

# FX-44

## Operation Manual

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## **CAP.1 INTRODUCTION**

This manual provides important instructions about safe installation, use and maintenance of the dishwasher, so it is crucial that you read it carefully.

Careful installation and accurate and constant maintenance will ensure you years of safe operation and perfect washing results of your dishwasher.

Please consult the manufacturer for any need for service. Please keep in mind that non-compliance with the instructions contained in this manual will cancel the warranty. We recommend you retain this manual for future reference.

We remind you that the warranty does not cover:

Damage caused by transport. If this should occur, the customer must report it to the dealer before the dishwasher in question is installed.

Damage caused by incorrect installation. It is therefore compulsory that installation and testing be performed by qualified and skilled personnel.

Damage caused by any use other than that for which the machine has been manufactured.

Damage caused by non-compliance with the provided instructions.

The installer must:

Check for perfect electrical connection and in particular good earthing, as well as the presence of a suitable earth-leakage breaker and a circuit breaker.

Make sure that the wall-mounted circuit breaker is easily accessible and close to the machine.

Test the machine and make sure there is no malfunction.

Inform and train the personnel in charge of operating the machine about its use and the hazards it generates.

Agree with the user on a periodic check of the machine according to how much the machine is used.

## **TERMINOLOGY**

The terms “main switch”, “on-off valve” and “drain line” are used in this manual with the following meanings:

Main switch:

- ☐ It must be a circuit breaker with thermal magnetic tripping mechanism able to completely cut off the power supply from the dishwasher.
- ☐ It must be installed outside the dishwasher but close to it.
- ☐ It must supply one appliance only.

On-off valve:

- ☐ Monodirectional on-off gate or ball valve able to quickly and completely turn off the water supply.
- ☐ It must be installed outside the dishwasher but close to it.
- ☐ It must supply one appliance only.

Drain line:

- ☐ It must consist of one flux trap
- ☐ It must have a suitable size for draining double the flow rate indicated in the table.

## **CAP.2 DISHWASHER HANDLING AND TRANSPORT**

### **2.1 Transport and packing**

- The dishwasher must be transported using suitable means.
- The appliance must be packed in a cardboard box on a wooden pallet.

### **2.2 Handling**

- The hitch points are indicated on the packing box.
- The dishwasher must be handled using a lift trolley.
- Do not sling the dishwasher with ropes.

## **CAP.3 DANGER ZONES AND SAFETY MECHANISMS**

Identification of the danger zones and relevant type of hazard and general description of the safety measures.

### **3.1 Danger of burns:**

- On the booster tank and the rinsing circuit during machine installation and maintenance.

### **3.2 Hazardous electric current:**

- On the main electrical control panel
- On washing and rinsing pumps
- On electric resistances

#### **Protection of the dishwasher's hazardous parts**

- The panels are the protection that limits access to the internal components.
- The panels are fixed with screws

#### **Residual risks**

- Do not open the doors of the dishwasher during operation.
- Do not introduce bare hands in the washing tank.
  - Do not remove the machine panels before disconnecting the power supply.

### **3.3 Safety devices:**

#### **Magnetic microswitch**

- Device that interrupts filling, washing and rinsing operations when the hood or door is opened.

#### **Thermal amperometric protection element**

- Motor pumps with incorporated automatic reset thermal switch which cuts off the motor's electric power supply in case of anomalous operation.

#### **Safety thermostat**

- In case the temperature control breaks, a second safety contact thermostat with manual reset comes into operation and interrupts the resistive elements' operation.

## **CAP.4    INSTALLATION**


### **4.1    Removal from packing and positioning:**

- Make sure that the dishwasher is in perfect condition. In case of signs of damage, report them to the seller and haulage contractor. In case of doubt concerning the dishwasher conditions, do not use it before having it checked by an authorised service centre.
- The installation must be performed exclusively by qualified technicians, according to the manufacturer's instructions.
- Move the dishwasher where you wish to install it and remove the packing.
- This dishwasher is designed for fixed connections only.
- Position the dishwasher on a flat surface.
- Install electrical, hydraulic and drain lines in the washing area according to the instructions provided on the machine's technical data sheet. Further details are indicated in the paragraphs relative to plumbing and electrical connections.
- Before connecting the dishwasher to the water and electrical supply, make sure that the general features and data indicated by the manufacturer on the plate on the back of the manual have been complied with as far as the arrangement of the installation site is concerned.
- The floor must be measured taking the overall weight of the machine into consideration. It must also be perfectly flat.

**NOTE:** to connect the dishwasher to work tops, couple the supports on the edges of the tank and fix them using the screws provided. The connection can be either on the front or side.

### **4.2    Electrical connections :**

“The dishwasher shall be installed in accordance with local codes, or in the absence of local codes, installed in accordance with the applicable requirements in the National Electrical Code, NFPA 70, Canadian Electrical Code (CEC), Part 1, CSA C22.1, and Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations, NFPA 96”

- When connecting the dishwasher to the power supply, refer to the wiring diagram and the data plate of the dishwasher.
- Make sure that the voltage and frequency of the power supply correspond to those on the plate indicating the technical characteristics located on the right side of the machine.
- Install a “main switch” (not provided) on the electrical line that supplies the dishwasher in compliance with the requirements of the local electrical standards.
- All the electrical connections go to the terminal block located inside the machine, then connect to the mains using a power cord (not provided) suitably sized for the load (see plate adjacent to the terminal block); the cord and plug must comply with the requirements of the local electrical standards.
- The appliance must also be included in an equipotential system, the connection of which is performed using a screw marked with the following symbol: . The equipotential conductor must have a section of 10 mm².
- An effective earthing system in conformity with the prevention standards in force is a guarantee for operator and equipment safety.
- In the three-phase models, check for correct rotation of the wash pump.

**Note:** If interventions on the electric circuit must be performed, disconnect from the mains and apply a tag on the switch indicating the intervention in progress.

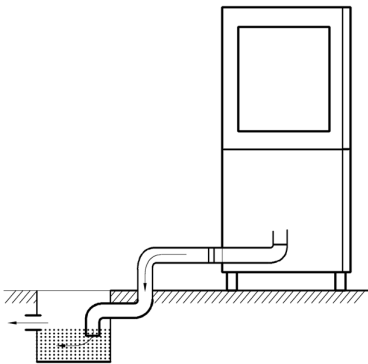
### 4.3 Plumbing connections:

To connect the dishwasher to the water network make sure that:

- There is a “gate valve” that is able to interrupt the water supply when necessary or in case of repair.
- A supply pipe has been envisaged for each user in order to avoid any load or pressure drops.
- A pressure reducer complete with by-pass has been installed upstream, if the static pressure is greater than 345 kPa (50 psi).

Then connect the filling solenoid valve to the water supply tap using the hose provided.

### 4.4 Connection to the drainage :



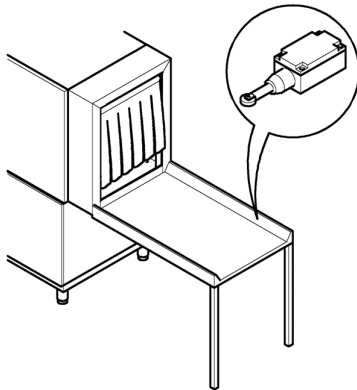
The tank empties by gravity, so the drain must be at a lower level than the machine base.

Connect the machine drains to the sewer system using pipes that resist a constant temperature of 80°C.

The drain spigot must be connected to a well or a water trap in the floor by a flexible pipe drain.

### 4.5 Limit switch connection:

The table below indicates the requirements and default settings of the dishwasher:



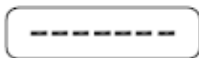
Mount the limit switch (found on the side panel of the machine) on the outfeed surface.

### 4.6 Commissioning (filling the Booster Tank):

It is necessary to carry out the following Booster Tank filling operation during the installation phase.

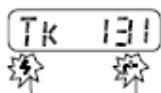
- 1) Energize the machine using the wall-mounted main switch.

The machine emits a beep and displays the uploaded software version, after which some dashes as shown in the figure appear.

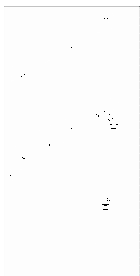


- 2) Turn on the machine by pressing the line button  and the machine will start to charge water. Wait for

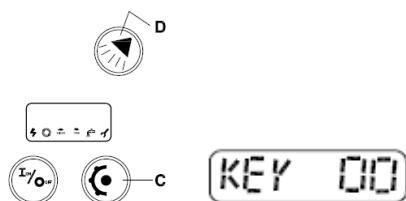
the water to come out of the rinse arms.




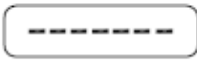
Caution: if the tank door is not closed, the machine will not charge the water, so check the door by looking inside the machine baskets outlet.



- 3) Now the booster tank should be full, so start the quick heating of the booster. Turn off the machine, open one of the machine doors, and at the same time press buttons C and D for a few seconds until the wording Key 00 appears.



- 4) Go to Key 01 by pressing button C and confirm with D.  
5) The wording QUIK READY NO will appear afterwards. Press C to change the status to Yes.

Keep the line button  pressed until you see this again:  . Then re-start the machine and the quick heating will be activated. Lastly, wait until the machine is completely filled.

#### 4.7 Adjusting the controls

The table below indicates the requirements and default settings of the dishwasher:

minimum washing temperature	170 °F (75°C)
minimum rinsing temperature	190 °F (88°C)
intensive washing program (speed 1)	150 racks/h
quick washing program (speed 2)	200 racks/h
Filling hose	26.4 mm (3/4")
Max. incoming water temperature	140 °F (60 °C)
Min. incoming water pressure	100 kPa (14.5 psi)
Max. incoming water pressure	345 kPa (50 psi)
Water hardness (recommended)	6 (French degrees)
Water flow rate	20 l/min. (5.3 gpm)

For viewing the temperatures and operating times:



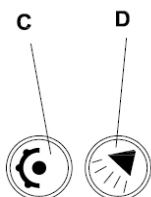
By keeping the C button pressed for approximately 4 seconds, the instant temperature of the booster and of the tank can be viewed. The number of daily hours and of the machine's working totals of the machine's life will also run across the display.

**Warning for machines without measuring devices:**

"This machine must be operated with an automatic detergent feeder and, if applicable, an automatic chemical sanitizer feeder, including a visual means to verify that detergents and sanitizers are delivered or a visual or audible alarm to signal if detergents and sanitizers are not available for delivery to the respective washing and sanitizing systems. Please see instructions for electrical and plumbing connections located in this manual and in the feeder equipment manual."

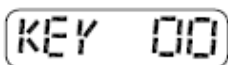
#### 4.8 Adjusting the amount of rinse aid

The quantity of rinse aid can be adjusted by determining the measuring device on/off time. Follow these instructions:



Turn off the machine, open the door and keep the C and D buttons pressed for 5 seconds.

The following will then appear:



Display the following by using the C button:



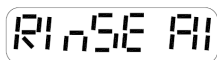
Confirm the entry to the main menu mode using the D button



Then scroll the various menu items using the A button

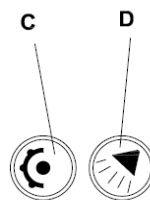


until the following appears:



"rinse aid" with the on time expressed in seconds specified.





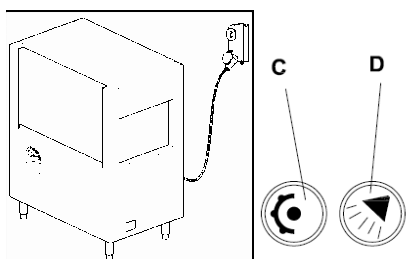
The on time can be modified by acting on the following buttons:  
The measuring device operation is disabled when the value 0 is set.

The set time will be automatically saved. To exit this mode just keep the A button pressed until the machine-off dashes are displayed.  
We recommend you set the most appropriate value according to the manufacturer's recommended dose.  
Perform a few test washes to complete the adjustment stage.

#### 4.9 Detergent measuring device (optional) adjustment:

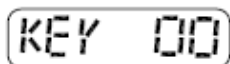
The quantity of detergent can be adjusted by determining the measuring device on/off time.

Follow these instructions:



Turn off the machine, open the door and keep the C and D buttons pressed for 5 seconds.

The following will then appear:



Display the following by using the C button:



Confirm the entry to the main menu mode using the D button



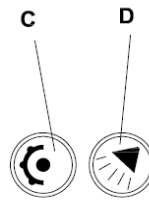
Then scroll the various menu items using the A button



until the following appears:

DETEGE

“detergent” with the on time expressed in seconds specified.



The on time can be modified by acting on the following buttons:

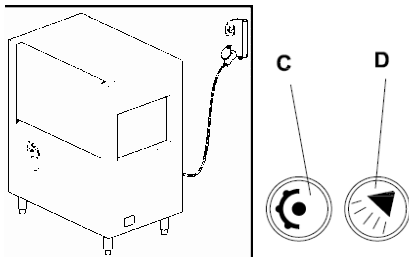
The set time will be automatically saved. To exit this mode just keep the C button pressed until the machine-off dashes are displayed.

We recommend you set the most appropriate value according to the manufacturer's recommended dose. Perform a few test washes to complete the adjustment stage.

**CAUTION:** This menu features items whose setting must not be modified. If some parameters are modified accidentally, just set the **KEY 10** to reset to the default values.

#### 4.10 Commissioning the detergent and rinse aid measuring device

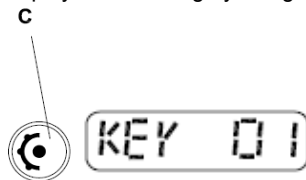
Once the machine is installed, it is possible to load or trigger the pipes of the detergent and rinse aid measuring devices by following these instructions:



Turn off the machine, lift the hood or open the door and keep the C and D buttons pressed for 5 seconds. The following will then appear:

KEY 00

Display the following by using the C button:



Confirm the entry to the main menu mode using the D button



Then scroll the various menu items using the A button

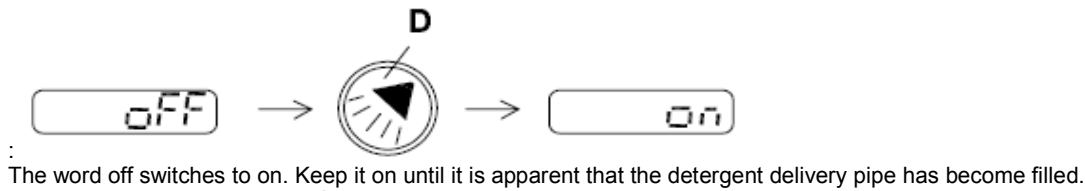


until the following appears:

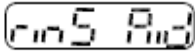
DETE Pum

“detergent pump”

Now it is possible to enable the measuring device by keeping button D pressed



Again pressing the button go to the wording "rinse aid pump".



Fill the rinse aid measuring device pipes following the same instructions provided for the detergent measuring device.

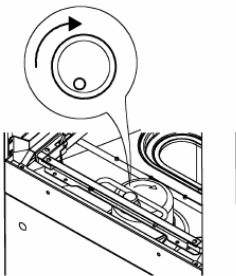
#### 4.11 Checks and inspections:

Check the adjustment screw of the towing system while verifying that it is possible to stop the baskets from going forward with just the force of your hands. A complete load of baskets filled with dishes must not block the towing feed

e) Check that the rinse economizer is working well. It has to start delivering hot water at mains pressure as soon as a basket arrives underneath the rinsing nozzles, and has to stop when the basket exits. It is advisable to check this when the booster tank water is cold.

f) Check operation of the machine's limit switch, which has to block operation of the feed motor and pump when a basket reaches the end of the surface. Operation must resume when the basket is removed.

g) Check the sense of rotation of the motors. If they turn against the arrow shown on the towing actuator, reverse a phase in the power cable socket-outlet.



**CAUTION: If the towing turns against the direction of the arrow shown, the mechanical safety device is not working.**

Failure to comply with these checks automatically causes the warranty to be forfeited

#### AFTER INSTALLATION:

The installer is obliged to inform the manufacturer of any operation or safety problems noticed during the first test.

The machine may be used only after installation. The technician must then issue a declaration that the work has been performed "in a workmanlike matter", which he states that all operations have been carried out according to all rules and regulations prescribed by current legislation.

## 4.12 Prevention measure recommendations:

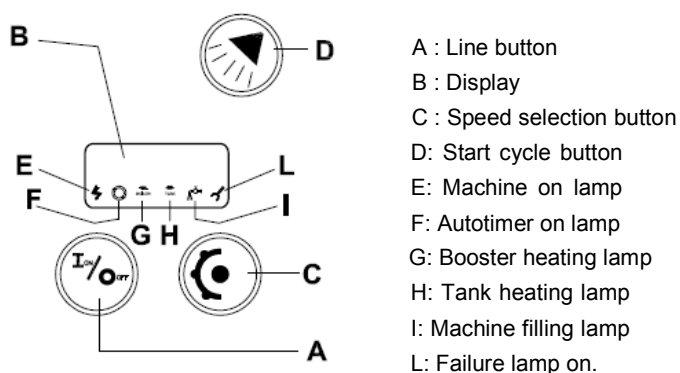
We recommend you carefully follow the instructions below in order to maintain the dishwasher in perfect and safe operational conditions:

- ❑ **Use the appliance only for the purpose it has been designed for.**
- ❑ **Any other use is considered improper and dangerous.**
- ❑ Use baskets suitable for dishes to load and unload the machine.
- ❑ Do not leave the machine exposed to atmospheric agents.
- ❑ **DO NOT** bypass the safety devices of the machine (microswitches, thermostats) envisaged by the manufacturer.
- ❑ **DO NOT** operate the machine if it is not connected correctly and all safety devices are not operating.
- ❑ **Have any repair performed only at the manufacturer's premises or at authorised service centres; only genuine spare parts must be used.**
- ❑ **Failure to follow these instructions may jeopardise safety of the machine.**
- ❑ **Do not leave the machine on if not in use.**
- ❑ We recommend you do not use steel brushes or sponges, acid products and corrosive substances to clean stainless steel.
- ❑ Never start the machine washing cycle without the overflow in the tank.
- ❑ Before emptying the machine, always turn it off using the wall-mounted switch.
- ❑ Never move any magnetic objects close to the machine, it could start even with the hood open.
- ❑ Never use the hood as a support surface.
- ❑ Do not wash the machine using direct jets of water.
- ❑ Always close the water supply when the machine is not being used.
- ❑ Never open the machine hood quickly if it has not finished the cycle.
- ❑ Never immerse bare hands in the washing solutions.
- ❑ Never remove the machine panels if the upstream electricity supply has not been previously disconnected.
- ❑ The machine must not be used by untrained personnel.
- ❑ Never use the machine without protections.
- ❑ Do not use the machine to wash objects of shapes, types and sizes that are not compatible with those declared by the manufacturer.

Turn off the machine immediately using the main switch if you notice any water leaks coming from the machine.

## CAP.5 DISHWASHER USE

### 5.1 DISHWASHER USE :



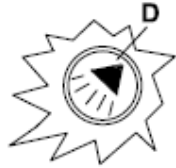
### 5.2 Setting up the dishwasher for use:

- ❑ Open the wall-mounted water valve
- ❑ Switch on the wall-mounted line switch
- ❑ Place the overflow and washing filters in their envisaged positions

### 5.3 Using the dishwasher:

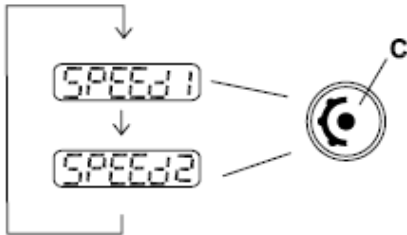


Turn the machine on with button A. Water will start charging and then heating automatically turns on.



2) Wait until the machine is ready for washing.

When button D lights up green, the machine will be completely ready and then it will be possible to start washing.

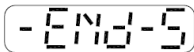


3) You can select the type of basket speed using button C. Choose the type of speed based on the type and amount of grime on the kitchenware to be washed.

NOTE: To change the speed during the wash, you must first stop washing using



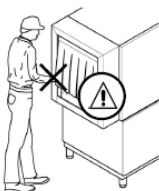
4) Then place a basket in the machine, and washing will start automatically. Button D will light up blue. It is possible to start and stop washing using button D.



5) When the basket reaches the end of the table, the message "limit switch on" will appear on the display, and a beep will sound to notify that the towing system is at a standstill. If the basket is not removed afterwards, washing, rinsing and drying will stop.

All you have to do to completely restart the machine is remove the basket from the end of the table.

6) Just put baskets inside to start the next washes.



**CAUTION:** Never remove the basket before it has completely exited the machine.

#### 5.4 Machine use precautions :

- Use industrial-type detergent, possibly without foam.
- **Do not introduce bare hands into the washing water.** Arrange cups and glasses upside down inside the baskets. Arrange the dishes in the appropriate basket on the support pins, with the internal surface positioned upward.
- Arrange silverware and teaspoons with the handles positioned downward.
- Do not place silverware and stainless steel knives in the same basket. This could make the silverware darken and could corrode the steel.
- Use the suitable basket for all types of crystal ware (dishes, glasses, cups, silverware, etc.). To reduce the consumption of detergent and electricity, wash only when the baskets are full, but be careful not to overload them.
- We recommend you make a preliminary wash. The wash quality can be notably improved if any food residue, lemon peel, toothpicks, olive stones, etc., which could partially obstruct the pump filter and affect the wash efficiency, are removed before washing.

#### 5.5 Operations to be performed at the end of the work cycle

- Perform the drain/cleaning cycle of the machine.
- Turn off the machine.
- Lift the cover and remove the cleaned dishes.
- Drain the water from the tank by lifting the overflow.
- Switch off the main switch of the machine.
- Remove the filter and clean it thoroughly.
- Clean and rinse the inside of the kitchenware thoroughly. Remove any residual grime with a cloth or a soft brush and a mild detergent. Rinse. Do not let food residue accumulate on the bottom of the tank.
- Leave the machine cover open to let the inside dry out.
- Always make sure that all washing and rinsing nozzles are free from lime or solid residue.

**NOTE:** Do not wash the appliance with direct or high-pressure jets since any infiltrations in the electrical components may jeopardise correct operation of the equipment and the single safety devices, with risk of the warranty being revoked.

### CAP.6 MAINTENANCE

#### 6.1 General provisions:

Although the machine has been designed so as to reduce the maintenance interventions to a minimum, the following rules must be followed in any case to maintain the machine in perfect operating conditions.

- Keep the dishwasher clean and in good condition
- Avoid frequent temporary or urgent repairs
- Check all the machine components periodically so that no anomaly occurs, thus anticipating the time and the equipment necessary for maintenance interventions.
- Use protective gloves to clean the dishwasher.
- **Always disconnect from electricity supply before cleaning the dishwasher.**

#### 6.2 PERIODIC MAINTENANCE (to be performed at least every 20 days)

To make the following operations easier, the basket support frame can be removed from its position.

- Remove the upper and lower rinsing arms
- Unscrew and clean all the nozzles, then remount them.
- Remove the upper and lower washing arms, wash them and rinse them
- Remove the washing pump filter, then clean and rinse it.
- Clean the washing tank thoroughly.
- Leave the door open for all the time it is not used.
- Lime deposits build up on the internal surfaces of the booster, pipes, etc. due to the magnesium and calcium salts in the water. The lime and these deposits may jeopardise correct operation of the appliance; it is therefore necessary to have the lime removed periodically by an expert.

- If the appliance is not used for a prolonged time, lubricate the steel surfaces using liquid paraffin.
- Have the booster and washing pump drained completely by an expert so as to prevent ice formation.
- **If the machine is not working correctly or in case of failure, contact an authorised service centre.**

### 6.3 DOS AND DO NOTS WITH THE DISHWASHER

**MAKE SURE** that the water hardness is correct

**MAKE SURE** that the dishes have been pre-cleaned

**MAKE SURE** that only the detergents recommended by a chemistry expert are used

**MAKE SURE** that the machine is cleaned thoroughly, rinse it and let it dry (leaving the doors open) at the end of the day

**MAKE SURE** that the lime removal programme recommended by a chemistry expert is followed.

**MAKE SURE** that only products especially formulated for stainless steel are used.

**DO NOT** exceed with the detergent, sanitiser, rinsing or anti-lime agent concentrations recommended by the manufacturer of those chemical substances.

**DO NOT** use steel wool to clean the items to be washed or the dishwasher surface.

**DO NOT** let foreign bodies, especially metal contaminants, enter the machine.

**DO NOT** use the dishwasher without filters.

**NOTE:** failure to follow the use, care and maintenance instructions may cancel the warranty.

### 6.4 Self-diagnosis

The machine is able to recognise various alarm or malfunction situations. Every malfunction is signalled by messages generated on the display; the L lamp lights up and the machine runs in "safe mode", i.e. with limited functions.

Error code	Message displayed	description
ER 02	TANK WATER DRAIN FAILED	The alarm is displayed when the drain motor pump cannot drain the tank correctly. For example, the overflow was not removed or the main drainage is clogged.
ER 03	BOOSTER HEATING FAILED	Problem in the booster resistances. When this message is displayed, the booster heating and thermostat are automatically
ER 04	LOADING FAILURE	The alarm is displayed when the machine does not load water properly.
ER 05	TANK PROBE OPEN	This alarm means that the tank temperature sensor is not working properly.
ER 06	TANK PROBE SHORT-CIRCUITED	This alarm means that the tank temperature sensor is not working properly.
ER 07	BOOSTER PROBE OPEN	This alarm means that the booster temperature sensor is not working properly.
ER 08	BOOSTER PROBE SHORT-CIRCUITED	This alarm means that the booster temperature sensor is not working properly.
ER 09	LOADING FAILURE OF BOOSTER	The alarm is displayed when the booster does not load water properly.
HIR	BOOSTER TEMPERATURE TOO HIGH	The alarm is displayed when the booster temperature is too high.
HIW	TANK TEMPERATURE TOO HIGH	The alarm is displayed when the tank temperature is too high.
SA FE		This alarm is displayed when any safety temperature thermostat has intervened.
WNC	REPLACE TANK WATER	This message is displayed when the wash water has not been replaced for 1 working day. A drain cycle is required.
ER 23	TANK HEATING FAILED	Problem in the tank resistances. When this message is displayed, the tank heating and thermostat are automatically disabled.

## CAP.7 DISMANTLING

### Machine dismantling

- There are no materials on our machines that require special disposal procedures.