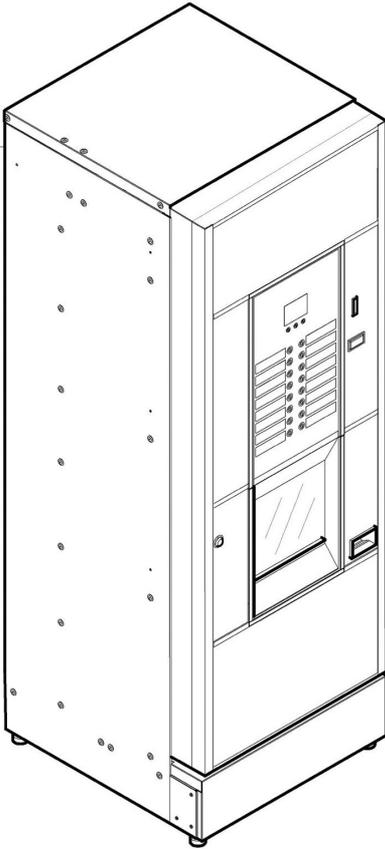




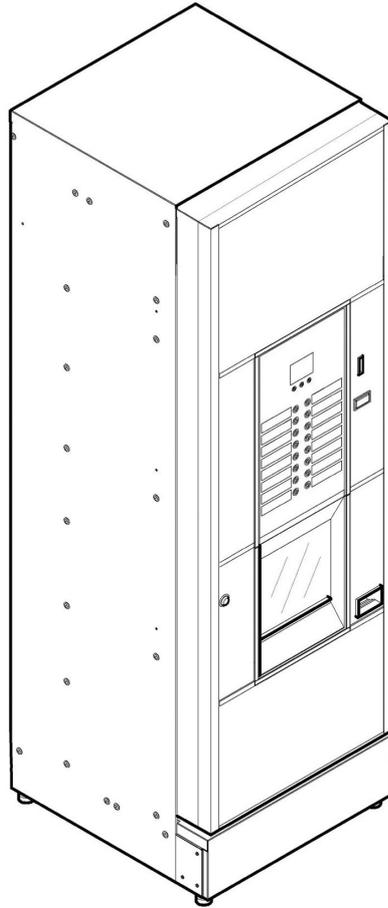
Vending Machine

D.A. CRISTALLO 400 EVO

D.A. CRISTALLO 600 EVO



Type: D.A. FS 400 2015



Type: D.A. FS 600 2015



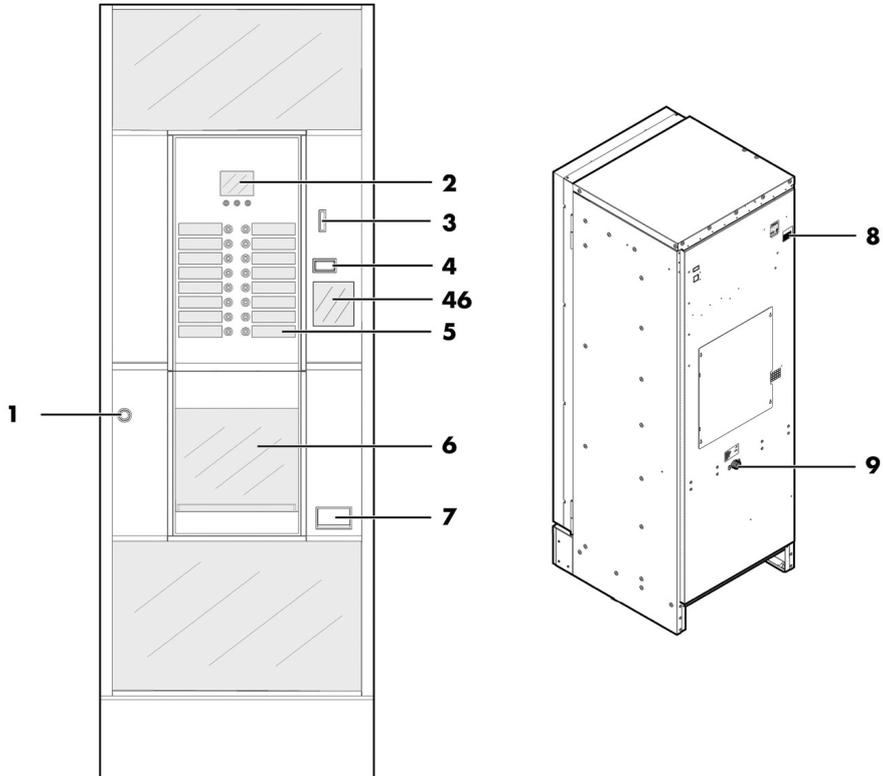
WARNING: This instruction manual is intended exclusively for specialized personnel.

USE AND MAINTENANCE

UK

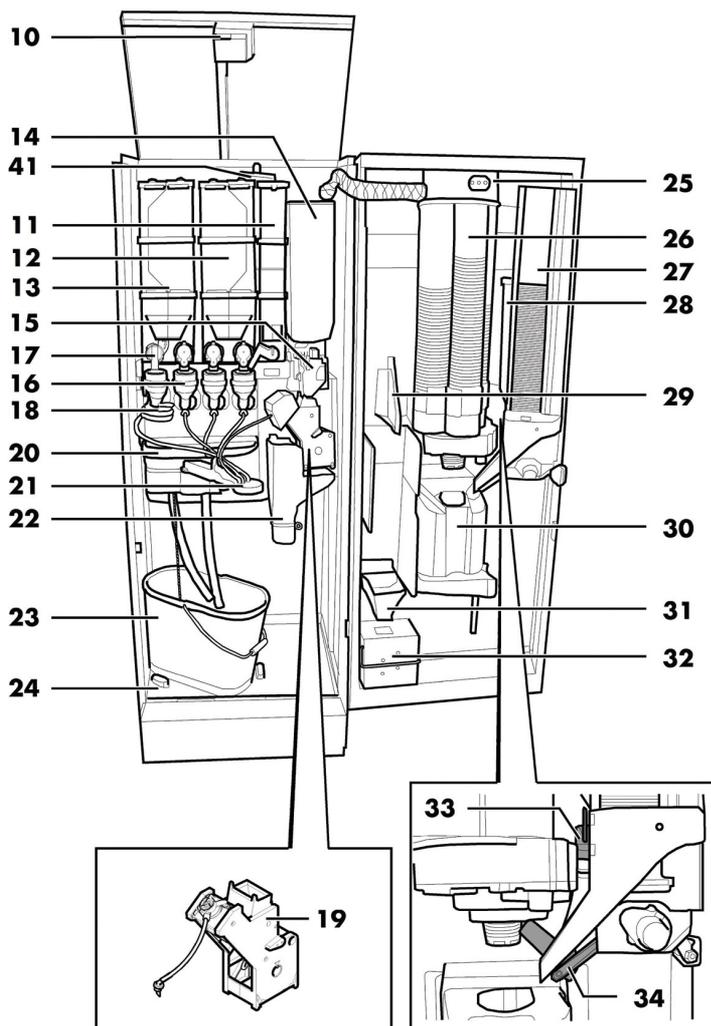
MAIN PARTS

CRISTALLO 400 EVO MAIN PARTS



1	Door lock
2	Display
3	Coin slot
4	Coin return button
5	Product keypad
6	Dispensing outlet door
7	Coin return slot
8	Power cord socket
9	Water connection coupling
46	Instruction plate

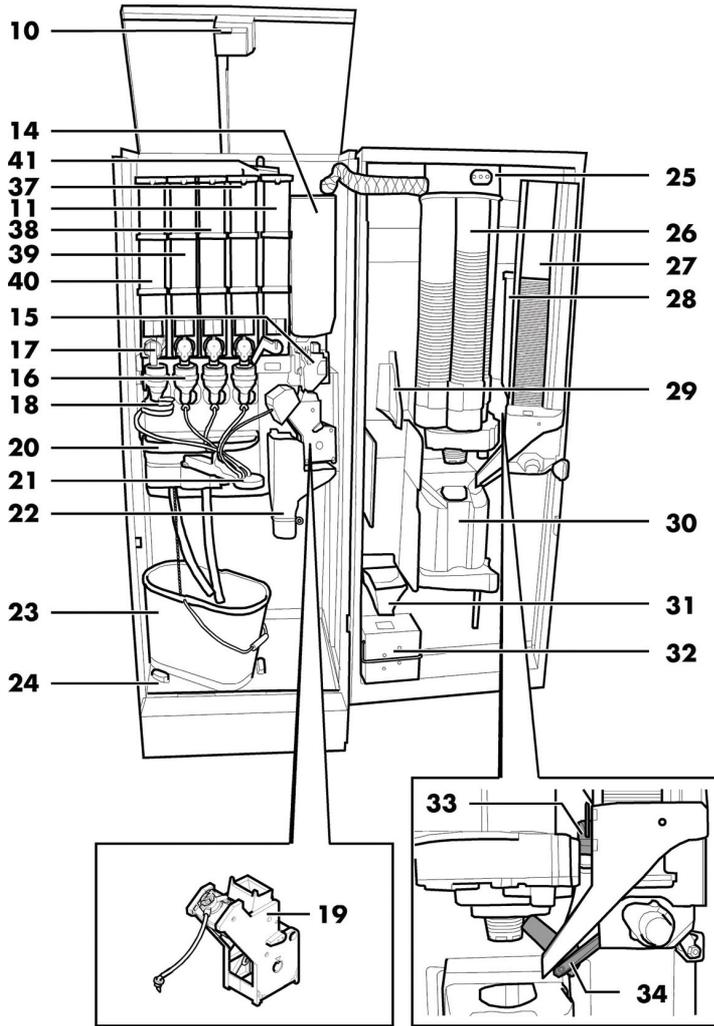
CRISTALLO 400 EVO Main parts - Espresso version with double containers



10	Safety switch
11	Container 5 (instant products)
12	Container 3/4 (instant products)
13	Container 1/2 (instant products)
14	Coffee bean container
15	Coffee grinder
16	Mixer
17	Instants opening
18	Spiral mixer
19	Gran Gusto Brew Group
20	Drip Tray
21	Dispensing arm
22	Coffee ground channel

23	Fluid discharge tank
24	Collecting tray
25	CPU card
26	Cup dispenser
27	Stirrer dispenser
28	Sugar container
29	Change-giving coiner support
30	Dispensing outlet
31	Coin return duct
32	Coin box set
33	Sugar opening
34	Chute
41	Air break device

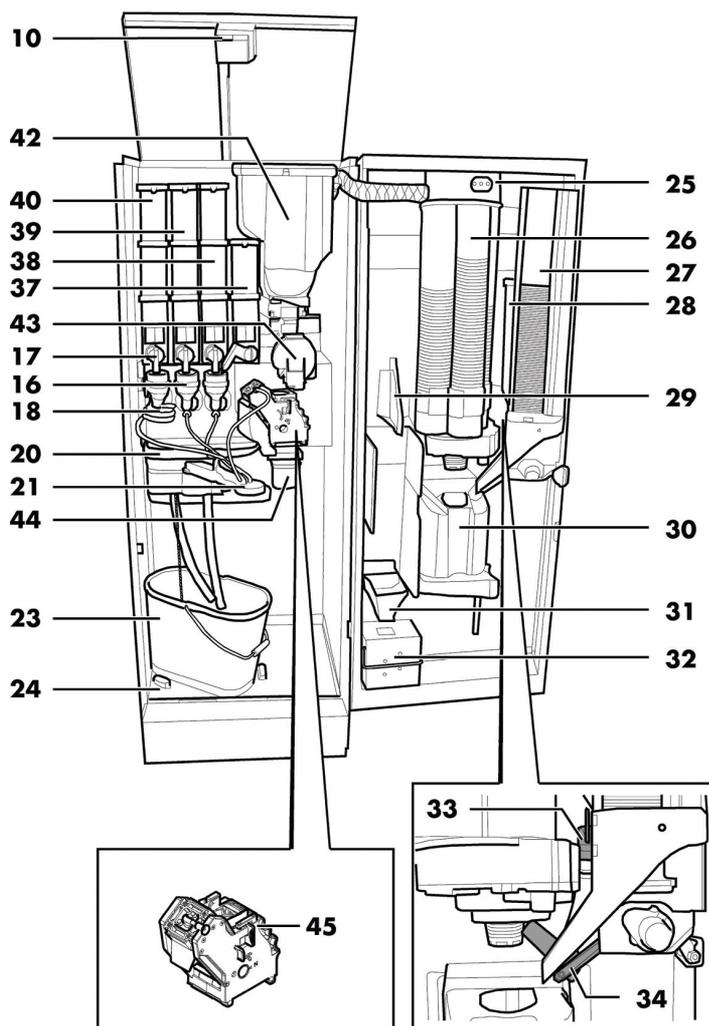
CRISTALLO 400 EVO Main parts - Espresso version with single containers



10	Safety switch
11	Container 5 (instant products)
14	Coffee bean container
15	Coffee grinder
16	Mixer
17	Instants opening
18	Spiral mixer
19	Gran Gusto Brew Group
20	Drip Tray
21	Dispensing arm
22	Coffee ground channel
23	Fluid discharge tank
24	Collecting tray
25	CPU card

26	Cup dispenser
27	Stirrer dispenser
28	Sugar container
29	Change-giving coiner support
30	Dispensing outlet
31	Coin return duct
32	Coin box set
33	Sugar opening
34	Chute
37	Container 4 (instant products)
38	Container 3 (instant products)
39	Container 2 (instant products)
40	Container 1 (instant products)
41	Air break device

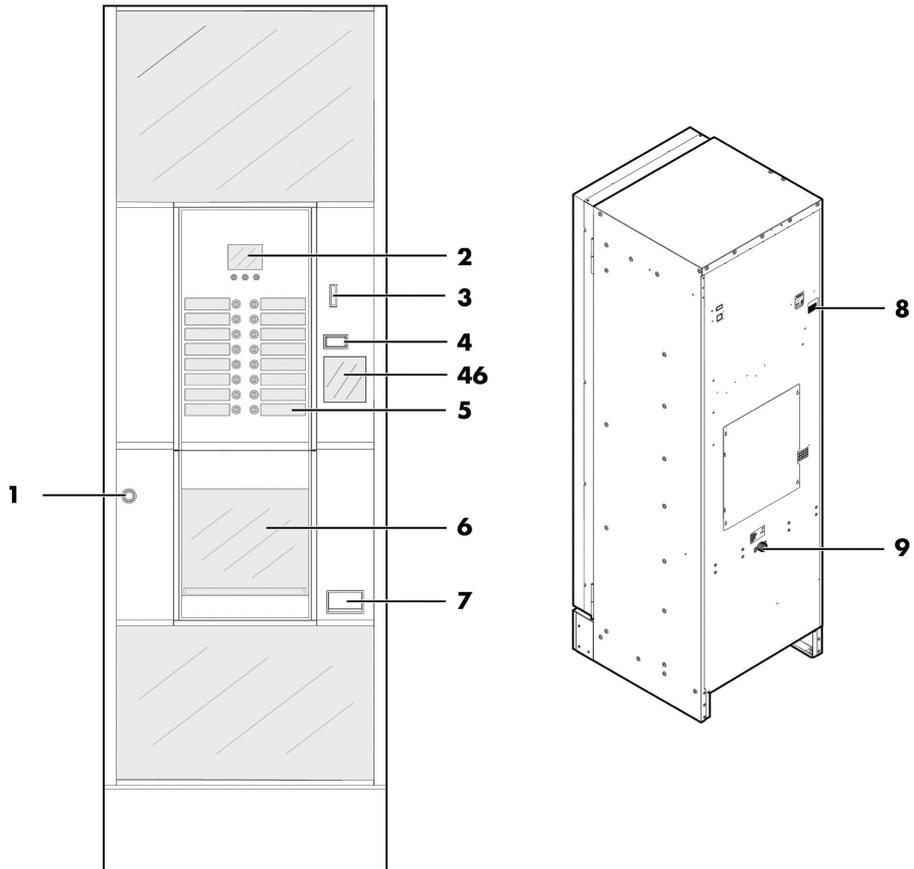
CRISTALLO 400 EVO MAIN PARTS CAPSULES



10	Safety switch
16	Mixer
17	Instants opening
18	Spiral mixer
20	Drip Tray
21	Dispensing arm
23	Fluid discharge tank
24	Collecting tray

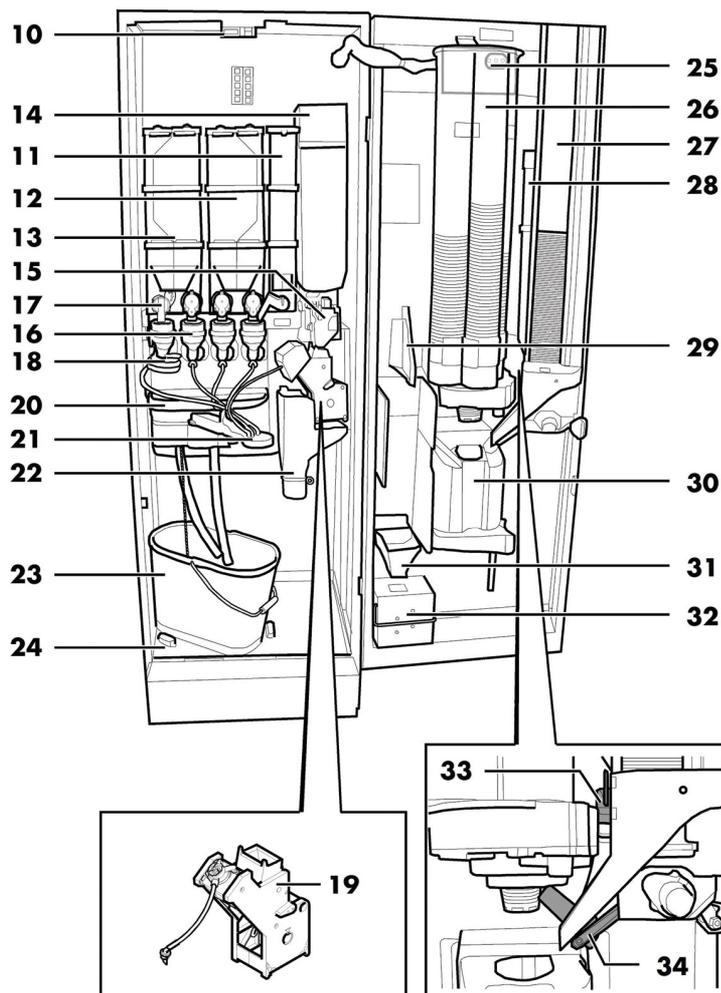
25	CPU card
26	Cup dispenser
27	Stirrer dispenser
28	Sugar container
29	Change-giving coiner support
30	Dispensing outlet
31	Coin return duct
32	Coin box set
33	Sugar opening
34	Chute
37	Container 4 (instant products)
38	Container 3 (instant products)
39	Container 2 (instant products)
40	Container 1 (instant products)
42	Coffee capsule hopper
43	Capsule conveyor
44	Used capsule chute
45	Capsule coffee Brew Group

CRISTALLO 600 EVO MAIN PARTS



1	Door lock
2	Display
3	Coin slot
4	Coin return button
5	Product keypad
6	Dispensing outlet door
7	Coin return slot
8	Power cord socket
9	Water connection coupling
46	Instruction plate

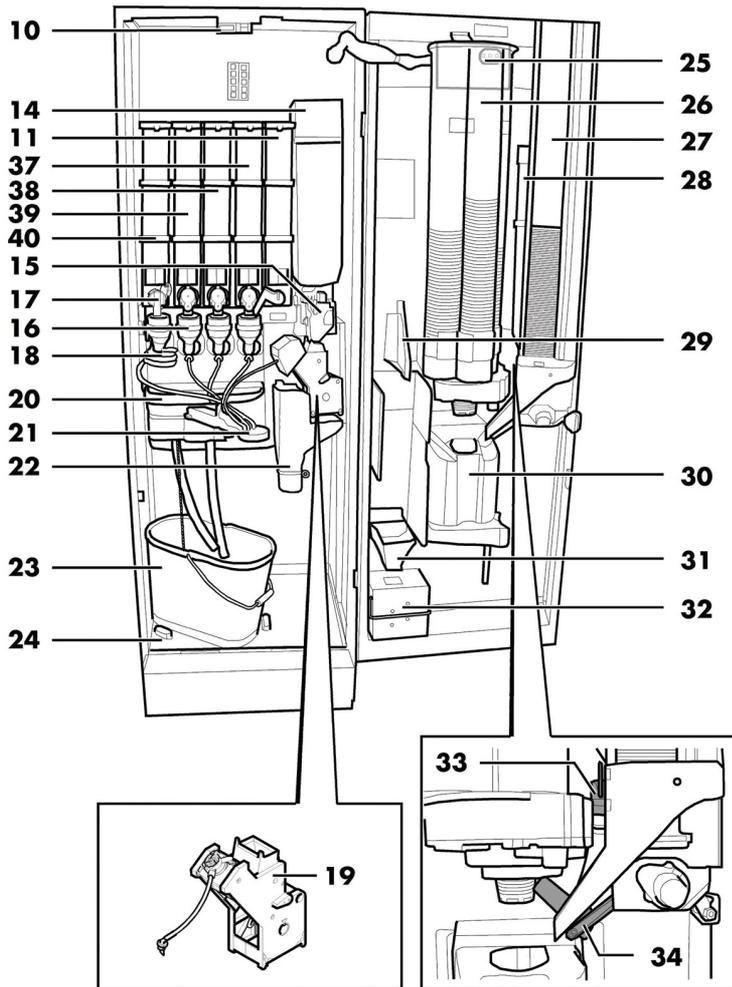
CRISTALLO 600 EVO Main parts - Espresso version with double containers



10	Safety switch
11	Container 5 (instant products)
12	Container 3/4 (instant products)
13	Container 1/2 (instant products)
14	Coffee bean container
15	Coffee grinder
16	Mixer
17	Instants opening
18	Spiral mixer
19	Gran Gusto Brew Group
20	Drip Tray
21	Dispensing arm
22	Coffee ground channel

23	Fluid discharge tank
24	Collecting tray
25	CPU card
26	Cup dispenser
27	Stirrer dispenser
28	Sugar container
29	Change-giving coiner support
30	Dispensing outlet
31	Coin return duct
32	Coin box set
33	Coin container
34	Chute

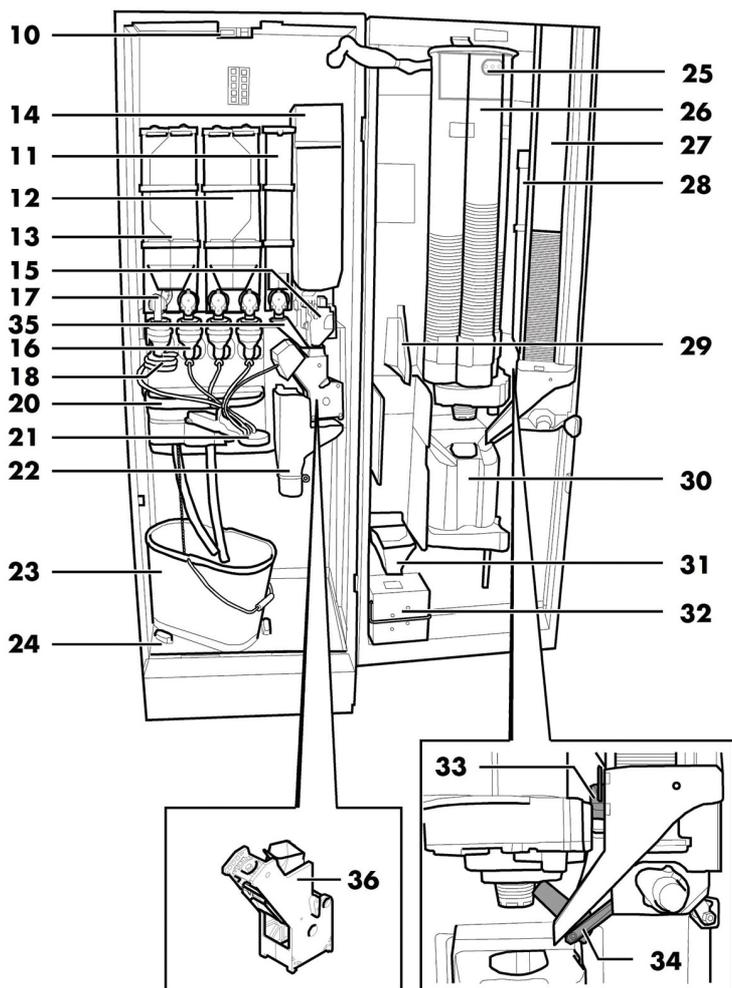
CRISTALLO 600 EVO Main parts - Espresso version with single containers



10	Safety switch
11	Container 5 (instant products)
14	Coffee bean container
15	Coffee grinder
16	Mixer
17	Instants opening
18	Spiral mixer
19	Gran Gusto Brew Group
20	Drip Tray
21	Dispensing arm
22	Coffee ground channel
23	Fluid discharge tank
24	Collecting tray
25	CPU card

26	Cup dispenser
27	Stirrer dispenser
28	Sugar container
29	Change-giving coiner support
30	Dispensing outlet
31	Coin return duct
32	Coin box set
33	Sugar opening
34	Chute
37	Container 4 (instant products)
38	Container 3 (instant products)
39	Container 2 (instant products)
40	Container 1 (instant products)

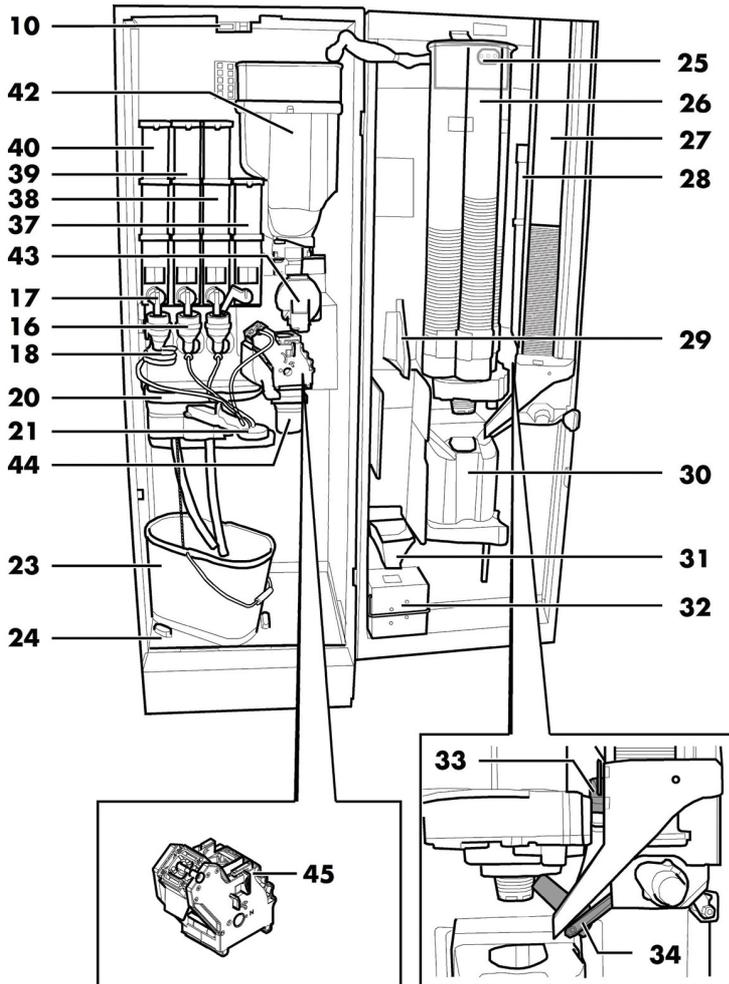
CRISTALLO 600 EVO Main parts - T.T.T. version



10	Safety switch
11	Container 5 (instant products)
12	Container 3/4 (instant products)
13	Container 1/2 (instant products)
14	Coffee bean container
15	Coffee grinder
16	Mixer
17	Instants opening
18	Spiral mixer
20	Drip Tray
21	Dispensing arm
22	Coffee ground channel
23	Fluid discharge tank

24	Collecting tray
25	CPU card
26	Cup dispenser
27	Stirrer dispenser
28	Sugar container
29	Change-giving coiner support
30	Dispensing outlet
31	Coin return duct
32	Coin box set
33	Sugar opening
34	Chute
35	T.T.T. and Duo powder conveyor
36	T.T.T. Brew group

CRISTALLO 600 EVO MAIN PARTS CAPSULES



10	Safety switch
16	Mixer
17	Instants opening
18	Spiral mixer
20	Drip Tray
21	Dispensing arm
23	Fluid discharge tank
24	Collecting tray

25	CPU card
26	Cup dispenser
27	Stirrer dispenser
28	Sugar container
29	Change-giving coiner support
30	Dispensing outlet
31	Coin return duct
32	Coin box set
33	Sugar opening
34	Chute
37	Container 4 (instant products)
38	Container 3 (instant products)
39	Container 2 (instant products)
40	Container 1 (instant products)
42	Coffee capsule hopper
43	Capsule conveyor
44	Used capsule chute
45	Capsule coffee Brew Group

SAFETY INSTRUCTIONS

- ⚠ For professional use only.
- ⚠ The vending machine cannot be installed outdoors; avoid placing it in areas where the temperature is less than 2°C or more than 32°C and in particularly damp or dusty areas.
- ⚠ Do not install the appliance in a location where water jets may be used.
- ⚠ The vending machine must be installed on a flat surface.
- ⚠ It is forbidden to: use water jets to clean the vending machine.
- ⚠ The appliance is only to be installed in locations where its use and maintenance is restricted to trained personnel.
- ⚠ This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.
- ⚠ Children shall not play with the appliance.
- ⚠ Cleaning and user maintenance shall not be made by children without supervision.
- ⚠ Do not direct water jets on the components and/or on the vending machine.

-  Before connecting the appliance to water network, please read and follow the applicable regulations in force in your country.
-  Access to the service area is restricted to persons having knowledge and practical experience of the appliance, in particular as far as safety and hygiene are concerned.
-  If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
-  Unplug the power cord before performing any cleaning and/or maintenance operation.
-  Connect the vending machine to drinking water mains with pressure between 0.15 MPA and 0.8 MPA (1.5 and 8 bar), see data on the label.

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2 INTRODUCTION TO THE MANUAL

2.1 Introduction

 This publication is an integral part of the vending machine and must be read carefully to ensure the machine is used correctly and in compliance with essential safety requirements.

 This manual contains the technical information required for the correct use, installation, cleaning, and maintenance of the vending machine.

 Always refer to this publication before carrying out any operation.

 This publication should be kept carefully, together with the vending machine throughout its operational life, even in case of changes of ownership.

 If this manual is damaged or lost, a copy may be requested from the manufacturer or the technical service by indicating the data contained on the data plate on the rear side of the vending machine.

All the images in this manual refer to the CRISTALLO 400 EVO model.

Manufacturer: SAECO Vending S.p.A.
Località Casona, 1066 40041 Gaggio Montano
Bologna, Italy

2.2 Symbols used

This publication contains various warnings which indicate different degrees of danger or skills required.

The symbol is integrated with a message suggesting use procedures or actions and providing useful information for the correct operation of the machine.

Warning

Indicates dangerous situations for the users, supply operators and maintenance technicians dealing either with the vending machine or the product to be dispensed.

Prohibition notice

It is used to highlight actions/operations not to be performed.

Important

Indicates the operations for keeping the vending machine in good working order.

Recommended solutions

Indicates alternative procedures that make the programming and/or maintenance operations quicker.

User

Indicates the user of the vending machine. This person is not authorized to carry out any cleaning or maintenance operation.

Supply operator

Indicates operations to be carried out only by personnel in charge of supplying and cleaning the vending machine.

Maintenance operations requiring a Maintenance Technician are not to be performed by the supply operator.

Maintenance Technician

Indicates operations to be carried out by qualified personnel in charge of maintenance.

The Maintenance Technician is the only person authorized to keep the MICROSWITCH ENABLING KEY, by which the security systems can be disabled.

3 INFORMATION ON THE VENDING MACHINE

3.1 Information for the Maintenance Technician

 The vending machine must be installed in a well-lit, dry area, away from bad weather and dust, on a floor suitable to support its weight.

To guarantee the correct operation and reliability over time, the following is recommended:

- ambient temperature: from +2°C to +32°C;
- maximum humidity: 80% (not condensed).

For special installations not covered in this publication, please contact the dealer or the local importer. If this is not possible, please contact the Manufacturer directly.

The technical service is available for any explanation or information regarding the correct operation of the vending machine and to satisfy any request for spare parts supply or technical assistance.

The Maintenance Technician must carefully read and respect the safety warnings contained in this manual so that every intervention concerning installation, starting up, use and maintenance will be safely carried out.

It is the Maintenance Technician's absolute responsibility to give the keys to access the inside of the vending machine to another operator (Supply Operator), provided that the Maintenance Technician bears full responsibility for all work carried out.

This manual is an integral part of the machine and must be always read carefully before performing any operation.

3.2 Description and intended use

The vending machine is intended for automatic distribution of coffee and hot beverages (decaffeinated coffee, cappuccino, chocolate, etc.) and is programmable for every single type of dispensing dosage. The instant products must be consumed immediately, and cannot be preserved for a long time. Any other use is to be considered improper and therefore dangerous.

 Do not place any product inside the vending machine which may be dangerous as a result of unsuitable temperatures.

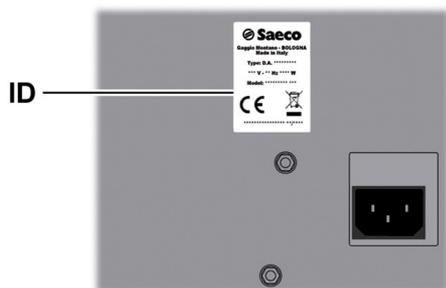
 Improper use of the vending machine invalidates all warranties. The Manufacturer declines any liability for damage to property or injury to persons.

 Improper use also includes:

- any use of the vending machine other than the intended use and/or according to procedures which are not described in this publication;
- any intervention on the vending machine which differs from the instructions given in this publication;
- any alteration of components and/or safety devices without prior consent of the Manufacturer or carried out by personnel not authorized for such operations;
- any location of the vending machine not provided in this manual.

3.3 Vending Machine Identification

The vending machine is identified by the name, model and serial number which can be found on the relevant data plate.



ID Data plate

The following data can be found on the plate:

- name of Manufacturer;
- marks of compliance;
- model;
- serial number;
- year and month of manufacture;
- supply voltage (V);
- supply frequency (Hz);
- electrical power consumption (W).

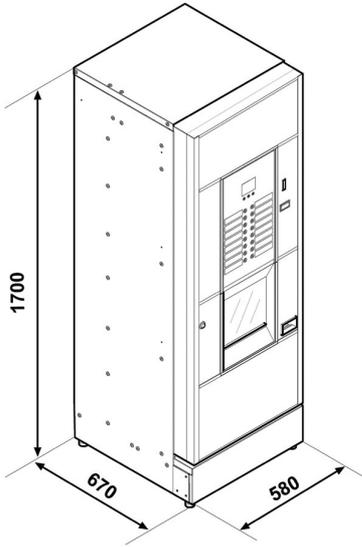
 It is strictly forbidden to tamper with or modify the data plate.

 When contacting the technical service, always refer to this plate by indicating the technical data shown on it.

3.4 Technical data

3.4.1 Cristallo 400 EVO

Dimensions (w x h x d)	580 x 1700 x 670 mm
Weight	120 kg

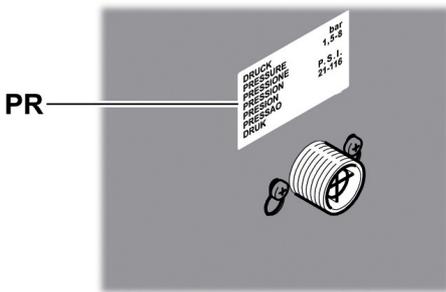
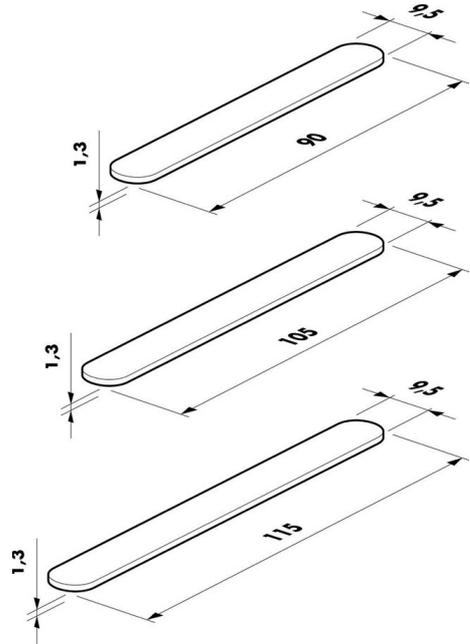


Power consumption	see data plate
Supply voltage	see data plate
Electric voltage frequency	see data plate
Power cord length	1600 mm
Water mains connection	3/4" Gas type
Water mains pressure	see data plate
A-Weighted sound pressure level	less than 70 dB

Container capacity

Coffee beans	3,5 kg
Decaffeinated coffee	1 kg
Hot Chocolate	3 kg
Milk	2,5 kg
Lemon tea	3 kg
Sugar	3 kg
Cups	N° 400
Stirrers	N° 400
Coffee capsules	N° 310

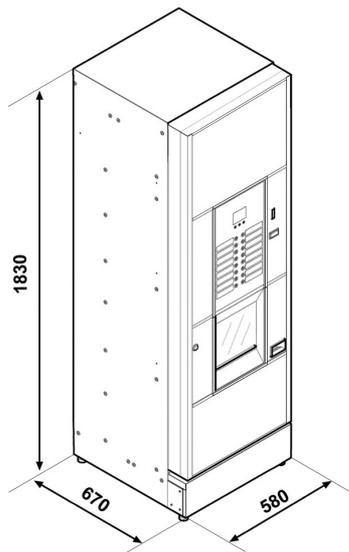
Stirrer size



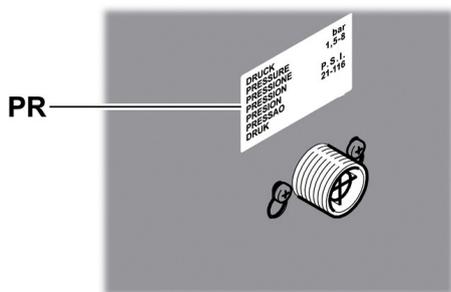
PR Data plate showing minimum and maximum water supply pressure

3.4.2 Cristallo 600 EVO

Dimensions (w x h x d)	580 x 1830 x 670 mm
Weight	125 kg



Power consumption	see data plate
Supply voltage	see data plate
Electric voltage frequency	see data plate
Power cord length	1600 mm
Water mains connection	3/4" Gas type
Water mains pressure	see data plate
A-Weighted sound pressure level	less than 70 dB

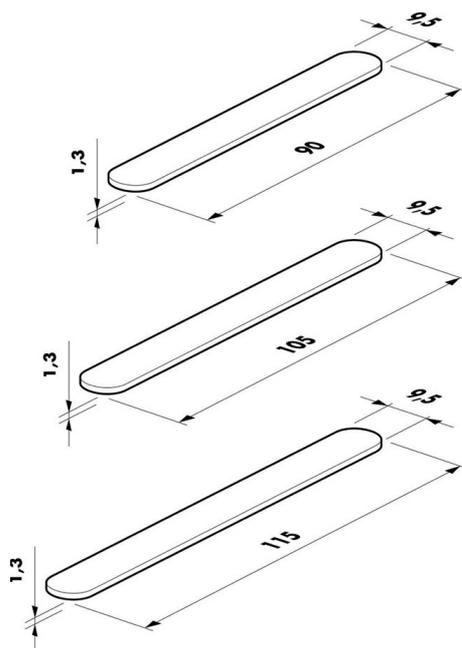


PR Data plate showing minimum and maximum water supply pressure

Container capacity

Coffee beans	4,2 kg
Decaffeinated coffee	1 kg
Ground coffee	1,6 kg
Hot Chocolate	3 kg
Milk	2,5 kg
Lemon tea	3 kg
Barley	1 kg
Sugar	4,5 kg
Cups	N° 550
Stirrers	N° 550
Coffee capsules	N° 420

Stirrer size



4 SAFETY

4.1 Introduction

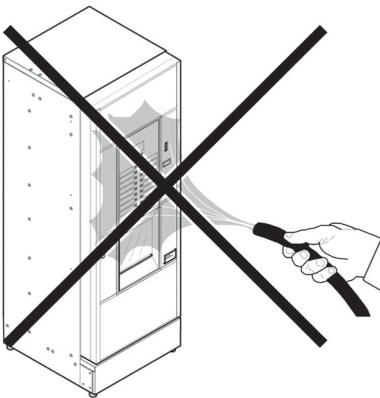
In accordance with the applicable standards and regulations, SAECO VENDING has prepared a technical file relating to the CRISTALLO 400 and CRISTALLO 600 vending machines at its premises, acknowledging the following standards in the design stage:

- | | |
|----------------|-----------------|
| - EN 55014 | - EN 61000-4-4 |
| - EN 6100-3-2 | - EN 61000-4-5 |
| - EN 61000-3-3 | - EN 61000-4-11 |
| - EN 61000-4-2 | - EN 60335-2-75 |
| - EN 61000-4-3 | - EN 60335-1 |

4.2 General safety regulations

It is forbidden to:

- tamper with or disable the safety systems installed on the vending machine;
- carry out maintenance on the vending machine without unplugging it first;
- install the vending machine on the outside. It is advisable to place it in a dry place where the temperature does not drop below 2°C, in order to prevent any possible freezing.
- use the vending machine for purposes other than those indicated in the sale contract and in this publication;
- use water jets to clean the vending machine.
- connect the appliance to the mains using multi-sockets or adapters;



It is compulsory to:

- check the electrical power line for conformity;
- use original spare parts;
- read the instructions contained in this publication and in the enclosed documents carefully;
- use personal protection devices during installation, testing and maintenance operations;
- Use a new gasket kit every time you disconnect and then connect again the machine to the water supply.

Precautions for preventing human errors:

- make the operators aware of safety issues;
- handle the vending machine, either packaged or unpackaged, in safe conditions;
- have a thorough knowledge of the installation procedures, its operation and limits;
- dismantle the vending machine in safe conditions, in accordance with the environmental protection and health and safety laws in force.

 To prevent machining residues from coming into contact with the beverages, dispense about 0.5 l water for each dispensing path before definitely starting the vending machine. The dispensed beverages can be consumed only after performing this operation.

 In case of failure or malfunctioning, please refer only to the qualified personnel of the technical service.

 The Manufacturer declines any liability for any damage caused to property or injury caused to persons as a result of failure to observe the safety regulations described here.

4.3 Operators' requirements

Three operators with different skills are required in order to guarantee the safety of the vending machine:

 User

Access to the internal part of the vending machine is forbidden to the user.

 Supply operator

The Maintenance Technician assigns the safekeeping of the access key to the Supply operator who is in charge of product supply, external cleaning, and starting up / stopping of the vending machine.

 The Supply Operator is not authorized to carry out operations which are indicated as being the duties of the Maintenance Technician in this publication.

 Maintenance Technician

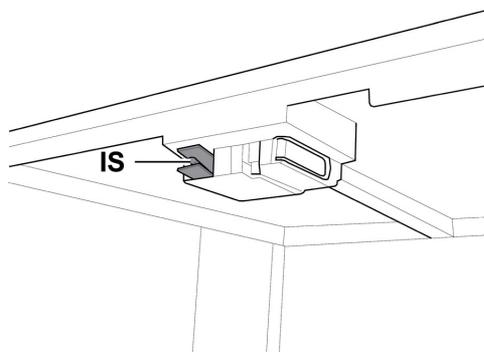
The Maintenance Technician is the only person authorized to intervene and start programming procedures, and perform adjusting, setting up and maintenance operations on the vending machine.

 Access to the service area is restricted to persons having knowledge and practical experience of the appliance, in particular as far as safety and hygiene are concerned.

4.4 Safety devices

The vending machine is equipped with:

- a safety switch on the upper door, which cuts off voltage to all inside components, whenever the front or upper (Cristallo 400) door is opened;
- a safety switch located on the dispensing outlet door, which blocks the nozzle arm cycle whenever the door is opened.



IS Safety switch

 Maintenance Technician

In case of programming or setting up operations only the Maintenance Technician can intervene by inserting the relevant key into the safety switch and resetting the voltage even if the door is open.

 This operation, necessary for starting up the vending machine, disables the safety system.

 It must therefore be carried out by qualified personnel (Maintenance Technician) aware of the risks resulting from the presence of live or moving components.

4.5 Residual risks

The dispensing outlet is protected by the door interlocked by the safety switch. If it is opened during the brewing cycle, mechanical movement is blocked, but if brewing has already started, it continues up to the end of the cycle.

 Risk of scalding if hands are placed inside the outlet during brewing.

 It is forbidden to open the door and take out the cup or put hands inside the outlet during dispensing, before the brewing cycle is complete.

 Before removing the cup from the outlet, please wait for the message “REMOVE CUP” on display.



 If the outlet door is opened during the brewing cycle, the message “CLOSE SERVICE DOOR” will be displayed; the nozzle arm stops and will not restart until the door is closed.

 It is not possible to brew further beverages if the previous cup is not taken out (see the “Dispensing outlet microswitch” menu item).

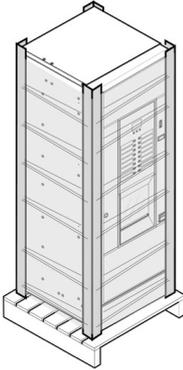
 Before brewing another beverage, check that the previous one has been taken out and that the cup support is empty.

5 HANDLING AND STORAGE

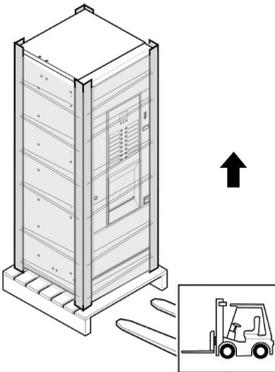
5.1 Unloading and handling

Unloading and handling operations after transportation must be carried out only by qualified personnel and using suitable equipment.

The vending machine is placed on a pallet, protected by a sack, by a shrink film and four angle bars.



Use a fork-lift to unload the vending machine from the transport vehicle.



 The vending machine must always be kept in the upright position.

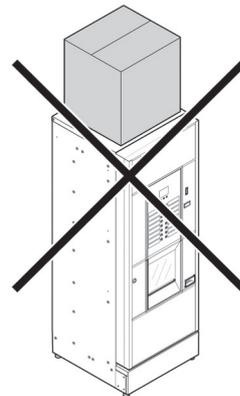
 Avoid:

- dragging the vending machine;
- overturning or laying the vending machine flat during transport and handling;
- shaking the vending machine;
- lifting the vending machine with ropes or cranes;
- leaving the vending machine exposed to the elements, in humid areas or close to heat sources.

5.2 Storage

If the vending machine is not installed immediately, it should be stored in a sheltered area, conforming to the following instructions:

- the packaged vending machine must be stored in a closed, dry area at a temperature between 1°C and 40°C;
- do not put other appliances or boxes on the vending machine;
- it is always good practice to protect the vending machine from any deposits of dust or other material.



6 INSTALLATION

6.1 Warning

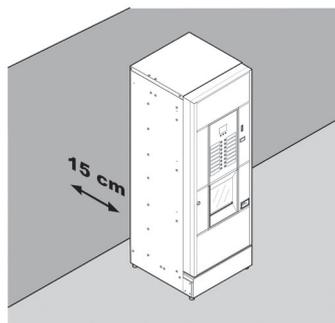
 The vending machine cannot be installed outdoors; avoid placing it in areas where the temperature is less than 2°C or more than 32°C and in particularly damp or dusty areas. It should not be installed in places subject to explosion or fire hazards, or where cleaning is done with water jets.

Before unpacking, check that the installation area complies with the following specifications:

- the power socket must be located in an easily accessible area, not more than 1.5 meters away;
- the socket voltage must comply with that on the identification plate;
- the surface or floor must NOT have a gradient of more than 2°.

 The vending machine must be installed on a flat surface.

If the vending machine needs to be positioned close to a wall, it is necessary to leave a space of at least 15 cm between the back and the wall in order to keep the air outlet grille free.



6.2 Unpacking and positioning

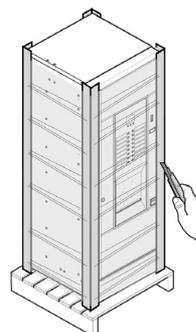
On receipt of the vending machine make sure that it has not been damaged during transportation and that package has not been tampered with or that internal parts have not been removed.

A bag, called "CUSTOMER KIT", is supplied with the vending machine. It contains the following items:

- Instruction booklet
- Power cord
- Door safety microswitch disabling keys (Maintenance Technician)
- Product labels and prices
- Instruction plate



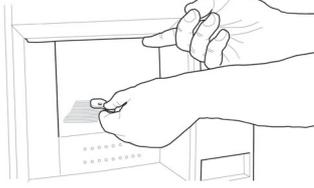
Remove the transparent protective film and the four angle bars.



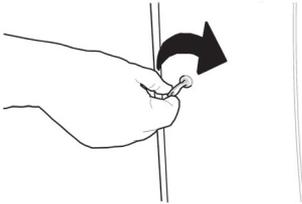
If damage of any kind is found, the courier must be informed and notice must be given to the importer or the seller immediately.

If these are not in the purchaser's country, please contact the manufacturing company directly.

Take the key from the dispensing outlet.



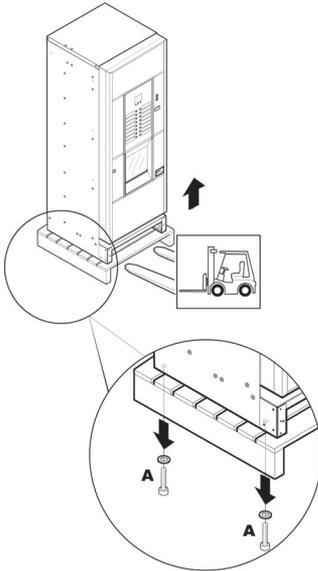
Insert the key into the lock, turn clockwise and open the door.



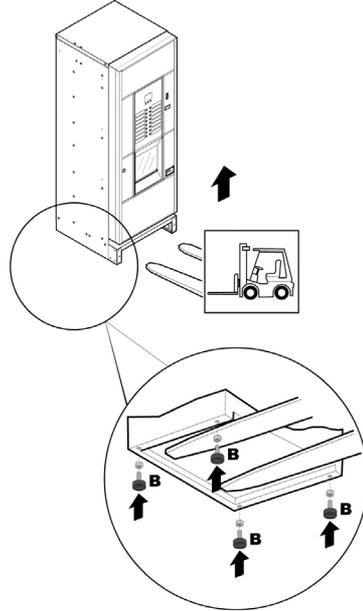
From the discharge tank, take out the accessory packet containing the following items:

- 4 feet;
- 1 key for the brew group.
- 2 screws;

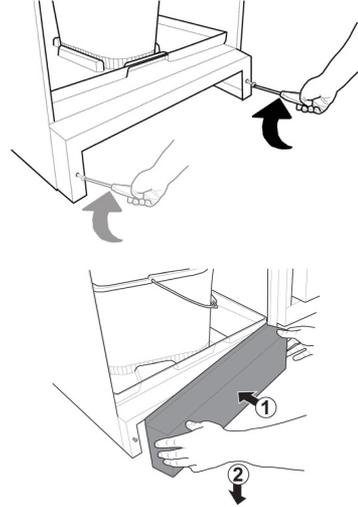
Lift the pallet in a way that the four fixing A screws can be removed.



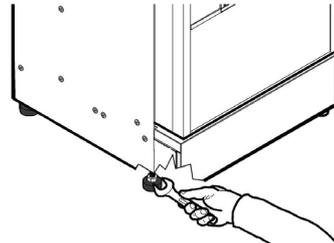
Screw the four supporting feet B.



Assemble the base by tightening the two screws as shown in the figure.



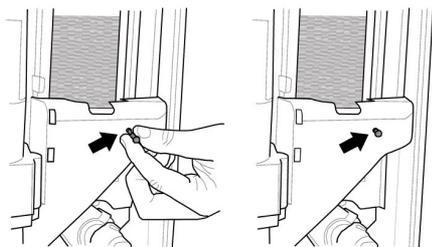
Adjust the levelling using the relevant feet.



6.3 Use of different-sized stirrers

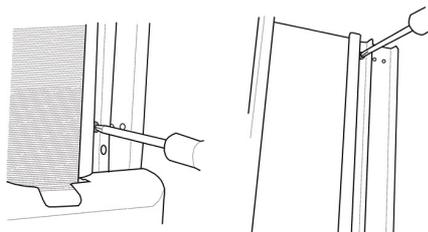
The vending machine is delivered with the stirrer set designed for use of 90 mm stirrers.

 If 90 mm stirrers are used, make sure that the rubber pin is inserted in the hole.

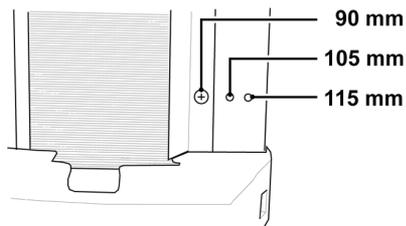


To substitute the 90 mm stirrers with those of 105 mm or 115 mm proceed as follows:

- Unfasten the two screws fixing the stirrer guide;



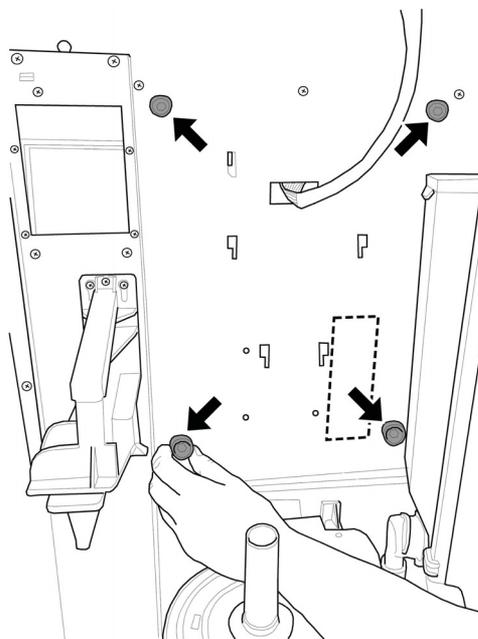
- Move the stirrer guide into the hole corresponding to the desired dimension and tighten the two screws.



6.4 Label application

6.4.1 Product labels

Remove the cup dispenser and unscrew the 4 knobs holding the keypad panel in place.



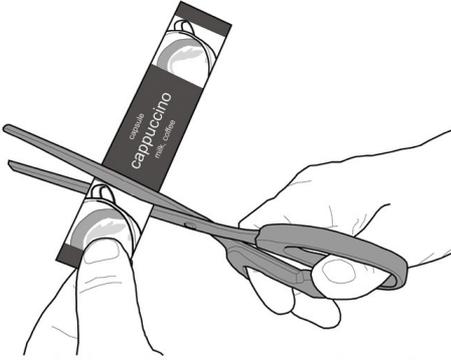
Remove the keypad panel.



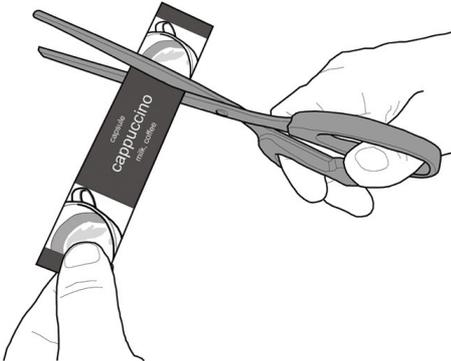
Take out the product label sheet included in the customer kit.
Remove the labels from the product label sheet by following the pre-cut line.
Cut the labels as shown in the figure to make the left ones or the right ones.

To make different labels from the ones provided in the kit, please use the "Labels" module available on our web portal "Saeco Vending Online" at www.saecovending-online.com.
For printing, we suggest using paper with the following properties: 170-g matte coated paper.

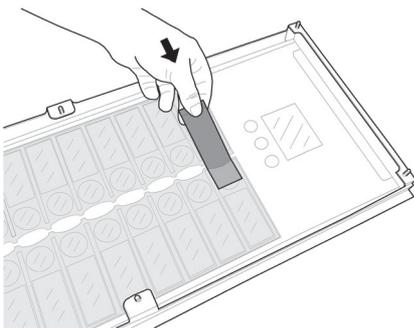
Left labels



Right labels



Insert the product labels in the keypad panel.

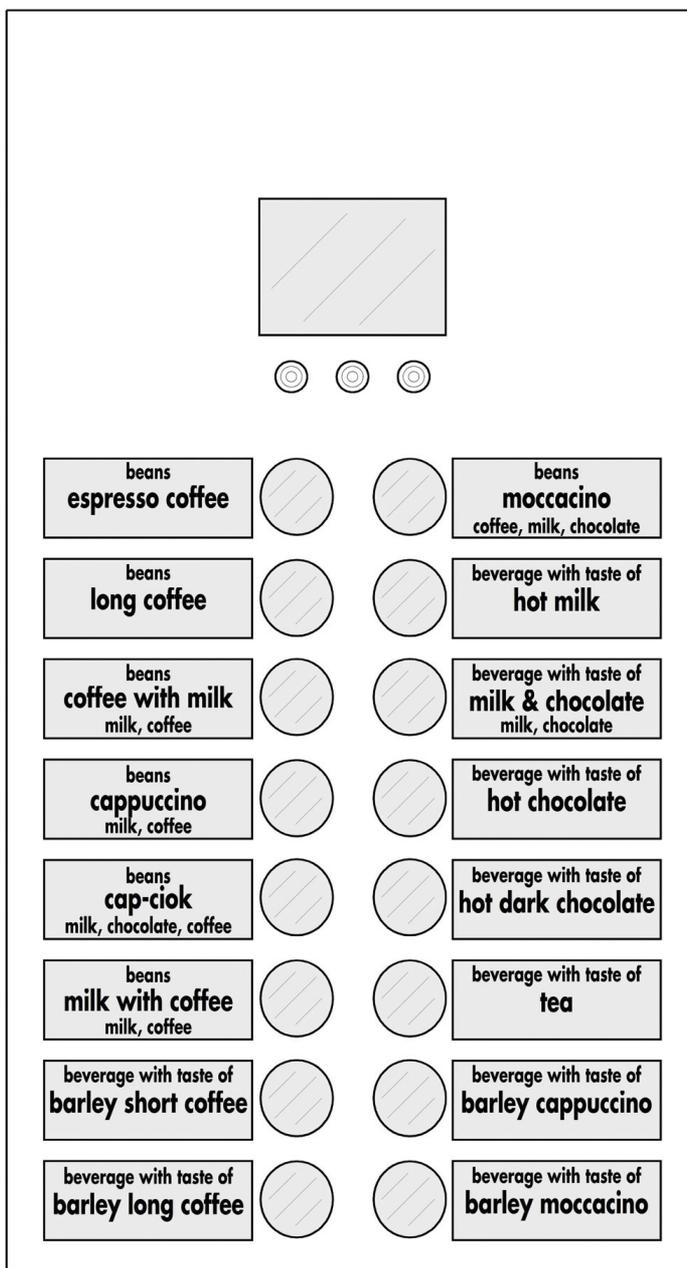


Check the exact position of the labels against the selection key.

Standard product configuration

Cristallo 400 EVO Espresso Version - 4 instant products

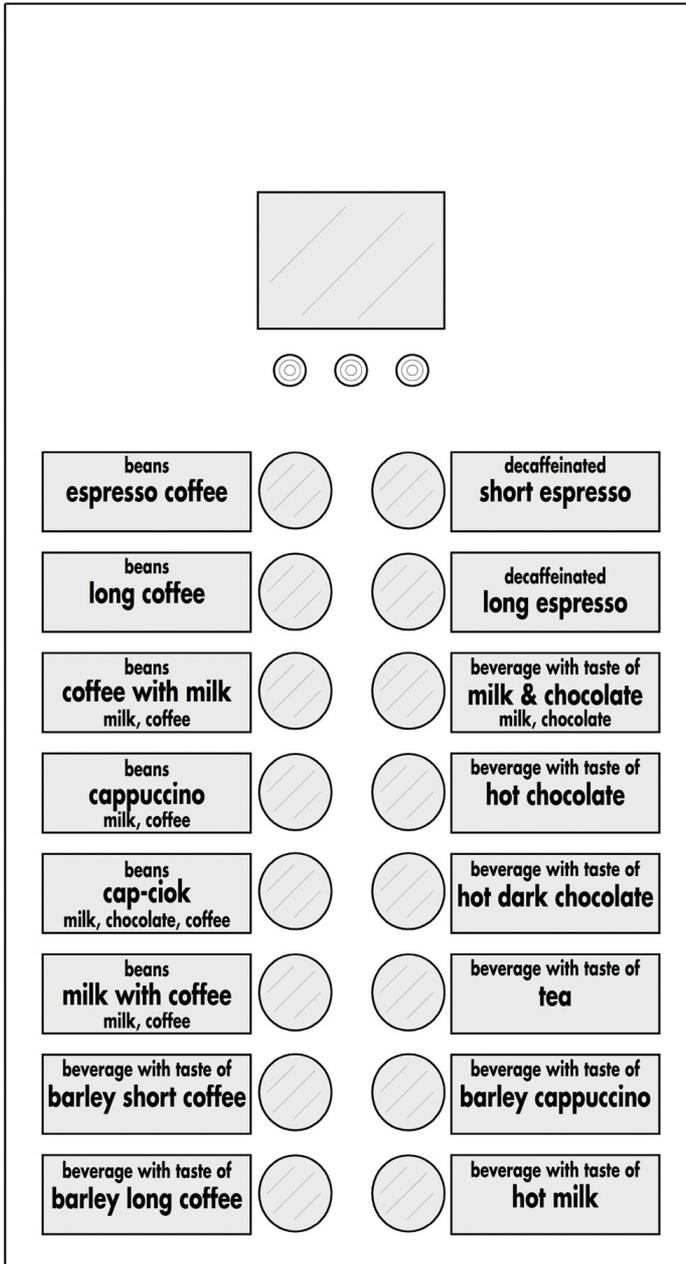
Cristallo 600 EVO Espresso Version - 4 instant products



Standard product configuration

Cristallo 400 EVO Espresso Version - 5 instant products

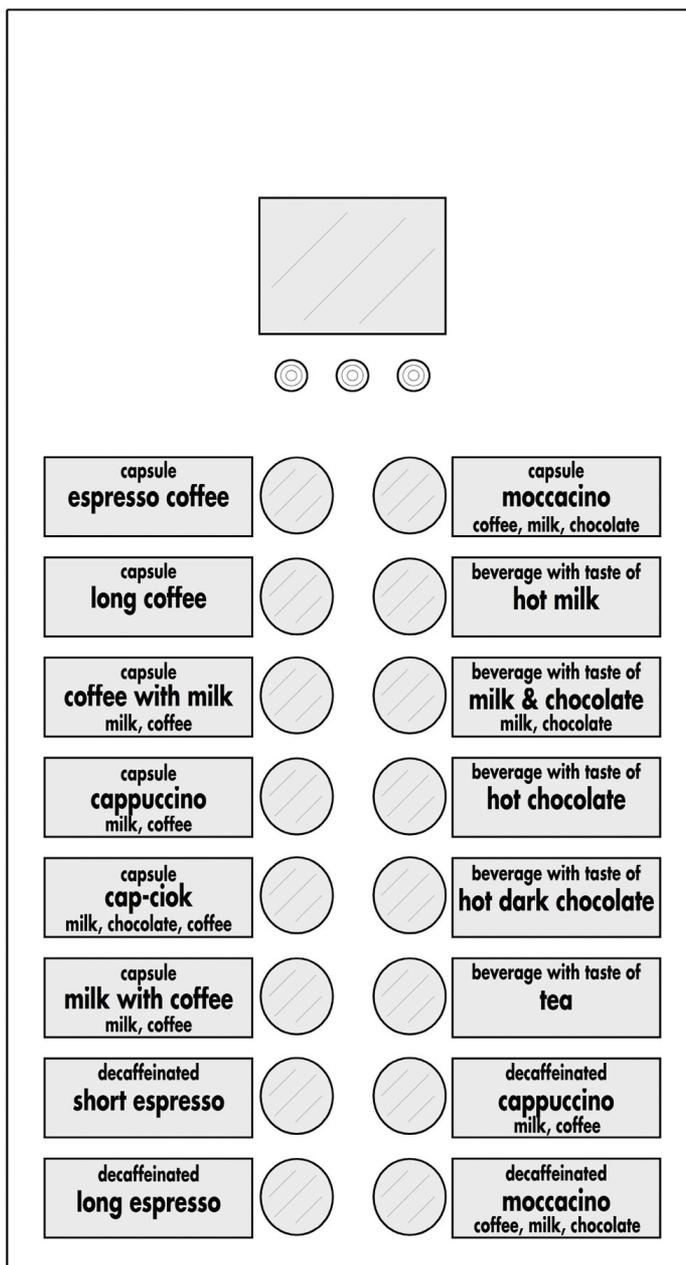
Cristallo 600 EVO Espresso Version - 5 instant products



Standard product configuration

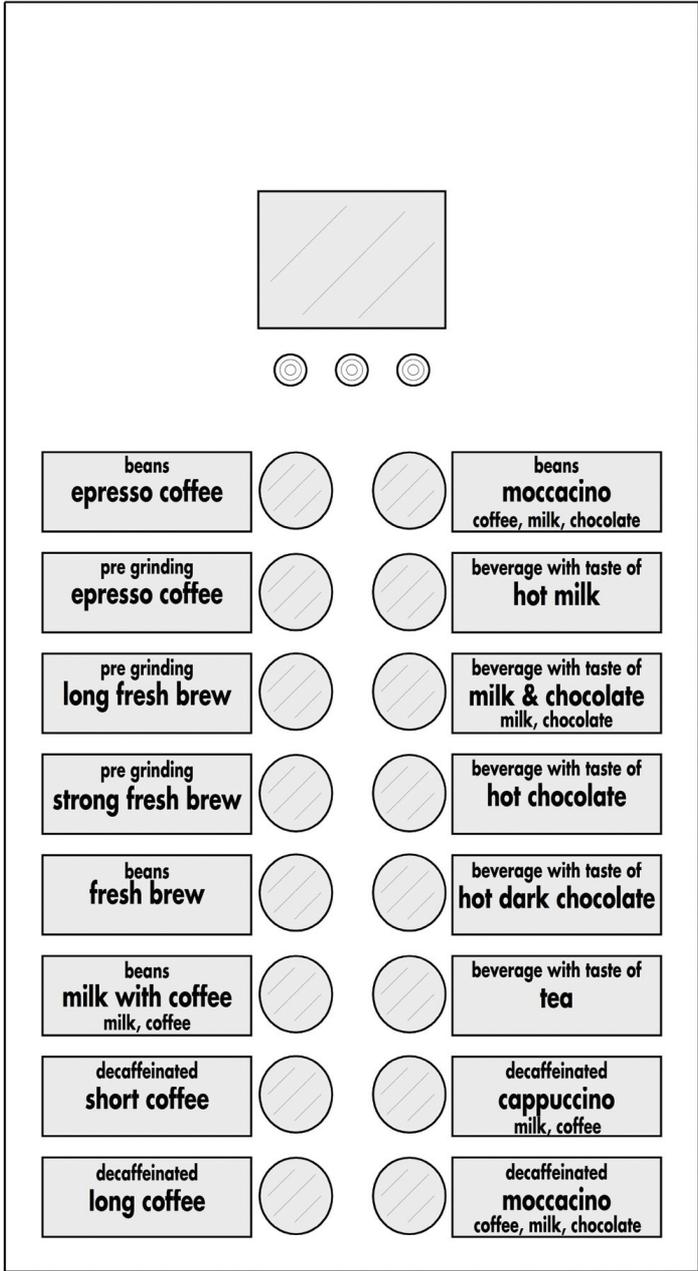
Cristallo 400 EVO Capsule Version - 4 instant products

Cristallo 600 EVO Capsule Version - 4 instant products



Standard product configuration

Cristallo 600 EVO T.T.T. Version - 5 instant products

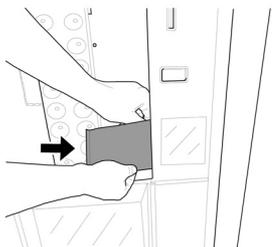


6.4.2 Instruction plate

Slide the instruction plate into the slot, pressing the flap inwards.

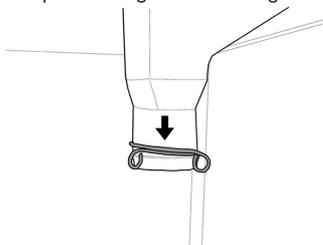
You need to remove the keypad panel in order to carry out this operation.

Otherwise, please see instructions in "Product labels".

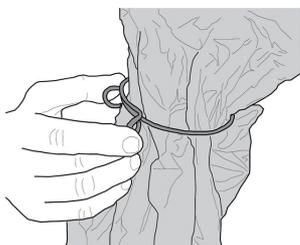


6.5 Fitting the coffee grounds bag

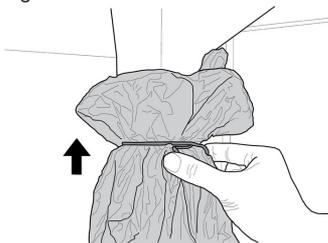
Remove the clip from the grounds discharge channel.



Slip the clip into the coffee grounds bag (capacity of 50 litres).



Place the bag on the channel.



6.6 Used capsule collection bag assembly

(For Capsule version only)

For the assembly of the used capsule discharge duct, carry out the same operations as described in section "Coffee ground bag assembly".

6.7 Connection to serial port

The connector on the CPU board and an interface kit can be used to connect the vending machine to a personal computer or to the devices supplied by the technical service in order to perform data detection operations.

6.8 Fitting the payment systems

The vending machine is designed for the installation of various payment systems, such as:

- parallel banknote reader 24V DC;
- parallel validator 24 V DC
- executive systems (also PRICE HOLDING);
- MDB systems;
- BDV systems;
- cancelling machine 24V DC;
- parallel validator 12V DC (*);
- cashless reader;

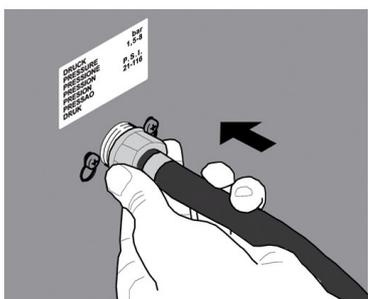
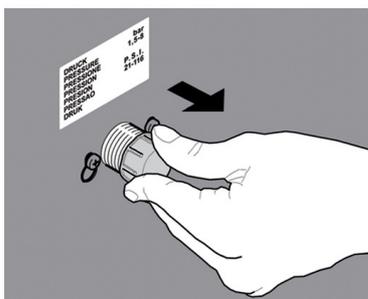
(* optional kit required.

 The vending machine is not supplied with any payment system, which must be installed by the person in charge of its fitting.

 Before connecting the appliance to water network, please read and follow the applicable regulations in force in your country.

Remove the cap from the coupling placed on the vending machine back panel. Connect the water network hose (supplied with the appliance) to the vending machine 3/4" Gas coupling.

 The water mains pipe should be certified according to the standard IEC 61770.



 The new hose-sets supplied with the appliance are to be used and that old hose-sets should not be reused.

6.10 Connection to the electric network

 The Maintenance Technician, who is responsible for the installation of the vending machine, must ensure that:

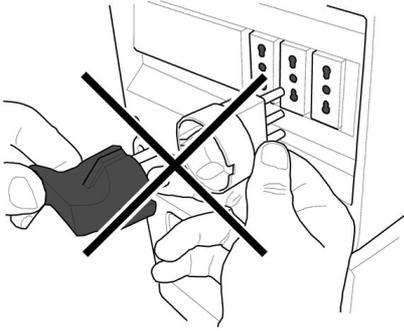
- the electric system complies with current safety regulations;
- the supply voltage corresponds to that indicated on the data plate.

 If in doubt, do not proceed with the installation and ask qualified and authorized personnel to check the system accurately.

The vending machine is equipped with a power cord which must be plugged into the appropriate socket on the vending machine back panel.



Do not use adapters or multi-sockets.



 Make sure that the electrical plug is easily accessible even after installing the machine.

7

DESCRIPTION OF CONTROLS FOR CRISTALLO 400-600 EVO

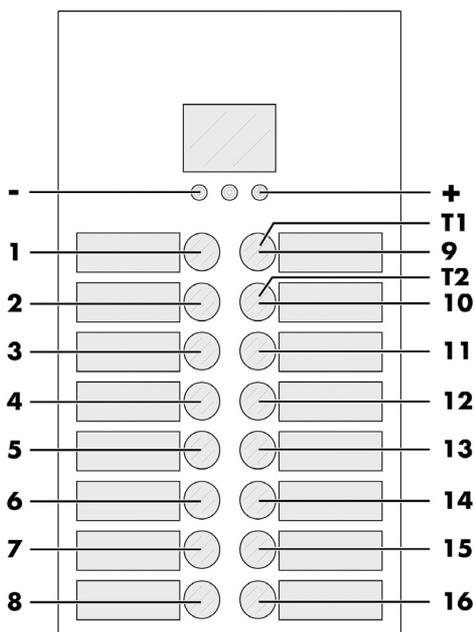
7.1 Display

The display shows the messages during standard operation, programming and maintenance modes.

7.2 Keypad

 Each key function changes according to the vending machine mode (ordinary dispensing or programming mode).

Each key has a double function that varies according to the vending machine status (standard operation or programming).



T1 Set 1 pre-selection

T2 Set 2 pre-selection

7.3 Key description in standard operation mode

7.3.1 “+” Key - Sugar Quantity

Increases the quantity of sugar in the selected beverage. Press the key before selecting the beverage. The preselection remains active for 8 seconds.

7.3.2 “-” Key - Sugar Quantity

Decreases the quantity of sugar in the selected beverage.

Press the key before selecting the beverage. The preselection remains active for 8 seconds.

7.3.3 Set 1 Pre-selection button

The function connected to the button may be chosen from the following options:

- A. Beverage 9
- B. Pre-selection of beverages 17-32
- C. Disabled

7.3.4 Set 2 Pre-selection button

The function connected to the button may be chosen from the following options:

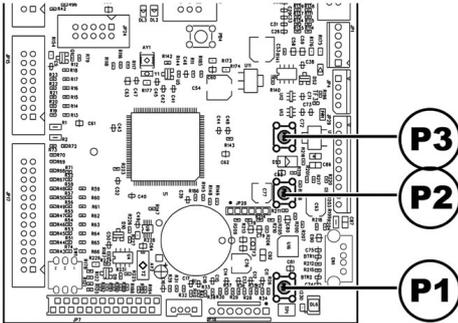
- A. Beverage 10
- B. Pre-selection of beverages 33-48
- C. Disabled

7.3.5 Keys (1 to 16)

By pressing these keys, the programmed beverages are dispensed.

7.4 CPU card keys

The CPU electronic card has 4 keys enabling the Maintenance Technician to carry out programming or maintenance operations.



- P1 Programming menu key
- P2 Maintenance menu key
- P3 Machine Ready / Free Button

Restore independence. If the independence management is enabled, press the key to set the enabled quantities for each spiral to the maximum value.

In practice, the person in charge of refilling the snack vending machine should press this key to report that the products have been fully refilled and checked.

Alternatively, select product 997 within 20 seconds after closing the door or switching the vending machine on.

7.5 5-button Keypad

The 5-button keypad allows for the use of 5 quick controls without entering the programming or maintenance menu.



Key 1 : Free selection

It allows a free selection.

Key 2 : Washing

It performs a wash cycle of mixing bowls.

Key 3 : Total counter

It displays total and partial counters for products for 5 seconds.

Key 4 : Reset

Machine error reset activates the reset procedure for selection errors when snack slaves are present.

Button 5: CUP / FOOD CHECK and SNACK SUPPLY

- Machine without snack slaves

Enables the dispensing of one cup.

- Machine with connected snack slaves

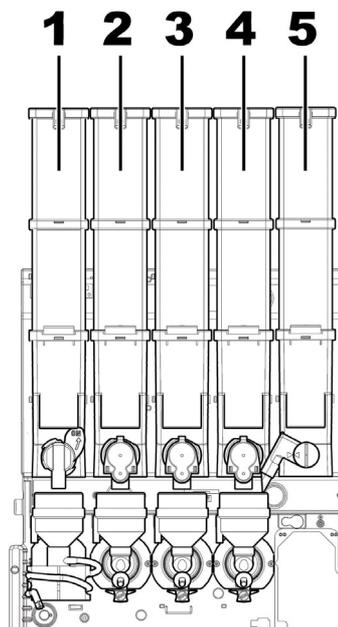
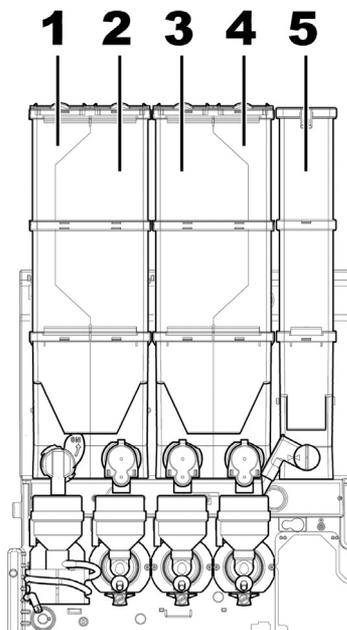
Reset for food error. Restores function of the selections blocked following an error 75.

8 SUPPLY AND STARTING UP

8.1 Container Configuration

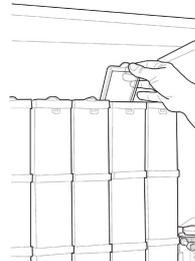
 The containers delivered are designed to dispense the following products:

	Cristallo 400 EVO Cristallo 600 EVO - 4 instant products	Cristallo 400 EVO Cristallo 600 EVO - 5 instant products	Cristallo 400 EVO capsules Cristallo 600 EVO capsules	Cristallo 600 EVO T.T.T.
Container 1	Tea	Tea	Tea	Tea
Container 2	Milk	Milk	Milk	Milk
Container 3	Hot Chocolate	Hot Chocolate	Hot Chocolate	Hot Chocolate
Container 4	Barley	Decaffeinated	Decaffeinated	Decaffeinated
Container 5	not present	Barley	not present	Pre-ground Coffee

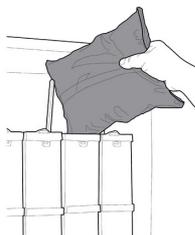


8.2 Instant product supply

Open the cover of the container to be supplied.



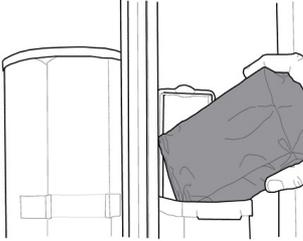
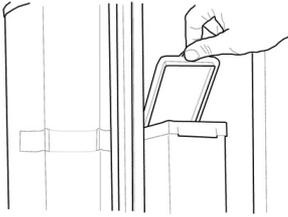
Pour the instant product into the container.



Close the container cover.

8.3 Sugar supply

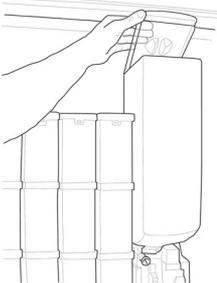
Lift the cover of the sugar container and fill the container with sugar.



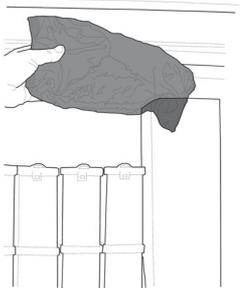
Close the container cover.

8.4 Coffee bean supply

Remove the container cover.



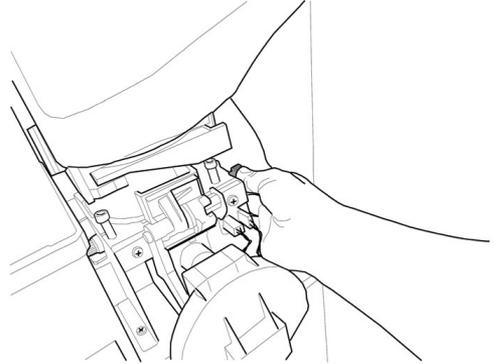
Put coffee beans into the container.



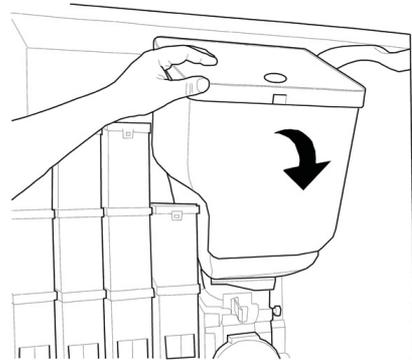
Replace the cover on the container.

8.5 Capsule refill

Loosen the knob to the right of the hopper.



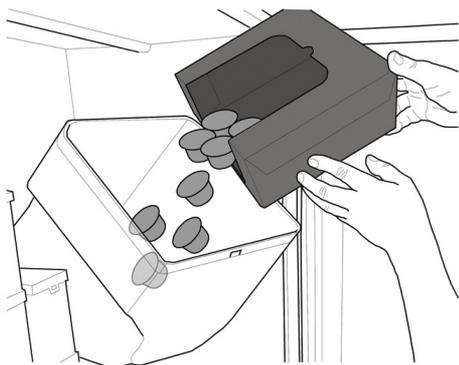
Rotate the hopper.



Remove the container cover.



Pour the capsules into the hopper.



Replace the cover on the container.
Return the hopper to the vertical position.
Tighten the previously loosened knob.

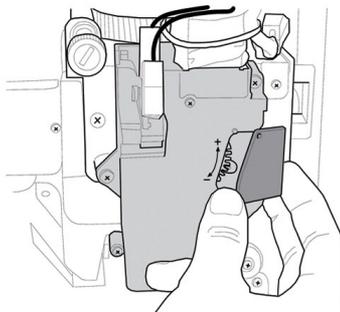
 For a perfect refill, shake the hopper during the refilling operation and then move the capsules by hand.

8.6 Dose calibration

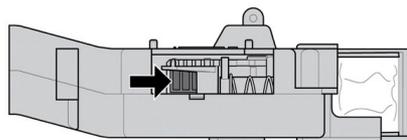
The vending machine is delivered with standard calibration values set by the manufacturer.
The quantity of coffee powder is set to 7.0 gr.

Dose calibration can be performed by means of two calibration levels:

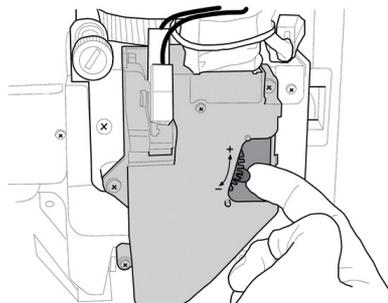
- remove the cover;



- free the adjusting lever from the rack and put the internal divider pulling peg into one of the 4 possible positions in the basic coffee quantity area (7 gr - 8 gr - 9 gr - 10 gr);



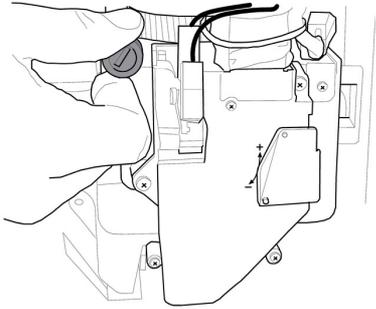
- move the adjusting lever into the rack and select the slot corresponding to the dose required.



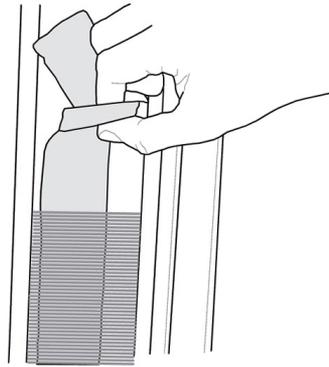
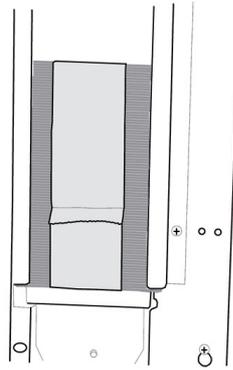
8.7 Coffee grinding calibration

Turn the ring until the required results are obtained.

After any calibration three selections are necessary before the new setting becomes effective.



Introduce the stirrers with their packing band into the column; once they are placed on the bottom, cut and remove the band.

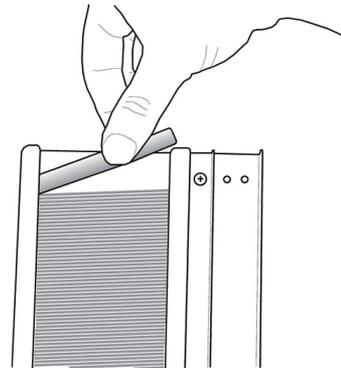
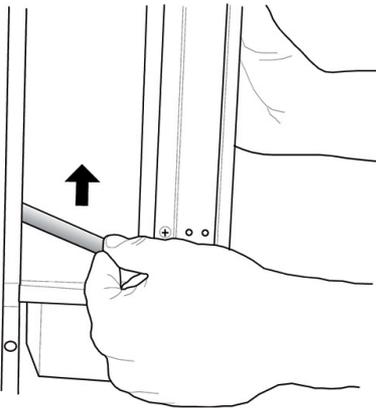


8.8 Stirrer supply

 Use stirrers suitable for automatic vending, without imperfections and conforming to the dimensions indicated in "Technical Specifications".

When loading is complete, reinsert the metal counterweight.

Remove the metal counterweight from the stirrer guides.



Make sure the stirrers have no burrs, are not bent and are all placed horizontally.

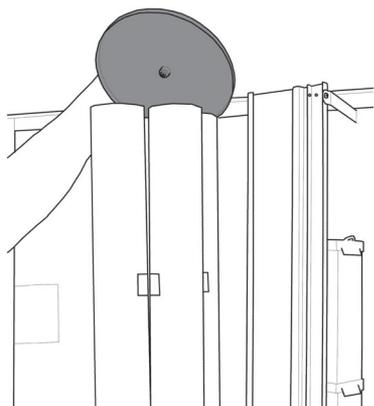
8.9 Cup supply

Use only cups suitable for automatic dispensing. Do not press them against each other during the loading procedure.

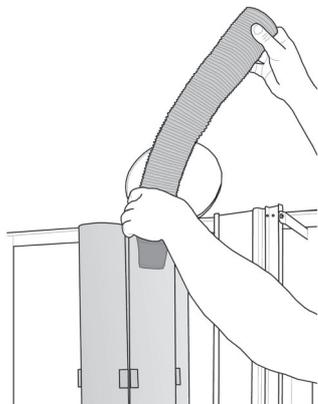
 Do not try to turn the column manually.

When installing, with the cup dispenser empty, proceed as follows:

- remove the cover of the cup dispensing tube.



- load two of the most accessible tubes.



- replace the cover on the cup columns.

8.10 First start-up of the vending machine

Supply the vending machine (following the instructions given previously) and plug it into the power supply (see section "Power Grid Connection").

Now the message "Cristallo 400 / Cristallo 600" appears on the display and the self-diagnosis phase is activated to check the correct positioning of the machine devices.

During the self-diagnosis phase, the following devices are activated: the brew group and the nozzle arm, to get a correct starting position;

if necessary, also the cup release motor, the cup holder and the stirrer/sugar dispenser will be activated.

Instant products and coffee boilers are refilled also during the initialisation phase ^(*).

When the initialisation is complete the warming phase starts and the heating elements of the boilers are automatically switched on.

^(*) During the initial start-up of the machine make sure the boilers are actually full by starting the Maintenance and performing a refill of the coffee boiler and a wash cycle

Carry out the grinder adjustment as indicated in the instructions at section "Coffee Grinder Adjustment" after refilling the water circuit.

8.11 Water circuit filling

At first VM start-up, the boiler is filled automatically.

8.11.1 Filling the boiler manually

After switching the vending machine on it is possible to fill the boiler by activating the following procedure:

Procedure A

- press the P2 key to enter the maintenance menu;
- Enter the Maintenance/Washes menu and start the automatic washing cycle;

Procedure B

- press the P2 key to enter the maintenance menu;

- Enter the Maintenance/ Boiler Refill menu and start the automatic refill cycle;

 The rinsing operation must be repeated until water flows out of the brewing nozzles regularly.

8.12 Cleaning the parts in contact with foodstuffs

Clean all the parts of the VM which are in contact with foodstuffs.

- Wash your hands carefully.
- prepare a chlorine-based anti-bacterial cleaning solution (these products can be purchased at the chemist's) following the concentrations indicated by the product instructions.
- Remove all the product containers from the vending machine.
- Remove the container lids and the product channels. Plunge all items into the previously prepared solution.

8.13 Use of the vending machine

 The operating instructions are contained in the data plate provided in the vending machine front.

The beverage selection mode is indicated in chapter "Operation and Use".

9 PROGRAMMING AND MAINTENANCE MENU

 This section illustrates how to set up or modify the vending machine programming and maintenance settings.

 It is therefore necessary to read it carefully, and intervene only when the correct sequence of operations to be performed is fully understood.

9.1 Key description of programming and maintenance phases

To scroll through the vending machine menu, the keys described below are used.

“e” Key: ENTER

By pressing this key it is possible to enter the following programming or maintenance level. It is also possible to modify or confirm the values set in the entries of the programming or maintenance menus.

“c” Key: CANCEL

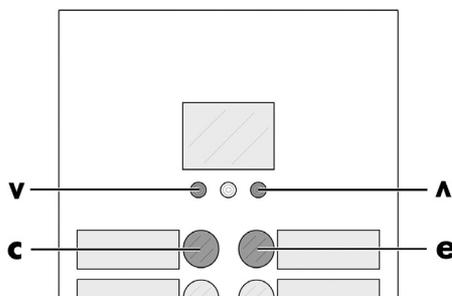
By pressing this key it is possible to go back to the previous level of the programming or maintenance menu. It is also possible to avoid storing the previously modified values.

“v” Key: DOWN

Pressing this key it is possible to access the previous entry inside the same level. If used after a setting modification request, the value of this setting decreases.

“^” Key: UP

By pressing this key it is possible to access the next entry inside the same level. If used after requesting the change of a setting, the value of this setting increases.



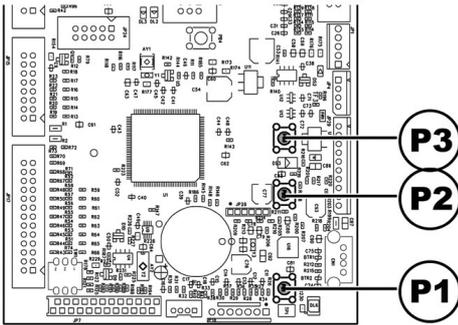
9.2 Programming menu

The structure of the programming menu is indicated in section "Structure of the Programming Menu".

The section "Description of Messages in the Programming Menu" describes all the entries in the programming menu.

9.2.1 Access to the programming menu

Open the door, disable the safety device (see section "Safety Devices") and press the P1 key to enter the programming menu.



If no password has been assigned, the programming menu is entered directly.

If a password was assigned to the vending machine to enable the programming menu, the message "PASSWORD 000000" will appear on the display with a flashing cursor on the first digit.

Now the password should be entered using the UP and DOWN keys. Confirm the digit entered by pressing the ENTER key.

Proceed as follows to exit the programming menu and return to standard operation of the vending machine:

- Press the CANCEL button repeatedly until "EXIT ?" appears. Select YES and press ENTER;
- remove the key from the safety switch in order to turn off the vending machine;
- close the door and wait for the self-configuration process to end.

9.2.2 Structure of the programming menu

ITEM NO.	MENU ITEM	
1.	SYSTEM MANAGEMENT	
I.1.	VM Code	
I.2.	Stops	*
I.2.1.	Stop coffee C	
I.2.2.	Stop beverages	
I.2.3.	Reset	
I.3.	Water Filter	*
I.3.1.	Last filter change	
I.3.2.	Remaining qty	
I.3.3.	Filter limit	
I.3.4.	Filter reset	
I.3.5.	Filter enabled	
I.4.	Boiler I temp.	
I.4.1.	Min. Temperature	
I.4.2.	Max. Temperature	
I.5.	Energy save	
I.5.1.	Eco timeout	
I.5.2.	Stand-by timeout	
I.6.	Rinsing cycle	*
I.6.1.	Automatic	
I.6.2.	Programmable	
I.7.	Pre-grinding	
I.8.	Heating/cooling	
I.8.1-5	Instant prod. preheat.	
I.8.2.	Coffee preheating	
I.8.3-5	Cooling	*
I.8.4.	Capsules Preheating	
I.9.	EV Water Assign	*
I.10.	Clock	*
I.10.1.	Time	
I.10.2.	Date	
I.10.3.	Date/time format	
I.10.4.	Disable	
I.11.	On/Off time	*
I.11.1.	On 1	
I.11.2.	Off 1	
I.11.3.	On 2	
I.11.4.	Off 2	
I.12.	Stirrer	
I.13.	Cup Management	*
I.13.1.	Cup Dispenser	
I.13.2.	Disp. outlet micro	
I.13.3.	Cup Sensor	
I.14.	Sugar	*
I.14.1.	Cup Sugar Delay	
I.14.2.	Sugar	
I.14.3.	Sugar earlier	
I.14.4.	Sugar Break	
I.15.	nozzle arm	*
I.15.1.	Arm Backwards	*
I.16.	Display settings	
I.16.1.	Brightness	
I.17.	Pulse counter	*
I.18.	Multiple beverage	*
I.18.1.	Multiple beverage	
I.18.2.	Enable Mult. bev.	
I.18.3.	Free	

I.19.	Enable reset	*
I.20.	Buttons	*
I.20.1.	Button P3	*
I.21.	Set 1 Pre-Selection	
I.22.	Set 2 Pre-Selection	
I.23.	Programmable texts	*
I.23.1.	Dispensing	
I.23.2.	Out of service	
I.23.3.	Set1 Pre-selection	
I.23.4.	Set2 Pre-selection	
I.23.5.	Default Messages	
I.24.	Audit Device	*
I.24.1.	Protocol	
I.24.2.	EA1..2 (Events)	
I.24.3.	EA3..5 (Readouts)	
I.24.4.	LA1-Prices Lists	
I.24.5.	PA - Products	
I.24.6.	VA1..3 Sales	
I.24.7.	BA1-CA15-Cash	
I.24.8.	DA1..7-CashLess	
I.24.9.	Quick Reading	
I.24.10.	Extended Time-outs	
I.25-8	Tube emptying time	*
I.26.	Audit Msg. Enable	*
I.27.	Capsule Type	
I.28.	Water compensation	
I.28.1.	Capsules	
I.28.2.	Beans	
I.29.	Lighting Type	
I.30.	Change Password	*
I.30.1.	Password prog.	
I.30.2.	Service Password	
I.31.	Complete menus	
I.32.	Default Menu	*
I.32.1.	Factory default	
I.32.2.	Custom Default	
I.33.	VM Model	*
I.34.	Language	
I.35.	Water tank	
I.36.	System Info	
2.	PAYMENT SYSTEMS	
2.1.	Protocol	
2.2.	Coin validator	
2.2.1.	Enable	
2.2.2-6	Coin Values	
2.3.	Banknote validator	
2.3.1.	Enable	
2.3.2.	INHIBITION LEVEL	
2.3.3-3	Banknote Value	
2.4.	MDB settings	*
2.4.1.	Recharge enabled	
2.4.2.	Max Card Recharge	
2.4.3.	Max Card Value	
2.4.4-16	Coins Enabling	
2.4.5.	Alt. payout	
2.4.6.	Max change	
2.4.7.	Exact change policy	
2.4.8.	Min Tube Level	
2.4.9.	Manual Tube Filling	
2.4.10.	Manual Tube Empty	

ITEM NO.	MENU ITEM	
2.4.11.	Commit to vend	
2.4.12-16	Bill Enabling	
2.4.13.	Bill Escrow	
2.4.14.	MDB Slave Address	
2.4.15.	no change =no bills	
2.5.	Max credit	
2.6.	Multivend	
2.7.	Overpay Time	
2.8.	Fixed Zeroes	*
2.9.	Decimal Digits	*
2.10.	Credit Wdog	*
2.11.	Preselection	
2.11.1.	Pre-selection Time	
2.11.2.	It cancels pre-selection	
2.12.	Cash sale cmd sending	
2.13.	(EXE/PHD) safe mode	
3.	PRODUCT SETUP	
3.1-5	Product Before	*
3.2.	Beverage Enabling	*
3.3.	Beverage Preparation	
3.3.	Sequence	
3.3.	H2O / Coffee	
3.3.	Freshbrew Water	
3.3.	Pre-ground Water	
3.3.	Fresh inst. time	
3.3.	Pre-gr.inst.time	
3.3.	Just water	
3.3.	% instant product #:	
3.3.	% pump #:	
3.3.	Instant prod. dose #:	
3.3.	Inst. prod. water #:	
3.3.	Include cup	
3.3.	Sugar	
3.3.	Beverage test	
3.4.	Sugar pre-wash	
3.5.	Prebrewing	
3.5.1.	Beans	
3.5.2.	Capsules	
3.6.	Build your Drink	
3.6.1.	whitener water	
3.6.2.	sugar water	
3.6.3.	sugar, whitener water	
3.6.4.	coffee aroma water	
3.6.5.	whitener single dose	
3.6.6.	Sugar	
3.6.7.	espresso %	
3.7.	Ingredient management	
3.7.1.	Enable	
3.7.2.	Read from USB KEY	
3.7.3.	Display	
3.7.4.	Write on USB KEY	
4.	SALE MANAGEMENT	
4.1-100	Price table	
4.2.	Beverage price	
4.2.1.	Normal	
4.2.2.	Differentiated 1	*
4.2.3.	Differentiated 2	*
4.2.4.	Card	*
4.3.	Snack 1 Prices	

4.3.1.	Normal	
4.3.2.	Differentiated 1	*
4.3.3.	Differentiated 2	*
4.3.4.	Card	*
4.4.	Snack 2 Prices	
4.4.1.	Normal	
4.4.2.	Differentiated 1	*
4.4.3.	Differentiated 2	*
4.4.4.	Card	*
4.5.	Free	
4.6.	Free On	
4.7.	Free Off	
4.8.	Diff Prices 1-On	
4.9.	Diff Prices 1-Off	
4.10.	Diff Prices 2-On	
4.11.	Diff Prices 2-Off	
5.	SNACK 1	
5.1.	Enable	
5.2.	Enable Refrigerat.	
5.3.	Model	
5.4.	Food mode enabled	
5.5.	Temperature 1	
5.6.	Defrost Time	
5.7.	Defrost Interval	
5.8-8	Food Mode Settings	
5.8.9.	Alarm Temperature	
5.8.10.	Alarm timeout	
5.8.11.	Refill alarm timeout	
5.9.	Door Heaters	
5.10.	Show temperature	
5.11.	Photocells	
5.11.1.	Photocell Enabled	
5.11.2.	Max motor overtime	
5.11.3.	Disable selection	
5.11.4.	Photoelectric cells block	
5.11.5.	Credit Return	
5.12.	Capacity ctrl enabled	
5.13.	Capacity	
5.14.	Enabled groups	
5.15.	Groups	
6.	SNACK 2	
6.1.	Enable	
6.2.	Enable Refrigerat.	
6.3.	Model	
6.4.	Food mode enabled	
6.5.	Temperature 2	
6.6.	Defrost Time	
6.7.	Defrost Interval	
6.8-9	Food Mode Settings	
6.8.10.	Alarm timeout	
6.8.11.	Refill alarm timeout	
6.9.	Show temperature	
6.10.	Photocells	
6.10.1.	Photocell Enabled	
6.10.2.	Max motor overtime	
6.10.3.	Disable selection	
6.10.4.	Photoelectric cells block	
6.10.5.	Credit Return	
6.11.	Capacity ctrl enabled	
6.12.	Capacity	

ITEM NO.	MENU ITEM	
6.13.	Enabled groups	
6.14.	Groups	

(*) = Visible only if complete menus are enabled.

9.2.3 Description of messages in the programming menu

DISPLAY	Description
1. SYSTEM MANAGEMENT ...	The SYSTEM MANAGEMENT items are:
1.1. VM Code 531000	Enables an identification code to be assigned to the vending machine.
1.2. Stops ...	Enables setting of the maximum amount of beverage or coffee. Once the maximum amount is reached, the vending machine stops dispensing the relevant beverages. The first digit on the left ('00000') refers to the quantity of product dispensed since the last 'RESET' (partial counters). The right hand digit, preceded by 'LIM', shows the maximum dispensable quantity (value may be modified).
1.2.1. Stop coffee C	Enables setting of the maximum number of coffee cups to be dispensed before the stop.
1.2.2. Stop beverages	Enables setting of the maximum number of beverages to be dispensed before the stop.
1.2.3. Reset	Enables resetting of all partial counters relative to product quantity stop functions.
1.3. Water Filter ...	Allows the use of the water filter to be checked.
1.3.1. Last filter change 31.01.2008	Date of the last filter reset.
1.3.2. Remaining qty 95	Number of litres of water that can still be dispensed before the filter needs to be regenerated. When this value is less than 1, a Warning (W83) is recorded in the Error LOG.
1.3.3. Filter limit 100	Number of litres of water that can still be dispensed from the filter.
1.3.4. Filter reset	Select YES to indicate a new filter has been installed This operation returns "Remaining Qty" to the same value as "Filter Limit" and the date in the "Last Filter Change" is changed to today's date.
1.3.5. Filter enabled yes	Enables management of the "Remaining Qty" countdown. Important From the maintenance menu (button P2 on the CPU), you can access "Water Filter", "Last Filter Change", "Remaining Qty" and "Filter Reset".
1.4. Boiler l temp. 00	It enables setting the coffee boiler management parameters.
1.4.1. Min. Temperature 90	It allows you to set the temperature that the vending machine keeps for a few minutes after a beverage has been brewed. The set value is expressed in centigrade.
1.4.2. Max. Temperature 100	It allows you to assign the temperature to which the vending machine is brought after a certain time from the last dispensing, so that the natural lowering of the temperature of the hydraulic circuits can be compensated. The set value is expressed in centigrade.
1.5. Energy save ...	The "Stand-by" and "ECO" modes allow reducing the energy consumption of the machine. It is possible to select one or both modes.

DISPLAY	Description
I.5.1. Eco timeout	<p>The "ECO" mode is activated after some minutes of inactivity which can be set by means of this menu option. By setting it to zero the function is disabled.</p> <p>In "ECO" mode, the target temperature of the boiler is reduced by a preset value (see the following menu option).</p> <p>The vending machine remains in its "Ready" status and no message is shown to the user. To exit the "ECO" mode, press any button or insert some credit.</p> <p>When "ECO" mode is deactivated, the target temperature for boiler 2 is restored and the machine starts the warm-up phase.</p>
I.5.2. Stand-by timeout	<p>The "Stand-by" mode is activated after some minutes of inactivity which can be set by means of this menu option. By setting it to zero the function is disabled.</p> <p>In "Stand-by" mode the coffee and steam boilers are turned off (instant product boiler remains on) and the display shows the message "Stand-by".</p> <p>To exit the "Stand-by" mode, press any button or insert some credit.</p> <p>When normal operation is restored, the boilers are turned on and the vending machine starts the warm-up phase.</p>
I.6. Rinsing cycle yes	<p>It allows enabling of the automatic rinsing of the mixing bowls.</p>
I.6.1. Automatic	<p>The automatic rinsing is performed as follows: the first rinsing takes place 10 minutes after the "machine ready" status; if necessary, other rinses occur 7 hours after the last dispensing.</p>
I.6.2. Programmable	
I.7. Pre-grinding yes	<p>Enables instant pre-grinding of the coffee dose.</p>
I.8. Heating/cooling 00	<p>Allows setting timing and amounts for preheating and precooling for instant product circuits and for the coffee brew group.</p>
I.8.1-5 Instant prod. preheat.	<p>Settings for the preheating of water circuits (cups/mixers).</p> <p>Before dispensing a hot product, a hot rinse of the circuit must be performed, if the circuit remained idle for a longer time than that set in the "Timeout Heat. Mixer" and the amount of water expected for the instant product is ≤ 120 units.</p> <p>Or if:</p> <p>The circuit has to be used for a hot product after the same had been used for a cold product.</p> <p>The options in this menu allow setting the amount of water used for rinsing each water circuit and the time of inactivity (expressed in minutes) after which the rinse starts.</p> <p>Important note:</p> <p>by setting the time of inactivity to zero preheating is disabled.</p>
I.8.1.6. Mix. Heat Time-out	
I.8.2. Coffee preheating	<p>Settings for the preheating cycle of the brew group.</p>
I.8.2.1. Operation after(min)	<p>Time (expressed in minutes) of brew group inactivity after which the group starts preheating.</p> <p>By setting it to 0, the preheating is disabled.</p>
I.8.2.2. Extra Coffee Dose	<p>Increase in the water dose (in ml) for the first coffee (by first coffee we understand the coffee for which the preheating of the brew group is activated).</p>

DISPLAY	Description
1.8.3-5 Cooling	Settings for the pre-cooling of water circuits (cups/mixers). Before dispensing a cold product, a cold rinse of the circuit must be performed, if the circuit for cold products has to be used after the same mixer had been used for hot products. Or if: the circuit remained idle for a longer time than set in the "Mixer Cool. Timeout" option (circuit tubes after cooler now contain hot water). The options in this menu allow setting the amount of water used for rinsing each water circuit and the time of inactivity (expressed in minutes) after which the rinse starts. Important note: by setting the time of inactivity to zero pre-cooling is disabled.
1.8.3.6 MIXER COOL TIMEOUT	
1.8.4. Capsules Preheating	Settings for the capsule group preheating cycle.
1.8.4.1. Operation after(min)	Time (expressed in minutes) of capsule group inactivity after which the group starts preheating. By setting it to 0, the preheating is disabled.
1.8.4.2. Extra Caps Dose.	Increase in the water dose (in ml) for the first capsule coffee (the first coffee is intended as being the one for which the capsule group preheating is activated).
1.9. EV Water Assign ...	By setting the "W" value in the product list, hot water will be dispensed. This menu allows choosing the solenoid valve to be used for dispensing If the "hot water solenoid valve" kit is installed, set the value to 0 (zero) or select the solenoid valve operating on the desired circuit among the available ones.
1.10. Clock ...	Enables setting of the hour, minute, day of the week, day of the month, month and year.
1.10.1. Time 08:00	
1.10.2. Date	
1.10.3. Date/time format	Enables date and time display in US format - enables temperature display in °F
1.10.4. Disable	It hides date and time. If it is set to YES, date and time will not be displayed. (however, the clock and its relative functions remain active)
1.11. On/Off time ...	Allows setting the vending machine's automatic on and off time ranges over the course of a week.
1.11.1. On 1 00:00	
1.11.2. Off 1 00:00	
1.11.3. On 2 00:00	
1.11.4. Off 2 00:00	

DISPLAY	Description
I.12. Stirrer	Enables selection of the stirrer dispensing mode. STIRRER ALWAYS: the stirrer is dispensed anyway; STIRRER SUGAR: the stirrer is dispensed only if the beverage is served with sugar; STIRRER SUGAR OR BITTER: the stirrer is dispensed for all the beverages which should be served with sugar, although the user requires them without it. STIRRER NEVER: the stirrer is never dispensed.
I.13. Cup Management	Cup dispenser settings.
I.13.1. Cup Dispenser	
I.13.1.1. Enable	It enables using the cup dispenser.
I.13.1.2. Cup stock	It sets the number of cups left in the dispenser when the refill microswitch for the following cup column has to be activated.
I.13.1.3. Cup Col. Stop Delay	Delay between the time when the cup column falls into the vending machine slot and when the column motor stops.
I.13.1.4. Tube posit. micro	Set to YES if the paper cup dispenser is equipped with cup holder positioning microswitch
I.13.2. Disp. outlet micro	Allows cup detection inside the dispensing outlet. When checking is enabled, dispensing new products is not allowed until the paper cup of the previous beverage is still inside the outlet. Removal is detected by the photoelectric cell (if any) or by opening the dispensing outlet. Important If you wish to use the VM with the dispensing door always open, it is necessary to short-circuit the wiring of the dispensing outlet microswitch.
I.13.3. Cup Sensor	(Optional kit) Enables management of the cup sensor.
I.13.3.1. Enable	It enables the cup sensor.

DISPLAY	Description
I.13.3.2. Set I=no cup	<p>It enables the function that allows to dispense beverages that have different prices if they are dispensed with or without the cup.</p> <p>Important The Set I = No cup option shall be used to set a discount for beverages dispensed without the cup.</p> <p>The machine does not allow to set discounts on the prices but the same result can be achieved by using the second beverage set and setting the reduced price and deactivating the cup dispensing for this set.</p> <p>To save you from copying the recipes of the standard set to set I, you can select a mode that, in case of beverages without cup, automatically uses the recipes of the standard set and the prices of set I.</p> <p>You only need to: programme the beverage standard set with the desired products by setting for each one the price with the cup included; set the price of the corresponding beverages of set I to the desired value for the sale without cup (set only the prices, the machine does not need the recipes and all other beverage parameters of set I including the exclusion of the cup); enter the "System Management" menu and within the cup settings set to YES the "Set I=no cup" option; set the mode for selecting beverages without cup. Set the "Set I Pre-Selection" option to pre-selection and/or enable cup sensor (optional kit).</p>
I.14. Sugar	Sugar dispensing settings.
I.14.1. Cup Sugar Delay	Minimum delay between the time when the cup is dispensed and when the movable sugar chute moves.
I.14.2. Sugar	Sugar dispenser activation time setting for a single serving.
I.14.3. Sugar earlier	Set to "no" to have the sugar dispensed after the movable sugar chute downward movement.
I.14.4. Sugar Break	Pause in the downward position of the sugar dispensing spout
I.15. nozzle arm	settings for the management of the nozzle arm
I.15.1. Arm Backwards	By setting this option on YES the nozzle arm will move backwards into off position after the dispensing of each beverage, this allows an instant release of the cup at the next beverage dispensing and reduces the dispensing time.
I.16. Display settings	Display settings
I.16.1. Brightness	Allows adjusting the display brightness (non-TFT models only).
I.17. Pulse counter Coffee	Enables selection of whether the 24 V dc electromechanical pulse counter (optional - to be connected to the CPU card) has to count the coffees or all dispensed beverages.
I.18. Multiple beverage ...	Allows selecting which beverages will be enabled for multiple brewing and the number of brewings.
I.18.1. Multiple beverage 000	number of brewing procedures for multiple brewing

DISPLAY	Description
1.18.2. Enable Mult. bev.	Allows selecting which beverages will be enabled for multiple brewing
1.18.3. Free	enables the free-of-charge dispensing of the multi beverage
1.19. Enable reset no	It allows enabling of the "RESET" for data in the statistics maintenance menu.
1.20. Buttons ...	button settings
1.20.1. Button P3 no	Menu for setting the function of the P3 button
1.20.1.1. Free vend key no	Allows you to enable the P3 button on the CPU board during normal operation.
1.20.1.2. Free or Test Beverage no	Allows you to choose whether to associate the P3 button on the CPU board to free product dispensing or to test product dispensing (with no sugar, stirrer or cup).
1.21. Set 1 Pre-Selection ...	<p>The function connected to the button may be chosen from the following options:</p> <p>A. Beverage 9 B. Set 1 Pre-selection C. Disabled</p> <p>A - Beverage button 9: this is the default function. Button 9 functions as a regular button.</p> <p>B - Set 1 pre-selection: by choosing this function, the button becomes a pre-selection button for the 17-32 beverage set.</p> <p>When pressed, the vending machine shows the pre-selection message on the display ("DECAFF" as default) and makes the new beverage group available.</p> <p>C Disabled: pressing the key has no effect.</p>
1.22. Set 2 Pre-Selection ...	<p>The function connected to the button may be chosen from the following options:</p> <p>A. Beverage 10 B. Set 2 Pre-selection C. Disabled</p> <p>A - Beverage button 10: this is the default function. Button 10 functions as a regular button.</p> <p>B - Set 2 pre-selection: by choosing this function, the button becomes a pre-selection button for the 33-48 beverage set.</p> <p>When pressed, the vending machine shows the pre-selection message on the display ("BARLEY" as default) and makes the new beverage group available.</p> <p>C Disabled: pressing the key has no effect.</p>
1.23. Programmable texts ...	
1.23.1. Dispensing	it allows setting the message appearing on the display when the vending machine is dispensing a product.
1.23.2. Out of service	It enables setting the text on the display when the vending machine stops due to a fault.
1.23.3. Set1 Pre-selection	Allows you to set the message appearing on the display when the pre-selection mode of button 9 is activated for beverages 17-32.

DISPLAY	Description
I.23.4. Set2 Pre-selection	Allows you to set the message appearing on the display when the pre-selection mode of button 10 is activated for beverages 33-48.
I.23.5. Default Messages	It allows bringing the programmable messages back to their pre-set default value (this is useful when changing the language is required).
I.24. Audit Device ...	It allows selecting the protocol to be used for transferring data from the VMC (DDCMP or DEX) and which data category has to be transferred during an audit session.
I.24.1. Protocol	
I.24.2. EA1..2 (Events)	
I.24.3. EA3..5 (Readouts)	
I.24.4. LAI-Prices Lists	
I.24.4.1. LAI Normal Prices	
I.24.4.2. LAI Diff1 Prices	
I.24.4.3. LAI Diff2 Prices	
I.24.4.4. LAI Card Prices	
I.24.4.5. LAI Free	
I.24.4.6. LAI Test	
I.24.5. PA - Products	
I.24.5.1. PA2	
I.24.5.2. PA7	
I.24.6. VA1..3 Sales	
I.24.7. BA1-CA15-Cash	
I.24.8. DA1..7-CashLess	

DISPLAY	Description
I.24.9. Quick Reading	Delete value = 0 data from EVA-DTS report
I.24.10. Extended Time-outs	Prolongation of response waiting time from EVA-DTS data players
I.25-8 Tube emptying time 1/8	Allows setting a delay between the end of beverage preparation and the display of the "Remove cup" message to the user. Such delay is necessary to allow a complete drainage of the liquid in the dispensing tubes.
I.26. Audit Msg. Enable	It allows displaying for a few seconds the selection counters (total and since last reset) during the machine start-up phase.
I.27. Capsule Type	selection of the capsule type used with the machine. This allows some machine actions to be adjusted according to the peculiarities of each capsule type.
I.28. Water compensation	<p>Water compensation for beverages made from coffee beans and coffee capsules. The exact quantity of water dispensed by each machine depends on both the construction tolerances of each water circuit component (pump, flowmeter; tubes, etc.) and the type of capsules used. This menu allows you to set a correction "evening out" these differences so that the end result in the cup is always the same even if the machine is different. During manufacturing, the optimum values are calculated and stored for each vending machine. If a FACTORY DEFAULT is carried out or the CPU board is replaced, you need to reset the correct value by following the simple instructions here below.</p> <ul style="list-style-type: none"> • Set the water for the COFFEE beverage = 30 • Dispense 3 beverages, checking their weight and calculating the rounded-up mean value • If the result obtained is higher or lower than 30, the excess/default value must be subtracted/added from/to the value set by default <p>EXAMPLE: BEVERAGE 1 SEQUENCE 000C COFFEE WATER = 30</p> <p>Coffee 1 = 32 g Coffee 2 = 35 g Coffee 3 = 28 g Work out the mean: $32 + 35 + 28 = 95 \rightarrow 95/3 = 31.6$</p> <p>In this case, 31.6 being the obtained value, the machine is dispensing more water than the set amount, so you will need to subtract 2 from the value set in the CAPSULE COMPENSATION menu If the mean value obtained were 28, you should add 2 to the value set in the CAPSULE COMPENSATION menu</p>
I.28.1. Capsules	Allows you to select the water compensation for products made from coffee capsules
I.28.2. Beans	Allows you to select the water compensation for products made from coffee beans
I.29. Lighting Type	Allows selecting if the dispensing outlet should be lit during the brewing or the cup dispensing phase

DISPLAY	Description
1.30. Change Password	Enables setting of a password or modification of the current one. The password consists of a number between 000001 and 999999. The 0000 value (default value) means no password. To set the password, press the UP and DOWN keys and confirm using the ENTER key.
1.30.1. Password prog.	Allows setting a password to access the programming menu.
1.30.2. Service Password	Allows setting a password to access the maintenance menu. Important If the password is lost, you will have to contact the Saeco Vending Technical Assistance Service to regain access to the Programming Menus.
1.31. Complete menus	Enables selection of whether the entries of the programming menu should be shown fully or only partially.
1.32. Default Menu	Management of default values for machine configurations. The user can create and recall his own configuration.
1.32.1. Factory default	It allows reverting the programmable parameters to factory preset values. This operation does not reset the product counter.
1.32.2. Custom Default	Management of the configuration which has been created by the user
1.32.2.1. Read Custom Default	Restoring the configuration which has been saved by the user on the machine
1.32.2.2. Write Custom Default	Saving the user machine configuration
1.33. VM Model	It allows selecting the current model of the vending machine. The vending machine model is specified on the label located inside the right side panel.
1.34. Language	It allows to select the language to be used by the machine. The available languages are: Italian, English, French, German, Spanish, Portuguese, Dutch, Turkish and Russian. The machine texts can be modified according to the user's needs to add new languages not included in the default list. (Contact the Customer Service for any information).
1.35. Water tank	Enables selecting the vending machine's operation under no water conditions. If NO (default) is selected, the vending machine works as if it were connected to the water network and tries to refill water every 10 minutes as usual. If "YES" is set, the VM works as if it were supplied by an independent tank. Indeed, in no water condition, the vending machine does not try to refill water and goes into ERROR 01.
1.36. System Info	"This option allows you to access a page showing the overall machine configuration. The display shows the following information: First line: sw version ("xyzz" format) / program CRC ("abcd" format) Example: "SVV v1.02.12/087c" Second line: Boot loader version ("x" format) and name of the file searched for by the boot loader on the USB key ("s19" extension not displayed) Example: "Boot 08SAE_DASP" Third line: memory version ("xyyyy" format) and content CRC ("zzz" format) Example: "Mem 123.456.789"
2. PAYMENT SYSTEMS	The entries of the PAYMENT SYSTEMS are:

DISPLAY	Description
2.1. Protocol	
2.2. Coin validator ...	Allows enabling of the parameters of the parallel coiner, the mechanical coiner, the cancelling machine and the choice of values to be assigned to the single money channels.
2.2.1. Enable no	By setting "Y", the parallel coiner, the mechanical coiner and the cancelling machine control are enabled. If set on "N", the parallel coiner (if any) connected to the vending machine will be excluded.
2.2.2-6 Coin Values 1/6 0.00	It allows you to set the value of the coins forwarded to the vending machine by the parallel coiner, the mechanical coiner and the punching machine. The following "PAIRING TABLE" indicates how channels and related payment systems are connected to each other.
2.3. Banknote validator ...	It enables the parameters of the parallel banknote validator and the choice of values to be assigned to single banknote channels.
2.3.1. Enable no	By setting "Y", the management of the parallel reader is enabled. By setting "N", a parallel reader which may be connected to the vending machine is always disabled.
2.3.2. INHIBITION LEVEL 255	Enables setting of the active level of the banknote reader inhibition signal.
2.3.3-3 Banknote Value ...	Enables setting of the value of banknotes transferred to the vending machine from the parallel reader.
2.3.3.4. Banknote	
2.4. MDB settings ...	Enables access to particular functions of the MDB protocol.
2.4.1. Recharge enabled no	It allows disabling or enabling the possibility of performing any Saeco Card recharge operation By setting RECHARGE = NO the vending machine will only deduct the cost from MDB cards.
2.4.2. Max Card Recharge 10.00	Enables setting of the maximum credit level, beyond which all recharge operations (if enabled) are ineffective. By setting MAX RECHARGE = 20.00, the credit on the vending machine will be transferred to the card if the sum does not exceed 20.00.
2.4.3. Max Card Value 10.00	It enables to set the maximum credit level, beyond which the card is rejected by the system. By setting MAX CARD VALUE = 25.00, the vending machine will reject all cards with a credit which exceeds this amount. If this card is detected, the display will not show the credit but a " ———" message will be displayed and no sale will be carried out.
2.4.4-16 Coins Enabling ...	
2.4.5. Alt. payout no	It enables / disables the use of Alternative Payout for the level 3 MDB change-giving coiner. By setting "Yes" the change-giver is called on to dispense change. Change is limited to 255 times the scaling factor (typically € 12.75 for the Euro area - with scaling factor of 5). By setting "No" change is given by exploiting the machine's algorithm. Max. change is 60000 units (typically € 600 for the Euro area).
2.4.6. Max change 0.00	Enables setting of the maximum amount of change which can be dispensed by the change-giving coiner. Default = 10.00.

DISPLAY	Description
2.4.7. Exact change policy 0	With MDB coin return, the "no change available" status can be selected through the "CHANGE TABLE". Note Even if the no change available message is displayed, the vending machine continues to give change as long as coins are present in the channels. The minimum level (the same for all channels) can be set on a special menu item.
2.4.8. Min Tube Level 0	Enables setting of the minimum number of coins in the channels. Default = 4.
2.4.9. Manual Tube Filling ...	Allows the coin return tubes to be filled by hand. Press Esc to exit the channel loading mode.
2.4.10. Manual Tube Empty ...	Allows the change-giving coiner channels to be emptied by pressing the beverage selection keys.
2.4.11. Commit to vend no	By setting "N", the credit inserted can be returned even if no sale has been made. This function may be useful, for example, for changing banknotes into coins. By setting "Y", the credit inserted can be returned as change only after the sale has been completed. Default = YES.
2.4.12-16 Bill Enabling ...	
2.4.13. Bill Escrow no	By setting "Y", an inserted banknote is stored in the escrow position by the banknote reader (if supported); this function is supported by the banknote reader. In this way, if the sale fails or the card system fails to charge, the banknote will be returned. By setting "N", any inserted banknote goes to the banknote reader's stacker, so that the banknotes cannot be returned. Default = No.
2.4.14. MDB Slave Address 0x40	When the vending machine is in Master mode, this menu enables setting of the address of any slave connected vending machine. If the vending machine is in Slave mode, it enables setting of its address. Possible addresses are 0x40, 0x48 and 0x50. Default = 0x40.
2.4.15. no change =no bills ...	Allows you to disable the bill reader if there is no change.
2.5. Max credit 255	It allows the user to set the maximum credit which can be accepted by the vending machine. Once this limit has been reached, the payment systems are disabled so that no more credit can be accepted. Default = 20,00.
2.6. Multivend no	Enables the user to use any residual credit to purchase other beverages.
2.7. Overpay Time 180	By setting "N" (no), the residual credit will be collected by the vending machine. It establishes the maximum time (expressed in seconds) beyond which the vending machine collects the displayed residual credit. The time is adjustable at intervals of 10 seconds. Setting '000' the function is disabled.
2.8. Fixed Zeroes 0	Enables setting of the number of fixed zeros of the credit.
2.9. Decimal Digits 0	Enables setting of the position of the decimal point of the credit.

DISPLAY	Description
2.10. Credit Wdog 0	Enabling this option, an internal control is activated, which resets the communication with the payment systems if the communication is blocked.
2.11. Preselection	Management of pre-selection options
2.11.1. Pre-selection Time	Pre-selection time duration (in seconds)
2.11.2. It cancels pre-selection	It enables the current pre-selection cancellation by pressing any button other than sugar buttons and by pressing the coin return button of the change-giver.
2.12. Cash sale cmd sending	It enables the management of the cash sale notification command (for card reader MDB)
2.13. (EXE/PHD) safe mode no	"safe" mode of protocol EXE/PHD. It does not accept selling controls outside the pre-selection time of the machine.
3. PRODUCT SETUP ...	
3.1-5 Product Before ...	It allows selecting the instant product for which you wish to enable powder dispensing before water dispensing. This brewing cycle will be carried out only when the quantity of powder to be brewed does not exceed 34.
3.2. Beverage Enabling ...	It allows to enable or disable the beverage keys.
3.3. Beverage Preparation ...	The vending machine can dispense up to 16 beverages. Each beverage can be prepared by using ground coffee and/or instant products. Technicians can select the desired products for the recipe (max 4) and their order of use. Each component is identified by a number or a letter.
3.3. Sequence I 0C00	Defines the beverage ingredients and in which order they are dispensed. The possible choices are: 0 = does not dispense any product 1 = dispenses product 1 2 = dispenses product 2 3 = dispenses product 3 4 = dispenses product 4 5 = dispenses product 5 6 = dispenses product 6 7 = dispenses product 7 8 = dispenses product 8 C = dispenses coffee beans from coffee hopper no. 2 K = dispenses coffee beans from coffee hopper no.1 L = brews coffee made from capsules F = brews "fresh brew" coffee using pre-ground coffee P = brews espresso coffee using pre-ground coffee B = brews Fresh Brew coffee using coffee beans W = dispenses hot water S1 = dispenses syrup product 1 (optional) S2 = dispenses syrup product 2(optional) Consequently, the combination of "3C00" or "30C0" or "03C0" will always dispense product 3 and coffee beans. The settings of products making up the beverage will be requested according to the sequence. Important To obtain the cup only, set beverage sequence to 0000 and block sugar regulation (sugar setting = "sugar blocked").

DISPLAY	Description
3.3. H2O / Coffee 38	This defines the quantity of coffee to be brewed. The quantity of dispensable coffee can be adjusted from "1" to "999".
3.3. Freshbrew Water	Sets the quantity of water to be dispensed for the programmed coffee type (C, P, F, or B). The quantity can be set from 1 to 999.
3.3. Pre-ground Water	Sets the quantity of water to be dispensed for the programmed coffee type (C, P, F, or B). The quantity can be set from 1 to 999.
3.3. Fresh inst. time	Instant freshbrew dose
3.3. Pre-gr.inst.time	Instant pre-ground dose
3.3. Just water 101	Defines the amount of hot water to be dispensed.
3.3. % instant product # 3:50	It determines the instant powder delivery rate. The value can be set between 10 and 100. The lower the value the smaller the powder delivery rate.
3.3. % pump #: 3:50	It determines the water delivery rate. The value can be set between 20 and 100. The lower the value the smaller the water delivery rate.
3.3. Instant prod. dose #: 3:005	This defines the quantity of instant product to be brewed. Example: "005" quantity indicates that the motor of the instant product 3 will be activated for 5 tenths of a second. The quantity of instant product is adjustable from "1" to "100" in steps of 1. Brewing of the instant product does not occur when the parameter is set at "0000" (in this case water is brewed).
3.3. Inst. prod. water #: 3:022	It defines the amount of water to be mixed with the instant powder. Example: "3" indicates that water will be mixed with the instant product 3. "022" indicates that 22 units of water will be brewed with the instant product. The reference unit is preset by the manufacturer. The amount of water can be adjusted from "1" to "999" in steps of 1. Important -1 If the instant product parameters ("INSTANT PRODUCT - WATER - % INSTANT PRODUCT" - % PUMP) are set so as to make the powder dispensing procedure last longer than the water dispensing one, the vending machine will stop the powder dispensing. This is meant to avoid insufficient mixer washing. Readjust the set parameters in order to have a correct dispensing procedure, i.e. the powder dispensing should stop a few seconds before the water stops flowing out. This is intended to allow correct mixer washing. Important -2 If the sequence includes more instant products, the sequence "INSTANT PRODUCT - WATER - % INSTANT PRODUCT" - % PUMP" will appear for each instant product. Allows choosing whether the beverage will be dispensed using the cold beverage dispensing kit
3.3. Include cup yes	Allows choosing whether the beverage will be dispensed with or without paper cup.
3.3. Sugar 2	This defines the quantity of sugar to be dispensed with the beverage. The following "SUGAR TABLE" indicates the effects due to the different settings.

DISPLAY	Description
3.3. Beverage test	Enables brewing tests to be carried out on the beverage just set. By pressing ENTER, the following dispensing buttons are displayed: Full beverage; Beverage without sugar, stirrer and cups; Beverage without powder (soluble/coffee); Beverage without water;
3.4. Sugar pre-wash	
3.5. Prebrewing	
3.5.1. Beans	
3.5.1.1. Prebrewing [ml]	Quantity of water for coffee beans pre-brewing
3.5.1.2. Pre-brew. pause[s/10]	Coffee bean pre-brewing pause duration
3.5.2. Capsules	
3.5.2.1. Prebrewing [ml]	Quantity of water for capsule coffee pre-brewing
3.5.2.2. Pre-brew. pause[s/10]	Capsule coffee pre-brewing pause duration
3.6. Build your Drink	Parameter management for product changes carried out by the user
3.6.1. whitener water	Water dose to be dispensed to modify whitener
3.6.2. sugar water	Water dose to be dispensed to modify sugar
3.6.3. sugar, whitener water	Water dose to be dispensed to modify whitener and sugar
3.6.4. coffee aroma water	Water dose for Medium-aroma coffee [ml]
3.6.5. whitener single dose	Instant whitener quantity for each step [s/10]
3.6.6. Sugar	Sugar quantity for each step [s/10]
3.6.7. espresso %	It allows you to set the percentage of the "fresh"-type dispensing cycle to be carried out when the group is in the "espresso" position
3.6.7.1. mild aroma	Espresso percentage in fresh coffee for light aroma

DISPLAY	Description
3.6.7.2. medium aroma	Espresso percentage in fresh coffee for medium aroma
3.7. Ingredient management	<p>It allows the user to view the composition of the selected beverage before brewing it.</p> <p>The ingredients are displayed if, when pressing the selection button, the credit necessary for completing the sale has not been inserted yet.</p> <p>The ingredient list of the selected beverage is automatically created starting from the recipe, component by component.</p> <p>The ingredient descriptions are uploaded from text files stored on a USB key and saved in the memory.</p> <p>Once uploading has been completed the USB key can be removed. Files have to be named "COMP_001.txt", "COMP_002.txt", ..., "COMP_008.txt" and must be stored on the USB key root.</p> <p>Description must be placed on a single row, not exceeding 70 characters.</p> <p>From the programming menu it is possible to enable/disable the ingredient display, to upload the description files from the USB device, view the content of the uploaded files, save the descriptions in the memory on a USB device. The 'file name' / 'beverage component' combinations are indicated below.</p> <p>"COMP_001.txt" = Instant product 1 "COMP_002.txt" = Instant product 2 "COMP_003.txt" = Instant product 3 "COMP_004.txt" = Instant product 4 "COMP_005.txt" = Instant product 5 "COMP_006.txt" = Instant product 6 "COMP_007.txt" = Instant product 7 or coffee K or capsules L or FreshBrew F or pre-ground P "COMP_008.txt" = Instant product 8 or coffee C or beans B</p>
3.7.1. Enable	It enables ingredient display in pre-selection mode, component by component.
3.7.2. Read from USB KEY	It uploads the files with the ingredients from a USB key.
3.7.3. Display	It displays the content of the uploaded ingredients, component by component, in the text format used in pre-selection mode.
3.7.4. Write on USB KEY	It saves the description of the beverage components on the USB key.
4. SALE MANAGEMENT	Price management for the products available in the vending machine.
4.1-100 Price table	<p>99 different price levels can be set.</p> <p>Each product in the vending machine can have up to 4 price levels; each of them can be used in a specific situation: Standard range, differentiated range 1 or 2, sales with card.</p>
4.2. Beverage price	<p>Enables association of one of the price levels set in the PRICE TABLE to each beverage.</p> <p>The association can be:</p>
4.2.1. Normal	<p>Standard Price Range.</p> <p>This is the default price range applied by the vending machine, i.e. the range used when none of the other 3 available ranges is active.</p>
4.2.1.1. Global price P00	<p>Global price setting</p> <p>It allows selecting the price level to be associated with all the products (use the UP and DOWN buttons and then ENTER to confirm).</p>
	0.00

DISPLAY	Description
4.2.1.2. Single Prices B01:P00 0.00	Single price setting Allows selecting the price level to be associated with each one of the products (use UP and DOWN buttons and then ENTER to confirm). Select the desired product first, and then the price.
4.2.2. Differentiated 1 ...	Differentiated 1 Price Range. This range can be activated within a time range
4.2.2.1. Global price P00 0.00	Global price setting It allows selecting the price level to be associated with all the products (use the UP and DOWN buttons and then ENTER to confirm).
4.2.2.2. Single Prices B01:P00 0.00	Single price setting Allows selecting the price level to be associated with each one of the products (use UP and DOWN buttons and then ENTER to confirm). Select the desired product first, and then the price.
4.2.3. Differentiated 2 ...	Differentiated 2 Price Range. This range can be activated within a time range
4.2.3.1. Global price P00 0.00	Global price setting It allows selecting the price level to be associated with all the products (use the UP and DOWN buttons and then ENTER to confirm).
4.2.3.2. Single Prices B01:P00 0.00	Single price setting Allows selecting the price level to be associated with each one of the products (use UP and DOWN buttons and then ENTER to confirm). Select the desired product first, and then the price.
4.2.4. Card ...	Card Price Range. This function enables the application of differentiated prices if the card is used for payment.
4.2.4.1. Card Prices no	By setting CARD PRICES = YES a new menu entry will appear in PRICE MANAGEMENT, enabling setting the price level to be applied to the product (beverage or snack) if payment is made by card.
4.2.4.2. Global price P00 0.00	Global price setting It allows selecting the price level to be associated with all the products (use the UP and DOWN buttons and then ENTER to confirm).
4.2.4.3. Single Prices B01:P00 0.00	Single price setting Allows selecting the price level to be associated with each one of the products (use UP and DOWN buttons and then ENTER to confirm). Select the desired product first, and then the price.
4.3. Snack 1 Prices ...	Snack 1 price settings. The same instructions provided for beverage price settings apply.
4.3.1. Normal	
4.3.1.1. Global price P00 0.00	
4.3.1.2. Single Prices B01:P00 0.00	
4.3.2. Differentiated 1 ...	
4.3.2.1. Global price P00 0.00	
4.3.2.2. Single Prices B01:P00 0.00	

DISPLAY	Description
4.3.3. Differentiated 2 ...	
4.3.3.1. Global price P00 0.00	
4.3.3.2. Single Prices B01:P00 0.00	
4.3.4. Card ...	
4.3.4.1. Global price P00 0.00	
4.3.4.2. Single Prices B01:P00 0.00	
4.4. Snack 2 Prices ...	It allows associating each snack product in slave 1 or 2 to one of the price levels set in the PRICE TABLE.
4.4.1. Normal	
4.4.1.1. Global price P00 0.00	
4.4.1.2. Single Prices B01:P00 0.00	
4.4.2. Differentiated 1 ...	
4.4.2.1. Global price P00 0.00	
4.4.2.2. Single Prices B01:P00 0.00	
4.4.3. Differentiated 2 ...	
4.4.3.1. Global price P00 0.00	
4.4.3.2. Single Prices B01:P00 0.00	
4.4.4. Card ...	
4.4.4.1. Global price P00 0.00	
4.4.4.2. Single Prices B01:P00 0.00	

DISPLAY	Description
4.5. Free Never	Allows you to select if the beverages will be provided free-of-charge, upon payment, or free-of-charge within a time range.
4.6. Free On Immgvsd 00:00	Allows the beginning and end of the free-of-charge beverage supply to be set.
4.7. Free Off Immgvsd 00:00	
4.8. Diff Prices 1-On Immgvsd 00:00	Allows the beginning and end of beverage supply with differentiated prices to be set.
4.9. Diff Prices 1-Off Immgvsd 00:00	
4.10. Diff Prices 2-On Immgvsd 00:00	Allows the beginning and end of beverage supply with differentiated prices to be set.
4.11. Diff Prices 2-Off Immgvsd 00:00	
5. SNACK 1 ...	Snack 1 (or snack 2) slave settings A special interconnection kit allows connecting up to 2 slave spiral vending machines to the vending machine. Important The products of the first slave will be identified by the numbers from 111 to 199, while the products of the second slave will be associated to the numbers from 211 to 299. The following menus allow the parameters for each of the 2 possible slaves to be set.
5.1. Enable ...	It allows the vending machine to control slave 1 (or slave 2).
5.2. Enable Refrigerat. ...	NO = temperature control disabled, cooling group always OFF. YES = temperature control enabled.
5.3. Model ...	It selects the machine submodel: the values are 6S for the models with 6-spiral drawers (i.e. Corallo) and 8S for those with 8-spiral drawers (i.e. Aliseo). Optimises the fan settings for the specific case of the machine.
5.4. Food mode enabled ...	Enables/disables the "food mode". This mode enables the machine to check that the food area temperature is always lower than a set value (alarm temperature). If the temperature exceeds this limit value for longer than the time set for "Alarm max time", the machine deactivates the selections for the food shelves.
5.5. Temperature 1 ...	[° C] Allows the setting of the temperature desired inside the machine [Range: 3 .. 30]. The control turns off the cooling group if the set value is reached and it turns it on if the temperature is higher than the target plus 1°C (as long as the technical specifications of the cooling group are respected).
5.6. Defrost Time ...	[min] It allows setting how many minutes the cooling group will be switched off to carry out the defrost [Range: 10 .. 100].
5.7. Defrost Interval ...	[hour] It allows setting the period of time between two defrost cycles [Range: 0.. 99].
5.8-8 Food Mode Settings ...	Food mode settings

DISPLAY	Description
5.8.9. Alarm Temperature	[° C] "food" alarm temperature [Range: 3 .. 30]. The machine deactivates the selections set as food if the internal temperature exceeds this value for a time longer than the value set at the following option (Error 75). This error signal can be reset by pressing button 5 (black) on the 5-button keypad or by selecting product 997 within 20 seconds of closing the door or switching the vending machine on. ... Once these first 20 seconds have passed, selecting "997" will have no effect.
5.8.10. Alarm timeout	[min] Number of minutes allowed when the air temperature is higher than the alarm temperature. If the temperature exceeds the limit longer than the time set, the machine deactivates the selections set as food [Range 0 .. 60]. ...
5.8.11. Refill allarm timeout	[min] When the opening of a door is detected or if the button 5 on the 5-buttons keypad is pushed, the time set here will replace the usual timeout set by the previous option. [Range 0 .. 120]. This prevents the machine from entering error mode after product supply operations. Please, remember that the machine must be supplied with products already at the correct temperature for storage. ...
5.9. Door Heaters	NO = door heaters OFF YES = door heaters ON ...
5.10. Show temperature	Enables / disables the visualization of the temperature on the display during normal operation. ...
5.11. Photocells	
5.11.1. Photocell Enabled	Enables / disables the photoelectric cell system.
5.11.2. Max motor overtime	[x100 ms] Period of extension of the spiral motor activation, when the fall of the product is not detected. [Range 0 .. 5].
5.11.3. Disable selection	Max. number of consecutive photoelectric cell errors in a selection, before this one is deactivated. If it is set to 0, the deactivation will never be carried out.
5.11.4. Photoelectric cells block	Max number of consecutive photoelectric cell errors before the system of detection of the product fall is deactivated. If it is set to 0, the system will never be disabled. (NOTE: typing 999 on the keypad, the display of the vending machine will show for a few seconds a message concerning the status of the photoelectric cell system - see the section - Display of Special Information).
5.11.5. Credit Return	Activates/ deactivates the return of the product cost to the user, if the fall of the product has not been detected.
5.12. Capacity ctrl enabled	To prevent a customer from selecting a product of which the machine has run out, each spiral can be enabled to supply only a preset number of products.

DISPLAY	Description
<p>5.13.</p> <p>Capacity</p>	<p>The following is necessary in order to operate with independent control:</p> <ol style="list-style-type: none"> 1- enable independence control (menu "Capacity ctrl enabled"); 2- programme the capacity of each spiral (menu "Capacity"); 3- inform the vending machine each time it is refilled. <p>This information can be sent by pressing button 5 (black) on the 5-button keypad or by selecting product "997" within 20 seconds of closing the door or switching the vending machine on.</p> <p>Once these first 20 seconds have passed, selecting "997" will have no effect.</p> <p>When the vending machine is informed that refilling has taken place, it presumes that all spirals have been filled up to the capacity specified during programming (step 2).</p> <p>Once the maximum number of supplies has been reached, the spiral is disabled and the product is listed as unavailable to the customer.</p> <p>No error is reported.</p>
<p>5.14.</p> <p>Enabled groups</p>	<p>Unit Management</p> <p>Several motors can be grouped together within a unit. In this way, when the unit code is selected, a product is dispensed from one of the unit motors.</p>

DISPLAY	Description
<p>5.15.</p> <p>Groups</p>	<p>This is convenient for the customer who need merely note a single code. It is also useful for the service provider, as it guarantees that the products at the front of the unit spirals will be dispensed first, thereby avoiding problems of products remaining in the machine for too long as they have not been selected. When the units are enabled, each time the unit code is selected the vending machine enables a unit spiral (the choice of which spiral of the unit to be enabled is made on a rotation basis involving all spirals of the unit to guarantee equal use).</p> <p>The unit creation mechanism is based on the assignment of the selection code (product identification number) to more than one physical motor.</p> <p>By default, each motor is associated with the code corresponding to the motor itself.</p> <p>Therefore, motor XY will be enabled following selection of the code XY.</p> <p>The technician may vary this situation by assigning a different code to each motor.</p> <p>By assigning the same code XY to more than one motor, a unit of motors is created with XY as their selection code.</p> <p>Enabling of a unit affects statistics, independence, etc..</p> <p>The "STATISTICS TABLE" summarises all the effects.</p> <p>When units are disabled, each motor works only after the default code is selected.</p> <p>When units are disabled, each motor works only after the default code is selected.</p> <p>Example</p> <p>Assuming that drawer 2 has 5 spirals and we want to sell the same product in the first 3 spirals, using the single selection code 121 for this.</p> <p>The following prices are assigned</p> <p>Product 121 --> price = 0.10</p> <p>Product 122 --> price = 0.20</p> <p>Products 123, 124, 125 --> price = 0.30</p> <p>We go to the code assignment menu (menu "Unit codes").</p> <p>Select motor 121.</p> <p>By default, we have: motor 121 assigned to code 121.</p> <p>M121 --> 121</p> <p>This is fine. 121 will be our main unit selection.</p> <p>We now move onto motor 122 and set it up in such a way that it is assigned not to code 122, but rather to code 121.</p> <p>From</p> <p>M122 --> 122</p> <p>We go to</p> <p>M122 --> 121</p> <p>The same applies for motor 123</p> <p>M123 --> 121</p> <p>We do not modify motors 124 and 125</p> <p>M124 --> 124</p> <p>M125 --> 125</p> <p>We enable unit management (menu "Unit enabling").</p> <p>Now, by selecting product 121, the vending machine will supply a product using spiral 121 (at a price of 0.10).</p> <p>A second selection of product 121 will lead to the supply of a product from spiral 122 (at a price of 0.10).</p> <p>If we select product 121 three more times, we will obtain supplies from spirals 123, then 21 and finally 122 (always at a price of 0.10).</p> <p>If product 122 or 123 is selected, it will be classed as 'not available'.</p> <p>By selecting product 124, we obtain a product from spiral 124 (at a price of 0.30).</p> <p>Statistically, the results are for 5 supplies of product 121, 1 supply of product 124 and 0 supplies for all others.</p> <p>Faulty motor example:</p> <p>Should one of the unit motors report an error for any reason, this motor is disabled and the error recorded in the error LOG. The unit will continue functioning as before, but less one motor.</p> <p>Motor 122 reports an error.</p> <p>--> The LOG records an error for motor 122 --> and motor 122 is disabled.</p> <p>3 selections of product 121 lead to the supply of the product from spirals 121, then 123 and then 121 again.</p> <p>Unit deactivation example:</p> <p>If we deactivate the units, selecting code 123 leads to the supply of product 123 at a price of 0.30.</p>
<p>6.</p> <p>SNACK 2</p> <p>...</p>	<p>Snack 1 (or snack 2) slave settings</p> <p>A special interconnection kit allows connecting up to 2 Corallo slave vending machines to the Cristallo 400/600 vending machine.</p> <p>The products of the first slave will be identified by the numbers from 111 to 199, while the products of the second slave will be associated to the numbers from 211 to 299.</p> <p>The following menus allow the parameters for each of the 2 possible slaves to be set.</p>

DISPLAY	Description
6.1. Enable ...	It enables the control of slave 1 (or slave 2) through the Cristallo vending machine.
6.2. Enable Refrigerat. ...	NO = temperature control disabled, cooling group always OFF. YES = temperature control enabled.
6.3. Model ...	It selects the machine submodel: the values are 6S for the models with 6-spiral drawers (i.e. Corallo) and 8S for those with 8-spiral drawers (i.e. Aliseo). Optimises the fan settings for the specific case of the machine.
6.4. Food mode enabled ...	Enables / disables the "food mode". This mode enables the machine to check that the food area temperature is always lower than a set value (alarm temperature). If the temperature exceeds this limit value for longer than the time set for "Alarm max. time", the machine deactivates the selections for the food shelves.
6.5. Temperature 2 ...	[° C] Allows the setting of the temperature desired inside the machine [Range: 3 .. 30]. The control turns off the cooling group if the set value is reached and it turns it on if the temperature is higher than the target plus 1 °C (as long as the technical specifications of the cooling group are respected).
6.6. Defrost Time ...	[min] It allows setting how many minutes the cooling group will be switched off to carry out the defrost [Range: 10 .. 100].
6.7. Defrost Interval ...	[hour] It allows setting the period of time between two defrost cycles [Range: 0.. 99].
6.8-9 Food Mode Settings ...	Food mode settings
6.8.10. Alarm timeout ...	[min] Number of minutes allowed when the air temperature is higher than the alarm temperature. If the temperature exceeds the limit longer than the time set, the machine deactivates the selections set as food [Range 0 .. 60].
6.8.11. Refill allarm timeout ...	[min] When the opening of a door is detected or if the button 5 on the 5-buttons keypad is pushed, the time set here will replace the usual timeout set by the previous option. [Range 0 .. 120]. This prevents the machine from entering error mode after product supply operations. Please, remember that the machine must be supplied with products already at the correct temperature for storage.
6.9. Show temperature ...	Enables / disables the visualization of the temperature on the display during normal operation.
6.10. Photocells	
6.10.1. Photocell Enabled	Enables / disables the photoelectric cell system.
6.10.2. Max motor overtime	[x100 ms] Period of extension of the spiral motor activation, when the fall of the product is not detected. [Range 0 .. 5].
6.10.3. Disable selection	Max. number of consecutive photoelectric cell errors in a selection, before this one is deactivated. If it is set to 0, the deactivation will never be carried out.

DISPLAY	Description
6.10.4. Photoelectric cells block	Max. number of consecutive photoelectric cell errors before the system of detection of the product fall is deactivated. If it is set to 0, the system will never be disabled. (NOTE: typing 999 on the keypad, the display of the vending machine will show for a few seconds a message concerning the status of the photoelectric cell system - see the section - Display of Special Information).
6.10.5. Credit Return	Activates/ deactivates the return of the product cost to the user, if the fall of the product has not been detected.
6.11. Capacity ctrl enabled	To prevent a customer from selecting a product of which the machine has run out, each spiral can be enabled to supply only a preset number of products.
6.12. Capacity	The following is necessary in order to operate with independent control: 1- enable independence control (menu "Capacity ctrl enabled"); 2- programme the capacity of each spiral (menu "Capacity"); 3- inform the vending machine each time it is refilled. This information can be sent by pressing button 5 (black) on the 5-button keypad or by selecting product "997" within 20 seconds of closing the door or switching the vending machine on. Once these first 20 seconds have passed, selecting "997" will have no effect. When the vending machine is informed that refilling has taken place, it presumes that all spirals have been filled up to the capacity specified during programming (step 2). Once the maximum number of supplies has been reached, the spiral is disabled and the product is listed as unavailable to the customer. No error is reported.
6.13. Enabled groups	Unit Management Several motors can be grouped together within a unit. In this way, when the unit code is selected, a product is dispensed from one of the unit motors.

DISPLAY	Description
<p>6.14.</p> <p>Groups</p>	<p>When the units are enabled, each time the unit code is selected the vending machine enables a unit spiral (the choice of which spiral of the unit to be enabled is made on a rotation basis involving all spirals of the unit to guarantee equal use).</p> <p>The unit creation mechanism is based on the assignment of the selection code (product identification number) to more than one physical motor.</p> <p>By default, each motor is associated with the code corresponding to the motor itself.</p> <p>Therefore, motor XY will be enabled following selection of the code XY.</p> <p>The technician may vary this situation by assigning a different code to each motor.</p> <p>By assigning the same code XY to more than one motor, a unit of motors is created with XY as their selection code.</p> <p>Enabling of a unit affects statistics, independence, etc..</p> <p>The "STATISTICS TABLE" summarises all the effects.</p> <p>When units are disabled, each motor works only after the default code is selected.</p> <p>Example</p> <p>Assuming that drawer 2 has 5 spirals and we want to sell the same product in the first 3 spirals, using the single selection code 121 for this.</p> <p>The following prices are assigned</p> <p>Product 121 --> price = 0.10</p> <p>Product 122 --> price = 0.20</p> <p>Products 123, 124, 125 --> price = 0.30</p> <p>We go to the code assignment menu (menu "Unit codes").</p> <p>Select motor 121.</p> <p>By default, we have: motor 121 assigned to code 121.</p> <p>M121 --> 121</p> <p>This is fine. 121 will be our main unit selection.</p> <p>We now move onto motor 122 and set it up in such a way that it is assigned not to code 122, but rather to code 121.</p> <p>From</p> <p>M122 --> 122</p> <p>We go to</p> <p>M122 --> 121</p> <p>The same applies for motor 123</p> <p>M123 --> 121</p> <p>We do not modify motors 124 and 125</p> <p>M124 --> 124</p> <p>M125 --> 125</p> <p>We enable unit management (menu "Unit enabling").</p> <p>Now, by selecting product 121, the vending machine will supply a product using spiral 121 (at a price of 0.10).</p> <p>A second selection of product 121 will lead to the supply of a product from spiral 122 (at a price of 0.10).</p> <p>If we select product 121 three more times, we will obtain supplies from spirals 123, then 21 and finally 122 (always at a price of 0.10).</p> <p>If product 122 or 123 is selected, it will be classed as 'not available'.</p> <p>By selecting product 124, we obtain a product from spiral 124 (at a price of 0.30).</p> <p>Statistically, the results are for 5 supplies of product 121, 1 supply of product 124 and 0 supplies for all others.</p> <p>Faulty motor example:</p> <p>Should one of the unit motors report an error for any reason, this motor is disabled and the error recorded in the error LOG. The unit will continue functioning as before, but less one motor.</p> <p>Motor 122 reports an error.</p> <p>--> The LOG records an error for motor 122 --> and motor 122 is disabled.</p> <p>3 selections of product 121 lead to the supply of the product from spirals 121, then 123 and then 121 again.</p> <p>Unit deactivation example:</p> <p>If we deactivate the units, selecting code 123 leads to the supply of product 123 at a price of 0.30.</p>

PAIRING TABLE

Channel	Payment system
1	Coin validator
2	Coin validator
3	Coin validator
4	Coin validator
5	Coin validator
6	Coin validator
7	Cancelling machine

SUGAR TABLE

Settings	Sugar in beverage without preselection	Sugar in beverage with preselection
0	Without sugar	Quantity preselected
1	1	Quantity preselected
2	2	Quantity preselected
3	3	Quantity preselected
4	4	Quantity preselected
Stop sugar	Without sugar	Without sugar

CHANGE TABLE

No.	Description
0	L or M or HL or HH
1	L or M
2	HL or HH
3	L or HH
4	L
5	M
6	HL
7	L and HH
8	HL and HH
9	L and M
10	L and M and HL and HH
11	L and HL or L and HH
12	L or HL and HH
13	HH
14	L and M and HL
15	Never (change always available)

Key:

L = channel with the lowest coin value below the minimum level

M = channel with the medium-low coin value below the minimum level

HL = channel with the medium-high coin value below the minimum level

HH = channel with the highest coin value below the minimum level

STATISTICS TABLE

STATISTICS	Prices	Capacity	Errors
All unit supplies will be counted in the unit code statistics.	All supplies will be provided at the unit code price.	Unit independence will amount to the sum of the individual independence values of the unit spirals	Errors reported concerning one of the unit motors will be recorded as individual motor errors. The faulty motor will be disabled and will not participate in unit function. The unit will remain operative all the time at least one motor continues to work correctly.

**CRISTALLO 400/600 EVO:
BUTTONS 9 AND 10 TABLE**

KEY 9 and 10 = BEVERAGE 9 and 10	
KEY	Press KEY
1	Beverage 1
2	Beverage 2
3	Beverage 3
4	Beverage 4
5	Beverage 5
6	Beverage 6
7	Beverage 7
8	Beverage 8
9	Beverage 9
10	Beverage 10
11	Beverage 11
12	Beverage 12
13	Beverage 13
14	Beverage 14
15	Beverage 15
16	Beverage 16

KEY 9 and 10 = PRESELECTION			
KEY	Press KEY	Press PRESELECTION 9+KEY	Press PRESELECTION 10+KEY
1	Beverage 1	Beverage 17	Beverage 33
2	Beverage 2	Beverage 18	Beverage 34
3	Beverage 3	Beverage 19	Beverage 35
4	Beverage 4	Beverage 20	Beverage 36
5	Beverage 5	Beverage 21	Beverage 37
6	Beverage 6	Beverage 22	Beverage 38
7	Beverage 7	Beverage 23	Beverage 39
8	Beverage 8	Beverage 24	Beverage 40
9	Preselection	-----	-----
10	Preselection	-----	-----
11	Beverage 11	Beverage 27	Beverage 43
12	Beverage 12	Beverage 28	Beverage 44
13	Beverage 13	Beverage 29	Beverage 45
14	Beverage 14	Beverage 30	Beverage 46
15	Beverage 15	Beverage 31	Beverage 47
16	Beverage 16	Beverage 32	Beverage 48

KEY 9 = PRESELECTION KEY 10 = BEVERAGE 10		
KEY	Press KEY	Press PRESELECTION 11+KEY
1	Beverage 1	Beverage 17
2	Beverage 2	Beverage 18
3	Beverage 3	Beverage 19
4	Beverage 4	Beverage 20
5	Beverage 5	Beverage 21
6	Beverage 6	Beverage 22
7	Beverage 7	Beverage 23
8	Beverage 8	Beverage 24
9	Preselection	-----
10	Beverage 10	Beverage 26
11	Beverage 11	Beverage 27
12	Beverage 12	Beverage 28
13	Beverage 13	Beverage 29
14	Beverage 14	Beverage 30
15	Beverage 15	Beverage 31
16	Beverage 16	Beverage 32

KEY 9 = BEVERAGE 9 KEY 10 = PRESELECTION		
KEY	Press KEY	Press PRESELECTION 12+KEY
1	Beverage 1	Beverage 33
2	Beverage 2	Beverage 34
3	Beverage 3	Beverage 35
4	Beverage 4	Beverage 36
5	Beverage 5	Beverage 37
6	Beverage 6	Beverage 38
7	Beverage 7	Beverage 39
8	Beverage 8	Beverage 40
9	Beverage 9	Beverage 41
10	Preselection	-----
11	Beverage 11	Beverage 43
12	Beverage 12	Beverage 44
13	Beverage 13	Beverage 45
14	Beverage 14	Beverage 46
15	Beverage 15	Beverage 47
16	Beverage 16	Beverage 48

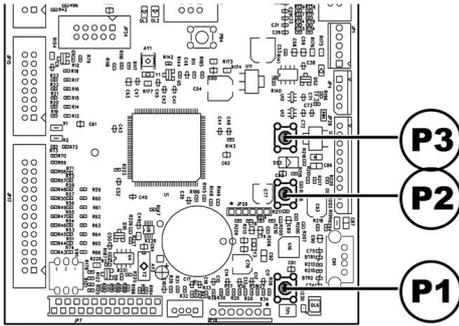
9.3 Maintenance menu

The structure of the maintenance menu is indicated in section "Structure of the Maintenance Menu".

The section "Description of Messages in the Maintenance Menu" describes all the entries in the maintenance menu.

9.3.1 Access to the maintenance menu

Open the door, disable the safety device (see section "Safety Devices") and press the P2 key to enter the maintenance menu.



To exit the maintenance menu and return to the standard operation of the vending machine:

- Press the CANCEL button repeatedly until "EXIT ?" appears. Select YES and press ENTER;
- remove the key from the safety switch in order to turn off the vending machine;
- close the door and wait for the self-configuration process to end.

9.3.2 Structure of the maintenance menu

ITEM NO.	MENU ITEM	
1.	MAINTENANCE	
1.1.	Error log	
1.2.	Rinsing time	
1.3.	Water Filter	
1.3.1.	Last filter change	
1.3.2.	Remaining qty	
1.3.3.	Filter reset	
1.4.	Calibrations	
1.4.1.	Dose C calib.	
1.4.2.	Brew Group Calib.	
1.4.3.	EV calib.	
1.4.4.	Capsule calibration	
1.4.5.	C coffee calibration	
1.4.6.	Orientation device calibration	
1.4.7.	BU Caps calibration	
1.5.	Cool Down Boiler	
1.6.	Drain boiler	
1.7.	Boiler fill	
2.	STATISTICS	
2.1.	Total sales	*
2.2.	Overpay	*
2.3.	Card-In	*
2.4.	Card-Out	*
2.5.	Total coins	*
2.6.	Total banknotes	*
2.7.	Counters	*
2.8.	Free	*
2.9.	Beverage test	*
2.10.	VM Code	*
2.11.	Slave sales	*
2.12.	Reset	*
3.	SNACK 1	
3.1.	Photocell test	
3.2.	Motor alignment	
3.3.	Auto alignment	
3.4.	Temperature log	
4.	SNACK 2	
4.1.	Photocell test	
4.2.	Motor alignment	
4.3.	Auto alignment	
4.4.	Temperature log	
5.	USB KEY functions	
5.1.	Write on USB KEY	
5.2.	Read from USB KEY	

(*) = Visible only if complete menus are enabled.

9.3.3 Description of messages in the maintenance menu

DISPLAY	Description
1. MAINTENANCE ...	<p>This function allows to show and reset the errors that may be present. It is also possible to carry out maintenance on the vending machine. To reset the errors, use the menu under the maintenance item. Important</p> <p>To correct errors see chapter "Troubleshooting" and section "5-button Keypad".</p>
1.1. Error log ...	<p>The VM stores in its internal storage significant incidents occurring in the VMC (for example errors, trouble signals etc.)</p> <p>Recording takes place when the error condition is detected and consists of saving the following information:</p> <ol style="list-style-type: none"> 1- error code (or warning code) occurred 2- location of signal source (eg. which spiral motor; if the error is due to a spiral motor; or which coffee or instant product) 3- day, month, hour and minute of error detection (this information is available only if the VM is equipped with a timekeeper). <p>Display:</p> <p>Format of warning error description recorded in LOG: See "LOG TABLE"</p>
1.2. Rinsing time ...	<p>It allows to rinse the brewing circuits of instant products.</p> <p>By pressing the ENTER key the automatic cycle starts, thus activating in sequence each instant product circuit.</p>
1.3. Water Filter ...	<p>Allows the use of the water filter to be checked.</p>
1.3.1. Last filter change ...	<p>Date of the last filter reset.</p>
1.3.2. Remaining qty ...	<p>Number of litres of water that can still be dispensed before the filter needs to be regenerated.</p> <p>When this value is less than 1, a Warning (W83) is recorded in the Error LOG.</p>
1.3.3. Filter reset ...	<p>Select YES to indicate a new filter has been installed</p> <p>This operation returns "Remaining Qty" to the same value as "Filter Limit" and the date in the "Last Filter Change" is changed to today's date.</p>
1.4. Calibrations ...	<p>Allows some calibration operations to set up the machine.</p>
1.4.1. Dose C calib. ...	<p>Allows checking the quantity of powder dispensed by dosing unit 2.</p> <p>To carry out the check, you must:</p> <ol style="list-style-type: none"> 1. remove the brew group 2. prepare a container (e.g. a cup) to collect the coffee powder 3- Select "Yes" from the menu, the machine grinds a coffee dose and discharges it 4- check if the weight of the resulting dose corresponds to what expected, otherwise adjust the dosing unit as shown in section "Dose Adjustment".
1.4.2. Brew Group Calib. ...	<p>Allows handling the coffee brew group.</p>
1.4.3. EV calib. ...	<p>Allows selecting one of the solenoid valves on the vending machine and activating it for 10 seconds, in order to check the flow (flow adjustment is described in par. "Water Flow Adjustment of Instant Product Solenoid Valves").</p>
1.4.4. Capsule calibration	<p>Allows a water dispensing of 100 turbine pulses through the capsule group (use with template group)</p>
1.4.5. C coffee calibration	<p>Allows a water dispensing of 100 turbine pulses through the espresso beans group (use with template group)</p>

DISPLAY	Description
1.4.6. Orientation device calibration ...	Allows the value of the current absorbed by the capsule orientation device to be displayed on the monitor
1.4.7. BU Caps calibration ...	Allows handling the capsule dispensing group
1.5. Cool Down Boiler ...	Allows quick cooling of the boiler: By selecting the item "BOILER COOLING" the VM dispenses water until the temperature detected by the sensor placed on the boiler has fallen below 50°C. A coloured bar on the display indicates the current temperature of the boiler: When the bar disappears the temperature detected is less than 50° and the cooling down operation is completed, the VM/C must be turned off.
1.6. Drain boiler ...	It enables start-up of the automatic discharge cycle of the boiler.
1.7. Boiler fill ...	Allows you to automatically fill the coffee boiler with water. Repeat the cycle until the boiler is full (until water is dispensed from the coffee nozzle).
2. STATISTICS ...	
2.1. Total sales ...	The total revenue from the sales of all selections and beverages is displayed. Push "ENTER" to see the details of these proceeds according to: beverages (further divided according to price level, if required), cups sold discounts and increases made
2.2. Overpay ...	The amount of credit collected when the OVERPAY time has elapsed is displayed.
2.3. Card-In ...	The amount of credit collected from cards is displayed.
2.4. Card-Out ...	The amount of credit charged on cards is displayed.
2.5. Total coins ...	The total value of the coins inserted is displayed.
2.6. Total banknotes ...	The total value of the banknotes inserted is displayed. By pressing "ENTER" it is possible to display the number of banknotes inserted according to their denomination.
2.7. Counters ...	The presence of the Timekeeper in this menu allows the extension of the quantity of information displayed. It is possible to display the total and partial amount of beverages broken down by price band.
2.8. Free ...	The total number of free beverages dispensed is displayed.
2.9. Beverage test ...	The total number of test beverages dispensed is displayed.
2.10. VM Code ...	Assigned by the manufacturer.
2.11. Slave sales ...	The amount of sales made by the Slave is displayed.

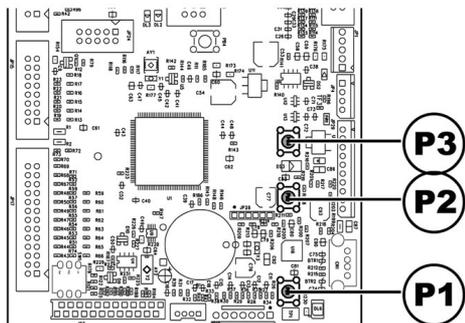
DISPLAY	Description
2.12. Reset ...	Allows resetting the statistical data.
3. SNACK 1 ...	
3.1. Photocell test ...	It allows manual testing of the photoelectric cell system operation. The machine emits a beep each time the photoelectric cell system detects an object.
3.2. Motor alignment ...	It allows forcing the alignment of all the motors of the machine. If the alignment is carried out successfully, the pending errors are removed and the motor is activated for dispensing.
3.3. Auto alignment ...	It allows forcing the alignment only of the motors of the machine where an error was detected. If the alignment is carried out successfully, the pending errors are removed and the motor is activated for dispensing. This procedure will remove all the photoelectric cell pending errors.
3.4. Temperature log ...	Shows recorded temperatures for the product tray for the last 24 hours. Values are recorded every 10 minutes and saved with the time of detection.
4. SNACK 2 ...	
4.1. Photocell test ...	It allows manual testing of the photoelectric cell system operation. The machine emits a beep each time the photoelectric cell system detects an object.
4.2. Motor alignment ...	It allows forcing the alignment of all the motors of the machine. If the alignment is carried out successfully, the pending errors are removed and the motor is activated for dispensing.
4.3. Auto alignment ...	It allows forcing the alignment only of the motors of the machine where an error was detected. If the alignment is carried out successfully, the pending errors are removed and the motor is activated for dispensing. This procedure will remove all the photoelectric cell pending errors.
4.4. Temperature log ...	Shows recorded temperatures for the product tray for the last 24 hours. Values are recorded every 10 minutes and saved with the time of detection.
5. USB KEY functions ...	by entering this menu, the user can access the reading and writing functions of the memory from and on USB key. The memory content is managed by means of files with "MEM" extension, which can also be obtained through the machine configurator available on www.sacovending-online.com . Files are read and written only in the main folder of the key. It is not possible to browse the subfolders. The maximum length of the file name is 8 characters, longer file names will be displayed in a compressed way.
5.1. Write on USB KEY ...	copies machine parameters on the USB key. Files are saved as "NAME_xx.MEM", where XX is a number between 00 and 99; 'NAME' indicates the name of the machine model. The software moves to the first available file in the sequence 00-99. The user can select a file name with a numeric identifier other than the suggested one by pressing the '+' e '-' buttons; press the 'OK' button to finalise the selection.
5.2. Read from USB KEY ...	It uploads the parameters stored in a "MEM" file contained in the USB key onto the machine. By pressing the "+" button it is possible to scroll the "MEM" files available; by pressing the "OK" button the file is uploaded. If the selected file contains data which are compatible with the machine, the memory will be updated, otherwise no change will be applied.

LOG TABLE

Exx	WHAT ==>	xx code error/warning alarm
aabb	WHERE ==>	if Myy = spiral motor yy
aabb	WHERE ==>	if Syy = yy instant product dispensing
aabb	WHERE ==>	if Lyy = yy instant product rinsing
aabb	WHERE ==>	if C — = coffee brewing
aabb	WHERE ==>	if aabb = hexadecimal codes
dd MMM	WHEN ==>	day in figures, month in string (3 letters)
hh:mm	WHEN ==>	hour:minutes
ii	error index in LOG	
NN	number of errors in LOG	

9.4 Machine Ready / Free Button

Open the door, disable the safety device (see section "Safety Devices") and press the P3 key.



If pressed during the initial warm-up, this button allows inducing the "MACHINE READY" status before the boilers reach their set temperature.

If pressed after the "MACHINE READY" status is reached, this button allows dispensing a free product (this function can be enabled from the menu "FREE BUTTON").

10 OPERATION AND USE

 This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.

 Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

- the credit available is sufficient or the vending machine has been set in free mode. If this is not the case, the display shows the message "INSERT XXX";
- there is no error condition that prevents the dispensing of beverages. If this is not the case, the display shows the error message "OS BEVERAGES XXX" alternated with "NOT AVAILABLE";
- the beverage selected is enabled. If this is not the case, the message "NOT AVAILABLE" will be displayed;
- there is no block condition for the beverage selected. After the key is pressed, the display shows the message "NOT AVAILABLE"; If this is not the case, the message "BEVERAGE XXX" alternated with "NOT AVAILABLE" is displayed before the key is pressed.
- the dispensing outlet door is closed. If this is not the case, the display shows the message "CLOSE SERVICE DOOR".

 The brewing cycle cannot be interrupted by the dispensing outlet door open, until cup, sugar and stirrer loading is complete. If the door is opened accidentally, it should be closed and the beverage brewing will continue automatically.

10.1 Beverage selection

The CRISTALLO 400/600 EVO vending machine can dispense 42 beverages.

The following are the conditions necessary to select a beverage:

- the vending machine has reached the set temperature after the start-up. Otherwise, once a beverage key is pressed, the display shows the message "HEATING";

During the brewing of a beverage:

- payment systems are disabled;
- the first line on the display shows the programmable dispensing message (default message is: "WAIT FOR PRODUCT").

Beverage selection

If the vending machine is not set to dispense free beverages, insert the credit required.

Press the key corresponding to the beverage required.

When the beverage is dispensed, the message "REMOVE CUP" is displayed. Take the beverage out of the dispensing outlet.

After closing the door, "THANK YOU" is displayed. After a few seconds "CRISTALLO" is displayed (vending machine waiting for selection).

 To avoid scalding, wait for the end of brewing signal (the message "REMOVE CUP" will appear on the display) before placing your hand in the dispensing outlet.

 Do not open the dispensing outlet door while the vending machine is brewing.

 In case of failures or product missing during the brewing phase, a message indicating the cause of this stop will appear on the display.

 Special messages and signals are indicated in chapter "Troubleshooting".

10.2 Snack Products

A special interconnection kit allows connecting up to 2 snack slave vending machines to the vending machine.

Snack Product Selection

If the vending machine is not programmed to dispense the products free, it will be necessary to insert the required credit and then select the 3-digit code in the desired spiral.

II CLEANING AND MAINTENANCE

-  Unplug the power cord before performing any cleaning and/or maintenance operation.
-  Avoid using chlorine-based tablets so as to prevent oxidation phenomena inside the vending machine.

 It is prohibited to perform cleaning or maintenance operations on the internal components of the vending machine with the safety microswitch disabling key inserted.

 The Manufacturer declines any liability for any damage or malfunctioning caused by incorrect or poor maintenance.

 During the loading operations do not stress any of the live electrical parts and do not clean them with damp cloths.

II.1 General notes for correct operation

 The vending machine and its non-removable components must be cleaned using non abrasive sponges or damp cloths.

 Do not direct water jets on the components and/or on the vending machine.

Check for correct brewing of beverages and adjust the grinding when necessary.

To guarantee the correct operation of the vending machine it is recommended to conform to the instructions and times indicated in the "MAINTENANCE SCHEDULE".

11.2 Cleaning and scheduled maintenance

-  All components must be rinsed with warm water only, without using any detergent or solvent that could modify their form and operation.

-  Removable components cannot be rinsed in the dishwasher.

-  During the cleaning and maintenance operations do not stress the following electrical components: CPU card; starter port; interconnection port.

-  Do not clean the above mentioned electrical components using damp cloths and/or degreasing detergents. Remove dust residues with a jet of dried compressed air or using an antistatic cloth.

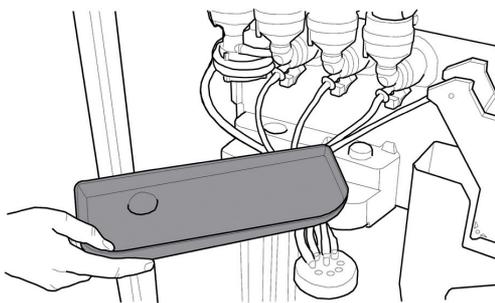
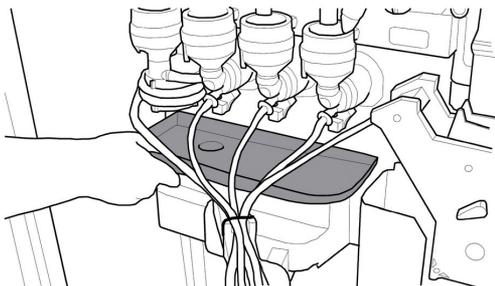
11.2.1 Maintenance schedule

COMPONENT TO BE CLEANED	MAINTENANCE	A	B	C	D	E
Display	Use a doth dampened with deansers suitable for contact with food.	x	-	-	-	-
"Operating instructions" label	Use a doth dampened with deansers suitable for contact with food.	x	-	-	-	-
Beverage dispensing outlet	Use a doth dampened with deansers suitable for contact with food.	x	-	-	-	-
Keypad	Use a doth dampened with deansers suitable for contact with food.	x	-	-	-	-
Drip Tray	See section "Cleaning the Drip Tray".	-	x	-	-	-
Coffee ground bag	See section "Replacement of the coffee ground bag".	-	x	-	-	-
Used capsule collection bag	See the "Used capsule collection bag replacement" section.	-	x	-	-	-
Fluid discharge tank	See section "Emptying the fluid discharge tank".	-	x	-	-	-
Stirrer chute	See section "Cleaning the Spoon Chute".	-	x	-	-	-
Coffee bean brew group	See section "Cleaning the Coffee Brew Group".	-	x	-	-	-
Capsule coffee Brew Group	See the "Cleaning the Capsule Coffee Brew Group" section.	-	-	-	x	-
Dispensing arm	See section "Cleaning the Instant Product Dispenser and the Mixer".	-	x	-	-	-
Mixer	See section "Cleaning the Instant Product Dispenser and the Mixer".	-	x	-	-	-
Dispensing outlet	See section "Cleaning the Dispensing Tray".	-	x	-	-	-
Coffee bean container	See section "Cleaning the Containers".	-	-	x	-	-
Instant products container	See section "Cleaning the Containers".	-	-	x	-	-
Sugar container	See section "Cleaning the Containers".	-	-	x	-	-
Dispensing outlet	See section "Cleaning the Dispensing Tray".	-	-	-	x	-
Dispensing arm	See section "Cleaning the Brewing Arm".	-	-	-	x	-
Coffee grinder	See section "Cleaning the Coffee Grinder".	-	-	-	x	-
Easy Dry 2 Dispenser	See section "Easy Dry 2 Dispenser Cleaning".	-	-	-	-	x

A	Daily
B	Weekly
C	At each supply
D	Monthly
E	Every year

11.2.2 Drip tray cleaning

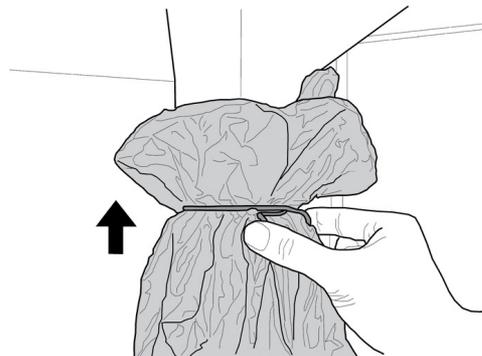
Take out the tray and clean it thoroughly



 Make sure the surface is clean when repositioning the drip tray.

11.2.3 Replacement of the coffee ground bag

Tighten the clip, extract the full bag and replace it with a new one.



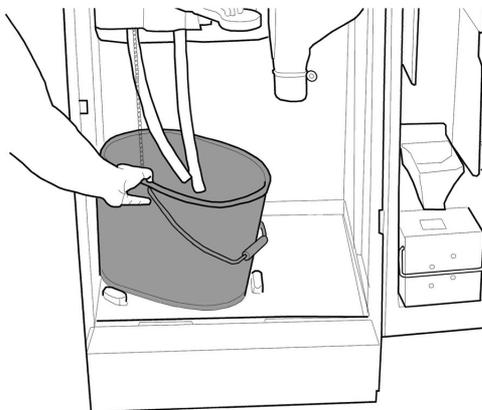
11.2.4 Used capsule collection bag replacement

(For Capsule version only)

Tighten the clip, extract the full bag and replace it with a new one.

11.2.5 Emptying the fluid discharge tank

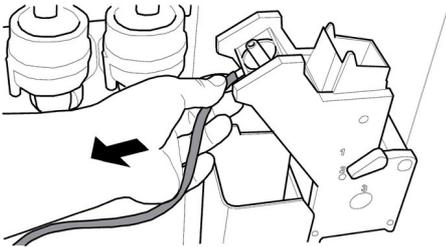
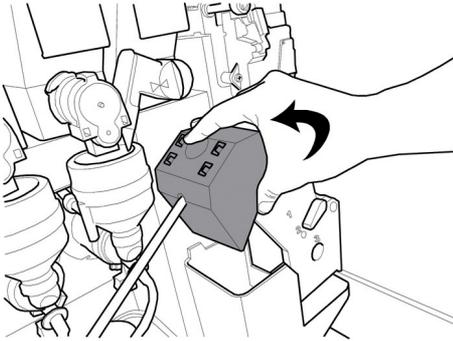
Remove the tank from the vending machine.



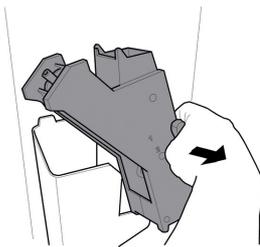
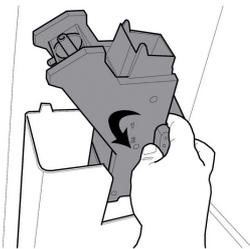
Wash the tank, than replace it inside the machine.

11.2.6 Cleaning of the coffee brew group

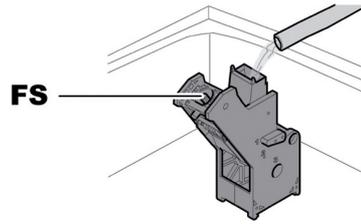
Remove the protection carter and disconnect the hose from the dispensing arm.



Remove the brew group keeping the lever in 3 position.



Wash the brew group with lukewarm water and clean the upper filter carefully.

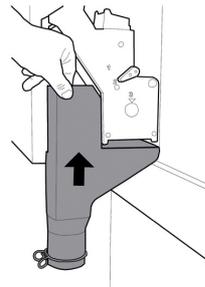


FS Upper filter

 When inserting the brewing group, make sure that the reference arrows are aligned. If this is not the case, align them using the key provided.

 Before removing the coffee ground channel for cleaning, it is necessary to remove the brew group.

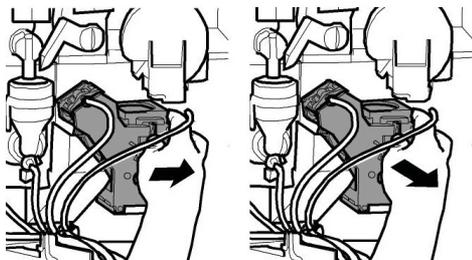
Lift and pull out the coffee grounds chute and wash with lukewarm water.



11.2.7 Cleaning the Capsule Coffee Brew Group

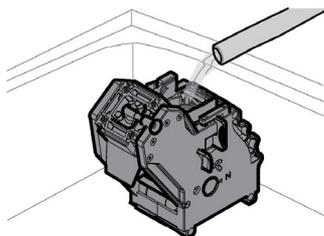
 This unit includes very sharp parts which may cause injuries to the operator. Please be very careful when performing maintenance operations.

Press the "PUSH" lever and remove the brew group by pulling it outwards.

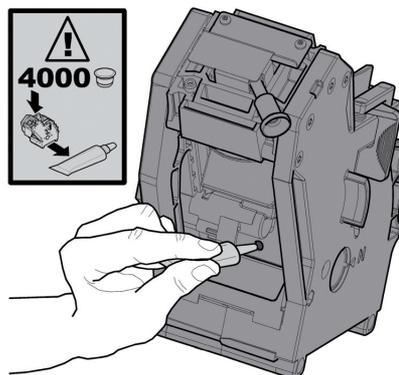


Wash abundantly with warm water.

 Do not use detergents.

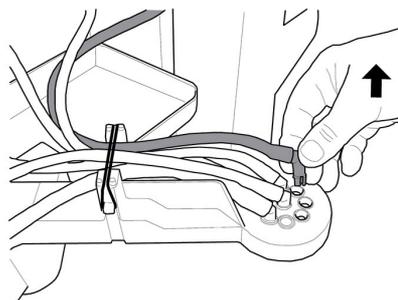
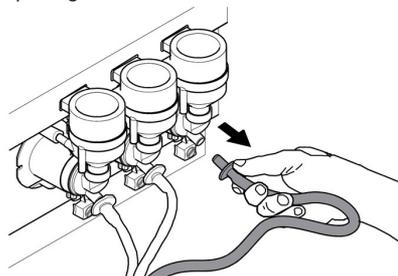


 To ensure the correct operation of the brew group, grease it each 4000 cycles by using the specific tube as shown in the figure.

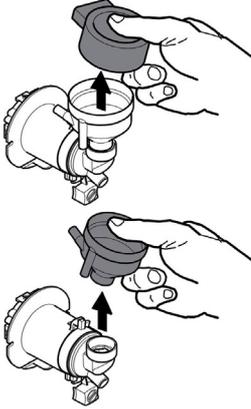


11.2.8 Cleaning the instant product dispenser and the mixer

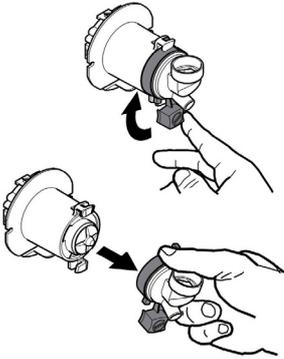
Disconnect the dispensing hose from the nozzle and from the dispensing arm.



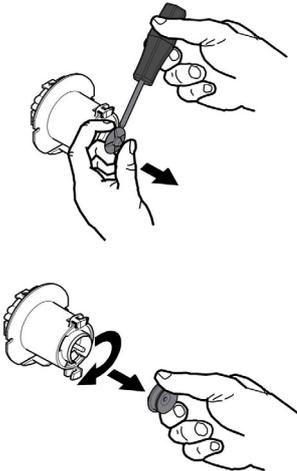
Remove the cap and the powders chute.



Turn the ring nut clockwise and remove the mixer body.



Remove the fan by levering carefully with a flat screwdriver.

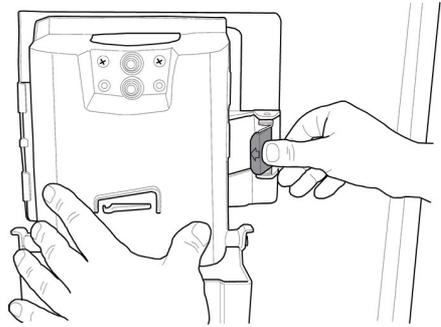


Wash all components with lukewarm water and pay particular attention not to damage the fan.

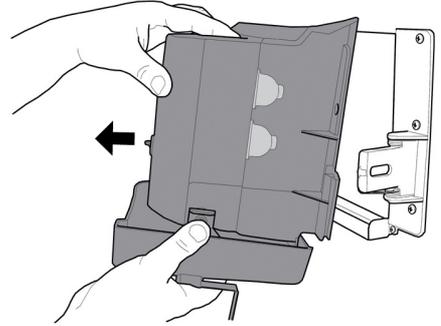
Assemble the components in reverse order and connect the dispensing hose correctly.

11.2.9 Cleaning the dispensing outlet

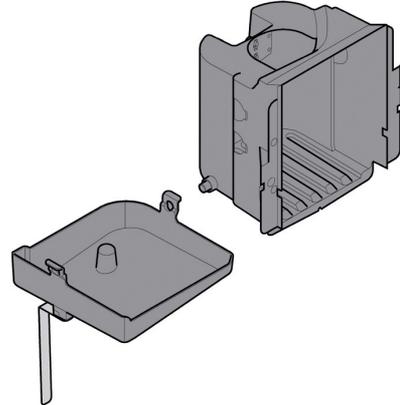
Operate on the dispensing outlet locking lever.



Remove the dispensing outlet.



Remove the lower plate from the dispensing outlet and wash it thoroughly with lukewarm water.



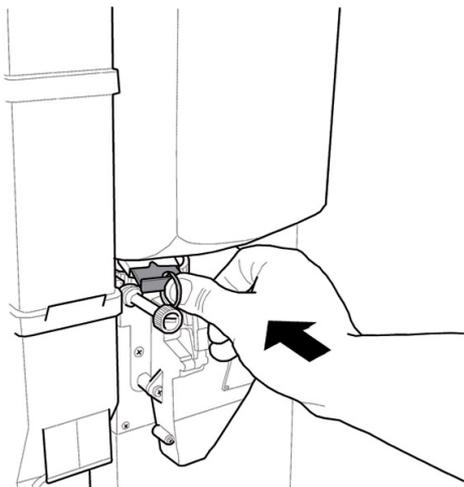
Reassemble the lower plate onto the dispensing outlet only when they are completely dry.

Assemble the components in reverse order.

11.2.10 Cleaning the containers

To clean the coffee bean hopper the following operations are necessary:

- push the moving panel inward;
- dispense a few test coffee cups in order to empty the coffee grinder from coffee beans;
- lift the container up and remove the bean residues using an aspirator;
- wash the inside of the container and dry it carefully before reassembling it.



To clean a soluble product canister:

- remove the container by pushing it towards the inside of the vending machine in order to release the lock (A), then push it upwards;



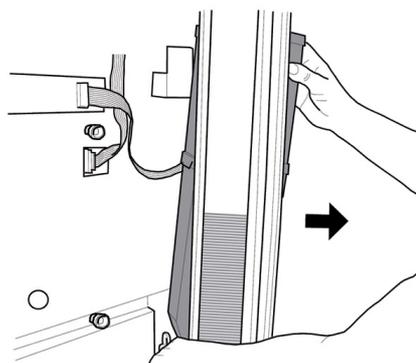
- wash the canister interior and dry it well before replacing;
- follow the above procedure in the reverse order to refit the canister, ensuring that the catch A slots into place.

The following operations are necessary to clean the sugar container:

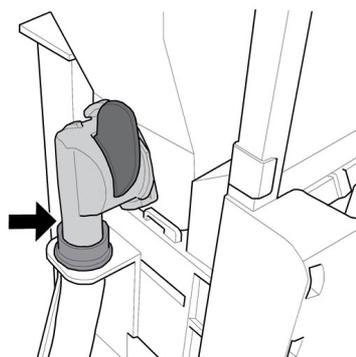
- turn the container locking lever clockwise;



- remove the container;

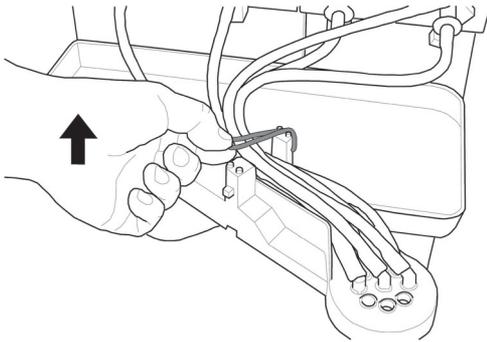


- wash the canister interior and dry it well before replacing;
- replace the container taking care to insert the nozzle into the coupling;

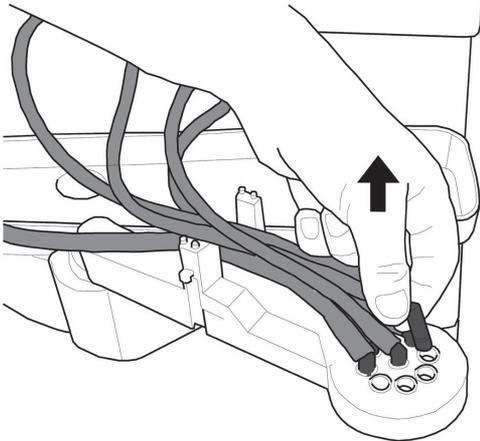


11.2.11 Cleaning the dispensing arm

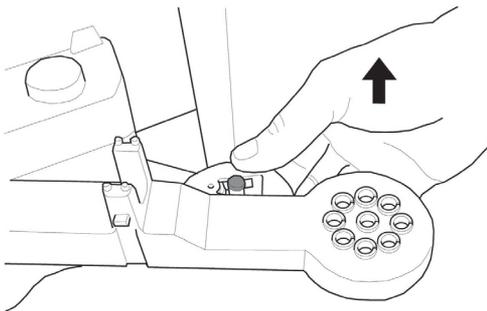
Remove the elastic which blocks the hoses.



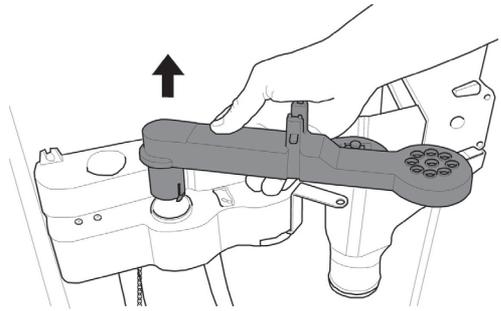
Disconnect the hoses from the dispensing arm.



Push the rubber tip to release the dispensing arm.



Remove the brewing unit.



Wash the arm with lukewarm water and follow the above procedure in the reverse order to refit into place.

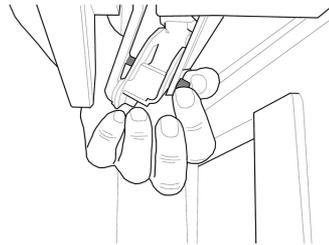
11.2.12 Cleaning the coffee grinder

Each month, clean the coffee grinder of any residues that might lead to deposits.

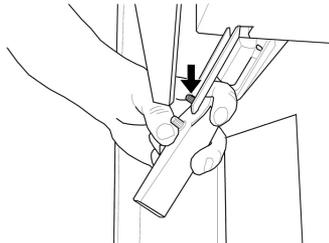
After removing the coffee bean hopper (see section "Cleaning the Containers"), clean the coffee grinder carefully with an aspirator.

11.2.13 Cleaning the sugar dispensing channel

Unscrew the knurled pin so that the sugar swivel chute can be removed from its support.



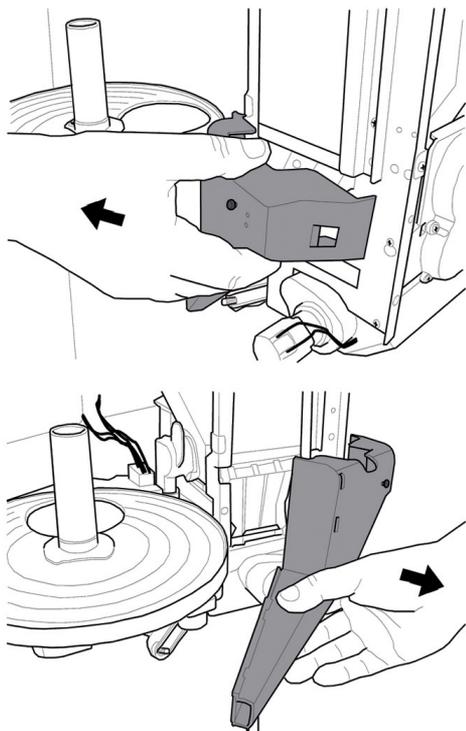
Unscrew the knurled pin that fixes the sugar swivel chute to the connecting rod.



Wash the sugar swivel chute with lukewarm water and follow the above procedure in the reverse order to refit into place.

11.2.14 Cleaning the stirrer channel

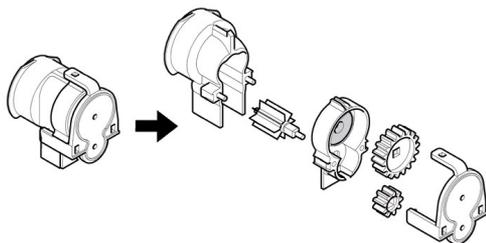
Remove the stirrer chute



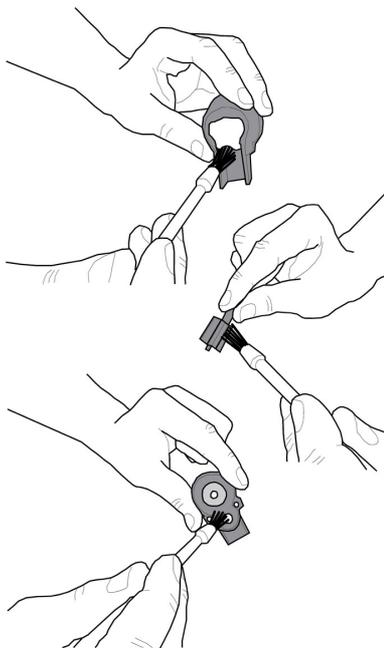
Wash the stirrer chute with lukewarm water and follow the above procedure in the reverse order to refit into place

11.2.15 Easy Dry 2 Dispenser Cleaning

Rotate counter-clockwise the easy dry 2 dispenser and remove it from the instant product container. Completely disassemble the easy dry 2 dispenser as shown in the figure.

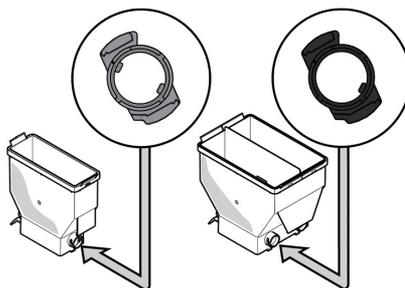


Air blow each component or clean the same with the specific brush.



 In case of removal of the front bushing from the instant product container, care should be taken to respect the following combination during the reassembly phase:

- Black single-locking front bushing--> double instant product container.
- Beige double-locking front bushing--> single instant product container.

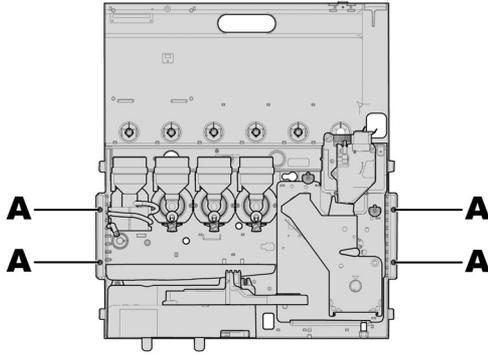


Reassemble the dispenser, put it back on the instant product container and turn clockwise until it locks into place.

11.3 Non-scheduled maintenance

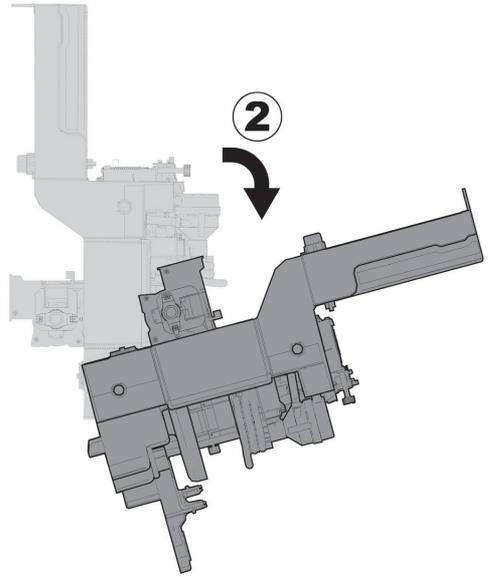
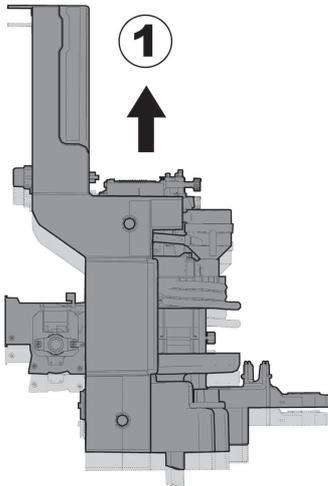
The vending machine is equipped with an assembly plate containing most of the vending machine components (Coffee grinder, Gear motor, Mixer, Instant product motors, Pump, Turbine and De-humidifier).

To access one of these components, remove the instant product and coffee containers and loosen the four fastening screws.



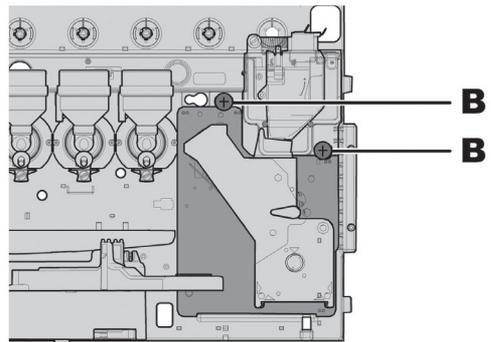
A Fixing screws

Pull the plate upwards and tilt it forwards. It is now possible to access all the plate



 Remove the coffee ground channel before turning the surface (see section "Cleaning the Coffee Brew Group").

 It is possible to access the boiler without reclining the plate, by loosening the two screws that fasten the support plate.

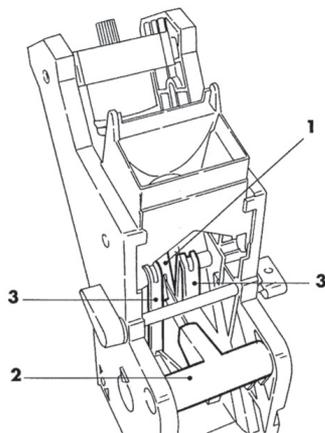


B SCREW

11.3.1 Coffee Bean Brew Group Maintenance

Plastic group. It is advisable to remove it and rinse carefully with hot water on a monthly base; every 5,000 strokes and, in any case, every month all moving parts of the group must be lubricated with silicon grease for food use:

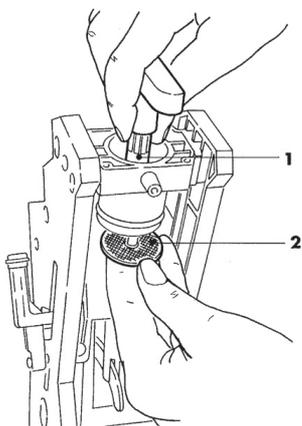
- lower filter rod (1)
- connecting rod (2)
- rails (3).



Replace gaskets and filters every 10,000 strokes.

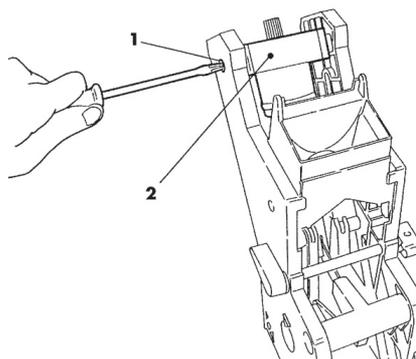
Upper filter:

- loosen the upper pin (1) with the wrench supplied with the machine
- manually unscrew the filter (2).

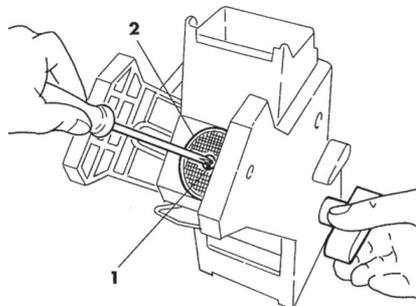


Lower filter:

- unscrew the two side screws (1) and remove the upper piston stop (2)



- manually rotate using the wrench supplied with the machine until the lower filter is flush with the cup
- unscrew screw (1) and replace filter (2)
- reassemble all the parts following the reverse order.



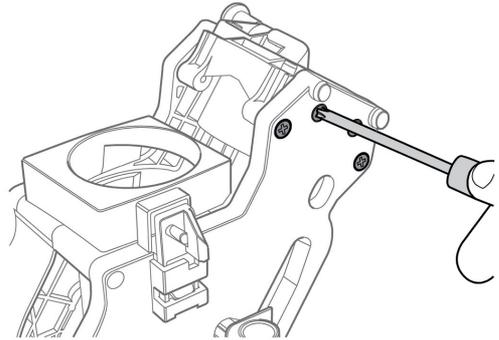
 Carefully blot the upper and lower filter and blow with compressed air.

11.3.2 Capsule Coffee Brew Group Maintenance

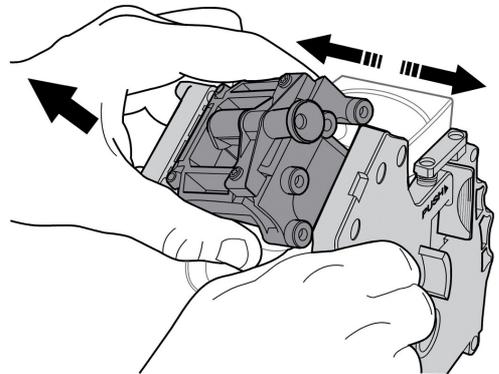
 To ensure the correct operation of the brew group, carry out the operations described below each 8000 cycles.

 This unit includes very sharp parts which may cause injuries to the operator. Please be very careful when performing maintenance operations.

Unscrew the 4 screws located at the rear of the brew group.

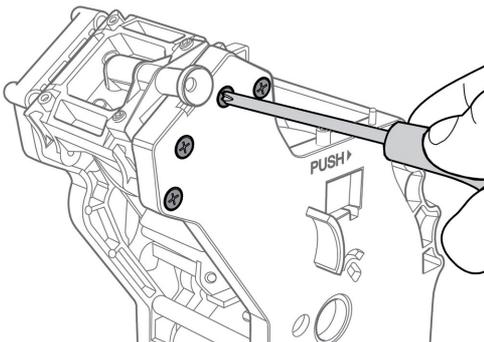


Widen the walls of the brew group slightly, and take out the non-removable container for coffee capsules.

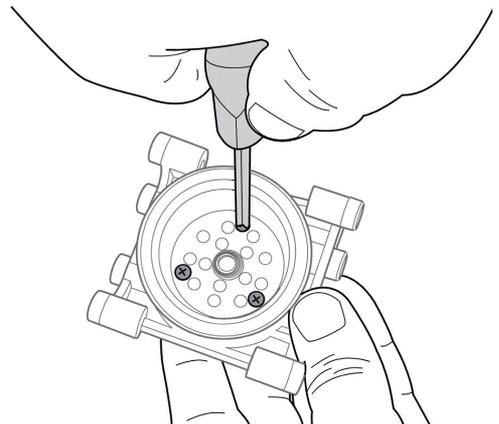


11.3.2.1 Removing the upper piercer filter

Unscrew the 4 screws on the front of the brew group.



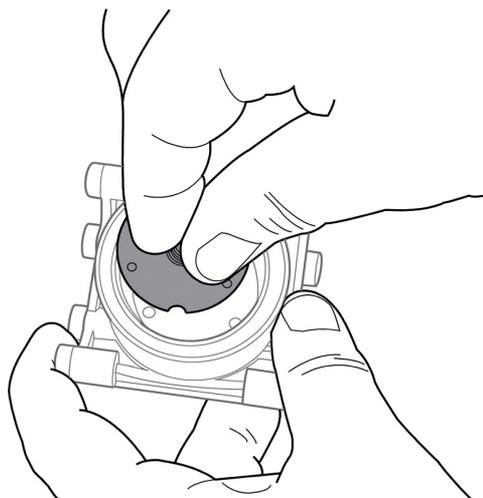
Unscrew the 3 screws holding the perforator in place.



Remove the used perforator and put the new perforator back in place.

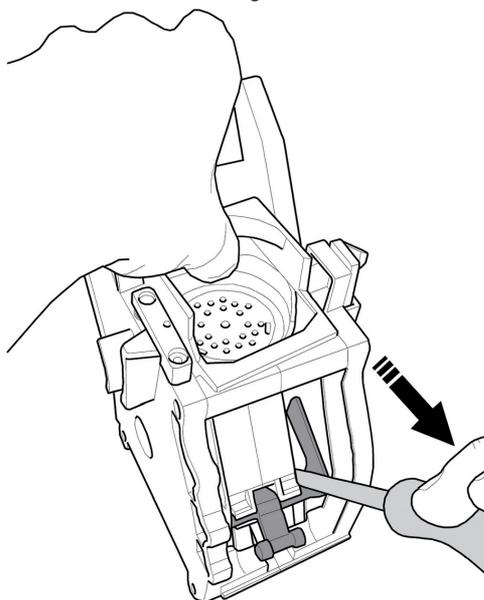
 The perforator can be installed only in a pre-set position. To install the perforator correctly, use the notch placed inside the piston stop as a reference.

 The perforator must be replaced if a pin is damaged.

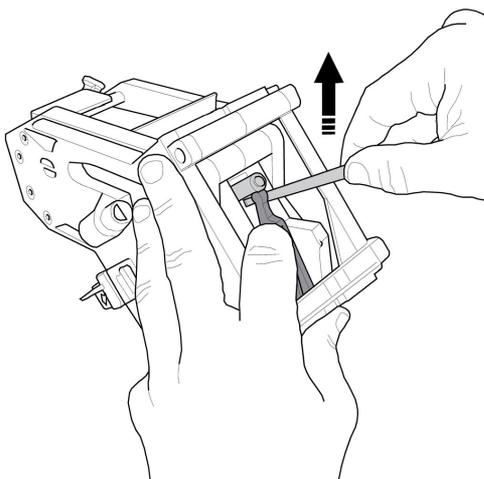


11.3.2.2 Removing the lower piercer

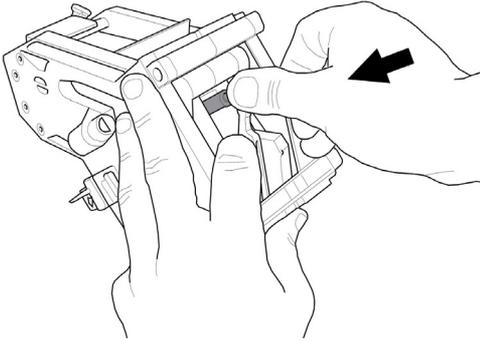
To remove the piston, pry on the rod using a flat-head screwdriver as shown in the figure.



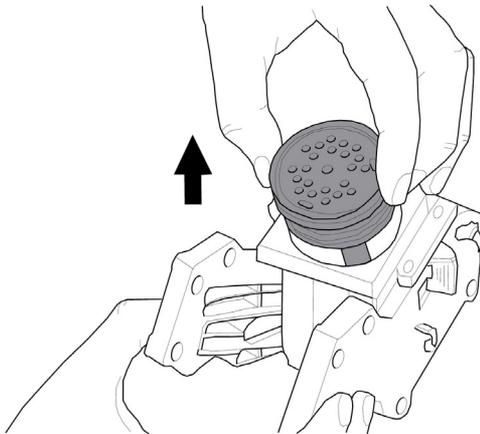
Remove the other end of the rod from the piston slot.



When the pin has been released, press it with your finger to dislodge it from its seat.

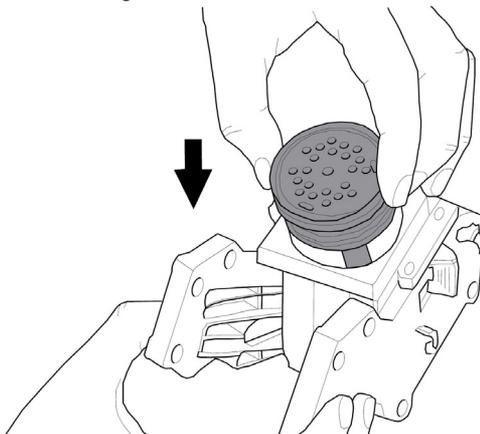


Remove the piston from its upper part.



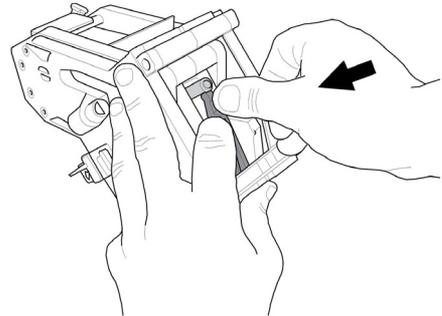
Once the piston has been removed, all seals can be easily replaced.

To reassemble the piston, insert it back into its seat as shown in the figure.

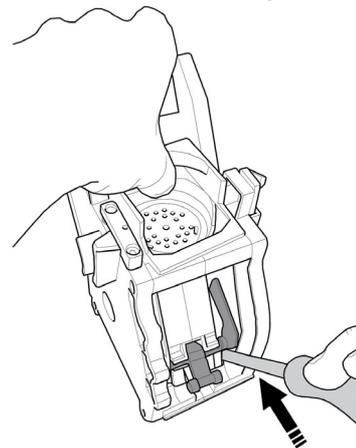


⚠ In this phase, press the piston downwards. The lower piercer is located inside the piston and may come out when firmly pressed, thus causing injury to the operator. Use any appropriate means to ensure the operator's safety.

Keeping the piston pressed, press the rod until it is locked in the piston slot.



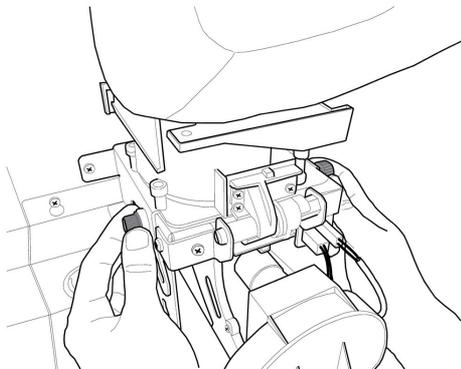
Keeping the piston pressed, pry on the rod using a flat-head screwdriver as shown in the figure.



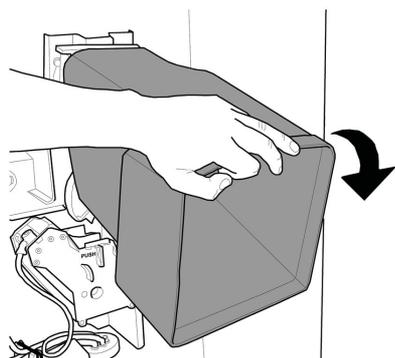
11.3.3 Capsule jam

If any capsules become jammed in the dispensing tube, restore normal operation as follows:

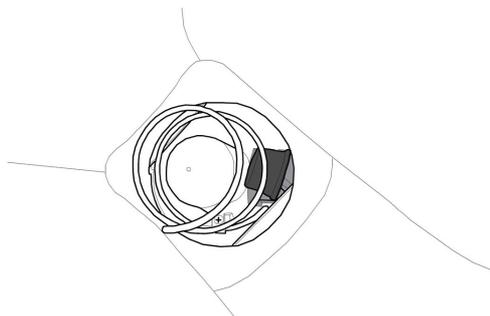
- Remove the instant product container on the left of the capsule drawer.
- Remove the two orange knobs.



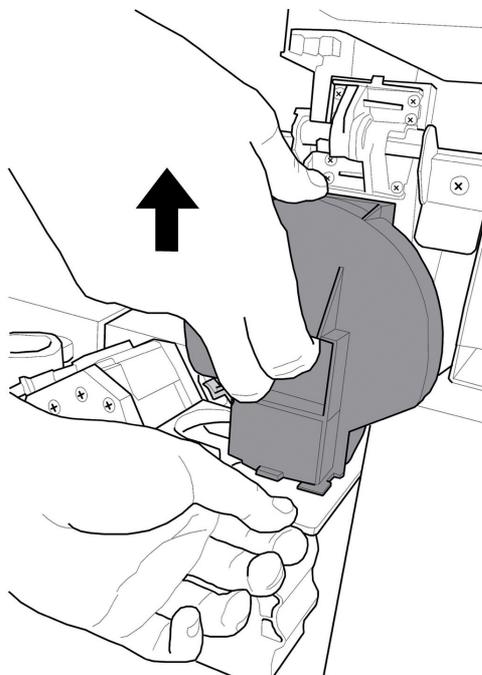
- Remove the container cover.
- Completely turn the hopper and pour the unused capsules into another container.



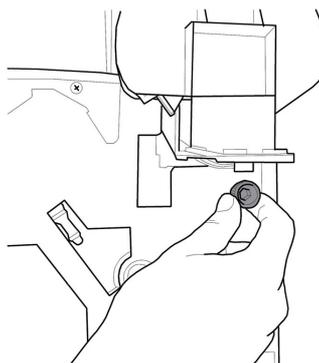
- Check that there are no capsules jammed in the upper part of the conveyor, as shown in the figure.



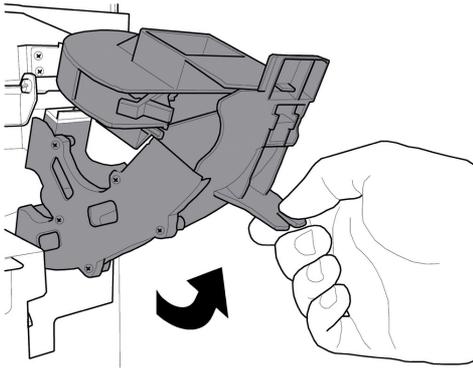
- If there are any capsules jammed in the upper part of the conveyor, remove them. Then replace the capsule drawer in the vertical position and re-insert the two orange knobs. If there are no jammed capsules, replace the capsule drawer in the vertical position and re-insert the two orange knobs. At this point, lift the stirrer cover as shown in the figure.



- Remove the jammed capsule and replace the stirrer cover. If it is impossible to reach the jammed capsule, unscrew the front orange knob as shown in the figure.



- Turn the conveyor channel and remove the jammed capsule.



- Replace the conveyor channel in its original position and re-insert the front orange knob.

11.4 Software update

The vending machine management program is stored in the flash memory inside the CPU board.

The software update can be performed by using:

- a USB key (Pen Drive);
- a file containing the new software to be loaded.

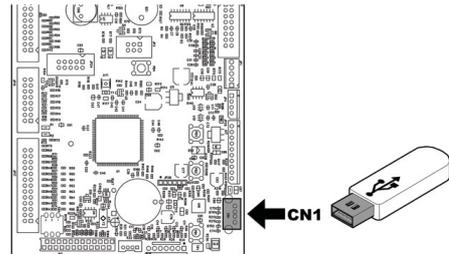
Update procedure:

- copy the "SAE_NCRI_V00000.s19" file received for update (where XXXXX is the version number) onto a USB key* (the file should be stored on the device root);
- rename the file as: "SAE_NCRI.s19".

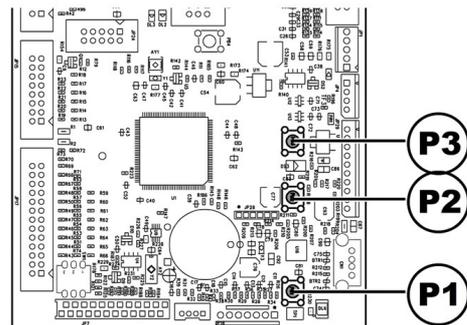
⚠ If the file name is not correct, the software will not be recognised (the red light on the CPU will remain on).

⚠ If the file name contains empty spaces, the software will not be recognised (the red light on the CPU will remain on).

- switch off the vending machine;
- insert the USB key into the CN1 connector;



- press and hold the P1 button on the CPU;



- Switch on the vending machine;
- after the CPU beep, release the P1 button;
- The CPU recognises the USB key and searches for the file with the software to be loaded (green and red lights on the CPU flash alternately);
- In case of errors, a long beep is emitted and the red light stays on.
- 3 close beeps and the restart of the vending machine confirm that the software has been updated.
- switch off the vending machine;

- remove the USB key.

***All common USB keys used on PCs are suitable. Some restrictions are:**

- the device has to be FAT12, FAT16 or FAT32 formatted
- The sector size has to be of 512 Bytes



12 TROUBLESHOOTING

The following table indicates the possible error or alarm causes which may lead to a partial or total arrest of the vending machine.

The following is reported for each cause:

- associated code, reported in the error LOG;
- the consequence of the occurred event on the vending machine operation when the VM works as a single machine for hot beverage brewing;
- the consequence of the occurred event on the vending machine operation when the VM works in association with one or two spiral slaves;
- a note to help identifying the warning and restore the normal operation.

Cause	Error Code	Machine without snack slaves	Machine With Snack Slaves	Notes / Recommended Intervention
Low water level in air break	1	Vending machine out of service	Beverages not available	Check the water network connection or fill in the water tank
Coffee dosing unit filling not detected (no more coffee?)	2	Coffee beverages not available	Coffee beverages not available	Fill in the coffee bean hopper. Or check the coffee dosing unit operating condition.
Group gearmotor movement not detected	3	Coffee beverages not available	Coffee beverages not available	Check the brew group gearmotor and/or the positioning microswitches.
Group gearmotor movement not detected	4	Coffee beverages not available	Coffee beverages not available	Check the brew group gearmotor and/or the positioning microswitches.
Flowmeter pulses not detected	5	No consequences	Beverages not available	Warning report only in the LOG. If the flowmeter pulses cannot be read during instant product brewing, the error is only visible as a warning in the error log. If the reading is not possible during coffee brewing, warning LOW_WATER_FLOW(22) and then error 22 will be reported. Coffee (or freshbrew) will not be available.
Nozzle arm movement not detected	6	Vending machine out of service	Beverages not available	Check the nozzle arm (mechanism free movement and positioning microswitch)
Drain tank full	9	Vending machine out of service	Beverages not available	Empty the drain tank out
Cup release movement not detected	10	Jammed cup warning	Jammed cup warning	Warning report only in the LOG. "Cup not available" message is displayed. The vending machine can still dispense beverages without cups. Check the cup dispenser.
Stirrer expeller movement not detected	11	Vending machine out of service	Beverages not available	Check the stirrer expelling mechanism and the sugar dispensing device (motor and microswitch)

Cause	Error Code	Machine without snack slaves	Machine With Snack Slaves	Notes / Recommended Intervention
Instant product boiler temperature sensor reading out of range	13	Models with 2 boilers ==> beverages with instant products not available Instant Models ==> Vending machine out of service	Beverages with instant products not available	Check the instant product boiler (connections, thermostats, temperature sensor).
reading of coffee boiler temperature sensor out of range	14	Models with 2 boilers ==> coffee beverages not available Models with 1 boiler ==> Vending machine out of service	Models with 2 boilers ==> coffee beverages not available Models with 1 boiler ==> no beverage available	Check the coffee boiler (connections, thermostats, temperature sensor).
Cup holder movement not detected	17	No more cups warning	No more cups warning	Warning report only in the LOG. "No more cups" message is displayed. The vending machine can still dispense beverages without cups. Fill in the cup columns. Check the cup dispenser.
Brew group not detected	20	Coffee beverages not available	Coffee beverages not available	Warning report only in the LOG. "Coffee not available" message on the display. Check the brew group inserting status.
Abnormal coffee brewing flow detected	22	Coffee beverages not available	Coffee beverages not available	Check the brew group cleaning. Set a coarser coffee grind. Check the flowmeter.
pump used beyond maximum time limit	23	Warning only	Warning only	Check beverage programming; check flowmeter and water circuit.
No filling of the instant product boiler	24	Models with 2 boilers ==> beverages with instant products not available Instant Models ==> Vending machine out of service	Beverages with instant products not available	Check the instant product boiler water circuit.
Air sensor error	27	---	The slave is disabled (only if the refrigerator is enabled)	Check the air temperature sensor connection.
Evaporator sensor error	29	---	Warning only	Warning report only in the LOG. Check the evaporator temperature sensor connection.
Decimal point position setting not consistent with the payment system	31	Vending machine out of service	Vending machine out of service	Check for consistency between decimal point settings in the vending machine and in the payment system
Credit management restart	32	Warning only	Warning only	Warning report only in the LOG.
Warning for normal situation restoring after abnormal flow	34	Warning only	Warning only	Warning report only in the LOG. Check the ground coffee granulometry.
MDB slave error detected	35	Vending machine out of service	Vending machine out of service	Check the slave MDB mode (3 is the only mode allowed).

Cause	Error Code	Machine without snack slaves	Machine With Snack Slaves	Notes / Recommended Intervention
Slow coffee boiler warm-up	36	Models with 2 boilers ==>coffee beverages not available Models with 1 boiler ==> Vending machine out of service	Models with 2 boilers ==>coffee beverages not available Models with 1 boiler ==> no beverage available	Check the coffee boiler (connections, thermostats)
Slow instant product boiler warming up	37	Models with 2 boilers ==>beverages with instant products not available Instant Models ==> Vending machine out of service	Beverages with instant products not available	---
CRC error	38	---	---	
Coffee grounds moving device blocked	39	error not reported (device not available)	error not reported (device not available)	Warning report only in the LOG.
Credit Manager warning	42	Warning only	Warning only	The credit management system has overcome a possible blocking condition (credit watch-dog enabling)
Jammed capsule release message	43	Beverages with capsules not available		Check the capsule release mechanism.
Jammed capsule orientation device message	44	Message only (note: the dispensing of capsules will continue until there are no more capsules in stock)		Empty the orientation device and remove anything preventing its rotation (e.g. jammed capsule).
Jammed capsule group error message	45	Beverages with capsules not available		Check the capsule brewing group gearmotor and/or the microswitches.positioning.
Capsule group not present error message	46	Beverages with capsules not available		Check the capsule brewing group gearmotor and/or the microswitches.positioning.
Spiral motor error - the machine has not detected the spiral position correctly.	51	---	Selection disabled	Selection disabled. Use the "automatic alignment" to enable again.
Spiral motor excessive input error	52	---	Selection disabled	Selection disabled. Use the "automatic alignment" to enable again.
Power board power supply voltage below the allowed limit	54	---	Warning only	Check the +24VDC power supply unit.
Spiral motor not detected at start-up	55	---	Slave disabled	Check the spiral tray connections

Cause	Error Code	Machine without snack slaves	Machine With Snack Slaves	Notes / Recommended Intervention
Spiral motor rotation not read.	56	---	Selection disabled	Selection disabled. Use the "automatic alignment" to enable again.
Spiral motor rotation not read.	57	---	Selection disabled	Selection disabled. Use the "automatic alignment" to enable again.
Photoelectric cells - product fall detected only after the correction (spiral extra movement)	58	---	Warning only	Warning report only in the LOG. Check that the products have been correctly supplied in the spirals.
Photoelectric cells - product fall not detected.	59	---	Warning only	Warning in the error LOG - Credit returned (if the function is enabled)
Photoelectric cells - the maximum number of consecutive E59 errors in a selection has been reached.	60	---	Selection disabled	Selection disabled. Use the "automatic alignment" to enable again.
Communication error with snack power board	61	---	Slave disabled	Check the connections between power board and CPU board
Communication error with Hot bev. power board	62	Error not indicated	Error not indicated	
Photoelectric cells - the maximum number of consecutive E59 errors on different selections has been reached. Photoelectric cell system disabled	70	---	Photoelectric cell system disabled	Check the product supply. Check the photoelectric cell system. Press key 4 on the 5-button keypad to re-enable.
Photoelectric cells - photoelectric cell system temporarily disabled because the system has been darkened prior to a sale (eg. by a not removed product).	71	---	Warning only	Warning report only in the LOG.
Watchdog operation	72	Warning only	Warning only	Warning report only in the LOG.
Food error - the detected temperature was over the limit for a longer time than allowed	75	---	Food products disabled	Press key 5 on the 5-button keypad to re-enable.
Dispensing slot motorlock	76	---	error not reported (device not available)	Check the product dispensing slot locking device (motor, microswitch and wiring harness).
MDB coin return error message	80	Warning only	Warning only	Warning report only in the LOG. Check the coin return.
Rest return mechanism blocked	81	---	---	Check the change return mechanism.
Consumed softener filter signal	83	Warning only	Warning only	Maintain the softener filter

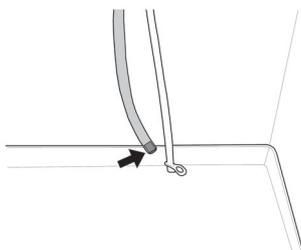
Cause	Error Code	Machine without snack slaves	Machine With Snack Slaves	Notes / Recommended Intervention
Stop CofGrounds	84	---	---	Reset the grounds counter (key 4 on the 5-button keypad).
Low voltage supply / Boiler fill-up not performed correctly (Cristallo/Atlante)	85	Vending machine out of service	Beverages not available	
No more Capsules	89	Beverages with capsules not available		Refill the capsule drawer or check that there are no capsules jammed in the orientation device.
No more type C coffee	90	Beverages with coffee C not available	Beverages with coffee C not available	Fill in the coffee bean hopper. Or check the coffee dosing unit operating condition.
No more type K coffee	91	Beverages with coffee K not available	Beverages with coffee K not available	Fill in the coffee bean hopper. Or check the coffee dosing unit operating condition.
Steam boiler sensor Error	92	HS3 preheating not available	HS3 preheating not available	
Both boilers out of service	93	Vending machine out of service	Beverages not available	Check the coffee and instant product boilers (connections, thermostats, temperature sensor)
Slow steam boiler warm-up due to brew group preheating (HS3)	94	HS3 preheating not active	HS3 preheating not active	Check the steam boiler (connections, thermostats, temperature sensor)
Coffee boiler filling failed	95	Coffee beverages not available	Coffee beverages not available	Fill in the coffee bean hopper. Check the water circuit (pump, flowmeter).

13 STORAGE DISPOSAL

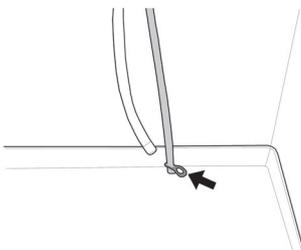
13.1 Change of location

Should the vending machine be positioned in another site it is necessary to carry out the following operations:

- unplug the vending machine;
- empty the instant product, coffee bean and sugar containers;
- empty the AIR BREAK device. Remove the pipe cap and channel the water into a container. After draining the pipe completely, fit the cap back into its original position;



- carry out the boiler draining cycle (maintenance menu);
- drain the water pipe. Remove the spring from the pipe and channel the water into a container. After draining the pipe completely, fit the spring back into its original position.



- empty the coffee grounds bag (see section "Replacing the Coffee Ground Bag");
- empty the fluid discharge tank and wash it (see section "Emptying the Liquid Product Tank");
- carry out the general cleaning of the vending machine as indicated in chapter "Cleaning and Maintenance";
- put the components back in place and close the doors;
- lift and place the vending machine in the assigned location following the instructions given in section "Vending Machine Unpacking and Positioning".

13.2 Inactivity and storage periods

If the vending machine needs to be stored or remains inactive for a long period, carry out the same operations as described in section "Change Location", therefore:

- wrap the vending machine in a tarpaulin to protect it from dust and damp;
- check that the vending machine is in a suitable place (the temperature should not be less than 1°C) taking care not to place any boxes or appliances over it.

14

**INSTRUCTIONS FOR END-OF-LIFE DISPOSAL
TREATMENT****INFORMATION FOR THE USER**

This product complies with EU Directive 2002/96/EC.

The symbol on the product or on its packaging indicates that this product may not be treated as household waste.

Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment.

By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

The disposal of the vending machine or of a part of it must be carried out with full respect of the environment and according to local laws in force.

