

# OPERATOR MANUAL

*Original instructions / Translation of the original instructions*

# 9100

# ES FB



EN

USA

H0512EN00

12 - 2015

The symbol indicates that the machine may not be disposed of as ordinary waste; it must be disposed of in accordance with the provisions of the European directive 2002/96/CE (Waste Electrical and Electronics Equipments - WEEE) and of any resulting national laws, for preventing any possible adverse effects on the environment and on human health.

For correct disposal of the machine, contact the dealer from whom you have purchased the machine or our after sales service.

All packing materials shall be disposed of in a manner which is safe for the environment.

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# english

INTRODUCTION	3		
SAFETY	4		
<b>TECHNICAL DATA</b>	<b>6</b>		
<b>PRODUCT PRESENTATION</b>	<b>8</b>		
EXTERNAL CABINET	8		
INTERACTIVE GESTURES	9		
<b>OPERATION IN NORMAL USER STATUS</b>	<b>10</b>		
REQUEST BEVERAGE	11		
MACHINE STATUS	12		
MACHINE CABINET	13		
<b>MAINTENANCE</b>	<b>14</b>		
MAINTENANCE ROUTINES	14		
WEEKLY	16		
DEEP CLEANINGS	20		
<b>PREVENTIVE MAINTENANCE</b>	<b>25</b>		
		<b>FAILURE LIST</b>	<b>34</b>
		ELECTRIC PANEL	38
		ACTIVATION BOARD	39
		TOUCH SCREEN CPU BOARD	41
		POWER SUPPLY BOARD	43
		BOILER CONTROL BOARD	44
		<b>ELECTRICAL DIAGRAMS</b>	<b>46</b>
		HYDRAULIC CIRCUIT	51
		HYDRAULIC CIRCUIT	53
		HYDRAULIC CIRCUIT	55
		ACCESS TO THE PROGRAMMING MENUS.	56
		ENTERING THE VALUES	59
		DAILY ACTIONS	61
		SELECTION SETTINGS	62
		<b>MACHINE SETTINGS</b>	<b>71</b>
		MACHINE INFORMATION	79
		ENERGY SAVING	87
		PAYMENT SYSTEMS	89
		IMPORT / EXPORT	97
		SYSTEM	97



## INTRODUCTION

According to the requirements of the customer, the service technician can program different functions into the vending machine.

The machine dispenses  
hot espresso drinks  
hot instant drinks  
hot water.

or  
hot espresso drinks  
hot/cold instant drinks  
hot water.

Use only fresh coffee beans or instant products made for vending machines.

The machine is delivered with electronic touch screen. All communication with the machine, such as drink selection, rinsing functions, data retrieval and settings, is carried out by using the touch screen selection buttons.

All parts to be cleaned are designed in a light blue colour (for regular cleaning) and in a dark blue colour (for deep cleaning). All parts of action are supplied in a green colour.

If the vending machine is not used according to its purpose, the manufacturer cannot take on any liability.

This operator manual is valid for several variants of the vending machine. Therefore, it is possible that in this operator manual you may find instructions for operating elements that are not installed in your vending machine.

This technical documentation is part and parcel of the vending machine and must always follow the machine in case it is moved or by transfer of ownership.

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

Children should be supervised to ensure that they do not play with the appliance.

## SAFETY

- Before starting installation and using the machine, it is first necessary to carefully read and understand the instructions contained in this manual, as they offer important information on installation safety, operating instructions and maintenance.

- This manual describes the loading and routine maintenance operations which are

carried out in areas of the machine accessible with simple use of the door key, without using any other tools.

- The vending machine may not be subject to frost during operation, storage and transport.

- If there is the risk of frost in the area of the installation site of the machine, voltage to the machine may not be disconnected.

- If there is the danger of damage due to frost, the service technician must check and replace boiler, hoses and valves if required prior to reconnecting the vending machine and he should additionally carry out a functional test.

- The vending machine may not be installed outside.

- The vending machine should only be installed and repaired by qualified personnel, who are trained in the correct use of the machine according to the standards in force and who have the specific knowledge of the machine functioning from a point of view of electrical safety and health regulations.

- Safety devices must not be bridged or put out of function.

- The vending machine must be connected to the drinking water line and to the electric line in compliance with local regulations.

- The vending machine has to be placed in a horizontal position.

- The vending machine must be connected to a secured electric circuit. We recommend to install a fault current safety switch. The connections must be made using an earthed safety plug socket complying with valid regulations.

- After the machine has been installed, the power supply plug must be accessible. Never touch the power supply plug with wet hands or plug it in if the plug itself is wet.

The liquids dispensed by the vending machine are very hot! To prevent scalding, hands (and/or other parts of the body) must be kept away from the outlets while drinks are being prepared and dispensed.

- If the power supply cable of the vending machine is damaged it may only be replaced by a service technician.

- Do not attempt to fill several cups by pressing the pot button. There is danger of injuries.
- Only authorised and qualified personnel may clean, fill up and set the vending machine.
- The vending machine may not be cleaned under a water jet and is not suitable for installation on surfaces next to which water jets are being used (e.g. for cleaning).
- Use only original spare parts.
- Observe the local regulations!
- Regular cleaning of the vending machine is necessary for functional and hygienic reasons. When cleaning, take care of sharp edges. There is danger of injuries!
- To clean the cabinet only use cleaning agents approved by the food industry.
- Clean the inside and outside of the vending machine by using a damp cloth and do not splash it.

- After cleaning, make sure that all components are correctly reinstalled.
- Every machine is identified by its own serial number indicated on the rating plate attached at the rear of the vending machine. This plate is the only one acknowledged by the manufacturer as identification of the machine. The technical data of the vending machine are given on the rating plate. When the yellow special key is inserted in the slot of the door switch, the voltage is re-established to the machine. The door can be closed only after removing the key from the door switch.

If power is turned on, be careful not to touch moving parts and electrical components.

#### Door switch:

When the door is opened, a special switch ensures that there is no access to energized or moving parts. Any operation requiring the machine to be energized with the door opened must be carried out exclusively by qualified personnel informed about the specific risks of such situation.

The machine may be energized by qualified personnel by inserting a special yellow key into the door switch.

Before starting any maintenance operation requiring parts of the espresso brewer unit to be removed, the machine must always be switched off.

By means of class 1 LEDs. LEDs are generally shielded by a glass front or an aesthetic panel. The light of LEDs may be noxious if you directly look at it without these panels.

# TECHNICAL DATA

The technical data of the vending machine are given on the rating plate

<b>Dimensions</b>	Height:	875 (with feet)
	Width:	450
	Depth:	525
<b>Weight</b>		165 lb
<b>Electric connection</b>	Power supply	120 V
	Power consumption	1+N



**The vending machine must be earthed! In addition, it is recommended to install a fault current safety switch.**

	Power consumption:	1260 W Heating element: 1100 W
	Connecting cable:	Approx. 1.8-3.5 m (varies, depending on local requirements).
	Fuse:	Switching power supply, input: T2A, output: T12.5A
<b>Water connection</b>	Water system connection:	The vending machine must be connected with the potable water system according to the provisions in force in the place of installation of the equipment.
	Min. back pressure:	without chiller: 11.6 psig
	Max. pressure:	123.2 psig
	Hose connection:	Connect the water network with the 3/4" gas union of the water inlet solenoid valve by means of a tube that can support the network pressure and of a type suitable for foodstuffs (min. inner diameter 6 mm.). It is recommended to apply a water tap on the water network outside the machine in an accessible position. Let water come out of the water network until it is clear and free of any trace of dirt.
<b>Capacities</b>	Boiler capacity:	0,8 l
	Solid waste container:	Approximately 422.7 oz
	Drip tray:	Approximately 30.4 oz

Standard espresso coffee bean canister (with capacity reducer):	Approximately 246.8 oz (5,9 lb)
Coffee canister full volume :	Approximately 392.2 oz (8,8 lb)
Standard Instant ingredient canister:	Approximately 91.3 oz
Ambient temperature.	Min. 39.2 F - max.89.6 F (-2/+0) at 80% RH
Noise level:	The A-weighted sound pressure level is below 70 dB.

**Further system requirements**

When the vending machine is not provided with credit mechanism and it shall be installed in field, the following markings shall be added permanently:

- The credit mechanism can be used are one at the following: manufacturer MARS and designation MEI CF7512, or manufacturer MARS and designation MEI VN2712U, or manufacturer MARS and designation MEI VN2762RU5M, or manufacturer USA Technologies and designation G9, and
- Vender is not to be operated without credit mechanisms.

**Before starting the installation:**

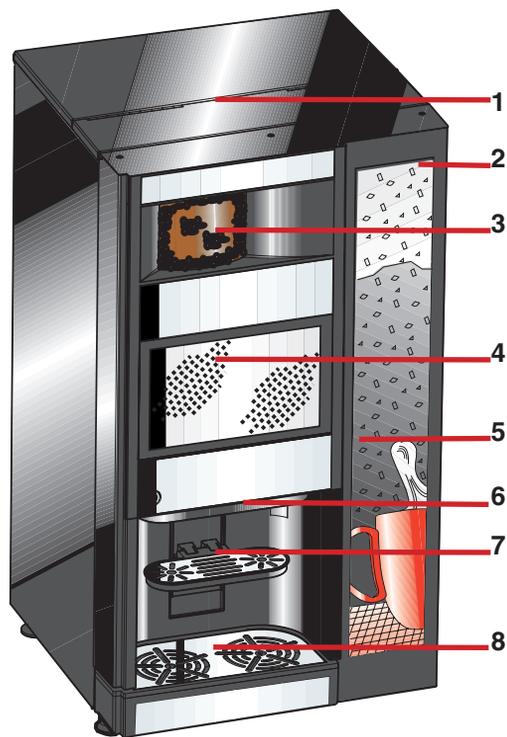
- Check for adequate space for correct ventilation.
- A distance of ~55 mm is required from the rear side of the machine to the wall.
- Check for clear space of 525 mm in front of the machine to allow the door to be opened.
- Ensure that the supply voltage corresponds to the voltage indicated on the rating plate which is located on the rear wall of the machine.
- Check the connections and make sure that the national voltages and tolerances are provided.
- The machine must be earthed.
- Ensure that the fuse of the group to which the machine is connected is in accordance with the national regulations.
- If required, ask for detailed information on voltage.

Subject to changes.

**THE MACHINE MUST BE POSITIONED AT A SAFE DISTANCE OF 100 MM (AT LEAST) FROM ITS BACK PANEL**

# PRODUCT PRESENTATION

## EXTERNAL CABINET



- 1- Cabinet
- 2- Door
- 3- Coffee canister
- 4- Touch screen panel
- 5- Advertising poster
- 6- Door lock
- 7- Cup holder (drip tray)
- 8- Pot platform

Fig. 1

## INTERACTIVE GESTURES

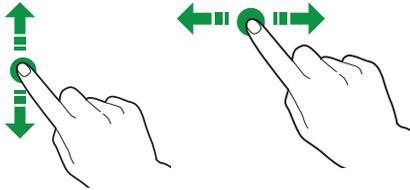
To navigate and interact with the equipment, the following interactive gestures are required:



### TAP

Tap icons, features and objects to activate or open contextual menus.

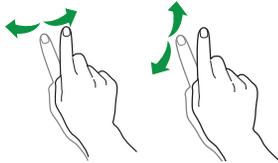
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### MOVE / DRAG

To move / drag icons and objects touch and move / drag to another location.

---



### SCROLL

Slide the finger on the touch screen to the right, left, up or down to scroll through the values, screens and functions.

## OPERATION IN NORMAL USER STATUS

The representation and arrangement of icons/screens in this manual is approximate and may vary from the one displayed on the machine depending on the configuration (layouts, themes, and/or icons)

In normal operation, the machine displays the screen with the available selections.

In the event that an anomaly is detected by the control electronics, a message will be displayed, indicating the type of fault / error:

Some selections may be disabled with some types of failures (for example, empty powder containers, ...)

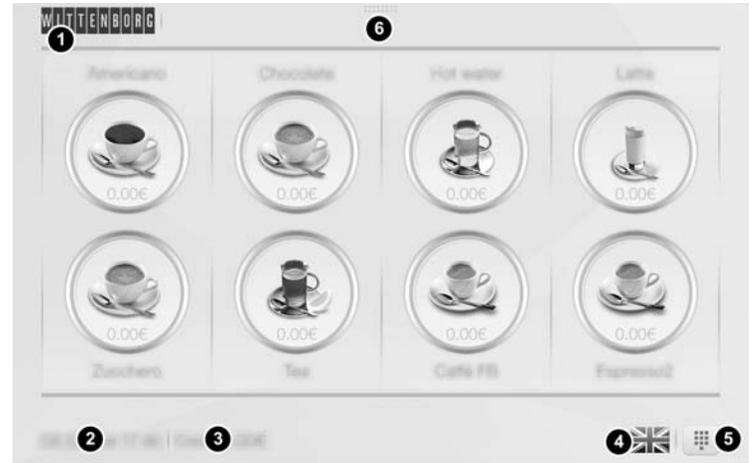


Fig. 2

- 1- Access to the status panel
- 2- Date and time display area
- 3- Available credit display area
- 4- Language change icon
- 5- Keypad

## REQUEST BEVERAGE

Touch the desired beverage.

The screen with beverage customizations is displayed



Fig. 3

- 1- Beverage name
- 2- Beverage quantity
- 3- Beverage intensity (only for coffee-based beverages)
- 4- "Dispense" button
- 5- "Jug" button
- 6- Beverage nutritional information
- 7- "Cancel beverage" button
- 8- Beverage price (if applicable)

Therefore, to:

### BEVERAGE IN THE CUP

- Place the cup under the nozzles
- Customize the beverage according to your taste
- Touch the "Dispense" button
- The beverage is dispensed

### FILL A JUG

- Place the pitcher under the nozzles
- Customize the beverage according to your taste
- Touch the "Jug" button
- Touch the "Dispense" button
- The beverage is dispensed a few times in a row.

When the drink is being dispensed, a screen with the animation indicating the stage of preparation of the beverage is shown. Touch the entertainment icons to change the displayed content (video, weather, news, ...).

At the end, the message “Pick beverage” will be displayed. The “Stop” button (if enabled) allows to instantly stop dispensing.



Fig. 4

- 1- Beverage preparation animation
- 2- Entertainment content area
- 3- Entertainment icons
- 4- “Stop” button

## MACHINE STATUS

You can view the status of the machine (eg residue containers level, containers level, ...) using the status panel.

To open the status panel, touch the top of the touch screen and drag down.

The status panel displays the status of trays and containers:

- Text or symbol in green color if there aren't “alarms”
- Text or symbol in red color the canisters or waste containers which are in “pre alarm” (e.g low powder products, full solid waste,..)

To hide the status panel, touch the bottom of the touch screen and drag up.



## MACHINE CABINET

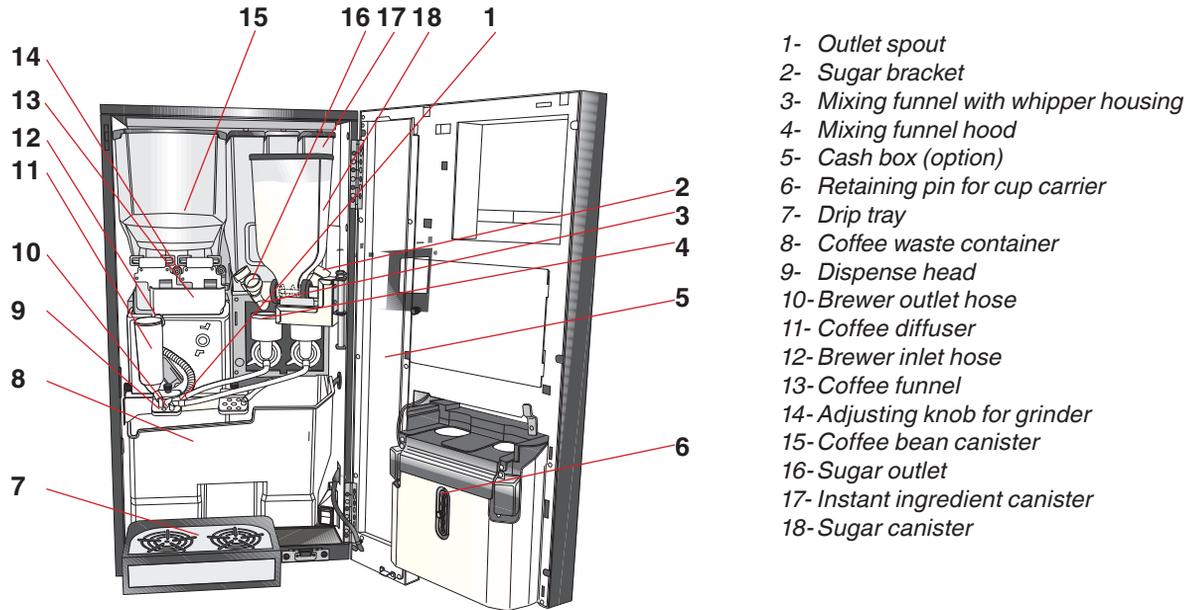


Fig. 5

# MAINTENANCE

## MAINTENANCE ROUTINES

Interval	Type of work / Check	Tools / Materials for the job
Regular:  Every time replenishing of ingredients is required	Opening and disconnecting the machine  Removing the waste containers  Filling the instant ingredient canisters  Filling the coffee bean canister  Cleaning the cup carrier  Cleaning the drip tray  Cleaning the machine interior and exterior  Mounting the cleaned parts  Rinsing machine  Last check	1 bucket of hot water (140-176 F) with cleaning agent.  1 bucket of clean warm (min. 104 F) water Soft clean cloths or paper towels Ingredients

Interval	Type of work / Check	Exchange kit (hygiene kit)
Occasional	Cleaning the instant ingredient canisters.	
Once a month	Cleaning the coffee bean canister.	



Fig. 6

## WEEKLY

### OPENING AND DISCONNECTING MACHINE

Turn the door key clockwise in keyhole and open door.



If power is turned on, be careful not to touch moving parts and electrical components

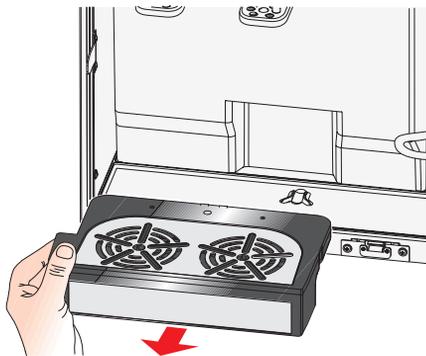


Fig. 7

### PREPARING FOR FILLING OF CANISTERS

Remove lower drip tray and the upper plate, clean the parts with a sprayed wipe.

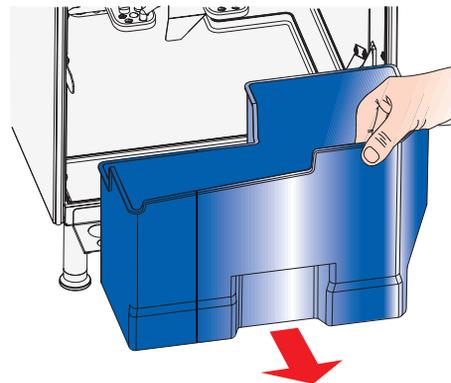


Fig. 8

Remove waste bucket and lower plate, empty coffee waste. Clean all the removed parts and the base of the machine with a sprayed wipe.

Ensure that the sensors in the liquid container are not covered by the plastic liner in solid waste container.



Fig. 9

Reset drip tray counter. Tap “Empty solid waste”.

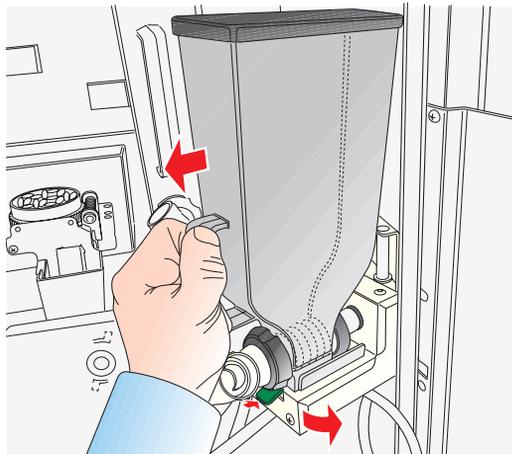


Fig. 10

### FILLING THE INSTANT INGREDIENT CANISTERS

Remove sugar canister: turn it up pull it outward then press the green lever below. Put it on a table.

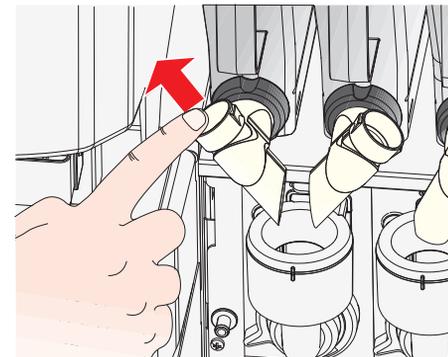


Fig. 11

Pull up instant canister outlets.

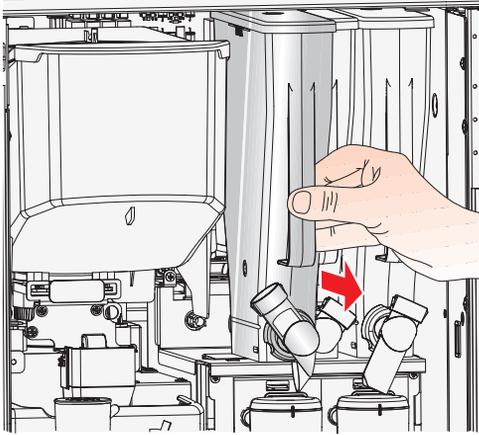


Fig. 12

**PULL UP PRODUCT OUTLET THEN REMOVE INSTANT CANISTER (ONE AT TIME).**



The instant ingredient canisters should be labelled to avoid ingredients being poured into wrong canisters.

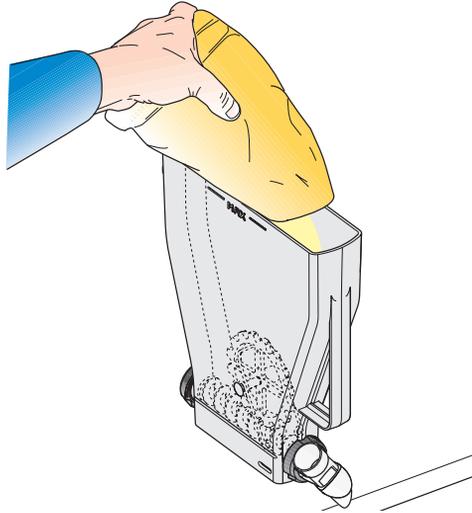


Fig. 13

Put canisters on a table, open lids then fill them with products. Clean outside canisters before place them back into machine.

Repeat procedure until the required number of canisters have been filled.

Clean instant canister table. and place canisters back.

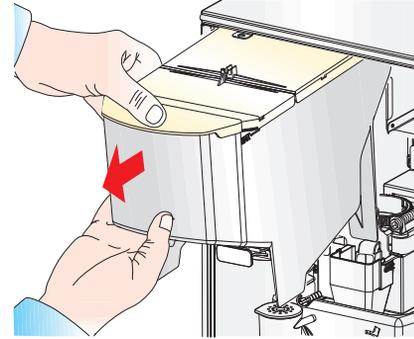


Fig. 14

### FILLING THE COFFEE BEAN CANISTER



Fill according to use of ingredient and only through open lid with canister still inside machine. When filled in this way, the capacity of the waste containers and the coffee bean canister are balanced.

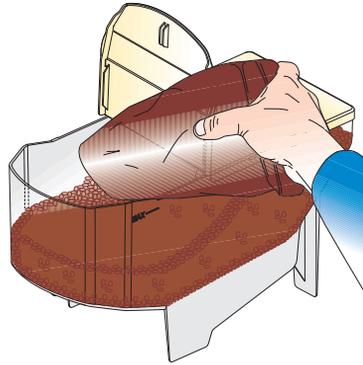


Fig. 15

Close coffee outlets to grinders, slide out coffee canister to filling position and open lid.

Cut product bag, fill coffee and close lids. Clean outside the canister before sliding it back into machine. Clean inside coffee canister once a month.

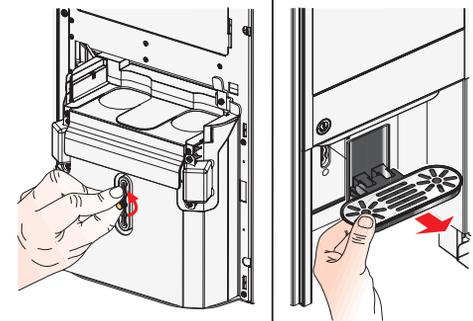


Fig. 16

### **CLEANING DRIP TRAY**

Unscrew the knurl that fix external drip tray, clean external drip tray with a wet wipe.

Place it back

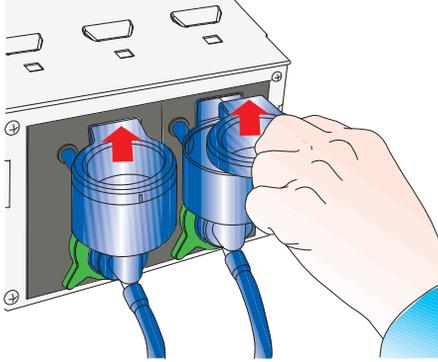


Fig. 17

## DEEP CLEANINGS

### CLEAN ALL THE OTHER PARTS

Remove head of mixing bowls, spray into the m, clean with wipe and replace the head of mixing bowls.

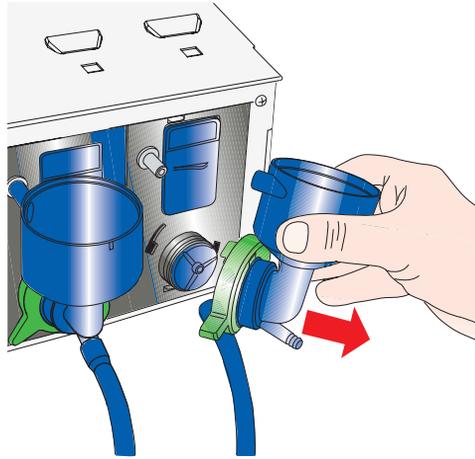


Fig. 18

Remove mixing bowls and pipes, exhaust system area and mixer plates.

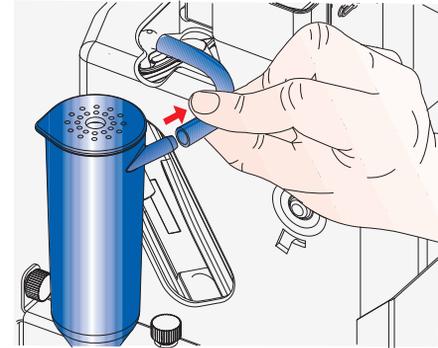
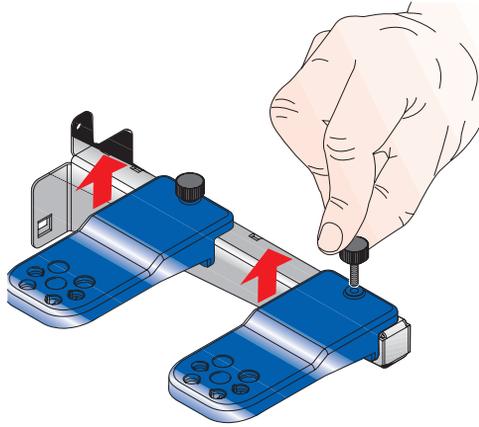


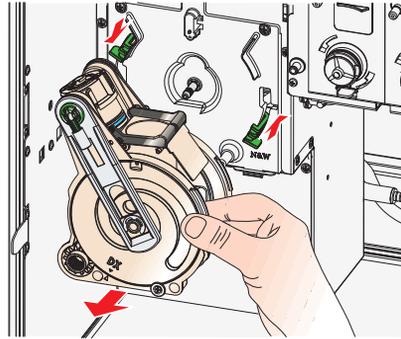
Fig. 19

Remove hot water and diffuser hoses, remove them from the frontal arm, remove diffuser from nozzle support.



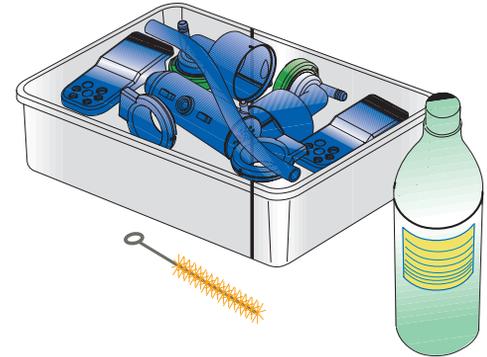
*Fig. 20*

Unscrew the knurls that fix nozzle supports to frontal bar.



*Fig. 21*

Remove all the hoses, brewer cover and funnel for the coffee powder. Remove brewer.



*Fig. 22*

Wash parts using cleaning materials, finally wash with clean water.



Fig. 23

Dry the parts accurately: head of mixers, exhaust system parts, funnell for coffee powder and brewer.

Reassemble dried parts. Be careful with proper positioning of hoses.

Place back all the canisters, open coffee shutters.

Push down instant canister outlets.

## RINSING MACHINE

For rinsing: close the door (or simulate door closing by placing the yellow key into its slot) select “Wittenborg” then “Maintenance” and “Daily operations”.

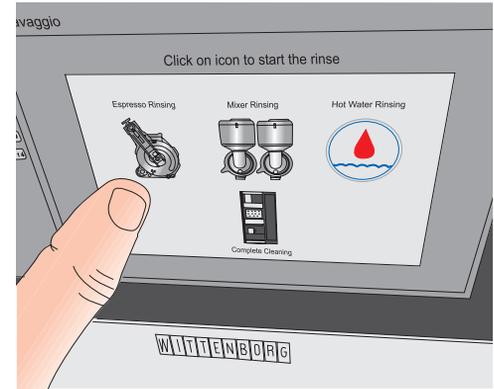
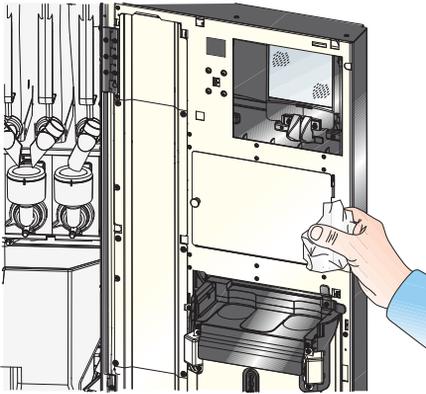
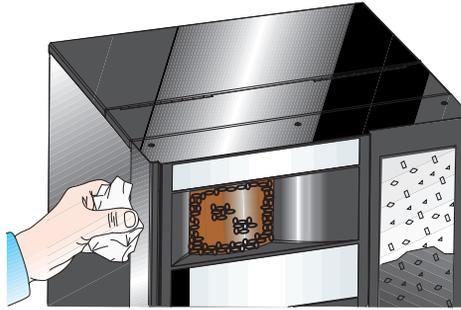


Fig. 24

Chose the to be rinsed then press OK.



*Fig. 25*  
Clean internal and external side of the door with wet wipe.



*Fig. 26*  
Clean the whole cabinet with wet wipe.



*Fig. 27*  
Fill in the HACCP documentation book. Remove the yellow key, close the door and start up.

## GENERAL INSTRUCTIONS

Before starting any adjusting operations requiring parts of the unit to be removed, the machine must always be switched off.

- The operations described in the proceeding pages should be carried out only by qualified personnel, who are trained in the correct use of the machine according to the standards in force and who have the specific knowledge of the machine functioning from a point of view of electrical safety and health regulations.

The grinder is fitted with a sensor that counts the number of rotations of the grinding wheels, allowing the control software of the machine to determine the number of rotations and thus the grams of coffee for each single selection. With the programming procedure, it is possible to set the grams (6 to 15 gr) of ground coffee (rotations of the grinder) for each selection.



### Important

Never touch the adjusting knob of the grinder. Always call a technician for adjustment / calibration of grinder!



The grinder requires a period of 50 selections to allow the grinder to “run in”. After this period the coffee empty detection becomes stable. A complete coffee bean canister contains 250 - 300 selections so the grinder should be correctly “run in” by the time the coffee bean canister is empty for the first occasion.

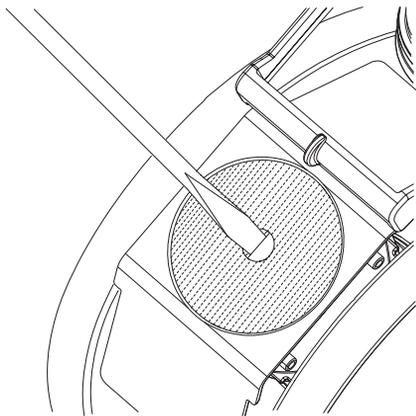


Fig. 28

## PREVENTIVE MAINTENANCE

### REPLACE BREWER LOWER O RING AND LOWER COFFEE FILTER

- Remove the brewer.
- Rotate the brewer unit in position to remove the filter.
- Unscrew the lower metal filter.

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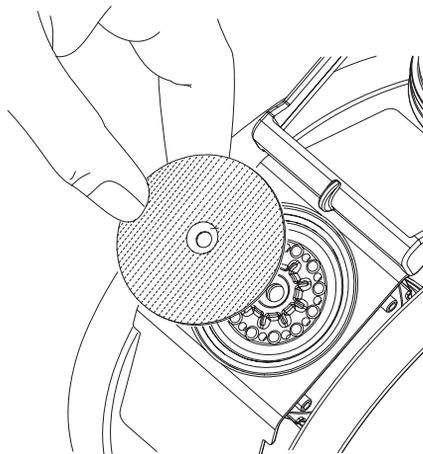


Fig. 29

- Unscrew the lower metal filter.

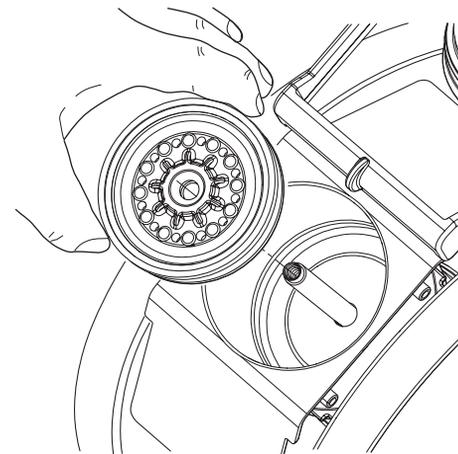


Fig. 30

- Remove the lower filter holder (keep pressed lower piston at the bottom).

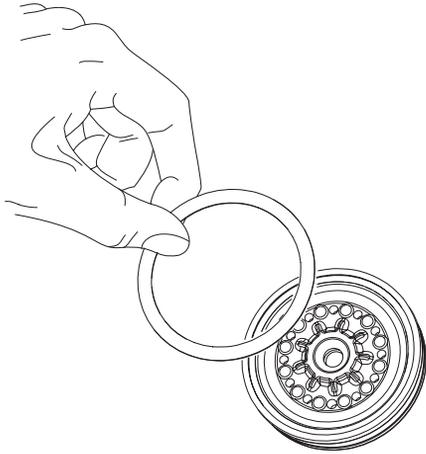


Fig. 31

- Remove O-Ring.

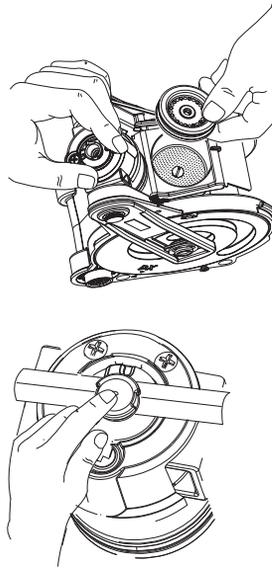


Fig. 32

- Fit back the lower filter holder.

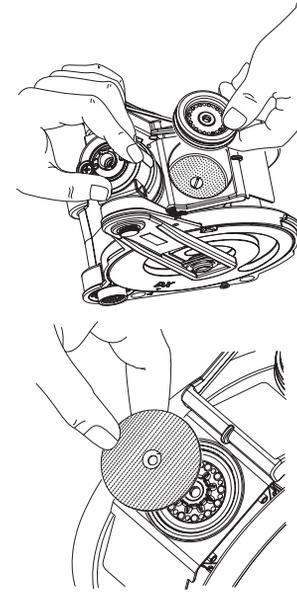


Fig. 33

- Fit a new metal filter, a new screw with sealing and fasten it.

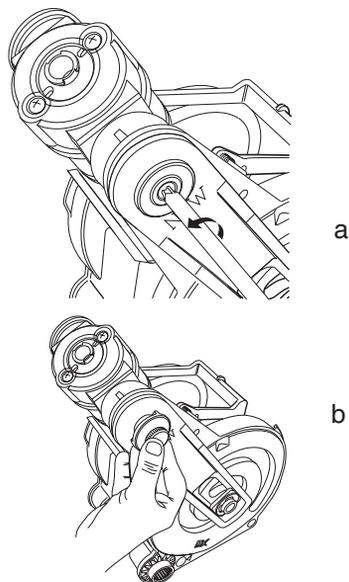


Fig. 34

**REPLACE UPPER COFFEE FILTER  
BREWER UPPER O RING AND O RING  
BREWER OUTLET**

- Remove the brewer.
- Loosen the hand screw of upper piston and pull the plastic key out its slot.

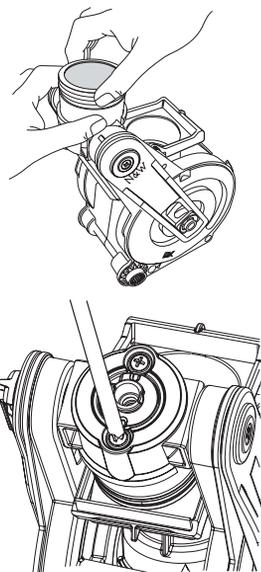


Fig. 35

- Rotate piston and unfasten the two screws alternately on both sides.

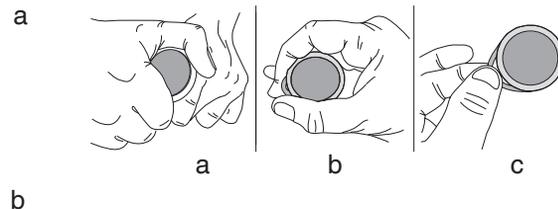


Fig. 36

- Unscrew the green plastic ring and remove the filter and the blue O ring.

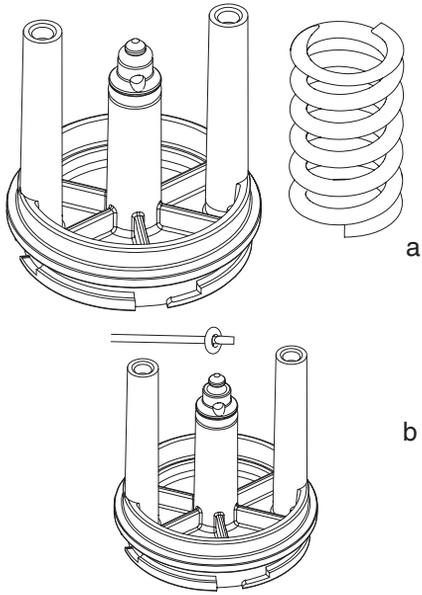


Fig. 37

- Remove the small sized O-Ring with a small screwdriver.

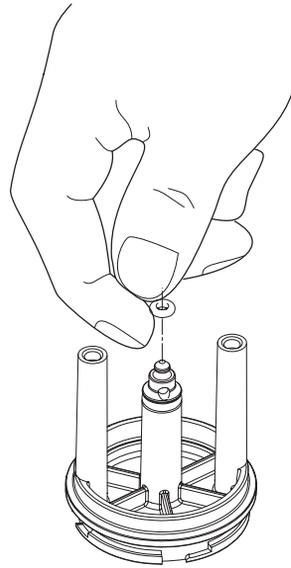


Fig. 38

- Fit a new O-Ring.

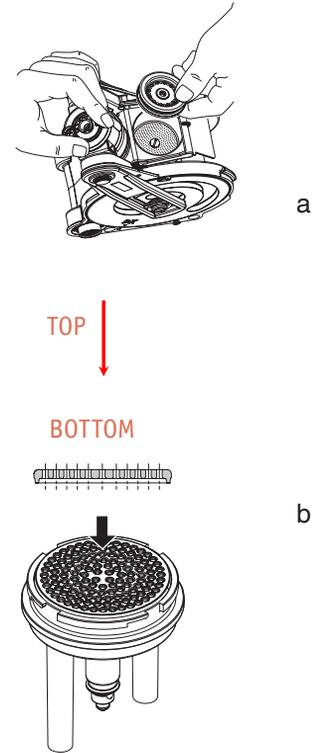
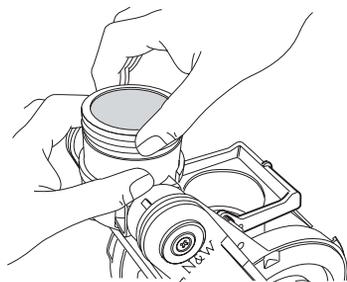
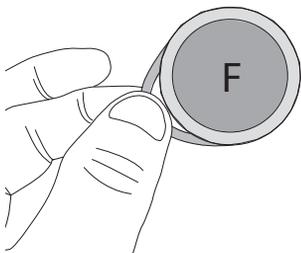


Fig. 39

- Reposition the upper filter holder on brewer, make sure that it is placed correctly, flat face upwards.



a



b

Fig. 40

- Fit a new metal filter on green ring and then turn the ring on piston until it stops. (fig. 41 - a) Take care that the letter „F“ engraved on the filter is on the outside face (Fig. 41 - b)

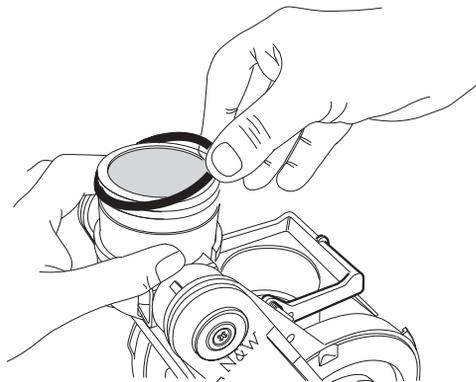
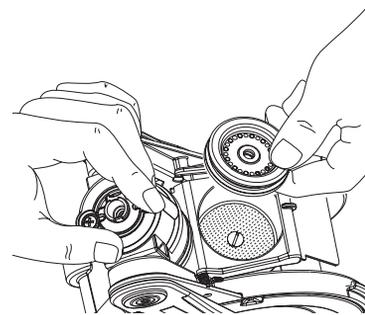
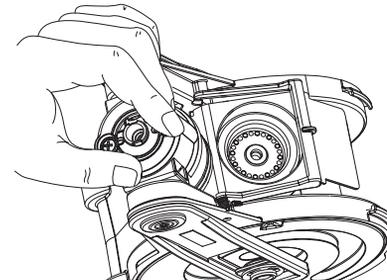


Fig. 41

- Refit the blue O ring or fit a new blue O ring



a



b

Fig. 42

- Insert the spacer inside the infusion chamber.

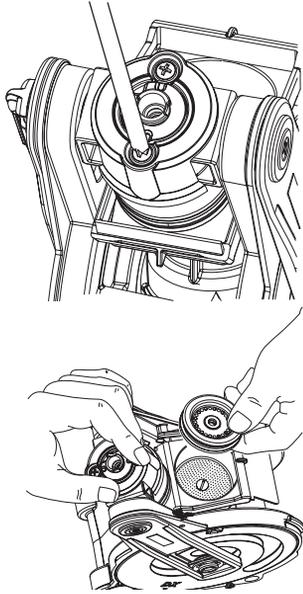


Fig. 43

- Rotate the side handles of brewer in order to close it; keep the unit in that position with one hand and fasten alternatively the 2 screws on top. Ensure that the screws are well tightened.

a

b

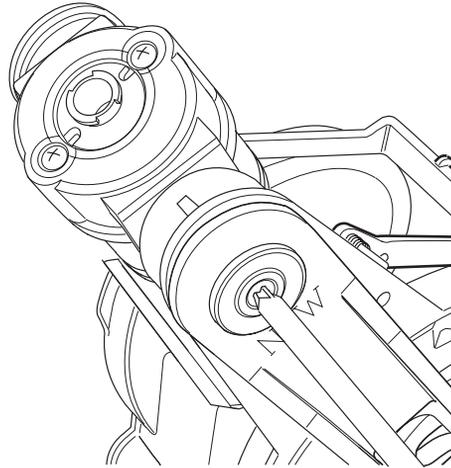


Fig. 44

- Move the upper piston holder in 'home' position, secure it with the side green key and fasten the knurl.

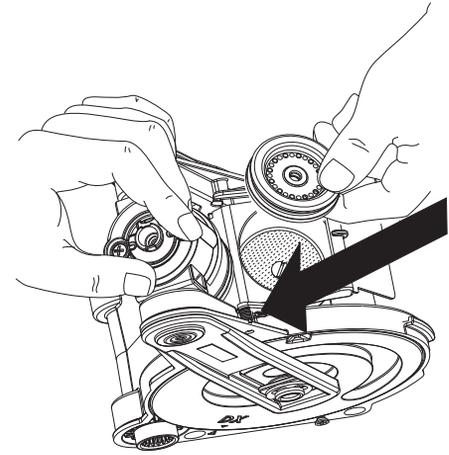


Fig. 45

- In case the spring of the scraper falls off, reposition as indicated.

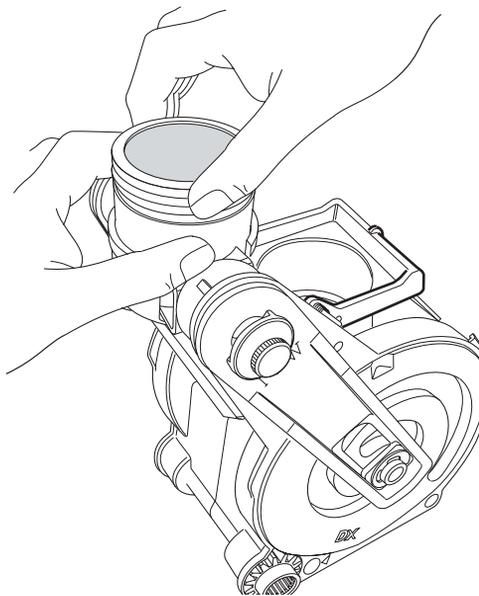


Fig. 46

- Reposition the upper filter holder on brewing unit.

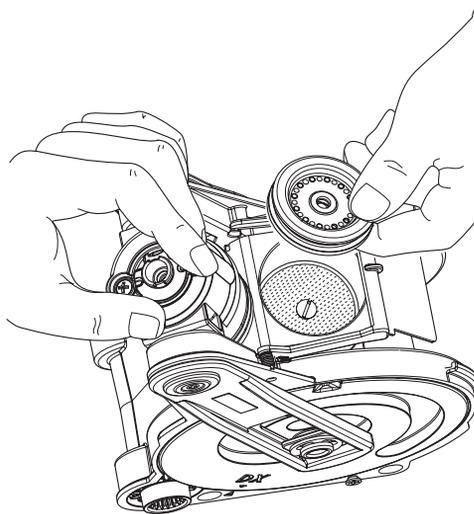


Fig. 47

- Open the brewer and pull out the spacer manually.
- Fit back the brewer unit.

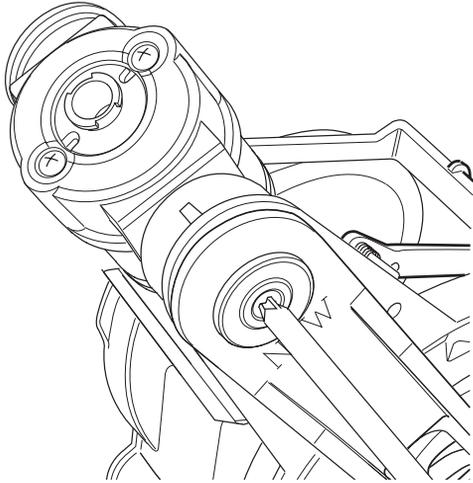


Fig. 48

## REPLACE GRINDER BLADES

- Remove the grinder bracket from machine:
- Close the shutter.
- Pull outward the coffee canister.
- Remove the bracket.
- Disconnect electrical cables.

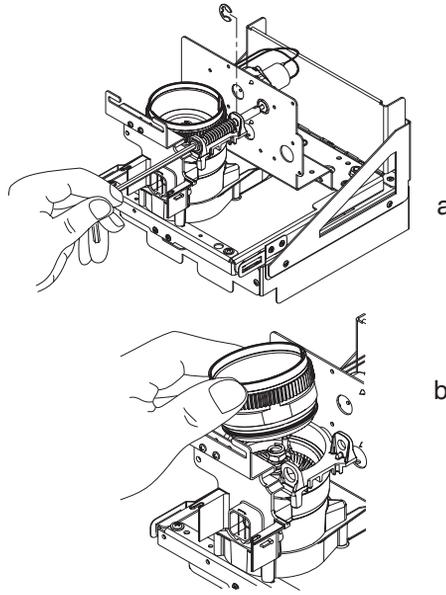


Fig. 49

- Remove with Allen key the self adjusting screw.
- Unscrew and remove the upper disk holder.

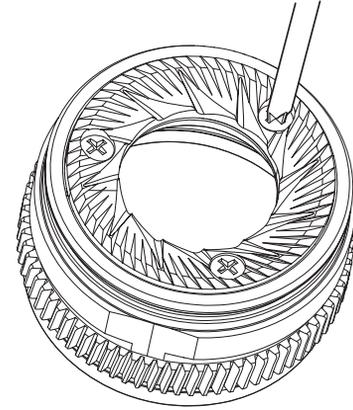


Fig. 50

- Unfasten the 3 screws fixing the disk and pull it out.

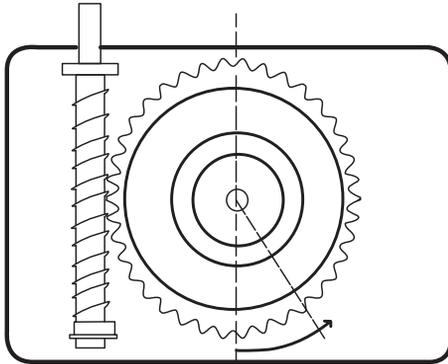


Fig. 51

- Fit back and tighten the upper disk holder, close it and open ten teeth backward from the lower grinder position.
- Fit back with Allen key the self adjusting screw.
- Fit and secure the back circlip on self adjusting screw.

# FAILURE LIST

## **PUMP FAULT 1...7**

If the current absorption of a pump is not between the range of default values, all the selections in which the pump is involved are disabled.

## **FAULTY MIXER 1...6 (WHIPPER FAULT)**

If the current absorption of a mixer motor is not between the range of default values, all the selections in which that mixer is involved are disabled.

## **SOLENOID VALVE 1...7 (VALVE FAULT)**

If the current absorption of a solenoid valve is not between the range of established values, all the selections in which that solenoid valve is involved are disabled.

## **SHORT CIRCUIT MOSFET**

The machine fails if a device intended to control direct current motors on the actuation board (mosfet) remains active.

## **SHORT CIRCUIT**

This failure is displayed if the software should detect a short-circuit on one of the direct current motors connected with the actuation board. A failure may be simultaneously detected on one of the direct current motors.

## **VOLUMETRIC COUNTER**

No counting of the volumetric counter within a maximum time.

## **INSTANT BOILER**

The machine stops if the instant boiler water has not reached the temperature after having heated for 20 minutes since you powered on the machine or last made a selection.

## **COFFEE UNIT FAILURE**

The position control microswitch of the coffee unit is read during the whole dispensing cycle.

According to the micro readout and the dispensing phase of the unit, any failure is declared by locking the selections based on espresso coffee.

### **COFFEE UNIT - MICRO UNIT FAILURE -**

While the brew unit is being handled, the control micro is not operated within a certain time limit.

This failure may be associated with another positioning failure of the coffee unit.

### **COFFEE UNIT - START UNIT FAILURE -**

The microswitch signals the coffee unit has not moved from the stand-by position.

### **COFFEE UNIT - BREW UNIT FAILURE -**

The control micro signals that the coffee unit has not reached the brew position.

### **COFFEE UNIT - DISPENSING UNIT FAILURE -**

During the brew phase, the control micro signals that the espresso unit is being handled.

### **COFFEE UNIT - DISCHARGE UNIT FAILURE -**

At the end of the brewing phase, the control micro signals that the coffee unit has not reached the “used dose discharge” position.

### **COFFEE UNIT - STANDBY UNIT FAILURE -**

The control micro signals that the brew unit has not moved back to the stand-by position after having discharged the coffee dose.

## **ESPRESSO BOILER**

The machine stops if the boiler water has not reached the temperature after having heated for 10 minutes since you powered on the machine or last made a selection.

### **COIN MECHANISM**

The machine stops if it should receive an over 2-sec. pulse on a validator line or if the communication with the serial coin mechanism is not longer than 30 seconds (Executive protocol) or 75 seconds (BDV protocol).

### **FB BRUSH**

It is due to a positioning error of the scraper. The machine is not locked, but the selections based on fresh product are disabled.

### **DRIP TRAY FULL**

The liquid residue container float operates the “Liquid residue container full” micro-switch.  
Empty the liquid residue container and reposition it to reset the fault.

### **DRIP TRAY NOT PRESENT**

The liquid residue container does not operate the micro switch indicating the presence of the container.  
Check that the liquid residue container is correctly positioned inside the machine.

### **WATER TANK EMPTY**

Lack of water from the mains or self-feeding tank.  
Make sure that the machine is connected to the water mains and that the tap is open or the tank is full of water.  
Touch the “Reset” button to restore the operation of the machine.

### **EMPTY COFFEE**

The grinder exceeds the normal speed for more than 5 seconds.  
Instant beverage products remain available.  
Make sure the coffee bean container is full.

### **MACHINE BOARD**

Lack of communication between the machine board and the CPU board.

Check the electrical connections between the two boards.

### **ESPRESSO LOW TEMPERATURE**

The espresso boiler temperature is lower than the minimum temperature programmed to dispense espresso.

Wait for the minimum dispensing temperature to be reached.

### **EMPTY DOSER 1...7**

The minimum level of instant powder in the container associated with motor-doser has been reached.

The signal is active if they controls on instant powder containers are activated.

Check the level of instant powder in the containers.

### **EMPTY ESPRESSO DISPENSER 1...2**

The minimum level of coffee beans in the container has been reached.

The signal is active if they controls on coffee beans containers are activated.

Check the level of coffee beans in the containers.

### **WATER LEAKAGE**

The Air-break micro switch signals the lack of water continuously following the opening of the water inlet solenoid valve or the activation of the self-feeding pump (filling of the air break).

Check that there are no water leaks in the hydraulic circuit of the machine (disconnected hoses, ...)

### **MACHINE DATABASE NOT AVAILABLE**

The database that manages the machine configurations is not present on the machine, it cannot be loaded or created.

### **AIR-BREAK FILLING TIME OUT**

The air-break micro switch does not report the achievement of the water level in the Air-break in the allotted time during filling.

Check the water network.

## ELECTRIC PANEL

To access the electrical panel, remove the instant products containers.

Remove the containers and the metal cover to access the components of the electrical panel.

The fuses are accessible from the door of the electrical panel cover.

The electronic boards are designed to be used on several models of machines.

In case of replacement, it will be necessary to verify the configuration of the board and load the adequate software.

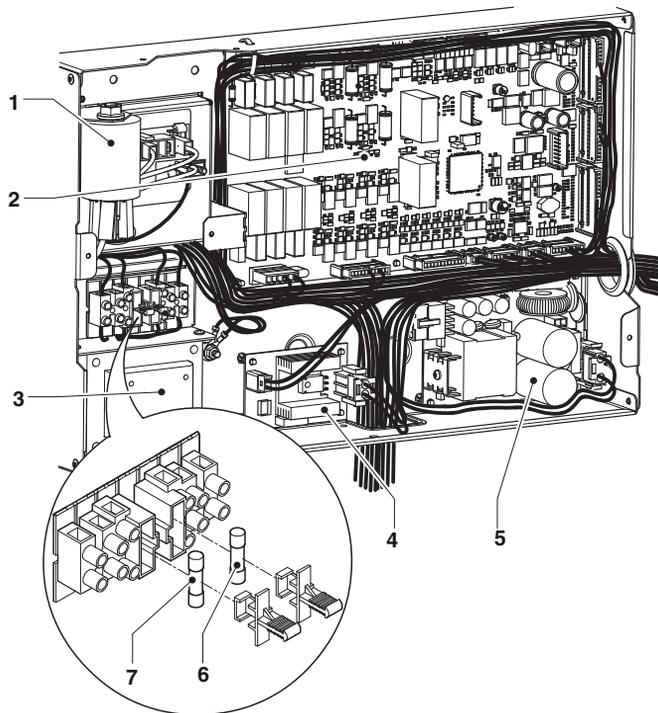


Fig. 52

- 1- Noise filter
- 2- Activation board
- 3- EXECUTIVE coin mech transformer (if present)
- 4- Boiler control board
- 5- Power supply board
- 6- Transformer primary fuse
- 7- Transformer secondary fuse

## ACTIVATION BOARD

Board is powered in 24 V.

Power is supplied from the power supply board.

The board is placed in the electrical panel of the equipment and manages:

- the activation of the various users.
- sensors control signals (level, presence,...)

The LEDs indicate:

- DL1 (18) green LED
- DL2 (30) green LED flashes during normal operation
- DL3 (15) yellow LED that indicates the presence of +5Vdc
- DL4 (29) yellow LED flow meter pulses
- DL5 (28) not used
- DL6 (33) not used
- DL7 (32) red LED indicates the operation of the heating elements of the boiler

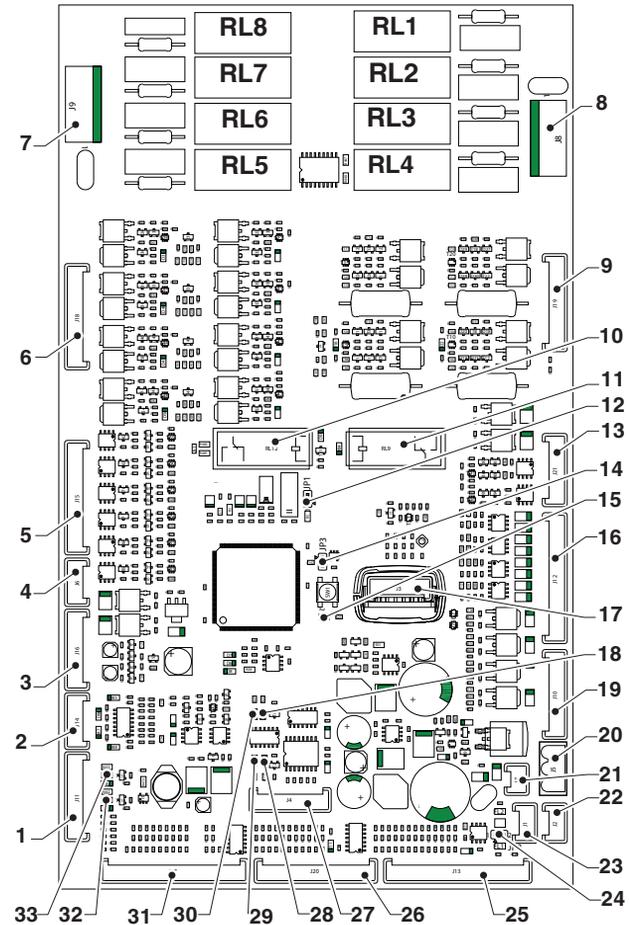


Fig. 53

- 1- (J11) Boiler control board / boiler sensor
- 2- (J14) Top panel switch
- 3- (J16) Coin mech engine
- 4- (J6) Fan / level sensors power supply
- 5- (J15) Not used
- 6- (J18) Motor-dispensers / grinding adjustment engine
- 7- (J9) Vibration pump
- 8- (J8) Grinder / coffee release electromagnet
- 9- (J19) Tea motor-doser/ Infuser unit engine  
Infuser unit engine control
- 10- 24V Safety Relay
- 11- 24V Safety Relay
- 12- (JP1) Not used
- 13- (J21) Refrigeration unit (if present)
- 14- (JP3) WATCHDOG INPUT jumper (closed)
- 15- (DL3)
- 16- 5V presence YELLOW LED
- 17- (J12) Solenoid valves (instant and main) / Mixer
- 18- (J3) Upkey
- 19- (DL1) Green LED
- 20- (J10) Liquid residue container contact / dispensing compartment lighting
- 21- (J5) Board power supply 24V
- 22- (J7) Not used
- 23- (J2) CAN BUS
- 24- (J1) CAN BUS
- 25- (JP2) CAN BUS jumper (open)
- 26- (J13) Flow meter / level sensors
- 27- (J20) Coin mech button / coin mech engine cam
- 28- (J4) Not used
- 29- (DL5) Not used
- 30- (DL4) Yellow LED FLOW METER PULSES
- 31- (DL2) Green LED RUN
- 32- (J17) Tea infuser unit engine cam / Air-break microswitch  
Liquid residue container micro presence
- 33- (DL7) Not used
- 34- (DL6) WATER BOILER HEATING RED LED

## RELAY FUNCTION

	user
RL1	Grinder
RL2	Coffee release electromagnet (if present)
RL3	Grinder 2*
RL4	Coffee release electromagnet 2 (if present)*
RL5	Pump
RL6	not used
RL7	not used
RL8	not used

\* Models with double coffee beans

## TOUCH SCREEN CPU BOARD

Board is powered in 24 V.

Power is supplied from the power supply board.

The board is placed on the door and manages:

- touchscreen
- payment systems (if present)
- mechanical stroke counter (if present)
- machine lighting
- cup sensors
- Ethernet connection
- Wi-Fi and/or Bluetooth module (if present)
- IrDA board (if present)

The board has three LEDs for indicating:

- The board is powered (led POWER 24V)
- The board is in service (led RUN)
- The board has been restarted (led RESET)

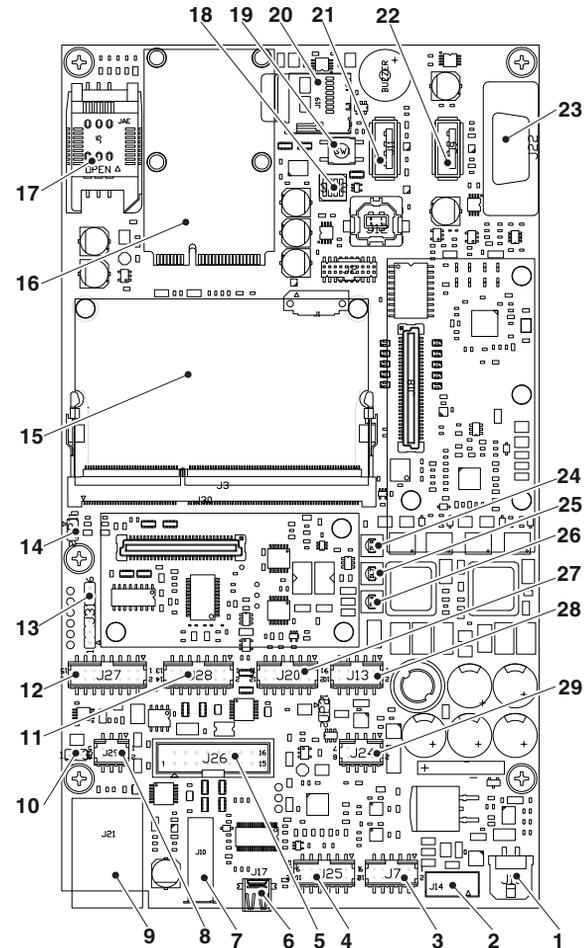


Fig. 54

- 1- (J16) 24 Vdc Power supply
- 2- (J14) Not used
- 3- (J7) Not used
- 4- (J25) Not used
- 5- (J17) Not used
- 6- (J26) Not used
- 7- (J10) Not used
- 8- (J29) CAN BUS
- 9- (J21) Ethernet connector
- 10- (JP3) jumper .....
- 11- (J28) Not used
- 12- (J27) Cup Sensors / LED lighting / mechanical stroke counter
- 13- (J31) Not used
- 14- (JP1) closed jumper
- 15- Touchscreen management module
- 16- Wi-Fi and/or Bluetooth module (if present)
- 17- SIM CARD slot
- 18- (SW2) Microswitch
- 19- (SW1) Button
- 20- SD card slot
- 21- (J11) Not used
- 22- (J9) USB CONNECTOR
- 23- (J22) RS232 serial connector
- 24- Led RUN
- 25- Led RESET
- 26- Led POWER 24V
- 27- (J20) Not used
- 28- (J13) Payment systems
- 29- (J24) IrDA board
- 30-

## SOFTWARE UPDATE

The device software can be updated with a USB stick or via remote connection (for networked equipment). The software is updated from the programming menu.

### UPDATE VIA USB

- Insert the USB stick with the new software
- Tap “browse” to open the navigation window of the USB stick file system
- Select the file with the software update.
- Tap “Check” to check that the file is “intact”
- Tap “Validate” to perform a compatibility check
- Tap “Update” to update

### UPDATE VIA INTERNET

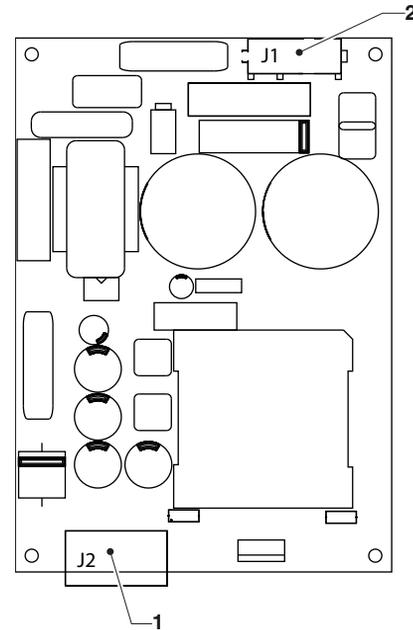
- Enter the address of the FTP server with the software updates and the credentials for access to the FTP server (username and password).
- Tap “Check” to check that the file is “intact”
- Tap “Validate” to update

## POWER SUPPLY BOARD

Board is powered with 120 V~.

The board provides power to the control electronics (24V) and the touch screen

The board is placed in the electrical panel of the equipment.



*Fig. 55*

1- (J2) 24Vdc connector

2- (J1) 120Vac power supply connector

## BOILER CONTROL BOARD

The board controls the activation and deactivation of the heating elements of the boiler.

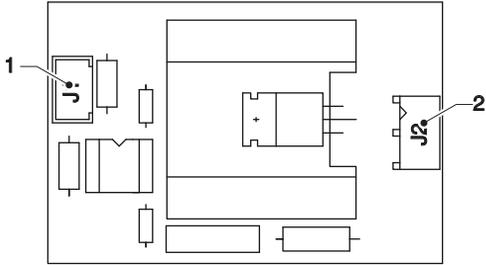
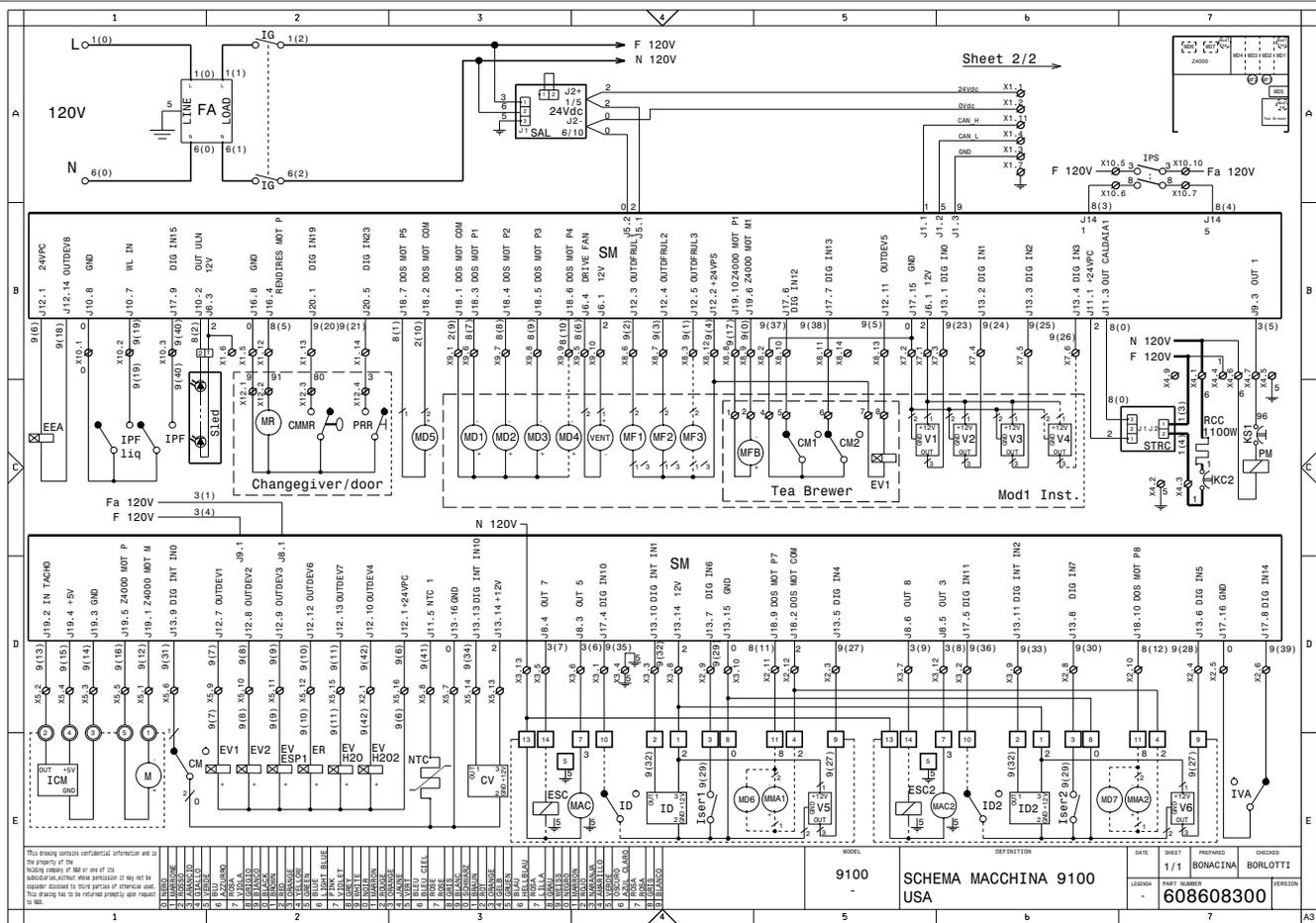


Fig. 56

- 1- (J1) board control connector
- 2- (J2) boiler heating element supply connector.
- 3-

# Appendix

# ELECTRICAL DIAGRAMS

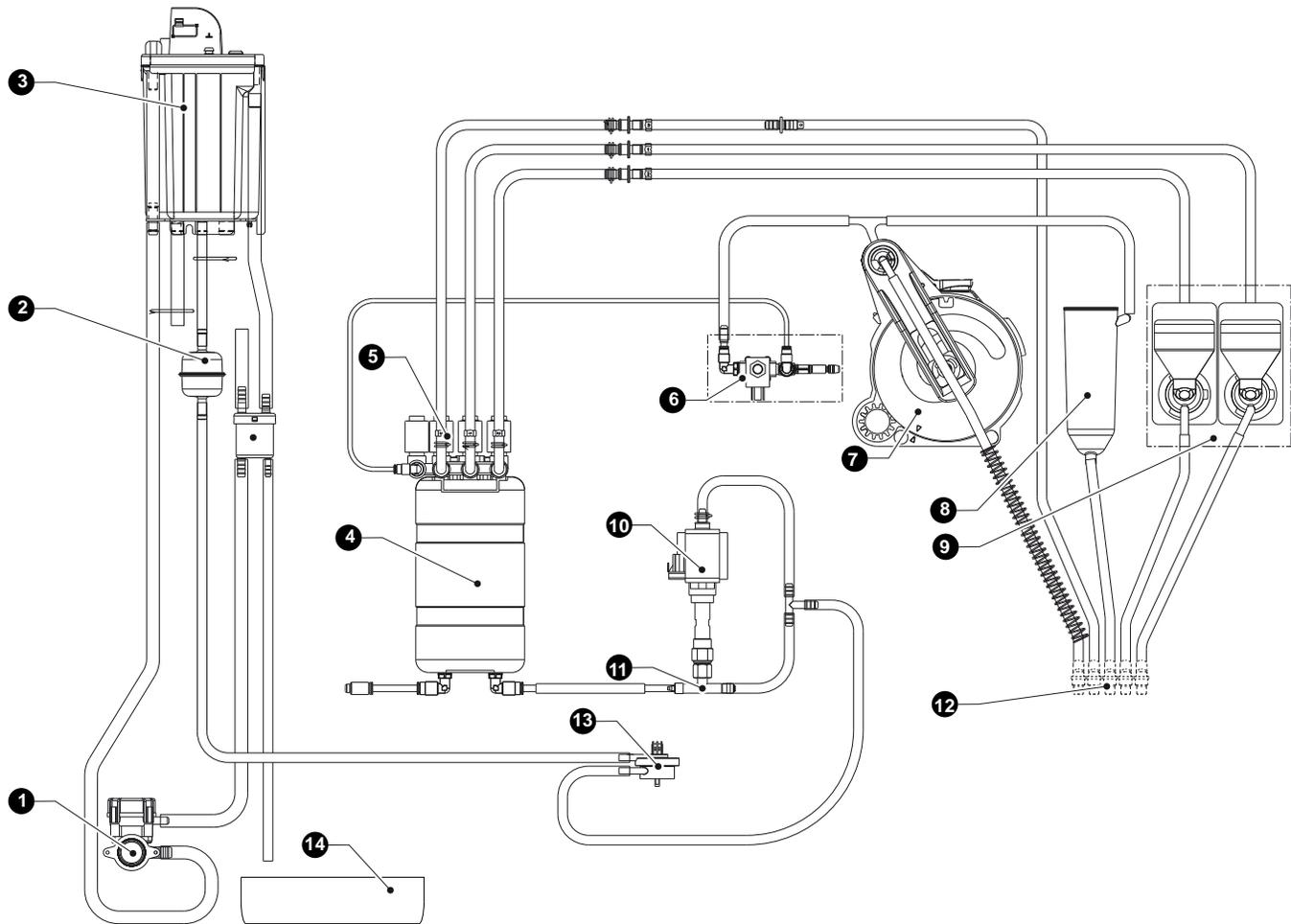


<i>CM</i>	<i>MOTOR CAM</i>
<i>CM1-..</i>	<i>COFFEE UNIT MOTOR CAM</i>
<i>CMR</i>	<i>COIN RETURN CAM</i>
<i>CV</i>	<i>VOLUMETRIC COUNTER</i>
<i>EEA</i>	<i>WATER INLET SOLENOID VALVE</i>
<i>ER</i>	<i>COFFEE DISPENSING SOLENOID VALVE</i>
<i>ESC1-..</i>	<i>COFFEE RELEASE ELECTROMAGNET</i>
<i>EV1-..</i>	<i>INSTANT SOLENOID VALVES</i>
<i>EVH2O</i>	<i>WATER SOLENOID VALVE</i>
<i>EX</i>	<i>EXECUTIVE COIN MECH CONNECTORS</i>
<i>FA</i>	<i>RADIO INTERFERENCE SUPPRESSOR</i>
<i>ICM</i>	<i>MOTOR CONTROL SWITCH</i>
<i>ID1-..</i>	<i>COFFEE DOSE SWITCH</i>
<i>IG</i>	<i>MAIN SWITCH</i>
<i>IPF</i>	<i>FULL WASTE SWITCH</i>
<i>IPS</i>	<i>TOP PANEL SWITCH</i>
<i>ISER1.</i>	<i>SLIDER COFFEE CONTAINER SENSOR</i>
<i>IVA</i>	<i>EMPTY WATER SWITCH</i>
<i>KC1-..</i>	<i>COFFEE BOILER CUTOUT</i>
<i>KS1-..</i>	<i>SAFETY CUTOUT</i>
<i>M</i>	<i>COFFEE UNIT MOTOR</i>
<i>MAC1-..</i>	<i>COFFEE GRINDER</i>
<i>MD1-..</i>	<i>INGREDIENT MOTORS</i>
<i>MF1-..</i>	<i>INSTANT WHIPPER MOTORS</i>
<i>MFB</i>	<i>FRESH-BREW MOTOR</i>
<i>MMA1-..</i>	<i>GRINDING REGULATION MOTOR</i>
<i>MR</i>	<i>COIN RETURN MOTOR</i>
<i>NTC</i>	<i>TEMPERATURE PROBE</i>
<i>PM</i>	<i>PUMP</i>
<i>PRR</i>	<i>COIN RETURN BUTTON</i>
<i>RCC</i>	<i>COFFEE BOILER HEATING ELEMENT</i>
<i>SALIM</i>	<i>POWER SUPPLY UNIT BOARD</i>
<i>SLED</i>	<i>LED BOARD</i>
<i>STRC1</i>	<i>BOILER HEATING TRIAC BOARD</i>
<i>TX....</i>	<i>DELAYED FUSE (X=CURRENT)</i>
<i>V1-..</i>	<i>LEVEL SENSOR</i>
<i>VENT</i>	<i>FAN</i>



*BDV*                    *BDV COIN MECH CONNECTOR*  
*CCG*                    *GENERAL COUNTER*  
*EX*                      *EXECUTIVE COIN MECH CONNECTORS*

*FREE*                   *FREE VEND SWITCH*  
*IRDA*                   *IRDA BOARD*  
*JUG*                    *JUG FACILITIES SWITCH*  
*MDB*                    *MDB COIN MECH CONNECTOR*  
*RS232*                   *SERIAL PORT*  
*SALIM*                   *POWER SUPPLY UNIT BOARD*  
*SLED*                   *LED BOARD*  
*SM*                     *MACHINE BOARD*  
*SUC*                    *C.P.U. BOARD*  
*TZ*                      *CUP SENSOR*

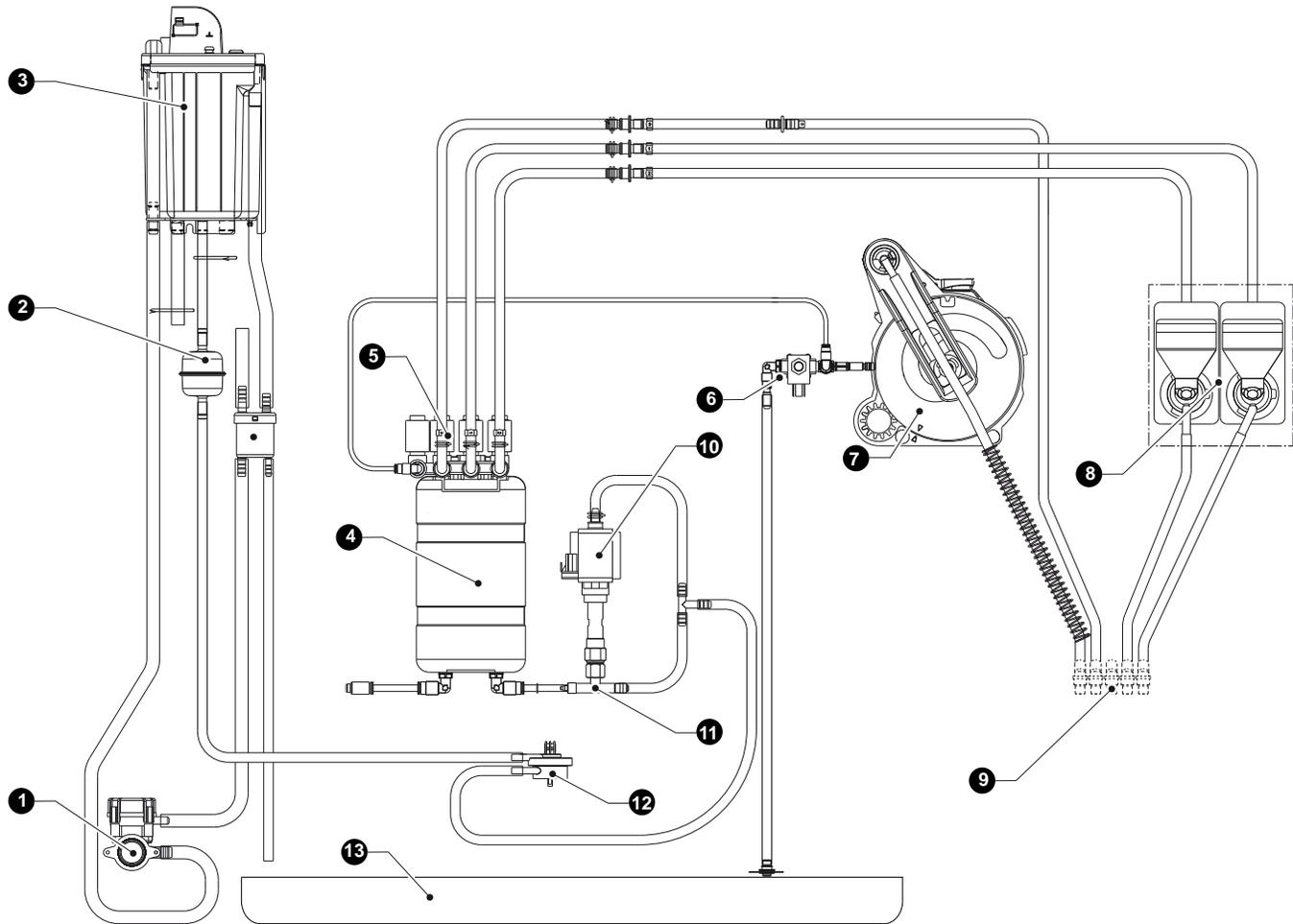


# HYDRAULIC CIRCUIT

## Z4000 ES-FB MODEL

*Fig. 57*

- 1- WATER INLET SOLENOID VALVE
- 2- FILTER
- 3- AIR-BREAK
- 4- BOILER
- 5- SOLENOID VALVE GROUP
- 6- BREWER UNIT SOLENOID VALVE
- 7- BREWER UNIT
- 8- DIFFUSER NOZZLE
- 9- MIXER
- 10- PUMP
- 11- BY-PASS
- 12- DISPENSING NOZZLES
- 13- FLOW METER
- 14- DRIP TRAY

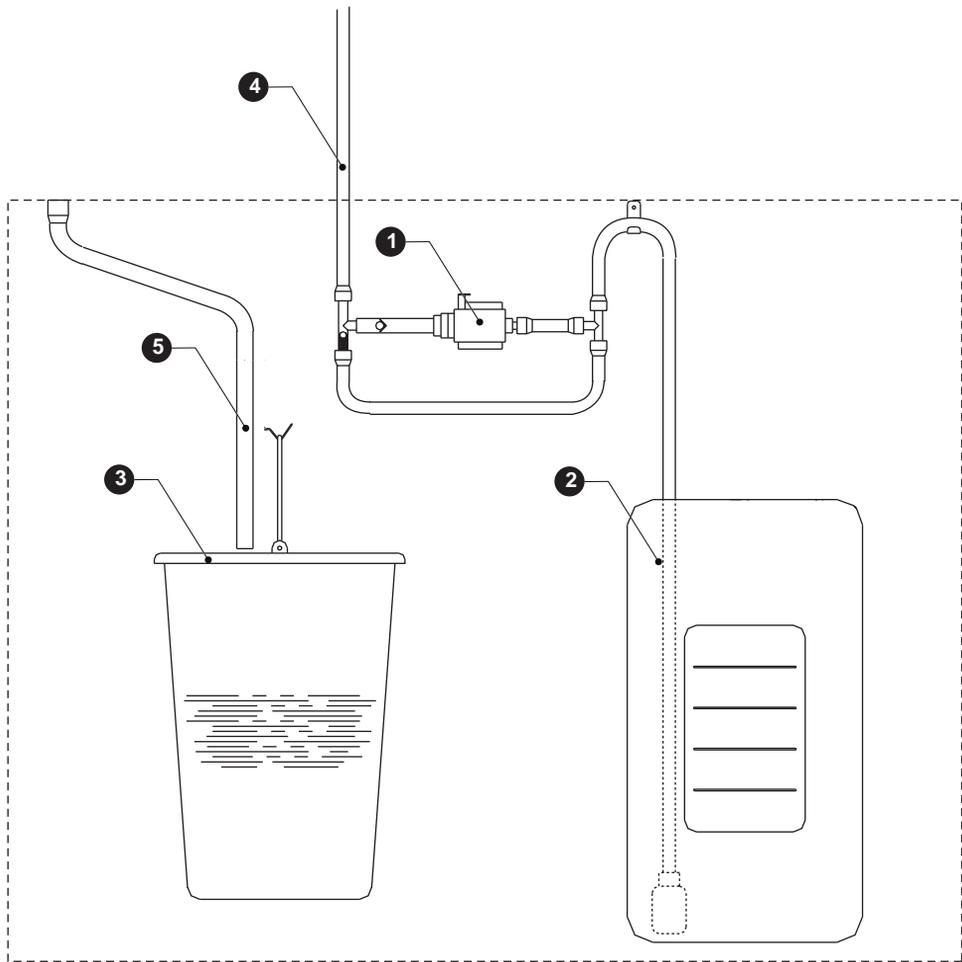


# HYDRAULIC CIRCUIT

## MODELLO CON Z4000

*Fig. 58*

- 1- WATER INLET SOLENOID VALVE
- 2- FILTER
- 3- AIR-BREAK
- 4- BOILER
- 5- SOLENOID VALVE GROUP
- 6- BREWER UNIT SOLENOID VALVE
- 7- BREWER UNIT
- 8- MIXER
- 9- PUMP
- 10- BY-PASS
- 11- DISPENSING NOZZLES
- 12- FLOW METER
- 13- DRIP TRAY



# HYDRAULIC CIRCUIT

## CABINET

14- SUCTION PUMP

15- TANK

16- LIQUID WASTE CONTAINER

17- TO THE DEVICE

18- LIQUID RESIDUE CONTAINER DRAIN PIPE

## programming

Below are the available functions.

Those that are not used for the specific model layout, or which depend on the user profile, are also included.

Described below is a summary of the main functions which are useful for managing the operation of the machine, not necessarily in the order in which they are displayed in the menu.

The software version can be updated using the appropriate systems (PC, USB sticks, etc.)

The representation and arrangement of icons/screens in this manual is approximate and may vary from the one displayed on the machine depending on the configuration (layouts, themes, and/or icons)

## ACCESS TO THE PROGRAMMING MENUS.

To access the menu of the machine (with the door closed) tap and hold for 3 seconds the logo at the top left of the selections screen.

When the door is open, the machine may require a password to access the programming menu.

Enter the password to access the enabled menus.

The passwords (default) are:

- Engineer (4444),
- Distributor (3333),
- Loader (2222)
- User (1111)

The main page is displayed.

The touch screen tries to display the side navigation menu and function parameters in the same screen.

With some customization (for example, a larger font size) some functions and/or parameters may not be displayed: simply scroll through the screens.



Fig. 59

- 1- Search field
- 2- Navigation side menu
- 3- "EXIT" icon
- 4- "FAVOURITES" icon
- 5- Keypad
- 6- Message bar
- 7- Information area
- 8- Message area
- 9- Fault area
- 10- Maintenance and cleaning information area

## SEARCH FIELD

Allows to search for the function by name.

Tap to view the keyboard.

Type the name of the function, the functions that contain the typed text are displayed while typing.

From the search results displayed, touch the desired function.

## NAVIGATION SIDE MENU

Shows the functions available for the current user profile and the "next / back" buttons

## EXIT ICON

Exits from the programming menu without saving.

The selections page is displayed.

## FAVOURITES ICON

The “favourites” are shortcuts to frequently used functions. After a function is added to the “favourites”, it will be enough to view the “favourites” and touch the function for quick access. The icon displays a screen with frequently used functions stored as “favourites”.

### ADD A FUNCTION TO THE “FAVOURITES”:

from the function, tap the icon ★ in the message bar; the icon will change color (it is enabled)

### TO REMOVE A FUNCTION FROM THE “FAVOURITES”:

- from the favourites, tap the function you want to remove, then you enter the function.
- tap the icon ★ in the message bar; the icon will change color (it is disabled)

## KEYPAD

Use the keypad to enter the password to access the menu according to the user profile. User profiles enable users to access only certain specific functions enabled for their user profile.

## MESSAGE BAR

Shows:

- notification icons (water level, solid residues level, powders level, ...).  
Touch the icons to get an indication on the status.
- The menu access profile (Technical, ...).  
The menu functions are available depending on the profile used.  
The functions of a profile may not be available for another profile.
- “Language” icon  
You can change the display language of the messages by tapping the flag icon.
- the “add / delete favourites” icon

## INFORMATION AREA

Displays information about the machine

## MESSAGE AREA

Displays some information, such as statistics on the most popular selections, ...

## FAULT AREA

Displays the machine faults.

## MAINTENANCE INFORMATION AREA

Displays information about the deadline for the maintenance Buttons :

- "Maintenance notice": sets the current date/time as the date of last maintenance.

## ENTERING THE VALUES

The values in the programming menu can be entered / modified as follows:

## KEYBOARD

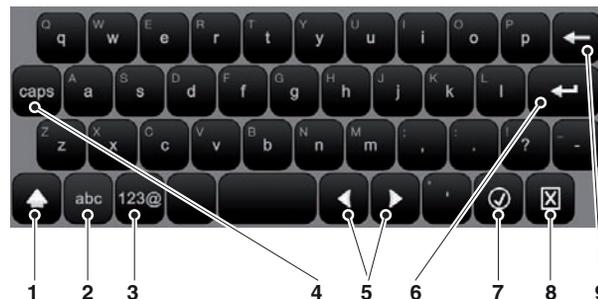


Fig. 60

- 1- Enter the next uppercase character (shift)
- 2- Swap the keyboard from "numbers/symbols" to "letters"
- 3- Swap the keyboard from "letters" to "numbers/symbols"
- 4- Enter uppercase characters (caps lock)
- 5- Move the cursor in the text
- 6- Insert a new line (2-line text)
- 7- Confirm the values
- 8- Cancel the entered values and closes the keyboard
- 9- Delete the last character entered (back space)

## KEYPAD

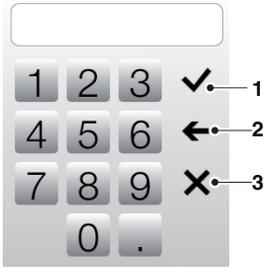


Fig. 61

- 1- Confirm the values
- 2- Delete the last number entered (back space)
- 3- Cancel the entered values and closes the keyboard

## CHECKBOX

Tap the checkbox to enable/disable the option.



Fig. 62

## DROP-DOWN LIST

Tap to open the drop-down list and select the value.



Fig. 63

## VALUE PICKERS

Scroll to select the desired value

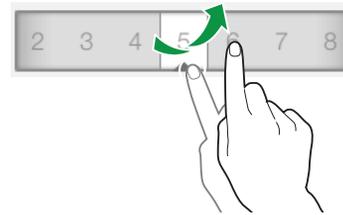


Fig. 64

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## DAILY ACTIONS

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Includes all the functions that affect daily operations (washing, residue counters reset, ...)

### WASHING

Automatic washing and rinsing of the functional units (infuser, mixer,...).

Tap the icons of the components you want to wash.

### FILLING

If the pre-alarm management is disabled, this function is not accessible.

This function allows to properly manage the containers' pre-alarms (if enabled).

Fill the container with the product and indicate the amount of product loaded.

### SOLID RESIDUE CONTAINER

Resets the counter which handles the reporting of "residues full" of the solid residue container.

**To ensure the right management of the warnings, you must reset the counter any time the solid residue container is emptied.**

### MONEY MANAGEMENT

Enabled only for models with payment systems.

With this function you can:

- empty coin tubes.
- load coins for coin box function
- check the total amount of money in coin mechanism

---

## SELECTION SETTINGS

---

### LAYOUT DISPLAY

Select the layout of the selections displayed in normal operation from the default ones.

You can also change the order of the selections simply by dragging the selection icon to the new position.

Touch the “Save” button to confirm.

### BEVERAGES

From the screen you can:

- Create new beverages
- Delete a beverage
- Duplicate and customize the beverage

### EDIT BEVERAGE

From the screen you can:

- Change the name of the beverages displayed in normal operation
- Define which recipe to use for the beverage.
- Change the selection image in normal operation  
Tap the image to open the screen of choice of the new image to use.
- Create a multimedia playlist to be played during dispensing.  
To enable / disable the display of multimedia content, tap the multimedia box from the playlist.  
The enabling / disabling of multimedia content is marked by the change of color of the box itself.
- Dispense the test selection.

## **RECIPES**

You can:

- Change the recipes of the selections (used, available, and unavailable).
- Delete a recipe
- Duplicate and customize a recipe
- Create a new recipe
- Search recipes by name

### **CREATE A NEW RECIPE**

From the main screen of the recipes:

- Tap “new recipe”

A page is displayed to:

- name the new recipe
- set a wait time (in seconds) for the “Pick Beverage” message to be displayed after dispensing.  
The wait time allows the hoses to be emptied and drip into the cup.
- enable, during dispensing, the ability to stop dispensing the drink before the end.  
The “Stop” button will appear on screen.

- set the capacity of the cup used to obtain a representation indicative of the quantity of beverage in the cup.  
If the amount of the beverage exceeds the set size of the cup, an error message is displayed.
- Set the number of dispensing cycle to fill a jug
- tap “Add New” to add the products that make up the recipe (such as coffee, chocolate, ...)  
The screens of the parameters vary depending on the product added (espresso, fresh brew coffee, soluble powders, ...)
- if necessary, add presets to the drink (such as sugar) and set the possible increase in the price of the drink.
- save the settings to return to the main screen.

From the main screen with “Test recipe” you dispense a selection to test the recipe created.

After the test selection it is possible to modify the recipe.

## EDIT RECIPE

From the recipe screen you can:

- change the name of the recipe
- set a wait time (in seconds) for the “Pick Beverage” message to be displayed after dispensing.  
The wait time allows the hoses to be emptied and drip into the cup.
- enable, during dispensing, the ability to stop dispensing the drink before the end.  
The “Stop” button will appear on screen.
- set the capacity of the cup used to obtain a representation indicative of the quantity of beverage in the cup.  
If the amount of the beverage exceeds the set size of the cup, an error message is displayed.
- Set the number of dispensing cycle to fill a jug
- add more instant products to the recipe (e.g. chocolate milk ...)
- if necessary, add presets to the drink (such as sugar) and set the possible increase in the price of the drink.

To edit the settings of individual products (for example amount of water, powder, ...):

- tap the bar corresponding to the product (such as milk, chocolate, ...) to change the basic and advanced parameters.
- tap “Edit” to change the parameters of the product

After changing the parameters save the settings to return to the main screen.

From the main screen with “Test recipe” you dispense a selection to test the edited recipe.

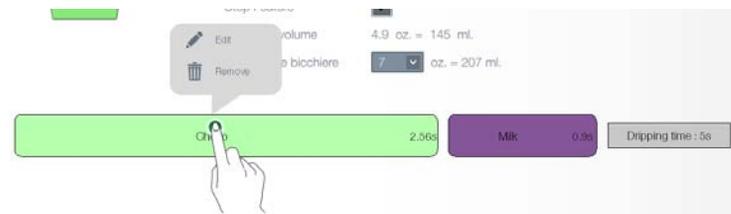


Fig. 65

## **BASIC PARAMETERS**

You can set:

- the name of the ingredient
- water dose
- add / remove an ingredient
- vary the amount of the ingredient

The recipe can be created or customized (adding Milk, Sugar, ...).

Customization allows to set the product dosage variation and change the price of the selection.

## **ESPRESSO ADVANCED PARAMETERS**

### **INITIAL DELAY**

Set a time delay of the ingredient; the delay is useful if recipes composed of multiple ingredients are created.

For example, when creating the recipe “Espresso with milk” a time delay between the dispensing of espresso and milk can be set.

It can be helpful to obtain a better presentation of the beverage

### **COFFEE CAKE SQUEEZING**

The coffee cake is squeezed by the upper piston that helps removing water from the coffee cake before discharge in the solid waste tray by mechanically compressing the coffee cake.

- ON: coffee cake squeezing enabled
- OFF: no coffee cake squeezing

#### SQUEEZE DOWN FORCE

sets the coffee cake squeezing force exerted by the top piston at the end of dispensing.

#### SQUEEZE REST FORCE

it sets the safety value of the coffee cake squeeze down force.

#### **Warning !!!**

**This value must be greater than or equal to the “squeeze down force” value.**

#### PRE-INFUSION DOSE

Sets the amount of water (ml) to be used during the pre-infusion.

#### PRE-INFUSION TIME

Sets the pre-infusion time before the infusion.

#### CURRENT PROFILE

Set 3 pressure profiles for the espresso infusion:

- High
- Medium
- low

With “Low” the machine shows parameters for the infusion at low pressure (see parameters fresh brew ).

## FRESH BREW ADVANCED PARAMETERS

### INITIAL DELAY

Set a time delay of the next ingredient; the delay is useful if recipes composed of multiple ingredients are created. For example, when creating the recipe “Coffee fresh brew” a time delay between the dispensing of coffee and milk can be set.

### COFFEE CAKE SQUEEZING

The coffee cake is squeezed by the upper piston that helps removing water from the coffee cake before discharge in the solid waste tray by mechanically compressing the coffee cake.

- ON: coffee cake squeezing enabled
- OFF: no coffee cake squeezing

### SQUEEZE DOWN FORCE

sets the coffee cake squeezing force exerted by the top piston at the end of dispensing.

### SQUEEZE REST FORCE

it sets the safety value of the coffee cake squeeze down force.

### **Warning !!!**

**This value must be greater than or equal to the “squeeze down force” value.**

### SQUEEZE START

This parameter (in % of the delivery time) allows to establish for how long the infusion takes place at low pressure (freshbrew) and how long at high pressure (espresso.)

The modification of the parameter results in the absence or the variation of the amount of cream in the beverage.

For example:

- A value of 100% indicates that the infusion is at low pressure (fresh brew) for 100% of the time of delivery (no cream in the cup)
- A value of 80% indicates that the infusion is at low pressure (fresh brew) for 80% of the time of delivery, while the remaining 20% of the time the infusion is at high pressure (presence of cream in the cup)

### **K** CONVERSION FACTOR

It sets the FB valve opening delay time (to lower extraction pressure) compared to the time of activation of the solenoid valve / pump.

A higher value implies a higher initial infusion pressure.

The value “0” disables the function.

### VALVE OPEN PERIOD

It sets how often to open the FB valve to lower the extraction pressure.

### VALVE OPEN DUTY

Only for fresh brew selections.

It sets the opening time of the FB valve to lower the extraction pressure.

Value expressed in % of the value open period

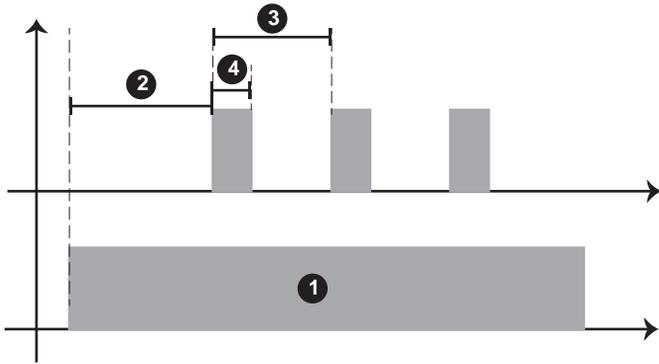


Fig. 66

- 1- Delivery time
- 2- K conversion factor
- 3- Value open period
- 4- Valve open duty

### LIMIT TACHO VALUE

It sets the height of the upper piston in the chamber during infusion at low pressure (fresh brew)

Default value 430.

A value close to 1023 indicates that the upper piston is very close to the lower piston.

### Warning !!!

**A value lower than the default may result in the leakage of hot water from the brewing unit.**

### PRE-INFUSION DOSE

Sets the amount of water (ml) to be used during the pre-infusion.

### PRE-INFUSION TIME

Sets the pre-infusion time before the infusion.

### CURRENT PROFILE

Set 3 pressure profiles for the espresso infusion:

- High
- Medium
- low

With “Low” the machine shows parameters for the infusion at low pressure (see parameters fresh brew ).

## **INSTANT ADVANCED PARAMETERS**

### **INITIAL DELAY**

Set a time delay of the ingredient; the delay is useful if recipes composed of multiple ingredients are created.

For example, when creating the recipe “Chocolate with milk” a time delay between the dispensing of chocolate and milk can be set.

It can be helpful to obtain a better presentation of the beverage

### **MIXER DELAY**

Sets the delayed start of the mixer after the supply of water.

### **MIXER ABSOLUTE MIX TIME**

You can set the duration of the mixing independent of the pump / valve operation time.

The duration of the mixing is set in milliseconds and is calculated from the moment of activation of the pump / solenoid valve.

### **RELATIVE MIXER TIME**

You can set the duration of the mixing increasing or decreasing it compared to the stopping time of the pump / solenoid valve

The duration of the mixing is set in milliseconds and is calculated from the moment of activation of the pump / valve.

### **MIXING SPEED (LOW / MEDIUM / HIGH)**

You can define the mixing speed according to the product quality you wish.

### **WATER QUEUE**

Extends the dispensing of water in the mixer at the end of the mixing to allow adequate rinsing of the mixer.

Set the water amount (pulses of the volumetric meter).

### **POWDER SPEED**

Set the working speed of the motor-doser to define its scope.

### **POWDER DELAY**

You can set a delay time to dispense instant powder after the water has been dispensed in the mixer (activation of the pump / solenoid valve).

### **STEP**

The instant powder is dispensed at regular intervals simultaneously to water dispensing.

Set how often to dispense the powder.

### **DECAFFEINATED CYCLE**

The instant powder is dispensed before the water to improve the presentation of the beverage.

Enabling this option is recommended for instant coffee.

## INGREDIENT CANISTERS

According to the machine layout, it displays the screen with the product containers.

You can enter nutritional information and a picture (such as a logo,...) for each ingredient.

Tap a container to change:

- The motor-doser / container association (Chocolate, Espresso, Espresso 2, ...)

Refer to the doses table of the machine for pairings.

- Set the maximum capacity of the container to manage the “product running out” prealarms.

- Change the color associated with the container.

Tap “Change Colour” to change the color associated with that container; a preview of the new color is displayed

- Calibrate the grinding of the coffee beans.

The calibration allows to adjust the working speed of the grinder depending on the grams ground.

To calibrate, proceed as follows:

- Start the calibration procedure, a dose of coffee beans is ground and dropped
- Weigh the coffee powder
- Enter the detected weight.

- Calibrate the instant beverages and pre-ground coffee motor-doser.

The calibration allows to adjust the working speed of the motor-doser to define the capacity in g/sec.

To calibrate, proceed as follows:

- Dispense the powder to the minimum speed.
- Weigh the instant powder dispensed.
- Enter the detected weight.
- Dispense the powder to the maximum speed.
- Weigh the instant powder dispensed.
- Enter the detected weight.

Touch “Save” to confirm.

## MECHANICAL LAYOUT

It is the mechanical layout of the configuration used by the equipment.

It shows the arrangement of the containers and main functional groups.

You can indicate to the software the new mechanical settings of the equipment.

You can indicate:

- product within the container
- infuser unit type
- if the TEA BREWER group is present in place of a mixer or vice versa
- presence of additional containers attached to the inside door
- orientation of the jets conveying instant powder to the mixer / tea brewer

**Make sure your settings match the actual configuration of the equipment.**

**The device adjusts the operating cycles of the functional groups according to the choices made.**

**Settings that do not meet the actual configuration can be dangerous and cause damage.**

---

## MACHINE SETTINGS

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### CONFIGURATION

#### SELECT CONFIGURATION

Allows to manage the configuration provided by the software of the device.

You can delete and duplicate configurations and/or groups of configurations.

When using a new configuration, you can decide whether to clear the statistical data, calibrations, and maintenance counters.

#### **Warning !!!**

**Before loading the configuration from another machine (cloning) ensure settings compatibility between devices.**

#### BACKUP

Allows to save machine settings in a backup file.

## RECOVERY

Allows to recover machine settings from a backup file.

The device can be reset to:

- factory settings
- custom settings previously saved.

**After resetting the settings from the configuration file, enable the configuration from the “Select configuration” menu**

## IMPORT FROM USB

Allows to import machine settings from a saved configuration file.

**Warning !!!**

**Import can be used to clone settings from another machine; ensure settings compatibility between devices.**

## EXPORT TO USB

Allows to export machine settings to a saved configuration file.

**Warning !!!**

**Export can be used to clone current settings to another machine; ensure settings compatibility between devices.**

## EDIT INTERFACE STRINGS

For the available languages, you can change the names of beverages, recipes, containers, nutritional information, ... displayed on screen.

You cannot change the programming menu strings.

## **GRAPHIC PERSONALIZATION**

### **EDIT / MODIFY**

Allows to set some user interface graphics such as Logos, icons, colours, ...

Touch the items on a page to open the navigation window of the file system and select the new item.

### **CUSTOM GRAPHICS**

Allows to choose the file with custom graphics to be applied to the user interface.

Displays the files loaded with the “import” function.

### **IMPORT**

Allows to browse and select files from a USB stick with custom graphics to be imported into the machine.

### **EXPORT**

Allows to save custom graphics to a USB stick.

## **DISPLAY SETTINGS**

Enables / disables the view of the following:

- number of dispensed beverages at machine start up.
- price of the selections in normal operation
- date and time
- screen saver, enabling it allows to enter the time after which to activate the screen saver.

This function allows to set the brightness of the touch screen.

A value of 100 sets the maximum brightness.

## **PLAYLIST**

Function to be implemented

## **RSS FEED AND WEATHER**

in normal operation and during the delivery of the selection, you can watch the rss feed (news) and weather reports. To watch the news and weather reports, the machine must be connected to the Internet.

### **WEATHER**

- indicate the city for the weather forecast and select the URL of the weather service to use.

### **FEED / TEXT**

By default, the machine is set to show fixed text messages (the machine is not connected to the internet).

Type the text that you want to be displayed in normal operation. You can add more fixed text messages, touching “Add New”.

With the Internet connection is enabled you can watch the news using an RSS feed.

Choose the Internet address of the RSS feeds from the default ones or enter a custom address.

## **INPUT SENSORS SETTINGS**

The function group allows to set the operation of some of the equipment sensors.

### **CONTAINERS LEVEL**

Enables / disables the level sensors of the containers. Displays the various containers with filling levels and adjustable parameters:

- Calculated amount: enables the counter that manages the “product running out” prealarms.
- Sensor: enables the sensor signalling “Empty canister”
- Total capacity: set the grams of the maximum capacity of the canister
- Threshold value: set the grams of the prealarm limit

**You can check the level of canisters in the Machine status window**

**If the filling percentage of canister is shown in red, means that canister is in pre alarm.**

## SOLID WASTE

Enables / disables the solid residue count that manages the “residues full” warning.

- Set the maximum capacity of the solid residue container; the capacity is expressed in number of selections.
- Set the prealarm threshold value (number of selections)

**You can check the level of solid waste canister in the Machine status window**

**If the filling percentage of solid waste container is shown in red color, means that solid waste container is in pre-alarm.**

## CUP SENSOR

Enables / disables the cup sensor.

With the sensor cup enabled the machine delivers the drink only with in the Presence of the cup.

If you request a selection without placing the cup the machine shows message “place cup”.

- Set “high” sensitivity for glasses / cups small and semi-transparent .
- Set “low” sensitivity for glasses / cups large and colorful

## CALIBRATIONS

### FLOW METER CALIBRATION

The flow meter calibration allows to obtain the correct amount of water provided from the recipes.

To calibrate the flow meter, proceed as follows:

- Dispense and pick up the preset amount of water
- Measure the amount of water dispensed (in cc.)
- Enter the measured value.

You may need to use an adjustment value (positive or negative) of the calibration for beverages dispensed by the brewing unit.

## INGREDIENT CANISTERS

According to the machine layout, it displays the screen with the product containers.

You can enter nutritional information and a picture (such as a logo,...) for each ingredient.

Tap a container to change:

- The motor-doser / container association (Chocolate, Espresso, Espresso 2, ...)

Refer to the doses table of the machine for pairings.

- Set the maximum capacity of the container to manage the “product running out” prealarms.

- Change the color associated with the container.

Tap “Change Colour” to change the color associated with that container; a preview of the new color is displayed

- Calibrate the grinding of the coffee beans.

The calibration allows to adjust the working speed of the grinder depending on the grams ground.

To calibrate, proceed as follows:

- Start the calibration procedure, a dose of coffee beans is ground and dropped
- Weigh the coffee powder
- Enter the detected weight.

- Calibrate the instant beverages and pre-ground coffee motor-doser.

The calibration allows to adjust the working speed of the motor-doser to define the capacity in g/sec.

To calibrate, proceed as follows:

- Dispense the powder to the minimum speed.
- Weigh the instant powder dispensed.
- Enter the detected weight.
- Dispense the powder to the maximum speed.
- Weigh the instant powder dispensed.
- Enter the detected weight.

Touch “Save” to confirm.

## **OUTPUT CONFIGURATION**

### **INFUSER UNIT**

- Empty coffee: a sensor detects the rotation of the grinder during the grinding; in case of block (eg. foreign bodies), or excessive speed (grinder empty), the control blocks the selections using the grinder.
- Allows to set the position of the infusion chamber of the infusion unit.  
Setting the position of infusion chambers allows the ground coffee to be arranged more homogenously in the infusion chamber.

### **FAN SETTINGS**

Enables / disables the continuous operation of the steam suction fan.

- OFF: the fan is activated only during the preparation of beverages and for the next 30 seconds at the end of the preparation of the beverage.
- ON: the fan is always on

### **LIGHTING**

Allows to set the lighting parameters of the machine.

## MAINTENECE

### WASH / RINSE

You can enable / disable the machine automatic rinse cycle programming.

Set:

- the type of wash / rinse to be performed (complete, mixers only, brewing unit only, ...)
- the day to perform the wash / rinse cycle
- the time of execution of the wash / rinse cycle.

You can add and remove wash / rinse automatic cycles.

**The automatic washes/rinses use hot water: danger of burns.**

During the wash/rinse, a message appears.

### NEXT MAINTENANCE

Set the number of days and / or the number of dispensed beverages after which the equipment displays “perform maintenance”.

### MAINTENANCE ALERT

Resets the counter which handles maintenance alerts.

**Reset the counter only after completing all maintenance.**

## GENERA CONFIGURATION

### TANK

The machine can be supplied by mains or internal tank.

With this function you can define whether the device is powered from the mains (tank = OFF), from tank with water level sensor (tank = ON).

### PAYMENT SYSTEM ACTIVATION

Enables / disables the payment system of the machine.

Enable the payment system to activate all features (price settings, ...).

### POWER SUPPLY

Allows to set the type of electric connection or the voltage supply used for powering the equipment.

**Check the type of electrical connection used before making your choice.**

**This setting allows proper management of all electrical components and optimization of operating cycles of the machine.**

## **BOILER PARAMETERS**

- Temperature: sets the operating temperature of the boiler
- Minimum temperature for dispensing beverages: sets the minimum temperature to enable beverages

With the parameters “Temperature Threshold” and “Minutes” you can set the temperature maintenance cycle of the boiler. For example, if no beverages have been dispensed for the set minute, the boiler water temperature is increased by the degrees set in the “Temperature threshold”.

## **MIXER ANTI-LOCK**

Sets how long after the last selection with instant beverages the mixer is briefly turned on (anti-lock function)

This function is useful when residues of instant powder remain in the mixer.

---

## **MACHINE INFORMATION**

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### **FAULTS**

The machine has a number of sensors for keeping the various functional groups under control.

When an anomaly is detected, the machine displays the type of fault and the machine (or part of it) is put out of service.

Detected faults get recorded in special counters.

### **FAILURE HISTORY FILE**

Use this function to display the failure history file. The history file shows the failure with the corresponding date and time.

## EVENT HISTORY

This function allows to view and filter the events recorded from the equipment by:

- All events
- Access to the programming menus.
- Changing parameters
- Cleaning

Touch the “Delete” button to delete the displayed events.

## FAULTS

Displays the machine faults.

If there are no faults the list is empty

### PUMP FAULT 1...7

If the current absorption of a pump is not between the range of default values, all the selections in which the pump is involved are disabled.

### FAULTY MIXER 1...6 (WHIPPER FAULT)

If the current absorption of a mixer motor is not between the range of default values, all the selections in which that mixer is involved are disabled.

### SOLENOID VALVE 1...7 (VALVE FAULT)

If the current absorption of a solenoid valve is not between the range of established values, all the selections in which that solenoid valve is involved are disabled.

### SHORT CIRCUIT MOSFET

The machine fails if a device intended to control direct current motors on the actuation board (mosfet) remains active.

### SHORT CIRCUIT

This failure is displayed if the software should detect a short-circuit on one of the direct current motors connected with the actuation board. A failure may be simultaneously detected on one of the direct current motors.

## **VOLUMETRIC COUNTER**

No counting of the volumetric counter within a maximum time.

## **WATER LEAKAGE**

The Air-break micro switch signals the lack of water without a previous dispensing and opens the water inlet solenoid valve, or activates the self-feeding pump (attempt to fill the air break). Check that there are no water leaks in the hydraulic circuit of the machine (disconnected hoses, ...)

## **AIRBREAK MICRO**

The Air-break microswitch never signals the lack of water following a dispensing.

## **AIR-BREAK FILLING TIME OUT**

The air-break micro switch does not report the achievement of the water level in the Air-break in the allotted time during filling.

## **COFFEE UNIT FAILURES**

The position control microswitch of the coffee unit is read during the whole dispensing cycle.

According to the micro readout and the dispensing phase of the unit, any failure is declared by locking the selections based on espresso coffee.

### **COFFEE UNIT - MICRO UNIT FAILURE -**

While the brew unit is being handled, the control micro is not operated within a certain time limit.

This failure may be associated with another positioning failure of the coffee unit.

### **COFFEE UNIT - START UNIT FAILURE -**

The microswitch signals the coffee unit has not moved from the stand-by position.

### **COFFEE UNIT - BREW UNIT FAILURE -**

The control micro signals that the coffee unit has not reached the brew position.

### **COFFEE UNIT - DISPENSING UNIT FAILURE -**

During the brew phase, the control micro signals that the espresso unit is being handled.

**COFFEE UNIT - DISCHARGE UNIT FAILURE -**

At the end of the brewing phase, the control micro signals that the coffee unit has not reached the “used dose discharge” position.

**COFFEE UNIT - STANDBY UNIT FAILURE -**

The control micro signals that the brew unit has not moved back to the stand-by position after having discharged the coffee dose.

**BOILER ERROR**

The operating temperature of the boiler is not reached after several temperature measurements in a given time.  
The device is taken out of service.

**BOILER LEAKING**

Reports a water leak in the boiler.

**THOROUGH MACHINE CLEANING**

Reports the need to perform a thorough cleaning of the machine.  
This message is displayed when the time limit or the configured number of selections are reached.

**WASHING OF THE ESPRESSO UNIT WITH TABLETS**

Reports the need to wash the espresso unit using sanitizing tablets.  
This message is displayed when the time limit or the configured number of selections are reached.

**WASHING OF THE MIXERS**

Reports the need to wash the mixers.  
This message is displayed when the time limit or the configured number of selections are reached.

**WASHING OF THE TEA BREWER**

Reports the need to wash the tea brewer unit.  
This message is displayed when the time limit or the configured number of selections are reached.

### **COIN MECHANISM**

The machine stops if it should receive an over 2-sec. pulse on a validator line or if the communication with the serial coin mechanism is not longer than 30 seconds (Executive protocol) or 75 seconds (BDV protocol).

### **LIQUID RESIDUE CONTAINER FULL**

Closing the contact of the liquid waste tray displays the message "Liquid residue container full".  
Empty the liquid residue container and reposition it to reset the fault.

### **DRIP TRAY NOT PRESENT**

The liquid residue container does not operate the micro switch indicating the presence of the container.  
Check that the liquid residue container is correctly positioned inside the machine.

### **WATER TANK EMPTY**

Lack of water from the mains or self-feeding tank.  
Make sure that the machine is connected to the water mains and that the tap is open or the tank is full of water.  
Touch the "Reset" button to restore the operation of the machine.

### **EMPTY COFFEE**

The grinder exceeds the normal speed for more than 5 seconds.  
Instant beverage products remain available.  
Make sure the coffee bean container is full.

## **WATER LOW PRESSURE**

the pressure switch detects low water pressure inside the machine.

## **GRINDER SHUTDOWN**

A sensor detects the effective rotation of the grinder during the grinding time.

In the event of a blockage (due to foreign bodies, etc.) the grinder is shutdown and the espresso-based selections are disabled.

This option can be used to enable/disable the check of the grinder rotation.

## **MACHINE BOARD**

Lack of communication between the machine board and the CPU board.

Check the electrical connections between the two boards.

## **ESPRESSO LOW TEMPERATURE**

The espresso boiler temperature is lower than the minimum temperature programmed to dispense espresso.

Wait for the minimum dispensing temperature to be reached.

## **EMPTY DOSER 1...7**

The minimum level of instant powder in the container associated with motor-doser has been reached.

The signal is active if they controls on instant powder containers are activated.

Check the level of instant powder in the containers.

## **TEA BREWER**

It is due to a positioning error of the tea brewer piston.

The piston position is indicated by the microswitch located on the tea brewer unit.

Only selections with tea are disabled.

## **TEA BREWER SCRAPER BRUSH**

Scraper brush position error due to the ejection of residues from the tea brewer unit.

The scraper brush position is indicated by the microswitch located on the tea brewer unit.

Only selections with tea are disabled.

## **EMPTY ESPRESSO DISPENSER 1...2**

The minimum level of coffee beans in the container has been reached.

The signal is active if they controls on coffee beans containers are activated.

Check the level of coffee beans in the containers.

## **MACHINE DATABASE NOT AVAILABLE**

The database that manages the machine configurations is not present on the machine, it cannot be loaded or created.

Make sure there is sufficient memory space.

## **STATISTICS**

### **SHOW STATISTICS**

Displays statistics on selections

Displays selections statistics showing:

- the number of dispensed selections
- date and time of last dispensing

### **STATISTICS RESET**

Touch the “Delete” button to delete the selections statistics.

### **SHOW AUDIT**

Displays the total number of payments and the total deliveries since last statistics reset, for each selection.

The audit data can be displayed by:

- sold dispensing
- free dispensing
- test dispensing
- value

## **FAVOURITES**

The “favourites” are shortcuts to frequently used functions. After a function is added to the “favourites”, it will be enough to view the “favourites” and touch the function for quick access.

## **FAVOURITES**

Displays all the functions that are frequently used and which have been stored as “favourites” touch the function to access.

### **TO REMOVE A FUNCTION FROM THE “FAVOURITES”:**

- from the favourites, tap the function you want to remove, then you enter the function.

- tap the icon ★ in the message bar; the icon will change color (it is disabled)

### **ADD A FUNCTION TO THE “FAVOURITES”:**

from the function, tap the icon ★ in the message bar; the icon will change color (it is enabled).

## **DELETE FAVOURITES**

Removes all functions from the “favourites”

## **MACHINE ID**

Allows you to enter a number and the name that identifies the machine.

The code can be used for the identification of the machine for the analysis of the statistics.

## **INSTALLATION DATE**

Stores the current date as the date of installation .

**Before storing the date make sure you have set the correct date and time.**

**The date is used for the management of maintenance intervals.**

## **TECHNICAL SUPPORT CONTACT INFORMATION**

Allows to enter the contact information (name and phone number) of the technical support in case of failure.

This information will be displayed in case of failure.

You can decide whether the information should be displayed for faults that block the equipment and/or faults that do not block the equipment.

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## ENERGY SAVING

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The energy saving function allows to enable, change the parameters, and set the time frames of the machine energy saving.

### SETTINGS

Enables / disables power saving features.

The machine allows to manage a few energy saving profiles. Some parameters of each energy saving profile can be customized.

#### “SOFT MODE” PROFILE

This profile enables energy saving after a period of inactivity of the machine.

When a selection is made, energy saving is disabled.

You can:

- Set the number of minutes of inactivity of the machine after which to activate the profile
- set the maintenance temperature of the boiler in the energy saving phase
- enable / disable the door light
- set the brightness of the touch screen normal, low, or off.

#### “DEEP MODE” PROFILE

This profile is active on the set time frames.

In the set time frames, the boiler temperature is lowered and the maintenance temperature is set.

You can:

- set the maintenance temperature of the boiler in the energy saving phase
- set how many minutes in advance to start the heating of the boiler before the end of the time frame.  
For example 5 minutes before the end of the time frame, the boiler heating cycle is activated to reach the operating temperature.
- enable / disable the door light
- set the brightness of the touch screen normal, low, or off.

## TIME BANDS

Allows to set the energy saving profiles time frames.

- Tap the day when to set the time frames.
- Tap “+” and then touch the line corresponding to the profile to place a rectangle with the indicated time.
- Drag the rectangle to define the exact time.

To delete a rectangle Tap “-” and then touch the rectangle to be deleted.

You can copy the settings for each day of the week or for a single day.

Tap “Copy day profile” to:

- Copy the time frames set for a single day of the week; touch the day to set the energy saving and tap “paste day profile”
- Copy the time frames set for every day of the week; tap “paste day profile to all days”

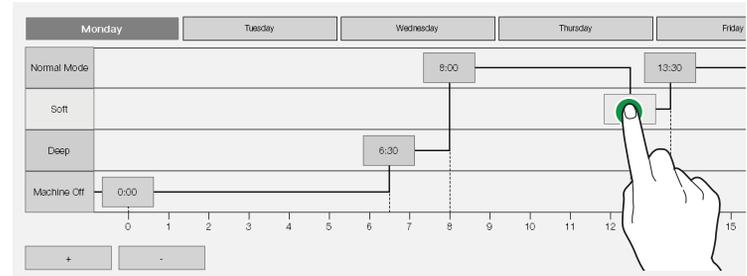


Fig. 67

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## PAYMENT SYSTEMS

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You can decide which protocols to enable for the payment systems available and manage the relative functions..

Some parameters shared by several payment systems keep the set point even if you change the type of system.

### VALIDATOR

#### IMMEDIATE CHANGE

The amount relative to a selection is generally cashed after the machine has sent the “Successful selection” signal.

If you enable this function, which is disabled by default, the cash signal is sent at the start of the dispensing cycle.

The setup of this parameter is compulsory.

#### DECIMAL POINT POSITION

To set up the decimal point position, i.e.:

- 0 decimal point disabled
- 1 XXX.X (one decimal digit after the point)
- 2 XX.XX (two decimal digits after the point)
- 3 X.XXX (three decimal digits after the point).

#### BOOKING TIME

To set up for the cash payment how long the machine displays the residual credit necessary to dispense the selection (7 seconds by default).

#### LINE/VALUE ASSOCIATION

When the display is positioned on the “LINE-VALUE ASSOC.” function (line programming) of the “programming” menu, you can vary the value of the 6 coin lines of the validator from A to F.

#### CREDIT PROGRAMMING (OVERPAY)

You can decide whether:

- to cash the credit exceeding the selection amount after a well-defined time interval in seconds (parameter “deleted 000”)
- to leave the credit exceeding the selection amount at disposal for a subsequent selection (parameter “maintained”)

## **EXECUTIVE**

### **COIN MECHANISM VERSION**

You have to choose among the following payment systems for the Executive system:

- Standard
- Price holding
- UKEY (Price holding price display)

### **IMMEDIATE CHANGE**

The amount relative to a selection is generally cashed after the machine has sent the “Successful selection” signal.

If you enable this function, which is disabled by default, the cash signal is sent at the start of the dispensing cycle.

The setup of this parameter is compulsory.

### **BOOKING TIME**

To set up for the cash payment how long the machine displays the residual credit necessary to dispense the selection (7 seconds by default).

## **BDV**

### **IMMEDIATE CHANGE**

The amount relative to a selection is generally cashed after the machine has sent the “Successful selection” signal.

If you enable this function, which is disabled by default, the cash signal is sent at the start of the dispensing cycle.

The setup of this parameter is compulsory.

### **BOOKING TIME**

To set up for the cash payment how long the machine displays the residual credit necessary to dispense the selection (7 seconds by default).

### **TYPE OF DISPENSING**

To set the operation mode by multiple or single dispensing. In case of multiple dispensing, the change is not automatically given at the end of a successful delivery, but the credit will remain available for further dispensing. If you press the coin return button, the remaining credit will be returned if its value is lower than the maximum change value.

### **CREDIT RETURN (ESCROW LEVER)**

To enable/disable the credit return (by pressing the change return key) if no dispensing has been performed.

If enabled, this function will provide for the return of the coins even if the first dispensing cycle has not occurred.

If a delivery has failed for any reason whatsoever, the change will be returned.

### **MAXIMUM CREDIT**

Use this function to define the maximum accepted credit for inserted coins.

### **MAXIMUM CHANGE**

You can set a limit on the total amount of the change the coin mechanism will pay as soon as you press the change button or after one single dispensing.

The credit exceeding the amount you have programmed by this function will be cashed.

### **ACCEPTED COINS**

To define which coins shall be accepted among those recognised by the validator.

For the coin/value correspondence check the label showing the position of the coins on the coin mechanism.

### **COINS ACCEPTED FOR CHANGE**

To program the refusal of a coin in case of “exact amount”.

For the coin/value correspondence check the label showing the position of the coins on the coin mechanism.

### **EXACT CHANGE EQUATION**

To define the combination of empty tubes intended to set the coin mechanism to the “exact amount” mode. All possible combinations of empty tubes are listed here below.

For reasons of simplicity, the combination is described with reference to tubes A, B and C, where tube A will receive the lowest-value coins and tube C the highest-value coins.

0	=	A or (B and C)
1	=	A and B and C
2	=	A and B only
3	=	A and (B or C)
4	=	A only
5	=	A or B only (default)
6	=	A or B or C
7	=	A or B only
8	=	A or C only
9	=	B and C only
10	=	B only
11	=	B or C only
12	=	C only

## **DISTRIBUTION BUTTONS**

Use this function to enable or disable the buttons arranged on the coin mechanism in order to discharge the coins in the change tubes.

## **C.P.C. UNIT**

It is intended to inform the coin mechanism whether some peripheral units have been installed or removed from the serial connection (peripheral units of the C.P.C type - the default control unit is always enabled).

## **EXACT CHANGE (MINIMUM TUBE LEVEL)**

To warn the user in advance to "Insert exact amount" by adding a number of coins between 0 and 15 to the number of coins that has been programmed to establish the state of full change tubes.

## **VMC FREE SALE**

Most of the payment systems complete with a BDV protocol is intended to manage the free sale function.

However, there are some payment systems not having this function.

In this case, it is necessary to enable the VMC (vending machine control, disabled by default) free sale and to set the price of selections to zero if some selections are dispensed on a free basis.

## **MDB**

### **IMMEDIATE CHANGE**

The amount relative to a selection is generally cashed after the machine has sent the "Successful selection" signal.

If you enable this function, which is disabled by default, the cash signal is sent at the start of the dispensing cycle.

The setup of this parameter is compulsory.

### **DECIMAL POINT POSITION**

To set up the decimal point position, i.e.:

- 0 decimal point disabled
- 1 XXX.X (one decimal digit after the point)
- 2 XX.XX (two decimal digits after the point)
- 3 X.XXX (three decimal digits after the point).

### **BOOKING TIME**

To set up how long the machine displays the residual credit necessary to dispense the selection (7 seconds by default).

### **TYPE OF DISPENSING**

To set the operation mode by multiple or single dispensing. In case of multiple dispensing, the change is not automatically given at the end of a successful delivery, but the credit will remain available for further dispensing. If you press the coin return button (if the function is enabled), the remaining credit will be returned up to the maximum change value.

### **OBLIGATION TO BUY**

To enable/disable the operation of the coin return button before dispensing a product.

- ON: the change is returned after having selected a product
- OFF: the change is returned just after having pressed the coin return key (the machine is acting as a coin changer)

### **MAXIMUM CREDIT**

Use this function to define the maximum accepted credit for inserted coins.

#### **Maximum change**

You can set a limit on the total amount of the change the coin mechanism will pay as soon as you press the change button or after one single dispensing.

The credit exceeding the amount you have programmed by this function will be cashed.

### **ACCEPTED COINS**

To define which coins shall be accepted among those recognised by the validator when the change tubes are full. For the coin/value correspondence check the coin mechanism configuration.

### **RETURNED COINS**

To define which coins shall be used to give the change among those available in the tubes. This parameter is active only with the coin mechanisms not intended to manage the choice of the tube in use automatically (Auto changer payout). For the coin/value correspondence check the coin mechanism configuration.

### **ACCEPTED BILLS**

To define which bills shall be accepted among those recognised by the reader. For the bill/value correspondence check the reader configuration.

### **COINS ACCEPTED FOR EXACT CHANGE**

To define which coins shall be accepted among those recognised by the validator when the machine is in the “exact amount” mode. For the coin/value correspondence check the coin mechanism configuration.

### **BILLS ACCEPTED FOR EXACT CHANGE**

To define which bills shall be accepted among those recognised by the reader when the machine is in the “exact amount” mode.

For the bill/value correspondence check the reader configuration.

### **CASHLESS PRIVATE**

To protect the users’ privacy, this function is intended to display the string “-----” in the place of the credit on the cashless system.

### **RESIDUAL CREDIT**

You can decide whether to cash any credit exceeding the selection amount after a well-defined time interval (deleted later) or to leave it at the user’s disposal (maintained).

### **CASH-SALE COMMAND**

The function is used to give evidence that cash transactions have occurred by means of a cashless system.

The values available are listed here below:

- 0 standard operation: cash transactions are recorded as such
- 1 forced sending to cashless 1: cash transactions are recorded as transactions performed by the first cashless system
- 2 forced sending to cashless 2: cash transactions are recorded as transactions performed by the second cashless system

### **PARALLEL DEVICE**

Use this function to enable the presence of a validator or parallel bill reader to recharge the keys.

## EXACT CHANGE EQUATION

To choose among 15 different control algorithms to enable the machine to give the change at the end of the selection.

Every single algorithm checks a series of requirements (the amount of coins in the tubes or the empty or full state) of the tubes the coin mechanism will use to give the change.

The “No change” condition occurs when the tubes assigned to the chosen algorithm have achieved the minimum level of coins (“minimum tube level” parameter).

For reasons of simplicity, the combination is described with reference to tubes A, B, C and D, where tube A will receive the lowest-value coins and tube D the highest-value coins.

0	=	A or B or C or D
1	=	A or B
2	=	C or D
3	=	A or D
4	=	A only
5	=	B only
6	=	C only
7	=	A and D
8	=	C and D
9	=	A and B
10	=	A and B and C and D
11	=	A and C or A and D
12	=	A only or C and D
13	=	D only
14	=	A and B and C

For example: the “10” equation will display the “No change” message when all four tubes have achieved the minimum level. The “04” equation will display the “No change” message only when tube A (lower-value coin) has achieved the minimum level of coins.

## MAXIMUM CASHLESS KEY CREDIT

Use this function to set up the maximum credit a cashless key/ card may have to be accepted by the system. If the key has got a higher value, it will be rejected. The setup value shall always be higher than or equal to the value set for the “Maximum cash revalue” function.

The setup value shall always be higher than or equal to the value set for the “Maximum cash revalue” function; if modified and lower, it will be automatically set to the same value as the “Maximum cash revalue”.

## MAXIMUM CASHLESS KEY RECHARGED

The function is used to set up the maximum credit you can charge on a key or card system.

## MINIMUM TUBE LEVEL

To set a number of coins between 0 and 15 in order to establish the state of full change tubes and to warn the user to “insert the exact amount”

## **BILL READER FUNCTION (BILL REVALUE)**

To enable the bill reader only to recharge the credit on the cashless system (key or card).

### **UNDEFINED CREDIT CASH**

This function is intended to accept cashless payment systems (key or card) or not if the cashless system credit is not defined.

### **USER GRUOPS**

The function is used to associate a price list (list 1, list 2 and list 3) to the groups of users (from 1 to 5).

All groups of users are associated to the list by default.

## **PRICES**

### **CURRENCY SYMBOL**

Set up the currency symbol during the credit display.

### **SELECTION PRICES**

For each selection it is possible to set a price.

The factory settings, expects the same price for all selections (global price).

For each selection you can set a different price from the global price.

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## IMPORT / EXPORT

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Includes all the functions to export and import statistics, machine settings, graphics packages, ...

### EVADTS

Allows export EVADTS data to USB stick and/or serial.  
For export via serial the protocol must be set.

### PACCHETTO GRAFICO

funzione da implementare

### VIDEO AND PICTURES

Allows to import / export media files from the machine using a USB stick.

You can create / delete directories and/or files.

### ERRORS LOGFILE

Exports the errors in the machine to a log file.  
The logfile is saved on a USB device.

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## SYSTEM

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### COMPONENTS TEST

Allows to check the main components of the machine.  
The components that can be checked are displayed.  
Tap the component to be tested on the touch screen.

### INFUSER UNIT

Starts the handling of the brewing unit

### ESPRESSO CONTAINER

A dose of coffee beans is ground

### MOTOR-DOSERS

The instant powder motor-doser associated with the selected powder is activated for 2 seconds.

### MIXER

The mixer is activated for two seconds

### SOLENOID VALVES / PUMPS

The solenoid valve or the pump is activated for 2 seconds.

### **SENSORS AND INPUT DEVICES TEST**

A screen appears with the status of the equipment control devices (sensors, microswitches,...).

The status of the ON/OFF devices is shown in green if the device is active/enabled, in red if inactive/disabled.

For sensors, the detected value is displayed (e.g. temperature).

### **CUP SENSOR TEST**

Place a cup in front of the / cup to the sensors to verify the operation .

The machine shows the values measured by the cup sensor.

The function is useful for checking the sensitivity value of the cup sensor.

### **BOILER FILLING AND EMPTYING**

You can fill and empty the boiler.

The hydraulic circuit filling is automatic.

In case of maintenance at the hydraulic circuit or if one were to form significant water voids: perform the manual filling of the hydraulic circuit.

With the emptying boiler function is open a solenoid valve to allow air to enter into the boiler

### **BOILER FILLING**

The boiler is filled when the machine is installed.

Use this function to fill the boiler after maintenance of the hydraulic system or if consistent water voids are formed.

## BOILER EMPTYING

**The boiler must be emptied by technical personnel.**

**The boiler water is very hot and causes burns.**

**Before emptying the boiler, wait for the water in the boiler to cool down.**

The equipment includes a procedure for “quick cooling” of the boiler.

The emptying function opens a solenoid valve of the boiler to allow the entry of air in the boiler.

## MACHINE PARAMETERS TEST

Sets the activation time of the components during the self-test.

## FACTORY RESET

Allows to restore the device to factory settings.

**Warning !!!**

**All statistical data, failure list, containers level control, and settings are lost.**

## DATE TIME

Date and time are used to record events (for example faults, ...), for the management of programmed wash and for maintenance warnings.

Set current date and time.

## LANGUAGE

You can change the default text displaying language of wizards, dialog boxes, menus, and other user interface elements.

Some languages are available from the “change language” function; to add other languages move the flag icon from “Languages used”

To delete a language from the “change language” function, simply drag the flag icon to “Languages disabled.”

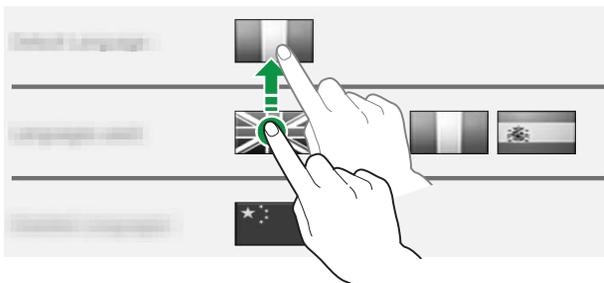


Fig. 68

## USER ACCESS

You can enable/disable some programming functions using some access profiles.

Access profiles ensure that only certain functions assigned to them can be utilized.

Each user profile has a password.

The default passwords are:

- Engineer (4444),
- Distributor (3333),
- Loader (2222)
- User (1111)

**Advanced programming functions must be reserved only for people with specific knowledge of the equipment (technical staff) and hygiene standards.**

With this function you can change:

- the name of the user profile; tap the profile name to change it
- the access password for each user profile; tap “change password” under the name of the user profile to change it.

## NETWORK / NETWORK

### ETHERNET

Allows to enable and configure the network card of the equipment.

The device supports TCP/IP.

It shows all network parameters that can be changed.

The network parameters (such as IP address, ...) can be:

- assigned automatically (DHCP)

or

- manually.

**To automatically assign network parameters there must be a DHCP server on the network.**

The MAC address is a unique address assigned by the manufacturer that identifies the network card of the equipment.

The MAC address cannot be changed.

### WI-FI

Allows to enable and configure the wi-fi connection of the equipment.

The equipment supports leading wi-fi security protocols.

Enter the identifier of the Wi-Fi network (SSID) to connect to.

The network parameters (such as IP address, ...) can be:

- assigned automatically (DHCP)

or

- manually.

**To automatically assign network parameters there must be a DHCP server on the network.**

The MAC address is a unique address assigned by the manufacturer that identifies the network card of the equipment.

The MAC address cannot be changed.

## **BLUETOOTH**

Allows to enable and configure the Bluetooth connection and exchange data (short distance) between the equipment and other devices.

To connect to a Bluetooth device you need to:

- enter the equipment identifier.
- make the equipment visible when searching for Bluetooth devices
- enter the authentication code and associate the Bluetooth device to communicate.

In discovery mode a wireless signal is transmitted that allows the device to be detected by other devices.

When a device can be detected, the pairing mode is also usually enabled.

## **SOFTWARE UPDATE**

Shows the software version of the machine.

It also allows to update the machine software with a USB stick or via network connection.

### **UPDATE FROM USB**

You can update the machine software with a USB stick.

- insert the USB stick with the new software
- In the navigation window of the USB stick file system and select the file with the software update.

## **INTERNET UPDATE**

Only for devices set for internet connection.

You can update the machine software via connection to an FTP server with software updates available.

Enter:

- the address of the FTP server with software updates
- the credentials for access to the FTP server (username and password).

## **INFORMATION**

Allows to view all the information about the device software (version, theme used, machine configuration, ...)