Operating and installation manual

TD110

487 14 14 81/03
Wascomat

Gas dryers only

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

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

– WHAT TO DO IF YOU SMELL GAS

• Do not try to light any appliance.

• Do not touch any electrical switch; do not use any phone in your building.

• Clear the room, building or area of all occupants.

• Immediately call your gas supplier from a neighbor’s phone. Follow the gas supplier’s instructions.

• If you cannot reach your gas supplier, call the fire department,

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

OPERATING & MAINTENANCE MANUAL

Tumble dryer Type 110

WARNING: ALL OPERATING AND MAINTENANCE PROCEDURES SHOWN ON THE NEXT PAGE OF THIS MANUAL MUST BE FOLLOWED DAILY FOR PROPER OPERATION OF YOUR WASCOMAT MACHINE.

PLEASE CHECK THAT THE FOLLOWING INFORMATION APPEARS ON THE MACHINE DATA PLATE(S). IF THIS INFORMATION IS MISSING, CONTACT WASCOMAT CUSTOMER SERVICE AT **516-371-0700**

Maskindata

KEEP THIS MANUAL IN A
SECURE PLACE FOR FUTURE REFERENCE.

NOTICE TO: OWNERS, OPERATORS AND DEALERS OF WASCOMAT MACHINES.

IMPROPER INSTALLATION AND INADEQUATE MAINTENANCE, POOR HOUSEKEEPING AND WILLFUL NEGLECT OR BYPASSING OF SAFETY DEVICES MAY RESULT IN SERIOUS ACCIDENTS OR INJURY. TO ASSURE THE SAFETY OF CUSTOMERS AND/OR OPERATORS OF YOUR MACHINE, THE FOLLOWING MAINTENANCE CHECKS MUST BE PERFORMED ON A DAILY BASIS.

1. Prior to operation of the machine, check to make certain that all operating instructions and warning signs are affixed to the machine and legible. (See the following page of this manual for description and location of the signs.) Missing or illegible signs and labels **must be replaced immediately.** Be sure you have spare signs and labels available at all times. These can be obtained from your dealer or Wascomat.

2. Check the door safely switch, as follows:

   (a) OPEN THE DOOR of the machine and attempt to start in the normal manner: **THE MACHINE(S) SHOULD NOT START!**

   (b) CLOSE THE DOOR to start machine operation and, while it is operating, open the door: **THE MACHINE(S) SHOULD STOP.**

   If the machine can operate with the door open, it must be placed out of order until the necessary repairs are made.

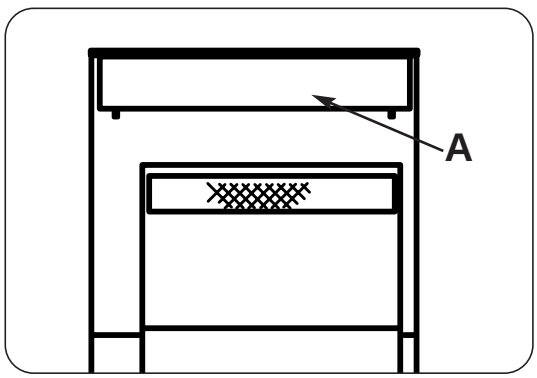
3. DO NOT UNDER ANY CIRCUMSTANCES ATTEMPT TO BYPASS OR REWIRE ANY OF THE MACHINE`S SAFETY DEVICES AS THIS CAN RESULT IN SERIOUS ACCIDENTS, AND WILL VOID YOUR WARRANTY.

4. **Be sure to keep the machine(s) in proper working order:** Follow all maintenance and safety procedures. Further information regarding machine safety, service and parts can be obtained from your dealer or from Wascomat through its Customer Service Department - 516/ 371-0700.

All requests for assistance must include the model, serial number and electrical characteristics as they appear on the machine identification plate.

5. WARNING: DO NOT OPERATE MACHINE(S) WITH SAFETY DEVICES BYPASSED, REWIRED OR INOPERATIVE!

6. The wiring diagram is located in the electrical service box (**A**) at the rear of the machine.



SAFETY AND WARNING SIGNS

Replace If Missing Or Illegible

One or more of these signs must be affixed on each machine.

LOCATED AT THE REAR OF THE MACHINE:

INSTALLATION AND MAINTENANCE WARNINGS

1. **This machine should be installed on an uncovered concrete floor, in accordance with the installation instructions, to reduce the risk of fire and to prevent serious injury and damage to the machine.**
2. **If installed on a floor of combustible material the floor area below this machine must be covered by a metal sheet extending to the outer edges of the machine.**
3. **This machine MUST be connected to a dedicated electrical circuit to which no other lighting unit or general purpose receptacle is connected. Use copper conductors only.**
4. **This machine MUST be serviced and operated in compliance with manufacturer's intructions. CHECK DOOR EVERY DAY FOR PROPER OPERATION TO PREVENT INJURY OR DAMAGE. IF THE DOOR INTERLOCK FAILS TO OPERATE PROPERLY, PLACE THE MACHINE OUT OF ORDER UNTIL THE PROBLEM IS CORRECTED.**
5. **Disconnect power prior to any servicing of machine.**
6. **To open the service panel for service on those models on which it is secured by screws and keylock at the front panel, use the key originally shipped in the drum package. Be certain to relock after the servicing.**

MANUFACTURED BY NYBORG LAUNDRY MACHINES, TOMMERUP, DENMARK.

DISTRIBUTED BY WASCOMAT, INWOOD, NEW YORK, USA

AND BY WASCOMAT OF CANADA, MISSISSAUGA, ONTARIO, CANADA.

SOLD AND SERVICED BY INDEPENDENT WASCOMAT DEALERS.

MACHINE SHOULD NOT BE USED BY CHILDREN

487 18 97 31

If you need to order more safety or warning signs, call Wascomat´s parts department at 516-371-2000 or call your local dealer.

487 18 97 32

IMPORTANT

BEFORE CONNECTING POWER OR HEATING SUPPLIES,
REFER TO MACHINE DATA LABEL BEHIND FRONT CONTROL PANEL.

For use only in non-combustible locations

487 18 97 66

To order replacement parts, call Wascomat's parts department at 516-371-2000, or call your local dealer.

SAFETY AND WARNING SIGNS

Dryer MUST NOT be operated with guards, outer tops, our service door/panels removed or not in place.

"Warning"
High temperatures which could cause severe burns.

Must be exhausted to the outdoors

DO NOT OPERATE THIS APPLIANCE BEFORE READING THE INSTRUCTION BOOKLET.
DO NOT PLACE ARTICLES ON OR AGAINST THIS APPLIANCE.
DO NOT STORE CHEMICALS OR FLAMMABLE MATERIALS, OR SPRAY AEROSOLS NEAR THIS APPLIANCE.
DO NOT OPERATE WITH PANELS, COVERS OR GUARDS REMOVED FROM THIS APPLIANCE.
DO NOT LOAD MATERIALS CONTAINING FLAMMABLE SOLVENTS INTO THIS APPLIANCE.

487 18 97 36

WARNING

DO NOT store or use flammable liquids near the dryer.
DO NOT put articles soiled with flammable liquids in dryer.
DO NOT put articles soiled with vegetable or cooking oils in dryer.
DO NOT put articles containing foam rubber, plastic or similarly textured rubberlike materials in dryer.
DO NOT store or use aerosols or cleaning solvents in the vicinity of the dryer. Some chemicals used in laundries contain Chlorine (some dry-cleaning fluids, aerosols and bleach). When exposed to a flame, these chemicals may produce toxic fumes that are harmful to humans and highly corrosive.
DO NOT reach into dryer until all moving parts have stopped.
DO NOT let children play in or near dryer.

487 18 97 38.

WARNING

PLUMBERS BEWARE WHEN PRESSURE TESTING!!!
DRYER MUST NOT BE SUBJECTED TO PRESSURE THAT EXCEEDS 1/2 psig (3.5kPa).
TO DO SO WILL CAUSE GAS LEAKS WHICH CAN RESULT IN FIRE OR EXPLOSION.

487 18 97 39.

IMPORTANT

DO NOT JUMP WIRES AROUND AIR SWITCH.
DO NOT TAPE SWITCH DAMPER SHUT.
DO NOT RESTRICT FLOW OF AIR TO SWITCH.

487 18 97 43

WARNING

THIS 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). THIS 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 GREATER THAN 1/2 psig (3.5 kPa).

487 18 97 37

CAUTION

THIS DRYER MUST BE EXHAUSTED TO THE OUTDOORS.

INSTRUCTIONS

INSPECT EXHAUST DUCTING EVERY 6 MONTHS AND REMOVE LINT BUILDUP.

487 18 97 42.

WARNING

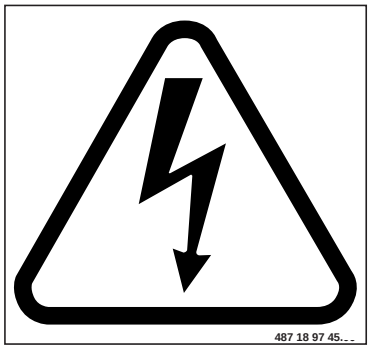
VALVE CONVERTED FOR USE ON LP GAS. REGULATOR BLOCKED OPEN! EXTERNAL REGULATOR REQUIRED! IMPROPER OPERATION COULD RESULT IN DEATH OR SERIOUS INJURY!

MISE EN GARDE

SOUPAPE CONVERTIE POUR USAGE SUR GAZ DE PETROLE LIQUEFIE. REGULATEUR BLOQUE EN POSITION OUVERTE! REGULATER EXTERNE NECESSAIRE! UN FONCTIONNEMENT INAPPROPRIE PEUT PROVOQUERLA MORT OU DES BLESSURES GRAVES.

487 18 97 40.

Accessory kit in the cylinder.



"Live voltage"
Discontinue electrical power before sercicing

LINT SCREEN MUST BE CLEANED IN ACCORDANCE WITH THE MANIFACTURER´S RECOMMENDED FREQUENCY GUIDELINES

487 18 97 41

WARNING

THE DRYER MUST BE USED ONLY FOR DRYING WATER WASHED FABRICS.
HEAT MUST NOT BE USED FOR DRYING FOAM RUBBER ITEMS OR SIMILARLY TEXTURED RUBBERLIKE MATERIALS.
DO NOT DRY MOPHEADS OR ARTICLES EXPOSED TO GASOLINE, KEROSENE, PAINT, WAX, GREASE, COMBUSTIBLE DETERGENT OR ALL PURPOSE CLEANERS.
REMOVE ARTICLES BEING DRIED IMMEDIATELY AFTER TUMBLER STOPS.
THIS DRYER IS NOT TO BE USED IN THE PRESENCE OF DRY CLEANING SOLVENTS.

487 18 97 44.

FOR YOUR SAFETY

DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS AND LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE,
DO NOT DRY MOP HEADS IN THE DRYER.
DO NOT USE DRYER IN THE PRESENCE OF DRY CLEANING FUMES.

IMPORTANT

YOU MUST DISCONNECT and LOCKOUT THE ELECTRIC SUPPLY and THE GAS SUPPLY or THE STEAM SUPPLY BEFORE ANY COVERS or GUARDS ARE REMOVED FROM THE MACHINE TO ALLOW ACCESS FOR CLEANING, ADJUSTING, INSTALLATION, or TESTING OF ANY EQUIPMENT per OSHA (Occupational Safety and Health Administration) STANDARDS.

⚠ WARNING

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

CAUTION

DRYER(S) SHOULD NEVER BE LEFT UNATTENDED WHILE IN OPERATION,

IMPORTANT

Please observe all safety precautions displayed on the equipment and/or specified in the installation/operators manual included with the dryer.

Dryer(s) must not be installed or stored in an area where it will be exposed to water and / or weather,

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

Electrical Information

It is your responsibility to have **ALL** electrical connections (including groundings) made by a properly licensed and competent electrician to assure that the electrical installation is adequate and conforms with 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 ELECTRIC CODE ANSI/NFPA NO. 70 or the CANADIAN ELECTRICAL CODE, CSA C22.1 - both the 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 will **VOID THE WARRANTY.**

IMPORTANT: 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 will **VOID THE WARRANTY**

CAUTION: Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper operation or component failure.

Electric Service

Gas and steam dryers ONLY

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.** Wire **must be** properly sized to handle the rated current.

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

NOTE: To convert from 208 VAC to 240 VAC (or vice versa). From 208-220VAC the transformer is connected and from 220-240VAC the transformer is disconnected.

Electric Dryers ONLY

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.**

Gas Information

It is your responsibility to have **ALL** plumbing connections made by a qualified professional to insure that the installation is adequate and conforms with 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 or the **CAN/CGA-B149, INSTALLATION CODES** - both the 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 ½ 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 greater than ½ psig (3.5 kPa).

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

WARNING: FIRE or EXPLOSION COULD RESULT.

Gas Supply

The gas dryer installation must meet the American National Standard, National Fuel Gas Code Z223.1-LATEST EDITION, as well as local codes and ordinances and **must be** done by a qualified professional,

NOTE: Undersized gas piping will result in ignition problems, slow drying, increased use of energy, and can create a safety hazard.

The dryer **must be** connected to the type of heat/ gas indicated on the dryer data label. If this information does not agree with the type of gas available, **do not** operate the dryer. Contact your local dealer or the Wascomat Sales Department.

IMPORTANT: Any burner changes or conversions **must be** made by a qualified licensed professional.

The input ratings shown on the dryer data label are for elevations of up to 2,000 feet. The adjustment or conversion of the dryer(s) in the field for elevations over 2,000 feet are made by changing each burner orifice.
If this conversion is necessary, contact your local dealer or the Wascomat Sales Department.

Technical Gas Data

Natural Gas (GNH)

The natural gas supply pressure to the dryer **must be** between 6 and 10 inches water column. If the pressure is too low, ignition failure and/or slow drying times may result. Excessively high supply pressure will result in erratic operation of the gas valve's internal pressure regulator. The pressure measured at the pressure tap on the body of the gas valve **must be** for TYPE: 110 5.6-inches water column.

Liquid Petroleum (L.P.) Gas

Dryers made for use with L.P. gas have the gas valve pressure regulator blocked open, so that the gas pressure **must be** regulated upstream of the dryer. The pressure measured at the gas valve body pressure tap **must be** 11 inches water column. 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.
The water column pressure **must be** regulated at the source (L,P. tank), or an external regulator must be added to each dryer.

Piping/Connections

The dryer is provided with a ¾" N.P.T. inlet pipe connection extending out the rear area or through the top of the dryer. For ease of servicing, the gas supply line of each dryer should have its own shut-off valve.

The size of the gas supply line (header) will vary depending on the distance this supply line travels from the gas meter or, in the case of L.P. gas, the supply tank, the number of tees, other gas-operated appliances, 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 gas 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 ¾-inch pipe gas loop be installed in the supply line serving the bank of dryers. An in-line pressure regulator **must be** installed in the gas supply line (header) if (natural) gas line pressure exceeds 12-inches water column pressure.

IMPORTANT: Water column pressure of TYPE: 110 5.6 -inches water column for natural gas dryers 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" N.P,T. plugged tap, accessible for test gauge connection, **must be** installed in the main gas supply line immediately upstream of each dryer.

IMPORTANT: Pipe joint compounds that resist the action of natural gas and L.P. gas **MUST BE** used.

WARNING: Test **ALL** connections for leaks by brushing on a soapy water solution (liquid detergent also works well). **NEVER TEST FOR GAS LEAKS WITH AN OPEN FLAME.**

ALL components / materials **must conform** to NATIONAL FUEL GAS CODE specifications. It is important that gas pressure regulators meet applicable pressure requirements and that gas meters are rated for the total amount of appliance Btu's being supplied.

⚠ Safety instructions ⚠

This machine is only intended for drying water-washed garments.

Clothes that have been cleaned with chemicals/inflammable liquids, must NOT be dried in the machine.

Remove clothes from the tumble dryer as soon as they are dry. This prevents them from becoming creased, and reduces the risk of spontaneous ignition.

The machine must not be used for drying foam rubber or foam-like materials.

The machine must not be used for drying floor mops*.

The machine must not be used by minors.

The machine must not be hosed down with water.

Mechanical, electrical and gas installations must only be carried out by authorised personnel.

If the machine has a fault, this must be reported as soon as possible to the person in charge. This is important for your own safety and for the safety of others.

Gas dryers only:

The machine is not to be installed in rooms containing cleaning machines with perchloroethylene, TRICHLOROETHYLENE or CHLOROFLUOROCONTAINING HYDROCARBONS as cleaning agents.

What to do if you smell gas:

Do not try to light any appliance.

Do not touch any electrical switch; do not use any phone in your building.

Evacuate the room, building or area.

Contact the laundry manager.

*Applies only to floor mops containing polypropylene.

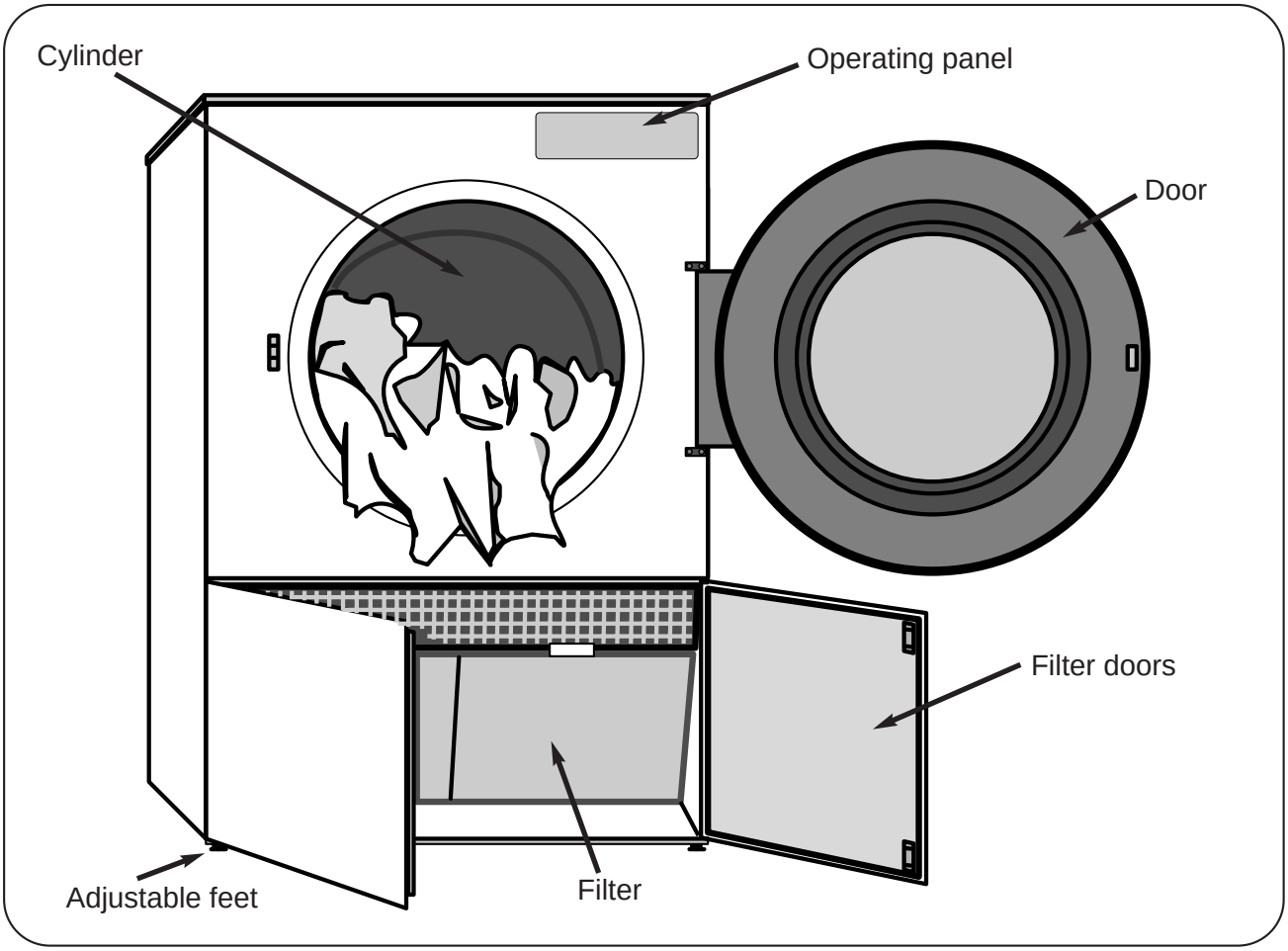
Instructions for use

Contents:

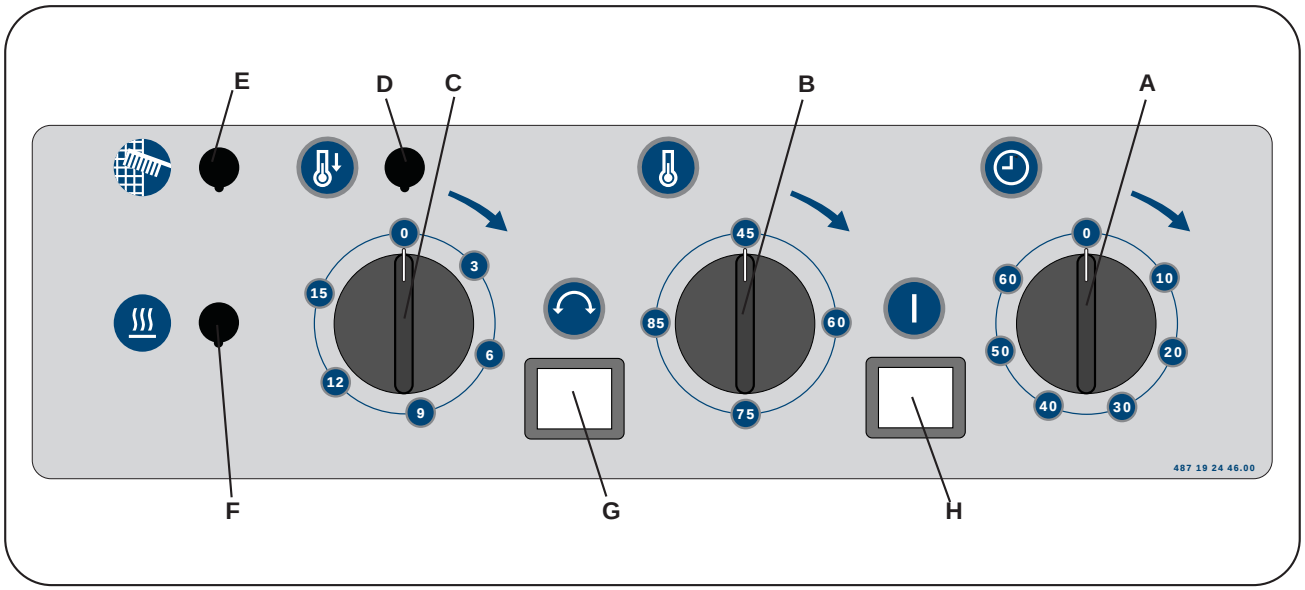
The manufacturer reserves the right to modify
design and material specifications without notice.

**Textiles as silk and wool must not be overdryed
to avoid the risk of wrinkage.**

Diagram of tumble dryer



Manual operation



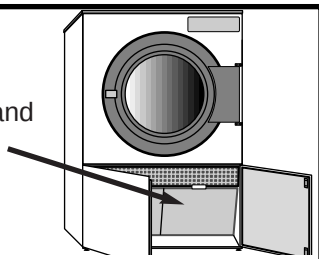
A. Timer
B. Temperature button: 110°F ~ 45°C
140°F ~ 60°C
170°F ~ 75°C
185°F ~ 85°C
C. Cool down timer
D. Lamp for cool down
E. Filterlamp is lit: Clean filter.
F. Lamp for gas burner (gasmachines only)
G. Reversing button: with or without reversing
H. Startbutton

Instructions for use

Manual operation

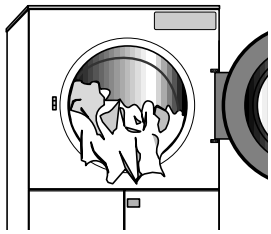
1

Open the filter door.
Clean the filter.and close the filter door.



Open filling door.

Load garments into the machine and close the door.



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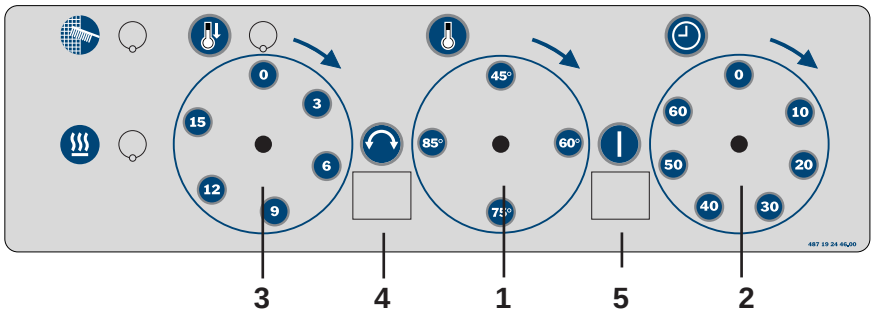


3

1. Select temperature
2. then drying time
3. and cool down time.
4. Reversing on or off.
5. Start

4

Drying program:		*set timer*
Airing without heat	approx. 10 min.on cool down timer	
Fine wash / mild wash	(110-140°F) 45° - 60°	approx. 25 min.
Normal wash / PP	(170-185°F) 75° - 85°	approx. 25 min.

5

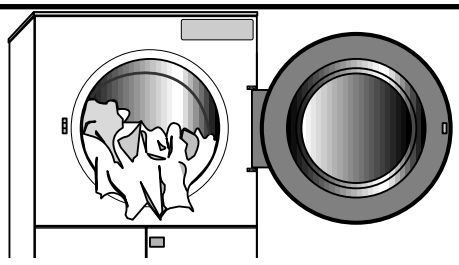
Stop:
The tumbler can always be stopped by opening the door.

Restart:
Close door and press start button.

Tumbler stops automatically:
When drying time has ended

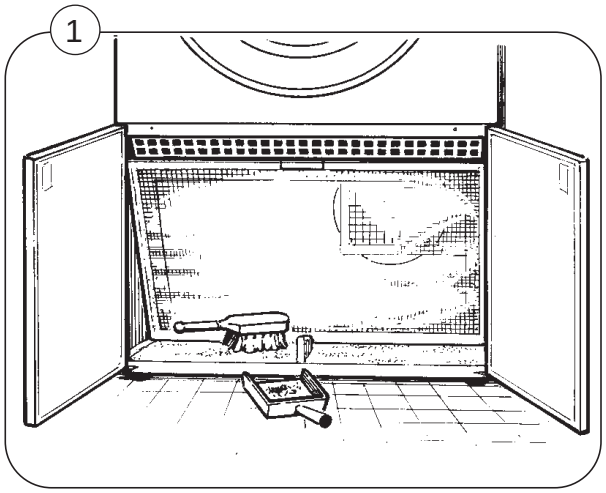
6

To prevent wrinkling:
Empty the tumble dryer as soon as the program has ended.



Maintenance

The following should be carried out at regular intervals, depending on the machine usage.



Daily

- Check that the machine does not operate when the door is open.
- Check that the machine does not start until the door is closed and the start button has been pressed.

1 • Clean the door gasket (use a moist cloth).

- Clean the lint filter with of a broom or a vacuum-cleaner.
- The lint filter should not be taken out for cleaning.
- Check that the lint filter is not dammaged.

Quarterly

- Check that the fresh-air intake at the back of the tumbler is not clogged by lint or otherwise blocked.
- Check that the exhaust systems connections are tight and that the ducts are not clogged by lint or otherwise blocked.

Annually

- Check that the fresh-air intake to the room and exhaust ducts from the room are not clogged by lint or otherwise blocked.

  Clean, as requred depending on the machine usage - once a year as a minimum.
- At least once a year a qualified service technician should check internal parts of the machine and clean thoroughly them of lint.

Installation

Unpacking

When unpacking the machine, handle it with care.

There are no brackets to remove.

Release the machine from the pallet by removing the four corner bolts. Lift the machine off the pallet. Remember only to lift at the reinforced sections (**A**). Before placing the machine in the right position, fit the four feet where the bolts were.

Positioning

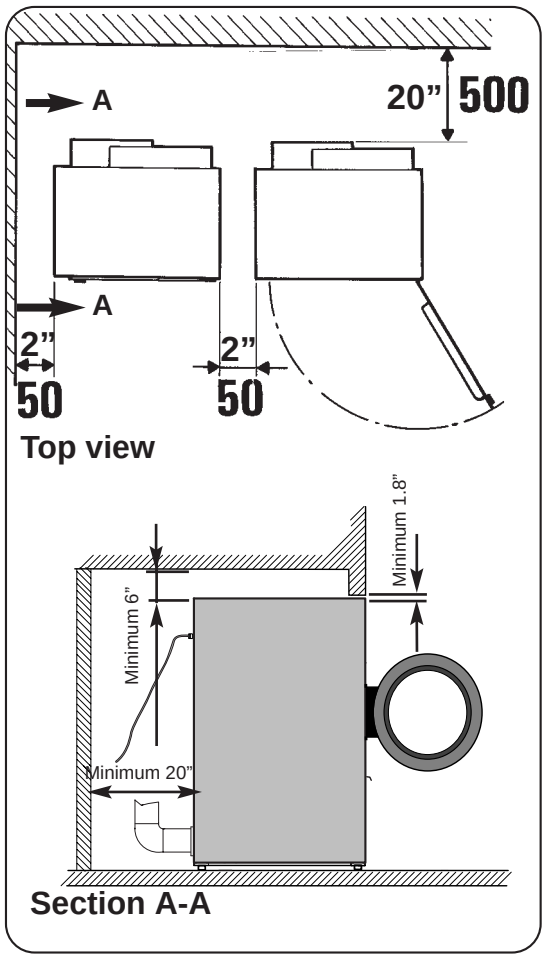
Place the tumble dryer to give good access for user and service technician alike.

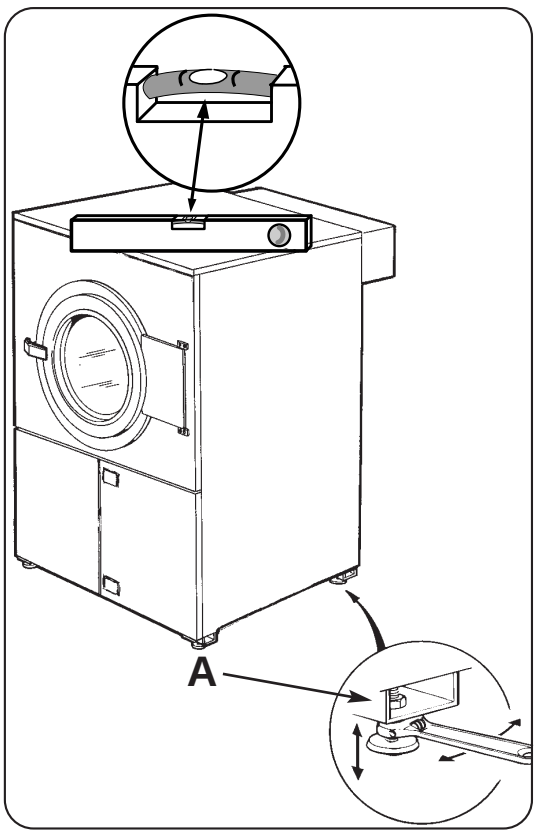
The distance to a wall or other equipment behind the machine should be at least 20” (500 mm), and the distance to the sides at least 2” (50 mm). To allow servicing, there should - however - be access to the rear of the machine.

Mechanical installation

Adjust the machine to make it stand horizontally and stably on all four feet.

The max. height adjustment of the feet is 5/8” (15 mm).



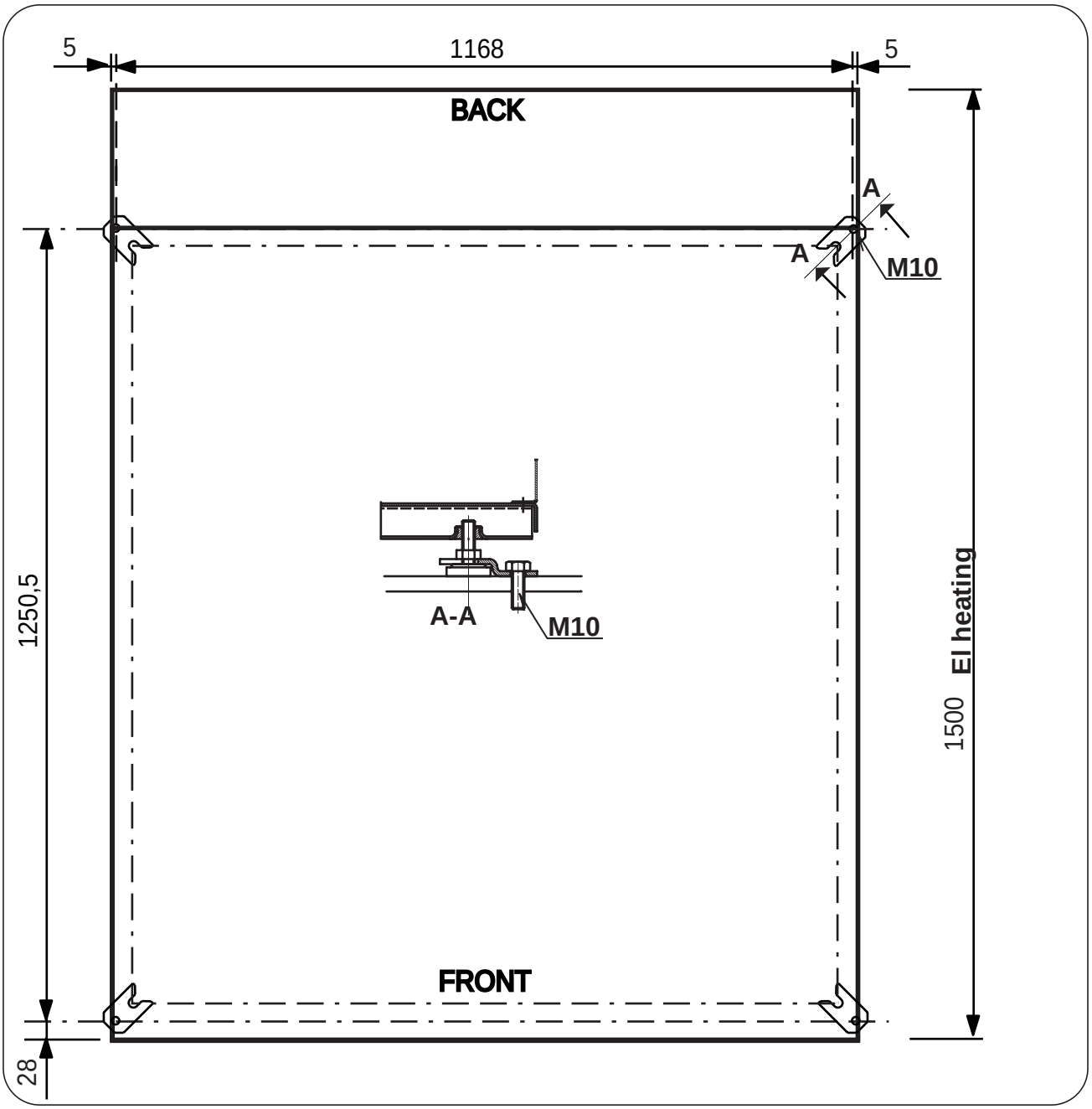


Special installation

If the tumbler needs fastening to the base a kit containing 4 fittings can be ordered. Kit no. 472 77 77 01.

The four fittings are fastened to the base by means of 4 x M10 expander bolts.

Drilling plan



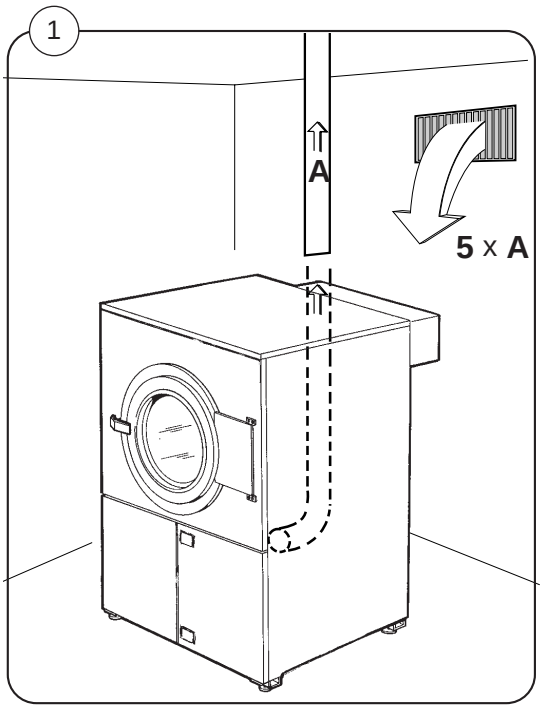
Tumble dryer exhaust system

Fresh-air

For maximum efficiency and the shortest possible drying time, it is important to ensure that fresh air is able to enter the room from the outside in the same volume as that blown out of the room. To avoid a draught in the room, it is advisable to place the air inlet behind the machine.

1 The area of the air inlet opening must be 5 times the size of the vent pipe area.
The resistance in the grating/slats on the air inlet cover plate should not exceed 10 Pa (0.1 mbar).

The air consumption is approx.
Electrical (1400-1600 m^3/h) 800-950 CFM.
Steam: (2500 m^3/h) 1470 CFM
Gas: (1600 m^3/h) 950 CFM



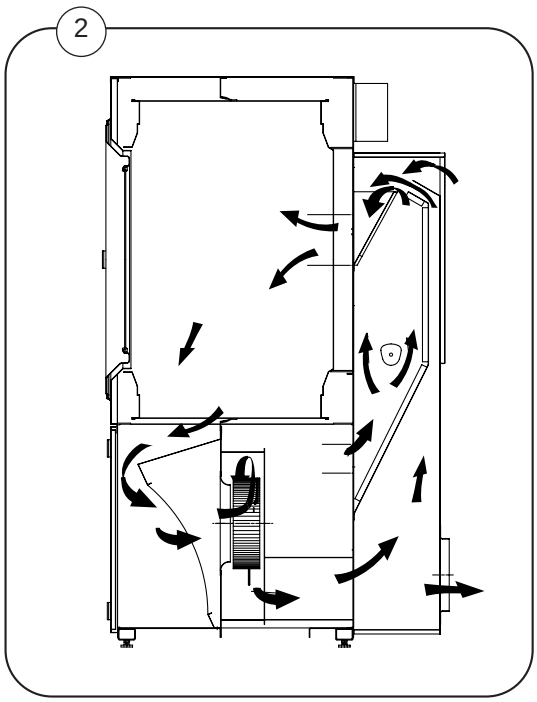
Air-flow principle

2 The blower generates a negative pressure in the cylinder, which means that air is sucked into the machine via the heater.

The heated air passes through the clothes and the holes in the drum.

The air is then guided through a lint filter placed immediately before the fan.

On gas and electricity heated machines, approx. 50-60% of the air is recirculated. The remaining air is evacuated via the fan and the exhaust ducts.



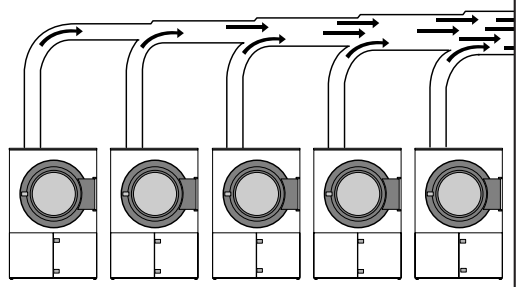
Tumble dryer exhaust system

Exhaust system for installation of several machines with a shared exhaust duct

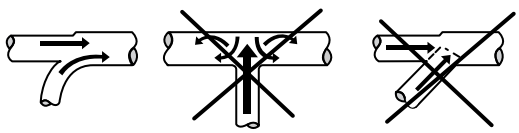
When installing several machines on a shared exhaust duct, increase the area of the duct with each additional machine, so that each machine will be working at the same air resistance. Fig. 1 and the table show in simplified form how the exhaust duct should look.

Note: To keep the air flowing, ensure proper machine operation, and minimize lint buildup in the exhaust system, never connect ducts at right angels, always use gentle bends. See fig. 2.

1



2



No. of tumblers	1	2	3	4	5
Exhaust duct pipe diameter, inches (mm)	12 1/2" (315)	18" (450)	22" (560)	25" (630)	28" (710)
Required area of fresh-air inlet pipe, sqare feet minimum (m^2)	4 7/8 (0.4)	8 5/8 (0.8)	13 (1.2)	17 1/4 (1.6)	21 1/2 (2.0)

Each machine requires a fresh-air aperture of (540 x 540 mm)

Tumble dryer exhaust system

Outlet pipe/duct

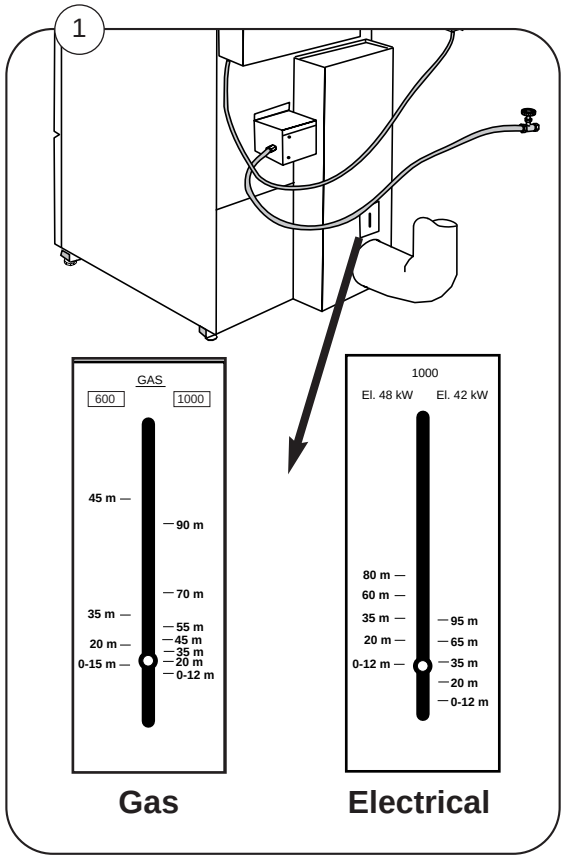
It is recommended that each machine be connected separately to a exhaust duct with the lowest possible air resistance.

Measure the straight lengths of pipe in meters. Add two meters for each 90° bend and one metre for each 45° bend. Set the machine grate to this value, see fig. 1.

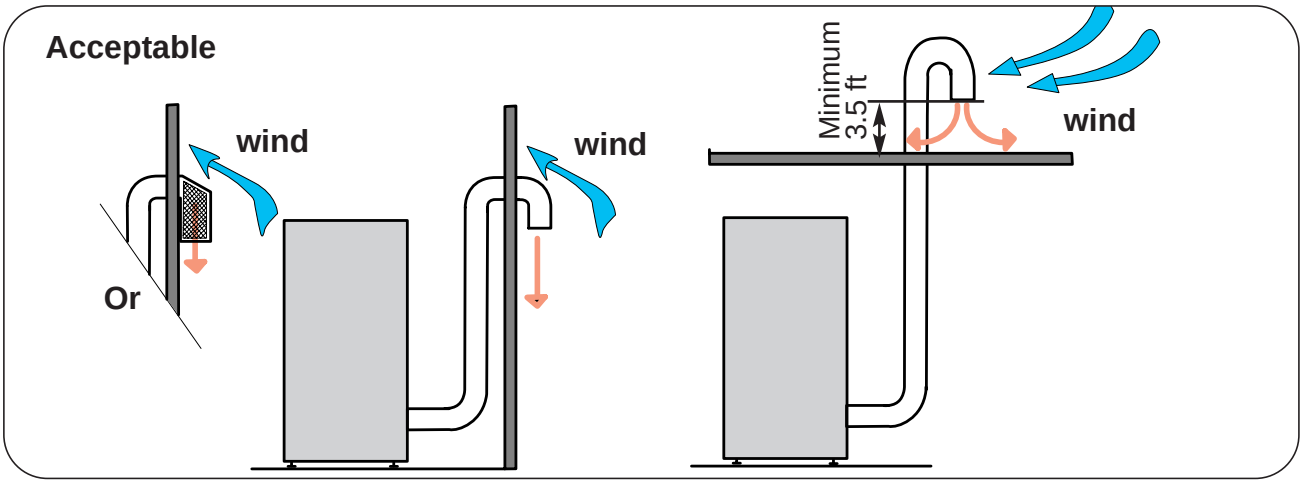
The duct must lead into the open and its aperture must be protected against rain and foreign objects.

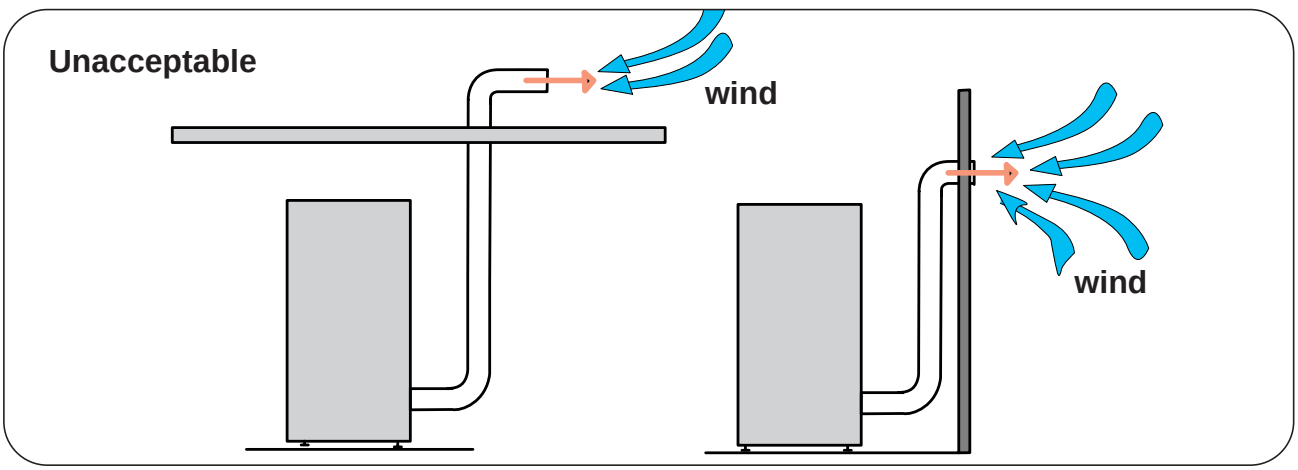
Note! In cold areas, condensation may cause frost damage to the building.

If you have questions relating to the design of exhaust system, please do not hesitate to contact your local dealer or Wascomat´s Customer Service Department.



Exhaust illustrations

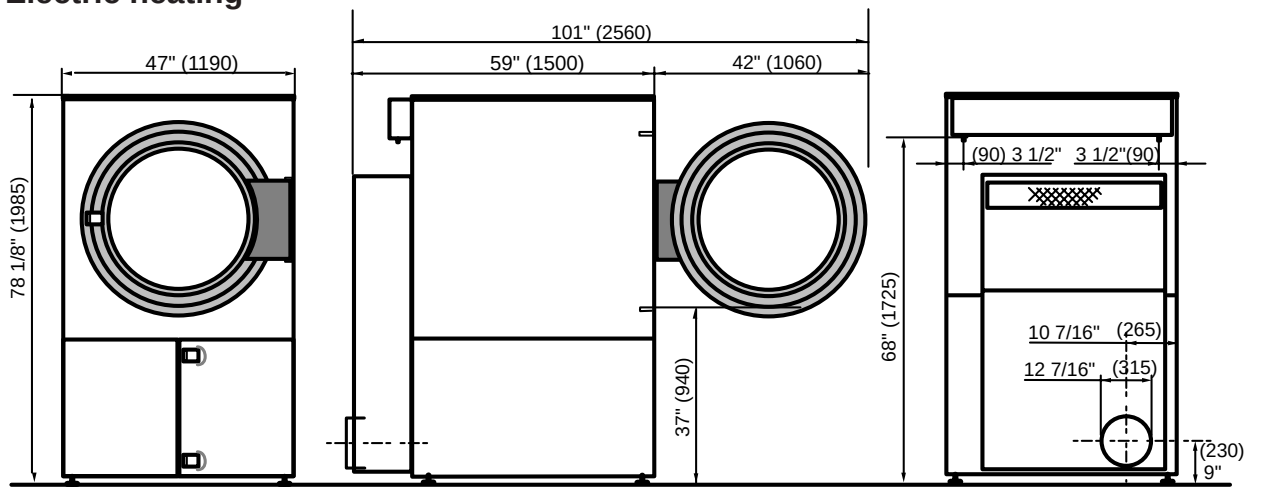




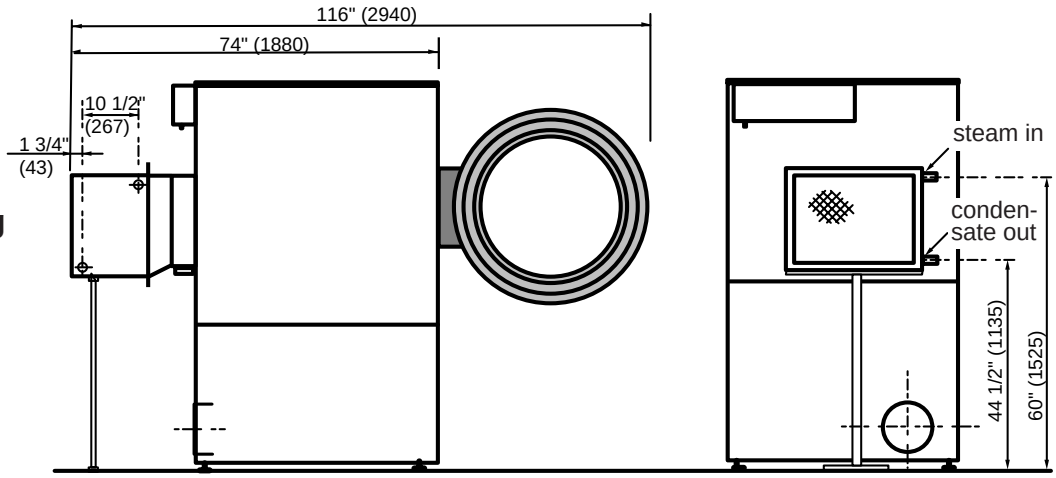
Machine Dimensions

Electric, steam and gas heating

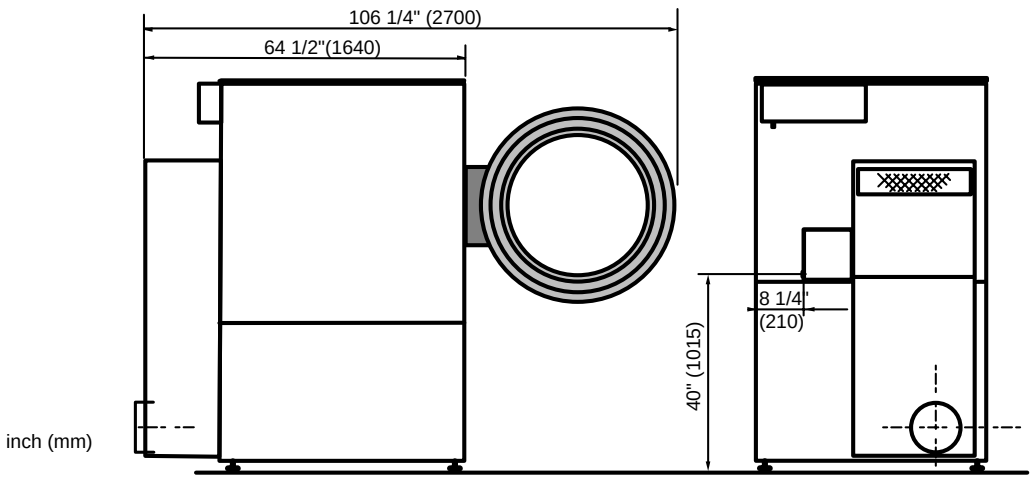
Electric heating



Steam heating



Gas heating



inch (mm)

Technical data

Heating		Electric	Steam	Gas
Cylinder volume:	1000 litre	35 cu.ft.	35 cu.ft.	35 cu.ft.
Weight:	Netto	981 lb (446 kg)	955 lb (434 kg)	959 lb (436 kg)
Cylinder:	Diameter (1100) Depth (1050) RPM	43 5/16” 41 5/16” (34 rpm)	43 5/16” 41 5/16” (34 rpm)	43 5/16” 41 5/16” (34 rpm)
Capacity:	Factor 1:23 (43 kg) Factor 1:25 (40 kg) Factor 1:30 (33 kg) Factor 1:33 (30 kg)	95 lb 88 lb 73 lb 66 lb	95 lb 88 lb 73 lb 66 lb	95 lb 88 lb 73 lb 66 lb
Motor:	Power (cylinder + fan) RPM 60 Hz	2 hp/0.55+0.9 kW 1680 rpm	2 hp/0.55+0.9 kW 1680 rpm	2 hp/0.55+0.9 kW 1680 rpm
Heat effect:	Electric heating (42 kW) Electric heating (48 kW) Gas heating (54 kW)	143310 BTU/h 163780 BTU/h	depending on steam pressure	184250 BTU/h
Air consumption:	42 kW (1400 m³/h) 48 kW (1600 m³/h) Steam (2500 m³/h) Gas (1600 m³/h)	800 cu.ft./min 950 cu.ft./min	1470 cu.ft./min	950 cu.ft./min
Piping:	Air-evacuation (Ø 315 mm) Steam: Pipe thread (ISO 7/1 - R 1¼) Condensate: Pipe thread (ISO 7/1 - R 1¼)	12 7/16”	12 7/16” 1 1/4” N.P.T 1 1/4” N.P.T	12 7/16”
Steam:	Recommended pressure (absolute) (300-800 kPa)		43.51 - 116 PSI	
Pressure drop:	Air-evacuation	max. 0.28” W.C. (max. 70 Pa)	max. 0.28” W.C. (max. 70 Pa)	max. 0.34” W.C. (max. 90 Pa)
Gas pipe connection: (ISO 7/1 - Rp1/2)				1/2 ” N.P.T
Gas pressure:	**GNH** (Natural gas) (20 mbar): Minimum Maximum **LPG** (propan) (30 mbar): Minimum Maximum			 3.5” W.C. 10” W.C. 8” W.C. 13” W.C.
Sound pressure level:		< 70 dB (A)	< 70 dB (A)	< 70 dB (A)

Electrical installation

It is your responsibility to have **ALL** electrical connections (including grounding) made by a properly licensed and competent electrician to assure that the electric installation is adequate and conforms with local and state regulations or codes. In the absence of such codes, **ALL** electric connections, material, and workmanship must conform to the applicable requirements of the NATIONAL ELECTRIC CODE ANSI/NFPA NO. 70-or the CANADIAN ELECTRICAL CODE, CSA C22.1 - both the latest edition.
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 haard.

The tumble dryer must have a fuse-group of its own.

A multi-pole switch is fitted for each tumble dryer in the permanent installation.

The switch must be easily accessible, but it must **not** be possible to mistake it for the master switch of the tumble dryer.

For calculation of the connection cable dimension, please refer to local guidelines.

Functional inspection, see below. (Right direction of rotation is important).

The tumble dryer must be provided with extra protection in accordance with applicable regulations.

Function check

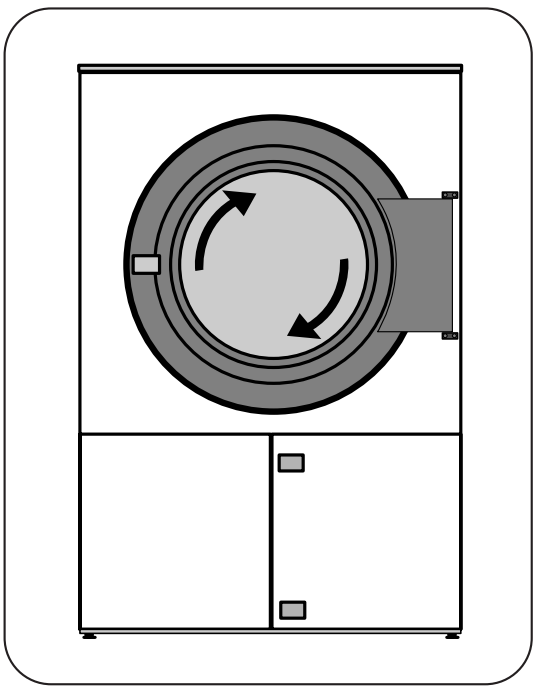
This proceedure must be carried out by qualified personnel.

Check that the cylinder is empty and the door is closed.

Start the machine.

Check that the safety lock is working: The cylinder, blower and heat must stop if the front door is opened approximately 2”.

The initial direction of rotation should be clockwise (see illustration). If the direction is reversed, swap two powerline phases (on 3 phase machines).



Let the machine operate for 5 minutes on a program that requires heat. Then check whether the heating is working by opening the front door to check if heat can be felt inside the drum.

If the above checks are found to be in order, the dryer is ready for use.

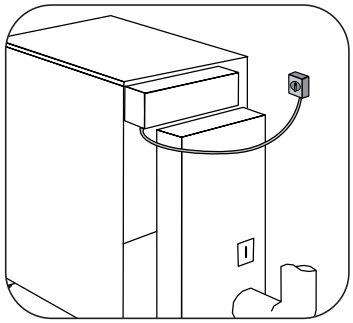
If problems exist, please contact your local dealer or Wascomat´s Customer Service Department.

Electrical installation

Note: Use common-strip, single-lever circuit breakers only

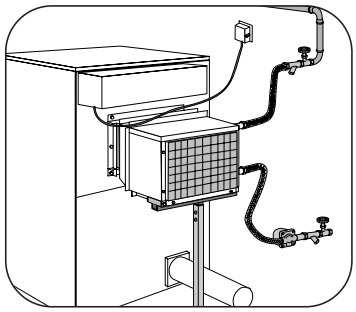
Electric heating

Voltage	Total input	Circuit breaker
208-240V 3AC 60 Hz	44.5 kW	160 A
208-240V 3AC 60 Hz	50.5 kW	160 A



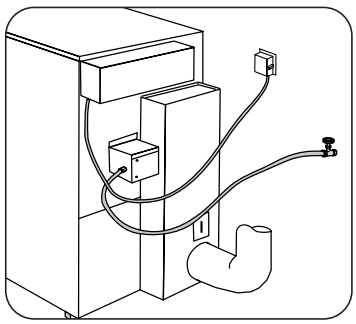
Steam heating

Voltage	Total input	Circuit breaker
208-240V 3AC 60 Hz	2.5 kW	15 A



Gas heating

Voltage	Total input	Circuit breaker
208-240V 3AC 60 Hz	2.5 kW	15 A



Installation of steam battery

When the tumbler is delivered, the steam battery has not been installed, but comes with the tumbler as a full kit consisting of a steam battery with insulation and an adjustable “T-foot” for supporting the steam battery.

Installation of steam battery and T-foot:

• Remove the packing from the steam battery. It must be treated carefully to avoid damaging the thin insulating sheets.

• Install the packing thread/tape on the in- and outlet branches of the steam battery.

• Install one union part (1 1/4”) on the in- and outlet branches of the steam battery. (Remember to use the pipe branch as backstop).

4 • Remove the two bearing sections (fig.4) from the bottom of the steam battery and install them loosely on the T-foot with the attachment screws already found inside the bearing sections.

5 • Remove the 8 M6 screws from the steam battery flange.

• Place the steam battery flange on the inlet flange of the tumble dryer and tighten the 8 M6 screws to ensure that the steam battery has been securely attached and has a close seal to the tumble dryer inlet flange.

6 • Place the T-foot underneath the steam battery, so that the two bearing sections fit into their original holes; then screw home the four screws.

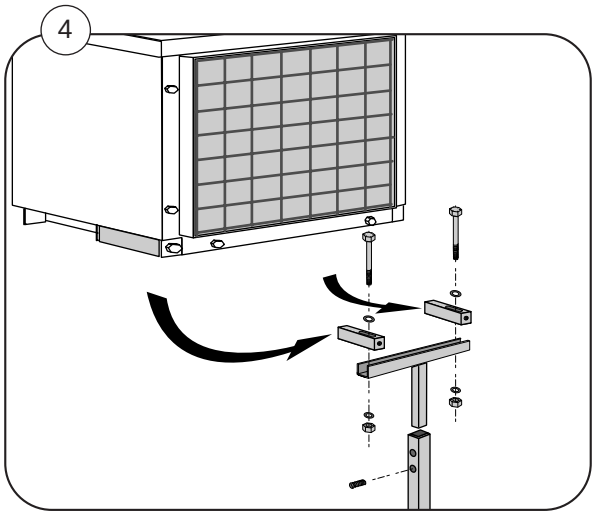
• Adjust the T-foot for height to make it support the steam battery; then tighten all screws.

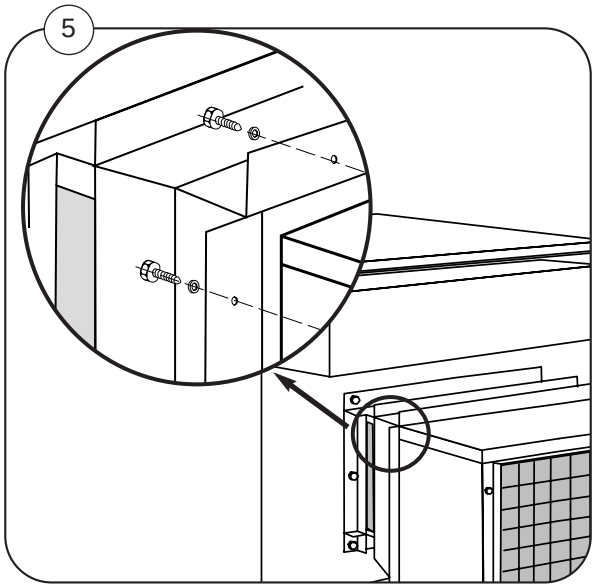
• Install the second union part on the steam and condensate lines.

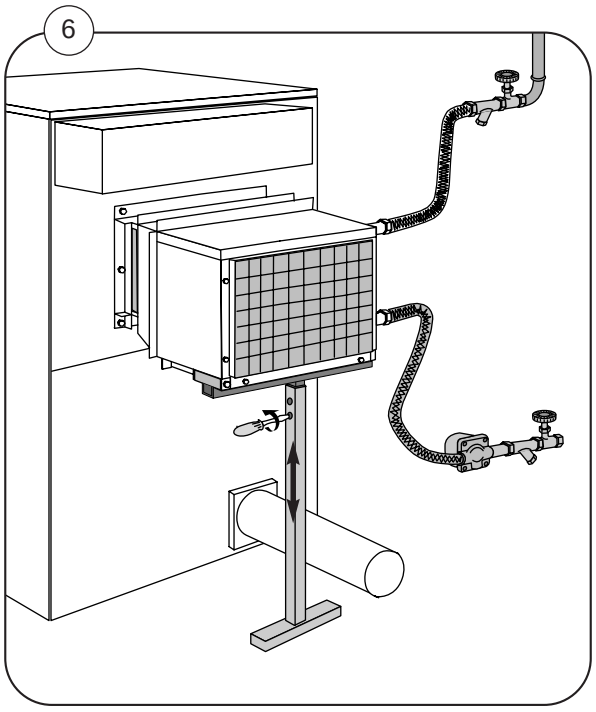
• Slowly open the steam feed and the steam outlet from the battery.

• Check that there are no leaks in the system.

• Start the tumbler using full heat and let it run without garments for 10 minutes. If there are no problems, the tumbler is ready for use







Instructions for steam installation

1 From the main steam pipe (flow) the steam is tapped through a service line at the top (**A**) (the tap-off point is at the top to prevent condensate in the steam).

Bring the service line down to the same height (or slightly above) the top steam connection (**B**) of the steam battery.

Install a valve (**C**) and a dirt collector (**D**) on the pipe before it reaches the steam battery.

Connect both the inlet hose (**B**) and the outlet hose (**E**) to the steam battery with a union (1 1/4”).

Just after the steam battery outlet branch (**E**), install a mechanical steam trap (**F**). (A steam trap is not suitable for a battery of this size).

After the water separator install a dirt collector (**G**) and a manual valve (**H**). A return line then takes the condensate back to the main condensate pipe.

2 If a steam hose (pressurized hose) is used on the last piece before the steam battery connection branch, it is important to ensure a continuous downward slope.

3 The hose should not be allowed to sag, since this would create local accumulations of condensate, leading to a risk of water shock inside the steam battery.

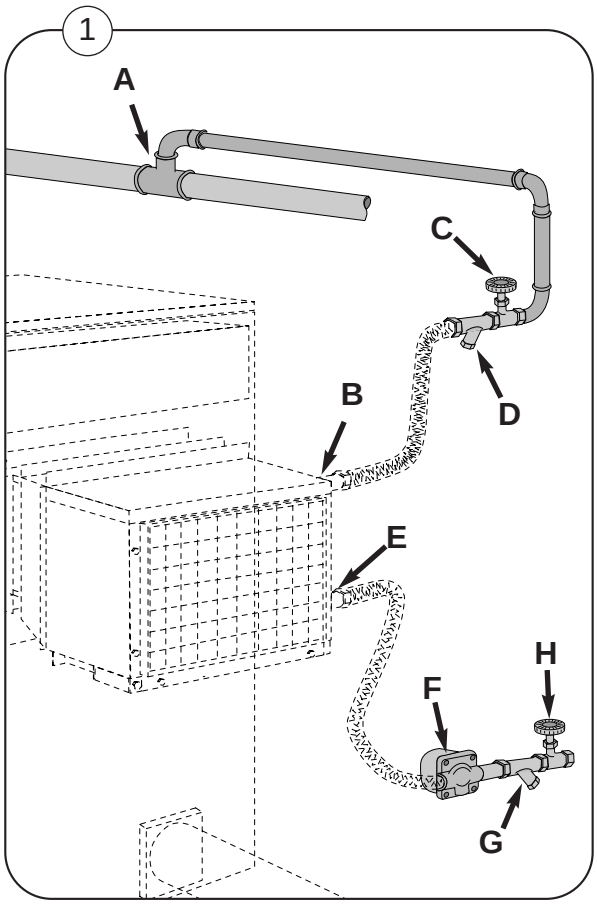
If the hose is placed after the battery, it also needs to slope all the way to the water separator.

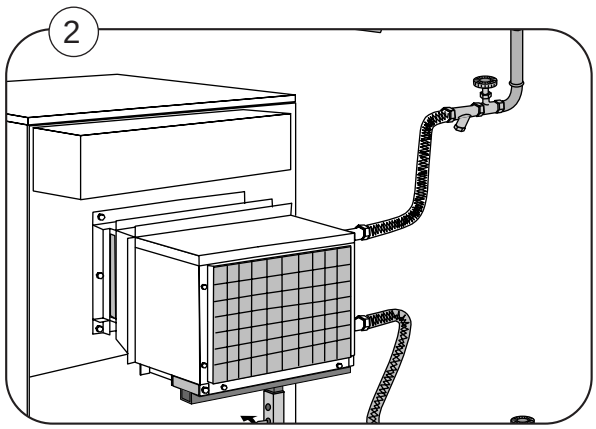
All pipes have been insulated to reduce the risk of burns and minimize heat loss.

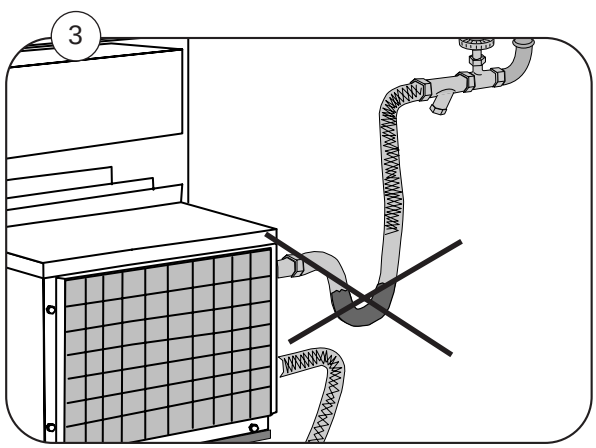
Steam:

Hot water 1-10 bar absolute pressure 212-356°F (100-180°C).

Water steam 1-10 bar absolute pressure 212-356°F (100-180°C).







Gas installation

It is your responsibility to have all plumbing connections made by a qualified professional to insure that the gas plumbing installation is adequate and conforms with 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.**

Fit the enclosed manual gas shutoff valve upstream from the dryer.

The gas connection to the machine should be sized for an output of 184250 Btu/h (54kW).

The machine is fitted with a general gas burner.

The factory nozzle pressure setting corresponds to the fuel value given on the nameplate.

Note: If converting to a different type of gas, an appropriate sign (supplied) must replace the existing plate on the machine.

Check that the nozzle pressure and fuel value agree with the values given in the table. If not, contact the your gas supplier.

Bleed the pipe system before connecting the machine.

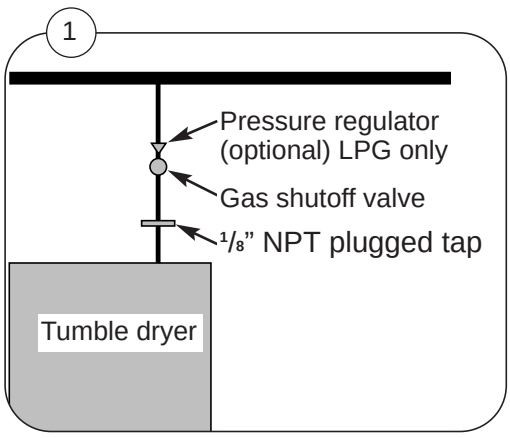
After connection, test all joints for leaks.

For gas valves, pressure and adjustment tables, see pages regarding gas valves.

The dryer and its individual **shutoff** valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of I/ 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 greater than 1/2 psig (3.5 kPa).

(1) A minimum ⅛ inch NPT plugged tap, accessible for test gage connection, must be installed immediately upstream of the gas supply connections to the dryer.



Gas installation

Test run

Connect a pressure gauge to testsocket outlet (1).

Select programme (170˚F).

Start the machine.

Check the nozzle pressure. See table.

Any adjustment is carried out on the adjusting screw (3) of the regulator under nipple (2).

Check that the gas flame burns steadily with a bluish colour.

Having completed the test the machine is made ready.

Gas installation

Conversion to natural gas.

Mount nozzle (4) corresponding to gas type (GNH), see table next page.

Connect a pressure gauge to testsocket outlet (1).

Select programme (170˚F).

Start the machine.

Adjust nozzle pressure to 5.6 inch W.C. on the adjusting screw (3) under nippel (2).

Check that the gas flame burns steadily and with a bluish colour.

Mount nipple (2).

Having completed the test the machine is made ready.

Conversion to LPG.

Mount the enclosed nozzle on 3.5 mm (4).

Connect a pressure gauge to testsocket outlet (1).

Select programme (170˚F).

Start the machine.

Adjust nozzle pressure to 11 inch W.C. on the adjusting screw (3) under nippel (2).

Check that the gas flame burns steadily and with a bluish colour.

Mount nipple (2).

Having completed the test the machine is made ready.

Table of calorific value, nozzles and gas pressure

Gastype	Calorific Value	Wobbe-index	Gas pressure		Ø Nozzle 4
			Inlet	Test Outlet 1	
	MJ/m^3	MJ/m^3	inch W.C	inch W.C	mm
LPG	125.81	87.33	11.0	11.0	3.5
GNH	37.78	50.72	7.0	5.6	5.65

Honeywell gas valve

1. Testsocket outlet
2. Nipple
3. Adjusting screw
4. Nozzle