	653.17 kg
	APPROXIMATE SHIPPING WEIGHT			1,500 lb	680.39 kg
	AIRFLOW				

Shaded areas are stated in metric equivalents

3/3/16

NOTE: The manufacturer reserves the right to make changes in specifications at any time without notice or obligation.

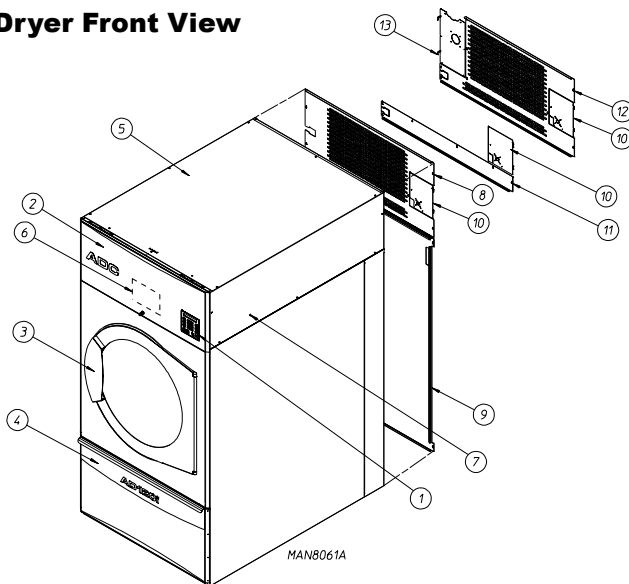
Specifications



NOTE: The manufacturer reserves the right to make changes in specifications at any time without notice or obligation.

Component Identification

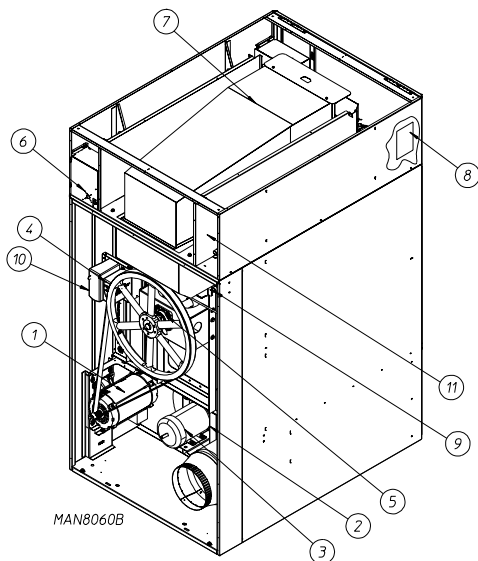
Dryer Front View



Illus. No.	Description
------------	-------------

- | | |
|----|---|
| 1 | Microprocessor Control/Keypad Panel Assembly (controls) |
| 2 | Control (top access) Door Assembly |
| 3 | Main Door Assembly |
| 4 | Lint Door Assembly |
| 5 | Outer Top (gas and electric only) |
| 6 | Wire Diagram (located behind control door) |
| 7 | Top Console (module) Assembly |
| 8 | Upper Back Guard – Gas Heat |
| 9 | Lower Back Guard |
| 10 | Rear Electrical Box Cover – Gas, Steam and Electric |
| 11 | Upper Back Guard – Steam Heat |
| 12 | Upper Back Guard – Electric Heat |
| 13 | Junction Box Cover – Electric Heat |

Dryer Rear View



Illus. No.	Description
------------	-------------

- | | |
|----|---|
| 1 | Tumbler Drive Motor Assembly |
| 2 | Blower Motor Mount Assembly |
| 3 | Blower Motor (impellor/fan) Assembly |
| 4 | VFD – Blower Motor (optional) |
| 5 | Tumbler Bearing Mount Assembly |
| 6* | Relay Box/Electric Service Box Gas and Steam |
| 7 | Heating Unit (Gas Shown – Steam and Electric Similarly Located) |
| 8 | Rating Plate |
| 9 | Water Connection – S.A.F.E. System (optional) |
| 10 | VFD - Tumbler Drive Motor |
| 11 | Electric Service Box – Electric Heat Only |

* Electric service connections are made in this box.

Installation Procedures

Installation should be performed by competent professional in accordance with local, state, and country codes. In the absence of these codes, the installation must conform to applicable American National Standards: National Fuel Gas Code ANSI Z223.1/NFPA 54 and National Electric Code ANSI/NFPA 70, or in Canada, the installation must conform to applicable Canadian Standards: Natural Gas and Propane Installation Code CSA B149.1 and Canadian Electric Code CSA C22.1.

Location Requirements

Before installing the dryer, ensure the location conforms to local codes and ordinances. In the absence of such codes or ordinances the location must conform with National Fuel Gas Code ANSI Z223.1/NFPA 54, or in Canada, the installation must conform to applicable Canadian Standards: Natural Gas and Propane Installation Code CSA B149.1.

The dryer must be installed on a sound level floor capable of supporting its weight. Carpeting must be removed from the floor area that the dryer is to rest on.

The dryer must not be installed or stored in an area where it will be exposed to water and/or weather.

Provisions for adequate air supply must be provided as noted in this manual (refer to Fresh Air Supply Requirements section).

Clearance provisions must be made from combustible construction as noted in this manual (refer to Dryer Enclosure Requirements section).

Provisions must be made for adequate clearances for servicing and for operation as noted in this manual (refer to Dryer Enclosure Requirements section).

The dryer must be installed with a proper exhaust duct connection to the outside as noted in this manual (refer to Exhaust Requirements section).

The dryer must be located in an area where correct exhaust venting can be achieved as noted in this manual (refer to Exhaust Requirements section).

IMPORTANT: The dryer should be located where a minimum amount of exhaust ducting will be necessary.

The dryer must be installed with adequate clearance for air openings into the combustion chamber.

CAUTION: This dryer produces combustible lint and must be exhausted to the outdoors. Every 6 months, inspect the exhaust ducting and remove any lint buildup.

IMPORTANT: The dryer must be installed in a location/ environment, which the ambient temperature remains between 40° F (4.44° C) and 130° F (54.44° C).

Unpacking / Setting Up

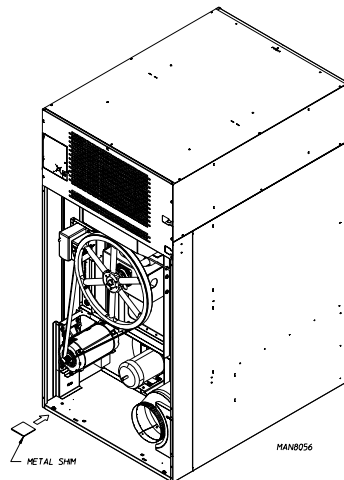
Remove protective shipping material (i.e., plastic wrap and optional shipping box) from the dryer.

IMPORTANT: *Dryer must be transported and handled in an upright position at all times.*

The dryer can be moved to its final location while still attached to the skid or with the skid removed. To remove the skid from the dryer, locate and remove the four lag bolts securing the base of the dryer to the wooden skid. Two are located at the rear corners (accessed by removing the lower back guard), and the others at the front corners and are accessed by opening the lint door.

Leveling Dryer

To level dryer, place 4-inch (10.2 cm) square metal shims (refer to the illustration below) or other suitable material under the base pads. For optimal performance the dryer should be level front to back and side to side.



To Remove Top Console (Module)

NOTE: Figures 1, 2, and 3 show gas heat. Process is similar for steam and electric heat.

1. Remove the outer top, top back guard, bottom back guard and rear electrical box cover (refer to the Component Identification drawing).
2. Remove (8) bolts, washers and lock washers -L- (figure 1) that secure the top console (module) to the dryer base.
3. Disconnect (2) plugs -B- and -C- (figure 2) in rear electrical box.
4. Disconnect the sail switch wires -J- (figure 2) and pass them up through hole -H- (figures 1 and 2). (Not require with steam heat).
5. Disconnect the ten pin connector -G- (figure 1 and 2). Pass it and the 10 wires leading from it down through hole -H- (figures 1 and 2).
6. If dryer is equipped with S.A.F.E. system, disconnect the S.A.F.E. system probe and ground wires -D- (figure 2) and four S.A.F.E. system valve wires -K- (figure 2) and pass them up through hole -F- (figures 1 and 2).
7. On dryers with left side door hinges, disconnect door switch door switch plug -A- (figure 3).
8. Lift the top console (module) off the dryer base. Use (4) lifting holes -E- (figure 2) as necessary.

To Install Top Console (Module)

Reverse steps 1 through 8 to install top console (module). Flush sides of console with sides of dryer base (figure 3) prior to tightening bolts in step 2.

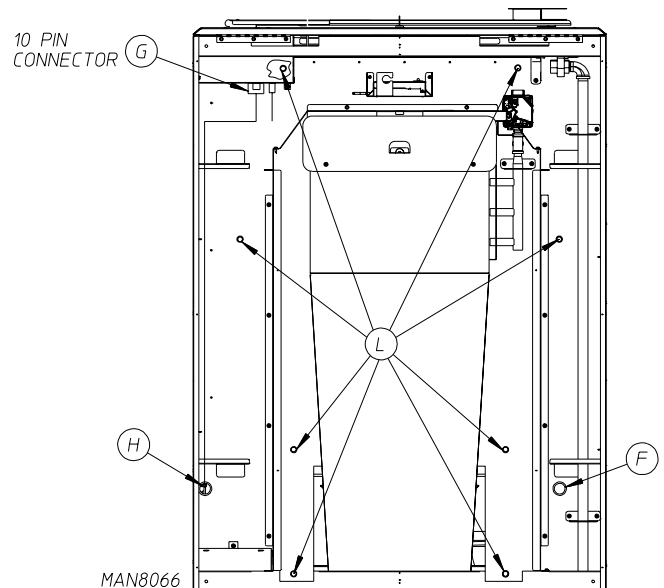


FIGURE 1

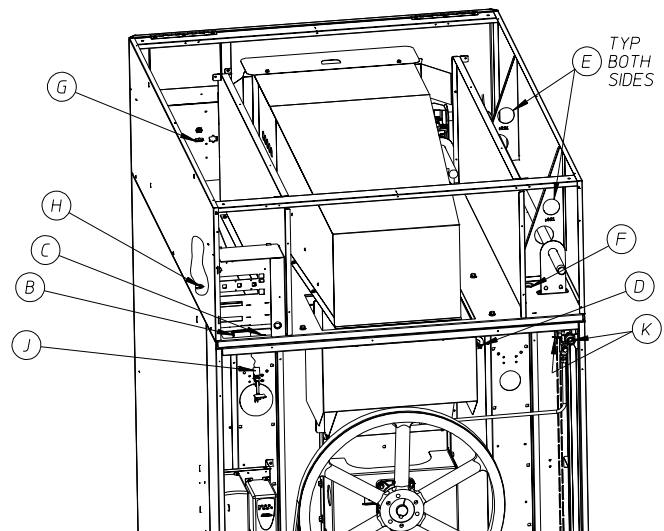


FIGURE 2

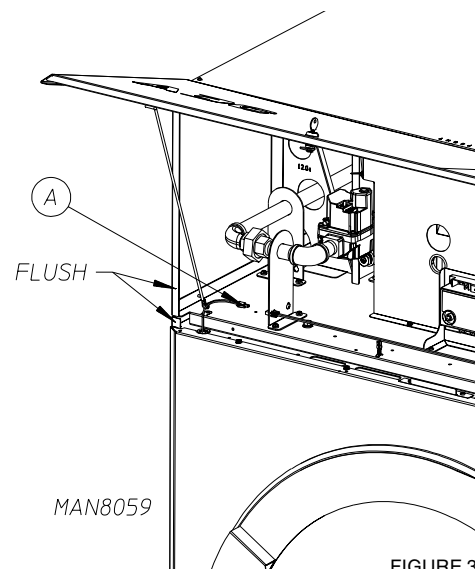


FIGURE 3

Reversing the Main Loading Door Hinge Side

The dryer is shipped with the main door hinge on the RH side as standard. The swing of the door is field reversible. If required, the front panel can be reversed so that the door hinges on the LH side.

Procedure for reversing the Front Panel:

1. Disconnect the power to the dryer.
2. Remove the main loading door from the front panel by removing the top hinge block. A 3/16" Allen wrench is required. Support the door while removing the top hinge block so that it does not fall. Now lift the door off the bottom hinge.
3. Remove the bottom hinge block. Remove the plastic washer from the bottom hinge block and place it in the same location on the top hinge block.
4. There is a black trim piece at the bottom of the front panel cover by the lint door. Open the lint door and remove the two black and four silver screws retaining the front panel trim piece. Swing the bottom of the front panel away from the dryer about three inches. Reach behind the front panel and disconnect the door switch plug located in the lower right corner.
5. Open the top control door and remove the four screws retaining the front panel at the top. Be careful that the front panel does not fall when the last screw is removed.
6. Remove the front panel from the machine and place it face up on a flat surface.
7. Remove the four screws holding the trim piece to the front panel. Reposition the trim piece on the top of the panel and reinstall the retaining screws.
8. On the dryer, there is a second plug for the door switch, located just behind the upper control door and to the left. This plug is similar to the one in the lower right disconnected earlier, except there is a jumper on this plug. Remove the jumper and install it on the plug in the lower right. Refer to figure 3.
9. Reinstall the front panel on the dryer with the trim piece at the bottom. Check that the mounts for the door hinges are on the LH side. Be sure to reconnect the door switch while installing the front panel. Pass the door switch connector "A" up through the black plastic bushing shown in figure 3, then connect it to its mating plug.
10. Reinstall all retaining screws, 10 total, top and bottom.
11. Reinstall the bottom hinge block. This was the top hinge block and now has the plastic washer on it.
12. Reinstall the main loading door, and the top hinge block with no plastic washer. The top hinge block was the bottom hinge block.
13. Check that the door swings properly.
14. Close all doors and panels. Then reconnect the power to the dryer.
15. Check that the dryer starts with no errors.
16. Check that the dryer stops when the door is opened.

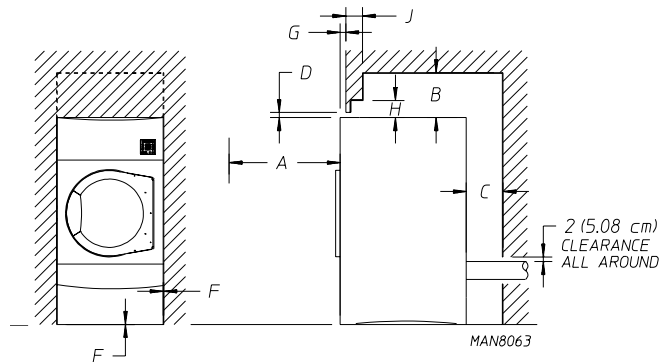
NOTE: Some doors have a custom logo bar inside. While the door is off the dryer, the door pan can be removed (6) 1/4 nuts, to access the logo bar. The bar can then be removed and flipped. Reinstall the door pan.

Dryer Enclosure Requirements

Commercial Type II

Bulkheads and partitions should be made of noncombustible material.

NOTE: Allowances must be made for opening the control door.



- A The requirement to allow the load door to open completely is 38-inches (96.5 cm).
- B A minimum overhead clearance of 12-inches (30.48 cm) is required. 18-inches (45.72 cm) is recommended.
- C Dryer should be positioned a minimum of 12-inches (30.48 cm) away from the nearest obstruction. 24-inches (60.96 cm) is recommended for ease of installation, maintenance, and service.
- D 2-inches (5.08 cm) minimum is required.
- E Flooring in front of the dryer must be lower than the dryer cabinet to allow the lint door to open.
- F Dryers may be positioned sidewall to sidewall, however a 1/16" (1.5875 mm) minimum allowance must be made for the opening and closing of the lint door, along with the removal of panels during maintenance.
- G Dryer must protrude 1-inch (2.54 cm) from the surface of any bulkhead or partition around the dryer to allow the control door to open.
- H The minimum clearance from the top of the dryer to the header of any bulkhead or partition located directly above the dryer is 4-inches (10.16 cm).
- J The maximum thickness of any bulkhead or partition above the header is 4-inches (10.16 cm).

Fresh Air Supply Requirements

This appliance may only be installed in a room that meets the appropriate ventilation requirements specified in the national installation regulations.

When the dryer is operating, it draws in room air, heats it, passes this air through the tumbler, and exhausts it out of the building. Therefore, the room air must be continually replenished from the outdoors. If the make-up air is inadequate, drying time and drying efficiency will be adversely affected. Ignition problems and sail switch “fluttering” problems may result, as well as premature motor failure from overheating. The dryer must be installed with provisions for adequate combustion and make-up air supply.

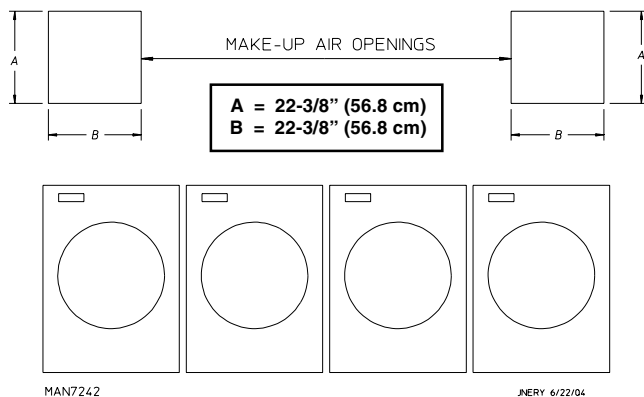
Air supply (make-up air) must be given careful consideration to ensure proper performance of each dryer. As a general rule, an unrestricted air entrance from the outdoors of 250 inch² (1,612.9 cm²) is required.

It is not necessary to have a separate make-up air opening for each dryer. Common make-up air openings are acceptable. However, they must be set up in such a manner that the make-up air is distributed equally to all the dryers.

To compensate for the use of registers or louvers used over the openings, this area must be increased by approximately 33%. Make-up air openings should not be located in an area directly near where exhaust vents exit the building.

Allowances must be made for remote or constricting passageways or where dryers are located at high altitudes or predominantly low pressure areas.

NOTE: Component failure due to dry cleaning solvent fumes will void the warranty.



EXAMPLE: For a bank of four dryers, two unrestricted openings measuring 22-3/8" by 22-3/8" (56.8 cm by 56.8 cm) are acceptable. With louvers, two openings measuring 25.8" x 25.8" (65.5 cm x 65.5 cm) are acceptable.

IMPORTANT: Make-up air must be free of dry cleaning solvent fumes. Make-up air that is contaminated by dry cleaning solvent fumes will result in irreparable damage to the motors and other dryer components.

Exhaust Requirements

Exhaust ductwork should be designed and installed by a qualified professional. Improperly sized ductwork will create excessive back pressure, which results in slow drying, increased use of energy, and shutdown of the burner by the airflow (sail) switch, burner hi-limits, or lint chamber hi-limit protector thermostat. The dryer must be installed with a proper exhaust duct connection to the outside.

The dryer shall not be exhausted into any gas vent, chimney, wall, ceiling or concealed space of a building.

The design of the flue system shall be such that any condensate formed when operating the appliance from cold shall either be retained and subsequently re-evaporated or discharged.

CAUTION: This dryer produces combustible lint and must be exhausted to the outdoors.

Improperly sized or installed exhaust ductwork can create a potential fire hazard.

The ductwork should be laid out in such a way that the ductwork travels as directly as possible to the outdoors with as few turns as possible. There should be a minimum 6-inch (15.24 cm) clearance between the back guard and the first bend in the ductwork for ease of servicing. Single or independent dryer venting is recommended. It is suggested that the use of 90° turns be minimized; use 30° and/or 45° bends instead. The radius of the elbows should preferably be 1-1/2 times the diameter of the duct. All ductwork should be smooth inside with no projections from sheet metal screws or other obstructions, which will collect lint. When adding ducts, overlap the duct being connected. All ductwork joints must be taped to prevent moisture and lint from escaping into the building. Back draft dampers must be installed in all commonly ducted systems. (This dryer comes equipped with a back draft damper installed.) Inspection doors should be installed at strategic points in the exhaust ductwork for periodic inspection and cleaning of lint from the ductwork.

IMPORTANT: Exhaust back pressure measured by a manometer/magnehelic in the exhaust duct must be no less than 0 and must not exceed 0.7 in WC (1.7 mb).

NOTE: It is recommended that exhaust or booster fans not be used in the exhaust ductwork system except where necessary to maintain exhaust back pressure (in the exhaust duct) between zero and 0.7 in WC. Where employed, booster fans must not activate the dryer airflow proving switch (sail switch) when the dryer is not in operation.

NOTE: When the exhaust ductwork passes through a wall, ceiling, or roof made of combustible materials, the opening must be 2-inches (5.08 cm) larger than the duct (all the way around). The duct must be centered within this opening.

As per the National Fuel Gas Code, "Exhaust ducts for type 2 clothes dryers shall be constructed of sheet metal or other noncombustible material. Such ducts shall be equivalent in strength and corrosion resistance to ducts made of galvanized sheet steel not less than 26 gauge (0.0195-inches [0.50 mm]) thick."

The ductwork for this appliance must be suitable for the appliance category in accordance with national installation regulations of the country of destination.

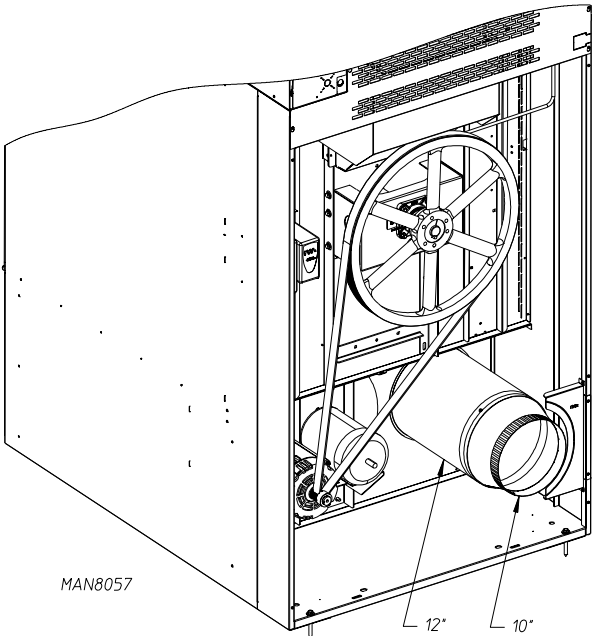
Outside Ductwork Protection

To protect the outside end of the horizontal ductwork from the weather, a 90° elbow bent downward should be installed where the exhaust exits the building. If the ductwork travels vertically up through the roof, it should be protected from the weather by using a 180° turn to point the opening downward. In either case, allow at least twice the diameter of the duct between the duct opening and the nearest obstruction (refer to the diagram).

IMPORTANT: The **MINIMUM** duct size for a unit with gas or electric heat is 10-inches (25.4 cm) for a round duct and 9-inches x 9-inches (22.86 cm x 22.86 cm) for a square duct. For a unit with steam heat the minimum recommended duct size is 12-inches (30.48 cm) for a round duct and 10.6-inches x 10.6-inches (26.92 cm x 26.92 cm) for a square duct. The duct size must not be reduced anywhere downstream of the dryer.

Exhaust Transition Piece (Gas and Electric)

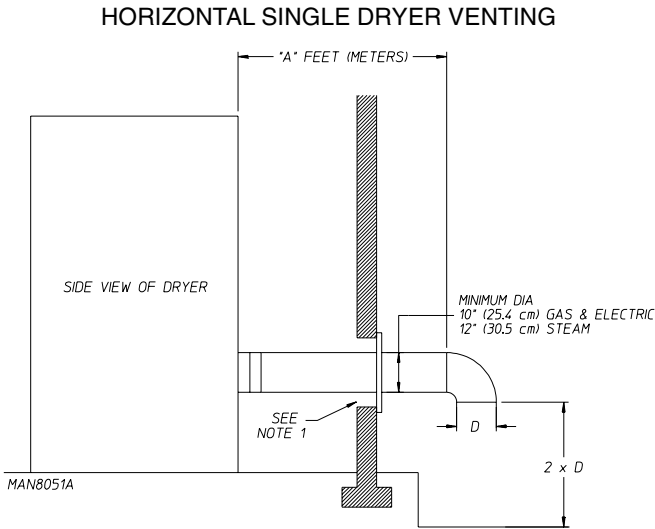
Dryers with gas and electric heat are equipped with a 12-inch to 10-inch exhaust transition piece installed, for use with 10-inch ducting. If the exhaust duct size needs to be increased to 12-inch dia (or greater) this 12-10 transition should be removed.



IMPORTANT: Do not use screens, louvers, or caps on the outside opening of the exhaust ductwork.

Horizontal Single Dryer Venting

For a horizontal run the total length of ductwork from the dryer outlet must not exceed dimension "A" in the following illustration.



NOTE 1: When passing through combustible material the opening must be 2-inches (5.08 cm) larger than the duct (all the way around). The duct must be centered within this opening.

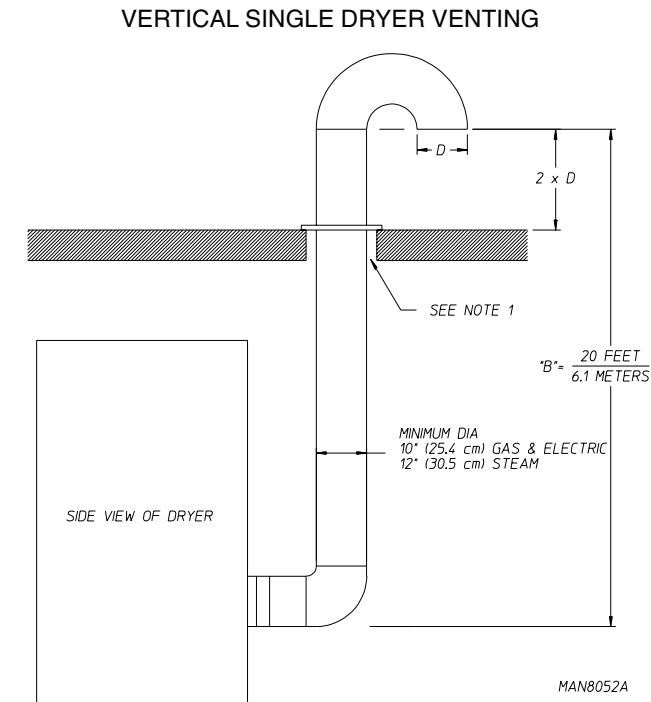
No. of 90° Elbows	"A" Feet (Meters)
1	40 (12.2)
2	30 (9.1)
3	20 (6.1)

If the length of the duct run or quantity of elbows used exceeds the above noted specifications, the cross-sectional area of the ductwork may need to be increased.

IMPORTANT: For extended ductwork runs, the cross section area of the ductwork can only be increased to an extent. When the ductwork approaches the maximum limits noted in this manual, a professional HVAC firm should be consulted for proper venting information.

Vertical Single Dryer Venting

For a vertical run with three 90° elbows, the ductwork from the dryer to the outside outlet cannot exceed dimension "B" in the following illustration.



NOTE 1: When passing through combustibile material the opening must be 2-inches (5.08 cm) larger than the duct (all the way around). The duct must be centered within this opening.

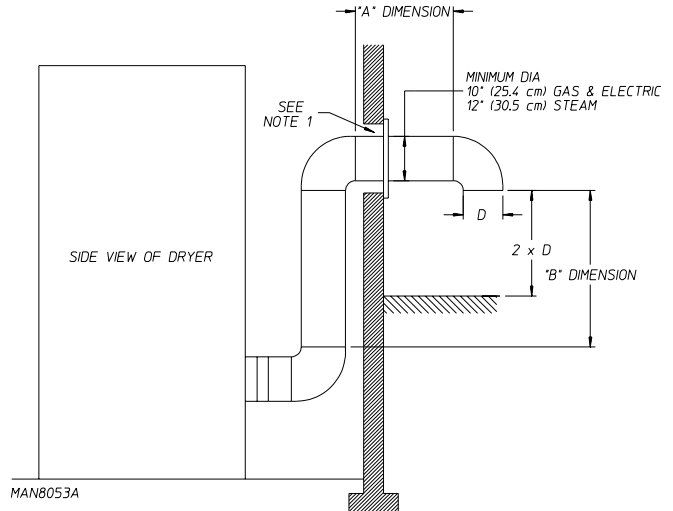
If the length of the duct run or quantity of elbows used exceeds the above noted specifications, the cross-sectional area of the ductwork may need to be increased.

IMPORTANT: For extended ductwork runs, the cross section area of the ductwork can only be increased to an extent. When the ductwork approaches the maximum limits noted in this manual, a professional HVAC firm should be consulted for proper venting information.

Combined Vertical and Horizontal Single Dryer Venting

For a combined vertical and horizontal run, the dryer to the outside outlet cannot exceed the sum of dimensions "A" and "B" in the following illustration.

This calculation of "A" and "B" allows for the use of a maximum of 3 elbows including one elbow which is the outside outlet protection. Refer to the illustration below.



NOTE 1: When passing through combustibile material the opening must be 2-inches (5.08 cm) larger than the duct (all the way around). The duct must be centered within this opening.

NOTE 2: "A" dimension + "B" dimension should not exceed 20 feet (6.1 meters).

If the length of the duct run or quantity of elbows used exceeds the above noted specifications, the cross-sectional area of the ductwork may need to be increased.

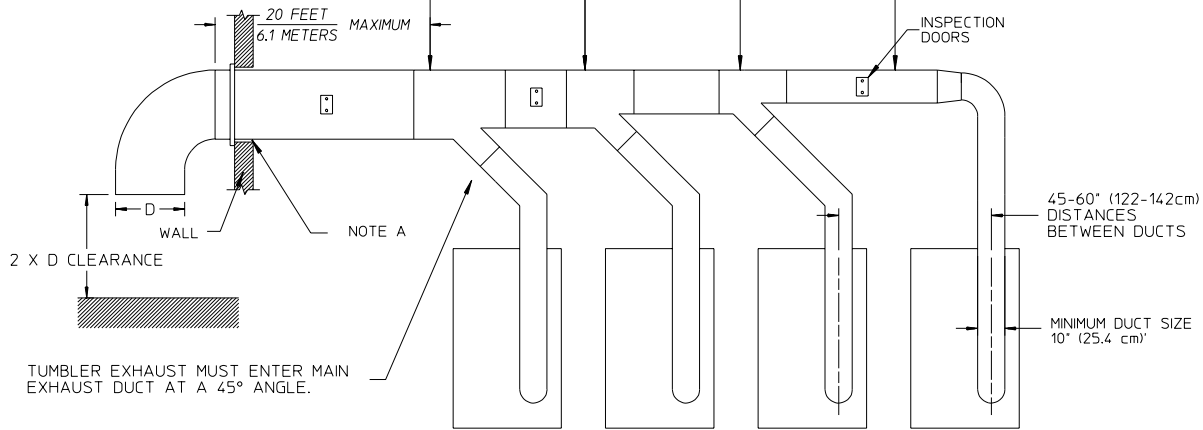
IMPORTANT: For extended ductwork runs, the cross section area of the ductwork can only be increased to an extent. When the ductwork approaches the maximum limits noted in this manual, a professional HVAC firm should be consulted for proper venting information.

Multiple Dryer (Common) Venting

If it is not feasible to provide separate exhaust ducts for each dryer, ducts from individual dryers may be channeled into a "common main duct." The individual ducts should enter the bottom or side of the main duct at an angle not more than 45° in the direction of airflow. The diameter of the common main duct should increase before each individual duct is added (refer to figures on [page 14](#) and [page 15](#)).

MULTIPLE DRYER VENTING (HORIZONTAL) AT COMMON DUCT – GAS OR ELECTRIC HEAT

NO. OF DRYERS	4	3	2	1
MINIMUM CROSS (SQ.IN.) SECTION AREA (SQ.CM.)	380 2451	290 1870	200 1219	110 710
MINIMUM ROUND (IN.) DUCT DIAMETER (CM.)	22 55.88	20 50.8	16 40.64	12 30.48



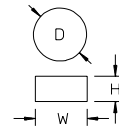
IMPORTANT: NO MORE THAN 4 DRYERS CAN
BE CONNECTED TO ONE COMMON DUCT (VENT).

MAN8068

FORMULAS TO CALCULATE DUCTING CROSS SECTIONAL AREA

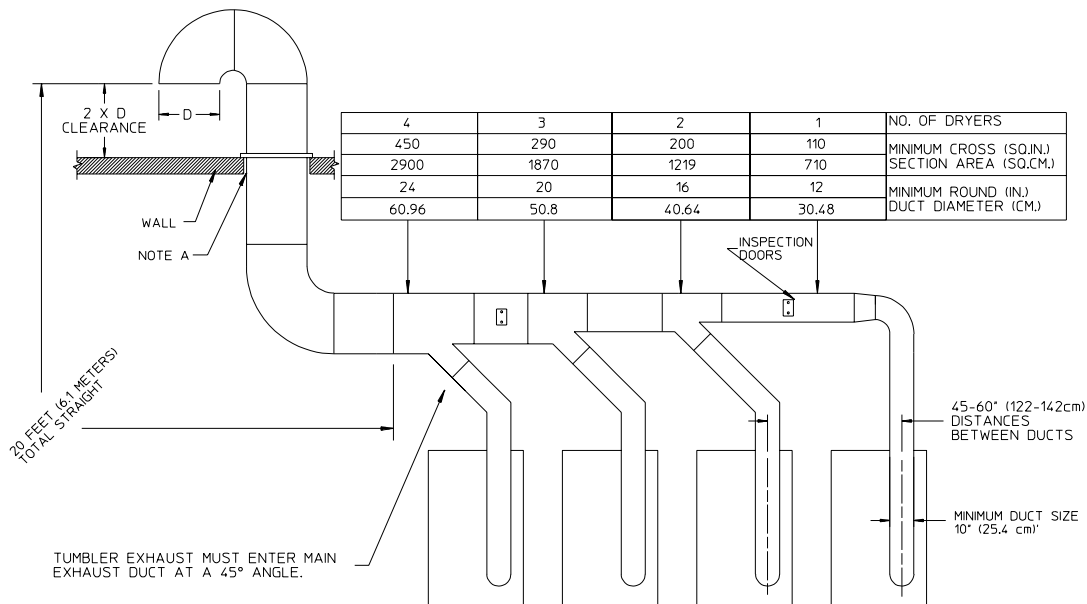
CROSS SECTIONAL AREA OF A ROUND DUCT = $.785 \times D^2$ WHERE D = DIAMETER OF THE DUCT.

CROSS SECTIONAL AREA OF A RECTANGULAR DUCT = W X H WHERE W = WIDTH AND H = HEIGHT.



NOTE A: WHEN PASSING THROUGH COMBUSTIBLE MATERIAL THE OPENING
MUST BE 2-INCHES (5.08 cm) LARGER THAN THE DUCT (ALL THE WAY AROUND).
THE DUCT MUST BE CENTERED WITHIN THIS OPENING.

MULTIPLE DRYER VENTING (VERTICAL) AT COMMON DUCT – GAS OR ELECTRIC HEAT



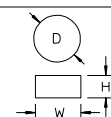
IMPORTANT: NO MORE THAN 4 DRYERS CAN
BE CONNECTED TO ONE COMMON DUCT (VENT).

MAN8067

FORMULAS TO CALCULATE DUCTING CROSS SECTIONAL AREA

CROSS SECTIONAL AREA OF A ROUND DUCT = $.785 \times D^2$ WHERE D = DIAMETER OF THE DUCT.

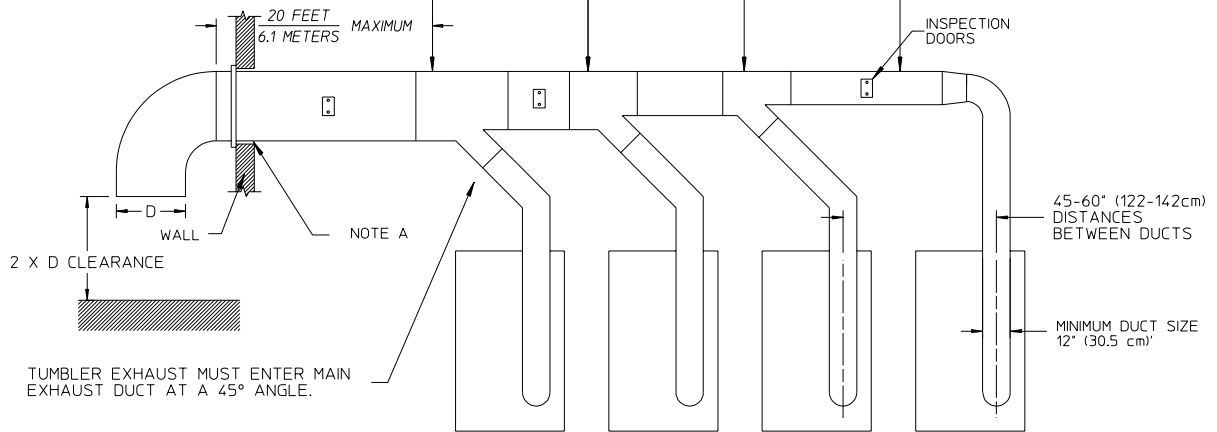
CROSS SECTIONAL AREA OF A RECTANGULAR DUCT = W X H WHERE W = WIDTH AND H = HEIGHT.



NOTE A: WHEN PASSING THROUGH COMBUSTIBLE MATERIAL THE OPENING
MUST BE 2-INCHES (5.08 cm) LARGER THAN THE DUCT (ALL THE WAY AROUND).
THE DUCT MUST BE CENTERED WITHIN THIS OPENING.

MULTIPLE DRYER VENTING (HORIZONTAL) AT COMMON DUCT – STEAM HEAT

NO. OF DRYERS	4	3	2	1
MINIMUM CROSS (SQ.IN.)	452	339	226	153
SECTION AREA (SQ.CM.)	2916	2187	1458	994
MINIMUM ROUND (IN.)	24	22	18	14
DUCT DIAMETER (CM.)	60.9	52.8	43.1	35.6



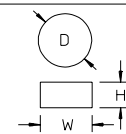
IMPORTANT: NO MORE THAN 4 DRYERS CAN BE CONNECTED TO ONE COMMON DUCT (VENT).

MAN8208

FORMULAS TO CALCULATE DUCTING CROSS SECTIONAL AREA

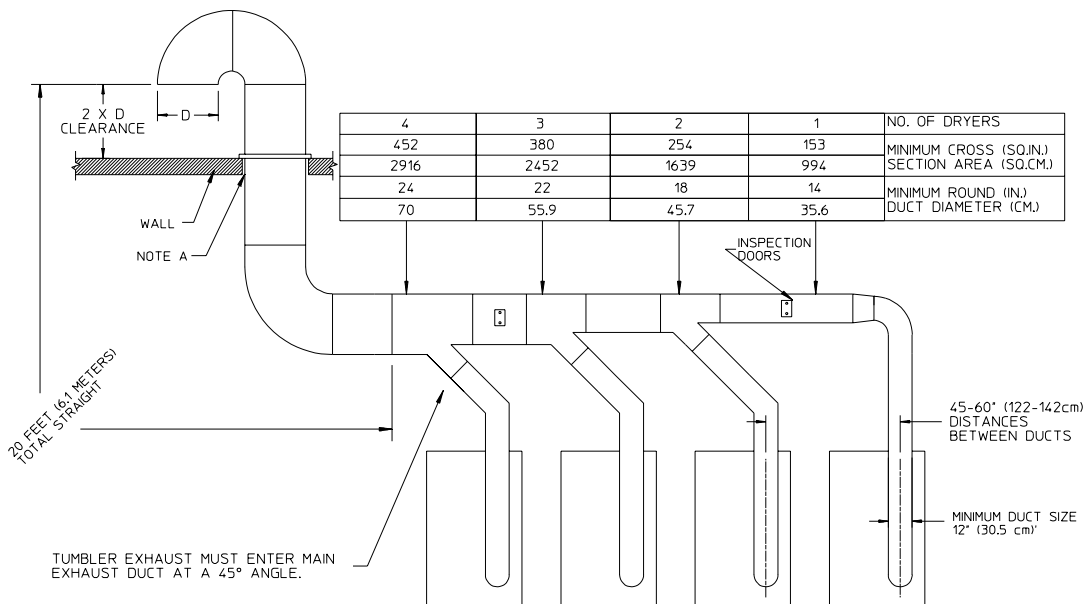
CROSS SECTIONAL AREA OF A ROUND DUCT = $.785 \times D^2$ WHERE D = DIAMETER OF THE DUCT.

CROSS SECTIONAL AREA OF A RECTANGULAR DUCT = W X H WHERE W = WIDTH AND H = HEIGHT.



NOTE A: WHEN PASSING THROUGH COMBUSTIBLE MATERIAL THE OPENING MUST BE 2-INCHES (5.08 cm) LARGER THAN THE DUCT (ALL THE WAY AROUND). THE DUCT MUST BE CENTERED WITHIN THIS OPENING.

MULTIPLE DRYER VENTING (VERTICAL) AT COMMON DUCT – STEAM HEAT



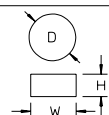
IMPORTANT: NO MORE THAN 4 DRYERS CAN BE CONNECTED TO ONE COMMON DUCT (VENT).

MAN8209

FORMULAS TO CALCULATE DUCTING CROSS SECTIONAL AREA

CROSS SECTIONAL AREA OF A ROUND DUCT = $.785 \times D^2$ WHERE D = DIAMETER OF THE DUCT.

CROSS SECTIONAL AREA OF A RECTANGULAR DUCT = W X H WHERE W = WIDTH AND H = HEIGHT.



NOTE A: WHEN PASSING THROUGH COMBUSTIBLE MATERIAL THE OPENING MUST BE 2-INCHES (5.08 cm) LARGER THAN THE DUCT (ALL THE WAY AROUND). THE DUCT MUST BE CENTERED WITHIN THIS OPENING.

Electrical Information

Electrical Requirements

All electrical connections must be made by a properly licensed and competent electrician. This is to ensure that the electrical installation is adequate and conforms to local, state, and national regulations or codes of the country of destination. In the absence of such codes, all electrical connections, materials, and workmanship must conform to the applicable requirements of National Electric Code ANSI/NFPA 70, or in Canada, Canadian Electric Code CSA C22.1.

For personal safety, the dryer must be electrically grounded in accordance with local codes and/or National Electric Code ANSI/NFPA 70, or in Canada, Canadian Electric Code CSA C22.1.

IMPORTANT: Failure to comply with these codes or ordinances, and/or the requirements stipulated in this manual can result in personal injury or component failure.

NOTE: Component failure due to improper installation will void the warranty.

Each dryer should be connected to an independently protected branch circuit. The dryer must be connected with copper wire only. Do not use aluminum wire, which could cause a fire hazard. The copper conductor wire/cable must be of proper ampacity and insulation in accordance with electric codes for making all service connections.

NOTE: The use of aluminum wire will void the warranty.

An individual ground circuit must be provided to each dryer, do not daisy chain.

Component failure due to improper voltage application will void the warranty.

The manufacturer reserves the right to make changes in specifications at any time without notice or obligation.

IMPORTANT: A separate protected circuit must be provided to each dryer.

The dryer must be connected to the electric supply shown on the rating plate. In the case of 208 VAC or 240 VAC, the supply voltage must match the electric service specifications of the rating plate exactly.

The wire size must be properly sized to handle the related current.

WARNING

208 VAC and 240 VAC are not the same. Any damage done to dryer components due to improper voltage connections will automatically void the warranty.

Electrical Service Specifications

Models with Gas and Steam Heat Only

ELECTRICAL SERVICE SPECIFICATIONS (PER POCKET)					
IMPORTANT: 208 VAC AND 230/240 VAC ARE NOT THE SAME. When ordering, specify exact voltage.					
NOTES: A. When fuses are used they must be dual element, time delay, current limiting, class RK1 or RK5 ONLY. Calculate/determine correct fuse value, by applying either local and/or National Electrical Codes to listed appliance amp draw data.					
B. Circuit breakers are thermal-magnetic (industrial) motor curve type ONLY. For others, calculate/verify correct breaker size according to appliance amp draw rating and type of breaker used.					
C. Circuit breakers for 3-phase (3ø) dryers must be 3-pole type.					
SERVICE VOLTAGE	PHASE	WIRE SERVICE	APPROX. AMP DRAW		CIRCUIT BREAKER
			60 Hz	50 Hz	
GAS HEAT					
120	1ø	2	12.8	—	20
208	1ø	2	12.8	—	20
220	1ø	2	10	10	15
230	1ø	2	10	10	15
240	1ø	2	10	10	15
208	3ø	3	10	—	15
220	3ø	3	10	—	15
230	3ø	3	10	—	15
240	3ø	3	10	—	15
400	3ø	4 or 3	—	6.25	15
416	3ø	4 or 3	—	6.25	15
440	3ø	3	6.28	—	15
460	3ø	3	6.28	—	15
480	3ø	3	6.28	—	15
STEAM HEAT					
208	1ø	2	14.1	—	20
220	1ø	2	14	—	15
220	1ø	2	—	10.2	20
230	1ø	2	14	—	15
230	1ø	2	—	10.2	20
240	1ø	2	14	—	15
240	1ø	2	—	10.2	20
208	3ø	3	14.1	—	15
220	3ø	3	14	—	15
220	3ø	3	—	16.8	20
230	3ø	3	14	—	15
240	3ø	3	14	—	15
440	3ø	3	7.25	—	15
460	3ø	3	7.25	—	15
480	3ø	3	7.25	—	15
380	3ø	4 or 3	—	7.25	15
400	3ø	4 or 3	—	7.25	15
416	3ø	4 or 3	—	7.25	15

Check your national and local codes for breaker and wire sizes.

5/15/18

Models with Electric Heat Only

ELECTRICAL SERVICE SPECIFICATIONS						
IMPORTANT: 208 VAC AND 230/240 VAC ARE NOT THE SAME. When ordering, specify exact voltage.						
NOTES: A. When fuses are used they must be dual element, time delay, current limiting, class RK1 or RK5 ONLY. Calculate/determine correct fuse value, by applying either local and/or National Electrical Codes to listed appliance amp draw data. B. Circuit breakers are thermal-magnetic (industrial) type ONLY. For others, calculate/verify correct breaker size according to appliance amp draw rating and type of breaker used. C. Circuit breakers for 3-phase (3ø) dryers must be 3-pole type.						
SERVICE VOLTAGE	PHASE	WIRE SERVICE	OVEN kW	APPROX. AMP DRAW		CIRCUIT BREAKER
				60 Hz	50 Hz	
THREE-PHASE HEAT, THREE-PHASE MOTOR						
208	3ø	3	44	135	—	175
220	3ø	3	37	107	109	150
230	3ø	3	40.8	112	114	150
240	3ø	3	44	116	118	150
440	3ø	3	37	55	—	70
460	3ø	3	40.4	57	—	80
480	3ø	3	44	59	—	80
380	3ø	4 or 3	39	—	66	80
400	3ø	4 or 3	40.5	—	65	90
416	3ø	4 or 3	44	—	67	90

Check your national and local codes for breaker and wire sizes. 5/15/18

Grounding

A ground (earth) connection must be provided and installed in accordance with local, state, and national regulations or codes of the country of destination. In the absence of these codes, grounding must conform to applicable requirements of National Electric Code ANSI/NFPA 70, or in Canada, the installation must conform to applicable Canada Standards: Canadian Electric Code CSA C22.1. The ground connection may be to a proven earth ground at the location service panel.

For added personal safety, when possible, it is suggested that a separate ground wire (size per local codes) be connected from the ground connection of the dryer to a grounded cold water pipe. Do not ground to a gas pipe or hot water pipe. The grounded cold water pipe must have metal-to-metal connection all the way to the electrical ground. If there are any nonmetallic interruptions, such as, a meter, pump, plastic, rubber, or other insulating connectors, they must be jumped out with a wire (size per local codes) and securely clamped to bare metal at both ends.

IMPORTANT: For personal safety and proper operation, the dryer must be grounded.

Provisions are made for ground connection in each dryer at the electrical service connection area.

Electrical Connections

A wiring diagram is located behind the control panel for connection data.

If local codes permit, power to the dryer can be made by the use of a flexible UL listed power cord/pigtail (wire size must conform to rating of dryer), or the dryer can be hard wired directly to the service breaker panel. In both cases, a strain relief must be installed where the wiring enters the dryer.

VFD GFCI Ground Trip

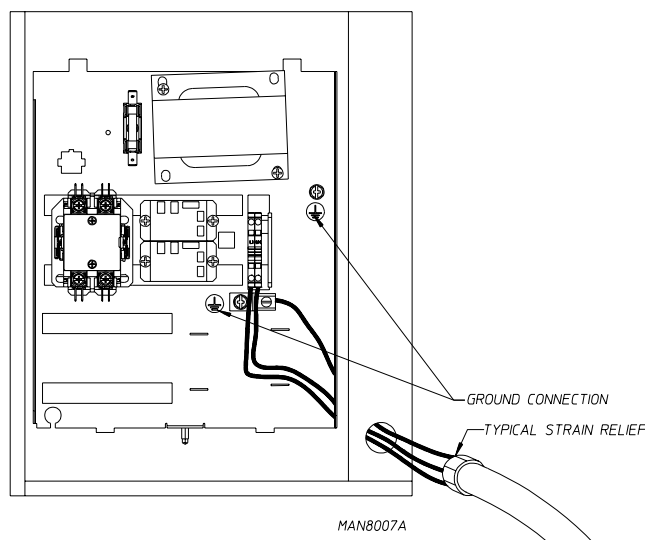
Dryers that are going to Europe may require to remove the EMC from the VFD due to the GFI. If VFD is tripping due to GFI, remove the EMC. Any electrical work that is required must be done by a certified technician or a licensed electrician.

For CE Models Only

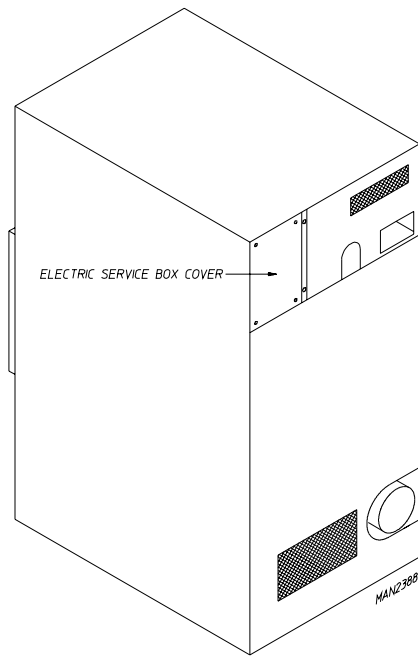
The means for disconnection from the supply must be incorporated into wiring having a minimum contact separation of 3.0mm in all poles.

Single-Phase (1ø) Wiring Connections / Hookup

The electrical input connections on all single-phase (1ø) gas dryers and steam dryers are made into the rear service box located at the upper left area of the dryer.



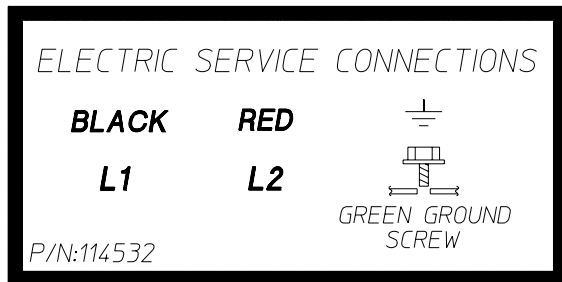
NOTES _____



REAR VIEW DRYER WITH GAS OR STEAM HEAT

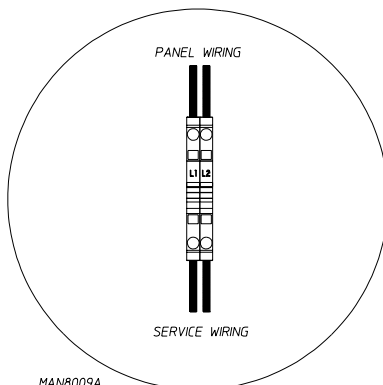
SINGLE-PHASE ELECTRICAL LEAD CONNECTIONS		
Black + Positive or L1	Red + L2	Green + Ground

For 208-240V Applications 1ø 60 Hz



MAN6887

SGAGNON 9/15/03

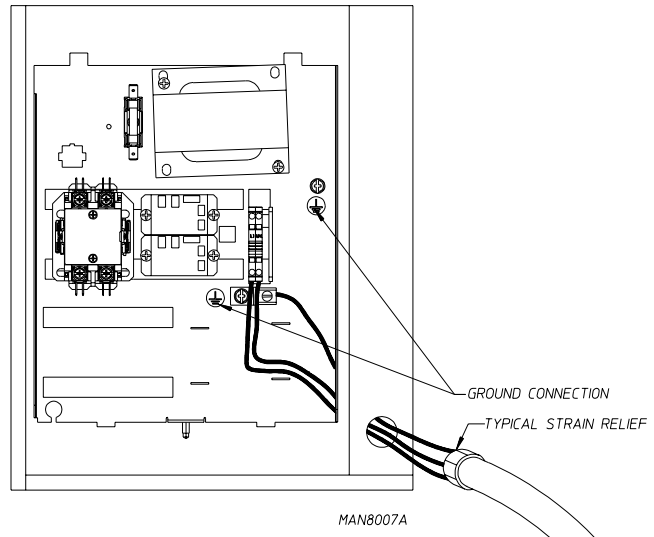


MAN8009A

CAUTION: The dryer must be grounded. A ground lug has been provided for this purpose.

Input connection wiring must be sized properly to handle the dryer's current draw. This information is printed on the dryer's rating plate.

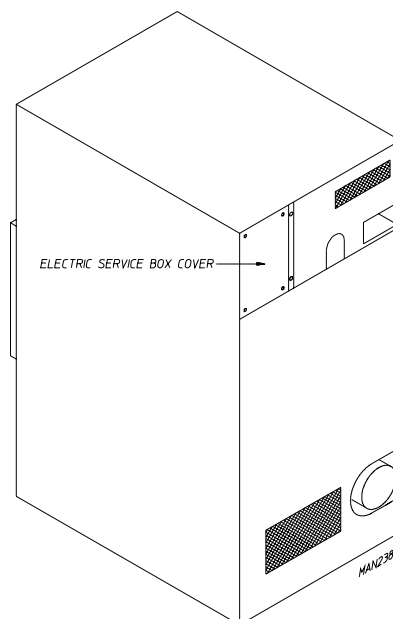
IMPORTANT: A strain relief must be used where the input wiring enters.



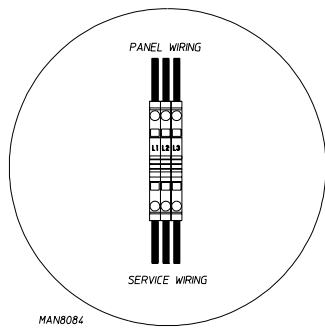
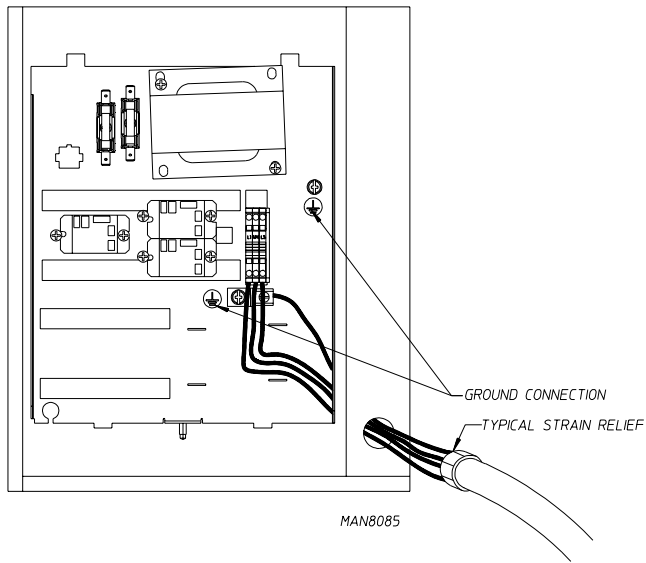
3-Phase (3ø) Wiring Connections / Hookup

MODELS WITH GAS OR STEAM HEAT

The electrical connections on all 3-phase (3ø) gas and steam dryers are made into the rear service box located at the upper left area of the dryer. The electrical connections are made at the power distribution block located in the service box. The ground connection is made to the copper lug, also provided in this box. To gain access, the service box cover must be removed.



REAR VIEW – DRYER WITH GAS OR STEAM HEAT

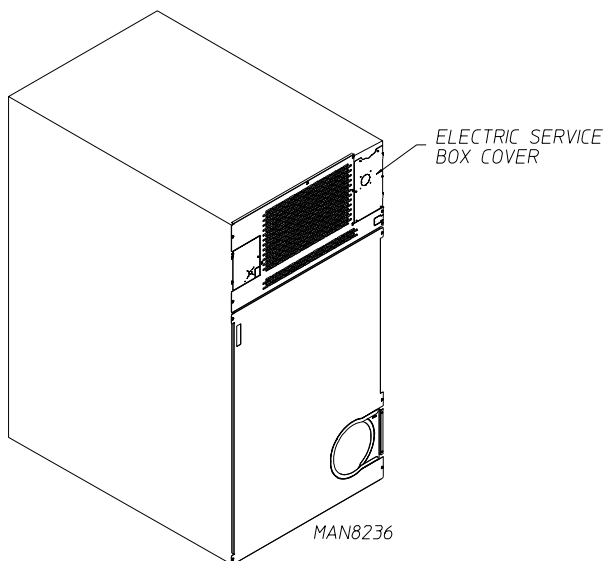


3-Phase (3ø) Wiring Connections / Hookup

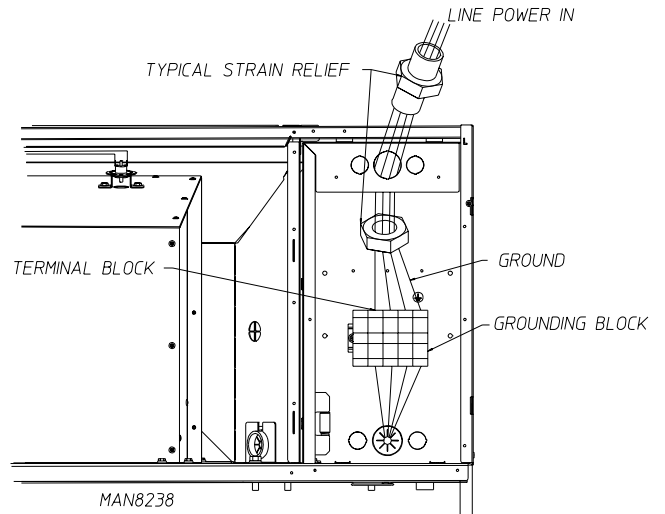
MODELS WITH ELECTRIC HEAT

The electrical connections on all models with electric heat are made in the rear service box, located at the upper right area of the dryer. The electrical connections and the ground connection are made at the power distribution block, located in the service box.

To gain access, the service box cover must be removed. Input connection wiring must be sized properly to handle the dryer's current draw as printed on the dryer's rating plate.



REAR VIEW – DRYER WITH ELECTRIC HEAT



REAR VIEW WITH ELECTRIC HEAT – GUARDS AND COVERS REMOVED

CAUTION: The dryer must be grounded. A ground block has been provided for this purpose.

Input connection wiring must be sized properly to handle the dryer's current draw. This information is printed on the dryer's rating plate.

IMPORTANT: A strain relief must be used where the input wiring enters.

NOTES _____

Gas Information

It is your responsibility to have all plumbing connections, materials, and workmanship conform to local and state regulations or codes of the country of destination. In the absence of such codes, all plumbing connections, materials, and workmanship must conform to the applicable local requirements. In the USA this is National Fuel Gas Code ANSI Z223.1/NFPA 54, or in Canada, Natural Gas and Propane Installation Code CSA B149.1.

In Australia, the fuel gas code is AS/NZS5601, local authority, gas, electricity, and any other relevant statutory regulations.

It is important that gas pressure regulators meet applicable pressure requirements, and that gas meters be rated for the total amount of all the appliance Btu being supplied.

IMPORTANT: Failure to comply with these codes or ordinances, and/or the requirements stipulated in this manual, can result in personal injury and improper operation of the dryer.

For ease of service, the individual gas supply line of each dryer must have its own manual shutoff valve.

The dryer and its individual shutoff valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 psig (3.5 kPa) for non-CE dryers or 50 mb for CE dryers.

IMPORTANT: Failure to isolate or disconnect the dryer from supply as noted can cause irreparable damage to the gas valve, voiding the warranty.

NOTE: The dryer must be isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure test of the gas supply system at test pressures equal to or less than 1/2 psig (3.5 kPa) for non-CE dryers or 50 mb for CE dryers.

⚠ WARNING

Fire or explosion could result due to failure of isolating or disconnecting the gas supply as noted.

NOTE: Undersized gas piping will result in ignition problems, slow drying, increased use of energy, and can create a safety hazard.

The dryer must be connected to the type of heat/gas indicated on the rating plate and pressure must be confirmed. If this information does not agree with the type of gas available, do not operate the dryer. Contact the reseller who sold the dryer or contact the manufacturer.

The input ratings shown on the rating plate are for elevations up to 2,000 feet (610 meters), unless elevation requirements of over 2,000 feet (610 meters) were specified at the time the dryer order was placed with the factory. The adjustment or conversion of dryers in the field for elevations over 2,000 feet (610 meters) is made by changing each burner orifice. If this conversion is necessary, contact the reseller who sold the dryer or contact the manufacturer.

IMPORTANT: If connection to this appliance is made with a flexible hose, it must be suitable for the appliance category in accordance with national installation regulations of the country of destination, and if in doubt the installer must contact the supplier. The manufacturer of this appliance does not recommend the use of flexible gas supply line/hose. An external gas supply shutoff must be provided.

CE Dryers

There is an N.P.T. to B.S.P.T. adaptor installed on dryers being shipped to CE countries.

⚠ WARNING

The dryer must be restrained to prevent straining the gas connection if the dryer is moved while the gas supply is still connected. Holes for the attachment of a restraining device are provided in the top of the dryer. The length and design of the restraint should be as necessary to prevent strain on the gas line if the dryer is moved.

If the dryer is to be moved then the following steps must be taken:

- Disconnect electrical power to the dryer.
- Close all external gas supply shutoff valves.
- Disconnect the gas supply line.
- Remove the restraint from the dryer.

IMPORTANT: Pipe joint compounds that resist the action of natural, propane, and butane gases must be used.

NOTES _____

Heat Input / Gas Consumption / Orifice (Injector) Data

GAS SPECIFICATIONS FOR DRYERS GOING TO CE COUNTRIES**									
Gas Type	Nominal Heating Value	Supply Pressure***	Gross Heat Input		Fuel Consumption	Orifice Size		Orifice (Injector) Quantity	Burner Pressure
	Btu/ft ³	mb	Btu/hr	kW		DMS	mm		mb
Natural (I _{2H} /I _{2E})	1,000	15-30	250,000	73.27	6.802 M ³ /hr	18	4.305	3	9.0
Natural (I _{2L})	830	20-35	250,000	73.27	8.196 M ³ /hr	18	4.305	3	12.0
Natural (I _{2ELL})	830	15-30	250,000	73.27	8.196 M ³ /hr	18	4.305	3	12.0
*Natural (I _{2E+})	1,000	20	250,000	73.27	6.802 M ³ /hr	27	3.658	3	—
	830	25	250,000	73.27	8.196 M ³ /hr	27	3.658	3	—
*Butane (I ₃₊)	3,175	28-30	250,000	73.27	5.074 kg/hr	41	2.438	3	—
*Propane (I ₃₊)	2,500	37	250,000	73.27	5.074 kg/hr	41	2.438	3	—
Butane (I _{3B/P})	3,175	28-30/50	250,000	73.27	5.074 kg/hr	37	2.642	3	20.0
Propane (I _{3P})	2,500	28-30/50	250,000	73.27	5.074 kg/hr	37	2.642	3	25.0

Shaded areas are stated in metric equivalents

* Gas valve's internal regulator disabled.

** Consult factory for elevations over 2,000 feet (610 meters) for correct orifice size.

*** Nominal supply pressure.

For Australia, refer to data plate.

GAS SPECIFICATIONS FOR DRYERS GOING TO AUSTRALIA *							
Gas Type	Supply Pressure	Gross Heat Input		Orifice Size		Orifice (Injector) Quantity	Burner Pressure
	kPa	MJ/h	kW	DMS	mm		kPa
Natural	1.7-3.2	263.7	73.27	16	4.496	3	0.75
Propane	2.75	263.7	73.27	37	2.642	3	2.50

Shaded areas are stated in metric equivalents

* Consult factory for elevations over 2,000 feet (610 meters) for correct orifice size.

GAS SPECIFICATIONS FOR DRYERS GOING TO REST OF THE WORLD **								
Gas Type	Nominal Heating Value	Supply Pressure	Gross Heat Input		Orifice Size		Orifice (Injector) Quantity	Burner Pressure
	Btu/ft ³	in WC	Btu/hr	kW	DMS	mm		in WC
Natural	1,000	7.0-13.0	250,000	73.27	18	4.305	3	3.5
*Propane	2,500	11.0	250,000	73.27	37	2.642	3	10.5

Shaded areas are stated in metric equivalents

* Gas valve's internal regulator disabled.

** Consult factory for elevations over 2,000 feet (610 meters) for correct orifice size.

Piping / Connections

Gas Inlet Connection CE: 3/4" B.S.P.T. (female)

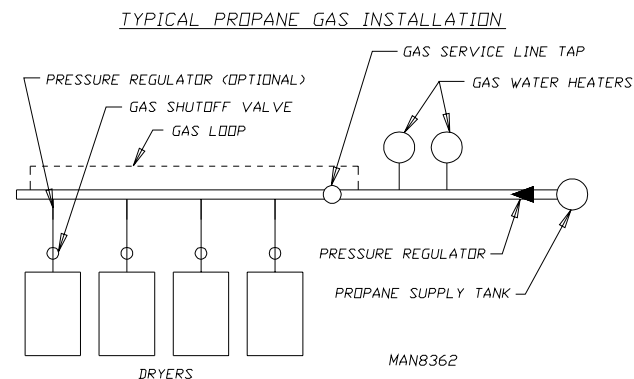
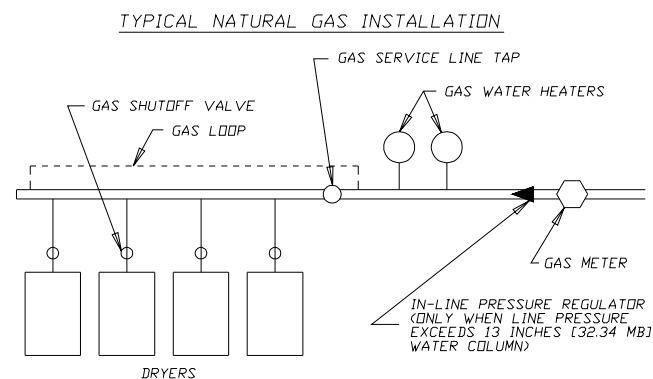
Gas Inlet Connection – All Other: 3/4" N.P.T. (male)

There should be a minimum 6-inch (15.24 cm) clearance between the back guard and the first bend in the gas piping for ease of servicing. It is recommended that a gas shutoff valve be provided to the gas supply line of each dryer for ease in servicing.

The size of the main gas supply line (header) will vary depending on the distance this line travels from the gas meter or, in the case of propane gas, the supply tank, other gas-operated appliances on the same line, etc. Specific information regarding supply line size should be determined by the gas supplier.

Installer within Australia – refer to AS/NZS5601.1 for guidance on gas supply pipe sizing required for this appliance installation.

NOTE: Undersized gas supply piping can create a low or inconsistent pressure, which will result in erratic operation of the burner ignition system.



Consistent gas pressure is essential at all gas connections. It is recommended that a 3/4-inch (19.05 mm) pipe gas loop be installed in the supply line servicing a bank of dryers. An in-line pressure regulator must be installed in the gas supply line (header) if the (natural) gas pressure exceeds 13.0 in WC (32.34 mb) pressure.

A plugged tap 1/8" N.P.T. minimum, accessible for a pressure gauge connection, must be installed in the main gas supply line immediately upstream of the dryers.

IMPORTANT: Pipe joint compounds that resist the action of natural, propane, and butane gases must be used.

Test all connections for leaks by brushing on a soapy water solution (liquid detergent works well).

⚠ WARNING

Never test for leaks with a flame!!!

Converting from One Family of Gas to Another

⚠ WARNING (CE Dryers)

This appliance must only be operated with the gas type indicated on the dryer's rating plate. If the appliance is converted (gas type changed), a new rating plate must be obtained from ADC (dryer's serial number is required to purchase a conversion kit).

IMPORTANT: Any burner changes or conversions must be made by a qualified professional.

The dryers manufactured for Belgium, Luxembourg, Greece, Estonia, Slovak Republic, Iceland, Malta, Poland and Cyprus cannot be converted from one family of gas to another.

Conversion from Natural Gas to Propane or Butane Gas

The following conversion allows the dryer to be operated with either propane, butane, or other liquefied petroleum gases. The use of gas valve conversion kit (P/N 140419) disables the internal regulator of the gas valve. Therefore, the gas supply is ungoverned and an external regulator must be provided at the source of the supply (example propane tank) or the gas supply line to the dryer. The type of conversion kit supplied will depend on the country the dryer is installed in.

Parts Required for Conversion:

Description	P/N	Qty
Unregulated Propane Gas Conversion Kit***	140419	1
OR		
Regulated Propane Gas Conversion Kit****	140413	1
Burner Orifice (Injector)	**	3*
New Rating Plate (CE Only)	*****	1
Propane Conversion Label (Non-CE Only)	112011	1
Propane Conversion Rating Plate Addendum (Non-CE Only)	114090	1
Propane Confirmation Label (Non-CE Only)	114083	1

* This includes one for each burner tube.

** Refer to **page 21** for orifice (injector) size.

*** Required for unregulated propane or butane only.

**** Required for regulated propane or other liquefied petroleum gases only.

***** Contact ADC.

Instructions

1. Discontinue electrical power to the dryer.
2. Close all shutoff valves in the dryer gas supply line.
3. Disconnect gas valve wiring.

“CAUTION: Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper operation.”

«ATTENTION: Lor des opérations d’entretien des commandes étiqueter tous fils avant de les déconnecter. Toute erreur de câblage peut être une source de danger et de panne.»

4. Remove (4) screws holding heat deflector, then move it to the right approximately 4-inches as shown in figure 5.
5. Break union connection (nut) between the external shutoff and the gas valve.
6. Remove (4) screws from the brackets that are holding the gas valve/manifold assembly to the top console base. Remove the gas valve/manifold assembly from the dryer.
7. Unscrew (3) main burner orifices from the manifold and replace with the (3) propane orifices provided.

IMPORTANT: Use extreme care when removing and replacing the orifices. The orifices are made of brass, which is easily damaged.

8. To convert the gas valve for use with unregulated propane gas, refer to the instructions included in kit envelope (#92-1022) supplied.
9. To convert the gas valve for use with regulated propane gas, refer to the instructions included in kit envelope (#92-0659) supplied.
10. Reverse procedure for reinstalling the gas valve/manifold assembly to the dryer.

11A. NON-CE DRYERS ONLY

Affix Propane Conversion Label (ADC P/N 112011) to the dryer’s rating plate.

Complete Propane Conversion Confirmation Label (ADC P/N 114083) and affix this label as close as possible to the dryer’s existing rating plate.

Affix Propane Conversion Rating Plate Addendum (ADC P/N 114090) as close as possible to the dryer’s existing rating plate.

11B. CE DRYERS ONLY

Affix a new rating plate to the dryer’s existing rating plate.

12. Open all shutoff valves (closed in Step #2), reconnect electrical power to the dryer, and test for leaks.

IMPORTANT: Never test for leaks with an open flame!!! Use a soapy water solution or product intended for that purpose.

13. Verify conversion (check list)

“ITEM”	“YES”
a. Burner orifices changed:	_____
b. Gas valve converted:	_____
c. Wiring reconnected to gas valve, and wiring connections verified:	_____
d. Labels provided affixed to gas valve, and area close to and/or on dryer’s existing rating plate:	_____
e. Test for gas leaks:	_____
f. Manifold pressure tested:	_____
g. Operate the dryer through one complete cycle to ensure proper operation.	_____

IMPORTANT: Conversion must be performed by competent technicians in accordance with local and state codes. Improper assembly or adjustments can cause hazardous conditions.

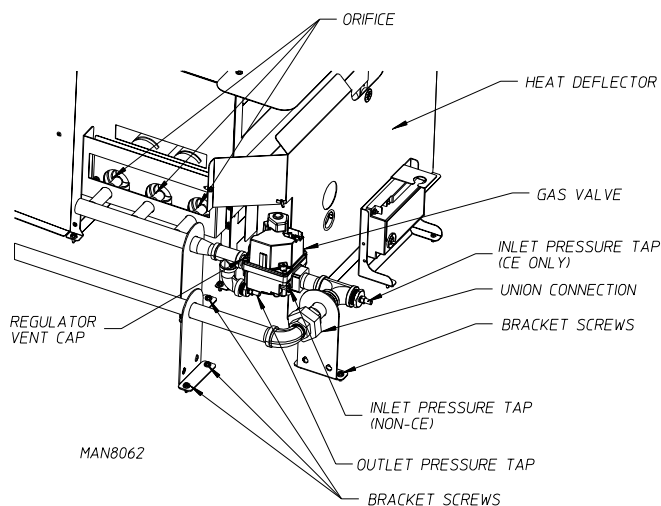


FIGURE 5

14. Select from the following two options, the adjustments to be performed:

Unregulated Gas Valve

Regulate (govern) gas externally (refer to “Supply Pressure” in chart on **page 21**) to the correct gas pressure for the gas being used. Close control door and operate dryer through one complete cycle to ensure proper operation.

Regulated Gas Valve

Refer to “Gas Pressure Adjustment” (this page) to adjust the gas valve to the appropriate burner pressure listed on **page 21**. The supply pressure must also match what is listed on **page 21** for the type of gas to be used.

IMPORTANT: Conversion must be performed by competent technicians in accordance with local and state codes. **IMPROPER ASSEMBLY OR ADJUSTMENTS CAN CAUSE HAZARDOUS CONDITIONS.**

Gas Pressure Adjustment

IMPORTANT: When converting from one gas to another with regulated gas conversion kit, the following procedures must be performed.

Disconnect electrical power to the dryer.

To adjust gas valve’s internal regulator, remove the regulator vent cap (figure 5). Turn the plastic adjustment screw in the valve. Turn the screw clockwise to raise pressure and counterclockwise to lower pressure.

Gas (burner) pressures are measured with the burner in operation for all burner adjustment conditions. Refer to “Gas Pressure Test Procedure” for instructions on this procedure. Therefore once the necessary adjustments have been made, the dryer must be operated in a heating cycle to verify that the pressure is correct. If it is not correct, you must discontinue the power to the unit and make further adjustments. Repeat these steps as many times as necessary to achieve the correct burner pressure. Once the adjustment of the valve is complete, the vent cap must be replaced and sealed with, for example, paint to prevent maladjustment by the user. Operate the dryer through one complete cycle to ensure proper operation.

⚠ WARNING

This appliance must only be operated with the gas type indicated on the dryer’s rating plate. If the appliance is converted (gas type changed), a new rating plate must be obtained from American Dryer Corporation (dryer’s serial number is required to purchase a conversion kit).

Gas Pressure Testing

For proper operation, the gas pressure must be correct, consistent and maintained at the gas pressure rates shown on **page 21**. Provisions are made at the gas valve for taking gas pressure readings.

There are two types of devices used to measure gas pressure. They are the spring/mechanical type gauge and the manometer. The use of the spring/mechanical type gauge is not recommended because they are very easily damaged and are not always accurate. The preferred type of gauge is the manometer because it is a simple device to use and is highly accurate. A manometer is simply a glass or transparent plastic tube with a scale graduated in inches or millibars. When it is filled with water and pressure is applied, the water in the tube rises, showing the exact gas pressure.

Gas Pressure Test Procedure

Turn gas cock in gas supply line to “OFF” position.

CE Dryers: Back out miniature screw inside pressure tap and attach manometer. Refer to figure 5 on **page 23**.

Non-CE Dryers: Install pressure tap and attach manometer. Refer to figure 5 on **page 23**.

Turn gas cock to “ON” position.

Start the dryer in Heat Mode and wait for ignition. Gas manifold pressure should be as shown on **page 21**.

If the gas pressure needs to be adjusted, refer to “Gas Pressure Adjustment” (this page).

Once test is complete, turn gas cock to “OFF” position. Remove manometer. Tighten screw inside the pressure tap (50 Hz dryers) or reinstall plug (60 Hz dryers).

Turn gas cock to “ON” position and check for leaks with soap solution with main burner “ON.”

Steam Information

It is your responsibility to have all plumbing connections made by a qualified professional to ensure that the steam plumbing installation is adequate and conforms with local, state, and country regulations or codes.

Care must be exercised when leveling steam dryers into final position. This will promote good steam coil drainage. Return line should be level or pitched down slightly for good drainage. Absence of these conditions will result in probable water hammer and premature heat exchanger fracture and leakage.

The presence of condensate in the steam will cause water hammer and subsequent heat exchanger failure. The steam supply connection must be taken from the top of a well-dripped steam main. If the supply run-out to the dryer exceeds 25 feet (7.6 meters), it should be dripped just before the control valve with a proper trap and dirt pocket.

IMPORTANT: Failure to comply with the requirements stipulated in this manual can result in component failure, which will void the warranty.

Steam Coil pH Level

The normal pH level for copper type steam coils must be maintained between a value of 8.5 to 9.5. For steel type steam coils the pH level must be maintained between a value of 9.5 to 10.5. These limits are set to limit the acid attack of the steam coils.

IMPORTANT: Coil failure due to improper pH level will void the warranty.

Steam Requirements – High Pressure

OPERATING STEAM PRESSURE		
Maximum	125 psig*	0.86 MPa
Heat Input (Normal Load)	4.8 Bhp	
Consumption (Approximate)	178 lb/hr	80.74 kg/hr
Inlet / Return N.P.T. (Female)	1" / 1"	

Shaded areas are stated in metric equivalents

* The minimum operating pressure for optimum results is 100 psig (689.47 kPa).

Installation Instructions

To ensure an adequate supply of steam is provided, be sure that the steam supply line and steam return line are sized and laid out as stipulated in this manual. Inadequate steam supply line and steam return line or improper steam plumbing will result in poor performance and can cause component failure. Clean, dry steam must be provided to the dryer.

IMPORTANT: Steam coil failure due to water hammer by wet steam will void the warranty.

The presence of condensate in the steam supply line will cause water hammer and subsequent heat exchanger (steam coil) failure. The steam supply connection into the main supply line must be made with a minimum 10-inch (25.4 cm) riser. This will prevent any condensate from draining towards the dryer.

The steam supply line to the dryer must include a 12-inch (30.48 cm) riser along with a drip trap and check valve. This will prevent any condensate from entering the steam coil.

Flexible hoses or couplings must be used. The dryer vibrates slightly when it runs and this will cause the steam coil connections to crack if they are hard piped to the supply and return mains.

Shutoff valves for each dryer should be installed in the supply line, return line, and drip trap return line. This will allow the dryer to be isolated from the supply main and the return main if the dryer needs maintenance work.

Install an inverted bucket steam trap and check valve at least 12-inches (30.48 cm) below the steam coil as close to the coil as possible. A trap with a minimum capacity of 356 lb (162 kg) of condensate per hour at 125 psi (0.86 MPa) is needed for each unit. (Based on 2 times the steam consumption per hour.)

Install a 3/4-inch vacuum breaker at the steam coil (as shown) to prevent coil damage from acids that can form in a vacuum. Mount steam solenoid valve in orientation shown, with coil up. The supply line should be supported to prevent damage to the steam coil due to the overhung weight of the steam solenoid valve.

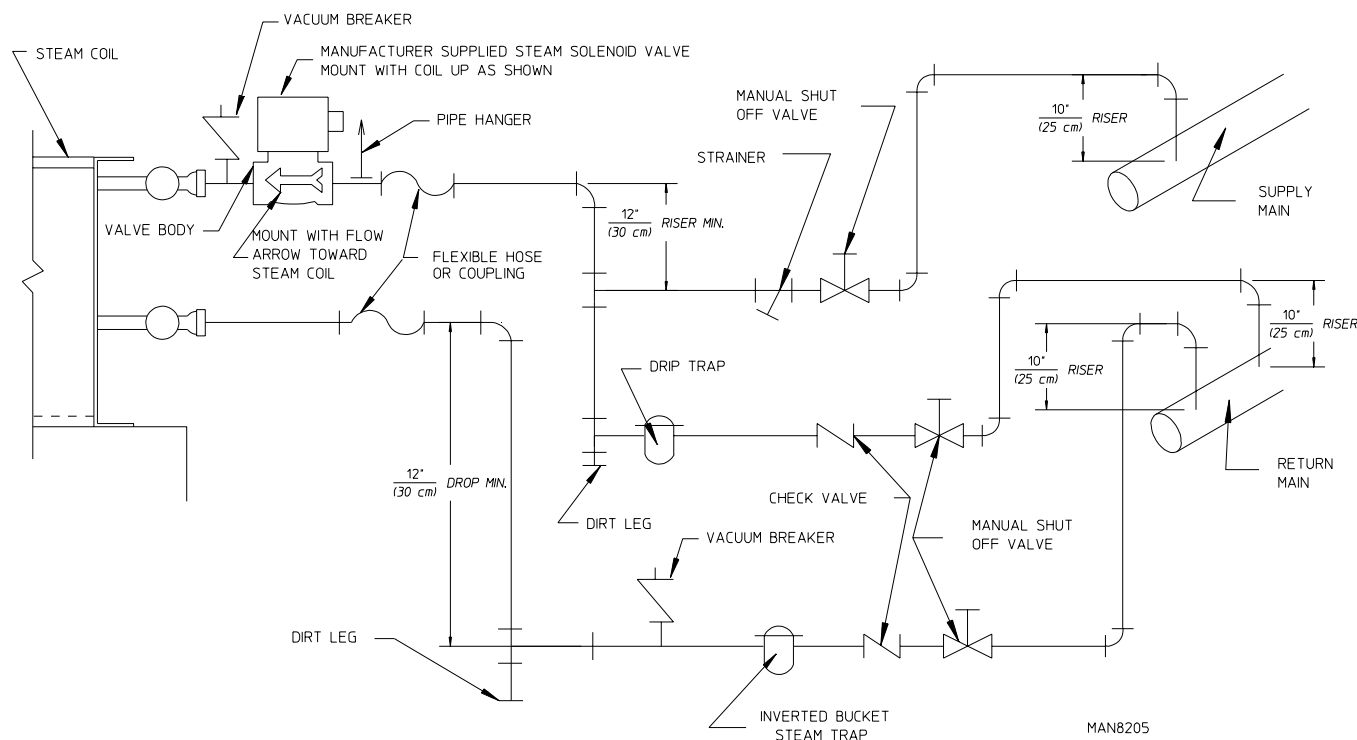
The supply line and the return line should be insulated. This will save energy and provide for the safety of the operator and maintenance personnel.

Water pockets in the supply line, caused by low points, will provide wet steam to the coil possibly causing steam coil damage. All horizontal runs of steam supply piping should be pitched 1/4-inch (6.35 mm) for every 1 foot (0.31 meters) back towards the steam supply header causing the condensate in the line to drain to the header. Install a bypass trap in any low point to eliminate wet steam.

IMPORTANT: Flexible hoses/couplings must be used. Coil failure due to hard plumbing connections will void the warranty.

Steam Solenoid Valve Connections

In standard format, this dryer is shipped with a 24VAC steam solenoid valve for installation in the steam supply piping (refer to steam piping diagram). This valve is stored in the dryer's lint compartment during shipment. Wiring and quick connections for this valve are provided in the rear of the dryer (top right when viewed from rear).



Water Information

(For Optional Fire Suppression System)

Before You Start

Check Local Codes and Permits

Call your local water company or the proper municipal authority for information regarding local codes.

IMPORTANT: It is your responsibility to have all plumbing connections made by a qualified professional to ensure that the plumbing installation is adequate and conforms to local, state, and federal regulations or codes.

It is the installer's or owner's responsibility to see that the required water pressure, pipe size, or connections are provided. The manufacturer assumes no responsibility if the fire suppression system is not connected, installed, or maintained properly.

Installation

Water Supply

The fire suppression system must be supplied with a minimum water pipe size of 1/2-inch (12.7 mm) and be provided with 40 psi +/- 20 psi (2.75 bar +/- 1.37 bar) of pressure.

If the rear area of the dryer or the water supply is located in an area where it will be exposed to cold/freezing temperatures, provisions must be made to protect these water lines from freezing.

⚠ WARNING

If the water in the supply line or water solenoid valve freezes, the fire suppression system will be inoperative!!

Water Connections

The water connection is made to a 3/4"-11.5 NH hose or 3/4" B.S.P. adaptor, depending on the destination country. A flexible supply line/coupling must be used in an effort to avoid damaging the electric water solenoid valve.

NOTE: The 3/4"-11.5 NH is a standard hose coupling screw thread. It is not to be confused with 3/4" N.P.T., or 3/4" B.S.P. The sealing of an NH connection is made with a washer as opposed to the mating threads of an N.P.T. or B.S.P. assembly. The 3 thread designs are not compatible.

It is recommended that a filter or strainer be installed in the water supply line.

IMPORTANT: Flexible supply line/coupling must be used. Solenoid valve failure due to hard plumbing connections will void warranty.

The dryer is to be connected to the water mains using a new hose set and the old hose set should not be reused.

Optional Manual Bypass

Provisions are made in the dryer's fire suppression system for the installation of an optional manual bypass. The connections for the manual bypass are made at the "tee" or "three way" fitting located in the outlet supply side of the water solenoid valve. The manual ball cock shutoff valve must be located outside of the dryer at a distance from the dryer where it is easily accessible. The use and connection of this manual bypass is at the option or discretion of the owner.

The water connection for the manual bypass is made to the "tee" or "three way" fitting, which has a 3/8" F.N.P.T. and a coupling must be used to provide the minimum 1/2-inch (12.7 mm) supply (feed) line.

Electrical Requirements

No independent external power source or supply connection is necessary. The 24-volt power to operate the fire suppression system is accomplished internally in the dryer (from the dryer controls).

⚠ WARNING

Electrical power must be provided to the dryer at all times. If the main electrical power supply to the dryer is disconnected, the fire suppression system is inoperative!!

⚠ WARNING

ELECTRICAL SHOCK HAZARD

Electrical shock hazard can result in serious injury.

If the water dispensing system is activated do not attempt to operate the dryer.

If the water dispensing system is activated have the dryer inspected by a qualified agency before operating the dryer.

Preparation for Operation / Start-Up

The following items should be checked before attempting to operate the dryer:

- Read all "CAUTION," "WARNING," and "DIRECTION" labels attached to the dryer.
- Check incoming supply voltage to be sure that it is the same as indicated on the rating plate. In the case of 208 VAC or 240 VAC, the supply voltage must match the electric service exactly.
- GAS MODELS – Check to ensure that the dryer is connected to the type of heat/gas indicated on the dryer rating plate.
- GAS MODELS – Be sure that all gas shutoff valves are in the open position.
- Be sure all back panels (guards) and electric box covers are in place.
- Be sure the service doors are closed and securely in place.
- Be sure the lint door/drawer is securely in place.
- Rotate the tumbler (drum) by hand to be sure it moves freely.
- Check bolts, nuts, screws, terminals, and fittings for tightness and security.
- Check that the vent is connected to the dryer and is exhausted to the outdoors.

All dryers are thoroughly tested and inspected before leaving the factory. However, a preoperational test should be performed before the dryer is publicly used. It is possible that adjustments have changed in transit or due to marginal location (installation) conditions. If, for any reason, the appliance cannot be adjusted to perform correctly, or if any other concerns are detected, contact your local service organization or dealer. Installer must instruct the user on how to correctly operate the dryer before leaving.

Refer to the Operating Instructions for starting your particular model dryer.

Open all shutoff valves.

When a gas dryer is first started (during initial start-up), it has a tendency not to ignite on the first ignition attempt. This is because the gas supply piping is filled with air, so it may take a few minutes for the air to be purged from the lines.

NOTE: During the purging period, check to be sure that all gas shutoff valves are open.

A gas pressure test should be taken at the gas valve pressure tap of each dryer to ensure that the water column pressure is correct and consistent.

NOTE: Water column pressure requirements (measured at the pressure tap of the gas valve body) must be verified.

IMPORTANT: In most cases there is no regulator provided in a propane dryer. The water column pressure must be regulated at the source (propane tank), or an external regulator must be added to each dryer.

Check to ensure all steam shutoff valves are open.

Make a complete operational check of all safety related circuits:

- Door Switch(es)
- Hi-Limit Thermostats
- Sail Switch

Make a complete operational check of all operating controls.

The tumbler is treated with a protective coating. We suggest dampening old garments or cloth material with a solution of water and nonflammable mild detergent and tumbling them in the tumbler to remove this coating.

Each microprocessor controller (computer) has been preprogrammed by the factory with the most commonly used parameter (program) selections. If computer program changes are required, refer to the computer programming manual which was shipped with the dryer.

NOTES

[illegible]

Preoperational Instructions

IMPORTANT: For more detailed information regarding the microprocessor controller (computer), refer to the microprocessor user's manual included with the dryer.

Coin Models

Microprocessor Controller (Computer)

When the microprocessor controller (computer) is in the ready state, the L.C.D. screen will display "Ready, Insert \$XX.XX (amount) to Start".

Insert coin(s). Once the correct "Amount to Start" has been inserted, the L.C.D. will display "Select Temperature".

Select temperature by pressing "HI," "MED," or "LO." The cycle will start and the L.C.D. will display the Dry Cycle selected and the remaining time.

The dryer will continue through the drying and cooling cycles, until the vended time has expired.

NOTE: To stop the dryer, open main door. Continuation of the cycle will resume only after the door has been closed and any one of the three temperature selections is pressed.

Non-Coin Models

Microprocessor Controller (Computer)

The L.E.D. display reads "READY" (no cycle in progress).

Press the letter on the keypad corresponding to the cycle desired (e.g. key "D").

The dryer will then start (i.e. blower, tumbler, and heat).

The L.E.D. display will read MANUAL DRYING CYCLE D, ___ MIN REMAIN.

NOTE: The dryer can be stopped at any time by pressing the "STOP/CLEAR" key, at this time the dryer will go into a cycle pause. If the "STOP/CLEAR" key is pressed again at this point, the cycle that was in progress will be cancelled and returned to the "READY" state.

When the programmed drying time has expired, the non-coin microprocessor controller (computer) will proceed into the Cool Down Cycle.

Once the Cool Down Cycle begins at the end of the heat cycle, the L.E.D. display will read COOL DOWN TEMP ___/___ MINUTES remaining. At the end of the heat cycle, the dryer will shut off the heat and continue the fan and tumbler until the Cool Down Time or temperature is reached.

Shutdown Instructions

If the dryer is to be shutdown (taken out of service) for a period of time, the following must be performed:

Discontinue power to the dryer either at the external disconnect switch or the circuit breaker.

Discontinue the heat supply:

Gas Models – Discontinue the gas supply.

Shut off external gas supply shutoff valve.

Shut off internal gas supply shutoff valve located in the gas valve burner area.

Steam Models – Discontinue the steam supply.

Service / Parts Information

Service

Service must be performed by a qualified trained technician. If service is required, contact the reseller from whom the equipment was purchased. If the reseller cannot be contacted or is unknown, contact the Service Department for a reseller in your area.

NOTE: When contacting the Service Department, be sure to give them the correct model number and serial number so that your inquiry is handled in an expeditious manner.

Parts

Replacement parts should be purchased from the reseller from whom the equipment was purchased. If the reseller cannot be contacted or is unknown, contact the Parts Department for a reseller in your area. Parts may also be purchased directly from the factory by calling the Parts Department at +1 (269) 923-3000 or you may FAX in your order at +1 (508) 678-9447.

NOTE: When ordering replacement parts from the reseller or the manufacturer, be sure to give them the correct model number and serial number so that your parts order can be processed in an expeditious manner.

Warranty Information

Returning Warranty Cards

Before any dryer leaves the factory test area, a warranty card is placed on the inside of the main door glass. These warranty cards are intended to serve the customer where we record the individual installation date and warranty information to better serve you should you file a warranty claim.

If a warranty card did not come with your dryer, contact the Warranty Department or the Service Department at +1 (269) 923-3000.

IMPORTANT: A separate warranty card must be completed and returned for each individual dryer.

NOTE: Be sure to include the installation date when returning the warranty card(s).

Warranty

For a copy of the commercial warranty covering your particular dryer(s), contact the reseller from whom you purchased the equipment and request a dryer warranty form. If the reseller cannot be contacted or is unknown, warranty information can be obtained from the factory by contacting the Warranty Department at +1 (269) 923-3000.

NOTE: Whenever contacting the factory for warranty information, be sure to have the dryer's model number and serial number available so that your inquiry can be handled in an expeditious manner.

Returning Warranty Parts

All dryer or parts warranty claims or inquiries should be addressed to the Warranty Parts Department. To expedite processing, the following procedures must be followed:

No parts are to be returned without prior written authorization (R.M.A.) from the factory.

NOTE: An R.M.A. is valid for only 30 days from date of issue.

The R.M.A. issued by the factory, as well as any other correspondence pertaining to the returned part(s), must be included inside the package with the failed merchandise.

Each part must be tagged with the following information:

Model number and serial number of the dryer from which part was removed.

Nature of failure (be specific).

Date of dryer installation.

Date of part failure.

Specify whether the part(s) being returned is for a credit, replacement, or a refund.

NOTE: If a part is marked for a credit or a refund, the invoice number covering the purchase of the replacement part must be provided.

Warranty tags (Part No. 450064) are available at "no charge" from ADC upon request.

The company returning the part(s) must clearly note the complete company name and address on the outside of the package.

All returns must be properly packaged to ensure that they are not damaged in transit. Damage claims are the responsibility of the shipper.

IMPORTANT: No replacements, credits, or refunds will be issued for merchandise damaged in transit.

All returns should be shipped to the factory in such a manner that they are insured and a proof of delivery can be obtained by the sender.

Shipping charges are not the responsibility of ADC. All returns should be "prepaid" to the factory. Any "C.O.D." or "COLLECT" returns will not be accepted.

IMPORTANT: No replacements, credits, or refunds will be issued if the claim cannot be processed due to insufficient information. The party filing the claim will be notified in writing, either by "FAX" or "CERTIFIED MAIL – Return Receipt Requested," as to the information necessary to process claim. If a reply is not received by the Warranty Department within 30 days from the FAX/letter date, then no replacements, credits, or refunds will be issued, and the merchandise will be discarded.

Routine Maintenance

Cleaning

A program and/or schedule should be established for the periodic inspection, cleaning, and removal of lint from various areas of the dryer, as well as throughout the ductwork system. The frequency of cleaning can best be determined from experience at each location. Maximum operating efficiency is dependent upon proper airflow. The accumulation of lint can restrict this airflow. If the guidelines in this section are met, the dryer will provide many years of efficient, trouble free, and most importantly, safe operation.

When cleaning the dryer cabinet, avoid using harsh abrasives. A product intended for the cleaning of appliances is recommended.

⚠ WARNING

Lint from most fabrics is highly combustible. The accumulation of lint can create a potential fire hazard.

Keep dryer area clear and free from combustible materials, gasoline, and other flammable vapors and liquids.

NOTE: Suggested time intervals shown are for average usage, which is considered 6 to 8 operational (running) hours per day.

Suggested Cleaning Schedule Every Third of Fourth Load

Clean the dryer's internal lint screen about every third or fourth load. A clogged lint screen will reduce the airflow, and cause poor dryer performance. The screen is located behind the lint door just below the main loading door. Open the lint door and brush the lint off the screen.

Inspect the lint screen and replace if torn.

NOTE: To remove the lint screens from the dryer, open the lint door. Located just above the lint screen is a clamp retained by six screws (refer to figure 6). Use a 5/16" (8 mm) wrench to remove the six screws and the clamp. The lint screens are mounted in a track. Slide the lint screens out of the track.

To replace them, reverse the above procedure.

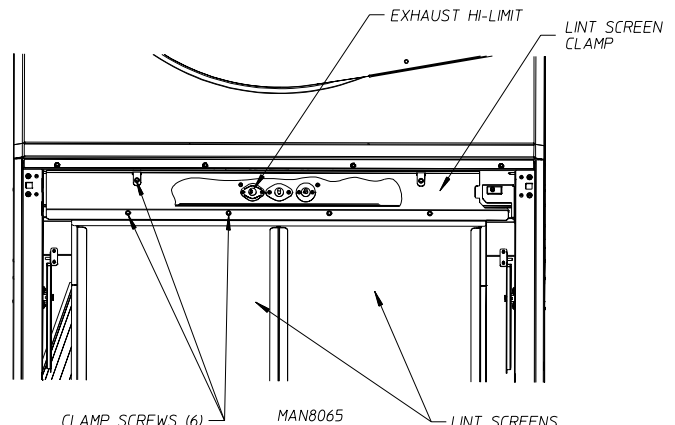


FIGURE 6

Weekly

Clean lint accumulation from the lint chamber, thermostat and microprocessor temperature sensor area. The thermostat and microprocessor temperature sensor area is located in the ductwork just above the lint screen. All of these areas are accessed by opening the lint door.

Steam Dryers

Clean the steam coil fins. We suggest using compressed air and a vacuum cleaner with brush attachment.

⚠ WARNING

When cleaning steam coil fins, be careful not to bend the fins. If fins are bent, straighten by using a fin comb, which is available from local air-conditioning supply houses.

90 Days

Remove lint from the gas valve burner area with a dusting brush or vacuum cleaner. The gas valve burner area is located behind the control door just above the main loading door.

NOTE: To prevent damage, avoid cleaning and/or touching igniter/flame-probe assembly.

Clean any lint accumulation in and around the motor(s) casing openings. The motors are located at the back of the dryer. The dryers back guard must be removed to access this area.

⚠ WARNING

To avoid the hazard of electrical shock and contact with moving parts, discontinue electrical supply to the dryer before removing the back guard.

6 Months

Inspect and remove lint accumulation in the dryer's air handling systems. This includes customer furnished make-up air openings, exhaust ductwork systems, and from the dryers internal exhaust ducting.

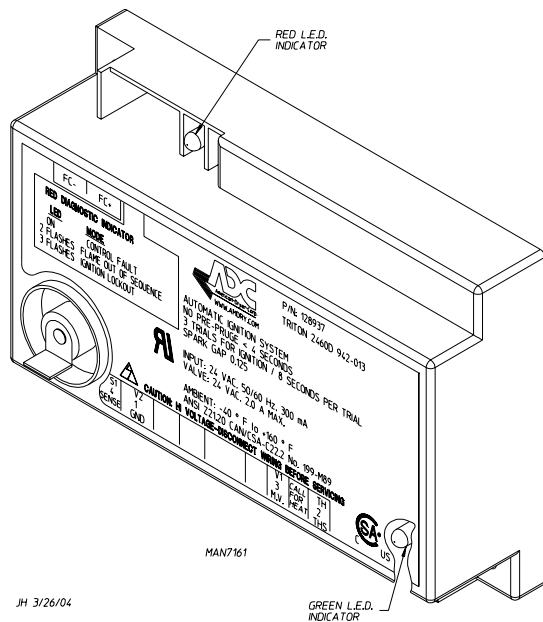
NOTE: The build up of lint in the air handling systems can create a potential fire hazard. It can also reduce the flow of combustion, exhaust and ventilation gases, reducing dryer performance.

Cleaning of the dryer's internal exhaust may require removing the lint screen. See the instructions above for removing the lint screen.

Check any back draft dampers in the exhaust ductwork. Inspect and remove any lint which can cause the damper to bind or stick. A back draft damper that is sticking partially closed can result in slow drying and the shutdown of heat circuit safety switches and thermostats.

Procedure for Functional Check of Replacement Components

DSI Module



Theory of Operation: Start the drying cycle. When the gas burner ignites within the chosen trial for ignition time (8-seconds), the flame sensor detects gas burner flame and signals the DSI module to keep the gas valve open as long as there is a call for heat. The DSI module will "LOCKOUT" if the gas burner flame is not sensed at the end of the trial for ignition period. The trial for ignition period will be repeated for a total of three retries/trials (the initial try and two more retries/trials). If the flame is not sensed at the end of the third retry/trial (inter-purge period of 30-seconds), the DSI module will "LOCKOUT" (a red L.E.D. diagnostic indicator will flash).

An unlit red L.E.D. diagnostic indicator indicates normal operation.

A lit green L.E.D. diagnostic indicator indicates dryer controller is calling for heat and that all interlocks have been satisfied.

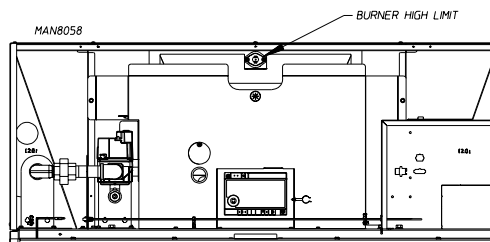
Manual Reset Hi-Limit Instructions

⚠ WARNING

Disconnect power before attempting to reset any manual hi-limit!

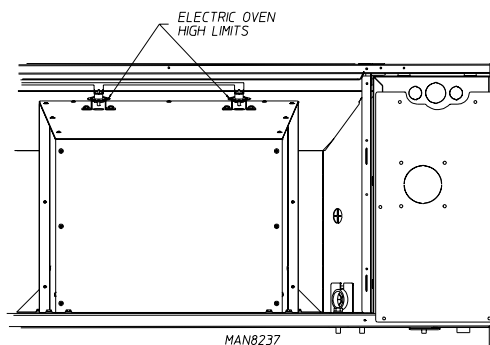
GAS DRYERS are manufactured with two hi-limit manual reset thermostats. One is located on the burner and one in the exhaust. The burner hi-limit thermostat is located in the front center of the dryer behind the control door.

To reset the burner high limit, disconnect the power, open the control door and support it with the prop rod. Push the red button in the center to reset. Close the control door. Restore the power.



GAS DRYER FRONT VIEW – CONTROL DOOR OPEN

ELECTRIC DRYERS are manufactured with three hi-limit manual reset thermostats. Two on the electric oven and one in the exhaust. The oven hi-limits are located in the top rear center of the dryer, behind the top back guard. To reset the electric oven hi-limit disconnect the power, remove the top back guard, push the red button in the center of each hi-limit replace the top back guard restore the power.



ELECTRIC DRYER REAR VIEW
– TOP BACK GUARD REMOVED

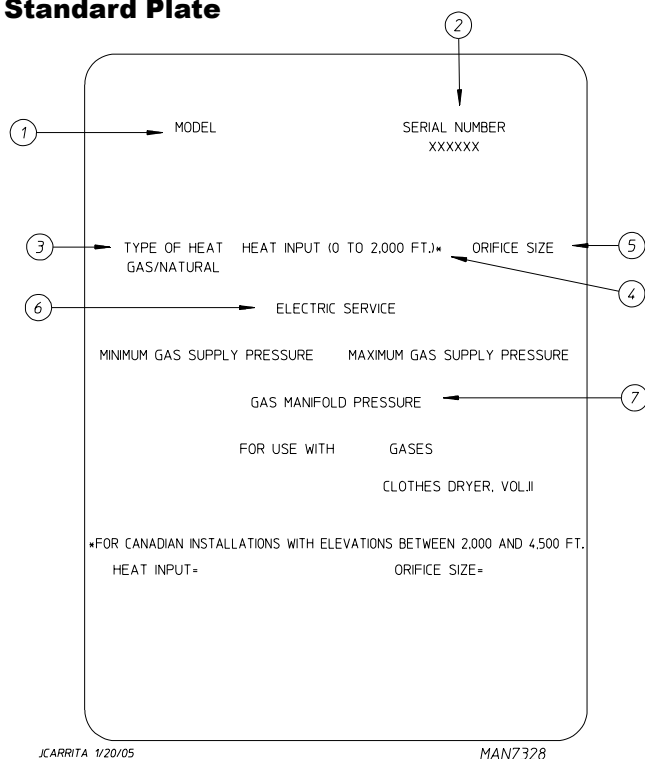
STEAM DRYERS are manufactured with one hi-limit manual reset thermostat in the exhaust.

The exhaust hi-limit on **GAS, STEAM AND ELECTRIC DRYERS** is located in the duct above the lint trap.

To reset the exhaust hi-limit, disconnect the power and open the lint door. Remove the lint screen clamp (6) screws (refer to figure 6, **page 29**). Above the lint trap and in the duct below the tumbler are three sensors. The flat one on the far left is the hi-limit Thermostat. Remove the two screws securing the thermostat and remove it. Push the red button in the center to reset. Replace the thermostat. Replace the lint screen clamp. Close the lint door. Restore the power.

Rating Plate Information

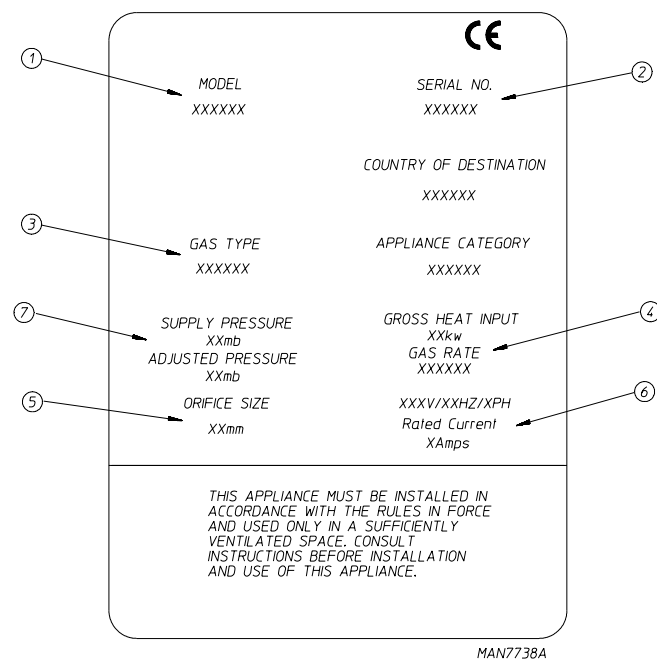
Standard Plate



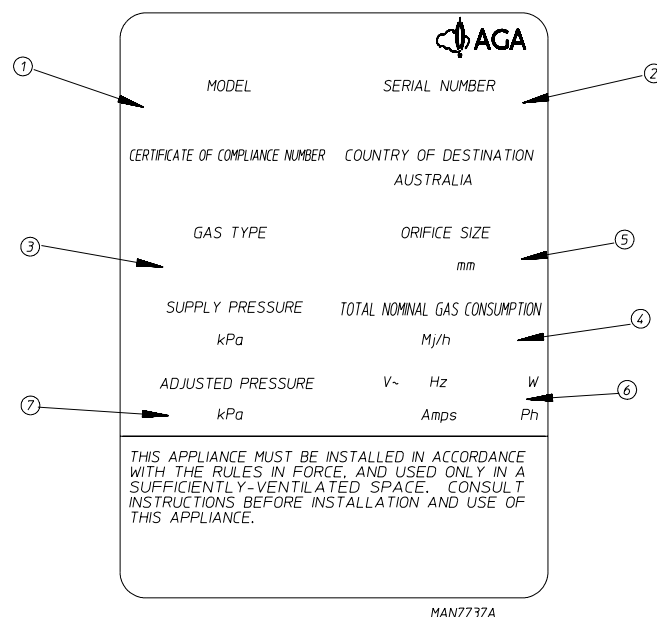
When contacting ADC, the information on the rating plate is required to ensure proper service/parts assistance. The rating plate is located at the upper left side panel of the dryer behind the control door. (Refer to item 8 -Dryer Rear View- **page 8**.)

1. Model Number – This describes the style of dryer and type of heat (gas, electric, or steam).
2. Serial Number – Allows the manufacturer to gather information on your particular dryer.
3. Type of Heat – This describes the type of heat for your particular dryer, gas (either natural gas or propane gas), electric, or steam.
4. Heat Input (For Gas Dryers) – This describes the heat input in British thermal units per hour (Btu/hr) or kilowatts (kW).
5. Orifice Size (For Gas Dryers) – Gives the number drill size used.
6. Electric Service – This describes the voltage and current rating for a particular model.
7. Gas Manifold Pressure (For Gas Dryers) – This describes the manifold pressure taken at the gas valve tap.

CE Plate



AGA Label



Programming

Non-Coin Programming

PHASE 7.2.2 OPL PROGRAMMING LOCATIONS (MAX TEMP 200°F) TO ENTER PROGRAMMING MODE PRESS [Q] & [A] KEYS TOGETHER.

TO EXIT PROGRAMMING MODE PRESS [Q] MULTIPLE TIMES
UNTIL DISPLAY RETURNS TO "READY".

- 0: SELECT LANGUAGE
- 1: SELECT SYSTEM PARAMETERS
 - 0: DRYER SETUP
 - 0: SELECT MODEL
 - 1: SYSTEM TEMP
 - 2: ENTER LINT CLEANING FREQUENCY 1 TO 10 HOURS
 - 3: ENTER AUDIO ALERT ON TIMES 0 TO 10
 - 4: ROTATION SENSOR
 - 5: BOARD ADDRESS 00 TO ZZ
 - 6: AUTO CYCLE TIME OUT 0 TO 99 MINUTES
 - 1: REVERSING SETUP
 - 0: ENTER SPIN TIME 30 TO 120 SECONDS
 - 1: ENTER STOP TIME 5 TO 10 SECONDS
 - 2: WRINKLE GUARD SETUP
 - 0: WRINKLE GUARD AUDIO ALERT
 - 3: STEAM INJECTION SETUP
- 2: PROGRAM A - F CYCLES
 - SELECT A - F KEY
 - SELECT CYCLE TYPE
 - AUTO
 - 0: REVERSE MODE
 - 1: ENTER DRY TEMP 160°F (71°C) TO 200°F (94°C)
 - 2: ENTER DRYNESS LEVEL
 - 3: ENTER CYCLE ADJUSTMENT VALUE 0 TO 99
 - 4: CONTROLLED COOL DOWN
 - 5: ENTER COOL DOWN TIME 0 TO 99 MINUTES
 - 6: ENTER COOL DOWN TEMP 70°F (21°C) TO 100°F (38°C)
 - MANUAL
 - 0: REVERSE MODE
 - 1: ENTER DRY TIME 0 TO 99 MINUTES
 - 2: ENTER DRY TEMP 100°F (38°C) TO 200°F (94°C)
 - 3: CONTROLLED COOL DOWN
 - 4: ENTER COOL DOWN TIME 0 TO 99 MINUTES
 - 5: ENTER COOL DOWN TEMP 70°F (21°C) TO 100°F (38°C)
- 3: PROGRAM 0 - 40 CYCLES
 - ENTER 0 - 40
 - SELECT CYCLE TYPE
 - AUTO
 - 0: REVERSE MODE
 - 1: ENTER DRY TEMP 160°F (71°C) TO 200°F (94°C)
 - 2: ENTER DRYNESS LEVEL
 - 3: ENTER CYCLE ADJUSTMENT VALUE 0 TO 99
 - 4: CONTROLLED COOL DOWN
 - 5: ENTER COOL DOWN TIME 0 TO 99 MINUTES
 - 6: ENTER COOL DOWN TEMP 70°F (21°C) TO 100°F (38°C)
 - MANUAL
 - 0: REVERSE MODE
 - 1: ENTER DRY TIME 0 TO 99 MINUTES
 - 2: ENTER DRY TEMP 100°F (38°C) TO 200°F (94°C)
 - 3: CONTROLLED COOL DOWN
 - 4: ENTER COOL DOWN TIME 0 TO 99 MINUTES
 - 5: ENTER COOL DOWN TEMP 70°F (21°C) TO 100°F (38°C)
- 4: DEFAULT SETTINGS
 - ENTER PASSWORD
 - (PRESS "1" "2" "3")
 - CONFIRM DEFAULTS

P/N:114043

Phase 7.2.2 OPL Diagnostic Codes

MAIN DOOR OPENED – A main door or door circuit is open.

EXHAUST HIGH TEMP FAULT – Tumbler is above 220° F (104° C).

LINT ACCESS OPEN – Lint drawer or lint door circuit is open.

EXHAUST HIGH LIMIT FAULT – Temp. disk under tumbler is open.

SAIL SWITCH CLOSED FAULT – Sail switch is closed – should be open at the start of a cycle.

SAIL SWITCH OPEN FAULT – Sail switch remained open after the cycle started. Should have closed.

BURNER HIGH LIMIT FAULT – Burner temp. disk has opened.

BURNER IGNITION CONTROL – No signal to gas valve from (DSI) module during trial for ignition time. DSI module is bad.

IGNITION FAULT – Gas valve did not remain open after trial for ignition. Indicates that no flame was detected.

FLAME FAULT – Flame was detected during trial for ignition but failed later.

ROTATION FAULT – Indicates the tumbler is not rotating.

OPEN EXHAUST TEMPERATURE PROBE – Indicates the exhaust temperature probe is open or shorted.

OPEN FIRE SUPPRESSION SYSTEM (F.S.S.) PROBE FAULT – Indicates the temperature probe for the F.S.S. is open or shorted.

LOW VOLTAGE FAULT – Volt dropped below the operating value.

EE PROM FAULT ### – Error in memory location. Fault correction: First cycle power to get the display to read "ENTER PASSWORD". Next press the keys FAA, then press the ENTER key. Press the UP ARROW then "YES" will be displayed. Now press the ENTER key and the display should return to ready.

Inputs (Red L.E.D.)

All indications are with L.E.D. lit

ESTOP – Indicates E-STOP has been pressed.

GAS_V – Indicates the gas valve is open (ON).

BRHL – Indicates the burner high limit disk is closed (temperature below 330° F [166° C]).

SAIL – Indicates the sail switch is closed.

EXHL – Indicates the exhaust high limit disk is closed (temperature below 225° F [107° C]).

MAIN – Indicates the status of main door is closed.

LINT – Indicates the lint drawer is closed.

FUSE – Indicates the status of the control voltage after POWER ON button has been pressed.

Outputs (Green L.E.D.)

All indications are with L.E.D. lit

AUX – This is for a spare output to be programmed.

STEAM – Indicates the status of the steam injection output.

_HEAT – Indicates the status of the heat output.

AIR – Indicates the status of the air jet output.

REV – Indicates the status of the tumbler reverse direction output.

If the request to tumble the drum in the reverse direction is made, then the L.E.D. is ON.

FWD – This L.E.D. will indicate the status of the tumbler forward direction output.

FAN – This L.E.D. will indicate the status of the fan output.

Phase 7.3.2 Coin Programming

Enter the programming mode by placing the switch on the Phase 7 board in the up position while no cycle is in progress. "Program Mode" will then be displayed.

Navigating Within The Programming Mode:

"Med" key to enter a program location.

"Hi-Temp" / "Lo-Temp" keys increase / decrease program location.

"PAUSE" key rejects entry and moves to next program location.

Changing A Parameter Value:

With parameter value displayed pressing "Lo Temp" or "High Temp" changes the parameter value.

"Med" key must be pressed to accept a new parameter.

PHASE 7.3.2 COIN PROGRAM LOCATION SUMMARY	
(MAX TEMP 190°F)	
TO ENTER OR EXIT PROGRAMMING MODE TOGGLE PROGRAM SWITCH UP OR DOWN RESPECTIVELY	
KEYPAD LEGEND	
HI KEY- INCREMENT OR TOGGLE	
MED KEY- ENTER	
LO KEY- DECREMENT OR TOGGLE	
PAUSE KEY- EXIT LOCATION WITHOUT SAVING	
PL #01 CONTROL SETTINGS	
LANGUAGE	
TEMP SCALE	
BUZZER MODE	
BEEP COUNT 1 TO 9 BEEPS	
DRY MODE	
PAUSE TIME 0 TO 3 MINUTES	
READY PROMPT	
PL #02 MACHINE SETTINGS	
MODEL	
ROTATION SENSOR	
LINT CLEANING FREQUENCY 0 TO 10 HOURS	
AXIAL THERMISTOR INPUT	
THERMISTOR TEMP SET POINT 100 TO 400°F	
PL #03 HI KEY SETTINGS	
TIME FOR AMOUNT TO START 1 TO 99 MINUTES	
TIME FOR TOP OFF 1 TO 99 MINUTES	
DRY TEMP 100 TO 190°F	
COOL TIME 0 TO 9 MINUTES	
PL #04 MED KEY SETTINGS	
TIME FOR AMOUNT TO START 1 TO 99 MINUTES	
TIME FOR TOP OFF 1 TO 99 MINUTES	
DRY TEMP 100 TO 190°F	
COOL TIME 0 TO 9 MINUTES	
PL #05 LO KEY SETTINGS	
TIME FOR AMOUNT TO START 1 TO 99 MINUTES	
TIME FOR TOP OFF 1 TO 99 MINUTES	
DRY TEMP 100 TO 190°F	
COOL TIME 0 TO 9 MINUTES	
PL #06 VENDING PARAMETERS	
CURRENCY SYMBOL	
VENDING MODE	
VENDING SAFEGUARD	
LEFT COIN DENOMINATION 0.05 TO 25.00	
RIGHT COIN DENOMINATION 0.05 TO 25.00	
AMOUNT TO START 0.05 TO 25.00	
AMOUNT FOR TOP OFF 0.05 TO 25.00	
PL #07 FAULT RECORDING	
NO FAULTS/FAULTS	

P/N: 112704

Typical Programming Example

Change a single coin acceptor from factory setting to yield 20 minutes for \$.50, \$.50 as the minimum amount to start, and no differential in regard to temperature key selection.

Settings: Time for Amt to Start (PL03, PL04, PL05) 20
Left Coin Denomination (PL06) \$.25
Amount to Start (PL06) \$.50

Clearing Coin Credit

With no cycle in progress and program switch down, hold "PAUSE" while pressing HI three times, LO twice, and MED once. "Clear Credit?" will appear. Press any key to complete.

Accessing and Clearing Coin Vault Total

Enter program mode by switching program switch (up) while no cycle is in progress.

Press HI – "Coin Vault total is \$XXX" will appear.

Press HI – "Clear Coin Vault Total?" will appear.

Press MED to clear this amount or PAUSE to leave as is.

Hot Keys

In the Coin Mode Hot Keys are enabled while in a cycle by placing the program switch in the up position.

In Free Mode Hot Keys are always enabled.

HI – Remaining credit – coin mode / remaining time – free mode.

MED – Temps – Exhaust / left, S.A.F.E. / right, Axial / middle (Axial dryer).

LO – Tumbler RPM.

S.A.F.E. TEST: Switch to program mode. Press and hold the "PAUSE" key until prompted to press MED to open the water.

L.C.D. Operating Messages

When display reads "Out of Order" pressing LO displays one of the messages listed below:

MODEL FAULT – Wrong model selected at PL01/3rd position.

SAIL SWITCH CLOSED FAULT – Sail switch closed before starting.

SAIL SWITCH OPEN FAULT – Sail switch failed to close after starting.

BURNER HI-LIMIT FAULT – Oven thermostat switch has opened.

EXHAUST HI-LIMIT FAULT – Tumbler thermostat switch has opened.

BURNER CONTROL FAULT – No gas valve signal – Bad DSI unit.

IGNITION FAULT – No flame ignition detected thru all retries.

FLAME FAULT – Flame detected at ignition but failed later.

CLEAN LINT – Due to failure to clean out lint.

CHECK CONTROL BOARD FUSE #2 – Fuse 2 on Phase 7 board is open.

EXHAUST / AXIAL PROBE FAULT – Indicated probe has failed.

ROTATION SENSOR FAULT – Rotation sensor or tumbler drive has failed.

EXHAUST HI-TEMP FAULT – Overheating condition has occurred.

BURNER PURGE FAULT – Gas return signal before heat output.

When display reads "Out of Order" pressing and holding the "PAUSE" key for 3-seconds clears the out of order message provided the out of order condition has been corrected.

"S.A.F.E. System Disabled"

In Coin Mode hold "PAUSE" and "LO" keys down together to display one or the following causes:

OPEN / SHORTED THERMISTOR – Probe or probe circuit bad.

OPEN / SHORTED WATER VALVE – Water valve or circuit bad.

WATER NOT CONNECTED – No water pressure at solenoid valve.

"S.A.F.E. System (was) Activated"

Indicates the S.A.F.E. system is active or was active because a fire was detected. The buzzer sounds at a fast pace while the system is active.

A service call to your local dealer is required to reset the microprocessor controller (computer). Qualified personnel will inspect the dryer and, if it is found to be safe for operation, reset the control.

