



**GW6010 – GW7010 – GW7015**  
**GW – GLASSWARE WASHER Laboratory sector**

**- USER MANUAL -**

Translation of the original instructions issued in Italian

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19 390 6599 - EN	02	13/12/2018	GW7015
	01	14/02/2017	This manual refers to FW CPU main master version 6.5.0: Some features may be absent in previous versions of the firmware.
<b>Cod.</b>	<b>Rev.</b>	<b>Date</b>	<b>Note</b>

## 1 INITIAL RECCOMENDATIONS

### READ THE PRESENT INSTRUCTION MANUAL CAREFULLY:

This manual constitutes an integral part of the machine.

**It must be kept intact and at hand for the entire life cycle of the machine.**

**It is necessary to read the following manual carefully prior to using the device.**

Failure to read or thoroughly comprehend the instructions in this manual may cause the device to malfunction and present hazards to the user.



***Machine installation, maintenance, and repair operations must be performed by authorized technical staff.***

***Repair operations performed by unauthorized staff, besides leading invalidating the product warranty, can be source of danger for the user.***

***In case of replacement, an original spare part must be used.***

***If the device was not used in accordance to the instructions presented in this manual, the product may no longer be covered by warranty and the safety of this device could be compromised (ref. par 5.4.4 IEC 61010-1:2010).***

***The producer declines all liability for any use that differs from what indicated in the present manual.***



***Excluding possible manufacturing defects, consumable materials (Detergents, Air Filters, Thermal Printer Paper...) are not covered under warranty.***

***The product warranty does not cover faulty parts due to negligence, inappropriate use, or failure to comply with the instructions of the device operations; incorrect installation or maintenance; repair and maintenance operations performed by unauthorized staff or with non-original spare parts; transportation damages; and any circumstance that cannot be ascribed to the device manufacturing defects.***

***Moreover, the warranty does not cover operations related to installation and connection of alimentation and drain systems as well as maintenance operations provided in the instruction booklet.***

***The installation of any accessory on the machine must be performed by authorized technical staff.***



***To request further information about accessories: contact your trusted seller and/or the authorized technical assistance, using the contact details provided in this manual (ref. 5.4.4.c IEC61010-2-040:2015)***

The content of this manual is for information purposes only. The content and the equipment described here may be subject to change without notification. The colours used in photographs of the product (finishing panels), in diagrams and in screenshots are all purely guideline.

## 2 SERVICE LIFE

**Service life** (or “lifetime”) of the device: 10 years or 50000 cycles (whichever limit is reached first), in **conditions of normal use and regular maintenance**, following the intervals and controls recommended in this manual, carried out by technical staff authorized by the manufacturer.




“Service life” is considered the period of time when the device characteristics and performances are not affected to such a degree that nor the efficacy of the treatment neither the safety of the operators are compromised.

### 3 INTENDED USE AND CLASSIFICATION

#### 3.1 INTENDED USE

**Product description: Professional glassware washing machines, laboratory glassware washers (GW – glassware washer).**

SERIES	Main Characteristics
GW6010	Laboratory glassware washer, with forced-air drying system, hinged door. Power supply 13.0 kW
GW7010	Laboratory glassware washer, with forced-air drying system, sliding door. Power supply 13.0 kW
GW7015	Laboratory glassware washer, with forced-air drying system, sliding door. [90 cm wide]. Power supply 20.0 kW

	<p><b>Intended Use</b> The appliance is built to provide the following function:</p> <ul style="list-style-type: none"> <li>• <b>Washing of laboratory glassware with chemical or thermal disinfection;</b></li> <li>• <b>The appliance cannot be used to sterilize instruments or any other device.</b></li> </ul> <p><b>The appliance cannot be used to sterilize instruments</b> or any other device. The type of instrument which can be processed in a cycle depends on the washing trolley used. The device is supplied as standard without washing trolleys; contact the manufacturer for advice about the trolleys best suited to your needs.</p>
	<p><b>The appliance does not sterilize the load.</b> <i>Sterilization is carried out by other devices (e.g. steam sterilizers); this procedure follows the washing and thermal disinfection phase.</i> <i>The washing cart functions in support of the load and determines the typology of instruments that can be processed in a cycle. (The base device is supplied without washing carts; please contact the manufacturer for additional information on which carts best satisfy your needs).</i> <i>When choosing the most appropriate disinfection treatment: always follow the instructions provided by the instruments' manufacturer.</i> <i>The operator's competence and knowledge of the table of programs installed in the machine, as well as the typology of instruments to treat, is essential for the correct choice of the treatment cycle. The device offers options for several cycles, with different values of Time-temperature exposure (Ao parameter) that are determined according to the criticality of the medical devices to be processed.</i> <b>It is necessary to verify that the items to be treated and the selected washing cycle are compatible in respect to the maximum temperatures reached and chemical products applied.</b> <i>Information provided in compliance with paragraph. 5.4.4.r IEC61010-2-040:2015.</i></p>
	<p><b>Use of this product for purposes not strictly outlined by this manual are considered improper.</b> <b>The manufacturer declines liability for improper use of this product.</b> <i>The manufacturer declines liability for any potential damage caused by washing instruments for which the manufacturer has not authorized automatic decontamination through thermal disinfection.</i></p>

### 3.2 DEFINITION: “RESPONSIBLE BODY” OF THE DEVICE

**Responsible Body:** “individual or group responsible for the use and maintenance of equipment”.

Definition taken from the standard IEC61010-1:2010, par. 3.5.12.

The responsible body should be clearly identified inside the structure where the appliance is operated (i.e. name and responsibility registered on company forms).

### 3.3 TYPE OPERATOR AND “SUPERUSER”

**The machine can be only used by staff members who have been specifically trained.**

INTENDED USER PROFILE: the characteristics of the “TYPE OPERATOR:

- staff specifically trained for the use of the appliance.
- staff trained in the thermal disinfection process and in the cycle of treatment of medical devices.

It involves technical staff working in Laboratories.

**The installer technician is responsible for training staff when installing the appliance.**

The manufacturer declines all liability in case of any malfunction or accident caused by use of the appliance by untrained staff.

**Staff preparation** includes specifications on possible risks in using the appliance as well as training to perform operating procedures in the safest way possible.

The installer technician must also communicate USER and SUPERUSER passwords to the responsible body in order to access the configuration parameters. The **responsible body** is responsible for preserving the passwords in a safe place.

It's the **RESPONSIBLE BODY**'s task to make sure that whoever operates the appliance has been adequately trained on its functioning, safe use and routine controls, and to ensure the continued training of all operators.

**Staff training should be checked regularly.**

The installer technician is responsible for the correct functioning of the appliance after the installation.

**Safety information provided in compliance with 5.4.101.1 IEC61010-2-040:2015.**

## 4 PRESENTATION

The products covered by this manual are available in two main versions:



1. Single door machine.
2. Double door machine.

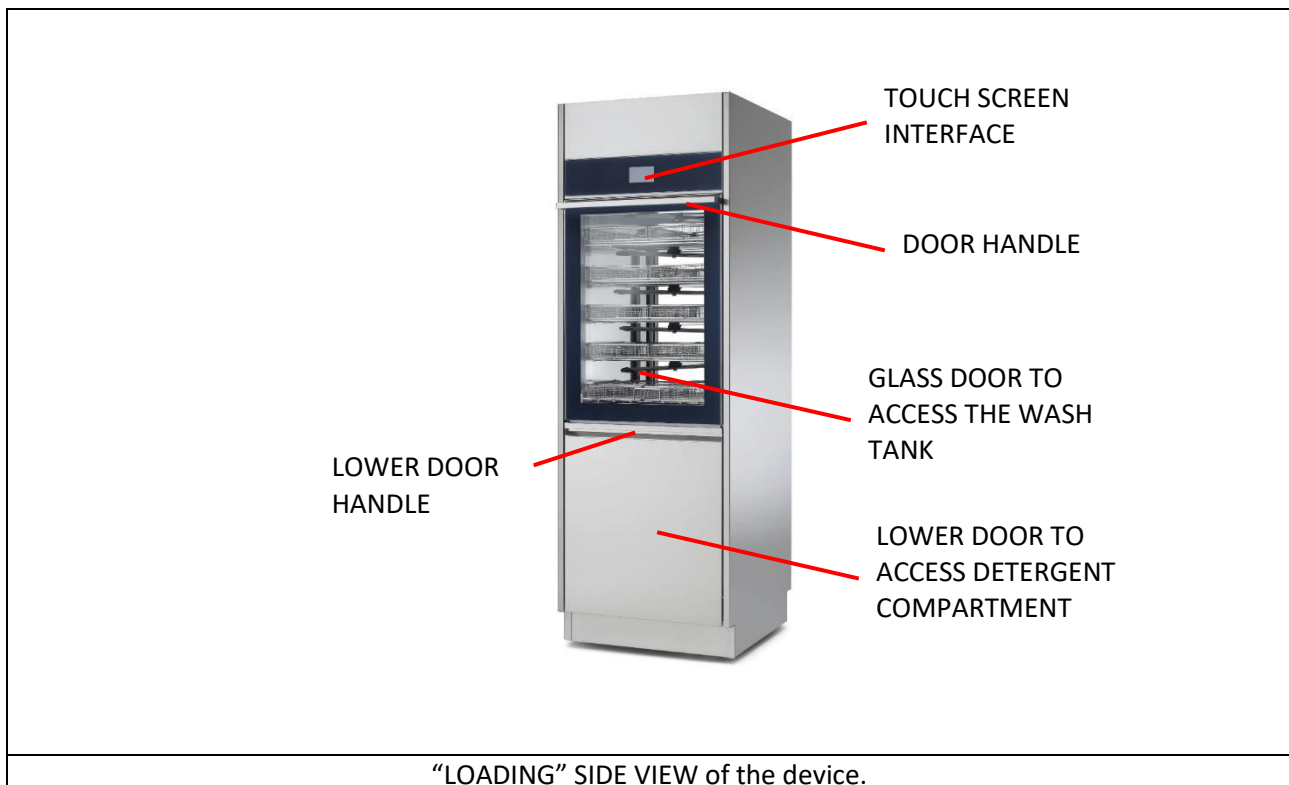
In both versions the device is equipped with a **touch screen** user interface.

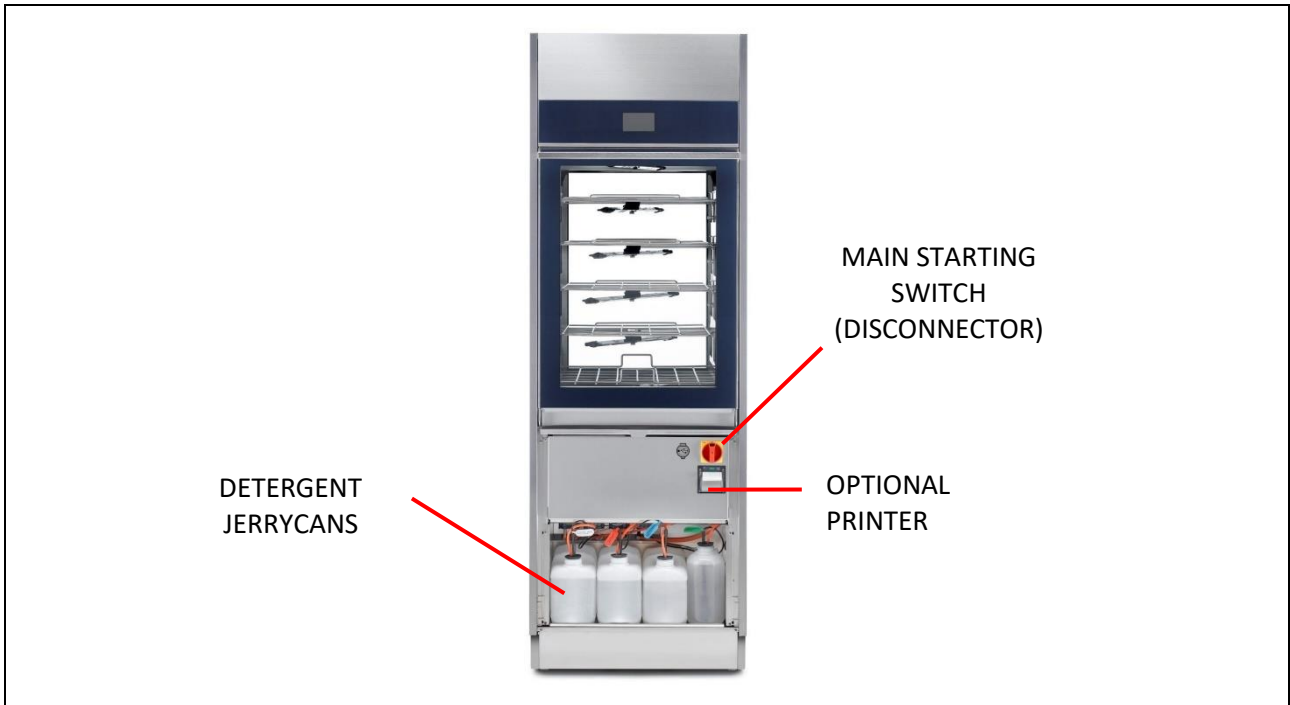
The **touch screen** allows the user to interact with the interface by touching icons on the screen to perform actions based on the options available.

DEVICE VERSION
<p><b>SINGLE DOOR MACHINE:</b> the door to access the tank is used both to load the material to be processed and to remove the finished load (after wash and thermal-disinfection treatment).</p> <p>In the “single door” version there is only one <b>touch screen</b> for all the user interactive operations: select and start program, machine parametrization, door lock and unlock.</p>
<p><b>DOUBLE DOOR MACHINE:</b> the device has two doors to access the tank:</p> <ol style="list-style-type: none"> <li>1. <b>Loading door “unclean side”:</b> used to load contaminated items to be treated with a wash cycle and thermal disinfection in the device, in the washing cart.</li> <li>2. <b>Unload door or “clean side”:</b> used to unload the treated, washed and thermally disinfected items. Opening this door is only possible after a cycle has been successfully completed.</li> </ol> <p>In the “double door” version there are two <b>touchscreens</b>: “unclean side” and “clean side”.</p> <p><b>“Unclean side”:</b> through the interface, the operator can select a wash, start the cycle, block a cycle, and establish machine parameters.</p> <p><b>“Clean side”:</b> the operator can only unlock the door to unload items once the cycle has been completed successfully. From the clean side it is also possible to interrupt a cycle in progress.</p> <p><b>A cycle can be started only if the doors are closed.</b></p>

4.1 WD6010 and GW6010 - MACHINE WITH SWINGING DOOR

DEVICE VERSION	IMAGE
<p><b>SINGLE DOOR MACHINE</b></p> <p>There is a small <b>lower door</b> to access the detergent compartment and the electricity supply <b>disconnecter</b>.</p>	
<p><b>DOUBLE DOOR MACHINE</b></p> <p><b>IMPORTANT: in the double door version, on the load side only, there is a lower door to access the detergent compartment and the electricity supply disconnecter.</b></p>	

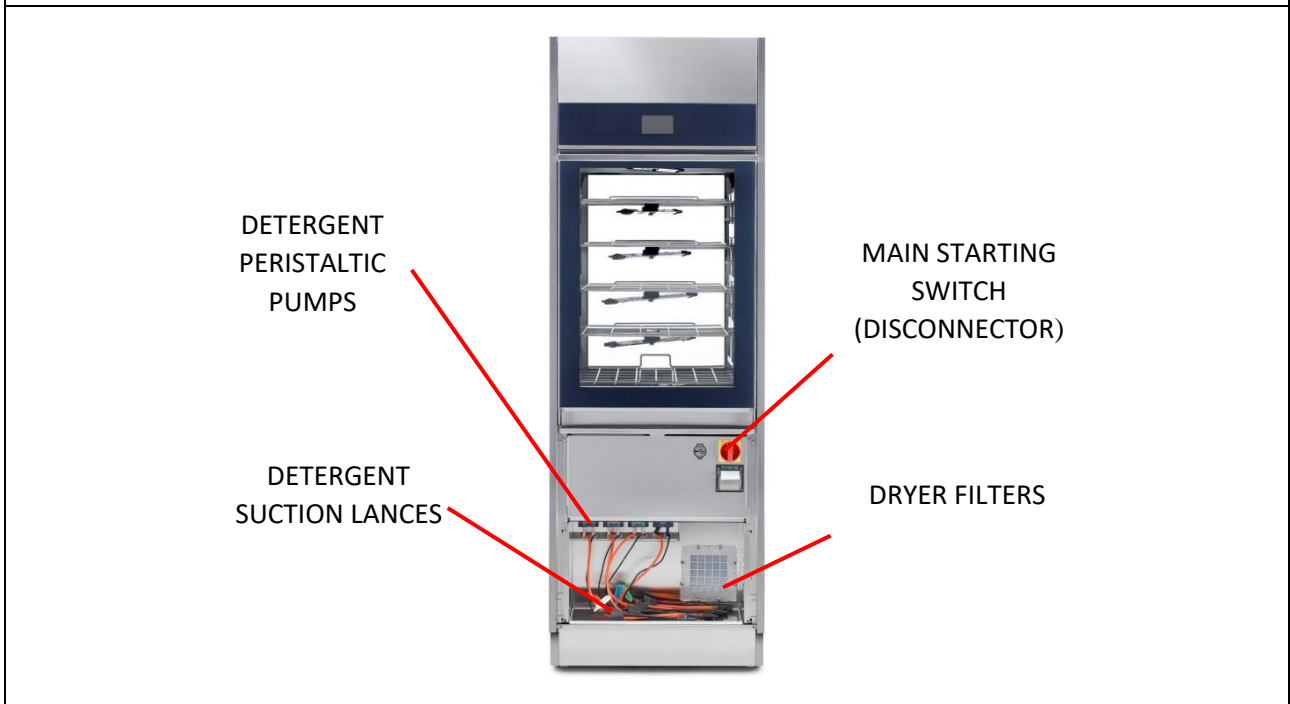




**“LOADING” SIDE VIEW** of the device: the lower small door to access the detergent compartment has been removed. The main starting switch can only be accessed with the door open.

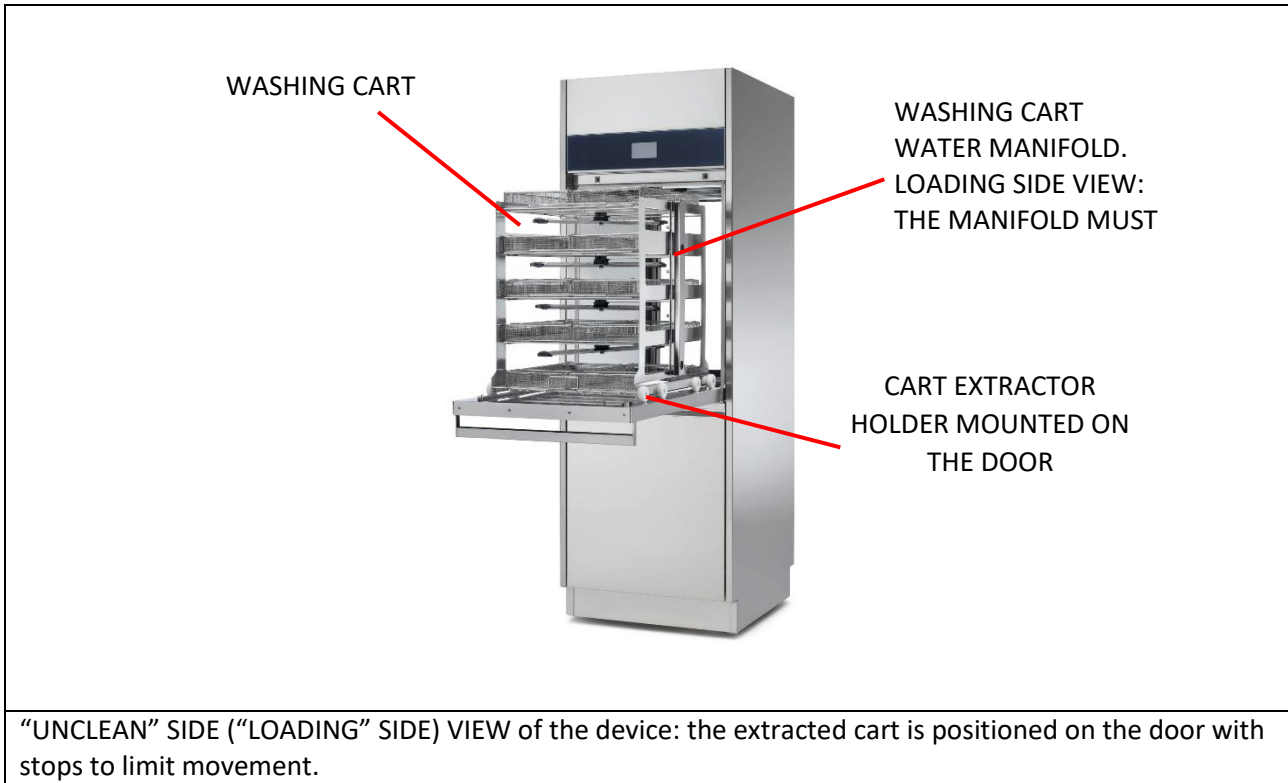
**In the double door version: the disconnecter is only on the “unclean” side (“loading side”).**

**USB PORT:** Near the disconnecter is the USB port, **to be used by authorized technicians**, for communication and device diagnostics. **In the double door version: the USB port is only on the load side.**



**“UNCLEAN” SIDE (“LOADING” SIDE) VIEW** of the device, the lower small door to access the detergent compartment has been removed. The detergent jerrycans are not visible, but the following can be seen:

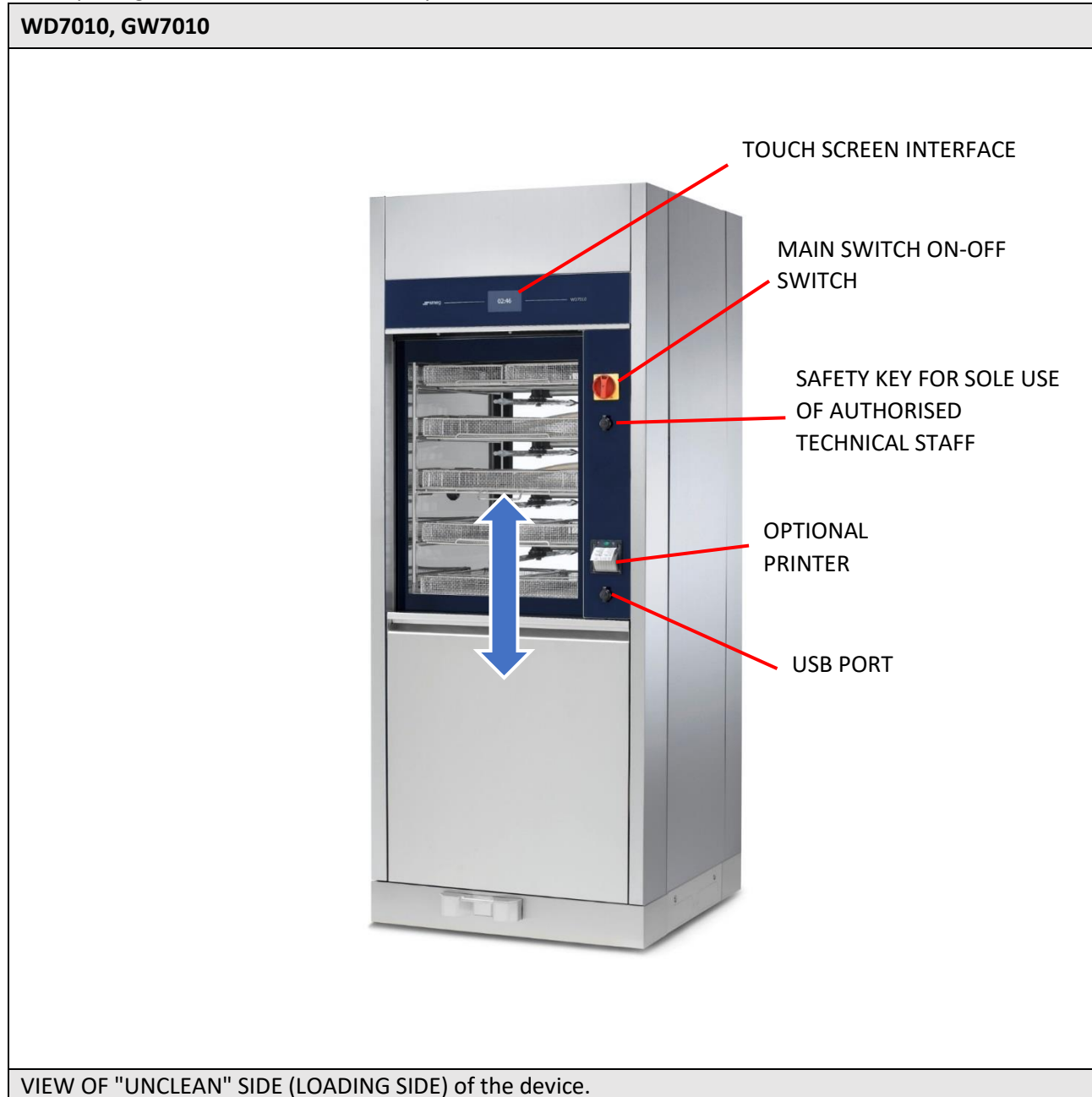
- detergent suction lances with level sensor
- air filters for drying system (dryer)
- peristaltic pumps (pumps for liquid detergent dosage)



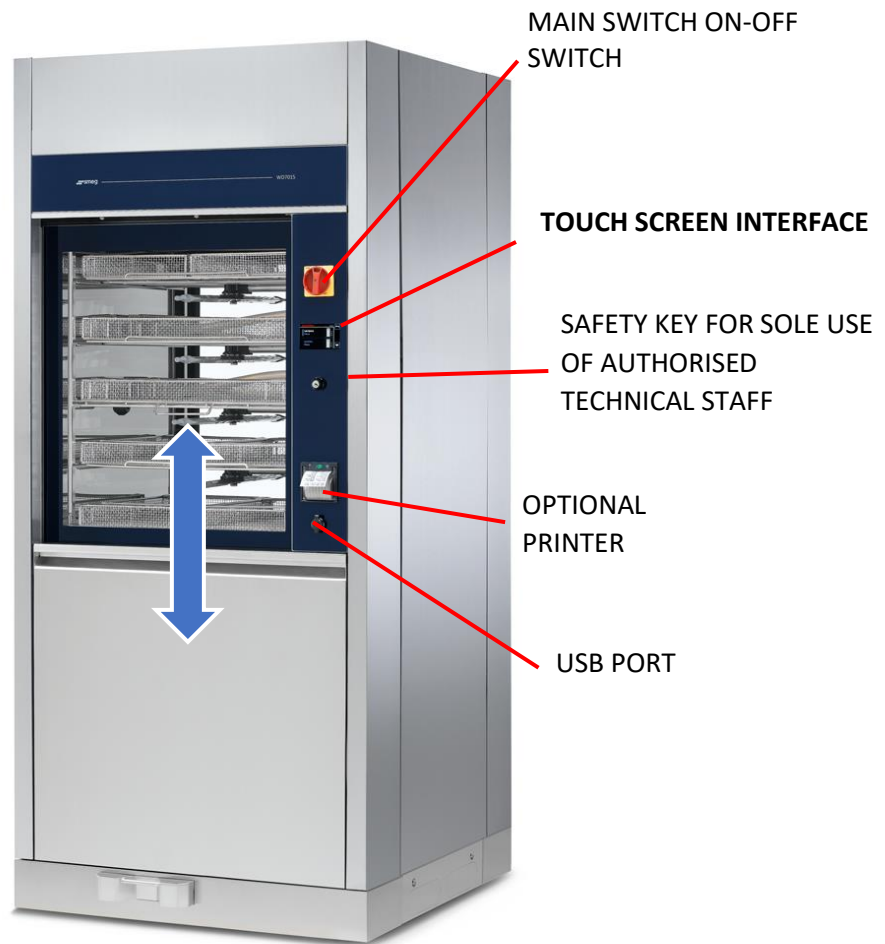
#### 4.2 WD7010 - GW7010, WD7015 – GW7015 – MACHINE WITH SLIDING DOORS

The sliding doors travel up and down to allow the operator access to the washing chamber for loading and unloading of the instruments to be washed and disinfected.

Door opening and closure are activated by the user with the aid of the touch screen interface.



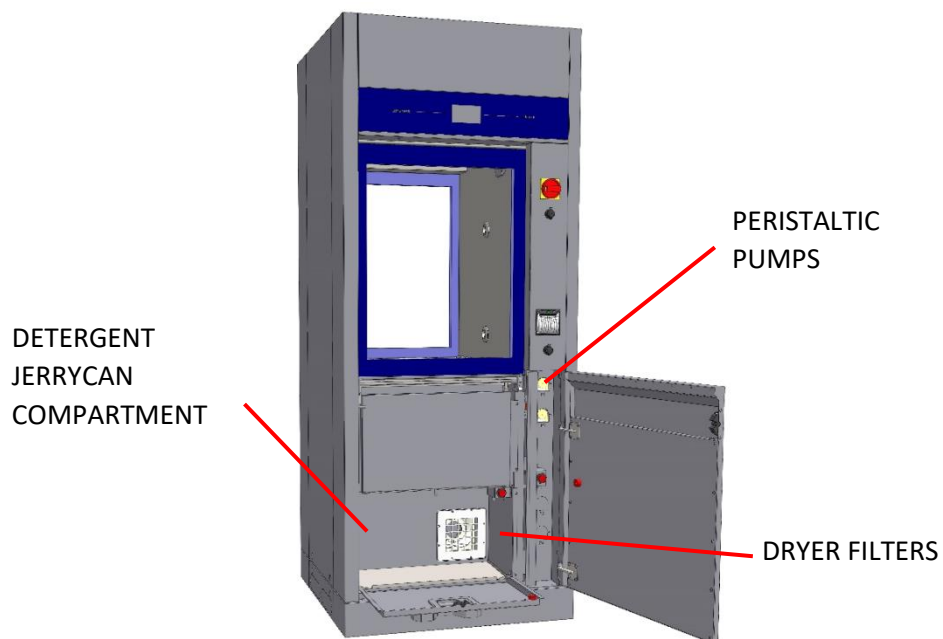
**WD7015, GW7015**



VIEW OF "UNCLEAN" SIDE (LOADING SIDE) of the device.  
On the WD7015, GW7015 models the touch screen interface is on the side control panel.



*Loading the chamber using the multi-purpose trolley.*



**Loading side** – opening the door at the bottom gives access to:

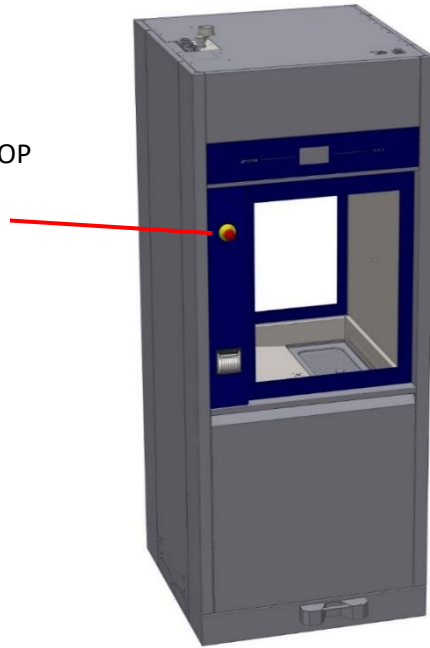
- **detergent jerrycan compartment** (detergent jerrycans and intake nozzle)
- **dryer air filters**
- **peristaltic pumps** (liquid detergent dispensing pumps).



**WARNING:**

*If the detergent compartment is open, the loading side door cannot be operated.*

EMERGENCY STOP  
BUTTON



Unloading or "clean" side. Devices:

- **"Mushroom" emergency stop button.**
- **Touch screen display.**

Emergency stop button: allows the user on the unloading (or "clean") side to halt the machine. For example, the button can be pressed if the user notices a malfunction that justifies stopping the current cycle at once, or to halt movement of the doors.

The touch screen display on this side of the machine is read-only; the user can view the active screens but not interact with the machine.

The only function enabled is door opening/closure.

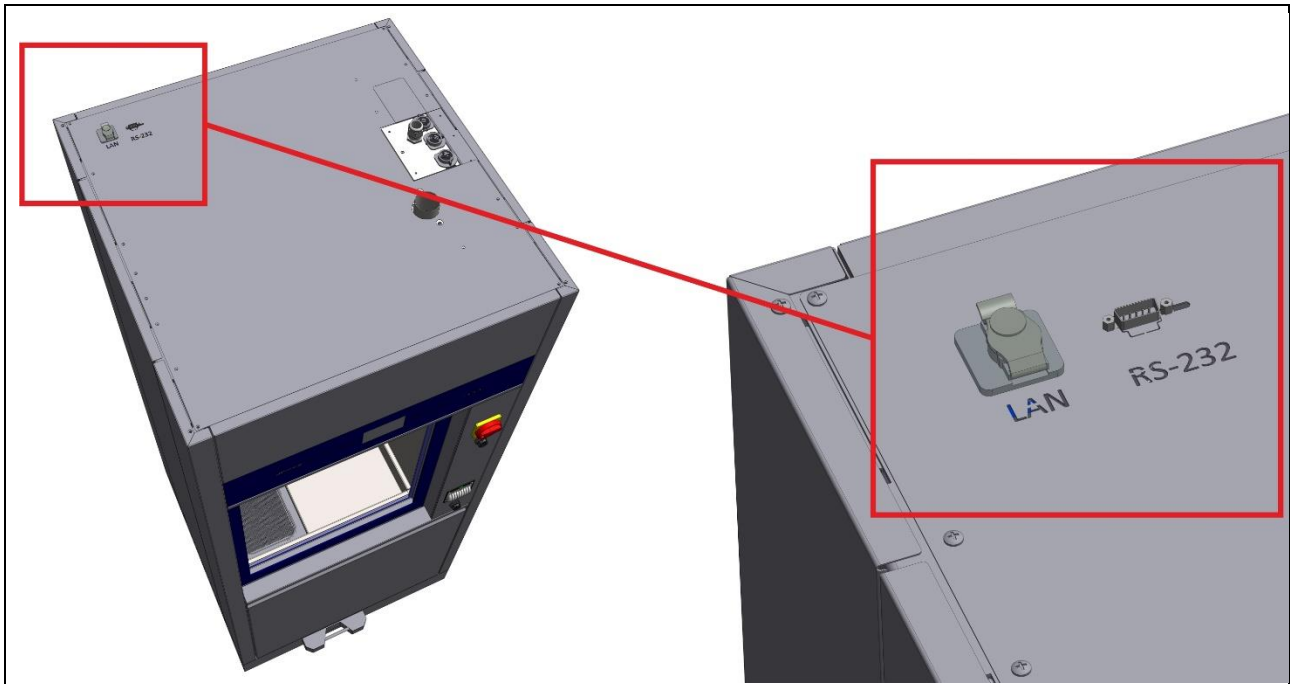
The door can only be opened at the end of the cycle, and only if the wash cycle has been completed successfully.

(The user may have halted the drying phase: in this case opening of the clean side door is possible).



**WARNING:** once the **"emergency button"** has been pressed, it must be rearmed (by turning it) in order to restart the device.

The device should also be switched off and back on with the main switch before restarting normal use.



*The following optional data communication ports are available on the TOP of the device:*



- **LAN PORT** (optional) – for network communications using software supplied by the manufacturer
- **RS232** optional for remote printer (the port can only be provided if the device is not fitted with the thermal panel printer). See the specification for the optional “WD-PRINTEINK” printer.

*For door positions, refer to the “Installation Requirements” documents.*

## 5 CONFIGURATIONS AND OPTIONALS

Symbols meaning	
●	feature present
○	optional feature, installable on the model.
-	feature not present and not installable on the model.

	<p><b>WARNING – CHEMICAL AGENTS DOSAGE</b></p> <p><i>Chemical agents dosage is performed through peristaltic pumps.</i></p> <p><b>For each installed peristaltic pump the following control procedures are strongly encouraged:</b></p> <ol style="list-style-type: none"> <li>1. <b>Chemical dosage check</b> – through flow sensors “flowmeter”;</li> <li>2. <b>Tank level check</b> – through level sensors</li> </ol> <p><i>Only when the control systems are installed can the device verify whether the dosage used complies with the default setting and can warn the user of low dosage levels.</i></p> <p><b>Control devices can be also installed upon use by technical staff authorized by the manufacturer.</b></p> <p><b>Please contact your trusted dealer for more information and clarifications.</b></p>
	<p><b>Notes on variants - Power supply:</b></p> <p><i>Unless otherwise specified, the device is set for a power supply of three-phase plus neutral with 400V between phases (400V 3N~). This configuration is also referred to as "standard" ("STD").</i></p>

## 5.1 GW6010

The model is available in different versions, according to the installed elements. Common elements in all versions: tank material AISI316, tempered glass doors, appearance and interface (touch screen), single washing pump with soft start, single dryer engine, floor drain, 3 water pipe connections.

FEATURES	ID. CODE						
	860507	860512	860567	860576	860579	860596	860642
Model name	GW6010M	GW6010	GW6010M6	GW6010M36	GW6010-6	GW6010TM	GW6010MP
Door type (Drop down/ sliding)	Drop down						
Doors number (tank access: single/ double)	Single	Double	Single	Single	Double	Single	Single
Detergent peristaltic pump P1	●	●	●	●	●	●	●
Acid neutraliser peristaltic pump P2	●	●	●	●	●	●	●
Optional peristaltic pump P3	○	○	○	○	○	○	●
Optional peristaltic pump P4	○	○	○	○	○	○	●
Check detergent dosage P1 – FM1	○	○	○	○	○	○	○
Check acid neutraliser dosage P2 – FM2	○	○	○	○	○	○	○
Check detergent dosage P3 – FM3	○	○	○	○	○	○	○
Check detergent dosage P4 – FM4	○	○	○	○	○	○	○
Check tank level P1 – SL1	○	○	○	○	○	○	○
Check tank level P2 – SL2	○	○	○	○	○	○	○
Check tank level P3 – SL3	○	○	○	○	○	○	○
Check tank level P4 – SL4	○	○	○	○	○	○	○
INTEGRATED printer	○	○	○	○	○	○	○
LAN connection	○	○	○	○	○	○	○
USB serial port	●	●	●	●	●	●	●
Demineralised water pump (pressure re-launch)	○	○	○	○	○	○	○
Integrated drain pump for wall drain	○	○	○	○	○	○	○
Drying absolute filter HEPA H13	○	○	○	○	○	○	○
Lighting tank kit "LED6010"	○	○	○	○	○	○	○
Vapours condenser	○	○	○	○	○	○	○
Warm water boiler	-	-	-	-	-	●	-
Demineralized water boiler	-	-	-	-	-	●	-
Conductivity check	○	○	○	○	○	○	○
Mains frequency	50 Hz	50 Hz	60 Hz	60 Hz	60 Hz	50 Hz	50 Hz
Notes for electrical connection	STD	STD	380-400V 3N~	220-230V 3~	380-400V 3N~	STD	STD
Various notes	-	-	-	-	-	-	Petrol

## 5.2 GW7010

The model is available in different versions, according to the installed elements.

Common elements in all versions: tank material AISI316, tempered glass doors, appearance and interface (touch screen), single washing pump with soft start, single dryer engine, floor drain, 3 water pipe connections.

FEATURES	VERSION ID. CODE		
	860598	860599	860646
Model name	GW7010M	GW7010	GW7010T
Door type (Drop down/ sliding)	Sliding		
Doors number (tank access: single/ double)	Single	Double	Double
Detergent peristaltic pump P1	●	●	●
Acid neutraliser peristaltic pump P2	●	●	●
Optional peristaltic pump P3	○	○	○
Optional peristaltic pump P4	○	○	○
Check detergent dosage P1 – FM1	○	○	○
Check acid neutraliser dosage P2 – FM2	○	○	○
Check detergent dosage P3 – FM3	○	○	○
Check detergent dosage P4 – FM4	○	○	○
Check tank level P1 – SL1	○	○	○
Check tank level P2 – SL2	○	○	○
Check tank level P3 – SL3	○	○	○
Check tank level P4 – SL4	○	○	○
INTEGRATED printer	○	○	○
LAN connection	○	○	○
USB serial port	●	●	●
Demineralised water pump (pressure re-launch)	○	○	○
Integrated drain pump for wall drain	○	○	○
Drying absolute filter HEPA H13	○	○	○
Lighting tank kit “LED6010”	○	○	○
Vapours condenser	○	○	○
Warm water boiler	-	-	●
Demineralized water boiler	-	-	●
Conductivity check	○	○	○
Mains frequency	50 Hz	50 Hz	50 Hz
Notes for electrical connection	STD	STD	STD
Various notes	-	-	-

### 5.3 GW7015

The model is available in different versions, according to the installed elements.














Common elements in versions: tank material AISI316, tempered glass doors, appearance and interface (touch screen), double washing pump with soft start, double dryer engine, floor drain, 3 water pipe connections., Door type: "Sliding".



FEATURES	VERSION ID. CODE
	860681
Model name	GW7015
Door type (Drop down/ sliding)	Sliding
Doors number (tank access: single/ double)	Double
Detergent peristaltic pump P1	●
Acid neutraliser peristaltic pump P2	●
Optional peristaltic pump P3	○
Optional peristaltic pump P4	○
Optional peristaltic pump P5	○
Check detergent dosage P1 – FM1	○
Check acid neutraliser dosage P2 – FM2	○
Check detergent dosage P3 – FM3	○
Check detergent dosage P4 – FM4	○
Check detergent dosage P5 – FM5	○
Check tank level P1 – SL1	○
Check tank level P2 – SL2	○
Check tank level P3 – SL3	○
Check tank level P4 – SL4	○
Check tank level P5 – SL5	○
INTEGRATED printer	○
LAN connection	○
USB serial port	●
Demineralised water pump (pressure re-launch)	○
Integrated drain pump for wall drain	○
Drying absolute filter HEPA H13	○
Lighting tank kit "LED6010"	○
Vapours condenser	○
Warm water boiler	-
Demineralized water boiler	-
Conductivity check	○
Mains frequency	50 Hz
Notes for electrical connection	STD
Various notes	-

## 6 SAFETY AND HANDLING PRECAUTIONS

### 6.1 KEY TO THE SYMBOLS USED IN THE MANUAL AND ON THE MACHINE




Below are the symbols used on the machine and in this manual, in compliance with par. 5.4.4.e IEC61010-2-040:2005.

SYMBOL	MEANING
	<b>Particular attention must be paid when reading this.</b> This symbol indicates particularly important regulations or recommendations.
	<b>“ON” Power</b> Standardized symbol (5007 IEC 60417-1): it is on the disconnecter (main switch) to indicate <b>connection to the electrical supply.</b>
	<b>“OFF” Power</b> Standardized symbol (5008 IEC 60417-1): it is on the disconnecter (main switch) to indicate <b>no connection to the electrical supply.</b>
	<b>Manufacturer</b> The symbol appears on the product’s technical dataplate, accompanied by the name and address of the medical device’s Manufacturer. (Symbol 5.1.1 ISO 15223-1, ISO 7000 no.3082)
	Consult instructions for use. The symbol appears on the product’s technical dataplate to indicate that users must consult the instructions for use of the device. (Symbol 5.4.3 ISO 15223-1, ISO 7000 no.1641)
	<b>Warning, danger: consult the manual.</b> This symbol is placed on the specific plate of the product to highlight that it is necessary to read the manual before using the device. This symbol is found next to the safety regulations as well.
	<b>Warning, warm surface.</b> This symbol is placed on the machine next to parts that can overheat and present burning hazards – avoid any contact with parts next to the symbol. This symbol is also found in the manual to highlight the safety regulations regarding burning hazards.
	<b>Warning, risk of electric shock.</b> The symbol is placed next to live parts – it is necessary to disconnect from the electrical supply source before carrying out any operations on these parts. Avoid any contact with live parts if electricity is on.
	<b>Specific notes and regulations for Laboratory sector.</b>
	USB port – data communication and device setup
	Transport, storing and unpacking regulations.
	Biohazard.
	Fire danger.

SYMBOL	MEANING
	<p><b>The symbol of a “crossed out wheeled bin”</b> (attachment IV directive 2002/96/EC): placed on the specific label and package of the product: at the end of its service life, the product must be sent to the disposal facilities for recovery and recycling, in compliance with the regulations in force in the country where it is installed. Contact the specialized disposal installations.</p> <p>Since January 2008, according to D.Lgs. 151/05, the management of WEEE (Waste of electrical and electronic equipment) has been in the hands of manufacturers, whose duty is to plan and manage the collection system; <b>today it is possible to deliver the waste directly to the dealer for free, when purchasing a device of the same type.</b></p> <p>If purchasing a new equivalent device to replace the previous one, the disposal fees are at the expense of the manufacturer of the new device.</p> <p><b>At the end of its service life the machine might be contaminated</b>, in particular the tank and water circuit (e.g. end of service life caused by a malfunction which compromised the efficiency of the last thermal disinfection cycle): use proper caution in the disposal operations. By making sure that this product is disposed of properly, the user contributes in preventing any possible negative effects on the environment and health.</p> <p><b><i>The disposed device must be made unusable. Remove the power cable after unplugging it / after disconnecting the cable from the power outlet.</i></b></p>
	<p><b>CE marking.</b> The manufacturer guarantees compliance with the EU directives applicable to the product. This symbol appears on the machine’s technical data label and in this manual.</p>

6.2 GENERAL RECOMMENDATIONS

	<p><b>MAXIMUM LOADING WEIGHT</b></p>	
	<p><b>Leaning or sitting on the device door when open may cause it to overturn</b> with a consequent danger for people. The main function of the door is <b>not</b> to support unnecessary weight.</p>	
	<p>Devices with hinged doors: The maximum weight that can be loaded on the door must never exceed <b>60 kg</b>.</p>	
	<p>Apart from the cart and the instrument baskets, the maximum weight of the load to be treated must never exceed:</p> <ul style="list-style-type: none"> <li>- GW6010, GW7010: <b>30 kg</b>.</li> <li>- GW7015: <b>45 kg</b></li> </ul>	
	<p>To obtain an optimal DRYING, the load to be treated must never exceed the maximum recommended weight.</p>	
	<p><b>MULTI-PURPOSE TROLLEY</b></p>	
	<p><b>Sliding door devices: The multi-purpose trolley is a necessary device</b> for the safe handling of washing carts: for inserting the cart in the chamber and removing it.</p>	
	<p><b>Cart loading and removal operations performed without the aid of the multi-purpose trolley constitute "misuse".</b></p>	
	<p><b>MALFUNCTIONS</b></p>	
	<p>In the event of malfunction (e.g. water leaks or unexpected operation) <b>disconnect the device from the electrical source and turn off the water taps</b>. Refer to the "ALARMS" section of this manual and, if necessary, contact the closest authorized Service Center.</p>	
	<p>The machine can be used only by staff properly trained on its functioning. The machine tank was not designed for the operator to enter inside. The operator must never enter completely inside the tank – this might compromise its safety (rif. 7.102 IEC61010-2-040:2005).</p>	
	<p><b>If the display (loading or unloading side) remains off or unresponsive</b> even with the main switch correctly set ON: <b>do not touch the display as this may trigger unexpected operation of parts of the device. Switch the device off using the main switch.</b> Wait at least 10 seconds after switching off before switching back on again. Refer to the "ELIMINATION OF SMALL TROUBLES" section.</p>	
	<p><b>DOOR OPENING</b></p>	
	<p>The door is equipped with safety door-locking mechanism. <b>Do not force the opening manually.</b> It is possible to unlock the door with the touch interface of the device and it is permitted only when the washing or drying cycle is not in progress.</p>	
	<p><b>MACHINE WITH SLIDING DOORS</b></p>	
	<p><b>DO NOT APPROACH THE DOORS during automatic opening or closure.</b> The machine is fitted with doors which are opened/closed automatically. Before enabling door opening/closure, check that other operators are not in a potentially hazardous position. Never attempt to open the door with a program running. The appliance's control system prevents this for safety reasons. Never attempt to force the door open by hand. The tops of the doors are fitted with pressure-sensitive edges: if the sensitive edge encounters an obstacle while the door is in motion, door travel is first stopped and then reversed to prevent crushing hazards. Pressure-sensitive edges: 1. considerably reduce the crushing hazard for the user;</p>	
<p>USER MANUAL</p>	<p>GW6010 – GW7010 – GW7015</p>	<p>Page 23 - 124</p>

	<p>2. reduce the possibility of closing the door with objects obstructing its travel.</p> <p><b>The user must still take the greatest care during automatic operation of the doors, and never:</b></p> <ol style="list-style-type: none"> <li>1. allow any incorrectly positioned object to obstruct free travel of the doors;</li> <li>2. touch moving parts.</li> </ol> <p>The user is unable to open or close the door on the opposite side of the machine. Nor is it possible to open both doors simultaneously.</p> <p>The tank of the appliance is not designed for users to climb into, even for extraordinary maintenance. The user must never climb into the tank - this might put his safety at risk.</p>
	<p><b>DETERGENT COMPARTMENT DOOR</b></p>
	<p><b>The bottom door, giving access to the detergent compartment, must be closed correctly to enable automatic door opening and closure.</b></p> <p>Do not open the bottom door during automatic door operation.</p> <p><b>The bottom door must be correctly fitted and closed to allow use of the machine:</b> safety devices are installed to restrict operation of the machine if the door is not correctly positioned.</p>
	<p><b>INTERNAL TANK LIGHTING - OPTIONAL "LED6010" KIT</b></p> <p>The appliance's lighting system is classified in the "EXEMPT" risk category (under the IEC 62471 standard): there is no photobiological risk in normal conditions of use.</p>
	<p><b>DEMINERALIZED WATER</b></p> <p><b>The demineralized water connection is required to install the device.</b></p> <p>In case demineralized water is not available, it is the user's responsibility to verify that the quality of the water supplied to the device does not cause the deposit of mineral salts or other substances.</p>
	<p><b>FLAMMABLE SUBSTANCES</b></p> <p><b>Do not introduce flammable substances to the device. Do not use flammable detergents.</b></p> <p>Do not introduce alcohol or solvents such as turpentine, which might cause an explosion. Do not introduce materials dirty with ash, wax or paint.</p>

	<p><b>CHEMICAL DISINFECTION</b></p> <p><b>Warning: if possible, thermal disinfection is always more advisable than a chemical disinfection process.</b> According to regional regulations, the decontamination process with chemical agents might be considered invalid by the responsible authorities, and can be used only if the loaded items cannot bear the specific temperature of thermal disinfection. The suggested washing and chemical disinfection cycles are specifically designed for the recommended products and can be inappropriate with other chemical products. Do not use products that were not specified by the manufacturer.</p> <p><b>The authority responsible for the device and the decontamination process is also responsible for the selection of the most appropriate treatment cycle.</b></p>
	<p><b>CLOG WASHING AND DECONTAMINATION</b></p> <p><b>The device where clogs are washed and decontaminated should be assigned to this specific function, in order to avoid mistakes of use.</b> Clogs require specific supports and specific cycles, which are different from those used to process instruments.</p>

### 6.3 RECOMMENDATIONS FOR TRANSPORT

	<p><b>The machine is initially packaged: it is positioned and secured on wooden pallets, wrapped in protective nylon for dust and water infiltrations and covered in cardboard. Do not use devices which were damaged during transport.</b></p> <p><b>STORING:</b> The device must be preserved in a closed environment, not in the open air, in temperature and moisture conditions similar to those specified for its functioning.</p>
	<p><b>Transport of the machine to the place of its actual installation is at the client's expense and requires a lift truck.</b></p> <p>Refer to the product's technical sheet to know its net weight and gross weight with packaging.</p> <p>When using the lift truck <b>the product must be secured with belts</b> to prevent it from overturning in the event of braking.</p> <p>Unpacking operations:</p> <ol style="list-style-type: none"> <li>1. Take the external strapping off the packaging</li> <li>2. Open and remove the cardboard and the nylon wrapping</li> <li>3. Do not place the machine on its side</li> <li>4. Remove the polystyrene corner protectors</li> <li>5. The machine base is fastened to a pallet to be lifted and transported. When the machine is placed in the position for actual operation, the pallet holders, made with self-tapping wood screws, must be removed.</li> <li>6. Place the machine on a horizontal plane with a maximum gradient of 2°; level it using the adjustable feet.</li> <li>7. Do not place the machine on a flammable surface.</li> <li>8. <b>Do not use the door handles to transport the product.</b></li> </ol>
	<p>Manual transportation of the product must be avoided as far as possible. The use of a <b>tail lift</b> is recommended.</p> <p>If manual transportation is necessary: involve at least 3 people or more to transport the product. Use a "ramp" to take the device off the pallet more easily. Take care to secure the ramp to the wooden pallet to prevent unexpected repositioning.</p>



	<p><b>POSITIONING THE MACHINE</b> in the area of proper use  <i>In the “double door” versions: the loading side is characterized by a small lower door which gives access to the detergent compartment and the electric disconnecter – be careful not to confuse the loading side with the unloading side.</i></p> <p><b>LEVELING</b>  <i>Once the machine has been placed, screw or unscrew the feet in order to adjust its position and level it with the bubble level so that it is perfectly horizontal (maximum angular tolerance permitted: 0.5°, corresponding to a maximum gap permitted on the extreme points of the machine of about 5mm).</i>  <i>Levelling the device properly helps its correct operation.</i></p>
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<b>Moving the machine, taking it off the pallet</b>	
<p>1. Once the cardboard packaging has been removed, <b>the machine lies on a wooden pallet.</b></p>	<p>2. <b>The front wooden holder can be removed to take the machine off the pallet more easily.</b> The structure of the machine is fastened to the pallet: it must be unfastened to move the machine. The use of a <b>tail lift</b> is recommended.</p>


### 6.4 ACCESSING AND REUSING THE DEVICE AFTER AN INCOMPLETE CYCLE

Instructions on the safety of the device in case of incomplete operation are given in compliance with the par. 5.4.4.g and 13.1.102 IEC61010-2-040:2005.

**In particular, these precautions are applied in the event the device is used to treat biologically contaminated material.**

	<p><b>WARNING</b>  <i>If a disinfection cycle is interrupted (by the operator or if an alarm arises): pay attention in handling all instruments of the load inside the washing chamber.</i>  <b>The loaded items and internal parts of the machine might be infected/ biologically contaminated.</b>  <b>Before handling the instruments or before any maintenance operation: start a complete cycle of thermal disinfection or, if it is not possible to start a complete cycle, handle the instruments cautiously (using the protection devices suitable for handling infected instruments, e.g. gloves, smock).</b></p>
	<p><b>WARM SURFACE DANGER</b>  <i>The machine operates a cycle of thermal disinfection using high temperature water, up to 93°C, and detergents. If, in case of malfunction, the door is open and there is water inside the tank: avoid skin contact, for burning and irritation danger due to the toxicity of chemical products.</i>  <b>Never touch the heating elements in the tank.</b>  <i>Contact authorized technicians in case of malfunction.</i></p>

### 6.5 USE OF MULTI-PURPOSE TROLLEY

	<p><b>Sliding door devices:</b> The use of a multi-purpose trolley is necessary for the safe transport the washing cart inside and outside the machine.          Contact the authorized dealer for information about the most suitable multi-purpose trolley.</p>
	
<p><i>Sample image of the multi-purpose trolley for washing cart transport and device tending.</i></p>	

## 6.6 DOOR OPENING

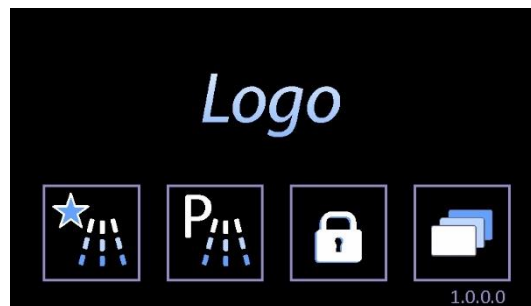
Machine with hinged doors: The machine is equipped with an **automatic door lock system**.

Machine with automatic sliding doors: the machine is equipped with an **automatic door opening and closure system**.

Below is the procedure to open the door of the device to ease the access to the machine tank.

- Connect the machine to the electricity source.
- Switch the disconnecter ON.
- **Check that the bottom door giving access to the detergent compartment is properly closed.**
- Wait for the device to start.

The device is equipped with a *touch screen* user interface, below is the home screen:





The actions correlated to the buttons differ slightly depending on the model being used.

### 6.6.1 GW6010

	<p>Button for <b>DOOR UNLOCK</b>. The closed lock means “locked door”. Please do not manually force the door if the button is active.                  “Double door” machine: a door can be unlocked only if the opposite side door is closed and locked.</p>
	<p><b>LOCK BLOCK</b>: Button to activate door-locking mechanism.                  The door must be closed in order to be locked.  <b>If the lock is open, the machine is unlocked: it is possible to open the door</b> by pulling the handle.</p>
	<p><b>Open door</b>. If the door is open the door-locking and unlocking mechanism cannot work. The display shows the symbol aside. Close the door manually to activate the locks.</p>

To open the door without connecting the machine to electricity (i.e. in case of emergency or power failure, it is necessary to use the manual unlock system (see next paragraph).

<p><b>If the machine door is closed</b>, it can be locked or unlocked with the touch screen.</p>	<p><b>If the machine door is open</b>, it is not possible to activate / deactivate the safety door-locking mechanism.</p>
	

### DOOR OPENING

In the following images the door handle is highlighted.

**The manual opening is allowed only if the door is unlocked.** The door must be opened by pulling the handle from the center.

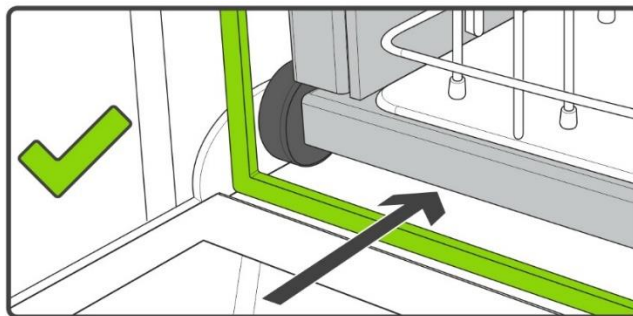


fig. 1 – View of **Smeg 6010**, the glass door to access the tank is equipped with a handle. The manual opening is allowed only if the door is unlocked, being it equipped with automatic double electric lock. Do not force the opening of the door if it is locked.

### DOOR CLOSING

#### **Please note**

Before closing the door,  
Always make sure that the  
washing trolley is  
**COMPLETELY INSERTED**  
inside the washing chamber.



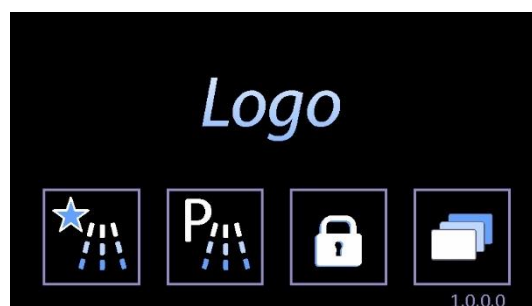
Use the handle to close the door.



Before closing the door the washing cart must be completely inside the tank. Do not close the door if the cart is extracted, even partially. Sequence of operations:

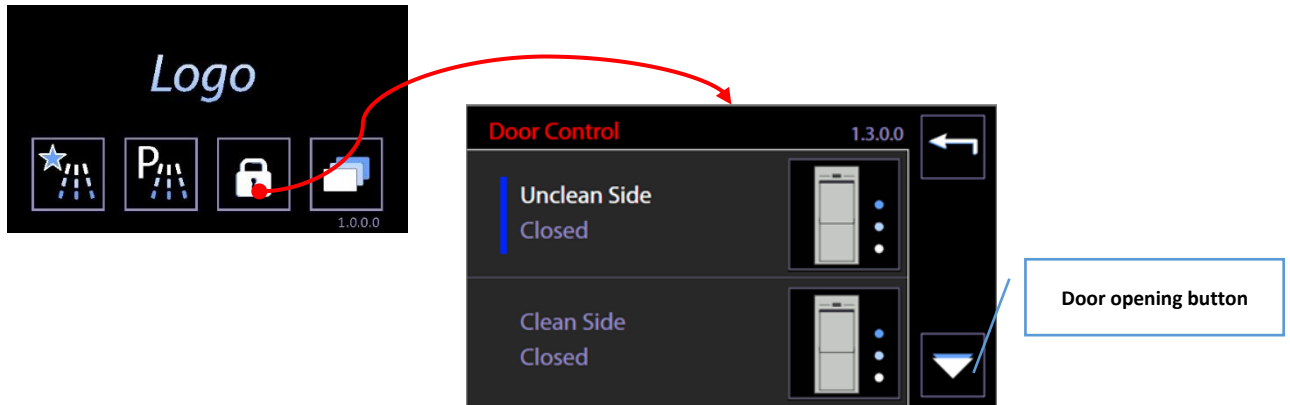
1. **Let the cart slide completely inside** the washing tank
2. **Close the door of the device using the handle**
3. When the door is closed, it is possible to lock the door using the touch interface “lock” symbol.



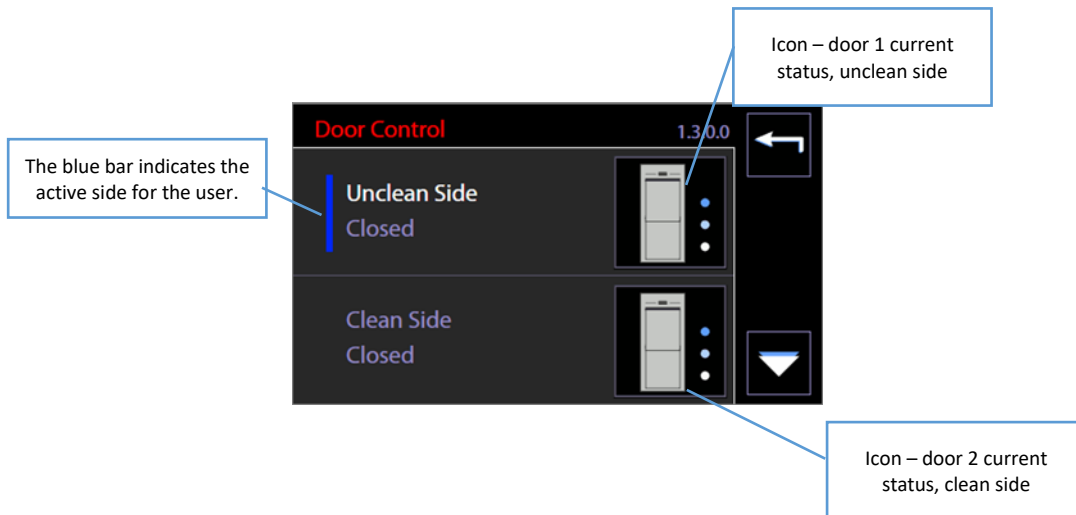
6.6.2 GW7010 – GW7015

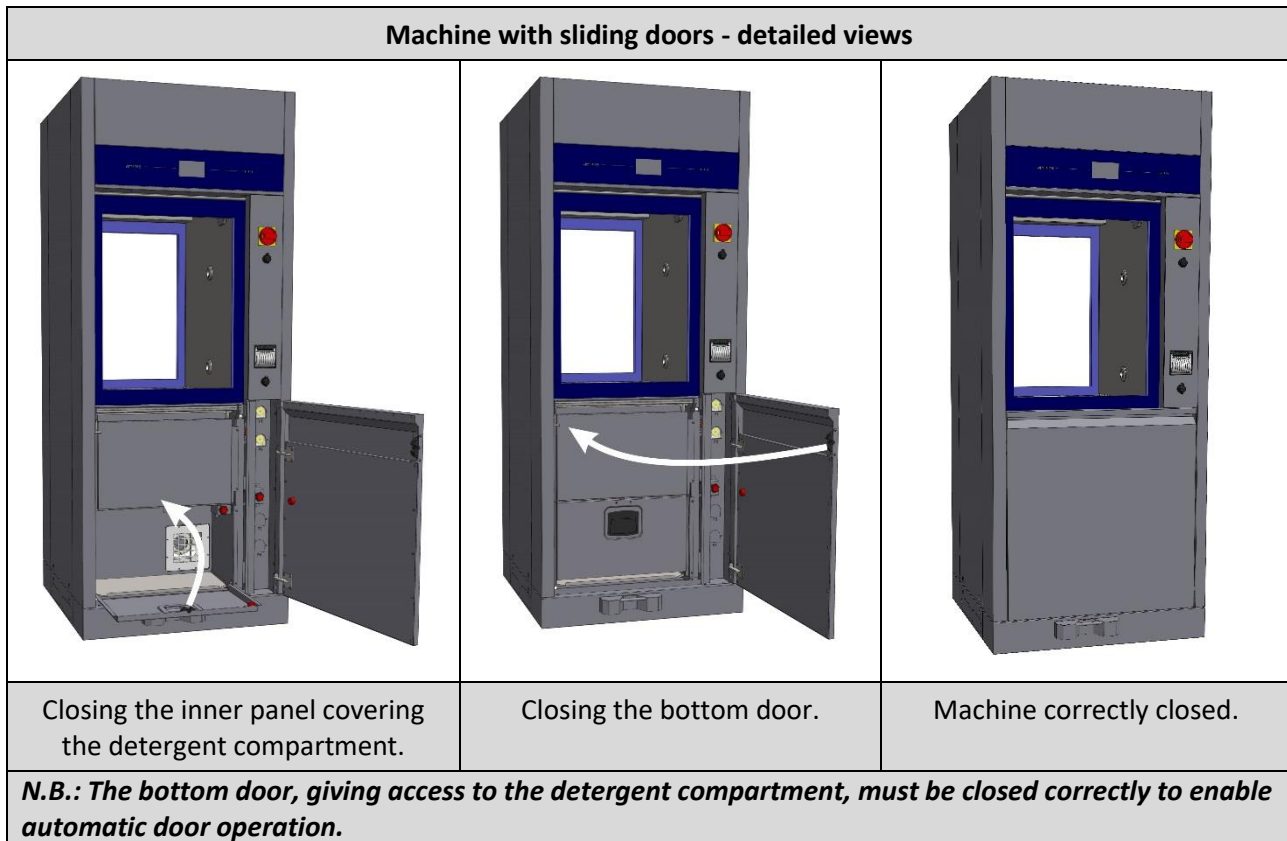


<b>“PADLOCK” button for access to the door operating or "Door Control" screen.</b>	
	<b>DOOR LOCKED ICON</b> - the locked padlock means "door locked". Never force the door open manually if the button is in this status. Machine with "double door": A door can only be opened if the door on the other side is locked.
	<b>DOOR OPEN ICON</b> - The open padlock means "door open".



Icons – buttons in the Door Control screen, sch.1300.	
	<b>OPEN:</b> Button for <b>opening</b> the sliding door (DOWNWARD travel).
	<b>CLOSE:</b> Button for closing the sliding door (UPWARD travel).
	<b>OPERATION NOT POSSIBLE:</b> the icon informs the user that the automatic operation requested is not possible: this occurs if <ul style="list-style-type: none"> <li>- the door on the other side is open,</li> <li>- the door is in motion,</li> <li>- the bottom door, giving access to the detergent compartment, is open.</li> </ul>





## 6.7 MANUAL DOOR UNLOCK

**Only if necessary**, or in case of malfunction or power failure, it is possible to open the machine manually using the dedicated device. When the door is opened, the devices that could be dangerous for the operator (such as the washing pump) are automatically blocked.

**At any rate, all precautions must be observed.** To learn more about the precautions in detail, refer to the paragraph called ACCESSING AND REUSING THE DEVICE AFTER AN INCOMPLETE CYCLE.

Contact the authorized technicians for detailed information on how to unlock doors manually.



## 7 OPERATING PROCEDURES

After the device has been correctly installed, it must be set for operating use. Execute the following steps:



- Set current date and time.
- Set desired language.
- Prepare the detergent, neutralizer, and any other chemical agents to be used.
- Upon installation an authorized technician is required to activate the peristaltic pumps manually so that the detergent charging hoses are correctly filled.
- Run, empty load, a complete program including thermal disinfection.

Once these steps have been successfully completed, the machine is ready for use.

### 7.1 Access to detergent compartment

<p><b>Front view of the device – loading side:</b> for both hinged and sliding door machines, <b>the steel bottom door giving access to the detergent compartment</b> is underneath the main door of the tank.</p> <p>The detergent compartment door has a handle allowing it to be opened by hand.</p> <p>The detergent compartment is able to take up to:</p> <ul style="list-style-type: none"><li>- 6010 and 7010: <b>N.3 x 5 litre jerrycans</b> plus a <b>N.1 x 2 litre bottle</b></li><li>- 7015: <b>N.3 x 5 litre jerrycans</b> plus <b>N.2 x 2 litre bottles</b>.</li></ul> <p>(refer to the chemical products and jerrycans supplied by the device's manufacturer).</p>	
<p>Frontal view of the device. Under the main door of the tank there is a steel door that opens to the detergent compartment.</p>	<p>The detergent compartment door is equipped with a handle for manual opening.</p>
	

7.1.1 WD6010 - GW6010

<p>Besides the detergent jerrycans, the lower door opens to the red main switch (“disconnecter”) and to the printer (optional).</p>	<p>Detailed view: inferior detergent compartment, electric disconnecter, printer.</p>
	



7.1.2 WD7010 - GW7010 – WD7015 – GW7015



**ATTENTION**

*For all machines with sliding doors, opening of the detergent compartment disables the automatic door opening system.*

*Always make sure that the two doors giving access to the detergent compartment are properly closed before giving the command to open the loading side door.*

<p>To access the detergent compartment, open the outer bottom door - loading side.</p>	<p>There is an additional metal panel protecting the jerrycan compartment. This must be removed to access the jerrycans.</p>
	

7.2 USE OF DETERGENTS

The machine is equipped with automatic devices for liquid detergent dosage.

1. **Pump P1**, liquid detergent dosage, neutral or weakly alkaline
2. **Pump P2**: acid neutralizer dosage.
3. **Pump P3**: optional.
4. **Pump P4**: optional.
5. **Pompa P5**: optional and installable only on 7015.

DOSAGE DEVICE	Standard Configuration	Pump function on machines hospital sector - WD	Pump function on Laboratory device - GW	Color key
P1	●	Alkaline Detergent	Alkaline detergent	White
P2	●	Acid Neutralizer	Acid neutralising agent	Red
P3	○	Disinfectant	Optional - degreaser	Blue
P4	○	Lubricant	Optional – antifoam	Green
P5	○	Enzymatic detergent	Additional detergent	Yellow

Key: ● present characteristic, ○ Optional characteristic, - non installable characteristic



**WARNINGS**

*In case there are no level sensors in the jerrycan, periodically check the product level in the jerrycans / bottles to avoid running empty cycles.*

*During installation and after replacing the jerrycan, run an empty “SERVICE” program to load the liquid. This refills the duct that runs from the jerrycan to the pump and ensures correct product dosage in the following wash cycles.*

## 7.2.1 LIQUID DETERGENT SUCTION SYSTEM

### Configuration with LEVEL SENSOR.

1. Suction lance with integrated level sensor and a cone-shaped rubber support for positioning in the jerrycan.
2. Flexible silicone tube to connect the suction hose to the peristaltic pump.
3. Detergent suction filter, mounted directly on the lance suction cannula.



#### **WARNING**

**The label attached to the suction tube must be congruent with the type of detergent used.**  
Please refer to the colour code above.

Connection mistakes impair the efficiency of the process and may damage parts of the circuit. Any error leading to improper connection of the detergent suction system voids the warranty agreement between the involved parties.

The suction tube is equipped with a suction filter. Make sure that the filter is always there and placed correctly in order to preserve the good functioning of the detergent inflow system. Check periodically that the silicone tube is adequately secured to the suction tube and that there is no leakage.

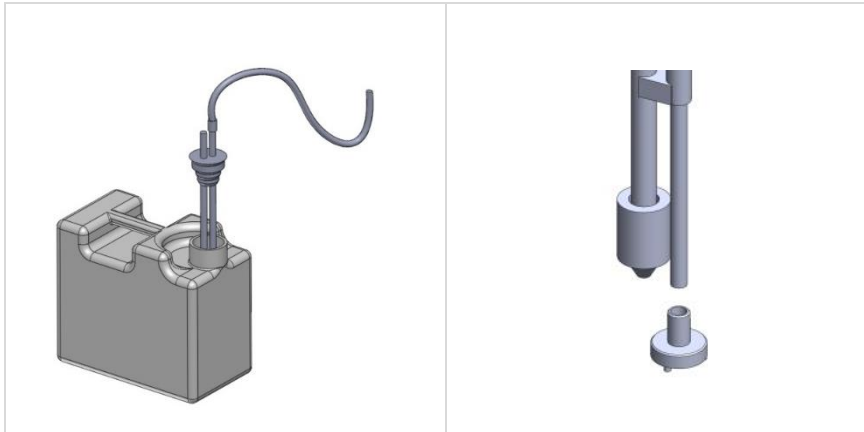




fig. 2 – STANDARD Configuration of detergent suction device. Place of detergent suction tube in the jerrycan. Fit the rubber cap to the jerrycan opening for optimal placement. The tube is equipped with a suction filter.

## 8 DETERGENTS

Detergent is one of the most important components to a good washing process.

The manufacturer guarantees excellent washing results with the recommended products.

**Please contact the manufacturer for recommendations about the detergent types that most suit your needs, and their proper use.**

	<p><i>The effectiveness and the proper functioning of the machine cannot be guaranteed when non-recommended detergents are used.</i></p>
	<p><b>WARNINGS</b>  <b>Always follow the REGULATIONS provided by the detergent MANUFACTURER, in particular for what concerns the ADVISED DOSAGE and the proper TEMPERATURE.</b>  <i>Safety information on dosage, provided in accordance to 5.4.4.s IEC61010-2-040:2015.</i>  <b>Please refer to the product instructions and material safety data sheets.</b>  <b>The data sheets are available on request.</b></p>

**Note: third pump P3 and fourth pump P4 are optional accessories.**

	<p><b>Advised detergents for GW products – Laboratory sector</b></p>
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<p><b>P1 – Alkaline detergents</b></p>	
<p>DETERLIQUID D</p>	<p>Liquid alkaline detergent. 10 litre container.</p>
<p>DETERLIQUID D2</p>	<p>Liquid alkaline detergent, phosphate-free. 5 litre container.</p>
<p>DETERLIQUID SP</p>	<p>Liquid alkaline detergent for water and pharmaceutical analysis, phosphate-free. 5 litre container.</p>

<p><b>P2 – Acid neutralizers</b></p>	
<p>ACIDGLASS P</p>	<p>Liquid acid neutraliser for laboratory glassware. 5litre container.</p>
<p>ACIDGLASS P2</p>	<p>Liquid acid neutraliser for laboratory glassware. 5litre container.</p>
<p>ACIDGLASS C2</p>	<p>Neutralizing acid detergent. 5-liter container, phosphate-free.</p>

<p><b>P3 – Optional</b></p>	
<p>Please contact the manufacturer for suggestions about the best additive, according to use.</p>	

<p><b>P4 – SPECIAL ADDITIVES</b></p>	
<p>F1S</p>	<p>Silicon defoaming additive for petrol cycles, phosphate-free. 1 litre container.</p>

<p><b>P5 – Optional</b></p>	
<p>Please contact the manufacturer for suggestions about the best additive, according to use.</p>	

## DETERGENT GENERAL WARNINGS

	<p><b>HANDLE THE DETERGENT JERRYCANS WITH CARE</b>  <b>Warning: detergent may be TOXIC.</b>  <b>Please consult the product material safety data sheets.</b>  <i>Once finished, the exhausted tank must be replaced with a new one of the same product. When the jerrycan is being replaced, particular care should be made not to overfill new containers, in order to avoid overflow when inserting the suction devices.</i>  <b>Protective gloves are recommended during product replacement and jerrycan transfer operations, as well as suction devices insertion. Information provided in accordance to 5.4.3.o, 5.4.4.n, 5.4.4.q IEC61010-2-040:2015.</b></p>
	<p><b>EMERGENCY MEASURES IN CASE OF CONTACT WITH DETERGENT</b>  <i>Prescriptions in accordance with par. 5.4.4.p IEC61010-2-040:2015.</i>  <i>Take off contaminated clothing and set them aside in a safe place.</i>  <i>Skin and eye contact: rinse affected area immediately with plenty of water. If possible, apply sterile gauze. Please consult a doctor.</i>  <i>If swallowed: rinse mouth with plenty of water. Consult a doctor immediately.</i></p>
	<p><b>DETERGENT MATERIAL SAFETY DATA SHEETS</b>  <b>The SAFETY DATA SHEETS of the detergents should be kept:</b></p> <ol style="list-style-type: none"> <li><b>1. In proximity to the place where detergents are stored.</b></li> <li><b>2. In proximity to the device.</b></li> </ol> <p><b>In easily accessible locations.</b>  <b>Updated safety data sheets should be regularly (e.g. once a year) requested.</b>  <b>The data sheets will be provided by the manufacturer upon request.</b></p>
	<p><b>DISPOSAL</b>  <i>Information provided in accordance with par. 5.4.4.L IEC61010-2-040:2015.</i>  <b>DISPOSAL</b> of possible product residues and containers (bottles and cans): <i>please refer to the safety data sheet of the product, in the "DISPOSAL CONSIDERATIONS" section.</i>  <b>The person responsible for the equipment must proceed with the disposal of the detergents residues and their containers in accordance to the existing national or local standards.</b></p>
	<p><b>FLAMMABILITY</b>  <i>Always refer to the material safety data sheets of the detergents to assess product flammability.</i>  <b>Never use flammable products in a car.</b></p>

## 9 LOAD PREPARATION FOR WASH CYCLE AND DISINFECTION

Regulations on loading modalities are provided in compliance with 5.4.4-k IEC61010-2-040:2015.

An effective washing begins in the load preparation phase: **the load must be adequately placed in the appropriate supports.**

*Before loading the wash elements into the designated wash baskets, it is necessary to eliminate any coarse residue resulting from previous activities, through the appropriate wash, treatment, and rinse phases.*



**The load must be properly placed to prevent wash elements from overlapping** as well as the formation of “grey areas”; all areas of the wash load must be reached by the spray arm and/or injectors’ water in the wash and rinse phases.

*The open side of the container must face downward so that the load elements are correctly washed and dried at the end of the cycle.*

*The machine is supplied without washing carts.*

*Please refer to the washing cart manuals for instructions on proper use.*

**The operator must avoid direct contact with the dirty load.**



*Use extreme caution by wearing all personal protective equipment both before and after the treatment.*

**Before processing glassware or other objects in the instrument washer, check the manufacturer instructions to verify that they are approved for automatic treatment in the thermal disinfectant and check the compatible maximum washing temperature.**

**Avoid introducing glassware with labels applied on: the labels, detaching during the washing, can obstruct the washing filters, compromising the good success of the cycle.**

### Warning

Washing carts are never symmetrical; they contain a **manifold** for the cart’s water supply. The cart must be placed **so that the manifold is on the right side** of the machine (as viewed from the **unclean side**).

Below: hinged door machine, correct washing cart loading position.





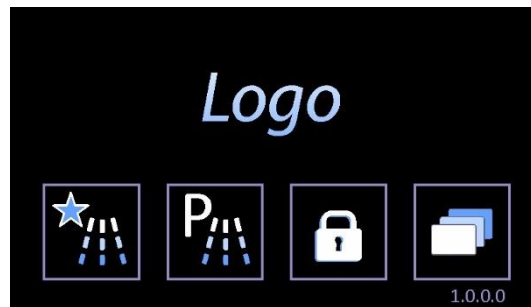
Below: sliding door machine, correct washing cart loading position. **Looking at the device from the loading side ("unclean" side), the cart manifold is on the right-hand side of the machine.**








## 10 BASIC OPERATIONS



### 10.1 HOME SCREEN – ID 1.0.0.0

The device is provided with a *touch screen* user interface.




	Button to enter the <b>FAVOURITE PROGRAMS MENU</b> (last 4 different programs used).
	Button to enter the <b>COMPLETE MENU of WASHING CYCLES</b> .
	<b>Door control</b> – door lock/unlock, open/close button. The button icon changes depending on the door's status (padlock closed means door locked closed, padlock open - door open).
	
	<b>SETUP:</b> Button for settings and diagnostics options.

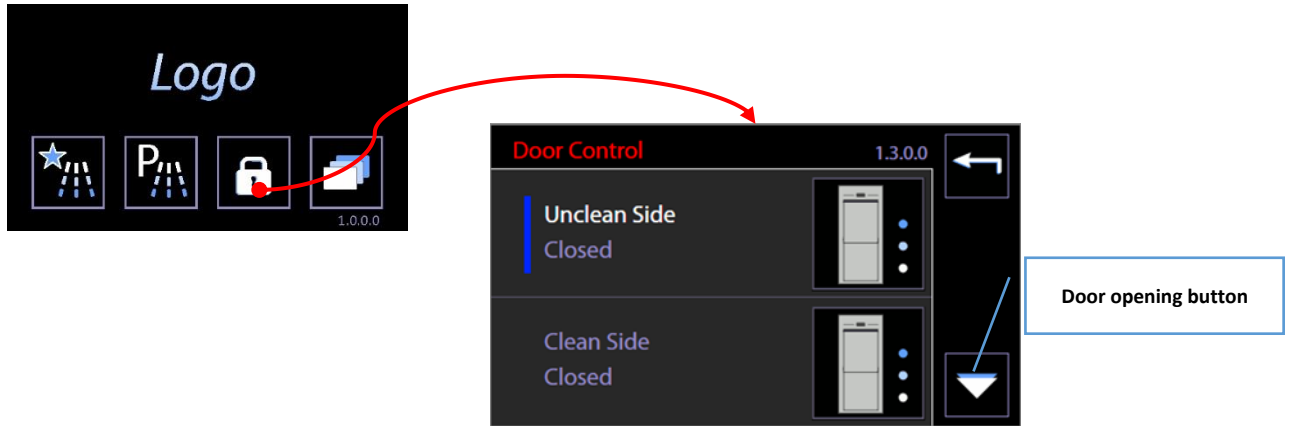
#### 10.1.1 DOOR CONTROL - MACHINES WITH HINGED DOORS

	Button for <b>DOOR UNLOCK</b> . The closed lock means "locked door". Please do not manually force the door if the button is active.
	<b>LOCK BLOCK:</b> Button to activate <b>door-locking</b> mechanism. The door must be closed in order to be locked.

#### 10.1.2 DOOR CONTROL - MACHINES WITH SLIDING DOORS

<b>Door control screen access button.</b> Press this button to access the <b>Door control</b> screen. A user can only operate the door on his own side, and the "clean side" door can only be opened if the wash cycle has been performed and completed successfully.	
	<b>DOOR LOCKED ICON</b> - The locked padlock means "door locked". Never force the door open manually if the button is in this status. Machine with "double door": A door can only be unlocked if the door on the other side is locked.

	<p><b>DOOR OPEN ICON</b> - The open padlock means "door open".</p>
--	--



	<p><b>OPEN:</b> Button for <b>opening</b> the sliding door (DOWNWARD travel).</p>
	<p><b>CLOSE:</b> Button for closing the sliding door (UPWARD travel).</p>
	<p><b>OPERATION NOT POSSIBLE:</b> the icon informs the user that the automatic operation requested is not possible: this occurs if</p> <ul style="list-style-type: none"> <li>- the door on the other side is open,</li> <li>- the bottom door, giving access to the detergent compartment, is open.</li> </ul>
	<p><b>STOP:</b> button for halting automatic movement of the sliding doors.</p>

**Door status**

Screen 1300 provides information about the status of the doors. There are three possible stages for each door:

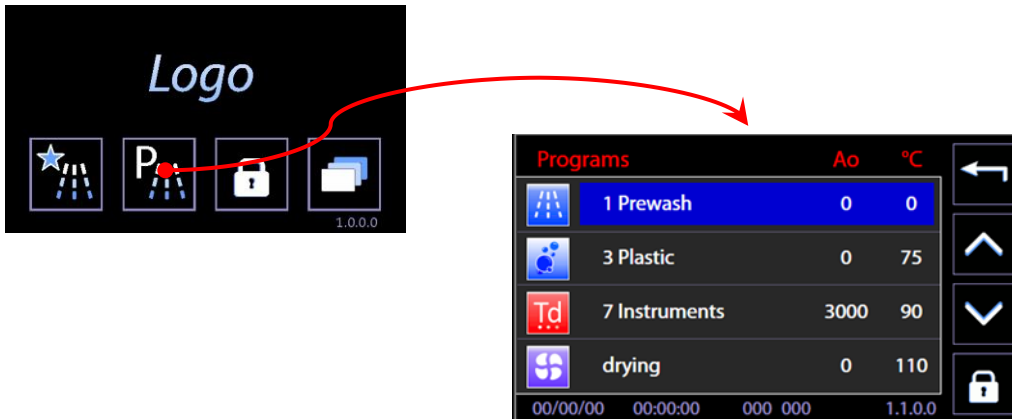
1. **Closed** – door at closed limit stop position. The door can only be opened.
2. **Open** – door at open limit stop position. The door can only be closed.
3. **Intermediate** – door in an intermediate position between the two limit stops. The door can only be closed.

The door can only be in an **intermediate position** if opening or closure has not been correctly completed. The possible causes are:

1. Power failure with door in motion,
2. Travel halted by tripping of safety devices, e.g. due to opening of the detergent compartment door.



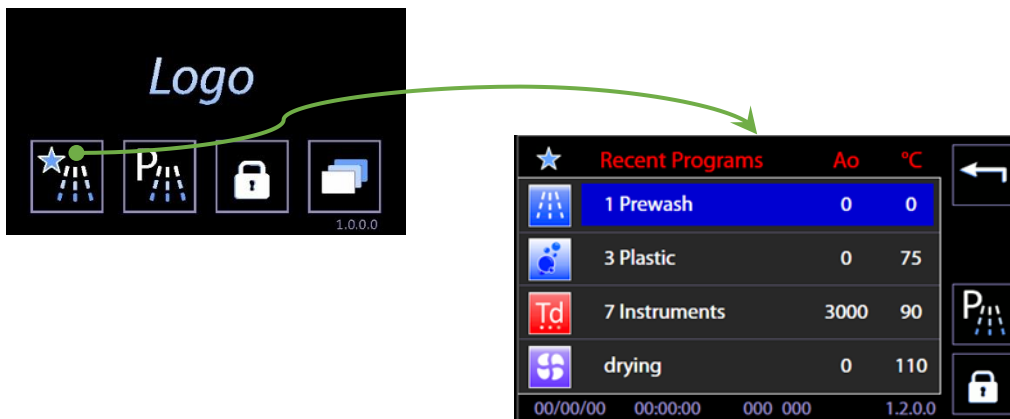
### 10.2 PROGRAMS COMPLETE MENU - ID.1.1.0.0



Use the arrow-indicators to the right of the screen (UP/DOWN) to browse the menu entries. Touch the preferred program button to open **PROGRAM START**. Click the “Home” button on the upper-right corner to return to the previous screen.

Door lock/unlock button is also active on the main screen.

### 10.3 FAVOURITE PROGRAMS MENU - ID.1.1.0.0

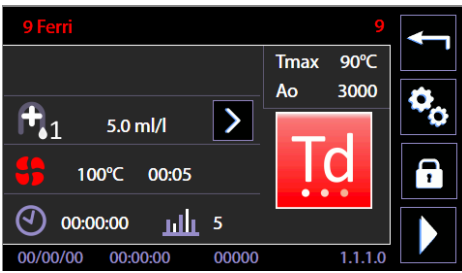


The screen displayed is similar to the COMPLETE PROGRAMS MENU.

The last 4 programs chosen by the user are displayed; menu scroll options do not appear since the menu consists only of 4 entries.

At the top-right: reference button to return to the complete programs menu.

### 10.4 PROGRAM START - ID. 1.1.1.0

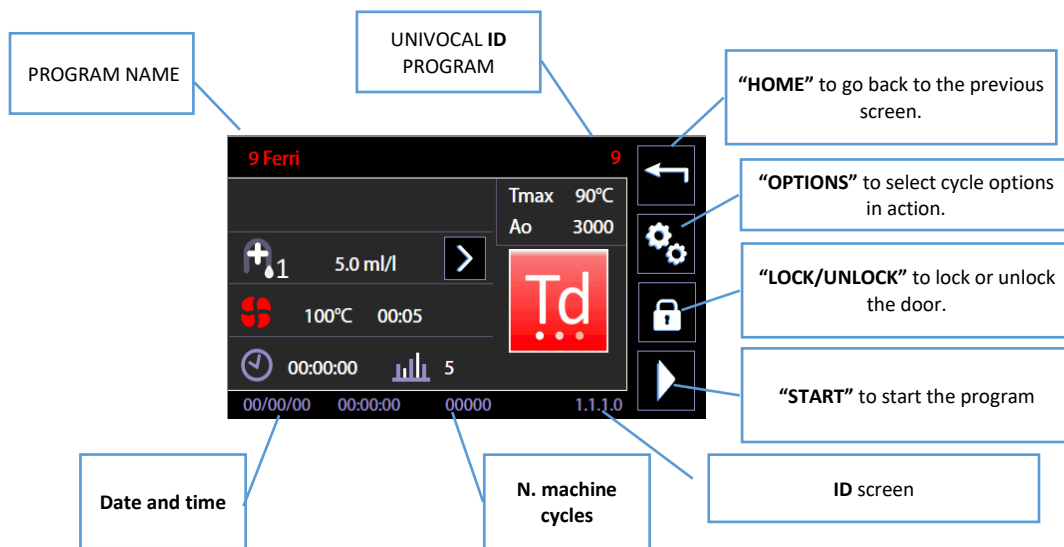


On the screen the main parameters of the selected program are summarized.

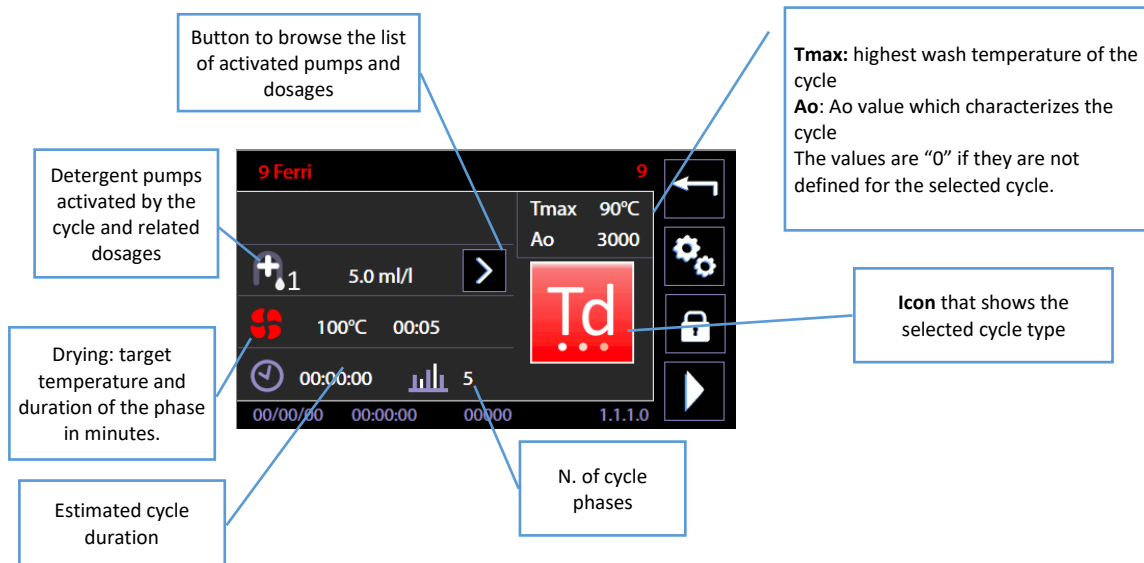
Press the bottom right button, "START". The program begins.

In the top right window, main cycle parameters are reported (Ao and maximum temperature). These are always visible throughout the cycle execution.

#### 10.4.1 EXTERNAL PERIMETER BUTTONS AND DATA.



10.4.2 "INTERNAL PERIMETER" SCREEN DATA



10.4.3 SELECTED CYCLE OPTIONS – ID. 1.6.1.0

Only staff well-trained in choosing the wash cycle and related options can have access to the following functions.

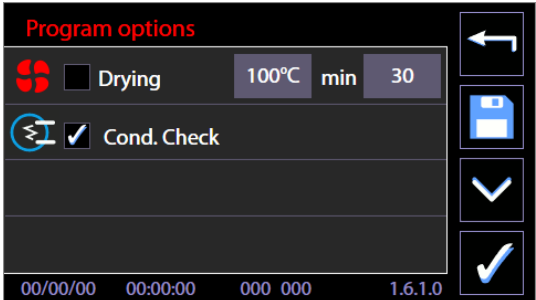

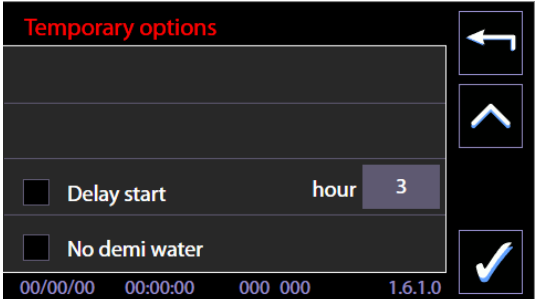
Through the button on the screen of the selected cycle it is possible to move on to "Cycle options" screen to activate and regulate some options for the ongoing cycle.

**Since 7.16.0 CPU Master version software (July 2017), the screens dedicated to the selected program options (1610) have been modified.**

In detail, you have the following new options for the cycle:

1. select/deselect the conductivity check "Cond. Check"
2. save the drying phase and conductivity check settings, to make them permanent for the selected cycle;
3. the existing Delay start and No demi water options are still available: these options apply to the current cycle and, given their meaning, cannot be saved as permanent settings.

<p><b>Selected program 1110.</b> Select the "gear pair" icon on the right to enter the Program options.</p>	
---	--

<p><b>Program options</b> - screen 1610.</p> <p>To do so, either check or uncheck the “<b>Cond. Check</b>” box.</p> <p>Use the “<b>Save</b>” button on the right to confirm this option for the program in question.</p>	
<p><b>Save button details</b> - New button for saving changes to the program.</p>	
<p><b>Temporary options</b> - Press the down arrow to access the temporary options for the current program.</p>	

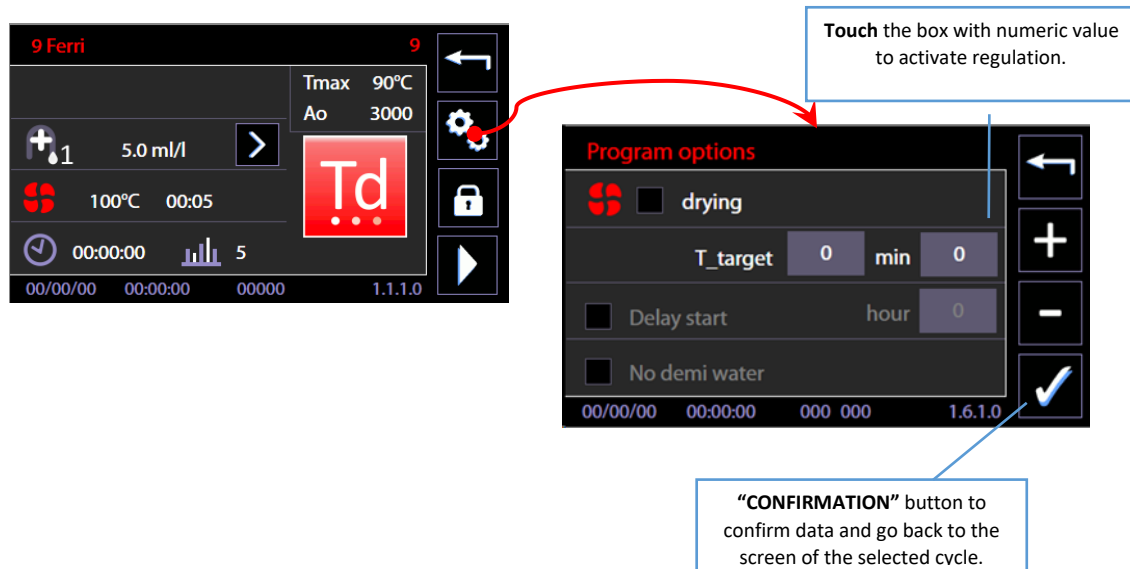
For the preceding versions of firmware (before July 2017), the cycle options were:

1. **Drying.** The drying option is labelled with the symbol “fan”: it is possible to exclude the drying phase from the cycle or to decrease target temperature and duration, within the limits fixed by the device.
2. **Postponement:** it is possible to set up a postponed cycle start, in case the unloading operations of the machine must be synchronized with user availability.
3. **Exclusion of purified water:** by selecting this option, cold water will be used only during the following cycle instead of purified water.

The option is activated by ticking the related box.

Selected option may be regulated through the +/-buttons, located on the right side.

The data is effectively changed by touching the CONFIRMATION button, located at the bottom right corner of the screen.



#### 10.4.4 CYCLE START – “USER CHECK” FUNCTION ACTIVE

If the *superuser* has activated the “**User check**” function requiring the user to be identified, in order to start the cycle users must:

1. Be on the list of users enabled by the superuser.
2. Select their user ID (e.g. User\_01) – using the “**Right arrow**” button.
3. **Enter their passwords** and confirm.



#### 10.4.5 NOTES

Regarding thermal disinfection cycles versus chemical disinfection cycles, see suggestions from the product standard ISO EN 15883.

Extracted from ISO EN 15883-1:

*“4.1.5 Disinfection is specified by reference to time and temperature for thermal disinfection or as time, Temperature and concentration for chemical disinfection.*

*Whenever practicable, thermal disinfection is preferred. Thermal disinfection processes are more easily controlled and avoid the hazards to staff, patients and the environment that can occur through the use of chemical disinfectants.”*

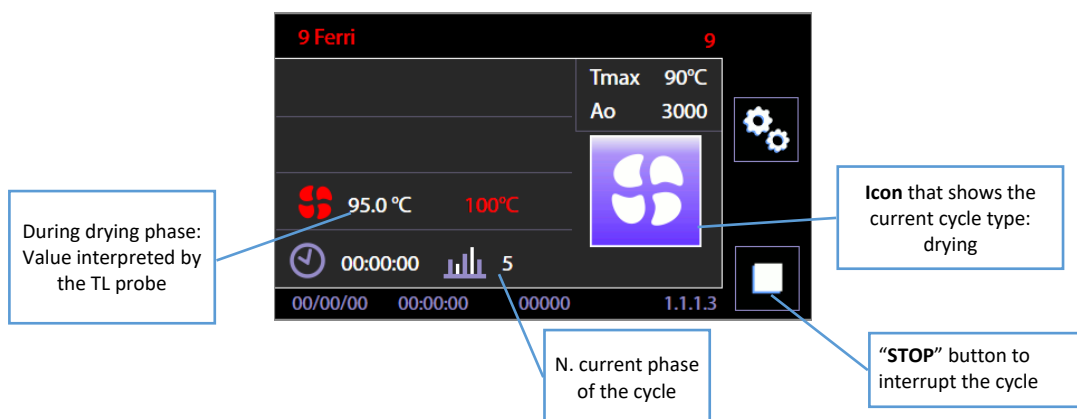
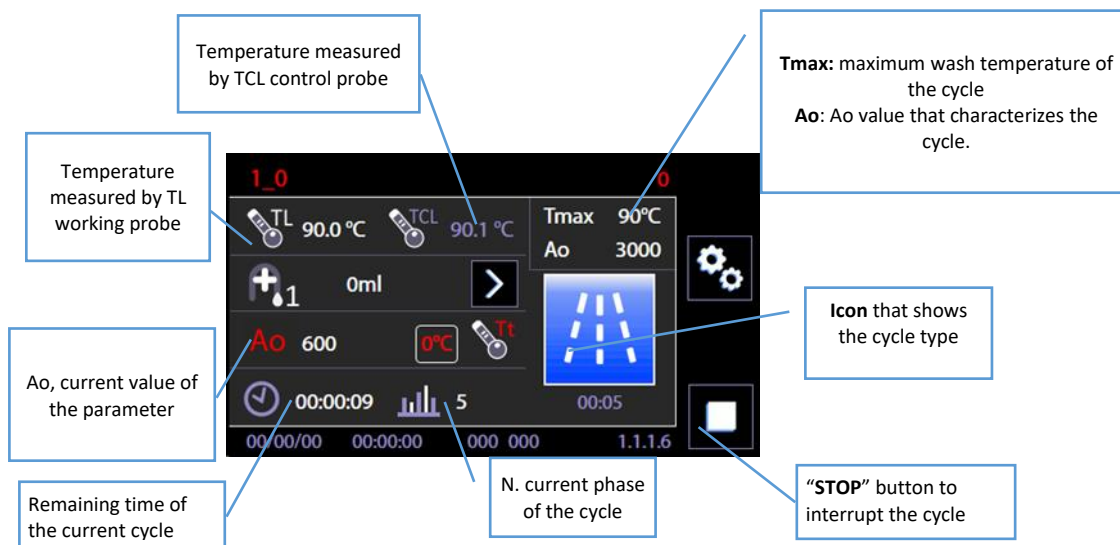
Regarding significance of the Ao parameter, see Annex B, EN ISO 15883-1.

The parameter expresses “comparative lethality of moist heat processes”, and associates a numeric value with thermal disinfection effectiveness. *A0 concept — “Comparative lethality of moist heat processes”*




### 10.5 PROGRAM UNDER WAY - 1.1.1.3

During an ongoing cycle, the only possible action for the user is the cycle interruption, through the bottom right “**STOP**” button.

The screen summarizes relevant data recorded by temperature probes, peristaltic pumps doses, remaining time. Next to the “**CLOCK**” icon, the remaining cycle time is displayed. The icon flashes while cycle is active.



ICON	PHASE TYPE
	<p>- <b>Prewash</b> -</p> <p><b>.Structure:</b> phase without any activation of heating elements or addition of chemical agents..</p> <p><b>.Applications:</b> used to remove larger spots and therefore to limit the formation of suds in the following phases.</p>
	<p>- <b>Simple wash</b> -</p> <p><b>.Structure:</b> Basic wash cycle that removes dirt from the load elements, accomplished through appropriate dosage of chemical elements at controlled temperatures.</p> <p><b>.Applications:</b> this phase washes the load without disinfecting it.</p>
	<p>- <b>Wash with chemical disinfection</b> -</p> <p><b>.Structure:</b> wash phase characterized by application of chemical elements with a bactericidal effect on the load elements.</p> <p>This cycle is generally not associated with any thermal disinfection phases.</p> <p><b>.Applications:</b> used to wash elements that do not need any thermal disinfection or are sensitive to elevated temperatures. This cycle washes and disinfects the load chemically.</p> <p><b>.Cautions:</b> Whenever practicable, thermal disinfection is preferred. Thermal disinfection processes are more easily controlled and may prevent hazards to staff, patients and the environment that can occur through the use of chemical disinfectants.</p>

ICON	PHASE TYPE
	<p><b>- Thermal disinfection -</b></p> <p><b>.Structure:</b> phase in which, through combination of time and temperature, the chosen parameter value “Ao” can be reached, and load elements are disinfected. The thermal disinfection phase is preceded by cycles to remove dirt from the load elements and properly prepare it for the chemical disinfection phase.</p> <p>This cycle is generally not associated with any chemical disinfection phases.</p> <p><b>.Applications:</b> used to wash elements that can withstand elevated heat treatment (reference target values are 80°C, 90°C, 93°C). The phase thermo disinfects, with the Ao parameter value dependent on the temperature reached and cycle time.</p> <p><b>.Cautions:</b> Whenever possible, thermal disinfection is preferred. Thermal disinfection processes are more easily controlled and may prevent the hazards to staff, patients and the environment that can occur through the use of chemical disinfectants.</p>
	<p><b>- Drying -</b></p> <p><b>.Structure:</b> phase characterized by air target temperature and duration expressed in minutes.</p> <p><b>.Applications:</b> load drying.</p>
	<p><b>- Service -</b></p> <p><b>.Cycle structure:</b> “free” structure, cycle functional to maintenance operations, only accessible to authorized technical staff.</p> <p><b>.Applications:</b> cycle for technical staff use. This cycle does not handle the load in the washing drum, but it is functional to technical staff operations, e.g. water circuit and detergent circuit replenishment. This cycle may also be used as test cycle that rapidly verifies the proper operation of the machine parts.</p> <p><b>.Cautions:</b> the cycle cannot be activated to handle the load in the washing drum.</p>

### 10.6 SUBPHASES IN PROGRESS

The information regarding the cycle in progress is supplied with graphic icons, indicating the current subphase. The icons are located in the lower right part of the display.

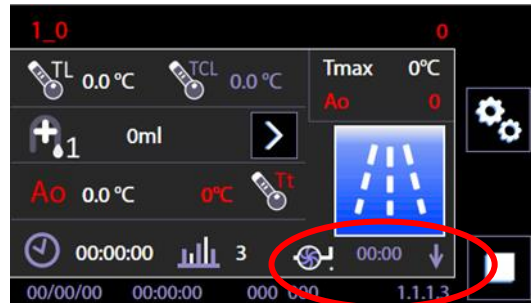


Table of icons and the indicated subphases

Cold water loading		Hot water loading		Demineralized water loading		Cold + Hot water loading			
	Loading of cold water in progress		Loading of hot water in progress		Loading of demi water in progress		Loading of cold + hot water in progress		
Heating active		Boiler hot water		Boiler demi water		Boiler hot + demi water		Drainage	
	heating element active		Heating hot boiler active		Heating demi boiler active		Heating hot and demi boiler, both active		Tank drainage

#### 10.6.1 PROGRAM IN PROGRESS “DISPLAY EASY”- 3.4.2.1

It is possible to set up a simplified visualization of the cycle in progress, identified as “Display Easy” (see the section of menu “Setup”).

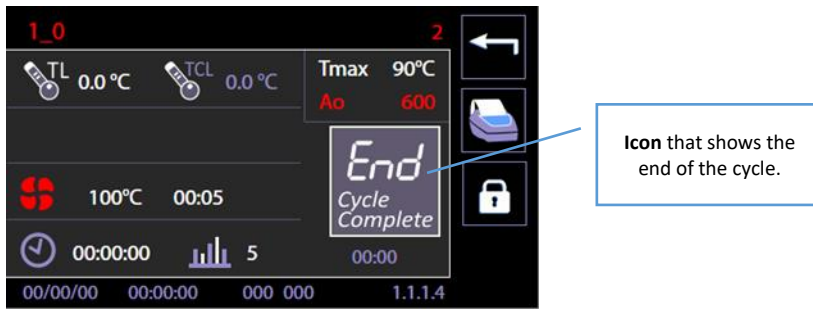
In the simplified visualization of the cycle in progress, the display only shows:

1. The name of the program
2. The time of the cycle in progress (time left or current, depending on the settings).
3. The progress bar



Touching the display, with the “Easy” visualization active, it will show the standard visualization for a few seconds; here it is possible to monitor a greater amount of parameters.

### 10.7 COMPLETED PROGRAM - 1.1.1.4



At the end of the cycle, the screen displays an icon to indicate the status of the completed cycle (“**END – Cycle complete**”) relevant data about the cycle performed.

It is possible to execute only the following options:

	1. Unlock the door through “lock/unlock” button to open it and extract load – ordinary operation.
	2. Go back through the “Home” button to select a further additional cycle without unlocking or opening the door – only useful in case a load must undergo additional consecutive cycles.
	3. Last cycle reprint button.  This function, which reprints the last cycle, is available from July 2017 (Master CPU firmware release 7.16.0), and it is only active if the printer is present and enabled. The function reprints a completed program if the previous printout was incomplete, due to lack of paper, for instance. If the printer is enabled but not present on the machine, the button is still present and enabled, but has no effect.

END CYCLE ICON	MEANING
	<b>The cycle was successfully completed.</b>
	The washing part of the cycle was successfully completed, but the drying was interrupted or some problems occurred during the drying.
	<b>The cycle failed.</b> Anomalies occurred during operation or the user forced the cycle to stop.

## 11 SETUP OPERATION - 1.4.0.0

The device has a setup modality to modify functional parameters.

The **setup** menu consists of entries that regulate the parameters of the machine, start maintenance and control operations on the device.

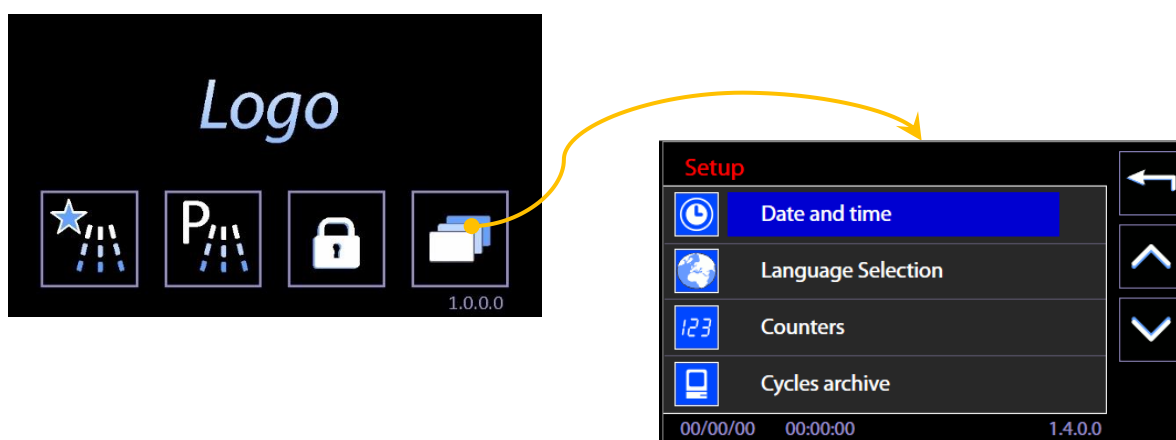
Access to these menus is password-protected and restricted to use only by approved technical staff.

Between the basic user and technical staff there is an intermediate level, called “*superuser*”.

**The *superuser* consists of the authority responsible for the device in the structure where it is installed.**

The *superuser* level password is shared with the individual in charge of the device.

Depending on the firmware versions actually installed, some aspects of the device setup menu may be different from that described in this manual. Contact authorised engineers to have your device's firmware updated.




SETUP ENTRY	DESCRIPTION	PASSWORD LEVEL
Date and time	Setup current date and time	<i>Superuser</i>
Language selection	Select language	User
Counters	Device counters access	User (view only) Technical staff (counters reset)
Archive and printer	Archive and printer parameter setup	<i>Superuser</i>
Machine parameters	Setup operation parameters - Chemical dosing - Water (Technicians only) - Program enable - Optional (Technicians only) - Password - Restore values (Technicians only) - Restore configuration (Technicians only) - Calibrations (Technicians only) - LAN parameters - Full S/N and MAC (Technicians only) - Heating type - Water conductivity	<i>Superuser</i> / Technical staff (the <i>superuser</i> has limited access)
Programs editing	Function for customizing the "custom" programs.	<i>Superuser</i>
I/O Diagnostic	Technical maintenance and control operations	Technical staff

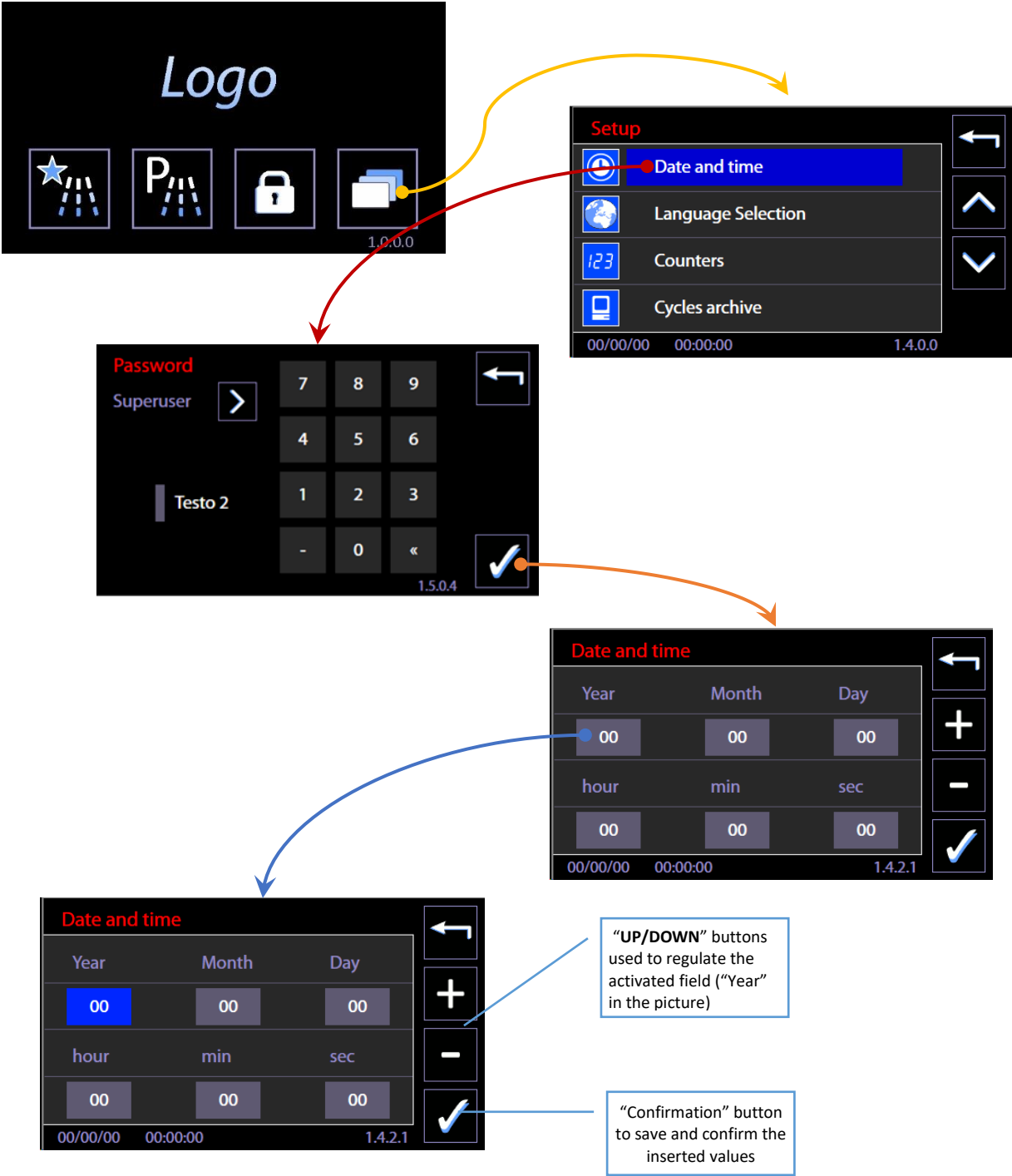
SETUP ENTRY	DESCRIPTION	PASSWORD LEVEL
Sounds and Display	Display settings and sound signal activation, "Display easy" mode selection.	User
About...	Description of installed version.	User
User password	For modifying the user's password	User (this option can only be accessed if the "User check" function has been enabled on the device).
Print latest cycle	Last cycle reprint.	User

### 11.1 SET UP DATE AND TIME – ID.1.4.2.1

Password level required: *Superuser* or superior level

On the screen: sequence of touch-screen operations to regulate “Date and time” fields.

 *Please note: it is very important to set up the date and time correctly for operations traceability.*  
*- From the Master CPU 5.6.0 (and later) firmware version, the password input screen requires selection of the current user. The device's manager must select "superuser" to enter the relevant password and then confirm the input.*

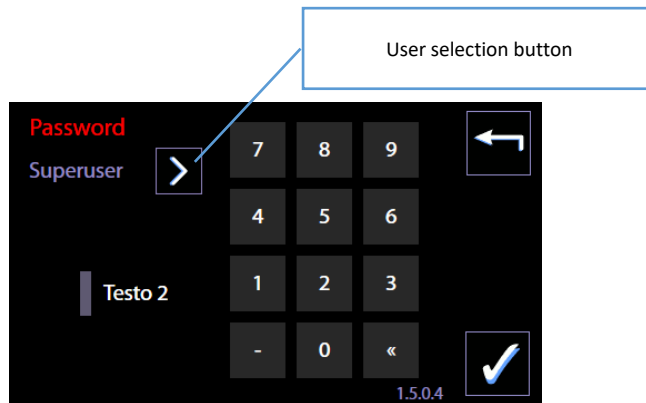


### 11.1.1 ENTER PASSWORD – ID.1.5.0.4



**N.B.:**

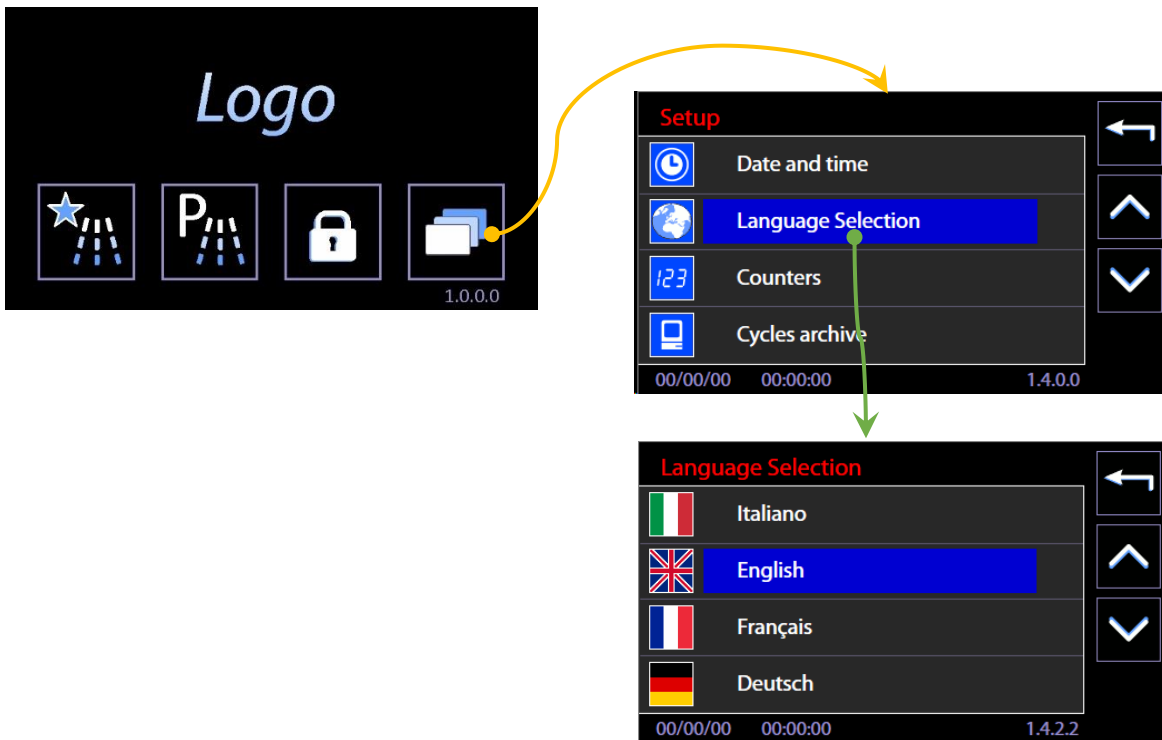
From the Master CPU 5.6.0 (and later) firmware version, the password input screen requires selection of the current user. The device's manager must select "superuser" to enter the relevant password and then confirm the input.



### 11.2 LANGUAGE SELECTION – ID. 1.4.2.2

No password is required to set up this function.

On the screen: sequence of touch-screen operations to select the device LANGUAGE.

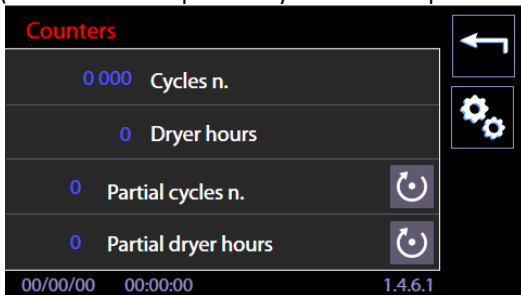


**Note on "Russian" language setting**

When the language selected is Russian, the display will show the Russian text correctly but the **printer** will use the **English language** strings.

### 11.3 COUNTERS – ID. 1.4.6.1

Access from menu “Setup” -> Counters. Access can be visualized by the user.  
 (Access with the possibility to reset the partial counters for the technician).




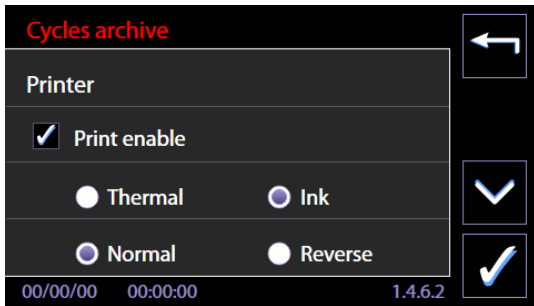
The screen shows n.4 different counters. The former two are “absolute” counters, the latter two are partial counters and can be reset by the authorized technician.

<b>Number of machine cycles</b>	Absolute counter of the performed cycles.
<b>Dryer hours</b>	Absolute counter of the operation hours of the dryer system (drying)
<b>Partial number of cycles</b>	counter of the performed cycles since the last maintenance (the technician resets it in the moment of maintenance)
<b>Partial dryer hours</b>	counter of the operation hours of dryer since the last technical maintenance (replacement of the drying filter).

### 11.4 ARCHIVE AND PRINTER - ID 1.4.6.2

Access from “Setup” menu -> Archive and printer. Access to *superuser*.  
 Archive and printer parameter setup function.

Description	Illustration
<p>Access the <i>Setup</i> menu.                      Select “<b>Archive and printer</b>”, then enter the “<i>Superuser</i>” password.</p> <p>(N.B.: in firmware releases earlier than 5.6.0 Master Main, this option is called simply “Archive”).</p>	

	
<p><b>Step 2:</b> this accesses the printer setup screen, screen 1462 <b>“Cycles archive”</b>.          Commands available:          a) To enable printing: <i>flag</i> on <b>“Print enable”</b>;          b) select <b>“Ink”</b> for the <i>WD-PRINTEINK</i> thermal ink transfer printer. Select <b>“Thermal”</b> for purely thermal printer (e.g. <i>PRINTS6010</i> or <i>WDPRINTP6010</i> panel printer).          c) Choose <b>“Reverse”</b> or <b>“Normal”</b> to print the text in the standard or "upside-down" direction. Default: <b>“Reverse”</b>.          d) <b>Confirm</b> with the tick button in the bottom right-hand corner of the screen.</p>	

The Master CPU firmware 7.16.0 (July 2017) updates the format in which the archive displays, as acquired by the WD-CONNECT application.

The update is intended to improve the legibility of the data.

<b>Terms and abbreviations and their meanings</b>	
<i>CW</i>	Cold water. Example: “Load CW / 23L” means: load cold water, 23 litres.
<i>HW</i>	Hot water
<i>DW</i>	Demineralised water (demi water)
<i>CW+HW</i>	Cold water and hot water
<i>L</i>	Litres – the amount of water loaded during a phase.
<i>PREWASH, WASH, THERMAL DISINFECTION, RINSE, CHEMICAL DISINFECTION, DRYING</i>	Descriptions of the various types of phases.
<i>P1, P2...</i>	The codes indicate the batching of chemical products by peristaltic pump P1, P2 ... Example: “P1 = 117 ml” – amount batched by peristaltic pump P1.
<i>Holding time</i>	The time for which the phase temperature setpoint is maintained. If no temperature setpoint is set (indicated as “0°C”), the holding time corresponds to the total duration of the phase, once water loading has terminated. If timed heating is set (indicated as “N.D.”), the holding time corresponds to the total heating time once water loading has terminated.
<i>Heating ON</i>	Identifies the initial instants when the heating elements are turned on. Not all activations are registered; only those which mark the start of heating.

Min-Max	<i>At the end of the holding time, the min/max temperatures of the holding time are registered.</i>
N.D.	<i>Not Defined, used to indicate when no temperature setpoint has been set for the phase and heating is timed. In this case, "Holding time" identifies the time for which heating is active.</i>
K	<i>Conductivity value read by the probe.</i>
K <sub>t</sub>	<i>Conductivity threshold, as set by the superuser</i>
Check OK!	<i>The conductivity check is positive when <math>K &lt; K_t</math>. The phase continues normally.</i>
Check KO	<i><math>K \geq K_t</math>. All the water in the chamber is drained out and the same amount loaded, so that a new check can be run.</i>

### **Notes to aid in understanding the archive**

*Each phase:*

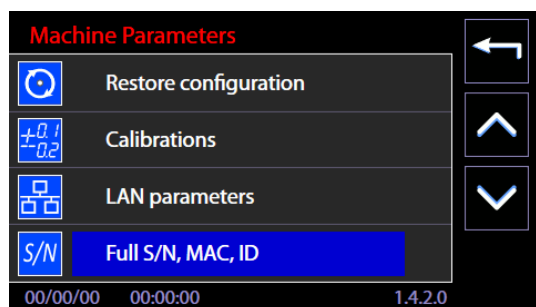
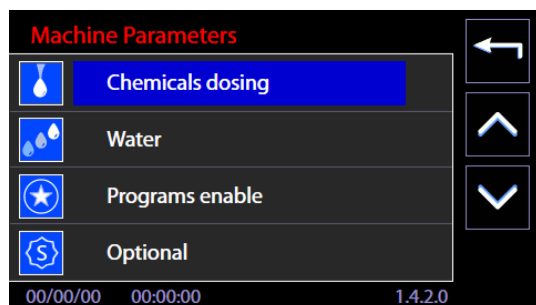
- starts by loading a certain amount of water, indicated in the archive since it is characterised by the type and amount of water loaded;
- terminates by completely emptying out the water from the chamber. This is not registered as an event in the archive.

Example cycle archive	Description of items
<p>2017/05/29 12:48:41      Cycle started            ID. 12            Operator 255            Cycle N. 59            .....            12:48:41 Start phase N. 1            WASH            12:48:41 Load CW / 23L            12:52:29 P1 = 117 ml / 27°C            12:52:29 TL 27.90°C Required: N.D.            12:52:29 Holding time: 2:01            12:52:29 Heating ON            12:54:31 Min-Max 27.90°C - 33.70°C            .....            12:55:25 Start phase N. 2            THERMAL DISINFECTION            12:55:25 Load CW / 23L / 34°C            12:58:38 P1 = 117 ml / 23°C            12:58:38 Heating ON  <b>13:13:00 TL 93.10°C Required: 93 °C</b>            13:13:00 Holding time: 5:01            13:14:20 Heating ON  <b>13:18:02 Min-Max 93.10°C - 94.20°C</b>            .....            13:18:59 Start phase N. 3            RINSE            13:18:59 Load HW / 23L / 91°C            13:21:52 P2 = 72 ml / 41°C            13:21:52 TL 41.60°C Required: N.D.            13:21:52 Holding time: 2:01            13:21:52 Heating ON            13:23:54 Min-Max 41.60°C - 46.60°C            .....            [...]           .....            13:35:19 Start phase N. 6            RINSE            13:35:19 Load DW / 23L / 48°C            13:38:24 Heating ON  <b>K = 20 us/cm</b>  <b>K_t = 20 us/cm</b>  <b>Check KO</b>            13:43:35 Heating ON  <b>K = 18 us/cm</b>  <b>K_t = 20 us/cm</b>  <b>Check OK !</b>            13:45:33 Heating ON            13:52:40 TL 75.10°C Required: 75 °C            13:52:40 Holding time: 1:01            13:53:42 Min-Max 75.10°C - 76.60°C            .....            13:54:38 DRYING            TL1 = 75.80 TA1 = 66.80            14:24:42 Drying complete            .....            Successfully completed cycle            Ao 7579.70</p>	<p><b>Cycle started:</b> date and time of cycle start.  <b>ID.12</b> - the ID number of the program (“ID_prog” in the program table).  <b>Cycle N. 59</b> – 59th program run by the machine.            Each phase has a header line: <b>Start phase N.</b>            This is followed by a description of the phase, such as: <b>WASH.</b>  <b>Load CW / 23L</b> Load cold water, 23 litres.  <b>P1 = 117 ml / 27°C</b> amount of detergent batched by pump P1  <b>TL 27.90°C Required: N.D.</b> – temperature of probe TL and phase temperature setpoint. “N.D.” stands for Not Defined: Heating is timed if no temperature setpoint is specified; the duration is equal to the indicated holding time.  <b>Holding time: 2:01</b> – duration of phase, 2 minutes.  <b>Min-Max 27.90°C - 33.70°C</b> the minimum and maximum temperatures TL for the most recent holding time.              The record <b>TL 93.10°C Required: 93°C</b> identifies the start of the holding time.            The record <b>Min-Max 93.10°C - 94.20°C</b> identifies the end of the holding and the minimum and maximum temperatures reached by the system during that time.              Conductivity check reading  <b>K = 20 us/cm</b>  <b>K_t = 20 us/cm</b>  <b>Check KO</b>  <b>K</b> is the value read by the machine's conductivity probe, in µS/cm.  <b>K_t</b> is the threshold setting (t=threshold)            If <math>K &lt; K_t</math>, the result is positive (“Check OK !”), if not, it is negative (“Check KO”).            If the result is negative, the water is drained out of the chamber, reloaded and a new check is run:  <b>K = 18 us/cm</b>  <b>K_t = 20 us/cm</b>              Ao 7579 is the value of the parameter Ao, calculated during the thermal disinfection phase.</p>

### 11.5 MACHINE PARAMETERS – ID. 1.4.2.0

**Setup-> Machine parameters:** Submenu of parameter setting accessible with password level “*superuser*” or superior.

Menu entry	Access level
Chemical dosing	<i>Superuser</i>
Water	Technician
Program enable	<i>Superuser</i>
Optional	Technician
Password	<i>Superuser</i>
Restore values	Technician
Restore configuration	Technician
Calibrations	Technician
LAN parameters	<i>Superuser</i>
Full S/N, MAC, ID	<i>Superuser</i>
Heating type (From CPU Firmware Main 6.2.0 and subsequent).	<i>Superuser</i> (To choose the washing chamber heating type: Steam or electrical. This entry can only be accessed if the optional Steam heating system is installed on the machine).
Conductivity probe	<i>Superuser</i> (This entry can only be accessed if the optional conductivity probe is installed)

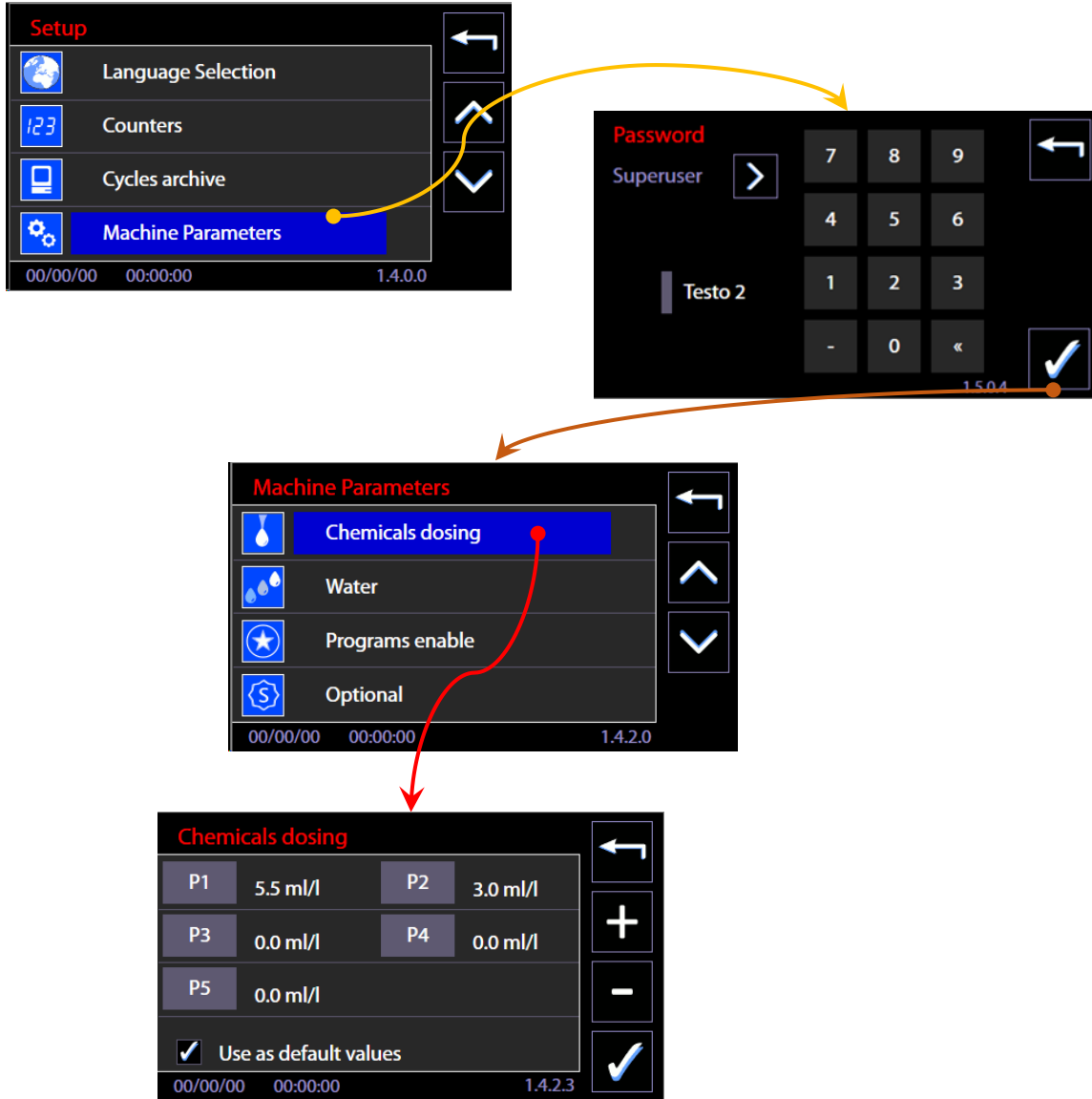


Various active entries are detailed in the following sections.

### 11.5.1 DETERGENT DOSAGE SETUP (“Chemicals dosing”) – ID. 1.4.2.3

Password-level required: *Superuser* or superior level

From the “Setup” menu, please select “Device parameters” and then “Detergent dosage,” entering the password when requested.



By selecting the preferred measuring pump, e.g. P1 for alkaline detergent, the amount of detergent used during the wash phase can be regulated. The side buttons “Increase” e “Decrease” (+ / -) may be used to adjust the regulation.



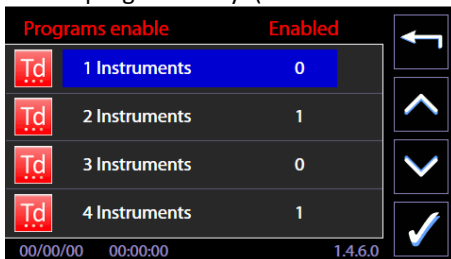
**Please note: Only by ticking the “Use as default values” box and selecting the check-box will the values inserted be active for all washing programs. Otherwise, the values are saved but not active.**

### 11.5.2 PROGRAMS ACTIVATION (“Programs enable”) – ID. 1.4.6.0 - 1.4.6.4

Password level “*superuser*” or superior is required to access the function.

Starting from menu “Setup”, select “Machine parameters” and then “Activate Programs”, entering the password when required.

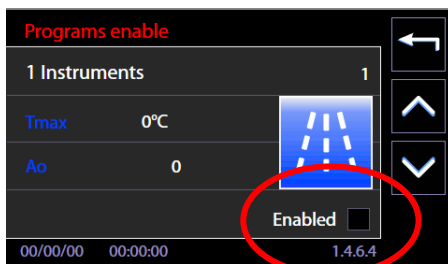
The screen “Activate Programs” allows, through appropriate setting, to view the Programs menu and to start the desired programs only. (This function was introduced since the Firmware Main 2.14.0 version).



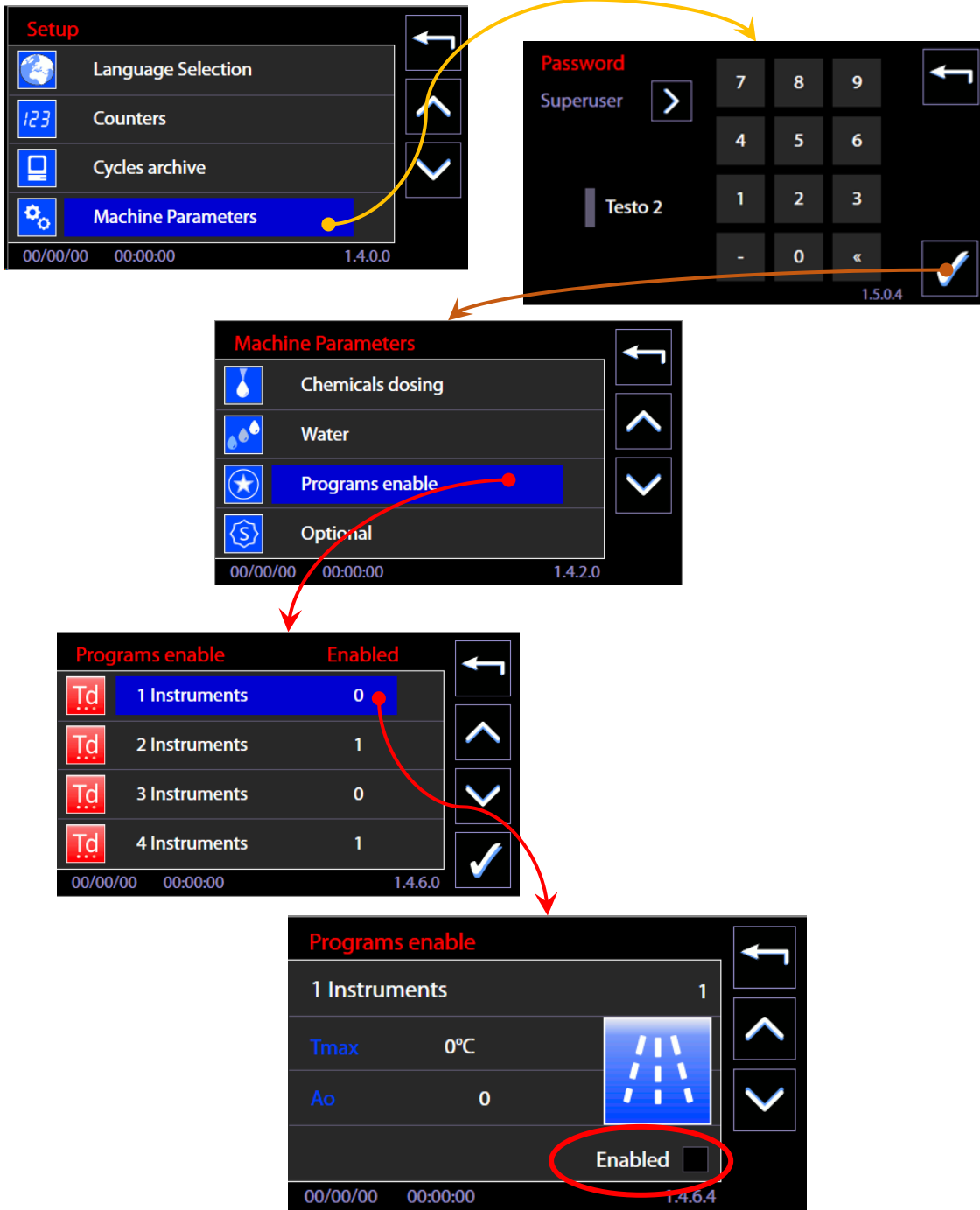
Default: all programs are enabled, “1” in the line corresponding to program name.

**To exclude a program from visualization** it’s necessary to set “0” next to the program name:

1. Select the program from menu “Activate Programs”
2. You enter in the summary screen of the program itself (it reports the name and program ID in the first line of the screen, and other significant values in the remaining sections).
3. Remove the flag from the “Enabled” entry -> “0” will appear next to program name in the menu.



Always consult the complete table of programs before the deactivation.  
See below the sequence to access the function.

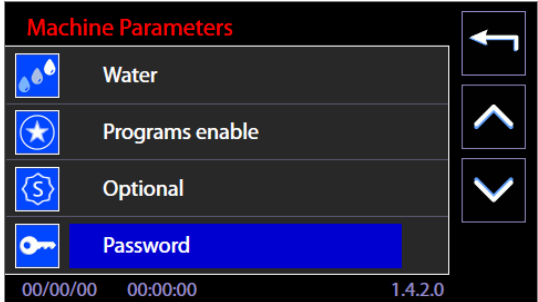
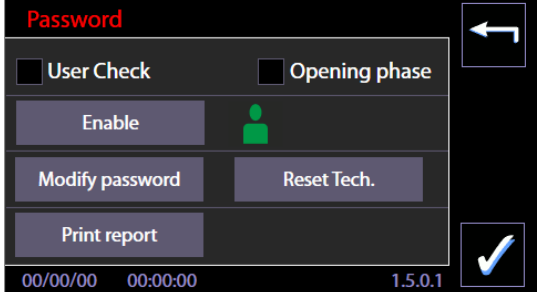
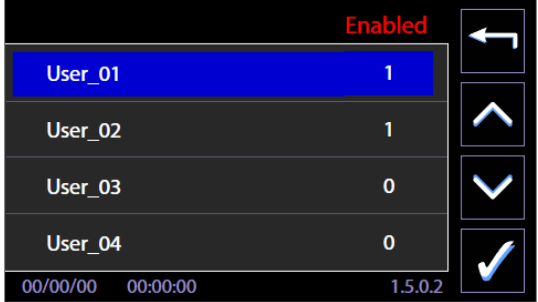


11.5.3 PASSWORD – ID. 1.5.0.1

Function introduced from firmware version Master CPU 5.6.0.

The *superuser* (device manager) can use the Password Control functions to:

1. Activate the **User Check** function to identify the user who is selecting and starting the wash cycle.
2. Activate the function which identifies the user who is unlocking/opening the washing tank door at the end of the cycle, by selecting the **“Opening phase”** flag.
3. Enable users to operate the device.
4. Print out a report of the active users and their passwords.
5. Modify his own and the lower level passwords.

<p>Select the <i>“Password”</i> option from the <i>“Machine Parameters”</i> menu.</p>	
<p>This accesses the password control screen. Functions available:</p> <ol style="list-style-type: none"> <li>1. <b>“User Check”</b> – flag for activating the user check at the start of the cycle.</li> <li>2. <b>“Opening phase”</b> – flag for activating the check on the user who is opening the door of the machine.</li> <li>3. <b>“Enable”</b> – button for accessing the user enabling submenu - &gt; screen 1502</li> <li>4. <b>“Modify password”</b> – for customising the passwords. The <i>superuser</i> can modify his own and the lower level user passwords.</li> <li>5. <b>“Print report”</b> -&gt; if the printer is installed and switched on only, pressing this button forces printout of the active users and the associated passwords.</li> </ol> <p>N.B.: The <b>“Reset Tech”</b> button can only be activated by the authorised engineer, for the complete reset of the technical passwords entered.</p>	
<p><b>User enabling menu</b> Press the <b>“Enable”</b> button in screen 1501 to access the User List menu. Next to the ID of each user, the screen shows their enablement status for use of the machine: <i>1 - enabled</i> <i>0 - not enabled.</i> The <i>superuser</i> can press a line to switch the status. The <b>“Confirm”</b> button in the bottom right-hand corner saves the settings made.</p>	

**Change password.**  
 In this screen, the *superuser* can modify his own and the basic level user passwords.  
 Procedure:  
 1. Press next to *New* (the upper one) and enter the new password.  
 2. Press next to *New* (the lower one) and confirm the new password.  
 N.B.: a user password is a number between 0 and 999.



11.5.4 LAN PARAMETERS – ID. 1.4.8.0 – 1.4.8.2

Access with password *Superuser*.

The screen is used to manage and insert the parameters for communication in LAN network; it is **accessible only if the optional for communication is installed (WD-LAN60)**.

Fields to set up:

DHCP – enable/disable by touch-screen (flag)

IP - parameter

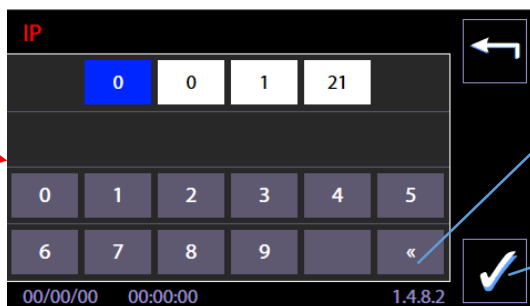
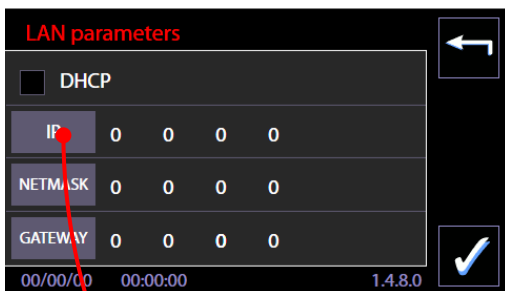
NETMASK - parameter

GATEWAY – parameter

Next to each parameter there is a key to insert and modify the parameter itself.

Next is an example of the IP parameter insertion:

1. Select the button “IP” -> you enter the screen for insertion of the field
2. The parameter consists of 4 fields. Touching a field you activate the modification mode of the field.
3. Field must be cancelled in order to be rewritten, cancellation by button “<<” of the numeric keypad.
4. Field insertion by numeric keypad.
5. Confirmation of the inserted button by lower right button “CONFIRM”.



Button “<<” to cancel the values in the active field.

Button “Confirm” to save and confirm the inserted values.

11.5.5 FULL S/N, MAC, ID (device labels) – ID. 1.4.8.1

This function is for the *superuser* staff, for visualization of FULL S/N (“Full serial number”) e MAC address related to the device.

Full S/N and MAC are permanent parameters of the machine: the user can read Full S/N on the characteristic plate of the equipment.

MAC address is defined only if the optional for communication in LAN network is installed. In case it is necessary to know the values because of network settings, the authorized technician should be asked.

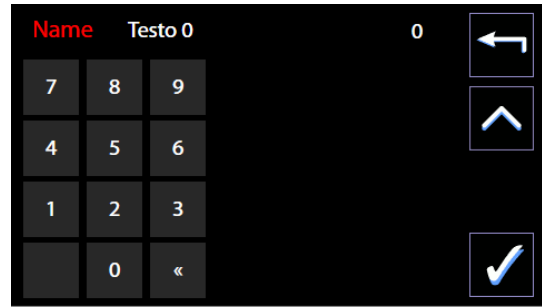
**Features introduced with the firmware update, April 2016.**

Identification labels - there are 3 alphanumeric label, editable by the *superuser*, useful for device identification.

- 1. Label machine: "Name"
- 2. Label Department: "Dep."
- 3. N.ro inventory: "N."

<p>1. From Machine Parameters, select the item "Full S/N, MAC, ID"</p>	
<p>2. From the screen the following item are visible:</p> <ul style="list-style-type: none"> <li>1. Full S/N (non-editable field)</li> <li>2. MAC (non-editable field)</li> <li>3. Name</li> <li>4. Dep.</li> <li>5. N.</li> </ul>	
<p>3. To insert or change any of the 3 fields "Label" (Name, Dep, N.): select the corresponding button. You access the keypad that allows you to assign an identification text.</p>	

- 4. The identification "Label" entered will be recorded in the archive of the machine and in the cycles print report.




#### 11.6 DIAGNOSTICS OPERATIONS – ID.1.4.3.0

Password-level required: technical staff only. Through these screens **the device loads can be manually activated and the load entries supervised**. The screens are separated by operation:

<b>Drum Water Loading – ID.1.4.3.1:</b>		
	Solenoid valve activation	
	Check water turbine calculation	
	Check pressure switches status	
<b>Detergent loading – ID.1.4.3.2:</b>		
	Detergent peristaltic pumps activation	
	Check flowmeter calculation	
	Check level sensors in the tank	
<b>Wash – ID. 1.4.3.5</b>		
	Wash pump activation	
	Heater elements activation	
	Check temperature probes	
	Check pressure switches	
	Check thermostats status	
	Check sprinklers rotation sensors	
	Check carriages identification sensors	
<b>Drying – ID.1.4.3.3</b>		
	Mechanical fan activation	
	Drying heater elements activation	
	Check temperature probes status	
	Check of thermostats status	
<b>Doors (hinged) – ID.1.4.3.8</b>		
	Door lock activation, unclean side	
	Door lock activation, clean side	
	Check door lock status, unclean side	
	Check door lock status, clean side	
<b>Sliding doors – ID.1.4.4.3</b>		
	Unclean side motor start	
	Clean side motor start	
	Unclean side limit switch check	
	Clean side limit switch check	
	"Doors locked" relay status check	
	Safety control unit status check	
<b>Drain – ID.1.4.4.0</b>		
	Drain valve activation	
	Drain pump activation	
	Check pressure switches status	
	Check thermostats status	
<b>Boiler demi – ID.1.4.4.1</b>		
	Demi loading valve activation	
	Boiler demi resistance activation	
	Boiler demi drainage solenoid activation	
	Check boiler temperature probe	
	Check boiler thermostats status	
	Check boiler water level	
<b>Boiler hot – ID.1.4.4.2</b>		
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	Hot loading valve activation
	Boiler hot resistance activation
	Boiler hot drainage solenoid activation
	Check boiler thermostats work
	Check boiler safety thermostats status
	Check boiler water level

### 11.7 PROGRAMS EDITING – ID. 3.4.2.1









*Preliminary Note: **the editing of a washing program requires specific knowledge** in relation to the load-treatment process, and to the device parameters. For this reason, the function is protected by password. Always proceed according to the rules in force in the place of installation: **a custom program**, used to process the load, **must be validated according to the standards and regulations applicable**. Consult the authorized technical service for clarification.*

The modifiable programs:

1. are identified in the documents as "custom" programs;
2. Are part of the installed programs;
3. are "queued up" compared to the factory programs that cannot be modified;
4. are marked by specific icons of the custom programs (presence of "little man" icon)

Specific icons for the custom programs

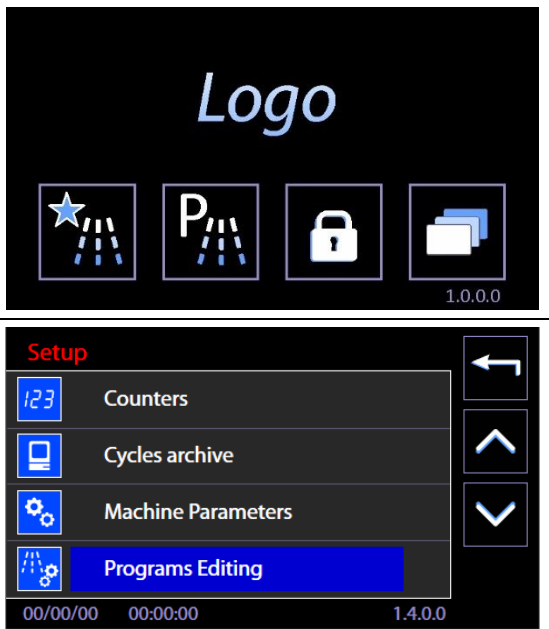
Prewash	Wash	Thermal disinfection	Chemical disinfection	Drying	Service
					


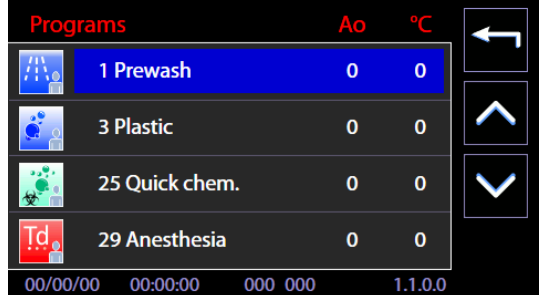

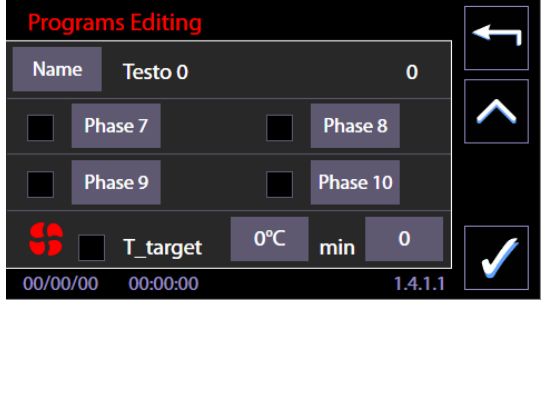
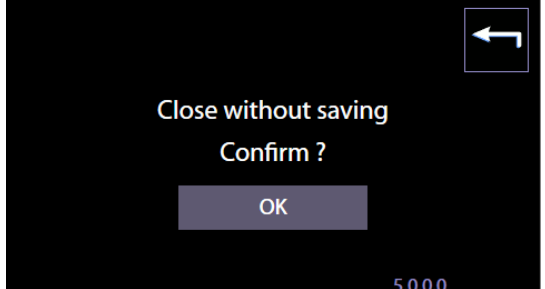


**Warning:** when creating a custom program, do not include more than two thermal disinfection phases at 93°C for 10min.

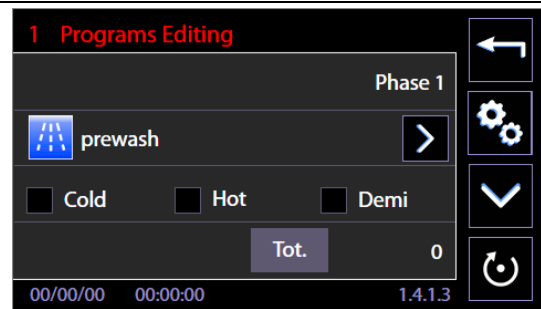
Steps to modify a custom program.

1. Select the "Setup" icon in the main screen sch.1000 and then select "Programs Editing".

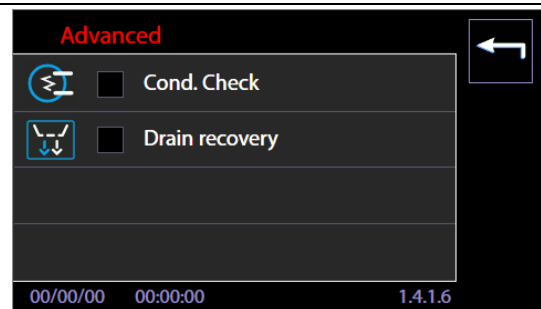


<p>2. Insert the "Superuser" password</p>	
<p>3. You gain access to the list of custom programs from which you can select the specific program you want to change.</p>	
<p>4. "Programs Editing" starting screen (sch.1411) from which you can activate the individual phases using flags and, by pressing the "Phase" buttons (eg. "Phase 1" button), move on to edit the selected phase. Only the phases selected through the flags are actually executed by the program. The Phase 1 must remain always active. To the right of the program name: the ID number of the program "IdProg" can be seen: this identifier cannot be changed.</p>	
<p>5. From the previous screen, pressing the "Arrow Down" button (right part of the screen) will give access to the second program editing screen, where, in addition to the phases, the drying stage can be activated:</p> <ol style="list-style-type: none"> <li>Drying presence through the flag.</li> <li>target temperatures and holding time in minutes entered by pressing the appropriate buttons and acting on the side control buttons (+ and -).</li> </ol> <p>Only by pressing the "Confirmation" button at the bottom right, the program will be saved.</p>	
<p>6. Press the "Esc" button to exit the editing screen. Confirmation screen request will appear.</p>	

7. Pressing "Phase 1" button to enter in the editing screens for the phase "1 Programs Editing". It is possible to select:
- c. Phase Type (using the "right arrow" button): *pre-washing, washing, thermal disinfection* ... This information is used to display the selected icons while the cycle is in progress. If you select the type "Thermodisinfection": This information is used to calculate and to display the Ao value.
  - d. Type of water to be loaded (Cold, Hot, Demi): Multiple selections are allowed.
  - e. Amount of water expressed in deciliters.
  - f. Using reset button (bottom right) will reset the data entered for the stage.
  - g. Press the "down arrow" button to switch to other options for the phase.
  - h. "Gears" button for the advanced options.



8. Among the advanced options, you can activate for the current phase:
- i. Conductivity check.
  - j. Drain recovery

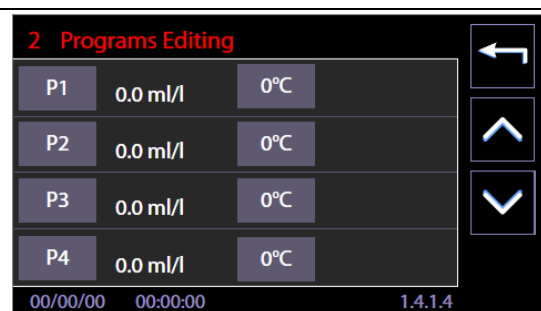


These and other options are effective only if the related option is installed on the device, they are otherwise neglected during the execution of the cycle.

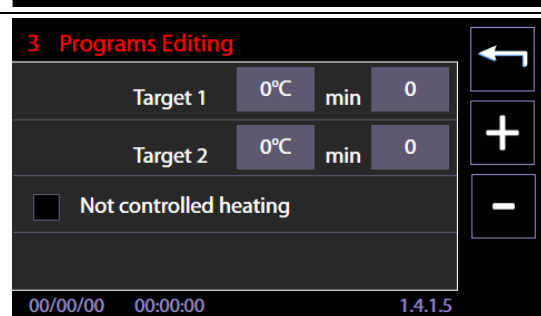
Optional tools and documentation references:

1. Conductivity Sensor.
2. Double drain valve "WD-VDS6010".

9. "2 Programs Editing": Possibility to adjust the detergent dosage and the detergent injection temperatures.



10. "3 Programs Editing" Target temperature settings and holding times. There is an option (flag) for the activation of "Not controlled heating": if selected, the heating will last for the holding time set, without a target temperature value to reach.



<p>11. "3 Programs Editing" Thermodisinfection phase type only: it is possible to enter a specific value for the Ao parameter.</p>	
<p>12. The procedure is similar for every phase.</p>	<p>-</p>
<p>13. The program, once customized and saved, can be selected and started by the user from Programs Menu.</p>	

11.7.1 Customizing the program name

<p>1. From the "Programs Editing" screen (sch.1411) by selecting the "Name" button you can give a personalized name to the program.</p>	
<p>2. Indicative screen of the keyboard. Pressing the "Arrow down" you have access to the numeric keypad. Pressing the "confirmation" button at the bottom right, you save the entered name.</p>	
<p>3. Numeric Keypad, can be used to assign a name to the program.</p>	

### 11.7.2 Customizing the program icon

<p>1. From “Programs editing” screen (sch.1411) by selecting “Advanced” (“gears” button), you can assign a custom icon to the program.</p>	
<p>2. Using the “right arrow” button you can select the icon to assign to the program. Use the table above to select the appropriate icon.</p>	

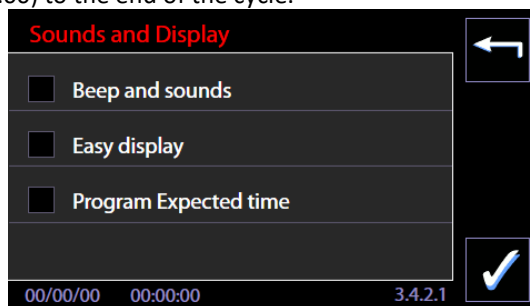
### 11.8 DISPLAY AND SOUNDS – ID. 3.4.2.1

Functions accessible at the level “user” or superior.

Starting from menu “Setup”, skim menu entries and select “Display and sounds”.

Available entries:

1. “Active sounds” -> if flagged, it enables acoustic signals.
2. “Display easy” -> if flagged, it enables simplified visualization of the cycle in progress.
3. “Cycle remaining time” (or “Program Expected time”) ->
  - a. If flagged, the visualized time with cycle in progress is the estimated time left.
  - b. If not flagged: the visualized time with cycle in progress is the progressive time from the start of the cycle (instant 00:00) to the end of the cycle.



**Display easy:** In the simplified visualization of the cycle in progress, the display only shows:

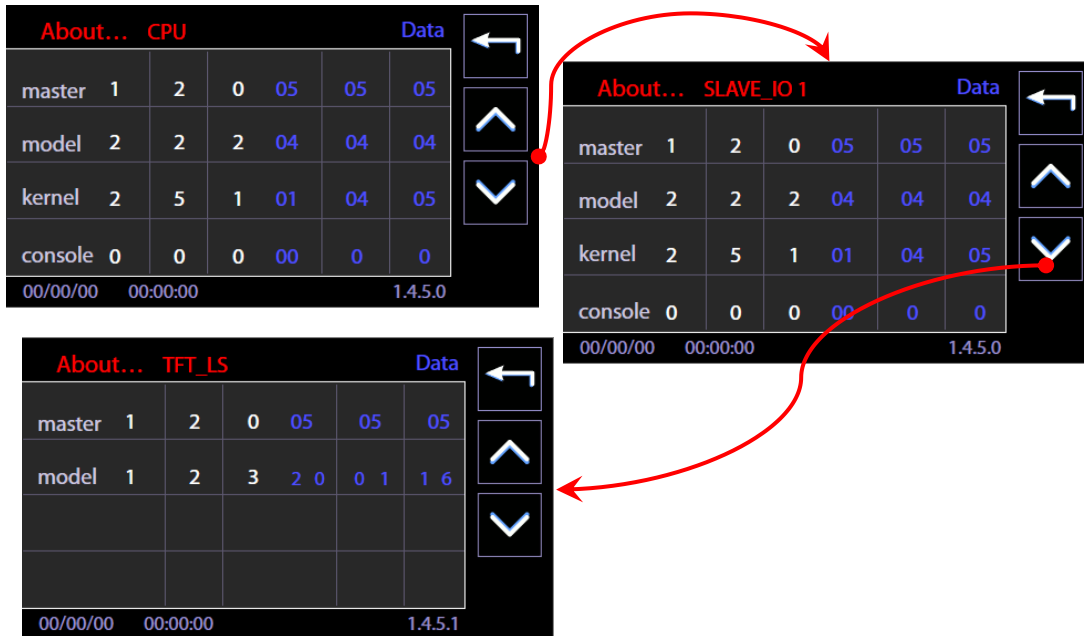
4. Program name
5. Time of the cycle in progress (time left or progressive time depending on the settings).
6. The progress bar



### 11.9 ABOUT – ID. 1.4.5.0 – 1.4.5.1

Screen accessible at the level “user” or superior.

It shows the values and dates of issue of the FW installed on the electronic boards of the device.



### 11.10 USER PASSWORD – ID. 1503

From firmware version Master CPU 5.6.0 the device is equipped with a function allowing identification of:

1. the user who has selected and started the wash cycle,
2. the user who has opened the door of the device at the end of the cycle.

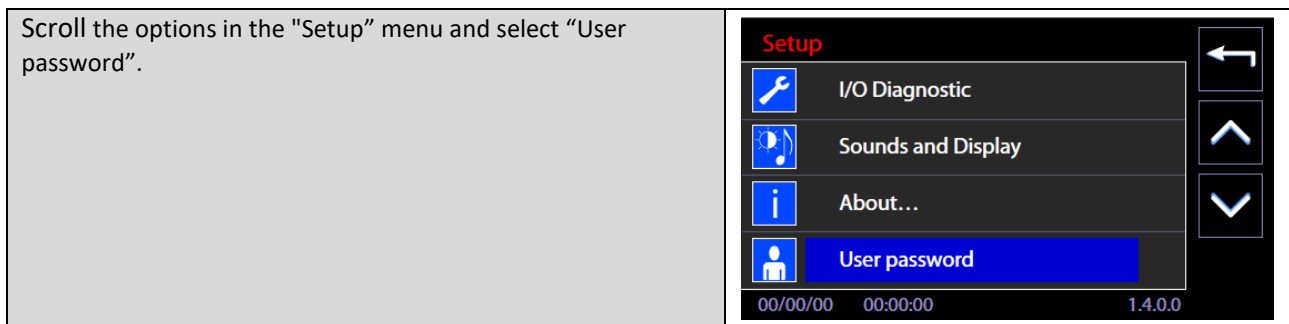
This function is deactivated by default and can be activated by the *Superuser*.

If this "User check" function is activate, a numerical password is associated to every enabled user.

Basic level users - normal users of the device - can only change their own passwords.

Users are identified by a number, e.g.: *user\_01*, *user\_02*, etc.

The password change procedure is described below.



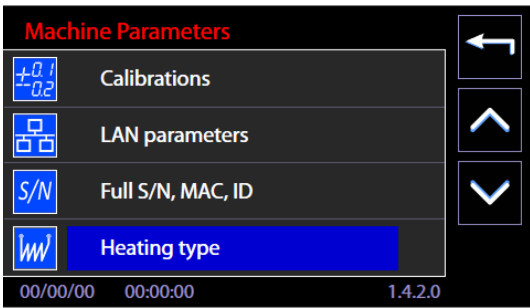
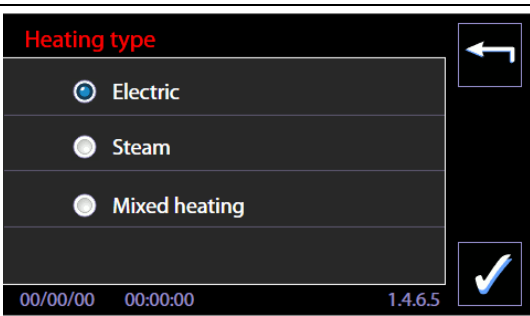
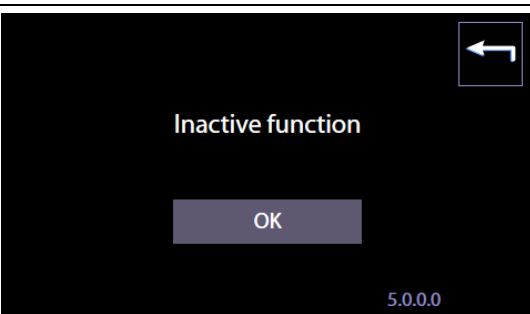
<p>Users must:</p> <ol style="list-style-type: none"> <li>1. select their user ID using the "Right arrow" button.</li> <li>2. Enter their current password.</li> <li>3. Press the "Confirm" button in the bottom right-hand corner.</li> </ol>	
<p>The user has access to the change password screen.</p> <ol style="list-style-type: none"> <li>3. Press next to the upper <i>New</i> and enter the new password.</li> <li>4. Press next to the lower <i>New</i> and confirm the new password.</li> </ol> <p>N.B.: a user password is a number between 0 and 999.</p> <p>The <i>superuser</i> password can also be changed. It is a number between 2000 and 2999.</p>	

11.11 HEATING TYPE – ID. 1465

Screen accessible to the level “*superuser*” or superior.

Starting from Firmware Master CPU 6.2.0, the Machine Parameters menu presents an additional entry: “*Heating type*”. If the optional Steam Heating system “*STEAMFEED60*” is installed, the *superuser* can choose the desired heating type:

1. Electric;
2. Steam;
3. Mixed heating – joint use of the steam and electrical systems.

<p>Starting from the "Machine Parameters" menu, scroll through and select "Heating Type".</p>	
<p>If the optional system for steam heating is installed, the <i>superuser</i> can select the desired heating type.</p>	
<p>If the optional system is not installed, the heating can take place only in electric mode and the <i>superuser</i> cannot make the choice of alternative types. The selection function is not active.</p>	

### 11.12 WATER CONDUCTIVITY – ID.1466

Conductivity probe management is performed only if the “IC6010” optional is correctly installed. Required CPU Master firmware version 7.16.0 (july 2017) or subsequents.

The probe present flag is factory set; the operator – if he has a superuser password – can:

1. enable/disable the probe;
2. set the check threshold value.

A single threshold is used for all programs which include a conductivity check.

The maximum possible value of the threshold is 50µS/cm. This is the full range value of the system installed on the machine. If the conductivity reading is higher than 50 µS, the actual value is not displayed, but the generic value “K > 50” displays.



*Measure the conductivity of the demineralised water in your system before using it to ensure you have set an appropriate threshold value.  
The machine's threshold value may not be lower than the conductivity of the demineralised water in your system.  
Check the water supply from time to time to check that it maintains its original characteristics.*

<p><b>Setup</b> - Press the bottom left button in the main screen to enter the Setup menu.</p>	
<p><b>Machine Parameters</b> - Scroll through the options and select "Machine Parameters".</p>	
<p>You will be prompted for a Superuser <b>password</b>.</p>	

<p><b>Water conductivity</b> - Scroll through the list of machine parameters to select “<b>Water conductivity</b>”.</p>	
<p>This displays screen 1466.</p> <p><b>Enable</b> - Touch the Enable box: the check mark indicates whether the probe is enabled or not. If the probe is disabled, the cycles run as though the probe is not installed.</p>	
<p><b>Threshold:</b> Touch the “±” button to enable the +/- buttons for adjusting the threshold value. Confirm the setting with the button at the bottom right.</p>	

11.13 Purpose of the accessory

	<p>The <b>conductivity probe</b>, part code <b>IC6010</b>, is an optional kit for determining the conductivity of the rinse water.</p> <p>The conductivity value is used to determine whether further rinses are necessary, depending on whether a given threshold has been satisfied or not.</p> <p>The accessory must be ordered together with the <i>instrument or glassware washer</i>, and can only be installed at the factory.</p>
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11.14 Operation of the machine with the probe active: conductivity check function

To use the conductivity check function, the following must obtain:

1. The probe must be installed;
2. The conductivity threshold must be set;
3. The program must include a conductivity check, identified on the display as “*Cond. Check*”.

The standard factory programs are configured to include a conductivity check in the last rinse phase. Custom programs may be edited to include the conductivity check as necessary. In general, we recommend including the check in the last phase of the program, using demineralised water. For details on how to edit custom programs, refer to the device's user manual.

Operating mode during the cycle: the machine runs the conductivity check, in the appropriate phase, by comparing the **read value of K** with the **threshold value  $K_t$**  ( $t$ =threshold).

- If  $K < K_t$  - the result is positive and the phase continues normally.
- if  $K \geq K_t$  the chamber is emptied out and supplementary fill and rinse cycles are run (up to 3) until the read value falls below the threshold.

If the read conductivity is still not lower than the threshold at the end of the last rinse, the machine displays a warning. The message is saved and printed out in the report (if the printer is installed). The event is classified as a *WARNING (ID.95)*, not an alarm which stops the machine operating, and the cycle is considered a "Successfully completed cycle".

To obtain the best conductivity reading, the rinse water must be heated to a known reference temperature.

By default, the water is heated to 40°C for the purposes of the conductivity check.

If the water supply is hotter than 50°C, a higher reference temperature is used.

For this reason, if you use hot demineralised water, or a demi water boiler integrated into the machine, you must specify the custom cycles accordingly: for instance, it would not be correct to specify a water supply temperature setpoint of at most 50°C, if the water may already be supplied hotter than this value.

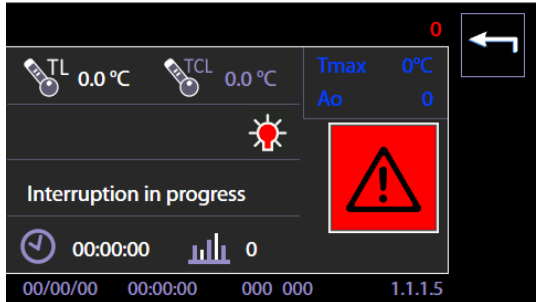
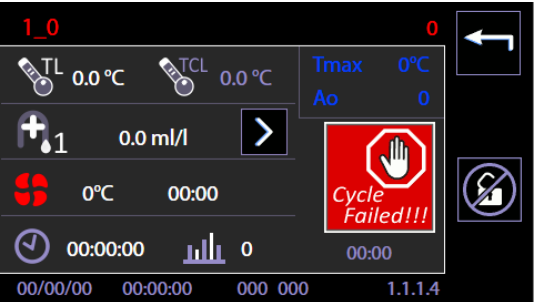
If you need to set a low temperature cycle, use a cold water supply, with a temperature range of 8-35°C.

## 12 ALARMS and WARNINGS

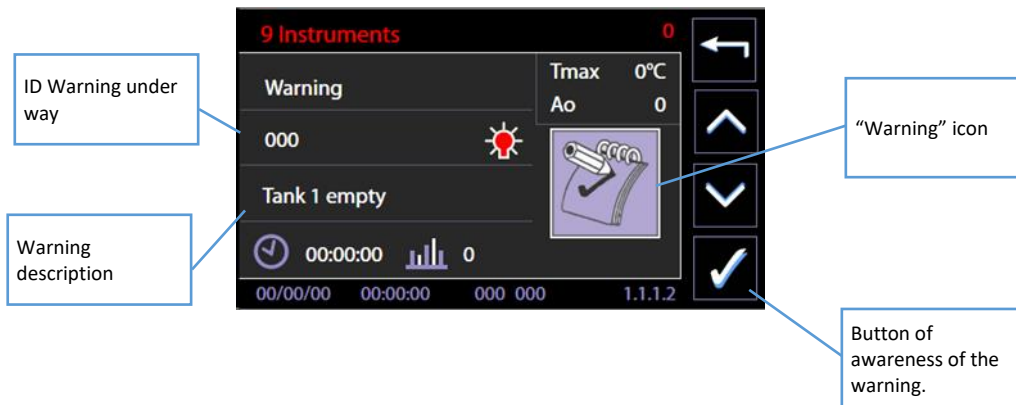
The present paragraph provides instructions to interpret alarm signals and undertake possible countermeasures, information provided in compliance with 5.4.4.j IEC61010-2-040:2015.

The signals associated with unexpected operation are separated into two groups, according to the seriousness:

1. **Warnings:** they consist of signals **provided to users, who must acknowledge them** (e.g. lack of detergent signal). The user must act accordingly to the provided signal, in order to restore the right conditions (E.g. replacement of the exhausted detergent jerrycan with a new jerrycan of the same product).
2. **Alarms:** signals of device malfunctioning. Alarms imply the interruption of the ongoing cycle and the warning to the user. The user must consult the alarms table in the present handbook to take the advised measures.
3. **Blackout** – power failure.
  - a. In case of power failure – case “washing cycle in progress”: when the power supply resumed the device behaves as if the cycle had been interrupted by the user. The machine automatically handles the situation, with a reset cycle which involves the discharge of water from the tank, water loading for sump washing, and final discharge, with a total recovery time of approximately 4 minutes (ID 1115 screen). After the restore, the interface offers the "End of cycle Failed" screen to give clear indication that the cycle, earlier in course, has not completed successfully.
  - b. In the event of a blackout – case “no cycle in progress”: when the power supply resumed, the graphical interface of the device returns to the home screen (ID 1.0.0.0), without any particular actions/activations of input / output.

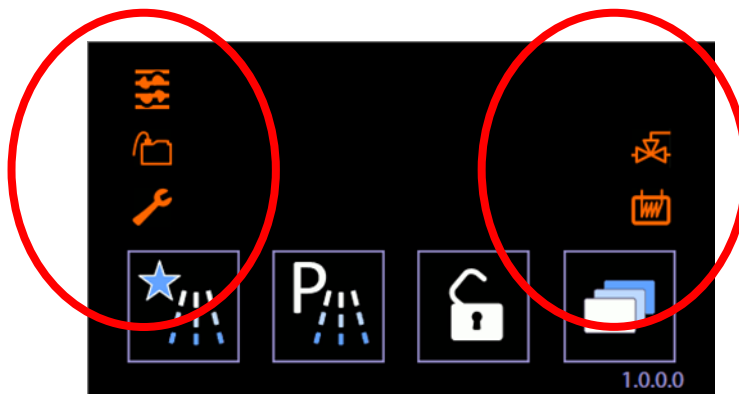
	
<p>A – Cycle interrupted: the device manages automatically the recovery phase.</p>	<p>B - After a recovery from blackout, the 1114 screen appears, indicating that the current cycle failed.</p>
<p>After an electric blackout, the device handles the unexpected interruption and, at the end, offer the screen “Cycle Failed”.</p>	

### 12.1 WARNING – ID 1.1.1.2








Warnings are provided:

1. At the start of the selected cycle, through the screen shown above.
2. Most common warnings are also displayed on the home screen when the device is started.



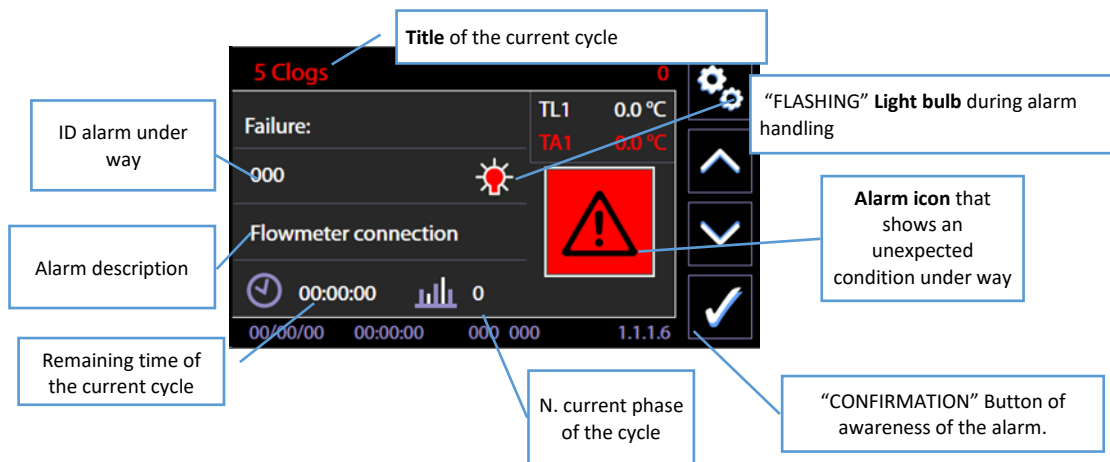
Example of home screen where icons related to the most common warnings are visible on the left.

SYMBOL	MEANING
	<p><b>Lack of detergent</b></p> <p>The indicator on the main screen only turns on if detergent level sensors are installed and one of them is at the “minimum” level.</p> <p>Warning codes associated with lack of detergent are:</p> <p>P1: displayed code “68”</p> <p>P2: code “69”</p> <p>P3: code “70”</p> <p>P4: code “71”</p> <p>The warning is provided at the start of a new washing cycle: please replace the exhausted jerrycan with a new one, and then return to the device normal functioning.</p> <p>By such warning active on the device, the wash cycle can still start: just ignore the warning by pressing the start button again.</p> <p>When two or more similar warnings are on screen (e.g. jerrycans P1 and P2 empty), it is necessary to press the Start/Stop button more than once to make the cycle begin. The internal memory of the device stores the event but allows the cycle to continue.</p>

SYMBOL	MEANING
	<p><b>Maintenance: drying filter replacement</b></p> <p>This warning is active if the dryer and the absolute filter are installed. The LED indicates that the absolute filter must be replaced.</p> <p>This warning refers to the operating hours of the drying system, set up at 500h. After this time, a new filter is required. The replacement operation must be done by authorized staff. Continuing to use an exhausted filter may compromise the drying results. If the filter is obstructed, the drying air range decreases.</p> <p>The useful life of the filter can last less than the default 500h, depending on the dirt level of the environment. If the drying performances decline, it is advisable to request a filter replacement in advance. This warning signal refers to a wear only if related to the effective operating hours.</p>
	<p><b>Machine maintenance</b></p> <p>The device monitors the cycles and warns the user about the machine periodical maintenance by LED activation.</p> <p>These are control and maintenance operations, accomplished every 1000 cycles, which must be performed by authorized staff in order to maintain the machine efficient and safe. Such maintenance operation is not covered by product warranty, which does not imply the replacement of parts, when their performances decline as results of normal operating wear.</p>
	<p><b>Boiler installed, functioning in By-pass mode.</b></p> <p>The machine functions correctly while performing the cycle, but the boiler is bypassed. The authorized technician must verify the correct settings of the device.</p>
	<p><b>Boiler is full when the machine is started – emptying boiler cycle is recommended.</b></p>

12.2 ALARMS – ID 1.1.1.6

A screen with related icon specifies the arising of an alarm.



**ARISING OF ALARMS – READ CAREFULLY**

By arising of an alarm, the device tends to activate safety conditions.

**When an alarm arises it is necessary to: read carefully in the table the code meaning and the applicable countermeasures. Adopt advised countermeasures case-by-case.**

The typical actions charged to the user are, for simplicity, hereinafter summarized:

**1. DEFAULT ACTION**

The event that provoked the alarm may be caused by a temporary anomaly.

**Wait until the device independently manage the anomaly to restore safety conditions. The "light bulb" icon flashes during handling. It is steady on after the management has finished. At the end of the handling, the "CONFIRMATION" button and the "tick" symbol appear on the screen. The user can select it to accept and confirm awareness. Press the "CONFIRMATION" button.**

**2. RECOVERY ACTION**

**Wait until the device independently manage the anomaly to restore safety conditions. At the end of the management, the "CONFIRMATION" button and the "tick" symbol appear on the screen and the user can select it to confirm awareness. Press the "CONFIRMATION" button. Please switch off through power disconnect switch and switch on again through the same device. (Please wait at least 10 seconds from the switching off and the following reactivation).**

**3. SAFETY: In the case the alarm, even after the procedures, persists.**

1. Turn off the water supply valves.
2. Disconnect the device electrical supply.
3. Verify that the device connection conditions (water and electrical conditions) are correct and that no variations occurred, as compared to the initial installation conditions.
4. Contact technical support.

ID.	DISPLAYED MESSAGE - FAILURE	USER ACTION
ID1	"Water heating failed"	. For the user: perform <b>DEFAULT ACTION</b> as described above. If the alarm doesn't stop, perform the <b>RECOVERY ACTION</b> .
ID2	"TD: Temp. offset TL1-TCL"	
ID4	"overtemp. TL1"	
ID5	"Failure: Probe TL1" Tank work Probe	
ID9	"Failure: Chamber temperature"	
ID10	"Failure: Probe TCL" Tank Control Probe	For the user: perform <b>DEFAULT ACTION</b> as described above. If the alarm doesn't stop, perform the <b>RECOVERY ACTION</b> .
ID11	"Lack of cold water"	Check the water supply: <ol style="list-style-type: none"> <li>1. Check that the water inlet valve is open.</li> <li>2. Check the supply water pressure.</li> <li>3. Check that the charging hoses are placed correctly.</li> </ol> <p>Perform <b>DEFAULT ACTION</b> as described above. If the alarm doesn't stop, perform the <b>RECOVERY ACTION</b>.</p>
ID12	"Lack of hot water"	Countermeasures similar to ID11.
ID13	"Lack of Demi water"	Check the water supply – demi water: <ol style="list-style-type: none"> <li>1. Check that the water inlet valve is open.</li> <li>2. In case of water inside a reservoir (with PAD accessory) verify that it isn't empty or it isn't placed high enough.</li> <li>3. Check the supply water pressure.</li> <li>4. Verify that the settings and the hydraulic connections are consistent with each other (presence or lack of demi water).</li> </ol> <p>Perform <b>DEFAULT ACTION</b> as described above. If the alarm doesn't stop, perform the <b>RECOVERY ACTION</b>.</p>
ID22	"Failure: Flowmeter cold water"	Countermeasures similar to ID11.
ID25	"Failure: no pressure: hydraulic circuit"	<b>Remove the chamber filter unit and clean it thoroughly (see specific section).</b> Possible presence of foam in the tank. Check the type of detergent used. Particularly dirty materials might cause excessive foaming: repeat a washing cycle, use one with initial prewash. For the user: perform <b>DEFAULT ACTION</b> as described above. If the alarm doesn't stop, perform the <b>RECOVERY ACTION</b> .

ID.	DISPLAYED MESSAGE - FAILURE	USER ACTION
ID29	"Failure: Washing chamber drainage"	Verify the water drainage connection, in particular its position compared to that specified, and any narrowing in the drainage pipes.
ID32	"Failure: sump full"	For the user: perform <b>DEFAULT ACTION</b> as described above. If the alarm doesn't stop, perform the <b>RECOVERY ACTION</b> .  In case of leakage: turn the water supply valves off immediately and contact technical support.
ID38	"Failure: Drain cooling"	- Check that the temperature of the inlet cold water is low enough to perform a mixed drainage. - Check that the settings of mixed drainage are correct, increase the threshold temperature if necessary.
ID41	"Failure: Detergent 1 inflow"	1. Check if the detergent dip tube is correctly placed in the jerrycan 2. Check for any detergent leakage, highlighted by detergent stagnation close to the machine. 3. Check that dip tubes are placed correctly, <b>not compressed</b> .  The code corresponds to a <b>warning</b> , it is not a blocking alarm. It is possible for the machine to continue operating by pressing button Start/Stop.
ID42, ..., ID44	Similar to above, for detergents 2, ..., 4.	Proceed in the same way as ID41.
ID46	"Pump 1 tube clagged"	Countermeasures similar to ID41.
ID47...ID49	Similar to above, for detergents 2, ..., 4.	Countermeasures similar to ID41.
ID62	"Heating thermostat ON"	Remove the chamber filter unit and clean it thoroughly (see specific section). Perform <b>DEFAULT ACTION</b> as described above. If the alarm doesn't stop, perform the <b>RECOVERY ACTION</b> .
ID68	"Jerrycan P1 empty"	<b>Check for detergent in the relative jerrycan</b> or for the correct operation of the level sensor. This is a signal, not a real alarm; it is still possible to start the washing cycle ignoring the signal and pressing <b>Start</b> again. The signal is activated when attempting to start a new program. (The internal memory of the device stores the event but allows the cycle to continue).
ID69, ..., ID71	"Tank P2 empty" Similar to ID68 per P2, P3, P4.	Similar to "A-:68"
ID73	"Memory error"	Perform <b>DEFAULT ACTION</b> as described above. If the alarm doesn't stop, perform the <b>RECOVERY ACTION</b>
ID78	"Recovery failed"	

ID.	DISPLAYED MESSAGE - FAILURE	USER ACTION
ID79	"Program not coherent"	The alarm activates at the start of the cycle, if the program refers to a peristaltic pump which is not included in the equipment parameters. Verify that the performed programs are congruent with the actually installed configuration.
ID80	"Failure: Hot water flowmeter"	Countermeasures similar to <b>ID11</b>
ID81	"Failure: Demi water flowmeter"	Countermeasures similar to <b>ID11</b>
ID92	"Change dry filter"	Warning: contact the assistance to replace the dryer filters. The signal might be temporarily bypassed pressing the confirmation button.
ID93	"Maintenance requested"	Warning: contact the assistance to perform the ordinary maintenance. The signal might be temporarily bypassed pressing the confirmation button.
ID95	"Warning: Water conductivity"	The value measured by the conductivity probe is higher than the threshold value set. $K \geq K_t$  If $K \geq K_t$ the water in the chamber is pumped out and filling and rinsing is repeated until the value read is below the threshold value. The Warning is given if the conductivity read is not below the threshold value after the last attempt. .Check that the threshold value set is correct. .Check the conductivity of the incoming demineralised water. .Check the compatibility of the programme on which the conductivity check is being performed.
ID96	"Chamber pressure switch PLV"	For the user: perform <b>DEFAULT ACTION</b> as described above. If the alarm doesn't stop, perform the <b>RECOVERY ACTION</b> .
ID125	"Hydraulic circuit pressure PAP2"	Countermeasures similar to ID25
<b>DRYER 1 ALARMS: FROM ID200 -&gt; ID219</b>		
ID200	"Failure: Drying 1 heating"	.Check status of air filters. Perform <b>DEFAULT ACTION</b> as described above. If the alarm doesn't stop, perform the <b>RECOVERY ACTION</b> .
ID201	"Safety switch Drying 1"	
ID203	"Failure: probe TA1" Drying 1 Probe	
ID204	"Failure: Blower1"	
ID207	"Overtemperature TA1"	
<b>DRYER 2 ALARMS: FROM ID220 -&gt; ID239 (only where installed)</b>		
ID220	"Failure: Drying 2 heating"	.Check status of air filters. Perform <b>DEFAULT ACTION</b> as described above. If the alarm doesn't stop, perform the <b>RECOVERY ACTION</b> .
ID221	"Safety switch Drying 2"	
ID223	"Failure: probe TA2" Drying 2 Probe	
ID224	"Failure: Blower2"	
ID227	"Overtemperature TA2"	
<b>BOILER DEMI ALARMS: FROM ID300 -&gt; ID319 (valid only if boiler is present)</b>		


ID.	DISPLAYED MESSAGE - FAILURE	USER ACTION
<b>ID300</b>	"Failure: probe TBD" (Boiler "demi" temperature probe: anomalous signal)	Perform <b>DEFAULT ACTION</b> as described above. If the alarm doesn't stop, perform the <b>RECOVERY ACTION</b>
<b>ID301</b>	"Failure: Demi Boiler heating"	
<b>ID302</b>	"Failure: TBD demi boiler overtemp."	
<b>ID304</b>	"Failure: Demi boiler safety switch"	
<b>ID310</b>	"Failure: Demi boiler drain fail"	
<b>ID311</b>	"Failure: Demi boiler water level fail"	
<b>ID312</b>	"Failure: Demi boiler water level fail" (anomaly in water supply)	
<b>ID314</b>	"Boiler demi disabled"	Warning: contact the assistance to control the boiler. Boiler is disabled and operates in "bypass" mode. The signal might be temporarily bypassed pressing the confirmation button.
<b>BOILER MAINS ALARMS (HOT): FROM ID320 -&gt; ID339</b>		
<b>ID324</b>	"Failure: Hot water boiler safety switch"	Perform <b>DEFAULT ACTION</b> as described above. If the alarm doesn't stop, perform the <b>RECOVERY ACTION</b> .
<b>ID330</b>	"Failure: Hot water boiler drain"	
<b>ID331</b>	"Failure: Hot water boiler level"	
<b>ID332</b>	"Anomaly water level boiler hot" (anomaly in loading water)	
<b>ID334</b>	"Boiler hot disabled"	Warning: contact the assistance to control the boiler. Boiler is disabled and operates in "bypass" mode. The signal might be temporarily bypassed pressing the confirmation button.
<b>DOOR 1 ALARMS ( "LOAD" side also known as "UNCLEAN" side): FROM ID400 -&gt; ID419</b>		
<b>ID400</b>	"Door 1 unlocked" (Door 1 = Load Door = Unclean side door).	If the doors are open, close them manually: Push the handle to close the door until the lock clicks. Switch the machine off and restart it. Perform <b>DEFAULT ACTION</b> as described above. If the alarm doesn't stop, perform the <b>RECOVERY ACTION</b> .
<b>ID401</b>	"Door 1 unlock fail" (Door 1 = Load Door = Unclean side door).	
<b>ID402</b>	"Failure Door 1 closing" "door 1: door sensors NOT corresponding"	
<b>ID410</b>	"Door 1 unlocked" (Sliding)	"Unclean " side - loading side. Warning: 1. No external objects must obstruct automatic movement of the door. 2. The door cannot be operated unless the detergent compartment is properly closed. Switch the device off and back on. Follow the <b>DEFAULT PROCEDURE</b> described above. If the alarm does not disappear, follow the <b>RESET PROCEDURE</b> .
<b>ID411</b>	"Failure: Door 1 closing" (closure timeout - sliding)	
<b>ID412</b>	"Failure: Door 1 opening" (opening timeout – sliding).	
<b>ID413</b>	"Failure: Door 1 sensors" (sliding).	
<b>DOOR 2 ALARMS ("UNLOAD" side also known as "CLEAN" side): FROM ID420 -&gt; ID439</b>		

ID.	DISPLAYED MESSAGE - FAILURE	USER ACTION
ID420	"Door 2 unlocked" (Door 2 = Unload Door = Clean side door).	If the doors are open, close them manually: Push the handle to close the door until the lock clicks. Switch the machine off and restart it. Perform <b>DEFAULT ACTION</b> as described above. If the alarm doesn't stop, perform the <b>RECOVERY ACTION</b> .
ID421	"Door 2 unlock fail"	
ID422	"Door 2 closing" or "door 2 sensors NOT corresponding"	
ID430	"Door 2 unlocked" (Sliding)	"Clean" side - unloading side. Warning: 1. No external objects must obstruct automatic movement of the door. 2. The door (especially the unclean side) cannot be operated unless the detergent compartment is properly closed.  Switch the device off and back on. Follow the <b>DEFAULT PROCEDURE</b> described above. If the alarm does not disappear, follow the <b>RESET PROCEDURE</b> .
ID431	"Failure: Door 2 closing" (closure timeout - sliding)	
ID432	"Failure: Door 2 opening" (opening timeout – sliding).	
ID433	"Failure: Door 2 sensors" (sliding).	
ID440	"Failure: KPB relay" ("doors locked" relay).	
ID442	"Emergency button pressed"	Reset the emergency button by turning it as marked on the component.
<b>ALARMS RELATED TO RELAY ANOMALIES: FROM ID.500 -&gt; 520</b>		
ID500	"relay KRG fail" (master relay)	Perform <b>DEFAULT ACTION</b> as described above. If the alarm doesn't stop, perform the <b>RECOVERY ACTION</b> .
ID501	"relay KRVA fail" (relay - chamber heating elements A)	
ID502	"relay KRVB fail" (relay - chamber heating elements B)	
ID503	"relay KRA1 fail" (relay – dryer RA1 heating element)	
ID504	"relay KRBD fail" (relay DEMI BOILER – heating element)	
ID505	"relay KRBC fail" (relay BOILER water mains – hot – heating element)	
ID506	"Failure: Relay KRA2" (dryer heating elements relay – dryer 2)	
<b>ALARMS RELATED TO RELAY ANOMALIES: FROM ID.500 -&gt; 520</b>		
600	Failure: Program table	Perform <b>DEFAULT ACTION</b> as described above. If the alarm doesn't stop, perform the <b>RECOVERY ACTION</b> .
601	Init error	
602	Communication display 1	
603	Communication display 2	
604	Communication error with board SLAVE IO 1	
605	Communication error with board SLAVE I/O 2	
606	Anomaly: communication board SLAVE I/O 1 (fault of the board I/O)	
607	Anomaly: communication board SLAVE I/O 2 (fault of the board I/O)	

ID.	DISPLAYED MESSAGE - FAILURE	USER ACTION
608	Anomaly: alarm (firmware versions compatibility).	

## 13 CLEANING AND MAINTENANCE

### 13.1 PRELIMINARY WARNING

	<p><b>Before each cleaning or maintenance intervention, it is recommended to perform a full thermodisinfection cycle with the machine unloaded (empty).</b>  <i>Unplug the electrical power with the specific switch and close the water feeding faucets.</i>  <b>During the maintenance or cleaning procedure: always use personal protection equipment.</b>  <b>FREE SPACE:</b> It is necessary to have a <b>free space of about 1m<sup>2</sup> in front of the machine</b> to be able to correctly work on it.</p>
	<p><b>AUTHORIZED TECHNICAL STAFF</b>  <i>Interventions performed on the device by unauthorized staff are not covered by the warranty, and are at the user's responsibility.</i></p>

### 13.2 CLEANING OF THE DEVICE and its parts

#### General Cleaning

The device's external surfaces and the counterdoor shall be regularly cleaned (recommended: every month) with a soft cloth moistened with water.

The door's gaskets shall be cleaned with a wet sponge.

After the cleaning it is recommended to perform a full wash cycle with the machine unloaded (empty), to eliminate possible detergent remains.



Fig. 3 – Internal and external cleaning of the device is required.


	<p><b>WARNING - MACHINES WITH HINGED DOORS</b>  <b>The outlying areas of the doors</b>, which even when the doors are closed remain out of the door gaskets, are not washed during the wash cycle and therefore can keep dirt and biologically contaminated material; they must be periodically cleaned and disinfected with due precaution and using protective equipment (e.g. gloves, glasses, white coats...).</p> <p><i>Use gloves and disinfecting detergent, daily, to clean such parts.</i></p>
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Fig. 4 – It is required that the outlying areas of the doors, both on the load and the unload side, are cleaned with disinfecting detergent, wearing protective gloves.

#### **CLEANING THE DETERGENT COMPARTMENT**

On both hinged and sliding door machines, the **detergent jerrycan compartment must be inspected daily:**

- check for any leaks or spills of chemicals;
- **Remove any standing liquids;**
- When cleaning, it is essential to use the appropriate personal protective equipment, as recommended in the technical and safety data sheets of the chemicals used;
- **The detergent jerrycans and intake lines must be tidily arranged** in the jerrycan compartment so that they do not obstruct closure of the panels.
- **The interior panels and bottom door that enclose the detergent compartment must be carefully closed on completion of cleaning operations.**

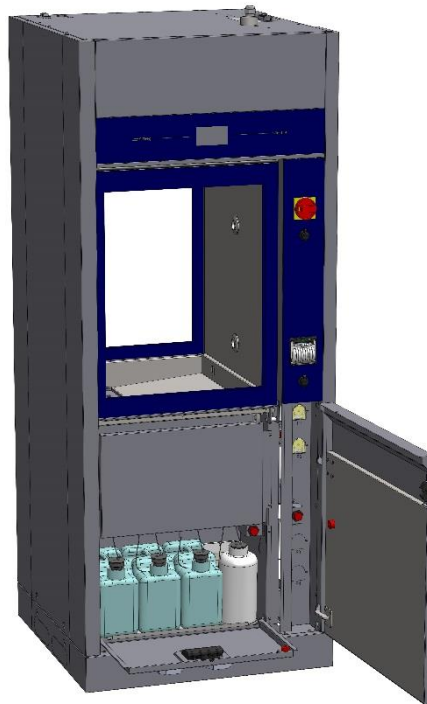


fig. 5 – The detergent compartment should be cleaned and the positions of the jerrycans and intake lines checked every day.

### Cleaning of the water inlet filter

The water inlet filter “A”, located after the water tap, needs periodical cleanings. The recommended schedule is **once every two to six months, depending on the quality of the incoming water**. After closing the water tap, unscrew the top of the water supply pipe, remove the filter “A” and wash it gently under running water. Reinsert the filter “A” in its position and carefully screw the water pipe.

Pay close attention to the top of the pipe, to avoid water leakage in the environment.

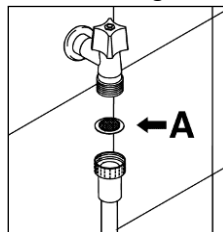


Fig. 6 – Water inlet filter “A”

### Cleaning of the sprayers

The sprayers can be easily removed, by unscrewing the knurled nut which fastens them to the rotation pin, to allow the periodical cleaning of the injection nozzles and prevent possible clogging.

Wash the sprayers and the injection nozzles under clean running water, and insert them back into their location.

Please verify that their circular movement is not hindered in any way.

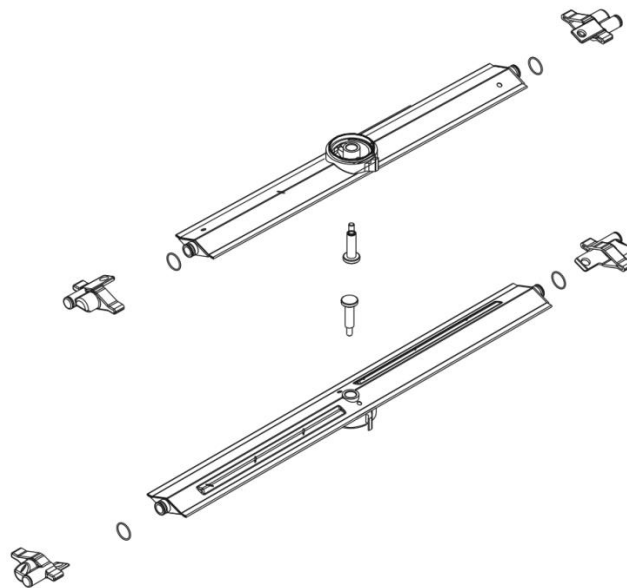
Recommended schedule for the cleaning of the sprayers: **every week**.

**In case of carts which are equipped with fixed spraying injection nozzles:** see the cart’s manual for cleaning instructions.





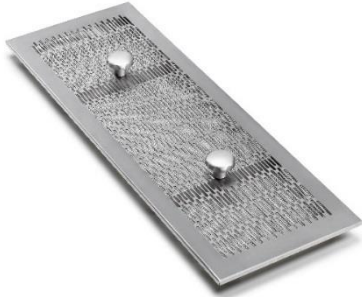
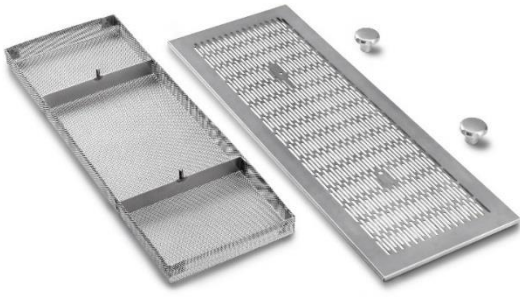
Fig. 7 – Device's lower sprayer: periodically disassemble and clean all the sprayers to maintain effectiveness in the cleaning.

Completely removable sprayers, for cleaning purposes



### 13.3 Cleaning of the Filter Unit

The filter unit is made of different filtering elements. Keeping the filters clean is extremely important in order to guarantee the effectiveness of the machine. It is recommended to inspect them frequently to remove sediments which can compromise their functioning; in conditions of two to three cycles per day, it is suggested to **clean the filters once a week**.

Accessible tank with the door open	View of the pit – after the removal of the main water filter
	
Filter, as seen when assembled	<b>Filter, disassembled for cleaning</b>
	

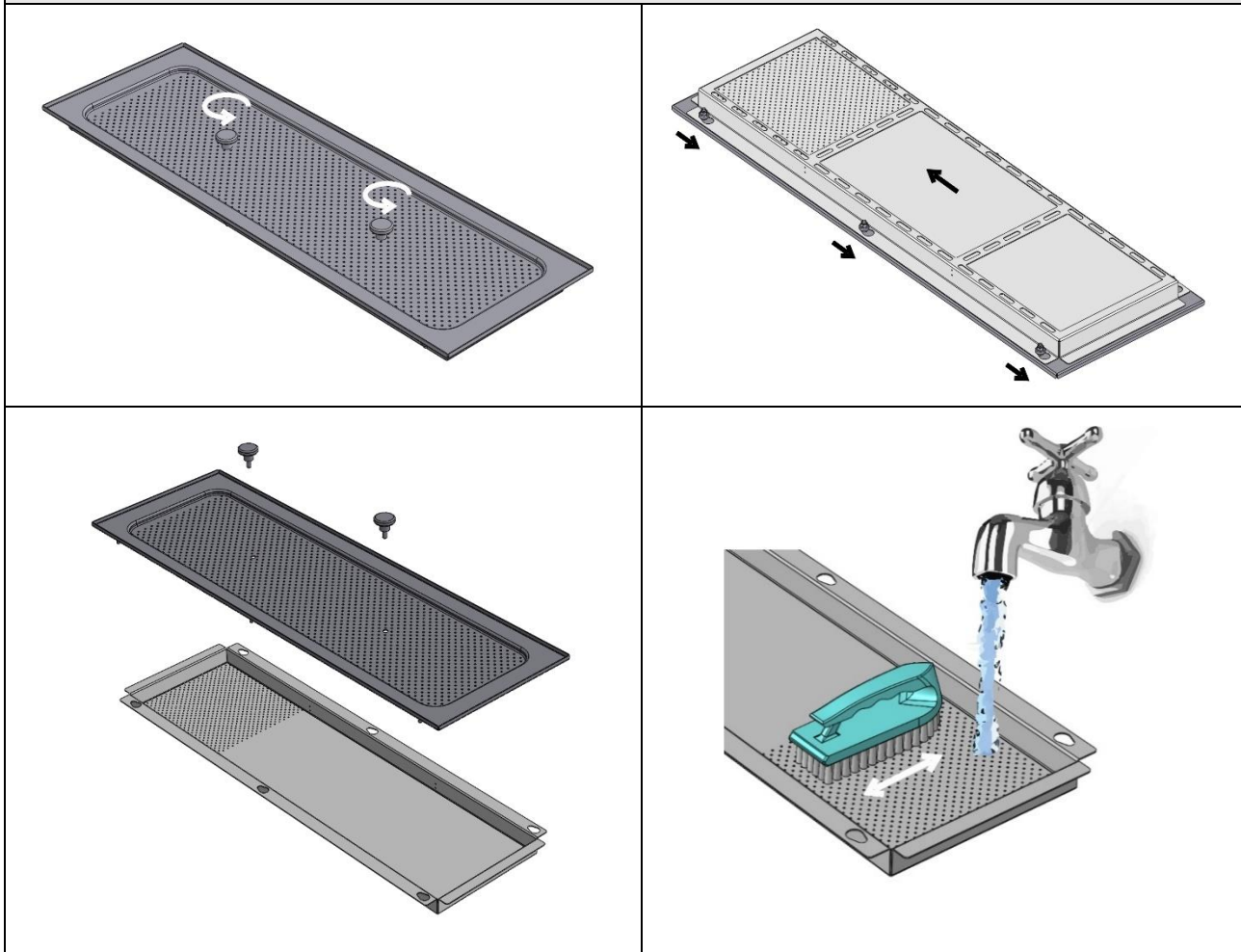
**WARNING**



*The filters can retain biologically contaminated materials, which must be handled with due precautions and using protective equipment (e.g. gloves, glasses, white coats). The potentially contaminated material present in the filter, and possibly in other parts of the device, must be appropriately treated and disposed of.*

**Advice for good maintenance**

- **The filters disassembled must be cleaned with water and using a hard brush.**
- It is necessary to carefully clean the filters according to the instructions: the device can't work correctly if the filters are clogged.
- Carefully place the filters back onto their place before you start a washing cycle. Do not absolutely start the device without its filters on.

**CLEAN THE FILTERS ONCE A WEEK.**


### 13.4 IN CASE THE DEVICE REMAINS UNUSED

If the appliance is to be left unused for a long time, follow these recommendations.

The procedure is recommended for periods of 24 hours or more out of use.

- If contaminated materials are processed: run a program with a thermal disinfection Td phase with no load in the appliance.
- **Flushing the detergent system: if the device is expected to be out of use for more than 10 days:**
  - Remove the detergent intake lines from the jerry cans and insert them into containers of warm (approximately 30°C) softened (preferably demineralised) water.
  - Put the caps firmly back on the jerry cans of detergent.
  - Run the “Service 1” program (ID\_prog 202) twice in succession with no load in the tank.
- Disconnect the electricity supply.
- Leave the door slightly open to prevent unpleasant odours from forming inside the washing chamber.
- Turn off the water intake tap.
- Turn off the steam intake tap (if present).



**Flushing of the detergent system is vital to prevent the chemicals from crystallising and possibly damaging the detergent dispensing system.**

### 13.5 DEVICE RE-USE AFTER A PERIOD OF IDLENESS

If the device is unused for a long time, abide by the recommendations listed below before a cycle is started.

- Check the filters at the entrance of the water pipes and verify that there is no mud nor rust deposited; in case sediments are present, let the water from the inlet tap run for some minutes.
- Plug the power (if unplugged).
- Fasten the inlet water pipe and open the tap.
- Verify date and time settings.
- If the detergent system has been flushed, proceed as follows:
  - Return the detergent intake nozzles to the jerry cans of the relative products, taking care to put the right nozzle in each can;
  - Run the “*Service 1*” program (ID\_prog 202) twice in succession with no load in the tank.
- **Perform a program containing a TD thermodisinfection step, with no load in the device.**



***The thermodisinfection cycle with the unloaded device is recommended before use in case the device has been idle for more than 24 hours.***

*The cycle must be performed with the device **empty**, with no load in the wash tank (recommended  $T_{target}=93^{\circ}C$ ).*

## 13.6 TIME SCHEDULE FOR ROUTINE MAINTENANCE AND CHECKS

### 13.6.1 DAILY

1. Check the level of detergent and neutralizer in the tanks: fill if necessary.
2. Check the movement of the sprayers and visually verify that the sprayers' outlet water holes are clean.

### 13.6.2 WEEKLY

1. **Disassemble and clean the filters in the pit**, following the instructions.
2. Perform a program containing a TD thermodisinfection step, with no instruments to be treated in the device, for the precautional cleaning / disinfection of the wash tank.

### 13.6.3 EVERY SIX MONTHS

1. Verify the conditions of the inlet water electrovalves filters: clean them, if necessary, with warm water running in the opposite direction of the filter usage.
2. Verify the conditions of the suction and discharge pipes of the detergent and neutralizer pumps.

### 13.6.4 EVERY YEAR

At the end of the warranty period, and once a year in the following years, or, if more frequent, when the warning led light "**Manutenzione macchina**" ("Device Maintenance") is on, contact the closest authorized technical centre and have a **complete check-up** of the device.



**Maintenance interventions are not covered by the product's Warranty.** The warranty does not include the replacement of components whose lower performance is due to normal wear and tear.

In particular, the operations performed by authorized personnel are:

1. Check and possible replacement of worn out parts in the peristaltic pumps (specially the internal tubing).
2. Check of the conditions and possible replacement of the **detergent lift pipes**.
3. Check of the conditions and possible replacement of the **door gasket**.
4. Check of the conditions and possible replacement of the **filters** (relative and absolute) of the **drying system**.
5. Check and possible cleaning/replacement of the **filters** (water inlet filters in the loading tubing, detergent filters in the suction system).
6. Check of the correct **detergent dosing settings**. **Check on correct detergent dosing using the technical procedure (Peristaltic calibration)**.
7. Check of the vapour **condenser unit** (if present):
  - a. check of the **injection nozzles**, with verification of the correct water flow
  - b. check of the connecting **pipes**, water inlet, water outlet, level pressure switch connections
8. **Check of the calibration of the temperature probes** (tank and drying if present) and possible correction or replacement of the probes.
9. **If the optional steam heating system is installed, check:**
  - a. **Tightness of threaded connections and fittings.**
  - b. **State of insulation, with repairs if necessary.**
10. **Execution of a complete working cycle**, including the drying phase, in order to verify possible leaking or functioning anomalies.



#### **WARNING**

*In case of device malfunctioning or damages to things or persons due to non-compliance to the above recommendations, the manufacturer shall not be liable.*

## 13.7 ELIMINATION OF SMALL TROUBLE

In some cases it is possible to eliminate possible small trouble with the help of the following instructions.

### 1. If the program doesn't start, verify that:

- The instrument washer is plugged to the power.
- Power supply has not been interrupted.
- Water faucets are open.
- The instrument washer's door is correctly closed.

### 2. If water is stagnant in the device's tank, verify that:

- The outlet pipe is not bended.
- The discharge siphon is not clogged.
- The instrument washer's filters are not clogged.

### 3. If the general loading elements do not get cleaned, verify that:

- Detergent has been inserted, and in the proper quantity.
- **Instruments have been correctly placed.**
- **The selected program is suitable to the type and quantity of dirt on the instruments.**
- **All the filters are clean, and they are correctly inserted in their places.**
- The water outlet holes in the sprayers are not clogged.
- **Objects haven't blocked the sprayers rotating movement.**

### 4. In case the loaded elements don't dry or are opaque, verify that:

- Conditions of the absolute drying filter: hour of functioning viewable as device parameter (the hours of default functioning are established in reference to normal usage conditions; environments with higher quantity of dirt reduce the residual life of the drying filter)
- Neutralizer is present in the appropriate container and its distribution is correctly set.
- The detergent in use is of good quality and has not lost its properties (for example because of wrong preservation, with its box open).

### 5. In case the processed elements show strips, stains or similar signs, verify that:

- The dosage quantity of the neutralizer is not excessive.

### 6. In case there are rust traces in the tank:

- The tank is made of steel which is corrosion resistant, therefore possible rust traces are usually due to external elements (traces of rust coming from water pipes, etc). Specific products are available to eliminate such traces
- **Verify that the right dosage of detergent is being used.** Some detergents can be more corrosive than others.

### 7. In case the optional printer doesn't work:

- Verify that thermal paper is present and suitable for usage with the device.
- Verify that the device is correctly connected (both to power and data connection).

### 8. If the sliding door doesn't close or doesn't open:

- Check that the detergent compartment and bottom door are closed correctly.
- Check that the technical safety key (for manual operation of the loading door), if fitted, is correctly positioned: turn it to "0".

### 9. If the display (loading or unloading side) remains off or unresponsive even with the switch correctly set ON:

- Wait a few seconds, the display PCB might be initialising.
- If the display still does not come on after a few moments (screen completely dark): do not touch the display and switch the device off using the main switch. Wait at least 10 seconds after switching off before switching back on again.
- If the display does not reset correctly and remains "dead": contact the after-sales service, as no procedures are possible on the machine if the interface is not active and correctly operational.

If the functioning trouble is still persisting even after following of the above mentioned instructions, it will be necessary to ask the intervention of the closest authorized technical assistance centre.

## 14 INSTALLATION

Refer to the document “Installation Requirements” for the dimensions of the machine and for the location of electrical and water connections.

**All procedures performed prior to starting the machine are at the Client’s expense:**

- space setup;
- preparation of properly operating facilities, in compliance with the regulations enforced;
- placement of the machine in the designated area provided for effective operation.

During installation, it is necessary to remove the anti-scratch coating off the outer steel surface.

The assembly tool kit (seals for charging and waste pipes and ties) is located inside the washing tank.

The machine can be placed so that it lays adjacent the adjoining furniture, taking care of clearing the steam vent on top. **For that reason, it is recommended that the walls of the space where the machine is being installed be waterproof or made of stone.**

### 14.1 PACKAGE REMOVAL and PREPARATION FOR MOVEMENT

**Procedure to be followed with references to illustrations:**

**A.1 – Remove the package.**

A.2 – Check that all lower panels are not installed.

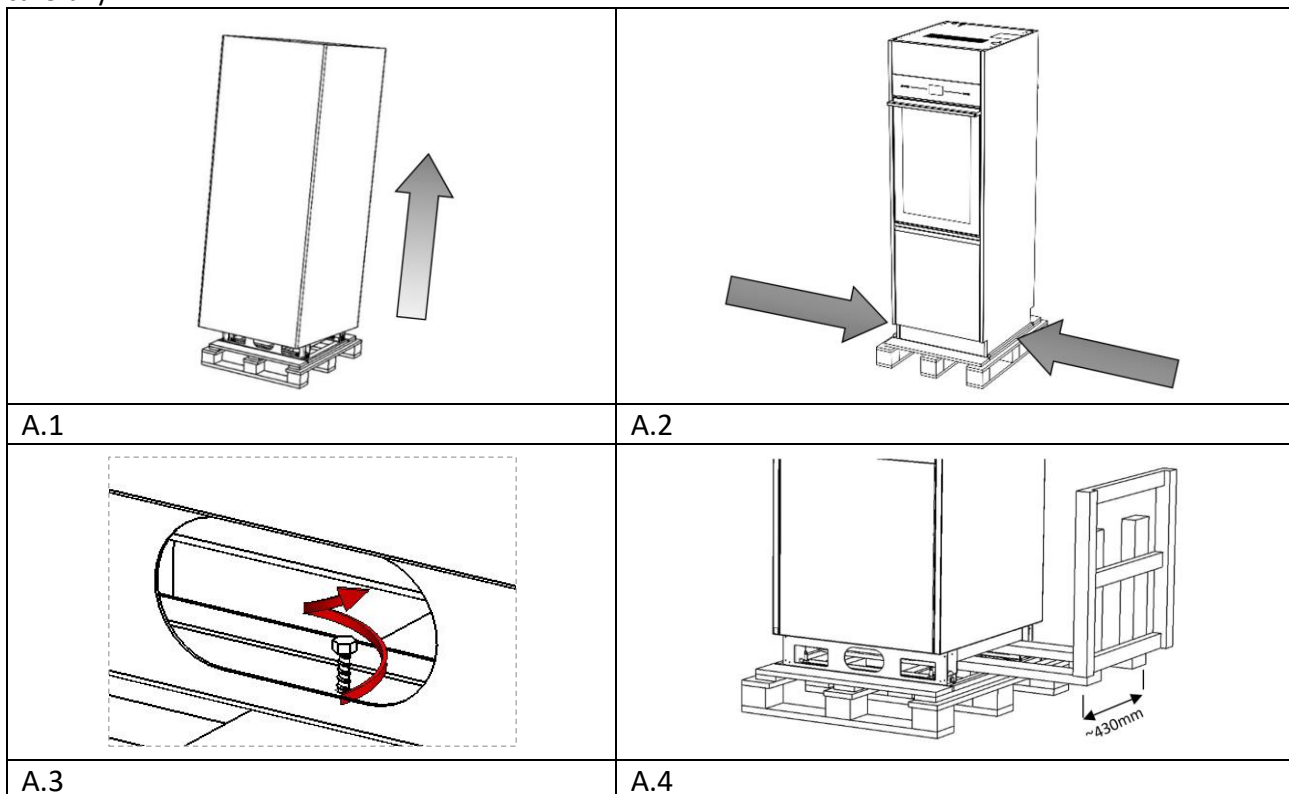
**A.3 –Open the bottom doors/panels** (on both loading and unloading sides) for access to the pallet fixing screws.

**Remove the screws which fix the machine to the pallet** (one at the front and one at the rear).

**A.4 – Unloading the machine sideways using a forklift with adjustable forks: insert the forklift forks from the side**, taking care that they fit underneath the side casing (**fork width about 430 mm**). Place the machine on the floor.

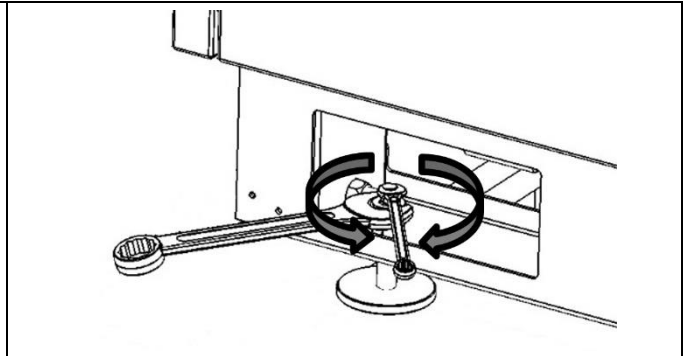
**A.5 - The machine is now resting on wheels** and can be moved around (short distances).

**A.6 – Position the machine in the installation point and adjust its height by means of the feet**, then level it carefully.



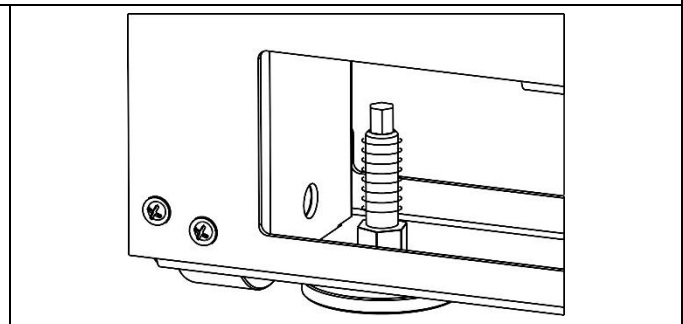
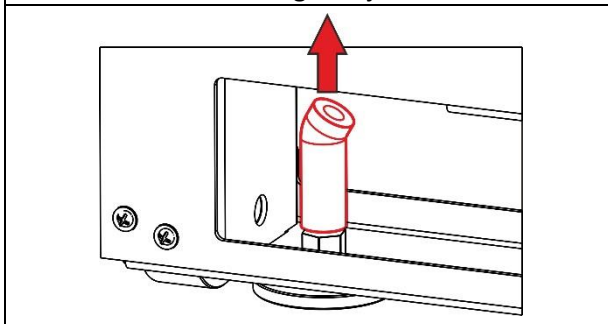


A.5

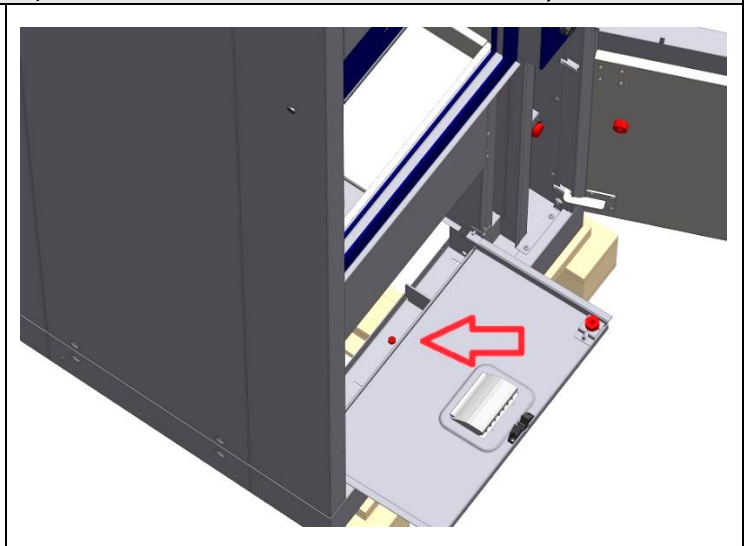


A.6

Note: in some case there is a rubber tube used to prevent the pin from being unscrewed: this must be eliminated to allow height adjustment.



**Attention for WD7010 – GW7010 – WD7015 – GW7015:** loading side, to access the pallet fixing screws, open the detergent compartment (bottom door) and remove the stainless steel bottom tray.

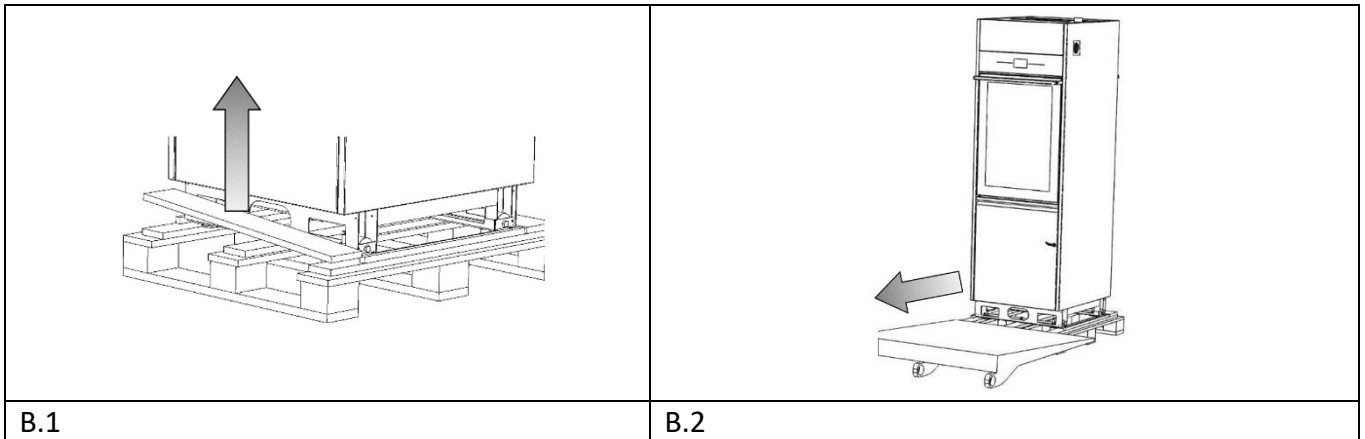


**Procedure for removing the machine from the pallet - using a tail-lift:**

**B.1 – Remove the wooden front retainer strip from the pallet.**

**B.2 – Position the tail lift next to the pallet at the front of the machine, slide the machine onto the lift platform and then carefully transfer the machine to the ground.**

Then proceed with handling and levelling as described above.

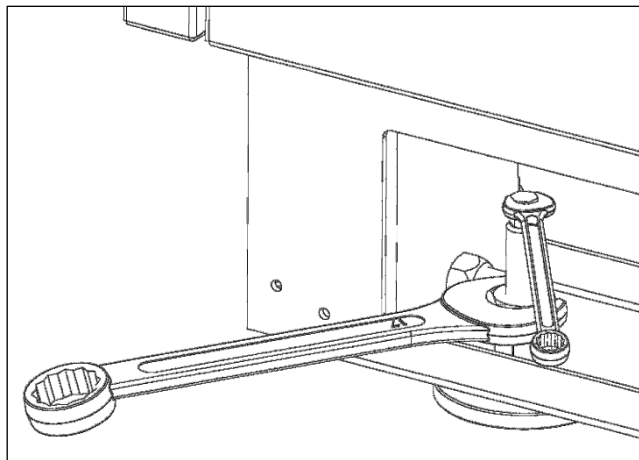


## 14.2 POSITIONING AND LEVELING



Once the machine has been placed, screw or unscrew the feet in order to regulate its position and level it with the bubble level so that it is perfectly horizontal (maximum angular tolerance permitted: 0.5°, corresponding to a maximum gap of about 5mm permitted at the extreme points of the machine).

Levelling the device properly helps it to function properly.



Detail image: leveling must be performed with wrenches to regulate the feet and tighten the lock nut.



**DEVICE HEIGHT ADJUSTMENT**

**If several devices** are served by the same multi-purpose trolley, as well as being correctly levelled they must also be adjusted so that they are **at the same height above the ground**.

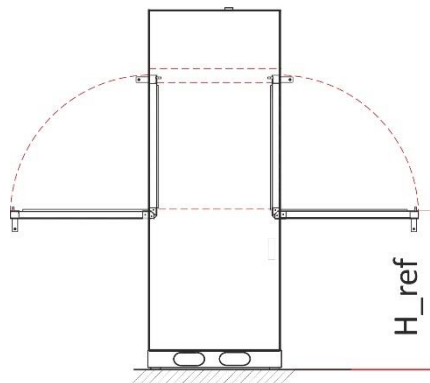
The theoretical heights “H\_ref” are provided below for guidance when adjusting.

**N.B.:** The actual adjustment height may differ from the theoretical value due to levelling requirements; the fundamental factor is that all devices served by the same multi-purpose trolley must have the same H\_ref value.

**Devices with hinged doors.**

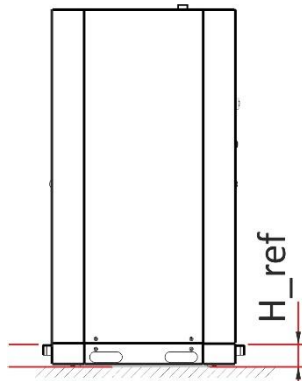
Referring to the image below, take the height of the door when open in relation to the ground as reference.

[Theoretical H\_ref = 883 mm]



**Devices with sliding doors**

Referring to the image below, take the height of the bottom trolley hooks in relation to the ground as reference [theoretical H\_ref = 118 mm].



14.2.1 “SINGLE DOOR” MACHINE

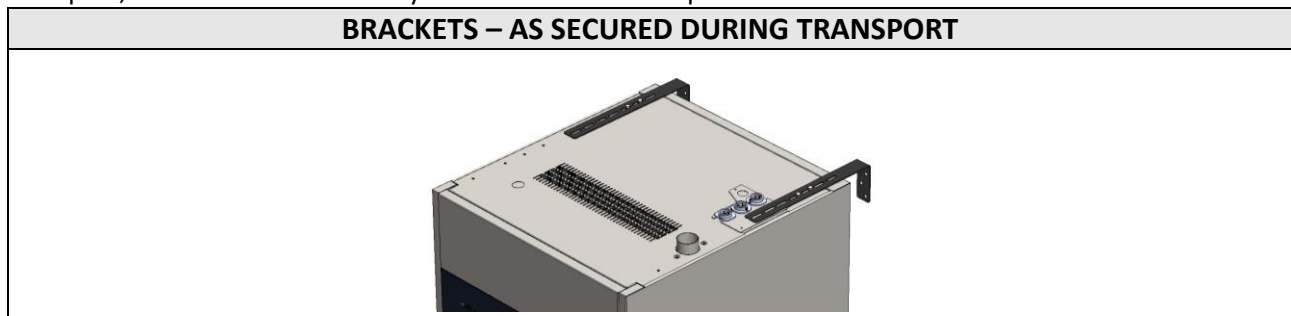


The single door machine must be placed with its rear side against a wall. The client takes care of positioning the machine.

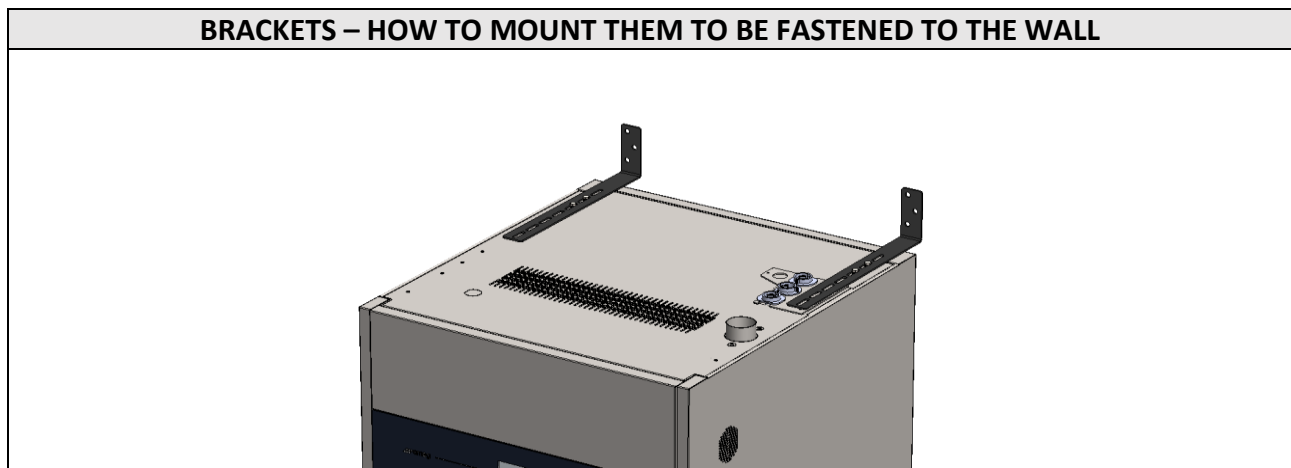
**FASTENING TO THE BACK WALL**

**FOR MACHINE WITH HINGED DOOR: FASTENING TO THE BACK WALL IS NECESSARY**

For a better stability of the machine, this must be fastened to the rear wall using the provided brackets. The brackets must be fastened to the top steel panel of the machine, using the provided screws. During transport, the brackets are already secured to the “TOP” panel.

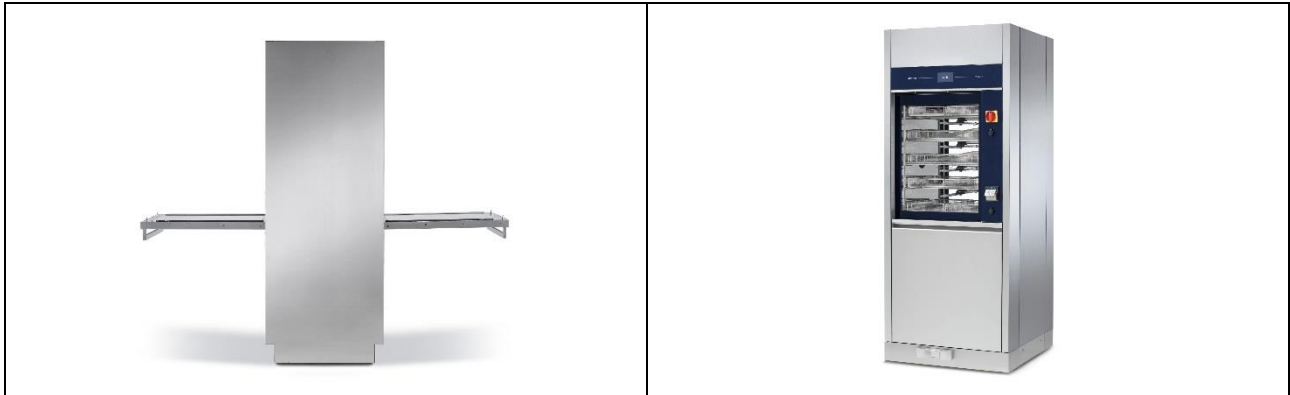


They must be dismantled and mounted again properly as shown in the following figure.



The wall fastening elements (e.g. the dowels) are not supplied with the product; they are at the client’s expense and must be chosen properly according to the type of back wall.

14.2.2 “DOUBLE DOOR” MACHINE



The “standard” positioning of the product is to align the front part against a wall, separating the unclean and clean sides.

The distinguishing feature of the “double door” machine is the separation of washing areas:

1. Unclean side (or “loading side”): receives dirty items that have not been processed.
2. Clean side (or “unloading side”): receives items that have already been treated with thermal disinfection

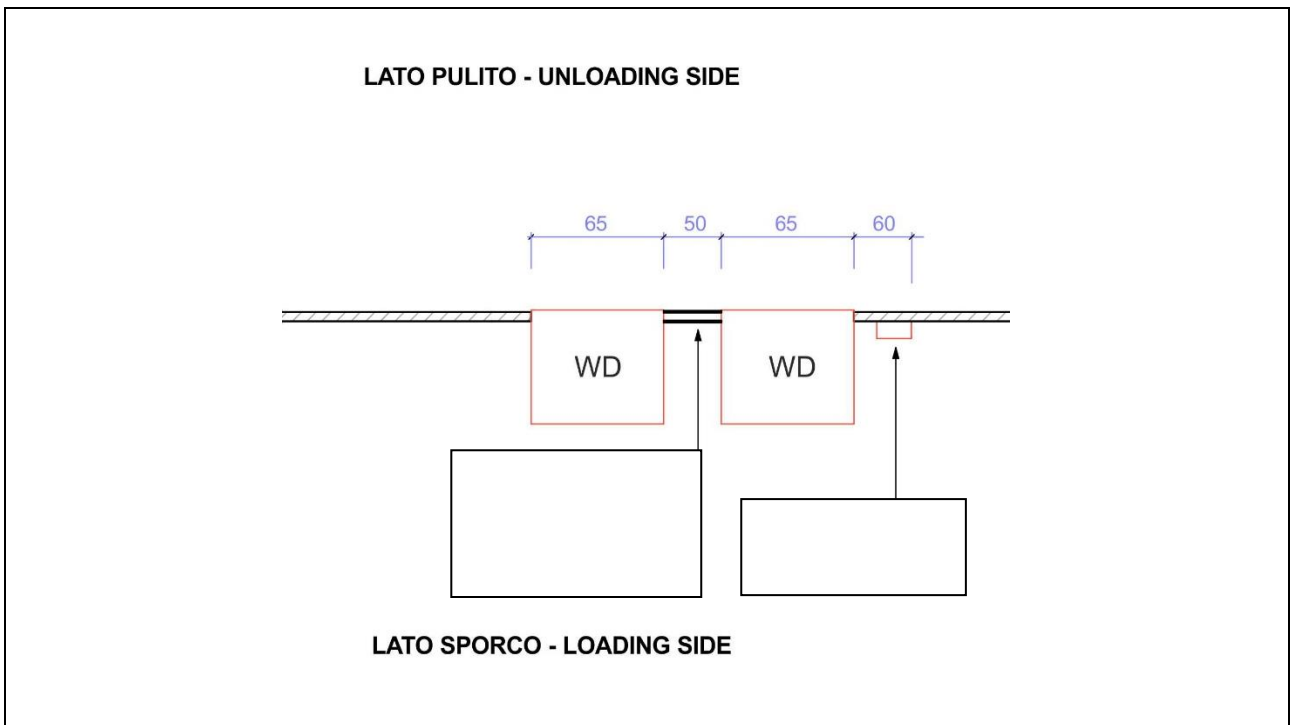


Figure 14.1 – Example of “feedthrough” positioning of two WDs

Additional installation option: position the machine so that the two free sides are aligned against two walls in order to create an intermediate compartment which is always free and available for technical assistance.

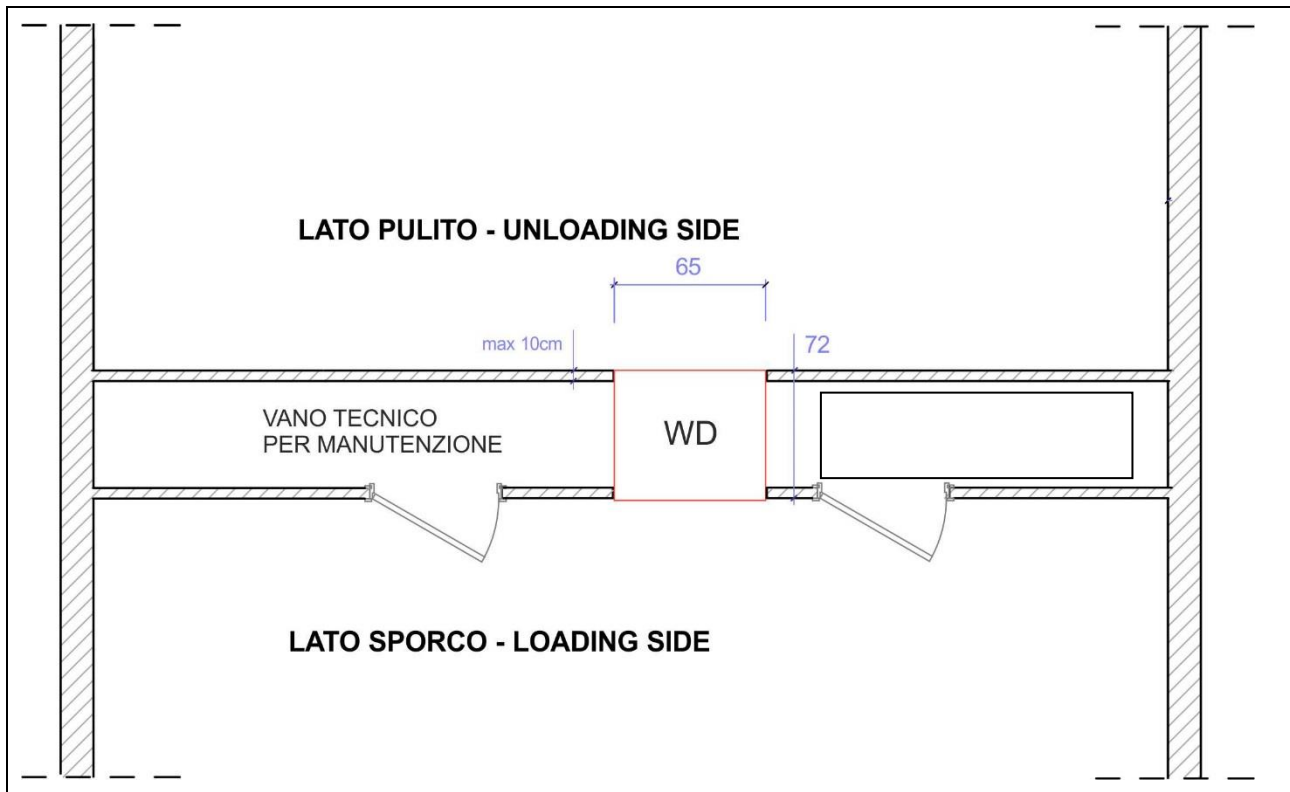


Figure 14.2 – Example: positioning of the machine between two walls, with access to the technical compartment. Measurements in cm.

### 14.3 ELECTRICAL WIRING REGULATIONS



#### **CAUTION**

*It is essential that the electrical system to which the machine is connected complies with current regulations.*

*All electrical testing operations and equipment installation should be made by qualified and trained personnel.*

***The designated personnel is responsible for ensuring the safety and efficiency of earth connection.***

#### **CONNECTION TYPE**

***The electrical connection of the device must be carried out with a permanent connection.***

*The device is supplied with a cable with insulated wire terminals; it is not supplied with a plug.*

#### **CIRCUIT-BREAKER**

***A CIRCUIT-BREAKER must be installed for each appliance.***

*Circuit-breaker characteristics:*

- a. Omnipolar: must break all live conductors;*
- b. Easily accessible to the user;*
- c. Easily operated (no additional tools required);*
- d. Located in close proximity to the appliance;*
- e. Clearly marked as the appliance circuit-breaker.*

*The same specifications apply to the main switch on the machine: it must be easily accessible. Do not place objects in a way that limits accessibility.*

#### **OVERCURRENT PROTECTIVE DEVICE**

***A PROTECTIVE DEVICE specifically for the appliance (e.g. magneto thermal breaker or fuse on every phase, with appropriate dimensions **based on the electrical characteristics indicated**) should be installed in the room's electrical panel.***

*Refer to the **Technical Data** sheet for the device's electrical connection specifications.*

### 14.4 ACCESS TO THE ELECTRICAL CABLE AND TO THE WATER CHARGING HOSES

Access to the electrical cable and charging hoses is differentiated according to the typology of the device:

Types of device	Devices with sliding doors Devices with hinged doors NOT fitted with optional boilers.	Devices with hinged doors WITH OPTIONAL BOILERS.
Power cable and water charging hose fitting procedure	Accessible from the <b>top of the machine.</b>	<b>Accessible from the rear</b> (or “clean side” in “double door” variant), after remove of the metal cover panel.

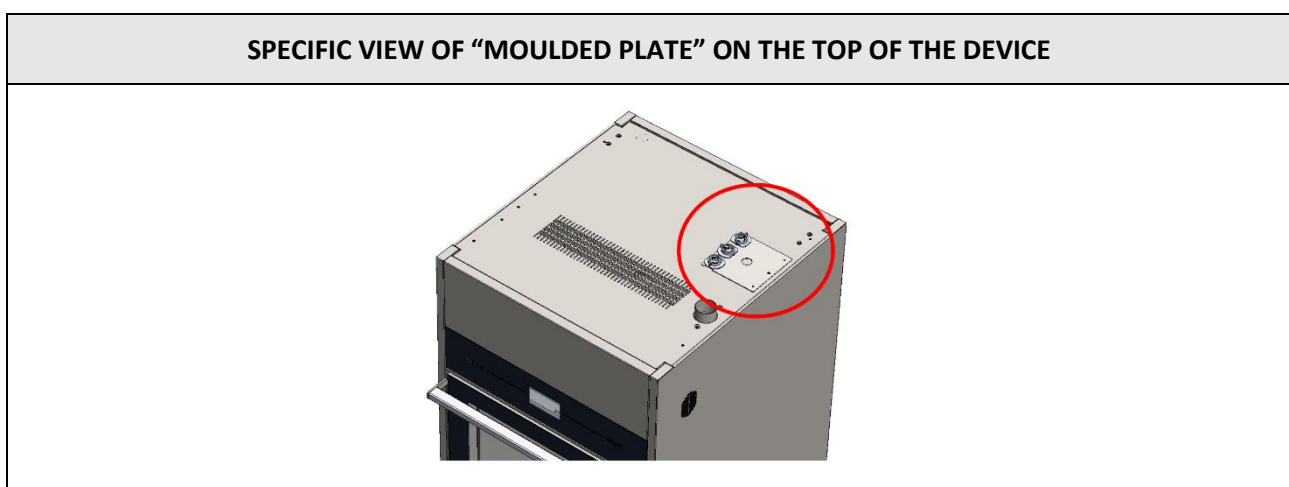
#### 14.4.1 ACCESS FROM TOP OF DEVICE

In the transport phase the hoses and cables are placed in a safety position, protected by the top panel of the device.

**At the first installation the authorized technician will make the hoses accessible:**

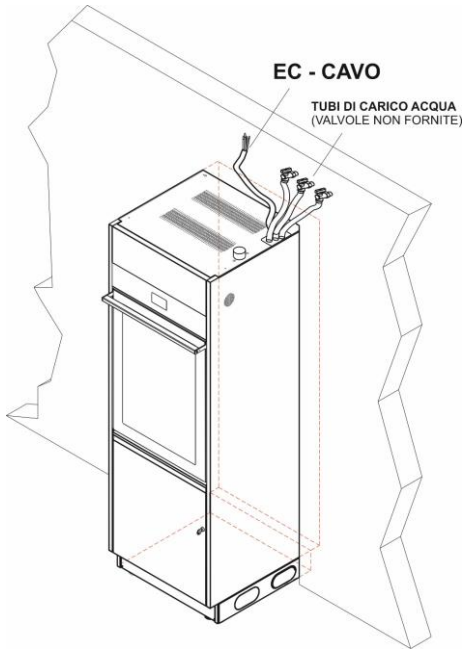
1. Removing the **MOULDED PLATE** on the top of the machine.
2. Placing the hoses in the most correct position and **using the hose stops provided** in the accessories pack:
  - a. Red hose: hot water.
  - b. Blue hose: cold water.
  - c. White hose: demineralized water.
3. At the end, replacing and fastening the top.

	<b>N.B.:</b> <i>The authorised technician may set up the device so that the power cable and water connection pipes are accessible from the back instead of the top.</i>
	<b>WARNING</b> <i>The air and steam vent tube has hot surfaces: during installation, fix the power cable and water charging hoses so that they are always a suitable distance from the vent (at least 10 cm).</i>

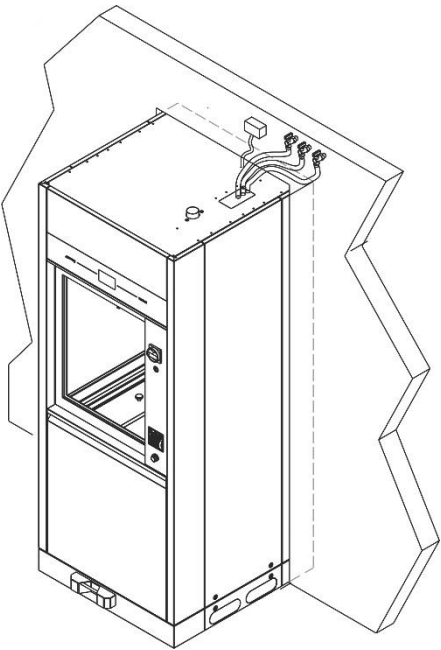


**EXAMPLE OF CORRECT INSTALLATION**

**N.B.:** As specified in the "Installation Requirements" document, the water inlet taps must be set to one side (not directly above the machine) so that any leaks or drips do not fall on top of the device.



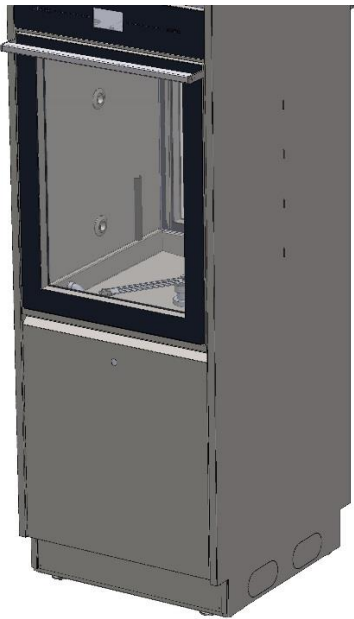
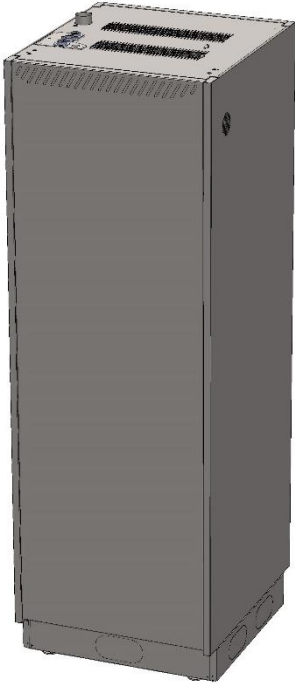
*Hinged doors*



*Sliding doors*

14.4.2 ACCESS FROM REAR

The devices (with hinged doors) equipped with optional boilers present the cables for electrical connection and the water charging hoses accessible from the back side of the machine, as shown in the following images.



Panel to be removed to access the cable of electricity supply and the water charging hoses.	
	
<p><b>“Double door”</b>: the lower steel small door on the <b>“Clean side”</b> must be removed to access the connections / electrical cable. Unlock the door with the supplied key, and open door by pulling it slightly upward.</p>	<p><b>“Single door” devices - Overview</b>: the metal back panel must be removed to access the connections / electrical cable. Loosen the screws placed below and open the panel by pulling it upward.</p>


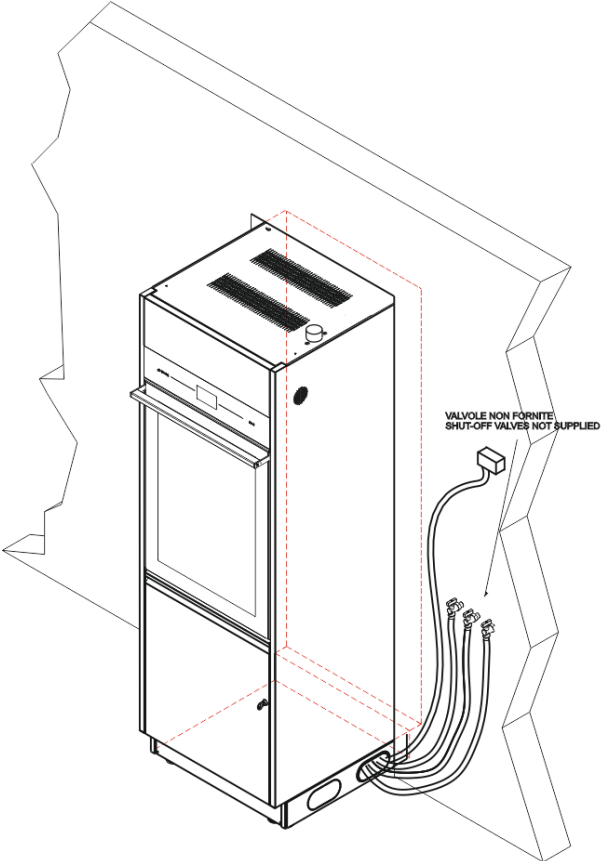
**Access to the electrical supply cable and hydraulic connections**



Once the back panel is open, **the electricity cable is visible on the lower left side.** The technician may access the **3/4" threaded solenoid valves** on the right side, for the **hydraulic connections**, marked according to typology (cold water/hot water/demi water).

Below is the description of the steps and fundamental elements for a correct positioning of the cable and the water charging hoses.

First steps description	Images	
<p>Lower metal panels: "pre-sheared" for the water loading pipes, water discharge pipe and power cord positioning.</p> <p>After removing the preblanking: use protection rubber on metal rim to protect the tubes that can be cut.</p>		

First steps description	Images
<p>The pipes and cables must be positioned correctly, using the rubber protection on sharp metal edges.</p>	
<p>Example of correct positioning of the pipes and of the power cord.</p>	 <p>VALVOLE NON FORNITE SHUT-OFF VALVES NOT SUPPLIED</p>

### 14.5 WATER SYSTEM SETUP

Refer to the installation scheme for the device dimensions, technical requirements and positioning of the water drainage system – refer to Doc. “Installation Requirements”. Key to the abbreviations used for water connections:

INITIALS	LOAD/DRAIN	WATER TYPE
<b>CW</b>	LOAD	Cold water tube – cw ( <i>cold water</i> )
<b>HW</b>	LOAD	Hot water tube – hw ( <i>hot water</i> )
<b>DW</b>	LOAD	Pressure demineralized water tube – dw ( <i>demineralized water</i> )
<b>D, FD</b>	DRAIN	Machine Drainage tube – d (drain) [FD (floor drain) for the floor drain connection]

#### 14.5.1 WATER LOAD

The machine is equipped with **three charging hoses**.

The hoses connect to taps with threaded bushing **3/4” gas**.

Use the supplied filter “A” in the image below to connect the charging hose end.

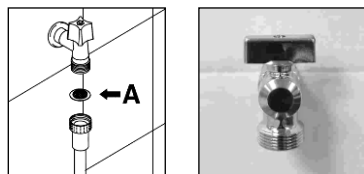


fig. 8 – to connect the charging hose insert the supplied filters.

TOT. NUMB. LOAD CONNECTIONS	CONNECTION TYPE		
	CW	HW	DW
3	1	1	1

**POSITIONING THE INLET VALVES:** The water inlet taps must be placed next to the device so that they can be easily reached by the user.



**WARNING**

Valves and hoses should be placed in such a way **that the removal of the hoses from the valves, for service procedures, does not cause water spilling on the device.**

**Note to prevent clogging or damage risk:** In the event that the water piping system is new or has not been used for a long time, check that the water is clean and free from contaminants before connecting it to the water supply.

If there is not a double supply of hot / cold water, the two supply pipes (**cw** and **hw**) must be connected through the “Y” pipe fitting (see image below).

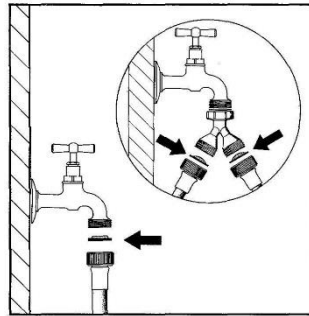


fig. 9 – "Y"-shaped connection to supply water by insertion of filters.

The supply water characteristics must satisfy the requirements outlined in the product manual's TECHNICAL CHARACTERISTICS section.

If the water supply does not meet the outlined characteristics, a treatment system may be required.

Contact your trusted dealer for more information.



**WARNING – MAINTAINING WATER CHARACTERISTICS**

**Regular inlet water inspections are necessary** (e.g. 6 months/1 year) to check that the initial values are maintained and to make any necessary corrections to the machine parameters in case of modification.

#### 14.5.2 DEMINERALIZED WATER

**DW: DEMINERALIZED WATER – optional connection, strongly recommended**

If available, dematerialized water is recommended to optimize elimination of salt and chemical residues included in the network supply water.

Note: lack of demineralized water does not compromise the elimination of dirt residue.



**WARNING – LACK OF DEMI WATER**

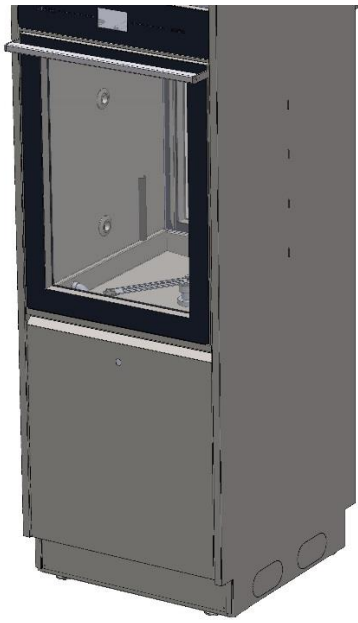
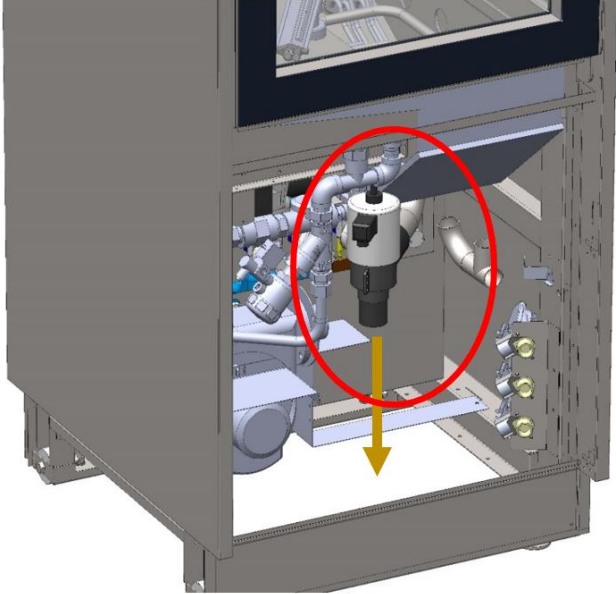
*If demi water is not available, do not connect its pipe to the cold or hot water inlets. Leave the demi water pipe unconnected.*




***If demi water is not available it will be necessary to correct the machine settings. This is the duty of the Authorized Service Center.***

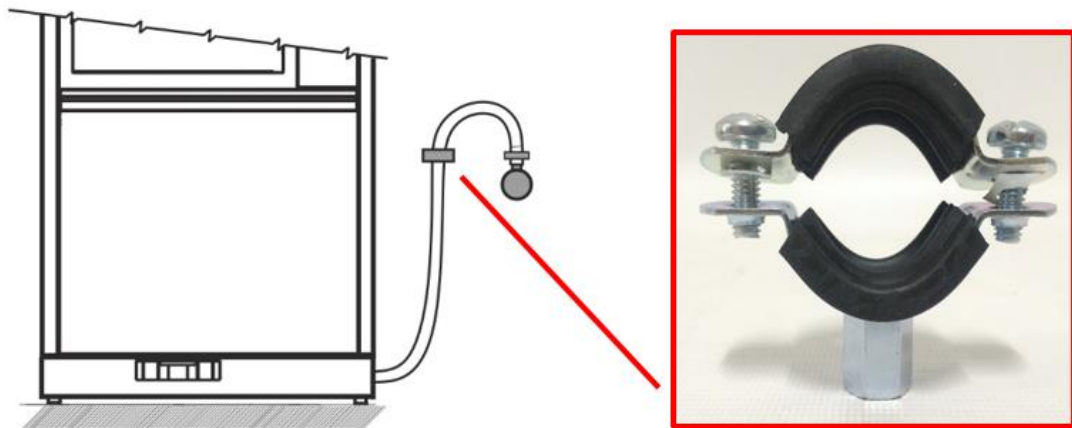

### 14.6 WATER DRAIN

Refer to the installation scheme for the dimensions of the device and the position of the water drainage system requested.

**If the optional drain pump is installed**, refer to the specific diagram of positioning of the drain connections. The pump is necessary if the premises do not have a floor drain.

	
<p><b>Over view of “Clean side”:</b> the lower steel small door (the rear panel in case of single door machine) must be removed to access the water drainage connections of the device.</p>	<p>Once the lower small door has been removed, the <b>drainage solenoid valve</b> (in the center) must be connected to the machine’s drainage system according to the specifications outlined in the “SYSTEM SETUP” section of the product manual. In addition, the following regulations must be met:</p>

	<p><b>WARNING</b> <b>Water must be drained according to international regulations:</b> the manufacturer is not liable in case of improper use of the machine resulting in pollution.</p>
	<p><b>WARNING</b> Drained water may contain biologically hazardous materials. It must be handled and treated according to the regulations enforced by the country in which the machine is installed.</p>
	<p><b>The waste pipe end must be fastened to the rubber hose connector using the supplied ties. The temperature of the drain water is 95°C.</b></p> <p><b>WALL DRAIN HOSE CONNECTION</b>, if the <b>drain pump</b> (optional) is fitted: <b>Fix the end of the hose to the wall securely</b> with hose clamps to prevent "whiplash" effects which could weaken the drain connection and potentially damage components. (The hose clamps are not supplied).</p>



	
	<ul style="list-style-type: none"> <li>- the waste pipe must not have sharp bends or constrictions.</li> <li>- the waste pipe end must be placed in a <b>position compliant to its specifications</b> with respect to the supporting surface.</li> <li>- The <b>internal diameter</b> of the waste pipes must be <b>at least 40 mm</b>.</li> <li>- It is recommended to install waste pipes of <b>at least 50 mm in diameter</b>.</li> </ul>


**General regulations for drainage system installation**

A drainage system with a trap is recommended. During installation it is necessary to observe the following precautions:

- The waste pipe must not have sharp bends or constrictions.
- The waste pipe end must be placed **in a position compliant to its specifications** with respect to the supporting surface.
- The pipe end must never be immersed in water. The **internal diameter** of the waste pipe must be **at least 40 mm**.
- It is recommended to install waste pipes with a **50 mm diameter**.

Procedure for the hydraulic connection to the drainage when there is a floor drain.

Description of fundamental steps	Images	
Typical example of a drain compatible with the fitted drainage.		
The provided membrane must be slipped over the red waste pipe of the machine in order to limit the flows of drainage vapors. Connect the red waste pipe to the drain.		

Description of fundamental steps	Images
<p>Make the membrane stick to the floor; this will prevent leaks of drainage vapors.</p>	




## 14.7 STEAM SYSTEM CONNECTION (OPTIONAL)

Steam heating is an optional of this device which can only be installed in the factory.

The following connections are necessary for the operation of this system:

1. To the steam system;
2. To the steam return line, marked "Condensate";
3. To the compressed air, for operation of the control valve.

The connection characteristics required are specified in the "TECHNICAL CHARACTERISTICS" section of this manual. The positions of the connections are detailed in the "INSTALLATION REQUIREMENTS" document.

	<p><b>DEDICATED SHUT-OFF TAPS</b></p> <p>All steam connections must have dedicated shut-off devices suitable for the system's characteristics. The taps must be:</p> <ol style="list-style-type: none"> <li>a. Easily accessible by the user;</li> <li>b. Easy to operate (no tools required);</li> <li>c. Located in the immediate vicinity of the appliance;</li> </ol> <p>Flush out the system pipes before connecting them to the device, in order to prevent fouling of the filters.</p>
	<p><b>REGULATOR AND SAFETY DEVICES</b></p> <p>The system must include regulator and safety devices to ensure that the maximum pressure value specified in the technical characteristics is never exceeded.</p> <p>The system's safety components must be checked and if necessary calibrated regularly.</p>
	<p>The heating coil inside the washing chamber sump and the steam system outlet and return pipes may become very hot; always avoid direct contact with these components.</p>

## 14.8 CHAMBER VENT CONNECTION (AIR AND STEAM)

**The area must be prepared so that the vent tube of the machine can be connected.**

The top of the machine has a CHAMBER vent tube, marked in the scheme as “EX” which must be properly connected to the vent pipes (suction) of the system.

EX – Air and steam vent			
		6010, 7010	7015
	Connection type	DN 50 on the upper side of the machine	DN 60 on the upper side of the machine
	Capacity	250 m <sup>3</sup> /h	500 m <sup>3</sup> /h
	Temperature	Max 95°C	Max 95°C

**The fitting elements are at the client’s expense** and must be chosen and dimensioned by an authorized technician taking into consideration:

1. Temperature involved.
2. The maximum capacity of the vent steam.
3. Accessibility and maintainability of the parts.

### WARNING – STEAM VENT



The fitting unit of the vent conduct must be made so that condensation is not discharged onto the outer surface of the machine.

(Requirement 5.24.4 standard EN ISO 15883-1 “When a ductwork connection is required the connection shall ensure that any condensate will not discharge onto the outer surface of the WD, e.g. the connection should be of the spigot type with the connecting ductwork inside the spigot up stand on the WD.”).

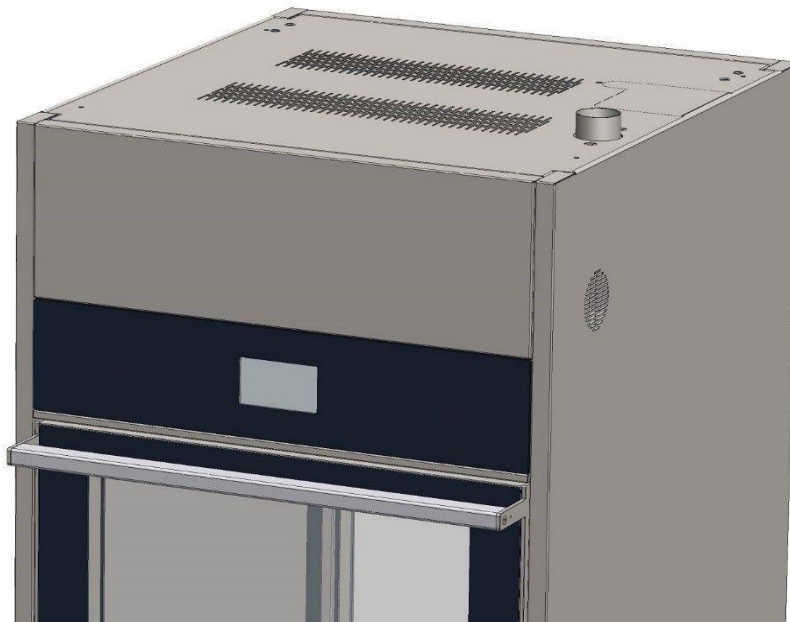



Figure 14.3 – view of the upper side of the machine, tank vent tube.

## 15 TECHNICAL CHARACTERISTICS

REQUIRED WATER SUPPLY			
<b>Required water type</b>	1 – Cold Network <b>CW</b> (compulsory)	2 – Hot Network <b>HW</b> (optional)	3 – Demineralized <b>DW</b> (advised)
<b>Pressure Range</b>	<b>100 kPa – 600 kPa</b> <b>(1 bar – 6 bar)</b>		<b>100 kPa – 600 kPa</b> <b>(1 bar – 6 bar)</b>
<b>Threaded connection type</b>	3 / 4 "		3 / 4 "
<b>Required flow rate [min – max]</b>	4 – 12 litres / min.		4 – 12 litres / min.
Max. hardness	<b>8 °f</b>		-
Fe <sup>2+</sup> / Fe <sup>3+</sup> [max.]	0.5 ppm		-
Min. - Max. temperature	8 – 25 °C	8 – 60 °C	8 – 60 °C
Max. Conductivity	-	-	<b>30 µS/cm</b>
<b>Microbial contamination limits</b>	Minimum microbiological quality required: "drinking water type" (ref. limits provided by Legislative Decree 31/2001, European Directive 98/83/CE)		-
STEAM CONNECTIONS (OPTIONAL HEATING SYSTEM)			
<b>Steam connection</b>	1 / 2 "		
<b>Pressure Range</b>	200 kPa – 400 kPa (2 bar – 4 bar)		
	<b>GW6010, GW7010</b>	<b>GW7015</b>	
<b>Flow rate</b>	1.0 kg/min (a 400kPa)	1.5 kg/min (a 400kPa)	
<b>Condensate connection</b>	1 / 2 "		
<b>Max. Counter-pressure</b> (condensate)	30 kPa (0.3 bar)		
<b>Compressed air, pressure range</b>	400 kPa – 800 kPa (4 bar – 8 bar)		
<b>Air tube fitting</b>	Ø 6 mm		
For the connection of the steam optional system, the machine has male threaded connections; required for the system, female fittings.			
The steam optional system also requires the connection of compressed air.			

<b>WEIGHT AND DIMENSIONS</b>			
<b>Model</b>	<b>GW6010</b>	<b>GW7010</b>	<b>GW7015</b>
<b>External Standard</b> [Height x Width x Depth]	1950 x 650 x 720	1950 x 780 x 800	1950 x 900 x 1000
<b>External also considering projecting parts</b> (vent and multi-purpose trolley connections).	-	2000 x 780 x 900	2000 x 900 x 1000
<b>Net weight</b> (empty tank)	280 kg	300 kg	400 kg
<b>Machine weight + packaging</b>	310 kg	340 kg	450 kg
<b>Max. weight in use (loaded trolley + water)</b>	380 kg	400 kg	580 kg
<b>MATERIALS</b>			
<b>Washing tank</b>	AISI 316L		
<b>Exterior covering</b>	AISI 304		

ELECTRICAL POWER SUPPLY				
	DESCRIPTION	ELECTRICAL POWER SUPPLY	CABLE SUPPLIED	ADVISED CIRCUIT BREAKER [ required on the building side ]
<b>GW6010 - GW7010</b>				
<b>ELECTRICAL CONNECTION 50Hz</b>	DEFAULT 400V (Default connection)	400V 3N~ / 50Hz / 24A / 13000W	FROR 5 x 6 mm <sup>2</sup> (5G6), 450/750 V, brand IMQ	3P+N, 32A, 400V, 4,5kA (Pdi min.)
	THREE-PHASE VARIANT 230V WITHOUT NEUTRAL	230V 3~ / 50Hz / 36A / 13000W	FROR 4 x 6 mm <sup>2</sup> (4G6), 450/750 V, brand IMQ	3P, 40A, 400V, 4,5kA (Pdi min.)
<b>GW6010</b>				
<b>ELECTRICAL CONNECTION 60Hz</b>	DEFAULT 400V (Default connection)	380-400V 3N~ / 60Hz / 24A / 13000W	FROR 5 x 6 mm <sup>2</sup> (5G6), 450/750 V, brand IMQ	3P+N, 32A, 400V, 4,5kA (Pdi min.)
	THREE-PHASE VARIANT 230V WITHOUT NEUTRAL	220-230V 3~ / 60Hz / 36A / 13000W	FROR 4 x 6 mm <sup>2</sup> (4G6), 450/750 V, brand IMQ	3P, 40A, 400V, 4,5kA (Pdi min.)
<b>GW7010</b>				
<b>ELECTRICAL CONNECTION 60Hz</b>	DEFAULT 400V (Default connection)	400V 3N~ / 60Hz / 24A / 13000W	FROR 5 x 6 mm <sup>2</sup> (5G6), 450/750 V, brand IMQ	3P+N, 32A, 400V, 4,5kA (Pdi min.)
	THREE-PHASE VARIANT 230V WITHOUT NEUTRAL	230V 3~ / 60Hz / 36A / 13000W	FROR 4 x 6 mm <sup>2</sup> (4G6), 450/750 V, brand IMQ	3P, 40A, 400V, 4,5kA (Pdi min.)
<b>GW7015</b>				
<b>ELECTRICAL CONNECTION 50Hz</b>	DEFAULT 400V (Default connection)	400V 3N~ / 50Hz / 30A / 20000W	5 x 10 mm <sup>2</sup> (5G10), FG16OR16 0,6/1kV	3P+N, 40A, 400V
	THREE-PHASE VARIANT 230V WITHOUT NEUTRAL	230V 3~ / 50Hz / 45A / 17000W	4 x 10 mm <sup>2</sup> (4G10), FG16OR16 0,6/1kV	3P, 50A, 400V
<b>ELECTRICAL CONNECTION 60Hz</b>	DEFAULT 400V (Default connection)	380-400V 3N~ / 60Hz / 30A / 20000W	5 x 10 mm <sup>2</sup> (5G10), FG16OR16 0,6/1kV	3P+N, 40A, 400V
	THREE-PHASE VARIANT 230V WITHOUT NEUTRAL	220-230V 3~ / 60Hz / 45A / 17000W	4 x 10 mm <sup>2</sup> (4G10), FG16OR16 0,6/1kV	3P, 50A, 400V

OTHER DATA		
DATA COMMUNICATION	<b>USB SERIAL PORT</b> (ON LOADING SIDE OF DEVICE)	
	<b>LAN PORT</b> (OPTIONAL - ON TOP OF DEVICE)	
	<b>RS232 FOR REMOTE PRINTER</b> (OPTIONAL PORT PROVIDED ON TOP OF DEVICE, INSTALLABLE IF THE PANEL PRINTER IS NOT INSTALLED)	
MAX. NOISE	66 dBA	
ENVIRONMENTAL CONDITIONS		
USE	Internal	
ALTITUDE	Up to 1000m	
ENVIRONMENT TEMPERATURE	From 10°C to 40°C	
MINIMUM LIGHTING LEVEL REQUIRED	300 lx	
	<b>GW6010, GW7010</b>	<b>GW7015</b>
<b>HEAT EMISSION INTO THE ROOM - CYCLE RUNNING</b> (assessed considering a cycle containing a 93°C thermal disinfection cycle - not including the heat emitted by the steam vent)	1000 W (3500 BTU/h)	1500 W (5250 BTU/h)
MAX. RELATIVE HUMIDITY	80% for temperature up to 31°C with lineal decrease to 50% at the temperature of 40°C.	
INSTALLATION CATEGORY (or OVERVOLTAGE CATEGORY)	II	
ELECTRICAL INSULATION CLASS (ref. IEC 61140)	I	
POLLUTION DEGREE	2 (ref. 61010-1:2010, par.3.6.8)	
REGULATIONS AND CLASSIFICATION		
CONFORMITY		
	<ul style="list-style-type: none"> <li>- European directive 2014/35/EU [Safety]: European Standard EN61010-1 :2010, EN61010-2-040 :2015</li> <li>- European directive 2014/30/EU [Emc] : European Standard EN61326:2013</li> <li>- Other: European Standard EN 61770:2009</li> <li>- European directive 2011/65/CE [RoHS 2] : European Standard EN 50581 :2012</li> </ul>	

## 16 MANUFACTURER REFERENCES AND AFTER-SALES SERVICE

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