INTERNATIONAL DRYER CORPORATION

Crafted with Confidence

INSTALLATION/OPERATION

110 lb. Laundry Dryer



MODELS

GAS	STEAM	ELECTRIC
L44CD42G	L44CD42S	L44CD42E
L44FD42G	L44KD42S	L44KD42E
L44KD42G		
L44RD42G		

INTERNATIONAL DRYER CORPORATION
HEADQUARTERS
74 KILBURN STREET
NEW BEDFORD, MA 02740

PHONE: (508) 993-9941
TOLL FREE: 800-872-0034
FAX: (508) 993-9932

THIS MANUAL MUST BE GIVEN TO THE EQUIPMENT OWNER.

MAN4IDC 3/97 D0558

IMPORTANT NOTICES—PLEASE READ

For optimum efficiency and safety, we recommend that you read the Manual before operating the equipment. Store this manual in a file or binder and keep for future reference.



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.

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

- WHAT TO DO IF YOU SMELL GAS

- **Do not try to light any appliances.**
- **Do not touch any electrical switch; do not use any phone in your building.**
- **Clear the room, building, or area of all occupants.**
- **Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.**
- **If you cannot reach the gas supplier, call the fire department.**

Installation and service must be performed by a qualified installer, service agency or the gas supplier.



WARNING: In the event the user smells gas odor, instructions on what to do must be posted in a prominent location. This information can be obtained from the local gas supplier.



WARNING: Wear Safety Shoes to prevent injuries.



WARNING: Purchaser must post the following notice in a prominent location:



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



WARNING: A clothes dryer produces combustible lint and should be exhausted outside the building. The dryer and the area around the dryer should be kept free of lint.



WARNING: Be safe, before servicing machine, the main power should be shut off.



WARNING: To avoid fire hazard, do not dry articles containing foam rubber or similar texture materials. Do not put into this dryer flammable items such as baby bed mattresses, throw rugs,undergarments (brassieres, etc.) and other items which use rubber as padding or backing. Rubber easily oxidizes causing excessive heat and possible fire. These items should be air dried.



WARNING: Synthetic solvent fumes from drycleaning machines create acids when drawn through the dryer. These fumes cause rusting of painted parts, pitting of bright or plated parts, and completely removes the zinc from galvanized parts, such as the tumbler basket. If drycleaning machines are in the same area as the tumbler, the tumbler's make-up air must come from a source free of solvent fumes.



WARNING: Do not operate without guards in place.



WARNING: Check the lint trap often and clean as needed but at least a minimum of once per day.



WARNING: Alterations to equipment may not be carried out without consulting with the factory and only by a qualified engineer or technician. Only **IDC** parts may be used.



WARNING: Remove clothes from dryer as soon as it stops. This keeps wrinkles from setting in and reduces the possibility of spontaneous combustion.



WARNING: Be Safe - shut main electrical power and gas supply off externally before attempting service.



WARNING: Never use drycleaning solvents, gasoline, kerosene, or other flammable liquids in the dryer. ***FIRE AND EXPLOSION WILL OCCUR. NEVER PUT FABRICS TREATED WITH THESE LIQUIDS INTO THE DRYER. NEVER USE THESE LIQUIDS NEAR THE DRYER..***



WARNING: Never let children play near or operate the dryer. Serious injury could occur if a child should crawl inside and the dryer is turned on.



WARNING: Never tumble fiberglass materials in the dryer unless the labels say they are machine dryable. Glass fibers break and can remain in the dryer. These fibers cause skin irritation if they become mixed with other fabrics.



WARNING: Before operating gas ignition system - purge air from Natural Gas or Propane Gas Lines per manufacturer’s instructions..

IDC DRYER WARRANTY

The International Dryer Corporation (IDC) warrants all new equipment (and the original parts thereof) to be free from defects in material or workmanship for a period of two (2) years from the date of sale thereof to an original purchaser for use, except as hereinafter provided. With respect to non-durable parts normally requiring replacement in less than two (2) years due to normal wear and tear, and with respect to all new repair or replacement parts for IDC equipment for which the two (2) year warranty period has expired, or for all new repair or replacement parts for equipment other than IDC equipment, the warranty period is limited to ninety (90) days from date of sale. The warranty period on each new replacement part furnished by IDC in fulfillment of the warranty on new equipment or parts shall be for the unexpired portion of the original warranty period on the part replaced.

With respect to electric motors, coin meters and other accessories furnished with the new equipment, but not manufactured by IDC, the warranty is limited to that provided by the respective manufacturer.

IDC's total liability arising out of the manufacture and sale of new equipment and parts, whether under the warranty or caused by IDC's negligence or otherwise, shall be limited to IDC repairing or replacing, at its option, any defective equipment or part returned f.o.b. IDC's factory, transportation prepaid, within the applicable warranty period and found by IDC to have been defective, and in no event shall IDC be liable for damages of any kind, whether for any injury to persons or property or for any special or consequential damages. The liability of IDC does not include furnishing (or paying for) any labor such as that required to service, remove or install; to diagnose troubles; to adjust, remove or replace defective equipment or a part; nor does it include any responsibility for transportation expense which is involved therein.

The warranty of IDC is contingent upon installation and use of its equipment under normal operating conditions. The warranty is void on equipment or parts; that have been subjected to misuse, accident, or negligent damage; operated under loads, pressures, speeds, electrical connections, plumbing, or conditions other than those specified by IDC; operated or repaired with other than genuine IDC replacement parts; damaged by fire, flood, vandalism, or such other causes beyond the control of IDC; altered or repaired in any way that effects the reliability or detracts from its performance, or; which have had the identification plate, or serial number, altered, defaced, or removed.

No defective equipment or part may be returned to IDC for repair or replacement without prior written authorization from IDC. Charges for unauthorized repairs will not be accepted or paid by IDC.

IDC MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY, STATUTORY OR OTHERWISE, CONCERNING THE EQUIPMENT OR PARTS INCLUDING, WITHOUT LIMITATION, A WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, OR A WARRANTY OF MERCHANTABILITY. THE WARRANTIES GIVEN ABOVE ARE EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. IDC NEITHER ASSUMES, NOR AUTHORIZES ANY PERSON TO ASSUME FOR IT, ANY OTHER WARRANTY OR LIABILITY IN CONNECTION WITH THE MANUFACTURE, USE OR SALE OF ITS EQUIPMENT OR PARTS.

For warranty service, contact the Distributor from whom the IDC equipment or part was purchased. If the Distributor cannot be reached, contact IDC.

IDENTIFICATION NAMEPLATE

The Identification Nameplate is located on the rear wall of the dryer. It contains the dryer serial number, product number, model number, electrical specifications and other important data that may be needed when servicing and ordering parts, wiring diagrams, etc. Do not remove this nameplate.

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110 LB. LAUNDRY DRYER
INSTALLATION/OPERATION MANUAL

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SYMBOLS

The following symbols are used in this manual and/or on the machine. The numbers between () refer to the numbers on the machine surveys.

Symbol	Description	Part/Measurement
	**NOTE!**	
	**Hot! Do Not Touch** **Heiß! Nicht Beruhren** **Haute temperature! Ne pas toucher** **Caliente! no tocar**	
	**dangerous voltage** **tension dangereuse** **Gefährliche elektrische Spannung** **tension peligrosa**	
	**on** **marche** **Ein** **conectado**	
	**off** **arrêt** **Aus** **desconectado**	
	**start** **demarrage** **Start** **arranque de un movimiento**	
	**emission of heat in general** **êmission de chaleur en general** **Warmeabgabe allgemein** **emisión de calor**	
	**cooling** **refroidissement** **Kühlen** **enfriamiento**	

SYMBOLS

Symbol	Description	Part/Measurement
	**rotation in two directions** **rotation dans les deux sens** **Drehbewigung in zwei Richtungen** **movimiento rotativo en los dos sentidos**	
	**direction of rotation** **sens de mouvement continu de rotation** **Drehbewegung in Pfeilrichtung** **movimiento giratorio o rotatorio en el sentido de la flecha**	
	**End of Cycle**	
	**caution** **attention** **Achtung** **atencion; precaucion**	

UNPACKING

All IDC dryers are packed in a protective (heavy-duty) plastic bag.

Upon arrival of the equipment, any damage in shipment should be reported to the carrier immediately.

Upon locating permanent location of a unit, care should be taken in movement and placement of equipment.

See outline clearance diagrams for correct dimensions.

Remove all packing material such as: tape, manuals, skid, etc. On gear reducer models, remove screw and insert vent found in basket.

Leveling: Use spirit level on top of dryer. Adjust leveling bolts on dryer (see adjustable leveling bolts in maintenance section).

Check voltage and amperes on rating plate before installing the dryer.

GENERAL INSTALLATION (ALL DRYERS)

The construction of IDC dryers permits installation side-by-side to save space or to provide a wall arrangement. Position dryer for the least amount of exhaust piping and elbows, and allow free access to the rear of dryer for future servicing of belts, pulleys and motors. Installation clearance from all combustable material is 12” ceiling clearance, 24” rear clearance, and 0” side clearance.

Before operating dryer, open basket door and remove blocking between front panel and basket. Read the instruction tags, owner's manual, warnings, etc.

IMPORTANT
Opening the clothes loading door deactivates the door switch to shut off the motors, fan, gas, steam, or electric element. To restart the dryer, close the door and press in the push to start button and hold briefly.

IMPORTANT
This dryer is designed for a capacity maximum load. Overloading it will result in long drying times and damp spots on some clothes.

IMPORTANT
Maximum operating efficiency is dependent upon proper air curculation. The lint screen must be kept cleaned daily to insure proper air circulation throughout the dryer.

IMPORTANT
Provide adequate clearance for air opening into the combustion chamber.

PROCEDURE FOR DISASSEMBLING TOP OF 110 LB. GAS LAUNDRY DRYERS

1. Shut off main gas supply and electrical power. Disconnect bonnet gas supply line at union fitting.

2. Unscrew two (2) top front cover panel hold down screws and open front cover panel. If wires enclosed are not color coded or number matched, match mark before disconnecting or removing.

3. In the left hand control box, disconnect the two (2) multi-wire connector plugs. Unscrew two (2) hold down bolts from the bottom of the box and one (1) bolt outside the rear of the box. Remove the two (2) screws that hold the conduit plate to the control box. Now remove the box.

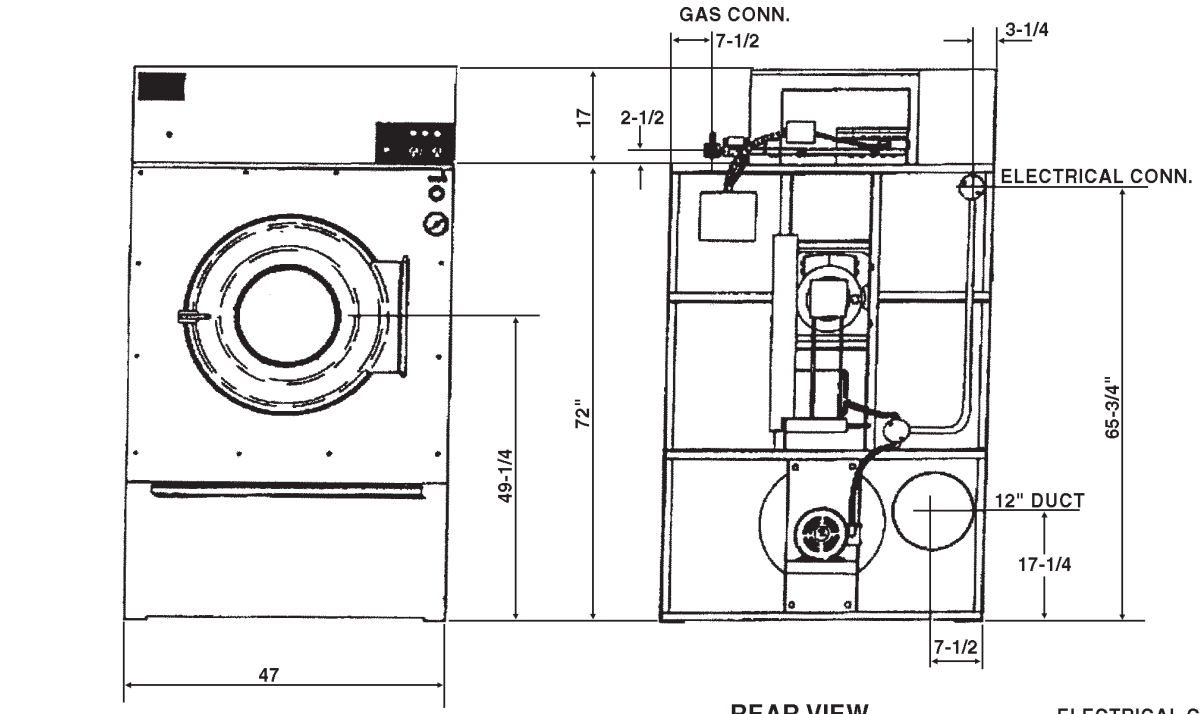
4. In the right hand control box, unscrew one (1) screw at the top of the control panel and swing panel forward. Disconnect two (2) multi-wire connector plugs. Unscrew two (2) hold down bolts from bottom of box and one (1) bolt outside the box at the rear.

5. Replace two (2) top front cover panel hold down screws and remove entire control panel assembly.

6. Disconnect exhaust duct at bonnet enclosure assembly. (Only applies to *energy-saver models "F" and "R".*)

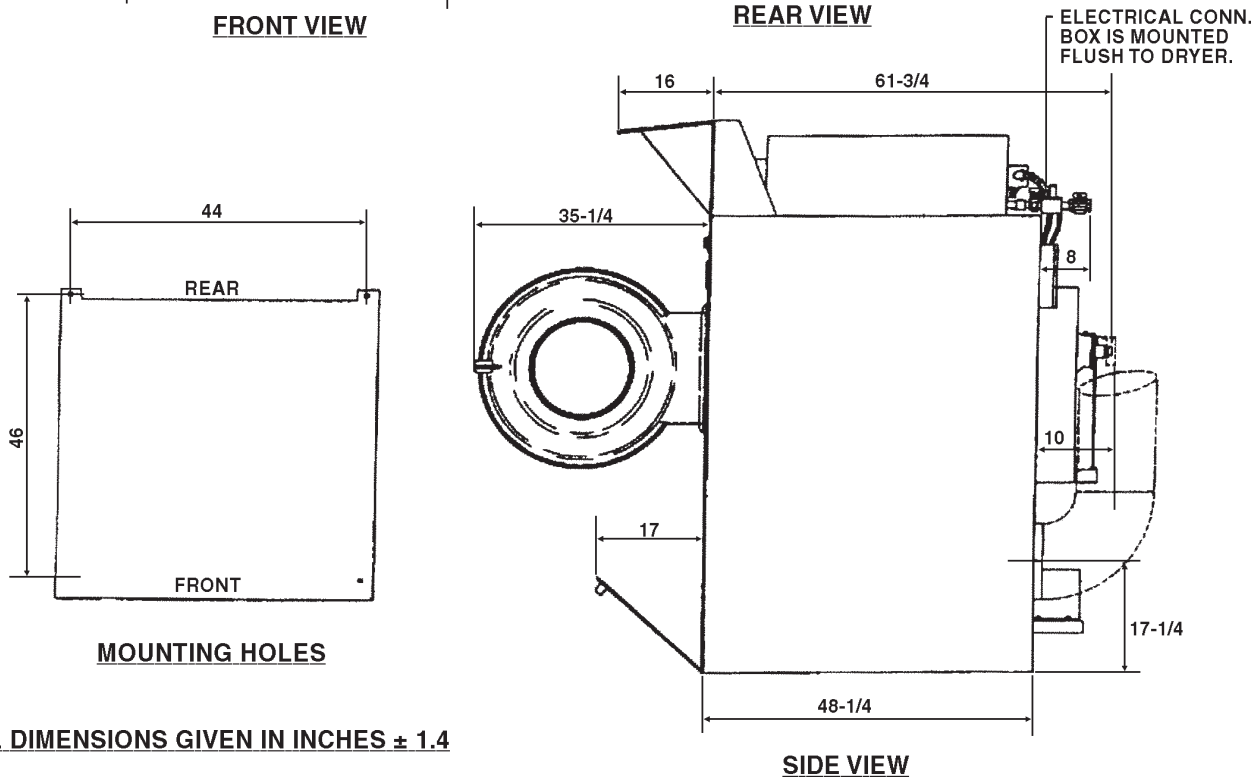
7. Unscrew hold down screws from bonnet enclosure assembly (*energy-saver models* **only**). Unscrew bonnet hold down bolts. Remove air switch box cover on rear of dryer, disconnect one (1) yellow wire from air switch, one (1) black wire at cigarette connector and remove one (1) conduit nut. The entire bonnet and enclosure assembly can now be removed from top of dryer.

8. To reassemble, reverse disassembly procedure.



FRONT VIEW

REAR VIEW

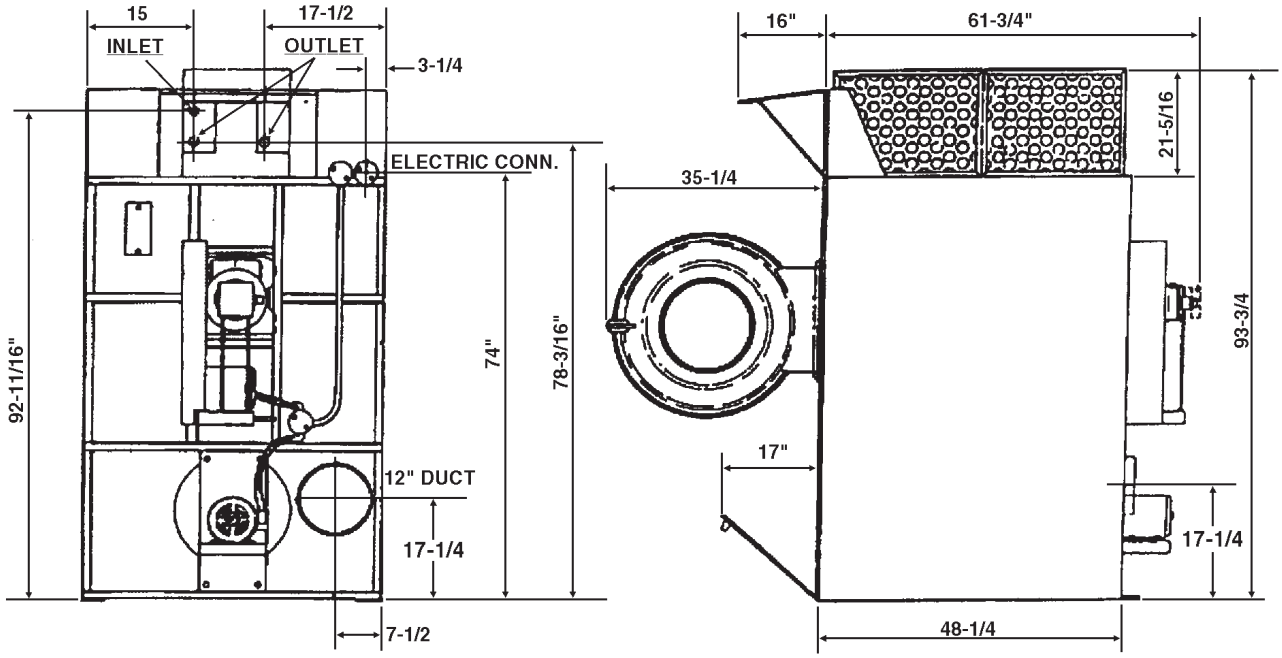


MOUNTING HOLES

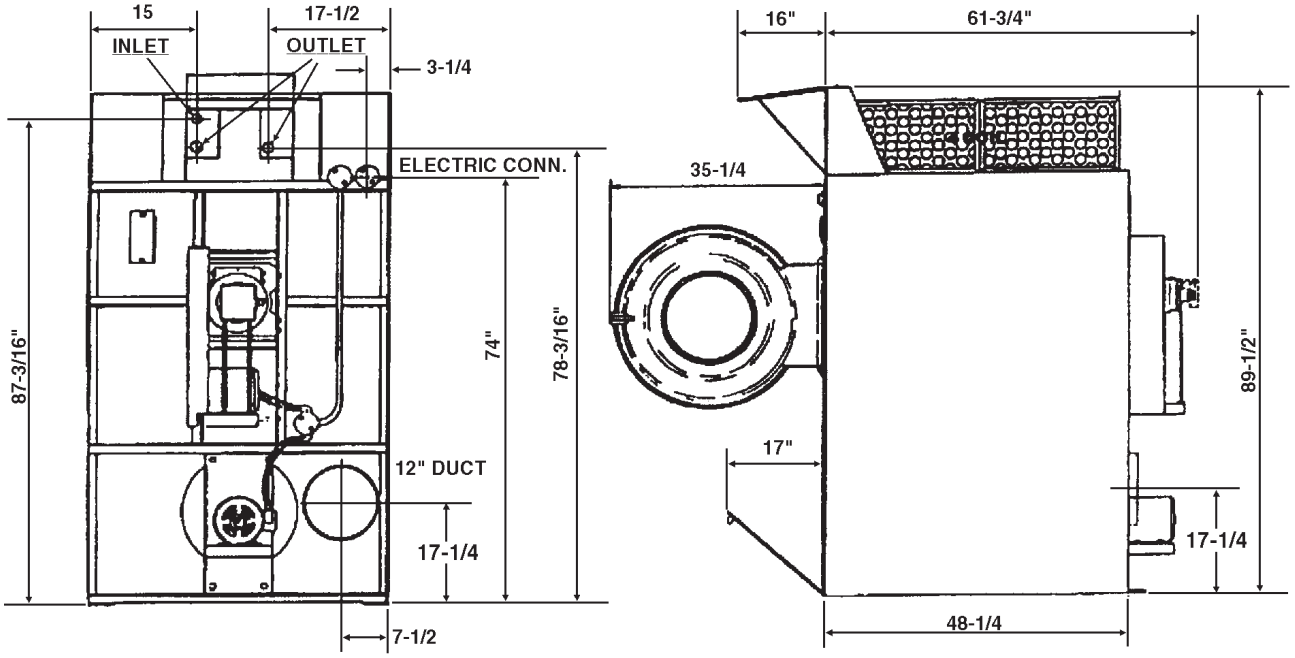
SIDE VIEW

ALL DIMENSIONS GIVEN IN INCHES ± 1.4

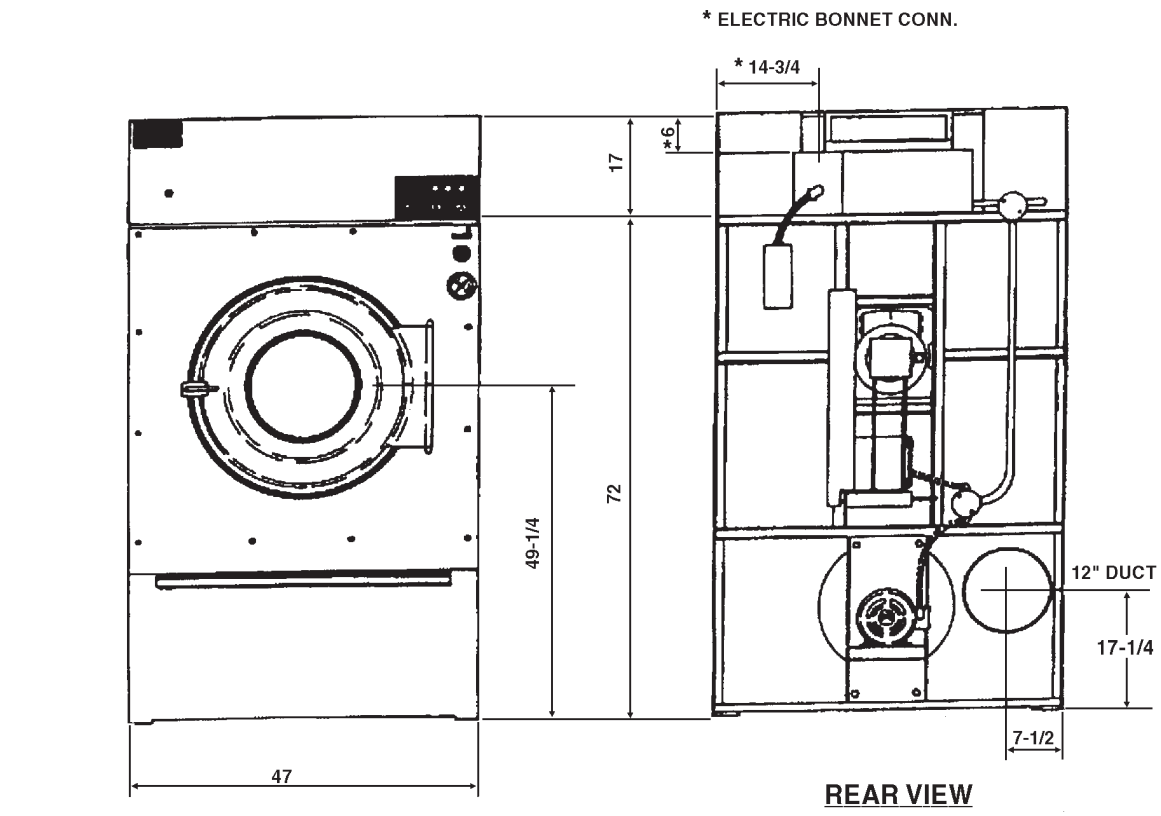
6 COIL MODEL

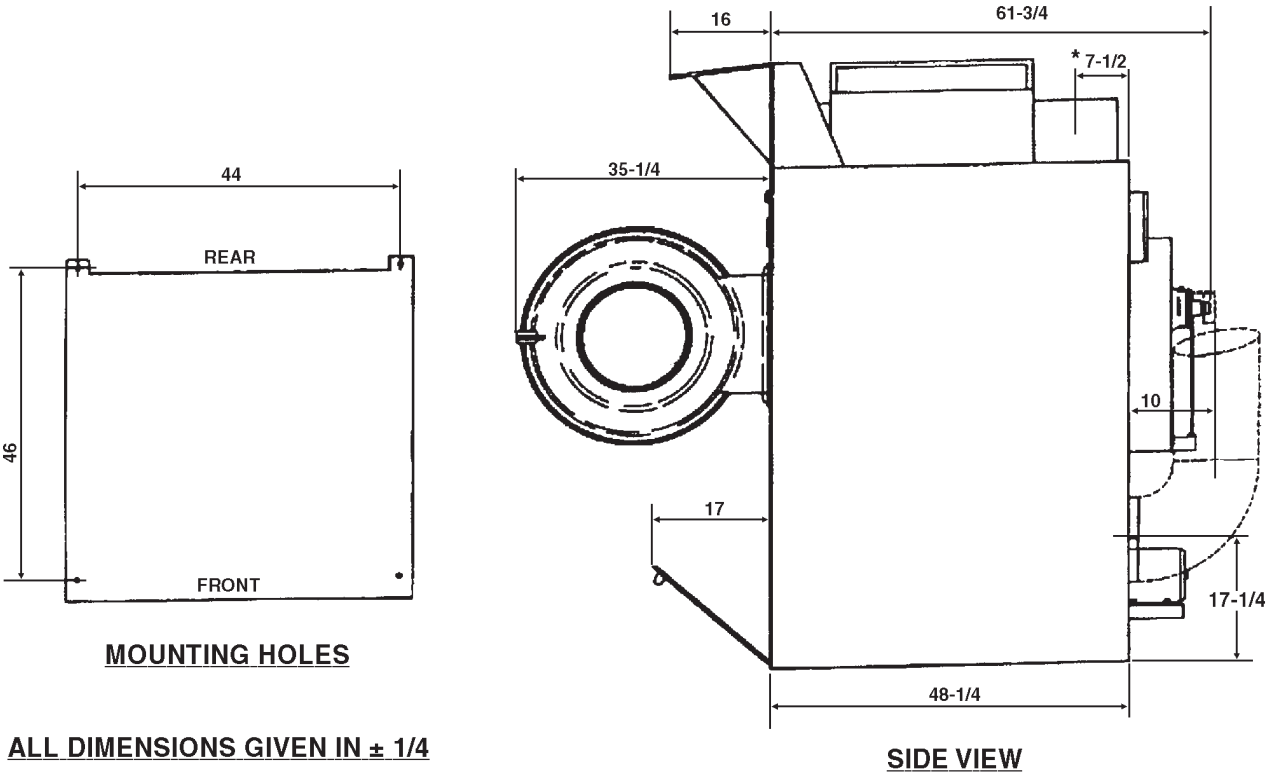


4 COIL MODEL



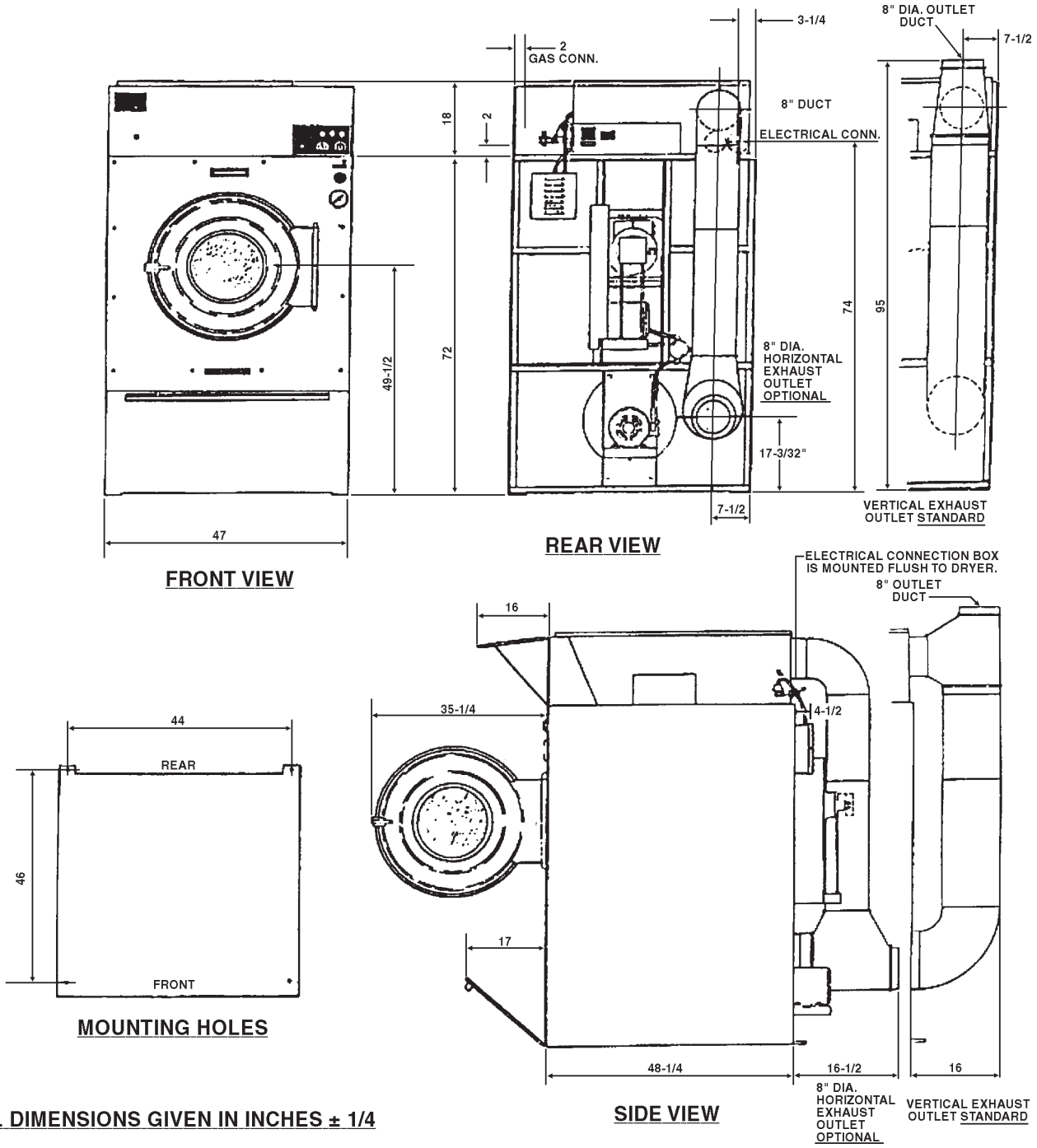
ALL DIMENSIONS GIVEN IN ± 1/4





ALL DIMENSIONS GIVEN IN ± 1/4

ENERGY-SAVER MODEL



ALL DIMENSIONS GIVEN IN INCHES ± 1/4

GENERAL SPECIFICATIONS FOR 110 lb. GAS FIRED, STEAM HEATED AND ELECTRIC LAUNDRY DRYERS

Floor Space	67" Deep x 47" W x 89-1/8" H
(*Gas, Electric, 4-Coil Steam,*	(163 cm x 119 cm x
6-Coil Steam)	227 cm)
Door	31-1/4" diameter (79.38 cm)
Basket Size	44" diameter x 42" Deep (112 cm x 107 cm)
Basket Load Capacity	110 lbs. (49.9 kg) dryweight
Basket Motor	1 HP
Fan Motor	1 1/2 HP
Basket RPM	
Reversing	28 (3.2 reversals per minute)
Non-Reversing	34
Exhaust Duct	12" diameter (30.48 cm)
Maximum Air Displacement	
Steam-Gas	2160 CFM (61.16 M³/Min.)
Electric	2250 CFM (63.71 M³/Min.)
Recommended Operating Range	
Steam-Gas	1900-2100 CFM (53.80-59.46 M³/Min.)
Electric	2000-2200 CFM (56.63-62.30 M³/Min.)
Net Weight (approximate)	
Steam	1640 lbs. (743.89 kg)
Gas & Electric	1590 lbs. (721.21 kg)
Domestic Shipping Weight	
Steam - 1 crate (approx.)	2135 lbs. (968.42 kg)
Gas - 1 crate (approx.)	2065 lbs. (936.67 kg)
Electric - 1 crate (approx.)	2034 lbs. (922.61 kg)
Export Shipping Weight	
Steam - 1 box (approx.)	2450 lbs. (111.3 kg)
Gas - 1 box (approx.)	2330 lbs. (1056.87 kg)
Electric - 1 box (approx.)	2300 lbs. (1043.26 kg)
Export Shipping Dimensions	93" L x 53" W x 78" H -232.7 cu. ft. (236 cm x 135 cm x 198 cm) - (6.59 m³)

GAS FIRED DRYERS *ONLY*

CONSULT GAS SUPPLIER FOR SPECIFIC GAS REQUIREMENTS

BTU Input Rating	250,000 BTU per hour (nat., mixed and mfg. gases) 250,000 per hour (propane and butane gases)
Gas Supply	1" (1.91 cm) pipe connection
Electric Ignition	Silicon Carbide Gas Ignition System
Manifold Gas Pressure	3.5" WC Max. (Nat. Gas); 11" WC (LP Gas)
Drying Time	110 lbs. (49.9 kg) (Indian Head) dry weight
(Approximate - testing in laboratory)	70% water retention - 38 min. 50% water retention - 28 min.

STEAM HEATED DRYERS ONLY

Operating Steam Pressure
4-Coil ..... 100 PSIG Max.
6-Coil ..... 100 PSIG Max.

Boiler HP (with normal load)
4-Coil 7.87
6-Coil 9.50

Heat Capacity
4-Coil
6-Coil

Steam Coils
4-Coil ..... (2) 40 1/2" L x 6" W x 10 1/4" H (102.87 cm x 15.24 cm x 26.04 cm)
6-Coil ..... (2) 40 1/2" L x 15 3/4" H x 6" W (2) 102.87 cm x 15.24 cm x 40.01 cm)

Traps for Steam Heating Coils
4-Coil ..... 3/4" (1.91 cm) (2)
6-Coil ..... 3/4" (1.91 cm) (2)

Steam Supply Line
4-Coil ..... 3/4" (1.91 cm)
6-Coil ..... 3/4" (1.91 cm)

Steam Return Line
4-Coil ..... 3/4" (1.91 cm)
6-Coil ..... 3/4" (1.91 cm)

Drying Time ..... 110 lbs. (49.9 kg) dry weight
(Approx. - testing in lab.) ..... Indian Head cloth
4-Coil ..... High Pressure (100 PSIG Max.)70% water retention - 38 min.
6-Coil ..... High Pressure (100 PSIG Max.)70% water retention - 31 min.
(Low Pressure requires longer drying time)
4-Coil ..... 50% water retention - 28 min.
6-Coil ..... 50% water retention - 24 min.

ELECTRIC LAUNDRY DRYER (see Electric Bonnet Sheet)

Drying Time
(Dry Weight)
60 KW ..... 110 lbs. (49.9 kg) Indian Head cloth
80 KW ..... 110 lbs. (49.9 kg) Indian Head cloth
(Approx. - testing in lab.)
60 KW ..... 70% water retention - 40 min.
50% water retention - 30 min.
80 KW ..... 70% water retention - 31 min.
50% water retention - 23 min.

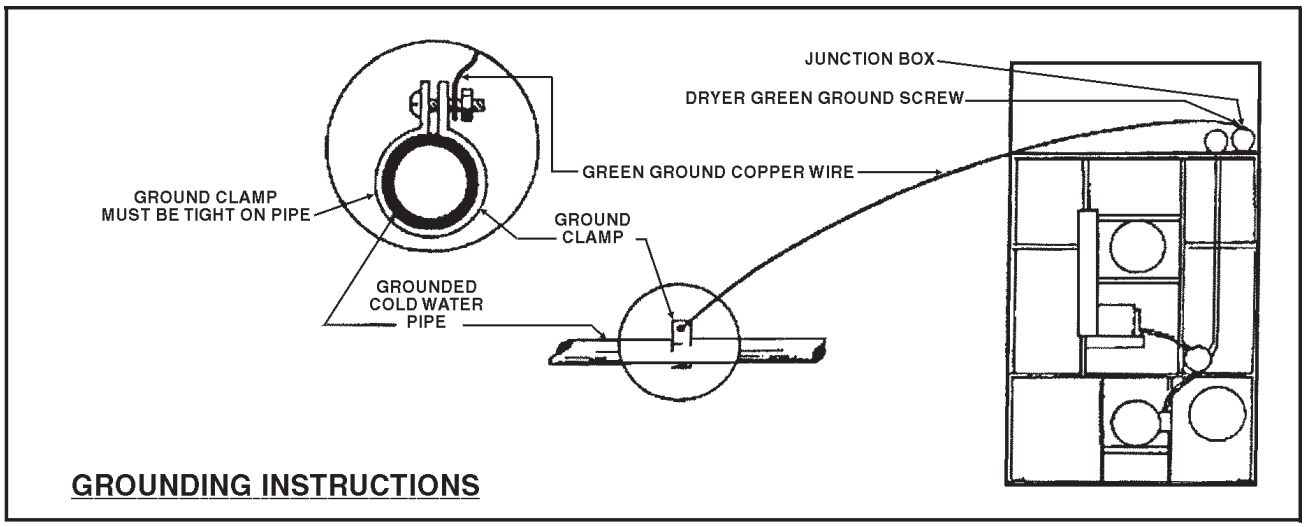
ENERGY SAVER GAS DRYERS

Floor Space	66" Deep x 47" W x 89 1/8" H
(*Gas, Electric, 4-Coil Steam,*	(167.64 cm x 119.38 cm x
6-Coil Steam)	226.52 cm)
Exhaust Duct	8" diameter (20.32 cm)
Maximum Air Displacement	850 cu. ft. per min. (24.07 M^3/Min.)
Recommended Operating Range	700-800 CFM (19.8-22.7 M^3/Min.)
BTU Input Rating	200,000 per hour (nat., mixed and mfg. gases) 200,000 per hour (propane and butane gases)
Net Weight (approx.)	
50 Cy.	1720 lbs. (780.18 kg)
60 Cy.	1670 lbs. (757.5 kg)
Domestic Shipping Weight (1 crate - approx.)	
50 Cy.	2215 lbs. (780.18 kg)
60 Cy.	2165 lbs. (982.02 kg)
Export Shipping Weight (1 crate - approx.)	
50 Cy.	2430 lbs. (1102.23 kg)
60 Cy.	2380 lbs. (1079.55 kg)
Export Shipping Dimensions	96" L x 49" W x 75" H (243.84 cm x 124.46 cm x 190.5 cm)
Export Crating	204.2 cu. ft. (5.78 M3)

MOTORS USED - ALL 110 lb. DRYERS

Motor No.	Voltage	Hz.	Phase	HP	Basket or Fan Motor	Motor Amps
MTR212	208-230/460	60	3	1	Basket	3.8/1.9
MTR101	575	60	3	1	Basket	1.7
MTR104	240/415	50	3	1	Basket	3.0/1.6
MTR192	220/380	50	3	1	Basket	3.3/1,9
MTR192	220/380	60	3	1	Basket	3.1/1.8
MTR192	200/346	50	3	1	Basket	3.3/1.9
MTR215	200-230/460	60	3	1 1/2	Fan	5.6/2.8
MTR100	575	60	3	1 1/2	Fan	2
MTR192	240/415	50	3	1 1/2	Fan	5.8/3.2
MTR61	220/380	50	3	1 1/2	Fan	4.8/2.8
MTR61	220/380	60	3	1 1/2	Fan	4.3/2.5
MTR61	200/346	50	3	1 1/2	Fan	4.9/2.9

Total controls on dryer, other than motors and electric heating elements are 1 to 3 Amperes.



ELECTRICAL CONNECTIONS FOR ALL DRYERS

Dryers must be electrically grounded by a separate #14 or larger green wire from the **grounding terminal** within the service connection box, to a cold water pipe. In all cases, the grounding method must comply with **local electrical code requirements**; or in the absence of local codes, with the **National Electrical Code as ANSI/NFPA No. 70—Latest Edition**.

See wiring diagram furnished with dryer. Your IDC dryer is completely wired at the factory and it is only necessary for the electrician to connect the power leads to the wire connectors within the service connection box on the rear of the dryer. **Do not change wiring without consulting the factory, as you may void the factory warranty. DO NOT CONNECT THE DRYER TO ANY VOLTAGE OR CURRENT OTHER THAN THAT SPECIFIED ON THE DRYER RATING PLATE.** (Wiring diagram is located on rear wall of dryer.)

All panels must be in position before operation of dryer.

GAS SERVICE INSTALLATION INFORMATION

The size of the gas service pipe is dependant upon many variables, such as tees, lengths, etc. Specific pipe size should be obtained from the gas supplier. Refer to the *Gas Pipe Size Chart* in this manual for general *gas pipe size* information.

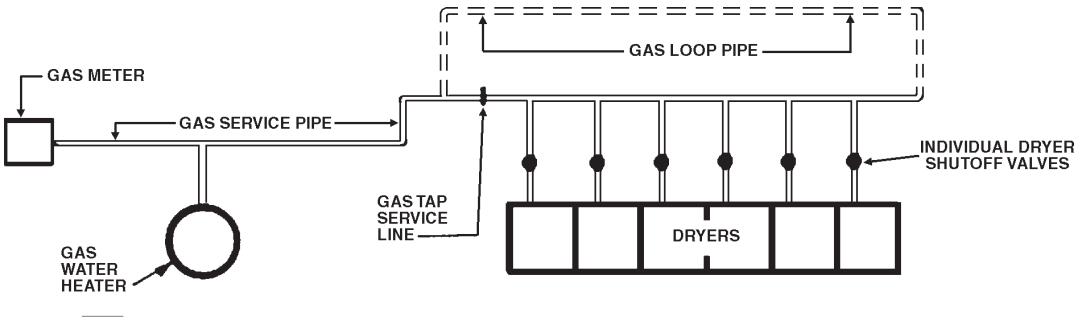


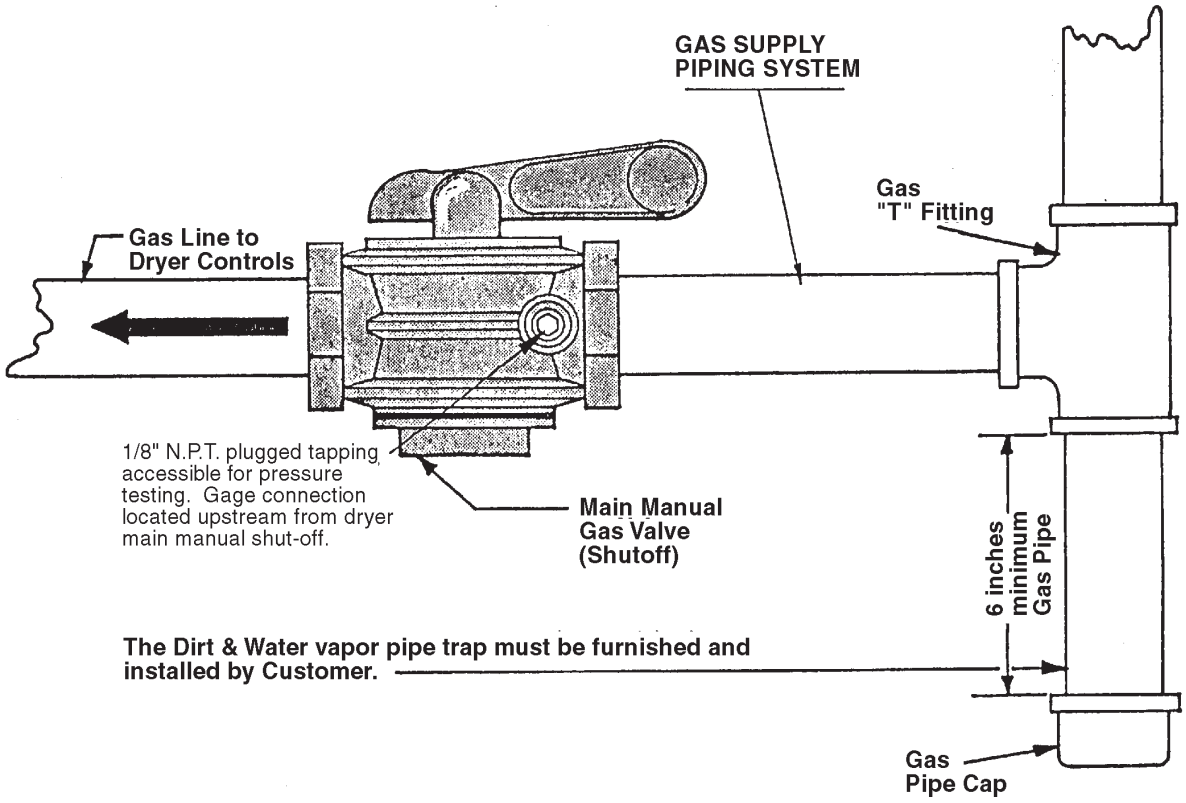
CAUTION
Gas loop piping must be installed as shown in Illustration, to maintain equal gas pressure for all dryers connected to a single gas service.

Other gas using appliances should be connected upstream from the loop.



WARNING
(LIQUIFIED PETROLEUM GASES ONLY)
A Gas Pressure Regulator for Liquified Petroleum Gases is not furnished on IDC Gas Heated Clothes Dryers. This regulator is normally furnished by the installer. In accordance with American Gas Association (AGA) standards, a gas pressure regulator, when installed indoors, must be equipped with a vent limiter, or a vent line must be installed from the gas pressure regulator vent to the outdoors.


GAS METER
GAS SERVICE PIPE
GAS LOOP PIPE
INDIVIDUAL DRYER SHUTOFF VALVES
GAS TAP SERVICE LINE
DRYERS
GAS WATER HEATER


GAS SUPPLY PIPING SYSTEM
Gas "T" Fitting
Gas Line to Dryer Controls
1/8" N.P.T. plugged tapping accessible for pressure testing. Gage connection located upstream from dryer main manual shut-off.
Main Manual Gas Valve (Shutoff)
6 inches minimum Gas Pipe
The Dirt & Water vapor pipe trap must be furnished and installed by Customer.
Gas Pipe Cap

Gas Pipe Size Chart

TOTAL BTU/HR (for LP Gas correct total BTU/HR below by multiplying by .6)	TOTAL KCAL	GAS PIPE SIZE FOR 1000 BTU (250 KCAL) NATURAL GAS AT 7" (17.8 CM) W.C. PRESSURE In figuring total length of pipe, make allowance for tees and elbows.					
	HOUR	(25 ft.) 7,62 m	(50 ft.) 15,24 m	(75 ft.) 22,86 m	(100 ft.) 30,48 m	(125 ft.) 38,1 m	(150 ft.) 45,72 m
60,000	15000	3/4	3/4	3/4	3/4	3/4	3/4
80,000	20000	3/4	3/4	3/4	1	1	1
100,000	25200	3/4	3/4	1	1	1	1
120,000	30200	3/4	1	1	1	1	1
140,000	35200	3/4	1	1	1	1	1 1/4
160,000	40300	3/4	1	1	1 1/4	1 1/4	1 1/4
180,000	45300	1	1	1	1 1/4	1 1/4	1 1/4
200,000	50400	1	1	1 1/4	1 1/4	1 1/4	1 1/2
300,000	75600	1	1 1/4	1 1/4	1 1/2	1 1/2	1 1/2
400,000	100800	1 1/4	1 1/4	1 1/2	1 1/2	1 1/2	2
500,000	126000	1 1/4	1 1/2	1 1/2	2	2	2
600,000	151200	1 1/2	1 1/2	2	2	2	2
700,000	176400	1 1/2	2	2	2	2	2 1/2
800,000	202000	1 1/2	2	2	2	2 1/2	2 1/2
900,000	230000	2	2	2	2 1/2	2 1/2	2 1/2
1,000,000	250000	2	2	2	2 1/2	2 1/2	2 1/2
1,100,000	270000	2	2	2 1/2	2 1/2	2 1/2	2 1/2
1,200,000	300000	2	2	2 1/2	2 1/2	2 1/2	2 1/2
1,300,000	330000	2	2 1/2	2 1/2	2 1/2	2 1/2	3
1,400,000	350000	2	2 1/2	2 1/2	2 1/2	3	3
1,500,000	380000	2	2 1/2	2 1/2	2 1/2	3	3
1,600,000	400000	2	2 1/2	2 1/2	3	3	3
1,700,000	430000	2	2 1/2	2 1/2	3	3	3
1,800,000	450000	2 1/2	2 1/2	3	3	3	3
1,900,000	480000	2 1/2	2 1/2	3	3	3	3
2,000,000	504000	2 1/2	2 1/2	3	3	3	3 1/2
2,200,000	550000	2 1/2	3	3	3	3 1/2	3 1/2
2,400,000	605000	2 1/2	3	3	3	3 1/2	3 1/2
2,600,000	650000	2 1/2	3	3	3 1/2	3 1/2	3 1/2
2,800,000	705000	2 1/2	3	3	3 1/2	3 1/2	3 1/2
3,000,000	750000	2 1/2	3	3 1/2	3 1/2	3 1/2	4
3,200,000	806000	3	3	3 1/2	3 1/2	3 1/2	4
3,400,000	850000	3	3 1/2	3 1/2	3 1/2	4	4
3,600,000	907000	3	3 1/2	3 1/2	3 1/2	4	4
3,800,000	960000	3	3 1/2	3 1/2	4	4	4
4,000,000	1000000	3	3 1/2	3 1/2	4	4	4

GAS PIPING INSTALLATION

1. The installation must conform to **local codes** or in absence of local codes, with the **National Fuel Gas Code as ANSI Z223.1—Latest Edition**.

2. Check with utilities for proper gas pressure and gas supply line.

3. Check for altitude elevation of the dryer.

4. The dryer and its individual shut-off valve must be disconnected from the gas supply piping system at test pressures in excess of 1/2 PSIG.

5. 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.



NATURAL GAS ONLY
Check the gas pressure inlet supply to the dryer, 11 inches WC Pressure maximum. Check the manifold pressure, 3.5 inches WC Pressure inside the dryer.



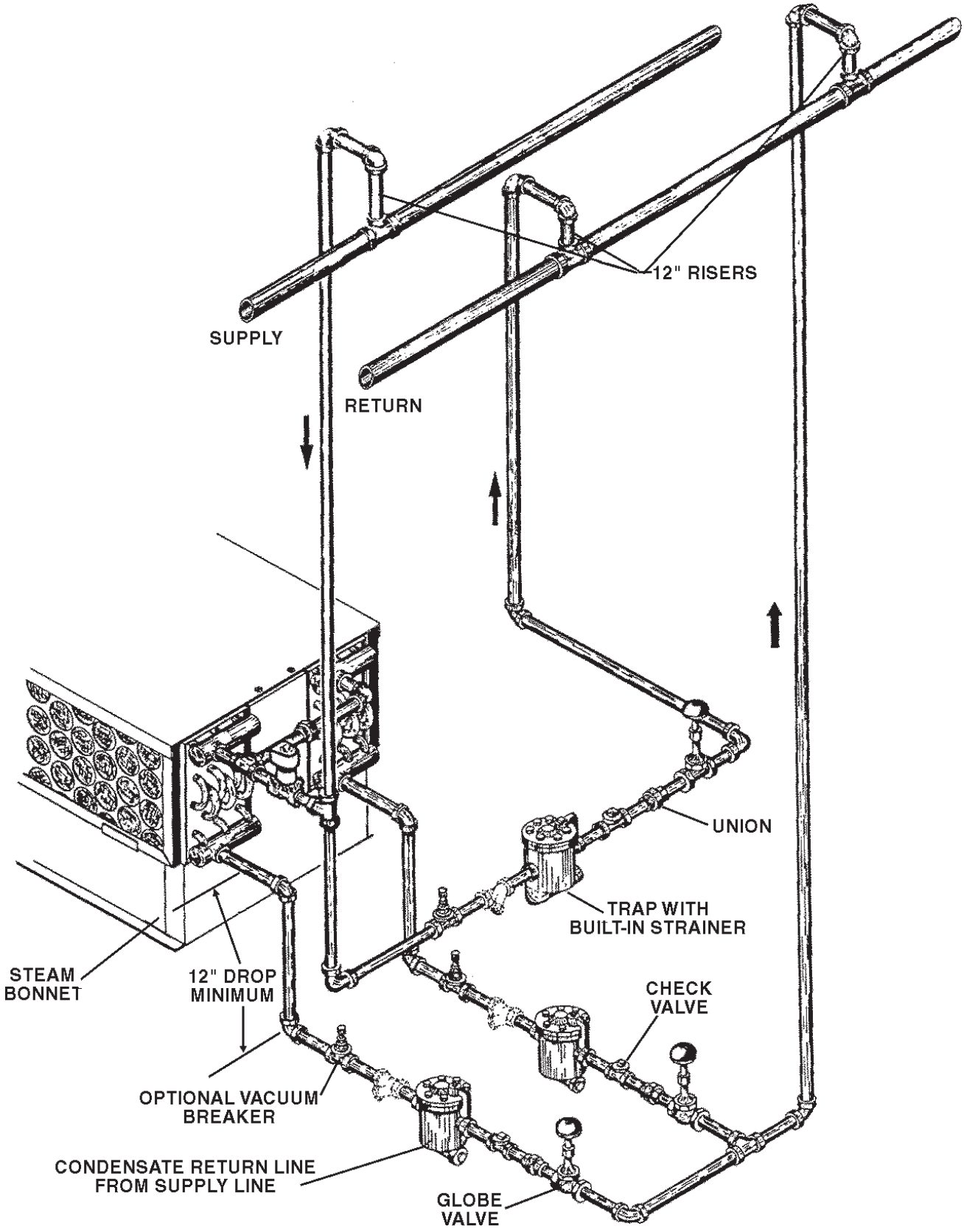
CAUTION
Low gas pressure and intermittent gas will cause gas ignition problems and inadequate drying of the clothes load.

INSTALLATION INSTRUCTIONS

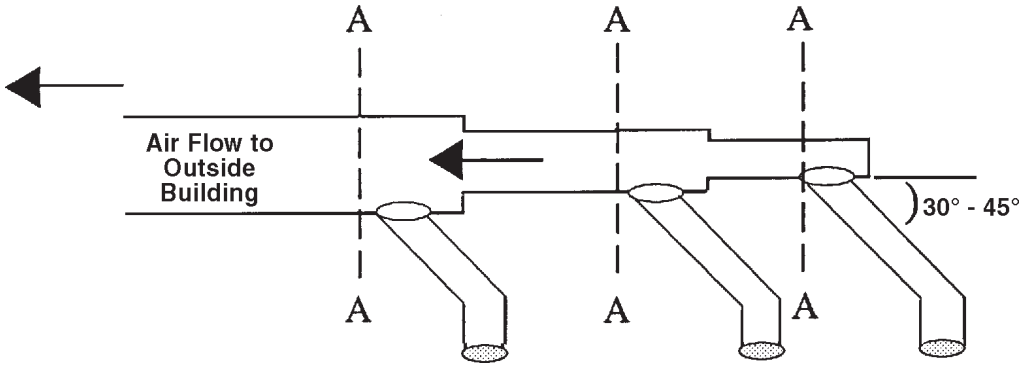
1. Set and anchor dryer in position. **Machine should be level to assure proper steam circulation.**
2. To prevent condensate draining from headers to dryer, piping should have a minimum 12” above respective header. **Do not make steam connection to header with a horizontal or downwardly facing tee or elbow.**
3. Whenever possible, horizontal runs of steam lines must drain, by gravity, to respective steam header. Water pockets, or an improperly drained steam header will provide wet steam, causing improper operation of dryer. If pockets or improper drainage cannot be eliminated, install a bypass trap to drain condensate from the low point in the steam supply header to the return.
4. In both steam supply and steam return line, it is recommended that each have a 3/4” union and 3/4” globe valve. This will enable you to disconnect the steam connections and service the dryer while your plant is in operation.
5. Before connecting trap and check valve to dryer, open globe valve in steam supply line and allow steam to flow through dryer to flush out any dirt and scale from dryer. This will assure proper operation of trap when connected.
6. After flushing system, install bucket trap (with built-in strainer) and check valve. For successful operation of dryer, install trap 18" below coil and as near to the dryer as possible. Inspect trap carefully for inlet and outlet markings and install according to trap manufacturer’s instructions. If steam is gravity returned to boiler, omit trap but install check valve in return line near dryer.
7. Install union and globe valve in return line and make final pipe connections to return header.

PIPING RECOMMENDATIONS

1. Trap each dryer individually. Always keep the trap clean and in good working condition.
2. When dryer is on the end of a line of equipment, extend header at least 4 feet beyond dryer. Install globe valve, union, check valve and bypass trap at end of line. If gravity returned to boiler, omit trap.
3. **Insulate steam supply and return line for safety of operator and safety while servicing dryer.**
4. Keep dryer in good working condition. Repair or replace any worn or defective parts.


12" RISERS
SUPPLY
RETURN
UNION
TRAP WITH
BUILT-IN STRAINER
STEAM
BONNET
12" DROP
MINIMUM
CHECK
VALVE
OPTIONAL VACUUM
BREAKER
CONDENSATE RETURN LINE
FROM SUPPLY LINE
GLOBE
VALVE

For Exhaust Duct less than 14 feet and 2 elbows equivalent and less than 0.3 inches static pressure.



DRYER EXHAUSTS

Area of section "A-A" must be equal to the sum of dryer exhaust pipes entering multiple exhaust pipe. (*See chart below.*)

MODELS: L28FD30, L28US30, L36FD30, L36US30, L36US36, L44FD42

No. of Dryers	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Duct Diameter (in inches)	6	9	11	12	14	15	16	17	18	19	20	21	22	23	23	24	25	26	26	27	28	28	29	30
(in CM)	15	23	27	30	35	38	41	43	46	48	51	53	56	58	58	61	63	66	66	68	71	71	73	76

MODELS: L28CD30, L28UR30, L36CD30, L36UR30, L36UR36, L36AR36, L44FD42

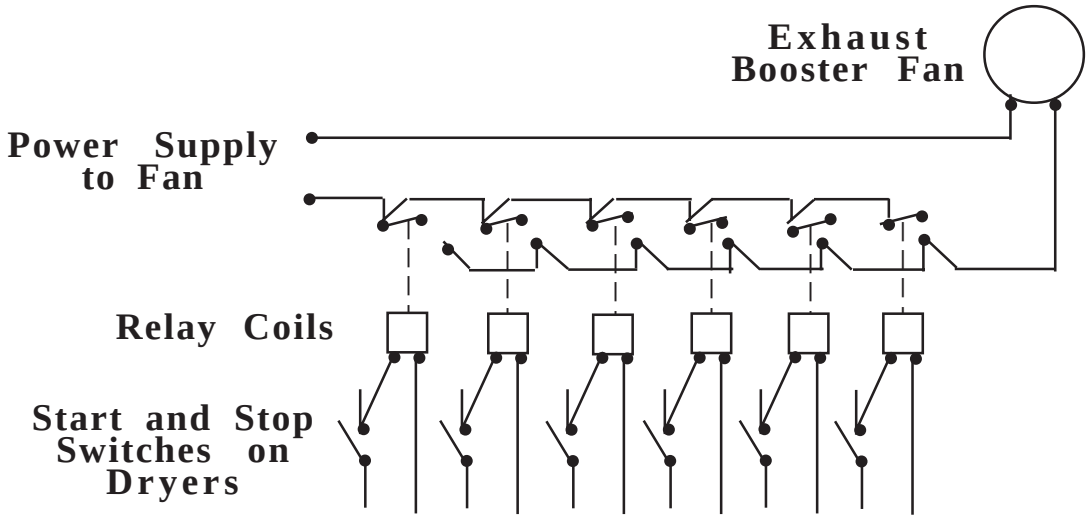
No. of Dryers	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Duct Diameter (in inches)	8	12	14	16	18	20	22	23	24	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
(in CM)	20	30	25	41	46	51	56	58	61	66	68	71	73	76	78	81	84	86	89	91	94	97	99	100

MODELS: L44CD42, L50CD42

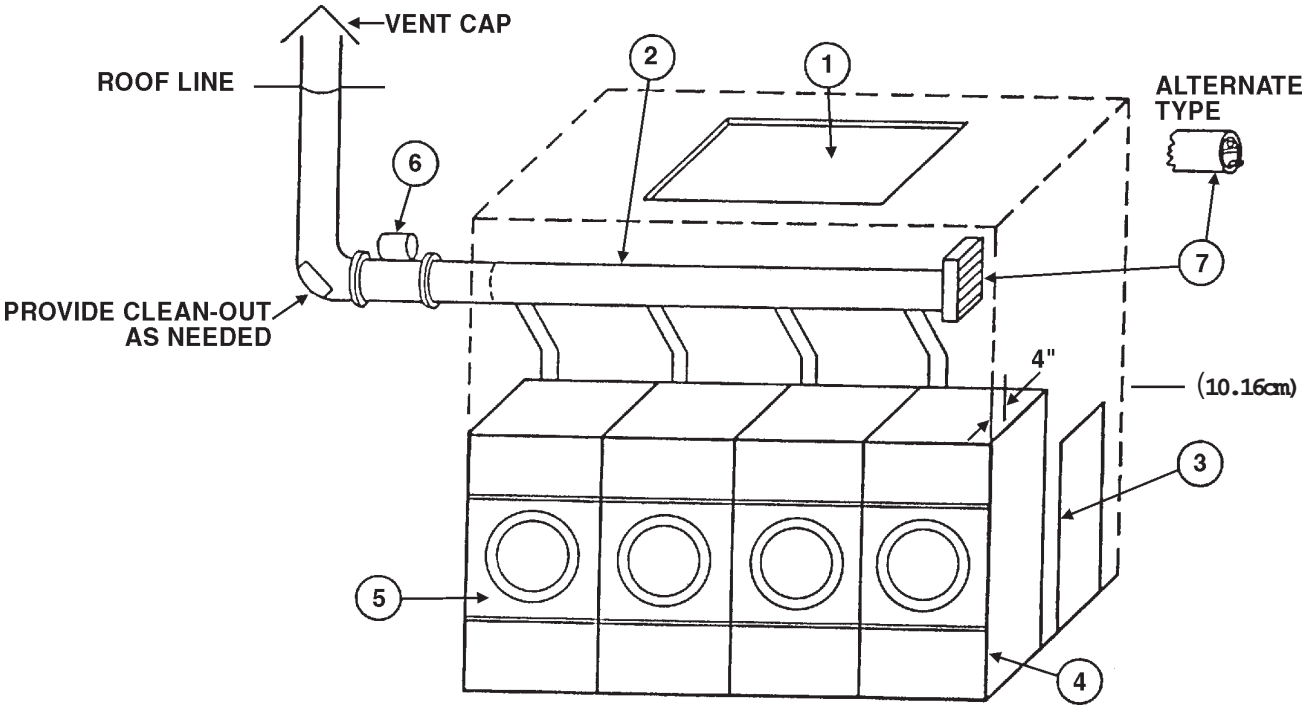
No. of Dryers	1	2	3	4	5	6	7	8	9	10	11	12
Duct Diameter (in inches)	12	17	21	24	27	30	32	34	36	38	40	42
(in CM)	30	43	53	61	68	76	81	86	91	97	100	106

AUTOMATIC ELECTRICAL CONTROL FOR EXHAUST FAN

For one or more dryers to start fan.



Dryer Installation with Multiple Exhaust (Illustration)



EXHAUST INSTALLATION— MULTIPLE MANIFOLD DUCT

For Exhaust Duct more than 14 feet and 2 elbows equivalent and more than 0.3 inches static pressure.

1. Make-up air from outside building may enter enclosure from top or side walls. Area of opening should be equal to 4-6 times the sum of dryer duct areas. Provide 1 sq. ft. for each 6 in. diameter; 2 sq. ft. for each 8 in. diameter; and 4 sq. ft. for each 12 in. diameter.

2. Use constant diameter duct with area equal to the sum of dryer duct areas.

   EXAMPLE: 6-8 in. diameter duct = 1-19.6 in. diameter duct in area. Use 20 in. diameter duct or diameter to match tube-axial fan.

3. Enclosure (plenum) with service door. This separates the dryer air from room comfort air. If dryers use room air instead of outside air, the heat loss can be another 25 BTU/HR for each cubic foot per minute (CFM) used.

   EXAMPLE: 110 lb. dryer, 2000 CFM = 50,000 BTU/HR loss.

4. Zero inches clearance to combustible material allowed on sides and at points within 4 inches of front on top.

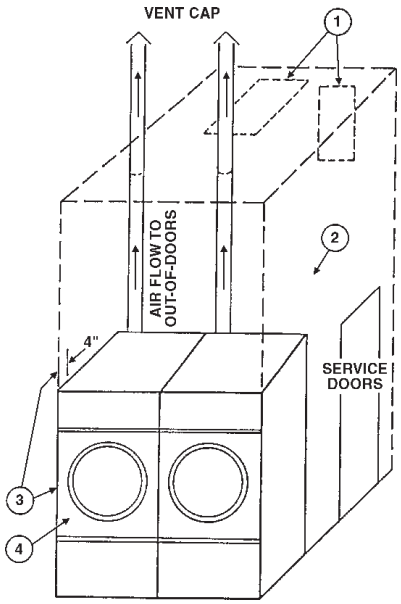
5. Heat loss into laundry room from dryer fronts *only* is about 60 BTU/HR per square foot.

6. Flange mounted, belt driven tube-axial fan. **Fan must run when one or more dryers are running.** *See suggested Automatic Electrical Control Wiring Diagram on page 23.* Must meet local electrical codes. Fan air flow (CFM) is equal to sum of dryer air flows, but static pressure (SP) is dependent on length of pipe and number of elbows.

7. **Barometric Bypass Damper**—Adjust to *closed flutter position* with all dryers and exhaust fan running. **Must be located within enclosure.**

CAUTION
***Never* install hot water heaters or other gas appliances in the same room as dryers. *Never* install cooling exhaust fans in the same room as dryers.**

CAUTION
Never exhaust dryers with other types of equipment.



DRYER INSTALLATION WITH SEPARATE EXHAUST (PREFERRED)

DRYER INSTALLATION WITH SEPARATE EXHAUST (PREFERRED)

For Exhaust Duct less than 14 feet and 2 elbows equivalent and less than 0.3 inches static pressure.

NEVER exhaust the dryer into a chimney.

NEVER install wire mesh screen over the exhaust or make-up air area.

NEVER exhaust into a wall, ceiling, or concealed space.

1. Make-up air opening from outside the building may enter the enclosure from the top or side walls. Area of opening should be equal to 4-6 times the sum of dryer duct areas. Provide 1 sq. ft. for each 6 in. diameter; 2 sq. ft. for each 8 in. diameter; and 4 sq. ft. for each 12 in. diameter.
2. Enclosure (plenum) with service door. This separates the dryer air from the room comfort air. If dryers use room air instead of outside air, the heat loss can be another 25 BTU/HR for each cubic foot per minute (CFM) used.
   EXAMPLE: A 110 lb. dryer with 2000 CFM = heat loss of 50,000 BTU/HR.
3. Zero inches clearance to combustible material allowed on sides and at points within 4 inches of front on top.
4. Heat loss into laundry room from dryer fronts *only* is about 60 BTU/HR per square foot.

DRYER AIR FLOW INSTALLATION

Nothing is more important than air flow for the proper operation of a clothes dryer. A dryer is a pump which draws make-up air from the out-of-doors, through the heater, through the clothes and then forces the air through the exhaust duct back to the out-of-doors. Just as in a fluid water pump, there must be a fluid air flow to the inlet of the dryer, if there is to be the proper fluid air flow out of the exhaust duct.

In summary, there must be the proper size out-of-doors inlet air opening (4-6 times the combined areas of the air outlet) and an exhaust duct, size and length of which allows flow through the dryer with no more than 0.3 inches water column static pressure in the exhaust duct.

In some instances, special fans are required to supply make-up air, and/or boost exhaust fans are required for both regular and energy saving models.

EXHAUSTING DUCT

FOR BEST DRYING:

1. Exhaust duct maximum length 14 feet of straight duct and maximum of two 90° bends.
2. Use 45° and 30° elbows wherever possible.
3. **Exhaust each dryer separately.**
4. **Do not** install wire mesh or other restrictions in the exhaust duct.
5. Use clean-outs in the exhaust duct and clean periodically when needed.
6. **Never** exceed 0.3 inches water column static pressure in the exhaust duct.
7. Inside surface of the duct **must be smooth**.
8. Recommend pop rivets for duct assembly.

MAKE-UP AIR

FOR BEST DRYING:

1. Provide opening to the out-of-doors in accordance with the following:
   For each dryer—
   8 inches diameter exhaust requires 2 square feet make-up air.
   12 inches diameter exhaust requires 4 square feet make-up air.
2. Use barometric shutters in the inlet air opening to control air when dryers are not running.

OTHER RECOMMENDATIONS TROUBLESHOOTING

Other Recommendations

To assure compliance, consult local building code requirements.

Troubleshooting

Hot dryer surfaces, scorched clothes, slow drying, lint accumulations, or air switch malfunction are indicators of exhaust duct and/or make-up air problems.

RULES FOR SAFE OPERATION OF DRYER

1. **Be sure** your dryer is installed properly in accordance with the recommended instructions.
2. **CAUTION**
   Be safe—**shut main electrical power supply and gas supply off externally before attempting service.**
3. **CAUTION**
   Never use drycleaning solvents: gasoline, kerosene, or other flammable liquids **in the dryer**. ***Fire and explosion will occur*.**
   Never put fabrics treated with these liquids into the dryer.
   Never use these liquids near the dryer.
   Always keep the lint screen clean.
   Never use heat to dry items that contain plastic, foam or sponge rubber, or rags coated with oils, waxes or paints. The **heat may** damage the material or **create a fire hazard**. **Rubber easily oxidizes, causing excessive heat and possible fire.**
   Never dry the above items in the dryer.
4. **Never let children play near or operate the dryer. Serious injury will occur if a child should crawl inside and the dryer is turned on.**
5. **Never** use dryer door opening and top as a step stool.
6. **Read** and follow manufacturer's instructions on packages of laundry and cleaning aids. Heed any **warnings** or **precautions**.
7. **Never** tumble fiberglass materials in the dryer unless the labels say they are machine dryable. Glass fibers break and can remain in the dryer and could cause skin irritation if they become mixed into other fabrics.
8. **Reference**
   Lighting and shut-down instructions and wiring diagrams are located on the rear wall of the dryer cabinet.
9. **The dryer must not be installed or stored in an area where it will be exposed to water and/or weather.**

ENERGY-SAVING TIPS

10. Install dryer so that you can use short, straight venting. Turned elbows and long vent tubing tend to increase drying time. Longer drying time means the use of more energy and higher operating costs.
11. Operate dryer using full-size loads. Very large loads use extra energy. Very small loads waste energy.
12. Dry light-weight fabrics separately from heavy fabrics. You will use less energy and get more even drying results by drying fabrics of similar weight together.
13. Clean the lint screen area daily. A clean lint screen helps give faster, more economical drying.
14. **Do not** open the dryer door while drying. You let warm air escape from the dryer into the room.
15. Unload the dryer as soon as it stops. This saves having to re-start your dryer to remove wrinkles.

CAUTION
Synthetic solvent *fumes* from dry cleaning machines create acids when drawn through the dryer. These acid fumes cause rusting of painted parts, pitting of bright plated parts and completely removes the zinc from galvanized metal parts, such as the tumbler basket.

If the dry cleaning machines are in the same area as the tumbler, then the tumbler *make-up air* must come from a source free of solvent fumes.

ABOVE 2,000 FEET

ELEVATIONS ABOVE 2,000 FEET

Input ratings shown on the rating plate (serial tag) are for elevations up to 2,000 feet. For elevations above 2,000 feet, rating should be reduced at a rate of 4% for each 1,000 feet above sea level.

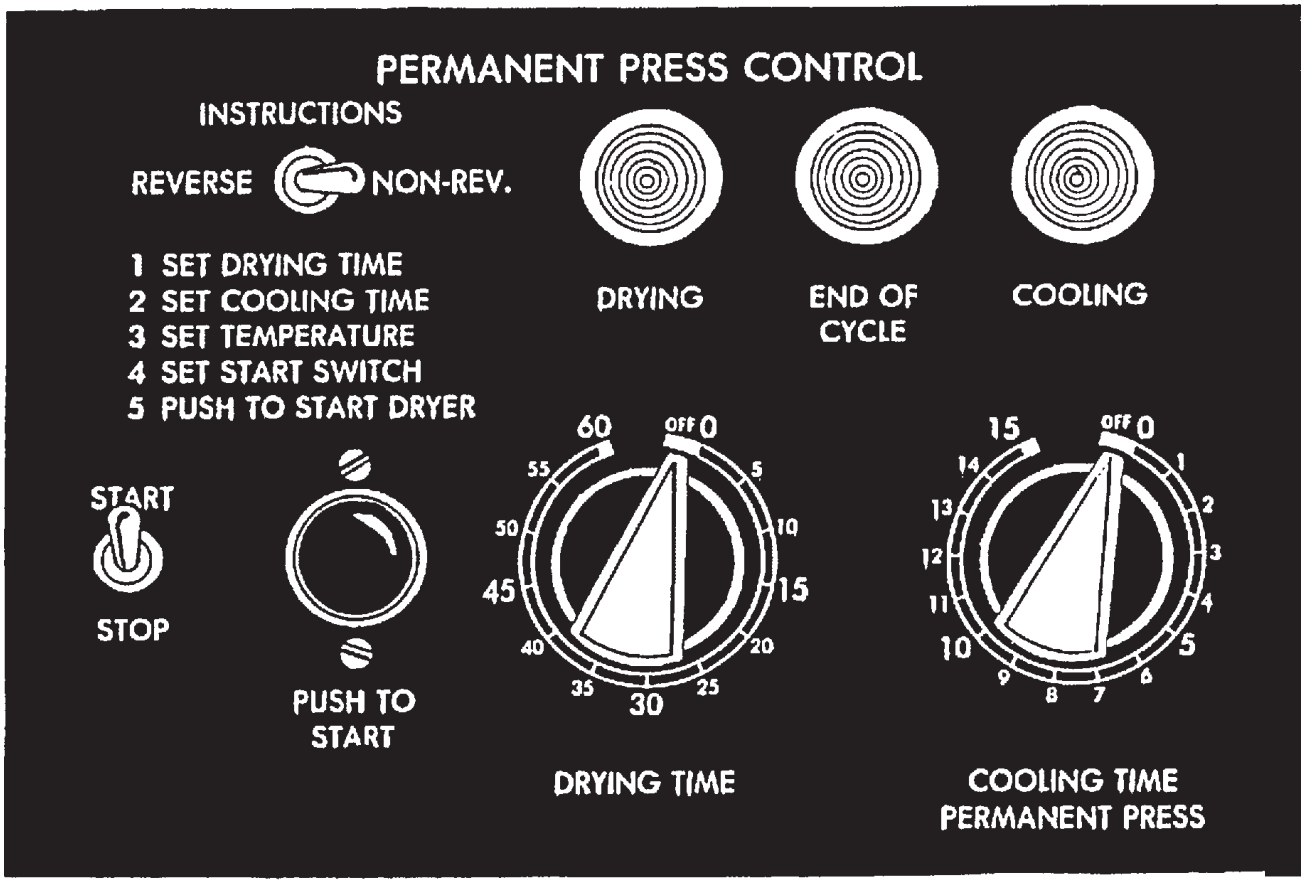


Fig. 1

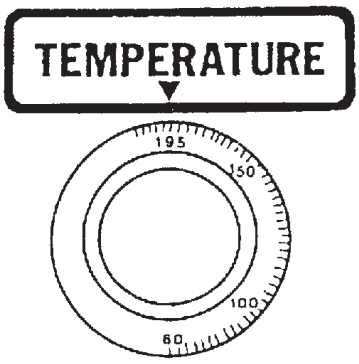


Fig. 2 Temperature Selection

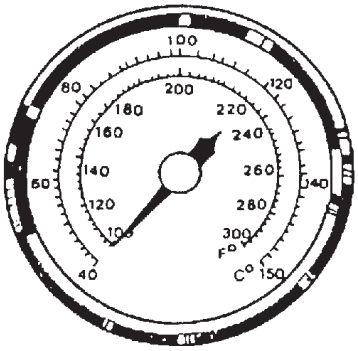


Fig. 3 Thermometer

OPERATING INSTRUCTIONS—TWO TIMER MODELS

OPERATING INSTRUCTIONS—TWO TIMER MODELS

1. After loading the dryer tumbler with the water washed clothes load, proceed to close the loading door. For better drying, do not load dryer with combination of garments that twist.

2. Turn the 60-minute drying timer to the desired drying time. The drying cycle light will be on and indicate the drying. The light shuts off when drying time is complete. (figure 1 on page 30.)

3. Turn the 15-minute cooling cycle timer to the desired cool down time. After the drying cycle is completed, then the cooling cycle time will automatically operate. The cooling light will be on and indicate the cooling of the clothes load. The light shuts off when cooling time is completed. (figure 1 on page 30.)

4. **Temperature Selector**—Select temperature per type of load being dried in the dryer. (figure 2 on page 30.)
   High Heat—Mixed and heavy fabrics, set dial to 195°F.
   Normal—Cottons and linens, set dial to 170°F.
   Permanent Press Heat—Poly knit synthetics, blends, light-weight fabrics, set dial to 150°F.
   Low Heat—Delicate, sheer fabrics, easy-to-dry, set dial to 60°F.

5. **Thermometer**—Use this with your temperature selection. Teach yourself what temperature is too hot or too cold. (figure 3 on page 30.)

6. Turn switch to “start” position. (figure 1 on page 30.)

7. Close the dryer door, but the basket **will not rotate** until the **PUSH-TO-START BUTTON** is pressed. Press in the **PUSH-TO-START BUTTON** (approximately 2 seconds) until the dryer starts running and then release button. (figure 1 on page 30.)

OPERATING INSTRUCTIONS—TWO TIMER MODELS

OPERATING INSTRUCTIONS—TWO TIMER MODELS (continued)

What is happening to the drying operation:

a. The fan motor will operate.
b. The basket will rotate.
c. The heat source will be energized.
d. The heated air will mix with the water washed clothes to evaporate the moisture from the garments.
e. The thermostats will function to maintain a safe temperature throughout the drying cycle.
f. The heat will be shut off and the motor will continue to run to cool the dry load to a desired handling temperature.

8. When the drying timer completes its time, then the cooling timer will be energized and the cooling light will be “On”. When the cooling timer completes its time, the cooling light will stay “On” and the “End-of-Cycle” light will be “On”. The “End-of-Cycle” light will go off when the “Start/Stop” switch is turned “Off”. At the end of the cool-down cycle, the clothes load is dry.

9. To shut the dryer “Off”, move the “Start/Stop” switch to the “Stop” position. This switch is a safety switch to immediately stop the dryer's operation.

Special Reversing Feature—Set the “Reversing/Non-Reversing” switch to “Reversing”. See service manual for setting of time of each reversal. Reversing of the basket is designed for loads that twist (**example**—bed sheets and large mixed loads). “Non-Reversing” is for small or medium-size items that don't twist.

TROUBLESHOOTING

To help you troubleshoot the dryer, we list below the most common reasons for service calls and some answers to the problems. **Before you call service**, please review the following items:

DRYER WON'T START

DRYER WON'T START

1. Is the door completely closed?
2. Are the controls set to the **"on"** position?
3. Did you push the **"start"** control?
4. Has a fuse blown or a circuit breaker tripped?
5. Are the fuses tight?
6. Check for low voltage.

DRYER WON'T HEAT

DRYER WON'T HEAT

1. Is the dryer set for **"cooling time"** rather than **"drying time"**?
2. Are the gas valve in the dryer and the valve on the main gas line turned on?
3. Check for low or intermittant **gas pressure**.

CLOTHES ARE NOT SATISFACTORILY DRY

CLOTHES ARE NOT SATISFACTORILY DRY

1. *Timed cycle*—Did you allow enough heating time before the cool-down part of the cycle?
2. Is the lint screen blocked?
3. Is the exhaust duct to the outside clean and not blocked? *(A blocked exhaust will cause slow drying and other problems.)*

GAS DRYER IGNITION

GAS DRYER IGNITION

The dryer has a safety device which automatically shuts off the gas if the burner fails to light in a short time. If this happens, turn the dryer off. Check and see if the manual gas valve is open. **Wait 5 minutes for the safety device to reset**. Then reset the dryer controls. If the dryer still fails to heat, call for service. **All panels, covers and doors must be in place and closed before starting the dryer**.

VERY IMPORTANT
When calling the factory for service, always refer to the model number and serial number.

VERY IMPORTANT
When calling the factory for service, always refer to the model number and serial number.

TROUBLE	CAUSE	REMEDY
Motor will not start.	No power.	Check fuses on Circuit Breakers. Make sure Main Control Switch is ON.
	Incorrect power.	Check power source; voltage, phase and frequency must be the same as specified on Electrical Rating Plate.
	Time off.	Turn timer clockwise to desired time setting.
	Loose wiring connections.	Check wire connections in electrical box on rear of dryer.
	Defective starting relay.	Check coils and contacts.
Motor tripping on thermal overload.	Low voltage.	Check voltage at motor terminals. Voltage must be within ± 10% of voltage shown on Motor Rating Plate. If not, Check with local power company for recommended corrective measures.
	Inadequate wiring.	Check with local power company to insure that wiring is adequately sized for load.
	Loose connections.	Check all electrical connections and tighten any loose connections.
	Inadequate air.	Check Installation Sheet in Service section for recommended make-up air openings.
	Poor housekeeping.	Clean lint accumulation on and around motors.
Basket motor will not run.	Loading door OPEN.	Close door.
	Door Switch out of adjustment.	Adjust switch by removing cover and bend Actuator Lever to clear Switch Button 3/8" with cover in place.
	Defective Door Switch.	Replace switch.
	Defective Basket Motor Contractor.	Replace contactor.
Motor runs, but basket will not revolve.	V-Belt broken. V-Belt loose.	Replace V-Belt. Adjust belt tension.
	Motor Pulley loose.	Tighten set screw.
	Basket overloaded.	Remove load.

TROUBLE	CAUSE	REMEDY
Dryer noisy or vibrating.	Not leveled.	Check manual for proper leveling procedures.
	Fan out of balance.	Accidental damage to the fan blade can change the dynamic balance. Damaged fans should be replaced.
	Basket rubbing.	Adjust basket clearance.
	V-Belt sheaves.	Tighten set screws. Make sure sheaves are in proper alignment.
	Belt.	Adjust belt tension.
	Foreign objects.	Occcasionally screws, nails, etc., will hang in the basket perforations and drag against the sweep sheets surrounding the basket. Such foreign objects should be removed immediately.
Dryer runs, but no heat.	Incorrect voltage.	Check for correct control voltage - 120V.
	No voltage.	Check power supply, check secondary voltage on transformer and check wiring and wiring diagram.
	Silicon Carbide Igniter will not glow-red.	Broken or defective igniter. Replace.
	Light Red Silicon Carbide Igniter.	Check for 2.5 minimum amperage. Low amperage not hot enough.
	Defective Igniter Time Delay Relay.	Heater No. 1 and No. 6 open circuit. If above occurs, replace Time Delay Relay.
	Lint Door OPEN.	CLOSE Lint Door.
	Defective Gas Valve.	Replace Coil Assembly.
	Gas turned OFF.	Turn Manual Gas Valve ON.
	Line fuse or heater circuit fuse blown to unit.	Replace fuse.
	Defective Door Switch.	Replace Door Switch.
	Silicon Carbide Igniter not igniting gas.	Must be 3/16” to 5/16” above burner. Replace Radiant Sensor. Clean out lint compartment daily. Check Back Draft Damper
	Air Switch not operating.	for foreign objects, lint accumulation or other causes that may prevent damper from operating. Check duct work for lint build-up. Check installation sheet to insure that duct work and make-up air openings are adequately sized. Check exhaust outlet. If a screen has been improperly installed on the outlet, it may be clogged with lint or frozen over in winter. Never install a screen on the exhaust outlet. Vacuum within dryer drops to .09 inches or water column, or less, for normal operation of dryer, vacuum reading can be made with a Vacuum U-Gauge by removing a sheet metal screw in the front panel of dryer, and inserting the rubber tube of the vacuum gauge into screw opening.

TROUBLE	CAUSE	REMEDY
Dryer runs, but no heat. (continued)	Air Switch out of adjustment.	See Air Switch Adjustment Sheet in Service Manual.
	Air Switch defective.	Replace Air Switch.
	Gas pressure too low.	Check manifold pressure and adjust to pressure specified on Rating Plate. If this pressure cannot be obtained, have gas supplier check main pressure.
	Improper orifice.	Dryer is orificed for type of gas specified on Rating Plate. Check with gas supplier to determine specifications for gas being used. If different from Rating Plate, Contact factory and obtain proper orifices.
	Electric power to heating unit turned OFF.	Turn power ON.
	Defective relay.	Replace relay.
	Defective thermostat.	Replace thermostat.
	Defective Safety	Replace thermostat.
	Overload Thermostat. Lint compartment door OPEN.	CLOSE door.
Main Burners burning improperly.	Burner Air Shutters CLOSED.	OPEN for blue flame.
	Dirt in burner.	Blow out.
	High gas pressure.	Adjust gas pressure per Rating Plate.
	Orifice too large.	Send to factory for correct orifices.
	Restricted or blocked exhaust.	Clean exhaust.
Main Burner cycles ON and OFF.	Radiant Sensor defective.	Replace Radiant Sensor.
Low or high gas flame.	Incorrect Main Burner orifices.	Replace orifices. Check factory for correct size.

TROUBLE	CAUSE	REMEDY
Dryer too hot.	Incorrect Main Burner orifice.	Replace orifices. Check factory for correct size.
	Inadequate make-up air.	Make-up air must be 4 to 6 times the exhaust area of the dryer.
	Lint accumulated.	Remove lint.
	Exhaust duct dampers.	Must be full OPEN or replace.
	High gas pressure.	Adjust gas pressure as specified on Rating Plate.
	Partially restricted or inadequately sized exhaust system.	Check Service section for recommended sizes. Remove obstructions or lint build up from duct work. NEVER use smaller size exhaust duct. ALWAYS use larger size.
	Defective thermostat.	Replace thermostat.
Dryer does not stop at end of time period (6).	Defective timer.	Replace timer.
Dryer runs no steam to coils.	Valve CLOSED.	Check all valves in steam supply and return. Make sure they are OPEN.
	Steam Trap blocked.	Remove and clean. Replace if defective.
	Solenoid Valve.	On dryers using solenoid temperature control, thermostat controls operation of Solenoid Valve by advancing thermostat.
	Thermostat.	On dryers using solenoid temperature control, thermostat controls operation of Solenoid Valve. If defective, replace thermostat.
	Check Valve installed incorrectly.	Check for inlet and outlet marking on Check Valve and invert if necessary.
	Strainer clogged.	Remove plug and blow down Strainer or remove and clean thoroughly if heavily clogged.
Water in Steam Line.	Steam Piping installed incorrectly.	Check piping per Steam Installation Instructions.
	Trap not functioning.	Check trap for size and capacity. If dirty and sluggish, clean thoroughly or replace. Check return line for high back pressure, or another trap charging against the trap functioning improperly.
Basket does not reverse.	Reversing timer.	Check timer to see if operating.