

AD-25V Installation Manual

Phase 7 / S.A.F.E. System

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 death.

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

AVERTISSEMENT: Assurez-vous de bien suivre les instructions données dans cette notice pour réduire au minimum le risque d'incendie ou d'explosion ou pour éviter tout dommage matériel, toute blessure ou la mort.

- Ne pas entreposer ni utiliser d'essence ni d'autres vapeurs ou liquides inflammables à proximité de cet appareil ou de tout autre appareil.
- QUE FAIRE SI VOUS SENTEZ UNE ODEUR DE GAZ:
 - Ne pas tenter d'allumer d'appareils.
 - Ne touchez à aucun interrupteur. Ne pas vous servir des téléphones se trouvant dans le bâtiment.
 - 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.



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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.

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. **AD-25V PH7**

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 (508) 678-9000. 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.

“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.

⚠ WARNING

Proposition 65

Use of this product could expose you to substances from fuel combustion that contain chemicals known to the State of California to cause cancer, birth defects and other reproductive harm.

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 et dangereux.»

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.

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.

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 in the front electrical control box area.

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List of Acronyms

D.M.S.	Drill Measurement Size
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
L.P.	Liquid Propane
OSHA	Occupational Safety and Health Administration
R.M.A.	Return Material Authorization
S.A.F.E.	Sensor Activated Fire Extinguishing
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 or 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.

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

Purchaser/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.

Dryer(s) 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, a combustible detergent, 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.

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 may be a fire hazard.

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 the National Electrical Code ANSI/NFPA NO. 70-LATEST EDITION or in Canada, the Canadian Electrical Codes Parts 1 & 2 CSA C22.1-1990 or LATEST EDITION.



Note

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

Under no circumstances should the dryer door switch, lint drawer switch, or the heat safety circuit devices ever be disabled.



Warning

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

This dryer is not to be used in the presence of dry cleaning solvents or fumes.

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.

Read and follow all caution and direction labels attached to the dryer.

For safety, proper operation, and optimum performance, the dryer must not be operated with a load less than sixty-six percent, 16 lb (7 kg) 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

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).

Notes

Specifications

MAXIMUM CAPACITY (DRY WEIGHT)		25 lb	11.3 kg
TUMBLER DIAMETER		32-3/4"	83.2 cm
TUMBLER DEPTH		19"	48.3 cm
TUMBLER VOLUME		9.26 cu ft	262.21 L
TUMBLER/DRIVE MOTOR		1/2 hp*	0.373 kW
BLOWER/FAN MOTOR		N / A	
DOOR OPENING (DIAMETER)		21-1/2"	54.61 cm
DOOR SILL HEIGHT		31"	78.74 cm
WATER CONNECTION		3/4-11.5 NH (North America)	
		3/4" B.S.P.T. (Outside North America)	
DRYERS PER 20'/40' CONTAINER		14 / 30	
DRYERS PER 48'/53' TRUCK		45 / 51	
Gas	VOLTAGE AVAILABLE	100-480V 1,3ø	2,3,4w 50/60 Hz
	APPROXIMATE NET WEIGHT	407 lb	184.6 kg
	APPROXIMATE SHIPPING WEIGHT	446 lb	202.1 kg
	AIRFLOW	60 Hz	460 cfm
		50 Hz	383 cfm
	HEAT INPUT	78,000 Btu/hr	19,656 kcal/hr
	EXHAUST CONNECTION (DIAMETER)	8"	20.32 cm
	COMPRESSED AIR CONNECTION	N / A	
	COMPRESSED AIR VOLUME	N / A	
	INLET PIPE CONNECTION	1/2" M.N.P.T.**	
		1/2" B.S.P.T. (CE and Australia Only)	
Electric	VOLTAGE AVAILABLE	208-460V 1,3ø	2,3,4w 50/60 Hz
	APPROXIMATE NET WEIGHT	407 lb	184.6 kg
	APPROXIMATE SHIPPING WEIGHT	446 lb	202.1 kg
	AIRFLOW	60 Hz	460 cfm
		50 Hz	383 cfm
	EXHAUST CONNECTION (DIAMETER)	8"	20.32 cm
	COMPRESSED AIR CONNECTION	N / A	
	COMPRESSED AIR VOLUME	N / A	
	OVEN SIZE		
	kW	Btu/hr	
	15	51,200	
	20	68,200	
	24	81,900	20,600
Steam***	VOLTAGE AVAILABLE	100-480V 1,3ø	2,3,4w 50/60 Hz
	APPROXIMATE NET WEIGHT	435 lb	197.3 kg
	APPROXIMATE SHIPPING WEIGHT	474 lb	214.8 kg
	AIRFLOW	60 Hz	460 cfm
		50 Hz	383 cfm
	STEAM CONSUMPTION	98.8 lb/hr	44.8 kg/hr
	OPERATING STEAM PRESSURE	125 psi max	8.6 bar
	EXHAUST CONNECTION (DIAMETER)	8"	20.32 cm
	COMPRESSED AIR CONNECTION	1/8" F.N.P.T.	
	COMPRESSED AIR VOLUME	0.75 cfh	0.02 cmh
	BOILER HORSEPOWER (NORMAL LOAD)	2.9 Bhp	
	SUPPLY CONNECTION	1" F.N.P.T.	
	RETURN CONNECTION	1" F.N.P.T.	

Shaded areas are stated in metric equivalents

1/2/04

* Reversing dryer available with 3-phase (3ø) 1/2 hp (0.373 kW) motors standard.

** Size of piping to dryer varies with installation conditions. Contact factory for assistance.

*** Specify air-operated or electromechanical steam damper system. Air-operated steam damper system must be provided with clean, dry, and regulated 80 psi ± 10 psi (5.51 bar ± 0.68 bar) air supply.



Note

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

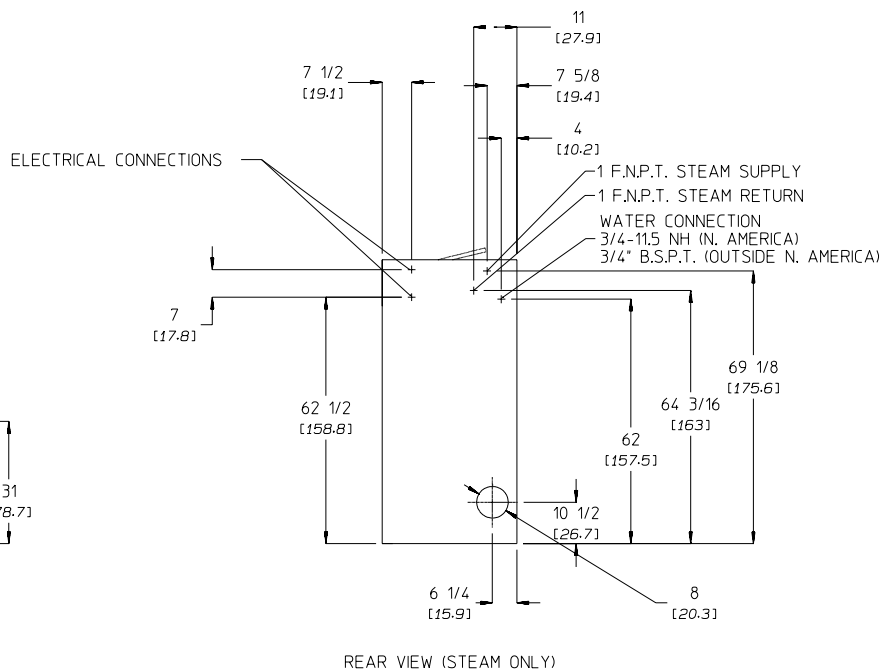
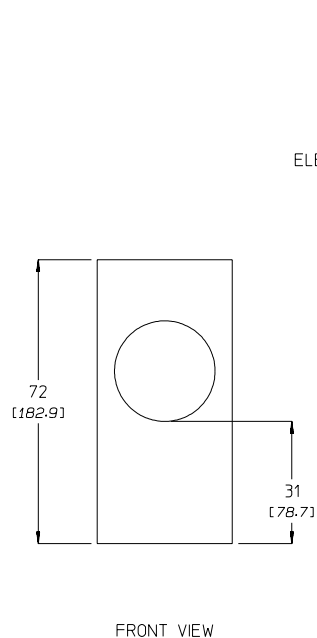
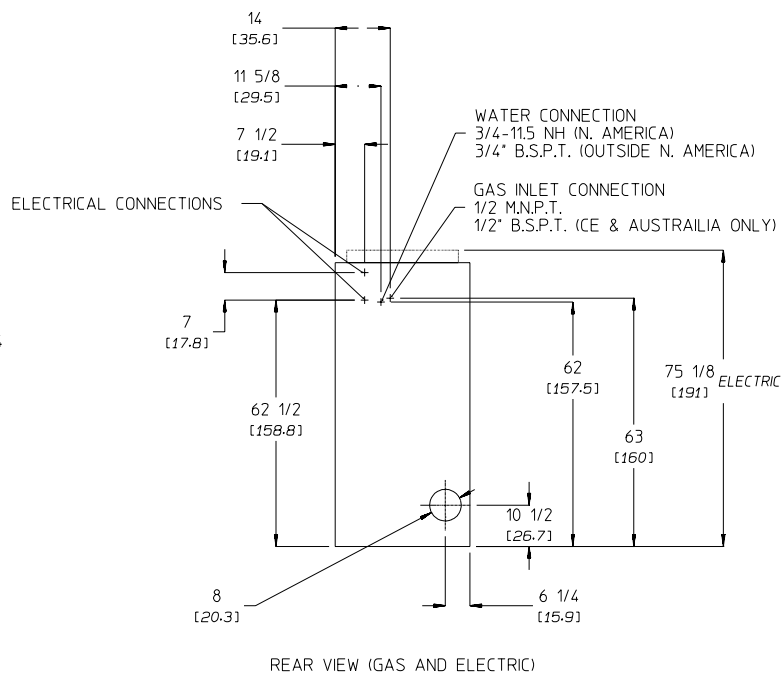
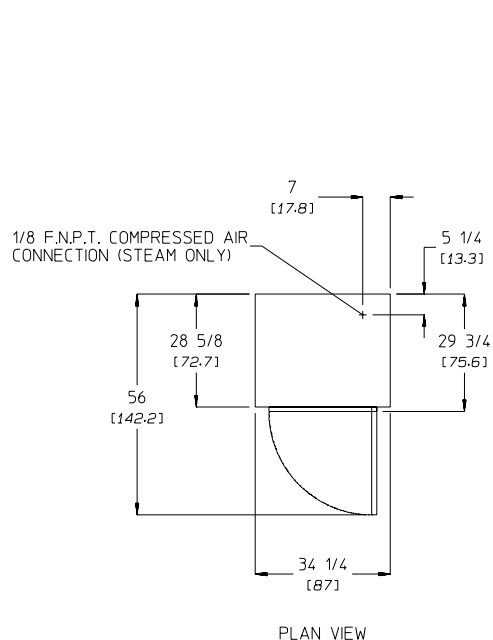
Specifications

DRYER NOTES:

- ° DUCTWORK SIZE VARIES WITH INSTALLATION CONDITIONS.
- ° EXHAUST STATIC PRESSURE MUST BE NO LESS THAN 0 AND MUST NOT EXCEED 0.3" (0.74 MB) WATER COLUMN.

STEAM DRYER NOTES:

- ° OPERATING HEIGHT OF STEAM DRYER IS 77" (195.6 CM).
- ° SIZE OF PIPING TO DRYER VARIES WITH INSTALLATION CONDITIONS. CONTACT FACTORY FOR ASSISTANCE.
- ° STEAM DRYERS MUST BE PROVIDED WITH CLEAN, DRY, REGULATED 80 PSI \pm 10 PSI (5.5 BAR \pm 0.69 BAR) AIR SUPPLY.



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Installation Procedures

Installation should be performed by competent technicians in accordance with local and state codes. In the absence of these codes, the installation must conform to applicable American National Standards: ANSI Z223.1-LATEST EDITION (National Fuel Gas Code) or ANSI/NFPA NO. 70-LATEST EDITION (National Electrical Code) or in Canada, the installation must conform to applicable Canadian Standards: CAN/CGA-B149.1-M91 (Natural Gas) or CAN/CGA-B149.2-M91 (L.P. Gas) or LATEST EDITION (for General Installation and Gas Plumbing) or Canadian Electrical Codes Parts 1 & 2 CSA C22.1-1990 or LATEST EDITION (for Electrical Connections).

Unpacking/Setting Up

Remove protective shipping material (i.e., plastic wrap and optional shipping box) from 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 unskid the dryer, locate and remove the four bolts securing the base of the dryer to the wooden skid. Two are at the rear base (remove the back panel for access), and two are located in the bottom of the lint chamber. To remove the two bolts located in the lint chamber area, remove the lint door.

With the skid removed, to make it easier to slide the dryer into its final position, slightly lower all four leveling legs, so that the dryer will slide on the legs instead of the base frame.

Leveling Dryer

The dryer is equipped with four leveling legs, one at each corner of the base. Two are located at the rear of the dryer base, and two are located in the lint chamber (coop). To increase bearing life and improve efficiency, the dryer should be tilted slightly to the rear.

Location Requirements

Before installing the dryer, be sure the location conforms to local codes and ordinances. In the absence of such codes or ordinances the location must conform with the National Fuel Gas Code ANSI.Z223.1 LATEST EDITION, or in Canada, the installation must conform to applicable Canadian Standards: CAN/CGA-B149.1-M91 (Natural Gas) or CAN/CGA-B149.2-M91 (L.P. Gas) or LATEST EDITION (for General Installation and Gas Plumbing).

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.



Important

"The dryer must be installed on noncombustible floors only."

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

The dryer is for use in noncombustible locations.

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

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

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

Dryer must be exhausted to the outdoors as noted in this manual (refer to Exhaust Requirements).

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



Important

Dryer should be located where a minimum amount of exhaust duct will be necessary.

The dryer must be installed with a proper exhaust duct connection to the outside.

The dryer must be installed with provisions for adequate combustion and make-up air supply.



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

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).

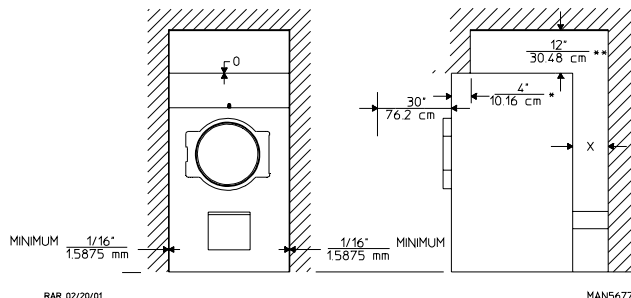
Dryer Enclosure Requirements

Bulkheads and partitions should be made of noncombustible materials and must be located a minimum of 12-inches (30.48 cm) above the dryer's outer top; 18-inches (45.72 cm) for steam dryers, except along the front of the dryer, which may be closed if desired.



Note

Allowances must be made for opening the control door.



X = 12-inch (30.48 cm) minimum, 24-inches (60.96 cm) is suggested for ease of maintenance.

* 1-inch (2.54 cm) maximum for electric dryers.

** 18-inch (45.72 cm) minimum for steam dryers.



Note

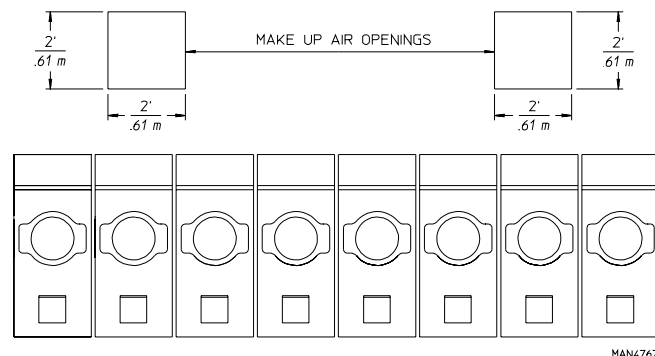
Air considerations are important for proper and efficient operation.

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 control door. It is suggested that the dryer be positioned about 2 feet (0.61 meters) away from the nearest obstruction for ease of installation, maintenance, and service (to be measured from the back guard). Refer to the illustration on the previous page for details.

Fresh Air Supply Requirements

The air supply (make-up air) must be given careful consideration to ensure proper performance of each dryer. An unrestricted source of air is necessary for each dryer. An airflow of 460 cfm (cubic feet per minute) (13 cmm [cubic meters per minute]) must be supplied to each dryer. As a general rule, an unrestricted air entrance from the outdoors (atmosphere) of a minimum of 1 square foot (0.093 square meters) is required for each dryer. If registers or louvers are installed over the openings, then the area must be increased. 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 the dryers. The dryer must be installed with provisions for adequate combustion and make-up air supply.

EXAMPLE: For a bank of eight dryers, two unrestricted openings measuring 2 feet by 2 feet (0.61 meters by 0.61 meters) (4 square feet [0.372 square meters]) are acceptable.



TYPICAL INSTALLATION SHOWING MAKE - UP AIR OPENINGS

Important
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 excessive altitudes or predominantly low-pressure areas.

Important
Make-up air must be provided from a source 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.

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

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-limit, or lint chamber hi-heat protector thermostat. The dryer must be installed with a proper exhaust duct connection to the outside.

When possible, it is suggested to provide a separate (single) exhaust duct for each dryer.

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 exhaust 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. The shape of the ductwork is not critical as long as the minimum cross section area is provided. Single or independent dryer venting is recommended.

It is suggested that the use of 90° turns be avoided; use 30° or 45° angles instead.

The ductwork should be smooth inside with no projections from sheet metal screws or other obstructions, which will collect lint. When adding ducts, the ducts to be added should overlap the duct to which it is connected. All ductwork joints must be taped to prevent moisture and lint from escaping into the building. Additionally, inspection doors should be installed at strategic points in the exhaust ductwork for periodic inspection and cleaning.

Important
When connecting ductwork to the dryer exhaust duct, be sure that when screws are used they do not restrict the operation (both opening and closing) of the damper.

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.

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 (i.e., roof or ground level).

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

Exhaust back pressure measured by a manometer at the dryer exhaust duct area must be no less than 0 and must not exceed 0.3 in WC (0.74 mb).

It is recommended that exhaust or booster fans not be used in the exhaust ductwork system.

**Note**

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."

Single Dryer Venting**Important**

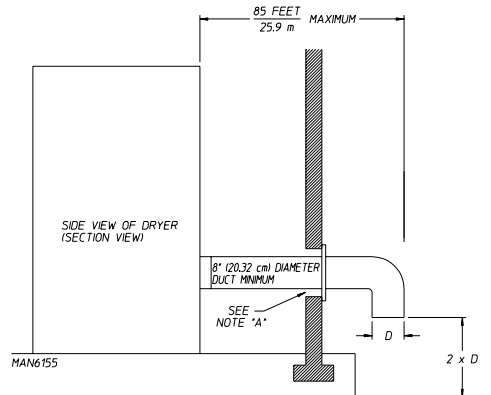
For exhaust duct runs over 85 feet (25.9 meters) a minimum size of 10-inches (25.4 cm) must be used.

Horizontal Venting

When a single 8-inch (20.32 cm) horizontal vent is used, the ductwork to the outlet cannot exceed 85 feet (25.9 meters), refer to Illus. A below. This calculation of 85 feet (25.9 meters) compensates or allows for the use of a maximum of only one elbow (which is the outside outlet protection).

Illus. A

HORIZONTAL SINGLE DRYER VENTING 8 INCH (20.32 cm) DUCTING



NOTE A: OPENING MUST BE TWO (2) INCHES (5.08 cm) LARGER THAN THE DUCT (ALL THE WAY AROUND) THE DUCT MUST BE CENTERED WITHIN THIS OPENING.

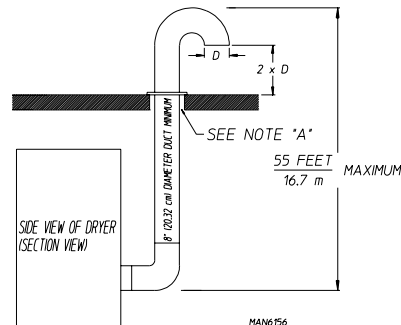
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Vertical Venting

When vertical single 8-inch (20.32 cm) venting is used, the ductwork from the dryer to the outside outlet cannot exceed 55 feet (16.7 meters) (refer to Illus. B below). This calculation compensates for the use of a maximum of three elbows including the two elbows creating the 180° (turned downward) outside outlet.

Illus. B

VERTICAL SINGLE DRYER VENTING



NOTE A: OPENING MUST BE TWO (2) INCHES (5.08 cm) LARGER THAN THE DUCT (ALL THE WAY AROUND) THE DUCT MUST BE CENTERED WITHIN THIS OPENING.

GS 4/26/02

If the length of the ductwork run or quantity of elbows used exceeds the above noted specifications, the cross-sectional area of the ductwork must be increased in proportion to the number of elbows or duct run added.

**Important**

For extended ductwork runs, the cross-sectional area of the ductwork can only be increased to an extent. For extended ductwork runs, a professional HVAC firm must be consulted for proper venting information.

Multiple Dryer (Common) Venting

If it is not feasible to provide separate exhaust ducts for each dryer, ducts for individual dryers may be channeled into a common main duct. Each dryer is provided with a back draft damper. The individual ducts should enter the bottom or side of the main duct at an angle not more than 45° in the direction of the airflow.

The main common duct may be any shape as long as the minimum cross-sectional area is provided. The main duct should be tapered with the diameter increasing before each individual 8-inch (20.32 cm) duct is added (refer to Illus. C for Horizontal Venting and Illus. D for Vertical Venting on the following page).

**Important**

No more than four dryers maximum should be connected to one main common duct with a vertical run.

**Note**

Distance between dryer single ducts being connected to the main common duct must be a minimum of 34-1/4" (87 cm) dryer width.

Ductwork should be laid out in such a manner where allowances are made at rear area of the dryer for removal of rear service panels or guards.

The illustrations on the following page show the minimum cross section area for multiple dryer venting. These figures must be increased in proportion if the main duct run from the last dryer to where it exhausts has numerous elbows or is unusually long.

**Important**

For extended ductwork runs, the cross section area of the duct can only be increased to an extent. For extended ductwork runs, a professional HVAC firm must be consulted for proper venting information.

Refer to the following page for Multiple Dryer Horizontal Venting and Vertical Venting examples/illustrations.

**Important**

Exhaust back pressure measured by a manometer at the dryer exhaust duct area must be no less than 0 and must not exceed 0.3 in WC (0.74 mb).

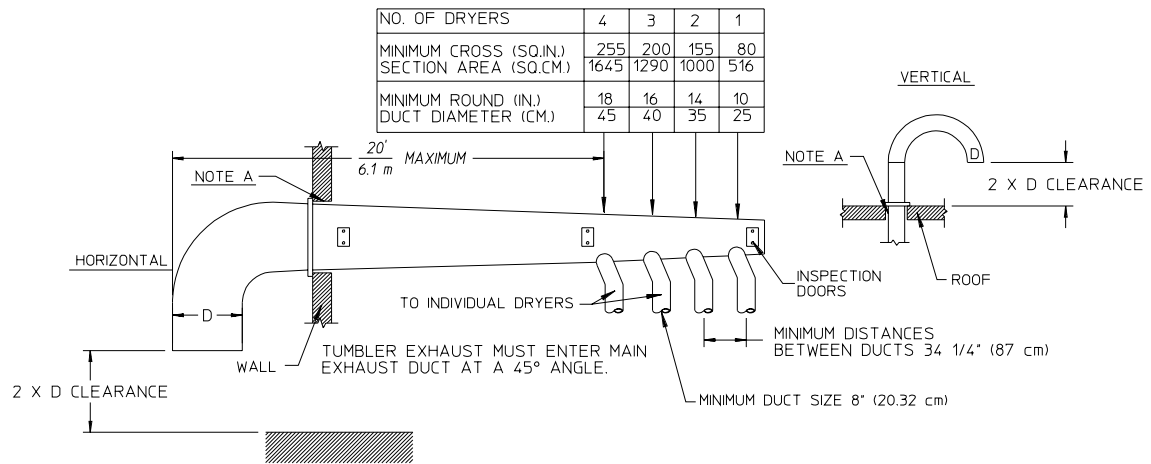
**Warning**

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

Horizontal Venting

Illus. C

MULTIPLE DRYER VENTING (HORIZONTAL)
WITH A MINIMUM 8" (20.32 cm) DIAMETER EXHAUST
CONNECTIONS AT COMMON DUCT



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

MAN4771

FORMULAS TO CALCULATE DUCTING CROSS SECTIONAL AREA

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

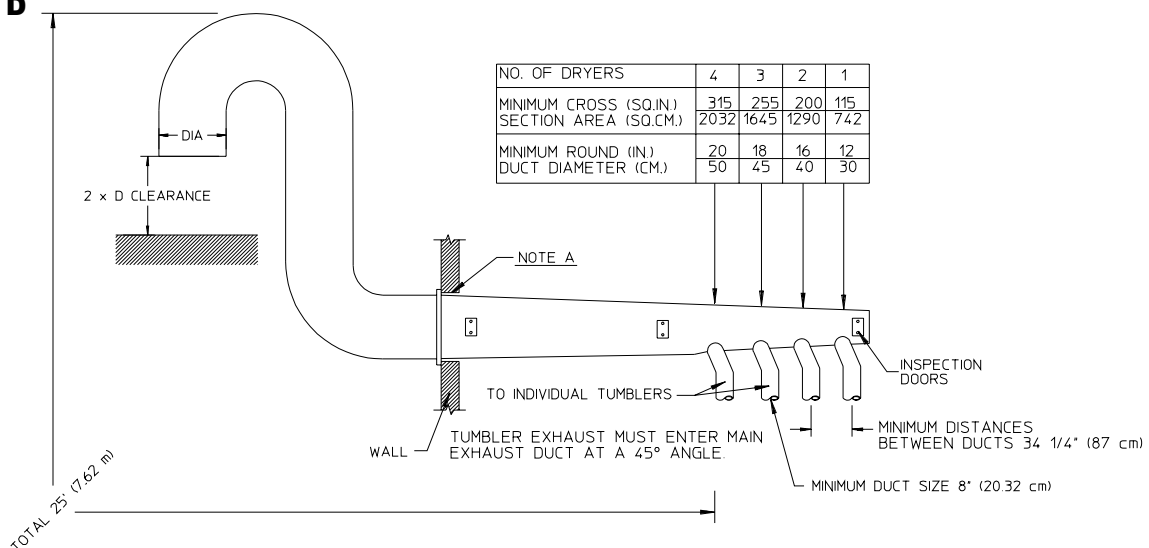
CROSS SECTIONAL AREA OF A RECTANGULAR DUCT = W x H WHERE W = WIDTH AND H = HEIGHT.

NOTE A: OPENING MUST BE TWO (2) INCHES (5.08 cm) LARGER THAN DUCT
(ALL THE WAY AROUND). THE DUCT MUST BE CENTERED WITHIN THIS OPENING.

Vertical Venting

Illus. D

MULTIPLE DRYER VENTING (VERTICAL) WITH A
MINIMUM 8" (20.32 cm) DIAMETER EXHAUST CONNECTIONS AT COMMON DUCT



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

MAN4772

FORMULAS TO CALCULATE DUCTING CROSS SECTIONAL AREA

CROSS SECTIONAL AREA OF A ROUND DUCT = $.785 \times DIA^2$

CROSS SECTIONAL AREA OF A RECTANGULAR DUCT = WIDTH x HEIGHT.

NOTE A: OPENING MUST BE TWO (2) INCHES (5.08 cm) LARGER THAN 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 and state regulations or codes. In the absence of such codes, all electrical connections, materials, and workmanship must conform to the applicable requirements of the National Electrical Code ANSI/NFPA NO. 70-LATEST EDITION or in Canada, the Canadian Electrical Codes Parts 1 & 2 CSA C22.1-1990 or LATEST EDITION.



Note

Component failure due to improper installation will void the warranty.



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.

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; it could create 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.



Important

The dryer must be connected to the electric supply shown on the data label. In the case of 208 VAC or 230/240 VAC, the supply voltage must match the electric service specifications of the data label exactly.

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

A separate protected circuit must be provided to each dryer.



Note

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

The use of aluminum wire will void the warranty.

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.



Warning

208 VAC and 230/240 VAC are not the same. Any damage done to dryer components due to improper voltage connections will automatically void the warranty.

Electrical Service Specifications



Important

Figures shown are for non-reversing models only. For reversing models contact the factory.

Gas and Steam Models Only

ELECTRICAL SERVICE SPECIFICATIONS (PER DRYER)					
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	
100	1Ø	2	8.0	9.4	15
115	1Ø	2	8.7	—	15
208	1Ø	2	5.2	—	15
230	1Ø	2	4.8	—	15
240	1Ø	2	—	5.6	15
208	3Ø	3	3.0	—	15
230	3Ø	3	3.2	—	15
240	3Ø	3	—	3.6	15
380-400	3Ø	4*	—	2.2	15
416	3Ø	4*	—	2.3	15
460-480	3Ø	3	2.1	—	15

* 3-Wire is available.

8/11/08

Electric Models Only

All electrically heated dryers must be connected to the electric service shown on the dryer's data label. The connecting wires must be properly sized to handle the rated current.

ELECTRICAL SERVICE SPECIFICATIONS (PER DRYER)					
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	APPROX. AMP DRAW		CIRCUIT BREAKER
			60 Hz	50 Hz	
15 kW					
208	1Ø	2	77	—	100
230	1Ø	2	70	—	90
240	1Ø	2	—	68	90
380	3Ø	4*	—	29	40
20 kW					
208	1Ø	2	101	—	150
230	1Ø	2	92	—	125
240	1Ø	2	—	89	125
208	3Ø	3	62	—	80
380	3Ø	4*	—	34	45
416	3Ø	4*	—	32	45
22 kW					
400	3Ø	4*	—	39	80
24 kW					
208	3Ø	3	72	—	90
220	3Ø	3	66	—	90
230	3Ø	3	65	—	90
240	3Ø	3	—	63	80
380	3Ø	4*	—	42	60
416	3Ø	4*	—	39	50
460	3Ø	3	32	—	40

* 3-Wire is available.

8/11/08

Grounding

A ground (earth) connection must be provided and installed in accordance with state and local codes. In the absence of these codes, grounding must conform to applicable requirements of the National Electrical Code ANSI/NFPA NO. 70-LATEST EDITION, or in Canada, the installation must conform to applicable Canada Standards: Canadian Electrical Codes Parts 1 & 2 CSA C22.1-1990 or LATEST EDITION. 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 (no. 18 minimum) 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 no. 4 copper wire 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 inside the control box 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.

Gas and Steam Models Only

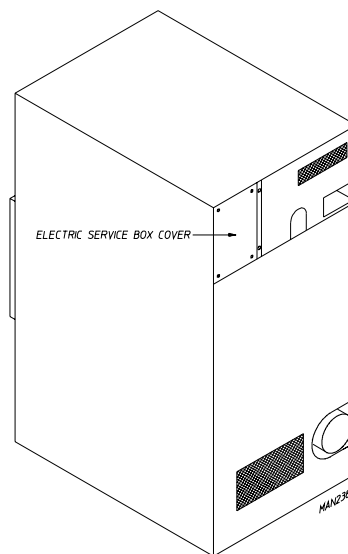
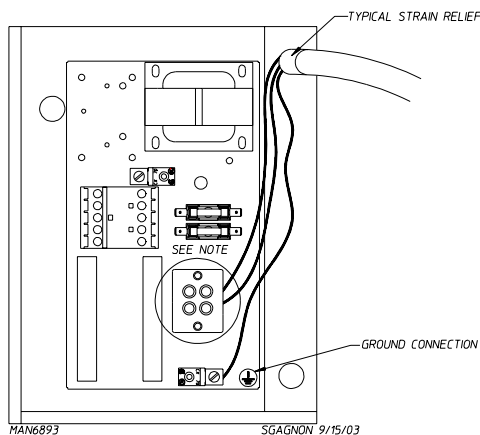


Important

A separate protected circuit must be provided to each dryer.

Single-Phase (1Ø) Wiring Connections/Hookup

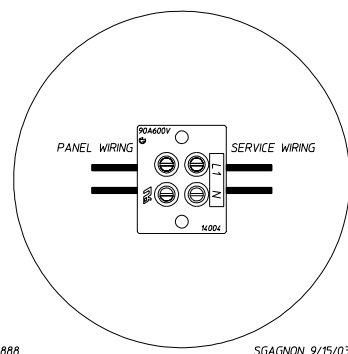
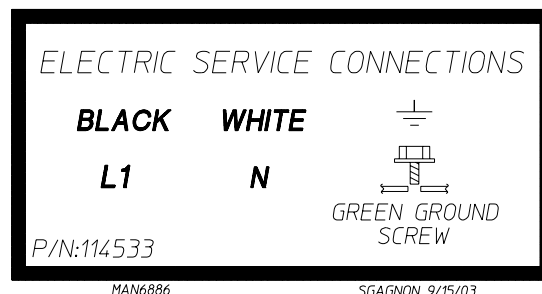
The electrical input connections on all single-phase (1Ø) gas dryers and steam dryers are made into the rear service box located at the upper left area of the dryer.



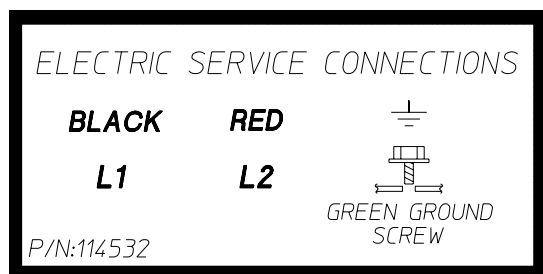
Single-Phase Electrical Lead Connections

Black + Positive	White or Red + Neutral or L2	Green + Ground
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For 110V Applications

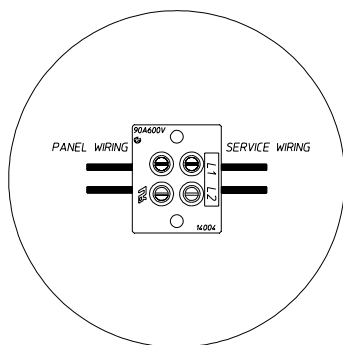


For 208-230/240V Applications



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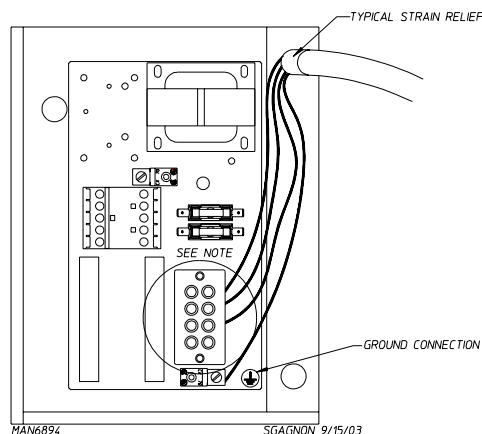
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A ground lug is provided in the rear electrical box to connect your service ground.

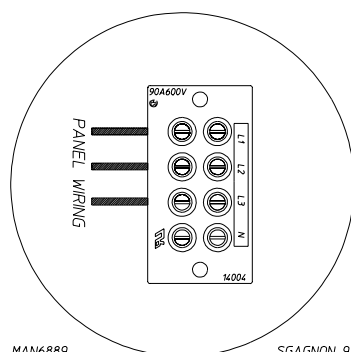
3-Phase (3Ø) Wiring Connections/Hookup

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.



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The neutral will only be used on 4-wire service. This is typical for 380-416V, 50 Hz.

Electrically Heated Models Only

The only electrical input connections to the dryer are the 3-phase (3Ø) power leads (L1, L2, L3, and sometimes neutral) and ground. Single-phase (1Ø) power for the control circuit and for any single-phase (1Ø) motors (if present) is done internally to the dryer by the factory at the oven contactor. No single-phase (1Ø) input connection is required on a 3-phase (3Ø) dryer.



Caution

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

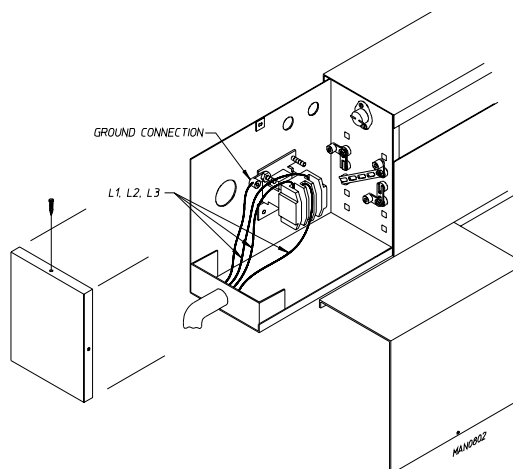
Input connection wiring must be sized properly to handle the dryer's current draw. This information is printed on the dryer's data label.

The electrical input connections are made at the electric oven contactor located inside the assembly at the rear center upper section of the dryer. The ground connection is made to a copper lug also provided in this area. To gain access, remove oven rear service cover.



Important

A strain relief must be used where the input wiring enters the oven assembly.



Gas Information

It is your responsibility to have all plumbing connections made by a qualified professional to ensure that the gas plumbing installation is adequate and conforms to local and state regulations or codes. In the absence of such codes, all plumbing connections, materials, and workmanship must conform to the applicable requirements of the National Fuel Gas Code ANSI Z223.1-LATEST EDITION, or in Canada, the Canadian Installation Codes CAN/CGA-B149.1-M91 (Natural Gas) or CAN/CGA-B149.2-M91 (L.P. Gas) or LATEST EDITION.



Important

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

The dryer and its individual shutoff valves 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). 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 piping system at test pressures equal to or less than 1/2 psig (3.5 kPa).



Important

Failure to isolate or disconnect the dryer from supply as noted can cause irreparable damage to the gas valve, which will void the warranty.



Warning

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

Gas Supply

The gas dryer installation must meet the American National Standard...National Fuel Gas Code ANSI Z223.1-LATEST EDITION, or in Canada, the Canadian Installation Codes CAN/CGA-B149.1 M91 (Natural Gas) or CAN/CGA-B149.2-M91 (L.P. Gas) or LATEST EDITION, as well as local codes and ordinances and must be done by a qualified professional.



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 dryer data label. 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.



Important

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

The input ratings shown on the dryer data label 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

This gas dryer is not provided with an internal gas supply shutoff and an external gas supply shutoff must be provided.

Technical Gas Data

Gas Specifications

Type of Gas	Manifold Pressure*	In-Line Pressure
Natural	3.5 in WC	6.0-12.0 in WC
	8.7 mb	14.92 - 29.9 mb
Liquid Propane	10.5 in WC	11.0 in WC
	26.1 mb	27.4 mb

Shaded areas are stated in metric equivalents

* Measured at gas valve pressure tap when the gas valve is on.

Gas Connections

Inlet connection 1/2" N.P.T.
Inlet supply size 1/2" Pipe (minimum)
Heat input (per dryer) 78,000 Btu/hr (19,656 kcal/hr)

Natural Gas

Regulation is controlled by the dryer's gas valve's internal regulator. Incoming supply pressure must be consistent between a minimum of 6.0 in WC (19.92 mb) and a maximum of 12.0 in WC (29.9 mb) pressure.

L.P. Gas

Dryers made for use with L.P. gas have the gas valve's internal pressure regulator blocked open so that the gas pressure must be regulated upstream of the dryer. The pressure measured at each gas valve pressure tap must be a consistent 10.5 in WC (26.2 mb). There is no regulator or regulation provided in an L.P. dryer. The pressure must be regulated at the source (L.P. tank) or an external regulator must be added to each dryer.

TYPE OF GAS							
Btu/hr Rating	kcal/hr Rating	Natural			Liquid Propane		
		Qty.	D.M.S.*	Part No.	Qty.	D.M.S.*	Part No.
78,000	19,656	2	#31	140818	2	#50	140802
Liquid Propane Conversion Kit Part Number 882267							

Shaded area is stated in metric equivalent

* D.M.S. equivalents are as follows:

Natural Gas #31 = 0.1200" (3.048 mm).
L.P. Gas #50 = 0.0700" (1.778 mm).

Piping Connections

All components/materials must conform to National Fuel Gas Code Specifications ANSI Z223.1-LATEST EDITION, or in Canada, CAN/CGA-B149.1-M91 (Natural Gas) or CAN/CGA-B149.2-M91 (L.P. Gas) or LATEST EDITION (for General Installation and Gas Plumbing), as well as local codes and ordinances and must be done by a qualified professional. 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.

The dryer is provided with a 1/2" N.P.T. inlet pipe connection extending out the back area of the burner box. The minimum pipe size (supply line) to the dryer is 1/2" pipe. For ease in servicing, the gas supply line of each dryer must have its own shutoff valve.

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 L.P. 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.



Note

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



Important

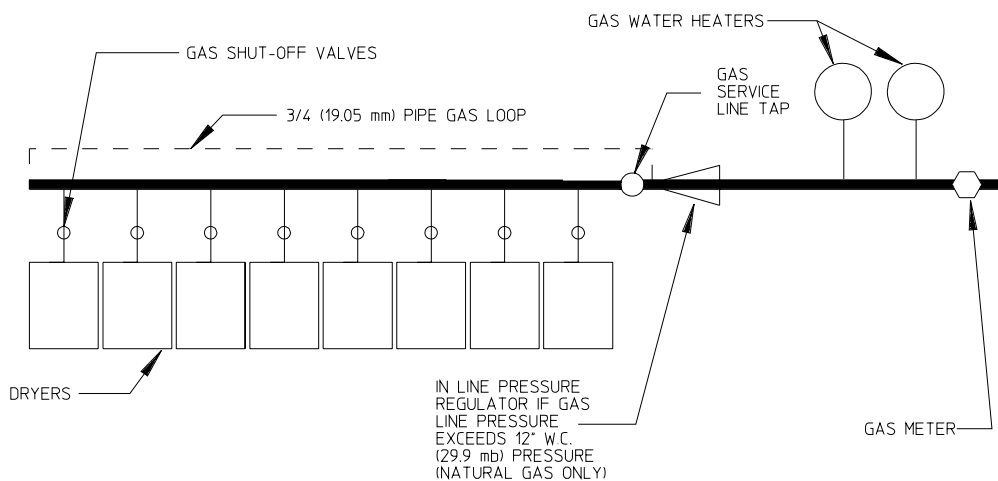
This gas dryer is not provided with an internal gas supply shutoff and an external gas supply shutoff must be provided.

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 12.0 in WC (29.9 mb) pressure (refer to the illustration below).

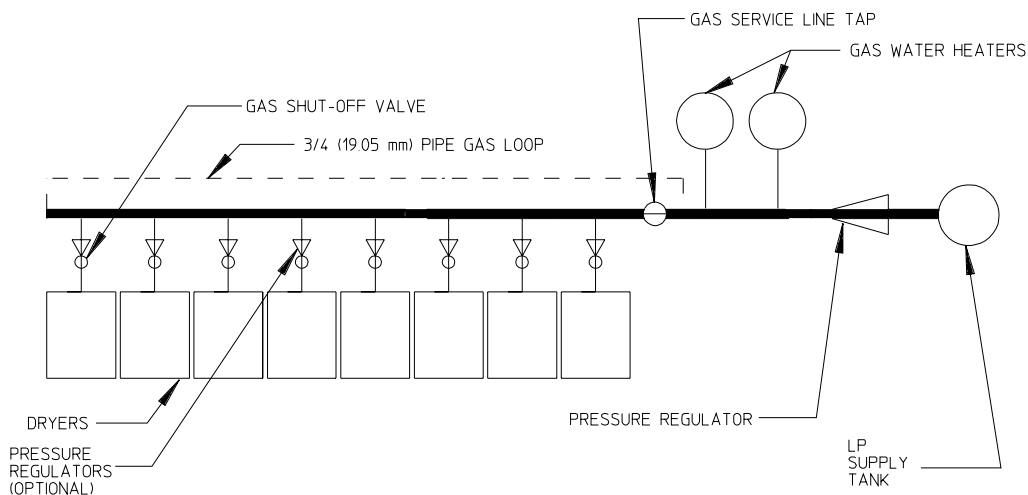


Note

A water column test pressure of 3.5 in WC (8.7 mb) for natural gas and 10.5 in WC (26.1 mb) for L.P. dryers is required at the gas valve pressure tap of each dryer for proper and safe operation.



TYPICAL NATURAL GAS INSTALLATION



TYPICAL L.P. GAS INSTALLATION

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MAN5138

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



Important

Pipe joint compounds that resist the action of natural gas and L.P. gas must be used.

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

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).



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).



Warning

Never test for leaks with a flame!!!

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 and state regulations or codes.

Care must be exercised when leveling steam dryers into final position. After leveling the dryer, check the downward pitch of the heat exchanger from front to rear with a level. Likewise, check the downward pitch of the return condensate manifold toward its outlet part. Absence of these downward pitches 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 20 feet (6.1 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.



Note

This dryer is manufactured with a pneumatic (piston) damper system, which requires an external supply of air (80 psi \pm 10 psi [5.51 bar \pm 0.68 bar]).

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

Operating Steam Pressure		
Maximum	125 psig*	861.84 kPa
Heat Input (Normal Load)	2.9 Bhp	
Consumption (Approximate)	98.8 lb/hr	44.8 kg/hr

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 lines and steam return lines are sized and laid out as stipulated in this manual. Inadequate steam supply lines and steam return lines 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 pressure of the 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.

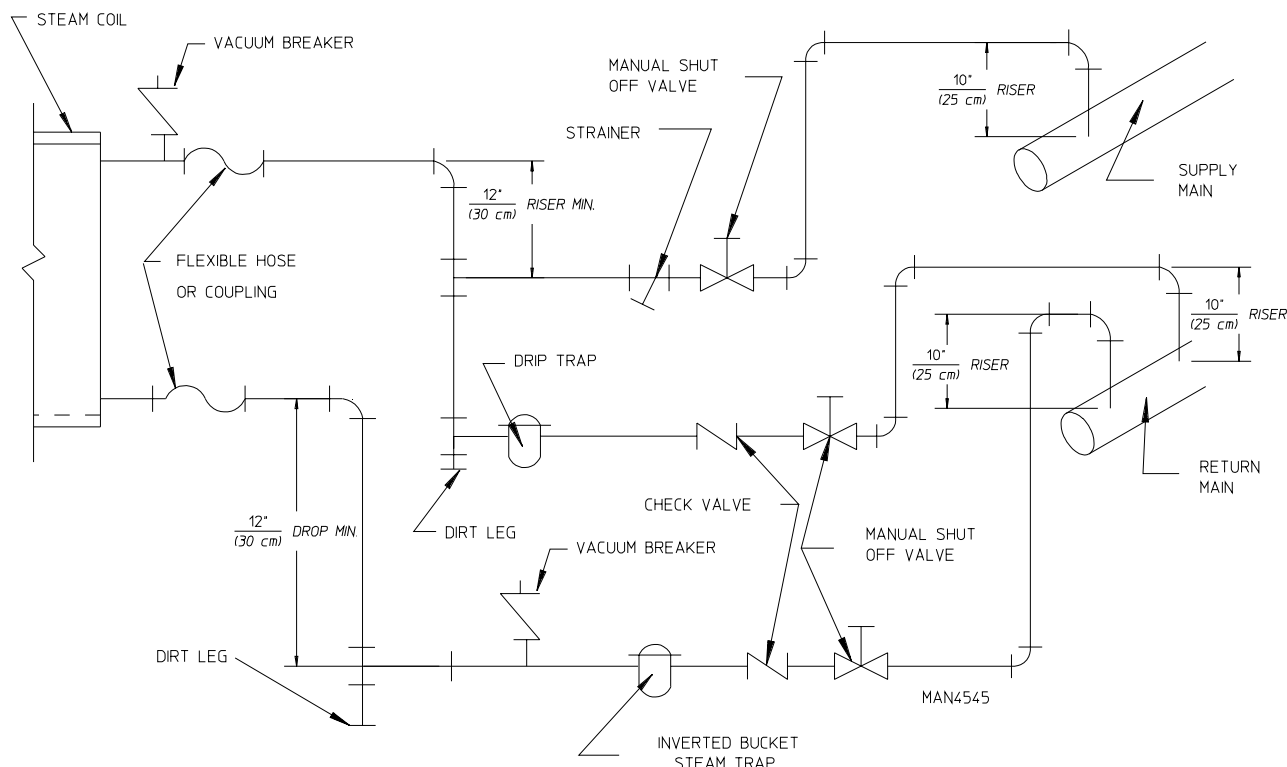
Flexible hoses or couplings must be used. The dryer vibrates slightly when it runs and this will cause the steam coil connections to crack if they are hard piped to the supply and return mains.

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 capacity of 350 lb (160 kg) of condensate per hour at 125 psi (8.61 bar) is needed for each unit.

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.

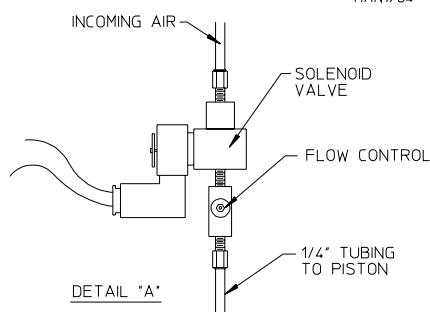
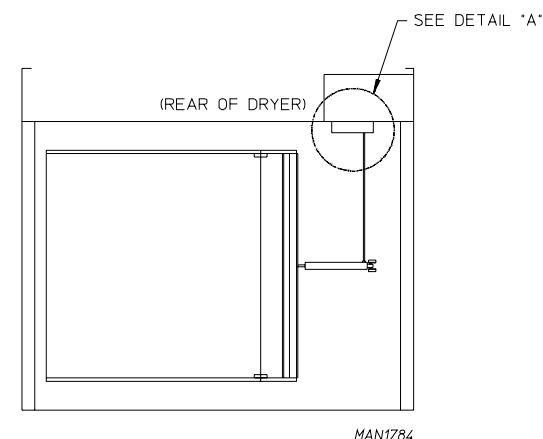
Water pockets in the supply line, caused by low points, will provide wet steam to the coil possibly causing steam coil damage. All horizontal runs of steam supply piping should be pitched 1/4-inch (6.35 mm) for every 1 foot (0.30 meters) back towards the steam supply header causing the condensate in 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 Damper Air System Connections



NOTE: TURNING KNOB ON FLOW CONTROL CLOCKWISE WILL RESTRICT AIR FLOW. TURNING COUNTER-CLOCKWISE WILL ALLOW HIGHER AIR FLOW.

This dryer is manufactured with a pneumatic (piston) damper system, which requires an external supply of compressed air. The air connection is made to the steam damper solenoid valve, which is located at the rear inner top area of the dryer just in front of the electric service relay box.

Air Requirements

There is no air requirement for dryers with the electromechanical steam damper option.

Compressed Air Supply	Air Pressure	
Normal	80 psi	5.51 bar
Minimum Supply	70 psi	4.82 bar
Maximum Supply	90 psi	6.21 bar

Shaded areas are stated in metric equivalents

Air Connection

Air connection to system — 1/8" N.P.T.

Air Regulation

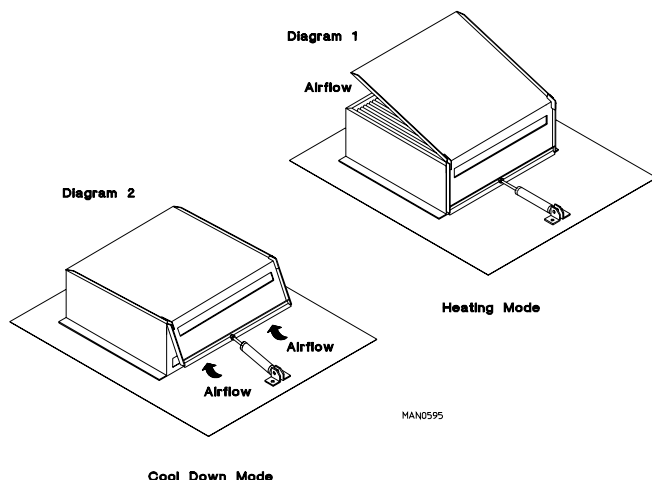
No air regulator or filtration is provided with the dryer. External regulation/filtration of 80 psi (5.51 bar) must be provided. It is suggested that a regulator/filter gauge arrangement be added to the compressed air line just before the dryer connection. This is necessary to ensure that correct and clean air pressure is achieved.

Steam Damper System Operation

The steam damper, as shown in the illustration below, allows the coil to stay constantly charged eliminating repeated expansion and contraction. When the damper is opened, the air immediately passes through the already hot coil, providing instant heat to start the drying process. When the damper is closed, ambient air is drawn directly into the tumbler, allowing a rapid cool down.

Diagram 1 shows the damper in the heating (open) mode, allowing heat into the tumbler.

Diagram 2 shows the damper in the cool down (closed) mode, pulling ambient air directly into the tumbler without passing through the coils.

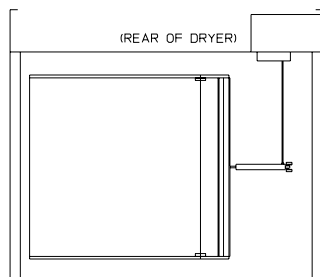


Note

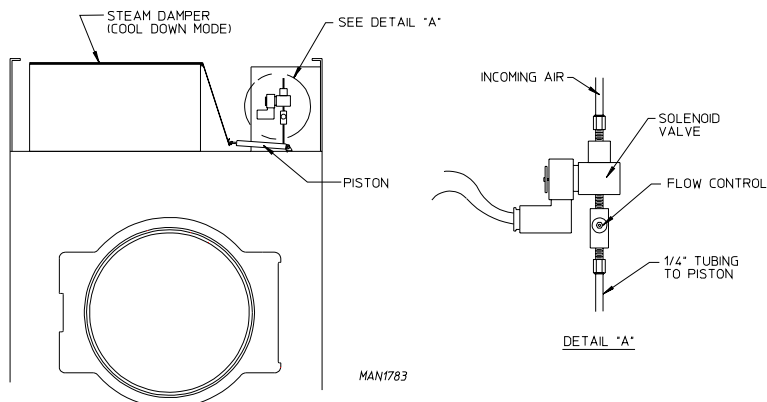
With the dryer off or with no air supply, the steam damper is in cool down mode as shown in Diagram 2.

Steam Damper Air Piston (Flow Control) Operation Adjustment

Damper operation was tested and adjusted prior to shipping at 80 psi (5.51 bar). If damper air adjustment is necessary, locate the flow control valve and make the necessary adjustments as noted below.



NOTE: TURNING KNOB ON FLOW CONTROL CLOCKWISE WILL RESTRICT AIR FLOW. TURNING COUNTER-CLOCKWISE WILL ALLOW HIGHER AIR FLOW.



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 dryer data label.
- Gas Models – check to ensure that the dryer is connected to the type of heat/gas indicated on the dryer data label.
- Gas and Electric Models – the sail switch damper assembly was installed and adjusted at the factory prior to shipping. However, each sail switch adjustment must be checked to ensure that this important safety control is functioning.
- Check bolts, nuts, screws, terminals, and fittings for tightness and security.
- Gas Models – be sure that all gas shutoff valves are in the open position.
- Check all back guard panels and service box covers have been replaced.
- Check the lint drawer to ensure that it is closed and secured in place.
- Rotate the tumbler (drum) by hand to be sure it moves freely.
- Steam Models – check to ensure that a clean, dry, regulated air supply (80 psi [5.51 bar]) is on the dryer (with air-operated damper system only).
- Steam Models – check to ensure all steam shutoff valves are open.
- Steam Models – check steam damper operation.
- Check tumbler bearing setscrews to ensure that they are all tight.
- Check that the vent is connected to the dryer and is exhausted to the outdoors.

Preoperational Test

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.

Turn on electric power to the dryer.

Refer to the operating instructions for starting your particular model dryer.

Gas Models Only

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.

Gas model dryers are equipped with an ignition system, which has internal diagnostics. If ignition is not established after one time, the heat circuit in the ignition module will attempt two more ignitions (total of three ignition attempts). If there is no flame after the third ignition attempt, the module will lockout until it is manually reset. To reset the ignition system, open and close the main door and restart the dryer.

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):

Natural Gas ____ 3.5 in WC (8.7 mb).

L.P. Gas ____ 10.5 in WC (26.2 mb).



Important

There is no regulator provided in an L.P. dryer. The water column pressure must be regulated at the source (L.P. tank), or an external regulator must be added to each dryer.

Make a complete operational check of all safety related circuits:

- Door Switch(es)
- Hi-Limit Thermostats
- Cycling Thermostat
- Gas and Electric Models Only – Sail Switch



Note

The sail switch can be checked for proper operation by opening the lint trap door. While pushing the lint door switch in, start a drying cycle. The heating unit should not activate (wait 30-seconds). If heat does activate, make the necessary adjustments to the sail switch.

Make a complete operational check of all operating controls.



Note

If computer program changes are required, refer to the computer programming section of the manual supplied with the dryer.

The dryer should be operated through one complete cycle to ensure that no further adjustments are necessary and that all components are functioning properly.

Tumbler Coating

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.

Check the electric service phase sequence (3-phase [3Ø] models only). While the dryer is operating, check to see if the blower motor (impellor/fan) is rotating in the proper direction. Looking from the front, the blower motor (impellor/fan) should spin in the clockwise direction. If it is, the phasing is correct. If the phasing is incorrect, reverse two of the three leads at connections L1, L2, and L3 of the power supply to the dryer.



Important

If the blower motor (impellor/fan) is rotating in the wrong direction, it will drastically reduce drying efficiency and it can also cause premature component failure.

Preoperational Instructions

Microprocessor Controller (Computer)

Coin Models

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 dryer, open main door or press the "Pause" key. Continuation of the cycle will resume only after the door has been closed and any of the three temperature selections is pressed.

Upon completion of the drying and cooling cycles, the tone (buzzer) will sound and the dryer will go into the Anti-Wrinkle Mode for 99 minutes, or until the main door has been opened.



Important

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

Mechanical Drop/Rotary Coin Meter or Slide Coin Meter

Insert coin and turn knob (rotary type meter), or for slide meter unit, push in coin chute.

Select temperature.

Push the "Start" button.

To stop dryer, open the main door.

Non-Coin Models

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

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



Note

"0-40" will require the "Start/Enter" key to be pressed after the number is selected in order to accept the selection and start drying.

The dryer will then start. (I.E., blower, tumbler, and heat.)

The L.E.D. display will read MANUAL DRYING CYCLE D, 00:00 MIN REMAIN.



Note

Press and hold the "Up Arrow" to view the tumbler temperature at any time.

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.

Press and hold the "Down Arrow" to view the tumbler RPM.

When the programmed drying time has expired, the Phase 7 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.



Important

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

Dual Timer Dryers

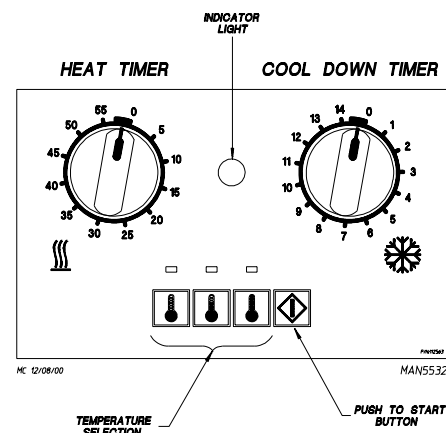
Turn drying timer knob for a time of 20 minutes.

Select "High Temp".

Push "Push to Start" button.

To stop dryer, open the main door.

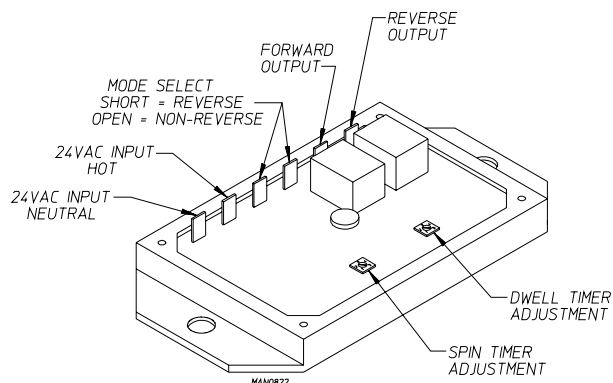
Spin and dwell (stop) times are adjustable at the reversing timer.



Reversing Timer Spin/Dwell Adjustments

Timer models have an electronic reversing timer in the electrical service box, which is located in the upper left rear area of the dryer.

Both the dwell (stop) time and the tumbler spin time are adjustable by mode selection switches located on the electronic timer (as noted in the illustration below).



TIMING LEGEND

SPIN TIME

Adjustment Position Number	1	2	3	4	5
Time in Seconds*	30	60	90	120	150

DWELL (STOP) TIME

Adjustment Position Number	1	2	3	4	5
Time in Seconds*	5	6.3	7.6	8.9	10.2

* Values shown are +/- 1-second.

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 (location furnished) gas supply shutoff valve.

Steam Models – discontinue the steam supply.

Shut off external (location furnished) shutoff valve.

Service/Parts Information

Service

Service must be performed by a qualified trained technician, service agency, or gas supplier. 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 (508) 678-9000 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 (508) 678-9000.



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 (508) 678-9000.



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 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 (P/N 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 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 air circulation. 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.



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.



Important

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

Suggested Cleaning Schedule

Every Third or Fourth Load

Clean the lint screen every third or fourth load. A clogged lint screen will cause poor dryer performance. The lint screen is located in a drawer below the main door. Open the lint drawer, brush or vacuum the lint off the lint screen, and remove the lint. Inspect the lint screen and replace it if torn.



Note

The frequency of cleaning the lint screen can best be determined from experience at each location.

Weekly

Clean lint accumulation from the lint chamber, thermostat, and microprocessor temperature sensor (sensor bracket) area.



Warning

To avoid the hazard of electrical shock, discontinue electrical supply to the dryer.

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

Inspect and remove lint accumulation in customer furnished exhaust ductwork system and from the dryer's internal exhaust ducting.



Warning

The accumulation of lint in the exhaust ductwork can create a potential fire hazard.

Do not obstruct the flow of combustion and ventilation air.

Inspect and remove any lint accumulation, which can cause the back draft damper to bind or stick.



Note

A back draft damper that is sticking partially closed can result in slow drying and shutdown of heat circuit safety switches or thermostats.

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

Adjustments

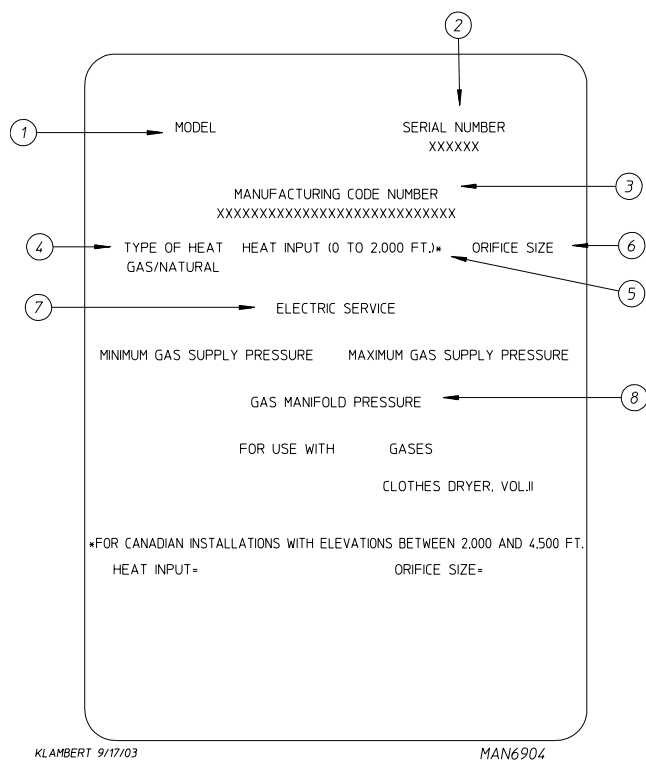
7 Days After Installation and Every 6 Months Thereafter

Inspect bolts, nuts, screws, setscrews, grounding connections, and nonpermanent gas connections (unions, shutoff valves, and orifices). Motor and drive belts should be examined. Cracked or seriously frayed belts should be replaced. Tighten loose V-belts when necessary. Complete operational check of controls and valves. Complete operational check of all safety devices (door switches, lint drawer switch, sail switch, burner, and hi-limit thermostats).

Lubrication

The motor bearings, idler bearings, and under normal/most conditions the tumbler bearings are permanently lubricated. It is physically possible to relubricate the tumbler bearings if you choose to do so even though this practice is not necessary. Use Shell Alvania #2 grease or its equivalent. The tumbler bearings used in the dryer do not have a grease fitting. Provisions are made in the bearing housing for the addition of a grease fitting, which can be obtained elsewhere, or from the manufacturer by ordering kit P/N 882159 (includes two fittings).

Data Label Information



When contacting ADC, certain information is required to ensure proper service/parts information from ADC. This information is on the data label located on the left side panel area behind the top control (access) door. When contacting ADC, please have the model number and serial number available.

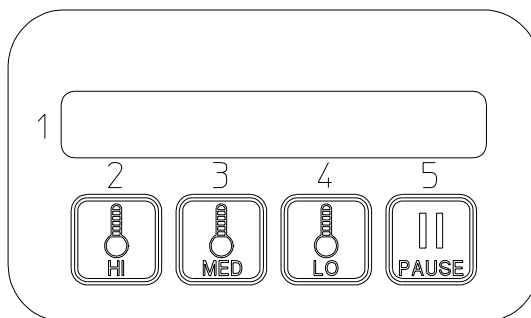
- Model Number** – The model number is an ADC number, which describes the size of the dryer and the type of heat (gas, electric, or steam).
- Serial Number** – The serial number allows ADC to gather information on your particular dryer.
- Manufacturing Code Number** – The manufacturing code number is a number issued by ADC, which describes all possible options on your particular model.
- Type of Heat** – This describes the type of heat for your particular dryer: gas (either natural gas or L.P. gas), electric, or steam.
- Heat Input** (for Gas Dryers) – This describes the heat input in British thermal units per hour (Btu/hr).
- Orifice Size** (for Gas Dryers) – Gives the number drill size used.
- Electric Service** – This describes the electric service for your particular model.
- Gas Manifold Pressure** (for Gas Dryers) – This describes the manifold pressure taken at the gas valve tap.

Procedure for Functional Check of Replacement Components

Microprocessor Controller (Computer) Board Phase 7 Coin Models

Upon completing installation of the replacement microprocessor controller (computer) board, reestablish power to the dryer.

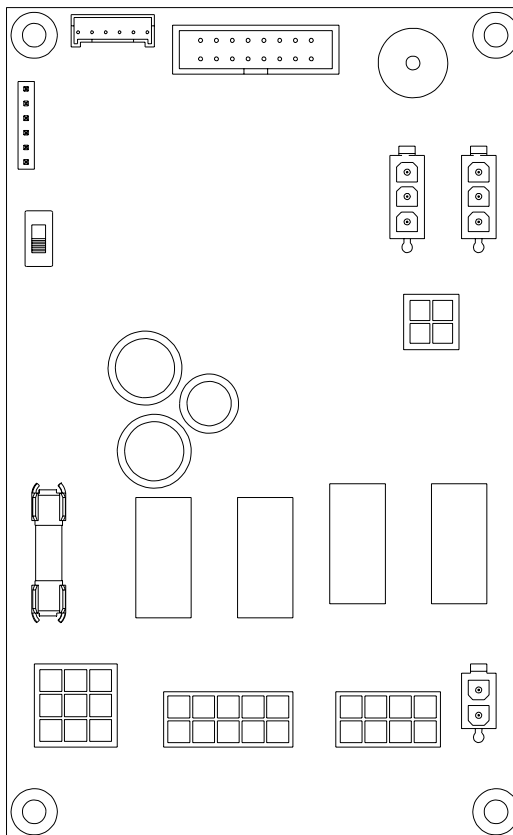
Start the drying cycle by pressing any temperature selection key (HI, MED, or LO).



JM 9/17/03

MAN6873

Verify that the applicable indicator lights on the microprocessor controller (computer) board are lit. (Refer to the illustration below.)



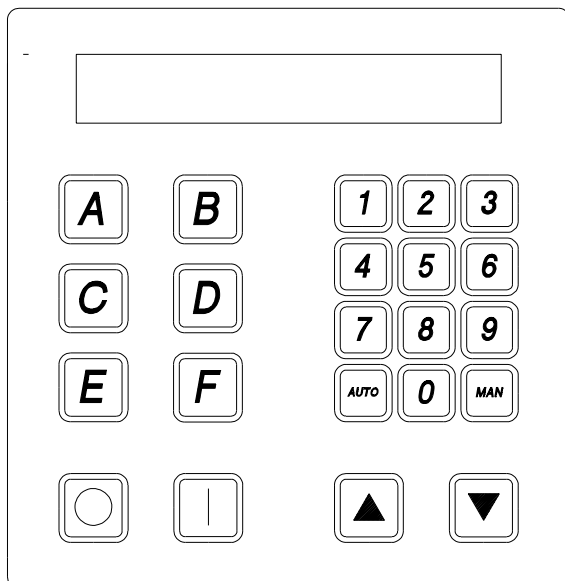
MAN6875

JM 9/11/03

Phase 7 Non-Coin Models

Upon completing installation of the replacement microprocessor controller (computer) board, reestablish power to the dryer.

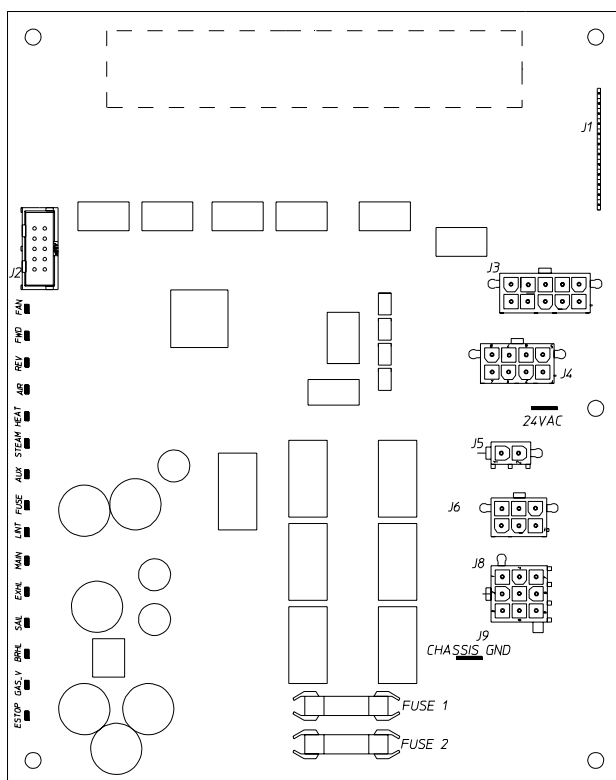
Start the drying cycle by pressing any of the preset cycles in letters A-F.



MC 8/02/01

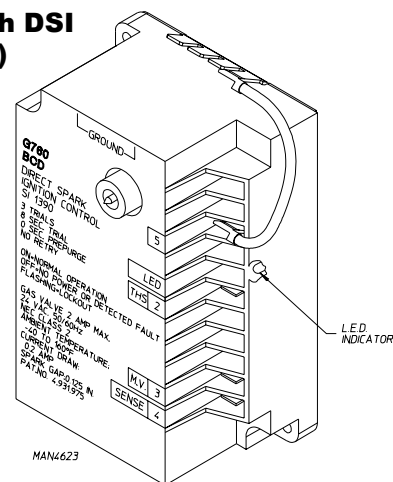
MAN5846

Verify that the applicable indicator lights on the microprocessor controller (computer) board are lit. (Refer to the illustration below.)



MAN5825

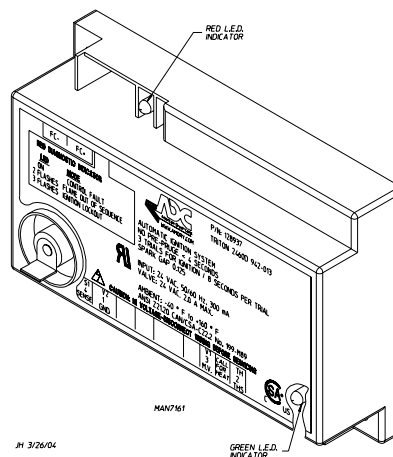
For Models with DSI Module (Type I)



Theory of Operation: Start the drying cycle. When the gas burner ignites within the chosen trial for ignition time (6-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 3 retries/trials (the initial try and 2 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” (L.E.D. diagnostic indicator flashes).

A steady L.E.D. indicator indicates normal operation. No L.E.D. indicator indicates a power or an internal failure has occurred.

For Models with DSI Module (Type II)



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 3 retries/trials (the initial try and 2 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 Burner Hi-Limit Instructions

Phase 7

This dryer was manufactured with a manual reset burner hi-limit thermostat, which is monitored by the Phase 7 computer. If the burner hi-limit is open prior to the start of the drying cycle, the dryer will start momentarily and then shut down, the Phase 7 computer will display "burner HIGH LIMIT fault" with an audio indication.

If the burner hi-limit opens during a drying cycle, the Phase 7 computer will also display the same error code described above, along with an audio indication. If the drum temperature is above 100° F (38° C), the dryer will continue to run with no heat for 3 minutes or until the drum temperature has dropped below 100° F (38° C). For non-coin models, the "Stop/Clear" key on the Phase 7 keypad must be pressed to clear the error condition. For coin models, the "Pause" key must be held down for 3-seconds to clear the fault. The open burner hi-limit must be reset "manually" prior to the start of the next cycle.

Mechanical Timer

This dryer was manufactured with a manual reset burner hi-limit thermostat. If the burner hi-limit is open prior to the start of the drying cycle, or during the cycle, the dryer will not recognize the open state of the burner hi-limit and will start or continue through the drying cycle with no heat. Manual reset hi-limit must be reset manually.

This hi-temperature condition may be caused due to a restricted exhaust, poor airflow, or improper burner operation.

The location of the burner hi-limit is on the right side of the burner box, looking at the burner from the back of the dryer.



Warning

Discontinue power to dryer before attempting to reset hi-limit.

IMPORTANT IMPORTANT IMPORTANTE

HEATING UNIT IS EQUIPPED WITH A HI-LIMIT THERMOSTAT WHICH *MUST BE RESET MANUALLY.*

WARNING - DISCONTINUE POWER TO DRYER BEFORE ATTEMPTING TO RESET HI-LIMIT.

L'ÉLÉMENT CHAUFFANT EST ÉQUIPÉ D'UN THERMOSTAT À LIMITE MAXIMALE QUI *DOIT ÊTRE RÉGLÉ MANUELLEMENT.*

MISE EN GARDE - COUPER LE COURANT D'ALIMENTATION DU SÈCHE-LINGE AVANT DE RÉGLER LA LIMITE MAXIMALE.

LA UNIDAD DE CALENTAMIENTO ESTÁ EQUIPADA CON UN TERMOSTATO DE LÍMITE SUPERIOR *QUE DEBE REINICIARSE MANUALMENTE.*

ADVERTENCIA - DESCONECTE LA ALIMENTACIÓN ELÉCTRICA A LA SECADORA ANTES DE REINICIAR EL LÍMITE SUPERIOR.

ADC P/N: 114076

S.A.F.E. System

The exclusive S.A.F.E. system will extinguish fires that may start in the drying tumbler. A series of sensors positioned throughout the tumbler and interfaced with the microprocessor will trigger the S.A.F.E. system water jet(s) to quickly extinguish the flames. The water jet(s) remain on for 2 minutes and will automatically activate again if a fire condition remains or reignites. While the water jet(s) are activated, the tumbler will jog to move the water throughout the load. The microprocessor will display that the system was activated and will continue to display until the dryer is attended to.

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 necessary or required water, water pressure, pipe size, or connections are provided. The manufacturer assumes no responsibility if the S.A.F.E. system is not connected, installed, or maintained properly.

Installation

Requirements

The S.A.F.E. system must be supplied with a minimum water pipe size of 1/2" and be provided with 40 psi ± 20 psi (2.75 bar ± 1.37 bar) of pressure. For use of optional manual bypass, a second source with the same piping and pressure requirements is required.

Flexible 1/2 feeds must be provided to avoid damage to electric water solenoid valve by vibration.



Important

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

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.



Important

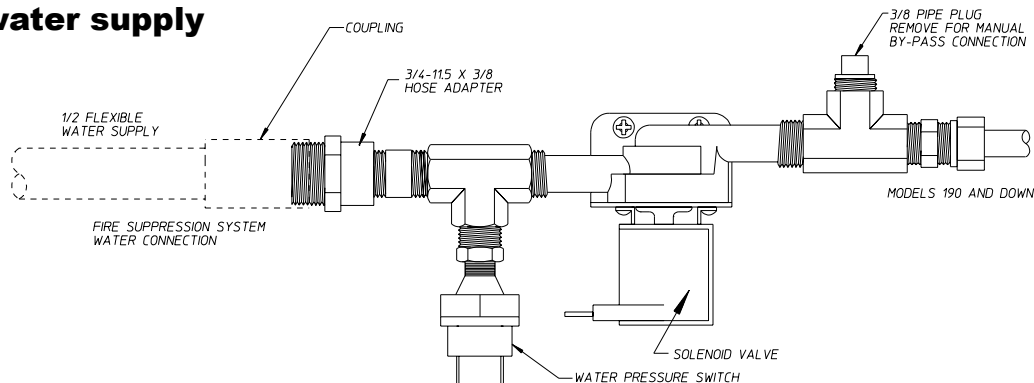
Appliance is to be connected to the water mains using a new hose set and the old hose set should not be reused.



Warning

If the water in the supply line or water solenoid valve freezes, the S.A.F.E. system will be inoperative!!

Typical water supply



MG 12/3/03

MAN7032

Water Connections

The water connection is made to the 3/4"-11.5 NH hose adaptor of the electric water solenoid valve, located at the rear upper midsection of the dryer.

The water solenoid valve has a 3/8" M.P.T. connection supplied with a 3/4"-11.5 NH hose adaptor to provide the minimum 1/2-inch supply (feed) line. 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. The sealing of an NH connection is made with a washer opposed to the mating threads of an N.P.T. assembly. The two thread designs are not compatible.



Important

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

Optional Manual Bypass

Provisions are made in the dryer S.A.F.E. system for the installation of an optional manual bypass. Depending on the model dryer, the connections for the manual bypass are made at the "T" or "three way" fitting, located in the outlet supply side of the water solenoid valve. The use and connections of this manual bypass are at the option or discretion of the owner.

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

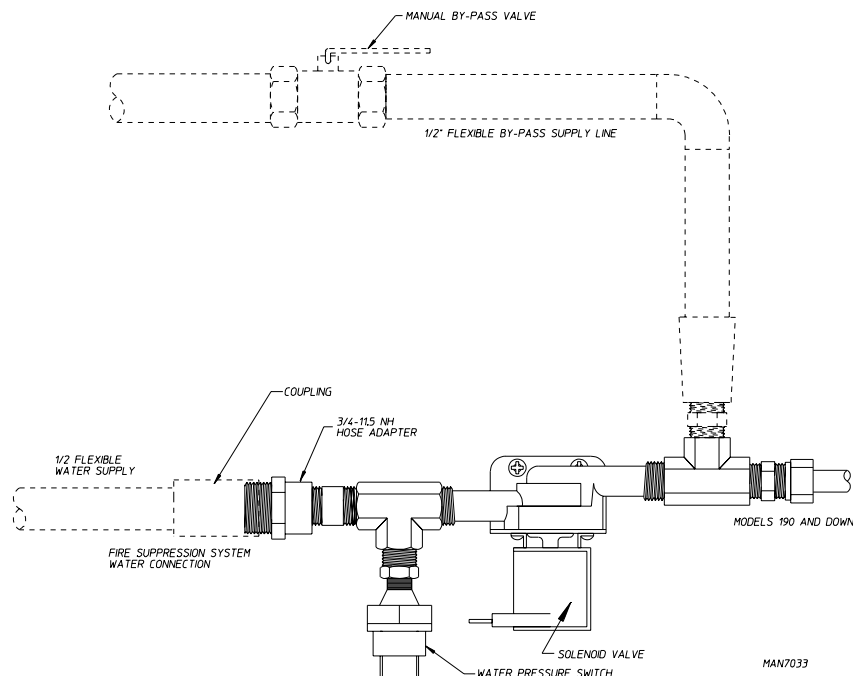
If the rear area of the dryer, or the water supply is located in an area where it will be exposed to cold/freezing temperatures, provisions must be made to protect these water lines from freezing.



Warning

If the water in the supply line or water solenoid valve freezes, the S.A.F.E. system will be inoperative!!

The manual ball cock shutoff valve must be located outside of the dryer at a distance from the dryer where it is easily accessible.



MG 12/3/03

TYPICAL INSTALLATION
1/2" WATER LINE

MAN7033

Electrical Requirements

No independent external power source or supply connection is necessary. The 24 volt power to operate the S.A.F.E. 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 S.A.F.E. system is inoperative!!

S.A.F.E. System Theory of Operation

While the dryer is in an idle state or 20-seconds after the heat turns off, the Phase 7 control monitors the thermistor probe, located in the top of the tumbler chamber, and records the minimum temperature. If the minimum recorded thermistor probe temperature is greater than 120° F (48° C) and the control detects a 50° rise in temperature, this will be the trip point and the S.A.F.E. system routine will activate.

While a drying cycle is in process and the heat has turned on at least once, the Phase 7 control monitors the exhaust temperature transducer. If the drying cycle temperature set point is set greater than 160° F (71° C) and the control detects an exhaust temperature rise 25° F greater than set point, this will be the trip point and the S.A.F.E. system routine will activate. If set point is below 160° F (71° C), the trip point will be 185° F (85° C).

Once the S.A.F.E. system routine is activated, the control will display "S.A.F.E. System Activated" and water will be injected into the tumbler chamber. Any time water is being injected into the tumbler, the tumbler drive will turn the load for 1-second every 15-seconds. This process will continue for a minimum of 2 minutes. After the 2 minutes have elapsed, the control will check if the temperature remained above trip point; if so, the water will remain on. The control will continue to check if the temperature is above trip point every 30-seconds. If the water has been on for a constant 10 minutes, the water will be turned off, regardless of the temperature, and the control will display "S.A.F.E. System Was Activated". If the temperature has dropped below trip point, the control will turn off the water prior to 10 minutes.

System Reset

After the microprocessor determines that the situation is under control and shuts the water being injected into the tumbler off, the microprocessor display will read "S.A.F.E. System Was Activated", and the horn/tone will sound until reset manually.

Non-Coin – To reset the microprocessor once the control displays "S.A.F.E. System Was Activated", press the red "Stop/Clear" key on the keypad.

Coin – To reset the microprocessor once the control displays "S.A.F.E. System Was Activated", press and hold the red "Pause" key for 3-seconds on the keypad.

S.A.F.E. System Water Valve Check

The operation of the water solenoid valve can be tested to ensure that the water supply system and valve are functional. Before attempting a system check, be sure that all water supply shutoff valves to the dryer are in the open position; the dryer must be in the "Ready" mode with no cycle loaded or in progress.

Non-Coin

Press and hold the red "Stop/Clear" key (while in "Ready" mode and no cycle is in progress).

Press and hold the "A" key.

Water valve will open and water will be dispensed into tumbler area as long as both keys are held.

The Phase 7 non-coin microprocessor controller (computer) will prompt the user to perform a S.A.F.E. system valve check at every 4000 hours to ensure proper functionality. At the 4000 hour mark, the control will wait for end of the cycle and then will prompt the user to "Please Empty Tumbler, Then Press the 'Stop/Clear' and 'A' Keys to Test the Water Valve". When the "Stop/Clear" and "A" keys are pressed, the control will activate the S.A.F.E. system water valve for 2-seconds, at which point the control will prompt the user with the following message: "If Water Did Not Turn On, Call for Service. Thank You."



Note

The control will not let the user continue until the valve test has been completed.

Coin

While the control is in the program mode, press and hold the "Pause" key for 3-seconds to get into the valve test mode. Valve test mode: The control will display "Press and Hold Medium to Open Water Valve". When the "Medium" key is pressed, the control will activate the water output.

S.A.F.E. System Diagnostics

Non-Coin – In the event that the Phase 7 non-coin microprocessor controller (computer) detects a fault in the S.A.F.E. system, the control will display the message "S.A.F.E. System Disabled...Ready". To find out why the S.A.F.E. system is disabling, press and hold the red "Stop/Clear" and green "Start" keys. This will cause the control to display a diagnostic message, as detailed in the "S.A.F.E. System Diagnostics Messages" section.

Coin – In the event that the Phase 7 microprocessor controller (computer) detects a fault in the S.A.F.E. system, the control will display the message "S.A.F.E. System Disabled...Ready, Insert XX To Start". To find out the reason for the S.A.F.E. system disabling, press and hold the red "Pause" and "Low" keys. This will cause the control to display a diagnostic message, as detailed in the following section.

Open Thermistor Probe – This message indicates that the S.A.F.E. system thermistor probe either is not connected or is damaged. If this condition is detected, the Phase 7 non-coin control will immediately enter S.A.F.E. System Disabled mode.

Disconnected Water Valve – This message indicates that the water valve is open or that it is not connected to the control. If this condition is detected, the Phase 7 non-coin control will continue to monitor the condition for a period of 5 minutes before entering S.A.F.E. System Disabled mode. Once the condition is corrected, the control will continue to monitor the condition for 1 minute before exiting S.A.F.E. System Disabled mode.

Shorted Water Valve – This message indicates that the water valve is shorted or that the wiring to the valve is shorted. If this condition is detected, the Phase 7 non-coin control will continue to monitor the condition for a period of 5 minutes before entering S.A.F.E. System Disabled mode. Once the condition is corrected, the control will continue to monitor the condition for 1 minute before exiting S.A.F.E. System Disabled mode.

Water Not Connected – This indicates that there is no water pressure at the water valve. This will occur if water is not connected to the dryer, or if there is low water pressure in the water line coming to the dryer. This could also signify a defective pressure switch or defective wiring to the pressure switch. If this condition is detected, the Phase 7 non-coin control will continue to monitor the condition for a period of 5 minutes before entering S.A.F.E. System Disabled mode. Once the condition is corrected, the control will continue to monitor the condition for 1 minute before exiting S.A.F.E. System Disabled mode.

Non-Coin – When the S.A.F.E. system is disabled, the user can still start a cycle. However, when a cycle is started, the control will display the following message: “S.A.F.E. System Is Disabled. Press ‘Start’ to Continue”. This message will be displayed every time a cycle is started, until the disabling condition has been corrected.

Coin – When the S.A.F.E. system is disabled, the user can still start a cycle. Simply insert credit and select a cycle to start.

Notes _____

