
USE AND INSTALLATION MANUAL

Brio 3

**Fresh brew jug
UL 120 V**

EN

English



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DICHIARAZIONE DI CONFORMITA'

DECLARATION OF CONFORMITY

DÉCLARATION DE CONFORMITÉ

KONFORMITÄTSERKLÄRUNG

DECLARACIÓN DE CONFORMIDAD

DECLARAÇÃO DE CONFORMIDADE

VERKLARING VAN OVEREENSTEMMING

INTYG OM ÖVERENSSTÄMMELSE

OVERENSSTEMMELSESERKLÆRING

YHDENMUKAISUUSTODISTUS

Valbrembo, 01/04/2005

Dichiara che la macchina descritta nella targhetta di identificazione, è conforme alle disposizioni legislative delle direttive: **98/37/CE, 89/336, 73/23 CEE** e successive modifiche ed integrazioni.

Declares that the machine described in the identification plate conforms to the legislative directions of the directives: **98/37/CE, 89/336, 73/23 EEC** and further amendments and integrations.

Déclare que l'appareil décrit dans la plaque signalétique satisfait aux prescriptions des directives: **98/37/CE, 89/336, 73/23 CEE** et modifications/intégrations suivantes.

Erklärt, daß das im Typenschild beschriebene Gerät den **EWG** Richtlinien **98/37/CE, 89/336, 73/23 CEE** sowie den folgenden Änderungen/Ergänzungen entspricht.

Declara que la máquina descripta en la placa de identificación, resulta conforme a las disposiciones legislativas de las directivas: **98/37/CE, 89/336, 73/23 CEE** y modificaciones y integraciones sucesivas.

Declara que o distribuidor descrita na chapa de identificação é conforme às disposições legislativas das directivas **98/37/CE, 89/336 e 73/23 CEE** e sucessivas modificações e integrações.

Verklaart dat de op de identificatieplaat beschreven machine overeenstemt met de bepalingen van de **EEG** richtlijnen **98/37/CE , 89/336 en 73/23** en de daaropvolgende wijzigingen en aanvullingen.

Intygar att maskinen som beskrivs på identifieringsskylten överensstämmer med lagstiftningsföreskrifterna i direktiven: **98/37/CE, 89/336, 73/23 CEE** och påföljande och kompletterningar.

Det erklæres herved, at automaten angivet på typeskiltet er i overensstemmelse med direktiverne **98/37/CE, 89/336 og 73/23 EU** og de senere ændringer og tillæg.

Forsikrer under eget ansvar at apparatet som beskrives i identifikasjonsplaten, er i overensstemmelse med vilkårene i EU-direktivene **98/37/CE, 89/336, 73/23** med endringer.

Vahvistaa, että arvokytissä kuvattu laite vastaa EU-direktiivien **98/37/CE, 89/336, 73/23** sekä niihin myöhemmin tehtyjen muutosten määräyksiä.


ANTONIO CAVO
C.E.O.

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INTRODUCTION

This technical documentation is part and parcel of the vending machine and must always follow the machine in case it is moved or transfer of ownership, so as to allow consultation by different operators.

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

This manual is divided into three chapters.

The **first chapter** describes the loading and routine maintenance operations which are carried out in areas of the machine accessible with simple use of the door key, without using any other tools.

The **second chapter** contains the instructions for correct installation and all information necessary for optimum use of the machine.

The **third chapter** describes maintenance operations which involve the use of tools to access potentially dangerous areas.

The operations described in the second and third chapters must be carried out only by personnel who have the specific knowledge of the machine functioning from a point of view of electrical safety and health regulations.

IDENTIFICATION OF THE VENDING MACHINE AND ITS CHARACTERISTICS

Every machine is identified by its own serial number, indicated on the rating plate attached inside the cabinet on the right side.

This plate is the only one acknowledged by the manufacturer as identification of the machine, and carries all data which readily and safely gives technical information supplied by the manufacturer. It also assists in the spare parts management.

IN CASE OF FAILURE

In most cases, any technical problems are corrected by small repair operations; however, before contacting the manufacturer we recommend that this manual be read carefully.

Should there be serious failures or malfunctions, then contact the following:

N&W GLOBAL VENDING S.p.A.
Via Roma 24
24030 Valbrembo
Italy - Tel. +39 035606111

TRANSPORT AND STORAGE

To prevent any damage, special care should be taken when loading or unloading the vending machine.

The machine can be lifted by a motor-driven or manual forklift truck, and the forks are to be placed underneath the machine from the side clearly indicated by the symbol on the cardboard package.

Do not:

- overturn the vending machine;
- drag the vending machine with ropes or similar;
- lift the vending machine by its sides;
- lift the vending machine with slings or ropes;
- shake or jolt the vending machine and its packing.

The machine should be stored in a dry room where the temperature remains between 0°C and 40°C. Avoid stacking machines one on top of the other and always keep it upright as indicated by the arrows on the packing.

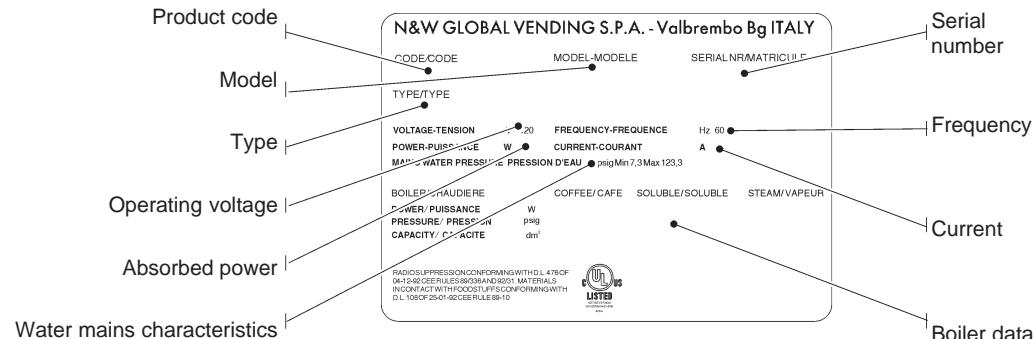


Fig. 1

POSITIONING THE VENDING MACHINE

The vending machine is not suitable for outdoor installation. It must be positioned in a dry room where the temperature remains between 2°C and 32°C, and not where water jets are used for cleaning (e.g. in large kitchens, etc.).

The machine should be placed close to a wall, so that the back panel is at a minimum distance of 4 cm from it and correct ventilation may be ensured. The machine must never be covered with cloth or the like.

The machine should be positioned with a maximum inclination of 2°.

If necessary provide proper levelling by way of the adjustable feet included.

Important notice!!

Access to the machine interior for maintenance and/or repairs is via the back panel.

Therefore the machine is designed to be rotated, thus allowing removal of the back panel.

Installation on a cabinet

The machine can be installed on a table or on any other suitable stand (recommended height is 800).

If possible, it is advisable to use the special base cabinet, which can house the liquid waste tray, the water supply kit, the payment system and, in the case of very hard water, the softener unit.

WARNING FOR INSTALLATION

The machine installation and the following maintenance operations should be carried out by qualified personnel only, who are trained in the correct use of the machine according to the standards in force.

The machine is sold without payment system, therefore the installer of such system has sole responsibility for any damage to the machine or to things and persons caused by faulty installation.

The integrity of the machine and compliance with the standards of the relevant systems must be checked at least once a year by qualified personnel.

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

PRECAUTIONS IN USING THE MACHINE

The following precautions will assist in protecting the environment:

- use biodegradable products only to clean the machine;
- adequately dispose of all containers of the products used for loading and cleaning the machine;
- switch the machine off during periods of inactivity, thus achieving considerable energy savings.

WARNING FOR SCRAPPING



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

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

TECHNICAL SPECIFICATIONS

Height	mm	760
Dimension with top panel lifted	mm	1030
Width	mm	540
Depth	mm	735
Overall depth with door open	mm	1000
Weight	Kg	68

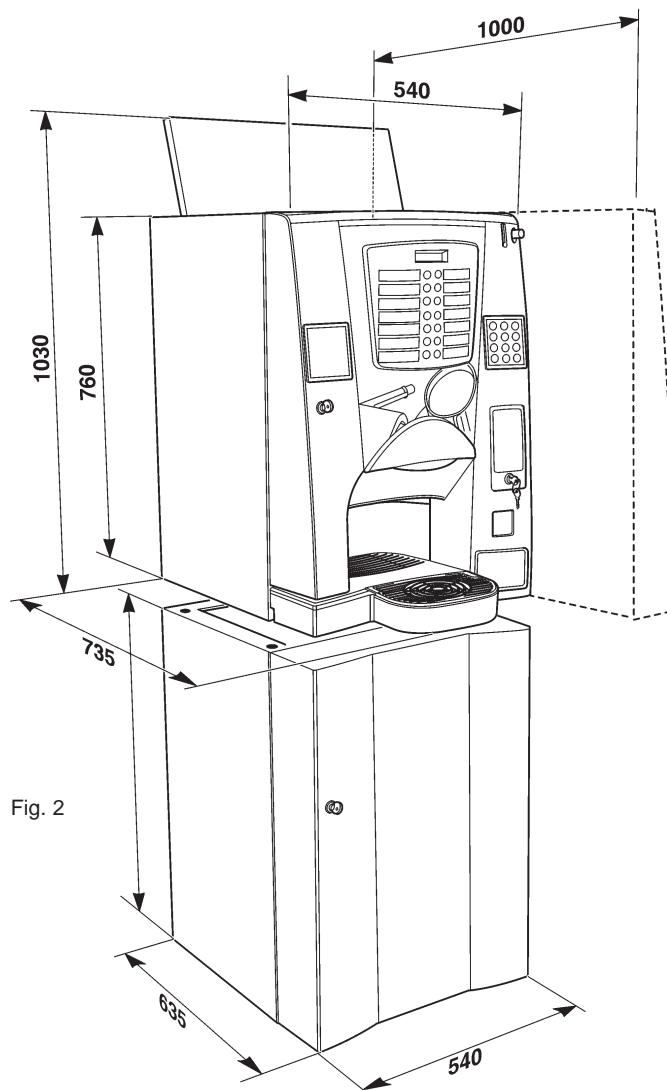


Fig. 2

Power supply voltage	V~	120	- Overheating protection for:
Power supply frequency	Hz	60	Doser units Magnets
Installed power	W	2400	Pump Electric mixers

CUP DISPENSER

Suitable for cups with a rim diameter of 80-81 mm. with a capacity of approximately 300 cups.

PAYMENT SYSTEM

The machine is supplied with all electrical prearrangement for systems with the MDB protocol, as well as for the installation of 24 V DC validators.

Beside the coin mechanism housing, suitable space is provided for the installation (optional) of the most widely used payment systems.

SALES PRICES

A different programmable price can be set for each selection;

the standard setting has the same sales price for all selections.

COIN BOX

Made of plastic. Fitted with lid and lock.

WATER SUPPLY

From the mains, with a pressure of 7.3 to 123.3 psig (0.5 to 8.5 bar).

The machine software is pre-set to control the water supply from an internal tank (optional kit).

AVAILABLE SETTINGS

Time adjustment for water and product doses.

Water temperature adjusted via software.

CONTROLS

- Presence of cups
- Presence of water
- Liquid waste container empty
- Operating temperature reached

SAFETY DEVICES

- Door switch
- Presence of solid waste tray
- Manual-reset boiler safety thermostat
- Air-break float jammed
- Overflow solenoid valve
- Float for full liquid waste container
- Boiler sensor short circuit/failure control
- Double temperature relief valve for anti-boiling function
- Timer protection for:
 - Pump
 - Fresh-brew coffee doser device
 - Cup column shift motor

CAPACITY OF CONTAINERS

Fresh coffee	Kg	1.1+0.7
Milk	Kg	0.8
Chocolate	Kg	1.5
Instant tea	Kg	2.0
Cups	N.	300

POWER CONSUMPTION

The machine power consumption depends on many factors, such as the temperature and ventilation of the room where it is installed, the inlet water and boiler temperature, etc.

With an ambient temperature of 22° C the following power consumption levels resulted:

To reach operating temperature	W/h	265
For 24 h in stand-by	W/h	2112

The above power consumption calculated from average data should only be taken as an indication.

CHANGEABLE COMBINATION LOCK

Fig. 3

Some machine models are fitted with a changeable combination lock.

The lock is supplied with one silver colour key, with standard combination, to be used for normal opening and closing.

The lock can be customised by means of a kit, available as accessory, permitting changing of the lock combination. This kit includes a change key (black) for the standard lock combination as well as the change (gold) and use (silver) keys for the new combination.

Sets of change and use keys with other combinations can be supplied on request.

Additional sets of use keys (silver) may be requested, indicating the combination stamped on the keys.

Generally, only the use key (silver) is used, while the combination change keys (gold) can be kept as spares.

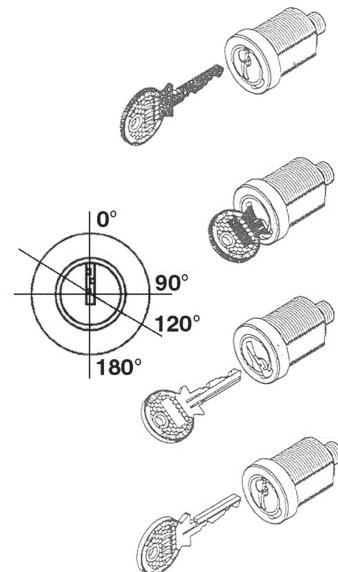
Do not use the change key for normal opening, as it may damage the lock.

To change combination do as follows:

- open the machine door to avoid forcing the rotation;
- lightly lubricate the inside of the lock with a spray;
- insert the current change key (black) and rotate to the change position (reference notch at 120°);
- remove the current change key and insert the change key (gold) with the new combination;
- Rotate to the close position (0°) and remove the change key.

The lock will now have the new combination.

The keys with the old combination cannot be used for the new combination.



ACCESSORIES

A wide range of accessories can be installed on the machine to vary its performance:

The installation kits are supplied with their own installation and test instructions, which must be strictly observed to ensure the machine safety.

Installation and the following testing operations must be carried out exclusively by personnel who have a specific knowledge of the machine functions from a point of view of electrical safety and health regulations.

Chapter 1

LOADING AND CLEANING

The vending machine is not suitable for outdoor installation. It must be positioned in a dry room where the temperature remains between 2° C and 32° C, and not where water jets are used for cleaning (e.g. in large kitchens, etc.).

DOOR SWITCH

When opening the door a special switch disconnects the power from the machine electrical system to allow the operations described below, regarding loading and routine cleaning, in full safety.

All operations which require the machine to be energised with the door open must be carried out EXCLUSIVELY by qualified personnel who are aware of the specific risks of such condition.

CLEANING AND DISINFECTION

According to current safety and health rules and regulations, the operator of an automatic vending machine is responsible for the hygiene of materials that come in contact with foodstuff; therefore he must carry out maintenance on the machine to prevent the formation of bacteria.

At installation the hydraulic circuits and the parts in contact with foodstuff should be fully sanitised to remove any bacteria which might have formed during storage.

It is advisable that specific sanitising products are used for cleaning also the surfaces which are not directly in contact with foodstuff.

Some parts of the machine can be damaged by strong detergents.

The manufacturer declines all responsibility for damage caused by non-compliance with the above instructions or by the use of strong or toxic chemical agents.

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

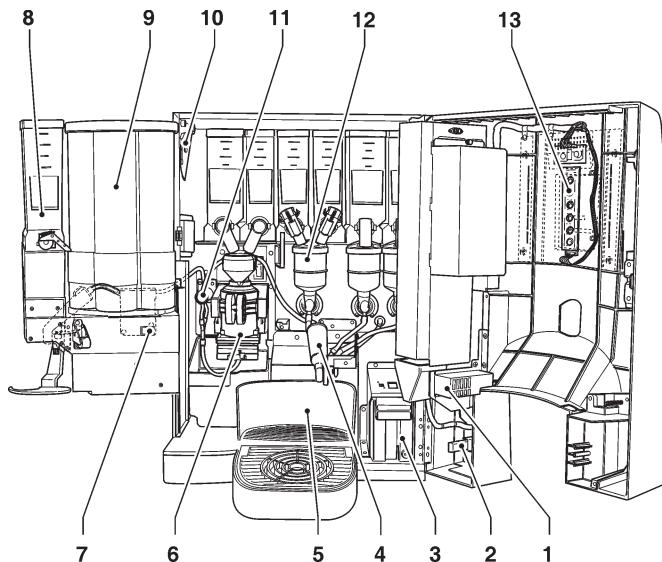


Fig. 4

- 1 - Dispensing compartment lamp
- 2 - Photocell
- 3 - Coin box
- 4 - Fresh Brew dispensing spout
- 5 - Liquid waste tray
- 6 - Coffee brewer unit
- 7 - Cup release switch
- 8 - Sugar container
- 9 - Cup stacker
- 10 - Top panel closure control
- 11 - Flow diverter
- 12 - Instant prod. mixers
- 13 - Service buttons

USING THE VENDING MACHINES FOR HOT DRINKS IN OPEN CONTAINERS (Ex.: plastic cups, ceramic cups, jugs)

Vending machines for drinks in open containers should be used only to sell and dispense drinks obtained by:

- brewing products like coffee and tea;

- reconstituting instant and lyophilised products;

These products should be declared by the manufacturer as "suitable for automatic vending" in open containers.

The dispensed products should be consumed immediately. They should never be preserved and/or packed for later consumption.

Any other use is unsuitable and thus potentially dangerous.

CONTROLS AND INFORMATION

The user controls and information are located on the outside of the door (see fig. 5).

The labels with the selection menu and instructions, supplied with the machine, must be inserted at the time of installation.

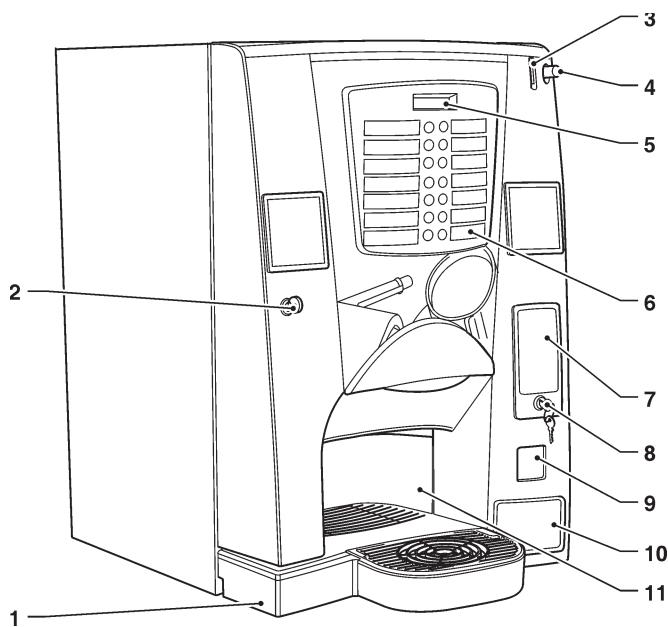


Fig. 5

- 1 - Liquid waste tray
- 2 - Lock
- 3 - Coin slot
- 4 - Coin return button
- 5 - Alphanumeric display
- 6 - Selection menu
- 7 - Prearrangement for front validator or labels
- 8 - Jug facilities and/or free-vend key
- 9 - Coin return
- 10 - Prearrangement for payment systems or labels
- 11 - Dispensing compartment

The Programming button, to access the machine functions, and the service button are located inside the machine on the right-hand side of the coin mechanism compartment.

NOISE LEVEL

The continuous, weighted equivalent acoustic pressure level is below 70 dB.

LOADING CUPS

When loading cups for the first time (i.e. with the cup dispenser completely empty) do as follows:

- disconnect the electricity from the machine;
- rotate the shelf outwards, forcing the resistance of the securing magnet;
- remove the cover from the cup container;
- fill the columns with cups, except the one aligned with the dispensing opening;
- switch the machine on and the full column will be positioned automatically over the dispensing opening;
- fill the empty column;
- release one or more cups with the special button and replace the cover.

The cup dispenser shelf has a double joint that improves access to the cup dispenser, especially when the machine is installed in a bank.

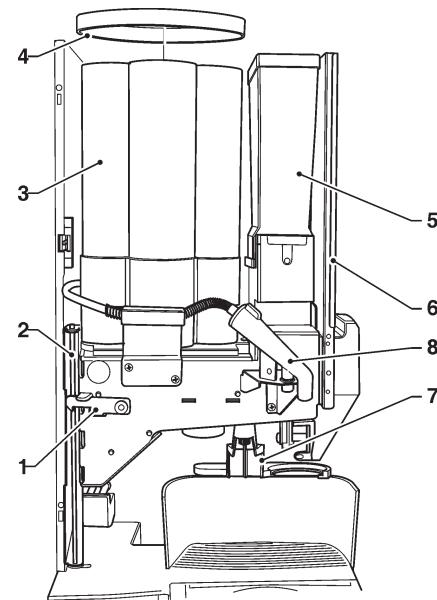


Fig. 6

- 1 - Shelf release lever
- 2 - Bracket hinge
- 3 - Cup stacker
- 4 - Lid
- 5 - Sugar container
- 6 - Stirrer stacker
- 7 - Cup shift arm
- 8 - Fresh Brew dispensing spout

LOADING PRODUCTS AND SUGAR

A self-adhesive label indicating the product is attached on each container.

After lifting their cover, fill the single containers with the appropriate products, taking care not to compress them to prevent packing.

Make sure the products do not contain any clots.

SANITISING THE MIXERS AND THE FOODSTUFF CIRCUITS

When installing the machine, and then at least once a week or even more frequently according to the use of the machine and the quality of the inlet water, the mixers, the powder feeders and the instant drink dispensing conduits must be thoroughly sanitised (cleaned and disinfected), to guarantee proper hygiene of the dispensed products.

The parts to be cleaned are as follows:

- mixer feeder and instant drink dispensing conduit;
- dispensing tubes and spouts;
- sugar chute;
- dispensing compartment;
- jug filling spout;
- remove the powder collection drawers, the water funnels, the feeders and the mixer impellers from the mixers (see fig. 7);

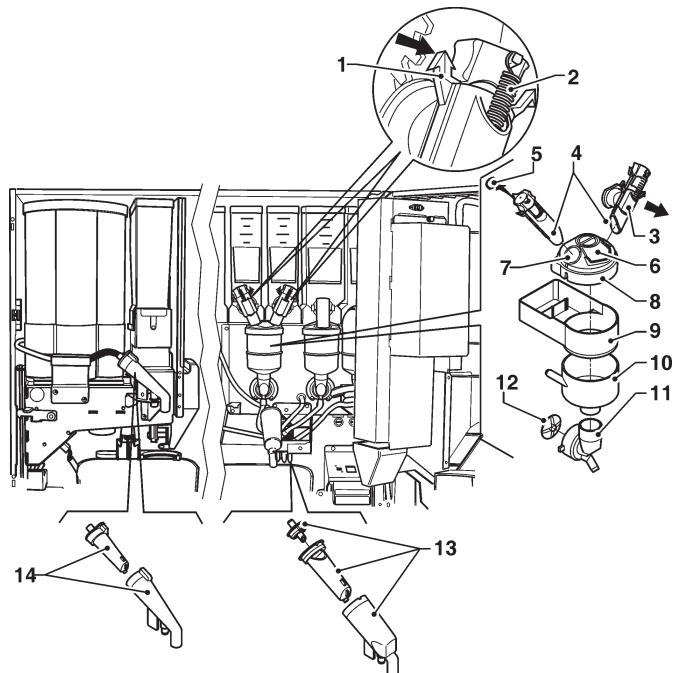


Fig. 7

- | | |
|----|---------------------------------|
| 1 | - Reference arrow |
| 2 | - Return spring |
| 3 | - Powder feeder |
| 4 | - Chamfers |
| 5 | - Removable powder flow reducer |
| 6 | - Sugar feeding hole |
| 7 | - Side holes |
| 8 | - Mixer cover |
| 9 | - Powder collection drawer |
| 10 | - Water funnel |
| 11 | - Mixer feeder |
| 12 | - Mixer impeller |
| 13 | - Cup dispensing spout |
| 14 | - Jug dispensing spout |

To ensure that all mixer components are reassembled correctly, during disassembly pay attention to some differences between the covers and the powder feeders.

More specifically:

- the cover may have the centre hole, the two side holes and/or the sugar feeding hole open;
- the powder feeders may be installed with the chamfer on the right or on the left; in some canisters the powder passage reduction part may be removed from the feeder. In this case the feeder becomes right or left oriented;
- in order to unscrew the impellers, simply block the disk fitted on the mixer shaft with a finger;

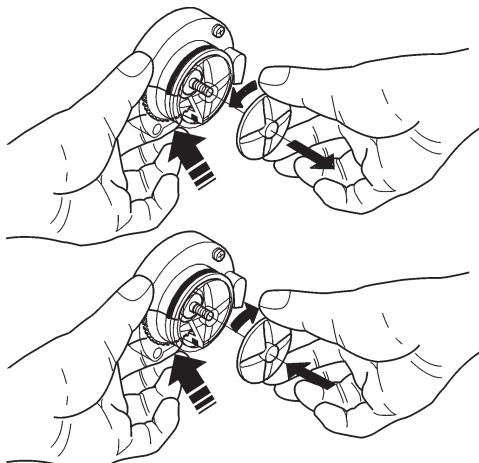


Fig. 8

- wash all parts with detergent (using the doses indicated by the manufacturer) being sure that all visible residue and product layers are mechanically removed, using a brush if necessary;

Disinfection should be carried out using sanitising products.

- Soak all components for approx. 20 minutes in a container filled with the previously prepared sanitising solution;
- reinstall the impellers, the mixers, the powder collection drawers and the powder funnels after thoroughly rinsing and drying them.

Reassemble the covers and the powder feeders, paying attention to:

- the covers; if provided with different holes, they must be fitted on the correct mixer;
- the powder feeders must have the open side towards the canister and the chamfer upwards;
- before engaging the return spring, check that the markers on the feeder and on its guide line up forming an arrow oriented vertically and upwards.

After reinstalling all parts the following is however required:

- enter into "Filler" mode to clean the mixers (see relevant paragraph) and add a few drops of the sanitising solution in the various funnels.
- After disinfection thoroughly rinse all components to ensure that all residue of the detergent solution is removed.

JUG FACILITIES AND FREE VEND

With the "Big Jug" device, using the special external key , it is possible to dispense free of charge a jug or a mug of black coffee and dispense free of charge other selections.

CLEANING THE WATER SUPPLY TANK (OPTIONAL)

For machines equipped with a water tank inside the base cabinet, such tank must be sanitised at least once a week with the sanitising products used for the mixers.

CLEANING THE WASTE TRAYS

The coffee grounds trays and dispensing compartment can be removed easily for emptying and cleaning.

The coffee waste tray can be removed only with the door open; the dispensing compartment tray can be removed also with the door closed.

In order to remove the dispensing compartment tray, lift it slightly and pull towards the front of the machine, making sure to move it to the right to allow its tail to come out from the door zone.

The inserts, located inside the dispensing compartment tray, when inserted into place prevent removal with the door closed.

For safety reasons, when removing the trays, special switches disconnect the power from the machine and signal the absence of the tray to the control software.

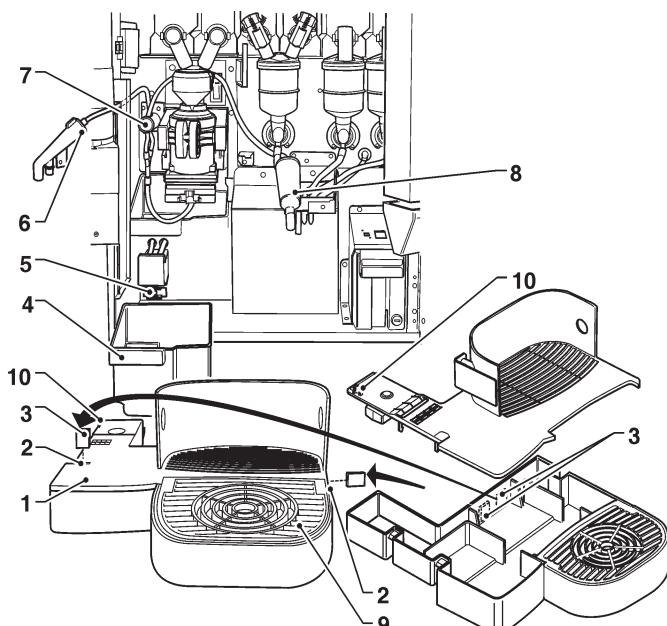


Fig. 9

- 1 - Dispensing compartment drip tray
- 2 - Inserts seats
- 3 - Withdrawal prevention inserts
- 4 - Coffee waste tray
- 5 - Tray detection switch
- 6 - Jug dispensing spout
- 7 - Flow diverter
- 8 - Cup dispensing spout
- 9 - Additional tray
- 10 - Tray tail

CLEANING THE CUP SHIFT ARM

The cup shift arm must be cleaned periodically by removing it from the machine. In order to remove it, completely undo the fastening knurled nut (see fig. 10).

When reinstalling it, ensure that the spacer washer is positioned correctly.

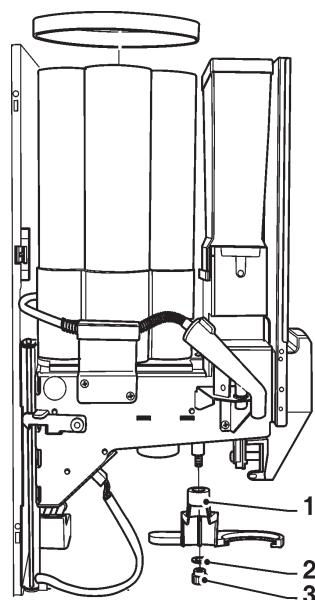


Fig. 10

- 1 - Cup shift arm
- 2 - Spacer washer
- 3 - Knurled nut

CLEANING THE WASTE CHUTE

If the machine is fitted on the special base cabinet (optional), it is necessary to remove the coffee grounds chute for cleaning and sanitising.

Warning!

The operation is possible only with the brewer unit slide pushed back.

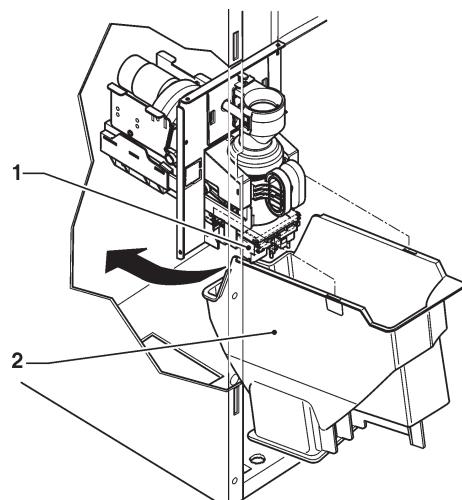


Fig. 11

- 1 - Brewer unit slide
- 2 - Coffee grounds chute

In order to position the slide correctly, before opening the machine press the password request button (A) for three seconds.

The display is preset for the entry of a sequence of 5 numbers. In this situation, the buttons take on the following values:

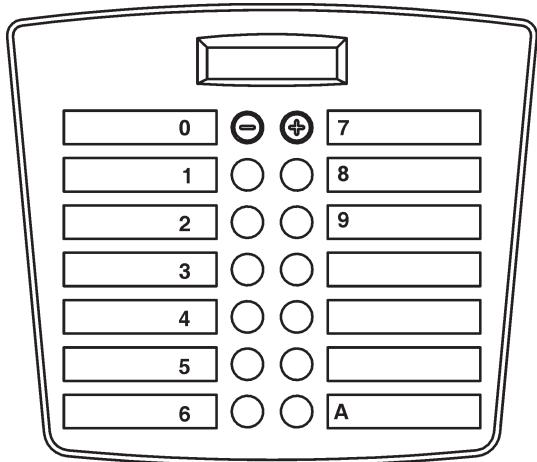


Fig. 12

CLEANING THE FRESH-BREW UNIT

Periodically, according to the operating condition of the machine and in any case at least weekly, it will be necessary to clean all parts that come into contact with the drink. Washing can be carried out in a dishwasher (60°C max) or using normal dishware detergent.

The parts to be cleaned are indicated in the figure.

The disassembly sequence is indicated below:

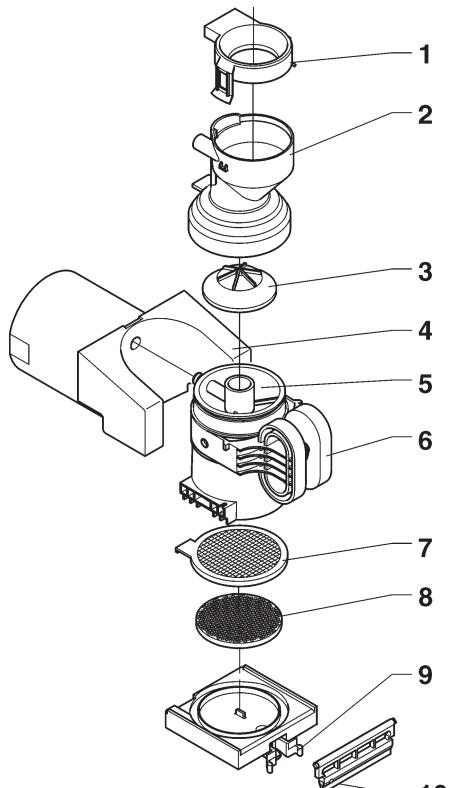
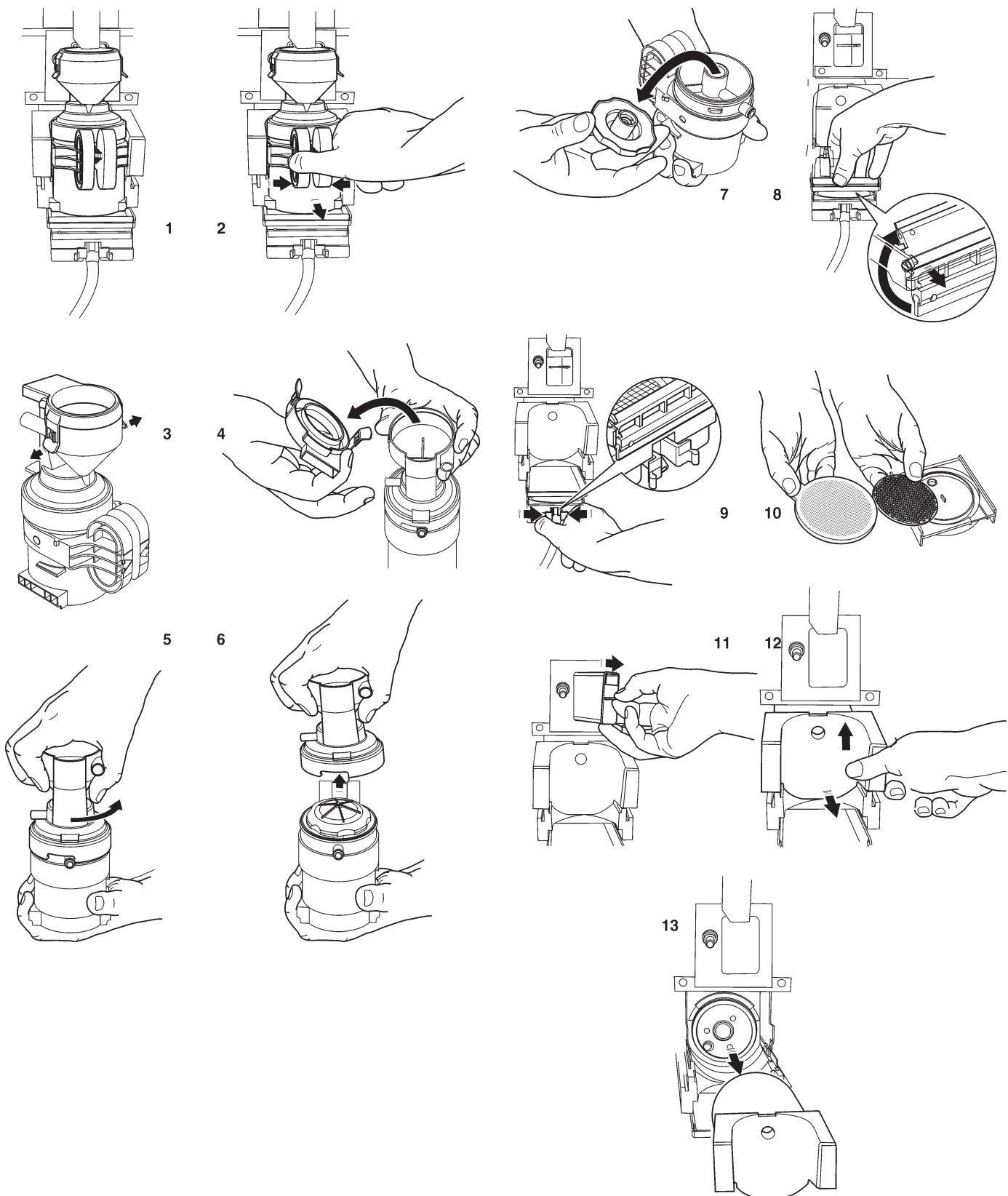


Fig. 13

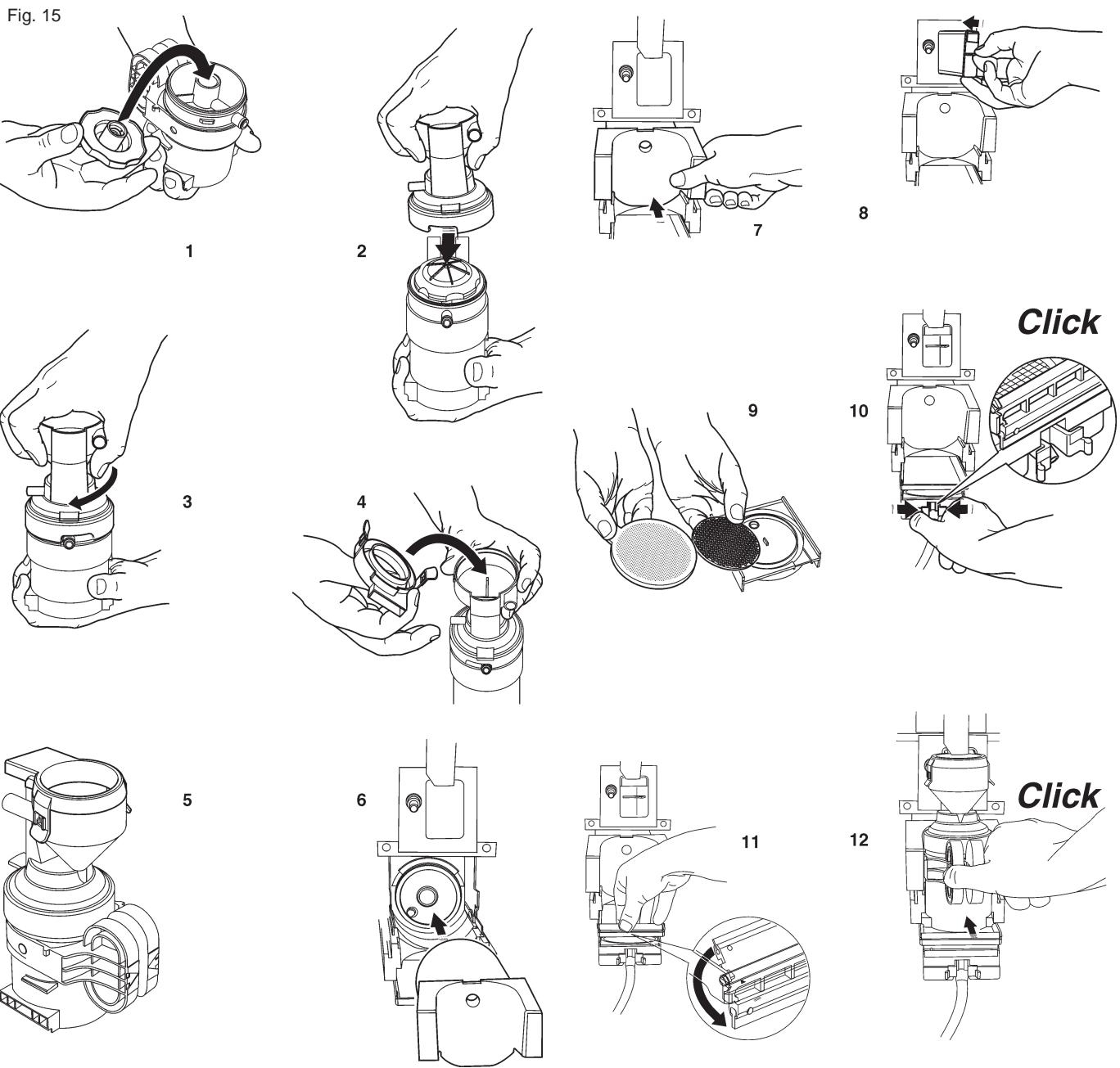
- 1 - Upper cover
- 2 - Mixer feeder
- 3 - Upper valve
- 4 - Pressure cylinder
- 5 - Brewing chamber
- 6 - Chamber grip
- 7 - Filter
- 8 - Filter gasket
- 9 - Filter support spring
- 10 - Scraper

After removing all parts, wash them thoroughly with food-safe detergents (dishware detergents) and dry them.

Fig. 14



The filter should be replaced periodically in any case.
Reassemble all parts as indicated below:



SUSPENDING FROM USE

If for any reason the machine is switched off for a period exceeding the use-by date of the products, the following will be necessary:

- completely empty the containers and thoroughly wash them with the sanitising products used to clean the mixers;
- completely empty the boiler loosening the clamp on its hose.

Chapter 2 INSTALLATION

Installation and the following maintenance operations should be carried out with the **machine switched on** and therefore by qualified personnel only, who are trained in the correct use of the machine and informed about the specific risks of such situation.

To energize the system with the open door, simply insert the special key into the slot (see Fig. 16).

The door can be closed only after removing the yellow key from door switch and lowering the machine top panel.

The machine must be installed in a dry room with temperature between 2° C and 32° C.

At installation the hydraulic circuits and the parts in contact with foodstuff should be fully sanitised to remove any bacteria which might have formed during storage.

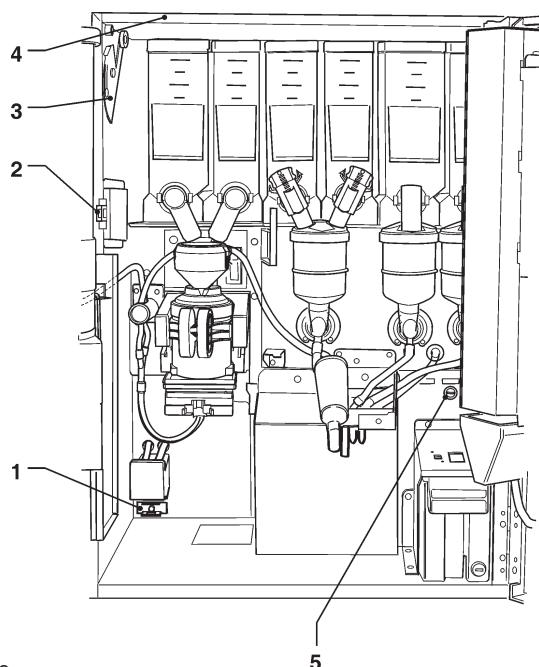


Fig. 16

- 1 - Tray detection switch
- 2 - Door switch
- 3 - Top panel closing control device
- 4 - Lift-up top panel
- 5 - Power supply fuse

DOOR SWITCH

When opening the door a special micro-switch disconnects the power from the machine electrical system.

To energize the system with the open door, simply insert the special key into the slot (see Fig. 16).

With the door open, there is no access to energised parts. Inside the machine, the only parts that stay energised are those protected by covers and carrying a plate with the warning "Disconnect the power before removing the protective cover".

Before removing such covers disconnect the power supply cable from the power supply.

The door can be closed only after removing the key from door switch and lowering the machine top panel, so that the closing control device is triggered.

UNPACKING THE VENDING MACHINE

After removing the packing, ensure that the machine is intact.

If in doubt do not use the machine.

No packing elements (i.e. plastic bags, polystyrene foam, nails, etc.) should be left within the reach of children, as they are potentially dangerous.

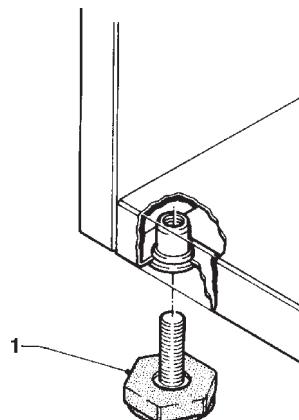
Packing materials must be disposed of in authorised containers and the recyclable ones must be recovered by qualified companies.

Important notice!!

The machine should be positioned with a maximum inclination of 2°.

If necessary provide proper levelling by way of the adjustable feet included (see fig. 17).

Fig. 17



1 - Adjustable foot

INSERTING THE PRODUCT LABELS

Undo the fastening screws and remove the cover. The product should be inserted into the special slots (see fig. 18). According to the model, some buttons may not be used (refer to the selection dose table). The machine is supplied also with the self-adhesive labels to be attached to the product containers according to the layout (refer to the selection dose table).

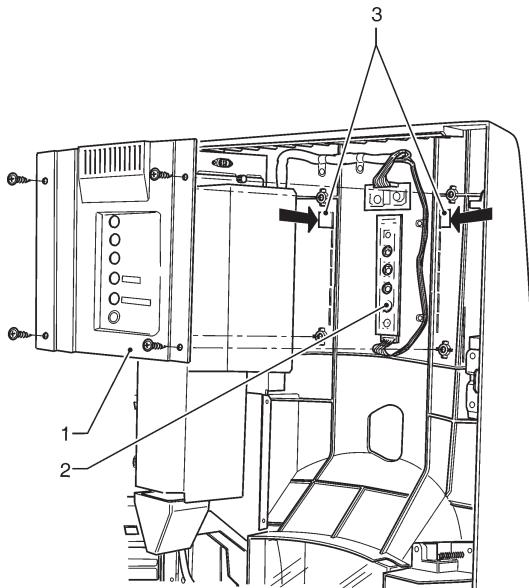


Fig. 18

- 1 - Board cover
- 2 - Programming access button
- 3 - Selection labels

CONNECTING THE MACHINE TO THE WATER MAINS

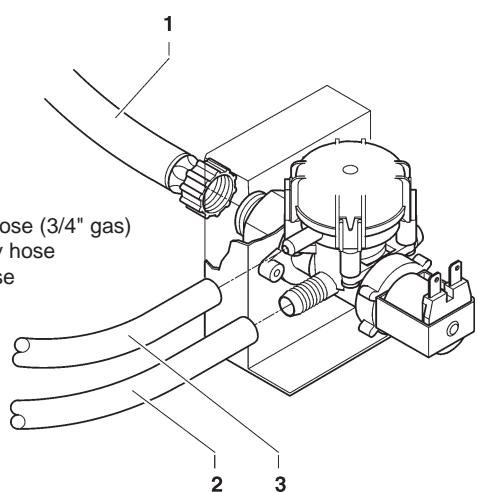
The machine must be connected to the drinking water mains, taking into account law provisions in force in the country where the machine is installed.

The water pressure must be 7.3 to 123.3 Psig (0.5-8.5 bar). Run some water from the mains until it is clear and without impurities.

Use a hose capable of withstanding the water mains pressure and suitable for use with foodstuff (min. inside diameter of 6 mm) to connect the water supply to the fitting (3/4" gas) of the water inlet solenoid valve (see Fig. 19).

Fig. 19

- 1 - Water inlet hose (3/4" gas)
- 2 - Water supply hose
- 3 - Overflow hose



It is good practice to install the water supply tap outside the machine in an easily accessible position.

OVERFLOW DEVICE

The water inlet solenoid valve (see fig. 19) is equipped with an overflow device which mechanically stops the water inlet if there is a malfunction in the solenoid valve or in the boiler water level control device.

To restore normal operation, proceed as follows:

- disconnect the electricity from the machine;
- drain the water contained in the overflow hose;
- shut off the water supply using the tap outside the machine;
- loosen the nut which secures the solenoid valve supply hose to relieve the water mains residual pressure and then tighten again (see fig. 19);
- open the tap and switch the machine on.

WATER SOFTENER UNIT

The machine is sold without water softener.

Should the water be very hard, a water softener unit can be installed.

The water softener, available as accessory, must be replaced or regenerated regularly following the directions from the manufacturer.

CONNECTING TO THE POWER SUPPLY

The machine is designed to operate under single-phase 120 V~ voltage and is protected by 15 A fuses.

Before making the connection, ensure that the rating corresponds to that of the power grid, and more specifically:

- the supply voltage rating must be within the range recommended for the connection points;
- the main switch should be capable of withstanding the peak load required, and at the same time ensure proper omnipolar disconnection from the power grid with an opening gap of the contacts of at least 3 mm.

The switch, the power outlet and the plug must be located in an easily accessible position.

The electrical safety of the machine is ensured only when it is correctly earthed according to the safety standards in force.

This fundamental safety requirement must be duly verified, and if in doubt the system must be carefully tested by qualified technicians.

The power supply cable is of the type with a fixed plug. Any replacement of the power supply cable (see fig. 20) should be made by qualified personnel only, using cables of the type SJTO x 3x16 16AWG.

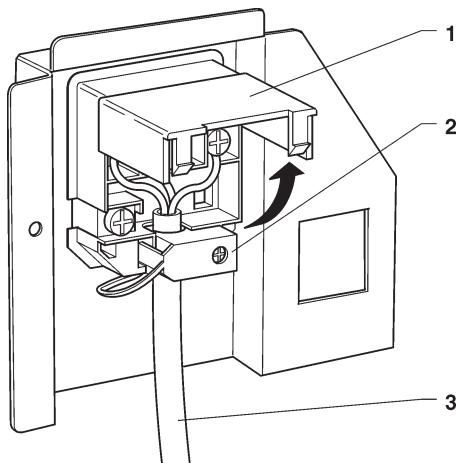


Fig. 20

- 1 - Lift cover
- 2 - Cable clamp
- 3 - Power supply cable

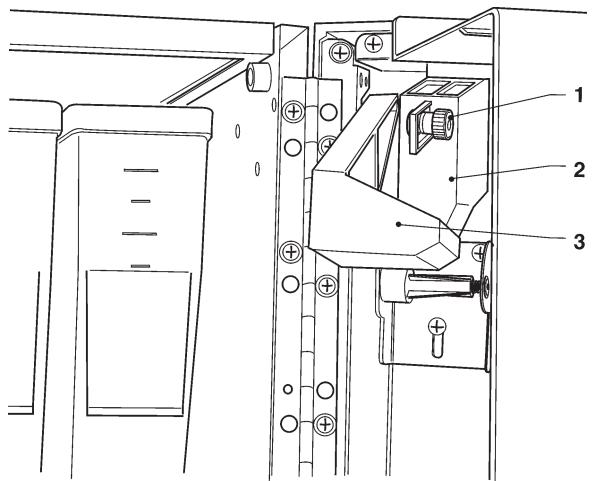


Fig. 21

- 1 - Lever adjustment screw
- 2 - Coin chute
- 3 - Coin return lever

Do not use adapters, multiple sockets and/or extensions.

THE MANUFACTURER DECLINES ALL RESPONSIBILITY FOR ANY DAMAGE CAUSED BY NON-COMPLIANCE WITH THE ABOVE MENTIONED PRECAUTIONS.

INSTALLING THE PAYMENT SYSTEM

The machine is sold without payment system, therefore the installer of such a system has sole responsibility for any damage to the machine or to things and persons caused by incorrect installation.

Install the coin mechanism paying attention, according to the type used, to:

- secure the coin mechanism onto the support, choosing the most suitable securing holes;
- loosen the fastening screw and adjust the coin slot chute according to the coin mechanism opening;
- loosen the fastening screws and adjust the coin return lever.

FILLING THE WATER SYSTEM

If the boiler indicates the no-water condition for more than 10 seconds after the machine has been switched on, an installation cycle will automatically be started, and namely:

- the message "Installation" will be shown on the display for the entire duration of the cycle;
- the water mains solenoid valve is opened to fill the boiler.

N.B.: In the event of water failure during the installation cycle, the machine will stop until water is resumed or the machine is switched off.

Versions with water supply tank

IMPORTANT NOTICE!!!

This operation must be carried out manually, using the special function from the "test" menu in "Technician" mode, if the **kit (optional) for water supply from a tank** is fitted or after any **maintenance** requiring the boiler to be emptied.

INSTALLATION IN A BANK OF MACHINES

The machine control system is pre-arranged for the connection in a bank of vending machines using special kits. This permits the use of a single payment system and remote connection (GSM) for more machines.

In the event of installation in a bank of machines, it can be configured a "Master", i.e. having control over the second machine, or as "Slave", i.e. leaving the control to the other machine.

CUP SENSOR

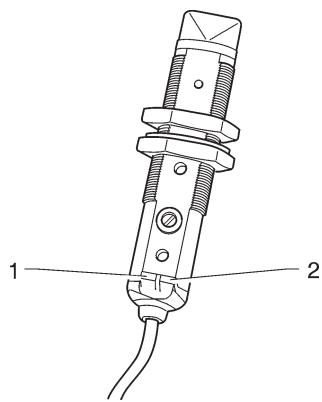
The machines are equipped with a cup sensor that detects the presence of objects placed between the reflector and the sensor.

The sensor is fitted with two status warning LEDs.

- the green LED glowing indicates that the sensor is energised
- the orange LED glowing indicates that the sensor detects an object

For correct operation, the transmitter and the reflector must be kept clean.

Fig. 22



- 1 - Green LED
2 - Orange LED

BREWER UNIT CYCLE

After each time the machine is switched on the brewer unit performs a control cycle to check the correct functioning of the piston stroke, filter closure and scraper stroke to ensure that the device is in the correct initial position. When making a selection, the filter holder closes to seal the brewing chamber.

The product dose is dispensed and part of the water dose is sent from the pump located on the boiler lid, through the dispensing solenoid valve, to the brewing chamber.

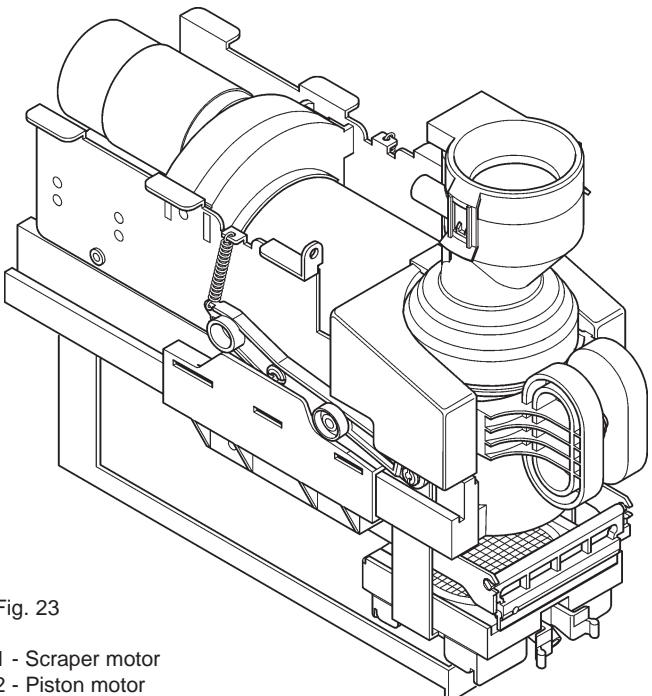
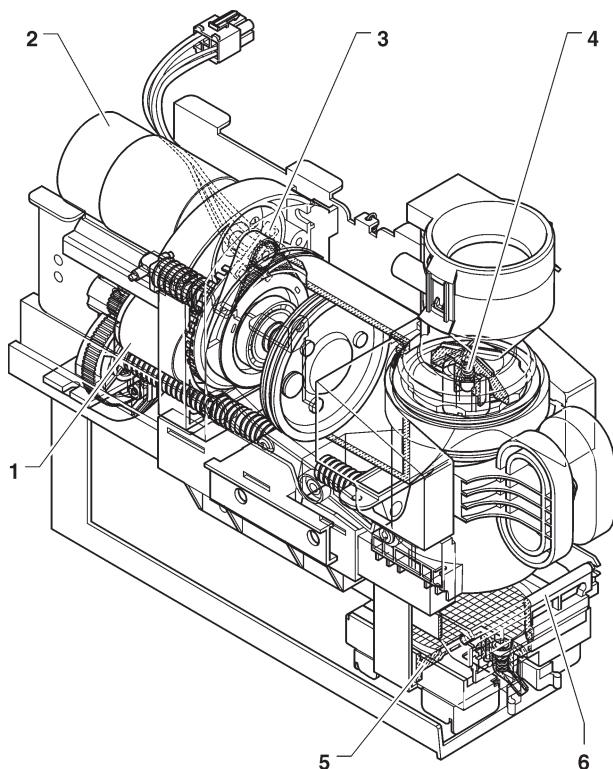


Fig. 23

- 1 - Scraper motor
2 - Piston motor
3 - Piston position sensor
4 - Brewer closing valve
5 - Filter holder
6 - Scraper



After a (programmable) brewing time, the piston advances, applying pressure in the chamber and closing the upper valve of the brewer.

Then the drink is dispensed.

The piston returns and advances again, performing a wash cycle of the product loading zone and completing the brewing cycle; the piston remains in position for a programmable drying time.

At the end of the drying period, the piston returns and the scraper motor is started, opening the chamber and expelling the used grounds with the scraper.

The piston and the scraper return to the initial position.

With the jug facilities key inserted, the flow diverting solenoid valve will convey the drink to the jug filling spout or to the cup dispensing spout. The spouts have also the function of limiting the brewing pressure discharge into the containers.

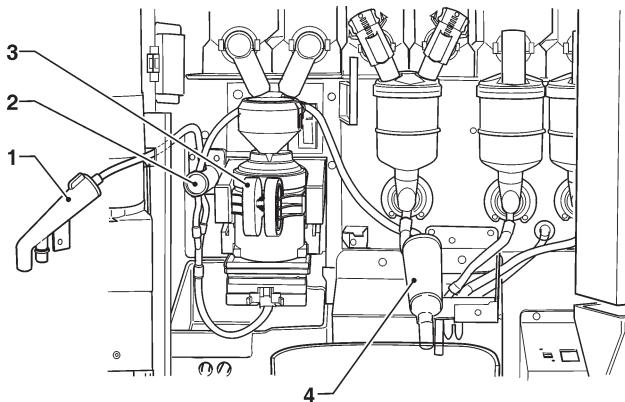


Fig. 24

- 1 - Jug dispensing spout
- 2 - Flow diverter solenoid valve
- 3 - Brewer unit
- 4 - Mug dispensing spout

PRE-SELECTIONS

According to the layout set for the vending machine, it is possible to have different programmable pre-selections for each single selection.

Some buttons control directly the fresh coffee based selections.

With the decaf button, all fresh coffee selections are made with decaffeinated coffee.

The sugar amount can be adjusted for all coffee based selections in the cup.

Using the special key it is possible to dispense free of charge a selection and activate the "Jug" and "Mug" selections.

Dispensing of a mug (two consecutive cycles of black coffee) or of a jug (consecutive cycles of black coffee) is from the special spout.

CHECKING AND ADJUSTING THE MACHINE SETTINGS

To get the best results from the product used, the following should be checked:

The dose weight of the instant products.

The drink temperature.

The water dose.

Should the standard settings need to be changed, proceed as indicated in the next sections of this manual.

The weight of products, the water dose and temperature are directly controlled by the microprocessor.

To adjust them it is therefore necessary to follow the programming procedures.

Notes on programming

The machine electronic control allows or not the use of many functions:

All of the available functions are described in the machine program, including the ones that are not used for the specific configuration of the model (layout).

The machine is supplied with a dose table, describing the different functions and layouts available for the specific model and the flowchart of the programming menu.

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

The software version can be updated using the specific systems (PC, Flash, Up Key etc.).

The messages on the display that indicate the current operation are fixed, while any action required by the user is blinking.

POWER ON

When closing the door, the display indicates the software version number to which referring for consulting the programming manual. The machine can be programmed for displaying, for a few second, the number of selections made.

After a few seconds the display shows the message: and the machine goes into normal operating mode.

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OPERATING MODES

The machine can be in three different operating modes. According to the operating mode, the buttons take on different functions.

The available operating modes are as follows:

FUNCTIONS

Normal operating mode	Coins accepted Products are dispensed
Filler menu	Test dispensing Machine maintenance
Technician menu	Programming different parameters

NORMAL VENDING MODE

During the normal vending mode the display shows the message for the user with the prompt to select the drink. The function of the buttons can be different according to the layout and to the choices made during programming.

SELECT THE DRINK

When inserting coins or a payment system, the available credit is displayed.

SELECT THE DRINK
Credit= 0.50

During the drink dispensing, also a status bar is shown, indicating the drink preparation status.

DRINK SELECTED



In the event of a malfunction detected by the control system, an error message will be displayed indicating the type of problem.

SELECTION NOT AVAILABLE
"Failure name"

At the end of dispensing, the display indicates for a few seconds the request to pick up the drink and the machine is preset for the next selection.

DRINK READY
TAKE

SURFING MODE

The interaction between system and user occurs through the following components:

- Liquid crystal display (LCD) 2 lines of 16 characters.
- External direct selection push-button panel which takes on the following functions when in "Filler" and "Technician" mode (see Fig. 25):

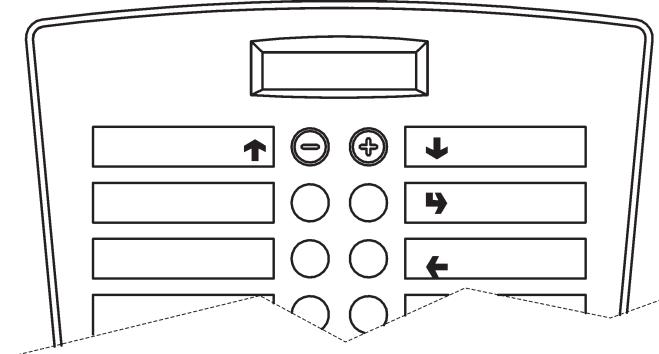


Fig. 25

Scrolling buttons "↑" and "↓":

To move to the next or previous menu option and change the values (up or down).

Confirm button "►":

To go from a menu to a sub-menu, or to confirm the information on the display.

Exit button "◀":

To move back from a sub-menu to the higher level menu, or used to cancel the current information on the display. It is also used for going from "Technician" mode to "Filler" mode and vice versa.

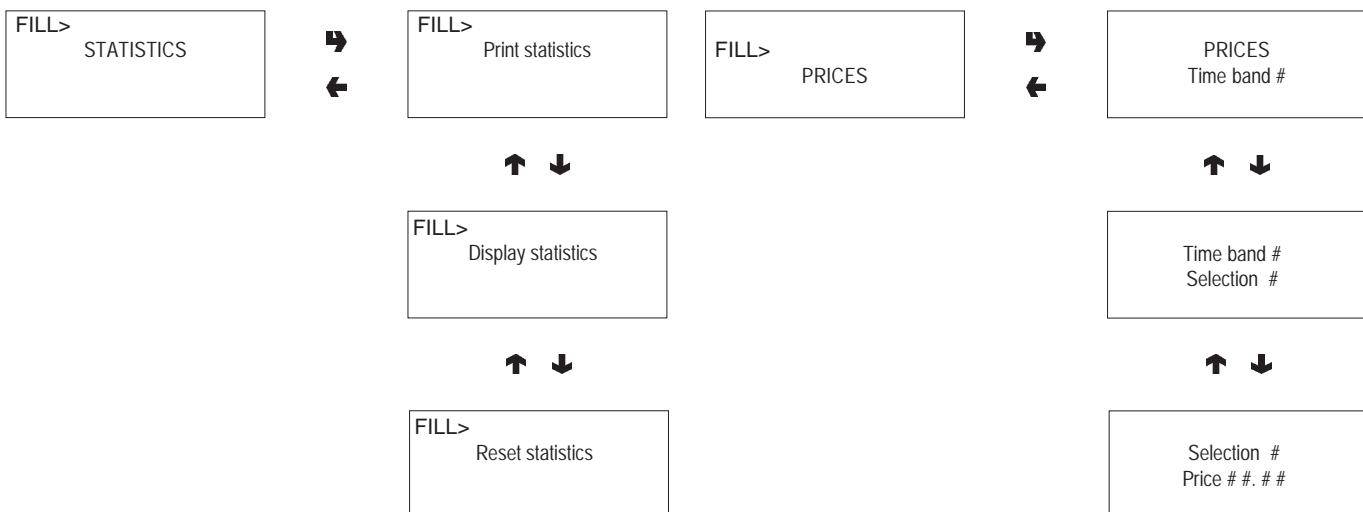
FILLER MENU

When pressing once the programming button (see fig. 28) located on the inside of the door, the machine goes into "Filler menu" mode.

The display presents the first item of the "filler" menu with a series of numbers next to it, identifying the level of the current menu.

Press the confirm button "►" to access the menu.

Press the exit button "◀" to return to the previous menu.



STATISTICS

All data concerning sales and the machine operations is stored in both total counters and relative counters, which can be reset without losing total data.

Printing

Connect an RS232 serial printer having a Baud rate of 9600, 8 data bit, no parity, 1 stop bit to the serial port located on the push button board to print all of the statistics. The printout will also contain the machine information, the date and the software version.

To connect the printer, do as follows:

- press the confirm print button "►", displaying the message "Confirm?";
- connect the printer before confirming;
- press the confirm button "►" to start printing.

Displaying

Press the confirm button "►" to display in a sequence the same data obtained with the statistic printing, for both total and relative counters.

Cancel

Statistics can be reset for relative counters globally (all types of data) or selectively for:

- selections
- failures
- coin mechanism data

Press the confirm button "►", and the message "Confirm?" starts blinking.

Press the confirm button "►", the message "Working" is displayed for a few seconds and all statistics are reset.

SELECTION PRICES

This function is used for changing the sales price for each single selection and for each time band that may be set.

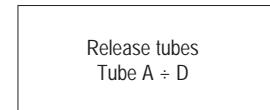
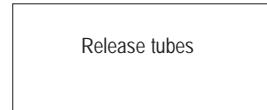
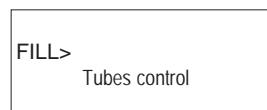
CHANGE TUBES CONTROL

By accessing the “Tube control” function the change tubes can be filled or released manually.

Confirm refilling, and the display will indicate

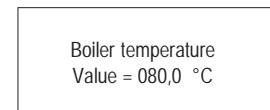
“Credit: ——” which is the value of money available in change the tubes; insert the desired coin into the validator and the display will indicate the value of money available in the change tubes.

When confirming releasing, it will be possible to decide which tube to release. Each time the confirm button “” is pressed, a coin is ejected from the active tube.



DISPLAYING THE TEMPERATURE

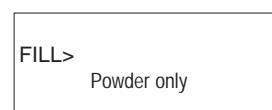
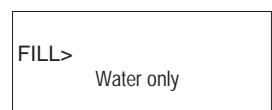
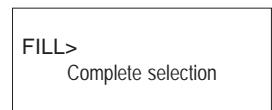
With this function it is possible to read the boiler temperature directly in °C.



TEST DISPENSING

For complete or partial dispensing tests (water, powder, only and without accessories) each button (or combination of buttons according to the model) is assigned a selection (see the dose selection table).

N.B.: For fresh coffee based selections, only the additions are dispensed with the partial dispensing of powder and water; if a selection requires no addition the message “Sel. disabled” will be displayed.



GSM PRE-ALARMS

The control software can send, via GSM modem, a signal indicating an “ending product” signal, when there is only a certain (programmable) number of pieces or grams of powder of a given product left. With this function the counters that control the pre-alarms are reset.



EVADTS TRANSFER

When activating this function, the machine awaits the connection with a device to acquire the EVADTS statistics.



FILLER MENU MASKING

The functions described in this chapter can be inhibited selectively from the “technician menu”.

TECHNICIAN MENU

Below is listed a summary explanation of the main functions useful for managing the operation of the machine, grouped by use logic and not necessarily in the order in which they are displayed in the menu.

The software version can be updated using the specific systems (PC, Flash, Up key etc.), therefore all is described in this chapter is only to be taken as an example.

For further information and detailed explanations refer to the dose selection table supplied with the machine, referring to the version number that is displayed when switching on the machine.

When pressing once the programming button located on the coin mechanism compartment, the machine goes into "Filler menu" mode.

When pressing button "⬅" from "Filler" mode, the machine is preset to "Technician menu".

Note:

When pressing button "⬅" from "Technician" mode, the machine returns to "Filler menu" mode.

The first option of the programming menu is displayed, enabling the following functions:

FAILURES

The machine is equipped with various sensors for monitoring the different functional units.

When a malfunction is detected, a failure is "indicated" and the machine (or part of it) is placed out of service. The failure is stored in the appropriate counters.

The failure monitored by the software may regard functional units not present in the specific model; they are in any case listed when scrolling the menu.

The possible failures are indicated in the following cases:

READING PRESENT FAILURES

When the "Failure" function is displayed, press the confirm button "➡" to display the present failures.

If no failures are currently present, after pressing the confirm button "➡" the message "End failures" will be displayed.

The possible failures are indicated in the following cases:

Water failure

If the air-break micro-switch is closed for a certain time, the water inlet solenoid valve will remain energized until the water flow is restored; if the model is fitted with a water supply tank, the pump is switched off.

Waste container full

This occurs after the liquid waste container float is triggered.

Air-break

The machine locks after dispensing certain amount of water if the lack of water is not signalled.

Cup failure

When the empty cup column micro-switch opens, the column shift motor is activated. If after one full turn of the cup dispenser the micro-switch is not closed the machine locks.

Volumetric counter

Not used in these models

Boiler

The machine will lock if after 10 minutes of heating from the machine start, or from the last selection, the boiler fails to reach the operating temperature.

Machine control board

Failed dialogue between C.P.U. board and machine control board.

Coin mechanism

The machine is locked if it receives a pulse longer than 2 seconds on a validator line or the communication with the serial coin mechanism does not take place for more than 30 seconds (Executive protocol) or 75 seconds (BDV protocol).

Coffee release

Not used in these models

Espresso unit

Not used in these models

No coffee

Not used in these models

RAM Data

One or more areas of the RAM contain wrong data which was corrected with the default values.

The machine will continue to function, but it would be advisable to initialise as soon as possible.

Cup release

If the cup sensor does not detect any objects in the dispensing compartment twice in a row, the machine can be locked or left enabled for dispensing in a mug.

Capsule lock

Not used in these models

Fresh-brew piston

Due to wrong positioning of the unit.

The machine is not locked, but all fresh product based selections are disabled.

Fresh-brew scraper

Wrong positioning of the coffee grounds ejection scraper.

The machine is not locked, but all fresh product based selections are disabled.

Machine lock

The machine is locked upon reaching the programmed number of selections.

Espresso lock

The machine is locked upon reaching the number of coffee selections set separately with the "selection counter" function.

Instant prod. lock

The machine is locked upon reaching the number of instant product selections set separately with the "selection counter" function.

RESET

By confirming this function all current failures will be reset



PROGRAMMING PARAMETERS

CASH

This set of functions controls all parameters regarding the payment systems and the sales prices.



SELECTION PRICES

Four different prices can be set for each selection according to the programmed time bands for when the time table option is enabled.

For each of the 4 time bands prices (0 to 65,535) can be programmed globally (same price for all selections) or for the single selections.

Should the majority of products be sold at the same price, it will be convenient to set the price globally and then change the figure of the selections with different prices.

Time bands

Four programmable time bands are provided for selling products at different prices.

The time periods are programmable for beginning and end time by hours (00 to 23) and minutes (00 to 59).

If the values for start and end of the time band are set to 00.00 the time period is disabled.

The reference time is kept by an internal clock, programmable as:

day/month/year week-day 1-7

and then

hour/minutes/seconds.

If the values for start and end of the time band are set to 00.00 the time period is disabled.

COIN MECHANISMS

It is possible to decide which of the payment system protocols available are to be enabled for the functions.

The available payment systems are:

- Validators
- Executive
- BDV
- MDB

By selecting one of the systems it is possible to control its functions.

EXECUTIVE

The following payments systems are available for the Executive system:

- Standard
- Price Holding
- Coges
- U-Key
- Sida

VALIDATORS

When the "Validat. Lines" (line setting) function of the "Technician" menu is displayed, the value of the 6 validator coin lines can be changed.

BDV

The BDV protocol menus are used for defining the following functions:

Type of vending

Setting the operating mode for multiple or single dispensing. With multiple dispensing, the change is not automatically returned after a successful selection; however the credit is available for further selections. When pressing the coin return button, the available credit is returned if its value is lower than the maximum change value.

Change control

This function enables/disables the return of credit if no selections are made.

If enabled, this function allows the return of coins even if the first selection was not dispensed.

If however a selection fails for any reason, the change will be returned if requested.

Maximum credit

This function is used to define the maximum accepted credit.

Maximum change

It is possible to set a limit to the total amount of change returned by the coin mechanism when pressing the coin return button or after a single dispensing serving.

Any credit exceeding the amount programmed with this function will be cashed.

Accepted coins

It is possible to define which, among the coins recognised by the validator, are to be accepted.

Check the label on the coin mechanism for the correct coin to value matching, indicating the position of the coins.

Non accepted coins

This function programs the rejection of coins when in "exact amount" mode.

Check the label on the coin mechanism for the correct coin to value matching, indicating the position of the coins.

Dispensing buttons

This function enables or not the buttons on the coin mechanism used to release the coins in the change return tubes.

Value of "exact amount"

This value defines the combination of empty coin tubes, setting the coin mechanism in "exact amount" mode. The possible combinations of empty coin tubes are indicated below.

For greater simplicity, the combination is described with reference to tubes A, B and C, where tube A receives the lower value coins and tube C the greater value coins.

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

C.P.C. device

It dialogues with the coin mechanism if devices are installed or removed from the serial interface (C.P.C.-type devices - the monitoring unit is always enabled by default).

Minimum level of tubes

It brings forward the "Insert exact amount" message for the user, by adding a number of coins between 0 and 15 to the programmed number of coins, to set the "full change tubes" status.

Free Vend VMC

Most payment systems with the BDV protocol control the free vend function.

However, there are some payment systems without such function.

In this case, if free selections are to be dispensed, free vending must be enabled with VMC (vending machine control, enabled by default) and the price of the selections must be set to zero.

MDB

The MDB protocol menus are used for defining the following functions:

Type of vending

Setting the operating mode for multiple or single dispensing. With multiple dispensing, the change is not automatically returned after a successful selection; however the credit is available for further selections. When pressing the coin return button (if the function is enabled), the available credit is returned up to the maximum change value.

Change control

To enable/disable the operation of the coin return button.

Maximum credit

This function is used to define the maximum accepted credit.

Maximum change

It is possible to set a limit to the total amount of change returned by the coin mechanism when pressing the coin return button or after a single dispensing serving. Any credit exceeding the amount programmed with this function will be cashed.

Accepted coins

It is possible to define which, among the coins recognised by the validator, are to be accepted when the change tubes are full.

Check the coin mechanism configuration for the correct coin to value matching.

Returned coins

It is possible to define which, among the coins available in the tubes, are to be used for returning the change. This parameter is active only with coin mechanisms that do not automatically control the choice of tube to be used (Auto changer payout).

Check the coin mechanism configuration for the correct coin to value matching.

Accepted bills

It is possible to define which, among the bills recognised by the reader, are to be accepted.

Check the reader configuration for the correct bill to value matching.

Minimum level of tubes

This function is used for setting the number of coins (0 to 15) to determine the status of full change tubes and the "Insert exact amount" message for the user.

Accepted coins with "exact amount"

It is possible to define which, among the coins recognised by the validator, are to be accepted when the machine is in the "exact amount" condition.

Check the coin mechanism configuration for the correct coin to value matching.

Accepted bills with "exact amount"

It is possible to define which, among the bills recognised by the accepter, are to be accepted when the machine is in the "exact amount" condition.

Check the accepter's configuration for the correct bill to value matching.

COMMON FUNCTIONS

IMMEDIATE CHANGE

Normally, the amount of a selection is cashed after the machine sends the message "Selection successful". When this function is enabled, disabled by default, the cash message is sent at the beginning of dispensing.

DECIMAL POINT

Press the confirm button "▼" to display the position of the decimal point, i.e.:

- | | |
|---|------------------------|
| 0 | decimal point disabled |
| 1 | XXX.X |
| 2 | XX.XX |
| 3 | X.XXX |

Press the confirm button "▼", these values will start blinking and can then be modified as necessary.

MASTER/SLAVE

The machine control system is pre-arranged for the connection in a bank of vending machines using special kits. This permits the use of a single payment system for more machines.

In the event of installation in a bank of machines, it can be configured a "Master", i.e. having control over the second machine, or as "Slave", i.e. leaving the control to the other machine.

To be able to use this function there must be a numeric keypad within the bank of machines.

There is the option of installing a numeric keypad in the machine for managing the slave machines without keypad and display.

The master/slave function is not enabled by default.

To enable the function, it is necessary to define which machine is master and which one is slave in the software of the master machine and of the slave machine.

If an Executive payment system in "**Price Holding**" mode is set in the master machine, the information must be set also in the software of the slave machine.

In the event of failed electrical connection, both machines will display the message "Failed communication".

COMBINED SELECTIONS

A combined selection is intended as the association of two selections, one from the master and one from the slave, to the same number (80 to 89) sold at a single price. Since a numeric keypad is required for setting and controlling the combined selections, the relevant menu is **included only in the software of the snack machine**.

Combined selections can be used either with the Snakky as master and "Brio" as slave (recommended configuration) or vice versa. If one of the two selections is not available, the combined selection is not dispensed. If the immediate change option is not activated on the master machine, it might be possible that the first selection fails. In this case the entire amount is returned. If the second selection fails, it will be possible to decide whether to keep or return the entire amount by activating/deactivating the "**Virtual change return**" option.

RESET SLAVE

This function is used for resetting the programming of a slave to default values.

MONITOR

This function is used for scrolling through all the information of a slave being connected.

When switching on the slave with the display showing this function, the display will indicate in a sequence all information on the slave regarding:

- software version
- type of slave (XX, 0XX, 9XX)
- presence of dispensing detection photocells
- number of trays and compartments
- presence of dispensing compartment lock device
- Internal sensor temperature.

To exit the function it will be necessary to switch the master machine off.

SELECTIONS

The selection menu is composed of various sub-menus which allow setting of the different parameters.



WATER DOSE

The water dose, expressed in cc, can be set for each selection button and therefore each product assigned to it; the display indicates the number of the water being selected.

WHIPPER CONTROL

The whipping time can be set for each selection button, for each water dose that composes such selection. The duration can be set in two different modes:

Absolute

i.e. independent from the solenoid valve opening time. The whipping duration is set as tenths of a second for Instant models and as volumetric counter pulses for Espresso models.

Relative

i.e. based on the difference, plus or minus, from the moment the solenoid valve closes. The whipping duration is always expressed in tenths of a second.

SOLENOID VALVE FLOW

It is possible to set the water flow rate of the single solenoid valves expressed in cc/s (the default value setting in cc/s is indicated in the selection dose table) to calculate the amount of water to be dispensed.

SOUND SIGNAL DELAY

To allow the drink to flow completely from the mixer to the cup it is possible, for each selection, to set a delay time after the actual end of dispensing for the signal of "end of dispensing" to the user.

POWDER DOSE

The powder dose, expressed in tenths of a gram, can be set for each selection button and therefore each product assigned to it; the display indicates the number of the product being selected.

DOSER DEVICE FLOW

For correct conversion of product dose values, the flow rate of the single doser units, expressed in g/s, can be set to calculate the amount of powder to be dispensed. The product calibration must be performed with the container full.

ACCESSORIES

Dispensing of sugar and cup can be enabled or disabled for each single selection button.

SELECTION STATUS

Each single selection button can either be enabled or disabled.

BUTTON/SELECTION ASSOCIATION

This function is used to change the order of the selections associated to the push-button panel.

The display will indicate in a sequence the list of available selections and when pressing the target button the association is stored.

SELECTION POSITION

When the display shows this function, it will be possible to read the selection to which the pressed button is assigned.

PRODUCT CODE

This function is used for assigning a 4-digit identification code to each selection for processing the statistics.

VENDING MACHINE PARAMETERS

This group of functions controls all parameters concerning the machine operation.



TEMPERATURE

This function is used for setting the operating temperature of the boiler, expressed in °C.

When pressing the confirm button "➡" the temperature value starts blinking and can be modified.

TANK

For defining whether the machine water supply is from the mains or from an internal tank.

MIXER HEATING

If the function is enabled and no selections were made in the last 3 minutes, a small amount of hot water is dispensed into the milk or instant coffee mixers before dispensing short instant coffee or instant coffee with milk.

MIXERS COOLING

This function is enabled only in the models with a cooling unit. If the function is enabled and no cold drink selections were made in the last 5 minutes, a small amount of cold water is dispensed into the cold drink mixers before dispensing.

FAST CYCLES

When this function is enabled, some of the time that is useful for improving the drink quality is eliminated.

For instant selections

- All of the products that compose the drink are dispensed at the same time.
- The "post-whipping" time is eliminated.

For fresh product selections

- Pre-brewing is not performed.
- The "post-whipping" time is eliminated.

SETTING THE REGENERATION COUNTER

It is possible to display the message "Regenerate the water softener" upon accessing "filler" mode after a programmable number of drinks dispensed.

CUP SENSOR

The machine can be fitted with a "cup sensor" composed of photocell that detects the presence of an object in the dispensing compartment.

When the function is enabled, if an object is detected in the dispensing compartment, a cup is not released and the display indicates the message "Without cup".

It is also possible to define whether, after two attempts to release a cup without the photocell detecting any objects in the dispensing compartment; the failure should lock the machine or leave it to operate using a ceramic cup.

DISPENSING COMPARTMENT LAMP TIMING

The machine can be fitted with a lamp for lighting the dispensing compartment. The time starts from the sound signal at the end of dispensing and can be programmed between 0 and 15 seconds. In any case, the lamp is switched off at the start of the next selection.

The lamp stays on for a programmable time (0 to 30 seconds; 2 by default) from picking up the drink.

COLUMN ROTATION DELAY

This function is used to set the delay time in stopping the cup column rotation in order to compensate any inertia due to the cup type.

WASH BUTTON

With this function it is possible to enable the operation of the mixer wash button.

Normally the button is disabled.

AUTOMATIC WASH

It is possible to set the time when performing an automatic wash of the mixers and a rotation of the brewer units installed. When setting the time to 24.00 the function is disabled.

(default).

DECCAF CYCLE

When enabling this function, instant coffee powder (if present) is dispensed in two steps to improve the appearance of the drink.

SELECTION COUNTER

This function is used to lock the machine after a programmable number of coffee selections, and a programmable number of instant selections; alternatively, the machine can be locked after a programmable number of selections. Since this is a control tool used only by the vending operator, a 5-digit password must be entered.

After entering the password, it is possible to set the number of selections after which the machine locks, read the number of selections already made and reset the lock counter.

N.B.: The counters are set to zero by default;
With the counters set to zero, this function is disabled.

PRE-GRINDING

Function not performed in these models.

DISPLAY

This group of functions controls all parameters concerning the display indications.



LANGUAGE

There is a choice of language, selected among the ones included in the EPROM, to be used for the messages on the display.

ENABLING THE PROMOTIONAL MESSAGE

When in this menu, press the confirm button "➡" to display the status of the message (enabled or disabled). The status can then be changed using the "↑" and "↓" buttons.

SETTING THE PROMOTIONAL MESSAGE

The 2-line message can be written using the "↑" and "↓" buttons to scroll through the available characters.

Press the confirm button "➡", the first character will start blinking and can be modified.

The message is stored by pressing button "⬅".

LCD CONTRAST CONTROL

This function is used for adjusting the display contrast from 5% to 99% (default).

PRE-SELECTIONS

According to the settings defined via software, the "-" and "+" buttons can be used to vary the amount of sugar or, alternatively of coffee or water.



There is also the option of using some selection buttons to have dispensing:

- without cup;
- with extra sugar, i.e. a greater amount of sugar (programmable) on all selections where it is dispensed;
- with sugar, added to unsweetened selections;
- with extra milk, i.e. a greater amount of milk (programmable) on all selections where it is dispensed.

The symbols ■■■□□ will indicate the average dose change.

It is possible to decide the variation of product dose and variation of selections price for the defined pre-selection.

MISCELLANEOUS

This menu contains some of the functions that are used less frequently concerning the machine parameters.



JUG FACILITIES

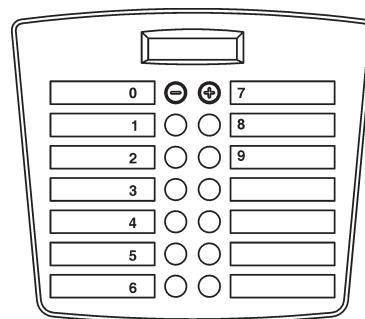
Using the special key dispensing free of charge from the front spout into "Mugs" and "Jugs" is enabled (without cup).

PASSWORDS

They are 5-digit numeric codes which are required for performing various functions with the door closed.

The default value of these codes is set to 00000.

With the code set to 00000 the related function is disabled. When this function is enabled the buttons take on numeric values.



Programming password

This password is requested to access programming mode.

Enabling the password

This function is used to enable the option of requesting the password to access programming; the password request is disabled by default.

Counter reset password

This function is used for setting the password that must be entered while in normal operating mode (door closed) for resetting the selection counters.

Wash password

This function is used for setting the password that must be entered while in normal operating mode (door closed) for performing a mixer wash cycle.

Unit positioning password

This function is used for setting the password that must be entered while in normal operating mode (door closed) for moving back the brewer unit slide.

Then, with the door open it will be possible to remove the waste conveying chute for cleaning.

Waste tray reset password

This function is used for setting the password for resetting the selection counters of the machine lock function for "Waste tray full"

FILLER MENU MASKING

This function is used to determine the filler menu options to be left active or to be disabled.

The reference numbers of the menus do not change even if some are disabled.

ENERGY SAVING

In order to save electric energy when the machine is not in use, this function is used to switch off the boiler heating. 2 switch-off time bands can be programmed on a weekly basis; the week days are identified by a progressive number (1=Monday, 2=Tuesday etc.).

The same time band cannot include days from different weeks.

If time bands are set overlapping, the machine will remain switched on for the shorter period.

For example, in order to set energy saving time bands to run the vending machine from 07.00 to 22.00 during the week and leave it switched off on the weekend, the time bands should be set, using the special menu, as indicated in the table below.

Day		1	2	3	4	5	6	7
band 1	start	00.00	00.00	00.00	00.00	00.00	00.00	00.00
	end	07.00	07.00	07.00	07.00	07.00	23.59	23.59
band 2	start	22.00	22.00	22.00	22.00	22.00	00.00	00.00
	end	23.59	23.59	23.59	23.59	23.59	00.00	00.00

FRESH-BREW UNIT DATA

For the Fresh-brew unit it is possible to set the brewing time, the drying time for the used dose and the extraction pressure.

STEAM EXHAUST

If the function is enabled (ON) the steam exhaust fan is always switched on. If the function is disabled (OFF) the fan runs 30 seconds longer than the selection duration.

STATISTICS

Data on the machine operations is stored in both general counters and relative counters, which can be reset without losing total data.

GENERAL COUNTER

An electronic counter stores the total of all selections made since the last reset.

The counter can be read and reset.

DISPLAYING GENERAL STATISTICS

When pressing the confirm button “#” the stored data is sequentially displayed, and namely:

- 1 - counter by single selection;
- 2 - counter by time bands;
- 3 - discount counter;
- 4 - failure counter;
- 5 - coin mechanism data.

RESETTING GENERAL STATISTICS

Statistics can be reset either globally (all types of data) or partially for:

- selections
- overprice counter
- failures
- coin mechanism data

Press the confirm button “#”, and the message “Confirm?” starts blinking.

Press the confirm button “#”, the message “Working” is displayed for a few seconds and all statistics are reset.

DISPLAYING RELATIVE STATISTICS

When pressing the confirm button “#” the stored data is sequentially displayed, and namely:

- 1 - counter by single selection;
- 2 - counter by time bands;
- 3 - discount counter;
- 4 - failure counter;
- 5 - coin mechanism data.

RESETTING RELATIVE STATISTICS

Statistics can be reset either globally (all types of data) or partially for:

- selections
- overprice counter
- failures
- coin mechanism data

Press the confirm button “#”, and the message “Confirm?” starts blinking.

Press the confirm button “#”, the message “Working” is displayed for a few seconds and all statistics are reset.

BDV protocol Audit

The information regarding the coin mechanism indicates the actual currency of:

Aud. 1 Money in the tubes

Money present in the change tube that moment

Aud. 2 Money to the tubes

Money sent to the change tubes

Aud. 3 Money to the box

Money sent to the coin box

Aud. 4 Return of change

Total money returned

Aud. 5 Dispensed money

Total money dispensed manually

Aud. 6 Excess

Excess money. Extra amounts paid by the customer that were not returned (in the event there was no money available for return)

Aud. 7 Total sales

Total value of sales

Aud. 8 Exact change

Value of sales in the “no change” condition.

Aud. 9 Mixed dispensing

Total value of dispensing paid differently; for example also other types of payment (C.P.C., token).

Aud. 10 Manual filling

Money inserted in the coin mechanism through the manual filling function.

MDB protocol Audit

- Aud. 1 Money in the tubes
Money present in the change tube that moment
- Aud. 2 Money to the tubes
Money sent to the change tubes
- Aud. 3 Money to the box
Money sent to the coin box
- Aud. 4 Change return
Total money returned
- Aud. 5 Excess
Excess money. Extra amounts paid by the customer that were not returned (in the event there was no money available for return)
- Aud. 6 Release tubes**
Value of coins dispensed with the "Tubes control" function
- Aud. 7 Filling tubes
Value of money cashed with the manual filling function
- Aud. 8 Cash sales
Value of total sales with cash money (coins + bills)
- Aud. 9 Cashed bills
Value of cashed bills
- Audi. 10 Charge key
Value of money changed into the key
- Audi. 11 Sales with key
Value of money cashed for dispensing with key
- Aud. 12 Money dispensed manually
Value of coins dispensed manually with the dispensing buttons on the coin mechanism.
- SELECTION COUNTER DISPLAY**
This function is used to enable/disable the display of the total number of drinks sold since the last statistic reset, during the start-up phase of the machine.
- PRINTING**
Connect an RS-232 serial printer with a Baud rate of 9600, 8 data bit, no parity, 1 stop bit to the serial port located on the push button board, to print all the statistics described in the section "Displaying the statistics". The hardcopy printout will also contain the machine code, the date and the software version.
Statistics can be printed partially or totally.
To connect the printer, do as follows:
- press the confirm print button "►", displaying the message "Confirm?";
- connect the printer before confirming;
- press the confirm button "►" again to start printing.

TEST

DISPENSING

With this function it is possible to obtain, with the door open and without inserting any money, for each selection dispensing of:

- complete selection
- water only
- powder only
- without accessories (cup and sugar)
- accessories only

SPECIAL FUNCTIONS

By accessing this function it is possible to:

- activate the brewer unit;
- rotate the brewer unit, and dispense the dose;
- open a solenoid valve to allow the intake of air in the event of emptying the boiler for maintenance;
- manually install the boiler;
- activate the brewer unit;
- move back the slide for removing the Fresh Brew waste chute.

AUTOTEST

This function allows testing of the main machine components.

Press button "►" and the message "AUTOTEST" will start blinking.

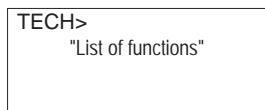
Press button "◀" to cancel the operation, confirm with button "►" to start the autotest routine.

In a sequence:

- Fan functioning test for 2 seconds.
- The doser units are activated for 2 seconds.
- The mixers are activated for 2 seconds.
- A cup is released.
- A stirrer is released.
- Wash button test.
- Waste container switch; the machine awaits until the waste container micro-switch is manually operated.
- Switching on of the dispensing compartment lamp.
- Push-button panel test; the machine will display the number of the button which must be pressed and awaits the actuation before going to the next button.
- Boiler temperature test.
- Buzzer functioning test.
- Coin mechanism functioning test.

MISCELLANEOUS

This menu contains some sub-menus, used less frequently, which permit control of the functions described below.



MACHINE INFORMATION

INSTALLATION DATE

This function is used to store the current date of system as installation date.

The date is printed when retrieving the statistics.

PROGRAMMING THE MACHINE CODE

When the "Machine code" function is displayed the eight-digit numeric code identifying the machine can be changed (from the default 0).

PROGRAMMING THE OPERATOR CODE

When the "Operator code" function is displayed the six-digit numeric code identifying groups of machines can be changed (from the default 0).

INITIALISING

When the "Initialise" function is displayed the vending machine can be initialised restoring all default data.

This function should be used if there is a memory data error or when the software is replaced.

All statistic information will be reset.

Press the confirm button "➡" and the display will indicate the message "Confirm?". Press the confirm button "➡" again and some parameters will be requested, which are:

"Country"

intended as type of base doses for the different selections (e.g. IT coffee = 45 cc - FR coffee = 80 cc).

The available "countries" are, according to the models, USA and Canada.

"Layout"

A number of Button/Selection combinations to choose from is provided for each dose type model (the combinations available for each layout are indicated in the dose selection table supplied with the machine).

"Tank"

Defining whether the water supply is:

0 - from the mains

1 - from an internal tank

2 - from two internal tanks

When confirming the options the message "Working" is displayed for a few seconds.

EVADTS CODES

The EVADTS (European Vending Association Data Transfer System) communication protocol has two codes for identifying the machine and for recognising the data transfer terminal:

PASS CODE

It is a four-digit alphanumeric code (0-9; A-F) that must be the same as the one in the data transfer terminal to allow its identification.

Press the confirm button "➡" and the code is displayed as "0000" regardless of the actual value; then press the correction button "⬅" and the first digit will start blinking. Using the scrolling buttons, its value can be changed (during the change operation the value becomes visible). Press the confirm button "➡" and the next digit starts blinking.

Press the confirm button "➡" after changing the fourth digit; the value is stored and the display indicates "0000" again.

SECURITY CODE

It is a further alphanumeric code for reciprocal recognition between machine and EVADTS terminal.

Programming works as in the "Pass" code.

Connection

This function places the machine in wait mode for connection to retrieve data.

EVADTS CONNECTION

When activating this function, the machine awaits the connection with a device to acquire the EVADTS statistics.

UP KEY CONTROL

SETUP

Up Key -> vending machine

When confirming this function after inserting the Up Key in the special port located on the C.P.U. board, it will be possible to select the setup file from the list shown on the display using the scrolling buttons, then when confirming with the confirm button the selected setup will be loaded in the vending machine.

Vending machine -> Up Key

When confirming this function after inserting the Up-Key in the special port located on the C.P.U. board, it will be possible to save the setup file to the Up-Key with the configuration present in that moment in the vending machine, indicating the name to be assigned to the file (e.g.: Brio000.STP).

Delete

This function is used for deleting one by one the setup files present in the inserted Up Key.

Delete all

This function is used for deleting all the setup files present in the inserted Up Key.

STATISTICS

Vending machine -> Up Key

When confirming this function after inserting the Up-Key in the special port located on the C.P.U. board, it will be possible to save the statistics file to the Up-Key with all of the statistics files present in that moment in the vending machine, indicating the name to be assigned to the file (e.g.: Brio000.STA).

Delete

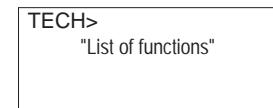
This function is used for deleting one by one the statistics files present in the inserted Up Key.

Delete all

This function is used for deleting all the statistics files present in the inserted Up Key.

GSM

The control software can send, via GSM modem, a signal indicating a machine failure or an "ending product" "pre-alarm", after dispensing a certain (programmable) number or quantity of a given product.



The machine fitted with the modem can have the function of "master GSM", i.e. collect and transmit data from other banked machines.

PIN CODE

This function is used for programming the identification code of the SIM card (0000 by default) that will be sent to the GSM modem (optional) when switching the machine on.

SETTING THE THRESHOLDS

This function is used for defining the number of pieces or grams of powder for a given product, after which a "running-out" "pre-alarm" is signalled via modem.

RESETTING THE COUNTERS

With this function the counters that control the pre-alarms are reset.

When pressing the confirm button "➡" the values are reset.

BANK NUMBER

The number in the bank of machines (1 to 7) that identifies the machines that have the "slave GSM" function, therefore sending data via the modem to the "master" machine. The number 0 identifies the machine that is connected directly to the modem, i.e. the "master GSM".

Chapter 3 MAINTENANCE

The integrity of the machine and compliance with the standards of the relevant systems must be checked at least once a year by qualified personnel.

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

The operations described below must be carried out only by personnel who have the specific knowledge of the machine functioning from a point of view of electrical safety and health regulations.

INTRODUCTION

To ensure correct operation for a long period, the machine must be subjected to regular maintenance.

The following sections contain the procedures and the maintenance schedule, which are only a general indication, as they greatly depend on the operating conditions (e.g. water hardness, environmental humidity and temperature, type of product used, etc.).

The procedures described in this chapter are not exhaustive of all maintenance operations to be carried out.

More complex operations (e.g. boiler descaling) should be carried out by qualified technicians only having specific knowledge of the machine.

To prevent oxidation or the action of chemical agents, the stainless steel and varnished surfaces should be kept clean by using mild detergents (solvents must not be used).

Under no circumstances should water jets be used to clean the machine.

MAINTENANCE OF THE BREWER UNIT

Every 1,000 selections, or more frequently according to the operating conditions, the brewer filter must be removed and cleaned. Its gasket, in any case, must be replaced at least every 50,000 selections even if still apparently efficient.

Every 100,000 selections the brewer unit must be disassembled completely to thoroughly clean all parts and replace the worn ones.

Important notice!!

Should the unit need to be removed completely, it must not be held by the cylinder or by the filter holder.

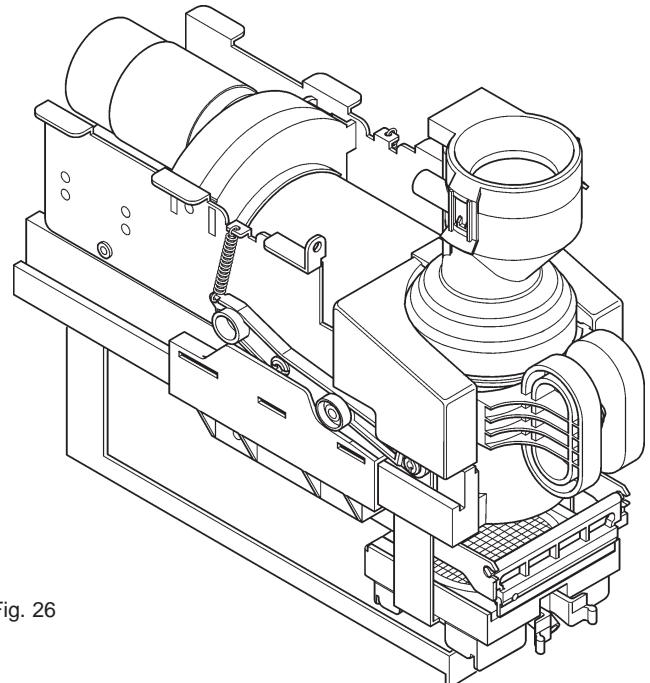


Fig. 26

MAINTENANCE OF THE BOILER

According to the hardness of the water and the number of selections made, a periodic descaling of the boiler is necessary.

This operation should be carried out by qualified technicians only.

To descale the boiler, it is necessary to remove it from the machine.

For descaling use only biodegradable, non-toxic and mild products.

Thoroughly rinse all parts before reassembling.

When reassembling make sure that:

- the electrical contacts (terminals, fastons etc.) are thoroughly dry and correctly connected;
- the safety and anti-boiling thermostats are suitably positioned and fastened;
- the hydraulic connections are correctly made.

IMPORTANT NOTICE!!!

If for any reasons the heating system of the boiler is operating without water, check the correct functioning of the boiler temperature sensor before restarting the machine.

If dry heating continues until the safety thermostat is activated (see hydraulic system) the boiler temperature sensor could be damaged permanently and therefore need to be replaced;

a thorough check of all components of the system (pump, boiler heating element, tubing etc. in indispensable in any case.

CLEANING THE CUP DISPENSER

The cup dispenser was designed to be disassembled easily for maintenance operations. Each single column of the cup stacker and the release ring can be disassembled without using tools.

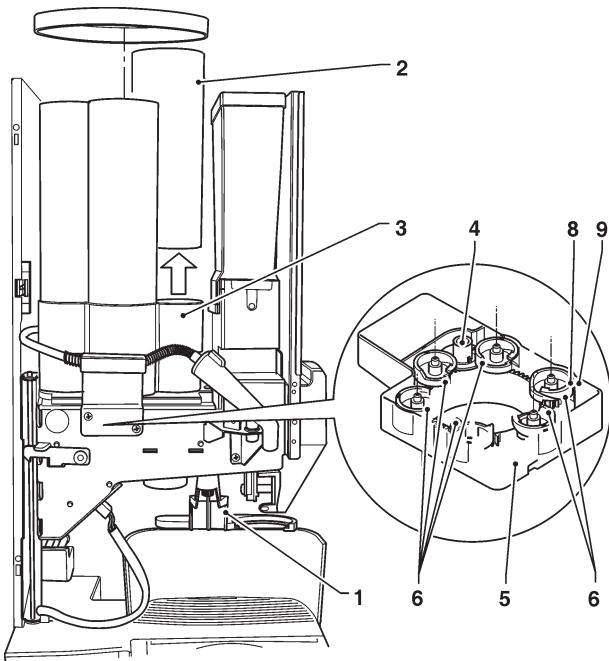
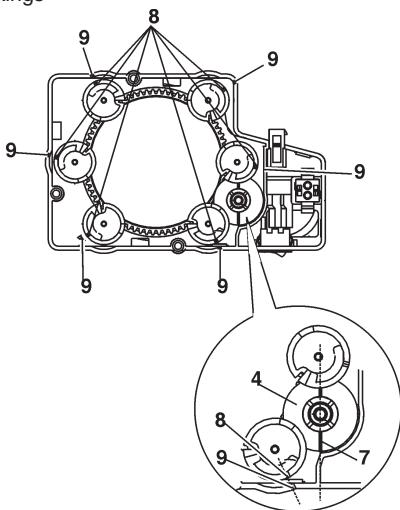


Fig. 27

- 1 - Cup shift arm
- 2 - Removable column
- 3 - Cup stacker
- 4 - Micro-switch actuation gear
- 5 - Snail gear support
- 6 - Cup release snail gears
- 7 - Reference notch of the actuation pinion
- 8 - Snail gear markings
- 9 - Snail gear support markings



The cup release ring must not be opened for normal cleaning.

Should any adjustments be necessary during re-assembly, special attention must be paid to:

- line up the notch on the micro-switch actuation pinion with the arrow on the snail gear support.
- respect the orientation of the snail gears, lining up the markings, as indicated in the figure.

PERIODICAL CLEANING

At least once a year, or more frequently according to the use of the machine and the quality of the inlet water, the entire foodstuff circuit system must be cleaned and sanitized as described below.

SANITISING

- all parts of the hydraulic system in contact with food, including the hoses, must be removed from the unit and fully disassembled;
- all visible residue and product films are mechanically removed using brushes or similar tools, if necessary;
- all components must be soaked in a sanitising solution for at least 20 minutes;
- the unit internal surfaces are to be cleaned with the same sanitising solution;
- thoroughly rinse and then reinstall the parts.

Before restarting the machine, the same sanitising procedure described in section “Sanitising the mixers and the foodstuff circuits” should be repeated.

CLEANING THE PRODUCT CONTAINERS

- Remove the containers from the machine;
- undo the product ports and slide out the augers from back of the container;
- clean all parts in a solution of hot water and sanitising products and dry thoroughly.

FLOW DIVERTER SOLENOID VALVE

The efficiency of the brewed product flow diverter (see Fig. 28), dispensing from the spout and to the external nozzle, especially the tubes inside the clamp, must be checked periodically.

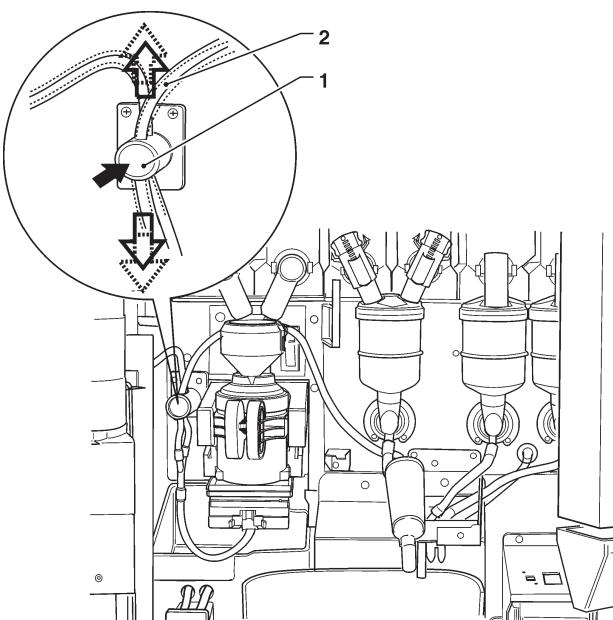


Fig. -28

- 1 - Flow diverter solenoid valve
- 2 - Silicone tubes

REPLACING THE MIXERS

The instant product mixers and the powder feeders can be adapted for dispensing products with different characteristics, therefore it is necessary to pay attention to the differences in the various components during assembly. Also the replacement of components with other spares for speeding up cleaning operations or the change of product dispensed by the machine may require the adapting of components.

The following components can be adapted:

Mixer cover

The mixer cover has four pre-cuttings that can be removed to adapt to the different product feeder types.

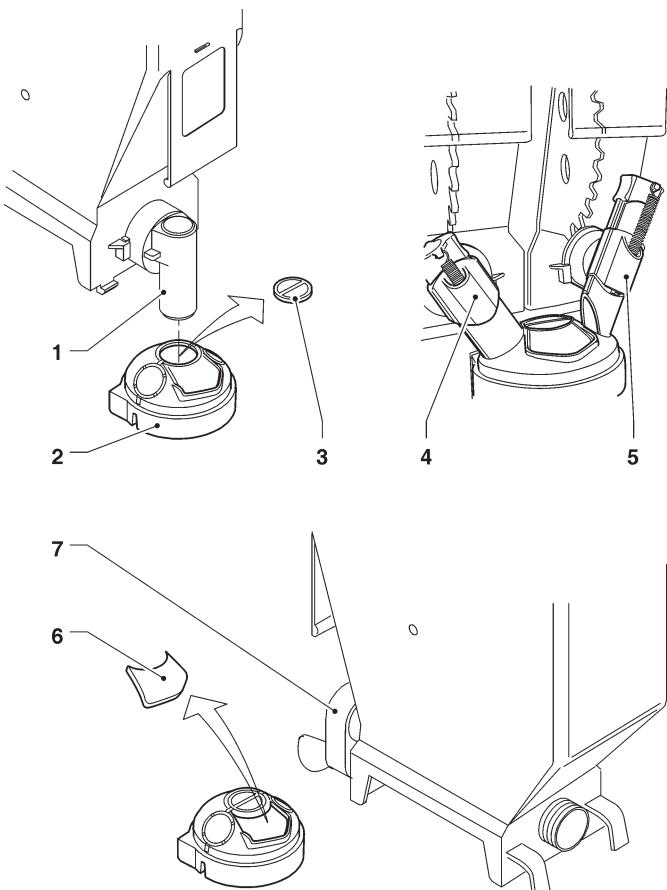


Fig. 29

- 1 - Central feeder
- 2 - Mixer cover
- 3 - Removable pre-cutting
- 4 - Left central feeder
- 5 - Right central feeder
- 6 - Square pre-cutting
- 7 - Square feeder

The central feeder cannot be installed together with the side feeders.

The square feeder of the canister on the shelf can be installed both with the side feeders and with the central feeder.

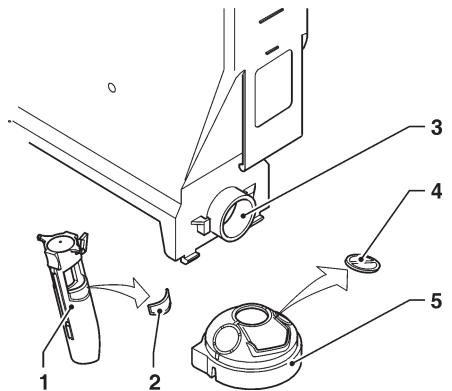


Fig. 30

- 1 - Side feeder
- 2 - Removable part
- 3 - Canister product outlet
- 4 - Mixer cover
- 5 - Removable side pre-cutting

Side feeders

The side feeders can be installed with the slope to the right or to the left.

The opening for the powder passage of the feeder to the canister is partially closed.

With some low dose products (e.g. instance coffee) it may be necessary to remove the part that partially closes the passage; the feeder in this case becomes right or left oriented.

To reinstall the mixers correctly pay attention to:

- the covers; if provided with different holes, they must be fitted on the correct mixer;
- the powder feeders must have the open side towards the canister and the chamfer upwards;
- before engaging the return spring, check that the markers on the feeder and on its guide line up forming an arrow oriented vertically and upwards.

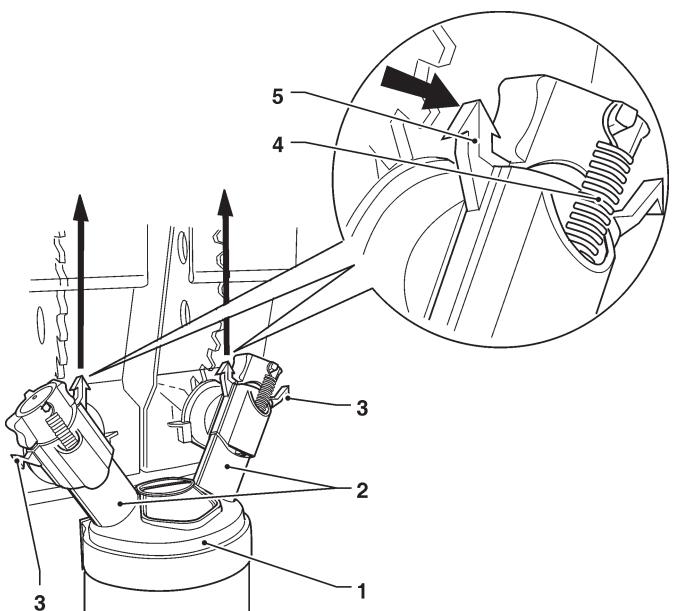


Fig. 31

- 1 - Mixer cover
- 2 - Side feeder
- 3 - Feeder reference
- 4 - Return spring
- 5 - Reference arrow

PRINTED BOARD FUNCTIONS AND INDICATOR LAMPS

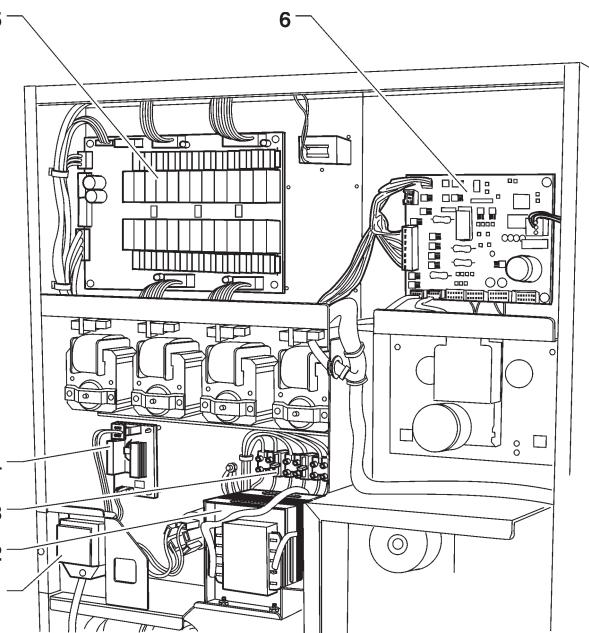
ACTUATION BOARD

This board (see fig. 32) activates the 120 V~ power users by means of relays. Furthermore, it controls the signals from the cams and/or the micro-switches on the various power users as well as the boiler.

The board is powered with 34 V DC by means of the Sigma Brewer control card.

Fig. 32

- 1 - Line cable connection clamp
- 2 - Electronic card and coin mechanism power supply transformer
- 3 - Transformer fuses
- 4 - Boiler heating Triac board
- 5 - Actuation board
- 6 - Sigma Brewer board



RELAY FUNCTION (see Wiring diagram)

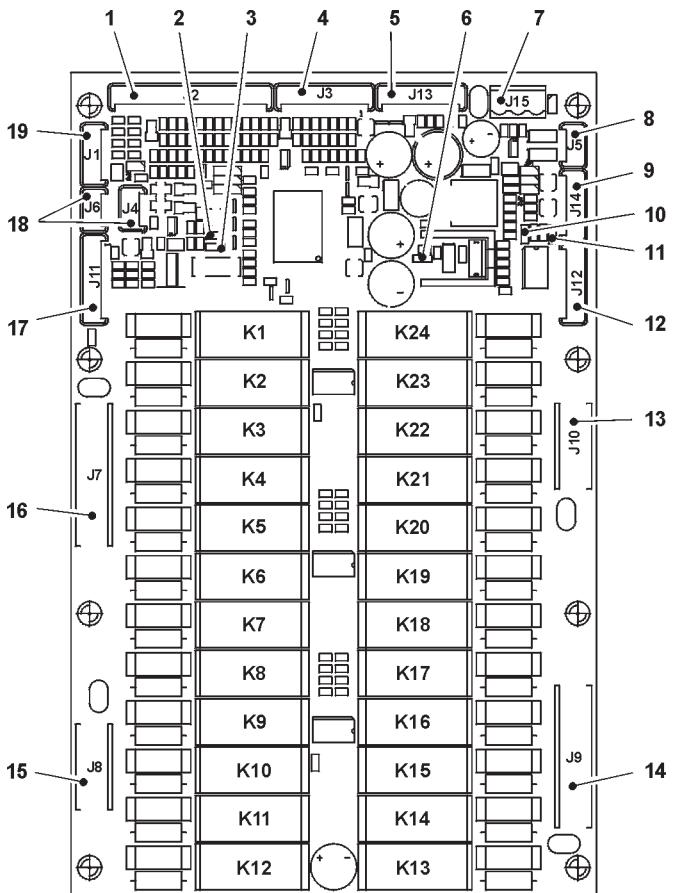
Fresh brew

K1	=	Not used
K2	=	MSB
K3	=	MSCB
K4	=	MSP
K5	=	VENT
K6	=	LF
K7	=	EVH2O
K8	=	Not used
K9	=	MF3
K10	=	MF2
K11	=	MF1
K12	=	MDZ
K13	=	PM
K14	=	EVFB
K15	=	E1
K16	=	E2
K17	=	E3
K18	=	EEA
K19	=	Not used
K20	=	Not used
K21	=	MD4
K22	=	MD3
K23	=	MD2
K24	=	MD1

The control software of the board is installed directly (via RS232 or with Up Key on the CPU) in the microprocessor.

- the green LED (2) blinks during normal operation of the board
- the yellow LED (6) indicates the presence of 5 V DC
- the red LED (3) glows during the board reset
- the red LED (10) indicates the operating status of the boiler heating element

Fig. 33



- 1 - Input signal
- 2 - Green LED
- 3 - Red LED
- 4 - UPS input (optional)
- 5 - Connector for board programming (RS232)
- 6 - Yellow LED
- 7 - Board power supply (34 VAC)
- 8 - Not used
- 9 - Boiler probe and control
- 10 - Red LED - boiler heating element
- 11 - Red LED (not used)
- 12 - Expansion board connection
- 13 - 120 V~ power users
- 14 - 120 V~ power users
- 15 - 120 V~ power users
- 16 - 120 V~ power users
- 17 - Not used
- 18 - "Can Bus" connection
- 19 - Not used

PUSH-BUTTON BOARD

This board controls the selection buttons and, on the internal side, the service buttons.

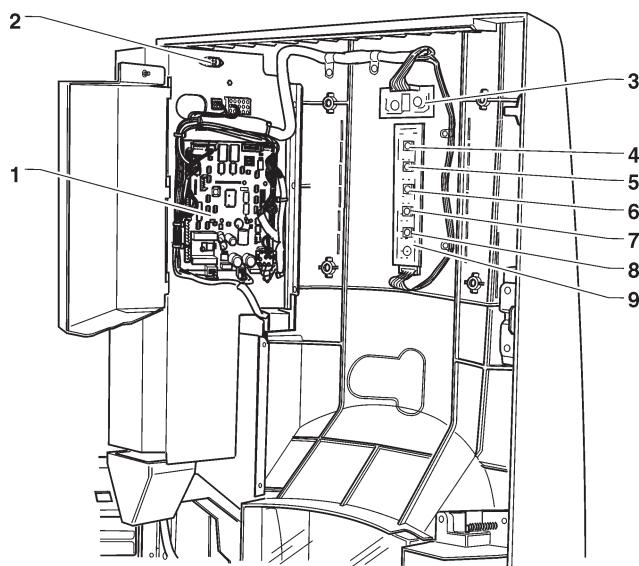


Fig. 34

- 1 - CPU board
- 2 - RS232 serial port
- 3 - Display card
- 4 - Cup release button
- 5 - Statistic reading button
- 6 - Failure reset button
- 7 - Mixer cleaning button
- 8 - Programming access button
- 9 - Push-button board

C.P.U. BOARD

The C.P.U. (Central Processing Unit) board controls all power users set for the maximum configuration, processes the input signals from the keypad and from the payment system. It also controls the actuation and display cards.

The LEDs furnish the following indications during the vending machine operation:

- Green LED (3): blinks during normal operation of the C.P.U. board;
- Yellow LED (4): glows when 5 VDC are detected;
- Red LED (7): glows when, for any reason, the software is reset.

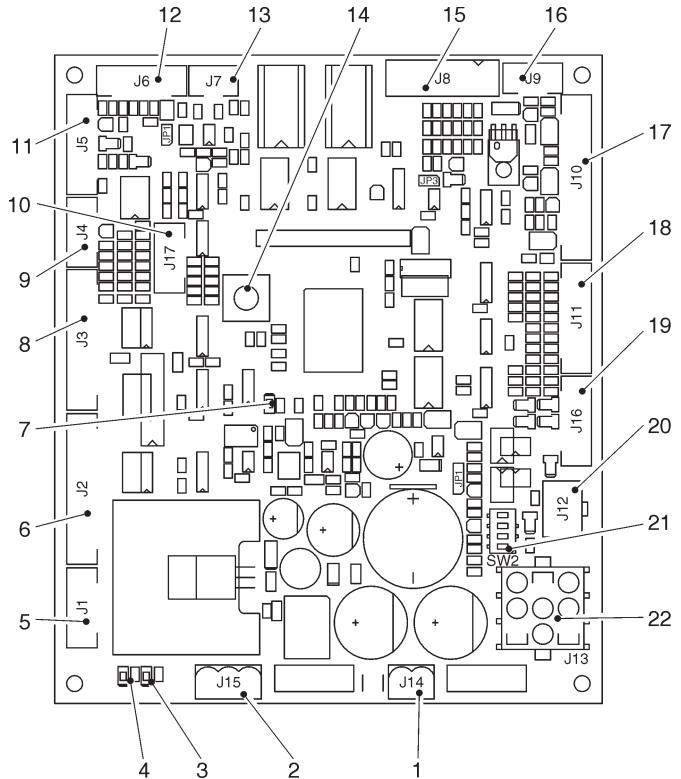


Fig. 35

- 1 - J14 MDB and BDV coin mechanism power supply
- 2 - J15 Board power supply
- 3 - Green LED: run (DL2)
- 4 - Yellow LED: 5 V DC (DL1)
- 5 - Not used
- 6 - Not used
- 7 - Red LED: CPU reset (DL3)
- 8 - J3 Input/output
- 9 - J4 Not used
- 10 - J17 Up Key connector
- 11 - J5 RS232 cables
- 12 - J6 Not used
- 13 - J7 Can-Bus
- 14 - Button not used
- 15 - J8 Validators
- 16 - J9 Not used
- 17 - J10 LCD display
- 18 - J11 Keypad
- 19 - J9 Numeric push-button panel input (optional)
- 20 - J12 MDB coin mechanism
- 21 - Coin mechanism setting dip-switches (SW2)
- 22 - J13 Expansion for BDV / EXE

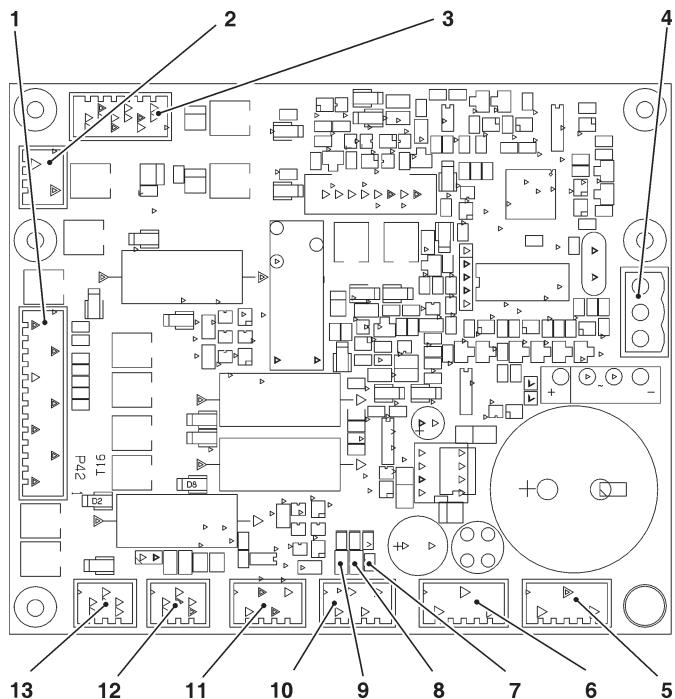
SIGMA BREWER CONTROL BOARD

This board, placed at the back of the machine, (see fig. 36) processes the information from the brewer unit and controls its operation.

The board also controls the dispensing of fresh product and the flow diverter solenoid valve.

The 24 V AC voltage required for board operation is supplied by a transformer which is protected by a 800 mA fuse on the primary and by a 4 AT fuse on the secondary winding. The voltage supply is rectified and stabilised directly by the board.

- the green LED (7) indicates the presence of +5 V;
- the green LED (8) indicates the presence of 34 V DC variable;
- the green LED (9) indicates the presence of 34 V DC.



CONFIGURING THE ELECTRONIC BOARDS

The electronic boards are designed to be used in many machine models.

In the event of replacement, or when wishing to change the machine performance, it will be necessary to check the configuration of the boards and install the appropriate software.

SOFTWARE UPDATE

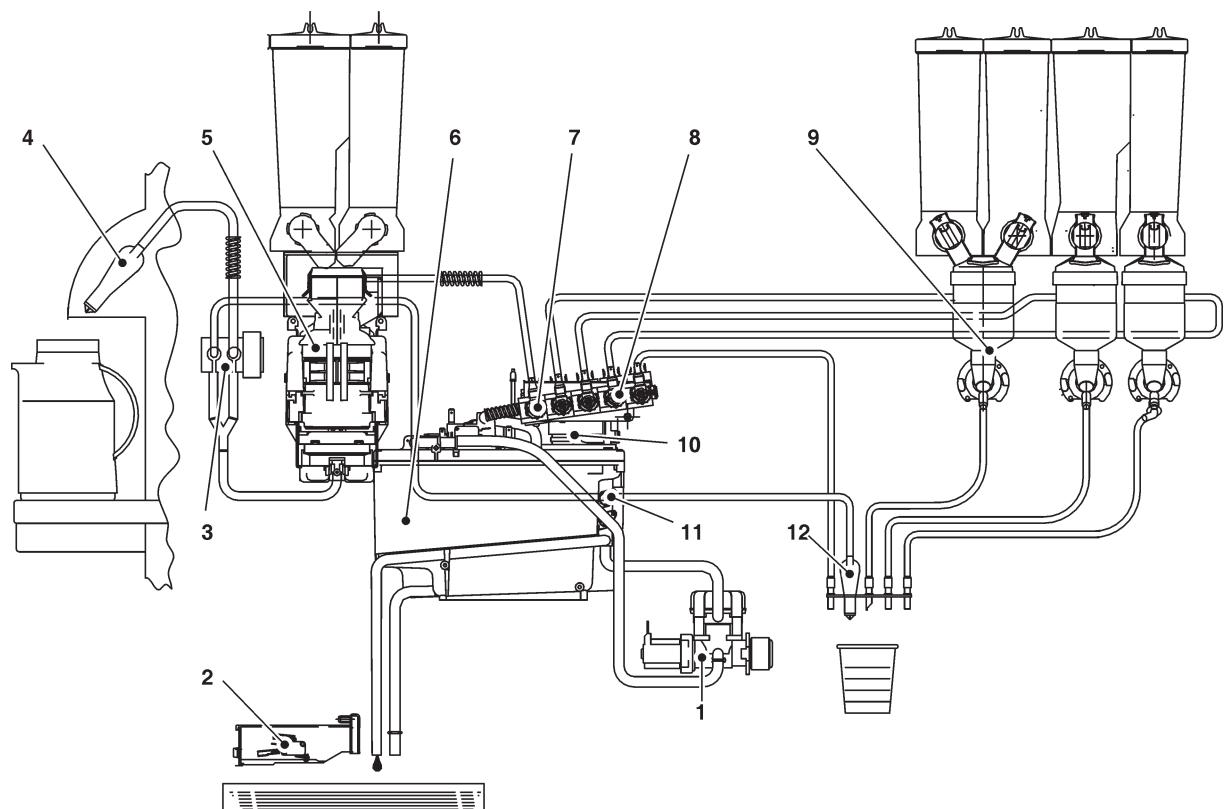
The machine is fitted with Flash EPROMs which can be electronically updated.

By means of a special program and suitable system (Personal Computer, Up Keys or similar) the machine management software can be updated without replacing the EPROMs.

Fig. 36

- | | |
|----|--|
| 1 | - To Sigma brewer unit |
| 2 | - Not used |
| 3 | - MDFB1 - MDFB2 - EVDEV |
| 4 | - Board power supply 24Vac |
| 5 | - 34 V DC actuation board power supply |
| 6 | - 34 V DC actuation board power supply |
| 7 | - Green LED +5V |
| 8 | - Green LED 34Vdc variable |
| 9 | - Green LED 34 Vdc |
| 10 | - Sigma power supply jumper |
| 11 | - Sigma power supply jumper |
| 12 | - Can-bus with actuation board |
| 13 | - Can-bus with actuation board |

HYDRAULIC SYSTEM FOR FRESH BREW BIG JUG



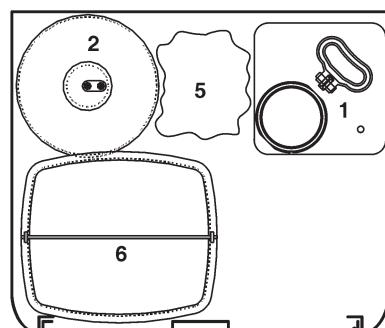
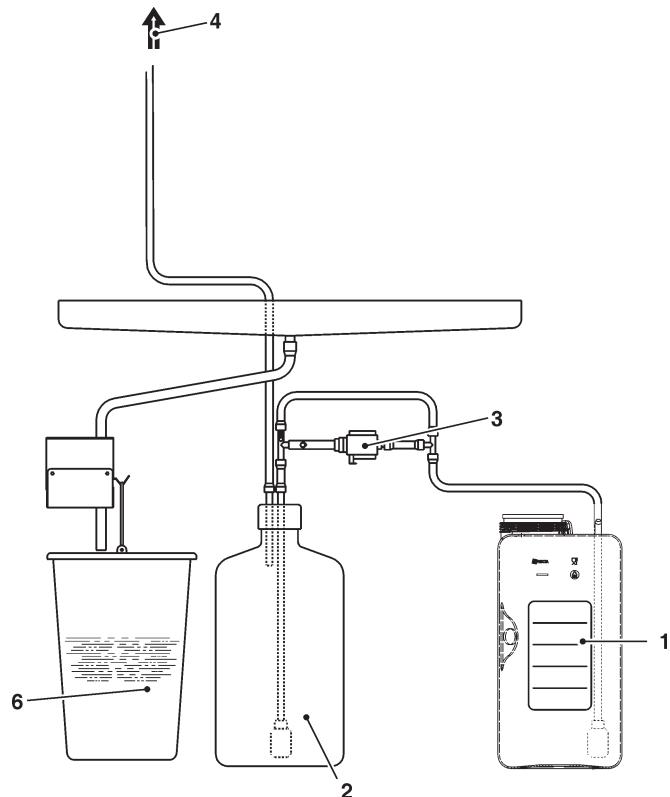
1 - Water inlet solenoid valve
 2 - Liquid waste container float
 3 - Jug/cup diverter
 4 - Jug dispensing spout
 5 - Brewer unit
 6 - Boiler

7 - Fresh-brew solenoid valve
 8 - Instant prod. solenoid valves
 9 - Instant prod. mixer
 10 - Boiler pump
 11 - Safety thermostats
 12 - Dispensing spout

HYDRAULIC SYSTEM

Equipped base cabinet (optional)

Water supply tank and softener unit



- 1 - Water tank
- 2 - Water softener (optional)
- 3 - Water supply pump

- 4 - To the machine
- 5 - Coffee grounds bag
- 6 - Liquid waste container

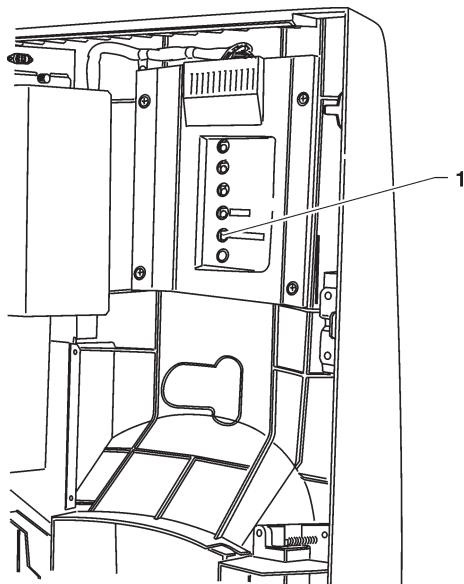
Programming menu summary

The machine can function in 3 different operating modes:

- Normal vending mode
- Filler menu
- Technician menu

In order to access the programming menus, press the programming button located on the push-button card:

Fig. 37



1 - Programming access button

The machine goes into "Filler Menu" mode.
When pressing button "⬅" the machine goes from "Filler Menu" to "Technician Menu" and vice versa.

The buttons shown in the figure are used for surfing

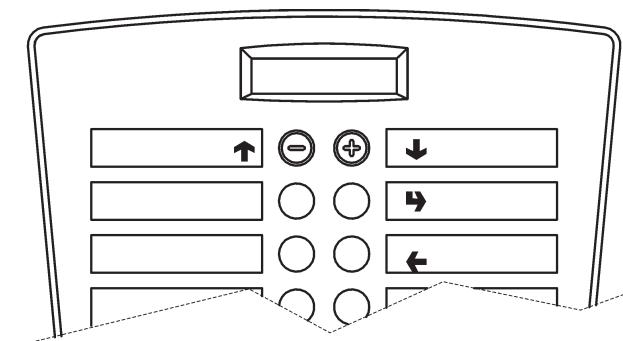


Fig. 38

through the different menus:

Scrolling buttons UP (↑) and DOWN (↓)

The UP and DOWN scrolling buttons are used for moving from one programming menu item to the next one, located in the same level, and at the same time change the status or the numeric value of the corresponding functions.

Confirm / enter button (➡)

The confirm / enter button is used for moving to the lower level or for confirming a value after being entered or changed.

Exit button (⬅)

The exit button is used for returning to the higher level or for exiting a change field of a function. When reaching the highest level in the menu, this button is pressed for going from the Technician menu into the Filler menu and vice versa.

Inserting the values

The control software requests the entry of letters and/or numbers the buttons take on the following functions:

The confirm button "➡" is for changing / entering the first character, then for confirming it and going to the next character.

The "↑" and "↓" buttons are for scrolling through the available values.

After entering the values, press button "➡" and the display will show the message "Confirm?"; press again the confirm button to store the values as entered.

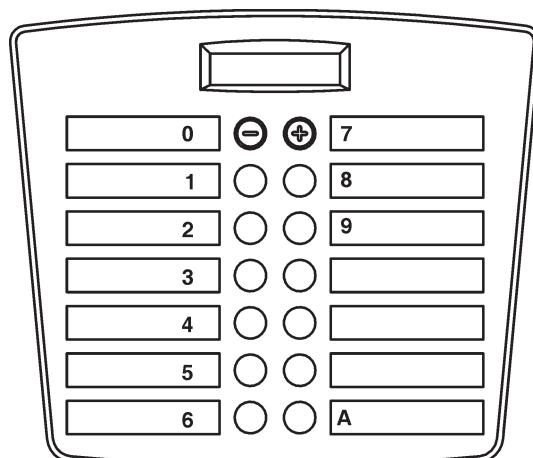
Passwords

The passwords are 5-digit codes.

When the control software requests the entry of passwords the selection buttons take on the numeric values as shown in the figure.

During normal vending mode, when pressing button A for more than three seconds, the display will indicate the message "enter password".

Fig. 39



"Filler Menu" Summary

1 - STATISTICS

1.1 - PRINT STATISTICS

1.1.1 - PARTIAL PRINTOUT

- 1.1.1.1 - PRINT SEL. COUNT
- 1.1.1.2 - PRINT BAND COUNT
- 1.1.1.3 - PRINT DISC COUNT
- 1.1.1.4 - PRINT FAIL COUNT
- 1.1.1.5 - PRNT C MECH DATA

1.1.2 - TOTAL PRINTOUT

1.2 - PRINT REL. STATS

1.2.1 - PARTIAL PRINTOUT

- 1.2.1.1 - PRINT SEL. COUNT
- 1.2.1.2 - PRINT BAND COUNT
- 1.2.1.3 - PRINT DISC COUNT
- 1.2.1.4 - PRINT FAIL COUNT
- 1.2.1.5 - PRNT C MECH DATA

1.2.2 - TOTAL PRINTOUT

1.3 - DISPLAY STATS

1.3.1 - DIS. SEL. COUNT.

- 1.3.1.1 - DIS. SIN. COUNT.
- 1.3.1.2 - DIS. TOT. COUNT.
- 1.3.1.3 - DIS. SEL. COUNT.

1.3.2 - DIS. BAND COUNT.

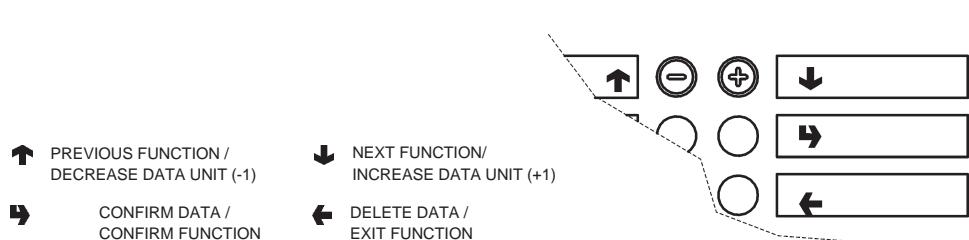
1.3.3 - DIS. DISC. SEL.

1.3.4 - DIS. FAIL.COUNT.

1.3.5 - DIS. C MECH DATA

1.3.5.1 - DIS. AUDIT DATA

1.3.5.2 - DIS. CASH COUNT.



"Filler Menu" Summary

1.4 - DIS. REL. STATS

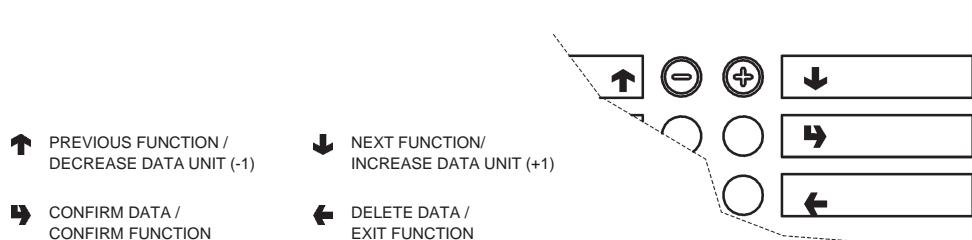
- 1.4.1 - DIS. SEL. COUNT.
 - 1.4.1.1 - DIS. SIN. COUNT.
 - 1.4.1.2 - DIS. TOT. COUNT.
 - 1.4.1.3 - DIS. SEL. COUNT.
- 1.4.2 - DIS. BAND COUNT.
- 1.4.3 - DIS. DISC. SEL.
- 1.4.4 - DIS. FAIL.COUNT.
- 1.4.5 - DIS. C MECH DATA
 - 1.4.5.1 - DIS. AUDIT DATA
 - 1.4.5.2 - DIS. CASH COUNT.

1.5 - DEL. REL. STATS

- 1.5.1 - DELETE PARTIAL
 - 1.5.1.1 - DELETE SE. COUNT
 - 1.5.1.2 - DEL. DISC. COUNT
 - 1.5.1.3 - DEL. FAIL. COUNT
 - 1.5.1.4 - DEL. C MECH DATA
- 1.5.2 - DELETE TOTAL

2 - SET SIN. PRICES

- 2.1 - PRICE BAND 0
- 2.2 - PRICE BAND 1
- 2.3 - PRICE BAND 2
- 2.4 - PRICE BAND 3
- 2.5 - PRICE BAND 4



"Filler Menu" Summary

3 - TUBES CONTROL

3.1 - FILL TUBES

3.2 - RELEASE TUBES

4 - BOILER TEMPERAT.

5 - TEST

5.1 - COMP. DISPENSING

5.2 - WATER ONLY

5.3 - POWDER ONLY

5.4 - NO ACCESSORIES

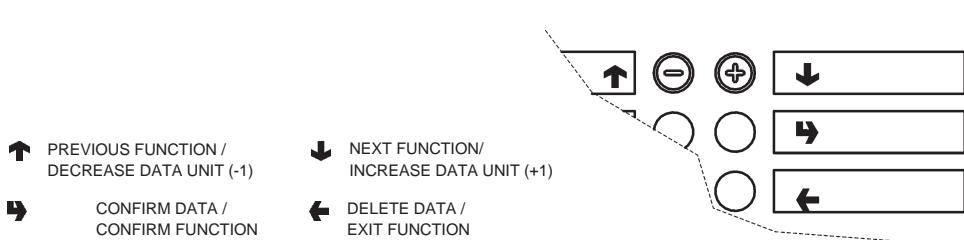
5.5 - ACCESSORIES ONLY

6 - GSM

6.1 - RESET PRE-AL CNT

7 - EVADTS

7.1 - CONNECTION



"Technician Menu" Summary

1 - FAILURES

1.1 - READING FAILURES

1.2 - RESET FAILURES

2 - SET PARAMETERS

2.1 - CASH

2.1.1 - PRICES

2.1.1.1 - SET SIN. PRICES

- 2.1.1.1.1 - PRICE BAND 0
- 2.1.1.1.2 - PRICE BAND 1
- 2.1.1.1.3 - PRICE BAND 2
- 2.1.1.1.4 - PRICE BAND 3
- 2.1.1.1.5 - PRICE BAND 4

2.1.1.2 - SET GLOB. PRICES

- 2.1.1.2.1 - PRICE BAND 0
- 2.1.1.2.2 - PRICE BAND 1
- 2.1.1.2.3 - PRICE BAND 2
- 2.1.1.2.4 - PRICE BAND 3
- 2.1.1.2.5 - PRICE BAND 4

2.1.1.3 - TIME BANDS

- 2.1.1.3.1 - SET DATE & TIME
- 2.1.1.3.2 - TIME BAND 1
- 2.1.1.3.3 - TIME BAND 2
- 2.1.1.3.4 - TIME BAND 3
- 2.1.1.3.5 - TIME BAND 4

2.1.2 - COIN MECHANISMS

2.1.2.1 - COIN MECH SETT.

2.1.2.2 - IMMEDIATE CHANGE

2.1.3 - DECIMAL POINT

2.1.4 - MASTER SLAVE

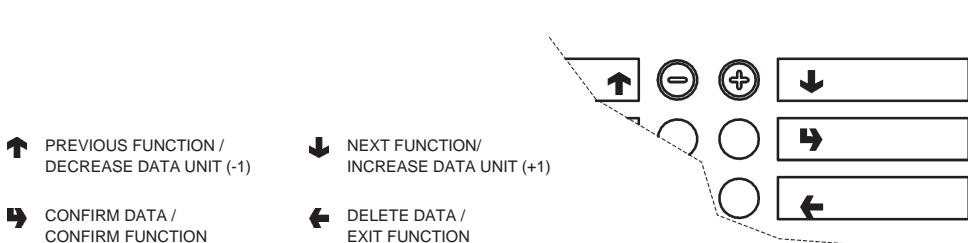
2.1.4.1 - SET UP

2.1.4.2 - SLAVE PRICE HOLD

2.1.4.3 - VIRT. PRICE RET.

2.1.4.4 - RESET SNAKKY SL

2.1.4.5 - MONITOR SLAVE



"Technician Menu" Summary

2.2 - SELECTIONS

2.2.1 - SET WATER

 2.2.1.1 - WATER DOSES

 2.2.1.2 - SET WHIP DOSES

 2.2.1.2.1 - SET DOSES

 2.2.1.2.2 - SET MODALITY

 2.2.1.3 - SOLENOID SETTING

 2.2.1.4 - DRIPPING TIME

2.2.2 - SET POWDER

 2.2.2.1 - POWDER DOSES

 2.2.2.2 - DOSER SETTINGS

2.2.3 - SET ACCESSORIES

 2.2.3.1 - ENABLE CUP

 2.2.3.2 - ENABLE SUGAR

 2.2.3.3 - ENABLE STIRRER

2.2.4 - SELECTION STATUS

2.2.5 - SELECTION BUTTON

2.2.6 - SEL. ARRANGEMENT

2.2.7 - PRODUCT CODE

2.3 - MACHINE PARAM.

2.3.1 - BOILER TEMPERAT.

2.3.2 - TANK

2.3.3 - MIXER HEATING

2.3.4 - MIXER COOLING

2.3.5 - FAST CYCLES

2.3.6 - SET DISP. MAINT.

2.3.7 - PHOTOCELL

2.3.8 - NEON TIME

2.3.9 - SET CUP SETTLING

2.3.A - EN. WASH BUTTON

2.3.B - EN.AUT.MIX.WASH

2.3.C - DEC. CYCLE

2.3.D - NUM. MAX CONTAT.

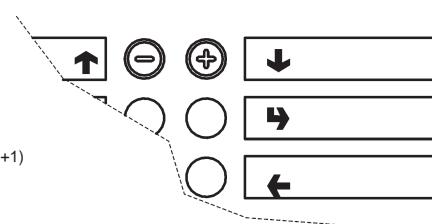
2.3.E - PREGRINDING

↑ PREVIOUS FUNCTION /
DECREASE DATA UNIT (-1)

↓ NEXT FUNCTION /
INCREASE DATA UNIT (+1)

➡ CONFIRM DATA /
CONFIRM FUNCTION

⬅ DELETE DATA /
EXIT FUNCTION



"Technician Menu" Summary

2.4 - DISPLAY

2.4.1 - LANGUAGE

2.4.2 - PROMOT. MESSAGE

2.4.2.1 - EN. PROM. MESS.

2.4.2.2 - SET PROM. MESS.

2.4.3 - CONTRAST CONTROL

2.5 - PRE-SELECTIONS

2.5.1 - NO CUP

2.5.1.1 - SELECTION ENABL.

2.5.1.2 - DOSE VARIATION

2.5.1.3 - PRICE VARIATION

2.5.2 - EXTRA SUGAR

2.5.3 - SUGAR

2.5.4 - SUGAR -

2.5.5 - SUGAR +

2.5.6 - WATER +

2.5.7 - WATER -

2.5.8 - STRENGHT +

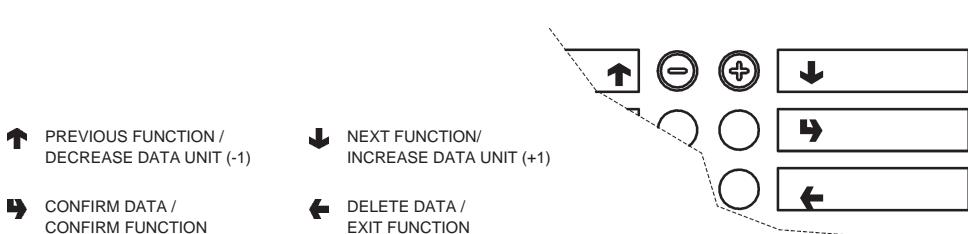
2.5.9 - STRENGHT -

2.5.A - COFFEE PWD. DOSE

2.5.B - EXTRA MILK

2.5.C - FLAVOURS

2.5.D - MOKKA



"Technician Menu" Summary

2.6 - MISCELLANEOUS

2.6.1 - JUG FACILITIES

2.6.2 - PASSWORD

 2.6.2.1 - SET PASSWORD

 2.6.2.2 - ENABLE PASSWORD

 2.6.2.3 - PWD AZZ. CONTAT.

 2.6.2.4 - PWD LAVAGGI

 2.6.2.5 - FB CHUTE POS.PWD

 2.6.3 - ENABLE FILL MENU

 2.6.4 - ENERGY SAVING

 2.6.4.1 - SET ENER. SAVING

 2.6.4.2 - PARAM. EN.SAVING

 2.6.5 - FB DATA

 2.6.6 - FAN CONTROL

3 - STATISTICS

3.1 - ELECTRIC COUNTER

3.1.1 - DIS. COUNTERS

3.1.2 - RESET COUNTER

3.2 - DISPLAY STATS

3.2.1 - DIS. SEL. COUNT.

 3.2.1.1 - DIS. SIN. COUNT.

 3.2.1.2 - DIS. TOT. COUNT.

 3.2.1.3 - DIS. SEL. COUNT.

 3.2.2 - DIS. BAND COUNT.

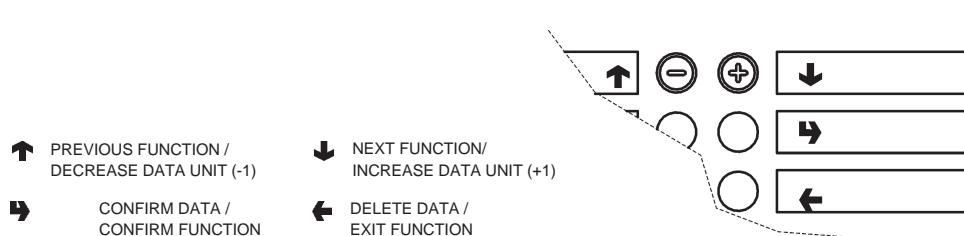
 3.2.3 - DIS. DISC. SEL.

 3.2.4 - DIS. FAIL.COUNT.

 3.2.5 - DIS. C MECH DATA

 3.2.5.1 - DIS. AUDIT DATA

 3.2.5.2 - DIS. CASH COUNT.



"Technician Menu" Summary

3.3 - DEL. STATISTICS

3.3.1 - DELETE PARTIAL

- 3.3.1.1 - DELETE SE. COUNT
- 3.3.1.2 - DEL. DISC. COUNT
- 3.3.1.3 - DEL. FAIL. COUNT
- 3.3.1.4 - DEL. C MECH DATA

3.3.2 - DELETE TOTAL

3.4 - DIS. REL. STATS

3.4.1 - DIS. SEL. COUNT.

- 3.4.1.1 - DIS. SIN. COUNT.
- 3.4.1.2 - DIS. TOT. COUNT.
- 3.4.1.3 - DIS. SEL. COUNT.

3.4.2 - DIS. BAND COUNT.

3.4.3 - DIS. DISC. SEL.

3.4.4 - DIS. FAIL.COUNT.

3.4.5 - DIS. C MECH DATA

- 3.4.5.1 - DIS. AUDIT DATA
- 3.4.5.2 - DIS. CASH COUNT.

3.5 - DEL. REL. STATS

3.5.1 - DELETE PARTIAL

- 3.5.1.1 - DELETE SE. COUNT
- 3.5.1.2 - DEL. DISC. COUNT
- 3.5.1.3 - DEL. FAIL. COUNT
- 3.5.1.4 - DEL. C MECH DATA

3.5.2 - DELETE TOTAL

3.6 - EN. CNT AT START

3.7 - PRINT STATISTICS

3.7.1 - PARTIAL PRINTOUT

- 3.7.1.1 - PRINT SEL. COUNT
- 3.7.1.2 - PRINT BAND COUNT
- 3.7.1.3 - PRINT DISC COUNT
- 3.7.1.4 - PRINT FAIL COUNT
- 3.7.1.5 - PRNT C MECH DATA

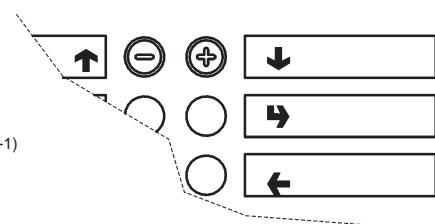
3.7.2 - TOTAL PRINTOUT

↑ PREVIOUS FUNCTION /
DECREASE DATA UNIT (-1)

➡ CONFIRM DATA /
CONFIRM FUNCTION

↓ NEXT FUNCTION /
INCREASE DATA UNIT (+1)

⬅ DELETE DATA /
EXIT FUNCTION



"Technician Menu" Summary

3.8 - PRINT REL. STATS

3.8.1 - PARTIAL PRINTOUT

- 3.8.1.1 - PRINT SEL. COUNT
- 3.8.1.2 - PRINT BAND COUNT
- 3.8.1.3 - PRINT DISC COUNT
- 3.8.1.4 - PRINT FAIL COUNT
- 3.8.1.5 - PRNT C MECH DATA

3.8.2 - TOTAL PRINTOUT

4 - TEST

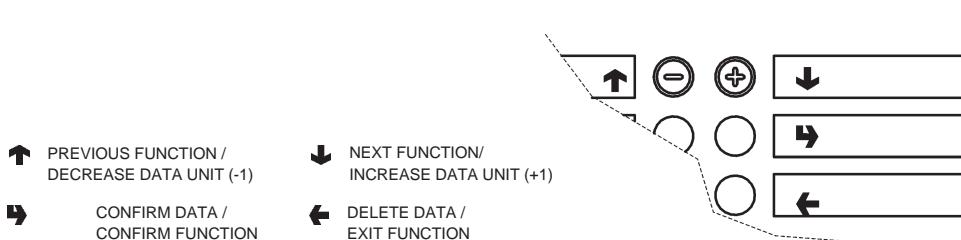
4.1 - TEST DISPENSING

- 4.1.1 - COMP. DISPENSING
- 4.1.2 - WATER ONLY
- 4.1.3 - POWDER ONLY
- 4.1.4 - NO ACCESSORIES
- 4.1.5 - ACCESSORIES ONLY

4.2 - SPEC. FUNCTIONS

- 4.2.1 - UNIT ROTATION
- 4.2.2 - RELEASE DOSE
- 4.2.3 - EMPTY BOILER
- 4.2.4 - MANUAL INSTALL.
- 4.2.5 - FRESH BREW UNIT
- 4.2.6 - FB CHUTE POSIT.

4.3 - AUTOTEST



"Technician Menu" Summary

5 - MISCELLANEOUS

5.1 - MACHINE INFO

- 5.1.1 - INSTALL. DATE
- 5.1.2 - PROG. MACH. CODE
- 5.1.3 - PROG. OPER. CODE

5.2 - INITIALIZ. DB

5.3 - EVADTS

- 5.3.1 - CONNECTION

5.4 - UPKEY

- 5.4.1 - SETUP MANAGEMENT
 - 5.4.1.1 - UPKEY -> MACHINE
 - 5.4.1.2 - MACHINE -> UPKEY
 - 5.4.1.3 - DELETE
 - 5.4.1.4 - DELETE ALL
- 5.4.2 - AUDIT MANAGEMENT
 - 5.4.2.1 - MACHINE -> UPKEY
 - 5.4.2.2 - DELETE
 - 5.4.2.3 - DELETE ALL
- 5.4.3 - V.M. SELECTION

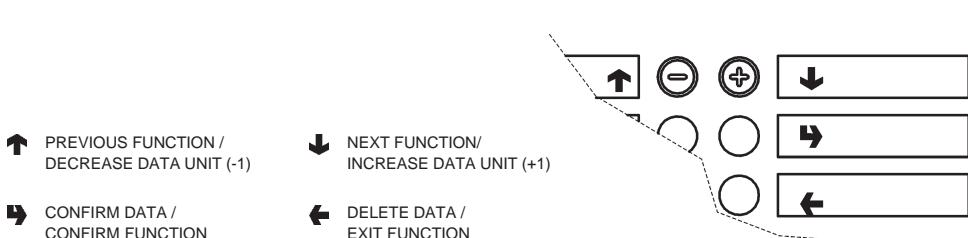
6 - GSM

6.1 - GSM PIN CODE

6.2 - GSM PRE-ALARMS

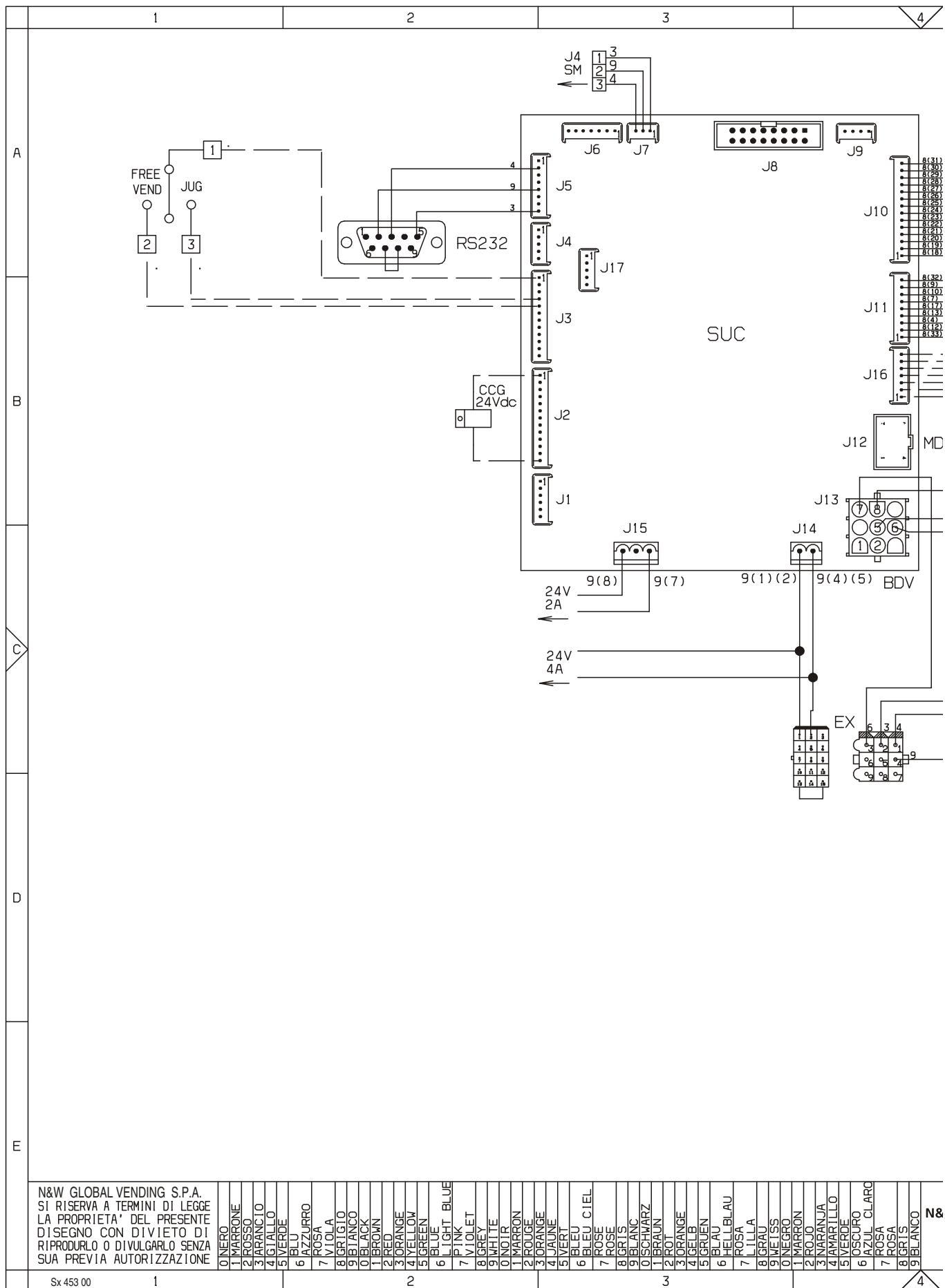
- 6.2.1 - PRE-ALARM THRESH
- 6.2.2 - RESET PRE-AL CNT

6.3 - GROUP NUMBER

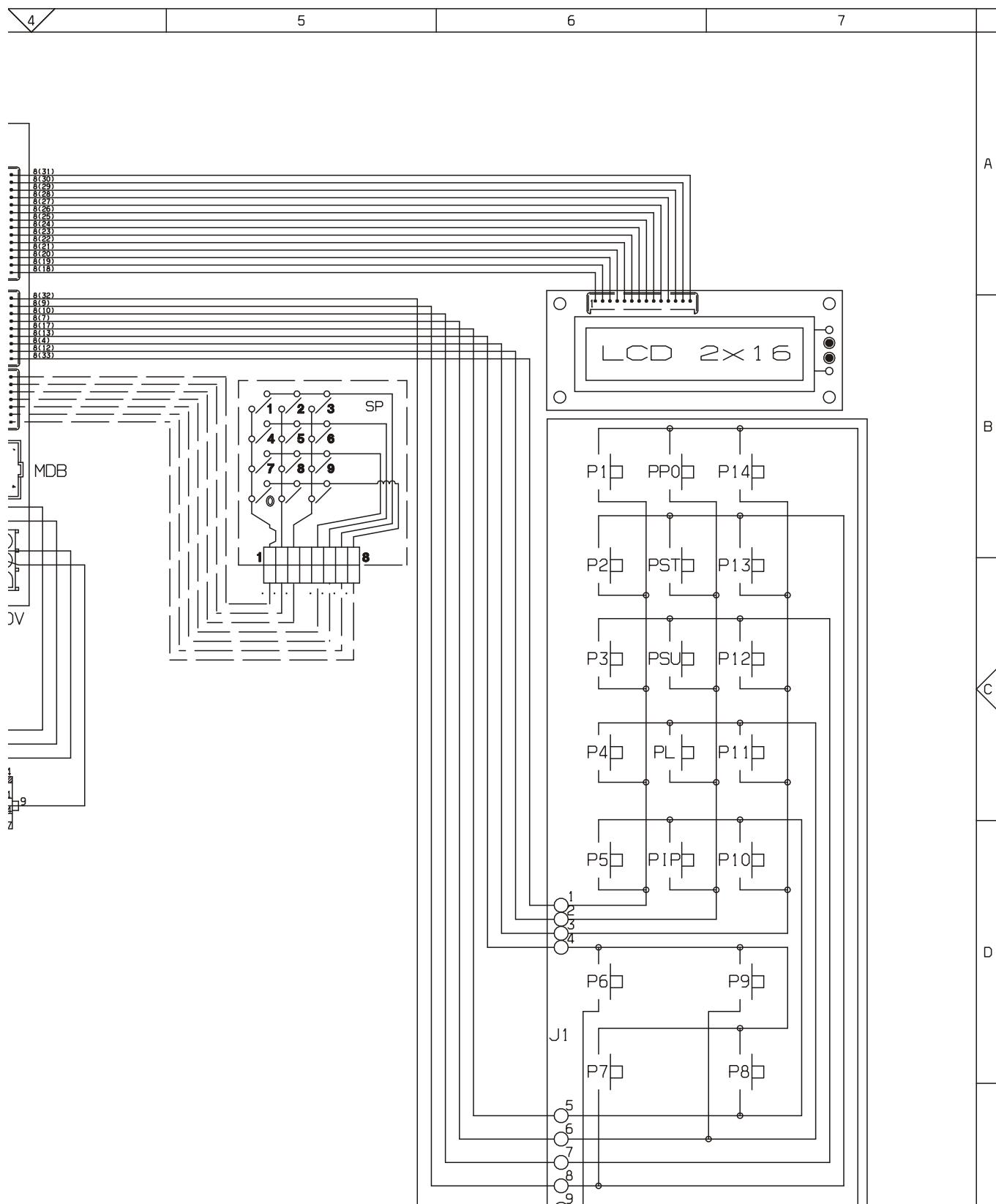


WIRING DIAGRAM LEGEND

INITIALS	DESCRIPTION	INITIALS	DESCRIPTION
BDV	BDV COIN MECH CONNECTOR	MSB	CUP RELEASE MOTOR
BFL	LIQUID WASTE TRAY SWITCH	MSCB	CUP CONTAINER SHIFT MOTOR
CCG	GENERAL COUNTER	MSP	STIRRER RELEASE MOTOR
CMSB	CUP RELEASE MOTOR CAM	MSV	TRAY MOVING MOTOR
E1-..	INSTANT SOLENOID VALVE	NTC	TEMPERATURE PROBE
EEA	WATER INLET SOLENOID VALVE	P1-..	SELECTION BUTTONS
EVDEV	FLOW DIVERTER SOLENOID VALVE	PIP	PROGRAMMING BUTTON
EVFB	FRESH BREW SOLENOID VALVE	PL	WASH CYCLE BUTTON
EVH2O	COLD WATER SOLENOID VALVE	PM	PUMP
EX	EXECUTIVE COIN MECH CONNECTOR	PPO	INGREDIENT PRIMING BUTTON
FA	RADIO INTERFERENCE SUPPRESSOR	PS1-..	SYRUP BUTTON
FREE	FREE VENDING SWITCH	PSB	CUP RELEASE BUTTON
ICM	SWITCH MOTORE CONTROLL	PST	STATISTICS BUTTON
IMSP	STIRRER RELEASE MICRO-SWITCH	PSU	SPOUT SHIFT BUTTON
IP	DOOR SWITCH	RCS	INSTANT BOILER HEATING ELEMENT
IPF	WASTE CONTAINER OVERFLOW SWITCH	RIS	COFFEE UNIT HEATER
IVA	EMPTY BOILER MICRO-SWITCH	RS232	SERIAL PORT
IVB	EMPTY CUP DISPENSER MICRO SWITCH	SM1	CONTROL BOARD
JUG	JUG FACILITIES SWITCH	SM2	EXPANSION BOARD
KS1-..	SAFETY CUTOUT	SMFB	FRESH BREW CONTROL BOARD
LCD	LIQUID CRYSTAL DISPLAY	SP	PUSH-BUTTON BOARD
LF	LAMP	STRC	BOILER HEATING TRIAC BOARD
MD1-..	INGREDIENT MOTOR - INSTANT	SUC	C.P.U. BOARD
MDB	CONNECTOR FOR MDB COIN MECHAN	TR	TRANSFORMER
MDFB	INGREDIENT MOTOR - FRESH BREW	TX....	DELAYED FUSE (X=CURRENT)
MDZ	INGREDIENT MOTOR - SUGAR	TZ	CUP SENSOR
MF1-..	WHIPPER MOTORS	UPS	COLD UNIT BOARD
MFB	FRESH-BREW MOTOR	VAR	VARISTOR
MPF	PRESH BREW PISTON MOTOR	VENT	FAN

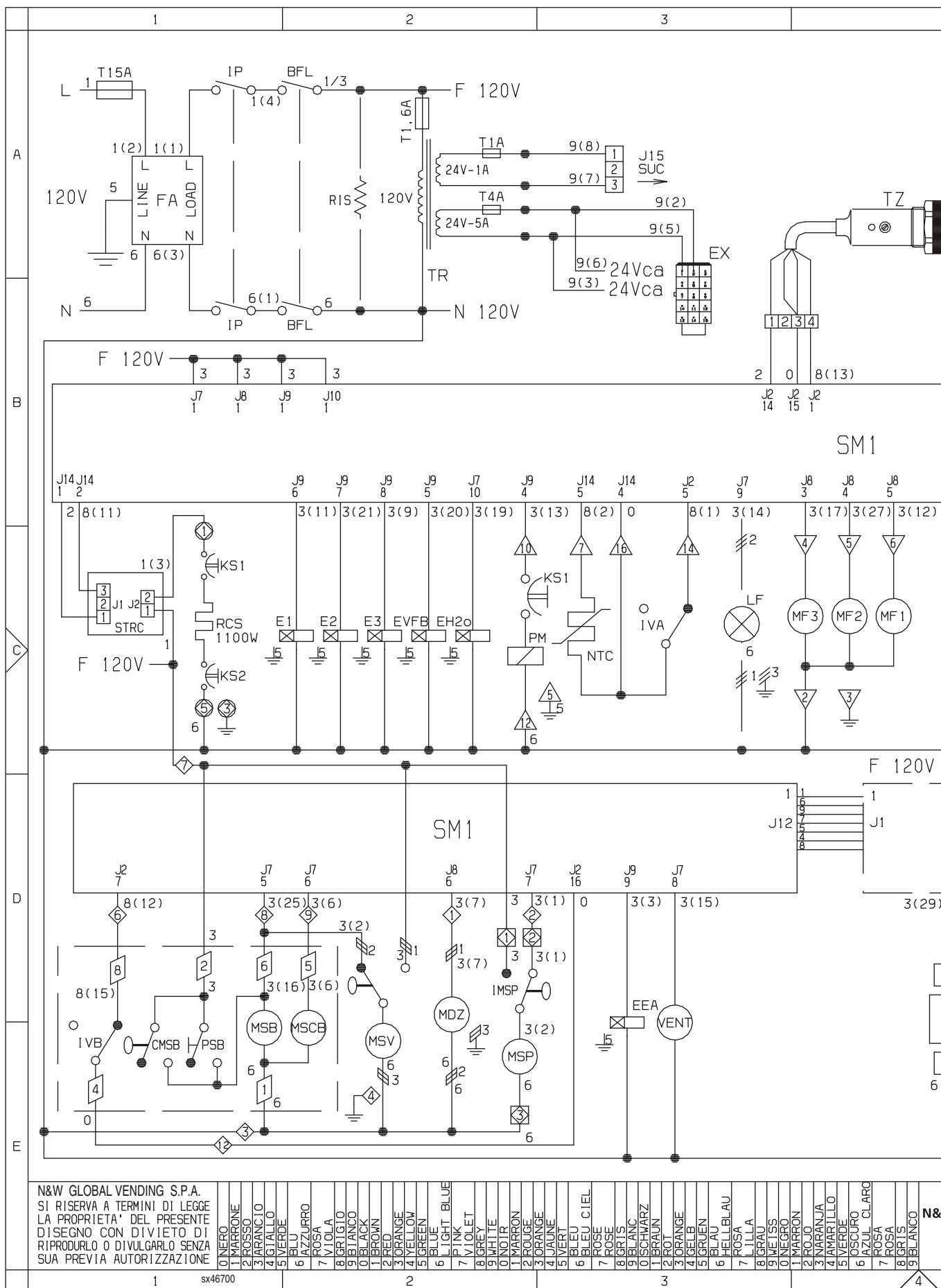


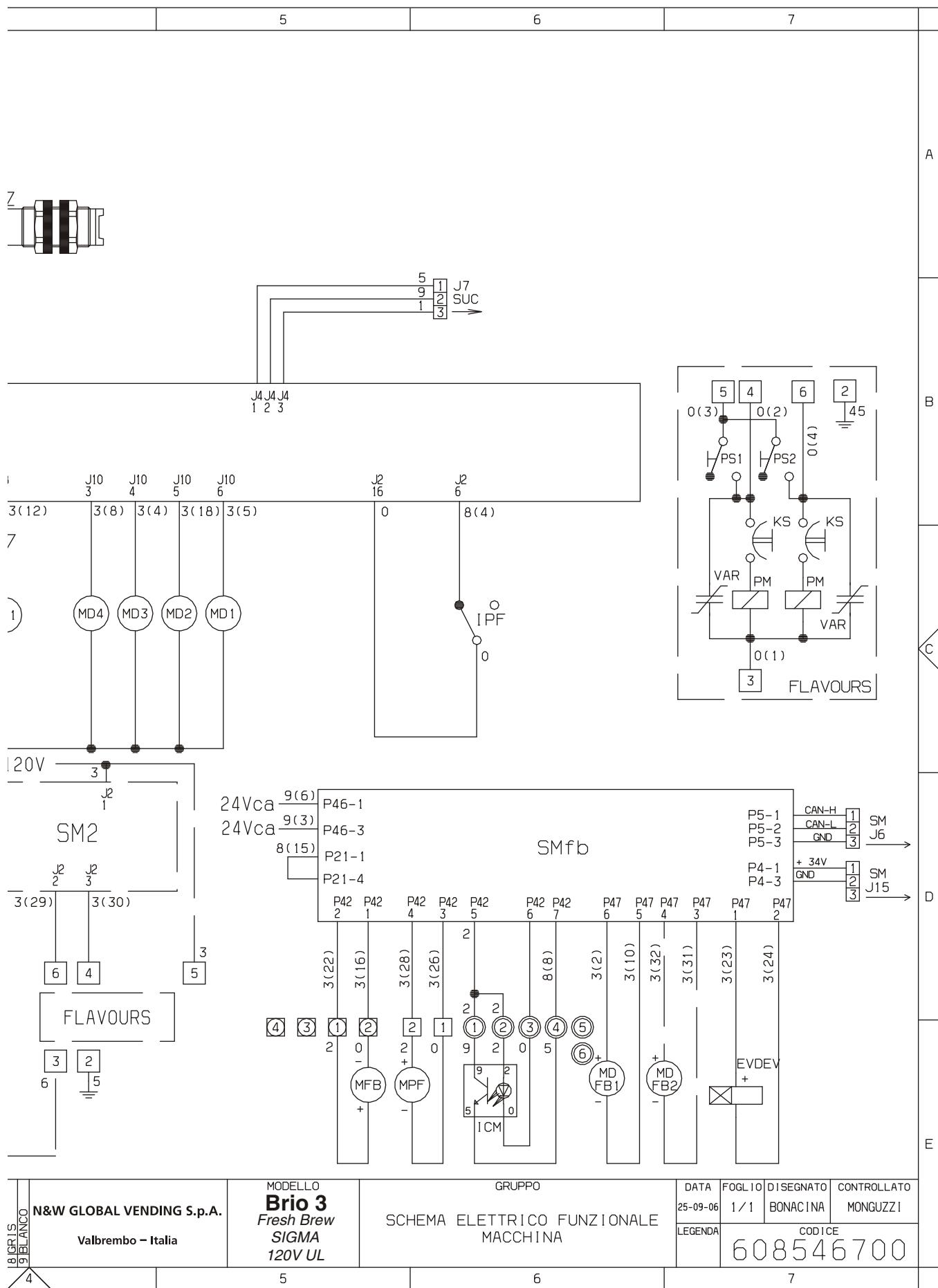
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8 GRIS 9 BLANCO	N&W GLOBAL VENDING S.p.A. Valbrembo - Italia	MODELLO Brio3 UL	GRUPPO PORTA	DATA 03-01-06	FOGLIO 1/1	DISEGNATO BREMBILLA	CONTROLLATO MONGUZZI
				LEGENDA .	CODICE 608545300		

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