

# AD-200 Phase 7 OPL

(with Non-Tilting Options)

## Installation Manual

**WARNING:** For your safety the information in this manual must be followed to minimize the risk of fire or explosion or to prevent property damage, personal injury or death.

— 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.



For replacement parts, contact the reseller from which the dryer was purchased or

**American Dryer Corporation**

88 Currant Road

Fall River MA 02720-4781

Telephone: (508) 678-9000 / Fax: (508) 678-9447

e-mail: techsupport@amdry.com

www.amdry.com

# Retain This Manual In A Safe Place For Future Reference

American Dryer Corporation products embody 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. **ADC** 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.

## Important

For your convenience, log the following information:

DATE OF PURCHASE \_\_\_\_\_ MODEL NO. **AD-200 Non-Tilting**

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 (508) 678-9447 or telephone your order directly to the **ADC** Parts Department at (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.

## **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 (Occupational Safety and Health Administration) STANDARDS.**

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

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

## **CAUTION**

**DRYERS SHOULD NEVER BE LEFT UNATTENDED WHILE IN OPERATION.**

## **WARNING**

**CHILDREN SHOULD NOT BE ALLOWED TO PLAY ON OR NEAR THE DRYER(S).  
CHILDREN SHOULD BE SUPERVISED IF NEAR DRYERS IN OPERATION.**

## **FOR YOUR SAFETY**

**DO NOT DRY MOP HEADS IN THE DRYER.**

**DO NOT USE DRYER IN THE PRESENCE OF DRY CLEANING FUMES.**

## **WARNING**

**UNDER NO CIRCUMSTANCES should the dryer door switches, lint drawer switch, heat safety circuit ever be disabled.**

### **WARNING**

The dryer *must never be* operated with any of the back guards, outer tops, or service panels removed. **PERSONAL INJURY OR FIRE COULD RESULT.**

### **WARNING**

**DRYER *MUST NEVER BE* OPERATED WITHOUT THE LINT FILTER/SCREEN IN PLACE, EVEN IF AN EXTERNAL LINT COLLECTION SYSTEM IS USED.**

### **IMPORTANT**

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

Dryers *must not be* installed or stored in an area where it **will be** exposed to water or weather.

The wiring diagram for the dryer is located in the front electrical control box area.

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# SECTION I

## IMPORTANT INFORMATION

### A. RECEIVING AND HANDLING

The dryer is shipped in a protective stretch wrap cover with protective cardboard corners and top cover (or optional box) as a means of preventing damage in transit. Upon delivery, the dryer and/or packaging, and wooden skid **should be** visually inspected for shipping damage. If any damage whatsoever is noticed, inspect further before delivering carrier leaves.

Dryers damaged in shipment:

1. **ALL** dryers **should be** inspected upon receipt and before they are signed for.
2. If there is suspected damage or actual damage, the trucker's receipt **should be** so noted.
3. If the dryer is damaged beyond repair, it **should be** refused. Those dryers, which were not damaged in a damaged shipment **should be** accepted, but the number received and the number refused **must be** noted on the receipt.
4. If you determine that the dryer was damaged after the trucker has left your location, you should call the delivering carrier's freight terminal immediately and file a claim. The freight company considers this concealed damage. This type of freight claim is very difficult to get paid and becomes extremely difficult when more than a day or two passes after the freight was delivered. It is your responsibility to file freight claims. Dryer/parts damaged in transit **cannot** be claimed under warranty.
5. Freight claims are the responsibility of the consignee, and **ALL** claims **must be** filed at the receiving end. **ADC** assumes no responsibility for freight claims or damages.
6. If you need assistance in handling the situation, please contact the **ADC** Traffic Manager at (508) 678-9000.

**IMPORTANT:** The basket (tumbler) section of the dryer **must be** transported and handled in an upright position at **ALL** times.

## B. 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.

**WARNING:** The dryer *must never be* operated with any of the back guards, outer tops, or service panels removed. **PERSONAL INJURY OR FIRE COULD RESULT.**

1. **DO NOT** store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
2. 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.
3. WHAT TO DO IF YOU SMELL GAS...
  - a. **DO NOT** try to light any appliance.
  - b. **DO NOT** touch any electrical switch.
  - c. **DO NOT** use any phone in your building.
  - d. Clear the room, building, or area of **ALL** occupants.
  - e. Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
  - f. If you **cannot** reach your gas supplier, call the fire department.
4. Installation and service **must be** performed by a qualified installer, service agency, or gas supplier.
5. Dryer(s) **must be** exhausted to the outdoors.
6. Although **ADC** 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.**

**WARNING:** **DO NOT** dry rags or articles coated or contaminated with gasoline, kerosene, oil, paint, or wax.  
**EXPLOSION COULD RESULT.**

**WARNING:** **DO NOT** dry mop heads. Contamination by wax or flammable solvents will create a fire hazard.

**WARNING:** **DO NOT** use heat for drying articles that contain plastic, foam, sponge rubber, or similarly textured rubber materials. Drying in a heated basket (tumbler) may damage plastics or rubber and may be a fire hazard.



7. A program **should be** established for the inspection and cleaning of lint in the heating unit area, exhaust ductwork, and inside 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.

8. 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 do so will VOID THE WARRANTY.

9. **UNDER NO CIRCUMSTANCES** should the dryer door switches, lint drawer switch, heat safety circuit ever be disabled.

**WARNING: PERSONAL INJURY OR FIRE COULD RESULT.**

10. This dryer is not to be used in the presence of dry cleaning solvents or fumes.
11. 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.

12. **DO NOT** operate steam dryers with more than 125 PSI (8.62 bars) steam pressure. Excessive steam pressure can damage steam coil and/or harm personnel.
13. Replace leaking flexible hoses or other steam fixtures immediately. **DO NOT** operate the dryer with leaking flexible hoses. **PERSONAL INJURY MAY RESULT.**
14. **READ AND FOLLOW ALL CAUTION AND DIRECTION LABELS ATTACHED TO THE DRYER.**
15. For safety, proper operation, and optimum performance, the dryer **must not be** operated with a load less than sixty-six percent (66%), 132 lbs (59.9 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 (Occupational Safety and Health Administration) STANDARDS.**

# SECTION II

## SPECIFICATIONS/DIMENSIONS

## AND COMPONENT LOCATION

### A. SPECIFICATIONS (GAS AND STEAM)

MAXIMUM CAPACITY (DRY WEIGHT)		200 lbs	<b>90.9 kg</b>	
BASKET (TUMBLER) DIAMETER		62-1/2"	<b>158.75 cm</b>	
BASKET (TUMBLER) DEPTH		42"	<b>106.7 cm</b>	
BASKET (TUMBLER) VOLUME		74.5 cu. ft.	<b>2.11 cu. m.</b>	
DRIVE MOTOR		3 HP	<b>2.24 kw</b>	
BLOWER MOTOR		7-1/2 HP/15 HP	<b>5.6 kw/11.2 kw</b>	
DOOR OPENING (DIAMETER)		36-3/4" w x 43" h	<b>93.3 cm x 109.2 cm</b>	
DOOR SILL HEIGHT - LEVEL		36-1/2"	<b>92.71 cm</b>	
COMPRESSED AIR VOLUME		3.25 cfh	<b>0.09 cmh</b>	
COMPRESSED AIR CONNECTION		1/8" F.P.T.		
<b>Gas*</b>	VOLTAGE AVAILABLE		208-575v 3ø 3, 4w 50/60 Hz	
	HEAT INPUT		750,000 btu/hr <b>189,000 kcal/hr</b>	
	APPROX. SHIPPING WEIGHT		3,370 lbs <b>1,528.6 kg</b>	
	AIRFLOW		5,300 cfm <b>150 cmm</b>	
	INLET PIPE CONNECTION		1-1/4" F.P.T.	
<b>Steam*</b>	VOLTAGE AVAILABLE		208-575v 3ø 3, 4w 50/60 Hz	
	APPROX. SHIPPING WEIGHT		3,625 lbs <b>1,644 kg</b>	
	AIRFLOW		6,500 cfm <b>184 cmm</b>	
	STEAM CONSUMPTION		BOILER HP NORMAL LOAD	
	890 lbs/hr	<b>404.5 kg/hr</b>	27	
	OPERATING STEAM PRESSURE		SUPPLY CONNECTION	RETURN CONNECTION
	125 PSI max	<b>8.62 bars</b>	2" M.P.T.	2" M.P.T.

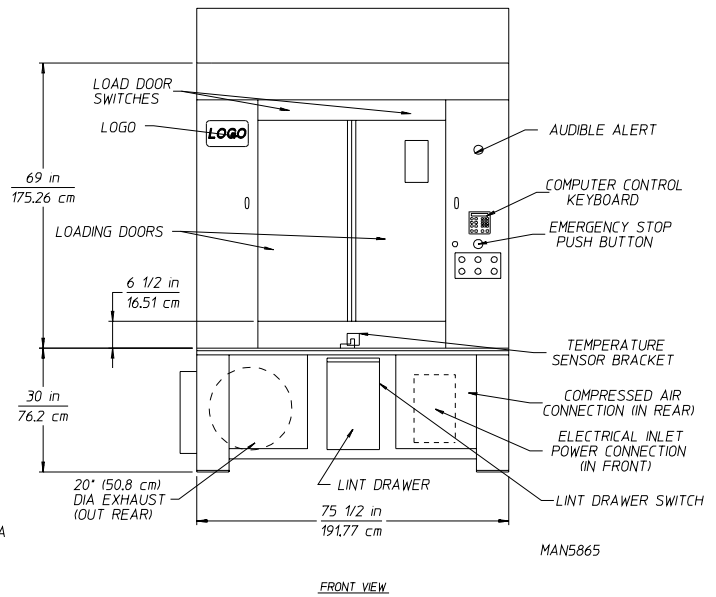
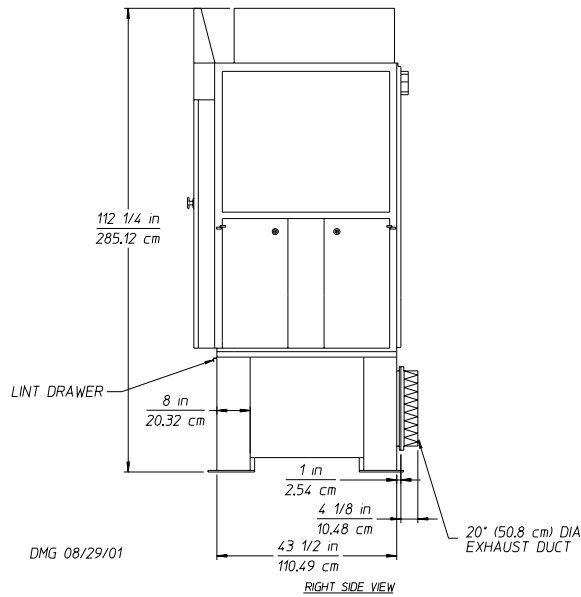
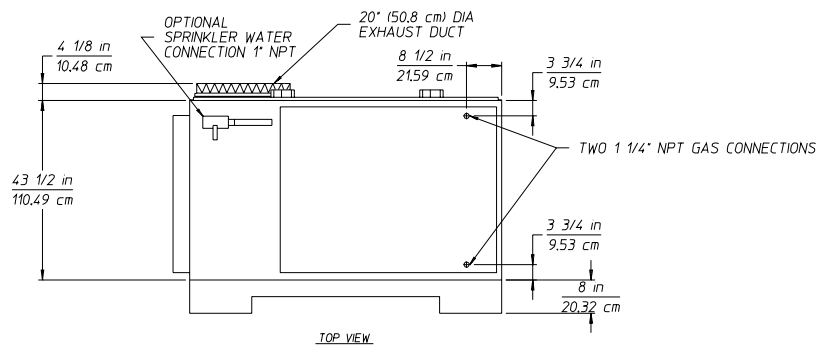
*Shaded areas are stated in metric equivalents*

\* Dryers **must be** provided with a clean, dry, and regulated 80 PSI +/- 10 PSI (5.51 bars +/- 0.68 bars) air supply (equivalent volume = 9 cfh [0.25 cmh]).

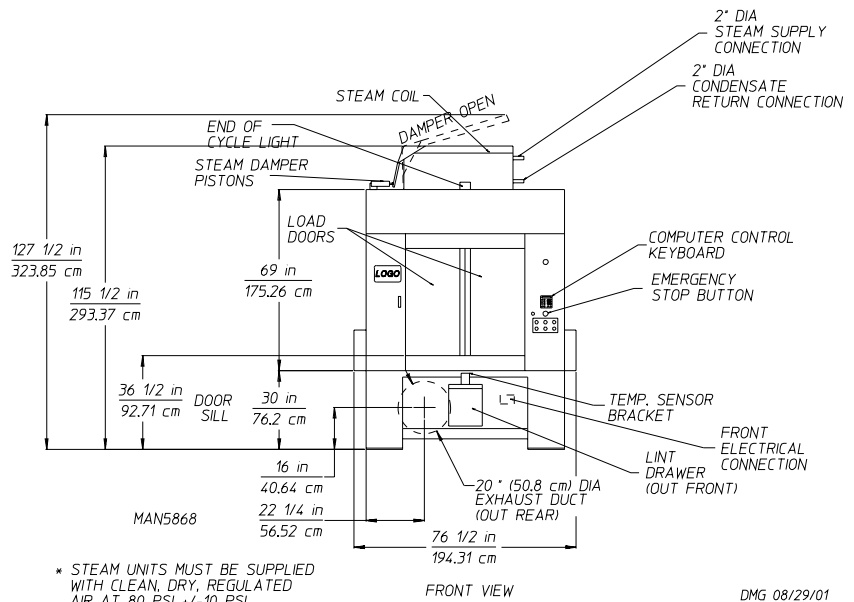
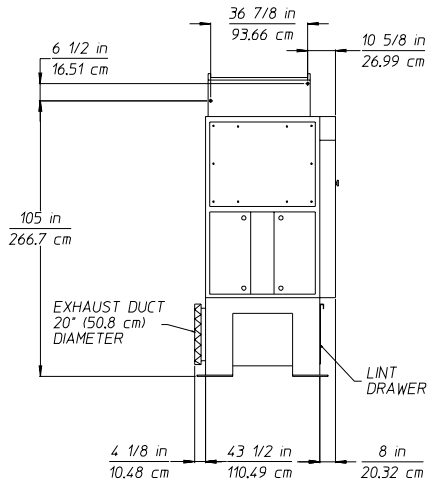
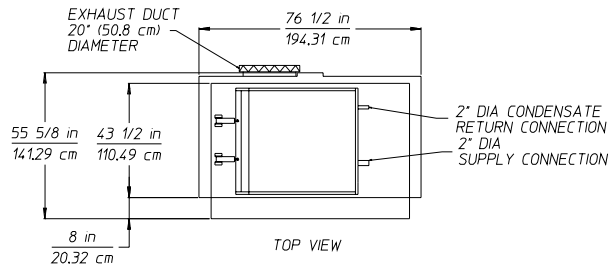
**NOTE:** ADC reserves the right to make changes in specifications at any time without notice or obligation.

## B. DIMENSIONS AND COMPONENT LOCATION

### 200 NON-TILT GAS MODEL



# 200 NON-TILT STEAM MODEL



# SECTION III

## INSTALLATION PROCEDURES

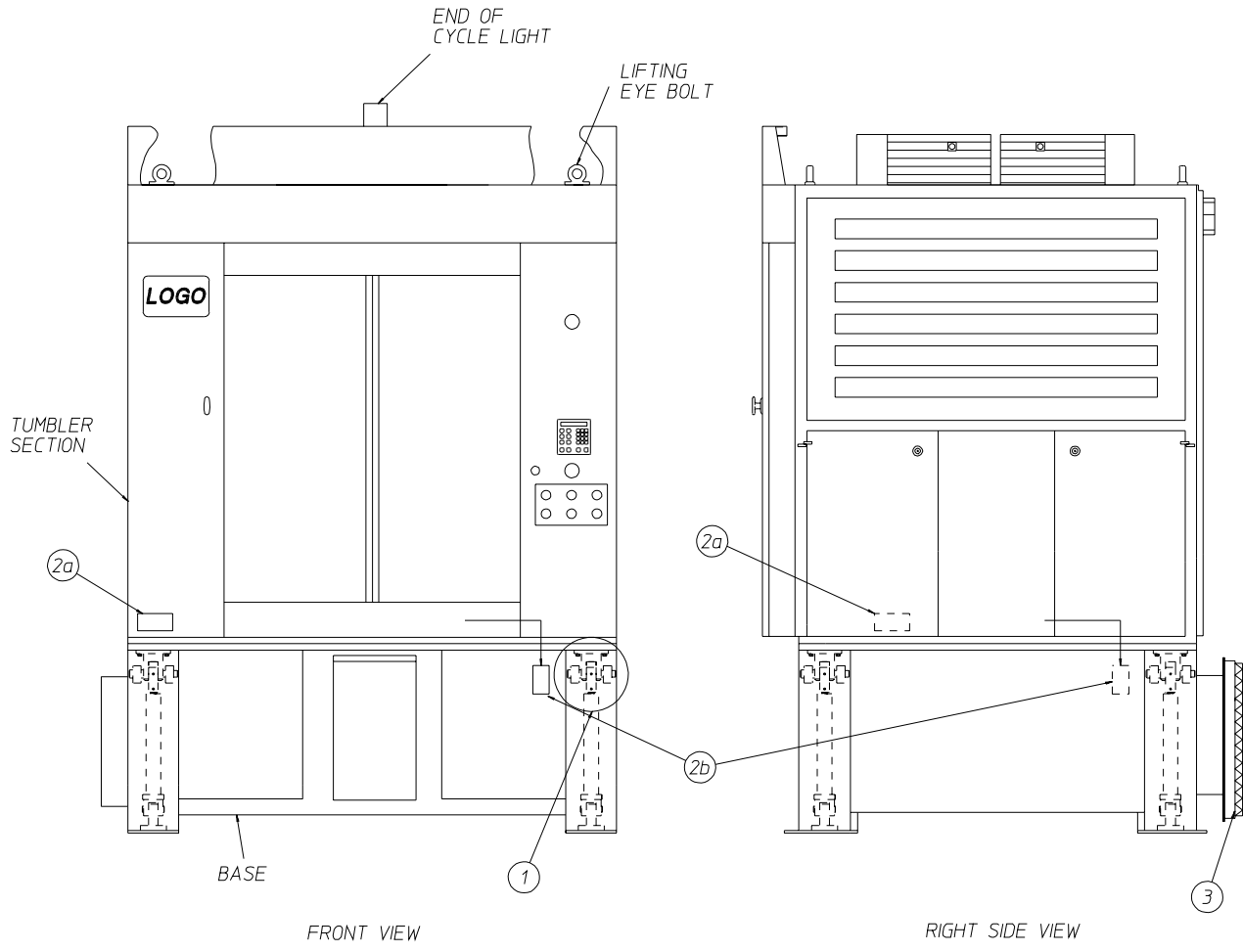
Installation **should be** performed by competent technicians in accordance with local and state codes. In the absence of these codes, the installation **must conform** to applicable American National Standards: ANSI Z223.1-LATEST EDITION (National Fuel Gas Code) or ANSI/NFPA NO. 70-LATEST EDITION (National 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 (Liquid Propane [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).

### A. REASSEMBLY OF DRYER

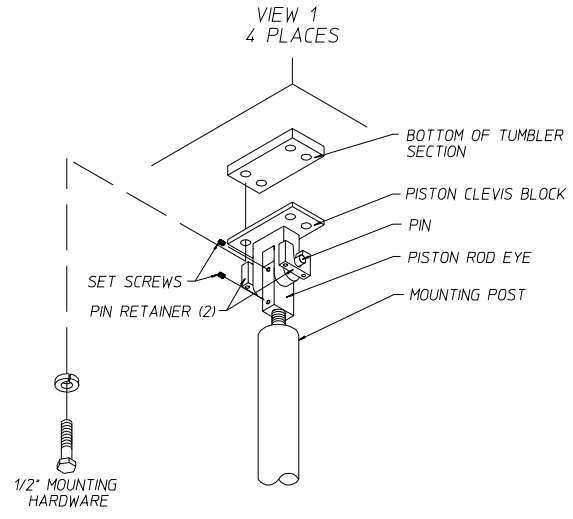
**IMPORTANT:** Always keep the basket (tumbler) section of the dryer in an upright position when moving it.

The dryer may be shipped one (1) of two (2) ways; as a complete unit fully assembled and ready for hookup or with the basket (tumbler) section separated from the base. If the dryer is shipped in two (2) pieces, the basket (tumbler) section will have to be lifted onto the base. Use cables through the eyebolts on top of the basket (tumbler) section, or use a forklift for the lifting process.

1. Reassembly Instructions For Gas Dryer Shipped In Two (2) Pieces



MAN5601



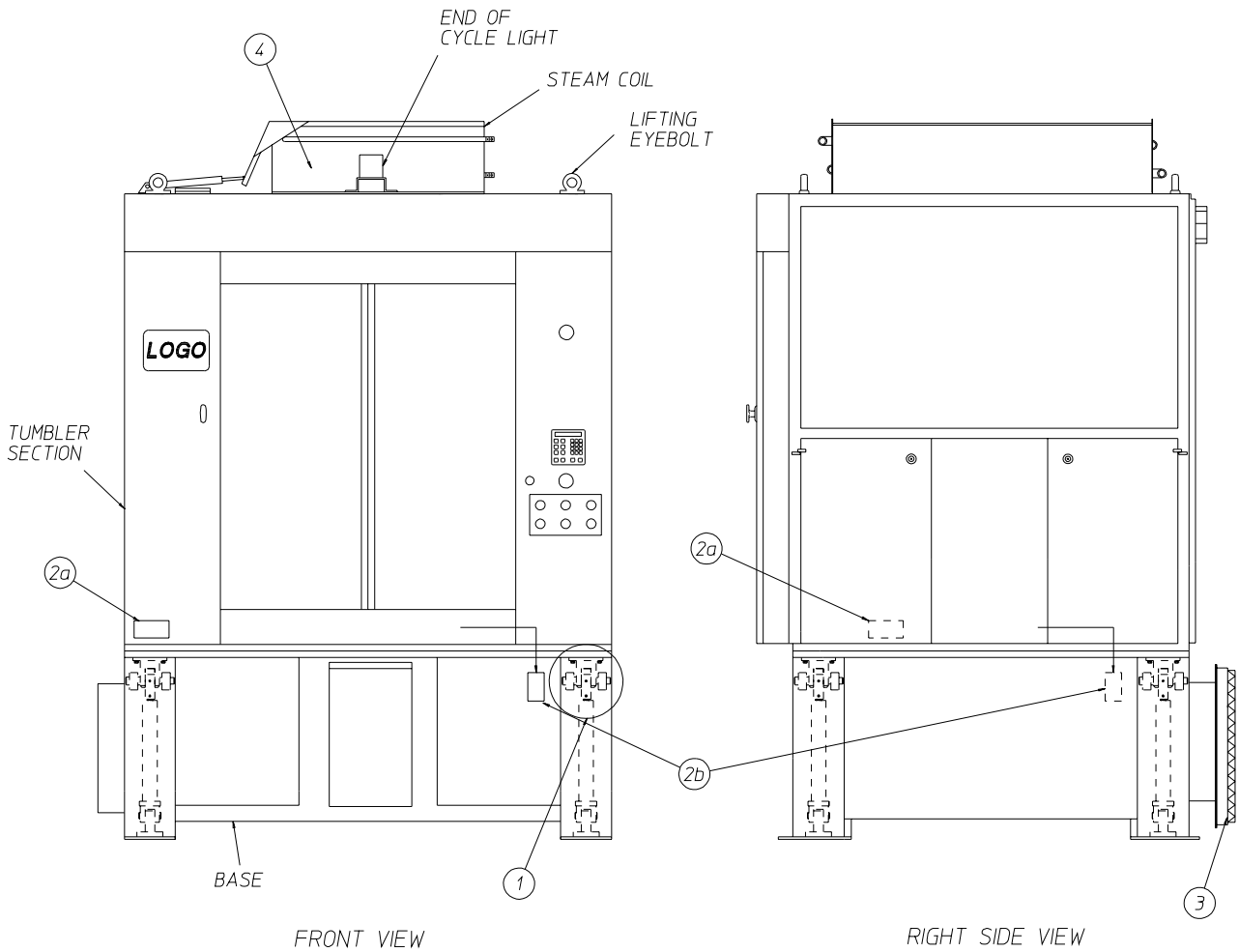
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a. Reassembly Instructions For Non-Tilt Gas Dryers:

**Lift the basket (tumbler) section onto the base.**

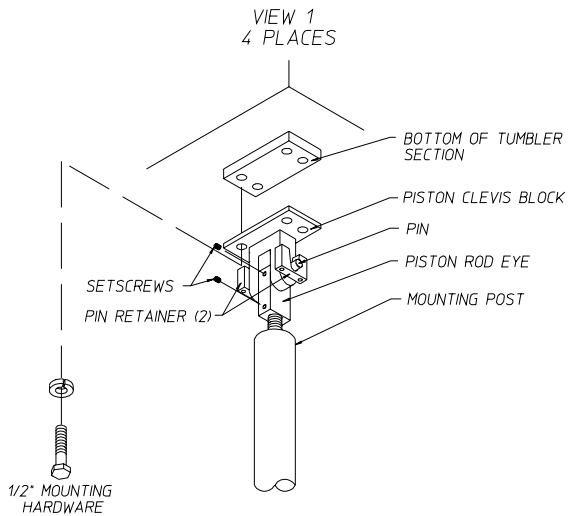
- 1) The dryer has four (4) support posts assemblies, which are located in each corner of the base. On top of each post assembly is a clevis block, which **must be** bolted to the basket (tumbler) section. Use the 4-1/2" diameter x 1-1/8" long bolts and lock washers to bolt each clevis block to the basket (tumbler) section. (Refer to **View 1** on the previous page.)
- 2) Basket (tumbler) power cable reconnection:
  - a) A plug and cable is located in the right of the base. This **must be** lifted up and reconnected into the mating socket located at the bottom of the right basket (tumbler) section.
  - b) Pull the basket (tumbler) section power cable up from the left side of the base through the hole in the bottom of the basket (tumbler) section. Reconnect the wires of this cable into the 2-inch x 4-inch (5.08 cm x 10.16 cm) basket (tumbler) junction box located at the bottom of the basket (tumbler) section. (Refer to the **illustration** on the previous page.)
  - c) Drop the control cable connector from the rear right side of the basket (tumbler) section into the base. Reconnect the industrial grade plug in to its mating socket.
- 3) Bolt the 20-inch (50.8 cm) diameter exhaust duct transition piece to the dryers rectangular exhaust duct. The exhaust duct exits the dryer from the rear of the base. (Refer to the **illustration** on the previous page.) Use the 1/4-20 self-drilling screws supplied with the dryer.

## 2. Reassembly Instructions For Steam Dryer Shipped In Two (2) Pieces



FRONT VIEW

RIGHT SIDE VIEW



MAN5738

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a. Reassembly Instructions For Non-Tilt Steam Dryers:

**Lift the basket (tumbler) section onto the base.**

- 1) The dryer has four (4) support posts assemblies, which are located in each corner of the base. On top of each post assembly is a clevis block, which **must be** bolted to the basket (tumbler) section. Use the 4-1/2" diameter x 1-1/8" long bolts and lock washers to bolt each clevis block to the basket (tumbler) section. (Refer to **View 1** on the previous page.)
- 2) Basket (tumbler) power cable reconnection:
  - a) A plug and cable is located in the right of the base. This **must be** lifted up and reconnected into the mating socket located at the bottom of the right basket (tumbler) section.
  - b) Pull the basket (tumbler) section power cable up from the left side of the base through the hole in the bottom of the basket (tumbler) section. Reconnect the wires of this cable into the 2-inch x 4-inch (5.08 cm x 10.16 cm) basket (tumbler) junction box located at the bottom of the basket (tumbler) section. (Refer to the **illustration** on the previous page.)
  - c) Drop the control cable connector from the rear right side of the basket (tumbler) section into the base. Reconnect the industrial grade plug in to its mating socket.
- 3) Bolt the 20-inch (50.8 cm) diameter exhaust duct transition piece to the dryers rectangular exhaust duct. The exhaust duct exits the dryer from the rear of the base. (Refer to the **illustration** on the previous page.) Use the 1/4-20 self-drilling screws supplied with the dryer.
- 4) If a steam dryer is shipped in two (2) pieces, the steam coil may have been removed from the top of the basket (tumbler) section and shipped with the base. If this is the case, lift the steam coil on to the top of the basket (tumbler) section with the steam pipe connections facing towards the right side of the dryer and bolt the coil to the top of the dryer with a 1/4-inch hardware supplied. There are three (3) panels that cover the front, right side, and rear of the steam coil. Fasten these in position also.

## B. LOCATION REQUIREMENTS

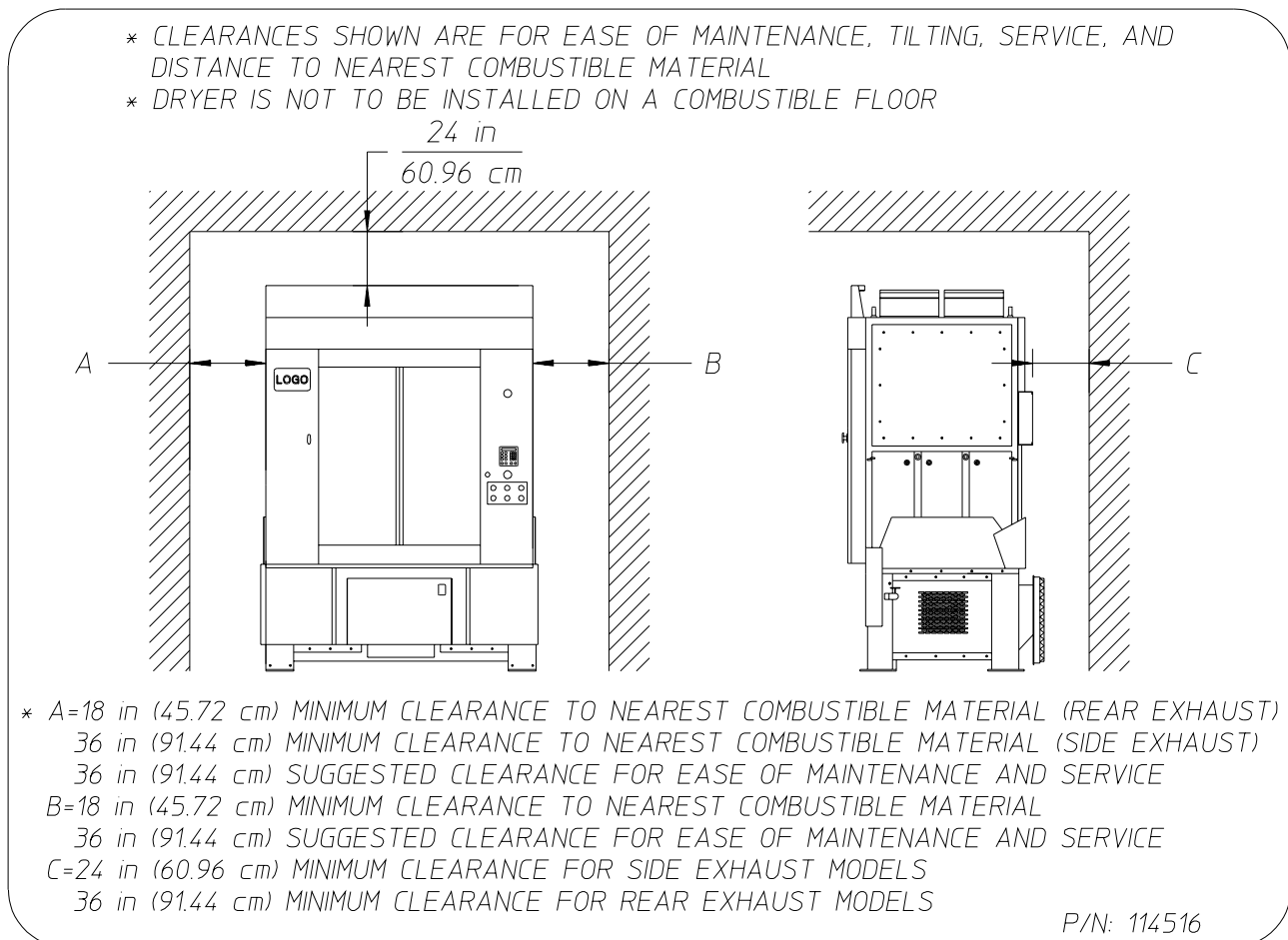
Before installing the dryer, be sure the location conforms to local codes and ordinances. In the absence of such codes or ordinances the location **must conform** with the National Fuel Gas Code ANSI.Z223.1 LATEST EDITION, or in Canada, the installation **must conform** to applicable Canadian Standards: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

The non-tilting model dryer requires 18-inches (45.72 cm) of space on each side of the dryer and 24-inches (60.96 cm) of space behind the unit for ease of service. A minimum of 12-inches (30.48 cm) **must be** allowed between the top of a gas dryer and the ceiling. A ceiling height of 120-inches (304.8 cm) is required for gas dryers, and a ceiling height for 130-inches (330.2 cm) is required for steam dryers. The dryer **must be** leveled for proper operation. If shimming is required, put metal shims which are the same size as the base feet under the base feet. The dryer **must be** lagged to the floor.

**WARNING:** Dryer *should be* located where a minimum length of exhaust duct **will be** necessary.

1. The dryer **must be** installed with a proper exhaust duct connection to the outside.
2. 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 build up.



## C. FRESH AIR SUPPLY REQUIREMENTS

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

Air supply (make-up air) **must be** given careful consideration to assure proper performance of each dryer. An unrestricted source of air is necessary for each dryer. An airflow of 5,300 cfm (cubic feet per minute) (150 cmm [cubic meters per minute]) **must be** supplied to each gas dryer and 6,500 cfm (184 cmm) for each steam dryer. As a general rule, an unrestricted air entrance from the outdoors (atmosphere) of a minimum of 6 square feet (0.56 square meters) is required for each gas dryer and a minimum of 8 square feet (0.74 square meters) for each steam dryer.

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

It is not necessary to have a separate make-up air opening for each dryer. Common make-up air openings are acceptable. However, they **must be** set up in such a manner that the make-up air is distributed equally to **ALL** the dryers. The dryer **must be** installed with provisions for adequate combustion and make-up air supply.

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.

## D. EXHAUST REQUIREMENTS

**NOTE:** For 1 door dryers, the 20-inch (50.8 cm) diameter exhaust duct exits from the rear of the base. For 2 door dryers, the 20-inch (50.8 cm) diameter exhaust duct exits from the left side of the base.

### 1. General Exhaust Ductwork Information

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, overheating of the dryer, and shutdown of the burner by the airflow (sail) switches, burner hi-limits, or basket (tumbler) hi-limit thermostats. The dryer **must be** installed with a proper exhaust duct connection to the outside.

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

**CAUTION:** DRYER *MUST BE* EXHAUSTED TO THE OUTDOORS.

**CAUTION: IMPROPERLY SIZED OR INSTALLED EXHAUST DUCTWORK CAN  
CREATE A POTENTIAL FIRE HAZARD.**

**NOTE:** THE DRYER *MUST BE* INDEPENDENTLY EXHAUSTED. **COMMON  
DUCTWORK IS NOT ACCEPTABLE.**

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. Single or independent dryer venting is recommended.

The shape of the ductwork is not critical so long as the minimum cross section area is provided. It is suggested that the use of 90° turns in ducting be avoided; use 30° and/or 45° angles instead. The radius of the elbow **should preferably be** 1-1/2 times the diameter of the duct.

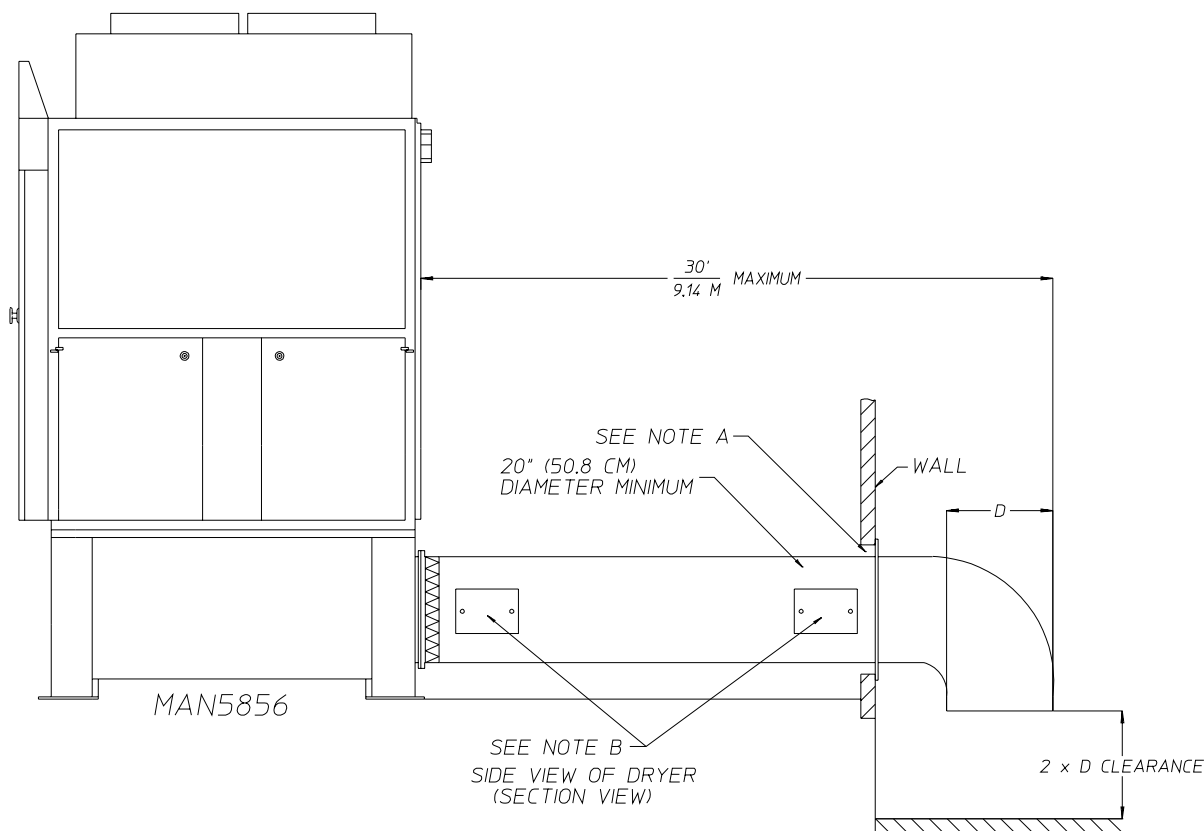
**ALL** ductwork **should be** smooth inside with no projections from sheet metal screws or other obstructions, which will collect lint. When adding ducts, the ducts to be added should overlap the duct to which it is connected. **ALL** ductwork joints **must be** taped to prevent moisture and lint from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

The internal dimensions of the dryer's rectangular exhaust vent ductwork are 8-inches x 20-inches (20.3 cm x 50.8 cm). A transition piece 20-inches (50.8 cm) in diameter round is supplied. The location's exhaust duct **must be** the minimum exhaust size requirement of (20-inches [50.8 cm] round duct or 315 square inches [2,032 square centimeters] square duct) the ductwork from the dryer to the outside exhaust outlet for a horizontal run, with no more than one (1) elbow **must not exceed** 30 feet (9.14 meters) for gas and 20 feet (6.09 meters) for steam dryers. (Refer to the **illustration below** and on **page 18**.) For locations with more than one (1) elbow, the minimum exhaust size for a gas or steam model dryer is 24-inches (60.96 cm) round duct (464 square inches [2,993 square centimeters] duct) **must be** used. The horizontal or vertical duct total run on gas models **must not exceed** 50 feet (15.24 meters) and steam models **must not exceed** 25 feet (7.62 meters) which includes the use of no more than three (3) elbows (refer to the **illustrations** on **page 19** and **page 20**). Should more than the maximum number of elbows be used or if the run exceeds the maximum limits noted, a professional heating, venting, and air conditioning (HVAC) firm **should be** consulted for proper venting information.

**IMPORTANT:** For extended ductwork runs or where more than the specified number of elbows are used, a professional HVAC firm **should be** contacted for proper venting information.

**NOTE:** For extended ductwork runs the cross-sectional area of a duct can only be increased to an extent. In some cases the addition of a booster fan in the ductwork may be necessary.

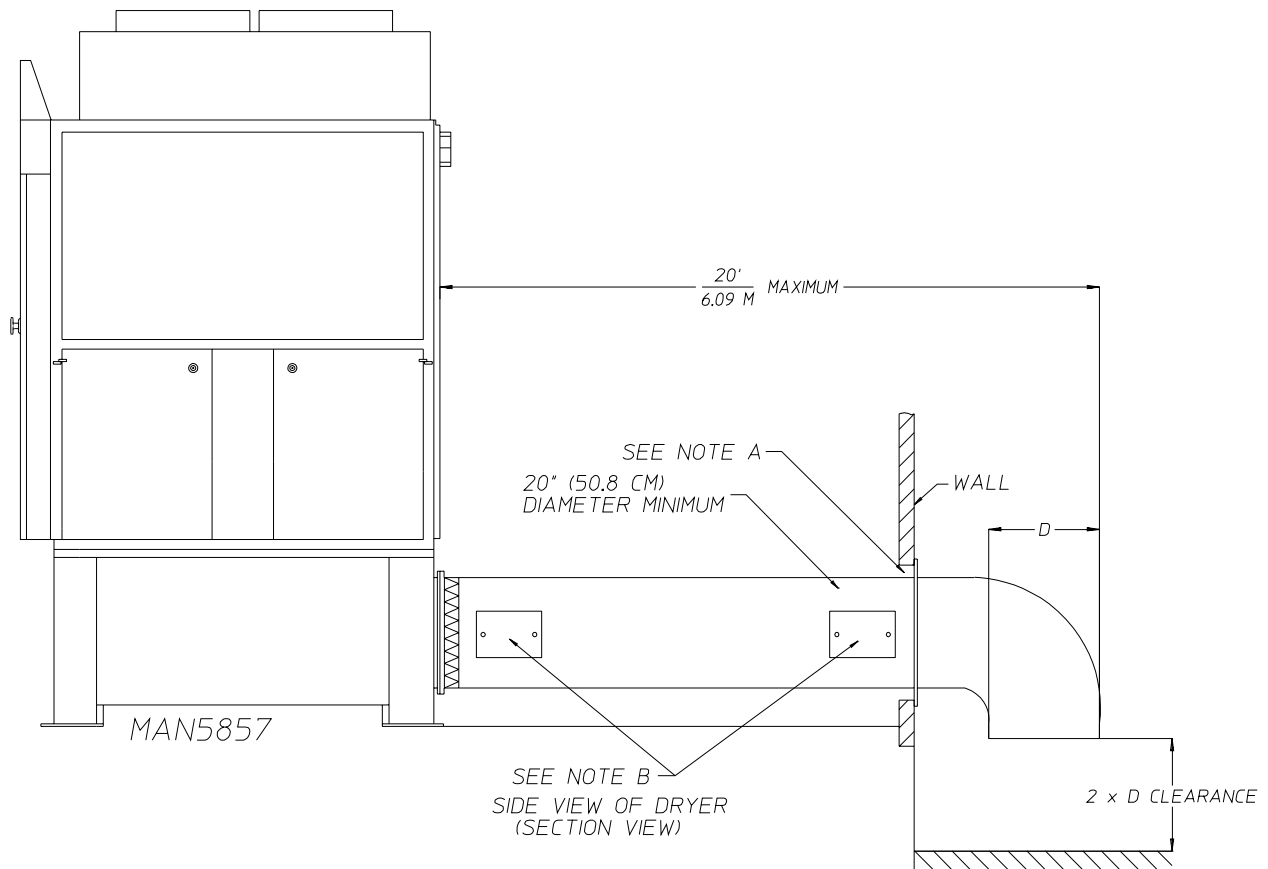
200 GAS DRYER 5,300 CFM (150.08 CMM)  
HORIZONTAL DRYER VENTING



NOTE: "A"- OPENING MUST BE 2-INCHES (5.08 CM) LARGER THAN THE DUCT (ALL THE WAY AROUND). THE DUCT MUST BE CENTERED WITHIN THIS OPENING.  
"B"- INSPECTION DOORS SHOULD BE INSTALLED AT STRATEGIC POINTS FOR PERIODIC INSPECTION AND CLEANING

DMG 08/29/01

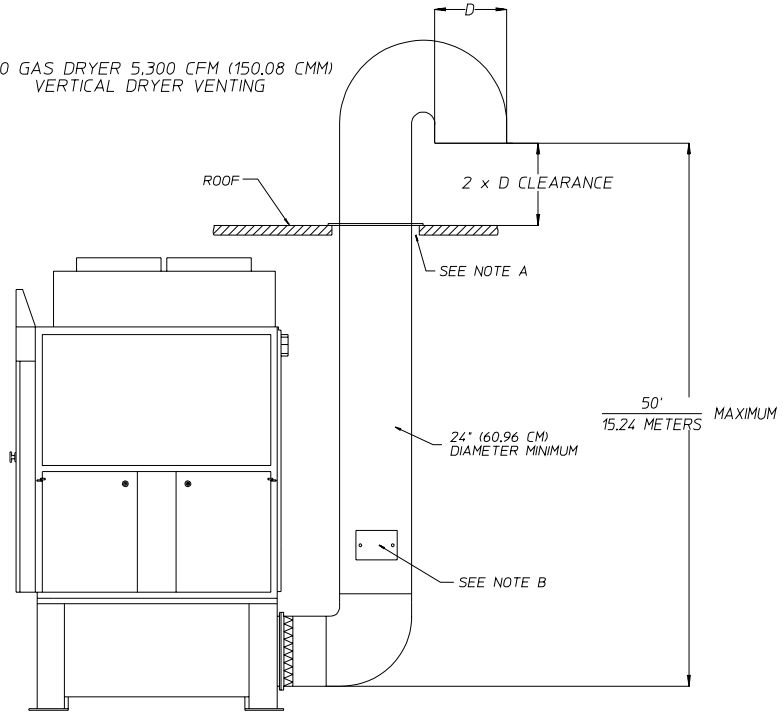
200 STEAM DRYER 6,500 CFM (184 CMM)  
HORIZONTAL DRYER VENTING



NOTE: "A"- OPENING MUST BE 2-INCHES (5.08 CM) LARGER THAN THE DUCT (ALL THE WAY AROUND). THE DUCT MUST BE CENTERED WITHIN THIS OPENING.  
 "B"- INSPECTION DOORS SHOULD BE INSTALLED AT STRATEGIC POINTS FOR PERIODIC INSPECTION AND CLEANING

DMG 08/29/01

200 GAS DRYER 5,300 CFM (150.08 CMM)  
VERTICAL DRYER VENTING



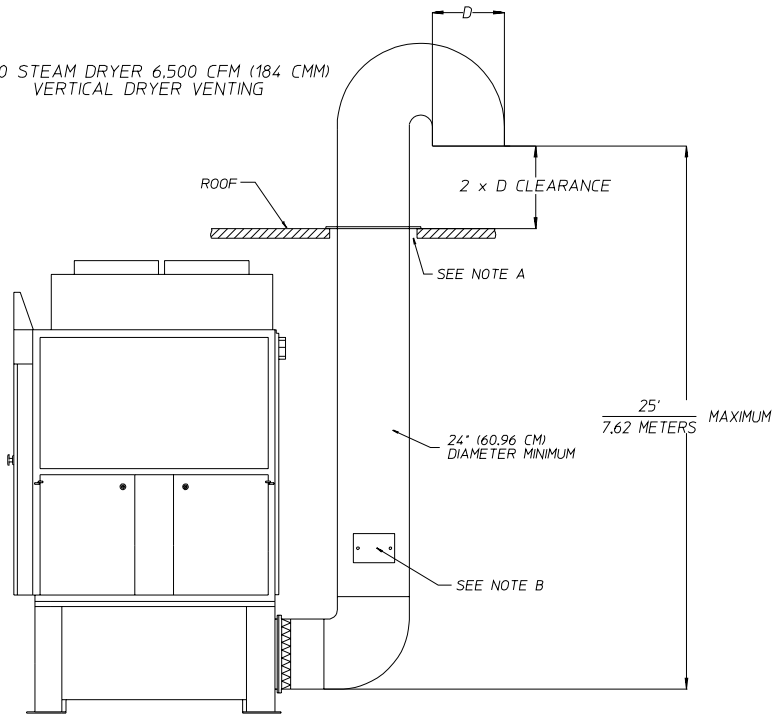
SIDE VIEW OF DRYER  
(SECTION VIEW)

MAN5861

NOTE: "A"- OPENING MUST BE 2-INCHES (5.08 CM) LARGER THAN THE DUCT (ALL THE WAY AROUND). THE DUCT MUST BE CENTERED WITHIN THIS OPENING.  
"B"- INSPECTION DOORS SHOULD BE INSTALLED AT STRATEGIC POINTS FOR PERIODIC INSPECTION AND CLEANING.

DMG 08/29/01

200 STEAM DRYER 6,500 CFM (184 CMM)  
VERTICAL DRYER VENTING



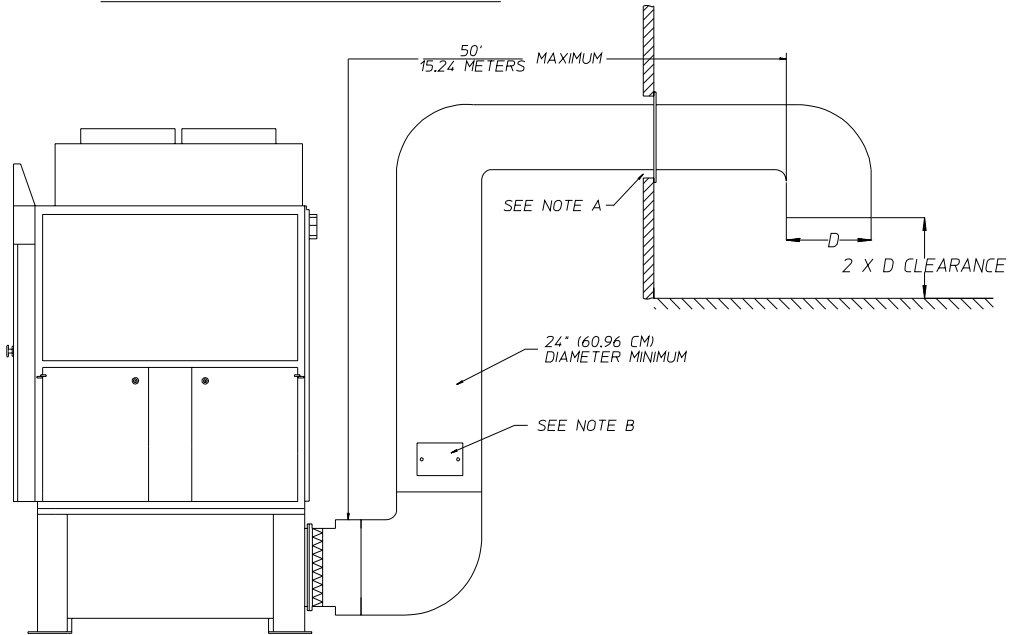
SIDE VIEW OF DRYER  
(SECTION VIEW)

MAN5862

NOTE: "A"- OPENING MUST BE 2-INCHES (5.08 CM) LARGER THAN THE DUCT (ALL THE WAY AROUND). THE DUCT MUST BE CENTERED WITHIN THIS OPENING.  
"B"- INSPECTION DOORS SHOULD BE INSTALLED AT STRATEGIC POINTS FOR PERIODIC INSPECTION AND CLEANING.

DMG 08/29/01

200 GAS DRYER 5,300 CFM (150.08 CMM)  
 VERTICAL/HORIZONTAL DRYER VENTING



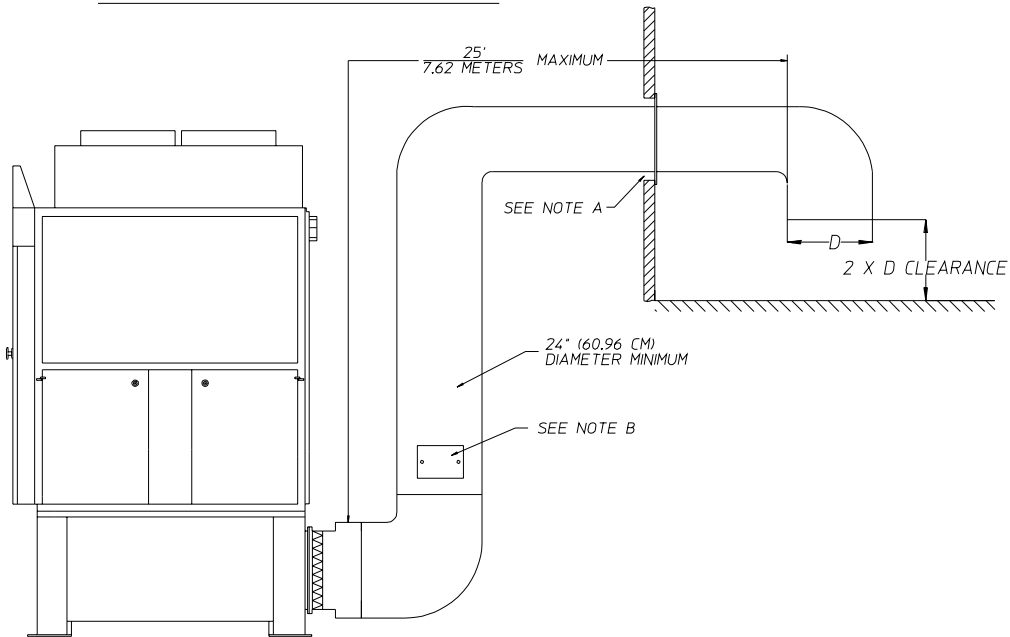
SIDE VIEW OF DRYER  
 (SECTION VIEW)

MAN5863

NOTE: "A"- OPENING MUST BE 2-INCHES (5.08 CM) LARGER THAN THE DUCT (ALL THE WAY AROUND). THE DUCT MUST BE CENTERED WITHIN THIS OPENING.  
 "B"- INSPECTION DOORS SHOULD BE INSTALLED AT STRATEGIC POINTS FOR PERIODIC INSPECTION AND CLEANING.

DMG 08/29/01

200 STEAM DRYER 6,500 CFM (184 CMM)  
 VERTICAL/HORIZONTAL DRYER VENTING



SIDE VIEW OF DRYER  
 (SECTION VIEW)

MAN5864

NOTE: "A"- OPENING MUST BE 2-INCHES (5.08 CM) LARGER THAN THE DUCT (ALL THE WAY AROUND). THE DUCT MUST BE CENTERED WITHIN THIS OPENING.  
 "B"- INSPECTION DOORS SHOULD BE INSTALLED AT STRATEGIC POINTS FOR PERIODIC INSPECTION AND CLEANING.

DMG 08/29/01



a. Outside Ductwork Protection

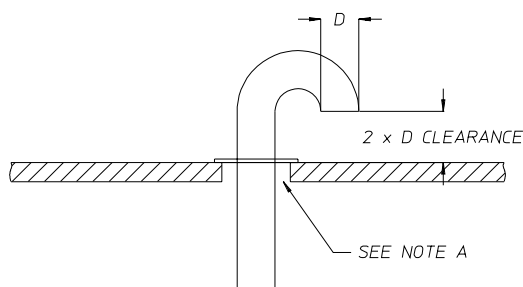
- 1) To protect the outside end of the horizontal ductwork from the weather, a 90° elbow bent downward **should be** installed where the exhaust exits the building. If the exhaust ductwork travels vertically up through the roof, it **should be** protected from the weather by using a 180° turn to point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

**IMPORTANT:** *DO NOT* use screens, louvers, or caps on the outside opening of the exhaust ductwork.

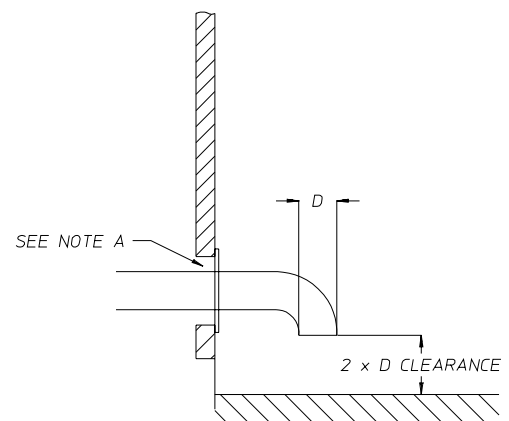
**NOTE:** Exhaust back pressure measured by a manometer at the dryer exhaust duct area **must be** no less than 0 and **must not exceed** 0.3 inches (0.74 mb) of water column (W.C.).

**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.

VERTICAL DUCTING



HORIZONTAL DUCTING



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.

MAN4706

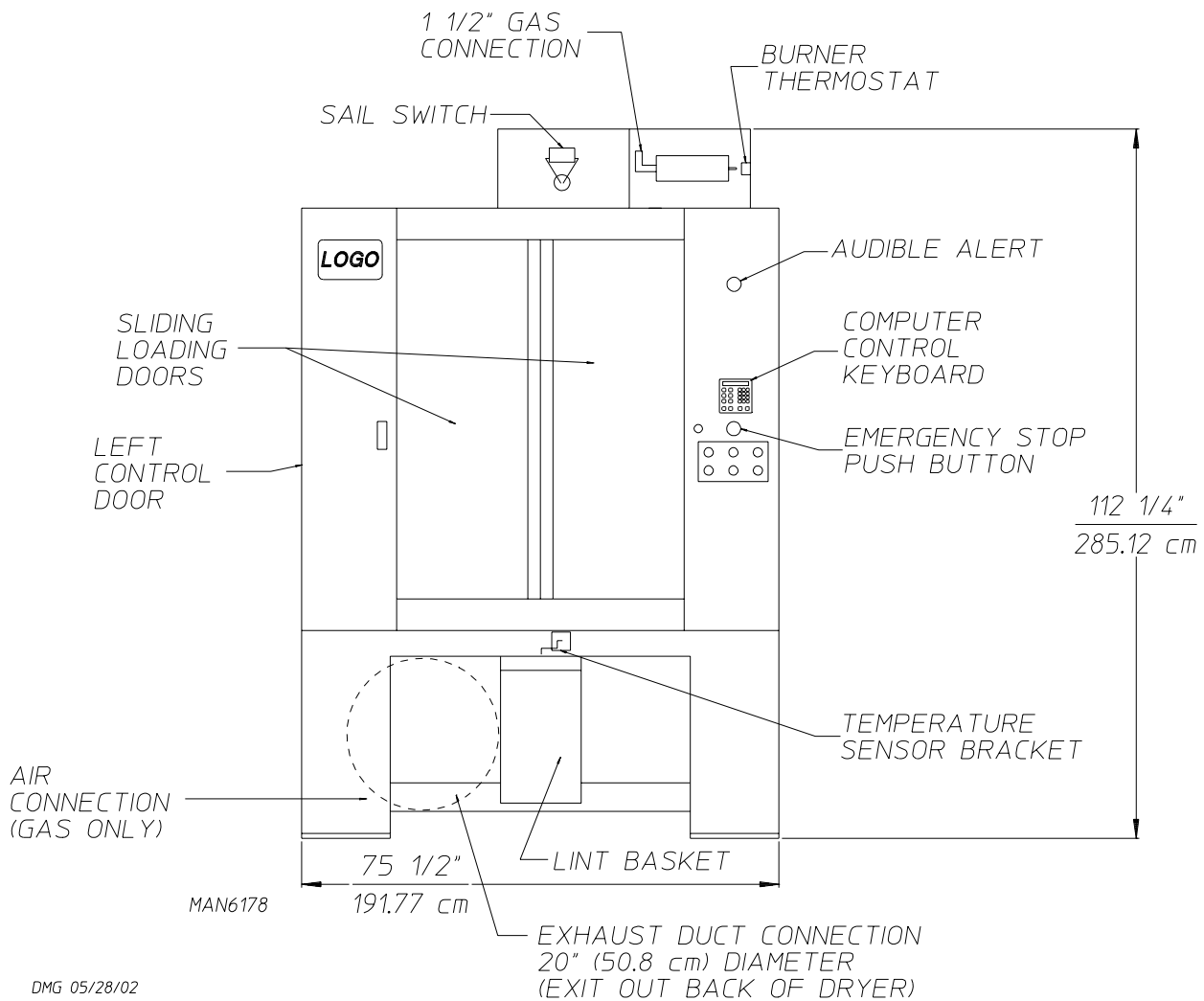
## E. COMPRESSED AIR SUPPLY SYSTEM

A clean, dry, and regulated air supply of 80 PSI (5.51 bars) compressed air **must be** supplied to the dryer. The connection size is 1/8" N.P.T. No air filtering or pressure regulating devices are provided with the standard non-tilt dryer.

### 1. Compressed Air Supply Connection Location For Non-Tilt Dryers

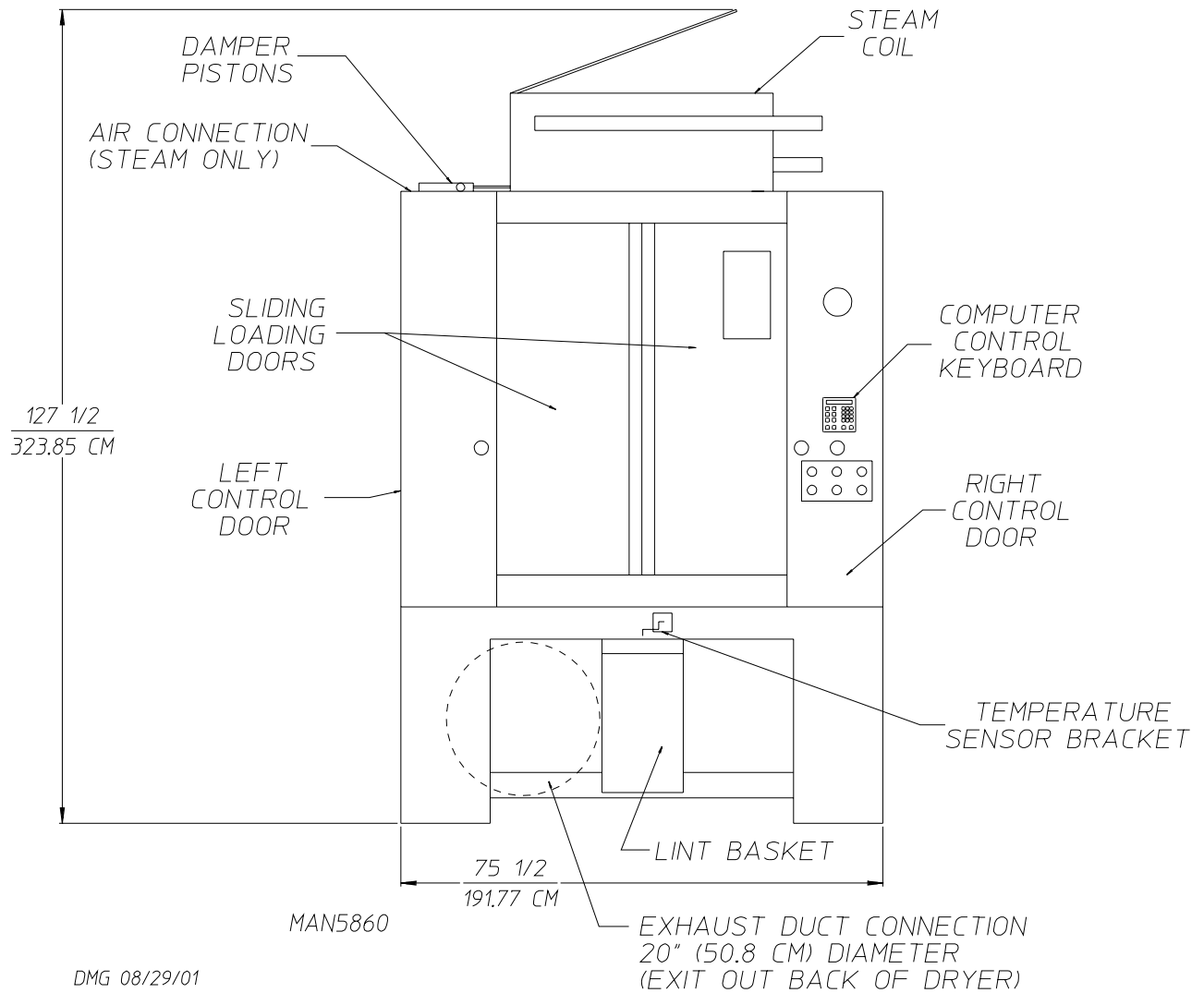
#### a. Gas Dryers

The air line supply connection is made into the 1/8" N.P.T. port on the air jet solenoid valve which is located in the base of the dryer. (Refer to the **illustration below.**)



b. Steam Dryers

The air line supply connection is made into the 1/8" N.P.T. tee which is located at the left hand side of the top of the dryer. (Refer to the **illustration below.**)



## F. ELECTRICAL INFORMATION

### 1. Electrical Requirements

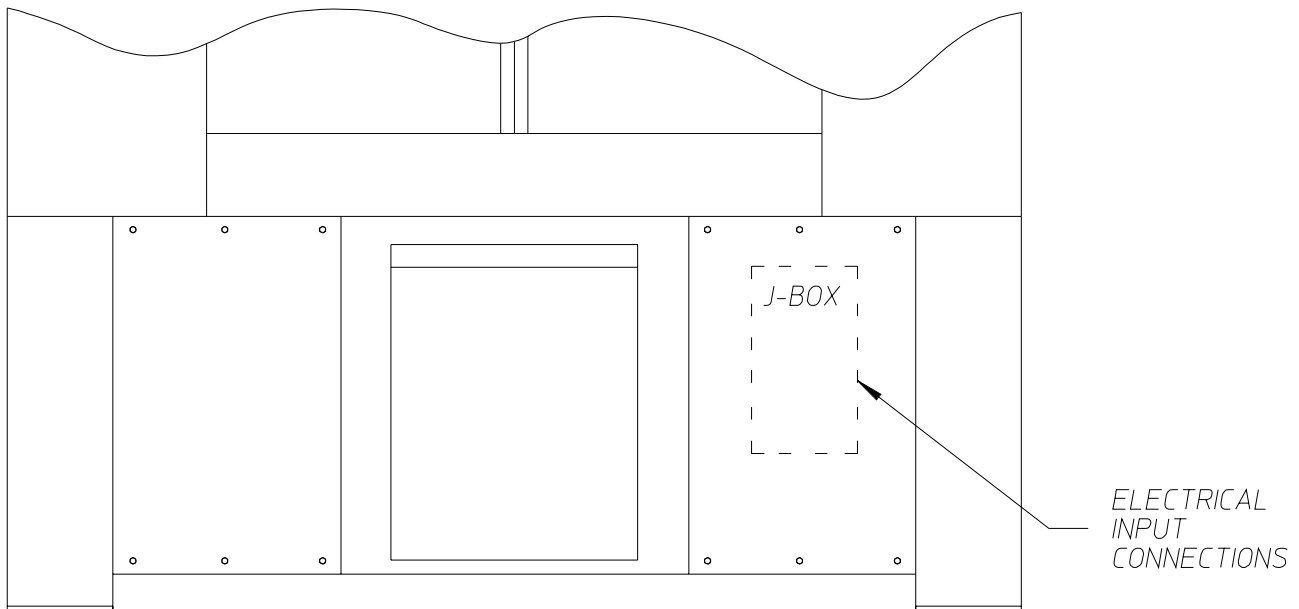
It is your responsibility to have **ALL** electrical connections made by a properly licensed and competent electrician to assure that the electrical installation is adequate and conforms to local and state regulations or codes. In the absence of such codes, **ALL** electrical connections, materials, 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.

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

**NOTE:** Component failure due to improper installation VOIDS THE WARRANTY.

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

**NOTE:** The use of aluminum wire will VOID THE WARRANTY.



DMG 02/05/01

FRONT VIEW OF  
NON-TILT BASE

MAN5637

2. Electrical Service Specifications

<h2 style="margin: 0;">200 (Gas) Non-Tilt</h2> <h3 style="margin: 0;">7.5 HP Blower Motor/3 HP Drive Motor</h3> <h4 style="margin: 0;">ELECTRICAL SERVICE SPECIFICATIONS (PER DRYER)</h4>						
<p><b><u>IMPORTANT:</u></b> 208 VAC AND 240 VAC <b><u>ARE NOT THE SAME.</u></b> When ordering, <i>specify exact voltage.</i></p>						
<p><b><u>NOTES:</u></b></p> <p>A. When fuses are used they <b>must be</b> dual element, time delay, current limiting, class RK1 or RK5 <b>ONLY</b>. Calculate/determine correct fuse value, by applying either local and/or National Electrical Codes to listed appliance amp draw data.</p> <p>B. Circuit breakers are thermal-magnetic (industrial) motor curve type <b>ONLY</b>. For others, calculate/verify correct breaker size according to appliance amp draw rating and type of breaker used.</p> <p>C. Circuit breakers for 3-phase (3Ø) dryers <b>must be</b> 3-pole type.</p>						
SERVICE VOLTAGE	PHASE	WIRE SERVICE	APPROX. AMP DRAW	MINIMUM WIRE SIZE	FUSING Dual Element Time Delay	CIRCUIT BREAKER
208	3Ø	3/4	37.9	*	100	60
240	3Ø	3	34.0	*	100	60
380-400	3Ø	3/4	19.9	*	60	30
416	3Ø	3/4	19.7	*	60	30
460/480	3Ø	3/4	18.0	*	60	30
575	3Ø	3/4	14.9	*	60	20

AWG Stranded Wire Type...size wire as per National Electrical Code or local codes.

**IMPORTANT:** The dryer *must be* connected to the electric supply shown on the data label that is affixed to the right electrical control panel.

**WARNING:** **208 VAC AND 240 VAC ARE NOT THE SAME.** Any damage done to dryer components due to improper voltage connections will automatically VOID THE WARRANTY.

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

# 200 (Steam) Non-Tilt

15 HP Blower Motor/3 HP Drive Motor

## ELECTRICAL SERVICE SPECIFICATIONS (PER DRYER)

**IMPORTANT:** 208 VAC AND 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	MINIMUM WIRE SIZE	FUSING	CIRCUIT BREAKER
					Dual Element Time Delay	
208	3Ø	3/4	50.6	*	100	80
240	3Ø	3	50.8	*	100	80
380-400	3Ø	3/4	31.0	*	60	50
416	3Ø	3/4	28.9	*	60	50
460/480	3Ø	3/4	26.5	*	60	45
575	3Ø	3/4	22.3	*	60	30

AWG Stranded Wire Type...size wire as per National Electrical Code or local codes.

**IMPORTANT:** The dryer **must be** connected to the electric supply shown on the data label that is affixed to the right electrical control panel.

**WARNING:** 208 VAC AND 240 VAC ARE NOT THE SAME. Any damage done to dryer components due to improper voltage connections will automatically VOID THE WARRANTY.

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

### 3. Electrical Connections

**NOTE:** A wiring diagram is included with each dryer and is located in the blueprint pocket inside the left side control cabinet.

The main electrical input connections to the dryer are the 3-phase (3 $\phi$ ) power leads (L1, L2, and L3), GROUND, and in the case of 4 wire service, the NEUTRAL. These electrical connections are made at the power distribution block located in the base front electrical enclosure.

If the dryer has an optional sprinkler circuit then a separate single-phase (1 $\phi$ ) source **must be** supplied to the sprinkler circuit at the name plate voltage. These connections are made at the power distribution block located in the base front electrical enclosure.

The main electrical (3-phase [3 $\phi$ ]) connections (L1, L2, and L3) and the optional (single-phase [1]) 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. In **ALL** cases, a strain relief **must be** used where the wire(s) enter the dryer electrical service (relay) box.

**NOTE: A CIRCUIT SERVICING EACH DRYER *MUST BE* PROVIDED.**

### 4. Main 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.

**NOTE:** A grounding connection (terminal lug) is provided in the dryer in the Base Electrical Junction Box.

For added personal safety, when possible, it is suggested that a separate ground wire (sized per local codes) be connected from the ground connection of the dryer to a cold water pipe. **DO NOT ground to a gas or hot water pipe.** The grounded cold water pipe must have metal to metal connections **ALL** the way to 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. For proper operation of the microprocessor controller (computer), an earth (zero) ground is required.

**NOTE:** Grounding via metallic electrical conduit (pipe) **is not recommended.**

## G. GAS INFORMATION

It is your responsibility to have **ALL** plumbing connections made by a qualified professional to assure 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 (Liquid Propane [L.P.] Gas) or LATEST EDITION.

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

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 system at test pressures equal to or less than 1/2 psig (3.5 kPa).

**IMPORTANT:** Failure to isolate or disconnect dryer from supply as noted can cause irreparable damage to the gas valve VOIDING THE WARRANTY.

**WARNING: FIRE OR EXPLOSION COULD RESULT.**

### 1. 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 that is affixed to the right electrical control panel. 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 **ADC** factory.

**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 over 2,000 feet (610 meters) were specified at the time the dryer order was placed with the factory. The adjustment or conversion of the 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 **ADC** factory.



2. Technical Gas Data

a. Gas Specifications

<b>TYPE OF GAS</b>				
	NATURAL		LIQUID PROPANE	
Manifold Pressure*	3.5 inches W.C.	<b>8.7 mb</b>	10.5 inches W.C.	<b>26.1 mb</b>
In-Line Pressure	6.0 - 12.0 inches W.C.	<b>14.92 - 29.9 mb</b>	11.0 inches W.C.	<b>27.4 mb</b>

*Shaded areas are stated in metric equivalents*

\* Measured at outlet side of gas valve pressure tap when gas valve is on.

b. Gas Connections

Run a 1-1/2" pipe from the main gas header to the dryer. There is a 1-1/4" gas pipe connection at the top of the dryer. The dryer has a gas burner box with a 1-1/4" gas connection.

Inlet connection ----- 1-1/4" N.P.T.

Inlet Supply Size ----- 1-1/2" N.P.T. (minimum)

BTU/hr input (per dryer) - 750,000 (189,000 kcal/hr)

1) Natural Gas

Pressure regulation is controlled by the gas valve's internal pressure regulator. Incoming supply pressure **must be** consistently between a minimum of 6.0 inches (14.92 mb) water column (W.C.) and a maximum of 12.0 inches (29.9 mb) water column.

2) Liquid Propane (L.P.) Gas

Pressure regulation is controlled by the gas valve's internal pressure regulator, which is blocked open so that the gas pressure **must be** regulated upstream of the dryer. The pressure measured at the gas valve pressure tap **must be** a consistent 10.5 inches (26.1 mb) water column. There is no regulator or regulation provided in an L.P. gas dryer. The water column **must be** regulated at the source (L.P. tank) or external regulator/regulation **must be** added to each dryer.

### 3. Piping Connections

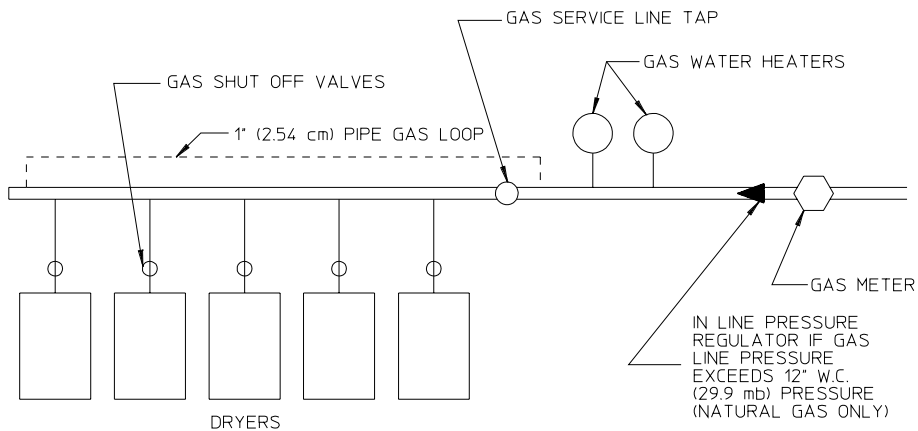
**ALL** components/materials **must conform** to National Fuel Gas Code Specifications ANSI Z223.1-LATEST EDITION, or in Canada, CAN/CGA-B149.1-M91 (Natural Gas) or CAN/CGA-B149.2-M91 (Liquid Propane [L.P.] Gas) or LATEST EDITION (for General Installation and Gas Plumbing), as well as local codes and 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 BTUs being supplied.

The dryer is provided with a 1-1/4" N.P.T. inlet pipe connections extending out of the top of the burner box. The minimum pipe size (supply line) to the dryer is 1-1/2" N.P.T. For ease of servicing, the gas supply line to each dryer must have its own shutoff valve.

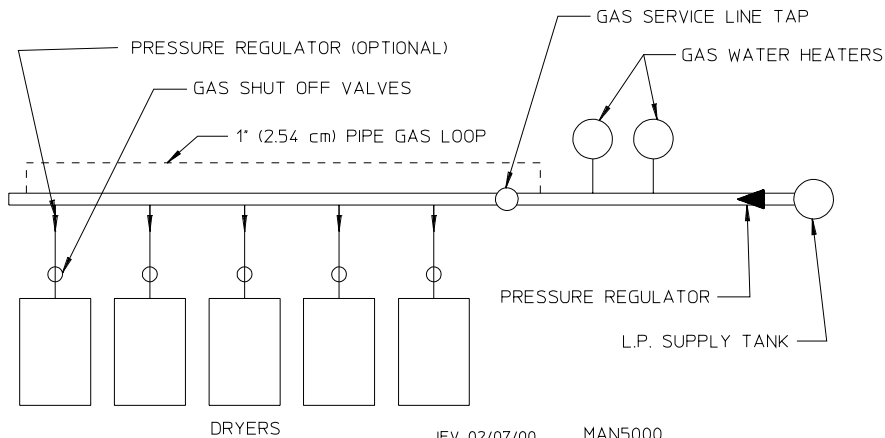
The size of the main gas supply line (header) will vary depending on the distance this line travels from the gas meter or, in the case of L.P. gas, the supply tank, other gas-operated appliances on the same supply line, etc. Specific information regarding supply line size **should be** determined by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

TYPICAL NATURAL GAS INSTALLATION



TYPICAL L.P. GAS INSTALLATION



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Consistent gas pressure is essential at **ALL** gas connections. It is recommended that a 1-inch (2.54 cm) 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 inches (29.9 mb) of water column (W.C.) pressure.

**IMPORTANT:** A water column pressure of 3.5 inches (8.7 mb) for natural gas and 10.5 inches (26.1 mb) for liquid propane (L.P.) dryers is required at the gas valve pressure tap of each dryer for proper and safe operation.

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 and L.P. gases **must be** used.

**IMPORTANT:** Test **ALL** connections for leaks by brushing on a soapy water solution (liquid detergent works well).

**WARNING: NEVER TEST FOR GAS LEAKS WITH A FLAME!!!**

**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 BTUs being supplied.

**IMPORTANT:** 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 testing of the gas supply piping system at test pressures equal to or less than 1/2 psig (3.5 kPa).

## H. WATER SUPPLY CONNECTION FOR FIRE SUPPRESSION SYSTEM (FSS)

The dryer comes with FSS, connect a  $40 \pm 20$  psig ( $2.75 \pm 1.37$  bars) 1/2" diameter water line to supply the water valve of the FSS with the required water supply. The water connection is located on top of the dryer on the left hand side. A tap has been supplied for the customer to connect a manual bypass to the FSS. The same water connection apply to the manual bypass tap as specified above.

## I. STEAM INFORMATION

It is your responsibility to have **ALL** steam plumbing connections made by a qualified professional to assure that the installation is adequate and conforms to local and state regulations or codes.

**IMPORTANT:** Failure to comply with the requirements stipulated in this manual can result in component failure which will VOID THE WARRANTY.

**NOTE:** The dryer is manufactured with a pneumatic (piston) damper system which requires an external supply of clean, dry, and regulated air 80 PSI +/- 10 PSI (5.51 bars +/- 0.68 bars).

### 1. 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.

### 2. Steam Requirements - High Pressure

Inlet-----2-inch supply line connection

Return-----2-inch return line connection

<b>OPERATING STEAM PRESSURE</b>		
MAXIMUM	125 psig	<b>862 kPa</b>
MINIMUM	100 psig	<b>689 kPa</b>
HEAT INPUT (NORMAL LOAD)	27 Bhp	
CONSUMPTION (APPROXIMATE)	890 lbs/hr	<b>404.5 kg/hr</b>

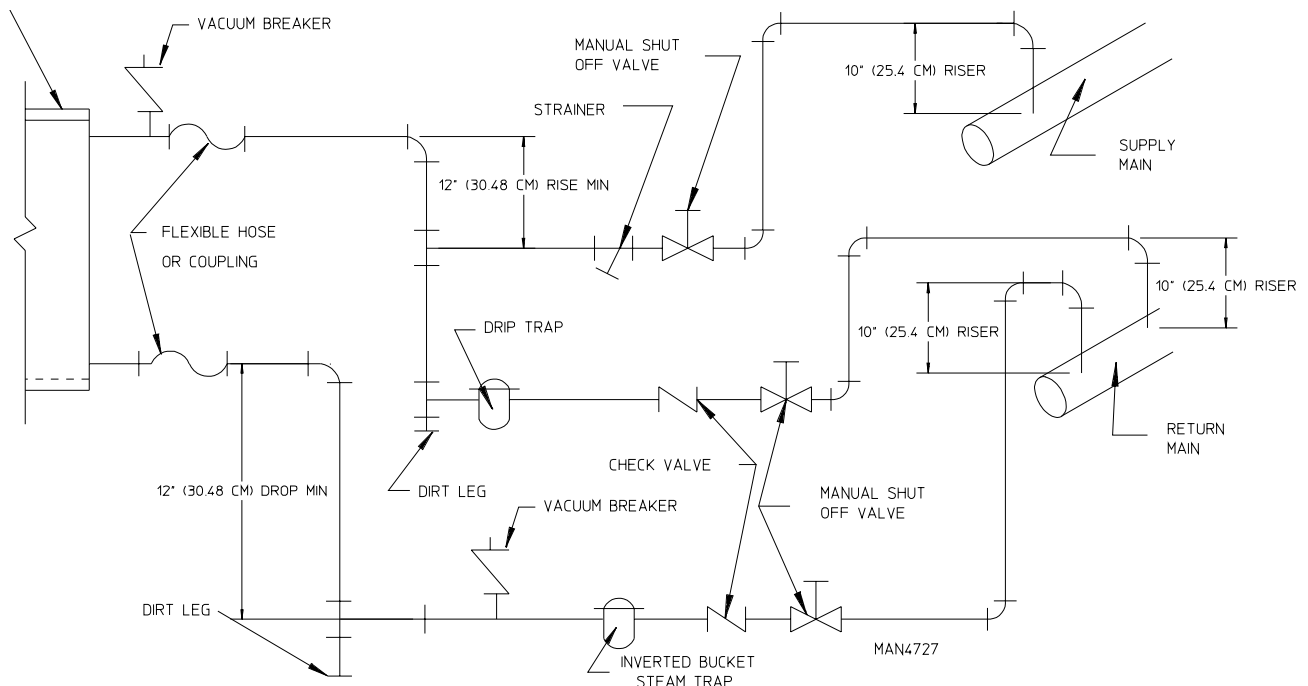
*Shaded areas are stated in metric equivalents*

### 3. Installation Instructions

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

**IMPORTANT:** Steam coil failure due to water hammer by wet steam will VOID THE WARRANTY.

- a. The presence 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 within a minimum 10-inch (25.4 cm) riser. This will prevent any condensate from draining towards the dryer.
- b. 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.
- c. 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.
- d. Shutoff valves for each dryer **should be** installed in the supply, return, and drip trap return lines. This will allow the dryer to be isolated from the supply and return mains if the dryer needs maintenance work.
- e. Install an inverted bucket steam trap and check valve for each unit at least 12-inches (30.48 cm) below steam coil as close to the coil as possible.
- f. The supply and return lines **should be** insulated. This will save energy and provide for safety of the operator and maintenance personnel.
- g. Water pockets in the supply line, caused by low points, will provide wet steam to the coil possibly causing coil damage. **ALL** horizontal runs of steam supply piping **should be** pitched 1/4-inch (6.35 mm) for every 1 foot (0.31 meters) back towards the steam supply header causing any condensate in the line to drain to the header. Install a bypass trap in any low point to eliminate wet steam.



#### 4. Steam Damper Air System Connections

The dryer is manufactured with a pneumatic (piston) damper system, which requires an external supply of compressed air. The air connection is made at the left hand side on top of the dryer.

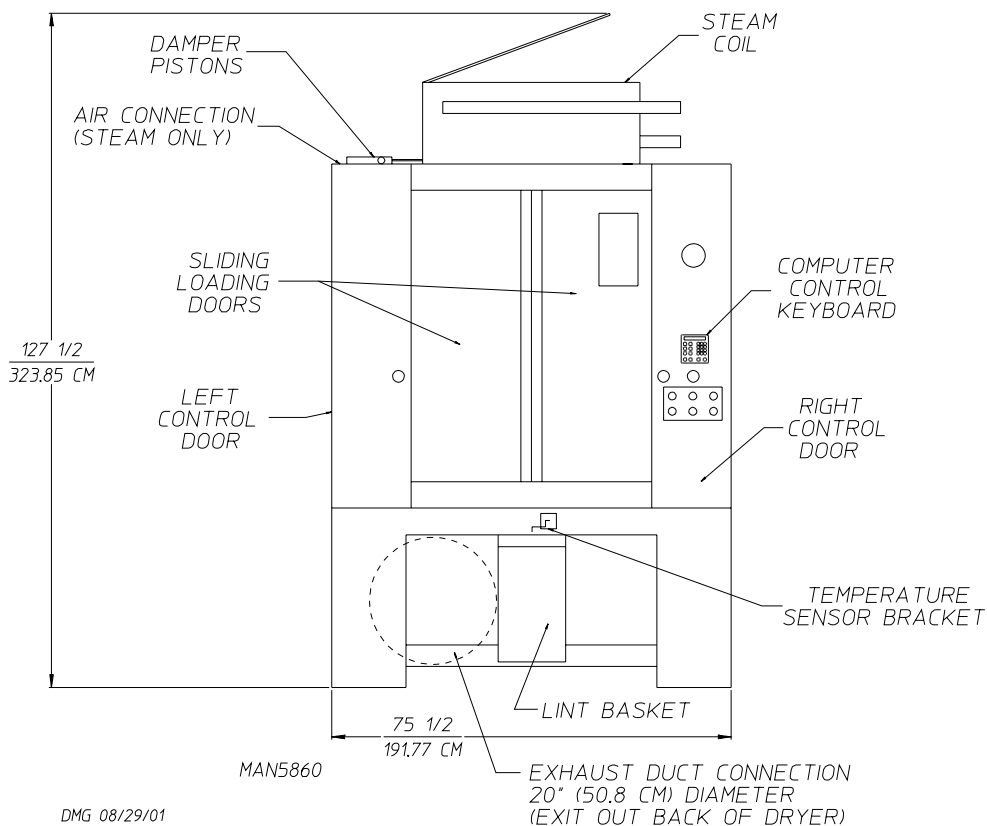
##### a. Air Requirements

<b>Compressed Air Supply</b>	<b>Air Pressure</b>	
Normal	80 PSI	<b>5.51 bars</b>
Minimum Supply	70 PSI	<b>4.82 bars</b>
Maximum Supply	90 PSI	<b>6.20 bars</b>

*Shaded areas are stated in metric equivalents*

##### b. Air Connection

Air connection to system---1/8" F.P.T.



- c. No air regulation is provided with a standard dryer. External regulation/filtration of 80 PSI (5.51 bars) **must be provided**. It is suggested that a filter/regulator/gauge (F/R/G) arrangement be added to the compressed air line just before the dryer connection. This is necessary to insure that correct and clean air pressure is achieved. The F/R/G is provided on dryers with the optional automatic door or the optional sprinkler circuit.

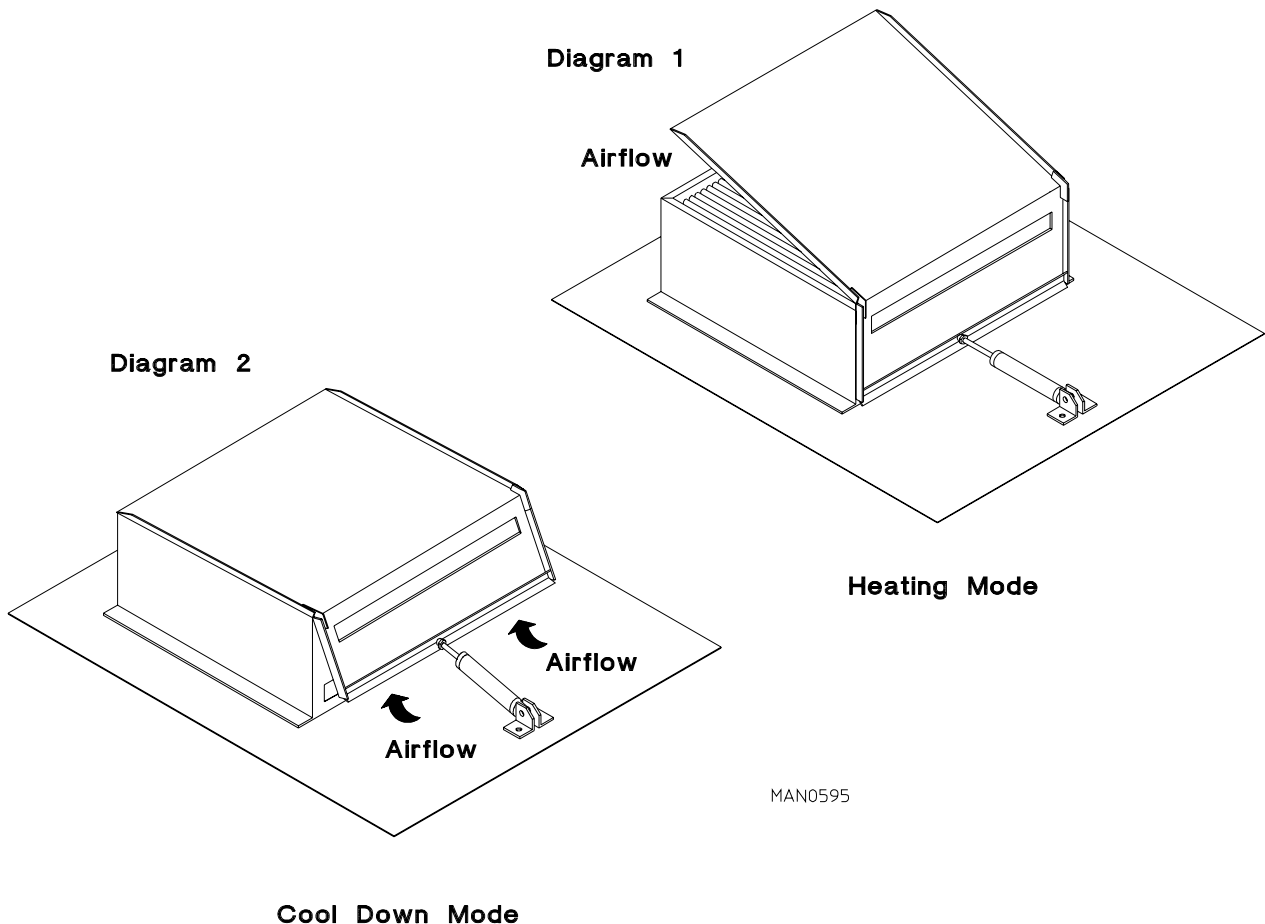
## 5. Steam Damper System Operation

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 basket (tumbler), allowing a rapid cool down.

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

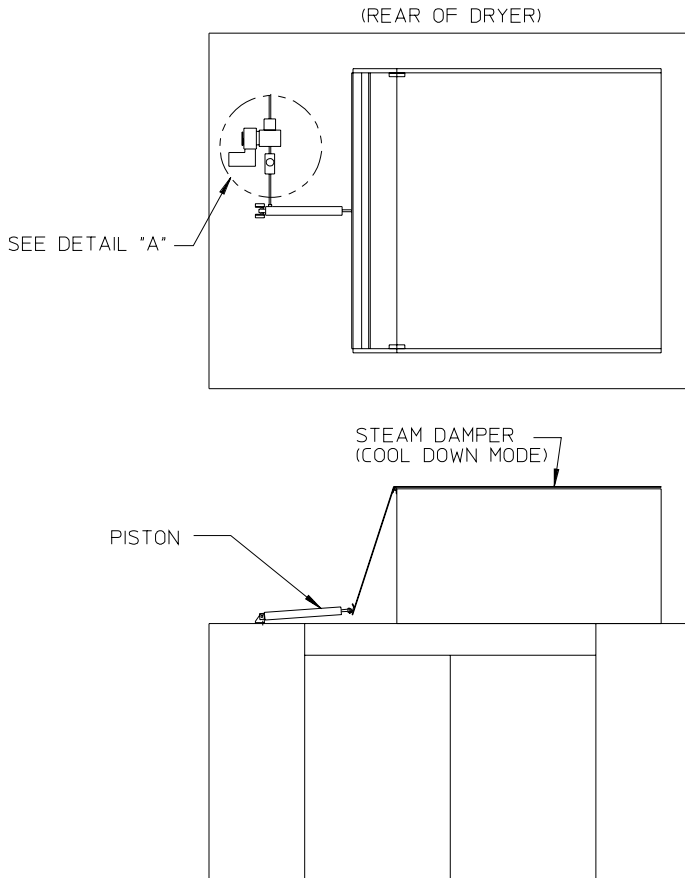
Diagram 2 - shows the damper in the cool down (closed) mode, pulling ambient air directly into the basket (tumbler) without passing through the coils.

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

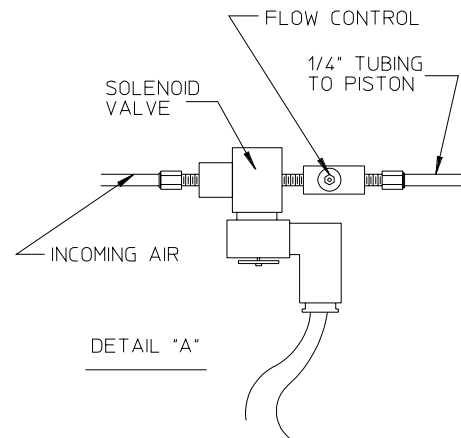


## 6. Steam Damper Air Piston (Flow Control) Operation Adjustment

Steam damper operation was tested and adjusted prior to shipping at 80 PSI (5.51 bars). If steam damper 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.



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## J. PREOPERATIONAL TESTS

**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.

1. Turn on electric power to the dryer.
2. Make sure the loading doors are closed and the lint drawer is closed.
3. Make sure “green” power button is in and illuminated.
4. Microprocessor controller (computer) system operational test--to start the dryer:
  - a. Display will read “READY.”
  - b. Press “D” (preprogrammed) cycle key on the keyboard (touch pad).
5. The dryer will then start (i.e., blower, basket [tumbler], and heat).
6. The light emitting diode (L.E.D.) display will read MANUAL DRYING CYCLE D, 00:00 MIN REMAIN.

**NOTE:** Press the “UP ARROW” to view the basket (tumbler) temperature at anytime.

**NOTE:** The dryer can be stopped at anytime by pressing the “STOP/CLEAR”  key. If the temperature is above the Cool Down set point when the “STOP/CLEAR” is pressed, the dryer will go into a Cool Down Cycle. If the “STOP/CLEAR” key is pressed again at this point the cycle that was in progress **will be** canceled and returned to the “READY” state. If the temperature is below the Cool Down set point the cycle that was in progress **will be** canceled, and go to Wrinkle Guard.

7. When the programmed drying time has expired, the Phase 7 OPL microprocessor controller (computer) will proceed into the Cool Down Cycle (Mode).
8. Once the Cool Down Cycle begins at the end of the heat cycle the L.E.D. display will read COOL DOWN TEMP \_\_\_/\_\_\_ MINUTE REMAINING. At the end of the heat cycle the dryer will shut off the heat, and continue the fan and basket (tumbler) until the Cool Down Time, or temperature is reached.
9. Once the Cool Down Cycle is completed the Phase 7 OPL microprocessor controller (computer) will proceed into the Wrinkle Guard Cycle. The Audio Alert tone will sound for the amount set in Audio Alert ON Time. The L.E.D. display will read “WRINKLE GUARD.” The times are fixed at 2minutes OFF, 2 minutes ON for a max time of 99 minutes. These times are not programmable. During the ON time, the blower (fan) and the (basket) tumbler will start to rotate (without heat for 2 minutes). The Phase 7 OPL microprocessor controller (computer) will repeat this process until the Maximum Wrinkle Guard On Time has expired (99 minutes). The L.E.D. display will then read “CYCLE DONE” and lockout the dryer functions until the doors are opened. It will then return to “READY.”

**NOTE:** Mechanical functions of the dryer **is not** allowed during the ON time. The blower (fan) **must be** OFF to perform mechanical functions. However the “STOP/CLEAR” key may be pressed at any time to end the Wrinkle Guard cycle. Mechanical functions of the dryer is allowed during the OFF time.

**NOTE:** Dryer can be stopped at any time by opening the main door or by pressing the “CLEAR/STOP” key. To restart the dryer, press the “ENTER/START” key or a preprogrammed cycle key (i.e., “E”).

**NOTE:** Pressing keyboard (touch pad) key “A,” “B,” “C,” “D,” or “F” will also start the dryer. The six (6) preprogrammed drying cycles (“A” thru “F”) have been stored in the microprocessor controller’s (computer’s) memory. Refer to the Programming Manual supplied with the dryer for these preprogrammed cycles.

10. Check to insure that the basket (tumbler) starts in the clockwise (CW) direction. Additionally, check the direction of the blower motor to insure that it rotates in the counterclockwise (CCW) direction as viewed from the left side of the dryer. If it does, the phasing is correct. If the phasing is incorrect, reverse two (2) of the leads at L1, L2, or L3 of the power supply connections made to the dryer.

**IMPORTANT:** Dryer blower motor and impellor/fan shaft as viewed from the left side of the dryer must turn in the counterclockwise (CCW) direction, otherwise the dryer efficiency **will be** drastically reduced, and premature component failure can result.

11. Heat Circuit Operational Test

a. Gas Models

- 1) When the dryer is first started (during initial start-up), the burner has a tendency not to ignite on the first attempt. This is because the gas supply piping is filled with air, so the dryer may have to be stopped and restarted several times for this air to be purged from the lines.
- 2) The dryer has one (1) burner box, which has its own Direct Spark Ignition (DSI) module and Spark Ignition/Flame-Probe Assembly. If ignition is not established after first attempt, the heat circuit DSI module will lockout until it is manually reset. To reset the DSI system, open and close the loading doors and restart the dryer (press “ENTER/START” key).

**NOTE:** During the purging period, verify that **ALL** gas shutoff valves are open.

- 3) Once ignition is established, a gas pressure test **should be** taken at the gas valve pressure tap of the dryer to assure that the water column (W.C.) pressure is correct and consistent.

**NOTE:** Water column pressure requirements (measured at both gas valve pressure taps)...

Natural Gas ----- 3.5 inches (8.7 mb) water column.  
Liquid Propane (L.P.) ----- 10.5 inches (26.1 mb) water column.

**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.

b. Steam Models

- 1) Check to insure that the steam damper is functioning properly.

- 2) Make a complete operational check of **ALL** safety-related circuits (i.e., lint drawer switch and sail switch on gas models).
- 3) A reversing basket (tumbler) **should never be** operated with less than a 132 lb (59.9 kg) load (dry weight). The size of the load will affect the coast-down and dwell (stop) times. The basket (tumbler) must come to a complete stop before starting in the opposite direction. For automatic (mode) cycle only, the spin and stop times are not adjustable and have been preprogrammed into the microprocessor controller (computer) for a 2-1/2 minute reverse spin time and a 7-second dwell (stop) time.

#### BASKET (TUMBLER) COATING

The basket (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 basket (tumbler) to remove this coating.

- 4) Each dryer **should be** operated through one (1) complete cycle to assure that no further adjustments are necessary and that **ALL** components are functioning properly.
- 5) Microprocessor controller (computer) programs/selections...
  - a) Each microprocessor controller (computer) has been preprogrammed by the factory with the most commonly used parameter (programs) selections. If computer program changes are required, refer to the computer programming manual which was shipped with the dryer.

#### K. PREPARATION FOR OPERATION/START-UP

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

1. Read **ALL** “CAUTION,” “WARNING,” and “DIRECTION” labels attached to the dryer.
2. Check incoming supply voltage to be sure that it is the same as indicated on the dryer data label affixed to the right electrical control panel. In case of 208 VAC, for dryers with sprinkler option, verify single-phase (1Ø) voltage is correct. The supply voltage must match the electrical service **exactly**.
3. **GAS MODELS** - check to assure that the dryer is connected to the type of heat/gas indicated on the dryer data label.
4. **GAS 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 assure that this important safety control is functioning.
5. **GAS MODELS** - be sure that **ALL** gas shutoff valves are in the open position.
6. Be sure **ALL** side and base panels are on the dryer.
7. Check **ALL** service doors to assure that they are closed and secure.
8. Be sure lint drawer is securely in place.

**NOTE: LINT DRAWER *MUST BE* ALL THE WAY IN PLACE TO ACTIVATE SAFETY SWITCH OTHERWISE THE DRYER WILL NOT START.**

9. Rotate the basket (tumbler/drum) by hand to be sure it moves freely.

## L. SHUT DOWN INSTRUCTIONS

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

1. Discontinue power to the dryer either at the external disconnect switch or the circuit breaker.
2. Discontinue the heat supply:
  - a. ***GAS MODELS*...discontinue the gas supply.**
    - 1) **SHUT OFF external gas supply shutoff valve.**
    - 2) **SHUT OFF internal gas supply shutoff valve located in the gas valve burner area.**
  - b. ***STEAM MODELS*...discontinue steam supply.**
    - 1) **SHUT OFF external (location furnished) shutoff valve.**
    - 2) **SHUT OFF internal steam valves in the supply lines and the return lines.**

# SECTION IV

## SERVICE/PARTS INFORMATION

### A. SERVICE

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

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

### B. PARTS

1. Replacement parts **should be** purchased from the reseller from whom the **ADC** equipment was purchased. If the reseller **cannot** be contacted or is unknown, contact the **ADC** Parts Department for a reseller in your area. Parts may also be purchased directly from the factory by calling the **ADC** Parts Department at (508) 678-9000 or you may FAX in your order at (508) 678-9447.

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

# SECTION V

## WARRANTY INFORMATION

### A. RETURNING WARRANTY CARDS

1. Before any dryer leaves the **ADC** factory test area, a warranty card is placed on the back side 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.
  - a. If a warranty card did not come with your dryer, contact the **ADC** Warranty Department or the **ADC** Service Department at (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).

### B. WARRANTY

For a copy of the **ADC** commercial warranty covering your particular dryer(s), contact the **ADC** 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 **ADC** Warranty Department at (508) 678-9000.

**NOTE:** Whenever contacting the **ADC** 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.

### C. RETURNING WARRANTY PARTS

**ALL** dryer or parts warranty claims or inquires **should be** addressed to the **ADC** Warranty Parts Department. To expedite processing, the following procedures **must be** followed:

1. No parts are to be returned to **ADC** without prior written authorization (“Return Material Authorization” [R.M.A.]) from the factory.

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

- a. 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.

2. Each part **must be** tagged with the following information:
  - a. **Model number** and **serial number** of the dryer from which part was removed.
  - b. Nature of failure (be specific).
  - c. Date of dryer installation.
  - d. Date of part failure.
  - e. Specify whether the part(s) being returned is for a replacement, a credit, or a refund.

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

**NOTE:** Warranty tags (ADC Part No. 450064) are available at “no charge” from ADC upon request.

3. The company returning the part(s) must clearly note the complete company name and address on the outside of the package.
4. **ALL** returns **must be** properly packaged to insure 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.

5. **ALL** returns **should be** shipped to the ADC factory in such a manner that they are insured and a proof of delivery can be obtained by the sender.
6. **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 reply **is not** received by the ADC Warranty Department within thirty (30) days from the FAX/letter date, then no replacements, credits, or refunds **will be** issued, and the merchandise **will be** discarded.

# SECTION VI

## ROUTINE MAINTENANCE

### A. 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, an ADC 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.**

**WARNING: 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 six (6) to eight (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 build up.

### SUGGESTED CLEANING SCHEDULE

#### ***EVERY THIRD OR FOURTH LOAD***

Clean the lint basket. A clogged lint basket will cause poor dryer performance. The lint basket is located in the lint drawer in the base of the dryer. Pull out the lint drawer, brush the lint off the lint basket, and remove the lint. Inspect lint screen and replace if torn.

**NOTE:** Frequency can best be determined at each location.

#### ***WEEKLY***

Open the hinged panels on each side of the basket (tumbler) section and remove any lint accumulation, from the basket (tumbler) drive motor, drive shafts, V-belts, drive wheels, and drive shaft bearings.

Slide the lint basket **ALL** the way out of the dryer and clean any lint accumulation off of the temperature sensor bracket, which is located above the lint basket.

**WARNING: TO AVOID THE HAZARD OF ELECTRICAL SHOCK, DISCONTINUE ELECTRICAL SUPPLY TO THE DRYER.**



**EVERY 3 MONTHS**

Re-grease the two (2) 1-3/8" bearings that support the impellor/fan shaft. Use Shell Alvania #2 grease or its equivalent. Impellor/fan shaft bearings **must be** lubricated.

Apply a hi-temperature grease to the four (4) 1-1/2" diameter basket (tumbler) drive shaft pillow block bearings. (Use Shell Alvania #2 grease or its equivalent.)

Retighten setscrews in the collars of the four (4) 1-1/2" diameter basket (tumbler) drive shaft bearings.

Clean lint accumulation from the gas valve/burner area at the top of the dryer, the fan (impellor) motor, and the fan/impellor bearings located in the dryer's base.

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

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

**NOTE:** 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.

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

**CAUTION: THE ACCUMULATION OF LINT IN THE EXHAUST DUCTWORK CAN CREATE A POTENTIAL FIRE HAZARD.**

**NOTE: DO NOT OBSTRUCT THE FLOW OF COMBUSTION AND VENTILATION AIR. CHECK CUSTOMER FURNISHED BACK DRAFT DAMPERS IN THE EXHAUST DUCTWORK. INSPECT AND REMOVE ANY LINT ACCUMULATION, WHICH CAN CAUSE THE DAMPER TO BIND OR STICK.**

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

## B. ADJUSTMENTS

### ***7 DAYS AFTER INSTALLATION AND EVERY 6 MONTHS THEREAFTER***

Inspect bolts, nuts, screws, (bearing 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 switch, lint drawer switch, sail switch, burner, and hi-limit thermostats).

### ***30 DAYS AFTER INSTALLATION***

**SHUT OFF ALL POWER TO THE DRYER.** Verify that the electrical connections to the motor contactors and overloads are tight. This is done to accommodate the compression of the wires over time.

## C. LUBRICATION

### ***MONTHLY***

The two (2) bearings that support the impellor/fan shaft **must be** lubricated. Use Shell Alvania #2 grease or its equivalent. Generically, this grease would be described as an NLGI Grade 2 multipurpose industrial grease with a lithium thickener and mineral base oil.

### ***EVERY 3 MONTHS***

The four (4) bearings that support the drive and idler shafts **must be** lubricated. Use Shell Alvania #2 grease or its equivalent. Generically, this grease would be described as an NLGI Grade 2 multipurpose industrial grease with a lithium thickener and mineral base oil.

# SECTION VII

## COMPONENT SYSTEM DESCRIPTIONS

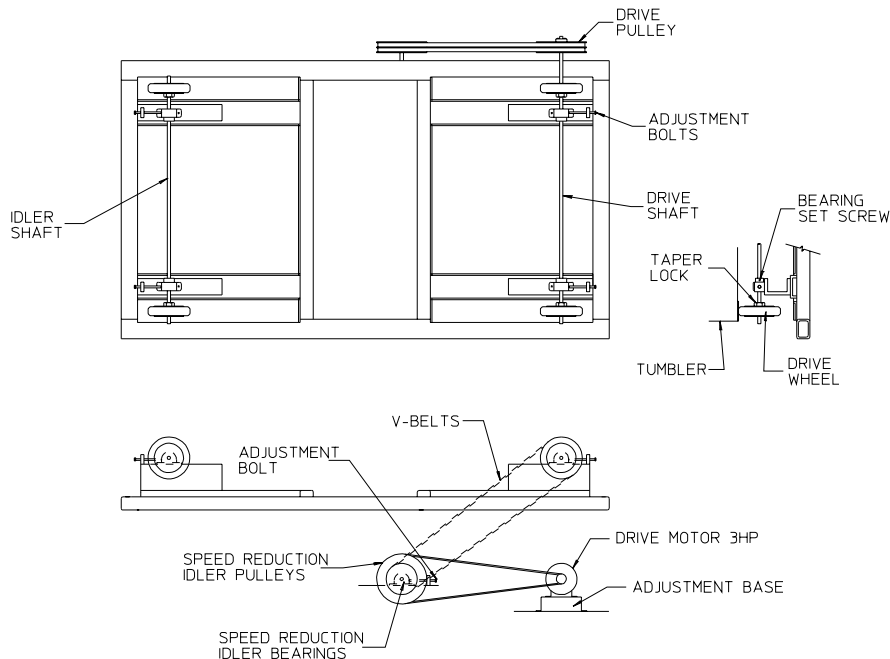
### A. BASKET (TUMBLER) DRIVE SYSTEM

The basket (tumbler) is supported and driven by four (4) 11-inch diameter drive wheels. Two (2) of these wheels are attached to a 1-1/2" diameter idler shaft, while the other two (2) are attached to a 1-1/2" diameter drive shaft. Each of the wheels is fastened to the shafts by a taper lock bushing. The taper lock is made up of three (3) pieces: an inner collar, an outer sleeve, and a key. The inner and outer elements have matching opposing tapers. As a result, when the bolts are tightened, the taper lock contracts onto the shaft and expands into the drive wheel hub locking the wheel onto the shaft.

The idler shaft and drive shaft are each supported by two (2) 1-1/2" diameter pillow block bearings. These bearings sit on slotted support channels and can be moved inward or outward by the adjustment bolts to raise or lower the basket (tumbler).

The drive system consists of a shaft mounted pulley, two (2) V-belts, and a 3 HP (2.24 kw) drive motor. Belt tension can be adjusted by tightening or loosening the gear reducer turnbuckle.

## BASKET (TUMBLER) DRIVE SYSTEM



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#### WHEN REPLACING A DRIVE WHEEL:

1. ALWAYS CHANGE BOTH WHEELS ON A SHAFT.
2. MARK POSITION OF BEARINGS ON SUPPORTS. THIS WILL MAKE REASSEMBLY OF SHAFT AND CENTERING OF TUMBLER EASIER.
3. SHOVE BLOCKS OF WOOD UNDER TUMBLER TO TAKE IT'S WEIGHT OFF OF DRIVE WHEELS.
4. REMOVE BEARING HOLD DOWN BOLTS AND ADJUSTMENT BOLTS.
5. IF DRIVE SHAFT IS BEING REMOVED, TAKE OFF DRIVE PULLEY.
6. SLIDE COMPLETE SHAFT ASSEMBLY OUT OF SIDE OF DRYER.

## B. BASKET (TUMBLER)

The basket (tumbler) is made of 14-gauge stainless steel perforated panels, four (4) stainless steel ribs, and two (2) outer basket (tumbler) rings made of rolled steel angle iron that has been turned on a lathe for smoothness. The basket (tumbler) is a completely welded assembly so the perforated panels are not removable.

## C. AIR BLOWER DRIVE SYSTEM

The impellor (fan) used in the dryer is a 15-inch diameter squirrel cage impellor (fan) wheel. It spins in a counterclockwise (CCW) direction looking at the back of the blower housing.

The impellor (fan) shaft is mounted in two (2) pillow block bearings, and the shaft is driven by two (2) B-section V-belts connected to the blower motor.

The blower motor is mounted on an adjustable base. The motor position can be easily adjusted so that proper tension can be maintained on the V-belts.

## D. SAFETY DEVICES

### 1. Load/Unload Door Switches

There are two (2) of these switches located above the main loading doors. These switches ensure that the doors are closed before the dryer can start and ensures that the doors are fully open before the dryer will tilt. If the dryer is started when the load doors are open, the microprocessor controller (computer) light emitting diode (L.E.D.) display will show “front door not closed” or “rear door not closed” for 2 door dryers.

### 2. Lint Basket Switch

This switch ensures that the lint basket is closed before the dryer can start. This switch is located at the front of the dryer at the right side of the lint basket. If the lint basket is open when the dryer is started, the microprocessor controller (computer) L.E.D. will display “Lint Drawer Open” and will not reset until the lint drawer has been closed. For a “clean lint” prompt the lint drawer must remain open for 15-seconds.

### 3. Manual Reset Basket (Tumbler) Hi-Limit Safety Thermostat

The manual reset basket (tumbler) hi-limit switch is a thermostat type switch located above the lint basket. Its function is to discontinue heat (flame) in the event of an over temperature situation (above 225° F [107° C]). This will shut off the gas flow to the burner boxes; and the display will read an error code of “tumbler hi-limit fault.” The manual reset hi-limit safety **must be** manually reset and the Phase 7 computer **must be** reset. (Access to the switch is gained by sliding/pulling the lint basket completely out of the dryer.)

4. Burner Box Hi-Limit Safety Thermostats (for Gas Dryers Only)

These disk temperature switches have a setting of 330° F (166° C). They are located on the right side of each burner box, and they are a manual reset type of switch. These switches ensure that there is a proper airflow through the burner box. Upon a low airflow condition, which may be caused by a clogged lint screen excessively long or blocked exhaust duct, or improper make-up air, the temperature in the burner boxes will increase tripping these switches. This will shut off the gas flow to the burner boxes; and the display will read an error code of “Burner Hi-Limit Fault.” The thermostat **must be** manually reset and the Phase 7 computer **must be** reset.

5. Sail Switch (for Gas Dryers Only)

The sail switch is located in the front of the burner box. A sail switch consists of a round damper plate on a lever arm, which is in contact with an electric switch. When the air blower comes on, it draws air through the gas burner. This creates a negative pressure inside the burner box. This negative pressure pulls in the sail switch. If the sail switch does not pull in, this will prevent the dryer from operating and a sail switch fault will display.

**NOTE:** An overly long or blocked exhaust duct, lack of make-up air, or clogged lint screen will prevent the sail switches from pulling in.

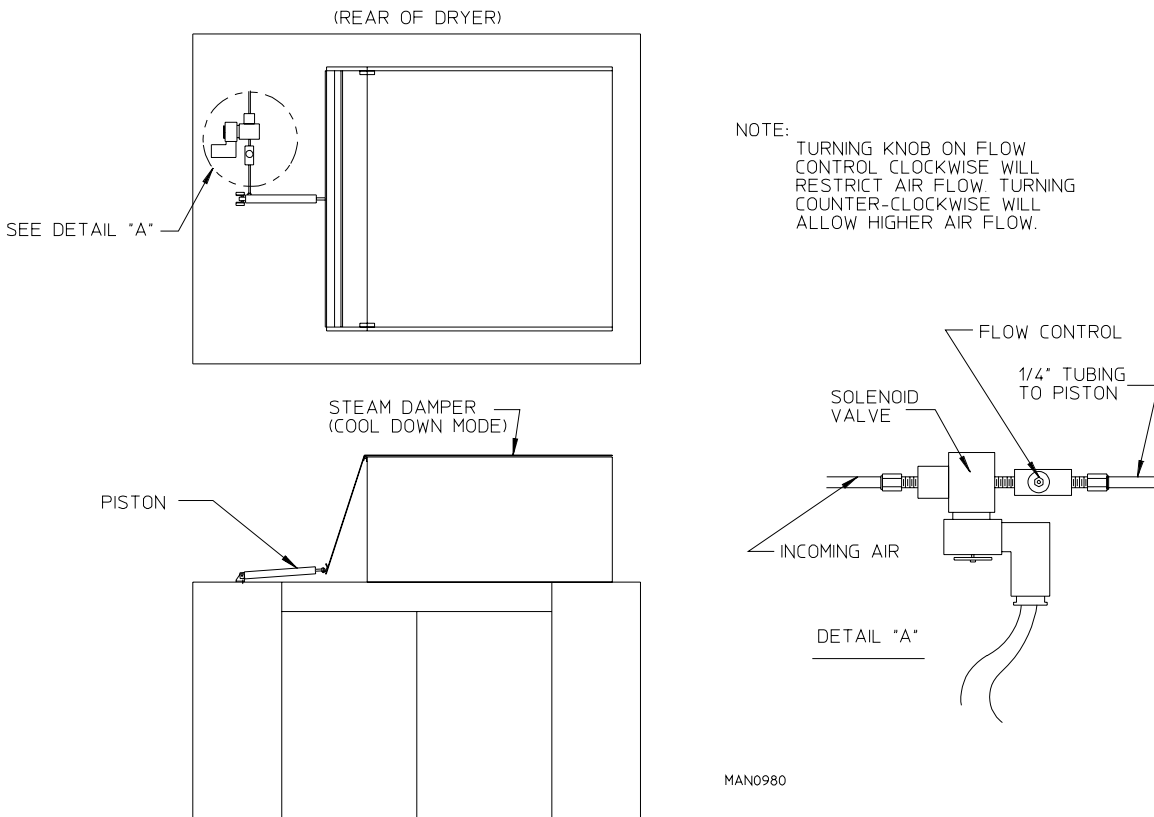
## E. STEAM DAMPER ACTUATOR SYSTEM

The system consists of a hinged damper plate, a pneumatic piston (with an airflow needle valve) to control the speed of the piston actuation, and a 24 volt solenoid valve.

On a call for heat, a 24 volt signal is applied to the 3-way/2-position solenoid valve. This signal switches the valve so that compressed air is sent to the piston. The piston rod extends, pushing the hinged steam damper plate to the opened position. This allows room air to be drawn through the hot steam coil and then through the basket (tumbler).

When the temperature set point has been reached, the 24 volt signal is removed from the solenoid valve, so that the solenoid valve blocks the air supply to the pistons, and the air in the pistons is bled to the atmosphere. The springs in the pistons now retract the piston rods, closing the steam damper. The steam damper plate now covers the steam coil and allows room air to bypass the coil before entering the basket (tumbler) for a rapid cool down.

The steam damper plate should open and close slowly and smoothly. The speed can be modulated by adjusting both needle valve knobs. Turning the knob clockwise (CW) restricts the compressed airflow and slows down the steam damper movement. Counterclockwise (CCW) adjustment speeds up the steam damper motion. Upon completion of adjustment, tighten the needle valve's locking nut.



**NOTE:** Turning knob on flow control clockwise (CW) will restrict airflow. Turning knob counterclockwise (CCW) will allow higher airflow.

# SECTION VIII

## BURNER AND BASKET (TUMBLER)/LINT CHAMBER MANUAL RESET HI-LIMIT INSTRUCTIONS

### **IMPORTANT**

#### **MANUAL RESET HI-LIMIT INSTRUCTIONS**

##### FOR PHASE 7 MODELS

This dryer was manufactured with a manual reset burner hi-limit, which is monitored by the Phase 7 computer. If the burner is open prior to 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 thermostat 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). The clear/stop button on the Phase 7 keyboard (touch pad) **must be** pressed to clear the error condition. The open manual reset hi-limit thermostat **must be** reset “manually” prior to the start of the next cycle.

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**

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.**

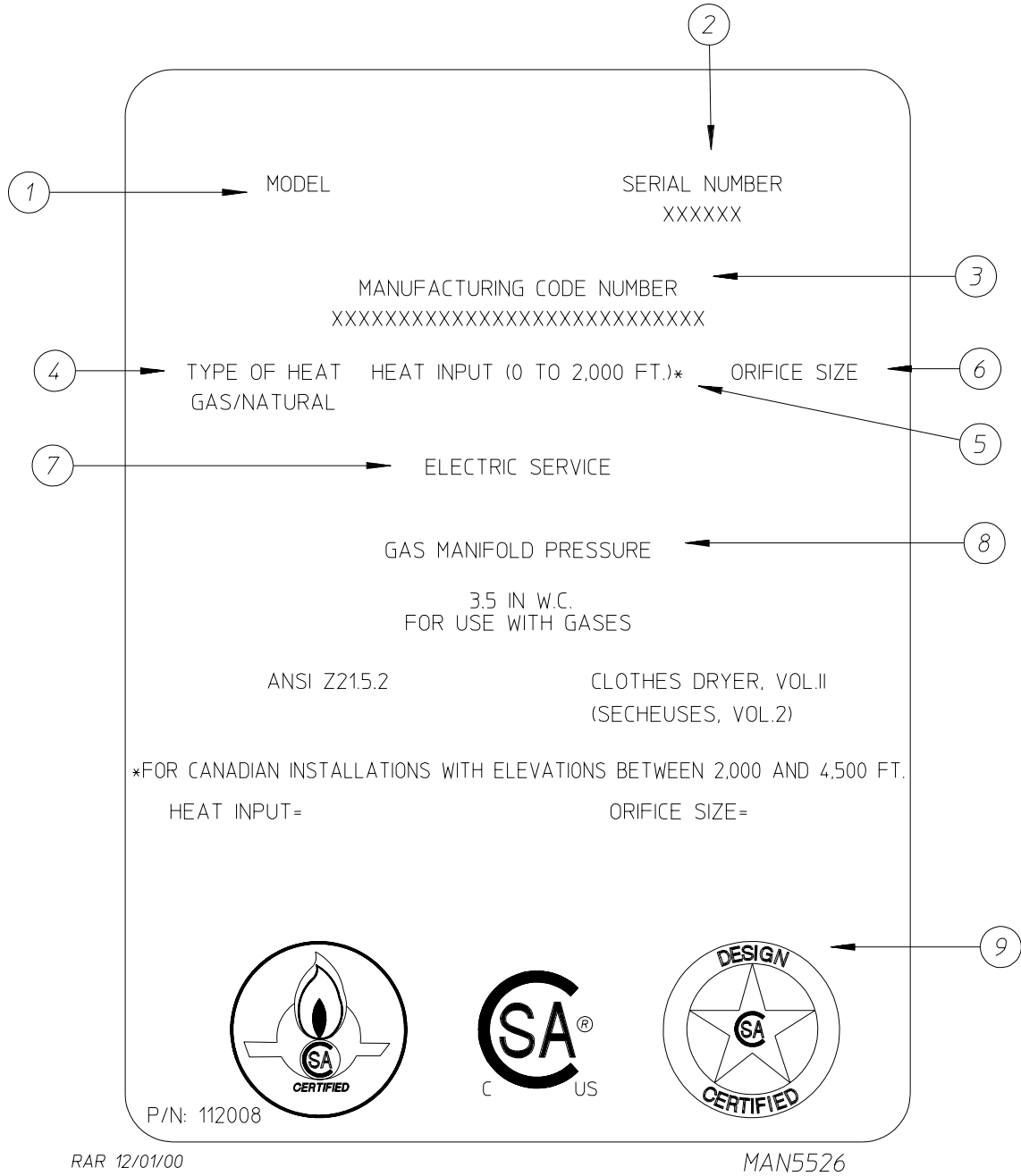
ADC P/N: 114076

# SECTION IX

## DATA LABEL INFORMATION

### A. DATA LABEL

Contact **American Dryer Corporation**



When contacting **ADC**, certain information is required to insure proper service/parts information from **ADC**. This information is on the data label that is affixed to the right electrical control panel. When contacting **ADC** please have the **model number** and **serial number** available.



## **THE DATA LABEL**

### **1. 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).

### **2. SERIAL NUMBER**

The serial number allows **ADC** to gather information on your particular dryer.

### **3. MANUFACTURING CODE NUMBER**

The manufacturing code number is a number issued by **ADC**, which describes **ALL** possible options on your particular model.

### **4. TYPE OF HEAT**

This describes the type of heat for your particular dryer: gas (either natural gas or liquid propane [L.P.] gas) or steam.

### **5. HEAT INPUT (for GAS DRYERS)**

This describes the heat input in British Thermal Units per Hour (BTUH).

### **6. ORIFICE SIZE (for GAS DRYERS)**

Gives the number drill size used.

### **7. ELECTRIC SERVICE**

This describes the electric service for your particular model.

### **8. GAS MANIFOLD PRESSURE (for GAS DRYERS)**

This describes the manifold pressure taken at the gas valve tap.

### **9. APPLICABLE APPROVAL SEAL(S)**

I.E., Canadian Standards Association International.

# SECTION X

## PROCEDURE FOR FUNCTIONAL CHECK OF REPLACEMENT COMPONENTS

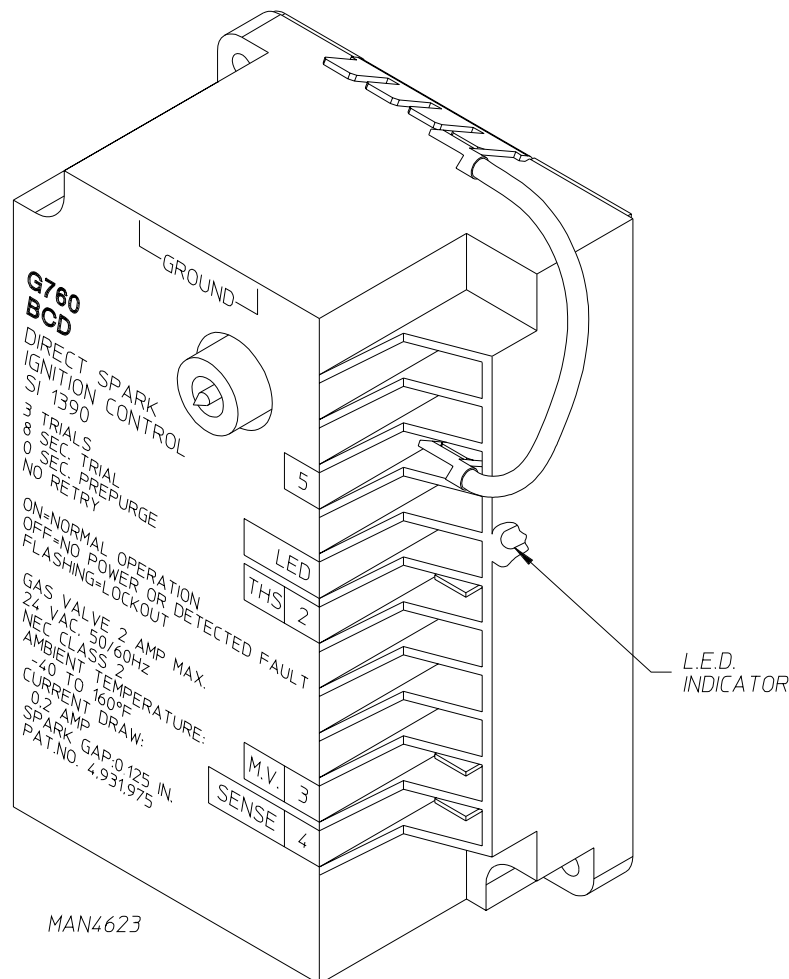
### 1. For Models With Johnson Controls Direct Spark Ignition (DSI) Module (G760)

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 three (3) retries/trials (the initial try and two [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” (light emitting diode [L.E.D.] flashes).

A steady L.E.D. indicator indicates normal operation.

No L.E.D. indicator indicates a power or an internal failure has occurred.



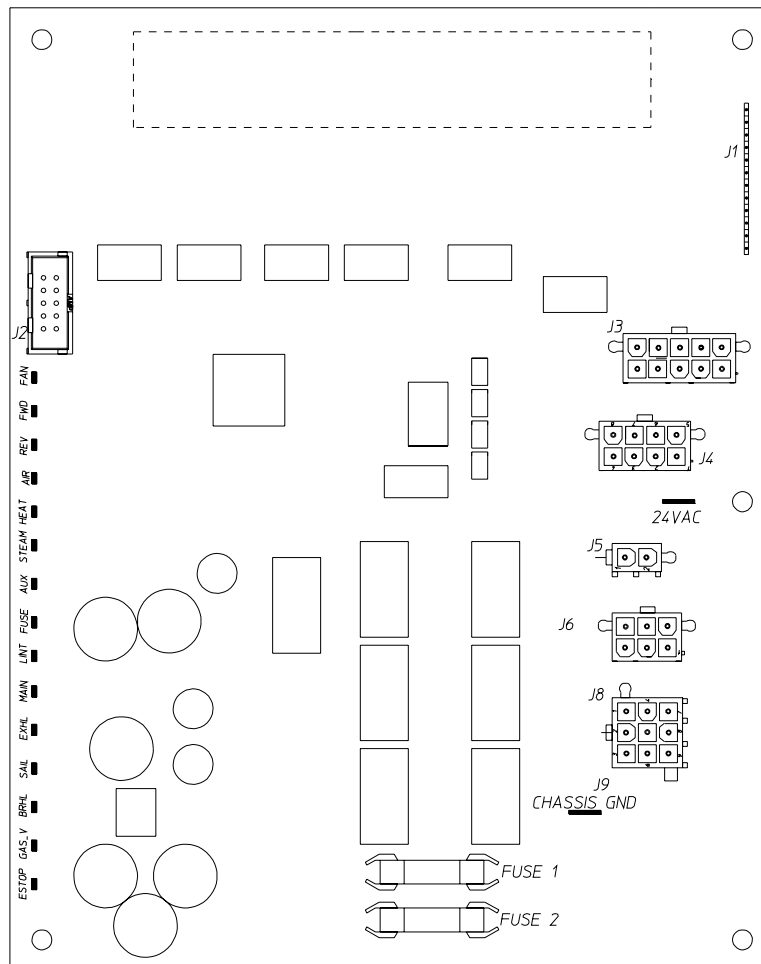
# SECTION XI

## PHASE 7 OPL SYSTEM DIAGNOSTICS

**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 (Occupational Safety and Health Administration) STANDARDS.**

ALL major circuits, including door, microprocessor temperature sensor, heat and motor circuits are monitored. The Phase 7 OPL microprocessor controller (computer) will inform the user, via the light emitting diode (L.E.D.) display of certain failure messages, along with L.E.D. indicators on the input/output (I/O) board on the back panel of the front right control door.

### A. DIAGNOSTIC (L.E.D. DISPLAY) FAULT MESSAGES



MAN5825

## OUTPUTS: (GREEN)

1. FAN - Blower Fan On
2. FWD - Basket (Tumbler) Forward
3. REV - Basket (Tumbler) Reverse
4. AIR JET - Air Jet On
5. HEAT - Front Heat
6. STEAM - Steam Injection
7. AUX - Fire Suppression System (FSS) Active On

## INPUTS: (RED)

8. FUSE - 24 VAC To Board (F2)
9. LINT - Lint Drawer Closed
10. MAIN - Main Door Closed
11. EXHL - Exhaust High Limit
12. SAIL - Sail Switch
13. BRHL - Burner High Limit
14. GAS\_V - Gas Valve
15. ESTOP - Emergency Stop

### Input/Output (I/O) Board Output Description (“Green” light emitting diode [L.E.D.]

- |                             |   |
|-----------------------------|---|
| 1. FAN – (GREEN L.E.D.)     | This L.E.D. will indicate the status of the fan output. If the request to turn on the fan (blower) is made, then the L.E.D. is ON.  |
| 2. FWD – (GREEN L.E.D.)     | This L.E.D. will indicate the status of the basket (tumbler) forward direction output. If the request to tumble the drum in the forward direction is made, then the L.E.D. is ON. |
| 3. REV – (GREEN L.E.D.)     | This L.E.D. will indicate the status of the basket (tumbler) reverse direction output. If the request to tumble the drum in the reverse direction is made, then the L.E.D. is ON. |
| 4. AIR JET – (GREEN L.E.D.) | This L.E.D. will indicate the status of the air jet output. If the request to turn on the air jet is made, then the L.E.D. is ON.   |
| 5. HEAT – (GREEN L.E.D.)    | This L.E.D. will indicate the status of the front heat output. If the request to turn on the front burner is made, then the L.E.D. is ON.   |
| 6. STEAM – (GREEN L.E.D.)   | This L.E.D. will indicate the status of the steam injection output. If the request to turn on the Steam Injection is made, then the L.E.D. is ON.                                 |
| 7. AUX – (GREEN L.E.D.)     | This L.E.D. will indicate the status of the FSS output. If the request to turn on the FSS is made, then the L.E.D. is ON.   |

### Input/Output (I/O) Board Input Description (“Red” L.E.D.)

- |                          |  |
|--------------------------|--|
| 8. FUSE – (RED L.E.D.)   | This L.E.D. will indicate the status of the F2, which fuses the 24 VAC supplied to the board.  |
| 9. LINT – (RED L.E.D.)   | This L.E.D. will indicate the status of the lint drawer. If the drawer is closed, then the L.E.D. is ON.   |
| 10. MAIN – (RED L.E.D.)  | This L.E.D. will indicate the status of the front doors. If the doors are closed, then the L.E.D. is ON.   |
| 11. EXHL – (RED L.E.D.)  | This L.E.D. will indicate the status of the exhaust hi-limit disk. If the disk is closed (temperature below 225° F [107° C]), then the L.E.D. is ON. |
| 12. SAIL – (RED L.E.D.)  | This L.E.D. will indicate the status of the sail switch. If the switch is closed, then the L.E.D. is ON.   |
| 13. BRHL – (RED L.E.D.)  | This L.E.D. will indicate the status of the burner hi-limit disk. If the disk is closed (temperature below 330° F [166° C]), then the L.E.D. is ON.  |
| 14. GAS_V – (RED L.E.D.) | This L.E.D. will indicate the status of the gas valve. If the gas valve is open (ON), then the L.E.D. is ON.   |
| 15. ESTOP – (RED L.E.D.) | This L.E.D. will indicate the status of the emergency stop switch. If the emergency stop switch is open (ON), then the L.E.D. is ON.                 |

# SECTION XII

## TROUBLESHOOTING

**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 (Occupational Safety and Health Administration) STANDARDS.**

The information provided will help isolate the most probable components associated with the difficulty described. The experienced technician realizes, however, that a loose connection or broken/shorted wire may be at fault where electrical components are concerned...not necessarily the suspect component itself. Electrical parts **should always be** checked for failure before being returned to the factory.

**IMPORTANT:** When replacing blown fuses, the replacement *must be* of the exact rating as the fuse being replaced. The information provided *should not be* misconstrued as a handbook for use by an untrained person in making repairs.

**WARNING:** ALL SERVICE AND TROUBLESHOOTING **SHOULD BE** PERFORMED BY A QUALIFIED PROFESSIONAL OR SERVICE AGENCY.

**WARNING:** WHILE MAKING REPAIRS, OBSERVE ALL SAFETY PRECAUTIONS DISPLAYED ON THE DRYER OR SPECIFIED IN THIS MANUAL.

### A. No Display...

1. "EMERGENCY STOP" (E-Stop) button pushed in.
2. Service panel fuses blown or tripped breaker.
3. Blown F1 (fuse 1) on microprocessor controller (computer).
4. Blown CB7 (circuit breaker) on right hand control panel.
5. Failed microprocessor controller (computer).

**B. Drive motor is not operating (does not start)...**

\* **Microprocessor controller (computer) relay output indicator (either forward “FWD” or reverse “REV”) is on.**

1. Blown drive motor contactor overloads.
2. Failed drive motor contactor.
3. Failed drive motor.
4. No 24 VAC present at drive motor contactor coil.

\* **Microprocessor controller (computer) relay output indicator (neither forward “FWD” nor reverse “REV”) is on.**

1. Failed microprocessor controller (computer).

**C. Drive motor operates in one (1) direction ONLY...stops and restarts in the same direction...**

\* **Appropriate microprocessor controller (computer) relay output indicator is on.**

1. Failed reversing contactor (relay).
2. Failed electrical reversing contactor interlock.

\* **Appropriate microprocessor controller (computer) relay output indicator is off.**

1. Failed microprocessor controller (computer).

**D. Drive motor operates okay for a few minutes and then either repeatedly or occasionally trips the overload protector..**

1. Motor is overheating...
  - a. Motor air vents clogged with lint.
  - b. Low voltage to motor.
  - c. Failed motor.
  - d. Basket (tumbler) is binding...check for an obstruction.
  - e. Basket (tumbler) bearings are binding.

- f. V-belts are too tight.
  - g. Dryer has an oversized load.
  - h. Voltage to the dryer is incorrect...check dryer data label for specified voltage.
2. Failed overload protector...
    - a. Incorrect overload setting.

**E. Impellor (fan) motor is not operating (does not start)...**

\* **Microprocessor controller (computer) input/output (I/O) board “FAN” relay output indicator is on.**

1. Blown blower (fan and impellor) motor overloads.
2. Failed blower (fan and impellor) motor contactor (relay).
3. Failed blower (fan and impellor) motor.
4. No 24 VAC present at fan motor contactor coil.

\* **Microprocessor controller (computer) I/O board “FAN” relay output indicator is off.**

1. Failed microprocessor controller (computer) I/O board.

**F. Blower (fan and impellor) motor operates okay for a few minutes and then either repeatedly or occasionally trips the overload protector...**

1. Motor is overheating...
  - a. Motor air vents clogged with lint.
  - b. Low voltage to motor.
  - c. Failed motor.
  - d. Basket (tumbler) is binding...check for an obstruction.
  - e. Failed gear reducer or basket (tumbler) bearing.
  - f. V-belts are too tight.
  - g. Motor is running at incorrect voltage.

2. Failed overload protector...
  - a. Incorrect overload setting.
3. Blown drive motor and blower (fan and impellor) motor fuses or overloads.
4. Failed motors (both blower [fan and impellor] motor and drive motor).
5. Failed microprocessor controller (computer).

**G. Microprocessor controller (computer) display board light emitting diode (L.E.D.) display reads continuously and the buzzer (tone) sounds.**

1. Fault in microprocessor heat sensing circuit...
  - a. Failed microprocessor temperature sensor.
  - b. Failed microprocessor controller (computer) display board.
  - c. Broken wire or connection between the microprocessor controller (computer) and the microprocessor temperature sensor.

**H. Microprocessor controller (computer) L.E.D. display reads “OPEN FSS PROBE” continuously and the buzzer tone sounds.**

1. Fault in microprocessor controller (computer) heat sensing circuit.
2. Failed microprocessor controller (computer) temperature sensor.
3. Failed microprocessor controller (computer).
4. Broken wire or connection between the microprocessor controller (computer) and the microprocessor controller (computer) temperature sensor.

**J. Microprocessor controller (computer) L.E.D. displays “Lint Access Open.”**

1. Lint drawer is not closed **ALL** the way.
2. Lint drawer switch is out of proper adjustment.
3. Failed lint drawer switch.
4. Failed microprocessor controller (computer) I/O board.

**K. Microprocessor controller (computer) will not accept any keyboard (touch pad) entries, (i.e., L.E.D. display reads “READY” and when keyboard [touch pad] entries are selected, the L.E.D. display continues to read “READY”)...**

1. Failed keyboard (touch pad) label assembly.
2. Failed microprocessor controller (computer) display board.



**L. Microprocessor controller (computer) will ONLY accept certain keyboard (touch pad) entries...**

1. Failed keyboard (touch pad) label assembly.
2. Failed microprocessor controller (computer) display board.

**M. Microprocessor controller (computer) locks up and the display reads erroneous messages or ONLY partial segments...**

1. Transient power voltage spikes...disconnect the electrical power to the dryer, wait 1 minute and reestablish power to the dryer. If problem is still evident...
  - a. Failed microprocessor controller (computer).
  - b. Failed keyboard (touch pad) label assembly.

**N. Dryer stops during a cycle, microprocessor controller (computer) buzzer (tone) sounds for a few seconds, and then microprocessor controller (computer) returns to “READY”...**

1. Loose connection somewhere in the main power circuit to the microprocessor controller (computer).

**O. Microprocessor controller (computer) display reads “Rotation Fault”...**

1. Rotational sensor circuit failure...fault somewhere in the basket (tumbler) rotation or circuit...
  - a. Basket (tumbler) is not rotating...
    - 1) Broken basket (tumbler) drive belts.
    - 2) Failure in drive motor circuit.
  - b. Faulty rotation sensor.
  - c. Broken wire or connection between rotation sensor and microprocessor controller (computer) display board.
  - d. Failure in rotational sensor circuit, magnet missing, or gap too large.
  - e. Basket (tumbler) rotation below 12 RPMS.

**P. Microprocessor controller (computer) reads “Exhaust High Temp Fault”...**

1. Possible overheating condition...microprocessor controller (computer) display board has sensed a temperature, which has exceeded 225° F (107° C).

Exhaust High Temp Fault will display until the stop key has been passed. A cycle **cannot** be started until the temperature is below 220° F (104° C).

**Q. Dryer operates but is taking too long to dry...**

1. Exhaust ductwork run is too long or is undersized...back pressure **must be** no less than 0 and **cannot** exceed 0.3 inches (0.74 mb) water column (W.C.).
2. Restriction in ductwork...check duct from the dryer **ALL** the way to the outdoors.
3. Low or inconsistent gas pressure (**for gas models only**).
4. Insufficient make-up air.
5. Poor air and gas mixture at burner - yellow or poor flame pattern...adjust gas burner air adjustment shutters (**for gas models only**).
6. Lint drawer or screen is not being cleaned on a regular basis or often enough.
7. Extractors (washers) are not performing properly.
8. Sail switch is fluttering...restriction in exhaust ductwork (**for gas models only**).
9. Failed microprocessor controller (computer)...temperature calibration is inaccurate.
10. Failed microprocessor temperature sensor...calibration is inaccurate.
11. Failed burner hi-limit (**for gas models only**).
12. Failed 225° F (107° C) manual reset hi-limit (thermostat).
13. Steam damper system is not functioning properly (**for steam models only**)...
  - a. Steam damper sticking closed.
  - b. Leak in pneumatic system.
14. Undersized load, dryer requires a minimum load size of approximately 132 lbs (59.9 kg) for maximum drying efficiency.

**R. Excessive noise and vibration...**

1. Dryer is not leveled properly.
2. Impellor (fan/blower) is out of balance...
  - a. Excessive lint buildup on impellor (fan/blower)...check air jet.
  - b. Failed impellor (fan/blower).
3. Loose motor mount.
4. Failed idler bearings or basket (tumbler) bearings.
5. V-belt(s) either too tight or too loose.

6. Basket (tumbler) drive wheels are worn or are loose.
7. Setscrews of basket (tumbler) drive shaft bearings are loose.
8. Failed motor bearing.
9. Drive wheel is loose.
10. Failed drive wheel.

## SECTION XIII

### OPTIONAL FIRE SUPPRESSION SYSTEM (FSS)

# *FSS In Action*

---



The exclusive Fire Suppression System (FSS) will extinguish fires that may start in the drying basket (tumbler). A series of sensors positioned throughout the basket (tumbler) and interfaced with the microprocessor will trigger the FSS water jets to quickly extinguish the flames. The water jets remain on for 2 minutes and will automatically activate again if a fire condition remains or reignites. While the water jets are activated, the basket (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.

We have tried to make this manual as complete as possible and hope you will find it useful. **ADC** 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.

## 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 assure that the plumbing installation is adequate and conforms to local, state, and federal regulations or codes.

**IMPORTANT:** It is the installation or owners responsibility to see that the necessary or required water, water pressure, pipe size, or connections are provided. Manufacturer assumes no responsibility if the fire suppression system (FSS) **is not** connected, installed, or maintained properly.

**WARNING:** Water **must be** supplied to FSS or dryer **will not** operate.

## INSTALLATION

### 1. Requirements

The connection point to the electric water solenoid valve is a 1/2" M.P.T., the FSS **must be** supplied with a minimum water pipe size of 1/2-inch and be provided with a minimum of 40 PSI (2.75 bars) and a maximum of 100 PSI (6.89 bars) 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 (for non-tilt models only).

**IMPORTANT:** Flexible supply line/coupling **must be** used. Solenoid valve failure due to hard plumbing connections will **VOID THE WARRANTY** (for non-tilt models only).

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 FSS **will be** INOPERATIVE!!

## 2. Water Connections:

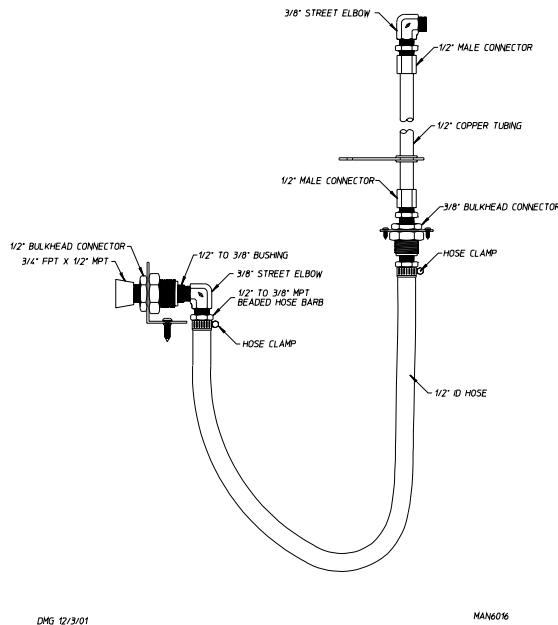
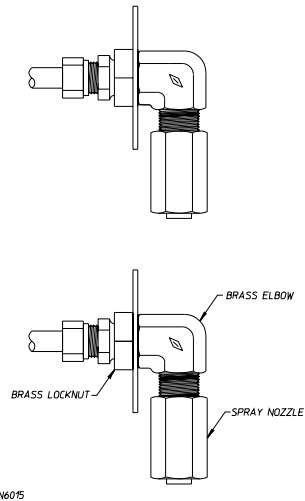
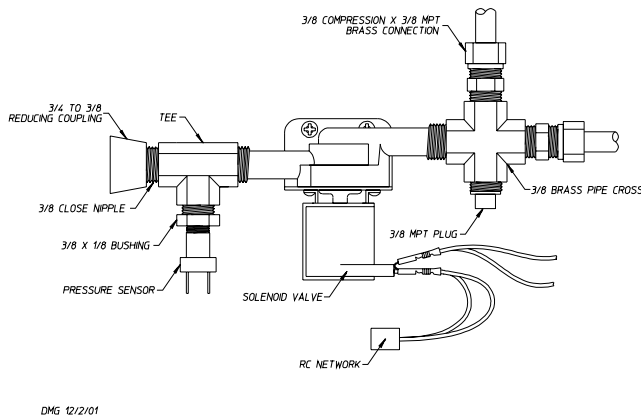
The water connection is made to the 3/4" F.P.T. bushing of the electric water solenoid valve located at the rear upper left area of the dryer (see photo). The water solenoid valve has a 1/2" M.P.T. connection and a 1/2" bushing is supplied to provide the minimum 1/2-inch supply (feed) line. Flexible supply line/coupling **must be** used in effort to avoid damage to electric water solenoid valve.



**WARNING:** Water *must be* supplied to FSS or dryer **will not** operate.

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

### Typical water supply...

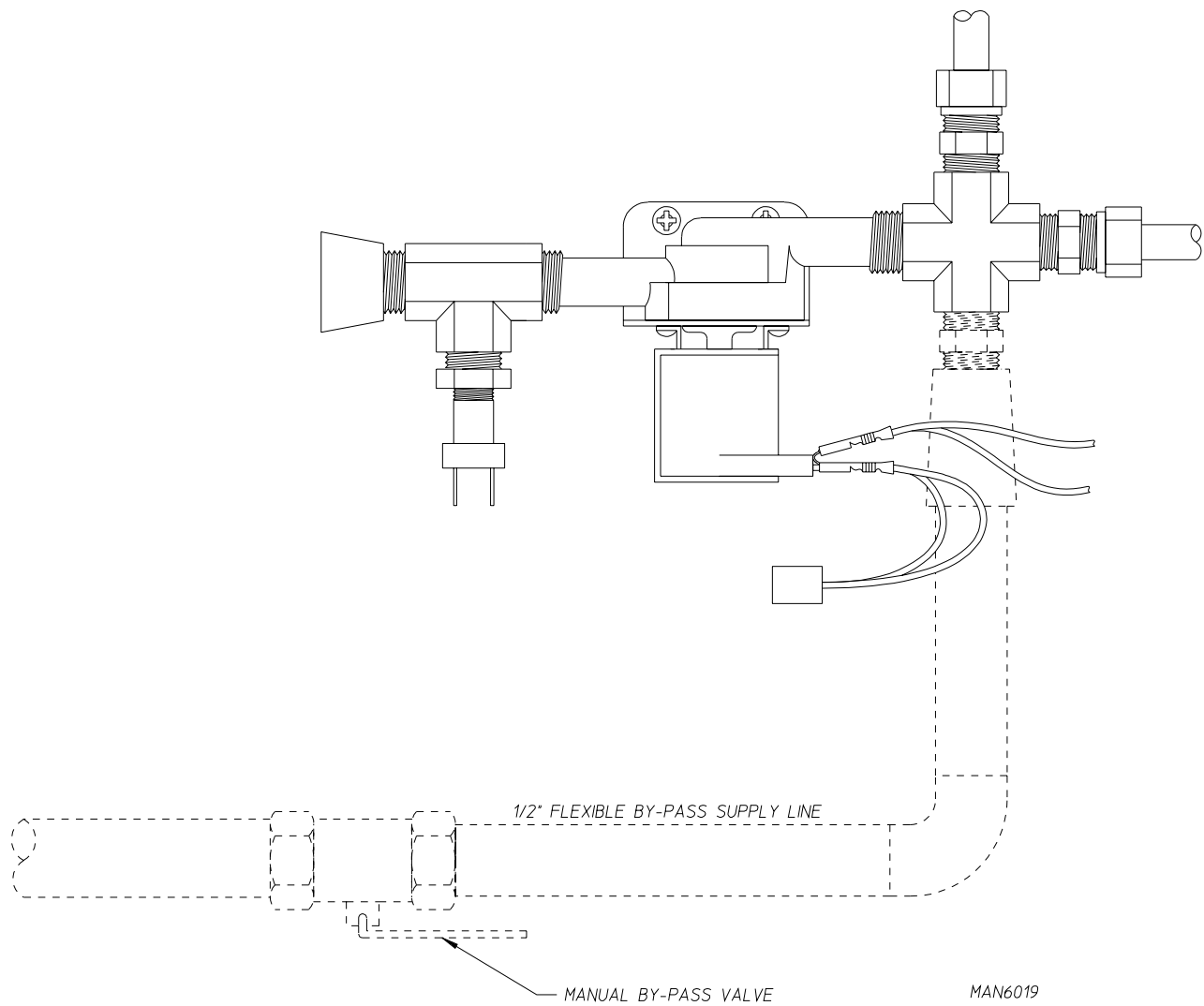


## OPTIONAL MANUAL BYPASS

Provisions are made in the dryer fire suppression system (FSS) 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 “four 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 “four way” fitting which has a 3/8” F.P.T. and a coupling **must be** used to provide the minimum 1/2-inch 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 FSS **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.

### 3. Electrical Requirements

No independent external power source or supply connection is necessary. The 24 volt power to operate the fire suppression system (FSS) 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 FSS is  
INOPERATIVE!!

**NOTE:** FSS water solenoid valve test can be performed by pressing the  stop key and  A-key together.

## **Fire Suppression System (FSS) Theory of Operation**


20-seconds after the heat turns off, the Phase 7 control monitors the FSS probe located in the top of the basket (tumbler) chamber and records the minimum temperature. If the minimum recorded temperature is no less than 120° F (48° C) and the control detects a 35° rise in temperature, this will be the trip point and the FSS routine will activate.

While a drying cycle is in process and the heat is on, 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 (-3.8° C) greater than set point, this will be the trip point and the FSS routine will activate.

Once the FSS routine is activated, water will be injected into the basket (tumbler) chamber. Anytime water is being injected into the basket (tumbler); the basket (tumbler) drive will turn the load for 1-second every 15-seconds. This process will continue for a minimum of 3 minutes. After 3 minutes has elapsed, the control will check if the temperature remained above trip point, if so water will remain on. The control will continue to check if 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. 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 basket (tumbler) off, the microprocessor display will read “FIRE SUPPRESSION SYSTEM ACTIVATED,” and the horn/tone will sound until reset manually.

To reset the microprocessor and FSS, press the red  key on the keyboard (touch pad).



# Fire Suppression System (FSS)

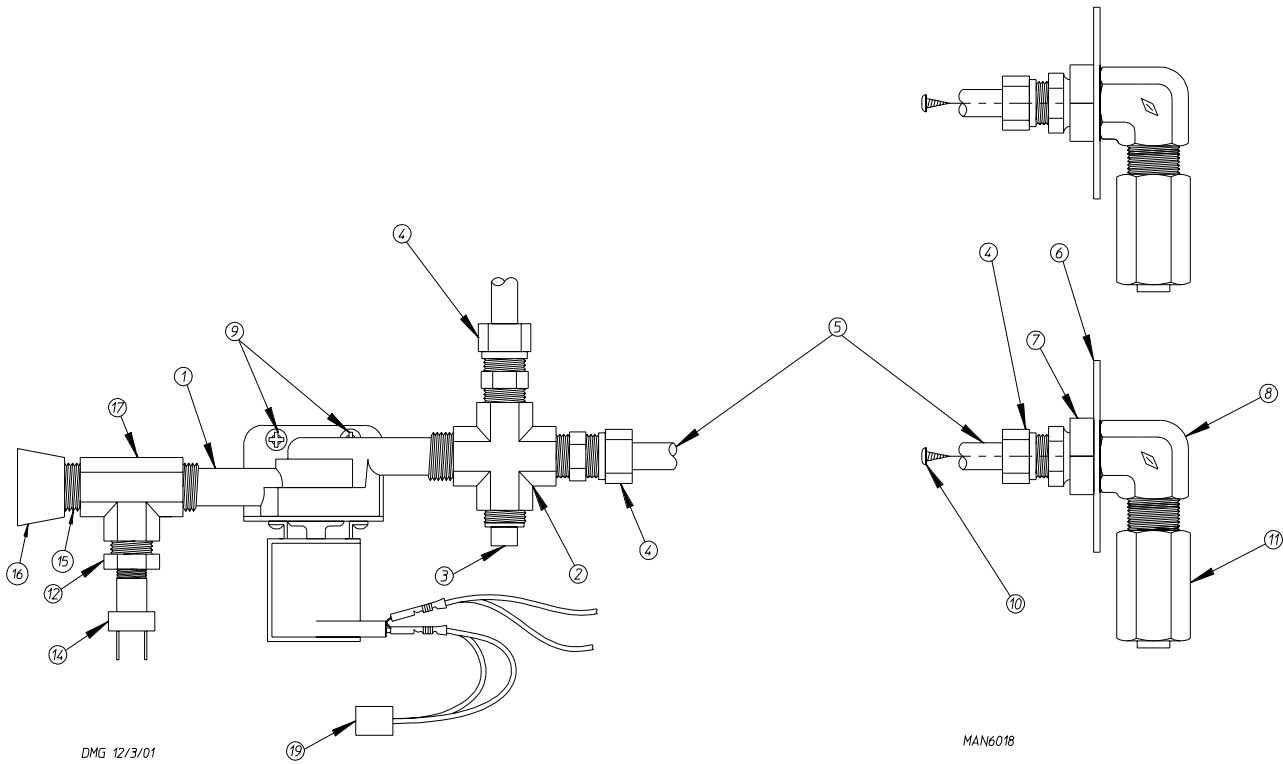
## PARTS BREAK DOWN

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 (508) 678-9447 or telephone your order directly to the **ADC** Parts Department at (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.

The illustrations on the following pages may not depict your particular dryer exactly. The illustrations are composite of the various dryer models. Be sure to check the descriptions of the parts thoroughly before ordering.

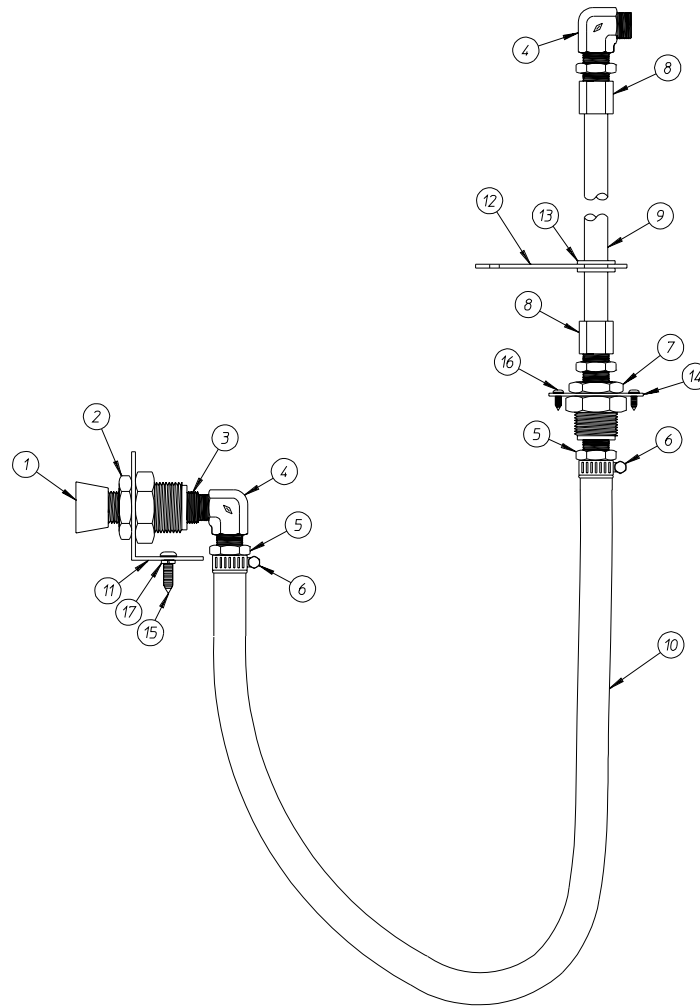
We have tried to make this manual as complete as possible and hope you will find it useful. **ADC** reserves the right to make changes from time to time, without notice or obligation, in prices, specifications, colors, and material, and to change or discontinue models.

## Upper FSS Piping Assembly



<u>Illus. No.</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Description</u>
1	165114	1	FSS Solenoid Valve 24V 50/60 HZ
2	143236	1	3/8" Brass Pipe Cross
3	143251	1	3/8" M.P.T. Brass Plug
4	143208	4	3/8" Comp x 3/8" M.P.T. Brass Connector
5	143099	3'	3/8" OD x 0.035 Wall Copper Tubing
6	311588	2	Sprinkler Head Mounting Plate
7	143303	2	3/8" N.P.T. Brass Locknut
8	143155	2	3/8" Brass Elbow 90°
9	150430	2	#10 x 1/2" Phillips Pan Head Self-Drilling Screw
10	150301	8	#8-18 x 7/16" Phillips Pan Head TEK Screw
11	143581	2	3 GPM 3/8" F.P.T. Spray Nozzle
12	143315	1	3/8" x 1/8" Bushing (IE) 110-B-06x02
13	333178	1	FSS Assembly Cover (not shown)
14	136987	1	Pressure Sensor
15	143241	1	3/8" Close Nipple
16	143317	1	Reducing Coupling 3/4" x 3/8" McMaster
17	143220	1	Tee
18	154005	4	Tinnerman Clip (not shown)
19	824081	1	RC Network Assembly

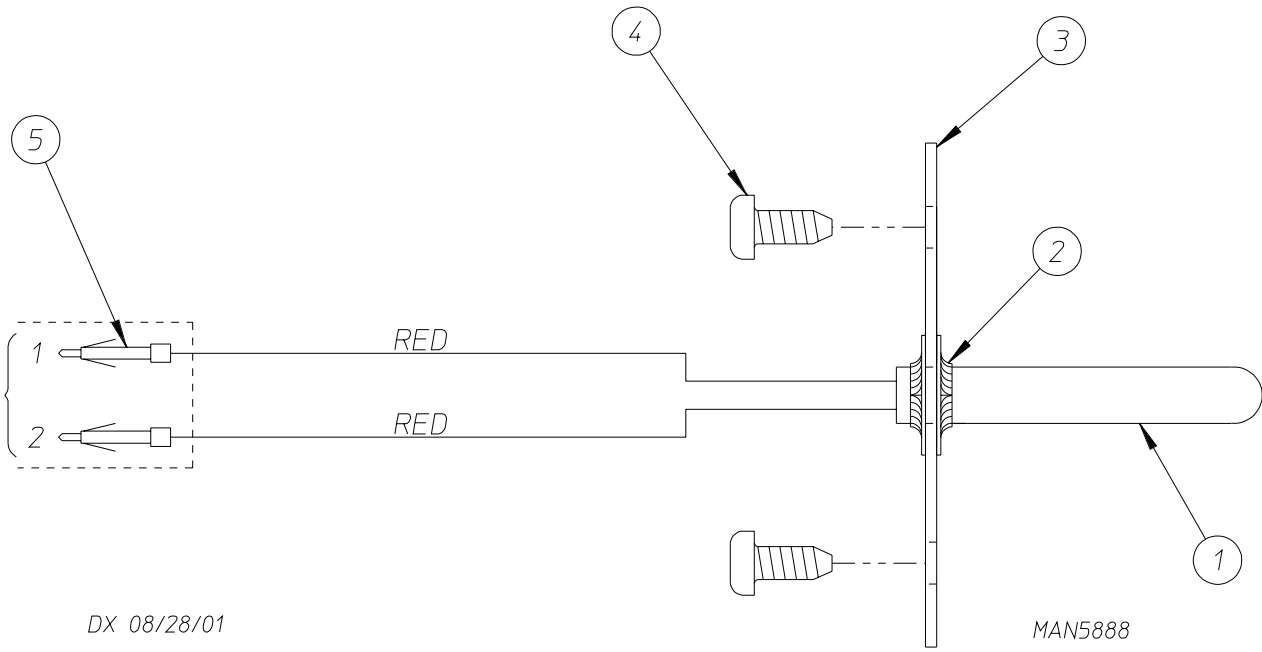
## Lower FSS Piping Assembly



DMG 12/3/01

MAN6017

<u>Illus. No.</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Description</u>
1	143318	1	3/4" F.P.T. x 1/2" M.P.T. Adaptor
2	182595	1	1/2" Bulkhead
3	143261	1	1/2-3/8" Bushing
4	143155	2	3/8" Street Elbow
5	143319	2	1/2" x 3/8" M.P.T. Beaded Hose Barb
6	182529	2	Hose Clamp
7	143257	1	3/8" Bulkhead
8	143316	2	1/2" Comp x 3/8" M.P.T. Connector
9	143104	6'	1/2" Copper Tube
10	143107	3'-6'	1/2" ID Hose
11	333179	1	Support Bracket
12	333177	1	Steady Clamp
13	121412	1	Grommet
14	334710	1	Bulkhead Plate
15	150523	2	1/4-20 x 3/4" Screw
16	150301	2	#8-18 x 7/16 Screw
17	153007	2	1/4" Lock Washer



<u>Illus. No.</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Description</u>
1	822752	1	FSS Temperature Probe Assembly (includes illus. nos. 1 through 5)
2	154007	2	Push On Fastener
3	390390	1	Sensor Bracket ONLY
4	150301	2	#8-18 Phillips Pan Head TEK Screw
5	122647	1	Connector ONLY ( <u>does not</u> include terminals)

