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INSTALLATION, OPERATION, MAINTENANCE

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**LB 3600**

**Canto**  
230 V

**EN**      English



**Doc. No. H 83127 00**  
EDITION 1      11 - 2009



**N&W GLOBAL VENDING S.p.A.**  
ad unico socio

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Reg. Produttori A.E.E.: IT08020000001054

Valbrembo, 01/01/2010

**DICHIARAZIONE DI CONFORMITA'**  
**DECLARATION OF CONFORMITY**  
**DÉCLARATION DE CONFORMITÉ**  
**KONFORMITÄTSEKTLÄRUNG**  
**DECLARACIÓN DE CONFORMIDAD**  
**DECLARAÇÃO DE CONFORMIDADE**  
**VERKLARING VAN OVEREENSTEMMING**



**Italiano** Si dichiara che la macchina, descritta nella targhetta di identificazione, è conforme alle disposizioni legislative delle Direttive Europee elencate a lato e successive modifiche ed integrazioni.

**English** The machine described in the identification plate conforms to the legislative directions of the European directives listed at side and further amendments and integrations

**Français** La machine décrite sur la plaquette d'identification est conforme aux dispositions légales des directives européennes énoncées ci-contre et modifications et intégrations successives

**Deutsch** Das auf dem Typenschild beschriebene Gerät entspricht den rechts aufgeführten gesetzlichen Europäischen Richtlinien, sowie anschließenden Änderungen und Ergänzungen

**Español** Se declara que la máquina, descrita en la etiqueta de identificación, cumple con las disposiciones legislativas de las Directrices Europeas listadas al margen y de sus sucesivas modificaciones e integraciones

**Português** Declara-se que a máquina, descrita na placa de identificação está conforme as disposições legislativas das Diretrizes Europeias elencadas aqui ao lado e sucessivas modificações e integrações

**Nederlands** De machine beschreven op het identificatieplaatje is conform de wetsbepalingen van de Europese Richtlijnen die hiernaast vermeld worden en latere amendementen en aanvullingen

**Italiano** Le norme armonizzate o le specifiche tecniche (designazioni) che sono state applicate in accordo con le regole della buona arte in materia di sicurezza in vigore nella UE sono:

**English** The harmonised standards or technical specifications (designations) which comply with good engineering practice in safety matters in force within the EU have been applied are:

**Français** Les normes harmonisées ou les spécifications techniques (désignations) qui ont été appliquées conformément aux règles de la bonne pratique en matière de sécurité en vigueur dans l'UE sont :

**Deutsch** Die harmonisierten Standards oder technischen Spezifikationen (Bestimmungen), die den Regeln der Kunst hinsichtlich den in der EU geltenden Sicherheitsnormen entsprechen, sind:

**Español** Las normas armonizadas o las especificaciones técnicas (designaciones) que han sido aplicadas de acuerdo con las reglas de la buena práctica en materia de seguridad vigentes en la UE son:

**Português** As normas harmonizadas ou as especificações técnicas (designações) que foram aplicadas de acordo com boas regras de engenharia em matéria de segurança em vigor na UE são:

**Nederlands** De geharmoniseerde normen of technische specificaties (aanwijzingen) die toegepast werden volgens de in de EU van kracht zijnde eisen van goed vakmanschap inzake veiligheid zijn de volgende:

**Targhetta di identificazione**  
**Identification label**

<b>Direttive europee</b> <b>European directives</b>	<b>Sostituita da</b> <b>Repealed by</b>
2006/42/EC	
73/23/EC + 93/68/CE	2006/95/CE
89/336/EC + 92/31/CE + 93/68/CE	2004/108/EC
90/128/EC	2002/72/CE
80/590/EEC and 89/109/EEC	EC 1935/2004

<b>Norme armonizzate /</b> <b>Specifiche tecniche</b>	<b>Harmonised standards</b> <b>Technical specifications</b>
CEI EN 60335-1 : 2002 + A11:20005 +A1:2005 + A12:2006 + A2:2006	
CEI EN 60335-2-75 : 2004 + A1:2005 + A11:2006	
EN 50366:2003 + A1:2006	
EN ISO 11201 and EN ISO 3744	
EN 55014-1 + A1+ A2	
EN 55022 + A1 + A2	
EN 55014-2 + A1	
EN 61000-3-2	
EN 61000-3-3 + A1	
EN 61000-4-2 + A1 + A2	
EN 61000-4-3 + A1 + A2	
EN 61000-4-4 + A1	
EN 61000-4-5 + A1	
EN 61000-4-6 + A1	
EN 61000-4-11 + A1	

Il fascicolo tecnico è costituito presso:  
The technical file is compiled at:  
**N&W GLOBAL VENDING S.p.A.**

  
ANTONIO CAVO

C.E.O

## Declaration of conformity

The declaration of conformity with the European Directives and Standards provided for by the laws in force is supplied by the first page of this manual, which is an integral part of the machine.

**CE** It is declared that the machine described by the identification plate is in compliance with the provisions of the European Directives, its subsequent amendments and integrations as well as with the harmonised standards or technical specifications (designations) applied in compliance with the safety rules of good practice enforced in the EU and listed on the same page.

## Warnings

### FOR INSTALLATION

**The installation and any subsequent maintenance operation shall be carried out by the personnel skilled and trained on the utilisation of the machine according to the rules in force.**

The machine is sold without any payment system. As a consequence, only the installer will be liable for any damage that may be caused to the machine or to things and persons by an incorrect installation of the payment system.

**The intactness of the machine and its compliance with the standards of relevant installations must be checked by skilled personnel at least once a year.**

Package materials must be disposed of in observance of the environment.

### FOR USE

The machine can be used by children and by people having reduced physical, sensorial or mental skills under the supervision of people responsible for their safety or specifically trained on the use of the machine. Children shall be prevented from playing with the machine by the people in charge of their supervision.

### FOR THE ENVIRONMENT

Some tricks will help you to protect the environment:

- use biodegradable products to clean the machine;
- properly dispose of all the packages of the products used to fill and clean the machine;
- power off the machine during inactivity for energy saving.

### FOR SCRAPPING



The symbol shows that the machine can not be disposed of as common waste, but it must be disposed of as it is established by the 2002/96/CE (Waste Electrical and Electronics Equipments - WEEE) European Directive and by the national laws arising out of it in order to prevent any negative consequence for environment and human health.

The differentiated collection of the machine at the end of its life is organised and managed by the manufacturer. For the correct disposal of the machine contact the sales point where you have purchased the machine or our after-sales service.

The unlawful disposal of the machine implies the application of the administrative sanctions provided for by the rules in force.

### Attention!

If the machine is equipped with a cooling system, the cooling unit contains HFC-R134a fluoridised greenhouse effect gas ruled by the Kyoto protocol, the total heating potential of which is equal to 1300.



THE INTERNATIONAL CERTIFICATION NETWORK

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VIA SALVO D'ACQUISTO 7/9 - 24050 GRASSOBBIO (BG)

*for the following field of activities*

*Design and manufacturing of electronical and electromechanical vending machines*

*Refer to quality manual for details of applications to ISO 9001:2008 requirements*

*has implemented and maintains a*

### **Quality Management System**

*which fulfills the requirements of the following standard*

**ISO 9001:2008**

Issued on: 2010 - 04 - 27

*Registration Number:*

**IT - 12979**



*René Wasmer*

*President of IQNET*



*Gianrenzo Prati*

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VIA DEL CHIOSO 13 - 24030 MOZZO (BG)

*for the following field of activities*

*Design, production and sales of vending machine*

*has implemented and maintains a*

**Environmental Management System**

*which fulfills the requirements of the following standard*

**ISO 14001:2004**

Issued on: 2010 - 07 - 07

*Registration Number:*

**IT - 8753**



René Wasmer

President of IQNET



Gianrenzo Prati

President of CISQ

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# English

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# Introduction

The technical documentation supplied is an integral part of the equipment and it must therefore accompany the equipment whenever it is either moved or transferred to enable the various operators to consult it.

Before starting to install and use the machine, it is necessary to carefully read and understand the content of the documentation since it can supply important information on installation safety, utilisation rules and maintenance operations.

The manual is divided into three chapters.

The **first** chapter is intended to describe the ordinary filling and cleaning operations that shall be carried out in areas of the machine that can be accessed with the simple use of the door key, without using any other tool. The **second** chapter contains the instructions for correct installation as well as the information necessary for optimal utilisation of the machine performance.

The **third** chapter is intended to describe the maintenance operations involving the use of tools for access to potentially dangerous areas.

The operations described in the second and third chapter must be carried out only by the personnel who have a specific knowledge of the machine operation from the point of view of electric safety and health rules.

## IDENTIFICATION OF THE MACHINE AND ITS FEATURES

Every single machine is identified by a specific serial number that can be found on the rating plate arranged inside on the right side.

The plate (see figure) is the only one recognised by the manufacturer and it contains all the data that enable the manufacturer to supply technical information of any kind in a quick and safe manner and to facilitate the management of spare parts.

## IN CASE OF FAILURE

In most cases, any technical problem can be solved by carrying out minor operations. As a consequence, we suggest carefully reading this manual before contacting the manufacturer.

In case of failures or malfunctions that can not be solved, please apply to:

Technical Service Lavazza  
 Strada Settimo, 410  
 10156 Torino -Italia  
 Tel. +39 011 2398429  
 Fax. +39 011 23980466  
 technicalservice@lavazza.it

## TRANSPORT AND STORAGE

To avoid damaging the machine, loading and unloading operations shall be performed with great care. It is possible to lift the machine by means of a motor-driven or manual lift truck by positioning the forks beneath the machine and on the side clearly stated by the symbol on the cardboard package.

**Please avoid:**

- overturning the vending machine;
- dragging the vending machine by means of ropes or alike;
- lifting the vending machine by its sides;
- lifting the vending machine by means of slings or ropes
- shaking the vending machine and/or the package.

For storage it is necessary to keep the room dry at a temperature between 0 and 40 °C.

Never stack several machines and never forget to keep the vertical position specified by the arrows on the package.

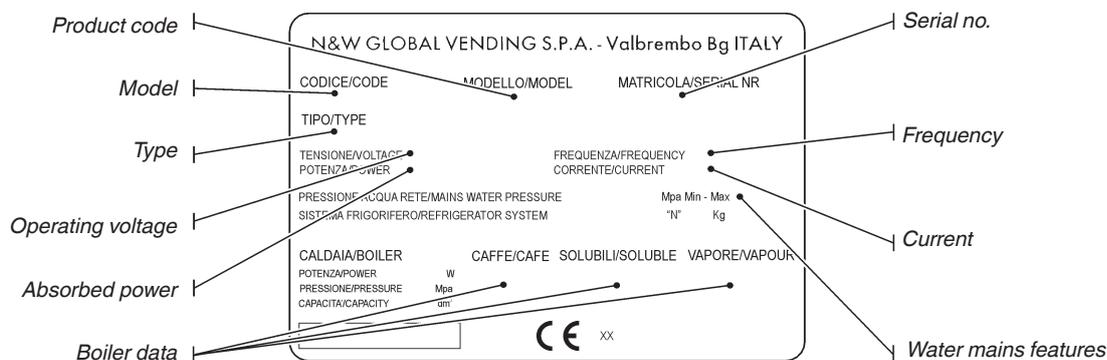


Fig. 1

## POSITIONING THE VENDING MACHINE

The machine is not suitable for installation outdoors. It must be installed in a dry room at a temperature ranging from 2°C to 32°C. It can not be installed in a room where water jets are used for cleaning (e.g. large kitchens, etc.). The machine must be installed near a wall, but in such a way that the back is min. 4 cm. far from the wall in order to provide for regular ventilation. It shall never be covered with pieces of cloth or alike.

The machine shall be arranged to prevent maximum inclination from exceeding 2°.

If necessary, level it by using the adjustable feet (see fig. 16) supplied with the machine.

## TECHNICAL FEATURES

Height	mm.	1830
Width	mm.	650
Depth	mm.	760
Overall dim. with open door	mm.	1320
Weight	Kg	170

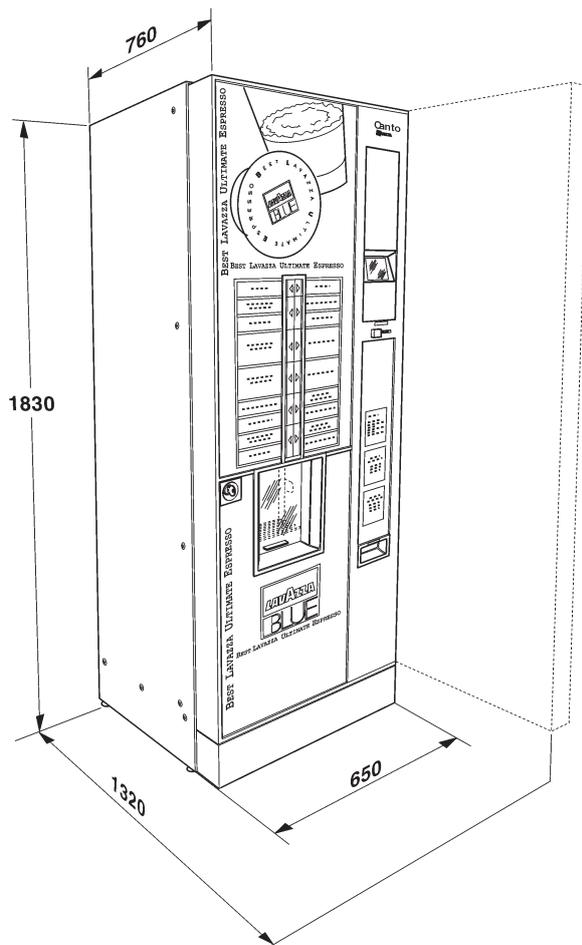


Fig. 2

Power supply voltage	V~	230
Power supply frequency	Hz	50
Installed power	W	2500

## CUP DISPENSER

The diameter of the upper rim is 70-71 mm or with a capacity of about 650 cups.

## PAYMENT SYSTEM

The machine is electrically pre-arranged for systems with an Executive, MDB or BDV protocol and for the assembly of 24 Vdc validators.

The space is not only arranged to accommodate the coin mechanism, but also to assemble the most widespread payment systems (optionals).

## SALES PRICES

You can set up a programmable different price for every single selection. A sales price that is the same for all selections is available for the standard setup.

## EXTERNAL LIGHTING

By LEDs in class 1.

LED's are generally protected by transparent panels. If you remove the panels for any reason whatsoever, the light of the LED's may be harmful if directly observed.

## ENERGY SAVING

You can set up the power off of the LEDs and/or the boilers to save electric energy during non-use periods.

## COIN BOX

Made of galvanised sheet iron. Cover and lock available as accessories.

## WATER SUPPLY

Supplied by the mains, the water pressure of which lies between 0.05 and 0.85 MPa (0.5 and 8.5 bar)

The machine software can manage the water supply from an internal tank (optional kit).

## POSSIBLE ADJUSTMENTS

espresso: volumetric water dose.  
time-based instant and water doses.

## TEMPERATURE

Adjustable via software.

## CONTROLS

- cup presence
- water presence
- coffee capsule presence
- position of the capsule dispensing motor
- position of the coffee unit
- empty liquid waste container
- operation temperature reached
- cup shift arm position

## SAFETY DEVICES

- door switch
- boiler safety thermostat manually resettable
- anti-boil thermostats of the instant boiler
- air-break float jammed
- overflow solenoid valve
- float for full liquid waste container
- boiler sensor shortcircuit/failure control
- time protection for:
  - Pumps
  - Coffee unit ratio-motor
  - Coffee dispensing
  - Capsule dispensing motor
  - Cup shift arm ratio-motor
- protection for:
  - Dosers
  - Coffee unit ratio-motor
  - Capsule release magnet
  - Pump
  - Whippers
- fuse protection
  - Main electric circuit
  - Board and coin mechanism supply transformer (primary and secondary)

## CONTAINER CAPACITY

Coffee capsules N. 400 ca.

Stirrers (if available) N. 950 ca.

Containers having a 2.45 or 4.5 or 6.5 l capacity can be mounted for instant products, according to models.

The indicative product quantity is summed up by the following table:

Container size	2.5 l	4.5 l	6 l
Instant coffee Kg	0.6	1.0	1.3
Milk Kg	0.7	1.2	1.7
Chocolate Kg	1.7	3.2	4.5
Sugar Kg	2.0	3.5	5.0
Lemon tea Kg	2.0	3.5	5.0
Broth Kg	1.4	2.5	3.5

The actual quantity can deviate from the above, according to the specific weight of the various products.

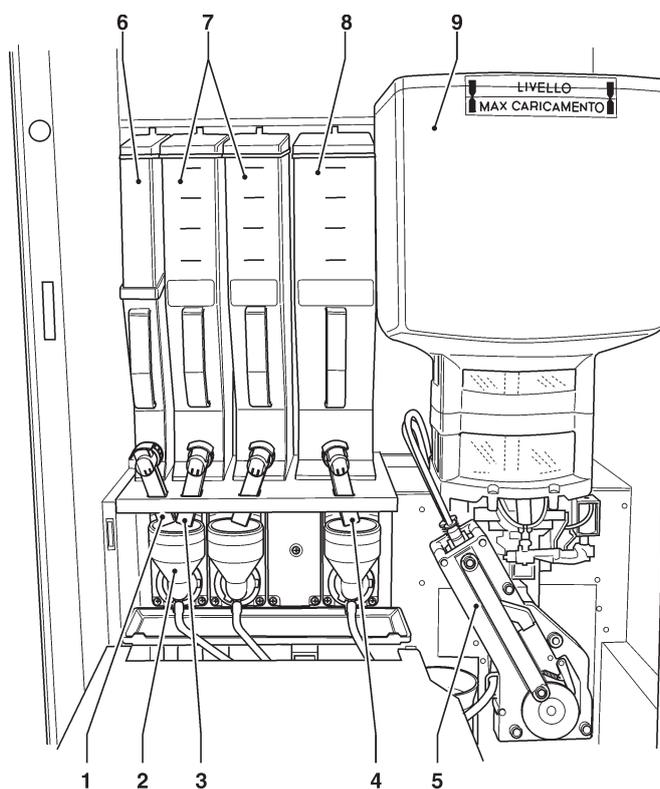


Fig. 3

- 1- Left port
- 2- Mixer
- 3- Right port
- 4- Central port
- 5- Capsule brewing unit
- 6- 2.5 l container
- 7- 4.5 l container
- 8- 6 l container
- 9- BLUE capsule container

## ELECTRIC ENERGY CONSUMPTION

The electric energy consumption of the machine will depend upon many factors such as the temperature and ventilation of the room where the machine is installed, the inlet water temperature, the boiler temperature, etc. The following energy consumption values have been measured at a room temperature of 22°C:

Temperature reached	W/h	465
24h stand-by	W/h	3,700

The energy consumption calculated on the average values above shall be understood as merely indicative.

## ACCESSORIES

A wide range of accessories can be mounted on the machine to vary its performances.

The assembly kits are supplied with mounting and testing instructions that shall be strictly followed to preserve the machine safety.

**Assembly and any subsequent testing operation must be carried out by qualified personnel who have a specific knowledge of the machine operation from the point of view of electric safety and health rules.**

## VARIABLE COMBINATION LOCK

Some models are supplied with a variable combination lock.

The lock is complete with a silver key for normal opening and closing operations.

It is possible to customise the locks by using a kit made available as an accessory and intended to change the lock combination.

The kit is composed by a change key (black) of the current combination as well as by change (gold) and use (silver) keys of the new combination.

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

Moreover, further sets of use keys (silver) may be requested by specifying the combination stamped on the keys.

Generally, only the use key (silver) shall be used whereas the combination change keys (gold) can be kept as spare keys.

**Do not use the change key for usual opening operations since this may damage the lock.**

### To change the combination:

- Open the machine door to avoid forcing the rotation;
- Slightly lubricate by using a spray inside the lock;
- Insert the current change key (black) and turn it until you reach the change position (reference notch at 120°);
- Remove the current change key and insert the change key (gold);
- Turn it until you reach the close position (0°) and remove the change key.

The lock has now assumed the new combination.

**The keys of the old combination can be no longer used for the new combination.**

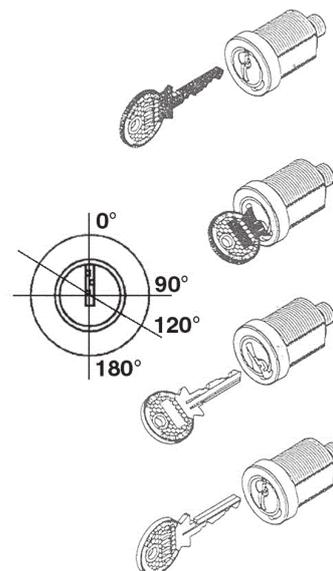


Fig. 4

## Chapter 1

# Filling and cleaning

The machine is not suitable for installation outdoors. It must be installed in a dry room at a temperature ranging from 2°C to 32°C. It can not be installed in a room where water jets are used for cleaning (e.g. large kitchens, etc.).

### DOOR SWITCH

Whenever you open the door, a special switch will power off the electric installation of the equipment to allow the user to carry out the ordinary filling and cleaning operations described here below in totally safe conditions.

**All the operations requiring the machine to be directly connected to a source of electricity when the door is open must be ONLY carried out by the personnel qualified and informed on the specific risks involved.**

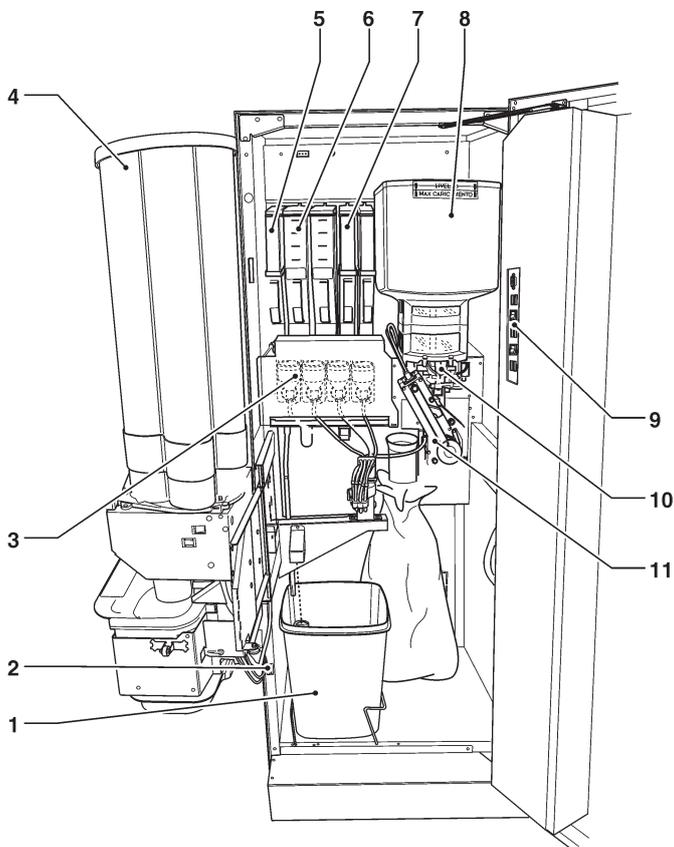


Fig. 5

- 1- Liquid waste container
- 2- Door switch
- 3- Mixer
- 4- Cup stacker
- 5- 2.5 l instant powder container
- 6- 4.5 l instant powder container
- 7- 6 l instant powder container
- 8- BLUE Capsule container
- 9- Service buttons
- 10- Capsule release
- 11- Espresso unit

## SANITISING AND CLEANING

The operator of an automatic vending machine is responsible for the hygiene of the materials in contact with foodstuffs on the basis of the health and safety rules in force. As a consequence, it shall maintain the machine so as to prevent the build-up of bacteria.

**At the time of the installation, it is necessary to completely sanitise the water circuits and the parts in contact with foodstuffs in order to remove any bacterium that may have built up during storage.**

It is recommended to use sanitising products also in order to clean the surfaces not directly in contact with foodstuffs.

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

The manufacturer will disclaim all responsibility for any damage caused by the non-observance of the above or by the utilisation of corrosive or toxic chemical agents.

**Never forget to power off the machine before carrying out any maintenance operation that may require the disassembly of components.**

### USING THE DISPENSERS OF HOT DRINKS IN OPEN CONTAINERS (E.g. Plastic cups, pottery cups, jugs)

The dispensers of drinks in open containers may be only used for selling and dispensing drinks obtained by:

- brewing of coffee capsules;
- reconstituting instant or lyophilised products;

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

**Dispensed products shall be consumed immediately. Under no circumstance shall they be preserved and/or packed for later consumption.**

Any other use shall be considered as improper and therefore potentially dangerous.

## CONTROLS AND INFORMATION

The machine shall work at a room temperature between 2 and 32 °C.

The controls and information for the user are arranged outside the door (see fig. 6).

The labels including the menu and the instructions are supplied with the machine and they shall be inserted at the time of the installation.

The programming button giving access to the functions of the machine, the mixer washing button and the connector for the RS232 serial port are arranged inside the machine, on the cover of the coin mechanism compartment.

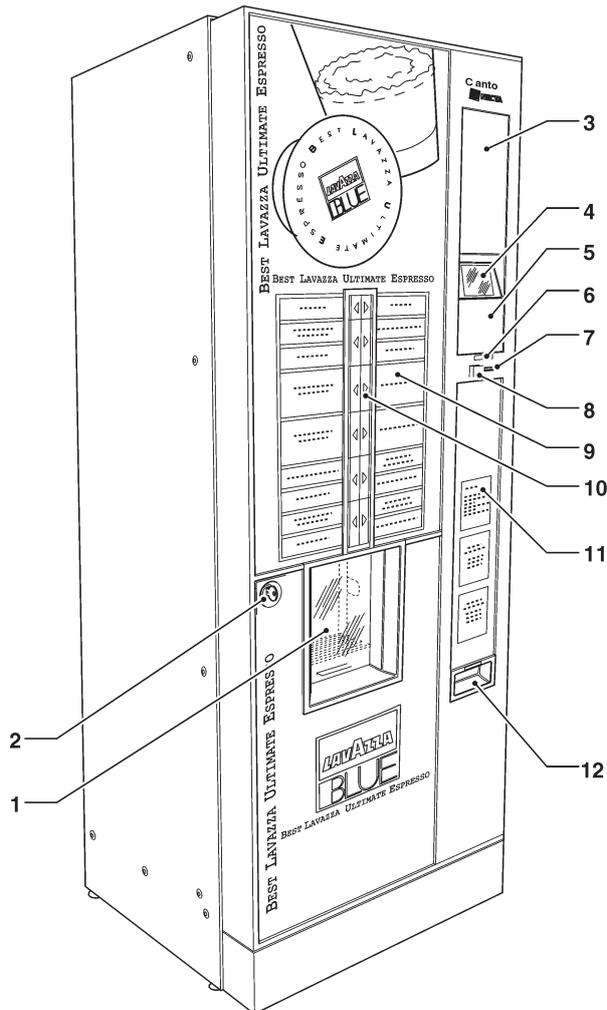


Fig. 6

- 1- Dispensing compartment
- 2- Lock
- 3- Space for payment systems
- 4- Graphical display
- 5- Free vend / Jug key (optional)
- 6- Coin insert signalling LED
- 7- Coin insert / return
- 8- Coin return button
- 9- Menu labels
- 10- Selection keyboard
- 11- Information spaces for the user
- 12- Coin return flap

## NOISE LEVEL

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

## LOADING

### CUPS

The cup dispenser shelf has got a double articulated joint intended to improve the accessibility to the cup dispenser, in particular when the machine is bank-installed. To load the column, act as follows:

- Open the machine door.
- Pull the shelf to release the dispensing compartment.
- Turn the shelf to the outside
- Remove the lid from the cup stacker;
- Load the cups.

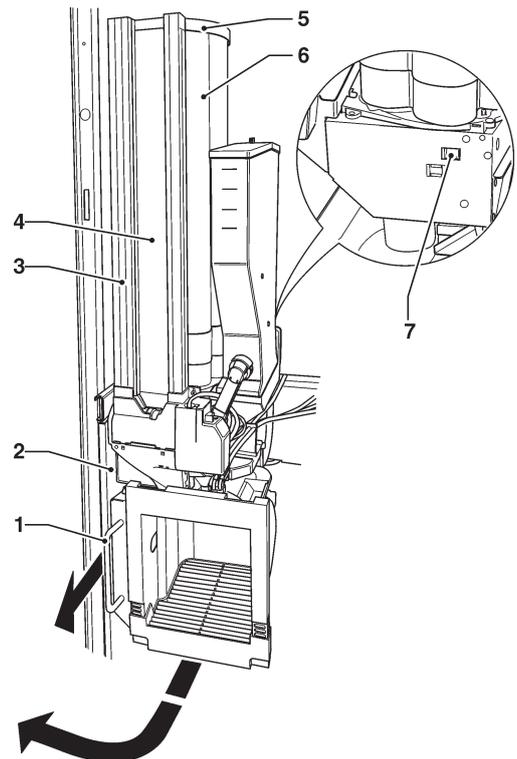


Fig. 7

- 1- Shelf extraction handle
- 2- Articulated shelf
- 3- Adjustable stirrer guide (if available)
- 4- Stirrer stacker (if available)
- 5- Lid
- 6- Cup stacker
- 7- Cup release button

### STACKER COMPLETELY EMPTY

- Fill in the columns with cups, **excluding** the one relative to the dispensing hole;
- Close the machine door and wait for the first full column to reach the dispensing hole;
- Open the machine door once again and load the column that has remained empty;

**To close, act in the reverse order. Make sure that the shelf has completely moved backwards. Forcing is slightly required to close completely.**

## SUGAR AND INSTANT PRODUCTS

A self-adhesive label intended to specify the product is arranged on every single container.

After having lifted the cover, pour the products that shall be dispensed into every single container. Avoid compressing and packing them. Make sure that the products are not lumpy.

## STIRRERS

To load the double stirrer stacker properly, act as follows:

- Remove the external and internal weights for stirrers by extracting them from above (see fig. 8).
- Load the stirrers alternatively into the two stackers so that the level of the two columns is the same.
- Reposition the weights by inserting the machined side into the corresponding slot.

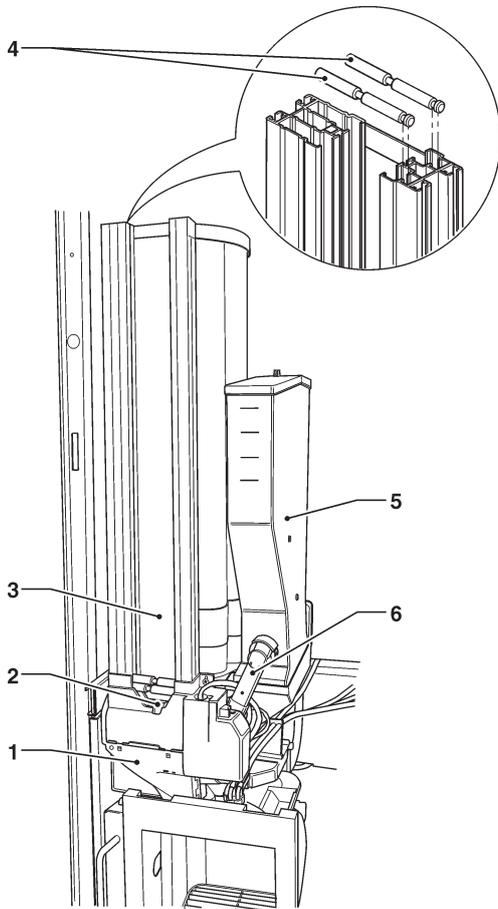


Fig. 8

- 1- Sugar feeder
- 2- Stirrer chute
- 3- Ejector
- 4- Stacker
- 5- Sugar container

## LOADING COFFEE CAPSULES

Lift the cover and fill in the container with coffee capsules (see fig. 9).

The capsules can be inserted by chance; the vending machine will automatically position them in the release tube.

Replace the cover. Pay attention **not to apply any pressure on the capsules**. Never place any object on top of the container.

The correct position of the capsules in the chamber and in the DISCHARGE tube must be checked visually, in particular at the time of the first load (vending machine completely empty).

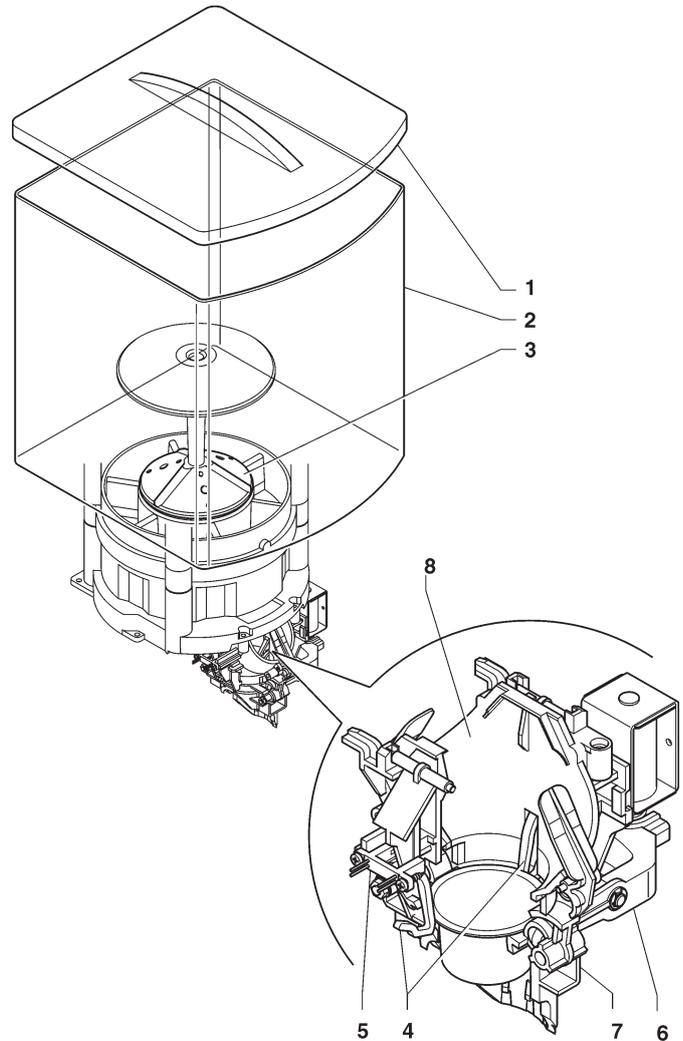


Fig. 9

- 1- Lid
- 2- Capsule container
- 3- Capsule orientation device
- 4- Capsule presence lever
- 5- Capsule presence sensor
- 6- Release lever
- 7- Capsule discharge tube
- 8- Capsule positioning chamber

# CLEANING

## SANITISING MIXERS AND FOOD CIRCUITS

The mixers and the conduits for dispensing instant drinks shall be carefully sanitised at the time of the installation of the machine and at least once a week or more frequently, according to the use of the machine and the inlet water quality in order to provide for hygiene on dispensing products.

**It is absolutely forbidden to use water jets for cleaning.**

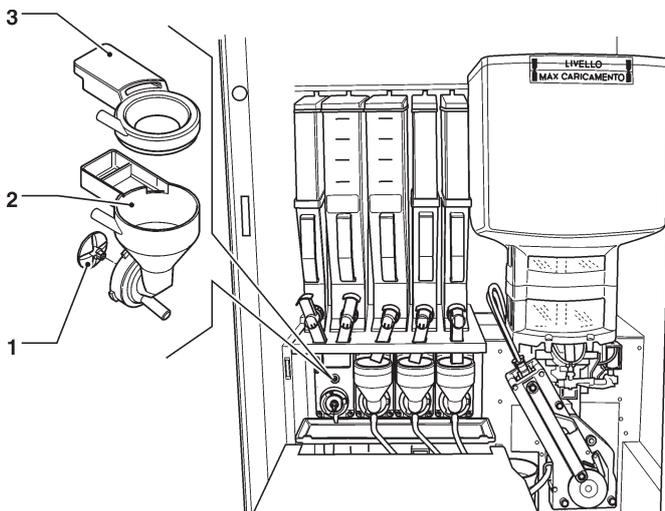


Fig. 10

- 1- Whipper impeller
- 2- Water feeder
- 3- Powder funnel

The parts to be cleaned are listed here below:

- Powder funnels, the mixer and the conduit intended to dispense instant drinks;
- Dispensing tubes and spouts;
- Dispensing compartment.
- Open the cover of the mixer dispensing box and lift the powder ports as far as the locking hook;
- Remove the powder funnels, the water feeders, the powder deposit funnels and the impellers of whippers from the mixers (see fig. 10);

- To disassemble the impellers, pull slightly to release them (fig. 11);

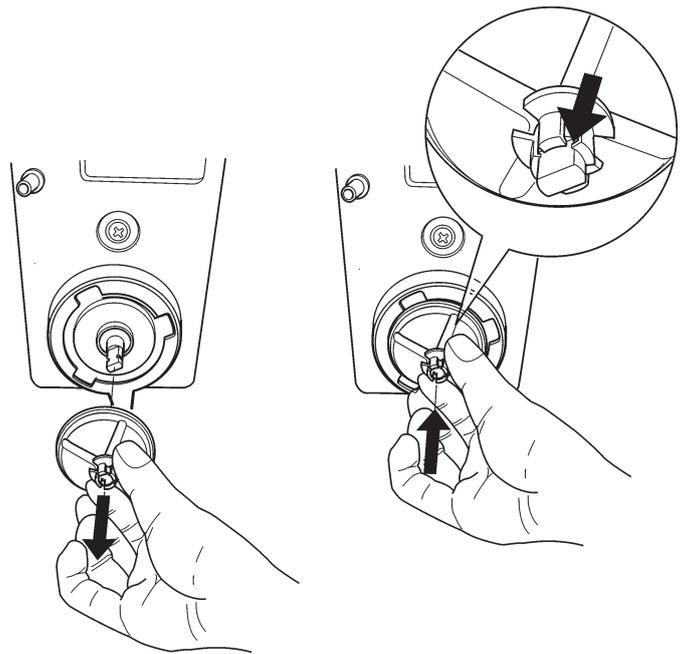


Fig. 11

- Wash all the components by using sanitising products (observe the dosage recommended by the producer). Make sure that all visible residuals and films are mechanically removed. Use pipe cleaners and brushes, if necessary;

Sanitise by making use of sanitising products.

- Dip the components into a container with the sanitising solution you have prepared before for about 20';
- Reassemble the feeders and the water funnels;
- Reassemble the powder deposit drawers and the powder funnels after having carefully rinsed and dried them up.

**Before closing the dispensing box, lower down all powder ports.**

**After having assembled the parts, act as follows, any way:**

- Access the "Filler" mode to wash the mixer (see the relative paragraph) and add some drops of the sanitising solution into the various funnels.
- After having sanitised, rinse the parts abundantly to remove any residue of the solution in use.

**All the operations requiring the machine to be directly connected to a source of electricity must be ONLY carried out by the personnel qualified and informed on the specific risks involved.**

## ESPRESSO UNIT

Whenever you fill or at least once a week, it is recommended to remove any powder residue from the external parts of the coffee unit, in particular in the capsule load area.

### Attention!

**It is absolutely necessary to reassemble the cover before setting the machine at work once again (see figure 12).**

### CLEANING THE CAPSULE DISPENSER

Clean the machine once a month or more frequently if required by operating conditions by acting as follows:

- disconnect the machine from the power mains;
- remove the capsule container by holding it by the separator ring and by lifting it slightly upwards; pay attention to the capsules that might come out of the container;
- remove the capsule selection disk; pay attention to collect the capsules inside the disk;
- remove the coffee powder and any other residue by using a vacuum cleaner or a brush;
- clean the surfaces of the selection disk and the discharge ring base by using a piece of cloth.

To reassemble, act as follows:

Make sure that the handle bearing is outside the area of interference with the capsule selection disk. If necessary, align the machine.

Make sure that the handle bearing is outside the area of interference with the capsule selection disk. If necessary, align the machine. Act manually by rotating it gently on the drive pin of the agitator;

- the selection disk shall be positioned so that a capsule shift cell is aligned to the discharge hole. After having positioned the disk, slightly press to insert it into its seat;
- replace the separator ring;
- replace the capsule container;
- replace the agitator / spreader;
- load the capsules;
- close the door and make a test selection. The positioning chamber is emptied and the search device automatically repositioned.
- wait until the capsule search and shift device stops; the display will show the "Running" message.
- act manually by rotating it gently on the drive pin of the agitator;

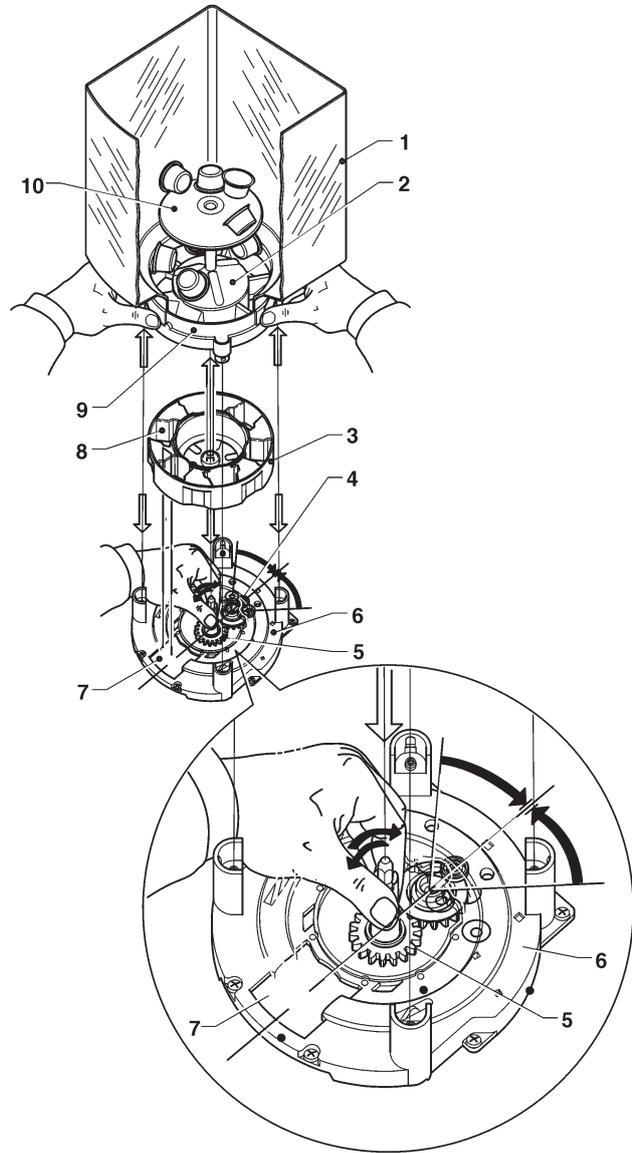


Fig. 12

- 1- capsule container
- 2- agitator
- 3- capsule selection disk
- 4- handle bearing
- 5- drive pin
- 6- discharge ring base
- 7- discharge hole
- 8- capsule shift cell
- 9- separator ring
- 10- weight spreader

- the selection disk shall be positioned so that a capsule shift cell is aligned to the discharge hole. After having positioned the disk, slightly press to insert it into its seat;
- replace the separator ring;
- replace the capsule container;
- replace the agitator / spreader;
- load the capsules;
- close the door and make a test selection. The positioning chamber is emptied and the search device automatically repositioned;
- wait until the capsule search and shift device stops; the display will show the "Running" message.

## SUGAR RELEASE

Clean the sugar dispenser with hot water at regular intervals on the models where sugar is directly dispensed into the cup. To do so, act as follows:

- Lift the elastic lever to release the spout.
- Extract the dispensing spout.
- Extract the sugar chute.
- Wash and dry carefully.
- After having cleaned, reassemble everything in the reverse order.

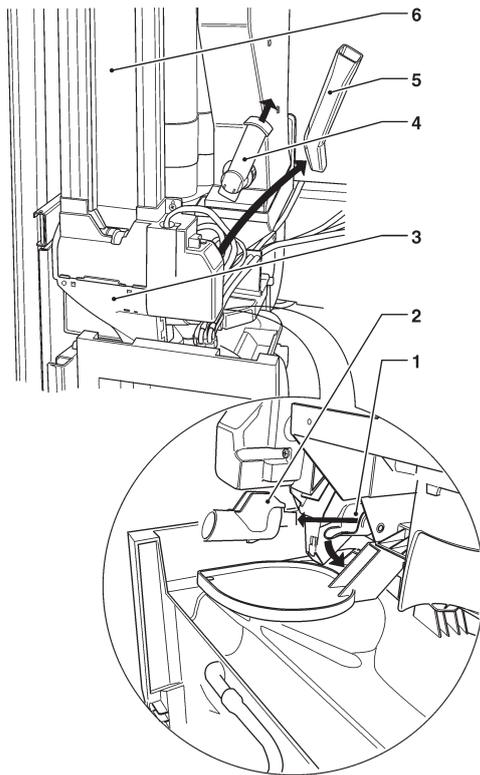


Fig. 13

- 1- Elastic lever
- 2- Sugar dispensing spout
- 3- Stirrer chute
- 4- Sugar feeder
- 5- Sugar chute
- 6- Stirrer stacker

## DISPENSING COMPARTMENT AND VANDAL-PROOF DEVICE

To disassemble the dispensing compartment, unscrew the knurls to release the compartment and let it slide on the guide. The flaps intended to protect the openings to dispense the drinks and the cups require no special maintenance. Normal cleaning is enough.

If necessary, the knurl facilitates the disassembly of the spout support arm.

On reassembling, pay attention to the position of the cup shift arm and to the position of the compartment on the guide. Make sure that the three fastening points are properly hooked.

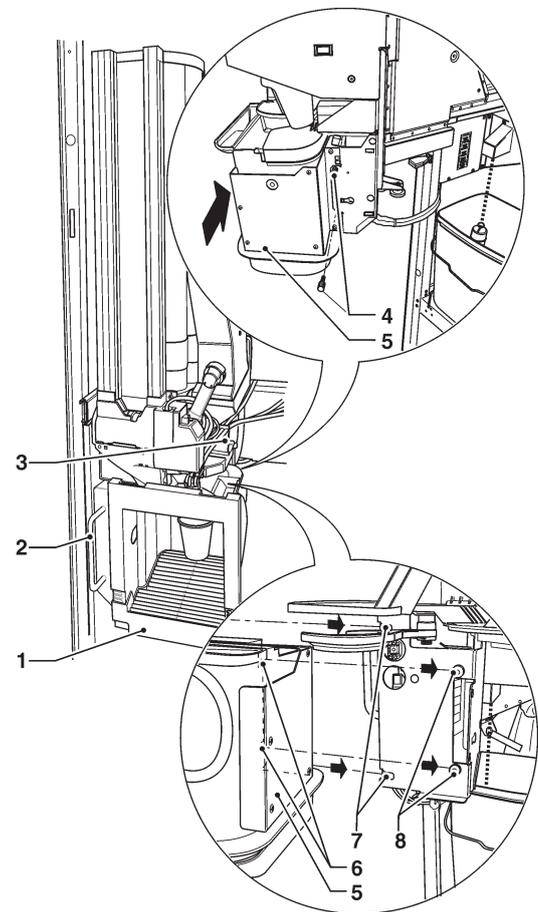


Fig. 14

- 1- Dispensing compartment
- 2- Compartment guides
- 3- Support of dispensing tubes
- 4- Compartment fastening knurls
- 5- Drink dispensing support
- 6- Mobile cover for dispensing cups
- 7- Fastening for guide
- 8- Guide stop

## MIXER CHANNELS

Use a small vacuum-cleaner or a brush to clean the funnel area and the container support surface by removing any powder residue at regular intervals.

Surfaces can be cleaned by using a wet piece of cloth.

## SERVICE INTERRUPTION

If the machine should be off for any reason whatsoever for a period longer than the pull dates of products, it is necessary to act as follows:

- empty the containers completely and wash them carefully by using the sanitising products used for the mixers
- empty the water circuit completely

**Before restarting operation, clean and sanitise.**

## Chapter 2 Installation

Installation and any subsequent maintenance operation must be carried out when the **machine is live** and, therefore, by the personnel skilled and trained on the use of the machine as well as aware of the specific risks such a condition may involve.

The machine must be installed in a dry room, at a temperature between 2° and 32°C and it can not be installed in a room where water jets are used for cleaning (e.g. large kitchens, etc.).

**At the time of the installation, it is necessary to completely sanitise the water circuits and the parts in contact with foodstuffs in order to remove any bacterium that may have built up during storage.**

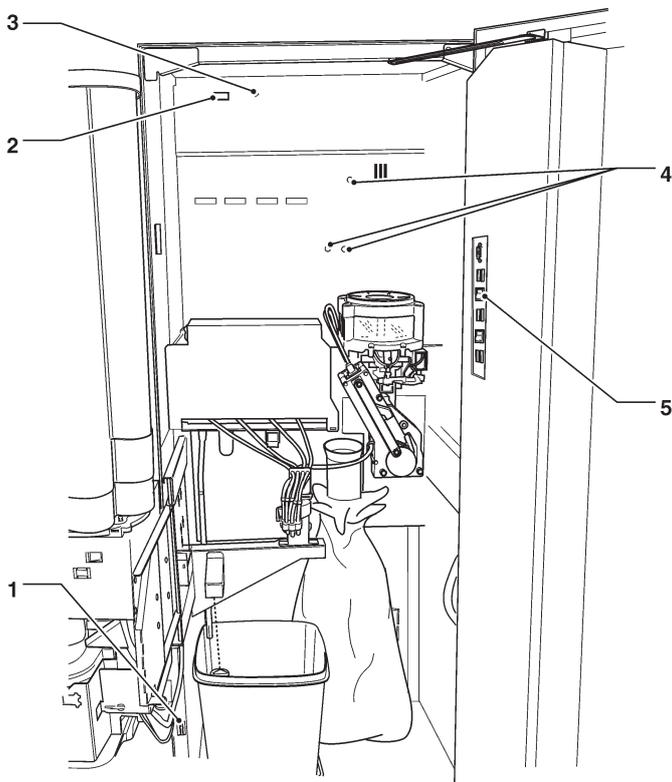


Fig. 15

- 1- Door switch
- 2- Permanently live socket (230v~ 2 A. Max)
- 3- Mains fuse
- 4- Board leds
- 5- Service buttons

## DOOR SWITCH

Whenever you open the door, a special switch will power off the electric installation of the equipment.

To power on the machine when the door is open, just insert the key into the slot (see fig. 15).

**When the door is open, you are not allowed to access any live part. Only the parts protected by covers and marked by the label “power off before removing the cover” will remain live inside the machine.**

**Before removing these covers, it is necessary to detach the power supply cable from the mains.**

You can close the door only after having removed the key from the door switch.

## UNPACKING THE VENDING MACHINE

After having unpacked the machine, make sure that the equipment is intact.

In case of doubt never use the equipment.

**No packing material (plastic bags, foam polystyrene, nails, etc.) should be left within the reach of children since they are potential sources of danger.**

Packing materials shall be disposed of in authorised dump sites and recyclable ones collected by specialised companies.

### Important!!

The machine shall be arranged to prevent maximum inclination from exceeding 2°.

If necessary, level it by using the adjustable feet (see fig. 16) supplied with the machine.

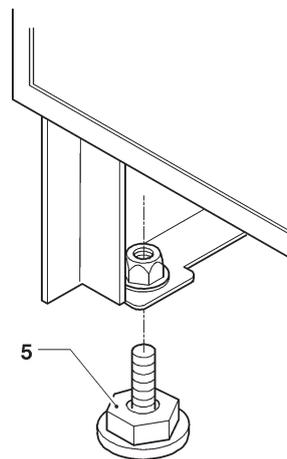


Fig. 16

- 1- Adjustable foot

## LABEL INSERTION

To insert the product labels, disassemble the label supports after having removed the three fastening screws by acting on the clamping tangs (see fig. 17).

Insert the labels into the slots alternatively opening on the right and left side.

Some buttons may not be used according to the models (see the selection dose table).

The self-adhesive labels also supplied shall be applied to the product containers according to the arrangement (see the selection dose table).

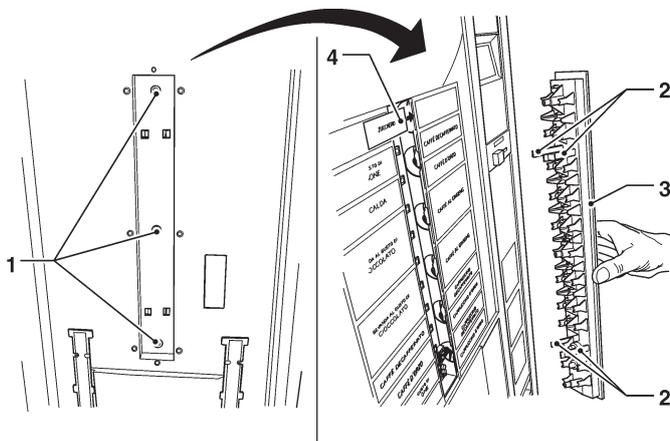


Fig. 17

- 1- Fastening screws
- 2- Clamping tangs
- 3- Label support
- 4- Product labels

## CONNECTION TO THE WATER MAINS

The vending machine must be connected with the drinkable water mains according to the provisions in force in the country of installation of the equipment.

The mains pressure must range from 0.05 to 0.85 Mpa (0.5 8.5 bar).

Let water come out of the water mains until it is limpid and free of any trace of dirt.

Connect the water mains with the 3/4" gas fitting of the water inlet solenoid valve by means of a tube that can support the mains pressure and of a type suitable for foodstuffs (min. inner diameter 6 mm.) (see fig. 18).

**It is recommended to apply a tap on the water mains outside the machine in an accessible position.**

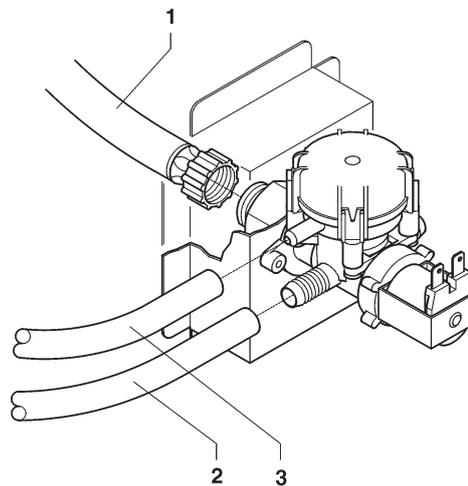


Fig. 18

- 1- 3/4" gas water inlet fitting
- 2- Inlet tube fitting
- 3- Overflow tube

## OVERFLOW DEVICE

The water inlet solenoid valve (see fig. 18) is complete with an overflow device that can mechanically lock the water inlet as a result of a malfunction of the solenoid valve or the water level control device in the boiler.

To restore the normal operation, act as follows:

- power off the machine;
- drain the water in the overflow tube;
- close the water mains tap outside the machine;
- loosen the fitting intended to fasten the supply tube of the solenoid valve to discharge the residual mains pressure and tighten it again (see fig. 18);
- open the tap and power on the machine

## SOFTENER

The machine is supplied without a softener.

If water is very hard, you can mount a softener.

Softeners, available as an accessory, shall be regenerated according to the manufacturer's instructions at regular intervals.

## ELECTRIC CONNECTION

The machine is arranged for electrical operation at a 230 V~ single-phase voltage and it is protected by a 15A fuse.

For connection make sure that the rating will comply with the mains data, in particular:

- the supply voltage value shall lie within the limits recommended for the connection points;
- the main switch shall be featured in such a way that it can support the maximum load required and to ensure omnipolar disconnection from the mains with an opening gap of the contacts of min. 3 mm.

**The switch, the power socket and the corresponding plug shall be located in an accessible position.**

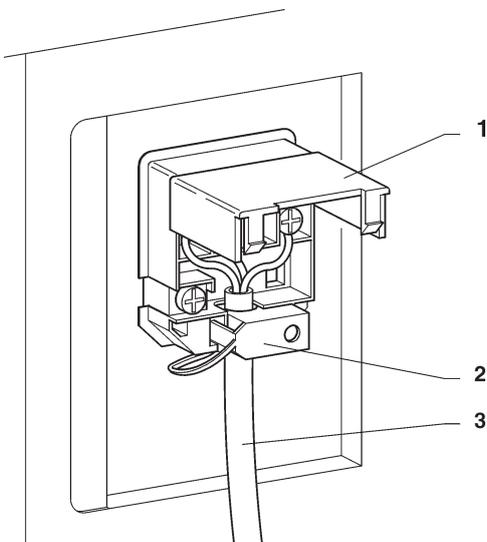
The electrical safety of the machine is only ensured when the machine is correctly and efficiently grounded according to the safety standards in force.

**It is necessary to check this fundamental safety requirement and, in case of doubt, to require professionally qualified personnel to check the installation carefully.**

The supply cable is of the type with a fixed plug. If necessary, the connection cable (see fig. 19) shall be replaced by qualified personnel by using only cables of the HO5 RN - F or HO5 V V-F or H07 RN-F type, 3x1-1.5 mm<sup>2</sup> in cross-section.

Fig. 19

- 1- Lift cover
- 2- Cable clamp
- 3- Mains cable



**It is forbidden to use adapters, multiple sockets and/or extensions.**

**THE MANUFACTURER WILL DISCLAIM ALL RESPONSIBILITY FOR ANY DAMAGE CAUSED BY THE NON-OBSERVANCE OF THE PRECAUTIONS MENTIONED ABOVE.**

## PAYMENT SYSTEM ASSEMBLY

**The machine is sold without any payment system. As a consequence, only the installer will be liable for any damage that may be caused to the machine or to things and persons by a faulty installation of the payment system.**

Mount the payment system you have selected by following the instructions and make sure that:

- You have programmed the parameters correctly;
- Regulate the selector opening lever bracket in order to open the selector completely;
- Regulate the coin chute according to the coin mechanism you have assembled.

## BANK INSTALLATION

The control system of the machine is arranged for the bank installation with other automatic dispensers by using special kits.

This will enable the operator to use one single payment and remote connection system (GSM) for several machines.

In case of a bank installation, the machine can be configured as a "master", i.e. as a machine controlling the second one, or as a "slave", i.e. as a machine controlled by the second one.

## FILLING THE HYDRAULIC CIRCUIT

If the air-break should signal a no-water condition for over 10" as soon as you power on the machine, the machine will automatically perform an installation cycle, i.e:

- the display will show the following message during the whole cycle "INSTALLATION".
- the air-break and the instant boiler are filled in;
- the coffee solenoid valve will open to bleed air from the boiler and let 600 cc. water flow in.

**Please Note: If there is no water flow from the mains during the installation cycle, the machine will stop until the water flow is restored or the machine is powered off.**

The operation shall be carried out manually by using the special function of the "test" menu in the "Technician" mode if the **(optional) water supply kit from internal tank** is mounted or as a result of any **maintenance operation** requiring the operator to empty the boiler and not the air-break.

## SANITISING MIXERS AND FOOD CIRCUITS FOR THE FIRST TIME

As soon as you install the machine, carefully sanitise the mixers and the conduits intended to dispense instant drinks in order to guarantee the hygiene of dispensed products.

**It is absolutely forbidden to use water jets for cleaning.**

Disinfection is carried out by means of sanitising products.

Wash the mixers and add some drops of a sanitising solution.

After having completed disinfection, rinse the mixers abundantly to remove any residue of the solution in use. To dispense water in the mixers, use the "mixer washing" button. If necessary, enable it from the menu. (see the relative chapter)

# OPERATION

## COMPARTMENT COVER

The machine is complete with a cup shift arm that can keep the dispensing spouts very close to the drink, thus improving its quality and reducing to a minimum the possibility of making the dispensing area dirty. The system is also complete with a shutter closing the cup passage to provide for separation from the outside.

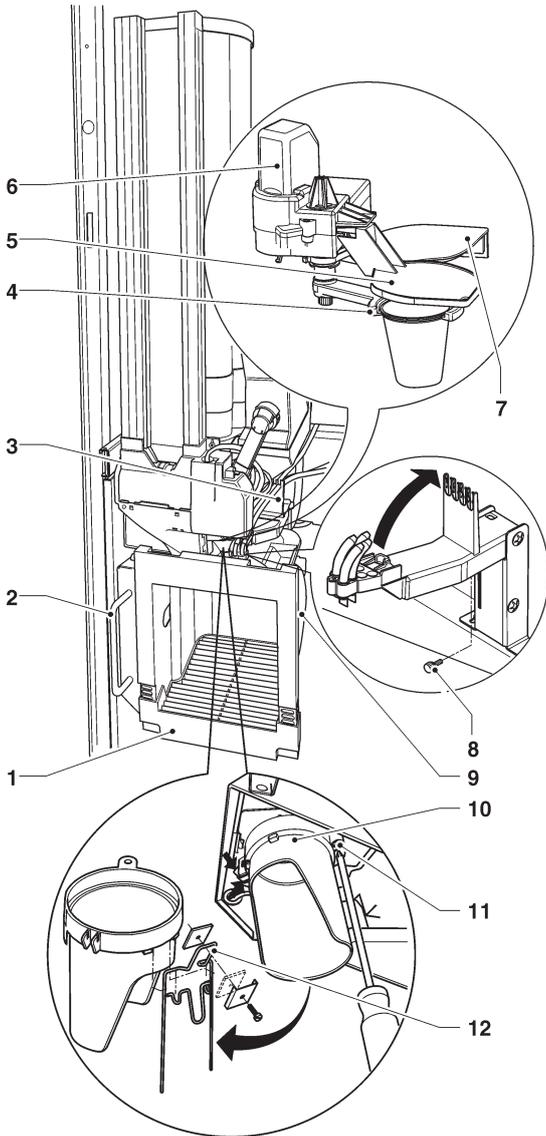


Fig. 20

- 1- Dispensing compartment
- 2- Extraction handle
- 3- Support of dispensing tubes
- 4- Cup shift arm
- 5- Mobile drink dispensing cover
- 6- Ratio-motor operating levers
- 7- Mobile cup dispensing cover
- 8- Spout fastening knurl
- 9- Compartment stopping knurls
- 10- Feeding ring
- 11- Ring fastening screw
- 12- Cup guide

For instant drinks you can set up a wait time (from zero to 2000 c/s) from the end of delivery, after which the shutter closes; the end-of-delivery sound signal is given. A microswitch signals the machine the position of the cup shift arm.

## CUP GUIDE DEVICE

A cup guide device is supplied with the machine. It is to be mounted only if the type of cup in use should improperly fall into the shift arm.

To mount the device, just extract the conveying ring fastened by means of a screw and mount the device onto the ring, as it is shown by fig. 20.

## STIRRER SUGAR DISPENSER

The dispenser is driven by a bidirectional motor that will alternatively release a stirrer from the external stacker and a stirrer from the internal one.

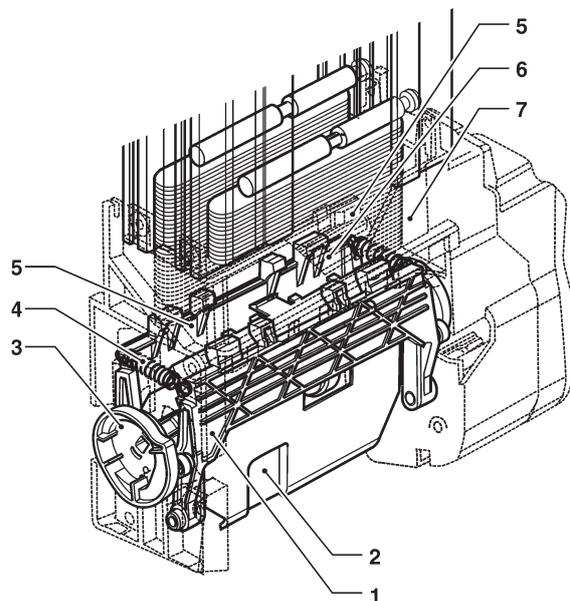
The special profile of the cam driving the device will move the mobile stirrer support and accommodate a stirrer in the ejection area.

As soon as the cam re-enters, the return spring will dispense the stirrer.

If the machine is also required to dispense sugar, the motor will rotate longer and operate the mechanism intended to tilt the dispensing spout.

Fig. 21

- 1- Mobile stirrer supports
- 2- Main body
- 3- Support operation cam
- 4- Return spring
- 5- Ejectors
- 6- Stirrer support
- 7- Stackers



## CAPSULE DISPENSER

The capsule dispenser enables the machine to load capsules by chance since it can automatically orient and straighten them as well as bring them into the release position.

The dispenser is composed by two parts:

- the capsule orientation and transportation system;
- the system intended to detect and release a capsule.

### ORIENTATION SYSTEM

The system and the container are composed by a motor that can rotate in both directions.

The motor moves the selection disk by means of an intermittence system and - at the same time - the agitator by means of a drive pin.

The spreader in the middle of the container is intended to prevent the whole weight of the capsules from bearing onto the orientation mechanism.

When the capsules are moved by the agitator, they are positioned sideways in the separator ring.

The selector disk has six cells with the seat for the capsule edge alternatively arranged outside or inside.

When a capsule coincides with the shape in the selector ring, it is loaded into the cell.

The device continues to rotate until a capsule falls into the positioning chamber.

If the capsule presence is not detected after some attempts at loading, the rotation of the agitator is reversed and the cycle repeated.

The direction of rotation is reversed even after some movements in the same direction to facilitate the even positioning of the capsules.

The rotation for the search for capsules is reversed some times, after which coffee-based selections are locked with a "no coffee failure".

If a coffee-based selection is required during this time, the "Wait please" message will appear.

If the motor should fail to rotate within a well-defined time interval for any reason whatsoever, the direction of rotation is reversed; if this attempt should also fail, coffee-based selections are locked with a "capsule lock failure".

### DETECTING AND RELEASING SYSTEM

When a capsule falls into the positioning chamber, it is placed vertically onto the release levers thanks to the special geometry of chutes and stabiliser guides.

The capsule presence lever orders the machine to stop searching in the orientation system by means of a photocell.

At the time of the first load (discharge device empty), the search in the orientation system will continue to position the second capsule. If necessary, place the capsule manually.

When powered on, the machine will automatically start searching for the capsule.

There must always be two capsules in the release position during the normal operation.

If the capsule is still detected in the positioning chamber after a release, the brewing unit is rotated to eject the capsule and a second attempt at release is made. If the capsule presence signal still persists, coffee-based selections are locked with a "coffee release failure".

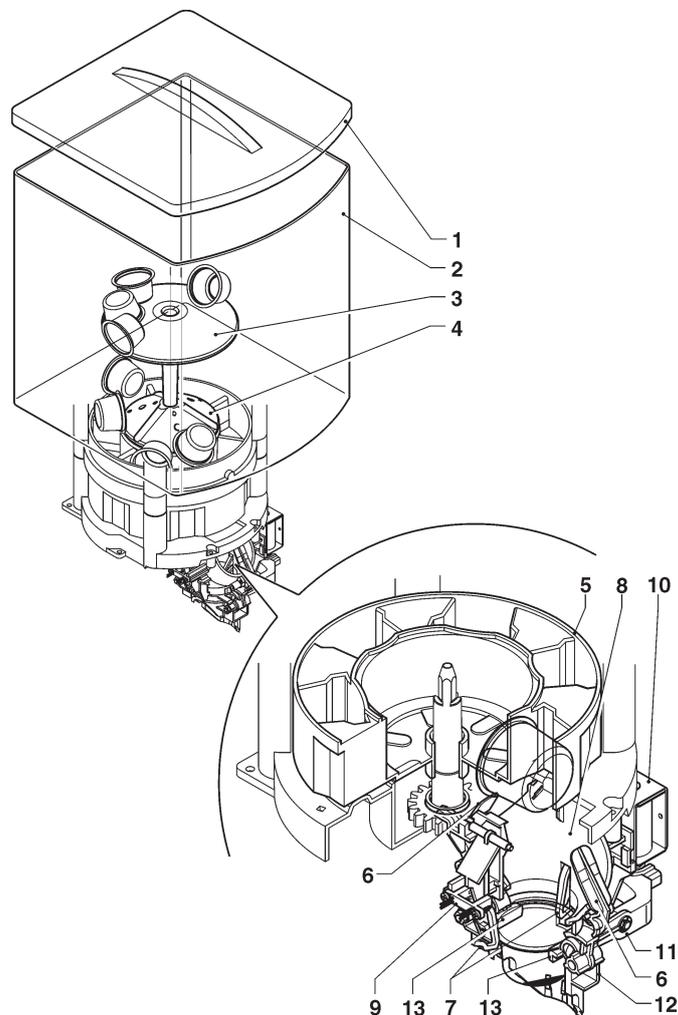


Fig. 22

- 1- Lid
- 2- Capsule container
- 3- Weight spreader
- 4- Capsule agitator
- 5- Capsule selection disk
- 6- Capsule stabiliser guides
- 7- Capsule presence lever
- 8- Capsule positioning chamber
- 9- Capsule presence sensor
- 10- Release electromagnet
- 11- Release control lever
- 12- Capsule discharge tube
- 13- Release lever

## COFFEE DISPENSING CYCLE

Whenever you request for coffee-based selection, a capsule is released in the brewing chamber that is vertically arranged in its standby position (see fig. 23).

The ratio-motor handle rotates by 180°, thus causing the brewing chamber to swing and the upper piston to lower (see fig. 24).

The lock lever is positioned in its seat, thus preventing the piston pressure from moving the mechanism backwards.

As a result of the water pressure, the hydraulic piston is lowered down until it seals onto the capsule edge and the brewing piston will pierce the protection film.

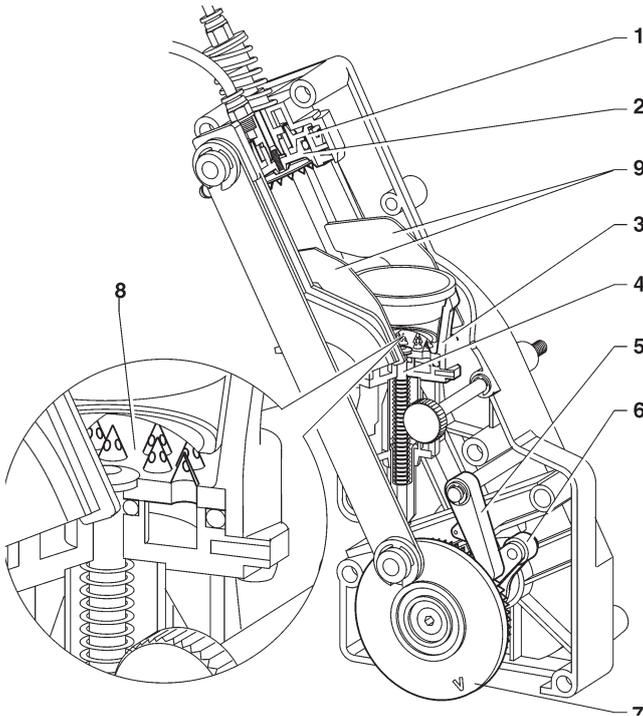


Fig. 23

- 1- Hydraulic piston
- 2- Brewing piston
- 3- Brewing chamber
- 4- Lower piston
- 5- Lock lever
- 6- Ratio-motor handle
- 7- Reference notch
- 8- Piercing filter

As soon as the dispensing solenoid valve is opened, water will reach the ground coffee through the protection film that has been pierced.

Hydraulic pressure will push the concave bottom of the capsule against the piercing filter.

The conical needles of the piercing filter pierce the capsule bottom and extract coffee, while retaining the ground coffee inside the capsule.

At the end of the dispensing cycle, the water in the capsule will come out through the 3rd way of the dispensing solenoid valve and the capsule bottom resume its concave shape.

The ratio-motor continues to rotate, lifting pistons and the lower piston ejector.

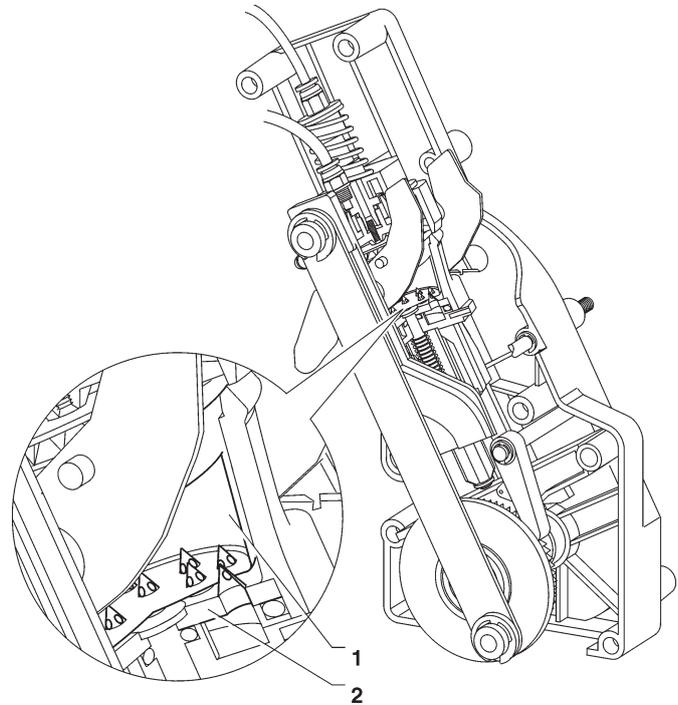


Fig. 24

- 1- Capsule
- 2- Conical needles

The hydraulic piston is released and replaced in its standby position.

While the brewing chamber is moving back to its vertical position, ejection levers push the used capsule and drop it.

The lower piston ejector returns to the bottom dead centre.

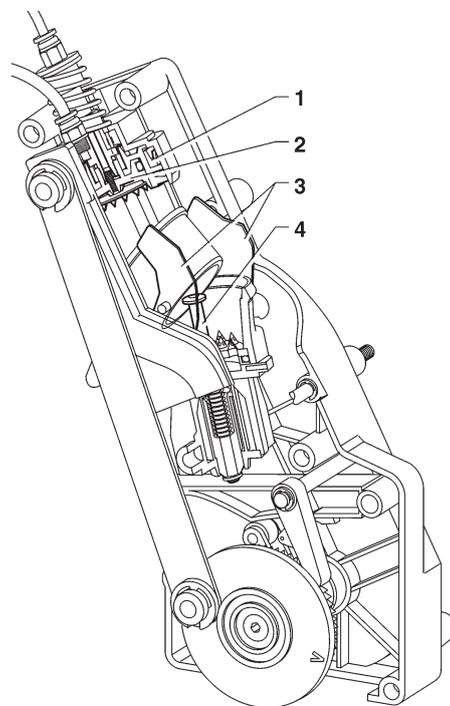


Fig. 25

- 1- Hydraulic piston
- 2- Brewing piston
- 3- Capsule ejection levers
- 4- Ejector piston stem

## **CHECKING AND ADJUSTING THE SETUP**

To achieve the best results with reference to the product in use, it is recommended to check:

- the dose of the products
- the temperature of the drinks
- the water dose.

If it is necessary to vary the settings, act as it is described by the following paragraphs.

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

To change them, follow the programming procedures.

## **STANDARD SETUP**

The vending machine is supplied set up as follows:

- coffee temperature (at the spout) 72-78° ca.;
- instant product temperature (at the spout) 75° ca.;

The standard settings of the vending machine assigns all selections the same price expressed in No. of basic coins.

## **WATER TEMPERATURE REGULATION**

The boiler temperature is controlled by the software and it can be directly regulated from a menu

## INSTANT DISPENSING

Every single instant mixer is supplied by a direct current pump on the boiler.

The pump rotation speed and flow rate are controlled electronically to guarantee the best dose constancy and accuracy.

The water dose for every single selection is established on a time basis.

Every single mixer may use single or double spouts, having a different cross section, according to the water doses required; spouts are identified by various colours according to the flow rate you may achieve.

The upper spout is conceived in such a way that it can provide for a high flow rate. The lower spout can guarantee the flow necessary to wash the mixer optimally.

The dose table is intended to supply the factory settings (water and powder doses) and the type of spout (colour / single or double) used for every single pump.

If the instant shelf is disassembled, pay attention to the spouts assembled on every single mixer.

## PRESELECTIONS

Preselections will vary according to the layout you may have set up on the machine. The preselections arranged for every single layout are specified by the selection dose table (selection layout) supplied with the machine.

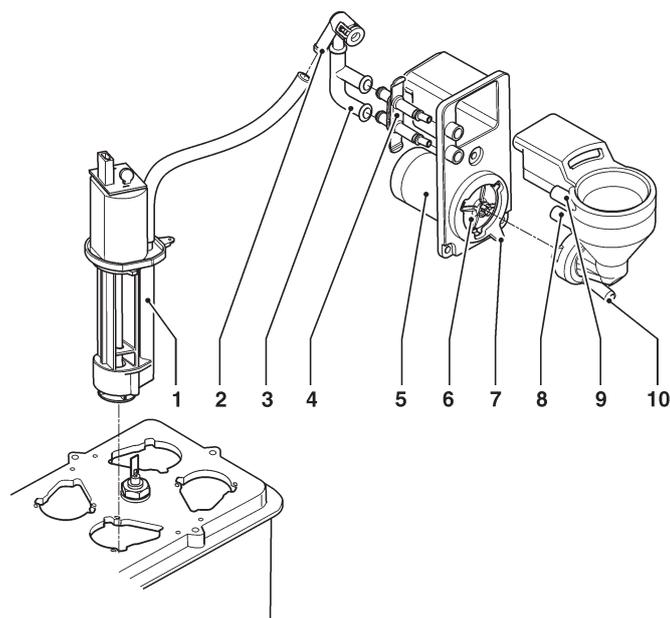


Fig. 26

- 1- Pump
- 2- Anti backflow valve
- 3- Water inlet fitting
- 4- Spout small plate (double or single)
- 5- Whipper
- 6- Impeller
- 7- Mixer fastening ring nut
- 8- Lower water coupling
- 9- Upper water coupling
- 10- Drink outlet spout

## PUMP CALIBRATION

The speed and flow rate of direct current pumps can be controlled electronically.

To adjust the control device to the actual flow rate, calibrate the pumps, i.e. measure the actual flow rate at a given speed.

The operation is performed at the factory by finding out the optimal setup to get a correct preparation cycle of the drink.

However, you may have to repeat it for various reasons. After having found out the selection on which to act, act as follows by means of the corresponding menu:

- Confirm the type of spout in use (single-double, colour).  
**The spout / pump match is established by the manufacturer.**

- Confirm the water dispensing cycle to initialise the pump and the water circuit.

- Confirm the execution of calibration. The pump is operated at two different speed rates for a well-defined time interval.

- Store the water quantities you have achieved.

## CUSTOMISING DRINKS

If you customise drinks by considerably changing the water dose, check the water flow rate in the mixer. If necessary, replace the spout with a more suitable one.

Calibrate the pump once again. At the end of the procedure test all selections using that mixer to be sure that the drink dispensing cycle is correct.

### Attention !!!

**Make sure that the mixer is properly rinsed without leaving any powder residue.**

## DOSER CALIBRATION

To convert the product dose values properly, set up the flow rate value of every single doser in gr/s to calculate the grams to be dispensed.

## WATER TEMPERATURE REGULATION

The boiler temperature is controlled by the software:  
By default:

-93° C for the espresso boiler

-90° C for the instant boiler

and they can be directly regulated from the menu.

## CHANGES IN THE SETUP OF INSTANT PRODUCTS

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

To change them, follow the programming procedures.

## Programming notes

The electronics intended to control the machine will enable the operator to use many functions or not. The machine programme is intended to describe all available functions, including those that are not used due to the specific configuration of the model (**layout**). The following is supplied with the machine:

- Selection layout including the selections arranged for the specific model
- Flow chart of programming menus.

The main functions required to manage the machine operation as well as possible are briefly explained here below, not necessarily in the order they are displayed in the menus.

The software release can be updated by using proper systems (PC, Giga, Upkey etc.)

The messages intended to display the operation in progress are fixed whereas the action the user is required to perform is flashing on and off.

The machine can work in three different modes.

The keyboard buttons may assume different functions, according to its operation state.

### NORMAL OPERATION MODE

- The machine is powered on (the door is closed) and all checks are performed.
- Operations that can be performed when the door is closed.
- The selection is dispensed and messages are displayed for the user.

### FILLER MENU

- Statistical findings and execution of simple checks on the operation and on dispensing cycles.

### TECHNICIAN MENU

- The setups and the performances of the machine are programmed on two levels:

#### REDUCED

To manage the parameters and doses of selections;

#### COMPLETE

The operations you can perform can modify operation cycles. Therefore, they must be carried out by people having a specific knowledge of the machine in terms of electrical safety and sanitary rules.

### Navigation

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

### DISPLAY

10-line graphical display intended to display the user messages or the menu functions.

MENU TITLE
Option available
Option available
Option available
Option available
Active cursor
Option available
Option available
Option available
TECHNICIAN> 2.1

If required, the menu title is highlit on the first line.

MENU TITLE

followed by all available options.

The line, on which the cursor is active, is highlit.

Active cursor

The last line specifies the menu, in which we are acting (Filler or Technician), followed by the numeric position of the function (e.g. 2.1).

TECHNICIAN> 2.1

## KEYBOARD

The external keyboard may be by direct selection or, as an alternative, complete with numeric keys, according to the models.

If the machine is set to the Filler or Technician mode, the keys of the selection pushbutton panel will assume the functions shown by the figure and the corresponding leds will turn on:

**SCROLLING KEYS** ↓ AND ↑ :

used to move to the previous menu option or to the next one and to modify the values (plus or less).

**ENTER KEY** ↵:

used to move from a menu to a sub-menu or to confirm the data item on the display.

**EXIT KEY** ⬅:

used to go back from a sub-menu to a higher level menu or not to confirm the data item that is currently active.

It is also used to move from the “Filler” mode to the “Technician” mode and vice versa.

To access the programming menus, power on the machine when the door is open by acting on the door switch and by pressing the programming button.

## POWER ON

Whenever you power on the machine, the display will show the software release number.

```
CANTO
Software rev. x.x
Machine board rev. x.x

TOTAL VENDS: xxxxxx
```

A check is therefore performed on espresso boilers.

```
Boiler temperature
Espresso
  xx°
Instant
  xx°
```

After having completed the power-on cycle, the display will show the following message after some seconds:

```
Running
SELECT A DRINK
```

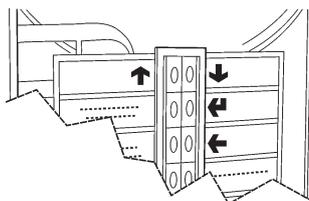
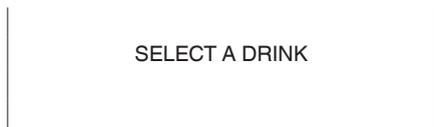


Fig. 27

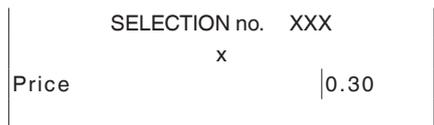
## NORMAL OPERATION MODE

The message requiring the user to select a drink will appear on the display during the normal operation.

The key function will vary according to the layout and the choices you have made during programming.

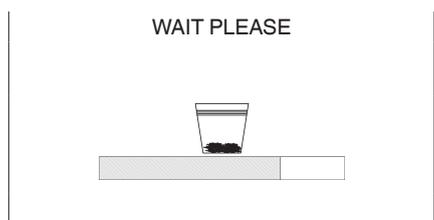


If you insert some coins into a payment system, the credit still available will appear on the display.

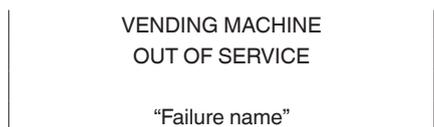


Whenever you request for a selection, if the credit is not enough, the display will show the selection price, the credit available and the residual amount you have to insert in sequence.

A status bar is displayed during the dispensing cycle. It will show the drink preparation level.



If the control system should find out a failure, an error message will appear and specify the type of problem:



At the end of the dispensing cycle, the request to take the drink will appear on the display for some seconds and the machine will get ready for another delivery.



## FILLER MENU

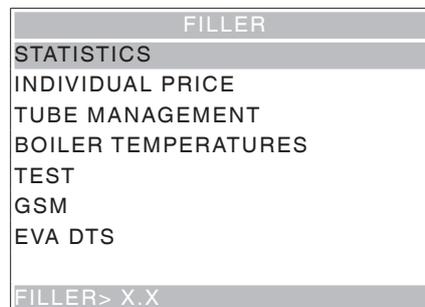
Press the programming button on the machine door once to set the machine to the "filler menu" mode. The first item of the "filler" menu appears on the display with a series of available operations.

The last line shows the menu and number showing the level you are in.

Press the Enter key to access the menu.

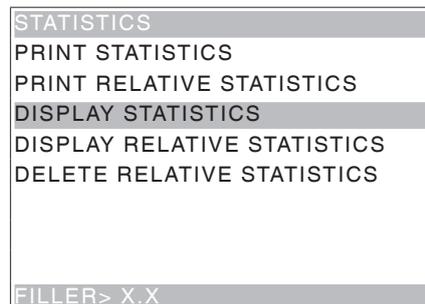
Press the Exit key to go back to the previous menu..

Press the keys and to scroll the menu items:



## STATISTICS

All the data relative to the machine operation are stored in total and relative counters that can be reset without losing total data.



## PRINT

This function is intended to print the data that have been stored for the machine operation.

Connect an RS232 serial printer having 9600 baud rate, 8 data bits, no parity, 1 stop bit with the serial port on the button board in order to print all statistics, i.e.:

### TOTAL

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

## RELATIVE

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

The machine code, the date and the software release will be also printed.

To print, act as follows:

- from the print function press key **↵** to display "Do you confirm?";
- connect the printer;
- press the Enter key **↵** to start printing

## DISPLAY

The function is intended to sequence-display the same data you can obtain by printing statistics.

Press the Enter key **↵** to sequence-display the following data:

### Total counters

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

### Relative counters

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

## DELETE

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

- selections
- discounts
- failures
- coin mechanism data

Press the Enter key **↵** to display the blinking message: "Do you confirm?"

Press the Enter key **↵** to reset the statistics. The display will show the "Running" message during the operation to reset the statistics.

---

## INDIVIDUAL PRICE

---

The machine can manage up to 4 different prices per selection, which can be active according to the time band you have set (standard or promotional) and/or the payment system in use.

Use this function to vary the sales price for every single selection by selecting among the price ranges available.

## CHANGE TUBE MANAGEMENT

**This function is active only if the payment system you have set up can perform this operation.**

Access the function to load or empty the change tubes manually.

If you confirm load, "Credit : —" will appear on the display. This is the value of the money made available in the tubes for the change. If you insert a coin into the validator, the display will increase the value of the money made available in the tubes for the change.

If you confirm unload, you can establish the tube on which you wish to act. Whenever you press the Enter key **↵**, a coin is ejected by the active tube.

---

## TEMPERATURE DISPLAY

---

Use this function to read the coffee and instant boiler temperatures directly expressed in °C.

---

## TEST DISPENSING

---

Every single button (or combination of keys according to the models) will operate the relative selection for complete or partial test dispensing (see the selection dose table).

**Please Note: For espresso coffee based selections, only additions are dispensed with partial powder and water deliveries. If no addition is provided for by the selection, the display will show “Disabled Sel. “**

Possible test dispensing cycles are listed here below::

- Complete dispensing cycle
- Water-only dispensing cycle
- Powder-only dispensing cycle
- No-accessory dispensing cycle (no cup, stirrer and sugar)
- Accessory-only dispensing cycle (only cup, stirrer and sugar)

---

## GSM PREALARMS

---

**This function is active only if the vending machine is properly set up and connected with a GSM data transmission device.**

The control software can send an “ending product” signal via GSM modem when a well-defined (programmable) number of pieces or powder grams of a given product is lacking.

Use this function to reset the counters intended to manage prealarms.

---

## EVADTS TRANSFER

---

If you activate this function, the machine will be waiting for connection with a device for the purpose of acquiring EVADTS statistics.

## TECHNICIAN MENU

The main software functions required to manage the machine operation as well as possible are briefly explained here below. They are grouped by logic of utilisation and not necessarily in the order they are displayed in the menus.

The software release can be updated by using proper systems (PC, Giga, Upkey etc.).

For more information and details refer to the dose table supplied with the machine. Please make reference to the machine software release.

Press key **←** from the “Filler” mode to set the machine to the “Technician menu” mode.

### Notes:

Press key **←** in the technician menu to restore the filler mode for the machine.

The display shows the first “Technician” menu item with the series of operations made available.

The last line shows the menu and the number enabling the operator to find out the level you are in.

Press the Enter key **↵** to access the menu.

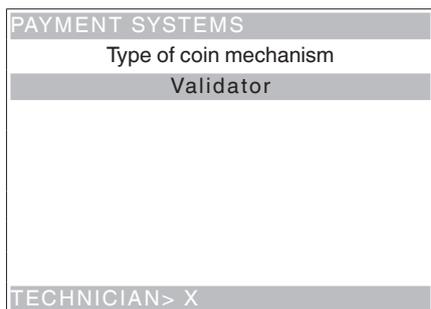
Press the Exit key **←** to go back to the previous menu.

Press key **↑** and **↓** to scroll the menu items.

TECHNICIAN
PAYMENT SYSTEMS
PRICES
DOSES
V.M. CONFIGURATION
TEST
STATISTICS
COMMUNICATION
FAILURES
TECHNICIAN> 1

## PAYMENT SYSTEMS

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



The communication protocols for the payment systems available are listed here below:

- Validators
- Executive
- BDV
- MDB

Some parameters shared by several payment systems keep the set point even if you change the type of system. If necessary, they can be modified by the menus of the various payment systems.

### VALIDATOR

#### IMMEDIATE CHANGE

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

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

The setup of this parameter is compulsory.

#### LINE/VALUE ASSOCIATION

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

#### DECIMAL POINT

Press the Enter key  to display the position of the decimal point, i.e.

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

If you press the Enter key , these values will flash on and off and they can be modified.

#### OVERPAY

You can decide whether to cash or leave the credit exceeding the selection amount at the user’s disposal.

## EXECUTIVE

### VERSION

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

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

### IMMEDIATE CHANGE

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

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

The setup of this parameter is compulsory.

## **BDV**

The BDV protocol menus will enable the user to define the following functions.

### **IMMEDIATE CHANGE**

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

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

The setup of this parameter is compulsory.

### **TYPE OF SALE**

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

### **CHANGE CONTROL**

Used to enable/disable the credit return (escrow) if no dispensing has been performed.

If enabled, this function will provide for the return of the coins even if the first dispensing cycle has not occurred. If a delivery has failed for any reason whatsoever, the change will be paid upon request.

### **MAXIMUM CREDIT**

Function used to define the maximum accepted credit for inserted coins.

### **MAXIMUM CHANGE**

You can set a limit on the total amount of the change the coin mechanism will pay as soon as you press the change button or after one single dispensing. The credit exceeding the amount you have programmed by this function will be cashed.

### **COINS ACCEPTED**

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

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

### **COINS NOT ACCEPTED**

Used to program the rejection of a coin in case of "exact amount".

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

### **"EXACT AMOUNT" VALUE**

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

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

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

### **DISPENSING BUTTONS**

Function used to enable or disable the buttons arranged on the coin mechanism in order to discharge the coins in the change tubes.

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

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

### **MINIMUM TUBE LEVEL**

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

### **VMC FREE SALE**

Most of the payment systems complete with a BDV protocol is intended to manage the free sale function. However, there are some payment systems not having this function.

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

## **MDB**

The MDB protocol menus will enable the user to define the following functions.

### **IMMEDIATE CHANGE**

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

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

The setup of this parameter is compulsory.

### **DECIMAL POINT**

Press the Enter key **↵** to display the position of the decimal point, i.e.

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

If you press the Enter key **↵**, these values will flash on and off and they can be modified.

The setup of this parameter is compulsory.

### **TYPE OF DISPENSING CYCLE**

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

### **OBLIGATION TO BUY**

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

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

### **MAXIMUM CREDIT**

Function used to define the maximum accepted credit for inserted coins.

### **MAXIMUM CHANGE**

You can set a limit on the total amount of the change the coin mechanism will pay as soon as you press the change button or after one single dispensing. The credit exceeding the amount you have programmed by this function will be cashed.

### **COINS ACCEPTED**

Used to define which coins shall be accepted among those recognised by the validator when the change tubes are full.

For the coin/value correspondence check the coin mechanism configuration

### **COINS RETURNED**

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

For the coin/value correspondence check the coin mechanism configuration.

### **BILLS ACCEPTED**

Used to define which bills shall be accepted among those recognised by the reader.

For the bill/value correspondence check the reader configuration.

### **BELOW-THE-LEVEL ACCEPTANCE**

Used to define which coins shall be accepted among those recognised by the validator when the machine is in the "exact amount" mode.

### **FOR THE COIN/VALUE CORRESPONDENCE CHECK THE COIN MECHANISM CONFIGURATION**

### **BELOW-THE-LEVEL BILL ACCEPTANCE**

Used to define which bills shall be accepted among those recognised by the reader when the machine is in the "exact amount" mode.

For the bill/value correspondence check the reader configuration.

### **CASHLESS PRIVATE**

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

### **OVERPAY**

You can decide whether to cash or leave the credit exceeding the selection amount at the user's disposal.

### **CASH-SALE MANAGEMENT**

Used to give evidence that cash transactions have occurred by means of a cashless system.

The values available are listed here below:

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

## PARALLEL MACHINE

Function used to enable the presence of a validator or parallel bill reader to recharge the keys.

## EXACT CHANGE EQUATION

To choose among 15 different algorithms to enable the machine to give the change at the end of the selection. Every single algorithm checks a series of requirements, such as the amount of coins in the tubes or the (empty or full) state of the tubes the coin mechanism will use to give the change.

If one of these requirements is not fulfilled, the machine can supply no change. In this case, the display will show the "No change" message.

## MAXIMUM CASHLESS CREDIT

Function used to set up the maximum credit a cashless key/card may have to be accepted by the system. If the key has got a higher value, it will be rejected.

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

## MAXIMUM CASHLESS RECHARGE

Used to set up the maximum credit you can charge on a key or card system.

## MINIMUM TUBE LEVEL

Used to set a number of coins between 0 and 15 in order to establish the status of full change tubes and to warn the user to "insert the exact amount".

## BILL READER FUNCTION (BILL REVALUE)

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

## INDEFINITE CREDIT ACCEPTANCE

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

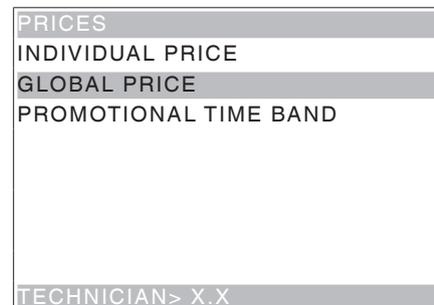
## GROUPS OF USERS

The function is intended to associate a price list (list 1, list 2 and list 3) to the groups of users (from 1 to 5). All groups of users are associated to list 1 by default.

## PRICES

From this menu you can set up prices individually (for every single selection) or globally (the same price for all selections) and define the ranges of the promotional time band.

The machine can manage up to 4 different prices for every single selection, which may be active according to the time band you have set up (either standard or promotional) and/or the payment system in use.



Prices are grouped into 4 lists and they can be programmed (from 0 to 65,535) for each one of the 4 lists either globally (the same price for all selections) and for every single selection.

The price of one single selection can be directly varied from the keyboard too.

If you have to sell most products at the same price, it will be advisable to programme the price globally and to change the price of the selections having a different sales price.

## BDV, EXECUTIVE, VALIDATORS

These systems enable you to manage not only the standard price list, but also a promotional price list if the time band is enabled by the corresponding function. Selections will be dispensed at the price of the promotional list during the time intervals you have programmed.

## MDB

These systems are intended to establish whether to use the 4 price lists at the same time or to use two alternative ranges according to the time band you have set up. If you do not use the time band, you can manage not only the standard price list, but also three further price lists according to the type of cashless support in use (key 1-3).

If you use a time band, selections will be dispensed at a price other than the standard one for the cashless system. During the time intervals you may have programmed, selections will be dispensed at two different promotional prices for the standard list and the cashless system.

## PROMOTIONAL TIME BAND

4 time ranges programmable for the sale at different prices.

Ranges can be set up by hour (from 00 to 23) and by minute (from 00 to 59).

The time of reference is supplied by an internal clock.

## DOSES

This group of functions is intended to define all variables contributing to the drink build-up.

DOSES
SELECTION PARAMETERS
GLOBAL POWDER DOSES
PUMP SETUP
DOSER SETUP
KEYBOARD
NO SUGAR
DEC. CYCLE
TECHNICIAN > X.X

### SELECTION PARAMETERS

Confirm this function to access the sub-menus to manage the parameters. The first option consists in choosing the selection you wish to act on.

Press one key of the external keyboard to display the relative parameters, according to whether the key is a selection or a preselection.

### COMPOSITION SET

Use this group of functions to modify the doses and parameters relative to the waters and powders of the drink you have selected.

Confirm this function to display the list of the ingredients (powder/s and water) composing the drink, in the order the water dose is dispensed (see the dose table).

A drink can be composed by max. 4 ingredients (powder/s and water).

Every single water dose can be associated with several powders.

To dispense water, act on the following parameters:

## MIXER

### MIXING MODE

For every single selection you can set the duration of the mixing cycle for every single water dose composing the selection.

The duration can be set in two different modes:

#### absolute

i.e. not depending upon the start time of the pump.

The duration of the mixing cycle is set in tenths of a second and it is calculated from the time the pump is started up.

#### relative

i.e. by way of difference, either in excess or in default, compared to the stop time of the pump.

E.g.: if the value is 0, mixing will stop as soon as the pump stops.

The duration of the mixing cycle is always expressed in tenths of a second.

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

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

### MIXING TIME

You can define how long the mixer shall be active after the pump stop within one single product.

### BREWING PARAMETERS (FB ONLY)

Parameters not available

## WATER DOSES

To dispense water, act on the following parameters:

### EVENT START (0 - 3)

Set this value to dispense the water of the relative ingredient after the water with the lowest value.

In doing so, you can vary the sequence of the various ingredients to get the best product quality.

### DELAY TIME

You can set up the water delay (in hundredths of a second) with respect to the previous event.

### DOSE IN CC

You can directly set up the water quantity you wish for every single event start in cc.

### DOSE IN CDV (FOR ESPRESSO DRINKS ONLY)

You can directly set up the water quantity you wish for the event start relative to an espresso drink in cdv (impeller strokes).

### FLOW RATE IN CC/SEC.

You can set up the working speed of instant water pumps to define the flow rate in cc/sec.

This value is used to calculate the time necessary to dispense the dose in cc.

### BREWING TIME

Not used on these models.

## POWDER DOSES

To dispense powders, act on the following parameters:

### DOSE IN GRAMS

You can directly set up the powder quantity you wish for every single ingredient (excluding coffee in capsules) composing the drink in grams.

### FLOW RATE IN GR/SEC.

You can set up the working speed of dosers to define the flow rate in gr/sec.

This value is used to calculate the time necessary to dispense the dose in gr.

### DECAFF CYCLE OR STEP DISPENSING

Use this function to establish for every single selection based on instant coffee, compared to the "global" setup whether powder shall be dispensed by means of a decaff cycle or on a step basis.

- DECAFF CYCLE: use this parameter to dispense powder before water to improve the drink quality (recommended for instant coffee):
- ON A STEP BASIS: use this parameter to dispense powder at intervals (you can set up from 1 to 5) at the same time as water.

## DRIPPING

You can define the wait time (you can programme it from 0 to 2000 hundredths of a second) from the end of delivery to the closure of the shift arm for every single selection to leave the tubes enough time to get empty.

## SELECTION STATUS

You can define for every single selection key whether to enable it or not.

## ACCESSORIES

For every single accessory:

- |                    |               |
|--------------------|---------------|
| - sugar            | on/off        |
| - stirrer          | on/off        |
| - cup              | on/off        |
| - sugar in the cup | (dose in gr.) |
- you can decide whether to add it to a selection or not.

## COMPLETE SELECTION TEST

Use this function to dispense the following for every single selection when the door is open and without inserting the required amount:

- complete selection
- water only
- powder only
- no accessory (cup, sugar and stirrer)
- accessories only

## PRODUCT CODE

Use this function to assign each selection a 16 alphanumeric character identification code to process statistics.

## GLOBAL POWDER DOSES

Use this function to regulate the powder dose of every single doser relative to several selections at the same time.

## PUMP SETUP

The speed and flow rate of direct current pumps can be controlled electronically.

To adjust the control device to the actual flow rate, calibrate the pumps, i.e. measure the actual flow rate at a given speed.

The operation is performed at the factory, but you may have to repeat it for various reasons.

Every single pump is operated for a well-defined time at the minimum and maximum speed by means of the corresponding menu. The system can optimise the dispensing speed by storing the water quantities you get.

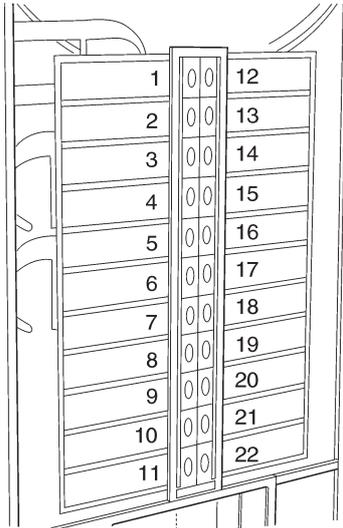
## DOSER SETUP

To convert the product dose values properly, set up the flow rate value of every single doser in gr/s to calculate the grams to be dispensed.

## KEYBOARD

### KEY <---> SEL

Use this function to vary the order of the selections associated with the keyboard and defined by the layout you have set up.



The display shows the list of available selections in sequence. Press the destination key to store the association.

## DOUBLE KEY

Use this function to join 2 keys arranged one next to the other one vertically into one single key to use a double-size key for one single selection.

## SELECTION NO. CHECK

You can check the selection number associated with a key.

## NO SUGAR

Use this function to set all sugarless selections made available by default (ON).

**Function valid on some models only.**

## DECAFF CYCLE

This function acts on instant coffee-based selections. Selections are identified in the layout and their identification can not be changed.

If you enable this function in all coffee-based selections (if made available), powder dispensing occurs before water dispensing.

However, you can change this parameter one by one, for every single instant coffee-based selection.

## VM CONFIGURATION

This group of functions is intended to check all parameters relative to the operation of the machine.

VM CONFIGURATION
SET DATE TIME
BOILER TEMPERATURE
DB MANAGEMENT
DISPLAY
MENU MANAGEMENT
ESPRESSO UNIT
FRESH-BREW UNIT
WASHING SECTION
TECHNICIAN> X.X

### DATE AND TIME SET

Function used to set up the current date and time. The value is used to manage the time band and statistics.

### BOILER TEMPERATURE

Use this function to set the operating temperature, expressed in °C, of the boilers actually available on the machine.

If you press the Enter key  after having selected the boiler where to act, the temperature value will flash on and off and it can be modified.

## DB MANAGEMENT

This group of functions is intended to manage the basic data of the machine operation.

### INITIALISATION

This function shall be used in case of a memory data error or if the software is replaced.

All statistic data are reset except for the general electronic counter.

When the display is set to the "Initialisation" function, you can initialise the machine by restoring all default data.

Press the Enter key **↵** to display the request for confirmation "Do you confirm?". If you press the Enter key **↵** once again, you will be required to enter some parameters, i.e:

"COUNTRY"

understood as the type of basic doses for the various selections (e.g. IT coffee = 60 cc - FR coffee = 106 cc). The "countries" made available according to models.

"LAY OUT"

a well-defined number of Button-Selection combinations is available for selection for every single model and type of doses (the combinations available for every single layout are supplied by the selection dose table supplied with the machine).

"TANK"

Used to define whether water supply occurs:

0 - from the mains

1 - with an internal tank

2 - with two internal tanks on management.

Confirm the options to display the message "Running" for some seconds.

### SAVE CUSTOM DB

To save the current configuration of the machine on an external memory. This function is of use if you customise (e.g. the parameters of selections) with respect to factory settings.

### RESTORE CUSTOM DB

To restore the machine configuration you have customised and saved before by means of the "Save modified DB" function.

To restore factory settings, initialise the machine.

## DISPLAY

This group of functions controls all display parameters.

### LANGUAGE

Use this function to select the language you wish to use to display the messages among those made available by the software.

### SECONDARY LANGUAGE

To select a second language to display the messages in the "normal operation mode".

### SETTING UP THE PROMOTIONAL MESSAGE

The 5-line message can be composed by using the keys **↑** and **↓** to scroll all available characters.

If you press the Enter key **↵**, the first character you can modify will flash on and off.

Press the key **←** to store the message.

### PROMOTIONAL IMAGE

To enable/disable the promotional image on the display in the normal operation mode:

- ON: the message "Select a product" and the promotional image are alternated every 3 seconds in the normal operation mode

- OFF: only the message "Select a product" is displayed in the normal operation mode

### LCD CONTRAST REGULATION

Use this function to regulate the display contrast from min. 5% to max. 99% (default).

### SCREEN SAVER TIME

Use this function to set up the screen-saver after a programmable inactivity time (in minutes) of the dispensing machine (default = 10 min.)

If the value is set to 0, the screen-saver is not active.

## MENU MANAGEMENT

### PASSWORD

It is a 5-digit numeric code you are required to enter to display all "advanced" functions.

The value of this code is set to 00000 by default.

### REDUCED / COMPLETE MENU ENABLE

To enable the request for password function in order to display all "advanced" functions of the Technician Menu as soon as you access the programming mode. The request for password is disabled by default.

## **ESPRESSO UNIT**

### **ESPRESSO UNIT POSITION**

**Function not active on this model.**

## **WASHING**

### **WASH KEY ENABLING**

Use this function to enable the operation of the button intended to wash mixers. The key is generally disabled.

### **AUTOMATIC MIXER WASHING**

You can set the time at which you wish to wash the mixers automatically. If you set the time to 12.00 p.m., the function is disabled (default).

### **ES UNIT WASHING**

Use this function to set up the daily automatic washing cycle of the espresso unit at the time you wish. If you set the time to 00:00, the function is disabled.

### **MIXER HEATING**

If the function is enabled and no dispensing has occurred in the milk or instant coffee mixers in the past 3 minutes, a small hot water quantity is dispensed before any selection of strong instant coffee, instant coffee with a drop of milk and espresso coffee with a drop of milk.

### **MIXER COOLING (IF THE COLD UNIT IS AVAILABLE)**

If the machine is equipped with a cooling unit, the function is enabled. If no dispensing has occurred in the mixers of cold drinks in the past 3 minutes, a small cold water quantity is dispensed before any syrup-based selection.

## **ACCESSORIES**

### **TANK**

Use this function to define whether the vending machine is supplied by the mains or by internal tanks:

- 0 - water supply from the mains;
- 1 - an internal tank managed individually;
- 2 - two internal tanks managed to load water alternatively from the two tanks.

### **PHOTOCELL**

On the models equipped with a "cup sensor" composed by a photocell detecting the presence of an object in the dispensing compartment.

If the function is enabled and an object is detected in the dispensing compartment, the cup is not released and the "No cup" message will appear on the display.

Moreover, you can define whether the failure shall lock the machine or let it run for use with a pottery cup after two attempts at releasing a cup without the photocell detecting any object in the dispensing compartment.

The lamp intended to illuminate the dispensing compartment is controlled by the cup sensor.

If the cup remains in, the "remove the cup" message will appear upon request for another selection.

### **FLAP**

Function not active on this model.

### **JUG FACILITIES**

On some models complete with a special key you can obtain a number (programmable from 1 to 9.5 by default) of cup-free selections in order to fill in a jug.

### **STIRRER**

Use this function to dispense the stirrers of the front column (single column) only or alternatively from the front and rear column (double column).

### **CUP SHIFT ARM TIME**

Use this function to increase the time (in tenths of a second) the shift arm will remain in the cup collection position to facilitate the correct fall before the cup is moved to the dispensing area by the shift arm.

### **CUP TURRET TIME**

Use this function to determine the rotation stop delay time of the cup stacker to balance any inertia due to the type of cup.

## **ENERGY SAVING**

Choose among the following energy saving options to save electric energy whenever the machine is not used:

### **Energy Saving:**

use this option to interrupt the vending machine service and power off the boiler/s at the time intervals set up by the "Energy Saving Parameters" function. Selections are not available for the whole duration for the Energy Saving period.

### **Sleep Energy Saving:**

use this option to power off the lighting LEDs of the front panel after a 15-minute inactivity of the vending machine and to lower down the boiler temperature to 70°C. Press any selection button to restore the normal operation of the machine. Selections are made available once again as soon as you reach the operating temperature.

### **Soft Energy Saving:**

use this option to power off the lighting LEDs of the front panel at the time intervals set up by the "Energy Saving Parameters" function whereas the boiler/s will continue to operate normally. Press any selection button to turn on the LEDs and to restore the normal operation of the machine.

## **ENERGY SAVING PARAMETERS**

Use this function to set up to 4 time bands in which to activate energy saving profiles (Energy Saving and Soft Energy Saving).

## **OUT OF SERVICE PANEL BACKLIGHTING**

You can define whether to turn on or not the LEDs intended to light the panels when the machine is out of order or the "Service interruption" range has tripped.

## **COLD UNIT ID SETUP**

Function active if the cold unit is made available

## **MASTER SLAVE**

The control system of the machine is arranged for bank connection with other automatic vending machines (Samba, Samba Top and Diesis).

### **SETUP**

Use this function to set up the hierarchies of the master / slave1 / slave2 relations between connected vending machines.

This machine can be configured as "Master", i.e. controlling the second machine, or as "Slave", i.e. controlled by the other one.

Moreover, set the two-digit (XX) or three-digit (0XX; 9XX) numbering of selections.

The master/slave function is not enabled by default.

### **SLAVE PRICE HOLDING (PROT. EXECUTIVE)**

If the Executive payment system is set in the "Price Holding" mode, use this function to set the same mode in the slave machine software too.

### **VIRTUAL PRICE RETURN (EXE / BDV PROT.)**

If selections are either combined or virtual (the menus of which are available on slave machines), use this function to establish whether to withhold (OFF) or not (ON) the partial amount if the second selection / delivery should fail.

### **RESET MINISLAVE**

Use this function to reset all settings relative to the master/slave function on the slave machine.

### **MONITOR SLAVE**

Use this function to scroll all the information relative to a slave that may be connected.

If you power on the slave machine after having displayed this function, the following slave information will appear in sequence:

- software release
- type of slave (XX, 0XX, 9XX)
- presence of photocells intended to detect dispensing
- number of trays and drawers
- presence of a device intended to lock the opening of the dispensing compartment
- internal probe temperature.

To quit the function, power off the master machine.

### **DISPLAY SLAVE INFORMATION**

Function not active on this model.

Use this function to display the instantaneous temperature of the "slave" machine you may have connected.

## **MACHINE SERIAL NUMBER**

Use this function to change the 8-digit numeric code intended to identify the vending machine (default set to 0).

## **PROGRAMMING THE OPERATOR CODE**

When the display is set to the "Operator Code" function, you can change the 6-digit numeric code identifying groups of machines (default to 0).

## **LOCATION CODE**

When the display is set to the "Location Code" function, you can change the 8-digit numeric code identifying the place of installation of the machine (default to 0).

## **INSTALLATION DATE**

Use this function to store the current system date as the installation date.

The date is printed at the time of rolling out statistics.

## **PROGRAMMING THE MACHINE CODE**

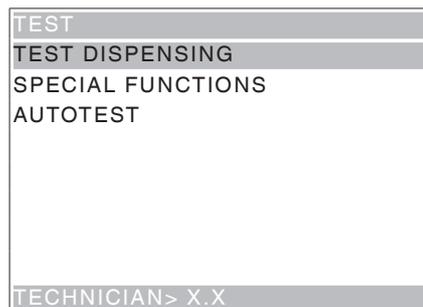
When the display is set to the "Machine Code" function, you can change the 8-digit numeric code identifying the machine (default to 0).

## **ASPIRATOR MANAGEMENT**

Use this function to set the continuous operation of the suction fan wheel of instant products:

- ON fan wheel always on;
- OFF fan wheel on only during the dispensing cycle and for the next 30 seconds.

## **TEST**



## **TEST DISPENSING**

Function used to dispense the following for every single selection when the door is open and without inserting the amount required:

- complete selection
- water only
- powder only
- no accessories (cup, sugar and stirrer)
- accessories only

## SPECIAL FUNCTIONS

If you access the function, you can:

- release a coffee capsule
- open a solenoid valve to let air in if the boiler is emptied for maintenance purposes (ES only)
- install the boiler manually
- operate the brewing unit to:
  - . rotate completely
  - . pressurise the piston
  - . wash with hot water
- operate the mechanism intended to dispense the stirrer: press key **↑** and **↓** to release the stirrers from the front and rear columns.

## AUTOTEST

Function used to check the operation of the main components of the machine semiautomatically. Press the Enter key to display the "AUTOTEST" message flashing on and off.

You can renounce any operation and move to the next one by pressing the exit key. If you confirm by pressing the enter key, you will start the autotest cycle. Some controls occur automatically. Others require the manual operation of the component under control.

In sequence:

- operating dosers for 2 seconds
- operating whippers for 2 seconds at the various speeds
- dispensing a cup
- dispensing a stirrer
- rotating the brewing unit
- checking the washing button
- full liquid waste container; the machine will remain in stand-by mode until you operate the full liquid waste container microswitch manually
- LED test; checking the backlighting operation of front panels and areas relative to the lighted path for the user (coin insert, cup ready and change ready)
- power-on of the dispensing compartment lamp (if mounted)
- checking the keyboard; the machine will display the number of the button you shall press, turn on the relative led and wait for its operation before moving to the next key
- checking the operation of the boiler temperature probe
- checking the operation of the sound signaller (buzzer)
- checking the operation of the coin mechanism
- checking the grinding wheels;  
not used on this model
- aspirator management; the machine powers on and off the powder suction fan wheel
- checking the "open door micro" operation  
not used on this model
- display control; the machine powers on all display pixels to check the operation visually.

## STATISTICS

### ELECTRONIC COUNTER

#### DISPLAY THE ELECTRONIC COUNTER

An electronic counter is intended to store all the dispensing cycles you have performed since you last reset it in an aggregated manner.

#### RESET THE ELECTRONIC COUNTER

You can reset the electronic counter.

#### DISPLAY THE ELECTRONIC COUNTER AT THE START-UP

Function used to enable or disable the display of the total number of dispensing cycles that have been sold since you last reset the statistics, while you are powering on the machine.

### EVA DTS

Two codes are used to identify the machine and recognise the data transfer terminal according to the EVADTS (European Vending Association Data Transfer System) communication protocol:

```
STATISTICS
EVA DTS
  DEX - UCS
  DDCMP ENHANCED
TECHNICIAN> X.X
```

### COMMUNICATION PROTOCOL

Use this function to decide which communication protocol to use for the communication of the date acquisition device.

Available communication protocols are listed here below:

#### DDCMP ENHANCED

the following parameters can be configured:

- Pass code: it is a 4-digit alphanumeric code (0-9; A-F) that must be the same as the one of the data transfer terminal for identification purposes.  
Set to 0000 by default.
- Security code: it is an alphanumeric code for mutual recognition between the machine and the EVADTS terminal.  
Set to 0000 by default.
- End of transmission: if enabled, it can recognise the end-of-transmission signal sent to the latest package and interrupt data transmission.

#### DEX/UCS

no parameter can be configured for this protocol:

#### DATA TRANSMISSION

Function used to select which communication interface to use for the data transfer. The following interfaces are made available:

- "RS232" and "IrDA": to dialogue with data acquisition devices
- "ALWAYS EVADTS": to dialogue with data acquisition and transmission devices (telemetry)

#### TRANSMISSION SPEED (BAUD RATE)

To set up the transmission speed in use for communication (2400, 4800, 9600, 19200 bps).

Set to 2400 bps by default.

#### CONNECTION

If you activate this function, the machine will be waiting for connection with a device in order to acquire EVADTS data.

### DISPLAY GENERAL STATISTICS

Press the Enter key **↵** to display the data you have stored in sequence, i.e.:

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

### RESET GENERAL STATISTICS

Statistics can be reset either globally (all types of data) or selectively, i.e. by:

- selections
- discounts-overprices
- failures
- coin mechanism data

Press the Enter key **↵** to display the request for confirmation "Do you confirm?" **↵** flashing on and off.

Press the Enter key to display the "Running" message for some seconds and to reset statistics.

### DISPLAY RELATIVE STATISTICS

Press the Enter key **↵** to display the data you have stored in sequence, i.e.:

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

## **RESET RELATIVE STATISTICS**

Statistics can be reset either globally (all types of data) or selectively, i.e. by:

- selections
- discounts-overprices
- failures
- coin mechanism data

Press the Enter key **↵** to display the request for confirmation "Do you confirm?" **↵** flashing on and off.

Press the Enter key to display the "Running" message for some seconds and to reset statistics.

## **BDV PROTOCOL AUDIT**

The coin mechanism data are intended to supply the following information in real currency:

### **Aud.1 Money in the tubes**

Money currently available in the change tubes

### **Aud 2 Money to the tubes**

Money conveyed to the change tubes

### **Aud 3 Money to the coin box**

Money conveyed to the coin box

### **Aud 4 Change returned**

Total amount of the money that has been returned

### **Aud 5 Money dispensed**

Total amount of the money that has been manually dispensed

### **Aud 6 Surplus**

Surplus money. Amounts paid by the customer in excess and not returned (in case no money is available for change)

### **Aud 7 Total sales**

Total sales value

### **Aud 8 Exact change**

Sales value on the "Insert exact amount" condition

### **Aud 9 Mixed dispensing**

Total dispensing value paid in a different way, e.g. also other types of payment (C.P.C., coin)

### **Aud 10 Manual load**

Money inserted into the coin mechanism by means of the manual loading function.

## **MDB PROTOCOL AUDIT**

### **Aud.1 Money in the tubes**

Money currently available in the change tubes

### **Aud 2 Money to the tubes**

Money conveyed to the change tubes

### **Aud 3 Money to the coin box**

Money conveyed to the coin box

### **Aud 4 Change returned**

Total amount of the money that has been returned

### **Aud 5 Surplus**

Surplus money. Amounts paid by the customer in excess and not returned (in case no money is available for change)

### **Aud 6 Unloading of tubes**

Value of the coins dispensed by means of the "Tube management" function

### **Aud 7 Loading of tubes**

Value of the coins cashed by means of the manual loading function.

### **Aud 8 Cash sales**

Value of the total sales made cash (coins + bills)

### **Aud 9 Bills cashed**

Value of the bills that have been cashed

### **Aud 10 Charge key**

- Value of the money that has been recharged on the key

### **Aud 11 Key sale**

Value of the money that has been cashed through key-dispensing

### **Aud 12 Money dispensed manually**

Value of the coins that have been manually dispensed through the dispensing buttons on the coin mechanism.

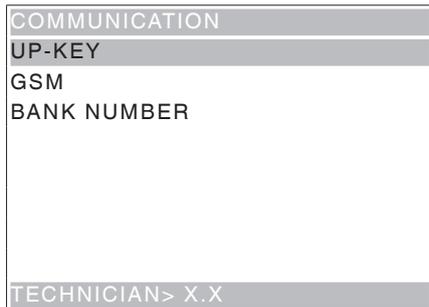
## **PRINT**

Connect an RS232 serial printer having 9600 baud rate, 8 data bits, no parity, 1 stop bit with the serial port on the button board in order to print all the statistics described by the "general statistics display" as well as the "relative statistics display" paragraphs. The machine code as well as the software date and release are also printed. Statistics can be printed in the either relative or total mode.

To connect the printer, act as follows:

- press the Enter key **↵** to display the request for confirmation "Do you confirm?";
- connect the printer before confirming;
- press the Enter key **↵** to start printing.

## COMMUNICATION



### UP-KEY

#### SETUP MANAGEMENT

##### UPKEY -> VENDING MACHINE

After having inserted the Up key into the plug on the C.P.U. board, this function is used to select the setup file from the list on the display. Press the Enter key to load the setup file you have selected on the machine.

##### VENDING MACHINE ->UPKEY

After having inserted the Up key into the plug on the C.P.U. board, this function is used to save on the Up key a setup file with the same configuration currently available on the machine.

Please specify the name you wish to assign to the file (e.g.: CANTO000.STP).

##### DELETE

Use this function to delete one or more than one setup file on the up key you have inserted.

##### DELETE ALL

Use this function to delete all the setup files on the up key you have inserted.

#### UPKEY STATISTICS MANAGEMENT

##### VENDING MACHINE ->UPKEY

Confirm this function after having inserted the Up key into the plug on the C.P.U. board to save on the up key the statistics file with all the statistical data currently available on the vending machine. Please specify the name you wish to assign to the file (e.g.: CANTO000.STA).

##### DELETE

Use this function to delete one or more than one statistics file on the up key you have inserted.

##### DELETE ALL

Use this function to delete all the statistics files on the up key you have inserted.

## GSM

### (Global System for Mobile communications)

The control software can send a signal of faulty machine, "prealarms" or "ending product" via GSM modem after a (programmable) well-defined number of dispensing cycles of a given product.

#### PIN CODE

Function used to programme the identification code that will be sent to the GSM modem (optional) as soon as the machine is powered on.

#### THRESHOLD SETUP

Function used to define the number of pieces or grams of powder of a well-defined product, after which to signal an "ending product" prealarm via modem.

#### COUNTER RESET

Function used to reset the counters intended to manage pre-alarms.

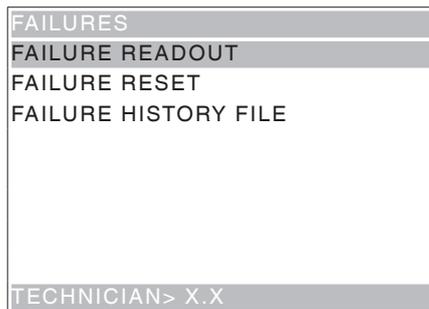
#### BANK NUMBER

The bank number (from 1 to 7) is intended to univocally define the machines acting as a "GSM slave", i.e. sending the data by means of the "master" machine modem. 0 is intended to identify the machine directly connected with the modem, i.e. the "GSM master", in a bank.

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## FAILURES

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The machine is equipped with several sensors intended to control the various functional units.

As soon as a malfunction is found out, the type of failure is displayed and the machine (or part of it) is set out of order.

The failures are stored in special counters. The failures controlled by the software can be related to functional units not available on a specific model. However, they are listed on scrolling the menu.

### READING CURRENT FAILURES

When the display is set to the “Failure” function, press the Enter key to display the current failures.

If there is no failure at the moment, press the Enter key to display the “Failure end” message.

Expected failures are highlighted in the following cases:

#### No water

If the air-break microswitch should remain closed for one minute, the water inlet solenoid valve will remain energized while waiting for the water flow to come back.

If the water supply kit from internal tank is mounted on the machine, the pump is powered off.

#### Full waste container

Espresso coffee based selections are disabled as soon as you reach the number of used doses the solid waste tray can contain.

#### Air-break

The machine stops after 10 selections if the microswitch has never signalled any lack of water.

#### No cups

As soon as the no cups microswitch is opened, the column shift motor is activated. The machine is put out of order if the microswitch has not closed after a complete turn.

#### Cup shift arm

The machine stops if the cup shift arm should fail to reach 1 of the 2 microswitches within the pre-established time of 15 sec.

#### Volumetric counter (impeller)

The volumetric counter is not counting within a max. interval of time (impeller).

#### Instant boiler

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

#### Machine board

No communication between the C.P.U. board and the machine board.

#### Coin mechanism

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

#### Coffee release

If the photocell of the positioning chamber should still signal the presence of a capsule after having released it, the unit is rotated and a second attempt at release is made. If the capsule presence signal should persist after two attempts at release, coffee-based selections are locked by a “coffee release failure”.

#### Coffee unit

It is due to a mechanical lock of the coffee unit. The machine is not locked, but espresso coffee-based selections are disabled.

#### No coffee

If a capsule is not detected in the positioning chamber after 36 attempts (see the chapter Operation of the orientation system), coffee-based selections are disabled. You can enable this type of signalling and disable coffee-based selections by acting on the “No coffee enable” function of the Technician Menu.

#### Grinder lock

Not used on this model.

#### RAM data

One or more than one area of the RAM memory contain altered data that have been corrected by default values. The machine will continue to work, but it is recommended to initialise as soon as possible.

#### Espresso boiler

Coffee-based selections are disabled if the coffee boiler has failed to reach the temperature after 10-minute heating, starting from the power on or the latest selection.

#### Cup release

If the cup sensor photocell is mounted, the “No cup” message will appear on the display after having failed to dispense a cup for three times. Use the corresponding function to define whether the failure shall lock the machine or let it ready for sale with a pottery cup.

### Parameters for Fresh Brew units

Not used on this model.

### Parameters for a 2nd Espresso unit, if any

Not used on this model.

#### Flap motor

The machine is locked if the opening-closing of the flap lock motor control switch is not read (on the models with a motor-driven flap only).

#### Capsule lock

If the motor of the capsule search system should fail to reach its original position after 8 seconds, the direction of rotation is reversed for another 8 seconds.

If it should still fail to reach its original position, coffee-based selections are put out of order.

### Parameters for a 3rd Espresso unit, if any

Not used on this model.

#### Pressure switch of the cold unit

Cold selections are locked if there is no pressure from the mains.

#### No syrup 1 and 2

If there is no syrup, the relative selection is locked.

#### Empty carbonator

If the level control device of the carbonator should signal that the carbonator is empty, cold selections are put out of order.

#### Compressor of the cold unit

The machine is locked if the temperature sensor of the cold unit should signal no temperature change for 40 hours.

#### Board of the cold unit

If there is no communication between the board of the cold unit and the C.P.U. board, cold selections are put out of order.

#### Doser 1 - 9 Fault

If the current input of a doser should fall outside the range of default values, all the selections involving that doser will be disabled.

#### Whipper 1-6 Fault

If the current input of a whipper should fall outside the range of default values, all the selections involving that mixer will be disabled.

#### Pump 1 - 7 Fault

If the current input of a pump should fall outside the range of default values, all the selections involving that pump will be disabled.

### Short Circuit Mosfet

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

#### Short Circuit

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

#### Sugar / Stirrer fault

If the current input of the direct current motor should fall outside the range of default values, this failure is displayed. Sugarless drinks can be dispensed.

#### Water Failure

The water failure is declared during the v.m. standby if the water inlet solenoid valve is operated for over 20".

If a water failure is available, you can manually restore the service by pressing a key of the pushbutton panel.

The water inlet solenoid valve is supplied for max. 20"; if the level is not reached, the solenoid valve is closed and the water failure is signalled once again.

Wait 30 minutes before making another 2 attempts to restore. At the 4th attempt, the solenoid valve is permanently inhibited (now, power off / on the machine to be able to make another 3 attempts or to reset the failure from the programming menu).

### RESET

Confirm the function to reset all current failures, if any.

### FAILURE HISTORY FILE

You can display the latest 16 failures, from the most recent to the most remote one, by pressing scroll key **↑** and **↓**. Moreover, the display will show the tripping date and time and whether the failure is still active or not (ON / OFF), similarly to the data in the EVA-DTS data audit.

## Chapter 3 Maintenance

The intactness of the machine and its compliance with the rules of the relative installations shall be checked by skilled personnel at least once a year.

Never forget to power off the machine before performing any maintenance operation that may require the disassembly of components.

The operations described here below may be only performed by the personnel who have a specific knowledge of the machine operation from the viewpoint of electric safety and health rules.

### GENERAL INTRODUCTION

To ensure the correct operation all over the time, the equipment must be serviced at regular intervals. All necessary operations and the relative deadlines are listed here below. Obviously, they are merely indicative since they depend upon operating conditions (e.g. water hardness, humidity and room temperature, type of product in use, etc.).

The operations described by this chapter are not intended to exhaust all maintenance operations.

The most complex operations (e.g. boiler descaling) must be carried out by a technician having a specific knowledge of the vending machine.

In order to avoid any risk of oxidation or chemical corrosion in general, keep stainless steel surfaces well cleaned and painted by using neutral detergents (please avoid any solvent).

**Under no circumstance is it allowed to use water jets in order to wash the machine.**

### BREWING UNIT MAINTENANCE

Replace the piercing filter every 5,000 dispensing cycles. However, disassemble and sanitise the upper filter, the piercing filter and the brewing chamber at least every 6 months. After having exceeded 5,000 dispensing cycles, when you access the “filler” menu, the display will show the “check filter” message and the number of selections made after the last replacement. After replacing, press key “←” to reset the counter.

For maintenance, please act as follows:

- detach the teflon tube for connection with the boiler and the tube for hydraulic control of the piston from the upper piston by acting on coloured rings (see fig. 29);
- detach the connector of the heated tube intended to dispense coffee;
- unscrew the knob intended to secure the unit to the shelf and remove the coffee unit.
- remove the stop rings and extract the connecting rod;
- remove the ring and extract the ejector piston;

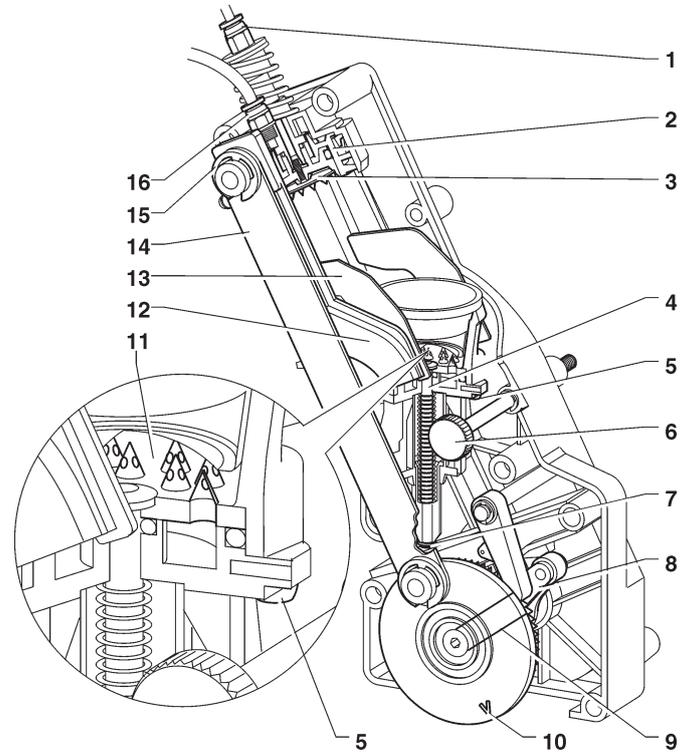


Fig. 29

- 1- Quick coupling of the brewing tube
- 2- Hydraulic piston
- 3- Upper filter
- 4- Ejector piston
- 5- Fastening screws of the brewing chamber
- 6- Unit fastening knob
- 7- Ejector piston snap ring
- 8- Ratio-motor handle
- 9- Handle pin
- 10- Reference notches
- 11- Piercing filter
- 12- Slide
- 13- Capsule ejection lever
- 14- Connecting rod
- 15- Snap rings of the connecting rod
- 16- Quick coupling of the hydraulic piston

- remove the front and rear slides and the capsule ejector levers;

- use a screwdriver to remove the 4 chamber fastening screws and extract the piercing filter;

- disassemble the upper piston;

- disassemble the filter and the gasket from the piston.

Dip the components disassembled from the unit in a solution of hot water and detergent for coffee machines for 20'.

Rinse abundantly, dry everything and reassemble in the reverse order. Pay special attention when:

- matching the two reference notches and re-inserting the coffee unit;

- checking the efficiency of gaskets.

The piercing filter must be replaced any way.

### Important!!!

**On reassembling, make sure that the pin of the ratio-motor handle is inserted into its seat.**

## PERIODICAL OPERATIONS

Clean and disinfect the whole circuit and the parts in contact with the foodstuffs at least every year or more frequently, according to the utilisation of the machine or the inlet water quality.

### SANITISING

- remove all the components in contact with the foodstuffs, including tubes, from the machine and disassemble them in all their parts;
- remove all visible residues and films mechanically by using pipe cleaners and brushes, if necessary;
- the components shall be immersed into a sanitising solution for at least 20 minutes;

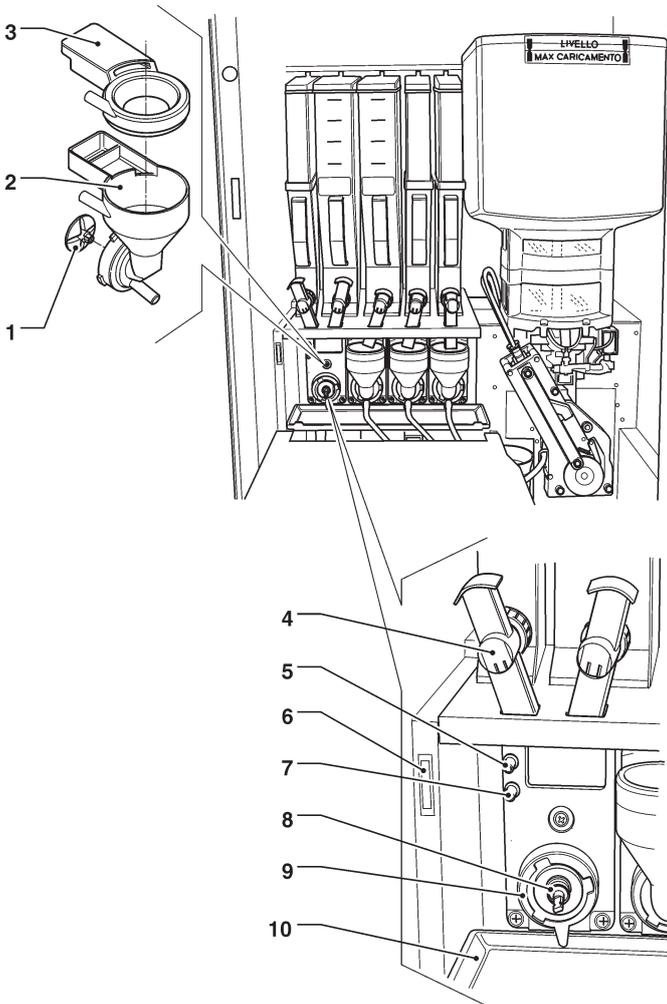


Fig. 30

- 1- Powder funnel
- 2- Powder feeder
- 3- Mixer impeller
- 4- Powder port
- 5- Compartment closing magnet
- 6- Upper water inlet spout
- 7- Lower water inlet spout
- 8- Stuffing gasket
- 9- Mixer fastening flange
- 10- Drip tray

- the internal surfaces of the equipment shall be cleaned by using the same sanitising solution;
- rinse abundantly and reassemble the various parts.

**Before setting the machine at work once again, sanitise the machine after having assembled all the components, as it is described by chapter "Sanitising mixers and food circuits"**

### CHANNELS AND MIXERS

At regular intervals, it is necessary not only to remove any powder residue from the parts outside mixing units, in particular in the funnel area, but also to sanitise the parts in contact with the mixer drink.

**It is absolutely forbidden to use water jets for cleaning.**

The parts to be cleaned are listed here below:

- Powder funnels, mixers and the conduit intended to dispense instant drinks;
- Dispensing tubes and spouts;
- Dispensing compartment.
- Open the cover of the mixer dispensing compartment and lift the powder ports as far as the locking hook.
- Remove the powder funnels, the water feeders, the powder deposit funnels and the impellers of whippers from the mixers (see fig. 30);
- to disassemble the impellers, just lock and pull slightly to release them (fig. 31);

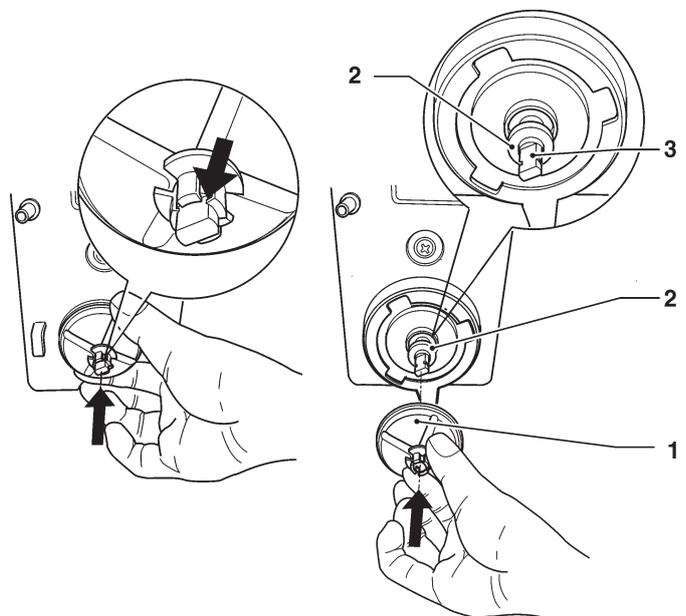


Fig. 31

- 1- Impeller
- 2- Stuffing gasket
- 3- Shaft undercut

- Make sure that the lip seal of the stuffing gasket is not torn and that it has not lost its elasticity. To insert it, position the gasket just beyond the shaft undercut. Insert the impeller to reach the bottom. The stuffing gasket will assume the correct position (see fig 31).
- Wash all the components by using sanitising products (observe the dosage recommended by the producer). Make sure that all visible residuals and films are mechanically removed. Use pipe cleaners and brushes, if necessary.

Sanitise by making use of sanitising products.

- Dip the components into a container with the sanitising solution you have prepared before for about 20'.
- Reassemble the collection boxes and the water funnels.
- Reassemble the powder deposit drawers and the powder funnels after having carefully rinsed and dried them up.
- On reassembling the impellers, make sure that you will insert them as far as the bottom, until you hear them click.
- **Before closing the mixer compartment, lower down all powder ports.**

**After having assembled the parts, act as follows, any way:**

- Access the "Filler" mode to wash the mixer (see the relative paragraph) and add some drops of the sanitising solution into the various funnels.
- After having sanitised, rinse the parts abundantly to remove any residue of the solution in use.

## MIXER SPOUTS

If it had been necessary to disassemble the instant shelf, pay attention to the spout/pump combination in use before during the reassembly phase.

Assemble 1-hole spouts in such a way that the water inlet into the mixer will occur from the lower coupling. Any considerable variation in the doses of a drink may require the replacement of the corresponding spout to keep a correct flow rate.

Spouts having a different flow rate are identified by the colour and number of holes:

Spout	Flow rate
Magenta (1 hole)	9 - 11 cc
Orange (1 hole)	11 - 13 cc
Magenta (2 holes)	19 - 22 cc
Orange (2 holes)	22 - 25 cc
White (1 hole)	22 - 25 cc

If you change the spout, you shall set up the type of spout in the software of the machine (in the pump calibration function from the technician menu).

**The white spout is used to dispense hot water only.**

At the end of the procedure, test the selections using that mixer to be sure that the dispensing cycle of drinks is correct.

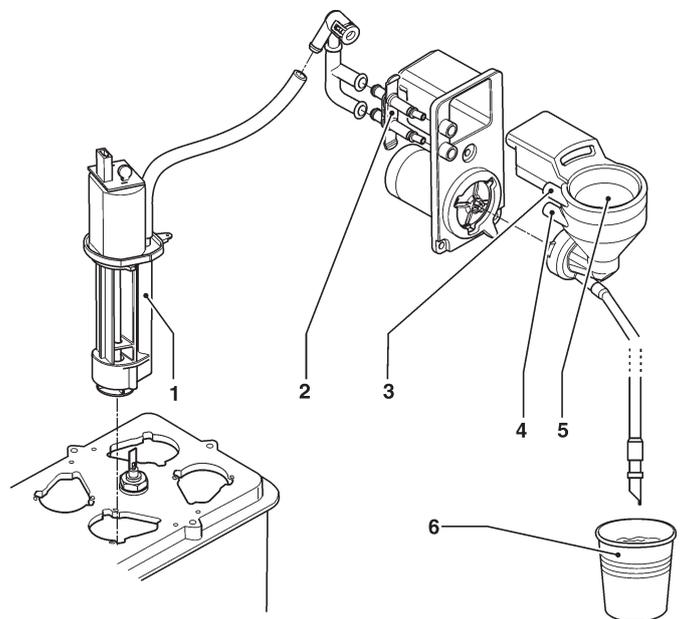


Fig. 32

- 1- Pump
- 2- (single or double) spouts
- 3- Upper coupling
- 4- Lower coupling
- 5- Mixer
- 6- Dispensed drink

## CUP DISPENSER

The cup dispenser is conceived in such a way that it can be easily disassembled for maintenance operations. It is possible to disassemble every single column of the cup stacker and the release ring without making use of any tool.

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

If you are required to act, please follow the instructions here below at the time of reassembly:

- align the notch on the microswitch actuation gear with the snail gear support arrow.
- observe the orientation of snail gears as it is represented by the figure.

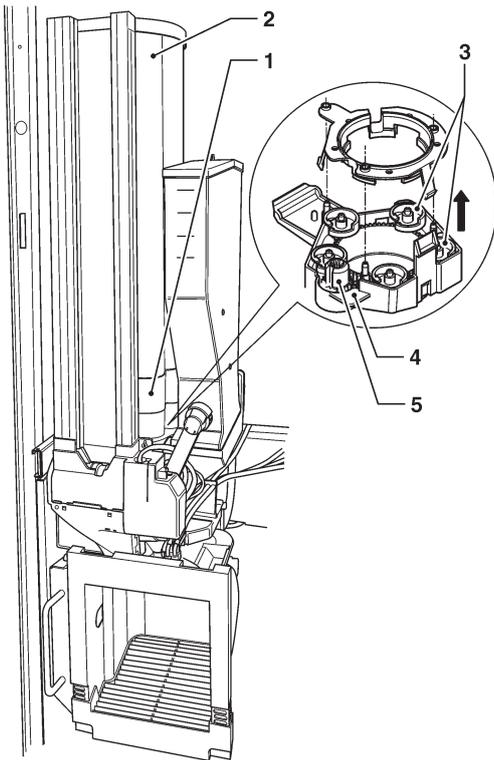
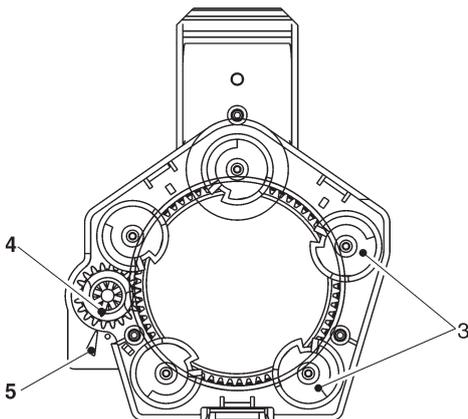


Fig. 33

- 1- Cup stacker
- 2- Extractable column
- 3- Cup release snail gears
- 4- Micro actuation gear
- 5- Reference notch



## PRODUCT CONTAINERS

- Remove the containers from the machine;
- Disassemble the product outlet ports and extract the scrolls from the rear side of the container;
- Clean all the parts by using a solution of hot water and sanitising products and dry them carefully.

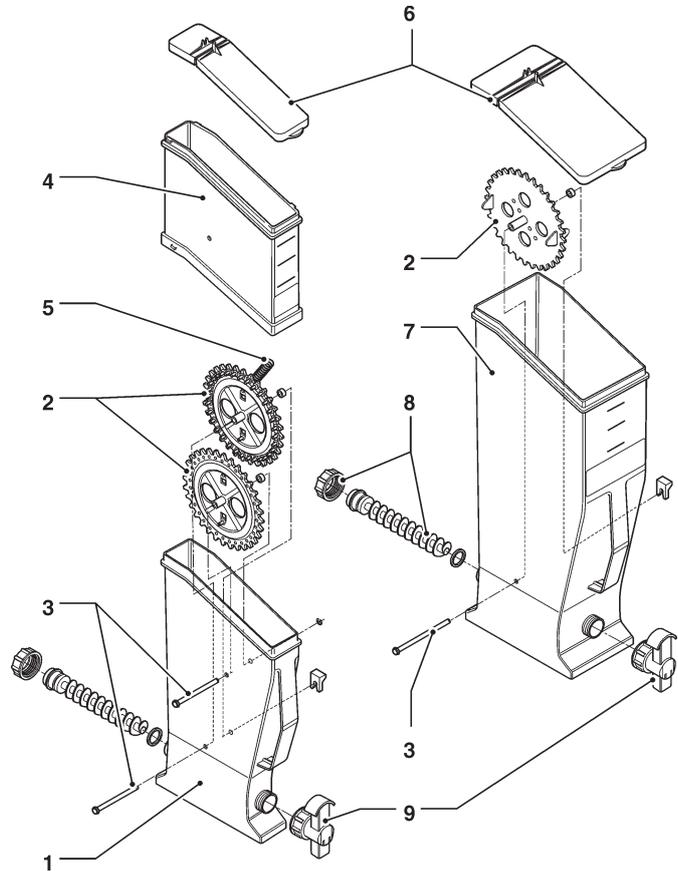


Fig. 34

- 1- 2 l container base
- 2- Gear wheels
- 3- Pins for wheel
- 4- 2 l container
- 5- Beater spring
- 6- Container lids
- 7- 4 l container
- 8- Scroll
- 9- Powder port

## BOILER MAINTENANCE

Descal the boiler at regular intervals, according to the hardness of the mains water and the number of selections you have performed.

**This operation must be carried out by qualified technical personnel only.**

To descale, remove the boiler from the machine.

To descale, use biodegradable, atoxic and non-aggressive products only.

Rinse abundantly before re-assembling the parts.

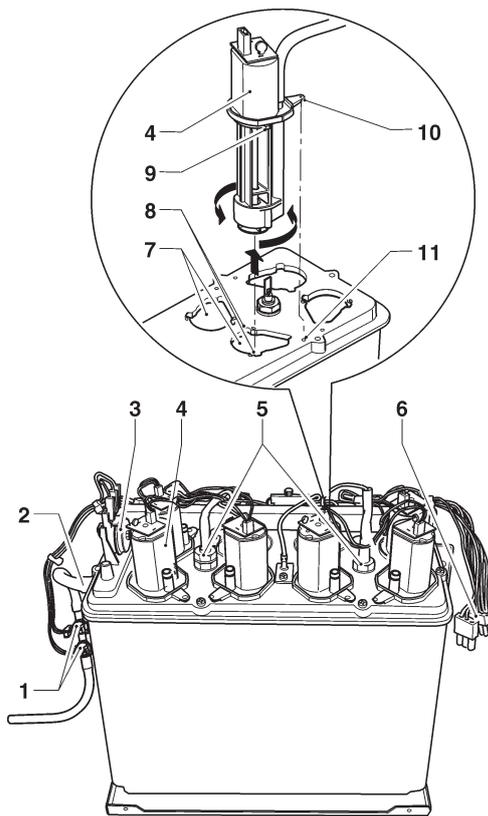


Fig. 35

- 1- Anti-boil thermostats (manually reset)
- 2- Overflow tube
- 3- Safety thermostat (manually reset)
- 4- Water dispensing pumps
- 5- Heating element terminals
- 6- Boiler connectors
- 7- Bayonet connection
- 8- Guide for coupling (right-left)
- 9- Pump guides
- 10- Retaining lever
- 11- Indentation of reference

**On reassembling, make sure that:**

- Electrical contacts (terminals, faston, etc.) are perfectly dried and well-tightened;
- Safety and anti-boil thermostats are properly positioned and connected;
- Water connections are correct.

### Important!!!

If the boiler heating system should work without water for any reason whatsoever, check the proper operation of the boiler temperature probe before setting the machine at work.

If dry heating should continue until the safety thermostat trips (see the water circuit), the boiler temperature probe will be irreversibly damaged and must be necessarily replaced.

### DISASSEMBLING PUMPS

Pumps are secured to the cover by means of a bayonet connection.

To disassemble them:

- Detach the connector
- Turn the pump for forcing slightly to overcome the snap lock.

The direction of rotation is alternatively clockwise and counterclockwise.

### HEAT PROTECTION OF BOILERS

**In case of action check and remove the cause of the failure before restoring the thermostats manually.**

#### INSTANT BOILER

Anti-boil thermostats (manually resettable) will deactivate the boiler heating element as a result of a failure of the control system.

Anti-boil thermostats will become active as soon as steam is condensed in the overflow tube by way of boiling. Thermostats are set to act as soon as the temperature is above 80°C.

The safety thermostat (manually resettable) will deactivate the boiler heating element as a result of a breakdown in the temperature control system and the failure to act of anti-boil thermostats.

The safety thermostat will act (at a temperature above 105°C) to prevent the boiler from dry-heating

#### ESPRESSO BOILER

The espresso boiler has a contact safety thermostat intended to deactivate the boiler heating element if the boiler temperature should exceed 125°C.

To reset the safety thermostat, press the button on the thermostat.

### Important!!!

If one of the boiler safety thermostats should trip for any reason, the boiler temperature probe will be irreparably damaged and you must necessarily provide for its replacement.

## BOARD FUNCTION

### CONFIGURATION OF ELECTRONIC BOARDS

The electronic boards are designed to be used on several equipment models. If replaced or in order to change the machine performance, it will be necessary to check the configuration of the boards and to download the corresponding software.

#### SOFTWARE UPDATE

The machine is equipped with Flash EPROM's that can be electrically rewritten. Use a proper program and system (personal computer or hand-held computer) to rewrite the machine management software without replacing the EPROM's.

### PRE-PROGRAMMING

After having loaded the software, use the new board to define which type of keyboard to use before initialising or programming the various parameters.

To access the pre-programming function (keyboard choice), hold down the pre-programming button (see fig. 38 - 9) while powering on the machine.

The display will show the "pre-programming" message flashing on and off. Press button (9) quickly to scroll the list of all available keyboards (Canto numeric - Canto Classic - etc.).

Hold down button (9) until you hear a sound signal. The keyboard on the display will be stored and you can start initialising.

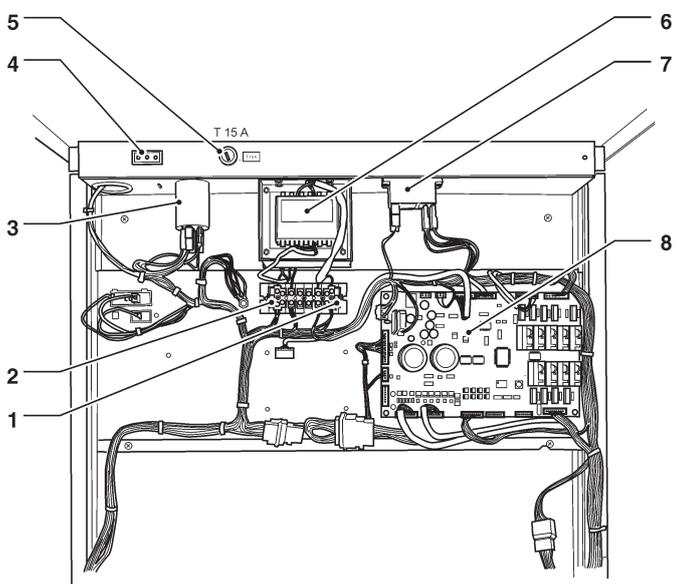


Fig. 36

- 1- Transformer fuses
- 2- Transformer fuses
- 3- Radio interference suppressor
- 4- Permanently live socket
- 5- Mains fuse
- 6- Transformer
- 7- Instant boiler heating activation relay
- 8- Actuation board
- 9- Actuation board

## C.P.U. BOARD

The C.P.U. (Central Process Unit) board can manage all the users arranged for the maximum configuration as well as the signals coming from the keyboard and the payment system. It can also manage the actuation board.

- The LEDs can supply the following information during the operation:
- The green LED (26) is flashing on and off during the normal operation of the C.P.U. board;
- The yellow LED (28) will turn on when 5 Vdc is applied;
- The red LED (27) will turn on if the software is reset for any reason whatsoever.

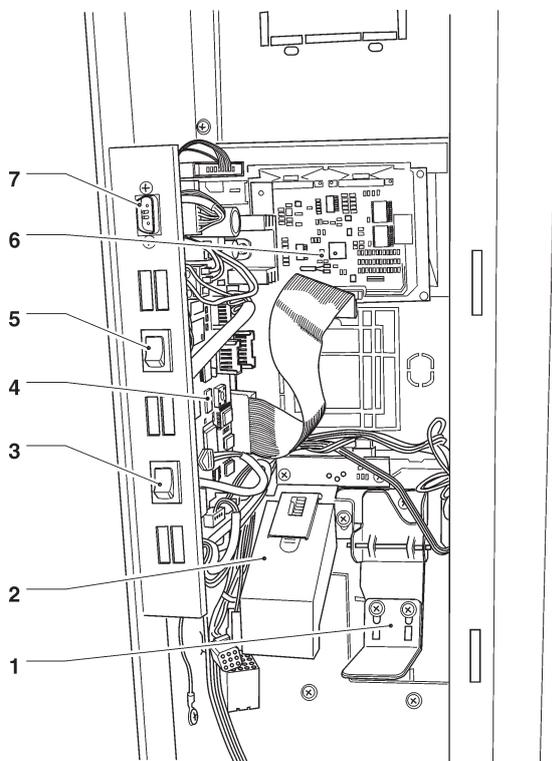


Fig. 37

- 1- Coin return lever
- 2- Coin chute
- 3- "Programming" button
- 4- C.P.U. board
- 5- Mixer washing button
- 6- Display board
- 7- RS232 connector

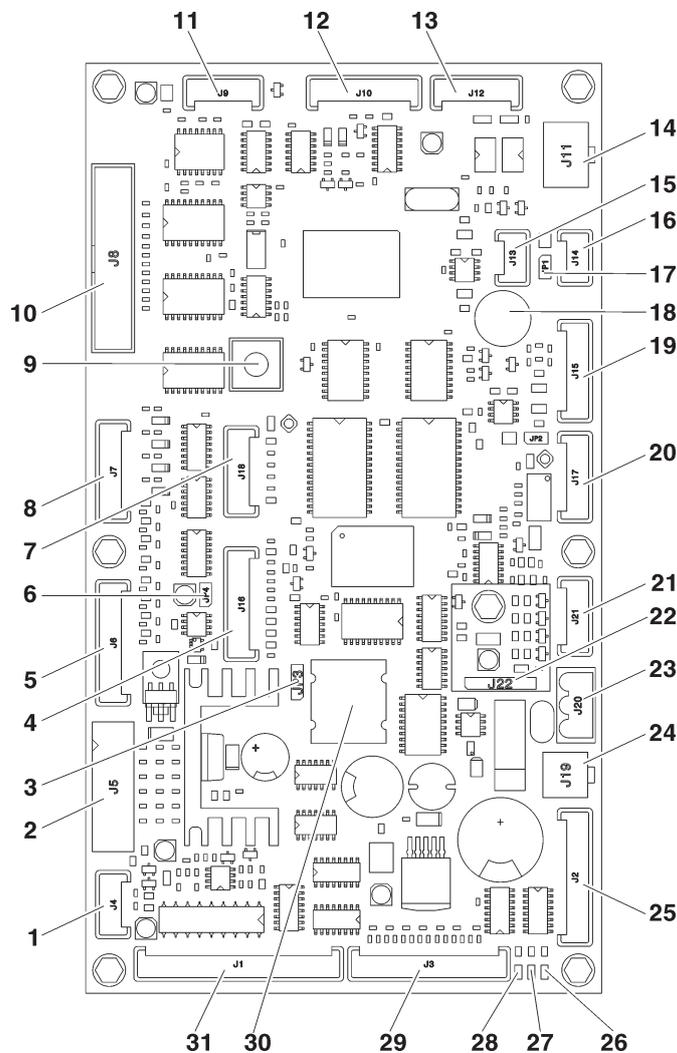


Fig. 38

- 1- Micro door (optional)
- 2- Validators
- 3- Battery jumper (2-3)
- 4- To the button/LED board
- 5- Not used
- 6- JP4 WDI jumper (closed)
- 7- Up-key
- 8- Numeric selection keyboard (optional)
- 9- Programming button
- 10- Graphical display
- 11- not used
- 12- RS232 serial port
- 13- EXE/BDV payments
- 14- MDB payments
- 15- Can-Bus
- 16- Can-Bus
- 17- JP1 Can-Bus jumper (closed)
- 18- Buzzer
- 19- Not used
- 20- Not used
- 21- Not used
- 22- RAM data expansion (optional)
- 23- 34Vdc power supply
- 24- Door lighting connection
- 25- Lighted path
- 26- Green led DL3 "RUN"
- 27- Red led DL2 "RESET"
- 28- Yellow led DL1 "+5V"
- 29- To the external programming and washing button
- 30- Battery
- 31- Not used

## ACTUATION BOARD

This board (see fig. 39) is intended to activate the 230 V~ users through relays and the direct current motors directly. Moreover, it can manage the signals from the cams and/or microswitches on the various users. Moreover, it can control the instant boiler relay. The board is supplied at 24Vac.

The software intended to manage the board is directly loaded onto the microprocessor (by means of RS232).

- the green LED 3 (27) is flashing on and off during the normal operation of the board
- the green LED 6 (33) is signalling that 5 Vdc is applied
- the red LED 4 (19) is on during the reset of the board
- the red LED 2 (8) is signalling the operation status of the espresso boiler heating element
- the red LED 1 (9) is signalling the operation status of the instant boiler heating element
- the green LED 8 (29) shows the volumetric counter pulses (if mounted)
- the green LED 5 (5) is signalling that 34 Vdc is applied
- the green LED 7 (24) is signalling that 34 Vdc is regulated and applied.

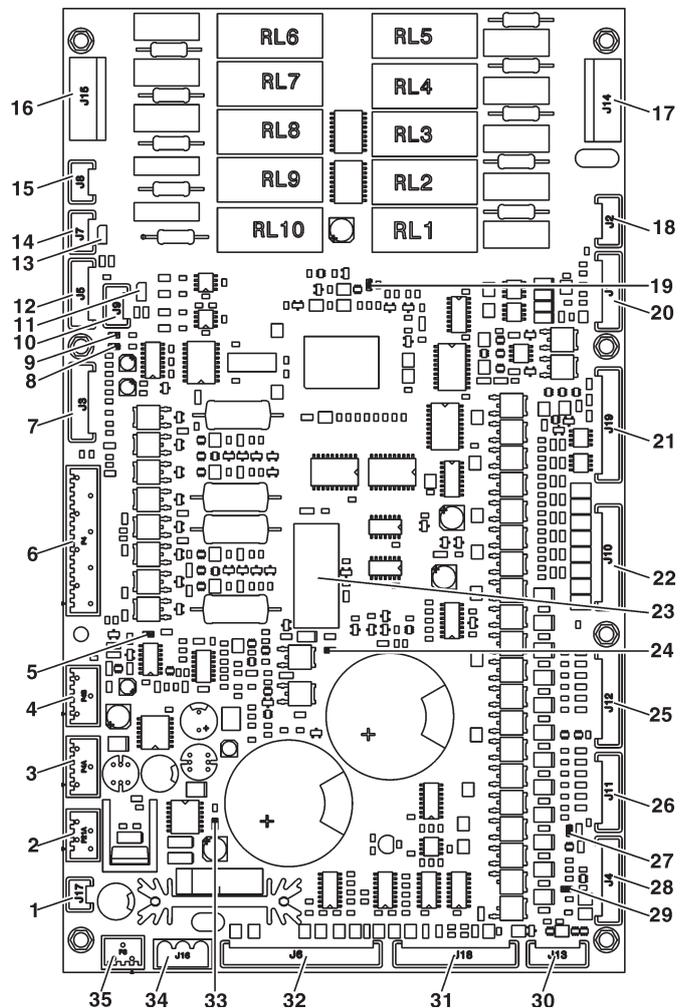


Fig. 39

- 1- Steam suction
- 2- 34 Vdc safety relay coil
- 3- 34 Vdc power supply to the CPU
- 4- 34 Vdc power supply to the CPU
- 5- LEDs
- 6- Z4000 unit
- 7- To the relay expansion board (optional)
- 8- LED 2
- 9- LED 1
- 10- Not used
- 11- Not used
- 12- Probe and instant boiler relay / Boiler and espresso Triac probe and board
- 13- JP1 can bus jumper (closed)
- 14- CAN bus
- 15- CAN bus
- 16- 230 V users
- 17- 230 V users
- 18- Not used
- 19- LED 4
- 20- Not used
- 21- 24 V input and output
- 22- MD
- 23- 34 Vdc safety relay
- 24- LED 7
- 25- MF
- 26- PM
- 27- LED 3
- 28- Board programming connector (RS232)
- 29- LED 8
- 30- Not used
- 31- Input
- 32- Input
- 33- LED 6
- 34- 24 Vac power supply
- 35- Not used

RELAY FUNCTION (see the wiring diagram)

RL1	= PM
RL2	= ESP1
RL3	= MTP
RL4	= ESC
RL5	= ER
RL6	= M
RL7	= EEA
RL8	= MTP
RL9	= MSB
RL10	= MSCB

## INSTANT BOILER CONTROL RELAY

This relay is intended to control the trip of the instant boiler heating element.

## ESPRESSO BOILER

The board will control the action of the espresso boiler heating element.  
The board is arranged on the espresso shelf.

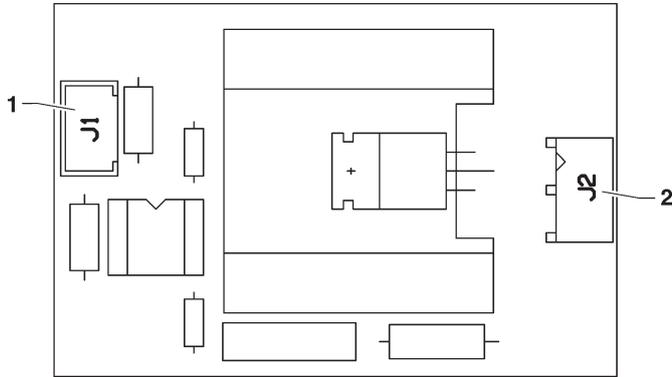


Fig. 40

- 1- To the actuation board
- 2- Connector with the boiler heating element

## CURRENT REGULATOR BOARD

The current regulator board will supply lighting LEDs by means of direct current.  
The board will provide for the constant brightness of aesthetic panels.  
The board is arranged at the bottom of the coin mechanism compartment.

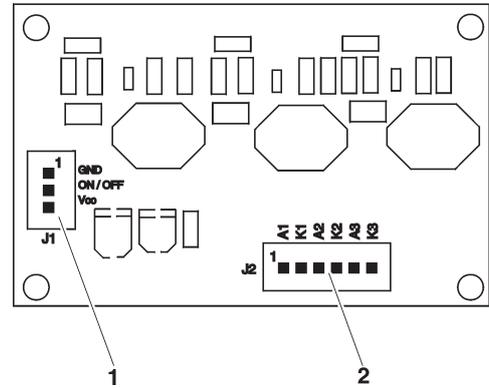
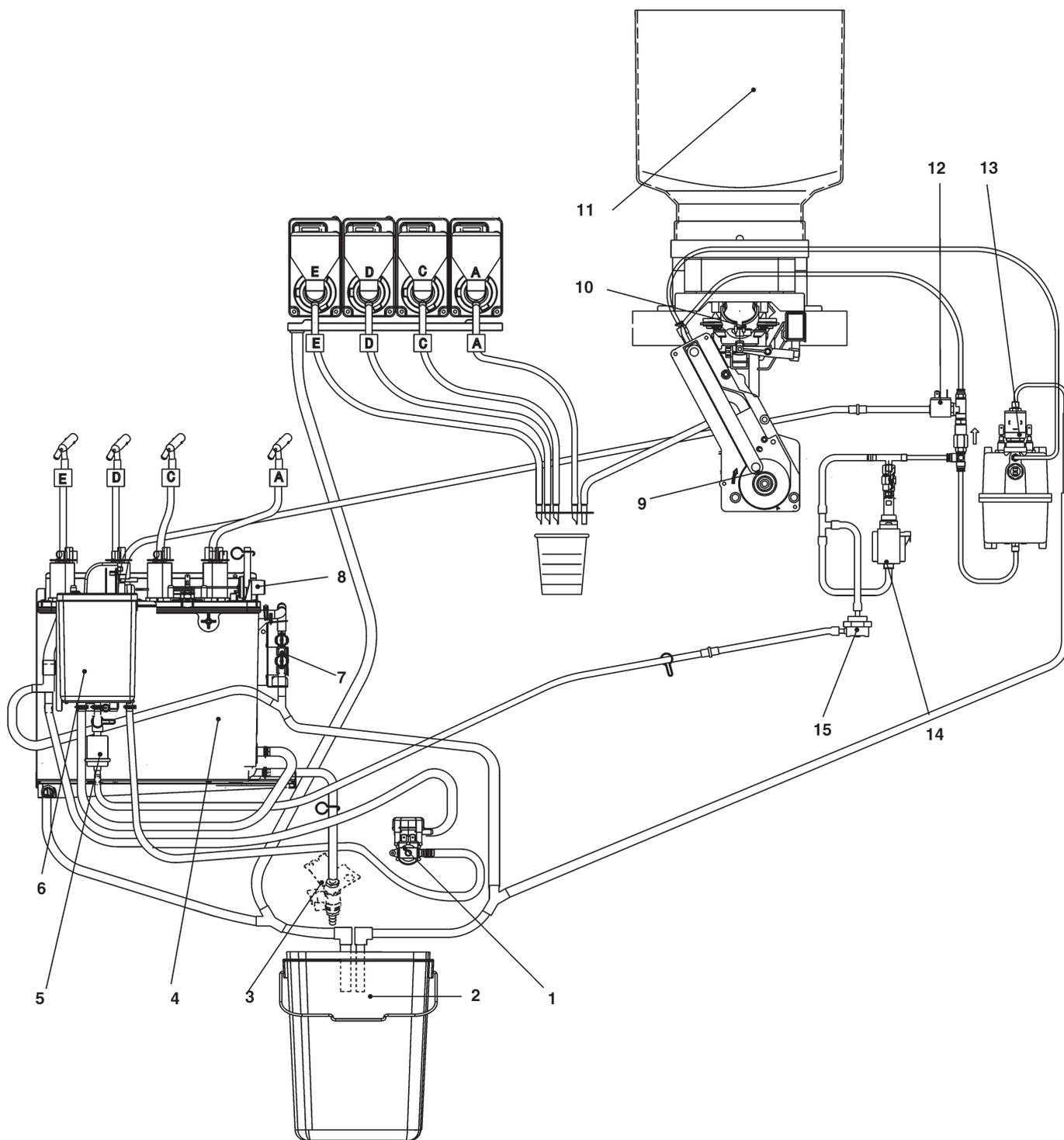


Fig. 41

- 1- To the CPU board
- 2- To the lighting LEDs

# ESPRESSO HYDRAULIC CIRCUIT



- 1- Water inlet solenoid valve
- 2- Liquid waste container
- 3- Hot water tap (optional)
- 4- Instant boiler
- 5- Mechanical filter
- 6- Air-break
- 7- Anti-boil thermostats
- 8- Safety thermostat

- 9- Coffee unit
- 10- Capsule release
- 11- Capsule container
- 12- Piston solenoid valve
- 13- Coffee dispensing solenoid valve
- 14- Vibration pump
- 15- Volumetric counter

## PROGRAMMING SUMMARY

The machine can work in 3 different operation states:

- **NORMAL OPERATION MODE;**
- **FILLER MENU;**
- **TECHNICIAN MENU**

To be able to access the programming menus, press the programming button (see fig. 42):  
Now, the machine is set to the Filler Menu mode.

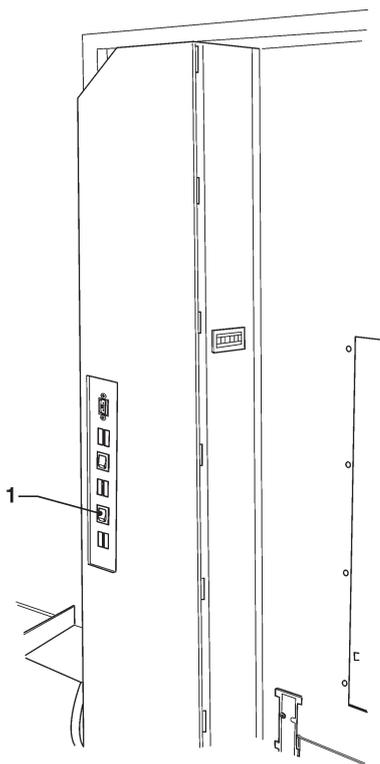


Fig. 42

1- Programming button

Press key  to switch from the “Technician menu” to the “Filler menu” and viceversa.

## NAVIGATION MODE

To move inside the menus, use the keys shown by the figure:

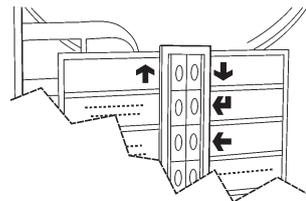


Fig. 43

### SCROLLING KEYS UP AND DOWN

Press the  and  scrolling keys to move from one item to the other one of the programming menus on the same level and to change the enable status and the numeric value of the functions.

### CONFIRMATION / ENTER KEY

Press the confirmation / Enter key  to move to the lower level or to confirm a data item you have just entered or modified.

### EXIT KEY

Press the Exit key  to move back to the upper level or to quit a field intended to modify a function. After having reached the highest Menu level, press this key once again to move from the Technician Menu to the Filler menu and viceversa.

### ENTERING ALPHANUMERIC VALUES

When the management software requires the operator to enter alphanumeric characters, keys assume the following functions:

- The Enter key  will enable the operator to modify / enter the first character, to confirm it and to move to the next one.
- The keys  and  will enable the operator to scroll all available values.

## WIRING DIAGRAM LEGEND

INITIALS	DESCRIPTION	INITIALS	DESCRIPTION
BDV	BDV COIN MECH CONNECTOR	MDZ	SUGAR DOSER
CCG	GENERAL COUNTER	MF1-..	INSTANT WHIPPER
CM	MOTOR CAM	MFB	FRESH-BREW MOTOR
CM1	COFFEE UNIT MOTOR CAM	MMA1-.	GRINDING REGULATION MOTOR
CM2	COFFEE DISPENSING POSITION CAM	MP	PROGRAMMING MICRO
CMSB	CUP RELEASE MOTOR CAM	MSB	CUP RELEASE MOTOR
CV	VOLUMETRIC COUNTER	MSCB	CUP COLUMN SHIFT MOTOR
DOOR	DOOR CONNECTOR	MSP	STIRRER RELEASE MOTOR
EEA	WATER INLET SOLENOID VALVE	MSV	TRAY SHIFT MOTOR
ER	COFFEE DISPENSING SOLENOID VALVE	MTP	CAPSULE DRIVE MOTOR
ESC	COFFEE RELEASE ELECTROMAGNET	MVUOTO	EMPTY STIRRER MICRO
ESC1-.	COFFEE RELEASE ELECTROMAGNET	NTC	TEMPERATURE PROBE
ESP1-.	DRAIN SOLENOID VALVE	NTCS	INSTANT BOILER TEMPERATURE PROBE
EVT	TANK SOLENOID VALVE	PB	POWER SUPPLY SOCKET
EX	EXECUTIVE COIN MECH CONNECTORS	PIP	PROGRAMMING BUTTON
FA	RADIO INTERFERENCE SUPPRESSOR	PL	WASHING BUTTON
FREE	FREE VEND SWITCH	PM	PUMP
ICM	MOTOR CONTROL SWITCH	PM1-..	WATER PUMP
ICR	DRIP COVER SWITCH	PPO	"PRIMING" BUTTON
ID1-..	COFFEE DOSE SWITCH	PS1-..	SYRUP BUTTON
IP	DOOR SWITCH	PSB	CUP RELEASE BUTTON
IPC	FULL CAPSULE CONTAINER SWITCH	PST	STATISTICS BUTTON
IPF	FULL WASTE CONTAINER SWITCH	RCC	COFFEE BOILER HEATING ELEMENT
ITB	CUP SHIFT ARM SWITCH	RCS	INSTANT BOILER HEATING ELEMENT
IVA	EMPTY WATER SWITCH	REL1-.	RELAY
IVB	EMPTY CUP SWITCH	RS232	SERIAL PORT
JUG	"JUG FACILITIES" SWITCH	SALIM	POWER SUPPLY UNIT BOARD
KC1-..	COFFEE BOILER CUTOUT	SLED	LED BOARD
KS1-..	SAFETY CUTOUT	SM1	CONTROL BOARD
KS3-4	PUMP PROTECTION CUTOUT	SM2	EXPANSION BOARD
LCD	LIQUID CRYSTAL DISPLAY	SP	BUTTON BOARD
LF	LAMP	STRC	BOILER HEATING TRIAC BOARD
M	COFFEE UNIT MOTOR	SUC	C.P.U. BOARD
MAC1-.	COFFEE GRINDER	TX....	DELAYED FUSE (X=CURRENT)
MC1-..	STIRRER COLUMN MICRO	TZ	CUP SENSOR
MD1-..	INSTANT DOSER	UPS	POWER SUPPLY UNIT BOARD
MDB	MDB COIN MECH CONNECTOR	VAR	VARISTOR
MDF1-.	COLD INSTANT DOSER	VENT	FAN





1 2 3 4

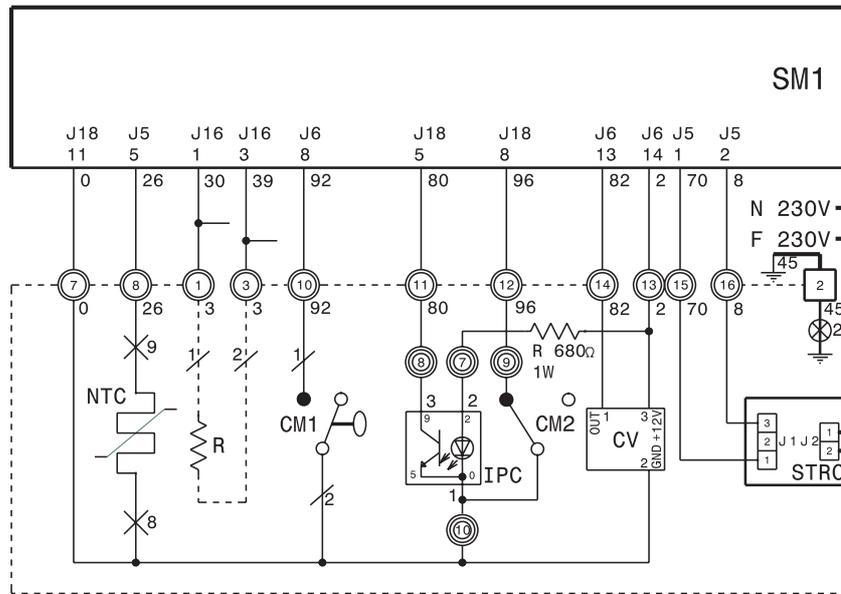
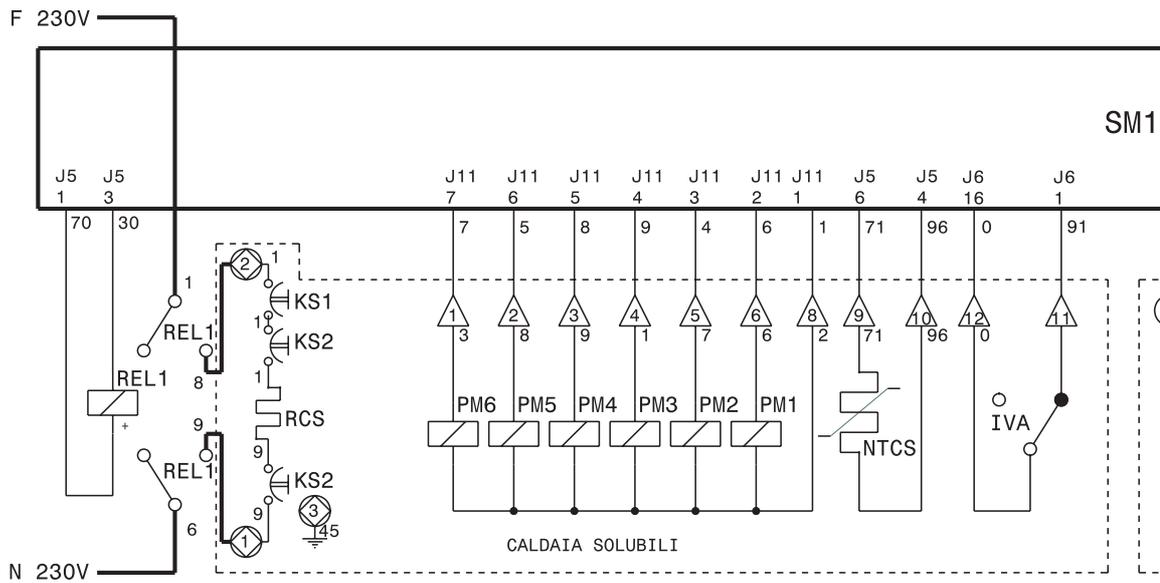
A

B

C

D

E



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0	NERO	1	MARRONE	10	GRIGIO	19	VIOLA	28	BLU	37	ROSA	46	VERDE	55	BLU	64	ROSSO	73	GRIGIO	82	VIOLA	91	NERO	100	BLANCO	109	BLANCO	118	BLANCO	127	BLANCO	136	BLANCO	145	BLANCO	154	BLANCO	163	BLANCO	172	BLANCO	181	BLANCO	190	BLANCO	199	BLANCO	208	BLANCO	217	BLANCO	226	BLANCO	235	BLANCO	244	BLANCO	253	BLANCO	262	BLANCO	271	BLANCO	280	BLANCO	289	BLANCO	298	BLANCO	307	BLANCO	316	BLANCO	325	BLANCO	334	BLANCO	343	BLANCO	352	BLANCO	361	BLANCO	370	BLANCO	379	BLANCO	388	BLANCO	397	BLANCO	406	BLANCO	415	BLANCO	424	BLANCO	433	BLANCO	442	BLANCO	451	BLANCO	460	BLANCO	469	BLANCO	478	BLANCO	487	BLANCO	496	BLANCO	505	BLANCO	514	BLANCO	523	BLANCO	532	BLANCO	541	BLANCO	550	BLANCO	559	BLANCO	568	BLANCO	577	BLANCO	586	BLANCO	595	BLANCO	604	BLANCO	613	BLANCO	622	BLANCO	631	BLANCO	640	BLANCO	649	BLANCO	658	BLANCO	667	BLANCO	676	BLANCO	685	BLANCO	694	BLANCO	703	BLANCO	712	BLANCO	721	BLANCO	730	BLANCO	739	BLANCO	748	BLANCO	757	BLANCO	766	BLANCO	775	BLANCO	784	BLANCO	793	BLANCO	802	BLANCO	811	BLANCO	820	BLANCO	829	BLANCO	838	BLANCO	847	BLANCO	856	BLANCO	865	BLANCO	874	BLANCO	883	BLANCO	892	BLANCO	901	BLANCO	910	BLANCO	919	BLANCO	928	BLANCO	937	BLANCO	946	BLANCO	955	BLANCO	964	BLANCO	973	BLANCO	982	BLANCO	991	BLANCO	1000	BLANCO
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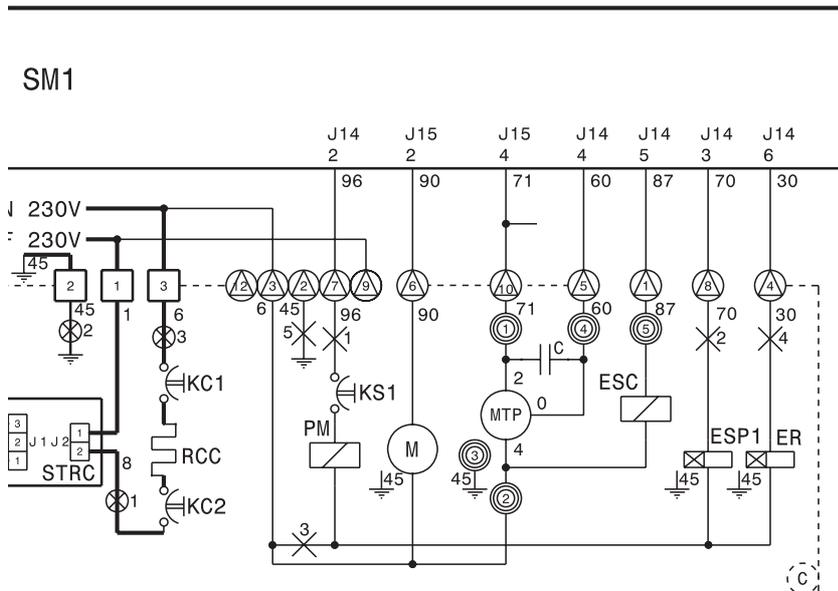
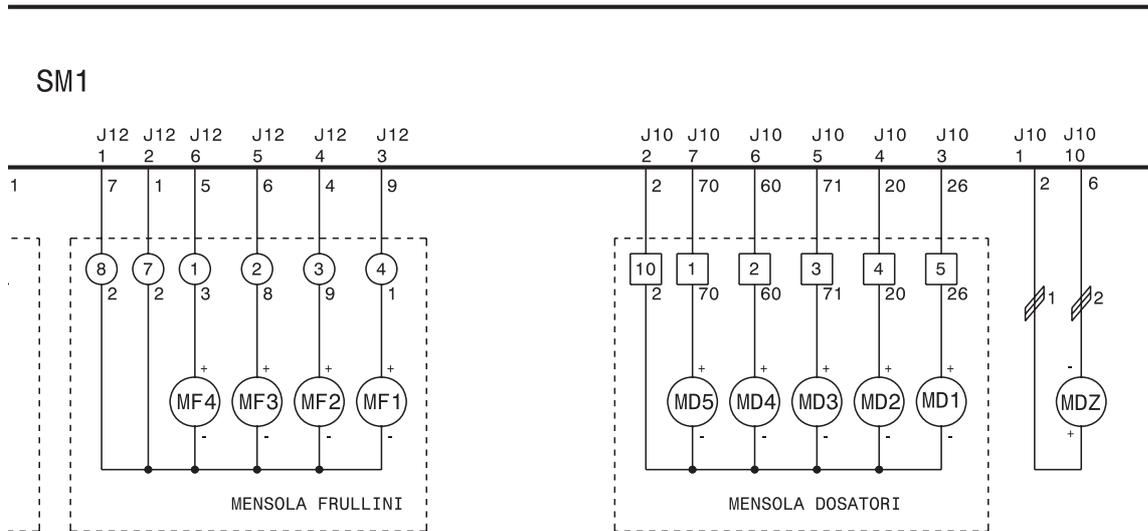
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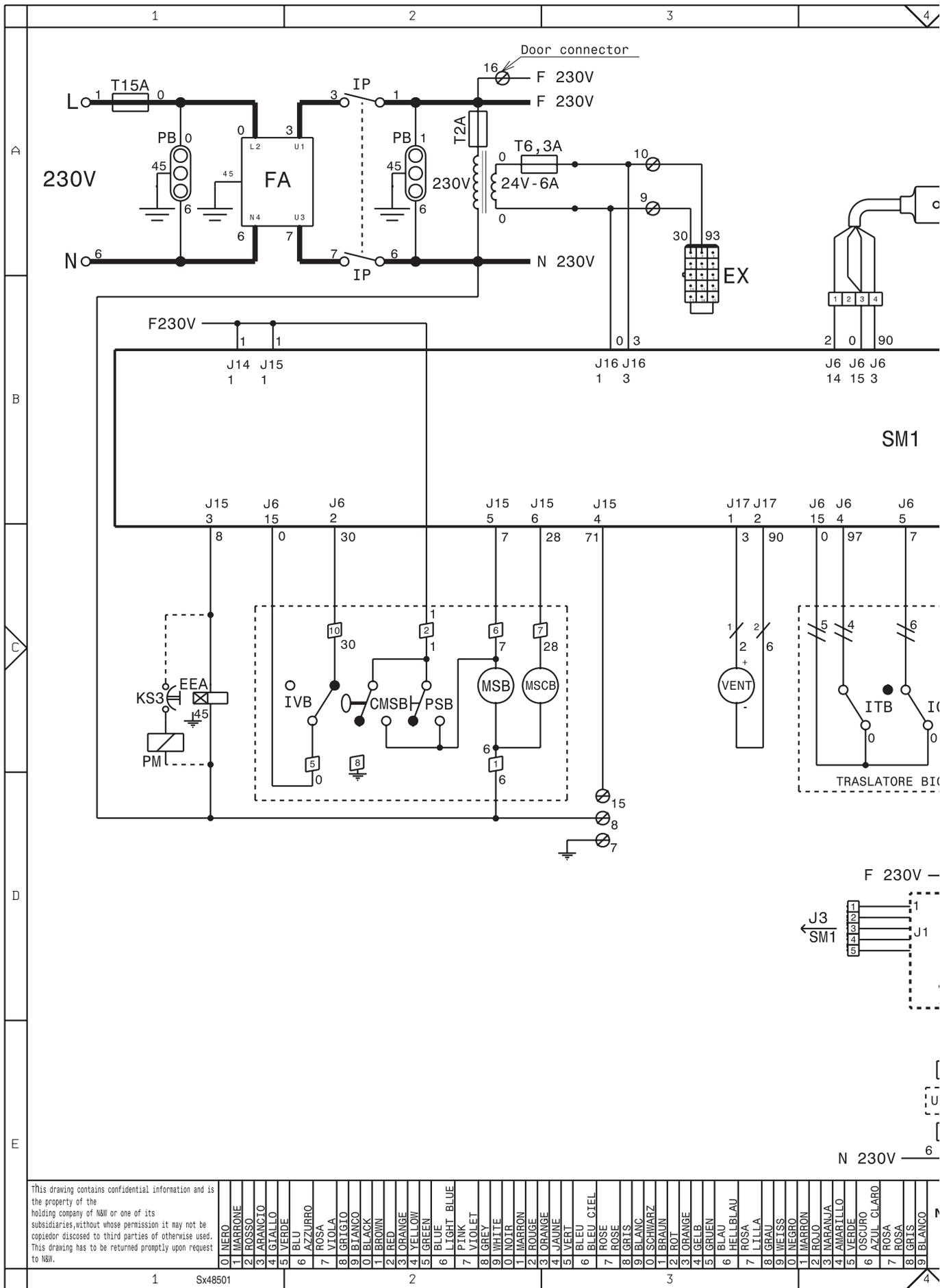
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MD5	MD4	MD3	MD2	MD1	ESPRESSO CIALDE
MF5	MF4	MF3	MF2	MF1	

ROSA BLGRIS BLBLANCO	<b>N&amp;W GLOBAL VENDING S.p.A.</b> Valbrembo - Italia	MODEL <b>LB 3600</b> Canto 230V	DEFINITION <b>SCHEMA ELETTRICO</b> <b>MACCHINA LAVAZZA</b>	DATE 11/03/2009	SHEET 1 / 1	PREPARED BONACINA	CHECKED MONGUZZI
			LEGENDA -	PART NUMBER <b>608600300</b>		VERSION	
	4	5	6	7			



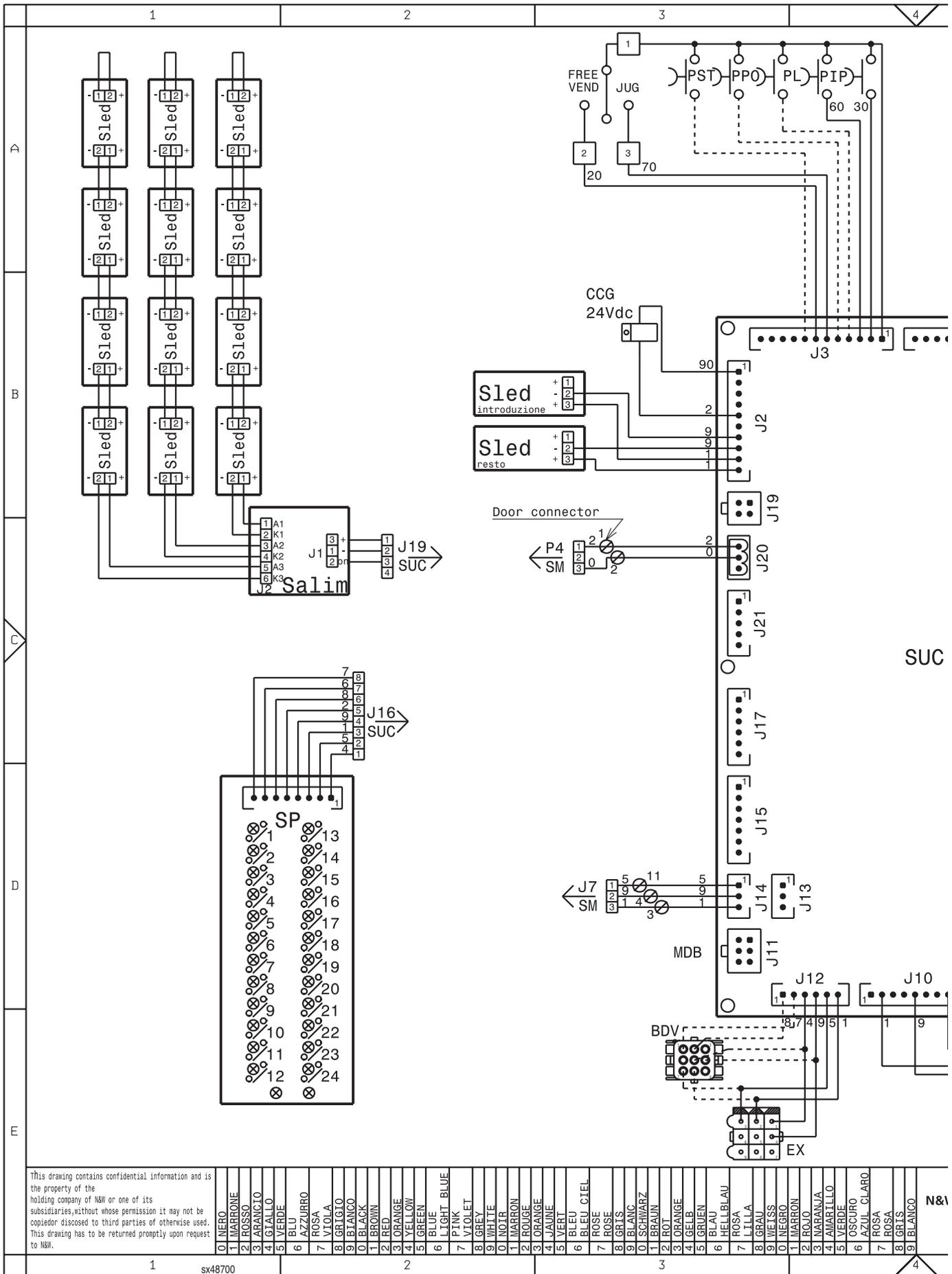


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0	NERO	10	VERDE	20	GRIGIO	30	GRIGIO	40	GRIGIO	50	GRIGIO	60	GRIGIO	70	GRIGIO	80	GRIGIO	90	GRIGIO
1	MARRONE	11	AZZURRO	21	VIOLA	31	VIOLA	41	VIOLA	51	VIOLA	61	VIOLA	71	VIOLA	81	VIOLA	91	VIOLA
2	ROSSO	12	ROSOLA	22	GRIGIO	32	GRIGIO	42	GRIGIO	52	GRIGIO	62	GRIGIO	72	GRIGIO	82	GRIGIO	92	GRIGIO
3	ARANCIO	13	VIOLA	23	GRIGIO	33	GRIGIO	43	GRIGIO	53	GRIGIO	63	GRIGIO	73	GRIGIO	83	GRIGIO	93	GRIGIO
4	GIALLO	14	VIOLA	24	GRIGIO	34	GRIGIO	44	GRIGIO	54	GRIGIO	64	GRIGIO	74	GRIGIO	84	GRIGIO	94	GRIGIO
5	VERDE	15	VIOLA	25	GRIGIO	35	GRIGIO	45	GRIGIO	55	GRIGIO	65	GRIGIO	75	GRIGIO	85	GRIGIO	95	GRIGIO
6	BLU	16	VIOLA	26	GRIGIO	36	GRIGIO	46	GRIGIO	56	GRIGIO	66	GRIGIO	76	GRIGIO	86	GRIGIO	96	GRIGIO
7	ROSOLA	17	VIOLA	27	GRIGIO	37	GRIGIO	47	GRIGIO	57	GRIGIO	67	GRIGIO	77	GRIGIO	87	GRIGIO	97	GRIGIO
8	GRIGIO	18	VIOLA	28	GRIGIO	38	GRIGIO	48	GRIGIO	58	GRIGIO	68	GRIGIO	78	GRIGIO	88	GRIGIO	98	GRIGIO
9	BIANCO	19	VIOLA	29	GRIGIO	39	GRIGIO	49	GRIGIO	59	GRIGIO	69	GRIGIO	79	GRIGIO	89	GRIGIO	99	GRIGIO
10	BLACK	20	VIOLA	30	GRIGIO	40	GRIGIO	50	GRIGIO	60	GRIGIO	70	GRIGIO	80	GRIGIO	90	GRIGIO		
11	BROWN	21	VIOLA	31	GRIGIO	41	GRIGIO	51	GRIGIO	61	GRIGIO	71	GRIGIO	81	GRIGIO				
12	RED	22	VIOLA	32	GRIGIO	42	GRIGIO	52	GRIGIO	62	GRIGIO	72	GRIGIO	82	GRIGIO				
13	ORANGE	23	VIOLA	33	GRIGIO	43	GRIGIO	53	GRIGIO	63	GRIGIO	73	GRIGIO	83	GRIGIO				
14	JAUNE	24	VIOLA	34	GRIGIO	44	GRIGIO	54	GRIGIO	64	GRIGIO	74	GRIGIO	84	GRIGIO				
15	VERT	25	VIOLA	35	GRIGIO	45	GRIGIO	55	GRIGIO	65	GRIGIO	75	GRIGIO	85	GRIGIO				
16	BLEU	26	VIOLA	36	GRIGIO	46	GRIGIO	56	GRIGIO	66	GRIGIO	76	GRIGIO	86	GRIGIO				
17	ROSE	27	VIOLA	37	GRIGIO	47	GRIGIO	57	GRIGIO	67	GRIGIO	77	GRIGIO	87	GRIGIO				
18	GRIS	28	VIOLA	38	GRIGIO	48	GRIGIO	58	GRIGIO	68	GRIGIO	78	GRIGIO	88	GRIGIO				
19	BLANC	29	VIOLA	39	GRIGIO	49	GRIGIO	59	GRIGIO	69	GRIGIO	79	GRIGIO	89	GRIGIO				
20	SCHWARZ	30	VIOLA	40	GRIGIO	50	GRIGIO	60	GRIGIO	70	GRIGIO	80	GRIGIO	90	GRIGIO				
21	BRAUN	31	VIOLA	41	GRIGIO	51	GRIGIO	61	GRIGIO	71	GRIGIO	81	GRIGIO	91	GRIGIO				
22	ROT	32	VIOLA	42	GRIGIO	52	GRIGIO	62	GRIGIO	72	GRIGIO	82	GRIGIO	92	GRIGIO				
23	ORANGE	33	VIOLA	43	GRIGIO	53	GRIGIO	63	GRIGIO	73	GRIGIO	83	GRIGIO	93	GRIGIO				
24	GELB	34	VIOLA	44	GRIGIO	54	GRIGIO	64	GRIGIO	74	GRIGIO	84	GRIGIO	94	GRIGIO				
25	GRUEN	35	VIOLA	45	GRIGIO	55	GRIGIO	65	GRIGIO	75	GRIGIO	85	GRIGIO	95	GRIGIO				
26	BLAU	36	VIOLA	46	GRIGIO	56	GRIGIO	66	GRIGIO	76	GRIGIO	86	GRIGIO	96	GRIGIO				
27	HELLBLAU	37	VIOLA	47	GRIGIO	57	GRIGIO	67	GRIGIO	77	GRIGIO	87	GRIGIO	97	GRIGIO				
28	LILLA	38	VIOLA	48	GRIGIO	58	GRIGIO	68	GRIGIO	78	GRIGIO	88	GRIGIO	98	GRIGIO				
29	WEISS	39	VIOLA	49	GRIGIO	59	GRIGIO	69	GRIGIO	79	GRIGIO	89	GRIGIO	99	GRIGIO				
30	NEGRO	40	VIOLA	50	GRIGIO	60	GRIGIO	70	GRIGIO	80	GRIGIO	90	GRIGIO						
31	MARRON	41	VIOLA	51	GRIGIO	61	GRIGIO	71	GRIGIO	81	GRIGIO	91	GRIGIO						
32	ROJO	42	VIOLA	52	GRIGIO	62	GRIGIO	72	GRIGIO	82	GRIGIO	92	GRIGIO						
33	MARANJA	43	VIOLA	53	GRIGIO	63	GRIGIO	73	GRIGIO	83	GRIGIO	93	GRIGIO						
34	AMARILLO	44	VIOLA	54	GRIGIO	64	GRIGIO	74	GRIGIO	84	GRIGIO	94	GRIGIO						
35	VERDE	45	VIOLA	55	GRIGIO	65	GRIGIO	75	GRIGIO	85	GRIGIO	95	GRIGIO						
36	OSCURO	46	VIOLA	56	GRIGIO	66	GRIGIO	76	GRIGIO	86	GRIGIO	96	GRIGIO						
37	AZUL CLARO	47	VIOLA	57	GRIGIO	67	GRIGIO	77	GRIGIO	87	GRIGIO	97	GRIGIO						
38	ROSA	48	VIOLA	58	GRIGIO	68	GRIGIO	78	GRIGIO	88	GRIGIO	98	GRIGIO						
39	GRIS	49	VIOLA	59	GRIGIO	69	GRIGIO	79	GRIGIO	89	GRIGIO	99	GRIGIO						
40	BIANCO	50	VIOLA	60	GRIGIO	70	GRIGIO	80	GRIGIO	90	GRIGIO								





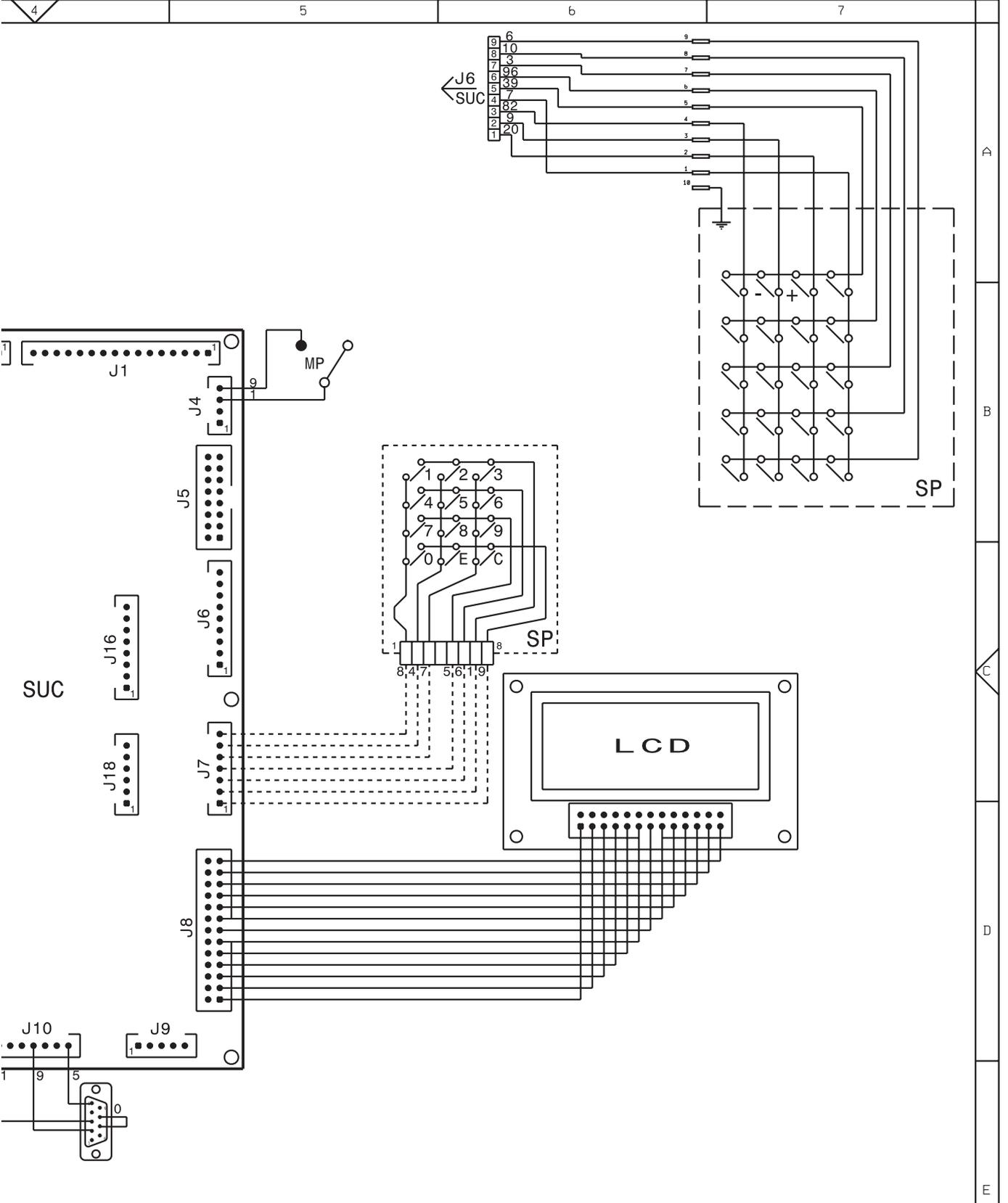


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0	NERO	1	MARRONE	10	NEGRO	19	MARRON	28	GRIS	37	BLAU
1	ROSSO	2	ARANCIO	11	VERDE	20	AZZURRO	11	ROJO	10	NEGRO
2	GIALLO	3	BIANCO	12	BLU	21	ROSA	12	ROJO	11	VERDE
3	ORANGE	4	NERO	13	VIOLA	22	GRIGIO	13	ROJO	12	VERDE
4	VERDE	5	BROWN	14	BIANCO	14	GRIGIO	14	ROJO	13	VERDE
5	BLU	6	BLACK	15	GRIGIO	15	GRIGIO	15	ROJO	14	VERDE
6	AZZURRO	7	BROWN	16	BIANCO	16	GRIGIO	16	ROJO	15	VERDE
7	ROSSO	8	BLACK	17	GRIGIO	17	GRIGIO	17	ROJO	16	VERDE
8	ARANCIO	9	BROWN	18	BIANCO	18	GRIGIO	18	ROJO	17	VERDE
9	GIALLO	10	BLACK	19	GRIGIO	19	GRIGIO	19	ROJO	18	VERDE
10	VERDE	11	BROWN	20	BIANCO	20	GRIGIO	20	ROJO	19	VERDE
11	BLU	12	BLACK	21	GRIGIO	21	GRIGIO	21	ROJO	20	VERDE
12	AZZURRO	13	BROWN	22	BIANCO	22	GRIGIO	22	ROJO	21	VERDE
13	ROSSO	14	BLACK	23	GRIGIO	23	GRIGIO	23	ROJO	22	VERDE
14	ARANCIO	15	BROWN	24	BIANCO	24	GRIGIO	24	ROJO	23	VERDE
15	GIALLO	16	BLACK							24	VERDE
16	VERDE	17	BROWN								
17	BLU	18	BLACK								
18	AZZURRO	19	BROWN								
19	ROSSO	20	BLACK								
20	ARANCIO	21	BROWN								
21	GIALLO	22	BLACK								
22	VERDE	23	BROWN								
23	BLU	24	BLACK								
24	AZZURRO										

N&W





1 ROSA 8 GRIGIO 9 BIANCO	N&W GLOBAL VENDING S.p.A. Valbrembo - Italia	MODEL <b>Canto</b> Door	DEFINITION SCHEMA ELETTRICO PORTA	DATE 03/06/2008	SHEET 1/1	PREPARED BREMBILLA	CHECKED MONGUZZI
				LEGENDA -	PART NUMBER <b>608548701</b>		VERSION









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**EDITION 11 - 2009**

**CODE H 83127 00**

