

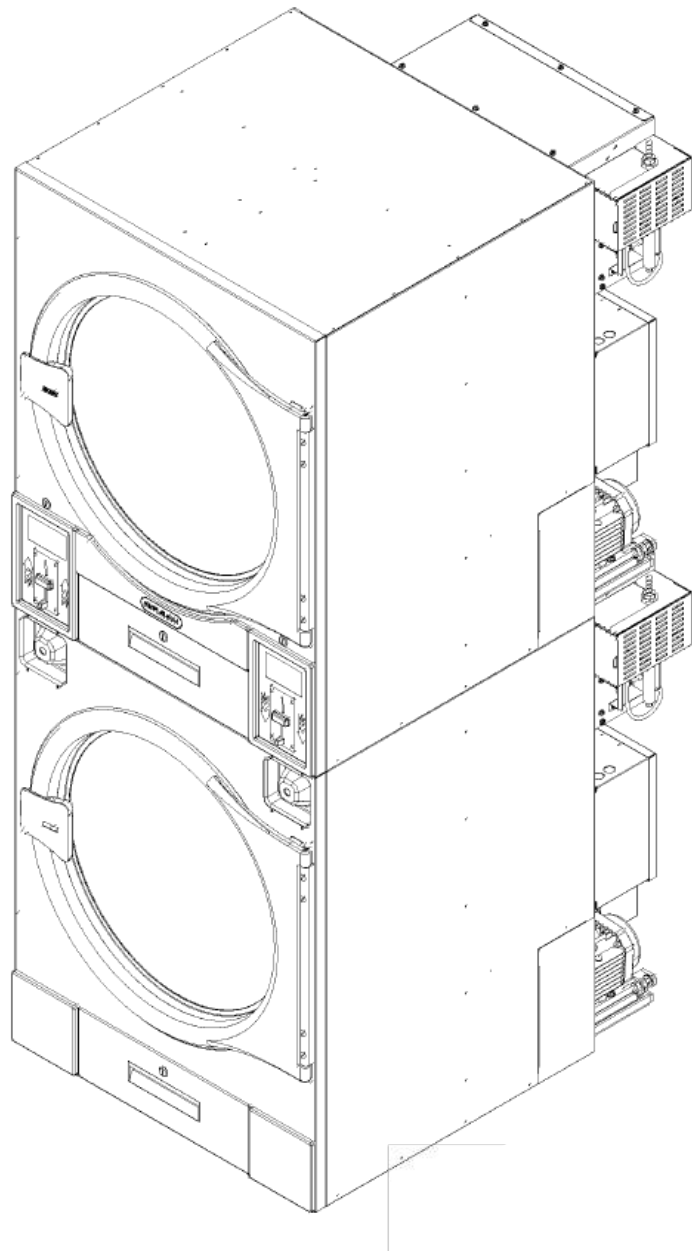


Installation \ Use \ Maintenance

The instructions apply to the following models:
EC12DD/EC16DD/EC19DD/EC22DD/EC27DD

Please read through this manual before use and retain these instructions for future reference after reading.

(If this machine changes ownership, this manual must accompany the machine.)



Contents

1. Security matters	1
1.1 Signs, logos.....	1
1.2 Safety instructions and precautions	2
2. Machine Installation	4
2.1 Model size	5
2.2 Installation requirements	6
2.3 Wiring	6
2.4 Heating installation requirements	8
2.5 Piping Requirements.....	9
2.5.1 Gas pipelines	9
2.5.2 Air intake and exhaust	12
3. Debugging	14
3.1 Commissioning Coin Operator	14
3.2 Commissioning the drying program.....	14
3.3 Commissioning gas control valves.....	15
4. Simple operation	18
5. Maintenance	19
5.1 Daily cleaning and maintenance	19
5.2 Common Failures and Solutions	20

1. Security matters

1.1 Marking, labeling

Please read this section carefully as ignoring it may result in damage to the machine or injury or death.

The following types of warning labels will be seen on the body of the machine

 WARNING 警告!		
Electrical shock hazard can cause death or serious injury To reduce the risk of electric shock, disconnect all electric power to appliance and accessories before servicing-		电击危险可能导致死亡或严重伤害为减少触电风险，维修前，请断开设备和配件的所有电源。
Moving parts hazard can cause serious injury Disconnect electric power to unit before servicing. Unexpected start of machinery will occur if the unit is equipped with the extended tumble feature		移动部件危险可能导致严重伤害。维修前断开设备的电源如果设备有延长的滚动功能，则会发生意外的机械启动。

For your personal safety, do not touch this area during use, and be sure to disconnect the power supply for maintenance and moving the machine.

 WARNING 警示!		
	To reduce the risk of electric shock, disconnect electric Power before servicing.	为减少触电风险，维修前，请断开设备和配件的所有电源。

NOTICE 警示!	
<p>Use only copper conductors with the following rating when wiring tumbler to electric supply: Gas and steam heat 75°C(167 F)minimum Electric heat 90°C(194F)minimum Connect this tumbler to an individual branch circuit.</p> <p>Wiring Diagram Location: Inside electrical box.</p>	<p>使用符合以下规格的铜制导线连接烘干机和电源： 燃气和蒸汽加热 75℃ (167 F) 最少 电加热 90℃ (194 F) 最少 烘干机配单独的断路器</p> <p>接线图： 在电箱内！</p>
<p>INSPECTED BY:</p> <p>检验：</p>	

External power cords need to meet the standards required for machine wiring, and power cords and pipes that do not meet the relevant standards must not be used.

1.2 Safety instructions and precautions

Install the dryer in accordance with "**2 Machine Installation**" in this manual. All intake piping, exhaust piping, gas piping, power, and grounding connections must comply with the relevant local regulations and authorize a professional to complete the connections if necessary. It is recommended to have the machine installed by a specialized technician.

Do not install or place the dryer in wet and open areas.

To prevent fire or explosion, do not place flammable or explosive products in the area around the machine.

To reduce the risk of electric shock or fire, never connect the washer to the mains using a non-compliant extension cable.

Do not allow children to play on or in the dryer. Children must be closely supervised when using the dryer near them. Do not allow young children or persons with impaired physical, sensory or mental abilities to use this appliance alone without supervision.

Keep young children under supervision so that they do not play with the appliance. This safety rule applies to all equipment.

Do not reach into the drum, especially if the dryer drum is rotating. Such behavior is a serious safety hazard and, if not avoided, can result in serious personal injury or death.

Do not operate the dryer while the outer panels of the dryer are removed or broken. Do not modify any safety devices or retrofit controls yourself.

This dryer should only be used as specified. Do not bake hard items in this machine as serious damage to the drum may occur.

Use only low-foaming, non-foaming industrial cleaners. Wear gloves and eye protection when adding cleaners and chemicals. Always read and follow the instructions provided on the manufacturer's cleaner packaging. Observe all warnings or cautions. Always keep them out of the reach of children (preferably in a locked cabinet).

To avoid machine corrosion and component failure, never use corrosive chemicals in the machine.

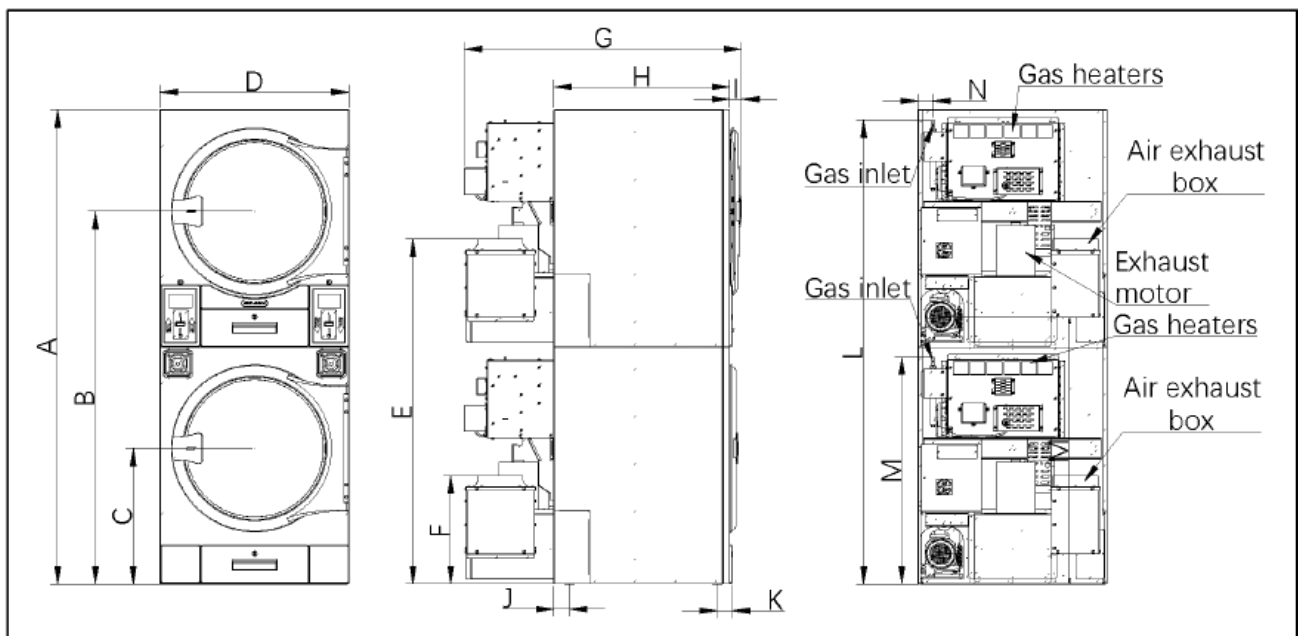
Always follow the fabric care instructions provided by the textile manufacturer.

Always keep the seal door closed before running the dryer. Do not allow the dryer to operate with the seal door open by avoiding the loading door switch. Always stop all moving parts of the dryer before attempting to open the load door.

Do not touch the inner wall of the barrel, the back panel, or the heating box during or just after machine operation to prevent burns.

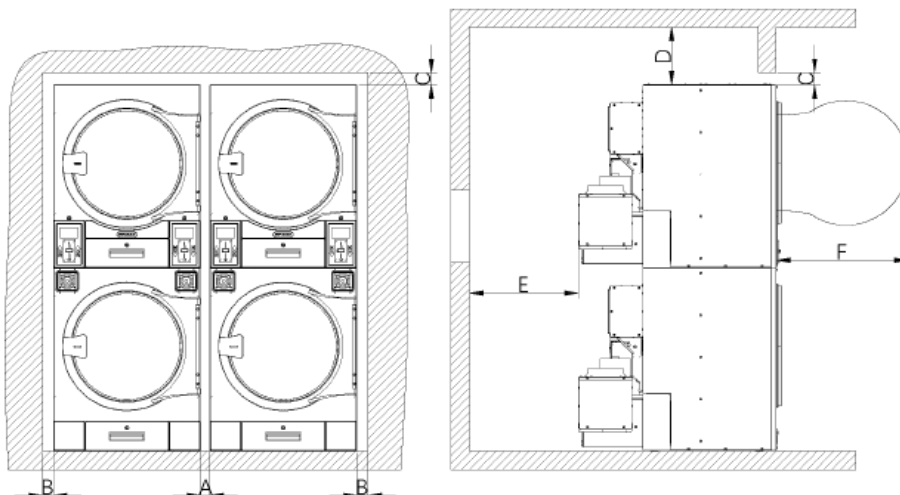
! Check that the gas type matches the machine before using the gas-heated machine.

2. Machine installation



2.1 Model size

model number	EC12DD	EC16DD	EC19DD	EC22DD	EC27DD
Weight (KG)	278	317	340	356	395
A (mm)	2005	2005	2005	2225	2225
B (mm)	1575	1575	1575	1740	1740
C (mm)	575	575	575	630	630
D (mm)	800	800	800	910	910
E (mm)	1438	1438	1438	1567	1567
F (mm)	438	438	438	457	457
G (mm)	1031	1161	1326	1208	1378
H (mm)	613	743	908	748	918
I (mm)	38	38	38	38	38
J (mm)	66	66	66	58	58
K (mm)	62	62	62	62	62
L (mm)	1961	1961	1961	2126	2126
M (mm)	961	961	961	1016	1016
N (mm)	63	63	63	118	118



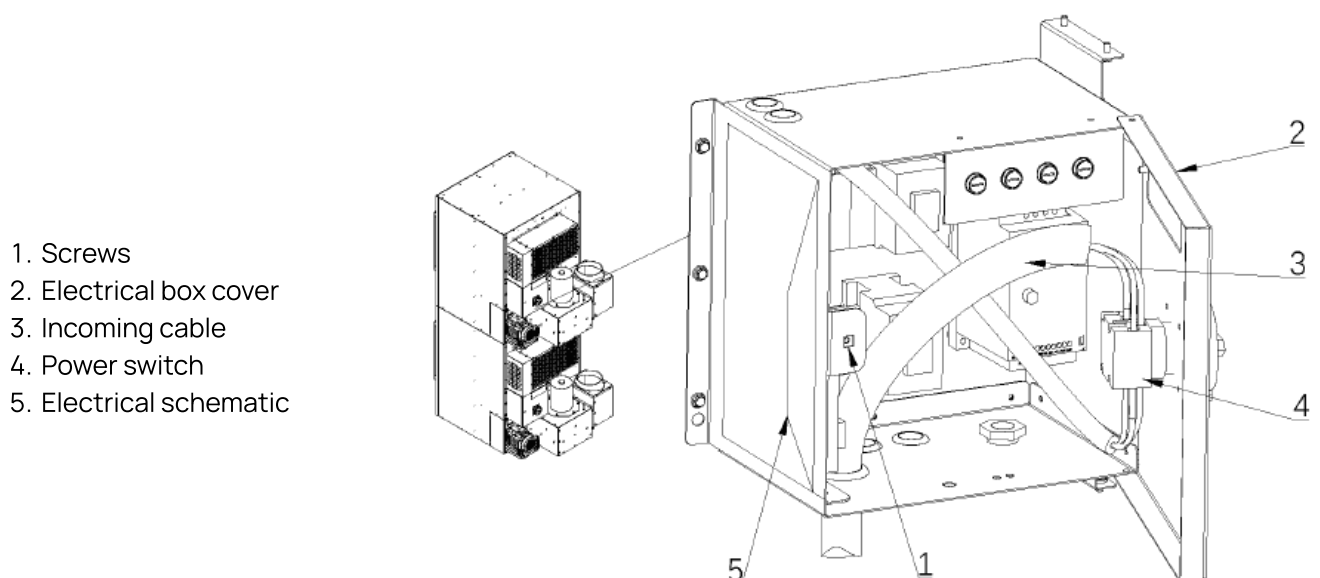
2.2 Installation requirements

models	EC12DD	EC16DD	EC19DD	EC22DD	EC27DD
A	(Minimum machine-to-machine clearance) 5mm				
B	(Minimum clearance for mobile installation of machine) 5mm				
C	(Minimum clearance between top trim and machine) Removable trim plate 0mm				
	(Minimum clearance between top trim and machine) Fixed trim plate 50mm				
D	(Minimum clearance for installation movement and maintenance) 300mm				
E	(Minimum clearance for maintenance) 700mm				
F	(Minimum clearance for door opening) 750mm				

2.3 Wiring

Wiring reference electrical schematic (included with machine)

Please refer to the following table to select cables according to the local electricity standard, please do not use cables that do not meet the standard in order to avoid damage to the machine or even personnel injury.

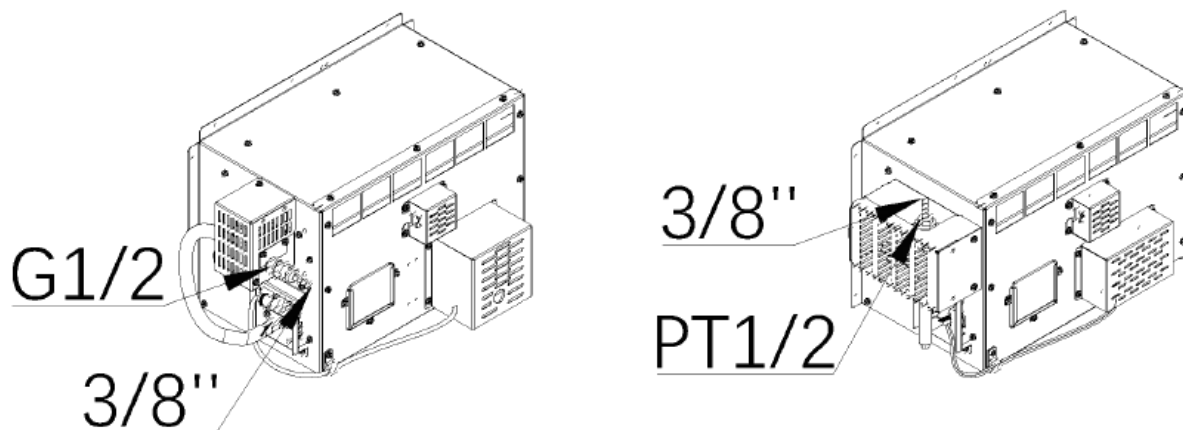


models	configure	Rated power KW	Rated power PH	Rated voltage V	Rated current A
EC12DD	electrical heating	11.12	14.91	220	50.55
				380	21.12
EC12DD	natural gas	0.62	0.84	220	2.82
				380	1.18
EC15DD	electrical heating	11.12	14.91	220	50.55
				380	21.12
EC15DD	natural gas	0.62	0.84	220	2.82
				380	1.18
EC19DD	electrical heating	14.12	18.94	220	64.19
				380	26.82
EC19DD	natural gas	0.62	0.84	220	2.82
				380	1.18
EC22DD	electrical heating	15.7	21.05	220	71.37
				380	29.82
EC22DD	natural gas	1.3	1.75	220	5.91
				380	2.47
EC27DD	electrical heating	21.1	28.29	220	95.91
				380	40.08
EC27DD	natural gas	1.3	1.75	220	5.91
				380	2.47
The above values are for single layer power, whole machine power x2					

2.4 Heating installation requirements

Gas-heated machines need to be arranged in advance gas piping, gas heating box gas pipe interface dimensions see the following figure, space location refer to "2.1 model size".

If the terminal connection of the gas pipe is a hose, the hose can be directly connected to the gas pipe connector, and the connection needs to be fixed with a throat band for safety. If the pipeline terminal is a hard pipe, you can use G1/2 or PT1/2



(according to the gas valve model to determine) gas pipe connector connection.

2.5 Piping requirements

2.5.1 Gas pipelines

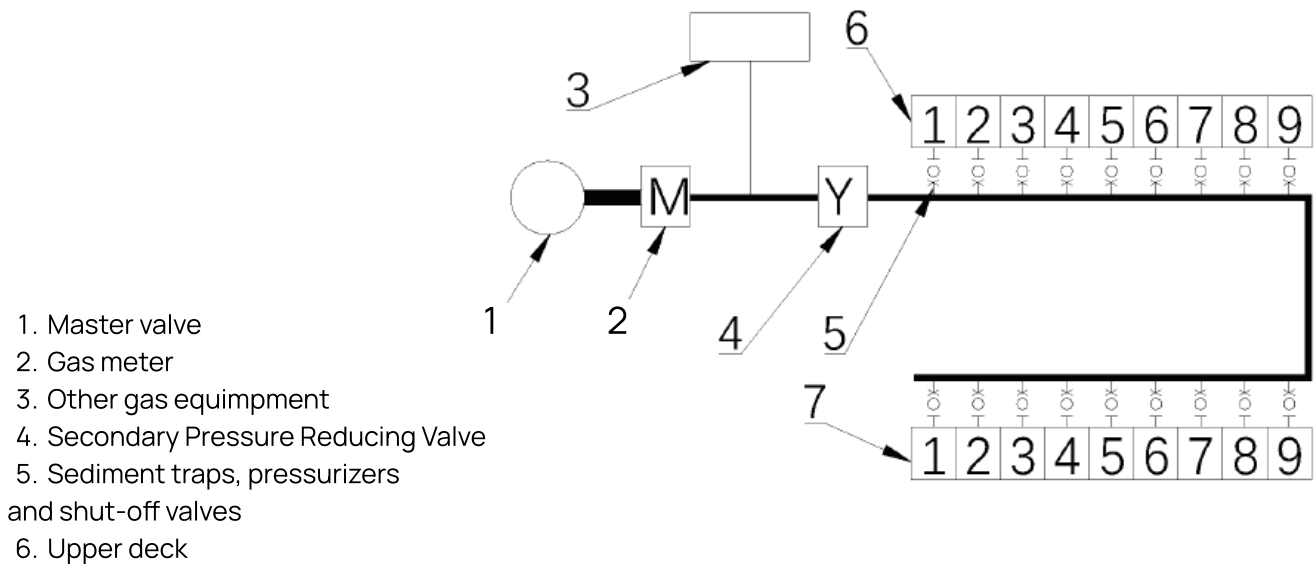
Gas-heated dryers need to be arranged with gas piping in advance, refer to the following table and the figure below.

DUNGS.

models	EC12DD	EC16DD	EC19DD	EC22DD	EC27DD
Maximum pressure	0.85PSI [6Kpa]				
Gas regulation range	0.4-14.8in.w.c. [0.1-3.7kpa]				
BTU/hr.	55,000	75,000	90000	95000	115,000
MJ/hr	58	79	95	100	121

EMERSON.

models	EC12DD	EC16DD	EC19DD	EC22DD	EC27DD
Maximum pressure	1/2PSI [3.5Kpa]				
Natural gas regulation range	2.5-5in.w.c. [0.6-1.2kpa]				
Liquefied gas adjustment range	7-12in.w.c. [1.7-2.9kpa]				
BTU/hr.	55,000	75,000	90000	95000	115,000
MJ/hr	58	79	95	100	121



Gas-heated dryers need to arrange piping in advance, refer to Table 4, 5, 6 and Fig. 8 to calculate the size of piping.

Total length = gas supply to furthest dryer

Example: 9 EC12DD

$$= L + 0.8\text{m} \times 9 \times 2 + 1\text{m}$$

$$= L + 15.4\text{m}$$

Total heat (BTU/hr.) = total heat from all dryers supplied through gas mains

$$= 55000 \text{ BTU/hr.} \times 2 \times 9$$

$$= 990000 \text{ BTU/hr.}$$

$$= 990,000 \text{ BTU/hr.} \times 0.6 \text{ (liquefied gas)}$$

$$= 594000 \text{ BTU/hr.}$$

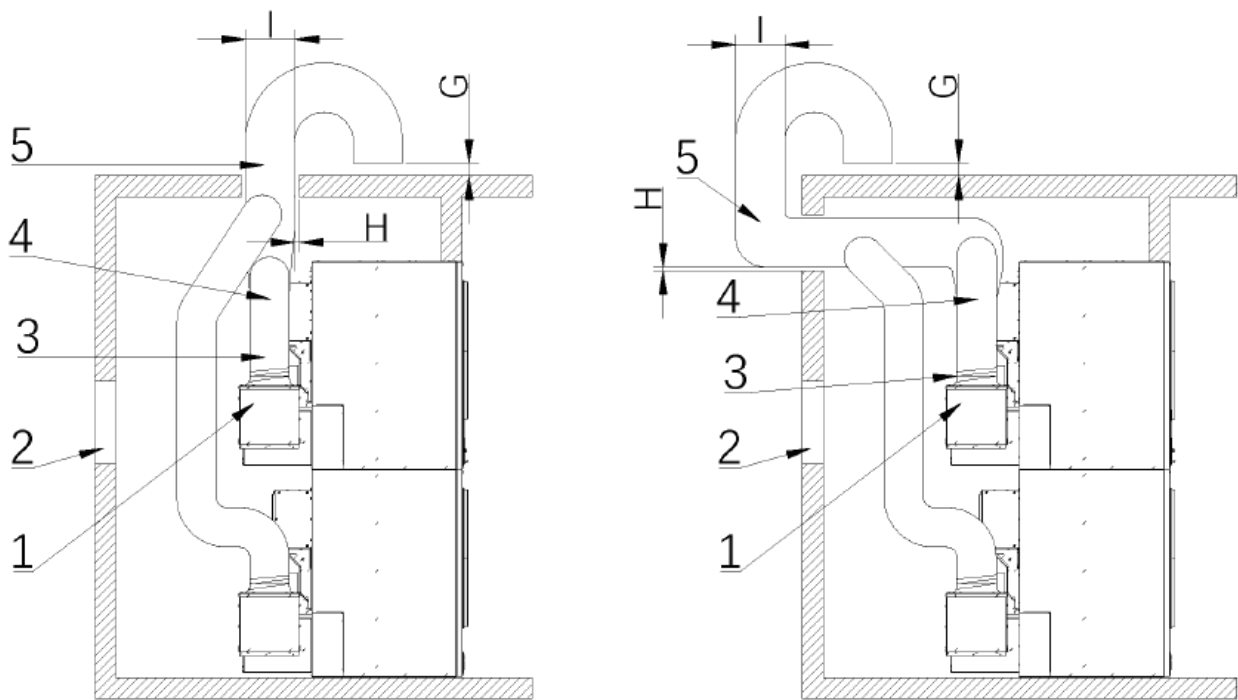
1000 BTU natural gas-fired tumble dryer (standard conditions) Required gas line size at upstream pressure - 17.4 ± 4 mbar, 1.74 ± 0.37 kPa [7 ± 1.5 inches] water column pressure						
Total heat produced by the gas unit	equivalent length					
	25 feet (7.6m)	50 feet (15.2m)	75 feet (22.9m)	100 feet (30.5m)	125 feet (38.1m)	150 feet (45.7m)
Total heat produced by the gas unit (BTUs/hour)	Lengths given are based on 0.3 inch water column pressure drop Dimensions in inches					
100000	3/4	3/4	3/4	1	1	1
120000	3/4	3/4	1	1	1	1
140000	3/4	1	1	1	1	1
160000	3/4	1	1	1	1-1/4	1-1/4
180000	3/4	1	1	1-1/4	1-1/4	1-1/4
200000	1	1	1	1-1/4	1-1/4	1-1/4
300000	1	1-1/4	1-1/4	1-1/4	1-1/2	1-1/2
400000	1-1/4	1-1/4	1-1/2	1-1/2	1-1/2	1-1/2
500000	1-1/4	1-1/2	1-1/2	1-1/2	1-1/2	2
600000	1-1/4	1-1/2	1-1/2	2	2	2
700000	1-1/2	1-1/2	2	2	2	2
800000	1-1/2	1-1/2	2	2	2	2
900000	1-1/2	2	2	2	2	2-1/2
1,000,000	1-1/2	2	2	2	2-1/2	2-1/2
1100000	1-1/2	2	2	2	2-1/2	2-1/2
1200000	1-1/2	2	2	2	2-1/2	2-1/2
1300000	2	2	2-1/2	2	2-1/2	2-1/2
1400000	2	2	2-1/2	2	2-1/2	2-1/2
1500000	2	2	2-1/2	2	2-1/2	2-1/2
1600000	2	2	2-1/2	2-1/2	2-1/2	3
1700000	2	2-1/2	2-1/2	2-1/2	3	3
1800000	2	2-1/2	2-1/2	2-1/2	3	3
1900000	2	2-1/2	2-1/2	3	3	3
2,000,000	2	2-1/2	2-1/2	3	3	3
2200000	2	2-1/2	3	3	3	3
2400000	2-1/2	2-1/2	3	3	3	3-1/2
2600000	2-1/2	2-1/2	3	3	3-1/2	3-1/2
2800000	2-1/2	3	3	3	3-1/2	3-1/2
3,000,000	2-1/2	3	3	3-1/2	3-1/2	3-1/2

For LPG tumble dryers, adjust by multiplying the total heat (BTU/hr.) by 0.6. The product is the equivalent BTU in the table above.

2.5.2 Air intake and exhaust

Dryers require dry air to supplement the air expelled from the machine.

Air exchange area per dryer		
models	exhaust volume C.F.M (l/sec)	Minimum area of air window in. ² (cm ²)
EC12/16/19DD	800 (380)	110 (710)
EC22/27DD	1000 (470)	140 (900)



1. Exhaust ducts
2. Air windows
3. Hose band and sealing tape

- G. Minimum clearance between exhaust pipe and wall or other obstacle 900mm
- H. Minimum clearance 50mm
- I. The diameter of the main pipe is determined

Separate exhaust: For energy efficiency reasons, it is best to connect the dryer exhaust separately.

Maximum exhaust length: 14 feet [4.3m] 2 90° turns
 Increase 10% for every 20 feet [6.1m] of round exhaust duct diameter
 20% per 20 feet [6.1m] of connection for rectangular ducts

Equivalent length calculation

Equivalent length of a 12-inch (305 mm) pipe to 14 feet (4.3 m) and 2 90 ° elbows

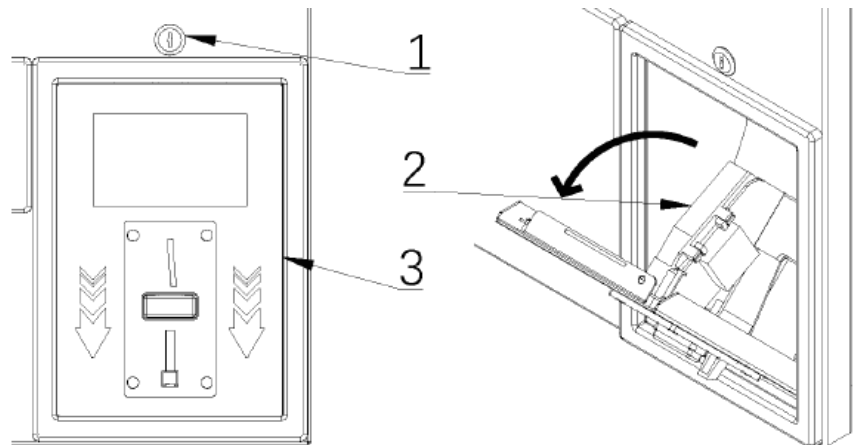
$$= 14 \text{ ft (4.3m)} + (2) 90^\circ \text{ elbows}$$

$$= 14 \text{ feet (4.3m)} + 14 \text{ feet (4.3m)} + 14 \text{ feet (4.3m)} = 42 \text{ feet (12.9m)}$$

Pipe Diameter	Equivalent length of a relative straight line
8 inches (203mm)	1 90° elbow = 9.3 ft (2.8m)
10 inches (254mm)	1 90° elbow = 11.6 ft (3.5m)
12 inches (305mm)	1 90° elbow = 14 ft. (4.3m)
14 inches (356mm)	1 90° elbow = 16 ft (4.9m)
16 inches (406mm)	1 x 90° Elbow = 18.7 ft (5.7m)
18 inches (457mm)	1 90° elbow = 21 ft (6.4m)
Equivalent Length (m) = 1.17 x Diameter (mm)	

3. Debugging

1. Padlock
2. Coin dispenser
3. Flip panel



3.1 Commissioning of the coin dispenser

Before using the coin-operated machine, you need to adjust the coin type and coin amount of the coin dispenser according to your personal needs, as shown in the picture to open the flip panel to see the coin dispenser. The specific debugging method of the coin dispenser can be found in the "Coin Dispenser Instruction Manual".

3.2 Debugging drying program

Due to the environmental impact of each region, the drying effect will be affected under the same drying program. Users need to adjust the machine drying program: drying time, drying temperature and so on. For specific adjustment method, please refer to "Computer Board Instruction Manual".

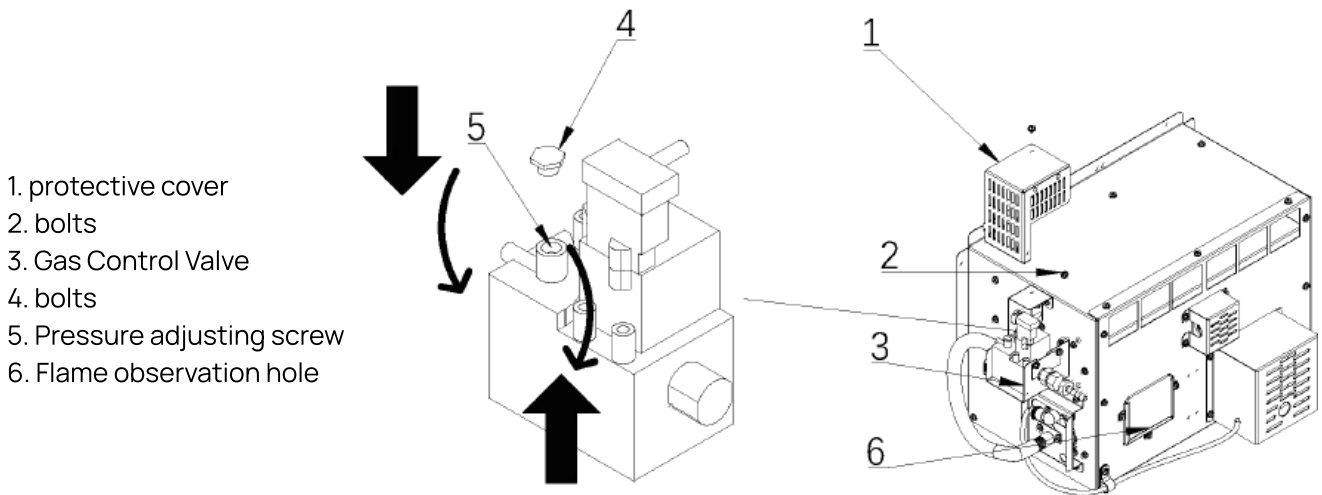
If there is any abnormality in the commissioning process, please refer to "5.2 Common Failures and Solutions".

3.3 Commissioning gas control valves



The gas control valve pressure has been debugged before leaving the factory, generally no need to make adjustments. If abnormal combustion of the heating box is found through the flame observation hole and there is no abnormality in the gas pipeline pressure, the gas control valve can be adjusted to regulate the flame.

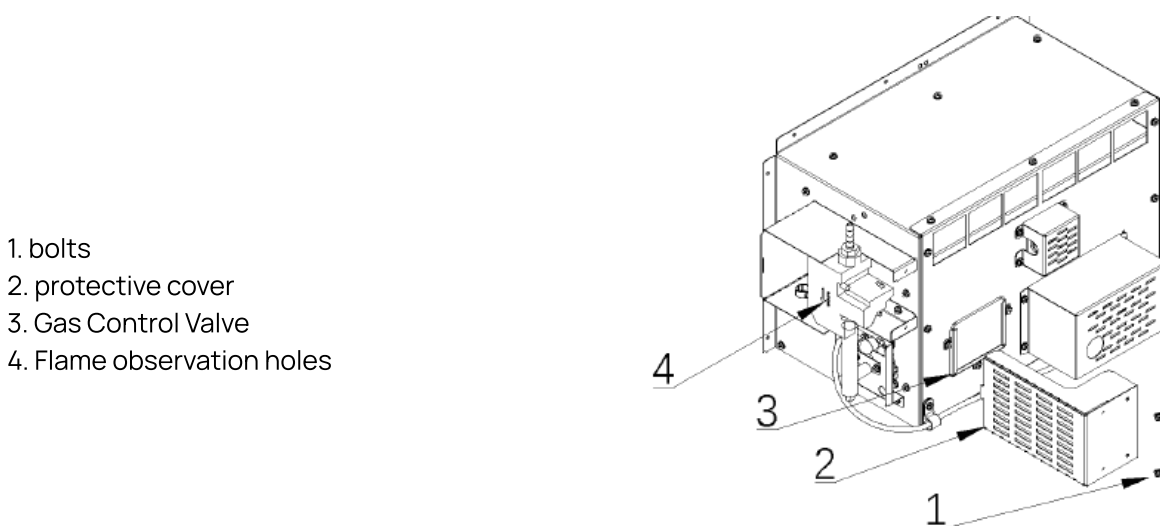
DUNGS.

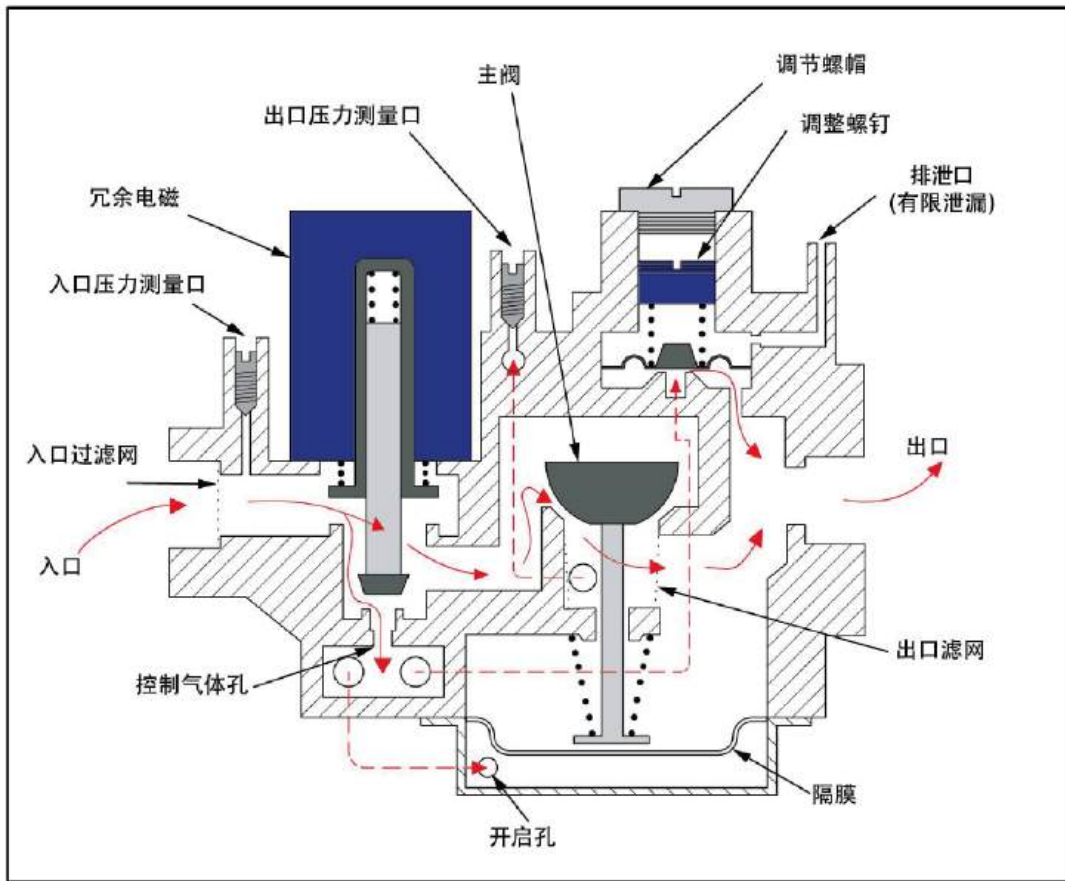
Remove the shield, unscrew the gas control valve screw, turn the pressure adjusting screw clockwise and the pressure rises, turn the pressure adjusting screw counterclockwise and the pressure falls.



EMERSON.

Remove shield, unscrew gas control valve screw, clockwise  unscrew adjusting screw and pressure rises, counterclockwise  unscrew adjusting screw and pressure falls.

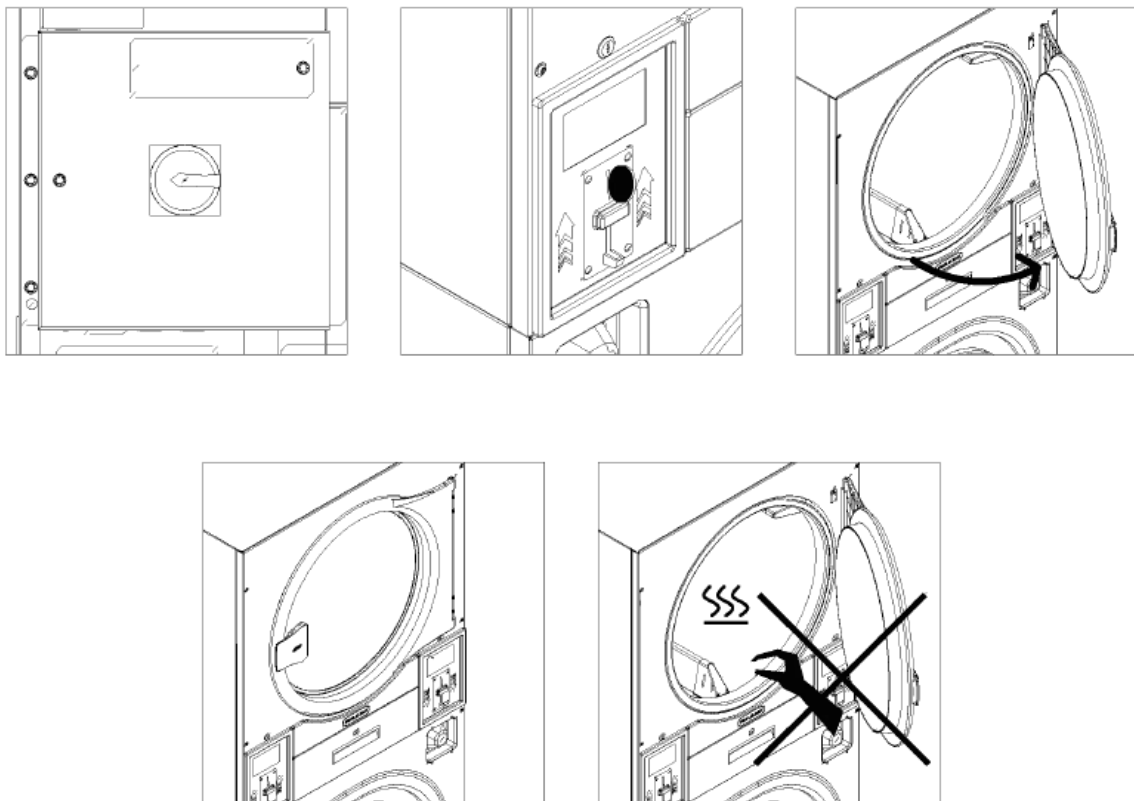




4. Simple Operation

1. Confirm that the power supply, exhaust ducts, gas piping (gas heating type) are installed correctly, and confirm that there are no foreign objects in the machine liner and no dangerous objects around the machine.
2. Turn on the power switch
3. Coin drop (non-coin drop type skip this step)
4. Open the door
5. Put in clothes
6. Close the door.
7. Start running
8. After the machine completely stops running, open the door
9. Remove clothing

Note: Do not touch the inner liner until you are sure the temperature is reduced to a safe level to avoid burns.



5. Maintenance

5.1 Daily cleaning and maintenance

Use only low-foaming, non-foaming industrial cleaners to clean the liner. Ensure that the cleaner is rinsed out to avoid direct contact between the inner liner and the clothing, which may cause damage to the clothing. Wipe the machine clean promptly after cleaning.

It is recommended that users test and maintain the following facilities on a fixed cycle:

The lint trap is regularly cleaned of lint depending on the level of use.

The interior of the machine is inspected for foreign matter, once a day.

Coin-operated machines coin dispensers are working properly and gas line sealing is checked monthly.

Seals for deterioration and breakage, check every six months.

Belts and exhaust ducts are inspected every twelve months.

5.2 Common Failures and Solutions

1. Ignition failure

- ① The exhaust motor is not rotating in the marked direction. Incoming power with two of the firewires switched. (This is not the case with single-phase models.)
- ② The ignition needle did not spark. The controller is not getting voltage, check the upstream wiring. Ignition high voltage wire is broken. Use a multimeter to check that the entire wire conducts. Control box malfunction. Replace control box.
- ③ There is an electric spark but no effective flame can appear. Gas pressure does not match ignition pressure. Install pressure reducing valve to adjust to optimum pressure. Gas control valve will not open. No voltage to the gas control valve, or the gas control valve is faulty

2. The direction of rotation of the dryer liner does not match the direction of display.

- ① Incoming power supply, with two of the fire wires switched. (This is not the case with single-phase models.)

3. Dampers Failure

- ① The exhaust motor does not rotate in the marked direction. Incoming power with two of the firewires switched. (This is not the case with single-phase models.)
- ② Air damper microswitch wire is disconnected Check and tighten.
- ③ Damper switch bracket is clogged with too much resistance to engage. Clean or replace bracket assembly if necessary.

4. Monitor blue screen, black screen White screen.

- ① Open the mounting controller flip panel and check for moisture behind the screen. Wipe Dispose of water droplets and make a moisture-proof treatment. Wait for a period of time before using.
- ② Replace the connecting cable with a new one (monitor - front panel)
- ③ Replace the monitor with a new one.

5. Drive motor overheating High current.

- ① Match the motor wiring and the model voltage.
(220V delta connection 380V star connection) Optional inverter model according to the inverter output voltage shall prevail.
- ② High resistance in the inner liner. Bearing seized Lack of oil. Replace bearing
- ③ High resistance in the liner. Belt off roller, reinstall belt and calibrate.
- ④ High resistance of the inner liner. The rear plate squeezes the bottom of the inner liner, and it is difficult to rotate, so it is necessary to remove the inner liner to eliminate the friction and extrusion fault.
- ⑤ Operate using the rated frequency. If the problem is not solved please contact your local agent or manufacturer

If the problem is not solved please contact your local agent or manufacturer