Image
Laundry Systems

Tumble Dryer

INSTRUCTION MANUAL

Model
DE 30
DE 50
DE 75

IM1210-DE0106-64
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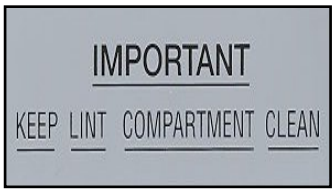
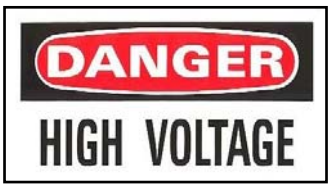
KEY SYMBOLS

Anyone operating or servicing this machine must follow the safety rules in this manual. Particular attention must be paid to the **DANGER**, and **WARING**, and **CAUTION** blocks which appear throughout the manual.

Symbols	Description
	This warning symbol indicated the presence of hot surfaces that could cause serious burns. Stainless steel and steam lines can become extremely got and **should not be** touched.
	**IMPORTANT!** Keep lint compartment clean
	**WARNING!** Dry only water washed fabrics. **Do not** use heat for drying foam rubber or similar textured rubber like materials.
	**Information** Alert to the correct direction of rotation.
	**DANGER! High voltage present.**
	**DANGER! For the hand, Belts and pulley in motion. Do Not operate with out Guard.**

Symbols	Description
	**WARNING!** Put DRYCLEANED Laundry into this dryer
	**Information** The machine is use 24 VAC. for control.
	**IMPORTANT!** Clean cylinder and check tumbler dryer operation by running a load of wet cloths at full heat for 20 minutes.
	**WARNING!** To reduce the risk of electric shock, disconnect electric power before servicing
	**WARNING!** This dryer must be exhausted to the outdoors. Exhaust ductwork **should be** examined and cleaned, if necessary, every three months after installation. **Do not** distort thimble when installing ductwork. Make sure thimble vanes open and close freely after ductwork has been installed.

SECTION 1

IMPORTANT INFORMATION

A. RECEIVING AND HANDLING

The dryer is shipped in a protective stretch wrap cover with protective cardboard comers and top cover (or optional box) as a means of preventing damage in transit. Upon delivery, the dryer and / or protective 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 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. Dryers / 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.

Dryer assumes no responsibility for freight claims or damages.

6. If you need assistance in handling the situation, please contact the Dryer traffic manager.

IMPORTANT: 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** tries to light any appliance.
   b. **DO NOT** touches any electrical switch.
   c. **DO NOT** uses 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 the gas supplier.
5. Dryer(s) **must be** exhausted to the outdoors.
6. Although Dryer produces a very versatile machine, there are some articles that, due to fabric compositional 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 also may be a fire hazard.

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

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

8. For personal safety, the dryer must be electrically grounded in accordance with local codes and / or the National Electric Code ANSI/NFPA NO. 70 – LATEST EDITION, or in Canada, the Canadian Electrical Codes Parts 1 & 2 CSA C22.1 – 1990 or LATEST EDITION. And/or the Australian standard for lighting protection AS 1768-2007 or Latest Edition.

NOTE: Failure to do so will. **VOID THE WARRANTY.**

9. Under no circumstances should the dryer door switch, lint drawer switch or heat circuit safety devices 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** operates steam dryers with more than 125 Psi steam pressure. Excessive steam pressure can damage steam coil and / or harm personnel.
13. Replace leaking flexible steam hoses or other steam fixtures immediately. **DO NOT** operate dryer with leaking flexible hoses. **PERSONAL INJURY MAY RESULT.**
14. Read and follow all caution and direction label attached to Dryer.

IMPORTANT: You must disconnect and lockout the electric supply and the gas supply or the steam supply before any covers or guards are remove from the machine to allow access to cleaning, adjusting, installation, or testing of any equipment per **OSHA (Occupational Safety and Health Administration) STANDARDS.**

SECTION 2

SPECIFICATIONS / COMPONENT IDENTIFICATION

A. TECHNICAL SPECIFICATIONS

MODEL	METRIC	US	DE30 lb.	DE50 lb.	DE75 lb.
Maximum Capacity (dry weight)	kg	lbs	13.9(35)	23(50)	34(75)
Basket Diameter	mm.	inch	762(30)	922(36.3)	922(36.3)
Basket Depth	mm.	inch	762(30)	762(30)	910(35.8)
Basket Volume	cu. m.	cu. ft.	0.34(12.2)	0.5(18)	0.6(21.5)
GAS:					
Air Flow	cmm.	cfm	17(600)	21.25(750)	25(900)
Heat Input	kcal / hr	Btu / hr.	2260(90000)	32760(130000)	50400(200000)
Gas Inlet	mm.	inch	12.7(0.5)	12.7(0.5)	19(0.75)
Exhaust Duct	mm.	inch	203(8)	203(8)	203(8)
A – Machine Height	mm.	inch	1850(72.83)	2100(82.67)	1915(75.39)
B – Machine Depth	mm.	inch	1120(44.09)	1190(46.85)	1270(50)
C – Machine Width	mm.	inch	800(31.19)	1000(39.37)	1000(39.37)
Net Weight (approx.)	Kg.	lbs.	294(648)	348(767)	379(835)
Shipping Weight (approx.)	kg	lbs	304(670)	358(789)	390(860)
STEAM:					
Air Flow	cmm	cfm	17(600)	21.25(750)	25(900)
Steam consumption	BHP	BHP	2.6	4.6	6.5
Operating Pressure	kg / cm²	psi	5.6-8.79(80-125)	5.6-8.79(80-125)	5.6-8.79(80-125)
Steam supply	mm.	inch	19.05(0.75)	19.05(0.75)	19.05(0.75)
Steam return	mm.	inch	12.7(0.5)	12.7(0.5)	12.7(0.5)
Exhaust Duct	mm.	inch	203(8)	203(8)	203(8)
A – Machine Height at full	mm.	inch	1900(74.8)	2200(86.61)	2140(84.25)
B – Machine Depth	mm.	inch	1120(44.09)	1150(45.27)	1270(50)
C – Machine Width	mm.	inch	800(31.19)	1000(39.37)	1000(39.37)
Net Weight (approx.)	Kg.	lbs.	307(677)	362(798)	385(849)
Shipping Weight (approx.)	Kg.	lbs.	315(694)	372(820)	396(873)
ELECTRICAL:					
Air Flow	cmm.	Cfm	17(600)	21.25(750)	25(900)
A – Machine Height at full	mm.	inch	1880(46.45)	2100(82.67)	2100(82.67)
B – Machine Depth	mm.	inch	1120(44.09)	1150(45.27)	1270(50)
C – Machine Width	mm.	inch	800(31.19)	1000(39.37)	1000(39.37)
Net Weight (approx.)	Kg.	lbs.	308(679)	354(780)	382(842)
Shipping weight (approx.)	Kg.	Ibs.	317(699)	364(802)	393(866)

B. TECHNICAL DIMENSION

1. Dryer Model DE30 lb. Technical Dimension

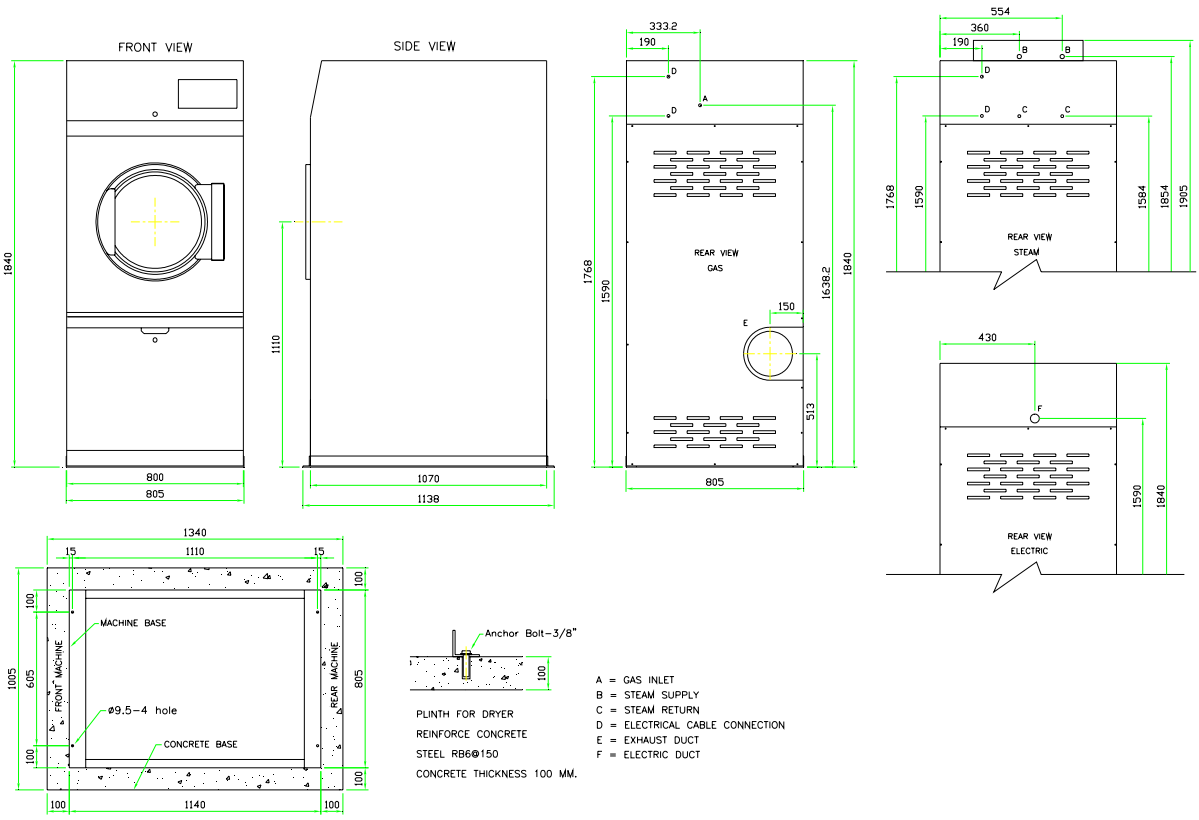


Figure.2-1 Dryer Model DE30 lb. Technical Dimension

2. Dryer Model DE50 lb. Technical Dimension

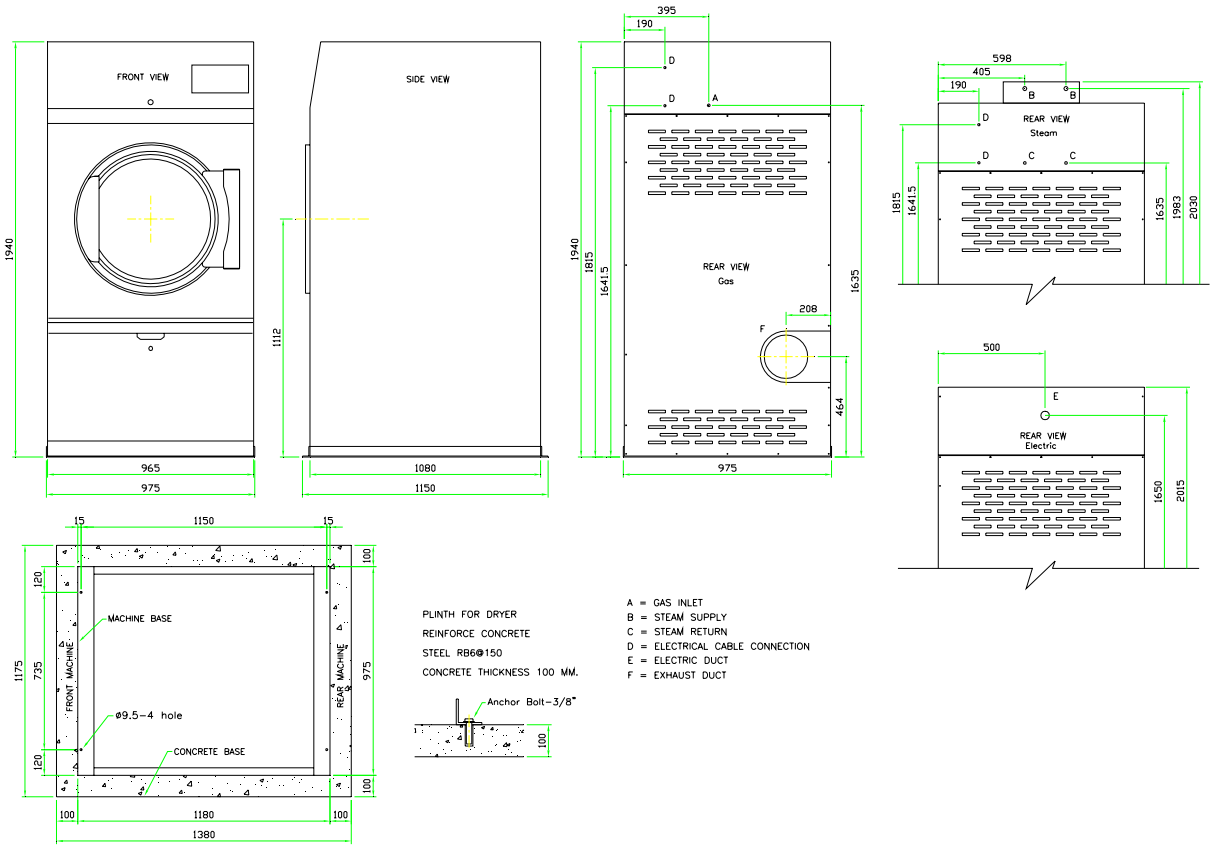


Figure.2-2 Dryer Model DE50 lb. Technical Dimension

3. Dryer Model DE75 lb. Technical Dimension

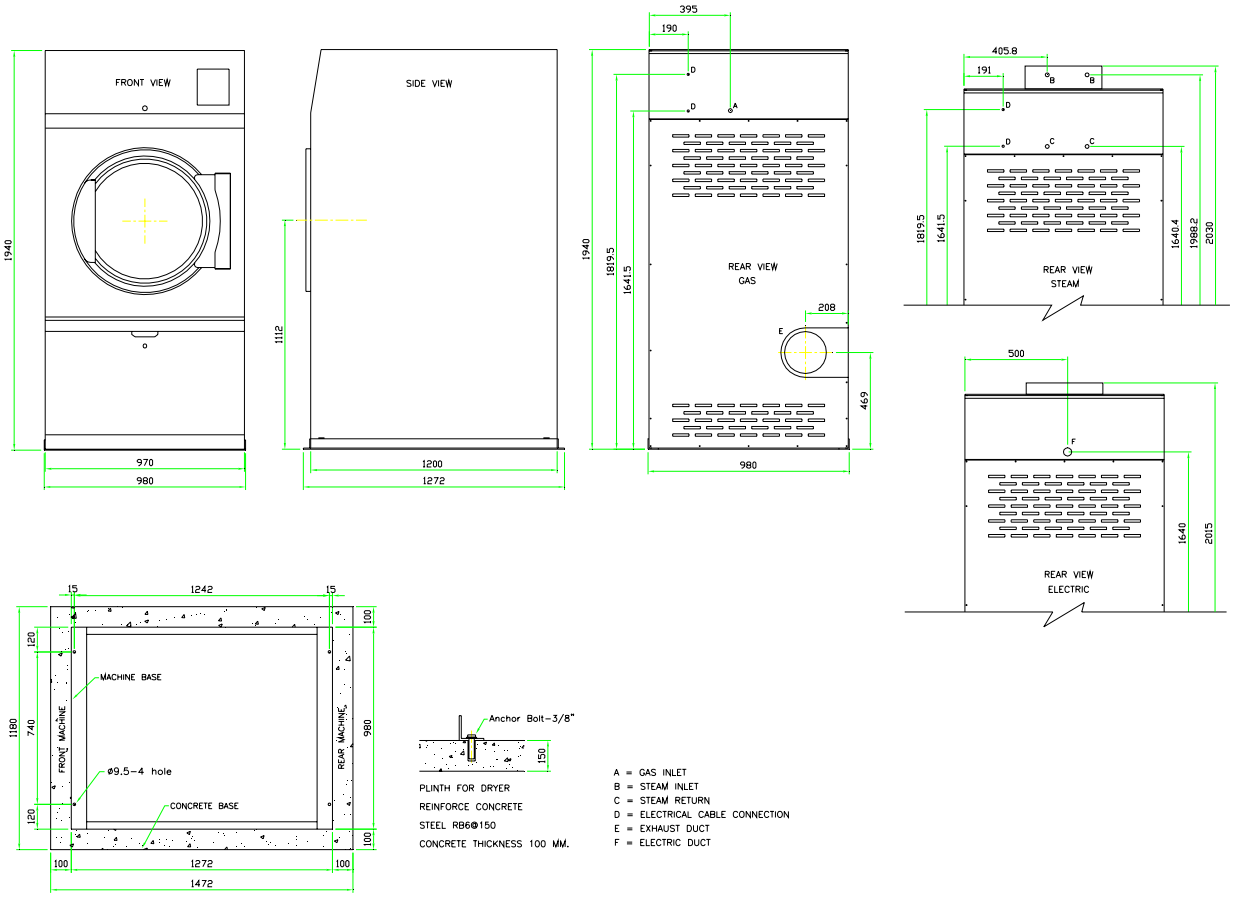


Figure.2-3 Dryer Model DE75 lb. Technical Dimension

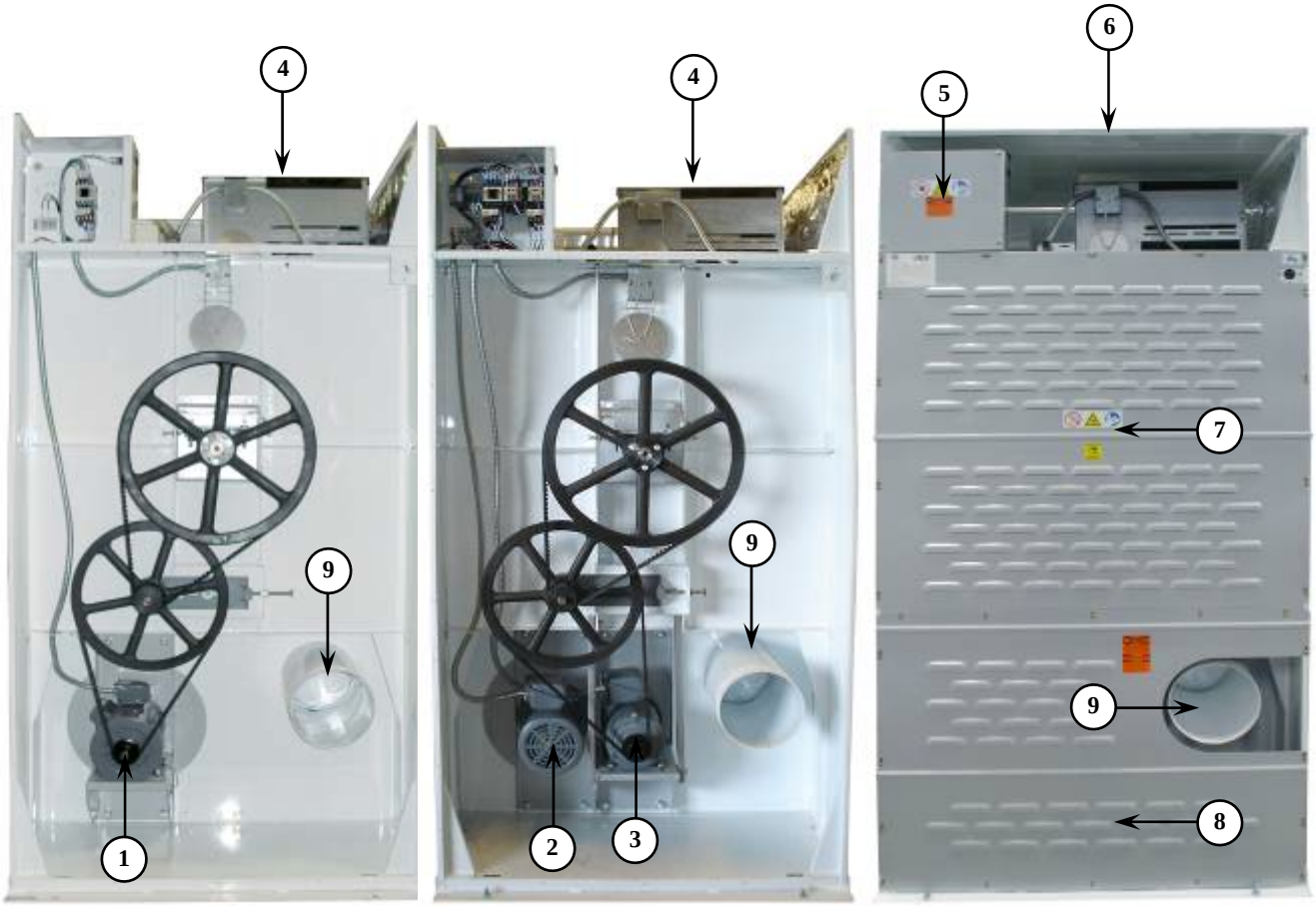
C. COMPONENT IDENTIFICATION

1. Dryer Model DE30, 50, 75 lb. Dryer Front View

1	Timer controller
2.	Front panel assembly, top
3.	Front panel assembly, middle
4.	Main door assembly
5.	Front panel assembly, lower
6.	Right side panel assembly
7.	Left side panel assembly

Figure.2-4 Dryer Model DE30, 50, 75 lb. Front View

2. Dryer Model DE30, 50, 75 lb. Dryer Rear View



No.	Description
1.	Blower & Basket motor (1 Ph)
2.	Blower motor (3 Ph)
3.	Basket motor (3 Ph)
4.	Heating element (Electric, Gas, Steam
5.	Electrical box
6.	Cover, Top
7.	Back guard upper
8.	Back guard lower
9.	Exhaust duct outlet

Figure.2-5 Dryer Model DE30, 50, 75 lb. Rear View

SECTION 3

INSTALLATION PROCEDURES

Installation **should be** performed by competent technicians in accordance with local and state codes. In the absence of these codes, 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 – BI49.2 – M91 (L.P. Gas) or LATEST EDITION (for General Installation and Gas Plumbing) or Canadian Electrical Code Parts 1 & 2 CSA C22.1 – 1990 or LATEST EDITION (for Electrical Connections).

A. LOCATION REQUIRMENTS

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

1. The dryer **must be** installed on a sound level floor capable of supporting its weight. It is recommended that carpeting be removed from the floor area that the dryer is to rest on.
2. The dryer **must not be** installed or stored in an area where it will be exposed to water and / or weather.
3. This dryer is for use in noncombustible locations.
4. Provisions for adequate air supply **must be** provided as noted in this manual (refer to **Fresh Air Supply** in **Section D**).
5. Clearance provisions **must be** made from combustible construction as noted in this manual (refer to **Dryer Enclosure Requirements** in **Section C**).
6. Provisions **must be** made for adequate clearances for servicing and for operation as noted in this manual (refer to **Dryer Enclosure Requirements** in **Section C**).
7. Dryer **must be** exhausted to the outdoors (refer to **Exhaust Requirements** in **Section E**).
8. Dryer **must be** located in an area where correct exhaust venting can be achieved as noted in this manual (refer to **Exhaust Requirements** in **Section E**).

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

B. UNPACKING / SETTING UP

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

1. Unscrew nut the wood piece before operating the machine.
2. Take out the wood piece before operating the machine.

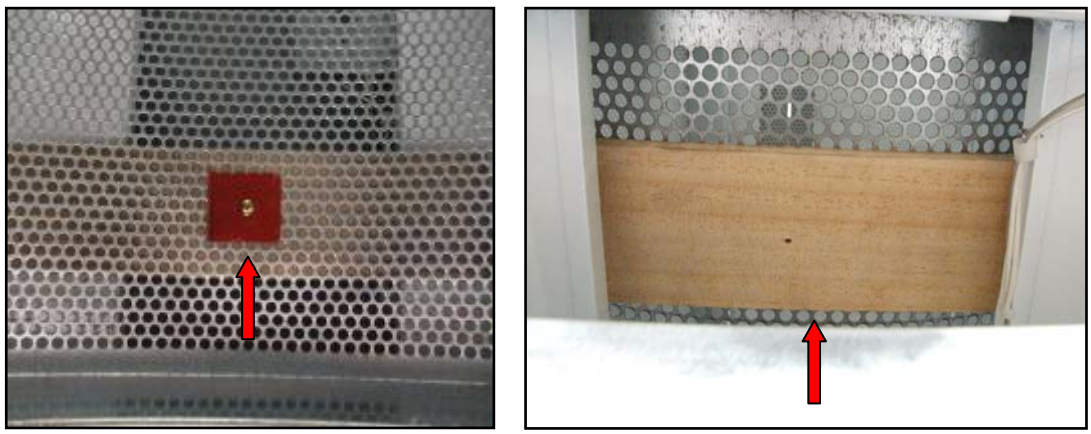
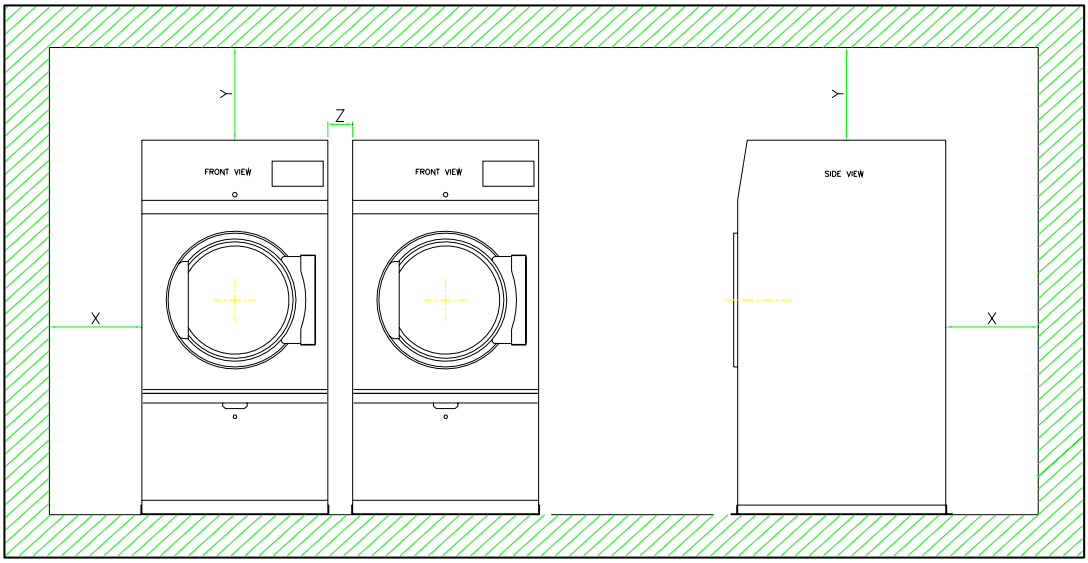


Figure.3-1 Protective Shipping Material

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

C. DRYER ENCLOSURE REQUIREMENTS

Bulkheads and partitions **should be** made of noncombustible materials and **must be** located a minimum of twelve (12) inches above the dryer outer top, except along the front of the dryer which may be closed in if desired.



X = 12”, 2.4” for ease of maintenance
Y = 12” for gas dryers, 18” for steam dryers
Z = 2”

Figure.3-2 Dryer enclosure requirements

NOTE: Air considerations are important for proper and efficient operation.

D. FRESH AIR SUPPLY

When the dryer is operating, it draws in room air, heats it, passes this air, through the tumbler (basket), 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 on gas dryers may result, and you also could have 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. As a general rule, an unrestricted air entrance from the outdoors (atmosphere) of a minimum of one (1) square foot (1 – 1/2 for the Model 75) is required for each dryer. If registers or louvers are installed over the openings, then the area must be increased. It is not necessary to have a separate make – up air opening for each dryer. Common make – up air openings are acceptable. However, they **must be** set up in such a manner that the make – up air is distributed equally to the dryers.

EXAMPLE: for a bank of eight (8) dryers, two (2) openings measuring 2" × 2" (4 square feet) are acceptable. Refer to the illustration on next page for details.

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 fumes. Make – up air that is contaminated by dry cleaning fumes will result in irreparable damage to motors and other dryer components.

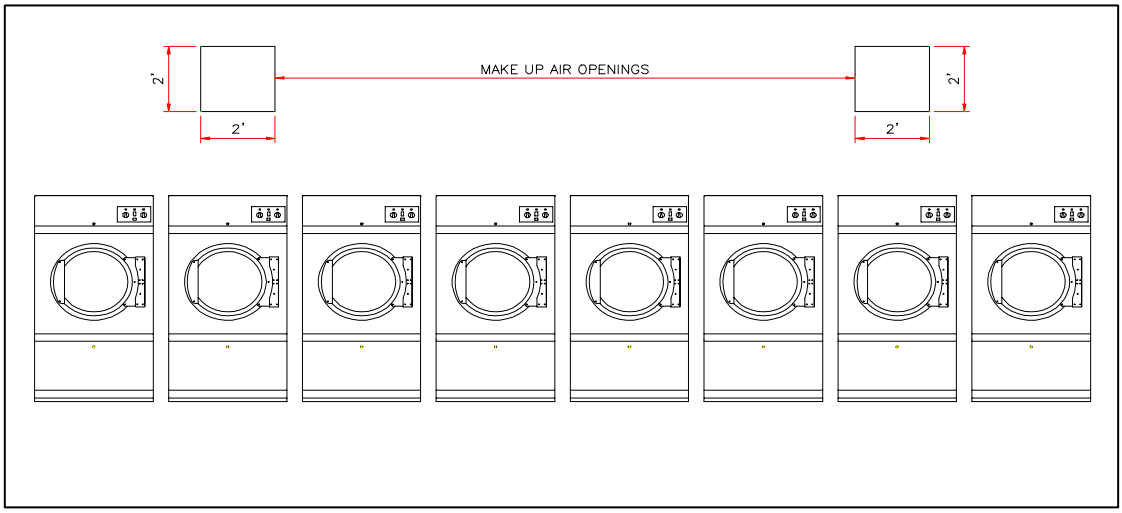
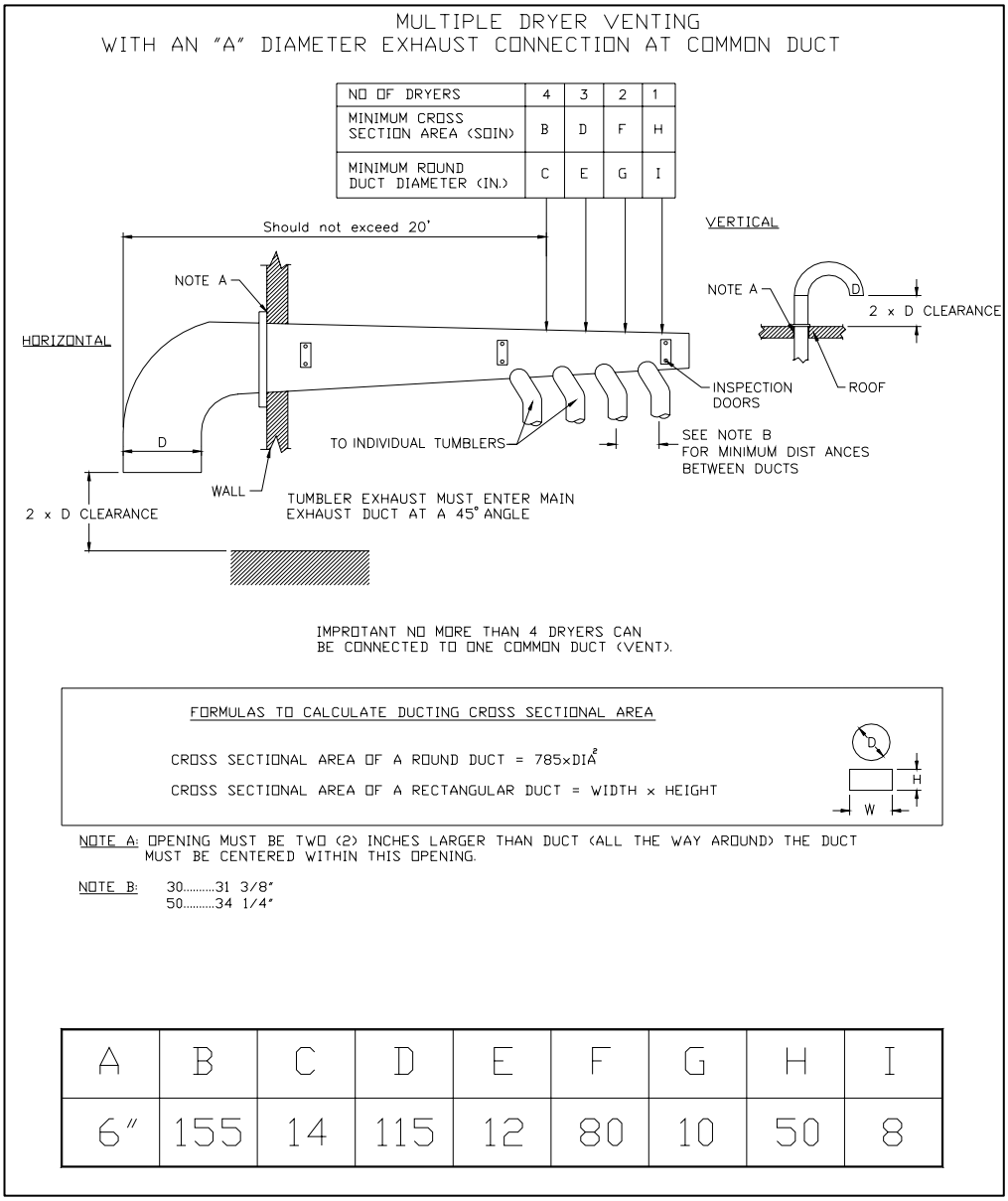


Figure.3-3 Typical installations make up air openings

NOTES: Component failure due to dry cleaning fumes **VOIDS THE WARRANTY.**

E. EXHAUST REQUIREMENTS

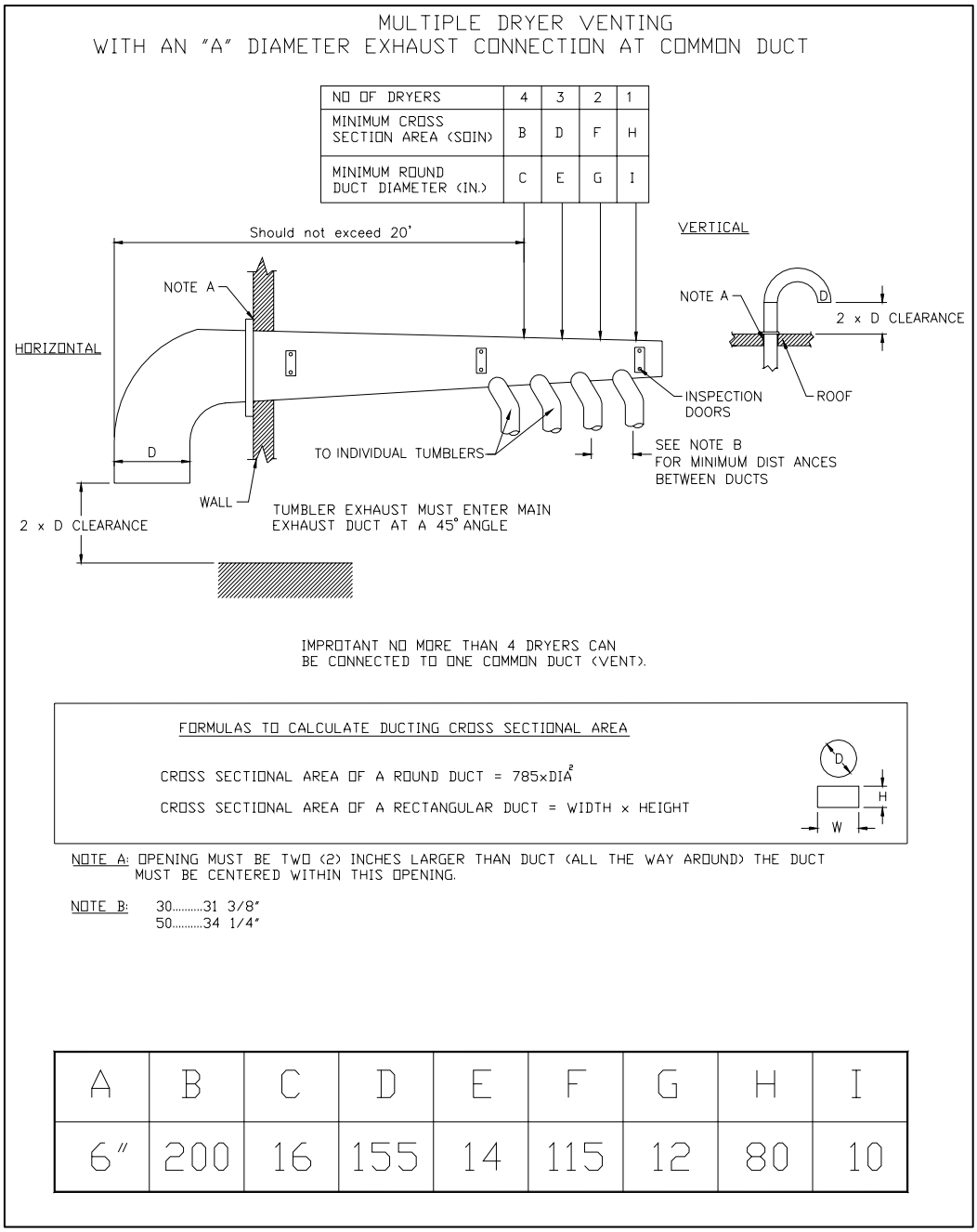
Exhaust duct work **should be** designed and installed by a competent technician. Improperly sized duct work will create excessive back pressure which will result in slow drying, increased use of energy, and shutdown of the burner by the airflow (sail) switch, burner hi – limit, or lint chamber hi – heat protector thermostat. Refer to the illustrations on next pages for details.



A	B	C	D	E	F	G	H	I
6″	155	14	115	12	80	10	50	8

Dryer Exhaust Duct Size:	6”
Dryer Air Flow:	375 cfm.
Model Number:	DE30 lb., DE50 lb.
Heat Reclaimer:	Yes
Controls:	OPL

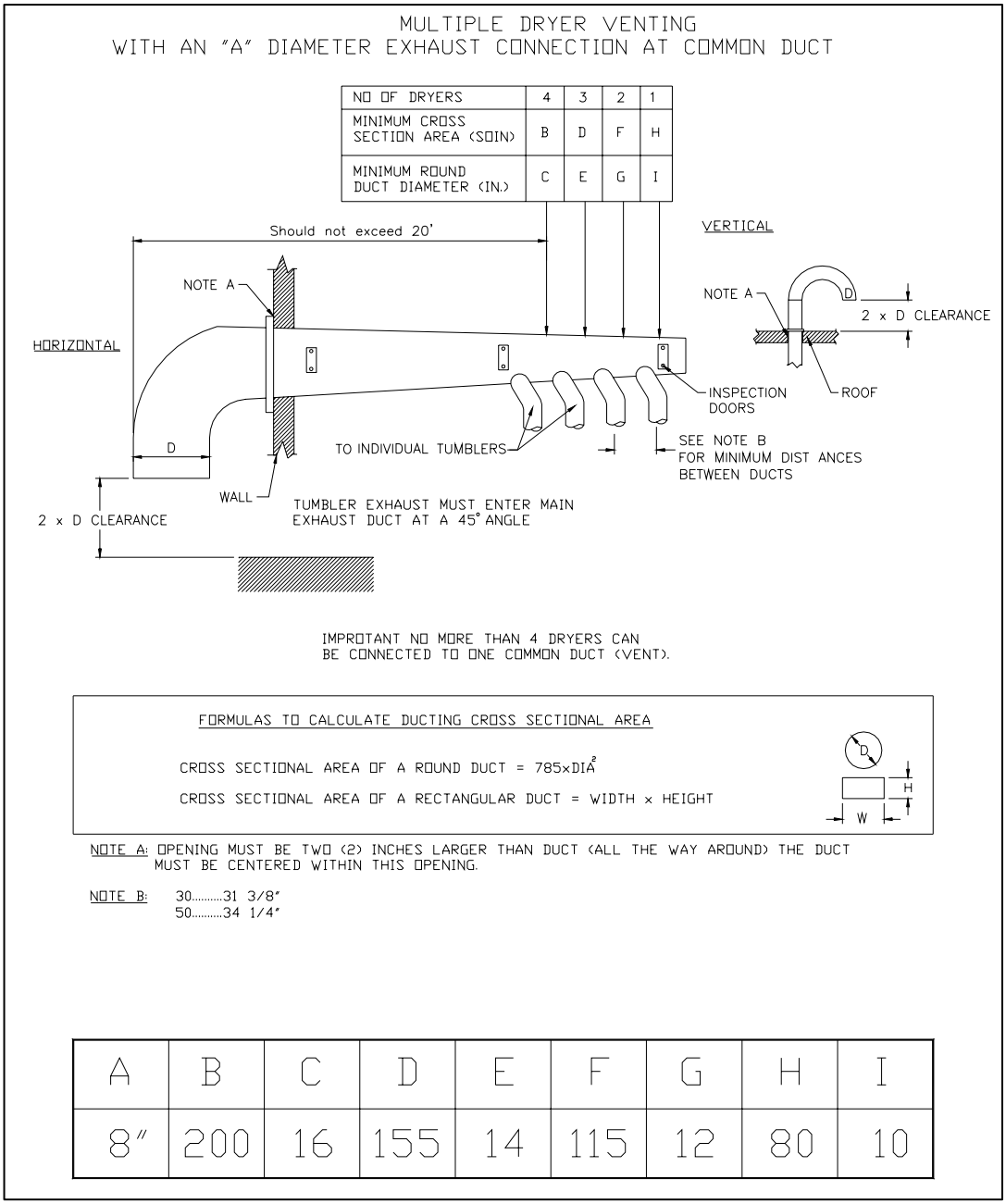
Figure.3-4 Multiple exhaust connection.



A	B	C	D	E	F	G	H	I
6"	200	16	155	14	115	12	80	10

Dryer Exhaust Duct Size:	6”
Dryer Air Flow:	600 cfm.
Model Number:	DE30 lb., DE50 lb.
Heat Reclaimer:	No.
Controls:	OPL

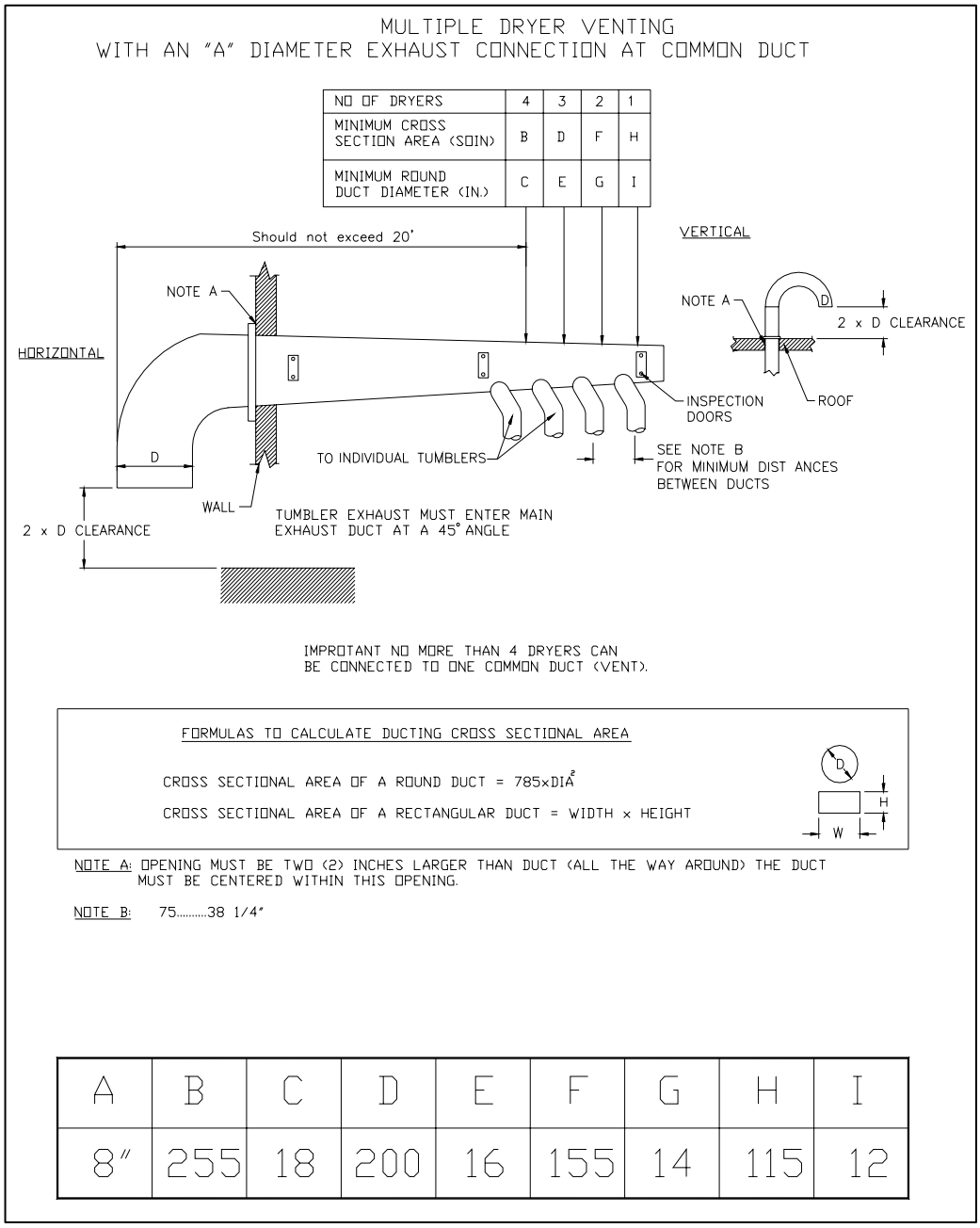
Figure.3-5 Multiple exhaust connection.



A	B	C	D	E	F	G	H	I
8"	200	16	155	14	115	12	80	10

Dryer Exhaust Duct Size:	8”
Dryer Air Flow:	600 cfm.
Model Number:	DE30 lb., DE50 lb.
Heat Reclaimer:	No.
Controls:	OPL

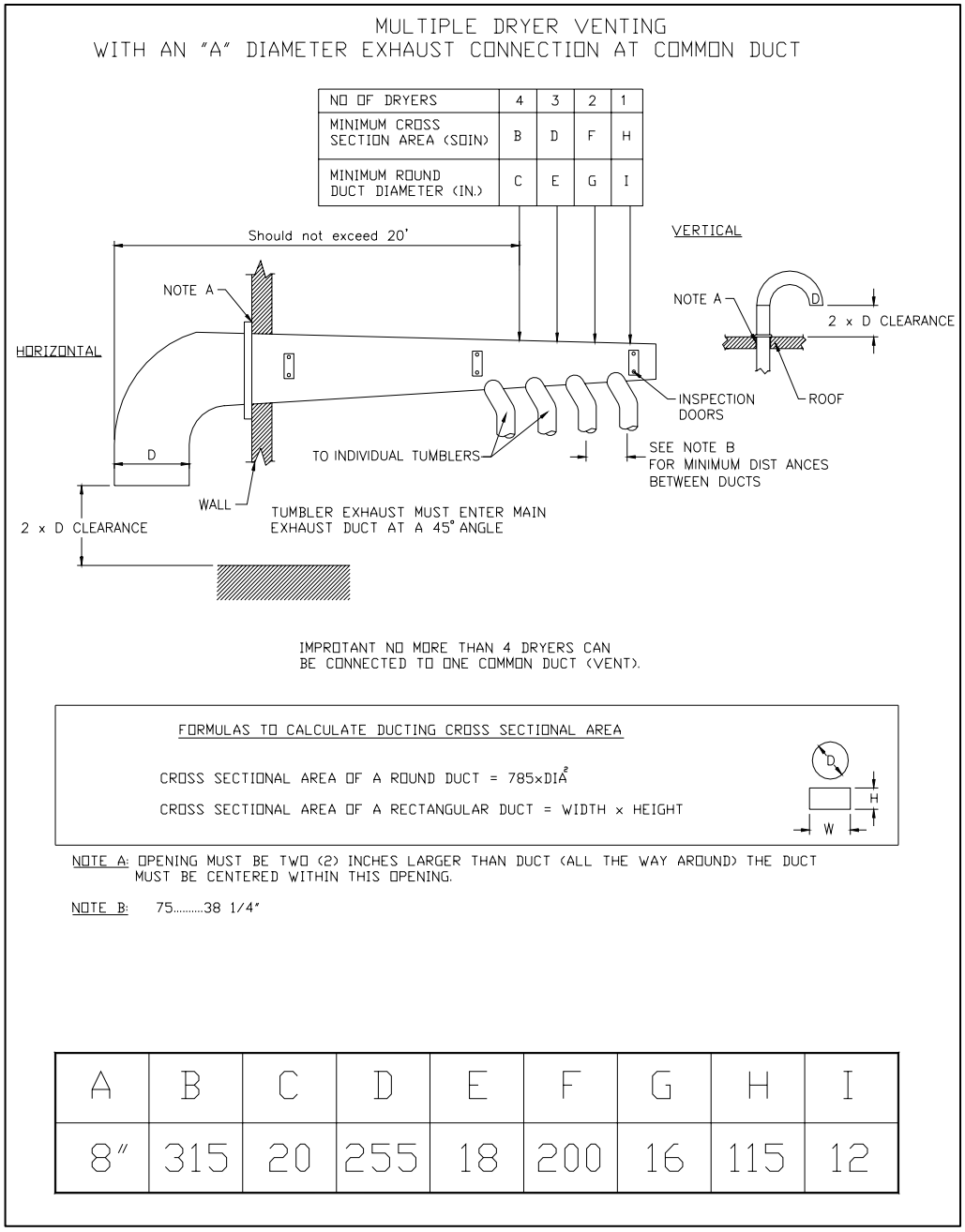
Figure.3-6 Multiple exhaust connection.



A	B	C	D	E	F	G	H	I
8"	255	18	200	16	155	14	115	12

Dryer Exhaust Duct Size:	8”
Dryer Air Flow:	900 cfm.
Model Number:	DE75 lb.
Heat Reclaimer:	Yes
Controls:	OPL

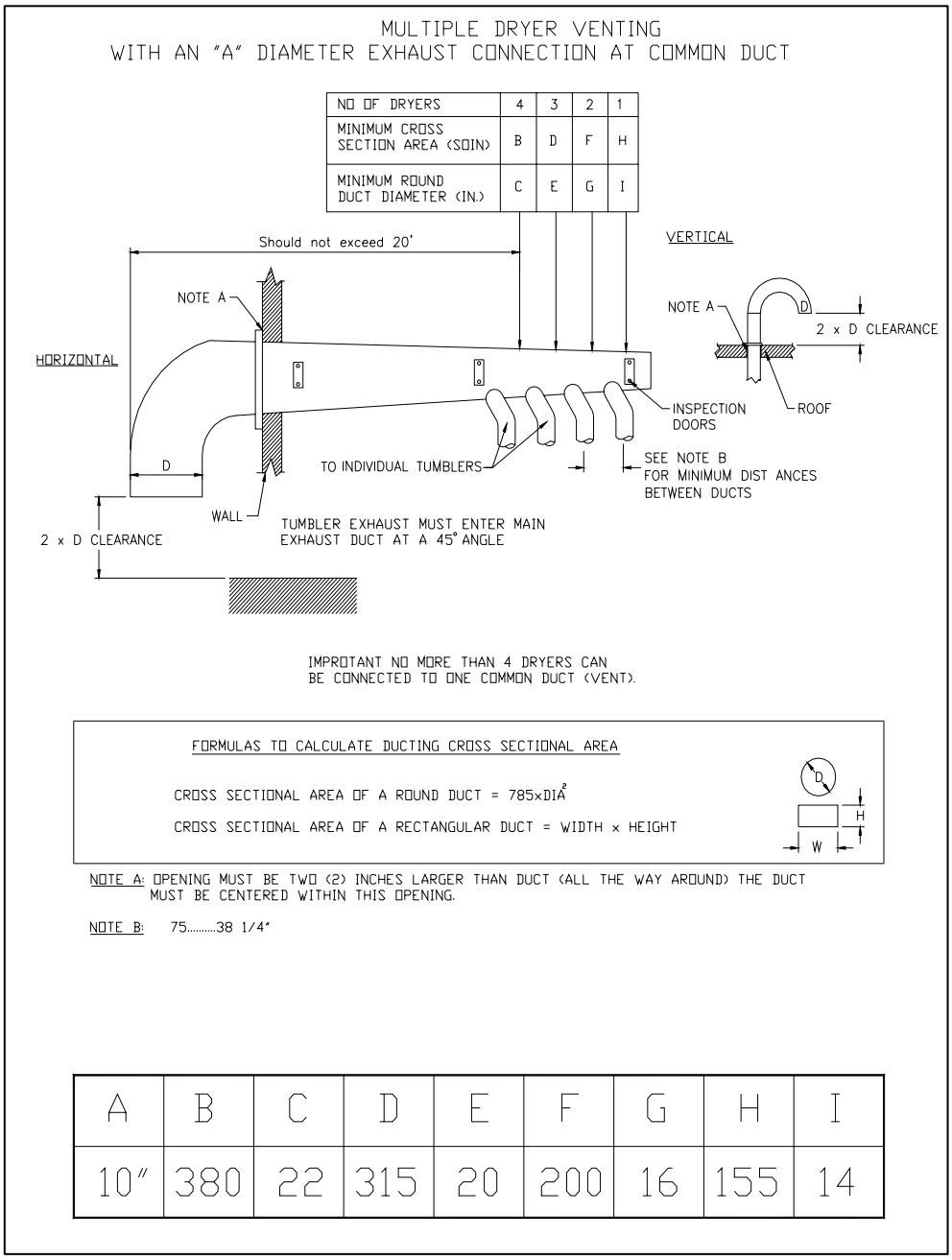
Figure.3-7 Multiple exhaust connection.



A	B	C	D	E	F	G	H	I
8"	315	20	255	18	200	16	115	12

Dryer Exhaust Duct Size:	8”
Dryer Air Flow:	1100 cfm.
Model Number:	DE75 lb.
Heat Reclaimer:	No.
Controls:	OPL

Figure.3-8 Multiple exhaust connection.



A	B	C	D	E	F	G	H	I
10"	380	22	315	20	200	16	155	14

Dryer Exhaust Duct Size:	10”
Dryer Air Flow:	1400 cfm.
Model Number:	DE75 lb.
Heat Reclaimer:	No.
Controls:	OPL

Figure.3-9 Multiple exhaust connection.

CAUTION: Improperly sized or installed exhaust duct work can create a potential fire hazard.

Where possible, it is desirable to provide a separate exhaust air duct for each dryer. The duct should go as directly as possible to the outside air. Avoid sharp 90^o right – angle turns in the ducting; use 30^o or 45^o angles, instead. The radius of the elbows should preferably be 1 – 1/2 times the diameter of the duct. To protect the outside end of the duct from the weather, it may be bent downward as indicated. Leave at least twice the diameter of the duct as clearance between the duct opening and the nearest obstruction. If the exhaust duct goes through the roof, it may be protected from the weather by using an 180^o turn to point the opening down. Allow at least twice the diameter of the duct as clearance from the nearest obstruction. **DO NOT** use screens or caps on the outside opening of the exhaust duct. The ducting should be smooth inside with no projections from sheet metal screws or other obstructions which will collect lint. When adding, ducts, the duct to be added should overlap the duct to which it is to be connected. Provide inspection doors for periodic clean – out of lint from the main duct.

If it **is not** feasible to provide separate exhaust ducts for each dryer, ducts from the individual dryers may be channeled into a common main duct. Each dryer is provided with a back draft damper. The individual ducts should enter the bottom or side of the main duct at an angle not more than 45^o. The main duct **should be** tapered with the diameter increasing before each individual duct is added.

Inadequate exhaust facilities may cause high temperature limit switches or airflow switches to shut off the dryers. **DO NOT** disables the switches, which are provided for your safety. Instead, investigate the exhaust ducting. Any obstruction or air friction due to numerous elbows / fittings in the ducting will slow the passage of air through the system with resulting inefficiency and potential fire hazard.

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, material, and workmanship must conform to the applicable requirements of the National Electrical Code ANSI/NFPA NO. 70 – 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.** A separate circuit serving each dryer **must be** provided. The dryer **must be** connected to copper wire only. **DO NOT** use aluminum wire which could cause a fire hazard.

NOTE: The use of aluminum wire **VOIDS THE WARRANTY.**

2. Electrical Service Specifications

Table 3-1 Electric Service Specifications

Model DE30 lb, Electrical, Gas and Steam (24 KW For Electric Heater)

IMPORTANT: 208 V AC and 220-240 V AC ARE NOT THE SAME. When ordering, specify exact voltage.
NOTES: A. Fuse ratings are dual element-time-delay-current limiting, class RK1 or RK5 only.
B. Circuit breakers are thermal magnetic (industrial) type only. For others, calculate/ verify correct breaker size according to appliance amp draw rating and type of breaker used.
C. Circuit breakers for 3 Phase dryers must be 3-pole type.

Service Voltage	Phase	Approx. Amp Draw		Wire Size		Circuit Breaker	
		Gas, Steam	Elec.	Gas, Steam	Elec.	Gas, Steam	Elec.
200-240	1	5.8	106	16AWG/1.5sq.mm.	2AWG/35sq.mm.	10	125
200-240	3	4.6	71.2	16AWG/1.5sq.mm.	4AWG/25sq.mm.	10	100
380-415	3	3.1	38.6	16AWG/1.5sq.mm.	8AWG/10sq.mm.	10	50
440-480	3	2.8	33.3	16AWG/1.5sq.mm.	8AWG/10sq.mm.	10	50

Model DE50 lb, Electrical, Gas and Steam (24 KW For Electric Heater)

IMPORTANT: 208 V AC and 220-240 V AC ARE NOT THE SAME. When ordering, specify exact voltage.
NOTES: A. Fuse ratings are dual element-time-delay-current limiting, class RK1 or RK5 only.
B. Circuit breakers are thermal magnetic (industrial) type only. For others, calculate/ verify correct breaker size according to appliance amp draw rating and type of breaker used.
C. Circuit breakers for 3 Phase dryers must be 3-pole type.

Service Voltage	Phase	Approx. Amp Draw		Wire Size		Circuit Breaker	
		Gas, Steam	Elec.	Gas, Steam	Elec.	Gas, Steam	Elec.
200-240	1	5.8	-	16 AWG/1.5sq.mm.	-	15	-
200-240	3	8.0	74.6	14 AWG/2.5sq.mm.	4AWG/25sq.mm.	15	100
380-415	3	5.0	41.5	16 AWG/1.5sq.mm.	8AWG/10sq.mm.	15	50
440-480	3	4.4	35.9	16 AWG/1.5sq.mm.	8AWG/10sq.mm.	10	50

Model DE75 lb, Electrical, Gas and Steam (36 KW For Electric Heater)

IMPORTANT: 208 V AC and 220-240 V AC ARE NOT THE SAME. When ordering, specify exact voltage.
NOTES: A. Fuse ratings are dual element-time-delay-current limiting, class RK1 or RK5 only.
B. Circuit breakers are thermal magnetic (industrial) type only. For others, calculate/ verify correct breaker size according to appliance amp draw rating and type of breaker used.
C. Circuit breakers for 3 Phase dryers must be 3-pole type.

Service Voltage	Phase	Approx. Amp Draw		Wire Size		Circuit Breaker	
		Gas, Steam	Elec.	Gas, Steam	Elec.	Gas, Steam	Elec.
200-240	1	10.6	-	14 AWG/2.5sq.mm.	-	15	-
200-240	3	8.0	108.0	14 AWG/2.5sq.mm.	2AWG/35sq.mm.	15	125
380-415	3	5.0	59.7	16 AWG/1.5sq.mm.	6AWG/16sq.mm.	10	75
440-480	3	4.4	51.6	16 AWG/1.5sq.mm.	6AWG/16sq.mm.	10	75

*AWG Stranded Type Wire…for individual lengths less than 100 feet.
(Motor lead type wire is recommended.)

a. Electric Service – Gas and Steam Dryers

IMPORTANT: The dryer **must be** connected to the electrical supply shown on the data label affixed to the dryer. In the case of 208 VAC or 240 VAC, the supply voltage **must match** the electric service specifications of the data label exactly.

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

NOTE: On gas dryers, to convert from 208 VAC to 240 VAC (or vice versa), the direct spark ignition (DSI) transformer wiring **must be** changed.

b. Electric Service – Electrically Heated Dryers

All electrically heated dryers must be connected to the electric supply, service shown on the dryer's data label which is affixed to the back side of the control (service) door. The connecting wires **must be** properly sized to handle the rated current.

NOTE: Component failure due to improper voltage application will. **VOID THE WARRANTY.**

3. 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 – 1984). The ground connection may be to a proven earth ground at the location service panel.

For added personal safety, when possible, it is suggested that a separate ground wire (no.18 minimum) be connected from the ground connection of the dryer to a grounded cold water pipe. **DO NOT** ground to a gas pipe. The grounded cold water pipe **must have** metal to metal connection 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 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.

4. Electrical Connections

A wire diagram is located on the back side of the control (service) door for connection data.

a. Gas and Steam – single – Phase (1Ø) Hookup

The electrical connections on all single – phase gas (1Ø) and steam dryers are made into the junction box located at the upper rear of the dryer.

Figure.3-10 Electric service box cover position.

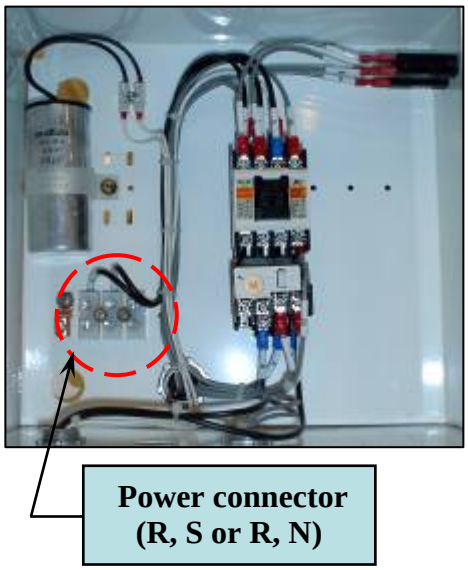


Figure.3-11 Electric power connector for gas and steam type

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

b. Electric Dryers – Single – Phase (1Ø) Hookup

The electrical input connection is made into the electric oven contactor located at the upper rear of the dryer. Input connection wiring must be sized properly to handle the dryer's current draw. This information is printed on the dryer's data label.

NOTE: A separate circuit serving each dryer **must be** provided.

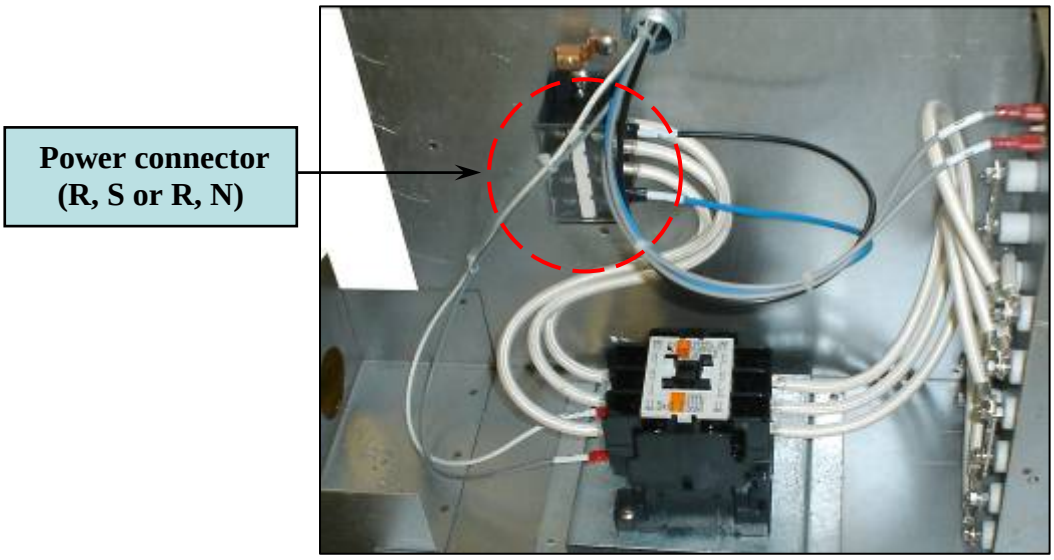


Figure.3-12 Electric power connector for electric heater type

5. 3 – Phase (3Ø) Wiring Connections

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

a. Electrical, Gas and Steam Dryers 3 – Phase (3Ø) Hookup

For gas and steam dryers manufactured for operation at 3 – phase (3Ø), the electrical connections are made at the power distribution block located in the service box at the rear, upper left corner of the dryer. To gain access to the service box and contactor, the service box cover **must be** removed**.**

Figure.3-13 Electric service box cover position.

Providing local codes permit, power to the dryer can be made by the use of a flexible U.L. listed cord / pigtail (wire size **must conform** to the rating of the dryer), or the dryer can be hard wired directly to the service breaker. In all cases, a strain relief **should be** used both where the wiring enters the dryer and the service box.

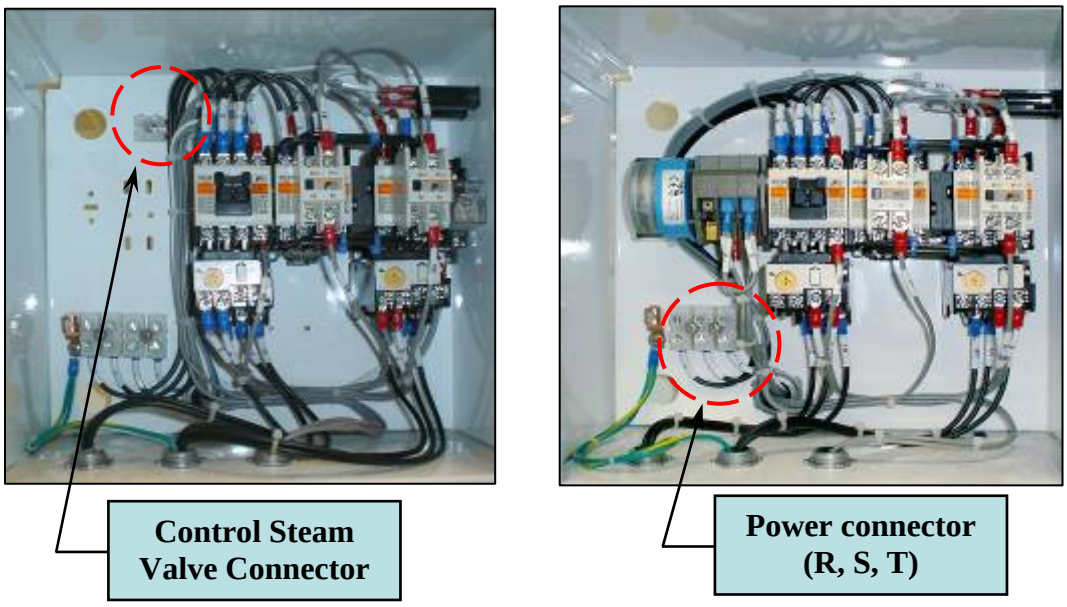


Figure.3-14 Electric power connector for gas and steam type

b. Electric Dryers 3 – Phase (3Ø) Hookup

The electrical input connection is made into the electric oven contactor located at the upper rear of the dryer. Input connection wiring **must be** sized properly to handle the dryer's current draw. This information is printed on the dryer's data label.

CAUTION: The dryer must be grounded. A ground lug has, been provided in the service box for this purpose.

NOTE: A separate circuit serving each dryer **must be** provided.

The only electrical connections to the dryer are the 3 – phase (3Ø) leads (L1, L2, L3, and sometimes neutral) and ground. Single – phase (1Ø) power for the control circuit is done by the factory at the contactor (relay), and no other wiring connections are necessary.

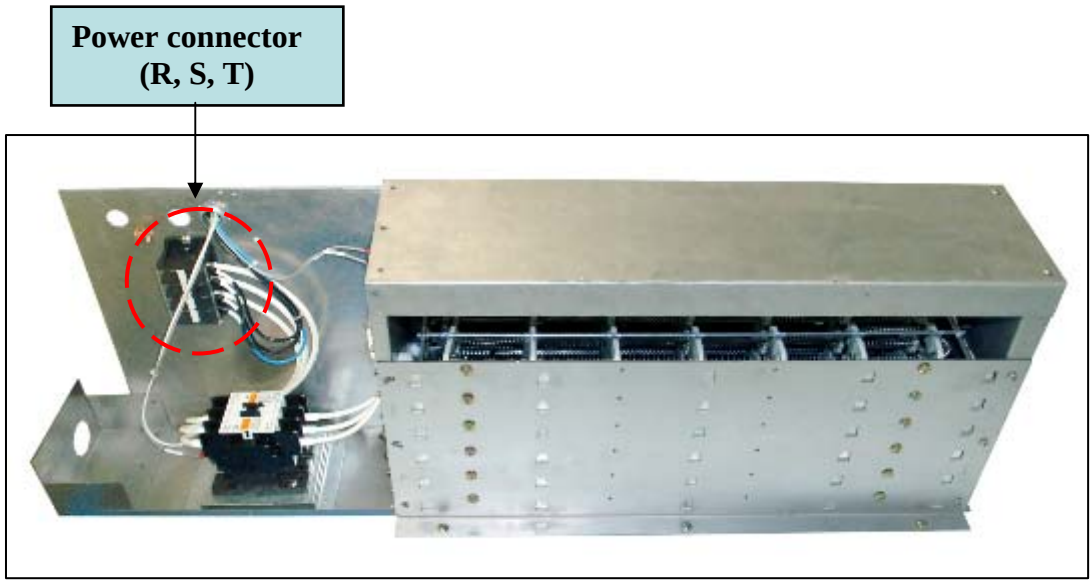


Figure.3-15 Electric power connector for electric heater type

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, material, and workmanship **must conform** to the applicable requirements of the National Fuel Gas Code ANSI Z223.1 – LATEST EDITION, or in Canada, the Canadian Installation Codes CAN/CGA – B149.1 – M91 (Natural Gas) or CAN/CGA – B149.2 – M91 (L.P. Gas) or LATEST EDITION.

IMPORTANT: Failure to comply with 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 shut – off 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). The dryer **must be** isolated from the gas supply piping system by closing its individual manual shut – off valve during any pressure testing of the gas supply piping system at test 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 valves **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 affixed to the back of the dryer at the upper right hand comer. If this information does not agree with the type of gas available, do not operate the dryer. Contact the distributor who sold the dryer or the 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 of up to 2,000 feet, unless elevation requirements of over 2,000 feet were specified at the time the dryer order was placed with the factory. The adjustment or conversion of dryers in the field for elevations over 2,000 feet are made by changing each burner orifice. If this conversion is necessary, contact the distributor who sold the dryer or contact the Dryer factory.

2. Technical Gas Data

Table 3-2 Technical Gas Data

Description	Type of Gas					
	DE30 lb.		DE50 lb.		DE75 lb.	
	Natural (NG)	Liquid Propane (LPG)	Natural (NG)	Liquid Propane (LPG)	Natural (NG	Liquid Propane (LPG)
Manifold Pressure (Inches H_2O.)	3.5 - 4.0	10.5 - 11.0	3.5 - 4.0	10.5 - 11.0	3.5 - 4.0	10.5 - 11.0
Inline Pressure (Inches H_2O.)	4.5 - 14.0	12.0 - 14.0	4.5 - 14.0	12.0 - 14.0	4.5 - 14.0	12.0 - 14.0
Drill Nozzle Size, Hole (mm.)	3	2	3	2	3	2
Inlet supply size, Minimum (Inches)	3/4	3/4	1	3/4	1	1
Inlet connection (Inches)	1/2	1/2	3/4	1/2	3/4	3/4

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

1) Natural Gas

Regulation is controlled by the dryer gas valve's internal regulator. Incoming supply pressure **must be** consistent between a minimum of 4.5 inches and a maximum of 14.0 inches water column pressure.

2) Liquid Propane (L.P.) Gas

Dryers made for use with L.P. gas have the gas valve's internal pressure regulator blocked open so that the gas pressure **must be** regulated upstream of the dryer. The pressure measured at each gas valve pressure tap **must be** a consistent 11.0 inches water column. There is no regulator or

regulation 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.

Table 3-3 Gas Data

Machine Model	Consumption (Btu/hr)
Dryer DE30 lb.	90000
Dryer DE50 lb.	130000
Dryer DE75 lb.	200000

3. Piping / Connections

All components / materials **must conform** to the National Fuel Gas Code ANSI Z223.1 – LATEST EDITION, or in Canada, the Canadian Installation Codes CAN/CGA – B149.1 – M91 (Natural Gas) or CAN/CGA – B149.2 – M91 (L.P. Gas) or LATEST EDITION.

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

The dryer is provided with a 1 – inch N.P.T. inlet pipe connection extending out the back area of the burner box. DE-35 1/2 inch, DE-50 1/2 inch, DE-75 3/4 inch, The minimum pipe size connection (supply line) to the dryer is 1 – inch N.P.T. For ease of servicing, the gas supply line of each dryer **must have** its own shut – off 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.

Consistent gas pressure is essential at all gas connections. It is recommended that a 1 – inch pipe gas loop be installed in the supply line serving 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 of water column pressure.

IMPORTANT: A water column pressure of 3.5 to 4.0 inches for natural gas and 11.0 inches for L.P. dryers is required at the gas valve pressure tap of each dryer for proper and safe operation.

A 1/8 – inch 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 leaks with a flame.
IMPORTANT: The dryer and its individual shut – off 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 shut off 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).

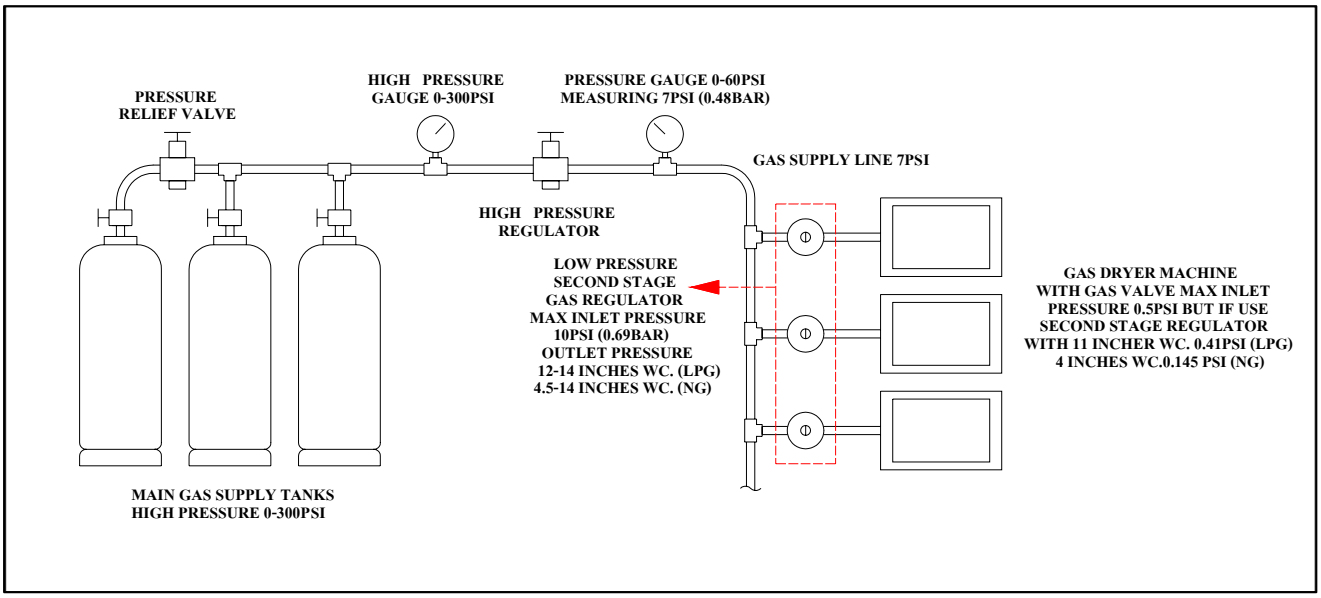


Figure.3-16 Typical of Gas Installation

H. STEAM INFORMATION

Piping **must be** installed in accordance with good commercial steam system practice. Care must be exercised when leveling steam dryers in final position. After leveling the dryer, check the downward pitch of the heat exchanger from front to rear with a level. Likewise, check the downward pitch of the return condensate manifold toward its outlet part. Absence of these downward pitches will result in probable water hammer and premature heat exchanger fracture and leakage.

The presence of condensate in the steam will cause water hammer and subsequent heat exchanger failure. The steam supply connection **must be** taken from the top of a well-dripped steam main. If the supply run – out to the dryer exceeds 20 feet, it should be dripped just before the control valve with a proper trap and dirt pocket.

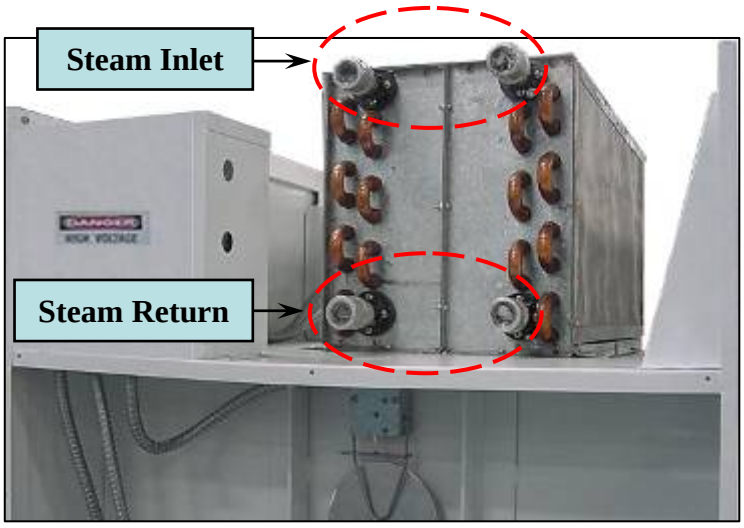


Figure.3-17 Typical of Steam Installation

1. Low – Pressure Steam (10 – 15 psig) Solenoid Valve Models

Adherence to the following instructions is necessary to eliminate coil failures due to water hammer caused by wet steam.

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

The steam supply piping to the dryer must include a 12” rise along with a drip trap and check valve. This will prevent any condensate from entering the steam coil.

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

Shut – off 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.

Install a float and thermostatic steam trap and check valve at least 12” below steam coil as near to the coil as possible.

A vacuum breaker **should be** installed in the piping. This will prevent the condensing steam from causing a vacuum inside the coil and possibly damaging the coil.

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

Water pockets in the supply line, caused by low points, will provide wet steam to the coil possibly causing coil damage. All horizontal runs of steam supply piping should be pitched 1/4” every foot 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. **DO NOT** elevates the condensate return line after the float and thermostatic trap. Drain only by gravity into a properly vented low pressure return line or condensate tank.

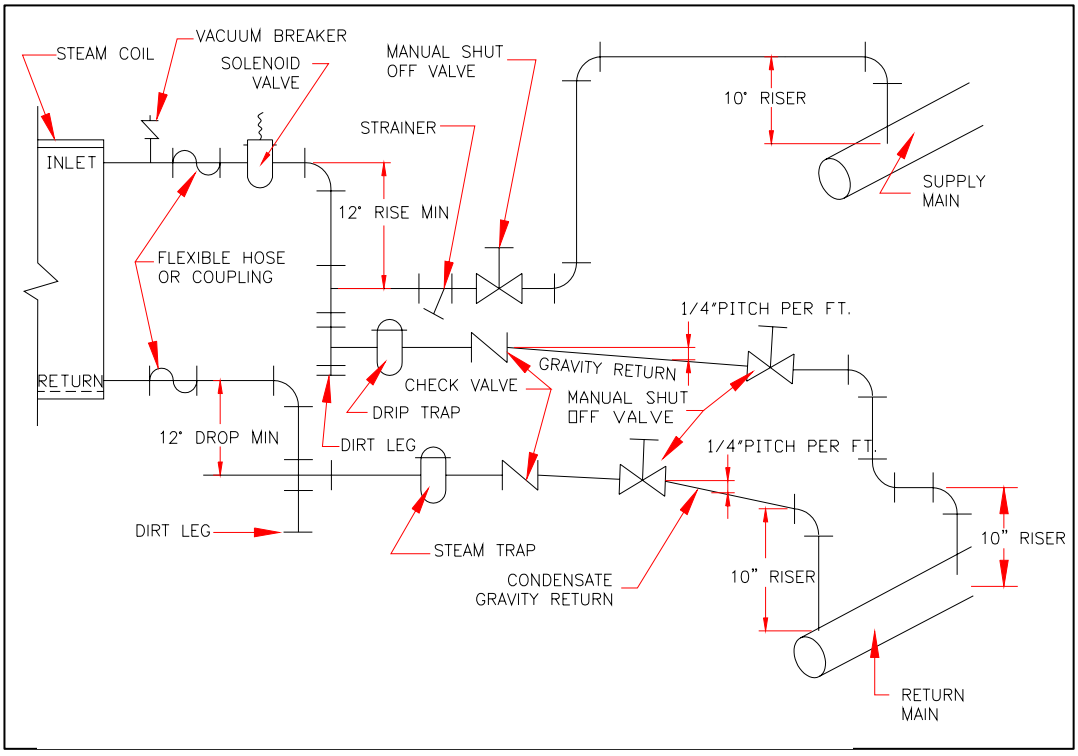


Figure.3-18 Low pressure steam supply 15 psig Max

2. High – Pressure Steam (16 – 125 psig) Motorized Steam Valve Models

Adherence to the following instructions is necessary to eliminate coil failures due to water hammer caused by wet steam.

This is a slow opening and closing valve which will significantly reduce water hammer. Remove the motor cover and connect the power wires to the motor's terminal strip per the wiring diagram supplied with the dryer. The motor operates at 120 volts only, so a power transformer will be supplied with the dryer if input voltage to the dryer is higher than 120 volts. It is important to remember that the motor requires electrical power to open and close the valve. If the main dryer power is cut off when the steam valve is open it will remain open. Steam flow **must be** in the direction of the arrow printed on the steam valve body.

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

The steam supply piping to the dryer must include a 12" rise along with a drip trap and check valve. This will prevent any condensate from entering the steam coil.

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

Install an inverted bucket steam trap and check valve at least 12" below steam coil as near to the coil as possible.

A vacuum breaker **should be** installed in the piping. This will prevent the condensing steam from causing a vacuum inside the coil and possibly damaging the coil.

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

Water pockets in the supply line, caused by low points, will provide wet steam to the coil possibly causing coil damage. All horizontal runs of steam supply piping **should be** pitched 1/4" every foot 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.

We recommend an inverted bucket trap for high pressure dryers. **DO NOT** use thermodynamic disc or impulse traps.

The condensate return line may be elevated after a bucket trap, but only if there is sufficient line pressure to overcome the head. Determine head, loss by deducting 12 Psi for the control valve, coil, and trap losses, and, deduct 1/2 Psi for each foot of elevation.

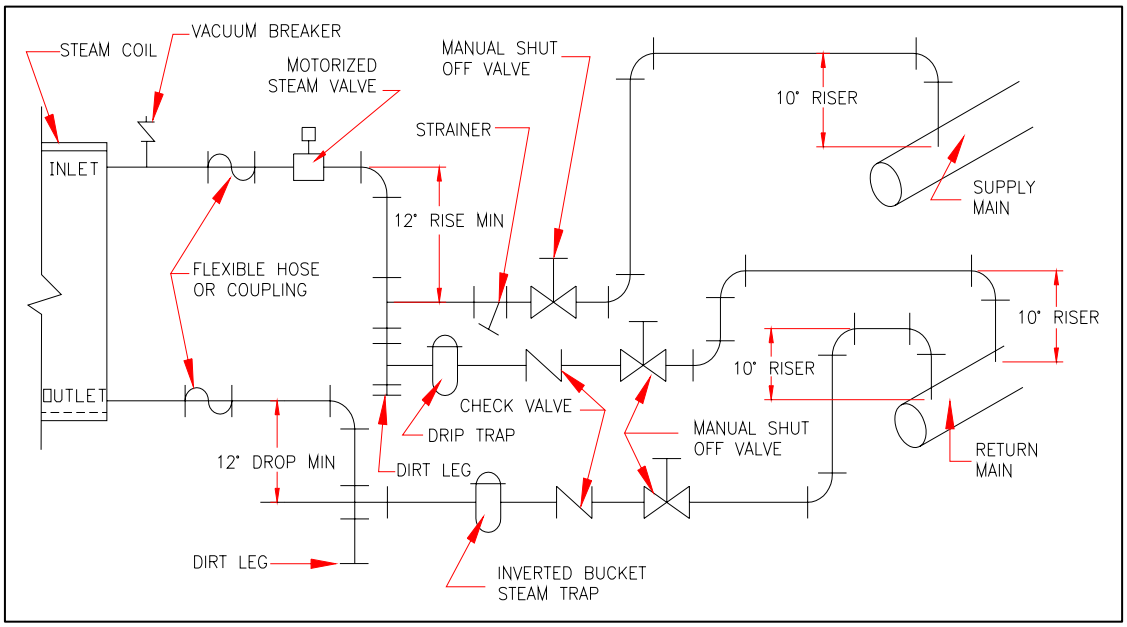


Figure.3-19 High pressure steams supply 125 psig Max

I. PREPARATION FOR OPERTION / START UP

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

1. Read and follow 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 located on the back of the dryer control (service) door
3. Check to assure that the dryer is connected to the type of heat / gas indicated on the dryer data label (**GAS MODELS ONLY**).
4. The sail switch damper assembly is installed and pre – adjusted at the factory prior to dryer shipment. However, the sail switch adjustment **must be** checked to assure that this important safety control is functioning (**GAS** and **ELECTRIC MODELS ONLY**).
5. Check bolts nuts, screws, terminals, and fittings for tightness.
6. Be sure all gas shut – off valves are in the open position (**GAS MODELS ONLY**).
7. Be sure all back guard panels and service box covers have been replaced.
8. Make sure the lint coop support bracket has been removed.
9. Check the lint door to assure that it is closed and secured in place.

IMPORTANT: If during installation the lint door safety chain was disconnected, it **must be** reconnected or personal injury may result.

10. Rotate the basket (tumbler) by hand to be sure it moves freely.
11. Check to insure all steam shut – off valves are open (**STEAM MODELS ONLY**).
12. Check to insure that a clean, dry, regulated air supply (80 Psi) is on the dryer (**STEAM MODELS with Damper System ONLY**).

J. PRE-OPERATIONAL 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. Refer to the Operating Instructions for starting your particular model dryer.
3. GAS DRYERS:
    a. When a gas dryer is first started (during initial startup), it has a tendency not to ignite on the first ignition attempt. This is because the gas supply piping is filled with air, so it may take a few minutes for the air to be purged from the lines.

NOTE: Gas dryers are equipped with a Direct Spark Ignition (DSI) system which has internal diagnostics. If ignition is not established after three (3) attempts, the heat circuit in the DSI module will lock out until it is manually reset. To reset the DSI system, open and close the main door and restart the dryer.

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

NOTE: Water column pressure requirements (measured at the pressure tap on the gas valve body)

Natural Gas….. 4 Inches Water Column

L.P. Gas…….. 11 Inches 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.

4. Make a complete operational check of all safety related circuits:
    a. Door switch
    b. Hi – limit thermostats
    c. Cycling thermostats
    d. Sail switch (gas and electric models only)

NOTE: The sail switch can be checked for proper operation by opening the lint door while the heating circuit (gas burner / electric oven) is active (on). The heating unit should shut off within a few seconds. If not, make necessary adjustments to sail switch.

5. Make a complete operational check of all operating controls.

NOTE: If computer program changes are required, refer to the Computer Programming Section of the manual supplied with the dryer.

6. The dryer **should be** operated through one (1) complete cycle to assure that no further adjustments are necessary and that all components are functioning properly.

IMPORTANT: The dryer basket is (tumbler) treated with a protective coating. Dryer suggests

tumbling old clothes or material in the basket (tumbler), using a mild detergent to remove the protective coating.

7. Check the electric service phase sequence (3 – phase (3Ø) models only). While the dryer is operating, check to see if the blower wheel (fan) is rotating in the proper direction. Looking from the front, the blower wheel (impellor / fan) should spin in the clockwise direction. If it is, the phasing is correct. If the phasing is incorrect, reverse the two (2) leads at connections L1, L2, or L3 of the power supply to the dryer.

IMPORTANT: If the blower wheel (impellor / fan) is rotating in the wrong direction, this will not only drastically reduce drying efficiency, but it can also cause – premature component failure.

SECTION 4

OPERATING AND PROGRAMMING INSTRUCTIONS

A. OPERATING INSTRUCTIONS

NOTE: Before attempting to start the dryer make sure that the main door is closed and the lint drawer is securely in place.

AUTOMATIC USUAL TUMBLE

1. Energize the electrical circuit to the tumbler at the disconnect switch or the circuit breaker. The display is show “r101” about 3 second and then show P1 – P10.
2. Open the lint panel and check for any accumulated lint on lint screen. Close panel tightly against tumbler frame and lock panel securely.
3. Open the cylinder door and load the cylinder with laundry. Overloading will result in excessive drying time, wrinkled laundry, and wear to cylinder bearings.
4. Press “UP”, “DOWN” button to select program P1 – P10.
5. Press “Start” button to run the machine the display is show countdown time.

The Dryer will start beginning with heating. When working completed time of in the program. The heating system stops working. Then the cool down is working until completed time the Dryer is stop

IMPORTANT: If the cylinder door is opened during the cycle, the heating system will shut – off and the motor will stop. To restart the cycle, door **must be** closed and the **PUSH – TO – START** button **must be** pressed in and held for approximately three seconds.

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

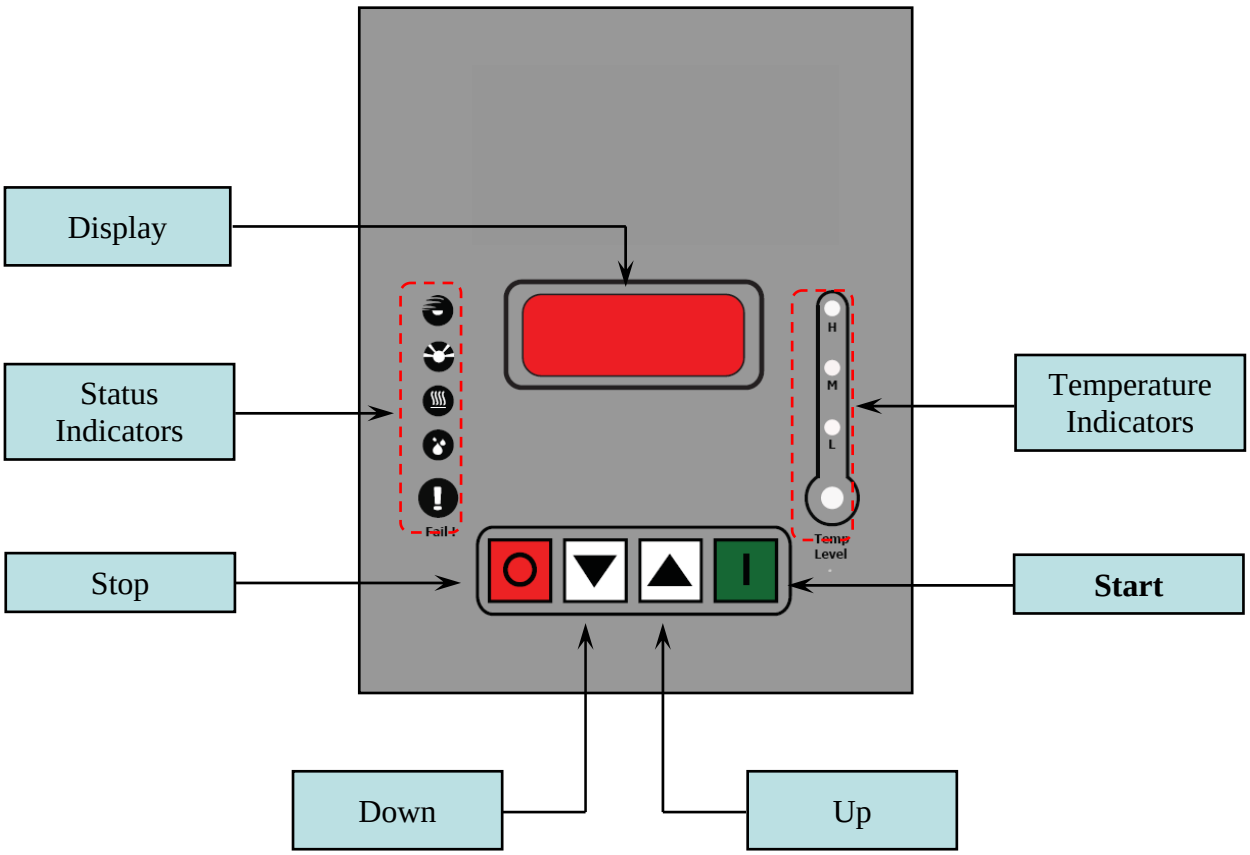


Figure.4-1 Control Panel

B. DESCRIPTION OF CONTROL

Stop Button.

Start / Enter Button.

Down Arrow Button.

Up Arrow Button.

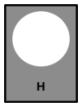
Indicator for dry time.

Indicator for cool down time.

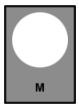
Indicator for heater is operating.

Indicator for humidity sensor is operating. (Optional)

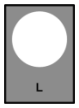
Indicator when a malfunction occurs.



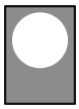
Show on the working temperature 90 ° C (High Heat).



Show on the working temperature 82 ° C (Medium Heat).



Show on the working temperature 65 ° C (Low Heat).



Show when the program is running without a temperature 0 ° C (No Heat).

C. SETTING THE PROGRAM

1. Energize the electrical circuit to the tumbler at the disconnect switch or the circuit breaker. The display is show “r101” about 3 second and then show P1 – P10.
2. Press Up and Down button together the display is show ---- and then put the password (9999)
3. Press the Down button to enter the password for each digit, press the Enter button to move. When entering the password, press Enter, and then select the desired setting (C1 - C10) and then press the Enter key again to enter the program. This can be set up as follows.

   3.1 Time Setting

   - Setting time for drying. Can be set from 0 – 60 minutes.
   - Setting a time for cool down. Can be set from 0 – 30 minutes.

   3.2 Temperature Setting (Press the "Up" or "Down" to select temperature.)

   - Setting Low Heat can be set to any value from 0 - 99 ° C (factory setting value is 65 ° C).
   - Setting Medium Heat can be set to any value from 0 - 99 ° C (the factory setting is 82 ° C).
   - Setting High Heat can be set to any value from 0 - 99 ° C (factory setting value is 90 ° C).

   3.3 Humidity Sensor Setting (Optional)

   - The humidity can be set from 0 - 99%.
   - In case disable, set at 0.

D. SETTING THE CONTROLLER

The configuration of the controller is as follows.

- Press Up, Down, and then the program will ask for a password (password is 9999) to the C0 – C10, then press the Enter button to settings the controller.
  - PaSS: (change the password) can change the password.
  - tFtr: (setting Forward / Reveres) can be set at the turn of the basket is a Forward / Reverse.
    - trot: (set the rotation of the basket) can be set from 3 – 90 seconds.
    - tstP: (set time to stop rotation of the basket) can be set to stop the rotation of the basket from 0-60 seconds.
  - Anti: (set to anti crease) can be set to anti crease.
  - trEF: (the reference temperature) is the temperature. Has the same value as the program runs.
  - buZZ: (warning time) can set the alarm time from 0-99 seconds, but if it is set to 0, the alarm always.
  - AtEd: (the end of operation setting) can be set to working by the end of which the time or the temperature is set to 0, it will be the end of the working of time. If set to 1 to 99 to the end of the working the temperature.
  - dtP1: (the actual temperature at the time) while present temperature setting

E. MEANING OF THE ALARM MASSAGE

MESSAGE	CAUSE
door	- Door is not closed all the way. - Door switch out of proper adjustment. - Failed door switch. - Broken connection / wire in main door circuit. - Failed 24 VAC transformers.
AH	- Temperature is over than 110 °C
tSFL	- Temperature is lower than 20 °C
OL	- Drive motor is over current or has failed. - Blower motor is over current or has failed.
dP	- Sail switch (rear the machine) is out of adjustment or has failed. - Failed direction of blower or blower is not operation. - Filter (lint drawer) is not clean.

MESSAGE	CAUSE
Ld	- lint drawer is open
LF	- Lint drawer is not closed all the way. - Lint drawer switch out of proper adjustment. - Failed lint drawer switch. - Broken connection / wire in main door or lint drawer circuit. - Failed 24 VAC transformers.

SECTION 5

WARRANTY INFORMATION

A. RETURNING WARRANTY CARD(S)

Before any dryer leaves the Dryer factory test area, a warranty card is affixed to the glass of the main door. These warranty cards are intended to serve the customer in two ways. First, when Dryer receives the warranty card(s) back from a customer, we mail the appropriate parts manual (at no charge), to the address indicated on the returned card. Second, we record the individual installation date and warranty information to better serve you should you file a warranty claim. If a warranty card did not come with your dryer, contact the Dryer Warranty Department

B. WARRANTY

For a copy of the Dryer commercial warranty covering your particular dryer(s), contact the Dryer distributor from whom you purchased the equipment and request dryer warranty form. If the distributor **cannot** be contacted or is unknown, warranty information can be obtained from the factory the Dryer Warranty Department

NOTE: Whenever contacting the Dryer 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 PART(S)

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

1. No parts are to be returned to Dryer without prior written authorization ("Return Material Authorization") from the factory.

NOTE: An R.M.A. ("Return Material Authorization") is valid for only sixty (60) days from date of issue.

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

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 (Dryer P/N 450064) are available at "no charge" from Dryer 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 Dryer 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 Dryer 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 the claim. If a reply is not received by the Dryer Warranty Department within thirty (30) days from the FAX / letter date, then no replacement, credit, or refund will be issued and the merchandise will be discarded.

SECTION 6

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 duct work 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 air circulation. If the guidelines in this section are met a 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 be 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 and clean lint from lint drawer / screen every third or fourth load.

NOTE: Frequency can best be determined at each location.

1. DAILY (beginning of each work shift)

Inspect lint screen and replace if torn.

2. WEEKLY

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

WARNING: To avoid the hazard of electrical shock, discontinue electrical supply to the Dryer.

STEAM DRYERS:

Clean steam coil fins. 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 fin comb which is available from local air conditioning supply houses.

3. 90 DAYS

Remove lint from around basket (tumbler), drive motors, and surrounding areas. Remove lint from gas valve burner area with a dusting brush or vacuum cleaner attachment.

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

Remove lint accumulation from inside control box and at rear area behind control box. Impeller (fan / blower) bearings are sealed bearings **should not be** lubrication is required.

4. EVERY 6 MONTHS

Inspect and remove lint accumulation in customer furnished exhaust duct work system and from dryers internal exhaust ducting.

Impeller (fan / blower) belts and drive belts **should be** examined. Cracked and / or seriously frayed belts **should be** replaced. Tighten belts when necessary.

WARNING: The accumulation of lint in the exhaust duct work can create a **POTENTIAL FIRE HAZARD**.

WARNING: **DO NOT** obstruct the flow of combustion and ventilation air. Check customer furnished back draft dampers in exhaust duct work. Inspect and remove any lint accumulation which can cause damper to bind or stick.

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

NOTE: When cleaning 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 set screws), non – permanent gas connections (unions, shut – off valves, orifices, and grounding connections). 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).

C. LUBRICATION

1. Impeller motor (fan / blower) bearings are sealed bearing, **NO** lubrication is required.
2. The motor bearings, idler bearings, and main tumbler shaft bearings are permanently lubricated. **NO LUBRICATION IS NECESSARY.**

SECTION 7

TROUBLE SHOOTING

IMPORTANT: You must disconnect and lockout the electric supply and the gas supply or the steam supply before any covers or guards are remove 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 component(s) 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 suspected 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 precaution displayed on the Dryer or specified in this manual.

A. MICROPROCESSOR MODELS

1. No display (microprocessor (computer) models ONLY).

1) Service panel fuse blown or tripped breaker.
2) Blown L1 fuse or L2 fuse.
3) Failed microprocessor controller (computer).

2. Drive motor not operating (does not start).

1) Failed drive motor contractor (relay).
2) Failed drive motor.
3) Failed microprocessor controller (computer).

3. Drive motor (reversing) operates in one direction only…stops and restarts in same direction.

1) Failed reversing contractor (relay).
2) Failed microprocessor controller (computer).

4. Drive motor operates okay for a few minutes, and then stops and will not restart.

1) Motor is overheating and tripping out on internal overload protector.
   a. Motor air vents clogged with lint.
   b. Low voltage to the motor.
   c. Failed motor.
   d. Basket (tumbler) is binding…check for an obstruction.

e. Failed idler bearing or tumbler bearings.

5. Blower motor not operating (does not start).

1) Tripped or failed overload protector.

2) Failed blower motor contractor (relay).

3) Failed motor.

4) Failed microprocessor controller (computer).

6. Blower motor operates okay for a few minutes, and then stops and will not restart.

1) Motor is overheating and tripping out on internal overload protector.

a. Motor air vent is clogged with lint.

b. Low voltage to motor.

c. Failed motor.

d. Failed (out of balance) impeller (fan / blower).

7. Both drive motor and blower motor not operating (do not start)...microprocessor (computer) motor indicator dots are on.

1) Failed microprocessor controller (computer).

8. Both drive motor and blower motor run a few minutes and stop...microprocessor controller (computer) L.E.D. display continues to read time or percent of extraction and all indicator dots are off.

1) Fault in main door switch circuit.

a. Failed main door switch.

b. Main door switch out of adjustment.

c. Loose connections in the door switch circuit.

2) Fault in lint drawer switch circuit.

a. Lint drawer switch out of proper adjustment.

b. Loose connections in the lint drawer switch circuit.

9. Microprocessor controller (computer) display reads "DOOR OPEN".

1) Fault (open circuit) in main door switch circuit.

a. Door is not closed all the way.

b. Door switch out of proper adjustment.

c. Failed door switch.

d. Broken connection / wire in main door circuit.

e. Failed 24 VAC transformers.

10. Microprocessor controller (computer) display reads "FILTER OPEN".

1) Fault (open circuit) in lint drawer switches circuit.

a. Lint drawer is not closed all the way.

b. Lint drawer switch out of proper adjustment.

c. Failed lint drawer switch.

d. Broken connection / wire in main door or lint drawer circuit.

e. Failed 24 VAC transformers.

11. Microprocessor controller (computer) display reads "ALM DEPRESSION".

1) Fault (open circuit) in sail switches circuit (rear the machine).

a. Sail switch (rear the machine) is out of adjustment or has failed.

b. Failed direction of blower or blower is not operation.

c. Filter (lint drawer) is not clean.

12. Microprocessor controller (computer) display reads "ALM OVERLOAD".

1) Fault (open circuit) in overload contactor circuit (electrical box).

a. Drive motor is over current or has failed.

b. Blower motor is over current or has failed.

13. Gas heating unit is not operating (no heat)...no spark at burner area when dryer is first started and heat indicator dot is on.

1) Fault in the sail switch circuit

a. Sail switch is out of adjustment or has failed.

b. Sail switch damper is not closing or is fluttering.

- Lint drawer / screen are dirty.
- Restriction in exhaust.

2) Fault in the burner hi – limit circuit or the thermostat.

3) Fault in the lint chamber sensor bracket hi – heat protector thermostat.

4) Failed Direct Spark Ignition (DSI) module (burner control).

5) Failed Direct Spark Ignition (DSI) igniter / flame – probe assembly.

6) Failed microprocessor controller (computer).

14. No heat...igniter sparks, burner goes on and off right away ...GAS MODELS ONLY.

1) Direct Spark Ignition (DSI) igniter / flame – probe out of adjustment...reposition closer to the flame area.

2) Sail switch is fluttering.

a. Lint drawer / screen are dirty.

b. Restriction in the exhaust duct work.

3) Insufficient make – up air.

4) Failed Direct Spark Ignition (DSI) igniter / flame – probe assembly.

5) Failed Direct Spark Ignition (DSI) module (burner control).

6) Failed gas valve.

15. No heat ...STEAM MODELS ONLY.

1) Fault in lint chamber sensor bracket hi – heat (limit) protector thermostat.

2) Failed microprocessor controller (computer).

3) No (external) compressed air to steam damper...80 Psi required.

4) Failed steam damper 24 VAC pneumatic solenoid switch.

5) Failed steam damper piston.

6) Steam damper stuck closed.

7) Air flow control valve restricting incoming compressed air.

16. No heat...ELECTRIC MODELS ONLY.

1) Fault in sail switch circuit.

   a. Sail switch out of adjustment and / or faulty (failed).

   b. Sail switch not closing or fluttering

      - Check impeller (fan / blower) motor and rotation direction.
      - Restrictions in the location exhaust system.

2) Failed oven hi – limit.

3) Failed lint compartment automatic (200°) safety thermostat.

4) Failed oven contractor (relay).

5) Failed microprocessor controller (computer).

17. Dryer operates but is taking too long to dry.

1) Exhaust duct work run too long or is undersized...back pressure **cannot** exceed 0.3 inches W .C.

2) Restriction in exhaust.

   a. Customer furnished exhaust back draft damper is sticking partially closed.

   b. Restriction in the duct work...check duct work from dryer all the way to the outdoors.

3) Low and / or inconsistent gas pressure (for **GAS MODELS ONLY**).

4) Insufficient make – up air.

5) Poor air / gas mixture at burner...yellow or poor flame pattern. Adjust gas burner air adjustment shutters (for **GAS MODELS ONLY**).

6) Lint drawer / screen not being cleaned on a regular basis or often enough.

7) Extractors (washers) not performing properly.

8) Sail switch is fluttering...restriction in exhaust (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 lint chamber hi-heat protector thermostat.

13) Steam damper system not functioning properly (for **STEAM MODELS ONLY**).

   a. Steam damper sticking closed.

   b. Leak in the pneumatic system.

   c. Flow control incorrectly set.

18. Condensation on main door glass.

1) Too long, undersized, or improperly installed duct work.
2) Dryer connected to common exhaust duct with another dryer and no back draft damper was installed in customer furnished duct work.
3) Customer furnished back draft damper in duct work is sticking in partially closed position.

19. Dryer or scraping noises at basket (tumbler) area.

1) Check for object caught in basket (tumbler) / wrapper area.
2) Basket (tumbler) is out of proper alignment.
   a. Check both the vertical and the lateral alignment.
   b. Check gap between the front panel and the basket (tumbler) front, set screws may have come loose and the basket (tumbler) walked forward or back.
3) Loose basket (tumbler) tie rod.
4) Failed basket (tumbler) support.

20. Excessive noise and / or vibration.

1) Dryer not leveled properly.
2) Impeller (fan / blower) out of balance.
   a. Excessive lint builds up on impeller (fan / blower).
   b. Failed impeller (fan / blower).
3) Loose basket (tumbler) tie rod.
4) Baskets (tumbler) out of adjustment or adjustment bolts (hardware) are loose.
5) Failed basket (tumbler.) support.
6) Loose motor mount.
7) Failed idler and / or tumbler bearings.
8) V – belts either too tight or too loose.

B. TIMER MODELS

1. Dryer will not start...both drive and blower motors are not operating (indicator light is off).

1) Dryer control circuit fuse is blown.
2) Open at location.
   a. Service main fuse or circuit breaker.
3) Failed push to start relay.
4) Failed door switch and / or circuit.
5) Failed heat timer.
6) Failed dual timer relay.

2. Drive motor (only) not operating (does not start).

1) Failed drive motor contractor (relay).
2) Failed reversing timer.
3) Failed drive motor.

3. Blower (impeller / fan) motor (only) not operating (does not start).

1) Tripped or failed overload.
2) Failed impeller (blower / fan) motor contractor (relay).
3) Failed reversing timer.
4) Failed blower (impeller / fan) motor.

4. Both drive motor and blower (impeller / fan) motor not operating (do not start) and indicator light is on.

1) Fault in L1 termination at reversing timer.

5. Drive motor (reversing) operates in one direction only...stops and restarts in same direction.

1) Failed reversing contractor (relay).
2) Failed reversing timer.

6. Heating unit is not operating (no heat)...no voltage at heating unit (i.e., Gas Model DSI module or Steam Model damper system pneumatic solenoid).

Gas Models:

1) Fault in sail switch circuit.
   a. Sail switch is out of adjustment or has failed.
   b. Sail switch damper is not closing or is fluttering.
      - Check blower (impeller / fan) motor and rotation direction.
      - Restriction in exhaust.
      - Lint drawer / screen are dirty.
2) Failed burner hi – limit switch.
3) Failed lint compartment automatic (200°) safety thermostat circuit.
4) Failed Direct Spark Ignition (DSI) module (burner control).
5) Failed Direct Spark Ignition (DSI) igniter / flame – probe assembly.
6) Failed heat selector switch.

Electric Models:

1) Fault in sail switch circuit.
   a. Sail switch is out of adjustment or has failed.
   b. Sail switch is not closing or is fluttering.
      - Check blower (impeller / fan) motor and rotation direction.
      - Restriction in exhaust.
2) Failed oven hi – limit circuit.

3) Failed lint compartment automatic (200°) safety thermostat circuit.
4) Failed oven contractor (relay).
5) Failed heat selector switch.

Steam Models:

1) Steam dampers binding and / or stuck.
2) No (external) compressed air to the steam damper...80 Psi required.
3) Failed lint compartment automatic (200°) safety thermostat circuit.
4) Failed steam damper 24 VAC pneumatic solenoid switch.
5) Air flow control valve restricting incoming compressed air.
6) Fail heat selector switch.
7) Failed steam damper piston.

7. Heat unit not operating for only one (1) temperature selection.

1) Failed thermostat corresponding to selection made.
2) Failed heat selector switch.

8. Dryer operates but is taking too long to dry load.

1) Heating unit is cycling on hi – limit thermostat **(**for **GAS MODELS and ELECTRIC MODELS ONLY**).
2) Steam damper is binding partially in the open position **(**for **STEAM MODELS ONLY**).
3) Lint and / or dust accumulation on steam coil fins **(**for **STEAM MODELS ONLY**).
4) Housekeeping.
    a. Lint screen and lint compartment not being cleaned on a regular basis.
    b. Lint accumulations in location exhaust system.
5) Insufficient make – up air.
6) Failed hi – limit thermostat **(**for **GAS MODELS and ELECTRIC MODELS ONLY).**
7) Failed lint compartment automatic (200°) safety thermostat circuit.
8) Extractors not performing properly.
9) Low and / or inconsistent gas pressure **(**for **GAS MODELS ONLY**).
10) Gas supply may have low heating value **(**for **GAS MODELS ONLY**).
11) Sail switch is fluttering **(**for **GAS MODELS and ELECTRIC MODELS ONLY**). Restrictions in location exhaust system.
12) Fault in electric oven element circuit **(**for **ELECTRIC MODELS ONLY**).
    a. Failed element(s).
    b. Failed oven contractor.
13) Exceptionally cold / humid or low barometric pressures atmosphere.
14) Blower (impeller / fan) motor rotation direction incorrect.

9. Dryer is cycling on hi – limit thermostat (GAS MODELS and ELECTRIC MODELS ONLY).

1) Blower (impeller / fan) motor rotation direction incorrect.
2) Insufficient make – up air.
3) Restriction in exhaust system.
    a. Undersized exhaust ducting.
4) Lint screen needs cleaning.
5) Failed hi – limit thermostat.
6) Failed oven contractor / relay **(**for **ELECTRIC MODELS ONLY**).

10. Condensation on main door glass.

1) Too long, undersized, or improperly installed duct work.
2) Dryer connected to common exhaust duct with another dryer, and no back draft damper was installed in customer – famished duct work.
3) Location furnished back draft damper in duct work is sticking in partially closed position.

11. Dryer scraping noise at basket (tumbler) area.

1) Check for object caught in basket (tumbler) / wrapper area.
2) Basket (tumbler) is out of proper alignment.
    a. Check both vertical alignment and lateral alignment.
    b. Check gap between front panel and basket (tumbler)...set screws may have come loose, and basket (nimbler) walked forward or back.
3) Loose basket (tumbler) tie rod.
4) Failed basket (tumbler) support.

12. Excessive noise and / or vibration.

1) Dryer is not leveled properly.
2) Impeller (fan / blower) is out of balance.
    a. Excessive lint builds – up impeller (fan / blower).
    b. Failed impeller (fan / blower).
3) Loose basket (tumbler) tie rod.
4) Baskets (tumbler) out of adjustment or adjustment bolts (hardware) are loose.
5) Failed basket (tumbler) support.
6) Loose motor mount.
7) Failed idler bearings or tumbler (basket) bearings.
8) V **–** Belts too loose or too tight.

SECTION 8

SERVICE/PART INFORMATION

A. SERVICE

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

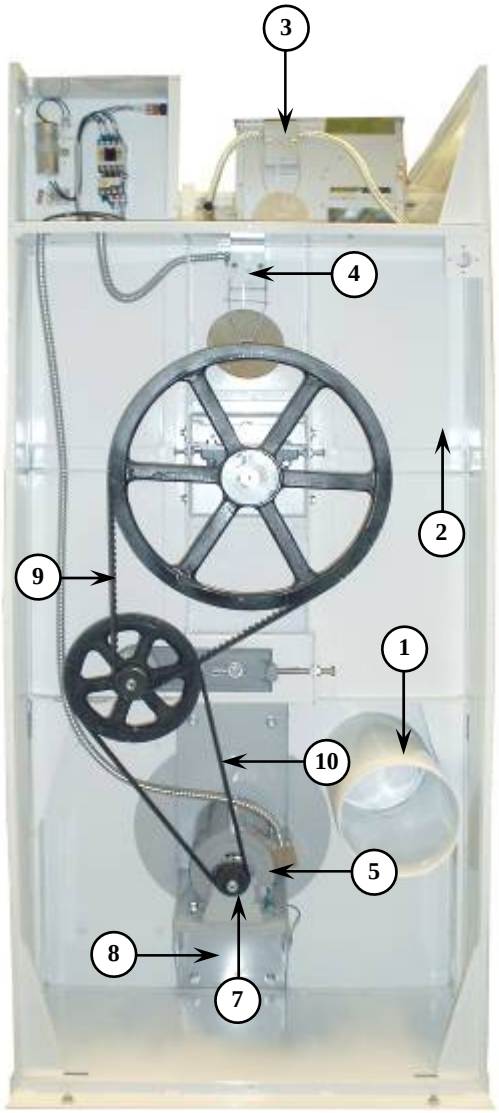
NOTE: When contacting the Dryer Service Department, be sure to give them the correct **model number** and **serial number** so that your inquiry is handled in an expeditious manner.

B. PARTS LIST

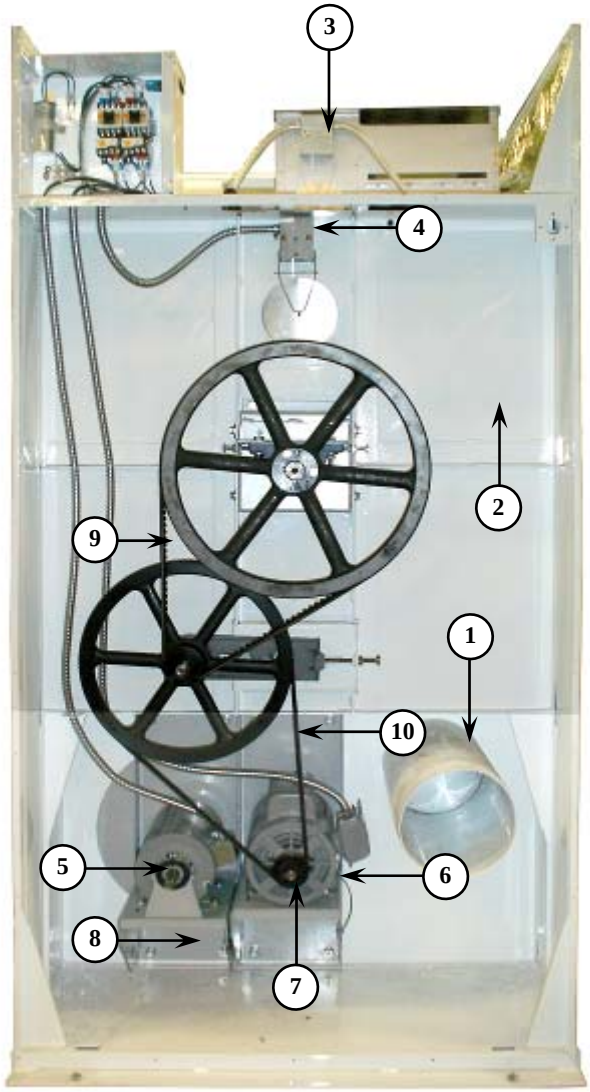
Replacement parts **should be** purchased from the distributor from whom the dryer equipment was purchased. If the distributor cannot be contacted or is unknown, contact the Dryer Parts Department for a distributor in your area. Parts may also be purchased directly from the factory.

NOTE: When ordering replacement parts from the dryer dealer or dryer 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.

Item	Part No.			Qty.	Description
	DE30	DE 50	DE 75		
1	A0-A090-059	A0-A090-059	A0-A090-059	1	Sticker
2	A2-S030-025	A2-SDE1-062	A2-SDE1-062	1	Front panel, Top (Timer Model)
3	A2-S030-002	A2-SDE1-063	A2-SDE1-063	1	Front panel, middle
4	A2-S030-003	A2-SDE1-064	A2-SDE1-064	1	Front panel, lower
5	A2-S030-007	A2-S050-007	A2-S075-007	1	Left panel assembly
6	A2-S030-008	A2-S050-008	A2-S075-008	1	Right panel assembly
7	A2-S030-038	A2-S030-038	A2-S030-038	1	Door ring include door glass
8	A2-S030-006	A2-SDE1-070	A2-SDE1-070	1	Hinge, Door mounting
9	A2-S030-004	A2-SDE1-059	A2-SDE1-059	1	Door handle
10	A0-A038-015	A0-A038-001	A0-A038-001	1	Guard, Bumper
11	A0-A003-008	A0-A003-009	A0-A003-009	1	Door glass
12	A0-A013-011	A0-A013-011	A0-A013-011	2	Master key
13	A0-A013-010	A0-A013-010	A0-A013-010	2	Key

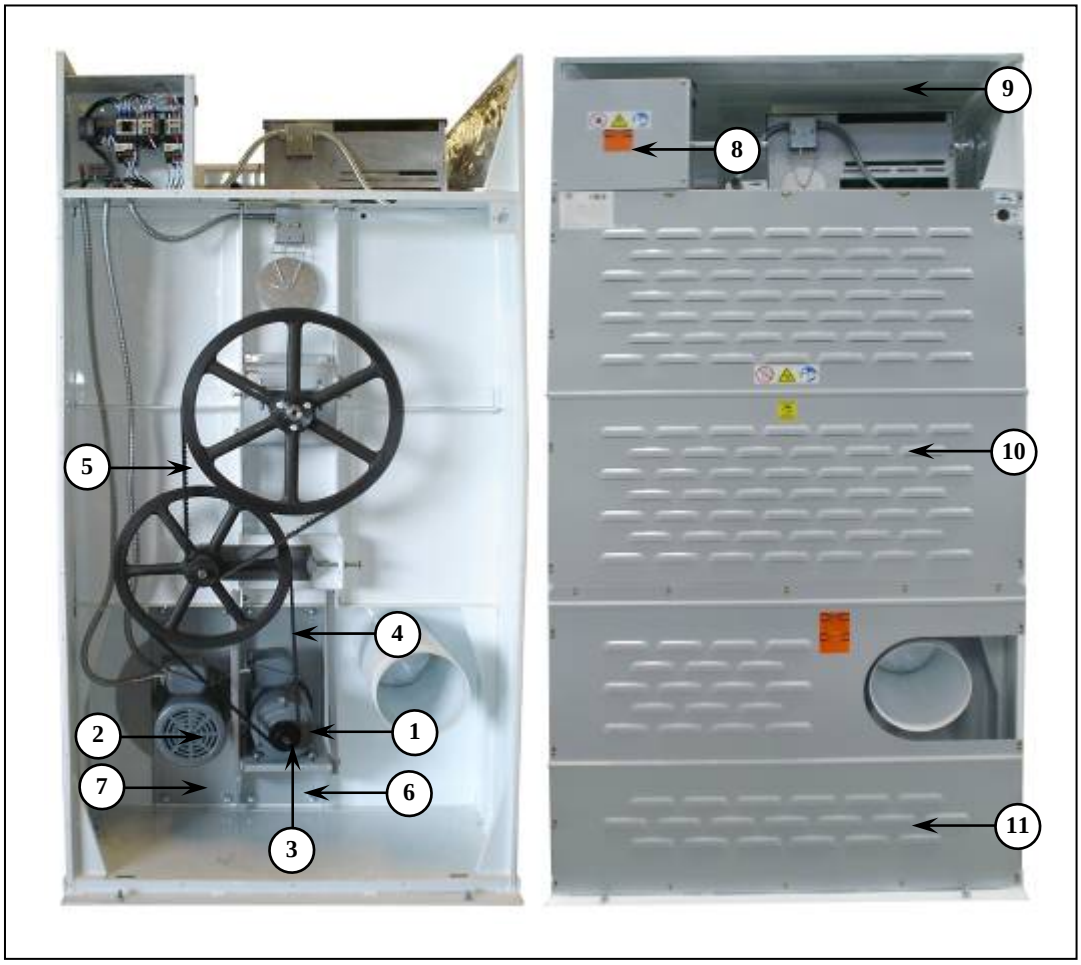


Model: DE30, 50 lb.

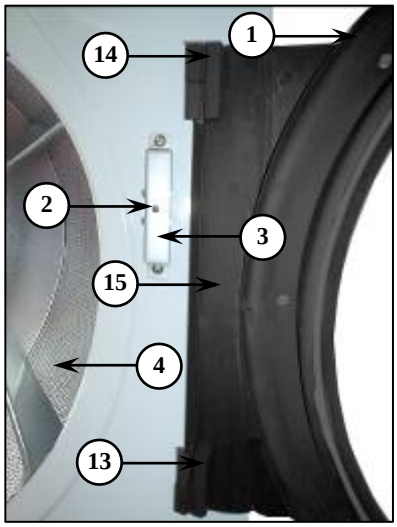


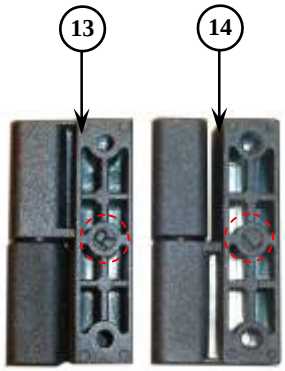
Model: DE75 lb.

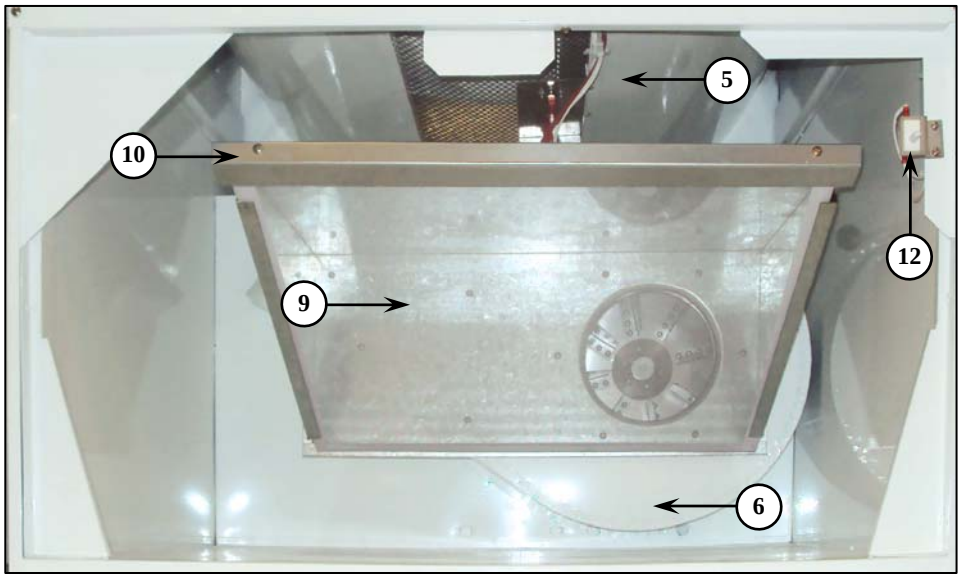
Item	Part No.			Qty.	Description
	DE30	DE 50	DE 75		
1	A2-S030-009	A2-S050-009	A2-S075-009	1	Exhaust duct outlet
2	A2-S030-010	A2-S050-010	A2-S075-010	1	Rear panel assembly
3	A0-E014-010	A0-E014-010	A0-E014-010	1	Micro switch
	A2-SDE1-028	A2-SDE1-028	A2-SDE1-028	1	Cabinet sail switch complete shell (Gas)
4	A0-E014-010	A0-E014-010	A0-E014-010	1	Micro switch
	A2-SDE1-027	A2-SDE1-027	A2-SDE1-027	1	Cabinet sail switch complete shell
5	A0-E008-091	A0-E008-091	A0-E008-091	1	Basket and blower (1Ph)
6	-	-	A0-E008-092	1	Basket motor (1Ph)
7	A0-M008-113	A0-M008-086	A0-M008-086	1	Motor pulley (For 50 Hz., 1Ph)
	A0-M008-093	A0-M008-027	A0-M008-027	1	Motor pulley (For 60 Hz., 1Ph)
8	A2-S030-022	A2-S050-022	A2-S075-022	1	Support blower motor
9	A0-A002-214	A0-A002-214	A0-A002-214	1	Basket V-Belt (1Ph)
10	A0-A002-216	A0-A002-282	A0-A002-282	1	Motor V-Belt (1Ph.)

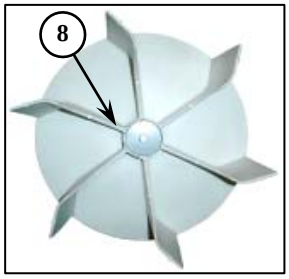


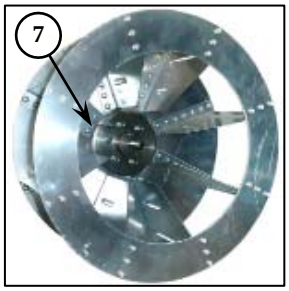
Item	Part No.			Qty.	Description
	DE30	DE 50	DE 75		
1	A0-E008-968	A0-E008-873	A0-E008-873	1	Basket motor (3Ph)
2	A0-E008-969	A0-E008-872	A0-E008-872	1	Blower motor (3Ph)
3	A0-M008-106	A0-M008-086	A0-M008-086	1	Motor pulley (For 50 Hz., 3Ph)
	A0-M008-114	A0-M008-027	A0-M008-027	1	Motor pulley (For 60 Hz., 3Ph)
4	A0-A002-107	A0-A002-217	A0-A002-217	1	V-Belt – Motor (3Ph.)
5	A0-A002-214	A0-A002-214	A0-A002-214	1	V-Belt Basket (3Ph)
6	A2-S030-028	A2-SDE1-022	A2-SDE1-022	1	Basket motor mounting plate, for 3Ph
7	A2-S030-029	A2-SDE1-022	A2-SDE1-022	1	Blower motor mounting plate, for 3Ph
8	A2-S030-011	A2-S050-011	A2-S075-011	1	Electrical box
9	A2-S030-013	A2-S050-013	A2-S075-013	1	Cover, Top
10	A2-S030-026-01	A2-SDE1-041-01	A2-SDE1-041-01	1	Back guard upper
11	A2-S030-026-02	A2-SDE1-041-02	A2-SDE1-041-02	1	Back guard lower





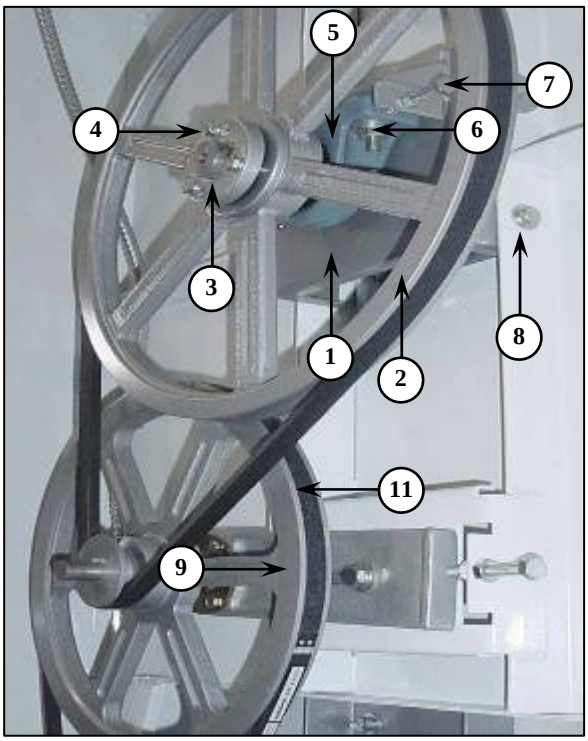


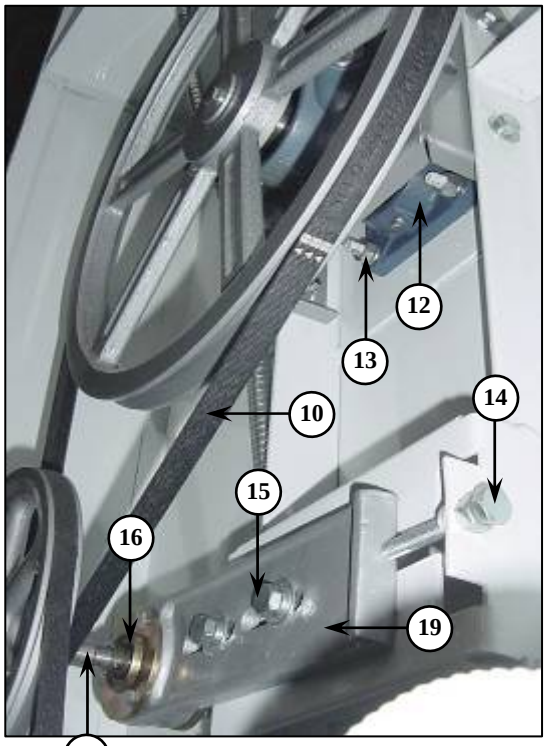


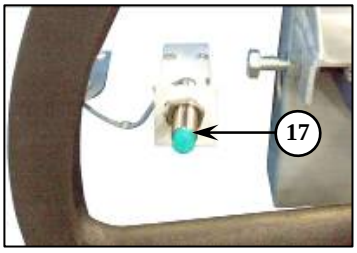


Item	Part No.			Qty.	Description
	DE30	DE 50	DE 75		
1	A0-A001-048-01	A0-A001-048-02	A0-A001-048-02	1	Door gasket
2	A0-E015-017	A0-E015-017	A0-E015-017	1	Door switch
3	A2-SDE1-046	A2-SDE1-046	A2-SDE1-046	1	Door switch box

Item	Part No.			Qty.	Description
	DE30	DE 50	DE 75		
4	A2-S030-014	A2-S050-014	A2-S075-014	1	Basket galvanized
	A2-S030-040	A2-S050-040	A2-S075-040	1	Basket stainless
5	A2-S030-018	A2-S050-018	A2-S075-018	1	Assembly, shell
6	A2-S030-019	A2-S050-019	A2-S075-019	1	Fan side plate
7	A0-M003-001	A0-M003-002	A0-M003-003	1	Wheel suction fan (3 Ph.) Metal
	A0-M003-015	A0-M003-016	A0-M003-017	1	Wheel suction fan (1 Ph.) Metal
8	A0-M003-021	A0-M003-027	A0-M003-027	1	Wheel suction fan (3 Ph.) Plastic
	A0-M003-020	A0-M003-020	A0-M003-020	1	Wheel suction fan (1 Ph.) Plastic
9	A0-A043-001	A0-A043-002	A0-A043-003	1	Lint drawer filter
	A2-S030-043	A2-S050-043	A2-S075-043	1	Lint drawer filter (Stainless)
10	A0-A060-005	A0-A060-005	A0-A060-005	15	Screw
11	A0-A036-004	A0-A036-004	A0-A036-004	1	Magnet catch
12	A0-E015-011	A0-E015-011	A0-E015-011	1	Switch, limit momentary
13	A0-A029-006	A0-A029-006	A0-A029-006	1	Bracket hinge, Lower (R)
14	A0-A029-007	A0-A029-007	A0-A029-007	1	Bracket hinge, Upper (L)
15	A2-S030-006	A2-SDE1-070	A2-SDE1-070	1	Hinge, Door mounting
16	A0-A003-008	A0-A003-009	A0-A003-009	1	Door glass
17	A0-A001-071	A0-A001-071	A0-A001-071	1	Door stopper M.5X0.8X12MM

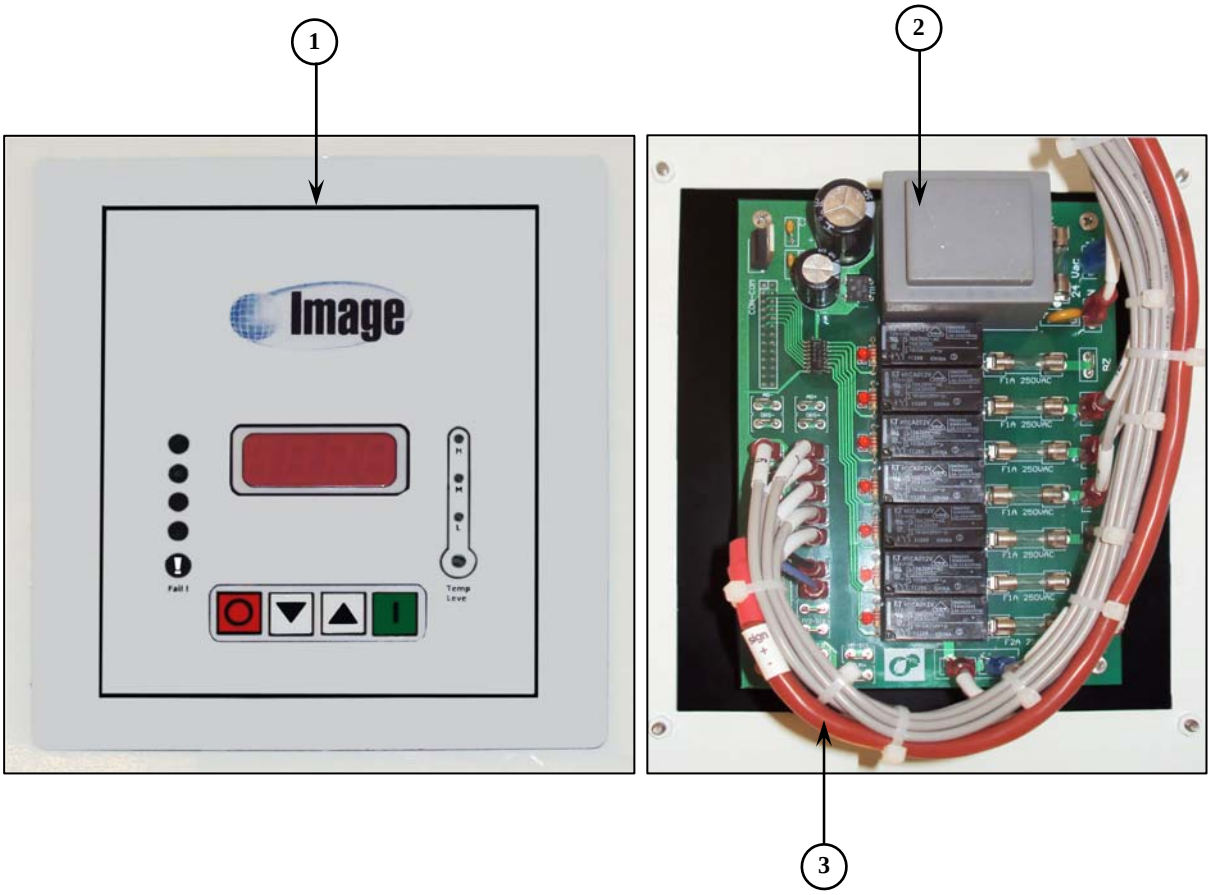




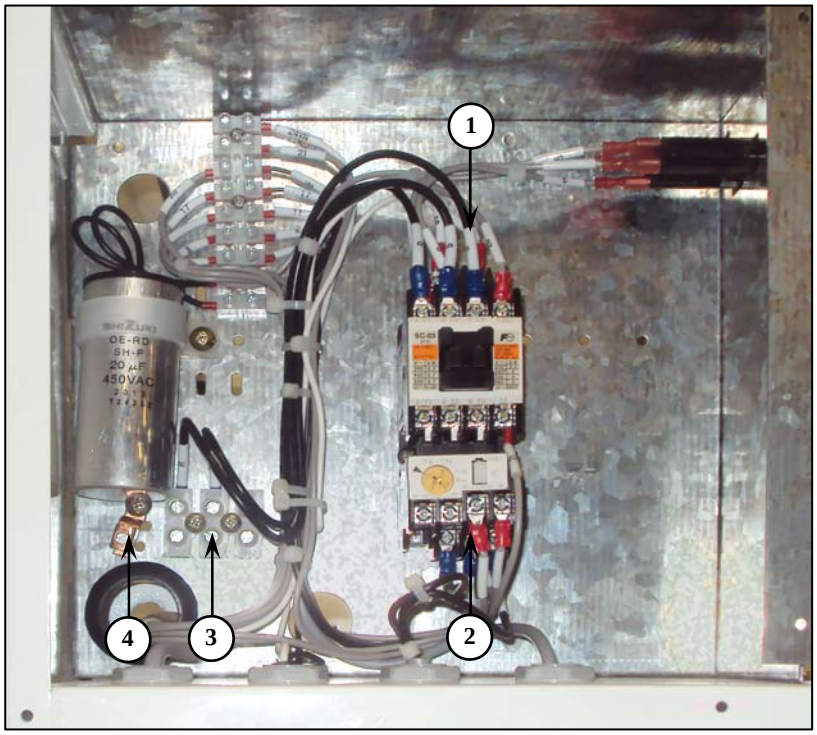


Option : Rotation Sensor

Item	Part No.			Qty.	Description
	DE30	DE 50	DE 75		
1	A2-S030-021	A2-S050-021	A2-S075-021	1	Support bearing
2	A0-M008-025	A0-M008-025	A0-M008-025	1	Basket pulley
3	A0-M009-033	A0-M009-033	A0-M009-033	1	Basket pulley bushing
4	A0-A079-028	A0-A079-028	A0-A079-028	3	Hexagon bolt
5	A0-A004-271	A0-A004-271	A0-A004-271	1	Bearing pillow block unit
6	A0-A079-026	A0-A079-026	A0-A079-026	2	Hexagon bolt
7	A0-A079-026	A0-A079-026	A0-A079-026	2	Hexagon bolt
8	A0-A079-032	A0-A079-032	A0-A079-032	4	Hexagon bolt
9	A0-M008-026	A0-M008-028	A0-M008-028	1	Idler pulley
10	A0-A002-214	A0-A002-214	A0-A002-214	1	Basket V-Belt (1-3Ph)
11	A0-A002-220	A0-A002-003	A0-A002-003	1	Motor V-Belt (1Ph.)
	A0-A002-216	A0-A002-217	A0-A002-217	1	Motor V-Belt (3Ph.)
12	A0-A004-273	A0-A004-272	A0-A004-272	1	Bearing flanged unit
13	A0-A079-024	A0-A079-024	A0-A079-024	4	Hexagon bolt
14	A0-A076-009	A0-A076-009	A0-A076-009	1	Hexagon bolt
15	A0-A076-010	A0-A076-010	A0-A076-010	2	Hexagon bolt
16	A0-A004-270	A0-A004-270	A0-A004-270	2	Bearing
	A0-A007-037	A0-A007-037	A0-A007-037	4	Bearing housing
17	A0-E023-009	A0-E023-009	A0-E023-009	1	Rotation sensor (Proximity sensor)
18	A2-SDE1-071	A2-SDE1-071	A2-SDE1-071	1	Idler shaft
19	A2-SDE1-023	A2-SDE1-023	A2-SDE1-023	1	Bearing And Idler Jack Shaft Mounting

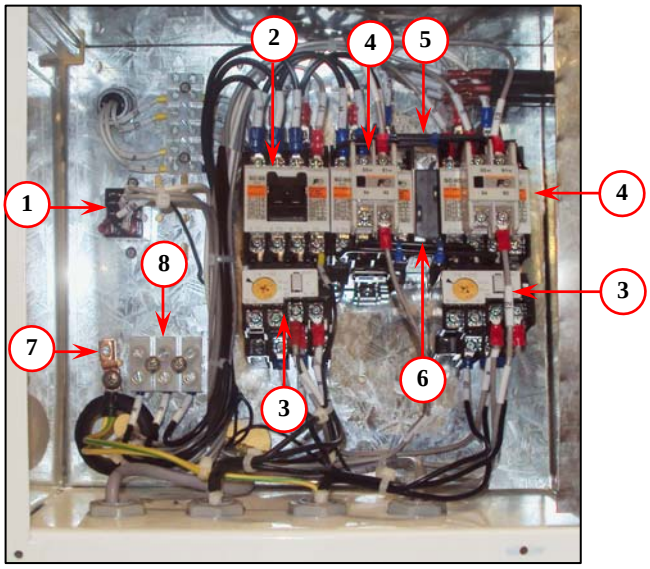


Item	Part No.			Qty.	Description
	30 lb.	50 lb.	75 lb.		
1	A0-A090-112	A0-A090-112	A0-A090-112	1	Sticker DTC
2	A0-E031-050	A0-E031-050	A0-E031-050	1	Timer, Digital, DTC
3	A0-E027-065	A0-E027-065	A0-E027-065	1	Temp Probe, 3.5 m, For Digital Timer DTC

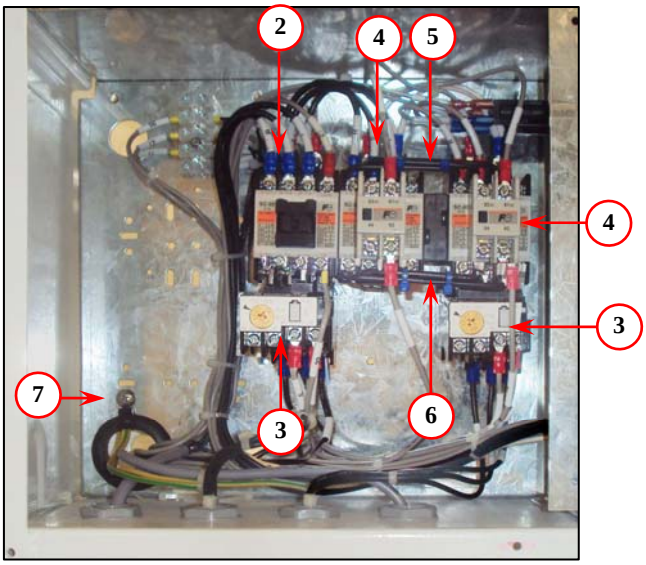


Model: Electrical Control Unit- Steam Type

Item	Part No.			Qty.	Description
	DE30	DE 50	DE 75		
1	A0-E004-065	A0-E004-065	A0-E004-065	1,2	Magnetic contactor
2	A0-E025-054	A0-E025-054	A0-E025-054	2	Overload (200-240V)
3	A0-E021-031/1	A0-E021-031/1	A0-E021-031/1	1	Terminal block
4	A0-E055-001	A0-E055-001	A0-E055-001	1	Connector, Ground lug

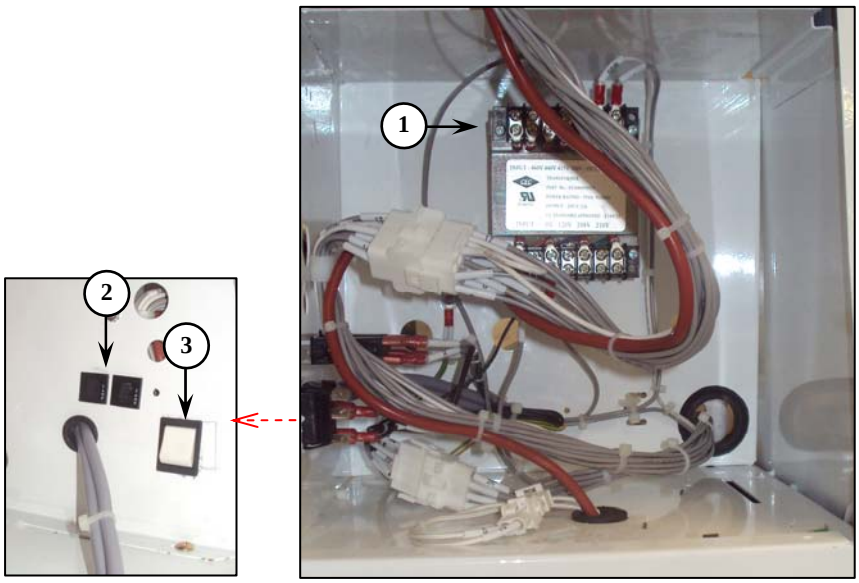


Model: Electrical Control Unit-Gas Type

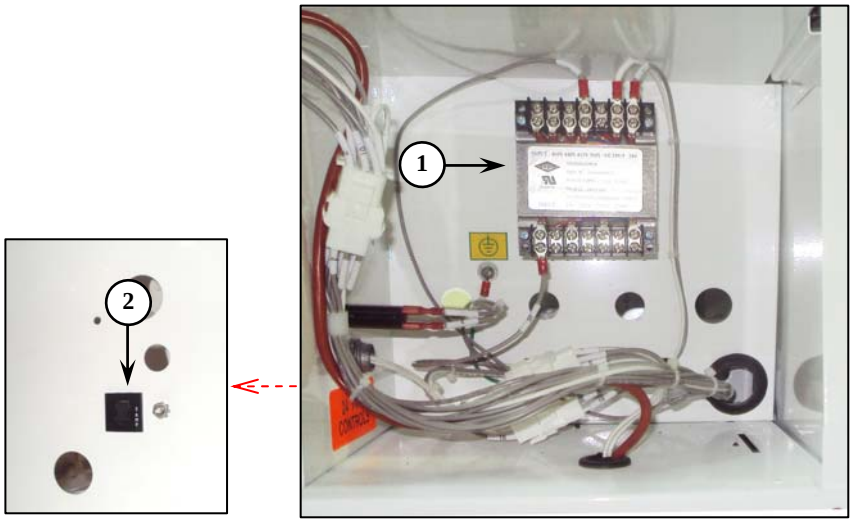


Model: Electrical Control Unit -Heating Type

Item	Part No.			Qty.	Description
	DE30	DE 50	DE 75		
1	A0-E009-017	A0-E009-017	A0-E009-017	1	Relay Coil 24 VAC 50/60Hz.
2	A0-E004-065	A0-E004-065	A0-E004-065	2	Magnetic contactor Coil 24VAC.
3	A0-E025-052	A0-E025-053	A0-E025-053	2	Overload (208-240V)
	A0-E025-051	A0-E025-052	A0-E025-052	2	Overload (380-415V)
4	A0-E004-065	A0-E004-065	A0-E004-065	2	Magnetic contactor
	A0-E024-011	A0-E024-011	A0-E024-011	2	Auxiliary contact
5	A0-E036-006	A0-E036-006	A0-E036-006	1	Mechanical interlock
6	A0-E036-007	A0-E036-007	A0-E036-007	2	Power connection kit for reversing
7	A0-E055-001	A0-E055-001	A0-E055-001	1	Connector, Ground lug
8	A0-E021-031/1	A0-E021-031/1	A0-E021-031/1	1	Terminal block

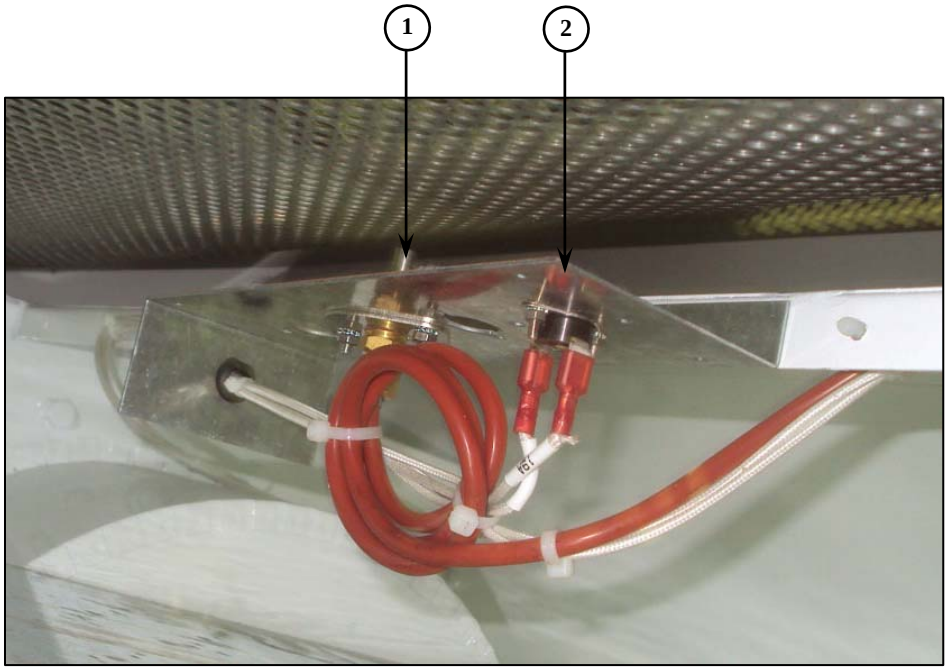


Model: Electrical Control Unit-Gas Type

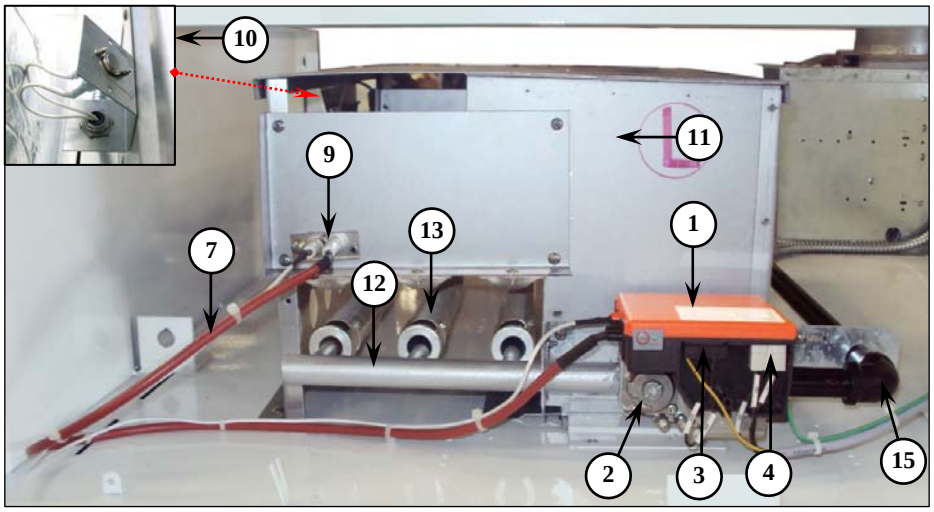


Model: Electrical Control Unit-Steam & Heating Type

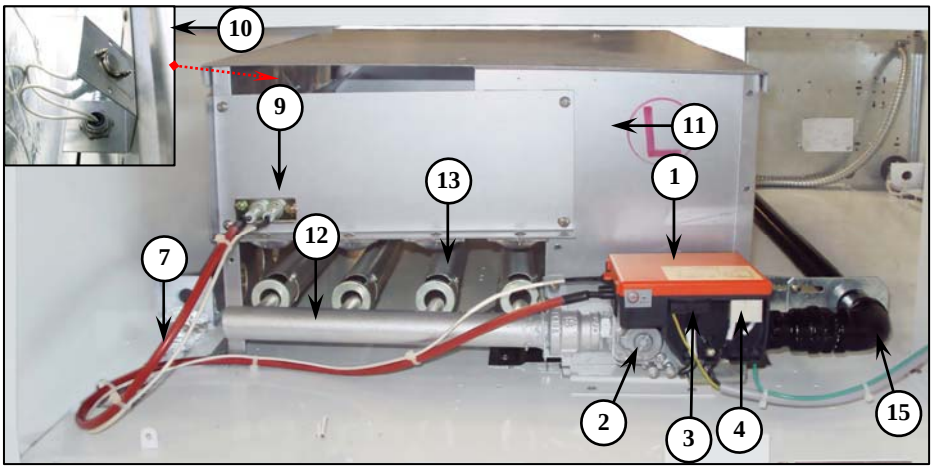
Item	Part No.			Qty.	Description
	DE30	DE 50	DE 75		
1	A0-E006-029	A0-E006-029	A0-E006-029	1	Transformer 75VA
2	A0-E010-034	A0-E010-034	A0-E010-034	1	Circuit breaker 3A
	A0-E010-035	A0-E010-035	A0-E010-035	2,3	Circuit breaker 2A
3	A0-E033-009	A0-E033-009	A0-E033-009	1	Switch ON-OFF



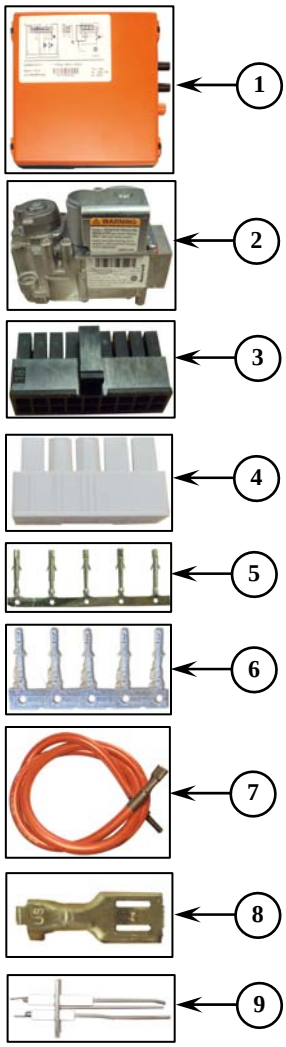
Item	Part No.			Qty.	Description
	DE30	DE 50	DE 75		
1	A0-E027-065	A0-E027-065	A0-E027-065	1	Temp Probe, 3.5 m, For Digital Timer DTC
2	A0-E016-011	A0-E016-011	A0-E016-011	1	Thermostat L-200 F

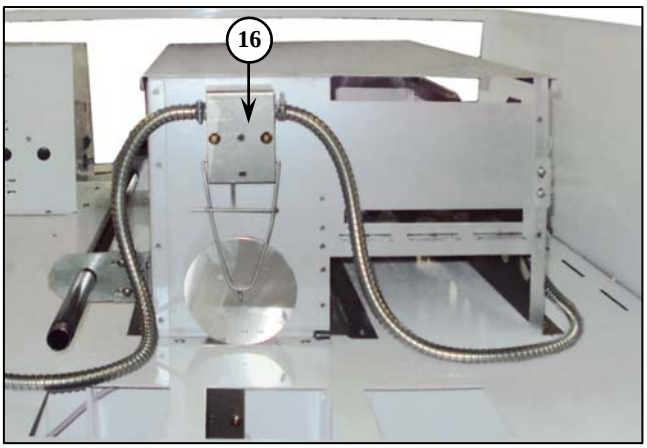


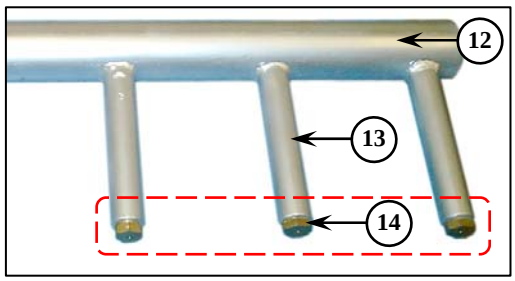
Model: DE30, 50 lb.



Model: DE75 lb.

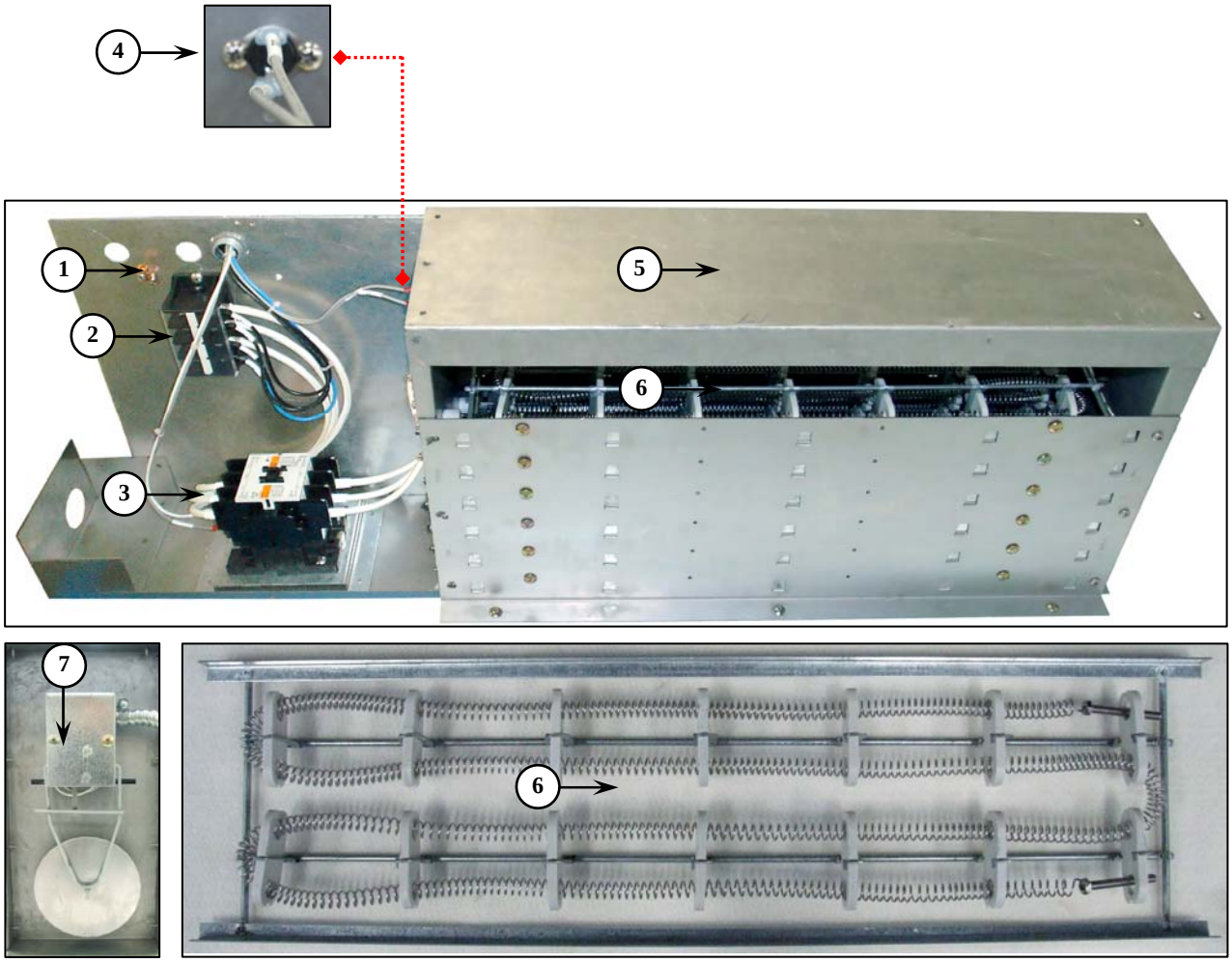




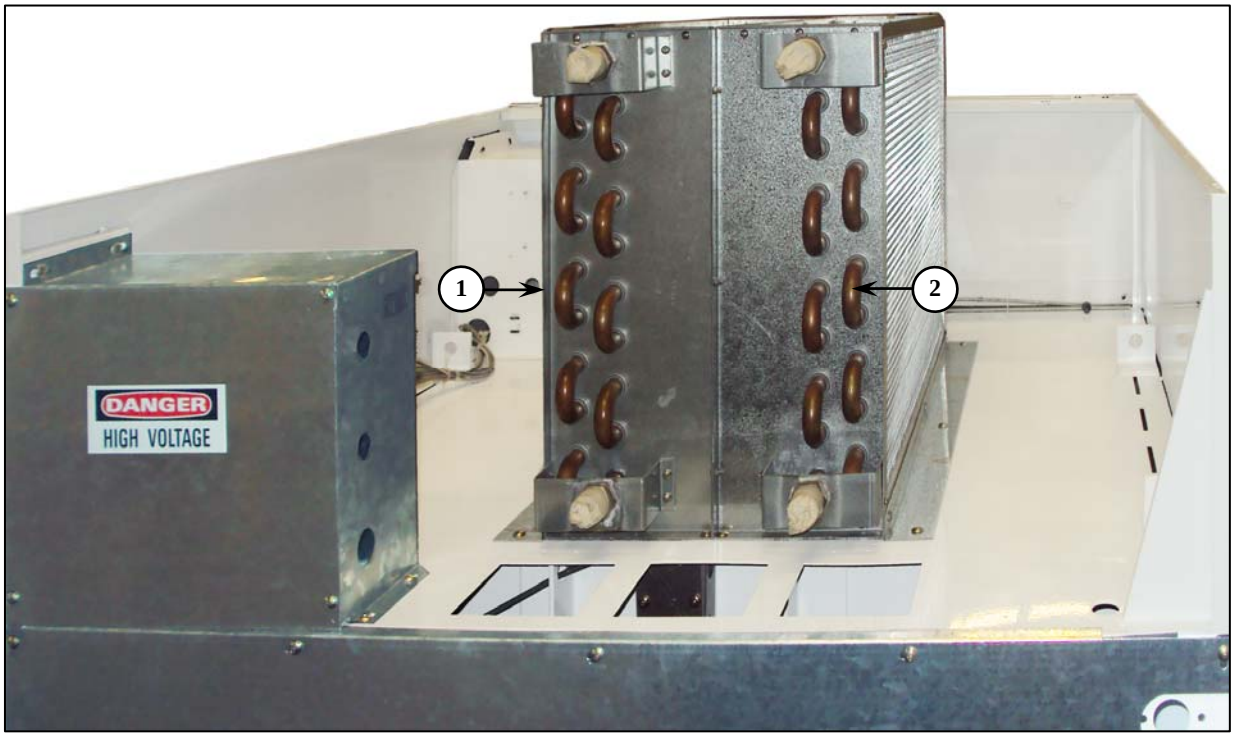


Item	Part No.			Qty.	Description
	DE30	DE 50	DE 75		
1	A0-E020-008	A0-E020-008	A0-E020-008	1	Ignition Control (Honeywell)
2	A0-E018-034	A0-E018-034	A0-E018-034	1	Valve, Gas 1/2"
3	A0-E052-075	A0-E052-075	A0-E052-075	1	Connector 18 CKT Black
4	A0-E052-073	A0-E052-073	A0-E052-073	1	Connector 10 CKT White
5	A0-E052-101	A0-E052-101	A0-E052-101	3	Terminal (39000038)
6	A0-E052-100	A0-E052-100	A0-E052-100	3	Terminal (430300001)

Item	Part No.			Qty.	Description
	DE30	DE 50	DE 75		
7	A0-E019-009	A0-E019-009	A0-E019-009	1	Wire Silicon, 7 x 810MM
8	A0-E052-062	A0-E052-062	A0-E052-062	2	Brass terminal connectors
9	A0-E019-100	A0-E019-100	A0-E019-100	1	Spark Probe
10	A0-E016-013	A0-E016-013	A0-E016-013	1	Thermostat for high limit
11	A0-A027-001	A0-A027-002	A0-A027-003	1	Gas burner
12	A2-S030-039	A2-S050-039	A2-S075-039	1	Gas manifold
13	A0-A089-001	A0-A089-001	A0-A089-001	2,3,4	Gas burner tube
14	A0-A105-021	A0-A105-021	A0-A105-021	2,3,4	Gas Nozzle, LPGas Brass 1/8", Hole 2mm.
	A0-A105-022	A0-A105-022	A0-A105-022	2,3,4	Gas Nozzle, NGas Brass 1/8", Hole 3mm.
15	A0-A009-012	A0-A009-012	A0-A009-013	1	Elbow Steam 90° 1/2" (LPG Gas)
	A0-A009-013	A0-A009-013	A0-A009-013	1	Elbow Steam 90° 3/4" (Natural Gas)
16	A0-E014-014	A0-E014-014	A0-E014-014	1	Micro switch



Item	Part No.			Qty.	Description
	DE30	DE 50	DE 75		
1	A0-E055-001	A0-E055-001	A0-E055-001	1	Connector, Ground lug
2	A0-E021-031/2	A0-E021-031/2	A0-E021-031/2	1	Terminal block
3	A0-E004-072	A0-E004-072	A0-E004-076	1	Magnetic contactor for heater
	A0-E004-076	A0-E004-076	-	1	Magnetic contactor (50/60Hz./208-240V./3Ph.)
4	A0-E016-013	A0-E016-013	A0-E016-013	1	Thermostat for high limit
5	A0-E013-004	A0-E013-004	A0-E013-005	1	Electric heater (Complete set)
6	A0-E005-009	A0-E005-009	A0-E005-009	6,9	Electric heater (Heater coil)
7	A0-E014-014	A0-E014-014	A0-E014-014	1	Micro switch



Item	Part No.			Qty.	Description
	DE30	DE 50	DE 75		
1	A0-A026-001	A0-A026-002	A0-A026-002	1	Steam coil (Left)
2	A0-A026-010	A0-A026-011	A0-A026-011	1	Steam coil (Right)