cino xs grande

Installation and maintenance manual
To be kept inside the machine

rheavendors ●

DISPLAY

SELECTIONS KEYBOARD

SELECTION LABELS

COINS VALIDATOR PLATE

CUP SUPPORT

CUP STATION

LIQUID WASTE BUCKET

coffee shop
cino xs grande

COFFEE BEANS CANISTER

INSTANT CANISTERS

COFFEE GRINDER

COFFEE DOSER

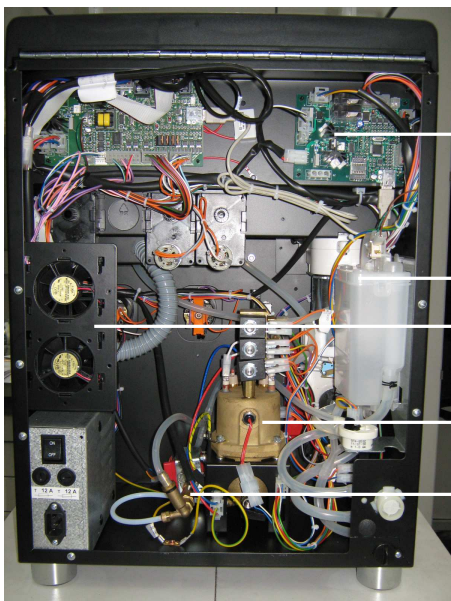MICRO COFFEE BREWER

HOT WATER PIPE

COFFEE GROUND BUCKET

LIQUID WASTE TRAY

MIXING BOWLS

HOT WATER PIPE

OUTLET PIPES SUPPORT

COFFEE BREWER BOARD

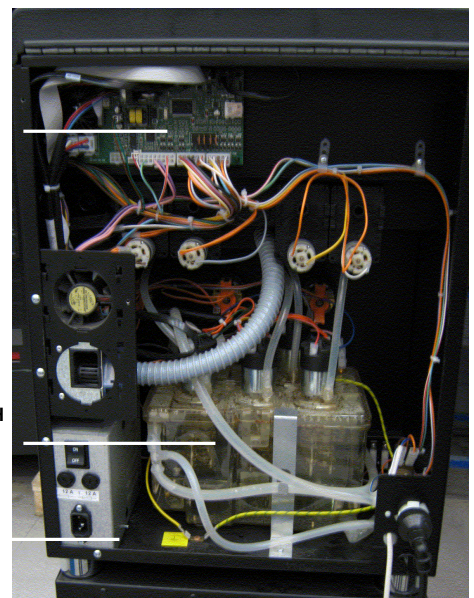REFILLING WATER TANK

ASPIRATION FANS

ESPRESSO BOILER

ESPRESSO PUMP

CPU/POWER BOARD

INSTANT BOILER WITH PUMPS

SWITCHING VOLTAGE SUPPLY BOARD CASE

2

INDEX

1   Technical Data and Declaration of Conformity

		SM	*PB*
Height (mm)		562 - 592 - 618	
Width (mm)		420	
Depth (mm)		584	
WEIGHT (Kg)		33	40
Power consumption (W) at 230 V ~ 50/60 Hz		1700	1200
Selection Keys number		10	10
Connection to the main water supply		Water inlet pressure between 0,1 MPa (1 bar) and 0,8 MPa (8 bar) mains water connection 3/8" gas female	
Sound pressure level weighing-a		< 70 dB	
Instant canisters maximum number (AA)		1 double + 3 small	1 coffe beans canister + 1 double + 1 small
Instant canisters maximum number (AA)		1 double + 5 small	1 coffe beans canister + 2 double + 1 small
Mixing bowls maximum number		3	2
Boiler pumps maximum number		3 + 1	-
Solenoid valves maximum number		-	1 Espresso + 2 + 1
Payment system protocols compliant with		12 V - 10 pin parallel	12 V - 10 pin parallel
		24 V d.c. Executive serial	
		MDB serial	
Data Audit		Rhea Flash	

DECLARATION OF CONFORMITY

Rhea Projects S.p.A.declares that this vending machine has been planned and made in conformity with the following directives and security norms:

Directives :	2004/108/EC ; 2006/95/EC

Norms:	**SAFETY** part. 2-75 **:** EN 60335-2-75 :2004 + A1 : 2005 + A11 : 2006 (EN60335-1-2002 + A1 : 2004 + A11 : 2004 + A12 : 2006 + A2 : 2006)
	EMC: EN 55014-1 : 2000 + A1 : 2001 + A2 : 2002
	            EN 55014-2 : 1997 + A1 : 2001
	            EN 61000-3-2 : 2000 + A2 : 2005
	            EN 61000-3-3 : 1995 + A1 : 2001 : A2 : 2005
	EMF: EN 50366 : 2003 + A1 : 2006

Machine's manufacturer:

Rhea Projects S.p.A.   - via Garavaglia 58
I - 21042 Caronno Pertusella (VA) Italia

The legal Agent

(A. D. Majer)

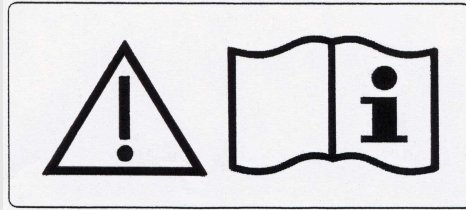## 1.1   Copyright Information

WARNING: You find this warning label placed next to the serial number label inside the machine. It advises the user that a careful reading of this Manual is necessary before installation and use of the machine.

2   Introduction

We congratulate you on your choice of a RHEA PROJECTS S.P.A. automatic vending machine. This product has been designed by experts and it has been manufactured according to the high quality standards, which have always been a characteristic of all RHEA PROJECTS S.P.A. products. This instruction manual will help you to acquire a better knowledge of your machine. We recommend you to read it with the maximum attention and to follow the advice given in the text.

The present manual includes all information and instructions for loading and cleaning operations of the vending machine, as well as instructions reserved to technical personnel for performing maintenance operations of more complex nature. This is the reason why the manual pages are clearly identifiable with relation to the technical preparation of the user to whom they are destined:

Text with grey background: for any person having access to the interior of the vending machine. These pages consist of an introduction, sections of general interest and sections concerning loading and routine cleaning.

Text with normal background: these are for use by qualified technical personnel only. They include all operations related to installation, adjustment, and extra ordinary cleaning and general maintenance.

All information contained in this manual are aimed to obtain from the machine the best performance within the limits of use set by the manufacturer. This Manual is integral to the equipment and must be available inside the machine until final deplacement. Inside the rear door of the machine there is a suit0able pocket where the Manual should be kept. In the event of loss or damaging of the Manual, to obtain an extra copy it will be necessary to supply to the manufacturer all the identification data appearing on the identification sticker.

In compliance with the Company's endeavour to adopt technical improvements whenever possible, RHEA PROJECTS S.P.A. reserves the right to ameliorate future production (and the contents of future Manuals) without prior notice and without any obligation of updating the products on the market.

The Technical service department of RHEA PROJECTS S.P.A. is at your disposal for any further information. Just call or send a fax at the following numbers:

☎ +39.02.966551

▤ +39.02.9655086

or surf our web site **www.rheavendors.com** or send en e-mail at the address **rheavendors@rheavendors.com**.

In order to speed up the response to your requests it will be necessary to supply:

- All data appearing on the Serial Number Label.

CAUTION: RHEA PROJECTS S.P.A. is not liable for any damage that could affect, directly or indirectly, any person or property as a consequence of:

- Incorrect use of the vending machine.

- Incorrect installation.

- Unsuitable electrical or water supply.

- Major shortcomings in maintenance.

- Technical interventions or alterations of unauthorised nature.

- Adoption of non-original spare parts.

In the event of breakdown, RHEA PROJECTS S.P.A. has got no obligation whatsoever neither to compensate any economical damage deriving from the inactivity of the machine nor too extend the warranty period.

3   Description of the Equipment

3.1   Use

The **cino xs grande** semi-automatic vending machine, in its different models, is an appliance meant for general use (non professional). The semi-automatic vending machine is supposed to supply beverages automatically, mixing ingredients with water. The distribution of beverages will take place into suitable cups placed properly by the user.

3.2   Denomination of the models

Rhea Projects adopts the following conventional codes for the definition of the different versions:

Type: Table-Top

Cino XS Grande <coffee>/<canisters> [option] <electrical connection> <hydraulic connection>

where:

<coffee>   states the main process for the preparation of coffee:

        SM (**Speed-Mix**).……   Instant coffee (from soluble products)

        PB (**Presso-Bean**) …   Infusion process through a high pressure Espresso Coffee brewer

<canisters> states the number of product canisters except the one for coffee beans. Capacity and variety of types of beverages that can be supplied by the vending machines will depend on this number;

**<electrical connection>**   **230 V ~ 50/60 Hz**

<hydraulic connection>

    AA   states that the machine is equipped with an independent water tank.

    AR   states that the machine must be connect to main water supply.

3.3   Obtainable Drinks

All beverages obtainable from your machine are shown in the list attached to this manual, and they vary substantially according to the version of the machine. It is possible to program the machine through the Rheaction software
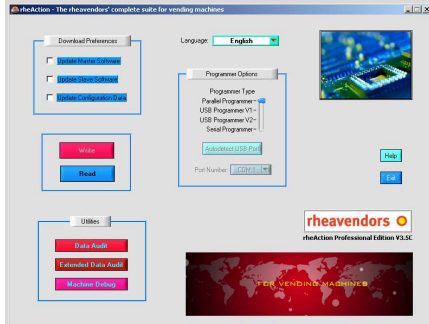
using the Rhea black flash card. For further information contact Rhea vendors Customer Service.

4   Advice for the installer

Installation and maintenance operations described in text with normal background (white) must be carried out only by qualified technical personnel.

WARNING: For a correct operation, the machine must be installed indoors with operating temperature higher than 5°C in normal conditions of use.

WARNING: Forestall the machine and the ingredients frozing.

WARNING: Given the sensitivity of some ingredients used in the machine to excessive temperature and humidity, some malfunctions may occur if the machine is operated at temperature higher than 30°C or w ith relative humidity exceeding 80%. Under these conditions the components in contact with the powdered ingredients must be cleaned at least once a day.

WARNING: The maximum operation temperature is 92°C .

WARNING: The operations described in Text with normal background must be developed by qualified technical personnel only.

WARNING: Installation in premises where water jets are used (e.g. large kitchens) is to be avoided.

The cino xs grande vending machine, that you have bought, has been manufactured according to the norms and regulations related to the non-toxicity of those parts coming in contact with foodstuffs and electric insulation. The machine is mounted inside of an industrial cleaned ambient. The person entrusted with the mounting and the test operations is subjected to frequent sanitary examinations to confirm his attitude. However, freight conditions, period of stay in the warehouse and possible handling due to the installation of the vending machines do not allow using it immediately.

The machines, before their use, must be subjected to a cycle of sanitary tests as per the instructions shown in paragraph "Cleaning and disinfecting of those parts coming in contact with foodstuffs".

WARNING: Do not clean the machine with water jets.

WARNING: Respect the NATIONAL RULES for machines directly connected to the main water supply.

WARNING: The use of the safety key can make in movements internal parts of the machine.

WARNING: Install the machine placing the electrical plug easily accessible.

WARNING: The machine must be installed following the NATIONAL NORMS and only in good airy places.

WARNING: Use only ingredients specific for semi-automatic vending machines.

WARNING: The personnel in charge of the loading of the ingredients must own a valid certificate of good health following local and NATIONAL NORMS and be equipped with specific protections. Furthermore, compliance with any other domestic or local regulations must be checked.

5   Basic Operating Principles

The powered machine is normally in the stand-by mode. When a button is pressed, a vend cycle starts. If a sale price is preset (i.e. the machine is not preset for the free vend mode), before selection the required amount of money must be inserted by means of coins, bank notes or other.

According to the selection required and to the version of the machine, the vend cycle is composed by some of the following procedures.

5.1 Preparation of hot drinks from instant ingredients

This procedure is usually carried out after the cup is correctly positioned under the outlet pipes of the beverage. More than one procedure of this sort can be carried out simultaneously or in sequence during a vend cycle.
This procedure is usually carried out after the cup is correctly positioned under the outlet pipes of the beverage. More than one procedure of this sort can be carried out simultaneously or in sequence during a vend cycle.
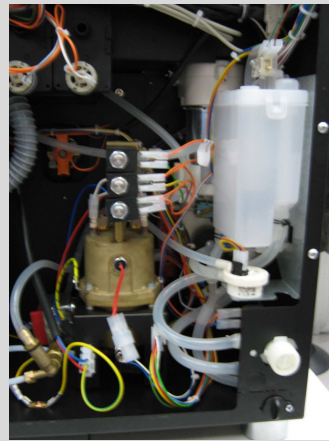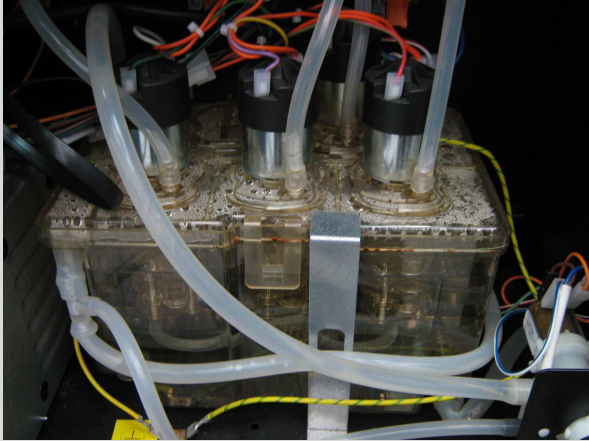
For Speed Mix version
1) One of the boiler pump is activated for a pre-set time to transfer the quantity of the required water into the correct mixing bowl;
2) If present, the mixer motor is activated;
3) The geared motor activates the screw feeder, in the canister of the corresponding ingredient, which pours the correct quantity of ingredient in the mixing bowl. More than one canister of ingredients can dispense simultaneously for the same mixing bowl;
4) The boiler pump is switched off;
5) If present, the motor of the mixing bowl is switched off.

Per versioni Presso Bean
1) When the solenoid valve corresponding is activated, the preset quantity of water is poured to dissolve the ingredients;
2) The water coming from the water refilling tank, in which the water level is kept constant, is conveyed under pressure in the boiler by means of a pump;
3) If present, the mixer motor is activated;
4) The geared motor activates the screw feeder, in the canister of the corresponding ingredient, which pours the correct quantity of ingredient in the mixing bowl. More than one canister of ingredients can be activated simultaneously for the same mixing bowl;
5) If present, the motor of the mixing bowl is switched off.

5.2 Preparation of the Espresso coffee

This process is carried out in the models equipped with the espresso coffee group after the selection button corresponding to coffee beans selections has been pressed. The execution priority between this process and the process for the preparation from instant ingredients is preset by the programme of the machine and varies according to the selection chosen.
1) The coffee grounds are ejected into the waste bucket (this procedure can be carried out also after 10 minutes of inactivity of the coffee group);
2) The coffee group moves to the correct position to receive coffee dose;
3) The coffee grinder is activated for a time programmed by software;
4) The coffee group moves to the infusion position: this occurs when the coffee group motor is started. The cup and the lower filter are moved upwards to close the brewer and press the compress of ground coffee;*
5) The water coming from the water-refilling tank, in which the water level is kept constant, is conveyed under pressure in the boiler by means of a pump. After the activation of a solenoid valve, the same quantity of warmed water is then conveyed to the coffee group;
6) The coffee group ends the cycle.

* Procedures marked by asterisk may be carried out in a different order according to the electronic setting of the machine.

6 Transportation

Only qualified personnel must move the machine.
The machine must be carefully transported as any overturning of the machine is to be avoided.
WARNING: The machine must be kept vertically positioned when moved to another location with the top side indicated on the box towards up. DO NOT OVERTURN THE MACHINE to avoid damages to the electronic boards.
The machines are carried on pallet.

WARNING: They must be moved on with dolly, at reduced speed and preventing any excessive bending movement of the machines.
WARNING: the machine weighs from 33 Kg to 40 Kg ca. Take care during transfer to avoid accidents to people (example: muscular rip, hernia, etc.).
If the machine must be stocked for a period before installing it, please keep the machine in a dry place (the relative humidity must not exceed 80%), with temperature between 5℃ and 30℃. Do not place on one machine more than another one. Do not overturn the machines.

7   Unpacking

The machine must be unpacked as follows:
1) cut the protection film along one of the protection angle bar around the pallet;
2) remove the pallet from all the machines using the appropriate side holes on the packing of the machines;

WARNING: the machine weighs from 33 Kg to 40 Kg ca. Take care during transfer to avoid accidents to people (example: muscular rip, hernia, etc.)
Each machine must be unpacked as follows:
1) Place the machine on a fixed surface;
2) Cut the two safe plastic straps;
3) Lift up the packing;
4) Remove the appropriate bag;
5) Lift and place the machine in its working position.
WARNING: the packing materials must be kept out of the reach of unauthorised people, especially children, as potentially hazardous. Qualified waste recovery companies must carry out the disposal of special packing materials.
6) Take the keys fixed with adhesive tape at the grid of the cup station;
7) Open the door and remove the adhesive tape from the coin box (if it is present);
8) Take out the supply cord and connect it to the plug on the backside of the machine without connecting the other end to the mains electrical supply;
9) lift the superior cover and extract the cartoon sheet placed between the canisters and the cover.

8   Positioning

The machine must be installed indoors on a flat and sound plane.
Place the machine at least at 10 cm from the wall to guarantee a suitable air circulation.
Rhea Projects declines all responsibility for any shortcomings caused by non-compliance with installation instructions.
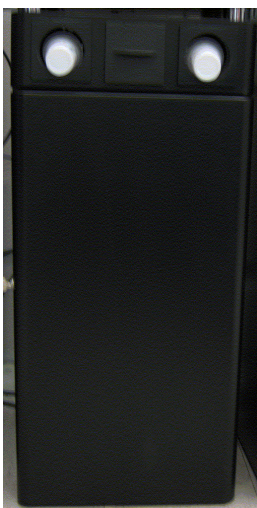
If the machine is installed on delicate or valuable floors, it is advised to lay a carpet under the machine, about 10 cm larger than the machine itself, made of rugged material, resistant to dirt and water (e.g. synthetic laminate). This is to protect the floor and also prevent it to get dirty for the accidental spilling of beverages.

The Cino XS Grande support base, supplied as optional, not only supports the machine, but also can contain cups, sugar bags and stirrers. It is available in two models, a table version and a floor version.

9   Connection to the mains water supply and to the electrical supply

9.1   Connection to the mains water supply

Before proceeding to the connection carry out the following checks on the water to be used:
- Make sure that the water supply is of drinking quality possibly through certificate of a laboratory;
- Make sure that water mains pressure ranges from 0,1 MPa (1 bar) to 0,8 MPa (8 bar);
- If the mains pressure is lower than 0,1 MPa (1 bar), a pump must be installed;

- If the mains pressure is higher than 0,8 MPa (8 bar), a pressure reducer must be mounted, calibrated at 0,3 MPa (3 bar), on the water connecting hose of the machine; in any case the mounting of a pressure reducer is advisable in all installations where high pressure peaks occur. If not already existing, install a 3/8" gas tap to exclude the machine from the mains source in case of emergency. Connection of the tap to the machine must be made with a copper or plastic hose, which has been approved for food contact use and resistant to operating pressure not lower than 1 MPa (10 bar). **Warning: use the pipe on issue with the machine for the connection to the main water supply**

Make sure that the water is free of impurities and does not feature excessive hardness (higher than 20 French Degrees). This shortcoming can be solved using normal water softeners. Lime scale can be notably reduced by the use of the filter, ensuring a longer life of all components in contact with water and reducing maintenance.

Carry out the connection on the inlet coupling of the water softener or, should the filter not be mounted, directly on the inlet coupling of the water inlet solenoid valve. The water softener and the water inlet solenoid valve are both provided with a 3/8" gas male inlet coupling. If a water softening filter is mounted, the water hardness must be taken (special kits are available for sale) in order to define how often the filter shall be regenerated. This depends on the rate of use of the filter and on the grade of water hardness (see section "Regeneration of the water softener filter").

9.2   Version with water independent tank (vers. AA)

Version AA

Fill the internal independent water tank using drinking water. If it is necessary demand a laboratory certification to a specific analysis laboratory.

9.3   Connection to the electrical supply

Make sure that the grounding of the electrical mains to which the machine will be connected is in good conditions and in compliance with domestic and European standards concerning electrical safety.

The machine is equipped with a power supply cord H50VV-F 3x1 mm^2 with Shucko plug.

WARNING: place the machine with the electrical plug easily accessible.

Make sure that the electrical mains voltage is the same as indicated on the identification sticker of the machine and that the current rating of the plug is suitable for the current absorbed by the machine. The identification sticker is put inside the machine and can be seen opening the door. For connection, an electric plug, single-phase, 230V 50 Hz, for a maximum load of 10 A is required. Any type of plug, which is incompatible with the socket of the machine, must be replaced.

WARNING: **The replacement of the power supply cord must be carried out only by qualified and authorised technician.**

Do not use adaptors or multiple plugs.

10   How to activate or deactivate the machine

10.1   Starting switch

A starting switch placed in the rear part of the machine cuts the power off all electrical and electronic components in the machine.

WARNING: If required, to switch the machine off push the starting switch in OFF position or unplug it from the electrical mains.

10.2	Safety switch

A **SAFETY SWITCH** is provided in the machine, which cuts the power off all electrical and electronic components in the machine when the door is opened in order to carry out ingredient refilling and cleaning operations.
WARNING: if required, to switch the machine off open the door of the machine or unplug it from the electrical mains.
Some operations will require to have the machine switched on and with the door open. To activate the machine with the door open, when specified in the instructions, insert the special plastic key, hanging on a cord near the switch and turn it clockwise by 90°.

 Before closing the door, extract the plastic key. **Each operation executed with the door open and the plastic key inserted must carried on only by authorised qualified personal previously informed about any risk.**
WARNING: the opening and switching on of the machine with the door open (unless for cleaning operations) must be carried out only by authorised, qualified personnel.
Do not leave the machine open unguarded.

10.3	Diagnostics cycle of the switching up

At the starting the machine carries out a diagnostics cycle to check the position of the mobile components, the correct quantity of some ingredients and the correct water mains supply pressure.

At the end of checks, the standard invitation message will appear on the display, e.g.:

cino xs grande	2009
	V1.1

version of the master file loaded on the CPU/POWER board. Only for **PB**, the display shows the version of the master loaded on the Espresso brewer board. At the end of checks, the standard invitation message will appear on the display, e.g.:

rheavendors
cino xs Grande

During the First installation procedure, the following messages are displayed:

Refilling water
wait

please wait
temperature

meaning that some functions of the machine are temporarily inhibited for an easier and safe installation. In these phases, these messages replace the standard invitation message. In case of doubt, refer to installation instructions.

11   Start-up operations

11.1   First installation phase

During the First installation phase water is filled inside the boiler. Then it is necessary to set the correct boiler's temperature.

11.1.1   Loading the boiler

Make sure that the liquid waste bucket is correctly placed.
Version AR - Open the tap of the water circuit.
Version AA – Fill the blue water tank.

Open the front door. Insert the plastic key into the safety switch and turn on the machine. The machine starts to make automatically the First Installations operations. The display shows:

```
refilling water
wait
```

```
INSTALLATION
```

The machine starts automatically loading the boiler with water. The refilling water tank and&or the boiler are filled up in about 3 min. Then the heating element inside the boiler is supplied and the machine starts warming water. The display shows:

```
wait temperature
```

```
end INSTALLATION
```

At the end of the operation the display will shows:

```
        rheavendors
        Cino XS Grande
```

11.2   Second installation phase

The second phase of the installation of the machine contains the cleaning of the parts in contact with foodstuff, the loading of the food products and the installation of some accessories.

11.2.1   Washing and disinfecting of components in contact with foodstuff.

With the vending machine switched on, make sure that the display shows:

```
        rheavendors
        cino xs grande
```
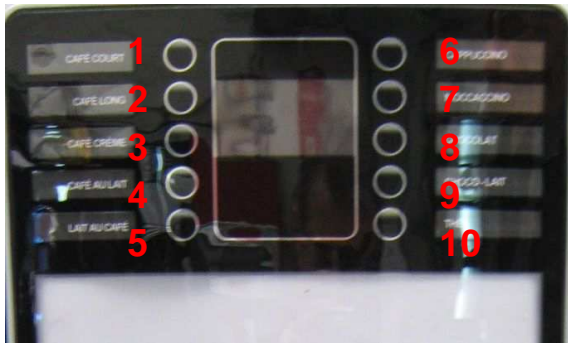
The display shows:

1 = PROGR	2 = DATA
3 = FREE	4 = CLEAN

Start cleaning operations washing the mixing bowls. Press **4**. The display shows:

```
CLEANINGS
1 – 2 – 3                8=HC
```

Use keys **1**, **2** and **3** to clean, inc ase of **PB** version, the coffee brewer and the mixing bowls, in case of **SM** version, the 3 mixing bowls. Dispense about 3 litres of water altogether. This will remove any possible trace of dirt from the boiler. Press the **key P** inside the machine. Switch off the machine.

Wash hands thoroughly.

Prepare separately, in a suitable container, a disinfecting antibacterial solution of chlorine, according to the instructions enclosed in the chemical.

Lift the top cover and remove all the ingredients canisters from the machine. Disassemble all the canisters as follows

and then immerse all the parts into the solution previously prepared.

Remove also the outlet pipes support, the mixing bowls and the mixing fan. Immerse all parts in the solution. Using a cloth soaked in the solution, proceed to clean also the attachment bases of the mixers, which remain fixed to the machine. The time of permanence in the solution, in order to obtain a full disinfecting, is stated on the packaging of the chemical. At the end of the disinfecting, recover canisters and covers, dry them very carefully (using compressed air, a hair dryer or perfectly clean and sterile cloths) and reassemble them in the machine. Recover all other parts from the solution and put them back in the machine in opposite sequence with respect to disassembly. Switch on the machine and wait for the message:

```
RHEA VENDORS
            cino xs grande
```

Carry out repeatedly washing cycles of the mixing bowls pushing twice the internal **key P** inside the machine until is displayed the message:

```
1 = PROGR   2 = DATA
3 = FREE    4 = CLEAN
```
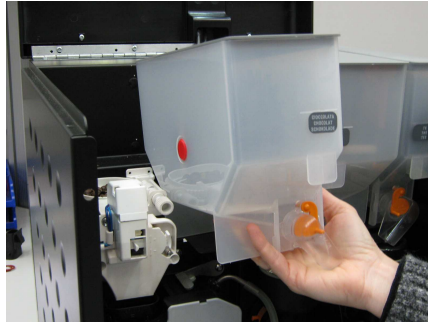
Start cleaning operations washing the mixing bowls. Press **4**. The display shows:
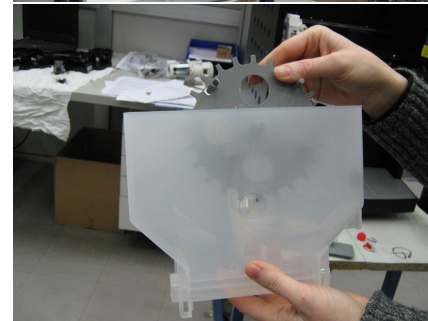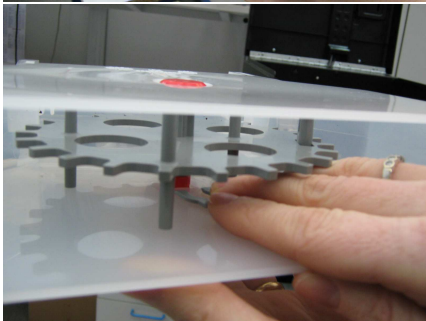
```
CLEANINGS
1 – 2 – 3            8=HC
```

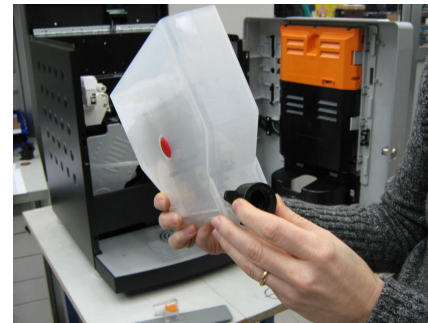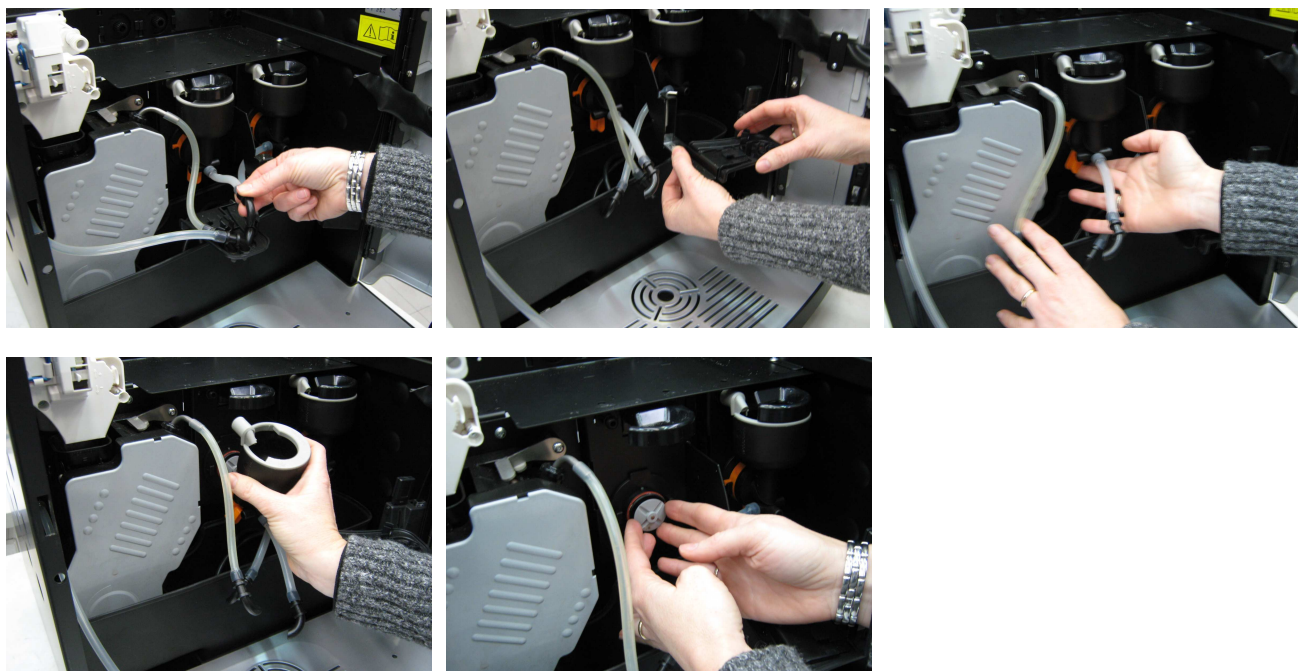Use **buttons 1**, **2** or **3**. Use about 2 litres of water altogether. This will remove all traces of disinfecting solution from the outlet pipes. Press the internal **key P** inside the machine.

11.2.2 Refilling of ingredients

Read on the canister the indication of the ingredient to be loaded into the machine.
WARNING: make these operations only with the machine switched off.
Fill up the canister of the ingredients, after having removed them from the machine.
WARNING: Use only ingredients specific for vending machines.
Use a quantity of product suitable for a period between two refilling, and in any case do not exceed the quantities shown in the table here below.

INGREDIENTS	QTY
Coffee beans	1.00 Kg
Instant coffee (small)	0.33 Kg
Milk (small)	0.38 Kg
Chocolate (small)	2.20 Kg
Chocolate (big)	0.94 Kg
Tea (small)	0.98 Kg
Sugar (small)	1.20 Kg

This will prevent deterioration of the quantity of product in excess. Canisters for soluble ingredients can be removed from the machine, in order to facilitate refilling. Rotate the slide lock of the instant canisters and put the tongue of the coffe beans canister in order to avoid to spill powder or beans.
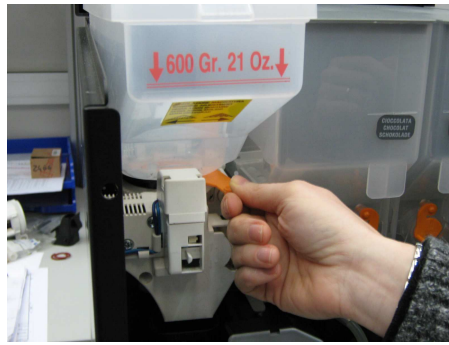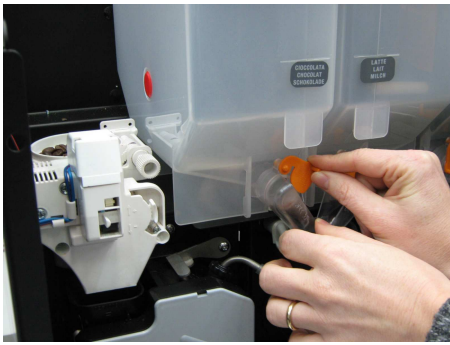
After having refilled, refit the canister and open the slide lock and pull the tongue of the coffee beans canister out.

11.2.3 Inserting the selection labels

The selection labels are supplied in a special pocket with the Instructions Manual. When the machine if open and off, remove the orange selections cover and slip the labels in the special slots following the diagram on the Memory Configuration Chart attached to the Manual. Check their correct position from outside the machine. Place correctly the selections cover and close the door.

12 Programming of the machine

12.1 Memory

The machine is controlled by a programme master stored in the microprocessor of the FLASH memory installed on the CPU/POWER board. In case of **PB** version a second master is stored into the microprocessor of the Espresso brewer driving board.
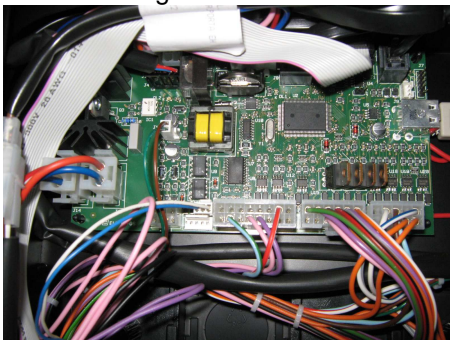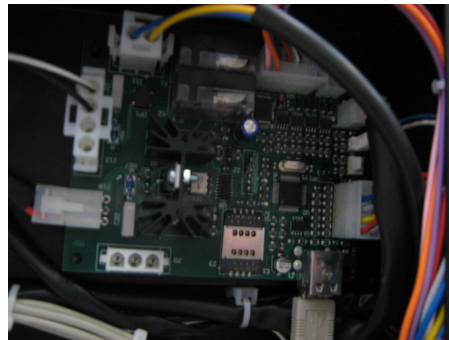
CPU/POWER BOARD   **ESPRESSO BREWER BOARD**

The **master** can be updated through a Rhea FLASH card correctly programmed. To carry out this operation it is necessary to connect before the Rhea flash box to the phone cable next to the internal side of the door.

12.2 Factory set parameters

The machine is supplied already pre-set for the most common operation parameters. In particular:
- configuration of the version;
- throw of coffee, powdered ingredients, tea and quantity of water required;
- vend prices (set to 0: the machine is in the free vend mode);
- pre-setting for the use of the system of parallel payment;
- the clock function disabled;

The Data set of the machine must be modified only if the pre-set factory parameters are not complying with the required use. The parameters stored into the memory (**configuration file**) can be updated with **Rhea black flash card** programmed with the **Rheaction Program**.

- Download the configuration data file furnished from the factory on the flash card using the **Rheaction Program**;

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- Switch off the machine;
- Insert the flash card into the flash slot in the front of the machine.
- Switch on the machine.
- Wait until the display shows:

```
1 = KEY - - - > VMC
2 = VMC - - - > KEY
```

- Press **button 1**. The display shows:

```
Programming
EAROM data
```

```
Programming
OK
```

- Switch off the machine.
- Extract the flash card.

12.3 How to enter and exit from the programming mode

To modify the operating parameters of the machine it is necessary to enter in the programming mode. To enter press the **key P** inside the door. The display shows:

```
1 = PROGR    2 = DATA
3 = FREE      4 = CLEAN
```

Pressing **button 1** the display shows:

```
PROGRAMMING - - -
BUTTON 1 - - - - - - - -
```

Once the parameters have been modified, press again the **key P** inside the door. The display shows:

```
END PROGRAMMING
- - - - - - - - - - - - -
```

12.4 Buttons used in the programming mode

Programming is carried out by pressing buttons on the selection keypad. Notably:
- with **button 1** the sequence of programming sub-menus is visualised;
- with **button 6** the sequence of programming sub-menus is visualised in the reverse direction;
- with **button 2** the sequence of specific programming functions for the chosen sub-menu is visualised;
- with **button 3** the sequence of specific programming functions for the chosen sub-menu is visualised in the reverse direction;
- with **button 4** the value of the visualised function is increased or selected;
- with **button 5** the value of the visualised function is decreased or selected.

12.5 Programming sub-menus

Access to the programming sub-menus is possible at any time, after entering the programming mode and pressing **1** on the selection keypad. These sub-menus are repeated cyclically after the last one has been displayed. The sub-menus and their display order are as follows:

```
PROGRAMMING- - - -
-BUTTON 1 - - - - - - - -
```

```
PROGRAMMING -  - -
-BUTTON 10 - - - - - - -
```

```
PROGRAMMING - - -
-PRICES - - - - - - - - - -
```

```
PROGRAMMING - - -
-HAPPY PRICES
```

```
PROGRAMMING - - -
-COINS - - - - - - - - - -
```

```
PROGRAMMING - - -
-TEMPERATURE - - -
```

PROGRAMMING - - - **-MISCELLANEOUS - -**

DIAGNOSTICS - - - - - **- - - - - - - - - - - - - - -**

SALES AUDIT - - - - - **- - - - - - - - - - - - - -**

PROGRAMMING- - - - **-MDB- - - - - - - - - - - -**

PROGRAMMING- - - - **-CLOCK- - - - - - - - - -**

REGISTRATION **OUT OF SERVICE**

TUNING **PRODUCT MOTOR - - - -**

PROGRAMMING- - - - - **RFID**
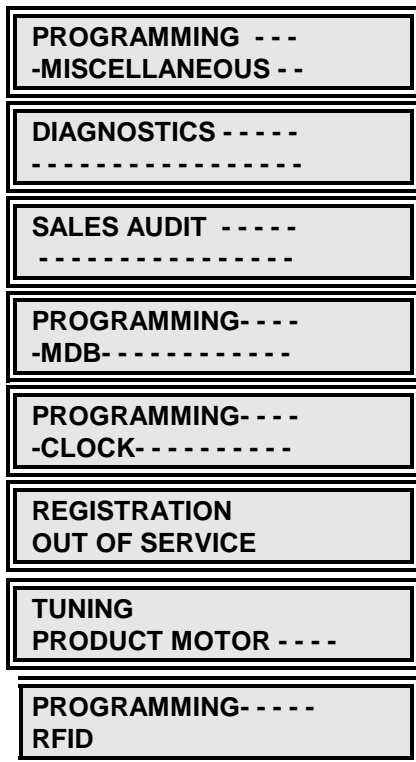
12.5.1   Pre-setting of buttons

The modification of throws is a delicate operation as the good operation of the machine can be affected. As a general rule, it is recommended to keep in mind that when instant ingredients are dissolved in water, a brief interval to rinse the mixing bowl must be foreseen at the end of the powdered ingredient vending. This is provided by programming a dispensing time for water about 2 sec. longer than the dispensing time for the instant ingredients. To each of the 16 buttons it is possible to associate the recipe of any drinks. To proceed at the pre-setting of each button, in the programming mode, press **1** until the display shows:

PROGRAMMING- - - - **-BUTTON 1- - - - - - - -**
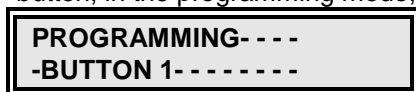
Press **2** to visualise one of the following functions:

FUNCTIONING

INHIBITED
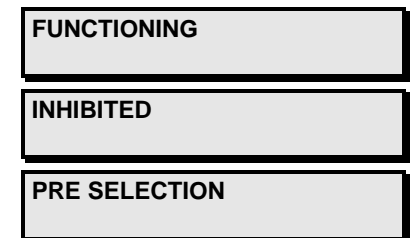
PRE SELECTION

Only for **FP** versions the display shows also the function:

FUNCTIONING **COLD**

Scroll the functions pressing **4** and **5**. To inhibit button, which is going to be programmed, confirm **INHIBITED** pressing **1**.

<u>**Setting of a selection**</u>

To associate a **selection** to button which is going to be programmed, confirm **FUNCTIONING**. For the **FP** versions it is possible programme cold drinks selecting the function **FUNCTIONING COLD**. Press **button 2**. The display shows:

COFFEE WATER **0=inhib.   cc:**
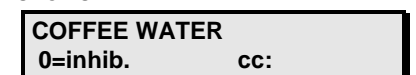
This parameter is present only in machines with the coffee brewer. Use this parameter to adjust the coffee beans water quantity. Activate this parameter only if you want to associate to this button a drink made with coffee beans. Increase or decrease the value pressing respectively **4** and **5**.To inhibit this function programme the value 0.0.
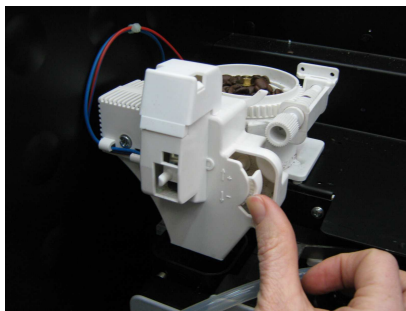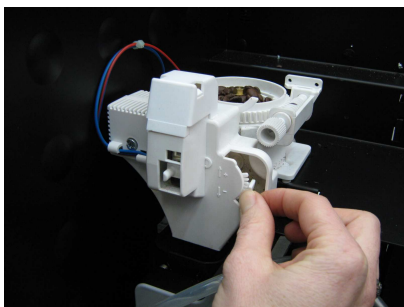
The grounded coffee dosage can be manually adjusted, with the vending machine switched off and unplugged, pressin the lever on the doser and moving it upwards to decrease the dosage and downwoards to increase the dosage. Press again **2** (Version **PB**). The display shows:

coffee sequence	
1 = before	N

Use this parameter to set the priority of starting between milk and ground coffee for drinks made with these ingredients. Increase or decrease the value pressing respectively **4** and **5**. Set this parameter at 0 if you want that milk starts before ground coffee and the value 1 for the opposite. Pressing in sequence **2** the display shows:

PRODUCT X	
0=inhib.	.0

The number of the product shows the position of the canister inside of the machine starting to count from the left the possible positions of the product motors. If the PRODUCT X is necessary for the drink that is being set, increase or decrease until the desired value, pushing respectively **4** and **5**; otherwise inhibit the ingredient setting its value to 0.0. If you press the **16**, you can dispense the quantity of product set. **Only if PRODUCT 1 is not set at 0**, pressing **2** the display shows:

start delay	
PRODUCT X	.0

Pressing respectively **4** and **5** increase or decrease the ingredient's pouring delay after the beginning of the selection. Pressing again **2** the display shows the same items for other products, that can be set as the previous one following the recipe of the desired drink. The relative delays are shown only if the PRODUCTS are not at 0. Pressing **2** the display shows:

breaks number :	
	N

Entering respectively **4** and **5** increase or decrease the number of breaks during the dispensing of the product. The maximum number of programmable breaks is 2. I.e: If you want that products be dispensed into two phases program this parameter at 1. Pressing **2** the display shows:

coffee time :	
	0.0

In case of machine with no doser use this parameter to set for how many seconds the grinder must be activated defining for each selection the coffee quantity. Increase or decrease the value pressing respectively the **buttons 4** and **5**. Pressing **2** the display shows:

Latte-Macchiato	
Start Brewer:	0.0

Entering respectively **4** and **5** increase or decrease the delay, starting from the end time of milk dispensing, after which the coffee brewer will have to start in case of selecting LATTE MACCHIATO. Pressing **2** the display shows:

PRODUCT LM	
0=inhib.	0.0

Entering respectively **4** and **5** increase or decrease the milk motor activation time to ad just second milk quantità for the drink LATTE MACCHIATO. The relative delay is shown only if the PRODUCT LM is not at 0, pressing **2** the display shows:

PRODUCT	
MILK-LatteM	n: 0

Pressing **4** and **5** to increase or decrease the number of the product motor correspondent to the canister in which milk is present. Pressing **2** the display shows:

WATER X time	
0=inhib.	.0

The number of the WATER shows the position of the mixing bowl starting from the left. Increase or decrease the value pressing respectively **4** and **5**; otherwise inhibit WATER setting its value to 0.0. **Only if WATER 1 is not set at 0**, pressing **2** the display shows:

```
start delay
WATER 1      .0
```

Pressing **4** and **5** increase or decrease respectively the water pouring delay after the beginning of the selection. Pressing **2** the display shows:

```
flow      WATER  X
slow
```

Pressing **4** and **5** it is possible to choose among the three parameters "**slow**", "**medium**", "**quick**" to increase or decrease the correspondent water flow. Pressing **2** the display shows:

```
MIXER X
0=inhib.       .0
```

Increase or decrease the value of the time of working of the mixer pressing respectively **4** and **5**; otherwise inhibit the MIXER setting its value to 0.0. **Only if MIXER 1 is not set at 0**, entering again **2** the display shows:

```
Start delay
MIXER X          1.0
```

Pressing **4** and **5** increase or decrease respectively the mixer start delay after the beginning of the selection. Pressing again **2** the display shows:

```
speed MIXER X
              0
```

Pressing **4** and **5** increase or decrease respectively the mixer speed of the selection (0 = maximum speed, 5 = minimum speed). The relative parameters are shown only if the WATERS are not at 0.Pressing again **2** the display shows the same items for other mixers, that can be set as the previous one following the recipe of the desired drink. Pressing **2** the display shows:

```
WATER LM time
0=inhib.              0.0
```

Increase or decrease the value of the activation of the pump related to milk product to adjust the second milk water quantity that must be dispensed inside the LATTE MACCHIATO drink. **Only if WATER LM is not set at 0**, pressing **2** the display shows:

```
start delay
WATER LM          0.0
```

Pressing **4** and **5** increase or decrease respectively the water pouring delay after the beginning of the selection. Pressing **2** the display shows:

```
flow      WATER  LM
slow
```

Pressing **4** and **5** it is possible to choose among the three parameters "**slow**", "**medium**", "**quick**" to increase or decrease the correspondent water flow. Pressing **2** the display shows:

```
MIXER  LM
0=inhib.              0.0
```

Pressing respectively **4** and **5** increase or decrease the value of the activation time of the mixer related to milk water during the second milk water dispensing for the drink LATTE MACCHIATO. **Only if MIXER LM is not set at 0**, pressing **2** the display shows:

```
Start delay
MIXER LM          0.0
```

Pressing **4** and **5** increase or decrease respectively the mixer LM start delay after the beginning of the selection. Pressing **2** the display shows:

```
speed MIXER LM
                  0
```

Pressing **4** and **5** increase or decrease respectively the mixer LM speed for the selection LATTE MACCHIATO (0 = maximum speed, 5 = minimum speed). Pressing **2** the display shows:

```
canister
sugar                 N
```

Pressing **4** and **5** to increase or decrease the number of the product motor correspondent to the canister in which sugar is present. Pressing **2** the display shows:

```
selection name:
standard
```

Pressing button **4** and **5** it is possible to modify the message shown in the display during the preparation of the drink. If you select the value **standard**, the display will show:

```
drink number N
```

> **preparing**

otherwise if you select one of the available selection names the display will show:

> **selection name**
> **preparing**

Pressing again **2 NEW**: **Using Rheaction Professional, starting from edition 3.3A, you can create the names of all selections by yourself!** When you create the configuration file you have to select from the menu "Selection Name" the "**custom**" option. Then write the name of the selection you need into the case box on the right hand side. Download the configuration file on your machine.

> **Custom name**
> **preparing**

ATTENTION: *if all the parameters of a button set as FUNCTIONING are programmed at 0, the vending machine will dispense ONLY CUP*.

Setting of a pre-selection

To associate a **preselection** to the current button, choose PRESELECTION pressing **4** and **5**. Pressing **2** the display shows:

> **PRESELECTION**
> **EXTRA SUGAR**

Pressing **4** and **5** the display shows all the other available pre-selections:

> **PRESELECTION**
> **CUP TO GO**

> **PRESELECTION**
> **DECAFFEINATED**

> **PRESELECTION**
> **BARLEY**

> **PRESELECTION**
> **EXTRA MILK**

> **PRESELECTION**
> **ESPRESSO**

EXTRA SUGAR

To associate to the current button the preselection **EXTRA SUGAR** choose it in the menu and press **2**. The display shows:

> **PRESELECTION**
> **EXTRA SUGAR**

Pressing **2** the display shows:

> **canister**
> **sugar   N**

Pressing **4** and **5** to increase or decrease the number of the product motor correspondent to the canister in which sugar is present. Pressing **2** the display shows

> **extra sugar**
> **quantità   + .0**

Pressing **4** and **5** set the extra quantity sugar wanted. The display shows:

> **enab. presel.**
> **for button 1   YES**

Choose buttons to which associate the preselection that is going to be programmed. Press **2** and **3** to visualise all buttons and choose **YES** or **NO** with **4** and **5** to set or to inhibit the preselection at button shown on the display.

DECAFFEINATED/BARLEY

To associate to the current button the preselection DECAFFEINATED/BARLEY, choose it in the menu and press **2**. The display shows:

> **canister**
> **DEC./BARLEY nr: 0**

Press **4** and **5** to increase or decrease the position of the canister in which decaffeinated/barley coffee is present. Pressing **2** the display shows:

> **Pump-mixer**
> **DEC./BARLEY   nr: 1**

Press **4** and **5** to increase or decrease the position of the mixing bowl water to be associated to decaffeinated canister. Pressing **2** the display shows:

```
price decaf/barley
0 = +   1 = -
```

Pressing **4** and **5**, set 0 for a price increasing or 1 for a price decreasing; the price will be modified of the value of the price associated at the current button. Pressing **2** the display shows:

```
enab.  presel.
For button1      YES
```

Proceed as for previous preselections.

ATTENTION: in version **PB** during the setting of the drinks with coffee beans, you have to programme also the parameters of the drink with decaffeinated/barely coffee (PRODUCT, MIXER, EV); in version **SM** during the programming of the drinks with instant coffee, set the parameters of both coffees; the two instant coffee canisters must have the same mixing bowl.

CUP TO GO

To associate to the current button to the preselection **CUP TO GO**, choose it in the menu and press **2**. The display shows:

```
PRESELECTION
CUP TO GO
```

Pressing **2** the display shows:

```
PRODUCT
Percent                + 00%
```

Press **4** and **5** to increase or decrease the percentage of product that must be modified using this preselection. Pressing again **2** the display shows:

```
WATER
Percent                + 00%
```

Press **4** and **5** to increase or decrease the percentage of product that must be modified using this preselection. Pressing again **2** the display shows:

```
+   or  -      PRICE
0 = +   1 = -              00
```

Pressing **4** and **5**, set 0 for a price increasing or 1 for a price decreasing; the price will be modified of the value of the price associated at the current button. Pressing again **2** the display shows:

```
enab.  presel.
for button 1   YES
```

Proceed as for previous preselections.

EXTRA MILK

To associate to the current button the preselection **EXTRA MILK** choose it in the menu and press **2**. The display shows:

```
canister
MILK nr:      0
```

Pressing **4** and **5** to increase or decrease the number of the product motor correspondent to the canister in which milk is present. Pressing again **2** the display shows:

```
quantity EXTRA
MILK              + .0
```

Pressing **4** and **5** set the extra quantity milk wanted. The display shows:

```
enab.  presel.
for button 1   YES
```

Proceed as for previous preselections.

ESPRESSO

To associate to the current button the preselection **ESPRESSO** choose it in the menu and press **2**. The display shows:

```
PRESELECTION
ESPRESSO
```

Pressing again **2** the display shows:

```
WATER quantity
ESPRESSO        - .0
```

Pressing **4** and **5** set the percentage (%) of water quantity to decrease from normal water quantity for short drinks. Pressing again button **2** the display shows:

```
enab.  presel.
for button 1   YES
```

Proceed as for previous preselections. At the end of the setting of buttons, push **1** to confirm the set data.
All the settings described in this and in following paragraphs can be set in an easier way using **rheaction** software. For further information contact rheavendors Customer Service
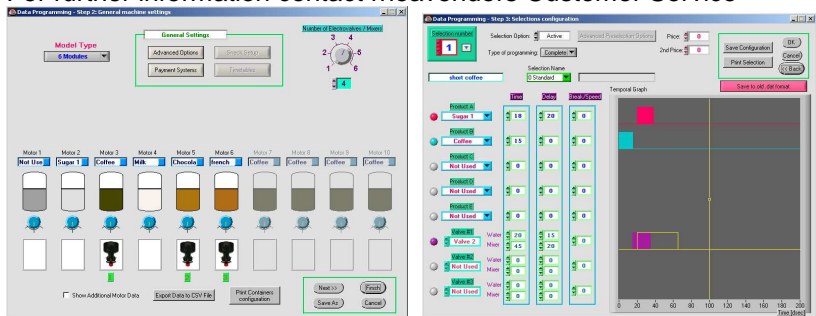
12.5.2   Pre-setting of the normal sale prices

One price for each selection available can be memorised in the machine. When a selection is matched to a price set to zero, the selection is in the free vend mode. To modify sale prices, in the programming mode, press button 1 until the sub-menu

```
PROGRAMMING - - -
  PRICES - - - - - - - - - -
```

is visualised. Press **buttons 2** and **3** and select the price to be modified. For example:

```
PRICE X
          XXXX
```

will appear on the display. Press **4** and **5** to modify the value of the price displayed. Press **1** to confirm the set data. When the invitation message is visualised and with machine open and switched on, the pre-set sale prices can be by-passed by entering the mode test vend. To have access to this mode, press key "**PROG**" inside the machine on the CPU protection and then **3**. The display shows:

```
1 = PROGR    2 = DATA
3 = FREE     4 = CLEAN
```

```
 TEST VEND
```

At this point the machine is able to dispense any selection, without charge. Selections which are dispensed in the test mode are counted in a separate counter (see "Reading of sales data"). To exit from the test mode, press again the **key PROG** inside the machine on the CPU protection again. Follow the same steps to set HAPPY PRICES which will be active during the Happy Times.

12.5.3   Presetting of coin-set

The set of values that the machine assigns to each signal (canal) received from the payment system is called *coin-set*. Press **1** until to visualize the sub-menu:

```
PROGRAMMING- - - -
  -COINS- - - - - - - - - - -
```

Pressing **2** the display shows from:

```
COIN  A
              0
```

to:

```
COIN  J
              0
```

Pressing **4** and **5** change the value of the visualised coin. Press **1**, exit from the programming mode, and switch the machine off and on. The machine will use the new coin-set. For further information see the paragraph " Modifying other operation parameters (Miscellaneous)" the parameter "single or multi vend".

12.5.4   Modification of the operating temperature

The machine defines and regulates water temperature in the boiler. To modify the temperature thresholds, in the programming mode, enter **button 1** until the sub-menu

```
┌─────────────────────────────┐
│ PROGRAMMING                 │
│ TEMPERATURE                 │
└─────────────────────────────┘
```

is videoed. Entering **2** the video shows:

```
┌─────────────────────────────┐
│ TEMPERATURE                 │
│ Boiler              XXX     │
└─────────────────────────────┘
```

Entering **4** and **5** set the value. Pressing **button 2** the display shows:

```
┌─────────────────────────────┐
│ DEF. FIRST COFFEE           │
│ Minutes             N       │
└─────────────────────────────┘
```

Use this parameter to obtain drinks made with coffee beans at a right temperature also after long periods of inactivity of the coffee group. When this parameter is set (it is indicated in minutes) if for N consecutive minutes the machine does not make any selection with coffee beans, before making the next selection with coffee beans the machine will wait that the temperature reaches a defined value. Press the **buttons 4** and **5** to increase and decrease the value. Pressing **button 2** the display shows:

```
┌─────────────────────────────┐
│ Heating time                │
│ Sec:                0.0     │
└─────────────────────────────┘
```

Press the **buttons 4** and **5** to increase and decrease the value. The value correspond at the seconds during which the heating element will be switched on in case of activation of FIRST COFFEE condition. At the end of programming, press **button 1** to confirm the set data

┌──┐
│ **12.5.5   Modifying other operation parameters (miscellaneous)** │
└──┘

To modify parameters, in the programming mode, press **1** until the sub-menu

```
┌─────────────────────────────┐
│ PROGRAMMING                 │
│ MISCELLANEOUS               │
└─────────────────────────────┘
```

is visualised. Pressing **2**, the display shows:

```
┌─────────────────────────────┐
│ MACHINE CODE  A             │
│                 0           │
└─────────────────────────────┘
```

Pressing again **2**, the display shows:

```
┌─────────────────────────────┐
│ MACHINE CODE  B             │
│                 0           │
└─────────────────────────────┘
```

Press **4** and **5** to associate to each vending machine personal codes. These numbers are useful only when a data audit system is used with the machines. Pressing again **2**, the display shows:

```
┌─────────────────────────────┐
│ MESSAGE NUMBER              │
│                 0           │
└─────────────────────────────┘
```

Press **4** and **5** the number of the stand by message to show on the display during the working of the machine (from 0 to 7). Set the **message number 3** only if a programmable message is been set with the **rheaction** programme with the PC. Pressing again **2**, the display shows one of the following options (scroll the options pressing **4** and **5**):

```
┌─────────────────────────────┐
│ coin-mech type              │
│ PAR.    SING.  VEND.        │
└─────────────────────────────┘
```

```
┌─────────────────────────────┐
│ coin-mech type              │
│ PAR.  MULT.   VEND.         │
└─────────────────────────────┘
```

```
┌─────────────────────────────┐
│ coin-mech type              │
│ EXECUTIVE                   │
└─────────────────────────────┘
```

```
┌─────────────────────────────┐
│ coin-mech type              │
│ PRICE HOLDING               │
└─────────────────────────────┘
```

```
┌─────────────────────────────┐
│ coin-mech type              │
│ MDB                         │
└─────────────────────────────┘
```

Select:

```
┌─────────────────────────────┐
│ type coin-mech              │
│ PAR.     SING.    VEND.     │
└─────────────────────────────┘
```

to programme a parallel payment system in single vend;

```
┌─────────────────────────────┐
│ type coin-mech              │
│ PAR.    MULT.    VEND.      │
└─────────────────────────────┘
```

to programme a parallel payment system in multi vend;

```
┌─────────────────────────────┐
│ coin-mech type              │
│ EXECUTIVE                   │
└─────────────────────────────┘
```

to programme a serial Executive payment system;

> **coin-mech type**
> **PRICE HOLDING**

to programme a serial Executive payment system in Price Holding mode;

> **coin-mech type**
> **MDB**

to programme a serial MDB payment system

WARNING: the appliance recognizes automatically the presence of a serial **MDB** payment system at the switching on. Pressing **2** the display shows:

> **fan time**
> **sec.   15**

pressing **4** and **5** it is possible to modify the value of the time range between the end of the cycle of a drink and the switching off of the aspiration fan. Pressing again **2**, the display shows:

> **beep time**
> **   0.3**

Pressing **4** and **5** it is possible to modify the value correspondent to the beep signal that indicates the end of the distribution of the drink. Pressing again **2**, the display shows:

> **decimals number:**
> **   0**

Pressing **4** and **5** it is possible to select one of the 3 available languages. Pressing **2** the display shows (**Version PB**):

> **type grinder**
> **0 = a   1 = b   2 = t**
> **X**

This parameter fixes if the grinder should be activated at the beginning or at the end of the cycle. Programme this value at 0 to make the grinding at he end of the cycle, at 1 to make it at the beginning and at 2 to activate grinder time function in case of no doser on the machine. Pressing **2** the display shows:

> **Display colour**
> **   0**

To personalise the look of the display 14 combinations of text-background colours are available. Entering **4** and **5** set as follows:

0 =	green text	black background;
1 =	black text	green background;
2 =	red text	black background;
3 =	black text	red background;
4 =	yellow text	black background;
5 =	black text	yellow background;
6 =	blue text	black background;
7 =	black text	blue background;
8 =	pink text	black background;
9 =	black text	pink background;
10 =	light blue text	black background;
11 =	black text	light blue background;
12 =	white text	black background;
13 =	black text	white background.

> **First install.**
> **0 = before   X**

Set this parameter at 1 to activate Fi.rst Installation procedure. Pressing **2** the display shows:

> **Deinstallation**
> **4 start**

Entering the deinstallation procedure will start (see **Section 16**). Pressing **2** the display shows:

> **Position Brewer**
> **0 = close 1 = open   N**

Setting this parameter at 0 the coffee brewer will keep closed at the end of the cycle, setting at 1 the brewer will eject the wasted coffe tab soon. Pressing **2** the display shows:

> **SUMMER time**
> **1 = yes   0**

Entering **4** and **5** set this parameter at 1 to activate summer time function. At the end of the programming, press **1** to confirm the set data.

12.5.6 Diagnostics programmes

In the programming mode, a certain number of diagnostics programmes can be carried out in order to test the correct operation of some components of the machine. To modify the parameters, in the programming mode, press **1** until the sub-menu

```
DIAGNOSTICS - - - - -
- - - - - - - - - - - - - - - -
```

is visualised. Pressing again **2**, the display shows:

```
ABIL. DISPLAY
TEMP.  1=YES 0
```

is displayed. According to the value of the parameter, which can be modified with **4** and **5**, the inside temperature of the machine is displayed in real time. Set the parameter to 1 (it is normally 0) to have the display of temperature. To read the temperature, press **1** and exit from the programming mode.
Pressing again **2**, the display shows:

```
VOLTAGE
        XX.X
```

This parameter visualises the value of the supply tension at the 24 V actuators. This value should be included between 24 V and 28 V. At the end of the programming, press **1** to confirm the set data.

12.5.7 Reading of the sales data

The next sub-menu which can be selected in the programming mode concerns the reading of the sales data. The machine keeps various counters stored, which allow a direct reading for consumption and cashing. To have an immediate reading of the total number of cycles carried out, with the machine switched on and with the invitation message visualised simply press the key **PROG** and then **button 2** the machine. The following message will be displayed:

```
TOTAL SELECTIONS
                0
```

Read the parameter, in the programming mode, by pressing **1** until the sub-menu

```
SALES DATA - - - - - -
- - - - - - - - - - - - - - - -
```

is displayed. Then press **2** and the following counters are shown in sequence:

```
TOTAL SELECTIONS
                0
```

This value indicates the total sale cycles of the machine. This value cannot be set to zero.

```
PARTIAL SELECTIONS
                0
```

This value indicates the partial number of sale cycles of the machine starting from the last reset operation. To reset a counter, when it is visualised on the display, keep pressed **4**.

```
TOTAL MONEY
                0
```

This value indicates the total money amount collected by the machine. This value cannot be set to zero.

```
PARTIAL MONEY
                0
```

This value indicates the money amount collected by the machine starting from the last reset operation.

```
TOTAL TESTS
                0
```

This value indicates the total number of beverages prepared in vend test mode. This value cannot be set to zero.

```
PARTIAL TESTS
                0
```

This value indicates the number of beverages prepared in vend test mode starting from the last reset operation.

```
TOTAL FREE
                0
```

This value indicates the total number of free beverages. This value cannot be set to zero.

```
PARTIAL FREE
                0
```

This value indicates the number of free beverages starting from the last reset operation.

```
TOTAL CASH
                0
```

This value indicates the total money cashed. This value cannot be set to zero.

```
PARTIAL CASH
                      0
```

This value indicates the amount of money cashed starting from the last reset operation.

```
N. TOT. SEL. CASH
                      0
```

This value indicates the total number of beverages paid cash.

```
N. PAR. SEL. CASH
                      0
```

This value indicates the number of beverages paid cash starting from the last reset operation.

```
TOTAL CASH-BOX
                   0.00
```

This value indicates the total money cashed inside the box. This value cannot be set to zero.

```
PART. CASH-BOX

0.00
```

This value indicates the partial money cashed inside the box starting from the last reset operation.

```
total loaded on cards
00000
```

This value indicates the total amount loaded on RFID Rhea cards through coin-mech.

```
partial    loaded    on    cards
                   00000
```

This value indicates the amount loaded on RFID Rhea cards through coin-mech starting from the last reset operation.

```
         total unloaded on cards
                      0000
```

This value indicates the total amount downloaded from RFID cards.

```
partial    unloaded    on    cards
0000
```

This value indicates the amount downloaded from RFID cards starting from the last reset operation.

```
N. TOT. SEL. CARD
                      0
```

This value indicates the total number of beverages paid by means of RFID Rhea card.

```
N. PAR. SEL. CARD
                      0
```

This value indicates the number of beverages paid by means of RFID Rhea card starting from the last reset operation.

Finally, partial counters are available for each sale price. By pressing **2** several times, the values from

```
SELECTION 1
                      0
```

to

```
SELECTION 17
                      0
```

appear the number of beverages supplied for each sale price starting from the last reset operation. Then from

```
SEL. 1 HAPPY
                      0
```

to

```
SEL. 17 HAPPY
                      0
```

appear the number of beverages supplied for each happy price starting from the last reset operation. Then from

```
SEL. 1 FREE
                      0
```

to

```
SEL. 17 FREE
                      0
```

appear the number of free beverages supplied starting from the last reset operation.

12.5.8 Special presetting for MDB/ICP standard systems

The MDB/ICP standard systems are commonly used in the machine after programming function " COIN MECH TYPE " to value MDB (see above). Due to the characteristics of this system, the credit is managed mostly by the machine. The following parameters must be programmed for the correct operation of the MDB/ICP systems.

To modify the presetting of this function, in the programming mode, press **1** until the sub-menu:

```
PROGRAMMING
          MDB
```

is displayed. Press **2** and **3** and chooses the functions, which requires to be altered. Press **4** and **5** and modify the values of the function displayed. The first function is:

```
EJECTION TUBES
sel    7 – 8 – 9 – 10
```

Some coin-mechanisms don't have internal buttons to empty tubes. In this modality when the selections **4**, **5** and **6** are pressed, a coin will be dispensed from the corresponding tube. By pressing **2** the following message

```
abil. escrow
 0=abil. 1=disab.        0
```

is displayed. Press 4 and 5 and modify the values of the function displayed. If this value is programmed at 0 it is possible to insert money and then press button of the return change without making any selection; if this value is programmed at 1 a selection must absolutely be pressed after that the money has been put inside the machine (this to prevent that the Vending Machine could be used like a change money machine). By pressing 2 the following message

```
MAX   CREDIT
          XXXXX
```

is displayed. Press **4** and **5** and modify the values of the function displayed. This parameter indicates the maximum value of credit accepted by the machine. When the maximum credit limit is overcome, the machine will accept no other payment. Leave this parameter set to 0 if no limitation is required. By pressing **2** the following message

```
MAX REST
          XXXXX
```

is displayed. Press **4** and **5** and modify the values of the function displayed. This parameter indicates the maximum value of change dispensed by the token machine (only with system for change). Leave this parameter set to 0 if no limitation is required. By pressing **2** the following message

```
type sell
 0=sing. 1=mult.         X
```

is displayed. Press **4** and **5** and modify the values of the function displayed. Another characteristic of the MDB/ICP machine with system for change is the multisale function. This means that, instead of giving back the correct change and end vend cycle, as usually provided for, the machine keeps the possible residual credit available for the next selection. In order to have the change back, the customer must press button for coin ejection. This function is available when this parameter is set at 1.

ATTENTION: for mixed MDB/ICP systems, with system for change or card reader or credit key, it is advisable to activate the multisale mode. Transfer of credit to card or key (if present) will be carried out only when button for the coin ejection is pressed. By pressing **button 2** the following message

```
TOKEN VALUE
          X
```

is displayed. Press **4** and **5** and modify the value of the token. By pressing **2** the following message from

```
coin A rest
0=enable 1=disab.      X
```

to:

```
coin P rest
0=enable 1=disab.      X
```

is displayed. Press **4** and **5** and modify the values of the function displayed. Set at 0 each coin from A to P which the coin-mechanism must accept and at 1 all the coins which the machine must not accept. This set of parameters is working only when the tubes of the coin-mechanism have inside enough coins to give back change. Pressing again **2** the display will show the set of the parameters that will be active when the tubes of the coin-mechanism don't have enough coins inside to give back change. From:

```
coin A no rest
0=enable 1=disab.        X
```

until:

```
coin P no rest
0=enable 1=disab.        X
```

Press **4** and **5** and modify the values of the function displayed. Set at 0 each coin from A to P which the coin-mechanism must accept and at 1 all the coins, which the machine must not accept. By pressing **2** the following messages are displayed:

```
Bill reader
Abil 0,1,2                 0
```

0   means that the bill reader always accepts notes;

1   means that the bill reader accepts notes only if a sufficient rest is present inside changegiver tubes or if it is present a cashless card/key that can be recharged;

2   means that the bill reader accepts notes only if it is present a cashless card/key that can be recharged.
By pressing **2** the following messages:

```
TUBES VALUE
        XXXXXXXX
```

is displayed. This value means the total of money inside the tubes of the coin-mechanism. At the end of programming, press **1**.

12.5.9	Pre-setting of functions based on the internal clock

The machine is equipped with an internal clock able to up-date the time also when the machine is switched off. Some functions of the machine are based on the internal clock. to modify the presetting of the clock, in the programming mode, push **1** until the sub-menu

```
PROGRAMMING - - -
CLOCK  - - - - - - - - - -
```

is displayed. By pressing **2** the following messages

```
hour:
              hh:mm
```

```
day:
                  dd
```

```
month:
              mm
```

```
year:                yyyy
```

```
day          of          week:
Monday
```

will appear. These functions are foreseen to adjust the current time (hh.mm), the current month (mm) and day (dd) and the current year (yy), the current day of the week (Monday), respectively. Press **2** and **3** and choose the function, which requires to be altered. Press **4** and **5** and modify the value of the displayed function. The next functions are:

```
Start happy 1
              hh:mm
```

```
End          happy          1
hh:mm
```

You will find 3 happy times. During this 3 time ranges (from Start to End) all selections will be sold at happy prices. Press **2** and **3** and choose the function, which requires to be altered. Press **4** and **5** and modify the value of the displayed function. Next functions from Monday to Sunday are:

```
SWITCHING ON
Monday          hh:mm
```

```
SWITCHING OFF
Monday          hh:mm
```

The time when the machine should be switched on and off (hh.mm) can be programmed. When the **machine is off**, all selections are disabled and, as a measure to save energy, the heating element is always off. When one of the two values is set to 00.00, the machine is never switched off. Pressing **2** the following message appears

```
kilowatthours
                  0
```

This parameter shows the consumption of the machine starting from last reset of this counter. Pressing **2** the following message appears:

```
CLEANING
```

> **hh:mm**

appears. This function programmes the time for the daily automatic cleaning cycle. It is advisable to programme the automatic cleaning at the beginning of the day. The automatic cleaning is activated only when the value hh:mm is not set at 00:00 and when at least 5 cycles has been made by the machine in 24 h. At the end of programming, press **1**.

12.5.10 Storing of OUT OF ORDERS

The machine stores the last 20 OUT OF ORDERS. To read them on the display, press **1** until the display shows:

> **STORING**
> **OUT OF SERVICE**

Pressing **2**, the display shows hour, day, month and year of the last 20 OUT OF ORDERS.

> **n. 1   OFF NNN**
> **hh:mm gg - mm - aa**

To delete, visualize each OUT OF ORDER and keep pressed **4** for some seconds.

12.5.11 Setting of RFID CARD

The vending machine can work with RFID pre-paid cards. To proceed at the setting of this parameter enter in PROGRAMMING mode, press **1** until the display shows:

> **PROGRAMMING**
> **RFID CARD**

Pressing **2** the display shows:

> **max. credit card**
> **   00000000**

Pressing **buttons 4** and **5** program the value of the maximum credit that can be loaded in a RFID Rhea card. Pressing **2** the display shows:

> **coin a**
> **card   0 = acc**

Press **buttons 4** and **5** to change the value of the parameter shown. Set 0 to each coin from **a** to **j** that the coin-mech has to accept when the RFID Rhea card is present and 1 to each coin that must not be accepted in this case. Pressing **2** the display shows:

> **coin a**
> **no card   0 = acc**

Press **buttons 4** and **5** to change the value of the parameter shown. Set 0 to each coin from **a** to **j** that the coin-mech has to accept when the RFID Rhea card is not present and 1 to each coin that must not be accepted in this case.

12.6   TUNING MOTOR

With the aim to get more standard the dispensed products it is possibile to adjust the activation time of the product motors keeping the same configuration file. To proceed at the setting of this parameter enter in PROGRAMMING mode, press **1** until the display shows

> **TUNING**
> **PRODUCT MOTOR - - - -**

Pressing **2** the display shows:

> **Tuning motor N**
> **   + 00.0%**

Setting this parameter you can adjust in percentage the quantity of the product dispensed from each ingredient motor of the machine. Entering **4** and **5** you can decrease or increase this value from –30% to +30%..

13   Installation of the payment systems

To install the payment systems always follow the instructions supplied by the manufacturer. For information only, the installation of a token machine is hereunder described.
1)   Switch off the machine;
2)   Fit the coin-mechanism;
3)   Connect the dialogue cable to the display board;
4)   In case of Executive systems connect also the voltage supply cable;
5)   Switch on the machine;
6)   Enter in PROGRAMMING and select the correct payment system as described in the paragraph "Modifying other operation parameters (miscellaneous)";
7)   Exit from PROGRAMMING;
8)   Switch off and on the machine.

The machine is now ready to use the payment system .

14   Cleaning and loading operations

WARNING: The personnel in charge of the loading of the ingredients must own a valid certificate of good health following local and NATIONAL NORMS. Furthermore, compliance with any other domestic or local regulations must be checked.
WARNING: Given the sensitivity of some ingredients used in the machine to excessive temperature and humidity, some malfunctions may occur if the machine is operated at temperature higher than 30°C or w ith relative humidity exceeding 80%. Under these conditions the components in contact with the powdered ingredients must be cleaned at least once a day.
WARNING: The use of the safety key can make in movements internal parts of the machine.
WARNING: To fill canisters use only ingredients specific for vending machines.
To guarantee a correct operation of the machine, it is advisable to carry out the periodic cleaning operations hereunder described. Some of these operations are required to comply with health legislation in force. The cleaning operations must not be carried out when the machine is not working (e.g. if it has already been temporarily out of service following instructions given in section "Out of service - Temporary").
WARNING: The cleaning operations must be carried out when the machine is open and switched off. The loading of ingredients, if required, must be carried out after any cleaning operation.
WARNING: The correct installation of the machine is must be in closed places with temperatures between 5℃ and 30℃ and relative humidity not superior tha n 80%.

14.1   Daily cleaning

The aim of these operations is to avert any growth of bacteria in areas in contact with foodstuff. Before any operation, wash your hands thoroughly. To carry out these operations use two clean cloths; if drinkable water near the machine is not available, also provide for a container with drinkable water.
Proceed as follows:
Make sure that the machine is off.
1) With a damp cloth, clean the visible components in the ingredients vend area.
2) Carefully remove and rinse:
- the mixing bowls, the mixer supports and fans;
- the silicone, outlet pipes of the ingredients;
- the slides of the ingredients and the relative caps;
- the liquid waste tray
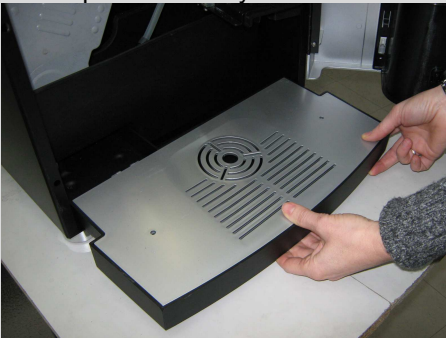
When the mixers are disassembled, clean the basis of the mixer supports with a damp cloth.
Dry the components thoroughly with a dry cloth and mount again all the washed components to the original position.
In case of **PB** version
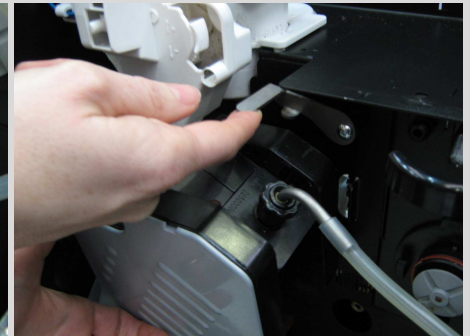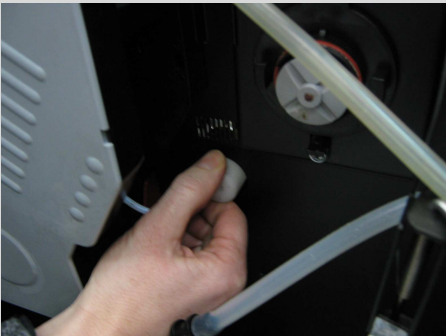
remove the coffee brewer following the steps shown into the pictures and clean it. Remove the waste grounded coffee bucket. After washing all parts replace them in their original position.

14.2 Weekly cleaning

These operations are carried out once a week, after completing the daily cleaning operations.
Make sure that the machine is off.
With a damp cloth clean the surface where the ingredient canisters lay and the bottom of the machine to remove any powder eventually spilled during loading. Clean the outside of the machine, taking care to the vend area.

14.3 Refilling of consumption products

When required, proceed to the following loading operations.
WARNING: The loading operation of ingredients must be carried out only with machine off.

14.3.1 Refilling of ingredients

When necessary proceed to make refilling ingredients canisters.
WARNING: make these operations only with the machine switched off.
Read on the canister the indication of the ingredient to be loaded into the machine.
WARNING: Use only ingredients specific for vending machines.
Fill up the canister of the ingredients, after having removed them from the machine.
Use a quantity of product suitable for a period between two refilling, and in any case do not exceed the quantities shown in the table here below.

INGREDIENTS	QTY
Coffee beans	1.00 Kg
Instant coffee (small)	0.33 Kg
Milk (small)	0.38 Kg
Chocolate (small)	2.20 Kg
Chocolate (big)	0.94 Kg
Tea (small)	0.98 Kg
Sugar (small)	1.20 Kg

This will prevent deterioration of the quantity of product in excess. Canisters for soluble ingredients can be removed from the machine, in order to facilitate refilling.
Rotate the slide lock in order to avoid to spill powder and make sure that the closing tongue of the exit of the coffee beans canister is pushed right in.

15 Ordinary and prevention maintenance

15.1 Monthly maintenance

15.1.1 Disinfecting of components in contact with ingredients

WARNING: during the ordinary and prevention maintenance operations the technical personal can be in contact with moving parts.
Maintenance operations include cleaning, refilling of products, electronic programming and so on. During these operations the personal in contact with the machine should have all necessary protections. These operations must be carried out once a month to ensure the hygiene of the machine. These operations have already been described in the paragraph "Cleaning and Disinfecting of components in contact with ingredients". An automatic coffee brewer cleaning procedure can be carried as per the following steps:
Press the **key P** inside the door. The display shows

```
1 = PROGR    2 = DATA
3 = FREE     4 = CLEAN
```

Press **4**. The display shows:

```
CLEANINGS
```

```
1 – 2 – 3            8=HC
```

Press **button 8**. The display shows:

```
Health cleaning
Brewer          P1 = start
```

Press **button 1** to start coffee brewer cleaning sequence. The disply shows:

```
Cleaning
Active
```

```
Put pastille and
Push            P4 = start
```

insert the sanitary washing tab inside the brewer and press **button 4**. The display shows:

```
P3 to continue
Rinsing              0:45
```

and the infusion tab time starts. Press **button 3** if you want to stop this step. The display shows:

```
 cleaning brewer

1/6
```

the machine starts to make 6 rinsings of the coffee brewer of 130 water cc each. At the end of the sixth cleaning the display comes back to

```
CLEANINGS
1 – 2 – 3            8=HC
```

Press the key P inside the machine to exit from cleaning mode.

15.1.2	Adjustment	of
	grinding	
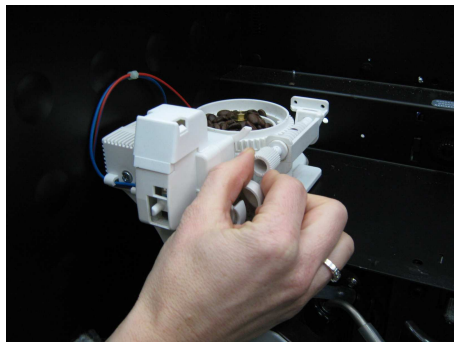
To adjust the thickness of the grinding, with the machine switched off, turn the ring nut of the grinder.

15.1.3 Maintenance of the espresso group

After 5000 dispensed coffee drinks, make the following operations:

-) check wearing of seals of upper filter
-) clean coffee brewer filters

After 15000 dispensed coffee drinks, make the following operations:
-) replace coffee filters
-) replace seals
using KIT0000039 D36 Coffee Group Maintenance Kit

After 30000 dispensed coffee drinks, make the following operations:
-) replace pins
-) replace infusion chamber
-) replace upper filter assembly
using KIT0000040 D36 Coffee Group Overhaul Kit

These information have been collected on the basis of field experience and should be taken only as a basis of reference. They can change depending on local operating conditions and therefore must be adapted to local environments.
To make a handy cleaning do as follows:

| Remove the plates of the superior filter | Turn upwards the superior filter, dismount and clean it with hot water removing all coffee powder. | Turn the group in the position of ejection waste grounds and overturn the slide of coffee | Dismount the inferior filter and clean it with hot water removing all coffee powder. Reassemble the group in the original position. |

ATTENTION: the microcoffee brewer inside cupl can be adjusted in order to change its capacity. This can be done moving the up filter into three different positions **A**, **B** or **C**.

Rhea Porjects S.p.A: suggests as follows:

Micro Coffe brewer 36 mm dimaeter standard or heated version (maximum working pressure about 12 bar):

Up to 6 g of grounded coffee select position **B**.

From 6 g up to 7, 2 g of grounded coffee select position **C**.

Larger Coffe brewer 40 mm dimaeter (maximum working pressure about 9 bar):

Up to 8, 5 g of grounded coffee select position **B**.

15.1.4 Maintenance of the heated espresso brewer
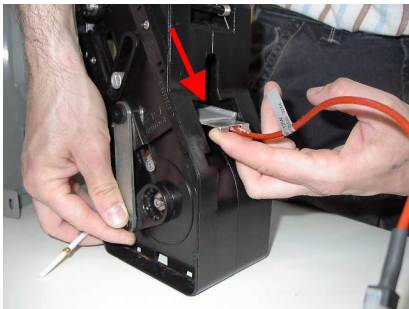
This section applies only to **Versions PB version with heated coffee brewer.**
Proceed as follows for a correct cleaning:

  a. <u>**Switch off an unplug the machine**</u>;
  b. <u>**Wait until hot parts become cold**</u>;
  c. Disconnect the power supply from the heating element of the coffee brewer;
  d. Disconnect the hydraulic connection of the brewer; Remove the coffee brewer. Extract the heating element from the coffee brewer.

<u>**WARNING: Before proceeding pay attention that all involved parts have reached a low temperature. The heating element could reach a temperature of about 75-80°C.**</u>
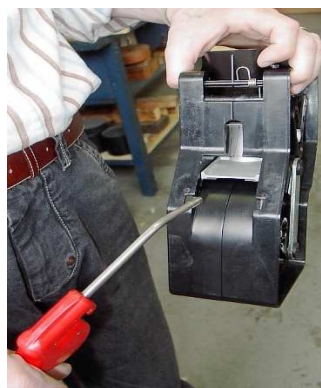
Proceed with usual coffee brewer cleaning.

Use a lot of water and dry.

At the end of the procedure place all parts in their correct position.

15.1.5 Washing and disinfecting of components in contact with foodstuff.

With the vending machine switched on, make sure that the display shows:

```
rheavendors
cino xs grande
```

```
Place
```

Open the door. Insert the plastic key into the safety switch. The display shows:
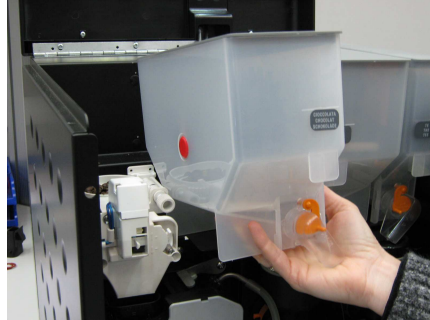The display shows:

```
1 = PROGR    2 = DATA
3 = FREE     4 = CLEAN
```

Start cleaning operations washing the mixing bowls. Press **4**. The display shows:
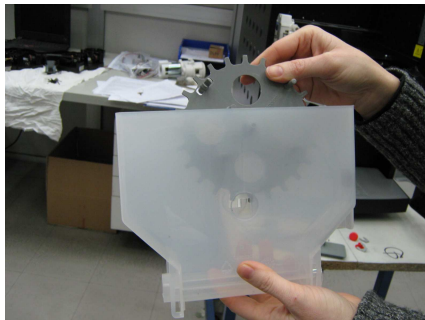
```
CLEANINGS
1 – 2 - 3
```

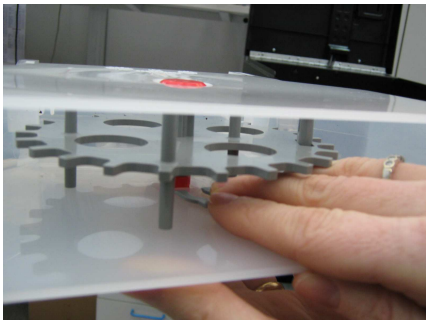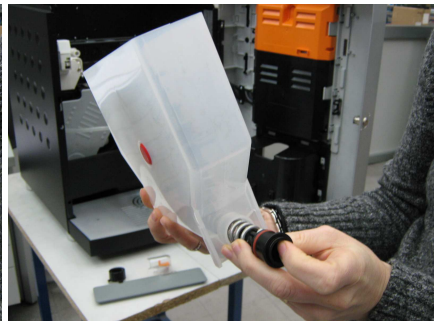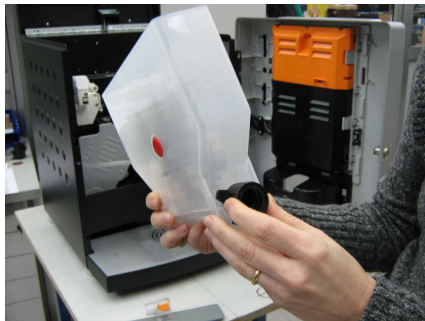Use keys **1**, **2** and **3** to clean, inc ase of **PB** version, the coffee brewer and the mixing bowls, in case of **SM** version, the 3 mixing bowls. Dispense about 3 litres of water altogether. This will remove any possible trace of dirt from the boiler. Press the **key P** inside the machine. Switch off the machine.
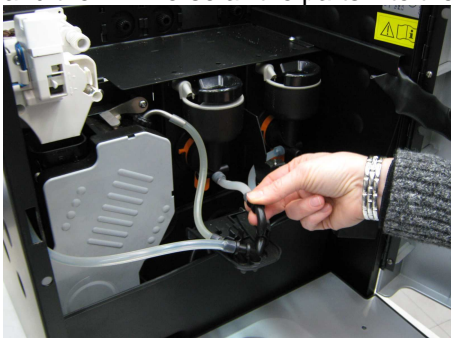
Wash hands thoroughly.

Prepare separately, in a suitable container, a disinfecting antibacterial solution of chlorine, according to the instructions enclosed in the chemical.
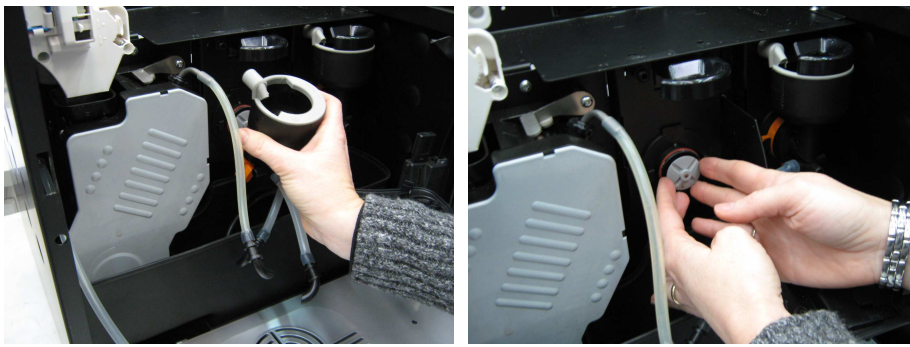

Lift the top cover and remove all the ingredients canisters from the machine. Disassemble all the canisters as follows

and then immerse all the parts into the solution previously prepared.

Remove also the outlet pipes support, the mixing bowls and the mixing fan. Immerse all parts in the solution. Using a cloth soaked in the solution, proceed to clean also the attachment bases of the mixers, which remain fixed to the machine. The time of permanence in the solution, in order to obtain a full disinfecting, is stated on the packaging of the chemical. At the end of the disinfecting, recover canisters and covers, dry them very carefully (using compressed air, a hair dryer or perfectly clean and sterile cloths) and reassemble them in the machine. Recover all other parts from the solution and put them back in the machine in opposite sequence with respect to disassembly. Switch on the machine and wait for the message:

```
RHEA VENDORS
            cino xs grande
```

Carry out repeatedly washing cycles of the mixing bowls pushing twice the internal **key P** inside the machine until is displayed the message:

```
1 = PROGR    2 = DATA
3 = FREE     4 = CLEAN
```

Push **button 4**; the display shows:

```
CLEANINGS
SEL    1-2-3
```

Use **buttons 1**, **2** or **3**. Use about 2 litres of water altogether. This will remove all traces of disinfecting solution from the outlet pipes. Press the internal **key P** inside the machine.

16   Machine out of service

16.1   Temporary out of service

Should a long period be foreseen in which the machine will not operate, the following operations must be carried out. Press the **key P** inside the door. The display shows:

```
1 = PROGR   2 = DATA
3 = FREE    4 = CLEAN
```

Press **button 1** until the display shows:

```
PROGRAMMING
MISCELLANEOUS
```

Press **button 2** until the display shows:

```
Deinstallation
4 start
```

Press **button 4** to activate the disinatallation procedure. The display shows:

```
Open EV boiler
P5 = start
```

Use the internal liquid waste tray as container for the drained water. Open the boiler tap and press **button 5** to start boiler emptying procedure. At the end of this operation on the display appears the message:

```
END
close EV
```

Close the boiler tap and remove the bucket. During this operation the boiler temperature is set at 0 and the First Installation at 1 so that at first next activation of the machine First Installation procedure will be automatically carried out. Press **button 1** and **key P** to exit from PROGRAMMING mode. Switch off the machine.
Unplug the machine from the electric mains. Unload all ingredients from the canisters. Remove and thoroughly clean in hot water all components in contact with foodstuff. The components are indicated in the part "Maintenance". In case of **AR** version close the tap of the external water mains supply and disconnect the water supply pipe from the machine. In case of **AA** version empty the self water tank.
Empty and clean the internal liquid waste tray.
Clean the inside and the outside with a damp cloth. Protect the outside of the machine with a piece of cloth or a plastic film. The machine must be kept in a sheltered place and at a temperature not lower than 5° C a nd with relative humidity not exciding 80%.

16.2   Definitive out of service

Before carrying out the definitive out of service operation, it is necessary to carry out all operations to empty the machine of ingredients and water according to instructions given in the above section. The machine is not made of polluting materials. Therefore, for demolition it is advised to disassemble the machine by dividing the various components according to the type of material (plastic, metal, paper, etc.).The various components can be then delivered to authorised companies for waste disposal.

17 Further advice for the user

The automatic vending machine in your hands is safe for those who follow the loading and ordinary cleaning instructions indicated in this manual. The user must not gain access to areas in the machine, which feature a cover requiring a tool to be removed.

Some maintenance operations (to be carried out by authorised personnel only) require an intentional bypassing of safety protections of the machine. Technical qualification, the compliance of maintenance procedures indicated in this manual and the due care when having access to areas indicated as dangerous allow to operate in a safe way. The stickers indicating danger are applied on fixed covers and show the following symbols:
- possible contact with components under voltage;
- possible contact with hot surfaces.

18 Troubleshooting

18.1 Problems visualised by the machine

The problems described in this section are shown by an error message on the display of the machine.

SYMPTOM	PROBABLE CAUSE	REMEDY
The display shows " **OFF 2**": the machine is out of order	No communication between the CPU board and payment system	Programme properly the payment system (see section "Pre-setting the payment systems")
		Connect properly the payment system to the CPU board
	The payment system is not powered or is faulty	Make sure that the payment system is working
The display shows " **OFF 2E**: the machine is out of order	No communication between the CPU board and payment system	EXECUTIVE system accidentally selected in PROGRAMMING
The display shows " **OFF 2M**: the machine is out of order	No communication between the CPU board and payment system	MDB system accidentally selected in PROGRAMMING
The display shows " **OFF 3**": the machine is out of order	Waste liquid inside the tray has reached the maximum level	Empty the tray
The display shows " **OFF 5**": the machine is out of order	One or both EAROM memories are faulty	Replace CPU board
The display shows " **OFF 6 A**": the machine is out of order	No water	Wait until the mains water pressure is reset
		AR Open the water supply **AA** Fill in the inside water tank
	The safety on the water inlet solenoid valve is activated	Reset the safety on the solenoid valve
		Check water level sensors inside the boiler
The display shows " **OFF 6B**": the machine is out of order	Too many water refilling without making selections	Check if there are some leakages into the water tank or in its pipes and if the pipes are correctly connected
The display shows " **OFF 7**": does not vend beverages through the coffee brewer	(**PB Versions**) Check the volumetric counter	Dismount and clean the volumetric counter
	The brewing time of coffee is too long	Adjust the grinding by acting on the special ring nut of the grinder (**PB Versions**) or suitably programme the quantity of ground coffee
The display shows " **OFF 8A**": The machine does not vend beverages through the coffee brewer (**PB Versions**)	The coffee brewer does not return to rest position	Check the micro-switch of the position of the coffee brewer and the correct power supply at the motor.

The display shows " **OFF 8B**": the machine does not vend beverages through the coffee brewer (**PB Versions**)	The coffee brewer is not correctly placed	Check the micro-switch of the presence of the coffee brewer
The display shows " **OFF 9**": the machine does not vend beverages through the coffee group	(**PB Versions**) No coffee beans inside the proper canister	Fill the coffee beans canister.
	The mills of the grinder are worn up	Replace them
The display shows " **OFF 10**": the machine is out of order	Lost of data programming	Enter into the programming mode, reset the presetting of all functions until they show plausible values (the standard data can be typed in) and then exit from the programming mode
The display shows " **OFF 14**": the machine is out of order	Too many beverages have been supplied without resetting the level of the refilling water for the instant ingredient boiler	Check and replace, if necessary, the upper micro switch of the pump or the relative cable
The display shows " **OFF 16**": the machine is out of order	The key on the display board inside the machine could be trapped.	Check and eventually replace the key.
The display shows " **OFF 17A**": the machine is out of order	The selection keypad has at least one trapped button.	Check and eventually replace the keypad and or the relative cable, if necessary.
The display shows " **OFF 24 A**" the machine is out of order	The power supply of the 24 V elements is excessive	Replace switching voltage supply board
The display shows " **OFF 24 B**" the machine is out of order	The power supply of the 24 V elements is insufficient	Replace switching voltage supply board
The display shows " **OFF 31A**": the machine is out of order	An error occurred in the temperature control of the Espresso boiler (high temperature)	Check and replace, if necessary, the temperature probe in the Espresso boiler, the resistance and the correspondent triac on the power board
The display shows " **OFF 31B**": the machine is out of order	An error occurred in the temperature control of the Espresso boiler (low temperature)	Check and replace, if necessary, the temperature probe of the Espresso boiler, the clicson and the heating element
The display shows " **OFF 31C**": the machine is out of order	An error occurred in the temperature probe of the Espresso boiler	Check and replace the temperature probe of the Espresso boiler
The display shows " **OFF 33A**": the machine is out of order	An error occurred in the temperature control of the instant boiler (high temperature)	Check and replace, if necessary, the temperature probe in the instant boiler, the resistance and the correspondent triac on the power board
The display shows " **OFF 33B**": the machine is out of order	An error occurred in the temperature control of the instant boiler (low temperature)	Check and replace, if necessary, the temperature probe of the instant boiler, the clicson and the heating element
The display shows " **OFF 33C**": the machine is out of order	An error occurred in the temperature probe of the instant boiler	Check and replace the temperature probe of the instant boiler
The display shows " **OFF 50A**": the machine is out of order	Communication problems between CPU board and Power board	Check the connecting USB cable and the boards.
		Try to load the slave file with the flash card
The display shows " **OFF 51**": the machine is out of order	Communication problems between CPU board and Coffee Brewer board	Check the connecting USB cable and the boards.
The display shows "**PLEASE LOAD THE MASTER PROGRAM**"	It has not been loaded any master program in the CPU board	Ask to Rhea technical service the correct master file and load the file master with flash card into the machine

18.2 Miscellaneous shortcomings

The shortcomings described in this section are not indicated by any message displayed on the machine.

SYMPTOM	PROBABLE CAUSE	SOLUTION
The machine does not switch on (no component is powered)	No mains voltage	Wait for the resetting of mains voltage
	The boiler is overheated	Reset the safety thermal switch boiler. Check the correct operation and cable of the thermal probe or the resistance in the boiler and replace them if necessary
	One general fuse (230V) is burnt out	Replace it
	The safety switch of the door is faulty	Replace it

The machine does not switch on (no component is powered)	No mains voltage	Wait for the resetting of mains voltage