

MOD : DGEB/18-TS/N

Production code : O88DDELA21XXA02

TANDEM

INSTRUCTIONS FOR USE MAINTENANCE AND INSTALLATION

TRANSLATION OF THE ORIGINAL INSTRUCTIONS
KEEP FOR FUTURE REFERENCE

SERVICE INDEX: 02

- DEES/11-TS/N --- DGES/11-TS/N
- DEEB/18-TS/N --- DGEB/18-TS/N



The manufacturer's data are shown
on the envelope that contains
the documentation of the machine.
The envelope is an integral part
of documentation

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1. CONTENTS OF THE MANUAL

This manual is dedicated to the description of the use, maintenance and installation of industrial washing machines and dryers. It is drawn up in consideration of the Community directives in force. The information is addressed to the installer and the user, who must be sure that they have fully understood it before working on the machine. The user manual must always be available for reference. In case of loss or damage, ask the manufacturer for a new manual. The manufacturer is not responsible for the consequences deriving from careless use of the machine due to a failure to read or incomplete reading of this manual. The manufacturer reserves the right to modify the specifications mentioned in this manual or the characteristics of each machine. Some figures in this manual may show parts that are partially different from those assembled on the machines. Drawings and technical data may be modified without notice.

This manual is supplemented by the following annexes: EU declaration of conformity, technical data sheet and wiring diagram. All documents are contained in an envelope that accompanies the machine. The wiring diagram, depending on the versions of the machine, is contained inside the electrical panel.

The manual and its attachments are an integral part of the appliance: therefore they must be kept and accompany the appliance, even in the event of transfer to another user.

The manual, the same attachments and the exploded view with the relative spare parts, can be found in the technical area of the manufacturer's website. Before accessing the site, it is essential to have the serial number of the machine available.



ATTENTION!

The manufacturer declines all responsibility for possible inaccuracies contained in this manual due to printing or transcription or translation errors. It reserves the right to make any changes to its products that it deems necessary or useful, without affecting their essential characteristics. It is forbidden to reproduce, even partially, texts or images of this manual, without the prior authorization of the manufacturer.

This manual is also available in electronic format on the manufacturer's website (technical area).

2. SAFETY RULES



ATTENTION!

Risk of suffocation, permanent injury or disability!

Failure to comply with the following safety regulations may result in damage to people, property and animals.

The installation and maintenance of the machines described in this manual must be carried out by authorized personnel who are familiar with the product and compliance with the European standards of the sector. Repairs carried out incorrectly may seriously endanger the safety of the user.

Before using the machine, read these instructions carefully: make the instructions accessible to all persons in charge of operating the machine.

The intended use of the washing machines described here is the professional washing of water-based clothing and linen: any other intended use is therefore prohibited unless it has been previously authorized in writing by the manufacturer. Never use dry cleaning products.

The intended use of the dryers described here is the professional drying of clothing and linen: any other intended use is therefore prohibited unless it has been previously authorized in writing by the manufacturer.

Before removing the garments from the dryer, always make sure that the drum is stopped. Never put your hands in a basket that is still moving.

Objects other than to be dried must not be introduced into the dryer.

Always follow the drying instructions on each item of laundry with great care.

Do not approach or dry fabrics soaked in combustible or flammable substances, including oils and greases, with

this machine, as this may cause fire and explosion.

It is forbidden to wash garments that are soaked in substances that are manifestly harmful to the health of operators, poisons or carcinogenic products.

It is forbidden to use the machine for children under 16 years of age.

Do not spray or wash the machine with water.

Do not override the door locking device.

Do not let children play with or in the washing machine. Children should be kept under close supervision when near the washing machine.

Keep packaging materials out of the reach of children.

Keep detergents or chemicals used out of the reach of children.

Keep children and pets away from the appliance door when it is open and the machine is running.

Additional connections to the machine from the outside, not carried out in a workmanlike manner, relieve the manufacturer of any liability.

IMPORTANT WARNINGS



DANGER OF CRUSHING

It is forbidden to work with machine guards removed!

Always check that the safety devices are working correctly every time the machine is started! At each start-up, carry out the control procedure indicated in the relevant paragraph.

It is mandatory to know the operation of the machine and its emergency systems!

It is forbidden to introduce bars, slats or metal objects inside the basket. In case of emergency, always carry out the procedures described below.

Machines with heating systems pose a potential risk of fire. All precautions related to this risk must therefore be taken: the environment must be free of combustible materials; provide a suitable and easily accessible fire extinguisher near the machine.



BURN HAZARD

The machine, by the very nature of the activity for which it is intended, presents the risk of burns.

Any burns can be caused:

- From contact with the fabric coming out of the machine;
- From prolonged contact with the door during a high-temperature wash;
- From contact with the components that convey the steam

The following plates have been affixed to the machine, in case of damage to them, the user must replace them with other identical ones.



Located in correspondence with the exhaust door for dried fabrics



The outer walls of the machine can reach high temperatures during operation.

CAREFULLY READ AND INFORM ALL OPERATORS ABOUT THE INTERVENTION SYSTEMS IN THE EVENT OF A SUDDEN POWER FAILURE



ELECTROCUTION HAZARD

Any work on the electrical parts of the machine must only be carried out by qualified personnel and after the power supply to the machine has been removed.

The power and control circuits may only be tampered with by the manufacturer's personnel, otherwise the warranty conditions will be voided.

It should be noted that, with reference to electrical hazards, the machine has been designed in compliance with the regulations described in the certificate of conformity delivered with the machine.

On the electrical panel there is the following monitor plate which must be replaced with an identical one if it has been damaged or removed.



ATTENTION

Even when the position of the main switch is "0", the cables upstream of the switch are live!



PSYCHOPHYSICAL CONDITIONS OF THE OPERATOR

The operator in charge of the machine must be in perfect psychophysical condition; During work, the vertical posture in front of the machine must be assumed. Sudden movements or uncontrolled gestures, for example when picking up and inserting the fabrics to be ironed, must be avoided in order to avoid dangerous collisions with the machine frame.

If other operators or other personnel are present, they must not be a source of distraction for the operator in charge of the machine.

When operating the machine, the operator should not be distracted by televisions, radios, etc., or be subject to any other source of distraction.



LIGHTING

In the room where the machine is installed, there must be uniform illumination of 300-500 lux intensity, and disturbing glare must be avoided.

**ATTENTION!**

These warnings do not cover all possible risks. The user must therefore proceed with the utmost caution in compliance with the regulations.

3. MANUFACTURER'S LIABILITY

The instructions in this manual do not replace but supplement the obligations for compliance with current legislation on safety and accident prevention regulations. With reference to what is reported in this manual, the manufacturer declines all responsibility in the event of:

- use of the machine contrary to the laws in force on safety and accident prevention.
- incorrect installation of the machine.
- Lack of periodic and scheduled maintenance.
- failure or incorrect observance of the instructions provided by the manual.
- voltage and mains power supply defects.
- unauthorized modifications to the machine.
- use of the machine by unauthorized personnel.

4. TRANSPORT AND UNPACKING

During transport, and any storage, the equipment must remain within the following environmental conditions:

- Temperature: -10°C÷50°C
- Humidity: 0%÷90% (non-condensing)

It is recommended to check the machine upon receipt, taking care to report to the carrier any damage caused, during transport, both to the internal components and to the external bodywork.

**ATTENTION!**

During the handling phase, use a forklift with forks that are as open as possible.

**ATTENTION!**

The machine must be completely unpacked near the installation site.

The straps must be cut, and the cover wrap removed.

The packaging materials must not be dispersed in the environment and must be placed in the appropriate collection spaces according to current regulations.

Open both side doors with the wrench provided.

Use a wrench to remove the pallet fastening bolts, which are visible at the base of the right and left shoulder of the machine.

**ATTENTION!**

Check the net and gross weight on the technical data sheet, attached to the machine documentation: check compatibility with the available lifting equipment.

**ATTENTION!**

The pallet must not be used as a normal machine stand! The machine must always be taken off the pallet and positioned as described in the relevant paragraph.

**ATTENTION!**

The machine must be moved only when it is fixed to its pallet: handling and lifting by forklift must be carried out only by qualified and competent personnel.

During transport, the machines are locked inside them (the cradle to the base) with stops, in order to avoid the stress on the shock absorbers.

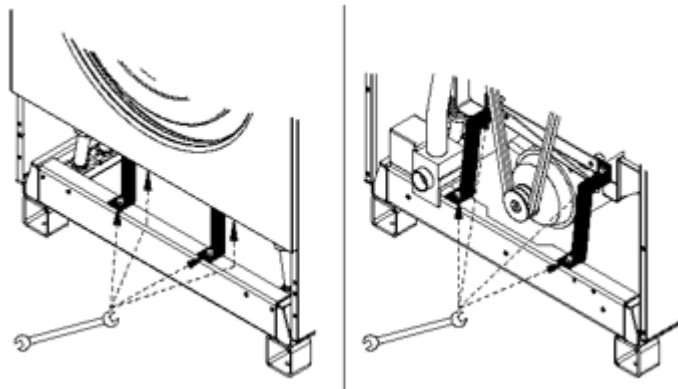


ATTENTION!

The latches must be removed, after the machine has been positioned and before it is powered.

To remove the stops, follow the procedure described below, referring to the figure. The figures are indicative of the type of downtime and not of the machine.

- remove the rear and front panels;
- unscrew the bolts that lock the transport stops;
- dismantle ALL transport latches;
- reassemble the panels in their original position;



WARNING: WHAT DO I FIND IN THE BASKET?

In the basket of the machine, the installer finds, placed in an envelope:

- This technical documentation of the machine
- For models that provide it:
 - the feet to be placed under the machine
 - The triangular key for opening the guards
 - the keys of the locks of the machines with payment system
 - the handle of the disconnecter
 - LPG/LPG nozzles with their adhesive label

5. MACHINE IDENTIFICATION

The equipment can be identified by an adhesive plate bearing the serial number, model, power and technical characteristics. Spare parts and/or interventions presuppose the exact identification of the model for which they are intended.



Tampering, removal, lack of identification plates or anything else that does not allow the safe identification of the machine, makes any installation and maintenance operation difficult and automatically voids the warranty.

The washing machines described here are intended exclusively for washing fabrics in water and are intended for the commercial, professional and industrial sectors.

MODELS AND MAXIMUM LOAD CAPACITY: WASHING MACHINE ratio 1:10 DRYER: ratio 1:20	
TANDEM "O"	LOAD CAPACITY (Kg)
O11	11
O18	18

All models can be produced and accessorized for installation in self-service shops with coin, token or other automatic payment systems. For some machines, the heating system is with hot water served.

6. INSTALLATION AND PLACEMENT

All installation operations must be carried out by professionally qualified personnel.

Check that the floor capacity is compatible with the weight of the machine which can be detected from the attached data sheet. The load of the machine can be considered totally static. Make sure the floor is clean and heat-resistant.

For proper use, operation, and maintenance, leave a clearance of at least 500 mm around the machine. The ambient temperature should be between +5°C and +40°C and the relative humidity should be 50%. The environment in which the machine is installed must have sufficient air exchange. The degree of protection is IP24.

Do not install or operate the machine if it is damaged.

Correct operation is guaranteed up to altitudes of 1000 m.asl.



ATTENTION!

Ensure the supply of clean air to the machine and not air contaminated with chlorine, fluorine or other solvent vapors.

Do not use or store petrol, petroleum or other flammable materials in the vicinity of the machine. This may cause fire or explosion.

Provide a fire extinguisher near the machine chosen and maintained according to current regulations.



ATTENTION!

The machine **MUST NOT** be installed outdoors, but in a **CLOSED** environment specifically built and used as a laundry.



ATTENTION!

In the case of tilting type machines, there are external elements of the machine itself, in motion during the loading and unloading phases of the linen.

For the overall dimensions of the machine and the moving elements in the different positions, refer to the technical data sheet.

The machines do not need to be fixed to the ground. They are supplied with rubber feet that must be screwed to the relevant threaded holes on the base.

Poor adjustment of these feet can give rise to strong vibrations of the external structures of the machine. The machine must therefore be installed perfectly level on a floor that has no elastic reaction.



ATTENTION!

It is forbidden to interpose elastic materials of any nature or size between the base of the machine and the floor.



ATTENTION!

Do not install the machine on floors without verification by a competent technician who can assess the impact of the dynamic load on the floor and building.

In these installations, the manufacturer declines all responsibility for possible damage caused by vibrations.



ATTENTION!

Ensure the supply of clean air to the machine and not air contaminated with chlorine, fluorine or other solvent vapors.



ATTENTION!

Do not use or store petrol, petroleum or other flammable materials in the vicinity of the machine. This may cause fire or explosion.



ATTENTION!

Provide a fire extinguisher near the machine chosen and maintained according to current regulations.



ATTENTION!

Check the cleanliness of the baskets. Sheet metal processing residues may be present on the inside of the basket sheet.

7. INSTALLATION: GAS MACHINE SPECIFICATIONS

Any professional equipment with gas heating must be considered, regardless of the flow rate, a gas appliance. The following requirements must be observed during installation:

- municipal and/or territorial building regulations and fire regulations
- Applicable accident prevention regulations
- CENELEC provisions concerning electrical installations
- the "Regulations for the safety of the use of combustible gas"

- the "Standards for gas systems fuelled by the distribution network or LPG gas"
- regulations of the entity or company that supplies or supplies the gas
- provisions of the electricity supplier
- any other local requirements.

Openings for ventilation and ventilation of the room may only be closed if the opening condition is controlled and if the operation of the fire sources of gas appliances is only possible in the open condition. The ventilation of the room is optimal, even if the flue gases are mechanically extracted, when the nominal heat pollution of these gas appliances does not give rise to any depression in the room. This ensures regular gas combustion and complete exhaust of the flue gases.

To size the ventilation grilles, check the data shown in the technical data sheet and refer to the regulations in force on the subject.

In the case of installation of dryers fuelled by liquid gas in rooms located below ground level, adequate forced ventilation devices must be provided.

Data on gases are collected in paragraph 49.



ATTENTION!

Never install gas-heated machines in the same room as there are machines using solvent solutions (e.g. dry-cleaning machines).

The combination could generate substances that are hazardous to the health of operators and is also corrosive to steels.

If you place gas-heated dryers and machines using solvents in two separate rooms, make sure there is no air exchange between the two rooms.

8. INFORMATION ON NOISE EMISSION

Airborne noise produced by the machine produces a continuous A-weighted sound pressure level of less than 70 dB.

9. ELECTRICAL CONNECTION



ATTENTION!

The electrical connection must be carried out by professionally qualified personnel and must meet the requirements of current local and national rules and/or regulations. Check that the supply voltage corresponds to that indicated on the rating plate (voltage tolerance $\pm 10\%$, frequency tolerance $\pm 1\text{Hz}$).



ATTENTION!

Check that the supply voltage corresponds to that indicated on the rating plate.

The license plate data is visible on the rear of the machine. For the connection, use a cable of the type H05 VV – F or higher, sized according to the data on the nameplate. Insert upstream of the appliance an omnipolar disconnection device interlocked with a padlock (e.g. a residual current circuit breaker) with an opening between the contacts that allows complete disconnection in the conditions of overvoltage category III, and in compliance with the regulations in force on the subject.

The breaking capacity of the circuit breaker must be at least 10 kA.



ATTENTION!

Provide electrical protection by means of a type B RCD interrupting device (sensitive to the average current value).

Make sure that the main switch of the system is in the "0" (OFF) position when connecting the machine.

Make sure the main switch of the machine is in the "0" position. Open the input flap for electrical power.

Route the suitably sized power cable (see tables below) through the cable press supplied with the machine.

The connection of the electrical supply cables must be carried out on a disconnecter and earth terminal (already

present in the appliance).

Depending on the type of power supply provided on the machine's rating plate, connect the wires, with the help of the tip of a screwdriver, to the disconnecter and the earth terminal marked as follows:



: Ground Clamp

L1, L2, L3: Phase connections

N: Neutral connection

When installing or replacing the power cable, the earth conductor must be at least 5 cm longer than the others.



ATTENTION!

The appliance must be connected to an effective earthing system: the manufacturer declines all responsibility in the event that this connection is not made in accordance with the provisions of the regulations in force on the subject. If the washing machine is installed on a metal surface, this surface must be connected to the earthing system with a conductor that is independent of the washing machine's grounding.

Before carrying out any maintenance operation, disconnect the power supply: for maintenance, refer to the machine's wiring diagram, inserted in the left side door or available on the manufacturer's website.

The minimum cross-sections for the power and earth cables, expressed in mm², are as follows:

Mod.	HEATING WASHING MACHINE	DRYER HEATING	VOLTAGE (V~) [f=50/60 Hz]	CONSUMPTION (A)	SUGGESTED MINIMUM CONDUCTOR CROSS- SECTION (mm ²)
O11...	HOT WATER / STEAM	ELECTRIC	3ph400V-480V(+N)	26	4
			3ph230V	43	10
			1ph230V	72	16
	HOT WATER / STEAM	GAS / STEAM	3ph400V-480V(+N)	5	2,5
			3ph230V	6,5	2,5
			1ph230V	9	2,5
O11...	ELECTRIC	ELECTRIC	3ph400V-480V(+N)	34	10
			3ph230V	59	16
			1ph230V	102	35
	ELECTRIC	GAS / STEAM	3ph400V-480V(+N)	13	2,5
			3ph230V	22,5	4
			1ph230V	39	10
O88...	HOT WATER / STEAM	ELECTRIC	3ph400V-480V(+N)	32	6
			3ph230V	55,5	16
			1ph230V	NOT AVAILABLE.	NOT AVAILABLE.

Mod.	HEATING WASHING MACHINE	DRYER HEATING	VOLTAGE (V~) [f=50/60 Hz]	CONSUMPTION (A)	SUGGESTED MINIMUM CONDUCTOR CROSS- SECTION (mm ²)
	HOT WATER / STEAM	GAS / STEAM	3ph400V-480V(+N)	8	2,5
			3ph230V	13,5	2,5
			1ph230V	NOT AVAILABLE.	NOT AVAILABLE.
	ELECTRIC	ELECTRIC	3ph400V-480V(+N)	49	6
			3ph230V	84	25
			1ph230V	NOT AVAILABLE.	NOT AVAILABLE.
	ELECTRIC	GAS / STEAM	3ph400V-480V(+N)	25	4
			3ph230V	42	10
			1ph230V	NOT AVAILABLE.	NOT AVAILABLE.

**ATTENTION!**

The minimum cross-sections listed above may vary depending on the length of the connection. For lengths longer than 5 meters, increase the section proportionally to the additional length.

**ATTENTION!**

The machine must always be connected according to the serial number data (power, supply voltage, frequency). For supply voltages other than those provided, ask the manufacturer for information.

**ATTENTION!**

In the event that the power supply comes from a diesel generator, the inverter requires the application of an additional inductance and a special filter.

**ATTENTION!**

In the event that the machine operates on coin, token or equivalent systems, the emergency stop device is not present. The installer must provide and install an emergency stop device located remotely and connected to each machine in the installation.

**ATTENTION!**

The minimum cross-sections shown may vary depending on the length of the connection. For lengths longer than 5 meters, increase the section proportionally to the additional length.

**ATTENTION!**

Even when the position of the main switch is "0", the cables upstream of the switch are live!

**ATTENTION!**

The machine must always be connected according to the serial number data (power, supply voltage, frequency). For supply voltages other than those provided, ask the manufacturer for information.

**ATTENTION!**

All washing machines are equipped with speed regulation and therefore equipped with a frequency variator: it is specifically necessary to provide differential protection by means of a type B RCD device (sensitive to the average current value).

**ATTENTION!**

The machinery must be protected by suitable circuit breakers of the circuit breaker and residual current type, installed outside the machinery. The breaking capacity of the circuit breaker must be at least 10kA. Magnetic protection, i.e. against short circuits, can alternatively be carried out by means of an omnipolar disconnecter with fuses, of the same size.

The characteristics of the capacity of the circuit breaker must be defined using the table above. The current I_{Dn} of the differential must be equal to 0.03A.

10. GAS CONNECTION (dryer)

If the dryer is operated with gas heating, make the appropriate connections with the distribution system: check the machine's nameplate data, and in particular the type and pressure of the supply gas.

**ATTENTION!**

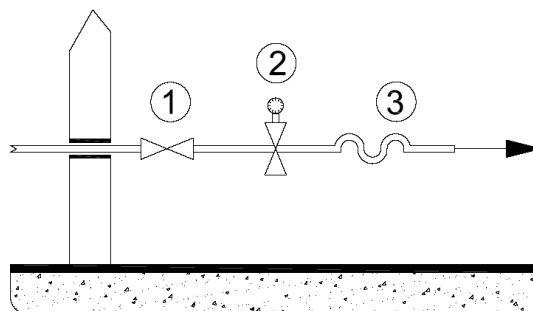
Please note that the maximum pressure for the gas valve is 50mbar. The gas supply even for a short time at higher pressures can damage the valve.

The gas distribution system must be made in accordance with the regulations in force and with sections and pressures suitable for the appliance, see tables.

See the following figure: a gas shut-off valve of the type with rapid shut-off (1) must be available upstream of the appliance; The gas shut-off valve must be located in the vicinity of the appliance and be in a position that is easily accessible by the user. This must absolutely comply with the applicable regulations and be approved.

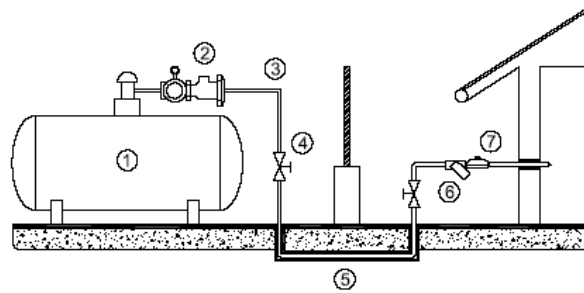
A minimum pressure switch (2) must also be provided.

The connection to the gas supply system must be made with an anti-vibration joint (3); if flexible hoses are used, they must be made of DIN 3384 or DIN 3383 stainless steel.



The system must be designed and built in accordance with current regulations. The gas connection on the dryer has a section defined in the technical data sheet; This section must not be reduced under any circumstances.

Finally, a principle diagram for connection to the machine is reported below, in the case of high-pressure gas supply in cylinders: in this case, a two-stage reduction system is required, carried out in accordance with current regulations.



Downstream of the high-pressure cylinder (1) that acts as a tank, a first-stage regulator (1.5 bar) must be connected, followed by a suitably sized safety valve (2).

The high-pressure hose (3) is interrupted by a shut-off valve (4) and continues, protected (5) under the boundary of the compartmentation area.

Before entering the compartment for use, a second shut-off valve must be provided, followed by the filter (6) and the second-stage stabilizer/regulator (7) which brings the pressure to the value required for use.

11. GAS CONNECTION: LEAK TEST (dryer)

All connections between the system and the device must be leak tested. For this operation, the use of leak detection sprays is recommended; otherwise the connection points can be brushed with other foaming substances, which do not cause corrosion; No bubbles should occur with either solution.



ATTENTION!

It is absolutely forbidden to use open flames for the leak test!

12. GAS CONNECTION: THERMAL POWER (dryer)

All equipment during final factory testing is prepared for the type of gas shown on the adhesive plate located near the rating plate.

If the appliance is not prepared in accordance with the gas family available on site, it is mandatory to carry out a conversion of the appliance to adapt it to the type of gas present. In this case, it is absolutely necessary to inform the authorized technical service center.

The commissioning of the device with the specified heat output depends on the inlet pressure and calorific value of the gas as well as the nozzle, the nozzle pressure and the correct supply of primary air.

The inlet pressure that allows the appliance to operate is within the limits shown in the following table for the various types of gas. Outside these limits, the device may not be put into operation. If you find a pressure different from what is shown in the table, it is advisable to contact the body or company that supplies the gas or the company that carried out the system.

The lower calorific value of gas is requested from the body or company that supplies the gas and must correspond to what is reported in the technical data sheet.

13. GAS CONNECTION: INLET PRESSURE CONTROL (dryer)

The inlet pressure must be measured with a liquid or digital measuring instrument (resolution of at least 0.1 mbar).

- Close the shut-off device.
- Loosen the gas valve pressure tap sealing screw identified with "Pin".
- Connect the pressure gauge.
- Open the shut-off device.
- Operate the appliance in accordance with the operating instructions.
- Measure the inlet pressure, with the burner on.
- Switch off the appliance.
- Close the shut-off device.
- Unplug the pressure gauge.
- Close the gas valve pressure tap sealing screw and check the tightness.
- Open the shut-off device and check for tightness.

The gas appliance may not be put into operation outside the pressure ranges shown in the table.

14. GAS CONNECTION: TESTING (dryer)

As soon as the connection work is completed, the device and the entire installation must be checked. In particular, check:

- that the connections are made in accordance with the instructions and indications of this manual.
- that all safety requirements of the applicable standards, laws and directives are met.
- that the gas connections made are watertight.

The appliance is then lit according to the instructions in the user manual, checking the progressive ignition of the burners and the appearance of the flame.

Carry out a gas consumption check using the volumetric method. By detecting through the meter how much gas has been consumed in a given unit of time: the resulting value is to be compared with the values shown in the table.

15. EXHAUST DUCT FOR HUMID AIR AND FLUE GASES (dryer)

The smoke and humid air exhaust duct must be made in accordance with current regulations.

To avoid spillage of humid air and noise, the exhaust joints from the machine to the outside must be made hermetic, with materials (grouts, mastics, silicone preparations) resistant to high temperatures.

To avoid pressure drops, avoid the use of spiral ducts: therefore use smooth and rigid metal pipes. The material used must be compatible with the discharge temperatures of the machine.

Gas-operated dryers are B22 type gas appliances, i.e. gas-fired appliances that are dependent on a ventilated room without wind protection with a blower behind the combustion chamber.

The flue gases from a gas dryer must be conducted outdoors through the chimney.

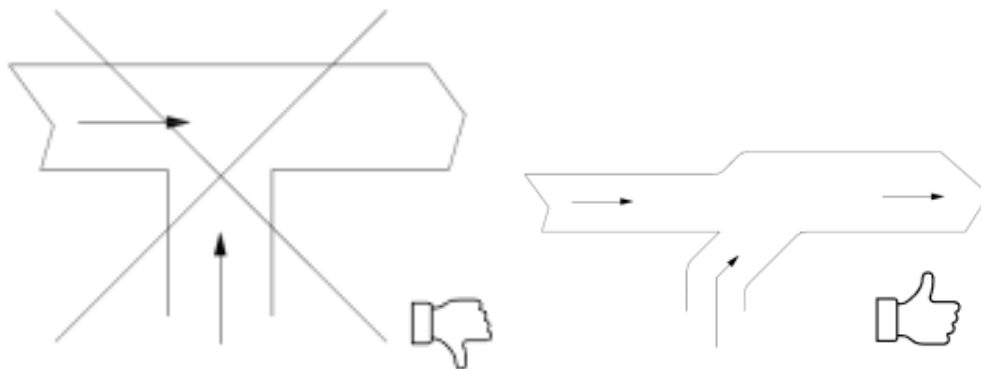
The flue gas and moist air duct, which is as short as possible, should be inclined upwards towards the exhaust chute.

To reduce pressure drops, avoid 90° bends, preferring compositions of 45° or 30° bends.

A steam trap shall be provided at the lowest point and the diversion of this trap shall comply with local regulations for the connection to the water drain.

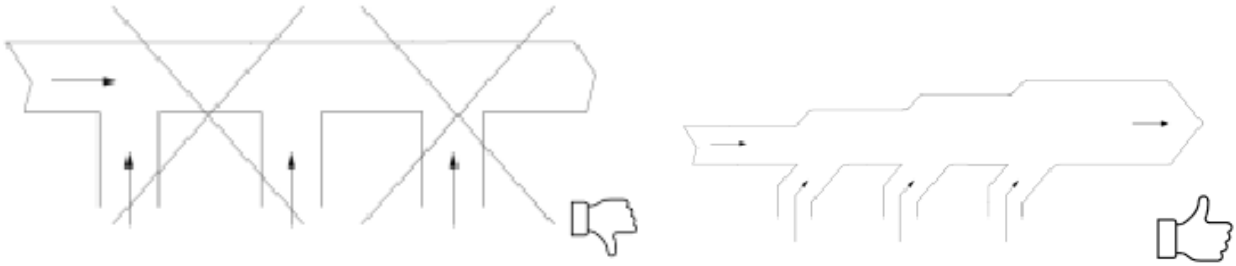
The duct must resist crushing.

In the case of entering a manifold, do not make "T" connections and consider the correct value of the collector section. If necessary, provide for an increase in the collector section.



The manifold for multiple machines cannot be made for gas machines.

For machines with electric or steam heating, it is possible to provide a manifold: do not make "T" connections and consider the correct value of the manifold section. If necessary, provide for an increase in the collector section.



The dryer is equipped with an exhaust fan that produces its typical noise during operation. To reduce the noise level, a silencer (available from specialist shops) can be fitted to the exhaust.



ATTENTION!

The exhaust ducts of gas dryers should never be shared with the exhaust ducts of electrically heated or steam dryers, let alone with the exhaust ducts of other types of machines.



ATTENTION!

The outlet of the drain pipe must not flow at eye level and/or be directed towards residential units.



ATTENTION!

Instruct the user on the danger of tampering with the exhaust ducts and/or modifying, plugging, obstructing or reducing the ventilation openings of the installation room.



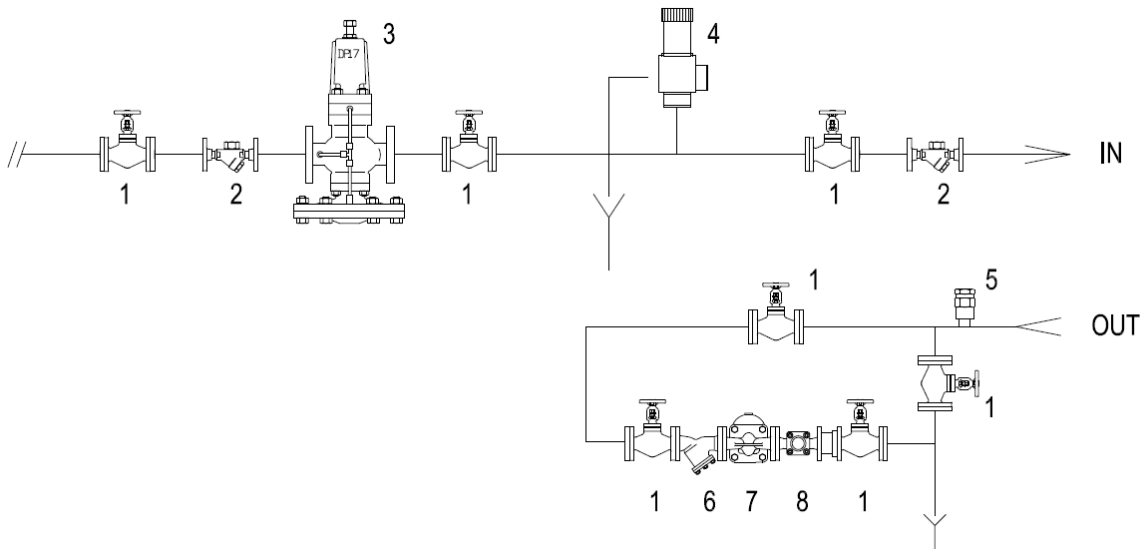
ATTENTION!

Do not insert your hands, objects into the drain (position 6). Only the smoke and humid air exhaust chimney must be connected to this connection.

16. STEAM CONNECTION (dryer)

Only for dryers equipped with steam heating, a connection to the steam mains must be made. The connection must be carried out by professionally qualified personnel and must meet the requirements of current local and national rules and/or regulations. Check that the steam has the minimum characteristics indicated in the technical data sheets, and that all system components are certified.

The system must be built according to the following scheme:



The elements of the system are identified as follows:

- 1. Shut-off valve
- 2. Filter
- 3. Pressure reducer (where required)
- 4. Safety valve



ATTENTION!

For the safety valve to be efficient, it must be sized to meet the maximum flow rate of the steam supply line.

- 5. Vacuum break valve
- 6. Filter
- 7. Inverted bucket steam trap
- 8. Passage indicator
- IN Inlet to the steam exchanger of the machine
- OUT Exit from the machine exchanger



ATTENTION!

Drying performance depends on the performance of the steam exchanger.

The machine can operate in a steam pressure range (see data sheet): but the lower the steam pressure, the lower the performance of the machine. To prevent drying times from being too long, we recommend having a minimum steam pressure of 5bar.



ATTENTION!

The shut-off valve (1) must be opened slowly in order to minimise the effects of water hammer.



ATTENTION!

The steam line **MUST NOT** be shut off by electric or pneumatic valves for regulating the temperature of the machinery. Temperature control is already carried out by the machine damper. The use of valves shortens the life of the exchanger and the warranty must be considered automatically void.



ATTENTION!

Do not touch the steam inlet and outlet piping when hot!

17. STEAM CONNECTION (washing machine)

Only for machines equipped with steam heating, a connection to the steam mains must be made. The connection must be carried out by professionally qualified personnel and must meet the requirements of current local and national rules and/or regulations. Check that the steam has the characteristics shown in the technical data sheets, and that all system components are certified.

WARNING: in some models the steam valve is not included in the scope of delivery of the machine, it is an accessory.

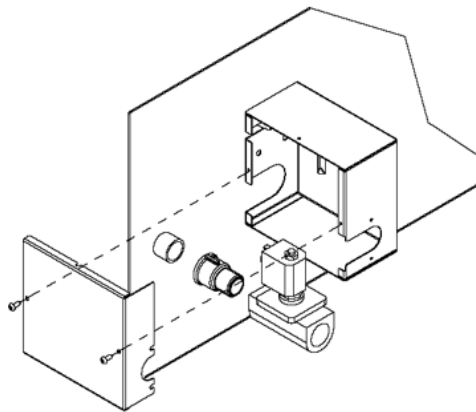
If purchased from the manufacturer, it is delivered unassembled: its electrical and hydraulic connection is the responsibility of the installer.

The supply voltage of the coil is 230Vac: check the label that shows the maximum current.



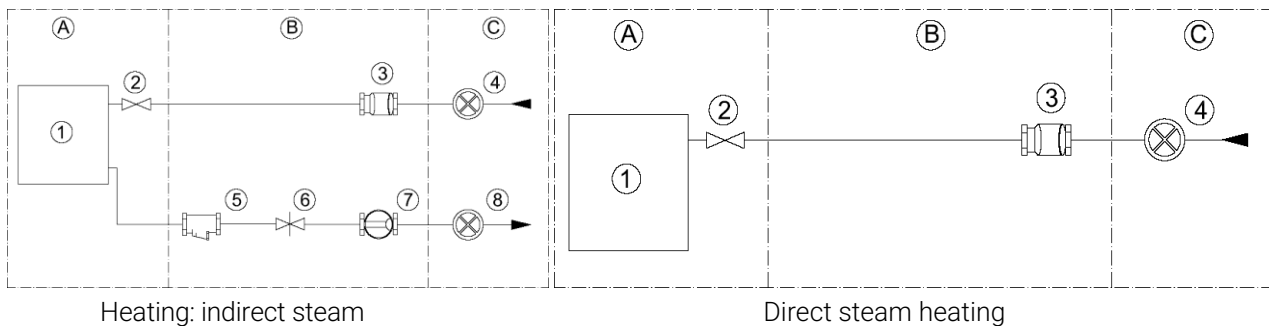
ATTENTION!

Once the valve has been connected to the outside of the machine, the assembly must be protected by the metal box supplied: see figure below.



The steam supply system must be made according to the following diagram. Finally, all the connections between the system and the appliance must be subjected to a leak test.

- A) machine
- B) External system
- C) Steam supply system



The elements of the system are identified in the diagrams as follows:

- 1) washing machine
- 2) Steam valve (supplied)
- 3) filter
- 4) steam inlet gate valve
- 5) Steam trap
- 6) non-return valve
- 7) Passage indicator
- 8) condensate outlet gate

**ATTENTION!**

The machine can operate with a steam pressure of 0.5bar to 9bar, but the lower the steam pressure, the longer the water heats up in the washing phases.

**ATTENTION!**

For tilting machines, make sure that the movement of the machine does not compromise the connection to the steam manifolds.

18. PLUMBING CONNECTION: WATER LOADING (washing machine)

The washing machines are equipped with solenoid valves for loading cold and hot water (and hard water for models that provide it): each water inlet is identified: for the connection dimensions, refer to the relevant technical data sheet.

Upstream of each hydraulic supply pipe, a gate valve must be provided that allows the flow of water to the machine to be interrupted at any time, both for any emergency situations and for normal maintenance operations. An inspectable water filter must be installed upstream of each inlet: it is also a good idea to check the filters of the loading solenoid valves, after a short period of use of the machine, especially if the pipes to which the connection has been made are old or not used for a long time.

**ATTENTION!**

The water supply pressure must be between a minimum of 0.05 MPa and a maximum of 1 MPa. The water inlet temperature should never be lower than 5°C and higher than 60°C.

(The minimum and maximum values take into account all the different valve models present in the different sizes of machinery).

The lower the supply pressure, the higher the load times will be.

In the presence of several washing machines, the water supply line must have a diameter such as to allow a rapid flow even if all the washing machines are loaded at the same time.

**ATTENTION!**

All water inlet valves must always be connected! If the system does not have hot water served, use cold water to also feed the valve identified as "HOT WATER" and where present also the one identified as "HARD WATER".

**ATTENTION!**

For tilting machines, make sure that the movement of the machine does not compromise the connection to the water inlet collectors.

**ATTENTION!**

The HOT WATER heating system does not provide any other autonomous or external forms of heating other than the same hot water served to the machine. Thermoregulation is in any case guaranteed by alternating activation of the hot and cold water inlet.

19. PLUMBING CONNECTION: WATER DRAIN (washing machine)

The solenoid valves used for draining are of the normally open type, i.e. they drain the water in the event of a sudden power failure.

In the presence of several washing machines, the drain line must have a diameter such as to allow a rapid outflow of the simultaneous drains of all the washing machines; The drain manifold must be made so as to

make it impossible for water discharged from a washing machine to re-enter an adjacent washing machine. The discharge is by natural fall, therefore the discharge pipes must not have depressions and counter-slopes: a minimum slope of 2% is required for correct outflow.

The exhaust system must meet the requirements of applicable local and national standards and/or regulations.



ATTENTION!

For tilting machines, make sure that the movement of the machine does not compromise the connection to the drain pit.

20. INTERNET CONNECTION (washing machine)

For machines that are equipped with it, there is a device on the backrest that can connect to the internet (IOT, Internet Of Things).

With the IOT system installed and working, together with the use of the appropriate portal, it is possible to keep your machinery updated, send and receive customized configurations, modify/create washing programs remotely without going to the user, detail the graphic appearance of the touch screen, receive operating statistics and the report of errors/malfunctions.

The connection to the network can be made via cable (ETHERNET) or via WIFI connection (2.4 GHz).

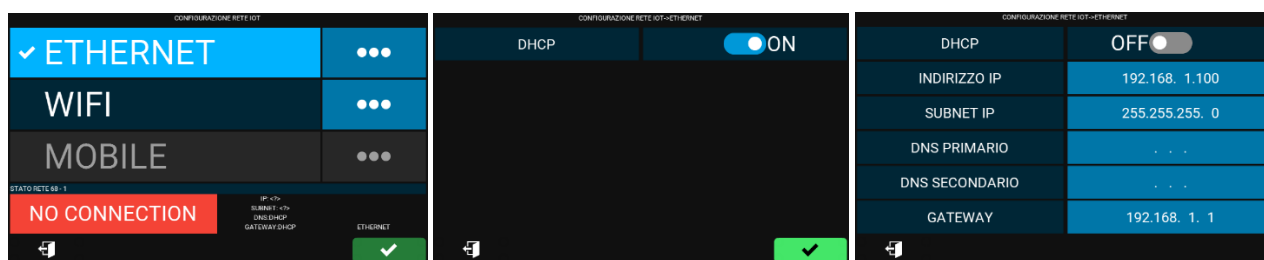


ATTENTION!

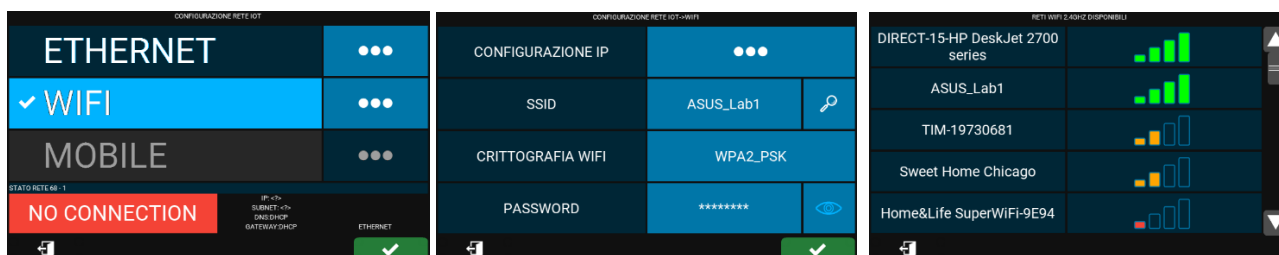
Make sure that you have obtained permissions from your local network administrator. Check for any blocks or firewalls that prevent new devices from taking advantage of the local internet. Check that the WIFI coverage (2.4 GHz) is constant and present at the place where the machinery is installed. If you prefer to use it via ETHERNET cable, be sure to perform all continuity and connectivity checks on the main router/modem before connecting it to the machine.

Using the user password 1234567, enter the PASSWORD AND INITIALIZATION menu and then in IOT NETWORK CONFIGURATION.

If the connection is made by cable, select ETHERNET, press the box with three dots below and set the DHCP configuration to OFF if you need to set a well-defined IP for the machine, otherwise leave DHCP on ON for automatic assignment (recommended).



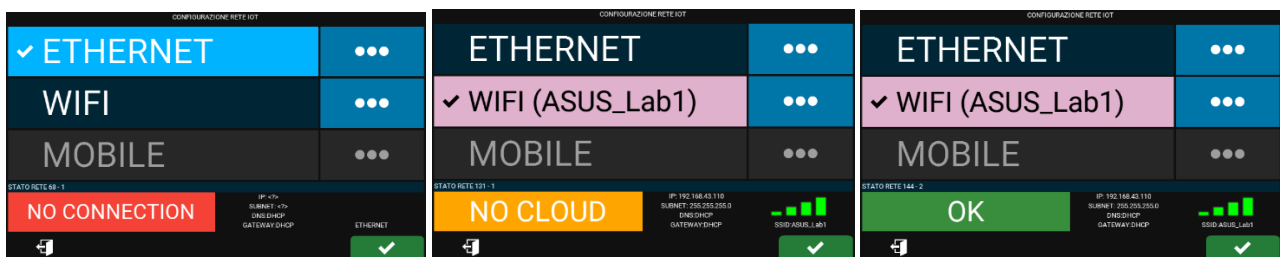
If the connection is made via WIFI (2.4 GHz) select WIFI, press the box with three dots below, press on the magnifying glass icon to scan the available networks (SSID), if necessary enter the network password (ask the network administrator).



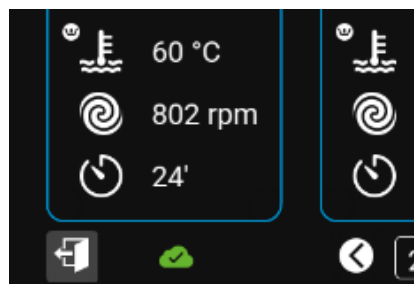


For both connection modes, the real connection status is immediately witnessed by the messages:

- NO CONNECTION: The network does not reach the machine, The network has not been set up correctly, the IOT device of the machine is turned off.
- WAITING CLOUD REPLY → NO CLOUD: The network has been configured but the coverage is not sufficient, the cloud does not recognize the machinery.
- OK: The connection has been established and is solid.



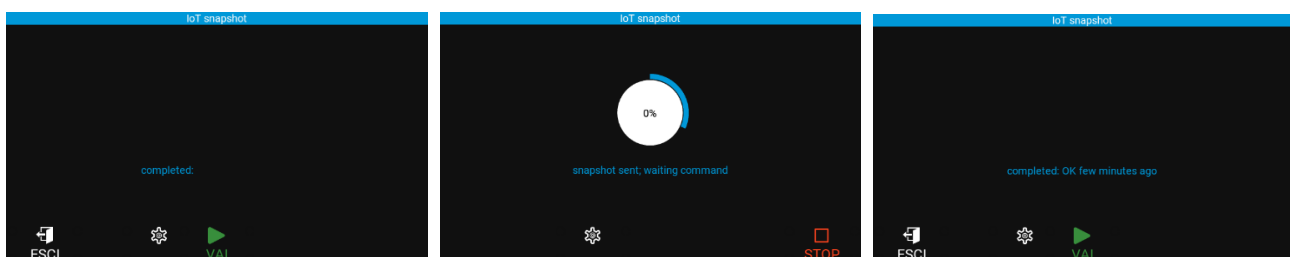
The connection status of the machine is also shown on the main program selection screen. At the bottom left of the display, the white cloud with an exclamation mark shows a generic connection error, while the green cloud guarantees perfect connectivity of the machine.



When the machine is connected to the network, the system is updated automatically every 12 hours: the machine can therefore perform two synchronizations a day without any intervention, it will only be necessary to keep it on. The automatic update takes place even when the machine is running and does not restrict its use. Conversely, you can perform multiple synchronizations by operating manually.

Log in with the 1234567 password, select MAINTENANCE and then IOT UPDATE. Then press the green triangle icon to download/upload updates to and from the cloud.

During the manual update phase, the machine is not operational and the screens that appear are like those described below.



If the downloaded changes or updates require it, the machine may switch off and on again autonomously (re-boot) at the first useful break, i.e. when a washing cycle is not in progress. The re-boot is pre-signaled on the display and the user has the right to postpone it to the next useful break.

21. CONNECTION TO THE INTERNET (on dryer, if present)

On some models or on request, an internet connection device is available to allow remote monitoring of the machinery.

It is possible to connect the machine via ETHERNET (with a special RJ45 cable) or via WI-FI (without cable). The router can be reached by opening the rear panel of the machine and each connection must be made with the machine completely disconnected from the mains.



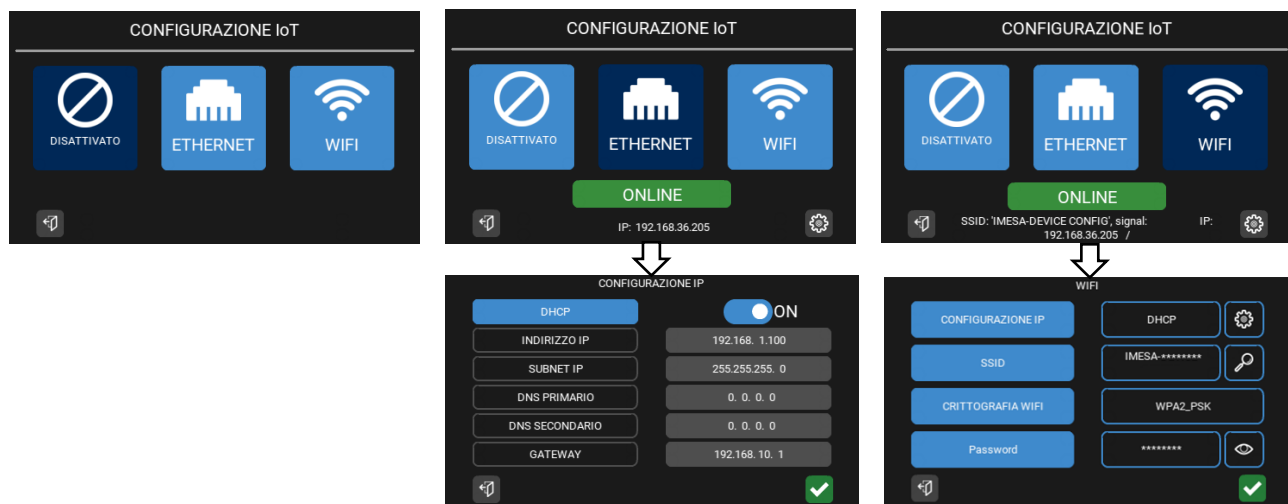
ATTENTION!

Before you can connect, you must have the necessary permissions from your network operator. Always rely on a qualified technician for the necessary checks and preparations of the system.

For the ETHERNET connection, it is necessary to connect the network cable to the RJ45 connector provided on the machine's router. No special configurations of the IM10 device are required as pairing is automatic if the DHCP setting is set to ON.

For the WI-FI connection, it is necessary to know the access credentials of the network (SSID and PASSWORD) to which the machine is to be connected. The device is capable of connecting to 2.4Ghz WI-FI networks, other frequency networks are not supported.

To configure it, go to the "SETTINGS" and "IoT CONNECTION" menus, available only within the technical area of the IM10 computer, and choose the type of connection you want.



The connection status will be visible on the main screen through a cloud icon that can take on four different colors, each of which expresses a status:

-  Connected to the network and reachable cloud: GREEN icon with checkmark;
-  Connected to the network but cloud unreachable: YELLOW with question mark;
-  NOT connected to the network: RED with X;
-  In all other cases, including communication timeout between IM10 and router: GREY with exclamation mark.

22. USE AND LOADING OF DETERGENTS (washing machine)

The user should contact his chemical supplier to be aware of the risks associated with individual products and their combinations.

It must be ensured that the products and their combinations are compatible and do not cause oxidation or damage to people and the washing machine.

In this regard, the following are the elements that come into contact with detergents:

- stainless steel AISI304;
- polypropylene PP;
- EPDM, NBR, silicone rubbers;
- borosilicate glass.



ATTENTION!

Attention is drawn to the fact that the use of hypochlorite (bleach) generates corrosion that can cause defects on some parts of the machine, under certain conditions of use.

This type of machine is not equipped with a detergent compartment, and the loading is provided by means of a peristaltic pump kit for loading liquid detergent only.

For connection, programming and operation, see the instructions included in the peristaltic pump kit.

23. THE EMERGENCY BUTTON

The following image highlights the emergency mushroom (if any).



ATTENTION!

The emergency button (where present), when pressed, acts in stop mode category = 1: removing the power supply to the control. In this case, the display turns off and the cycle is automatically interrupted: the drum unit, if it has been rotating, stops inertially.

For the washing machine, the tub is emptied.

The emergency mushroom should only be pressed if you are faced with a dangerous situation.

NOTE; Equipment used in self-service environments does not have an emergency button. The installer must supply and install an emergency stop device located remotely and connected to each machine.

When the dangerous situation is overcome, the emergency button can be reset by turning it clockwise: the display lights up and any previously interrupted cycle remains in standby and the following possibilities are provided:

- resume the previous program from the cycle that was interrupted;
- abort the program permanently.

**ATTENTION!**

It is important that the laundry manager is aware of the emergency procedures and that he or she ensures that the personnel who will use the machine are aware of the dangers of the machine and are aware of the emergency procedures in turn.

Periodic tests should be carried out on the personnel using the machine to ensure that the procedures have been correctly understood.

24. STARTING THE MACHINE AND TESTING, USER PASSWORD (washing machine)

Once all connections have been made, the machine must be started in the manner specified in its control equipment. The machine must be tested in all its parts: it is particularly suggested to attend at least a complete program, carried out at full load.

When you turn it on for the first time, you are prompted to select the language, date, and time. These items can be changed at a later time by pressing the MENU key and typing the password "USER": 1234567.

In addition, at each ignition (for machines that are equipped with it), the possibility of connecting the machine to a WIFI or wired internet network will be offered. By pressing the green button, you can access the configuration menu of your network. The message disappears once the connection has been made or in any case after pressing the red button to cancel the request.

25. AIR VENTS

The air openings in the backrest and possibly on the machine cover, including the vent connections, must always remain clear. The passage of air through the louvers must not be restricted in any way!

26. PREPARING THE CLOTHES (washing machine)

The machine must be loaded according to the characteristics on the serial label: it must not be loaded with a weight greater than the nominal load provided for in the technical data sheet and on the serial plate.

Before deciding on the most appropriate program, divide the laundry according to the fabrics and fibers, in order to achieve an even wash of the entire load.

Before loading, make sure that the garments bear the label with the authorization to wash in the machine and always follow the instructions of the fabric manufacturer.

27. PREPARING THE GARMENTS (dryer)

The machine must be loaded according to the characteristics described in the serial label: it must not be loaded with a weight greater than the nominal load provided for in the technical data sheet and the serial plate.

Before deciding on the most appropriate program, divide the laundry according to the fabrics and fibers, in order to achieve uniform drying of the entire load.

Always check that there are no dispensers or balls between the laundry.

Make sure that fabric softeners (and similar products) have been used in accordance with their instructions during the previous washing step.

Before loading, make sure that the garments have the label with the authorization to dry in the machine (and that they have been washed in water) and always follow the instructions of the fabric manufacturer.

Here we recall the meaning of some international symbols:

	Dry at normal temperature
	Dry at a low temperature
	Do not dry in a rotary dryer



ATTENTION!

The machine must not be used if washing chemicals other than detergents certified for washing textiles in water have been used.



ATTENTION!

The machine must not be used with fabrics that can ignite themselves.



ATTENTION!

The garments to be dried must not have been in contact with hazardous substances such as explosives, detonating or flammables.

For items soiled with substances such as cooking oil, acetone, alcohol, petrol, kerosene, stain removers, turpentine, wax and substances to remove it: make sure that they have been washed in hot water with a sufficient amount of detergent to completely eliminate these substances.

These fabrics must then be thoroughly rinsed and aired before being placed in the machine.



ATTENTION!

Items such as foam rubber (latex foam), shower caps, waterproof textiles, items with a rubber side and clothes or pillows that have latex foam parts, and in general all fabrics containing rubber parts, must not be dried in the tumble dryer.



ATTENTION!

Do not dry items that have not been previously washed.



ATTENTION!

Make sure that fabric softeners and similar products have been used in accordance with their instructions.



ATTENTION!

Check garments with padding: Do not load the machine with garments whose padding is damaged.

**ATTENTION!**

Close zippers; button the closures of duvet covers; Fasten laces and ribbons. Empty your pockets.

**ATTENTION!**

Metal elements such as buckles, hooks, fasteners must be wrapped in a cloth before drying, in order to protect the drum from damage such as scratches or bumps, which could in turn damage the garments.

28. LOADING THE MACHINE AND CLOSING THE DOOR (washing machine)

The machine must be loaded with linen that is as homogeneous as possible and with a weight that does not exceed that provided for in the technical data sheet and serial label.

Before loading with dry laundry, make sure that the drum is completely empty. After loading the machine, close the door:

**ATTENTION!**

Make sure that when closing the door, no flaps of fabric are pinched between the door and the front of the machine.

29. MANUAL DOOR OPENING (washing machine)

During the cycle, it may be necessary to open the door manually, without the aid of the keypad release. The same procedure may be necessary in the event of a power failure:

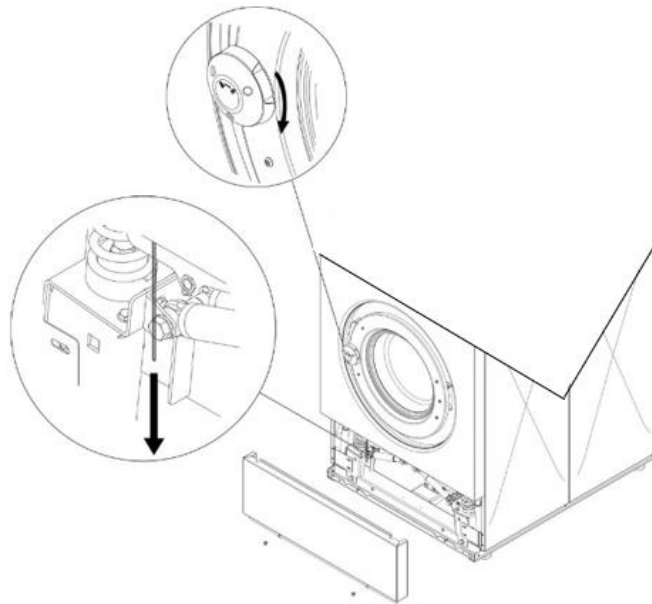
**ATTENTION!**

Before performing the manual procedure, disconnect the electrical power at the main switch.

**ATTENTION!**

The manual release of the door lock must NEVER be used during normal operation of the machine!

On standard machines, open the lower front panel. To release the door, pull the rope with the loop visible on the side. At the same time, turn the handle clockwise and open the door:



30. TURNING ON THE MACHINE (washing machine)

Turn on the main switch that powers the machine.

For machines equipped with steam heating: open the gate valve to allow steam to enter. To limit water hammer, perform the opening operation slowly: from the closed position to the open position, over 1 minute.

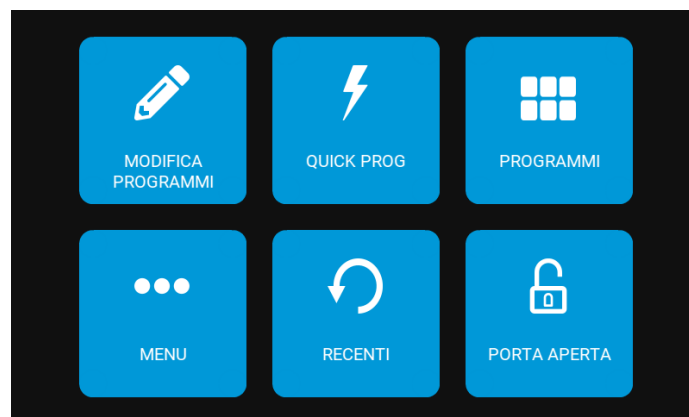
Make sure that the emergency button (for models that have it) is in the rest position and that it has not been activated.

Before starting the machine, always carry out the safety check procedure (check the relevant paragraph).

When you turn on the machine, the display shows the installed software version for a few moments.

Please note that it may take about a minute for the software to load.

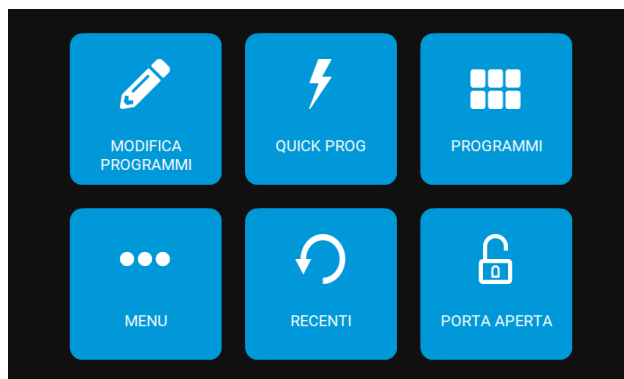
The following screen appears on the display, followed by a series of slides that make up the screensaver.



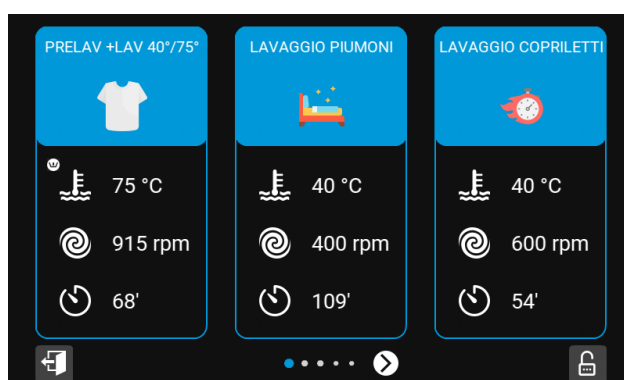
Load the washing machine as described in the relevant paragraph and close the door according to the procedure provided.

31. SELECTING A PROGRAM (washing machine)

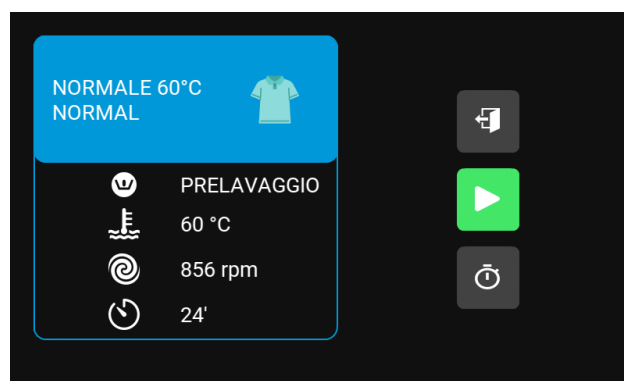
After loading the machine and closing the door, the main screen appears on the display.



By tapping on the "PROGRAMS" icon you can view the list of programs residing in the computer's memory. The following screen will appear on the display:



You can scroll through the list of programs using the arrows located at the bottom of the screen. When the desired program is displayed, simply tap on it to highlight it.



By tapping on  the icon, the selection is confirmed and if the door is closed correctly the program will start.

32. RECENT PROGRAMS (washing machine)

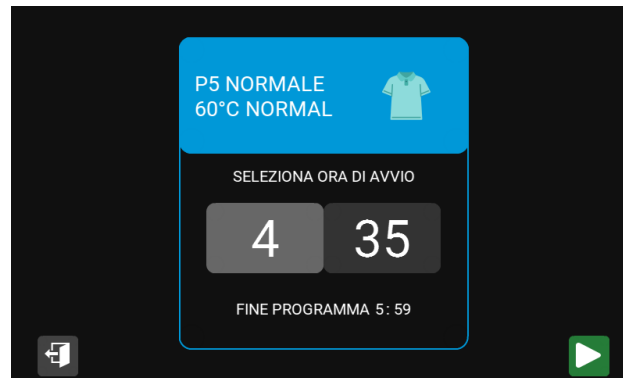
From the main menu, by tapping on the "RECENTS" icon you can access the list of the last programs performed. The selection and departure of the program take place as described above.

33. DELAYED START (washing machine)

If you want to start a program with a delay, proceed with the selection as described above. Instead of tapping

the  Instant Start icon, tap the icon .

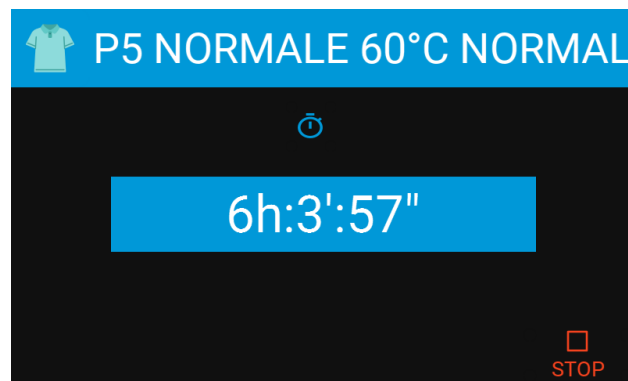
The following screen appears on the display:



The start-up delay is fixed by the machine's internal clock and can be increased and decremented by clicking on the hours and minutes

The function can be abandoned by tapping the icon .

After configuring the desired delay, confirm the set data by tapping the icon . The following screen appears on the display:



A countdown will appear, indicating how many hours and minutes are left until the program starts automatically and delayed.

The countdown can be stopped at any time by pressing the icon .

When the countdown timer expires, the cycle will start automatically if the door is closed properly.

The function allows the program to be postponed by a maximum of 24 hours.

If the machine is switched off for any reason during the waiting period, the timer will continue to run and the machine can be started at the chosen time, provided that the power supply has been restored in the meantime. In this case, however, further confirmation of the start of the program will be requested. Homogenically, if the desired departure time coincides with the black-out period, the program will not be started, the "POWER FAILURE" message on the display will justify the non-execution.

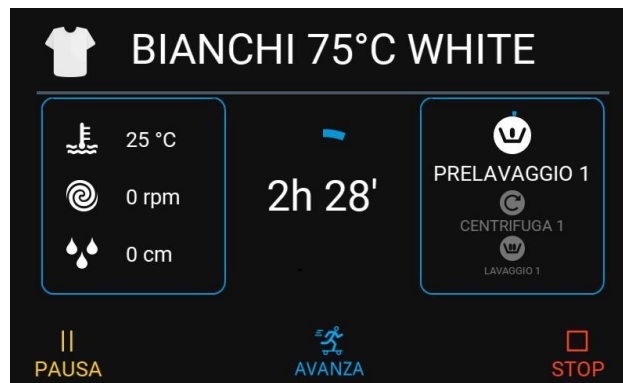
34. RUNNING A PROGRAM (washing machine)

After selecting the program, as described in the previous paragraphs, the cycle is started by pressing the icon



The selected program starts if the door is properly closed.

During execution, the following screen appears on the display:



The information on the left of the display allows you to understand the operating conditions of the machine while the program is running.

All parameters can be changed on the fly by simply tapping the corresponding icon. These changes remain valid only for the current cycle: for updates on the function and for further information, please refer to the online documentation.



ATTENTION!

In the event of an early end to the cycle, remember that the temperature of the fabrics may be high! In this case, automatic door opening will not be permitted.



ATTENTION!

In the event of a fault or malfunction, switch off the appliance immediately and call an authorised service centre!

35. PAUSING A PROGRAM (washing machine)

While the program is running, you can pause it for a controlled break.

To pause it, and then pause, simply press the icon  for a few seconds.

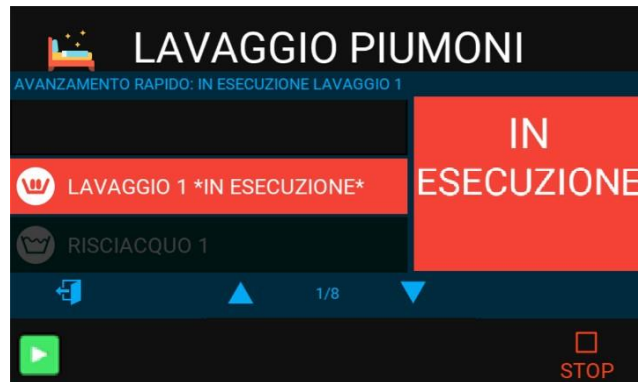
The following screen appears on the display indicating that a soak has been performed, the duration of which is highlighted in the centre of the display.



The soaking can be interrupted, and the cycle restarted, by pressing the icon . During soaking, the program can be completely stopped by pressing the icon .

36. FAST FORWARD (washing machine)

It is possible to move within the program by entering the quick navigation environment with the icon . The following screen appears on the display while the machine is temporarily in standby.



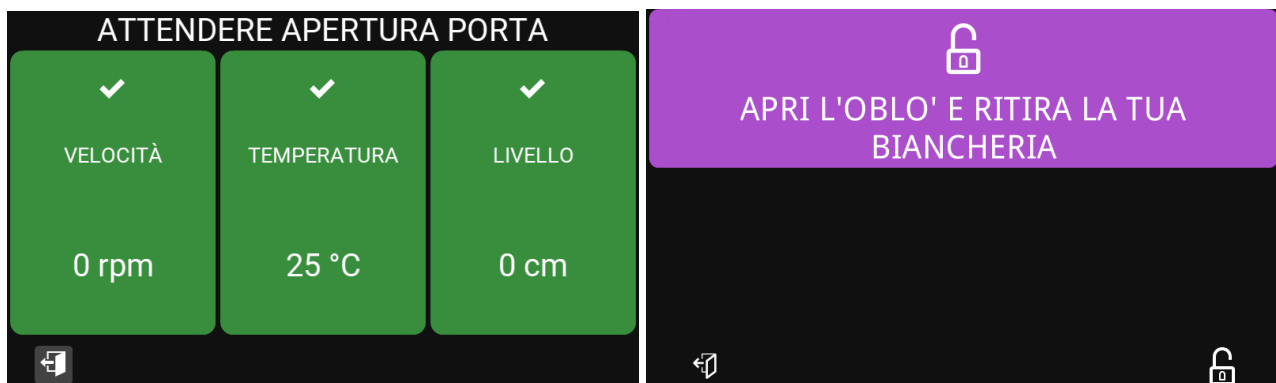
By pressing the "▼" and "▲→" you can browse through the cycles of which the program is composed. Pressing the button  starts the selected cycle.

Pressing the button that depicts the door exits the screen without making any progress action. The button  allows the program to be completely interrupted.

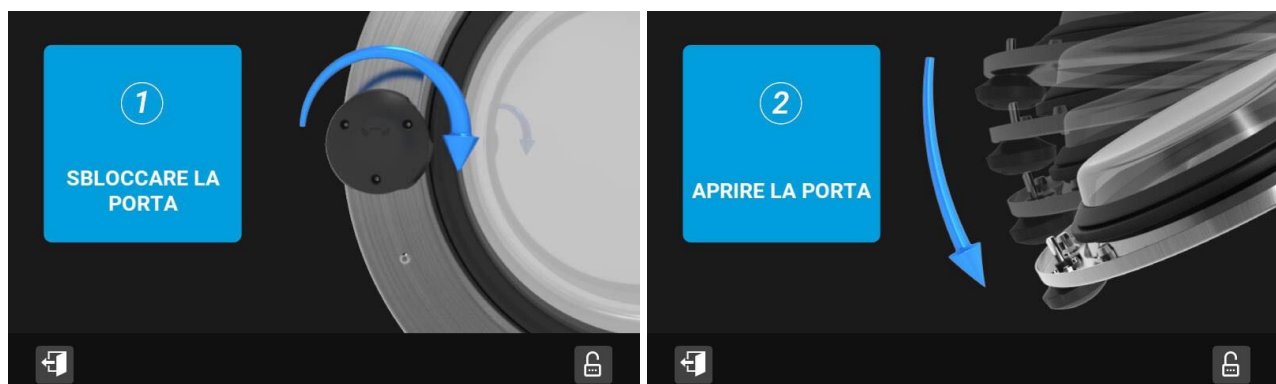
37. END OF RUNNING A PROGRAM (washing machine)

At the end of the program, open the door and unload the machine.

The machine will perform a check to verify that the door can be opened safely. When the three banners turn green, you can open the door.



In the case of a door with a rotary handle, the following images will appear in sequence:



38. END OF WORKING DAY (washing machine)

At the end of the working day, the machine must be brought to the end of the cycle and turned off: the basket must be emptied and cleaned.

Turn off all power supplies by operating the relevant line switches/disconnectors: electric, steam and compressed air.
Finally, leave the door open.

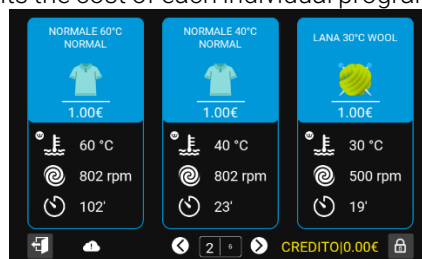
39. PROGRAMMING (washing machine)

The programming procedure allows existing programmes to be modified or new programmes to be implemented. A program consists of a sequence of steps or steps, configurable in detail, in the various parameters that they are responsible for.
Use the instructions published online.

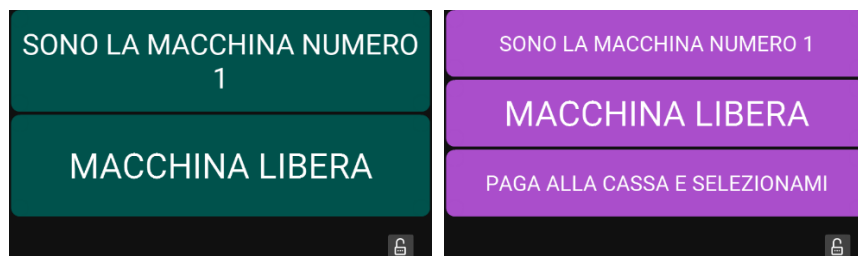
40. COIN OP PROGRAMMING FOR SELF-SERVICE SYSTEMS (washing machine)

Two payment methods are available to manage the purchase of programs in a self-service environment: COIN MECHANISM for coins or tokens, CENTRALIZED CASH to manage centralized payment systems or cashless devices. The purchase of a wash program is intended for its entire duration.

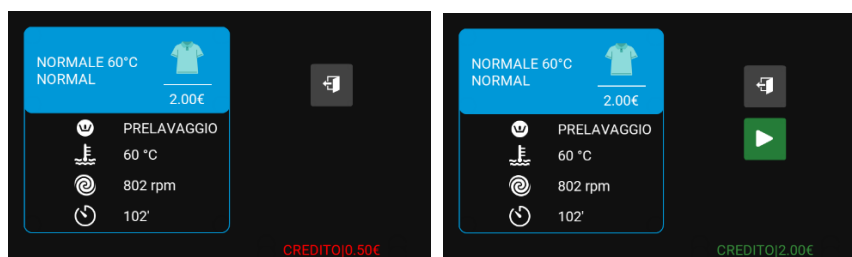
The program selection screen presents the cost of each individual program and the amount of credit introduced.



Only on machines configured with the CENTRALIZED POS payment system, the following screens also appear identifying the machine number to which the payment should be sent.



By selecting a program: if the credit introduced is lower than the cost of the least expensive program, you will not be entitled to use the washing machine, the credit introduced is highlighted in flashing yellow/red. If the credit entered equals or exceeds the cost of the selected program, the text will be colored green and it will be possible to start it. The machine will not provide the change itself.



In COIN ACCEPTOR mode, the computer acts as a totalizer and allows the sum of several denominations of coins or several tokens inserted in succession. It is possible to install alloy recognition coin mechanisms capable of accepting different coin denominations, or electromechanical coin mechanisms capable of validating only one type of coin or token. Once the coin or token has been inserted, a train of pulses or a single pulse (depending on the type of coin mechanism) comes from the coin mechanism which will be counted by IM11 and associated with a value (COIN1, COIN2 described below). You can set programs with different prices from each other.

In CENTRALIZED CASH mode, the payment is managed by an external system that provides an impulse to which a countervalue (COIN1, COIN2 described below) is associated, generally equal to the cost of the most expensive program. It is not possible to set programs with different prices from each other.

Although they are different methodologies, the criterion operated by the computer of the purchasing machine is the same: one impulse or several impulses in sequence come from the COIN MECHANISM or from the CENTRAL CASH. Each pulse is associated with a credit unit, for example €0.10 or €5.00, IM11 counts the pulses and checks if the sum reached is equal to or greater than the cost of the desired program. When the credit introduced equals or exceeds the price of the most expensive program, the washing machine enters the MACHINE OCCUPIED mode until the end of the program execution and deactivates the coin mechanism or signals to the centralized payment system the unavailability of paying again on the same machine.

The parameters described below can only be modified by means of the access key to the technical menu, and the respective submenus: CONFIGURATION OF THE MACHINE→BAPTIZES→PAYMENT:

- TYPE OF PAYMENT SYSTEM: NONE / COINS-TOKENS / CENTRALIZED CASHIER.
- MACHINE NUMBER: This is the number assigned to the machine and is used only in the CENTRALIZED CHECKOUT mode.
- CURRENCY TYPE: You can set one of the currencies already stored (€, \$, £...) or generate a custom currency.
- DECIMALS TO DISPLAY: Allows you to display the decimal places of the chosen currency.
- COIN VALUE (TOKEN) 1: It is the equivalent value associated with the payment channel coming from a validation system. It corresponds to input 1-2 of the CN22 connector of the IO board.
- COIN VALUE (TOKEN) 2: It is the countervalue associated with the second payment channel coming from a validation system. The machine can accommodate, for example, a second coin mechanism. This corresponds to input 3-4 of the CN22 connector on the I/O board.
- BUSY MACHINE SIGNAL: When the machine has reached an amount equal to or greater than the price of the most expensive program, an IO card relay (terminals 1-2 of the CN28 connector of the IO card) switches its state from off to on or vice versa, at the discretion of the payment system present. It is used to signal that the machine is busy as well as inhibiting the payment system to prevent overpayment
- CREDIT RESET TIME: Allows you to set a time, in minutes, within which the credit entered, if not yet used, is reset.
- PROGRAM RESET TIME: Allows you to set a time, in minutes, within which you can interrupt it to select another program when the program has already started.
- ENABLE STUCK COIN (TOKEN) CHECK: Enables or disables checking the status of COIN1 and COIN2 inputs. If the contact remains closed for too long, it is possible that a token has become stuck or that the impulse coming from the CENTRALIZED CASH is too long
- STUCK COIN (TOKEN) DURATION: Defines the time after which the STUCK TOKEN error is triggered.
- BEEP ON COIN INSERTION (COIN INSERTION): Enables a beep on each payment impulse received on COIN1 or COIN2.

Access to the price configuration of each individual program is possible by means of a user password. In self-service mode, the menu can be accessed within 30 seconds after the machine is switched on. Simply press the



button from the main screen, then press the CHANGE PROGRAMS button and type the user password again. Click on the "DETAILS" cell of the respective row to change the price of the program.



In the user area there is also a credit management menu that contains the following functions:

- CREDIT: Describes the total credit introduced into the machine. It also takes into account any excess money that has not been used to purchase programs.
- CREDIT USED BY PROGRAMS: Itemizes the total credit actually used to start the programs.
- CREDIT PER PROGRAM: Detail the credit accrued for each program.
- CREDIT TIMED OUT: this is credit that has not been used within the time established by the CREDIT RESET TIME parameter described above.
- RESET CREDIT STATISTICS: allows you to reset the statistics described in this menu.
- CREDIT RESET: resets the credit in the machine to zero without waiting for the CREDIT RESET TIME to expire.

Some examples of programming:

Example 1: Machine with electronic alloy recognition coin mechanism for €:

- Coins accepted: €0.10, €0.20, €0.50, €1.00, €2.00.
- Program cost: PROG1 = 5.00€; PROG2 = 4.00€; PROG3 = 3.00€.
- Coin acceptor set by the manufacturer in steps of € 0.10.

It is recommended to set the price of the programs as described above, below set COIN1 at €0.10. Each coin introduced will automatically be "divided" into €0.10 subunits, so a €2.00 coin will be sampled with 20 pulses. Each pulse will then be associated with the value of COIN1 equal to €0.10 and IM11 will be able to reconstruct the amount introduced.

Example 2: Machine with mechanical coin mechanism for token recognition:

- Program cost: PROG1 = 5 TOKENS; PROG2 = 4 TOKENS; PROG3 = 3 TOKENS.
- Coin acceptor set by the manufacturer to provide 1 pulse at each token passage.

It is recommended to set the price of the programs as described above, below set COIN1 to 1 GET. Each token introduced will be valued with the amount described by COIN1 equal to 1GET; therefore, the purchase of PROG1 will require the insertion of 5 tokens, PROG2 the insertion of 4 tokens, PROG3 the insertion of 3 tokens.

Example 3: Machine with electronic coin mechanism with alloy recognition for € and 1 type of token.

Electronic coin acceptors allow you to accept coins of different currencies or tokens of different denominations; In the case described here, it is a matter of associating the token with the equivalent value of a specific coin among those accepted by the coin mechanism.

- Coins accepted: €0.10, €0.20, €0.50, €1.00, €2.00.
- Coin value = €2.00
- Program cost: PROG1 = 5.00€; PROG2 = 4.00€; PROG3 = 3.00€.
- Coin acceptor set by the manufacturer in steps of € 0.10.

What is described in example 1 applies, it is a matter of programming the coin mechanism to associate the value of 1 token with €2.00. In this regard, consult the manual of your coin mechanism or the manufacturer as dedicated software may be required. Mixed payment will therefore be allowed and the purchase of a program can be made as follows: PROG1 = 2 GET + 1.00€, or 1 GET + 4.00€.

Example 4: Machine connected to a centralized checkout Machine selected: Washing machine n°1.

- Program cost: PROG1 = 5.00€; PROG2 = 5.00€; PROG3 = 5.00€.

Since the signal that reaches the machine from the centralized cash register is unique, the cost of the programs must be unambiguous and linked to the equivalent value of COIN1. Therefore, set the value of COIN1 to €5.00, equal to the price of the programs. Select the machine number (1) on the control panel, go in front of the machine to load the laundry and select the washing programme. Compatibly with the configurations of the central payment, machine no. 1 will be occupied already at the end of the payment so as to prevent the next buyer from accidentally making a payment to the machine already in use.

41. SIGNALS ON THE DISPLAY (washing machine)

The computer provides complete diagnostics both in the event of malfunctions and in the case of simple reports. Below is the list of signals that may appear on the display. In any case, the user is invited to contact an authorized service center for the solution of the problem occurred.

COD	DESCRIPTION	WHAT TO DO
1	ENGINE THERMAL	The display shows: "ALARM!! 01 Thermal Engine". The machine stops and the buzzer sounds for 15 seconds. When you touch the touch, the alarm is reset and the door opens. The motor has overheated: wait for the motor to cool down and restart the cycle. If the problem occurs often, call the Authorized Service Center.
2	OPEN DOOR	The display shows: "ALARM!! 02 Open Door". The machine stops and the buzzer sounds for 15 seconds. When you touch the touch, the alarm is reset and the door opens fully. The door opened while a cycle was in progress. Call the Authorized Service Center.
3	PROBE FAULT TEMPERATURE	The display shows: "ALARM!! 03 Temperature Probe" (the temperature on the display changes to 237°C or 0°C) depending on the type of probe breakage). The cycle does not stop, but all the heating phases are skipped. When you touch the touch, the signal is reset. Temperature probe rupture has occurred. Call the Authorized Service Center.
4	WDT LOADING	The display shows: "ALARM!! 04 Load Timeout". The machine stops and the buzzer sounds for 15 seconds. When you touch the touch, the alarm is reset and the door opens. The maximum time to perform a water load has been exceeded. Check that the filling taps are open, that the filling filters are clean and that there are no water leaks. If the problem occurs often, call the Authorized Service Center.
5	WDT EXHAUST	The display shows: "ALARM!! 05 Unloading timeout". The machine stops and the buzzer sounds for 15 seconds. When you touch the touch, the alarm is reset and the door opens. The maximum time for performing a water drain has been exceeded. Check for proper cleaning of the drain line. If the problem occurs often, call the Authorized Service Center.
6	EMBEDDED TOKEN	If a payment signal exceeds 6 seconds, the display will show: "ALARM!! 06 Token locked" The alarm remains until the payment system is unlocked. When the system unlocks, the standard screen returns.
7	SINGLE IMBALANCE	There was an imbalance of the basket during the spin cycle. A rebalancing cycle is initiated to retry the spin. The message appears on the display only at the second imbalance that has occurred. A maximum of three consecutive imbalances are allowed in a single spin run. The message codes associated with this error are: 5.8.41, 5.8.42, 5.8.51, 5.8.52: single or double unbalance during an intermediate spin. 5.8.71, 5.8.72, 5.8.81, 5.8.82: single or double unbalance during a final spin.
8	TRIPLE IMBALANCE	There have been three consecutive imbalances during the same spin: the spin cycle is abandoned and the program automatically switches to the next cycle if the spin is intermediate, otherwise if it were the final spin cycle it would be repeated to ensure the extraction of water before removing the laundry from the drum. If the problem occurs frequently, make sure of the correct load mode (rated capacity, homogeneous load, shock absorber integrity). The message codes associated with this error are: 5.8.43, 5.8.53: triple unbalance during an intermediate spin, moves to the next cycle automatically. 5.8.73, 5.8.83: triple unbalance during a final spin, will be repeated according to the settings in the machine.

COD	DESCRIPTION	WHAT TO DO
	INVERTER BLOCK	The display shows: "ALARM!! 09 Inverter Block". There is a problem with the inverter locking. The cycle continues but the drum does not turn: when the touch is touched, the signal is reset. NOTE: The message may be detailed with the inverter lock type. Call the Authorized Service Center.
11	WDT HEATING	The display shows: "ALARM!! 11 Warm-up Timeout". The maximum time for water heating has been exceeded. The cycle does not stop, but all the heating phases are skipped. When you touch the touch, the signal is reset. Call the Authorized Service Center.
12	WATER IN THE CENTRIFUGE	Although the machine has to increase the number of revolutions, the speed always remains fixed at 100rpm: this is not an alarm but the intervention of a safety that takes place when the water level, during the spin start, does not fall below the expected level. Call the Authorized Service Center.
13	OVERHEATING	The display shows: "ALARM!! 13 Overheating". The water temperature exceeded 110°C. The heating system is switched off and the subsequent heating steps are skipped. Call the Authorized Service Center.
14	MAINTENANCE REQUEST	"Maintenance required" appears on the display. The machine has reached the number of cycles required for routine maintenance checks by the Authorised Service Centre.
16	WDT DOOR LOCK	"WDT Door Lock" appears on the display. The maximum time for closing the motorized door has expired: call the Authorized Service Center.
17	WDT DOOR OPENING	"WDT Door Opening" appears on the display. The maximum time for opening the motorised door has expired: call the Authorised Service Centre.
21 ... 28	TANK 1 ... 8 RUN OUT	The display shows "TANK 1 ... 8 RUN OUT". One of the detergent tanks (from 1 to 8 depending on those actually present) ran out. Fill or replace.
-	POWER FAILURE	"POWER FAILURE" appears on the display. During the execution of a program, the power supply failed. When the power supply is restored, the machine waits 40" while the word "POWER FAILURE" flashes on the display. You can restart the cycle from the point where it was interrupted by pressing the "START" icon.
-	RED LED ON CLEAN SIDE	When you turn on the red light on the clean side of the aseptic washing machine, it means that an alarm has been generated. The alarm type appears on the display on the dirty side.

For any other type of message not present in the table, refer to the manufacturer's website.

42. PROGRAMS IN MEMORY (washing machine)

The machine has a series of programs already configured in memory, which can still be modified.

NOTE: the spin speed is purely indicative and varies according to the capacity of the machine (check the actual value of the G-factor in the machine data sheets).

Below is a brief description of the standard programs already present in memory.

Special configurations of the machinery may include the integration of a dedicated set of programs.

	NAME	PREWASHING	WASHING	RINSE	CENTRIFUGAL
0	QUICK PROG	SEE APPROPRIATE CHAPTER SEE SPECIFIC CHAPTER			

	NAME	PREWASHING	WASHING	RINSE	CENTRIFUGAL
1	OPTIBIANCO 85°C	5', 40°C	5', 85°C, 24"/6"/24"	3	3+1 (5', max rpm)
	OPTIWHITE 85°C		40rpm		
2	OPTIBIANCO 75°C	3', 40°C	12', 75°C, 24"/6"/24"	3	3+1 (5', max rpm)
	OPTIWHITE 75°C		40rpm		
3	OPTIBIANCO 60°C	3', 40°C	12', 60°C, 24"/6"/24"	3	3+1 (5', max rpm)
	OPTIWHITE 60°C		40rpm		
4	OPTIPOWER COLOURED & SYNTHETIC 40°C	5'	12', 40°C, 15"/15"/15"	3	3+1 (5', max rpm)
			40rpm		
5	OPTICOLOURED & SYNTHETIC 40°C	-	12', 40°C, 15"/15"/15"	3	2+1 (5', max rpm)
			40rpm		
6	OPTILANA 30°C OPTIWOOL 30°C	5'	1'+5', 30°C, 5"/30"/5"	3	1 (3', 1/2max rpm)
			30rpm		
7	OPTIRAPIDO 60°C OPTIFAST 60°C	-	8', 60°C, 24"/6"/24"	3	1 (5', max rpm)
			30rpm		
8	OPTIRAPIDO 40°C OPTIFAST 40°C	-	12', 40°C, 24"/6"/24"	3	1 (5', max rpm)
			30rpm		
9	OPTIMOPS & MICROFIBRES 60°C	-	12', 60°C, 24"/6"/24"	2+3	5+1 (6', max rpm)
			30rpm		
10	OPTIHOSPITAL 85°C	8', 40°C	8', 85°C, 24"/6"/24"	2+3	5+1 (6', max rpm)
			30rpm		
11	OPTIHOSPITAL 60°C	6', 40°C	12', 60°C, 24"/6"/24"	2+3	5+1 (6', max rpm)
			30rpm		
12	OPTIHOSPITAL 40°C	2'+8', 30°C	12', 40°C, 24"/6"/24"	2+3	5+1 (5', max rpm)
			30rpm		
13	OPTIDUVETS 40°C OPTIDUVTS 40°C	10', 30°C	3'+5', 40°C, 24"/6"/24"	3	3+1 (5', max rpm)
			30rpm		
14	COLD RINSESCOLD RINSES	-	-	2	1+1 (6', max rpm)
			-		
15	OPTICURAWASHING MACHINEWASHCARE	-	5', 60°C, 24"/6"/24"	2	-
			40rpm		

43. OTHER FUNCTIONS (washing machine)

There are many other functions available that are continuously updated in the machine software. Enter the manufacturer's website to download the software update files and check the new features of the machine.

44. STARTING A PROGRAM (dryer)

Turn on the main switch that powers the machine.

**ATTENTION!**

Before switching on equipment that has undergone a temperature change, wait for any condensed moisture to evaporate to avoid possible damage to the electronic components.

For machines equipped with steam heating: open the gate valve to allow steam to enter. To limit water hammer, perform the opening operation slowly: from the closed position to the open position, over 1 minute.

For machines equipped with gas heating: open the gas shut-off valve.

Make sure that the emergency mushroom (for models that have it) is in the rest position, and that it has not been activated during transport or before the machine was last switched off.

**ATTENTION!**

Before starting the machine, always carry out the safety check procedure (check the relevant paragraph).

Before loading with wet laundry, make sure the drum is completely empty and clean.

The machine must be loaded with linen that is as homogeneous as possible and with a weight that does not exceed that described in the technical data sheet and serial label. The capacity of the machine refers to the maximum dry laundry load. Only introduce super-spun linen. After loading the machine, close the door.

**ATTENTION!**

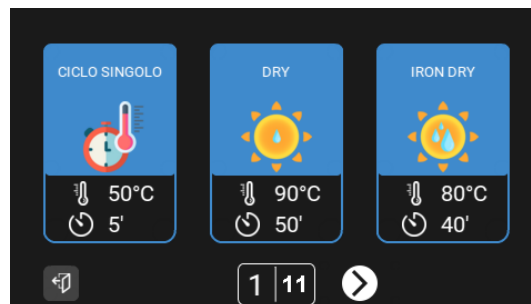
Make sure that when closing the door, no flaps of fabric are pinched between the door and the front of the machine.

After closing the door completely, the selection mask appears on the display.

On each screen there are program selection icons:

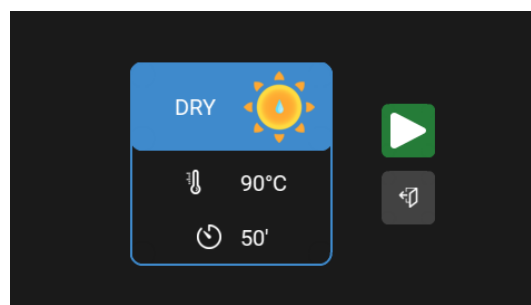
To select a program, simply tap on the desired icon.

To view additional programs on the other pages in the memory, tap one of the two arrows on the left or right.



When a program is selected, its name appears on the display (editable: see the relevant paragraph), its graphic icon (editable) and, if this is not present, the progressive archive number. The temperature and time characteristics of the program are summarized at the bottom.

For example:



Below is a detailed description of the programming parameters that may appear in the preview phase:

- *ICON – TEMPERATURE – DURATION:*

They are respectively the icon that characterizes the program, the drying temperature and the duration of the drying cycle.

- *HEATING DURATION:*

This is the duration for which the temperature set by the program will be maintained. It can be increased or decreased during the operation of the cycle.

- *COOLING TIME*

After having used up the time defined in HEATING DURATION, the dryer will perform a cooling cycle characterized by a duration appropriate to reach a low temperature that guarantees easy removal of the garments. If the cooling temperature is reached before the COOLING DURATION has expired, the machine will stop the cycle automatically.

The total duration of the cycle is given by the sum of the HEATING DURATION + COOLING DURATION.

- *POWER LEVEL* (only for machines with electric heating and equipped with the "partial power" option):

Highlights the heating power set in the selected program. The choice of the heating power level must be made according to the type of fabrics to be dried. The higher the selected level, the faster the temperature will rise inside the drum.

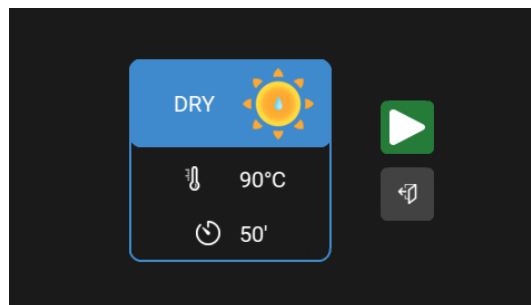
- *BASKET SPEED* (only for machines that are equipped with the optional basket speed adjustment).

This is the rotation speed of the basket set for the program. It can be modified during the cycle.

- *FAN SPEED* (only for machines that are equipped with the optional fan speed adjustment).

This is the rotation speed of the intake fan. The selection of the fan speed is related to the speed of the air in the basket: the higher the selected level, the higher the speed of the air passing through the basket. It can be modified during the cycle.

When the desired program is shown on the display, simply press the START button described in the following image:



ATTENTION!

To allow for proper ironing afterwards, be sure to select a program that will return dry fabrics but contain 10-20% residual moisture.



ATTENTION!

In the event of a fault or malfunction, switch off the appliance immediately and call an authorised service centre!

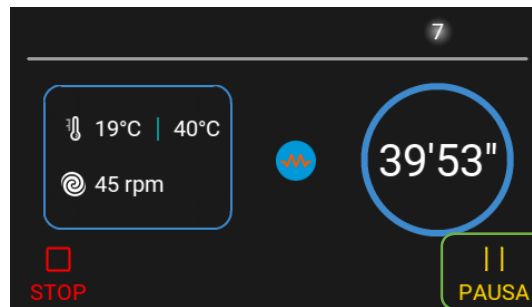


ATTENTION!

At the end of the program, do not leave the clothes inside the machine stationary: you could incur a phenomenon of self-combustion!

45. PAUSE A PROGRAM (dryer)

While the program is running, you can pause it for a break or stop it permanently. To pause it, and then pause, simply press the PAUSE button. The following screen appears on the display:

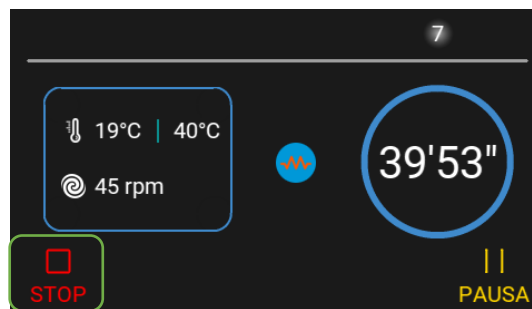


ATTENTION!

In these phases of pause and opening of the door, remember that the temperature of the fabrics may be high!

46. STOP A PROGRAM (dryer)

At any stage of the program, you can stop it permanently by pressing the STOP button:



ATTENTION!

Never stop a tumble dryer before the end of the drying cycle unless all items are quickly withdrawn and laid flat to dissipate heat.

The cycle must always end with a cooling phase that is already preset in all the original programs supplied by the manufacturer!



ATTENTION!

Do not leave warm clothes inside the machine stationary: you could incur a phenomenon of self-combustion! The cycle must always end with a cooling phase. Do not change this programming parameter.

47. PROGRAM PHASES (dryer)

The program of a dryer consists of two phases: the heating phase and the final cooling phase.

Each of these two phases has two characteristic values: temperature and time.

During heating, the machine dries for the expected time at the predetermined temperature.

During the cooling phase, the machine proceeds to cool the laundry: the completion of the cycle is reached when the first of the two characteristic parameters, the maximum cooling time or the cooling temperature, is reached.

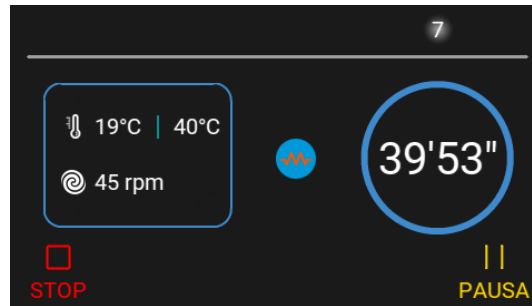
While the program is running, it is possible to check the progress of all the characteristic parameters.

During heating, the set point temperature is described on the right (in the example: 40°C): the actual temperature in the basket is described on the left of it (in the example: 19°C).

On the right is the time remaining at the end of the heating cycle (in the example: 39' and 53").

In the center, the heating activation status is visible. The graphic image depicting the heating activation status

varies depending on the type of system installed in the machine (in the example, the symbol of a resistance represents electric heating).



The final part of a cycle takes place without heating (cooling phase) to ensure that the items are subjected to a normalization temperature before being removed from the machinery.

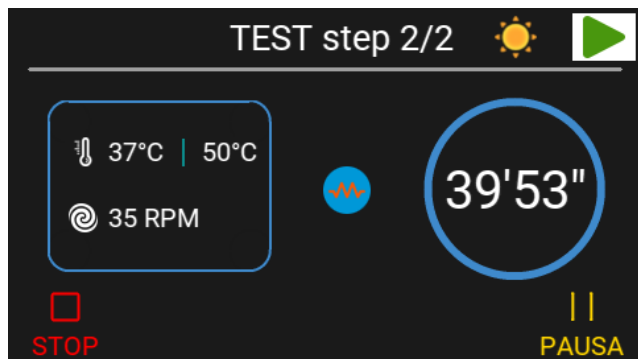
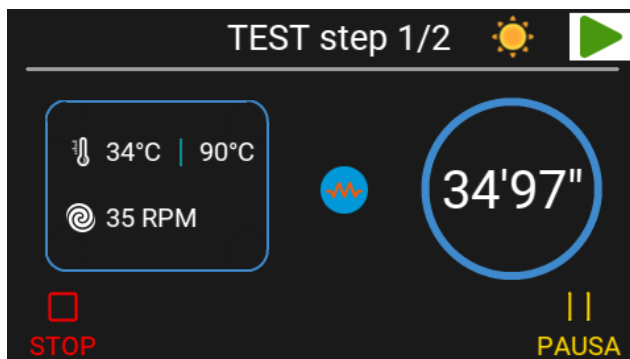
When the cycle is completed a buzzer sounds. The end of cycle indication appears on the display.

If the STOP button is not pressed or the door is opened, and the anti-wrinkle phase is activated (see the relevant paragraph), the basket will resume movement according to the expected values.

The anti-wrinkle phase can be interrupted by pressing the STOP button or opening the door. It will still end at the end of the scheduled time or until the end of the anti-wrinkle phase.

NOTE: You can add a pre-drying step to the program by activating the INITIAL COOLING function.

NOTE: If the MULTISTEP functions and the FAST FORWARD function are enabled, with the ► button visible at the top right, it is possible to perform a fast forward that allows you to interrupt the current phase and go directly to the next step, if programmed.



48. MODIFICATION OF PARAMETERS DURING THE CYCLE (dryer)

While the program is running, it is possible to change all the characteristic parameters: however, these changes do not remain in the program's memory.

To edit the program while it is in progress, press the icon of the parameter you want to edit and change its value. Once the desired changes have been completed, simply press the green confirmation button.

Changes can be made as many times as desired and at any stage of the cycle.



ATTENTION!

Changes to the programs must only be carried out by competent personnel.

49. MANUAL PROGRAM – SINGLE CYCLE (dryer)

It is possible to run a cycle manually, setting only the main values of the drying cycle immediately after loading.

To run this program, select the "SINGLE CYCLE" icon, set the required data, and press START.

The data entered remains in memory as default values for the subsequent use of the manual cycle.

During the execution of the cycle it is possible to modify the parameters, as in the case of standard programs (see the relative paragraph).

The engine times of the SINGLE CYCLE are 40 seconds of rotation in both directions, interspersed with a 5-second pause.

50. PROGRAMS IN MEMORY (dryer)

The machine has thirty programs already configured with all their characteristics in memory.

Below is a table that summarizes them.

See in the relevant paragraph how to modify these default programs to your liking.

The default rotation times for machines equipped with reversal are:

- clockwise rotation: 20 seconds
- Pause: 5 seconds
- counterclockwise rotation: 20 seconds

Rotation and pause times can be reprogrammed (see relevant paragraph).

For machines that are equipped with the relevant options, the other default values are the same for all programs:

- Heating power: MAX level
- Basket speed: 40 rpm
- Fan Speed: Speed 2



ATTENTION!

The temperature to be used must comply with the temperatures allowed by the labels characteristic of the laundry to be dried.



ATTENTION!

The formation of yellow stains on dried fabrics indicates the presence of detergent that has not been thoroughly removed during rinsing or a temperature of use of the machine higher than that required for the fabric!



ATTENTION!

The formation of wrinkles on dried fabrics can be generated by a too long waiting time in the machine, after the end of the cycle. If the event occurs often, activate the anti-wrinkle system or extend its activation time.



ATTENTION!

Significant differences in the thickness of the fabrics to be dried (due to seams, for example), can give rise to incomplete drying.



ATTENTION!

Carefully avoid drying fabrics that have plastic buttons or fabrics that have synthetic seams.
Too high a temperature could cause it to melt and the consequent soiling of the basket.

PROG.	TYPE	DRYING		COOLING	
		°C	Min.	°C	Min.
01	AUTOMATIC: RESIDUAL MOISTURE	90	DRY	40	3
02	AUTOMATIC: RESIDUAL MOISTURE	80	IRON DRY	40	3
03	AUTOMATIC: RESIDUAL MOISTURE	75	DRY	40	3
04	AUTOMATIC: RESIDUAL MOISTURE	60	DRY	40	3
05	TIMED	50	50	40	3

PROG.	TYPE	DRYING		COOLING	
		°C	Min.	°C	Min.
06	TIMED	40	50	40	3
07	TIMED	90	40	40	3
08	TIMED	80	40	40	3
09	TIMED	70	40	40	3
10	TIMED	60	40	40	3
11	TIMED	50	40	40	3
12	TIMED	40	40	40	3
13	TIMED	90	30	40	3
14	TIMED	80	30	40	3
15	TIMED	70	30	40	3
16	TIMED	60	30	40	3
17	TIMED	50	30	40	3
18	TIMED	40	30	40	3
19	TIMED	90	20	40	3
20	TIMED	80	20	40	3
21	TIMED	70	20	40	3
22	TIMED	60	20	40	3
23	TIMED	50	20	40	3
24	TIMED	40	20	40	3
25	TIMED	90	15	40	3
26	TIMED	80	15	40	3
27	TIMED	70	15	40	3
28	TIMED	60	15	40	3
29	TIMED	50	15	40	3
30	TIMED	40	15	40	3

Payment Machines					
HIGH	TIMED	90	10 (*)	40	3
MEDIUM	TIMED	80	10 (*)	40	3
LOW	TIMED	70	10 (*)	40	3

(*) = the basic program purchase time and the increment time can be changed by the system operator. The actual duration of the program varies depending on the credit entered by the user.

Heat pump machines					
		DRYING		COOLING	
01	FAST	60	50	40	3
02	TIMED (GREEN)	60	60	40	3
03	AUTOMATIC: RESIDUAL MOISTURE	55	DRY	40	3
04	AUTOMATIC: RESIDUAL MOISTURE	50	DRY	40	3
05	TIMED	60	40	40	3
06	TIMED	50	40	40	3
07	TIMED	40	40	40	3
08	TIMED	40	30	40	3
09	TIMED	45	30	40	3

10	TIMED	60	30	40	3
11	TIMED	60	30	40	3
12	TIMED	50	30	40	3
13	TIMED	40	30	40	3
14	TIMED	40	20	40	3
15	TIMED	50	20	40	3
16	TIMED	55	20	40	3
17	TIMED	60	20	40	3
18	TIMED	50	20	40	3
19	TIMED	40	20	40	3
20	TIMED	50	15	40	3
21	TIMED	40	15	40	3
22	TIMED	45	15	40	3
23	TIMED	60	15	40	3
24	TIMED	50	15	40	3
25	TIMED	40	15	40	3

51. PAID MACHINE: OPERATION (dryer)

After selecting the program, the cost for running the program appears on the display.

If the payment system provides for it, as the coins are inserted, the missing value for the purchase of the cycle is updated on the display.

Only after the payment is completed, when the START button is pressed, the cycle is started.

If you want to change the selected programme during the drying phase, simply press the corresponding button: the selection will be automatically updated without the machine stopping.



ATTENTION!

In the event of a change during the execution of the cycle, if the costs of the programs are different, the credit times will be proportionally modified.

If the door is opened during operation or the PAUSE or STOP button is pressed, the machine pauses. The countdown of the credited time continues even during this pause in the cycle.



ATTENTION!

If the break lasts for more than 5 minutes (which can be changed by the installer), the credit is automatically lost.



ATTENTION!

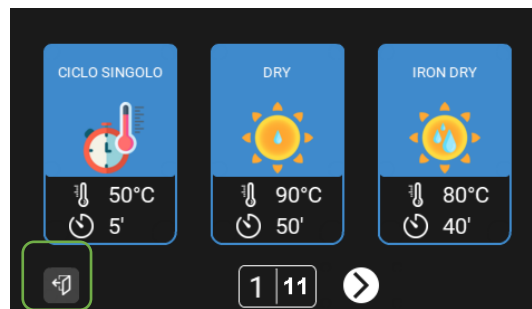
If the door is opened during the cooling phase, the cycle is definitively interrupted and brought to an end. No credit is lost because the payment made is used to buy only the time of the drying phase, and not that of the cooling phase.

Please note that during the cooling phase it is not possible to select a program other than the current one.

52. PROGRAMMING (dryer)

It is possible to perform a series of changes to the default parameters of the programs by entering the dedicated area.

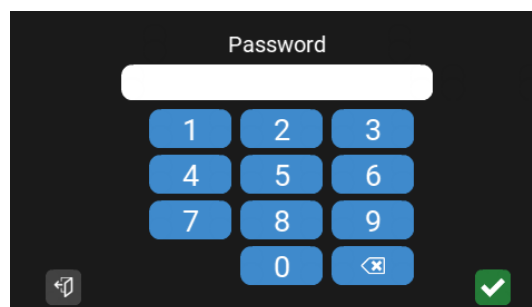
To access, with the machine on and in stand-by, press the menu icon that depicts the output port at the bottom left.



The following screen appears on the display, press on the icon that depicts the three dots.



The following screen appears, type the password 123456



This screen is the gateway to the user programming area.
By browsing it you can access the configuration of:

- SETTINGS;
- RECORDINGS;
- PROGRAMS.

By entering SETTINGS you can choose the following functions:

- CHANGE LANGUAGE: You can select the language of the user interface dialog.
- SET DATE: To set the date.
- SET TIME: To set the local time.
- TEMPERATURE °C/°F: allows you to select the unit of measurement of the temperature.
- ANTI-WRINKLE ON/OFF: Enables the anti-wrinkle cycle automatically at the end of the program, see the appropriate chapter below.
- FAST FORWARD: allows, for TIMED and MULTISTEP programs, to be able to perform the rapid advance by jumping to the next step.

- **DISABLE TOUCH:** if activated, it only allows the selection of the program and the pressing of the START button, as well as the entrance to the menu.
- **USER PASSWORD:** allows the user password to be changed, default = 123456.
- **UPLOAD/DOWNLOAD PROGRAMS:** allows you to export and import programs from one dryer to another via USB device.
- **BEEP KEYBOARD:** Enables or disables keyboard sound effects.
- **PANEL MANAGEMENT:** allows you to change the icons of the programs and the presentation of each individual page.
- **LOAD ICONS FROM USB:** allows you to import new icons for customizing programs.
- **CREDIT RESET TIME** (only for machines configured to self-service): defines a time within which any remaining credit, generated by an extra payment, is zeroed.
- **AUTOMATIC START** (only for machines configured to self-service): allows you to start a cycle automatically if the credit has been reached, without having to press the START button. Closed door is required.

By entering REGISTRATIONS you can check the machine diagnostics:

- **WORKING HOURS:** the total working hours of the machine can be verified.
- **PROGRAM STATISTICS:** you can check the total number of programs performed and the repetitions of each individual program.
- **DOWNLOAD RECORDINGS:** you can download the entire content of the recordings menu on USB.
- **ENERGY STATISTICS:** It is possible to consult the electricity consumption referred to the last ironing cycle, referring to the entire working day and referring to the total.

By entering PROGRAMS you can change the default settings of a program. It is also possible to access this submenu directly through the appropriate button on the main screen.



To modify a program, proceed as follows:

- Select the program number to be modified;
- **NAME:** The name of the program will appear above the program icon.
- **PROGRAM TYPE:**

- A TEMPO = the program will last a time defined by the user;
 - AUTOMATIC = the program will last a variable time depending on the desired residual moisture
- ICON: allows you to choose a graphic or numeric icon to distinguish the program. If a graphic icon is not selected, the program will be automatically numbered with the index number assigned and visible in this manual. Please pay attention because, if you want to change the position of the program, it will be moved to the indicated position but the identification number will remain the original one (as it is an icon).
- POSITION: allows you to choose the position in which to place the program. If the program is identified by a numeric icon, the above applies.
- MULTISTEP (only if PROGRAM TYPE = TIMED): allows you to manage several drying steps, at different temperatures, within the same program. For each step, the temperature and duration can be decided independently. The overall duration of the program is the sum of all the durations of each step.
- HEATING DURATION (only if PROGRAM TYPE = TIMED): This is the duration of the program defined by the user.
- HUMIDITY (only if PROGRAM TYPE = AUTOMATIC): Allows you to select three residual moisture values from those already configured: IRON DRY (dry to be ironed) / DRY (dry to be stored) / EXTRA DRY (perfectly dry, wearable/usable immediately).
- CYCLE TEMPERATURE: This is the maximum temperature of the drying cycle
- COOLING DURATION: At the end of the time defined in HEATING DURATION, a cooling cycle is carried out (with heating off), for which the maximum duration can be defined. Default = 3 min.
- END OF COOLING TEMPERATURE: This is the temperature at which the cooling cycle must reach during its execution. Default = 40°C. If this temperature is reached before the COOLDOWN DURATION has expired, the cycle will automatically stop.
- ROTATION REVERSAL (PRESENT/ABSENT): For machines equipped with basket reversal, it is still possible to exclude rotation in both directions. For machines not equipped with basket reversal, this parameter is always set to ABSENT.
- BASKET FORWARD MOVEMENT TIME: clockwise rotation time.
- BASKET MOVEMENT TIME BACKWARDS (only if ROTATION REVERSAL = PRESENT): counterclockwise rotation time.
- BASKET MOVEMENT TIME PAUSE (only if ROTATION REVERSAL = PRESENT): pause time between clockwise and counterclockwise rotation.
- INITIAL COOLING: It is possible to set an initial cooling cycle with respect to the programmed drying phase, defining its duration. During this phase, the heating will remain off.
- SPECIFIC PARAMETERS FOR SELF-SERVICE; The following parameters are only visible on machines configured for a fee. An example of programming will be dealt with in a subsequent chapter of this manual.
 - BASIC TIME ON SALE (only for self-service machines): This is the unit of time that is sold to the customer when the machine is still in stand-by, i.e. before the program is selected and started.
 - PRICE OF THE BASIC TIME ON SALE (only for self-service machines): It is the cost of the unit of time defined previously.
 - INCREMENT TIME ON SALE (only for self-service machines): This is the unit of time that is sold to the customer when the machine is already in operation. It is usually a fraction of the BASE

TIME defined above and corresponds to an increase in the total time of the program that the customer is using.

- VALUE OF THE INCREMENT ON SALE (only for self-service machines): This is the cost of the time increment defined above.
- SPECIFIC PARAMETERS FOR MACHINES EQUIPPED WITH SPEED REGULATION: the following parameters are visible only on machines equipped with a speed regulator on the basket motor or fan motor:
 - BASKET SPEED (only for machines with basket speed control): This is the rotation speed of the basket, expressed in revolutions per minute.
 - FAN SPEED (only for machines with fan speed control): This is the rotation speed of the fan, expressed in Hertz.
- PARTIALIZED POWER (only for machines with electric heating and equipped with the optional partialized power): Allows you to decide whether and how to reduce the heating power made available by the heating element. It is possible to control three different heating capacities:
 - MIN (1st set of heating elements)
 - MED (2nd set of resistors)
 - MAX (1st + 2nd set of heating elements)

53. PROGRAMMING: ANTI-WRINKLE (dryer)

Allows you to enable, deactivate, or change the anti-wrinkle phase. By definition, the cycle promises, at the end of the drying program, to keep the laundry moving without the use of ventilation and heating. It is set by default to PRESENT and affects all programs.

- ANTI-WRINKLES: can take on the following values:
 - PRESENT: means that the anti-wrinkle phase will be activated after the end of the cycle, if the door is not opened, according to the values defined below
 - ABSENT: means that the anti-wrinkle phase will not activate after the end of the cycle, even if the door is not opened
- END OF CYCLE PAUSE: this is the waiting time after the end of the cycle, expressed in minutes and seconds, after which the anti-wrinkle phase is activated.
- FORWARD: this is the time the basket rotates clockwise, in minutes and seconds, during the anti-wrinkle phase.
- PAUSE: this is the pause time of the drum, expressed in minutes and seconds, during the anti-wrinkle phase between clockwise and counterclockwise rotation.
- REVERSE: this is the time the basket rotates, counterclockwise, expressed in minutes and seconds, during the anti-wrinkle phase.
- MAX CYCLE TIME: it is the duration of the anti-wrinkle phase before the definitive stop of the cycle or before the door is opened.

54. PROGRAMMING: MACHINE WITH PAYMENT SYSTEM (dryer)

For paid machines, access to programming is done by turning on the machine and pressing the three dots that appear on the top right corner of the screen. This button will only be present for 30 seconds from the machine to be turned on, after which it will disappear, effectively preventing access to the password typing page.

In the event that the machine is equipped with a payment system, there are dedicated programmable parameters, not present in standard machines, described above.

The following parameters can be reached by consulting the REGISTRATIONS menu:

- TOTAL CREDIT: adds the total credits from the day of installation of the machine.
- TOTAL CREDIT RESET: allows the TOTAL CREDIT to be reset. The action is irreversible.
- PARTIAL CREDIT: adds the total of credits in the last day (from 00:00).
- PARTIAL CREDIT RESET: allows the PARTIAL CREDIT to be reset. The action is irreversible.

55. PROGRAMMING: PAYMENT SYSTEM MENU (dryer)

The "PAYMENT SYSTEM" menu is present only in machines equipped with a payment system and access is reserved for the maintenance technician with his own dedicated password.

The PAYMENT SYSTEM menu is located within SETTINGS only for machines already configured to self-service and consists of the following parameters:

- ACTIVATION / DEACTIVATION: allows the activation and deactivation of the payment system. If deactivated, the machine can be started without entering any credits.
- PAYMENT TYPE: allows you to select the payment system by COIN MECHANISM or by CENTRALIZED CASH.
- MONETARY UNITS: allows you to select the symbol of the currency with which the payment is made.
- CUSTOM CURRENCY: allows you to describe a currency not present in the list provided in MONETARY UNITS.
- COIN MECHANISM INPUT VALUE 1: This is the monetary value that is given to the impulse coming from the payment system intended for the first input of the acquisition of the payment at the machine's electronic board.
- COIN MECHANISM INPUT VALUE 2: This is the monetary countervalue that is given to the impulse coming from the payment system intended for the second payment acquisition input at the machine's electronic board. It is usually represented by a second coin mechanism or a second payment system alternative or complementary to the first.
- MAXIMUM PAYMENT PULSE TIME: describes the maximum duration of the pulse that is delivered to the GETTONIERA1 or GETTONIERA2 input of the machine's electronic board. If the pulse has a duration longer than set here, the control board will return the alarm "TOKEN TRAPPED".

56. EXAMPLE PAYMENT SETTINGS FOR A SELF-SERVICE PROGRAM (dryer)

The example below is to build a typical program for self-service operation. Please interpret the values expressed below as a guide only. The selling price of the program and the subsequent time increases must be calculated according to the real market trend and the consumption of the laundry.

For the configuration of the temperature and other parameters that regulate the progress of the program, refer to the PROGRAMMING chapter.

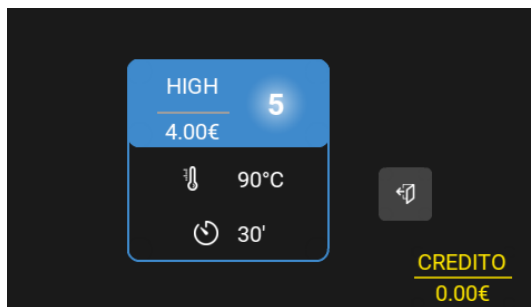
The HIGH TEMP program has been configured as follows:

- Turn on the machine and press on the door icon at the bottom left (the maximum time to carry out this operation is 30 seconds, if necessary it will be sufficient to turn the machine off and on again to make the door icon reappear).
- Select the EDIT PROGRAMS icon and type the password: 123456.
- Select the HIGH TEMP program.
 - o For the sale of the program and the start of the program:
 - Set the BASE TIME ON SALE parameter to 30 min
 - Set the PRICE OF BASE TIME FOR SALE parameter to €4.00
 The customer will be required to pay €4.00 to purchase 30 minutes of drying. The credit entered is visible just below the program icons. If the credit is not reached, it will not be

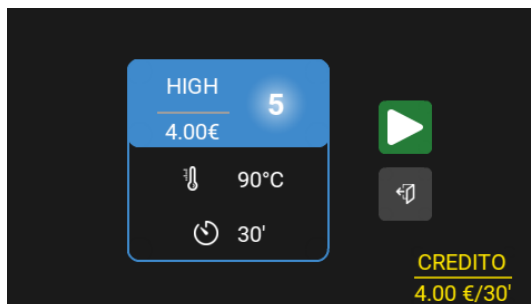
possible to start the program.

- To increment the time when the program has already started:
 - Set the INCREMENT TIME IN SALE parameter to 10 min.
 - Set the VALUE OF INCREMENT IN SALE parameter to €1.00.
That is to say that while the program is already in progress, it is possible to perform time increments of 10 minutes by entering €1.00.

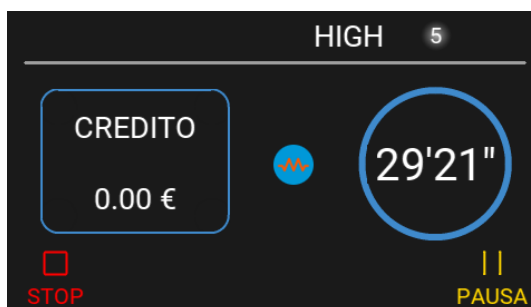
If you press on the icon of the program, when the payment has not yet been made, you get the following summary screen:



Once the payment has been made, it will be possible to press the START button to start the cycle.



When the cycle is running, the screen appears as follows:



To increase the time, enter the additional credit until the value set to VALUE INCREASE IN SALE is reached. As soon as the credit is reached, the remaining time will be added to the time described in the parameter VALUE INCREASE IN SALE.



Any added credit that does not reach the minimum amount for the increase will still be kept in memory until the end of the cycle.

At the end of the cycle, at the end of the CREDIT RESET TIME (default = 5 min), any remaining credit will be reset. The parameter can be reached on SETTINGS after entering the 123456 password.

If the drying cycle is already completed, the customer will be required to pay the initial sales price again.

57. SIGNALS ON DISPLAY (dryer)

The microprocessor provides complete diagnostics both in the event of malfunctions and in the case of simple signals.

Below is the list of signals that may appear on the display. In any case, the user is invited to contact an authorized service center for the solution of the problem occurred.

Please note that the activation of each of the following signals is accompanied by the intermittent and continuous sound of the buzzer.

- CLOSED AIR PRESSURE SWITCH:

It may appear if the pressure switch is closed at START. This situation occurs if you try to start the cycle while the vacuum is still running. It also appears if the air pressure switch breaks down. It can also appear when there is already an air flow in the exhaust duct driven by another machine. Have an authorized service center call in.

- PRESSURE SWITCH ALARM:

Appears if there is a problem installing the wet air exhaust. However, check the correct direction of rotation of the main fan, this alarm can also be caused by a switched electrical connection.

It can also be caused by clogging the filter, in this case turn off the machine, open the lower door and clean the filter: do not use sharp or pointed objects so as not to puncture or ruin it. Please note that the machine at the end of a series of operating cycles publishes the invitation to keep the filter clean.

- THERMAL FAN MOTOR:

Appears if the fan motor overheats. Switch off the machine and have an authorised technical service centre call in.

- DRUM ENGINE THERMAL:

Appears if the drum motor overheats. Switch off the machine and have an authorised technical service centre call in.

- EMBEDDED TOKEN:

It only appears on machines equipped with a payment system. It means that the payment signal from the coin mechanism or payment centre has been stuck inside the coin mechanism for more than 5 seconds. Check the configuration of the payment system and possibly request the intervention of an authorized technical assistance center.

The alarm may also appear in the event that the coin freeze occurs during the execution of the program in the case of purchasing additional minutes of work. In this case, the program is still completed, even if the alarm is left on the display. If the coin mechanism is unlocked, the alarm is automatically reset.

- PROBE FAILURE:

Appears if the temperature probe breakage occurs. The message continues to remain published on the display for the entire remaining duration of the cycle together with the operation of the fan and the basket. The heating will remain off until the probe is restored.
Have an authorized service center call in.

- GAS CONTROL UNIT BLOCK

For gas machines only, this signal may appear. With this indication on the display, the machine continues to work, but the heating system is blocked and waiting for a reset.
To restart the heating press the RESET button.
Check if the gas tap has been opened. If the report is repeated frequently, request a check from an authorized technical assistance center.

- OVERTEMPERATURE

If the temperature inside the drum exceeds the set point by 30°C, the flashing "OVERTEMPERATURE" message appears on the display.
In this case, the heating is suspended until the temperature falls below the signal threshold.



ATTENTION!

In this situation, the vacuum cleaner continues to work and the drum to turn, to proceed with the cooling of the laundry.

If the report is repeated frequently, request a check from an authorized technical assistance center.

- CARRY OUT MAINTENANCE

When the number of hours scheduled for maintenance is reached, the machine does not stop. However, the following screen "CARRY OUT" appears on the display at the first power off and subsequent power on.
The signal is deleted by pressing any button and the machine starts again without further signals. Routine maintenance must be requested from an authorized technical assistance center.

58. WHAT TO DO IN CASE OF POWER FAILURE (dryer)

In the event that the power supply fails, it is possible that one or more items inside the drum may burn out. In this case, open the door and unload the basket while leaving the door open.

When the power supply is restored, the programmer remembers which phase has been interrupted and invites you to restart it by pressing START. Reload the machine and close the door again: the cycle will then resume where it was interrupted.

In addition, it is possible to exit by pressing the STOP button to select a program again.

59. WHAT TO DO IF YOU SMELL GAS (dryer)

In the event that a smell of gas can be perceived in the environment where the dryer is installed:

- stop the execution of the program immediately;
- open all doors and windows immediately;
- immediately close the valve or gate valve upstream of the machine and the main manifold;
- do not light lights, matches, lighters;
- do not smoke;

Finally, call the installer to verify the origin of the gas leak.

60. MAINTENANCE OF THE WASHING MACHINE

Any ordinary or extraordinary maintenance work must be carried out by professionally qualified personnel. Make sure that all power supplies are disconnected before performing any maintenance.

Ordinary and extraordinary maintenance is reported at the scheduled interval.

EVERY DAY

- The machine should be kept clean using neutral detergents. Clean the bodywork in order to remove any traces of soap, and so does the detergent compartment.
- Clean the door seals.
- Clean the vents
- Check the cleaning condition of the drum – make sure there are no deposits.

- Check the drain valve for leaks
- At the end of the day, leave the door open in order to ventilate the interior
- At the end of the day, disconnect all energy and water supplies
- Clean the ventilation filters in the electrical panel

EVERY THREE MONTHS

- Check valves, hoses and seals for leaks
- Check the cleanliness of the drive belts and the cleaning condition of the drum – make sure there are no deposits.
- Check for cleanliness of the drain valve
- Check the cleanliness of the loading valves and their filters

EVERY YEAR

An authorized technical assistance center must be consulted for:

- Perform cleaning of the inside of the machine
- Check the quality of the electrical contacts of the wiring harness
- Check the tightness and integrity of rubber parts
- Perform greasing of mechanical parts that require it
- Clean the engine vents



ATTENTION!

In the case of tilting machines, before starting any maintenance, make sure that the air circuit is completely unloaded and no movements of the pneumatic drives can occur, even in the absence of a power supply. In the case of maintenance in non-rest positions of some drives, make sure to mechanically and safely lock all pneumatic drives.

61. WASHING PROBLEMS

In case there are poor results in the washed fabrics, check the following table.

PROBLEM detected	Probable SOLUTION
The fabrics still come out dripping with water.	Check that the program ends with a final spin. It is possible that a series of imbalances have occurred: checking the load and relaunching a centrifuge.
Fabrics come out with obvious drum marks	Check the spin speed, it is probably excessive.
The fabrics come out felted.	Check garment labels and compliance for use in the washing machine. Check the spin speed and temperatures of the cycle used.

62. MAINTENANCE OF THE DRYER



ATTENTION!

There is a risk of injury or damage to the equipment.

Any ordinary or extraordinary maintenance work must be carried out by professionally qualified personnel.

Cleaning and maintenance of the product may not be carried out by children even if they are supervised by an adult.

Make sure that all power supplies are disconnected before performing any maintenance.

Padlock the rear interlocked switch.

Do not spray water or steam for cleaning.

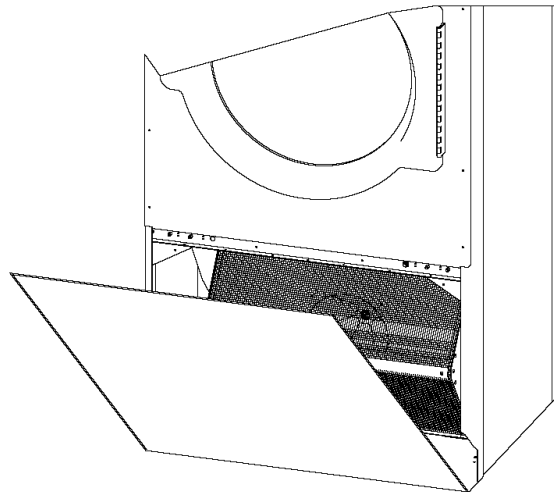
Ordinary and extraordinary maintenance is reported with the scheduled cadences.

Do not allow lint to accumulate around the tumble dryer.

For daily cleaning, use a soft, damp cloth. Do not use abrasive products, scouring pads, solvents or metal objects.

- **AT EVERY CYCLE**

At the end of each drying cycle, clean the machine filter of any accumulated fluff.



To clean the filter, open the filter door or (in some models) pull the drawer, and access the filter compartment. For models with door access, the filter must not be removed from its housing.

In both models, impurities must be removed from the filter with your hands: do not use sharp or pointed objects!



ATTENTION!

Never operate the dryer without the fluff filter. Replace the filter immediately if it becomes damaged.

- **EVERY WEEK**

Check the cleaning condition of the drum – make sure there are no deposits. Make sure that there is no gluing of nylon seams, buttons or anything else that could damage the garments.

Check the integrity of the door seal.



ATTENTION!

Do not use a high-pressure cleaner or a continuous water jet to clean the drum. The basket should be cleaned with a soft, dry cloth.

- **EVERY THREE MONTHS**

Check the cleanliness of the intake fan. Check the cleanliness of the cooling fans of the basket and fan motors. Check the cleaning conditions of the air inlet filter at the exchanger (if present).

- **EVERY YEAR**

An authorised technical assistance centre must be consulted to perform:

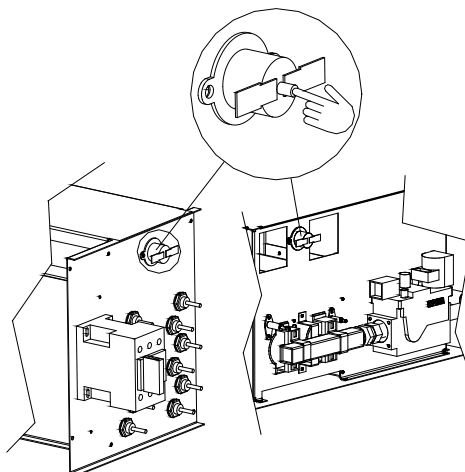
- cleaning the burner or heating elements from dust, fluff and deposited impurities
- cleaning the internal compartment of the dryer
- Leak testing of the pneumatic circuit
- The gas ramp leak check

**ATTENTION!**

Cleaning the machine is extremely important. The accumulation of fluff could generate the risk of developing a fire!

- IF NECESSARY

If the temperature inside the coil reaches too high, the safety thermostat stops the heating system from working: the drum continues to rotate but the heating system remains deactivated. The thermostatic tablet has manual reset, so, if this occurs, it is necessary to turn off the machine, turn off all power supplies, open the upper door on the front of the machine and press the brown button located close to the tablet itself.



If the problem should be repeated, turn off the machine, disconnect all power supplies and call the authorized technical assistance center.

**ATTENTION!**

All extraordinary maintenance operations must be carried out only after disconnecting all power supplies (electrical, steam, gas, air). Any tests to be carried out after maintenance should only be carried out after all guards have been reassembled and secured.

63. DRYING PROBLEMS

In case there are poor results in the dried fabrics, check the following table.

PROBLEM detected	Probable SOLUTION
The fabrics come out with yellowish spots.	Check that the rinses performed with the washing machine are thorough and completely eliminate detergent residues. The PH must be between 5 and 6.
The fabrics come out yellowed.	Check that the drying temperature is compatible with the temperatures expected for the fabric: it is possible that the drying temperature is too high

PROBLEM detected	Probable SOLUTION
The fabrics come out still wet.	Check the selected temperature: it may be too low. Check the humid air extractor: a clog could limit its efficiency Check the load – it may be too much and not let the airflow pass through the laundry.
The fabrics come out hardened.	Check the temperature of the cycle, especially in the case of pure linen fabrics. If the temperature is too high, the fabric tends to harden.
The fabrics come out felted.	Check garment labels and compliance for use in dryers: especially for wool and wool blend garments. Avoid complete drying in this case.
The basket has scratches. Some fabrics come out ruined, torn.	Some metal elements such as buckles, hooks, fasteners must be wrapped in a cloth before drying, in order to protect the drum from damage such as scratches or bumps, which could in turn damage the garments

64. PROCEDURE FOR CHECKING SAFETY DEVICES (washing machine)

After switching on the machine, before starting the cycle, it is always necessary to check that the safety devices are working perfectly. The user must always scrupulously carry out the following procedure:

Sequence of ACTIONS	CONSEQUENT REACTIONS
Start a cycle and press STOP...	... The machine must stop and wait for a new start.
Start the cycle and check that the door is locked. Use fast forward to go to finish program and ...	... Check that the door cannot be opened until after the end of the programme: with the drum completely stopped.
Operate the emergency mushroom (if equipped) ...	... The grass collector must stop and the machine must switch off.



ATTENTION!

After switching on the machine and before starting work, it is always necessary to check that all safety devices are working perfectly.

65. PROCEDURE FOR CHECKING SAFETY DEVICES (dryer)



ATTENTION!

After switching on the machine and before starting work, it is always necessary to check that all safety devices are working perfectly.

The user must always scrupulously carry out the following procedure:

Sequence of ACTIONS	CONSEQUENT REACTIONS
Start a cycle and open the door	The machine must stop and pause.
Start a cycle and open the filter door	The machine must stop and pause.
Operate (if present) the emergency button	The grass collector must stop and the machine must switch off.
Just given power supply	The machine must remain in standby waiting for a command (drum stopped, fan and heating deactivated)

66. SCRAPPING

When the life cycle of the machine is completed, proceed with scrapping according to current regulations, separating the metal parts from the plastic parts, glass parts, electrical/electronic parts.



The crossed-out wheeled bin symbol on the appliance or its packaging indicates that the product has been at the end of its useful life must be collected separately from other waste.

The separate collection of this equipment at the end of its life is organized and managed by the manufacturer. The user who wants to get rid of this equipment must therefore contact the manufacturer and follow the system that the latter has adopted to allow the separate collection of the equipment that has reached the end of its life. Adequate separate collection for the subsequent recycling, treatment and environmentally compatible disposal of the discarded equipment helps to avoid possible negative effects on the environment and health and promotes the reuse and/or recycling of the materials of which the equipment is composed. The illegal disposal of the product by the holder involves the application of the penalties provided for by current legislation.



ATTENTION!

If the machine is put into disuse, before disposal, disassemble the door, so that no one can lock themselves inside at the risk of their life.

67. WARRANTY CONDITIONS

For warranty conditions, please refer to the manufacturer's price list.



ATTENTION!

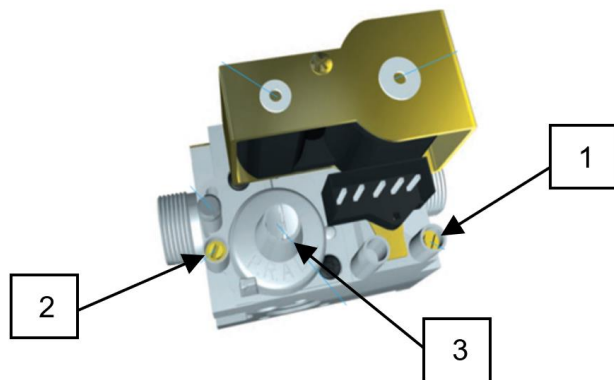
In order to take advantage of the manufacturer's warranty, the instructions contained in the manual itself must be scrupulously observed and in particular:

- always operate within the limits of use of the machine;
- always carry out constant and diligent maintenance;
- use the machine to use suitably trained personnel;
- use only original spare parts indicated by the manufacturer;
- comply with the contractual obligations or rules dictated by the offer to which the buyer has adhered.

68. GAS PRESSURE DATA (dryer)

For gas machines only, the nominal pressure values and nozzle dimensions are shown below.

Below are the indications for any pressure checks using a pressure gauge:



- 1) Inlet Pressure Tap: Indicates the supply pressure.
- 2) outlet pressure tap: indicates the pressure at the burner.
- 3) pressure regulator.



ATTENTION!

Loose security screws for pressure measurement **MUST ABSOLUTELY** be retightened once the measurement has been performed.

TABLE COUNTRY - CATEGORIES - NOMINAL PRESSURE - MINIMUM and MAXIMUM PRESSURE					
Category	Country	Gas	Pressure rating	Maximum pressure	Minimum pressure
			[mbar]	[mbar]	[mbar]
II2H3B/P	AL, BA, BG, HR, MK, UA	G20	20	20	17
II2H3B/P	DK, FI, SE, BG, EE, LV, LT, CZ, SI, TR, HR, RO			25	
I2H	NO				
I2E	LU, PL				
I2EK	NL				
II2H3+	ES, GB, GR, IE, IT, PT, SK				
I2Er	FR, BE				
II2ELL3B/P	DE			33	18
II2H3B/P	AT, CH				
I2H	HU				
I2L	NL	G25	25	30	20
I2Er	FR, BE		20	25	18
II2ELL3B/P	DE		25	30	20
I2EK	NL	G25.3	25	30	20
I3B/P	CY, MT, NL, NO, HU	G30/G31	28-30	35	25
II2H3B/P	AL, BA, BG, HR, MK, UA			45	
II2H3B/P	DK, FI, SE, BG, EE, LV, LT, CZ, SI, TR, HR, RO		57,5		42,5
I3B/P	PL			28-30/37	
II2H3B/P	AT, CH		35/45		20/25
II2ELL3B/P	DE				
I3+	LU, FR, BE				
II2H3+	ES, GB, GR, IE, IT, PT, SK				

11	DEVELOPING COUNTRIES	Nozzle pressure[mbar]	Nozzle diameter1/100 (No. of nozzles = 1)	Primary diaphragm	Secondary diaphragm	PowerkW
G20	AL, BA, BG, HR, MK, UADK, FI, SE, BG, EE, LV, LT, CZ, SI, TR, HR, RONOLU, PLNLES, GB, GR, IE, IT, PT, SKFR, BEDEAT, CHHU	11,5	260	11x18	20x350 mm	11,00
G20	FR, BE	19,5	245	11x18	20x350 mm	11,00
G25	DE	10	320	11x18	20x350 mm	11,00
G25.3	NL	23,8	245	11x18	20x350 mm	11,00
G30/31	CY, MT, NL, NO, HUAL, BA, BG, HR, MK, UADK, FI, SE, BG, EE, LV, LT, CZ, SI, TR, HR, ROPLAT, CHDE	28,4	165	11x25	20x350 mm	11,00
G30/31	LU, FR, BEES, GB, GR, IE, IT, PT, SK	REGULATOR EXCLUDED	165	11x18	20x350 mm	11,00

18	DEVELOPING COUNTRIES	Nozzle pressure[mbar]	Nozzle diameter 1/100 (No. of nozzles = 2)	Primary diaphragm	Secondary diaphragm	PowerkW
G20	AL, BA, BG, HR, MK, UADK, FI, SE, BG, EE, LV, LT, CZ, SI, TR, HR, RONOLU, PLNLES, GB, GR, IE, IT, PT, SKFR, BEDEAT, CHHU	10,0	260	11x57	NO	18,00
G20	FR, BE	18,7	220	11x25	NO	18,00
G25	DE	9,0	290	11x25	NO	18,00
G25.3	NL	9,0	290	11x25	NO	18,00
G30/31	CY, MT, NL, NO, HUAL, BA, BG, HR, MK, UADK, FI, SE, BG, EE, LV, LT, CZ, SI, TR, HR, ROPLAT, CHDE	27,6	150	11x25	NO	18,00
G30/31	LU, FR, BEES, GB, GR, IE, IT, PT, SK	REGULATOR EXCLUDED	150	11x25	NO	18,00