OPERATION, INSTALLATION AND MAINTENANCE MANUAL

Kobalto Espresso

EN English

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DICHIARAZIONE DI CONFORMITA'
DECLARATION OF CONFORMITY
DÉCLARATION DE CONFORMITÉ
KONFORMITÄTSERKLÄRUNG
DECLARACIÓN DE CONFORMIDAD
DECLARAÇÃO DE CONFORMIDADE
VERKLARING VAN OVEREENSTEMMING
INTYG OM ÖVERENSSTÄMMELSE
OVERENSSTEMMELSESERKLÆRING
YHDENMUKAISUUSTODISTUS

Valbrembo, 01/04/2005

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

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

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

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

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

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

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

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

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

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

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

ANTONIO CAVO

C.E.O

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N&W GLOBAL VENDING SPA

VIA ROMA 24 - 24030 VALBREMBO (BG) Italy

VIA DEL CHIOSO ANG. CAPITANI DI MOZZO - 24030 MOZZO (BG) Italy

for the following field of activities

Design, manufacturing and sale of electronical/electromechanical vending machines

Refer to quality manual for details of applications to ISO 9001:2000 requirements

has implemented and maintains a

Quality Management System

which fulfills the requirements of the following standard

ISO 9001:2000

Issued on: 2005 - 07 - 11

Registration Number: IT - 12979

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President of IQNet

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PER LE SEGUENTI ATTIVITA'
FOR THE FOLLOWING ACTIVITIES

Progettazione, produzione e vendita di distributori automatici per alimenti
Design, production and sales of vending machine

Certificazione rilasciata in conformità al Regolamento Tecnico SINCERT RT-09

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PRIMA EMISSIONE	EMISSIONE CORRENTE
FIRST ISSUE	*CURRENT ISSUE*
1997-12-19	2006-05-15

IMQ S.p.A.- VIA QUINTILIANO, 43 - 20138 MILANO ITALY

SINCERT EA: 19

La validità del presente certificato è subordinata a sorveglianza annuale e al riesame completo del Sistema di Gestione Ambientale con periodicità triennale secondo le procedure dell'IMQ.

The validity of the certificate is submitted to annual audit and a reassessment of the entire Environmental Management Systems within three years according to IMQ rules

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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.

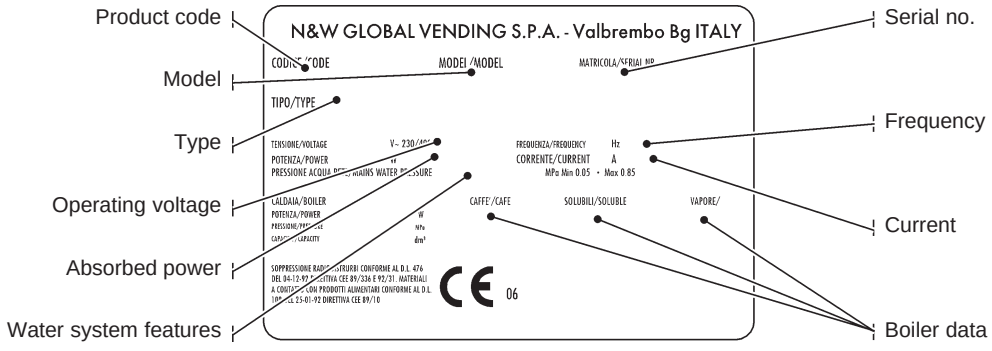


Fig. 1

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:

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

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.

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.
You can stack up max. 2 machines, if originally packed.
Never forget to keep the vertical position specified by the arrows on the package.

POSITIONING THE VENDING MACHINE

The machine is of a professional type and it must be installed in places where the access for operation and maintenance is reserved to qualified personnel.
If installed for public use, it must be supervised by qualified personnel.
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 on a leveled surface.

Important!!

The machine is accessed from the rear side and on both sides in case of extraordinary maintenance and/or repair.
As a consequence, it is necessary to enable the machine to rotate around itself in order to disassemble the back and the sides.

The feet are not dimensioned to support any impact. As a consequence, they must be disassembled if you wish to move the machine later on.

Positioning on the cabinet

The machine can be arranged on a table or any other proper support (recommended height mm. 800).
It is advisable to use - where possible - the cabinet intended to accommodate the waste tray, the water supply kit and, if water is very hard, the decalcifier.

WARNING 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.

The disposal of package materials shall occur in full observance of environmental rules.

WARNING FOR UTILISATION

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 equipment when it is not in use to provide for considerable energy saving.

WARNING 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.
For the correct disposal of the machine contact the sales point where you have purchased the machine or our after-sales service.

TECHNICAL FEATURES

DIMENSIONS

Height	mm	750
Height with container	mm	920
Width	mm	470
Depth	mm	578
Max. open door overall dimensions	mm	952
Max. height with top panel lifted	mm	997
Support cabinet height	mm	800
Weight	kg	
Weight (models with steam boiler)	kg	78

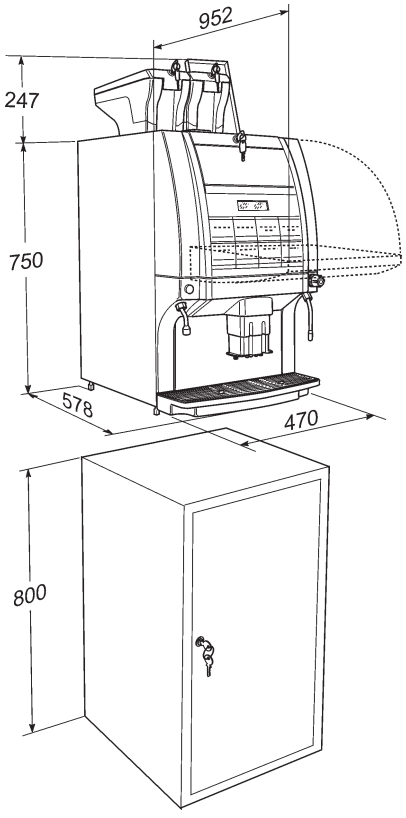


Fig. 2

ELECTRIC CONNECTION

Rating (*)	Type of connection	
	Three-phase+neutral (recommended)	Single-phase
Supply voltage	400 V ~	230 V ~
Supply frequency	50 Hz	50 Hz
Maximum power	5.000 W	3.250 W
Maximum current	11.7 A	15.2 A
(*) The values specified by this table may vary according to the market of destination. Refer to the rating plate (fig. 1)		

PAYMENT SYSTEM

The machine can use special kits to mount payment systems with an Executive, MDB or BDV protocol. The validator and payment systems shall be arranged inside the side module (optional).

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.

WATER SUPPLY

Supplied by the water network at a pressure between 0.05 and 0.85 Mpa (0.5 and 8.5 Bar).
The machine can be equipped with water supply tanks of various capacities, which can be placed in the support cabinet.

POSSIBLE ADJUSTMENTS

Espresso coffee granulometry.
Espresso coffee dose in grams.
Volumetric water doses.
Instant product doses in grams.
Water temperature adjustable via software.

CONTROLS

- water presence
- coffee presence
- operating temperature reached
- solid waste tray available
- dispensing compartment back available

SAFETY DEVICES

- door switch
- top panel closure switch
- dispensing compartment back switch
- boiler safety thermostat manually reset
- air-break float jam (only if supplied by the network)
- anti-flood solenoid valve (only if supplied by the network)
- steam boiler safety thermofuse;

. minimum water level probe in the steam boiler

- time-based protection for:
  - pump
  - coffee unit ratio-motor
  - coffee-grinder
- heat protection for:
  - ingredient motors
  - coffee unit ratio-motor
  - electromagnets
  - pump
  - whipper motors
  - coffee-grinder motor
- protection with fuse
  - main electric circuit
  - board supply transformer

CONTAINER CAPACITY

Beaned coffee containers have a capacity of about 1.2Kg.
Containers having a different capacity (litres) can be mounted for instant products, according to models.
The indicative product quantity is summed up by the following table:

Size container lt	2.0	2.5	3.0	4.5
Instant coffee Kg	0.5	0.65	0.8	1.2
Milk Kg	0.55	0.7	0.9	1.35
Chocolate Kg	1.5	1.9	2.3	3.4
Sugar Kg	1.75	2.2	2.8	4.2

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:

Wh consumption for	temperature reached	24 h stand by
Espresso + Instant	-	-
Espresso + Steam	205.6	3.525

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

VARIABLE COMBINATION LOCK

Some models are supplied with a variable combination lock.
The lock is complete with a silver key with a standard combination 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 standard 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.

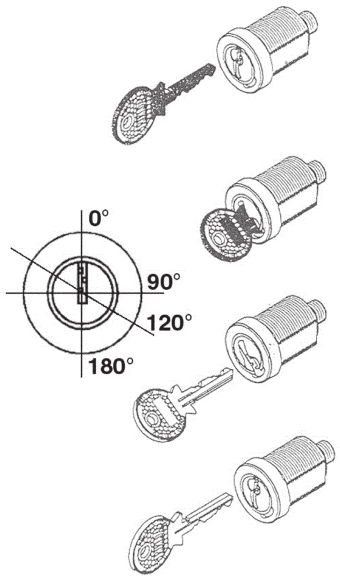
To change the combination:

- open the machine door to avoid having to force 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) with the new combination;
- 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. 3



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.

Important!!

The utilisation of kits that are not type-approved by the manufacturer can not provide for the observance of safety standards, in particular for live parts.
The manufacturer will disclaim all responsibility for the use of non type-approved components.

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.

Chapter 1
FILLING AND CLEANING

MAINS SWITCHES

Door

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.

The line cable terminal board, the fuses, the interference suppressor and the power relays remain anyway live.

Top panel

If you open the top panel of the machine, a switch will power off to allow the user to provide for filling on safe conditions.

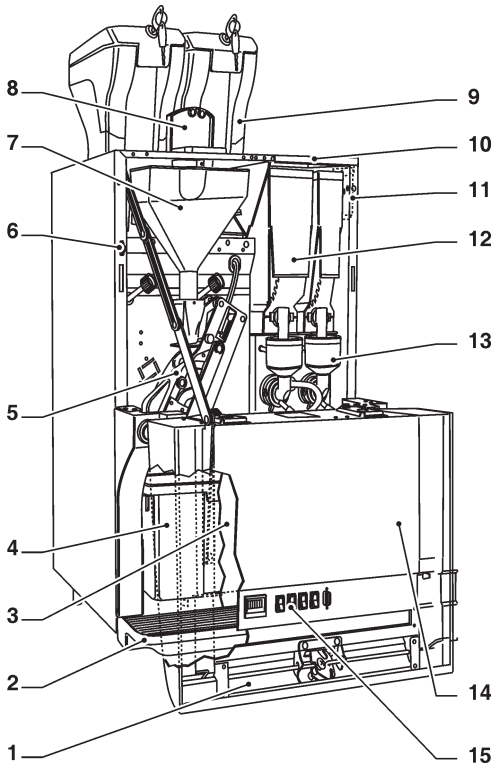


Fig. 4

1 - Folding door
2 - Liquid waste tray
3 - Dispensing compartment back
4 - Solid waste tray
5 - Coffee unit
6 - Door switch
7 - Coffee slide
8 - Decaff flap
9 - Coffee containers with lock
10 - Openable top panel
11 - Top panel switch
12 - Instant containers
13 - Instant mixers
14 - Board cover
15 - Service buttons

Dispensing compartment

If you remove the dispensing compartment back, a double switch will signal to the control electronics of the machine that the compartment is lacking and it will also power off power circuits. The heating elements will remain on.

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.

HYGIENE 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.

The machine is not suitable for outdoor installation. It must be installed in dry rooms at a temperature between 2° and 32° C.
It is recommended to use sanitising products also in order to clean the surfaces (e.g. covers of grinders and boards) not directly in contact with foodstuffs. Only use pieces of cloth that are slightly damp.
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.

It is absolutely forbidden to use water jets to clean the machine.

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:

- coffee brewing;

- reconstituting soluble or freeze-dry packed 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 plates including the menu and the instructions are supplied with the machine and they shall be inserted at the time of the installation by making reference to the selection dose table.

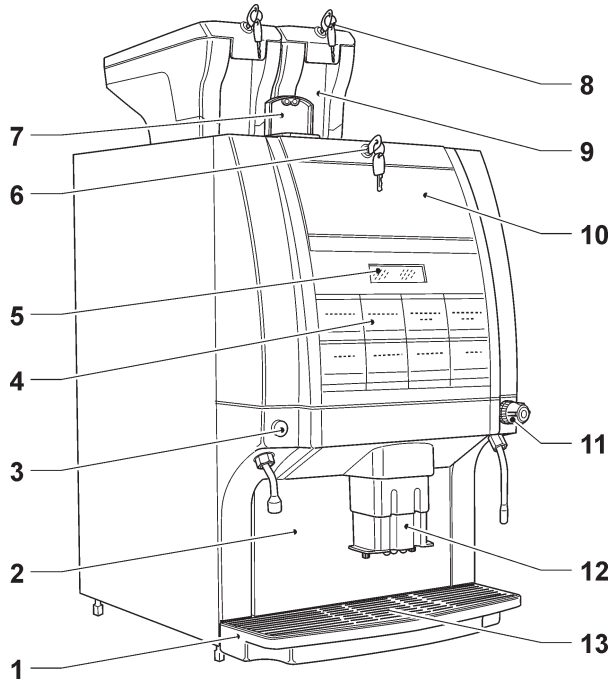


Fig. 5

1 - Liquid waste tray
2 - Dispensing compartment back
3 - Water dispensing button
4 - Selection menu plates
5 - Alphanumeric display
6 - Lock
7 - Decaff flap
8 - Coffee container lock
9 - Coffee container
10 - Customisable panel
11 - Steam cock
12 - Telescopic dispensing nozzles
13 - Red drip tray full indicator

The controls and information for the user are arranged on the external side of the door (see fig. 5).
The service buttons are arranged on the internal side of the door, such as the Programming button, which is giving access to the functions of the machine, and the button intended to wash the mixer.
Press the programming button to set the Filler Menu mode for the machine.
Now, use the selection keys to move inside the menus.

NOISE LEVEL

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

LOADING BEANED COFFEE

Open the container cover by using the corresponding key. Fill in the container by making sure that the shutter is completely open (see fig. 6).
If necessary, rotate the pin intended to operate the gate until it is completely open.

It is recommended to use quality coffee to avoid any malfunction of the device due to the presence of impurities.

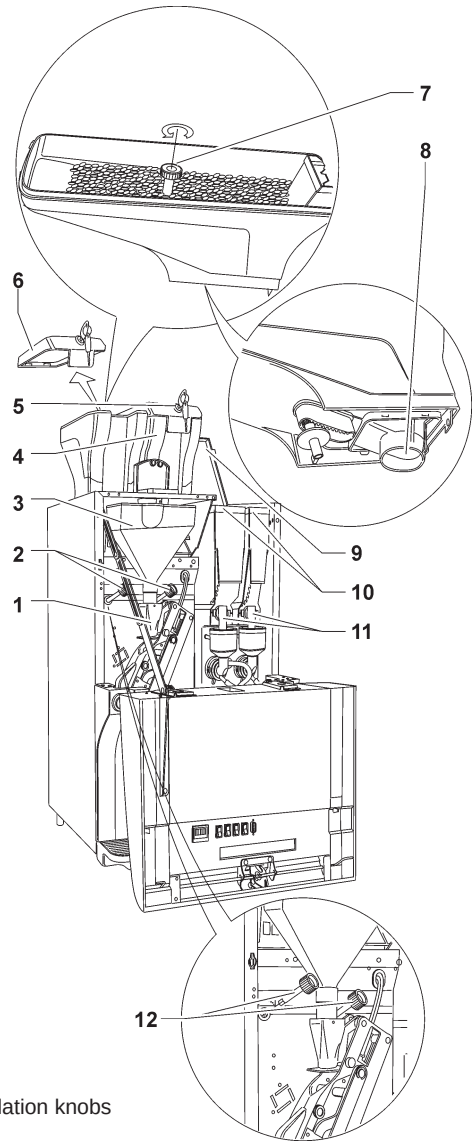


Fig. 6

1 - Coffee funnel
2 - Grinding regulation knobs
3 - Coffee slide
4 - Coffee container
5 - Coffee container lock
6 - Coffee container cover
7 - Container / shutter closure unlock device
8 - Coffee container shutter
9 - Openable top
10 - Instant container covers
11 - Powder collection boxes
12 - Extractable grinding knobs

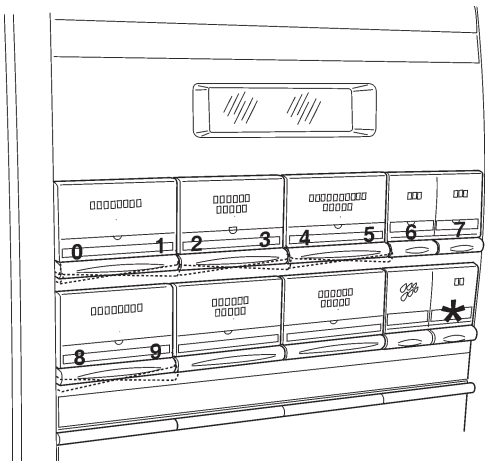
LOADING INSTANT PRODUCTS

Open the door and the top panel of the machine and lift the cover of the container in question. Pour the products that shall be dispensed into every single container. Avoid compressing and packing them. Make sure that the products are not lumpy. Close the cover carefully and make sure it is coupled.

SERVICE FUNCTIONS

If enabled in the programming menu, some operations can be directly carried out when the door is closed by entering a password (5 keys pressed in sequence) after having pressed the washing key "" (or the "*" key if "" is not available) for over two seconds.

Fig. 7



Possible operations are listed here below:

- consecutive dispensing of several selections in a jug (jug facilities);
- free dispensing of one selection;
- lock-unlock of the keyboard operation. If the lock is active, "INTERRUPTED SERVICE" is displayed;
- washing of mixers.The operation shall be carried out every day and whenever the machine is filled to prevent the product from clogging the mixer if it should accidentally fall down during filling;
- test selections;
- water filter counter reset. It will reset the (programmable) counter to display the “Replace the water filter” message as soon as you access the “filler” mode.
- coffee container reset. It will reset the counter intended to lock the machine after a well-defined number of dispensing cycles;
- coffee grounds reset. It will reset the counter intended to control the number of coffee doses used in the tray.

FILLING THE WATER SUPPLY TANK

For the machines using a water tank arranged in the cabinet or, anyway, outside the machine, clean the tank at least once a week or more often, according to the use of the machine and the quality of water.

CLEANING THE WASTE TRAYS

The waste trays can be easily extracted even if the door is closed (see fig. 8) to enable the user to empty and clean them quickly.
The coffee container autonomy is higher than the waste tray capacity (if no support cabinet is used).
The control software of the machine will signal that the maximum number of dispensing cycles has been reached by displaying the "Empty tray" message and the machine will be locked.
The waste tray shall be emptied without powering off the machine (the door shall be closed) to enable the software to recognise the operation.
It is also possible to reset the counter by typing a password.
If no solid waste tray is available, the machine will be ready for dispensing soluble drinks by displaying the "Insert tray" message.
To remove the solid waste tray, lift the telescopic nozzles completely and lower down the dispensing compartment cover by turning it downwards.

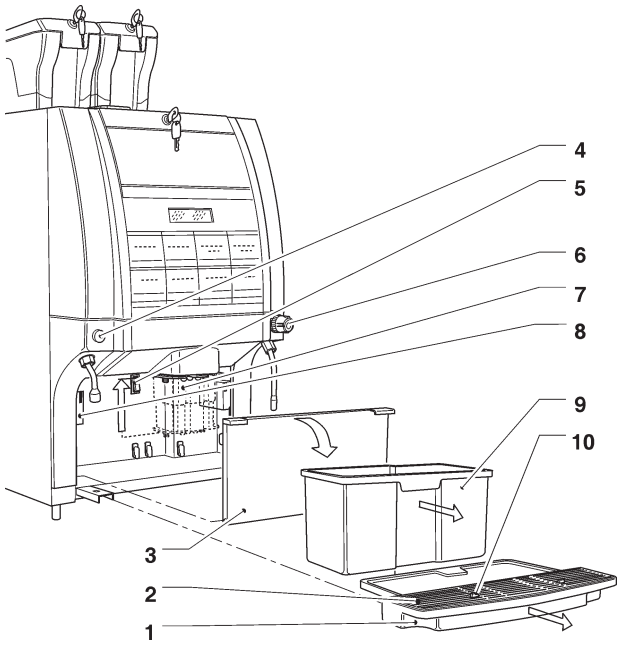


Fig. 8

1 - Liquid waste tray
2 - Removable grill
3 - Dispensing compartment back
4 - Water dispensing button
5 - Solid waste tray switch
6 - Steam cock
7 - Telescopic nozzles
8 - Dispensing compartment switch
9 - Waste tray
10 - Red drip indicator

DISASSEMBLING AND CLEANING THE MIXERS

The mixers and the conduits intended to dispense soluble 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.
The parts to be cleaned are listed here below:

- dispensing nozzles, dividing nozzle, milker (if mounted) and telescopic nozzle cover;
- powder deposit drawers, the mixer and the conduit intended to dispense soluble drinks;

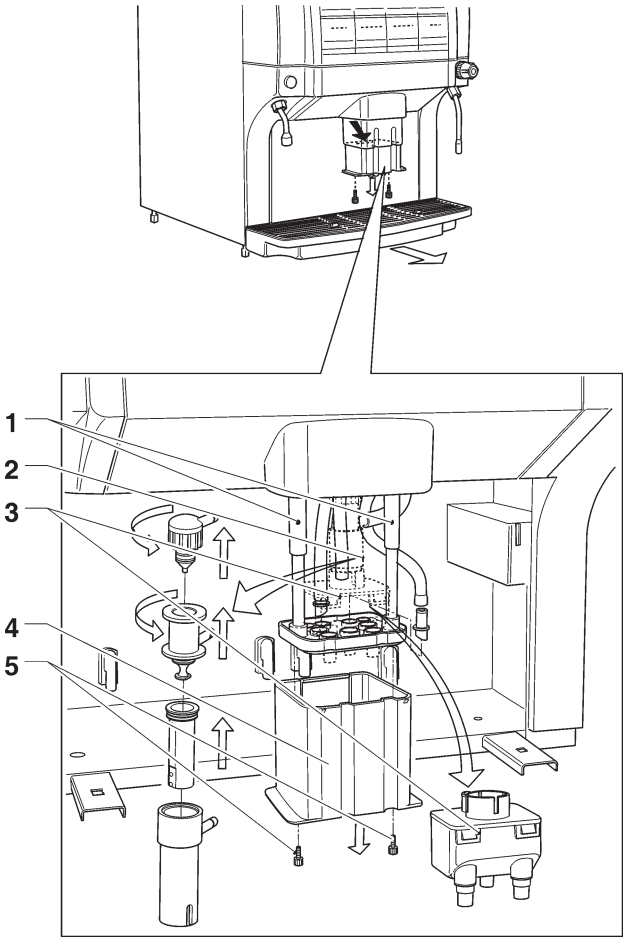


Fig. 9

1 - telescopic nozzle rods
2 - milker (some models only)
3 - dividing nozzles (coffee + milk)
4 - nozzle cover
5 - nozzle cover fastening knurls

To disassemble the parts, act as follows:

- remove (see fig. 10) the powder funnels, the water funnels, the collection boxes, the powder deposit drawers and the whipper motor wheels from the mixers;
- unscrew the knurls at the bottom of the telescopic nozzles
- press the hook at the back of the section at the bottom of the nozzle cover and extract it downwards
- remove the tubes from the nozzles and from the dividing nozzle
- remove the milker (if available) from the flow dividing nozzle (see fig. 9)
- remove the nozzles from the small support plate
- remove the flow dividing nozzle by pressing the clip at the bottom of the small plate
- turn the green ring nut counterclockwise to disassemble the water funnel;
  pay great attention to reclose it completely during the reassembly;

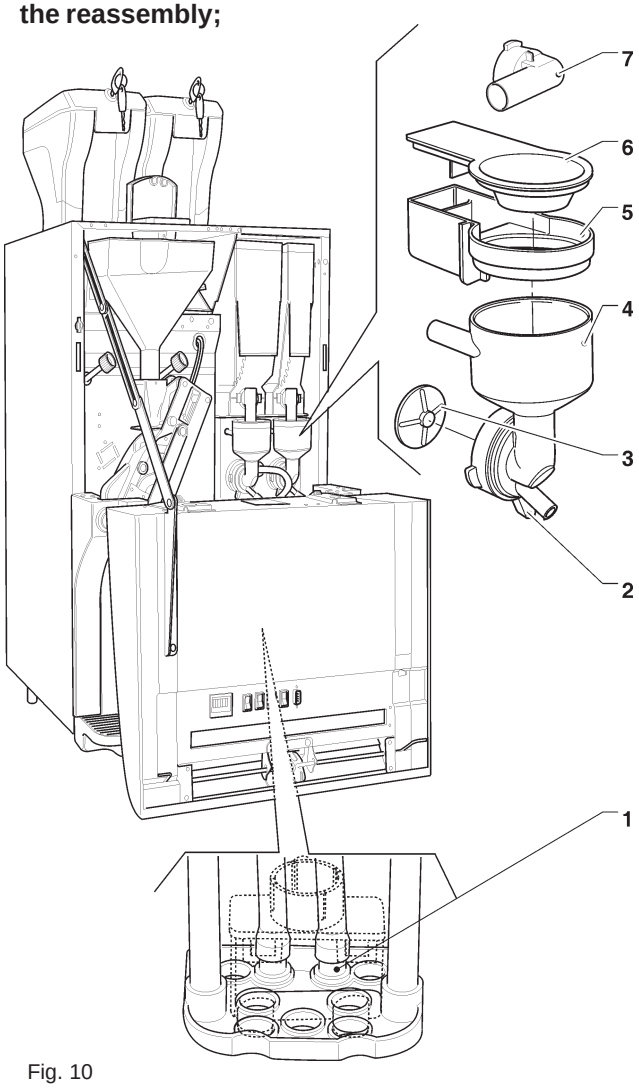
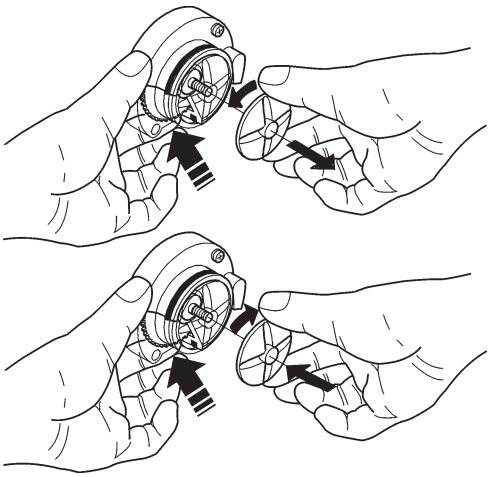


Fig. 10

1 - Dispensing nozzles
2 - Funnel fastening ring nut
3 - Mixer wheel
4 - Water funnel
5 - Powder deposit drawer
6 - Product funnel
7 - Product collection pipette

- to disassemble the wheels, just use a finger to lock the disk mounted on the whipper motor shaft (see fig. 11), then rotate the wheel to unscrew it.

Fig. 11



CLEANING THE COFFEE UNIT

It is recommended to remove any powder residual from the external parts of the coffee unit, in particular in the coffee funnel area, whenever you fill the machine or at least every week (see fig. 6) by using a brush or a small vacuum cleaner.
To clean shutters, never use any piece of cloth soaked in water if you have not wrung it out well before.

SWITCH FOR SERVICE INTERRUPTION

If you open the door by means of the corresponding key, a switch will power off the equipment, thus enabling the user to access the area accommodating the product containers and the parts that shall be cleaned.
The machine is complete with a switch (see fig. 4) that will enable the user to disconnect the pushbutton panel while leaving the heating device on.

IMPORTANT!!

The switch for service interruption will NOT power off the machine.
All the operations requiring the user to leave the machine on and to remove protection covers must be performed by skilled personnel who are trained on the use of the machine and well-aware of the specific risks involved.

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 agents used for the mixers.
- empty the grinder completely by dispensing coffee until emptiness is signalled.
- empty the water circuit completely.

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 is not suitable for outdoor installation. It must be installed in dry rooms at a temperature between 2° and 32° C.
The machine can not be installed in a room where water jets are used for cleaning.

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.

MAINS SWITCHES

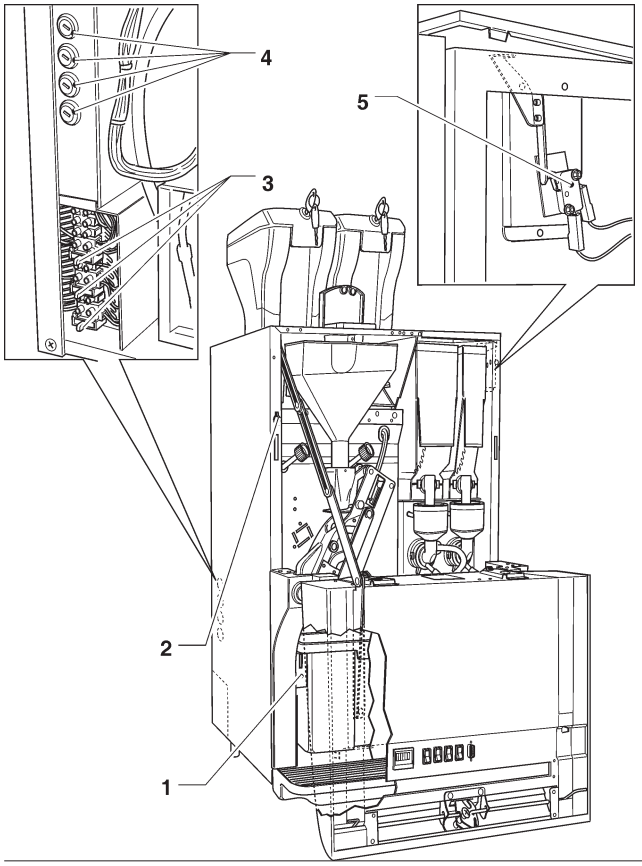
Door

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.

The line cable terminal board, the fuses, the interference suppressor and the power relays remain anyway live.

Fig. 12

1 - Dispensing compartment switch
2 - Door switch
3 - Transformer fuses
4 - Mains fuses
5 - Top panel and actuator switch



Top panel

If you open the top panel of the machine, a switch will power off to allow the user to provide for filling on safe conditions.

Dispensing compartment

If you remove the dispensing compartment back, a double switch will signal to the control electronics of the machine that the compartment is lacking and it will also power off power circuits. The heating elements will remain on.

The power on key shall not be left inside the machine. It shall be kept by the personnel qualified and trained on the use of the machine.

When the door is open, you are not allowed to access any live part. Only the parts protected by covers and marked by the plate "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 and power on the dispenser only after having removed the key from the door switch, closed the top panel of the machine and placed the back of the dispensing compartment.

UNPACKING THE VENDING MACHINE

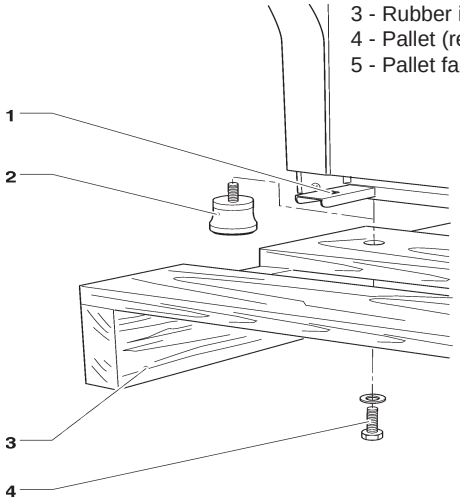
After having unpacked the machine, make sure that the equipment is intact.
In case of doubt never use the equipment.
Tighten the feet on the machine after having mounted the rubber insert into the feet (see fig. 13).

Important!!

The machine must be positioned on a levelled surface in such a way that the maximum inclination will not exceed 2°.

Fig. 13

1 - Support for liquid waste tray
2 - Foot
3 - Rubber insert
4 - Pallet (remove)
5 - Pallet fastening screws (remove)



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.

CONNECTION WITH THE WATER NETWORK

The vending machine shall be connected with the drinkable water network in compliance with the rules in force in the country where the equipment is installed.
The mains pressure must range from 0.05 to 0.85 Mpa (0.5 8.5 bar).
Let water come out of the water network until it is limpid and free of any trace of dirt.
Connect the water network with the 3/4" gas union of the water inlet solenoid valve by means of a tube (also available as a kit) that can support the network pressure and of a type suitable for foodstuffs (min. inner diameter 6 mm.) (see fig. 14).

It is recommended to apply a cock on the water network outside the machine in an accessible position.

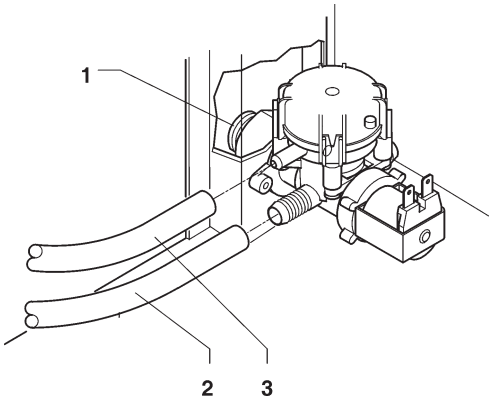


Fig. 14

1 - 3/4" gas inlet union
2 - Delivery tube
3 - Overflow tube

ANTIFLOOD DEVICE

The water inlet solenoid valve (see fig. 14) is complete with an antiflood device that can mechanically lock the water inlet as a result of a malfunction of the solenoid valve or the water level control gear in the boiler.
To restore the normal operation, act as follows:

- discharge water in the overflow tube;
- close the water network cock outside the machine;
- loosen the union intended to fasten the supply tube of the solenoid valve to discharge the residual network pressure and tighten it again (see fig. 13);
- open the cock and power on the machine.

WATER DISCHARGE

Where possible, it is recommended to connect the liquid waste tray with a bucket or better with a fixed drain by using the drain union supplied with the machine (also available as a kit)
To fasten the union, make a 9 mm. hole into the tray.
If it is not possible, it is necessary to make full use of the 1.5 lt capacity of the tray that shall be emptied at regular intervals.

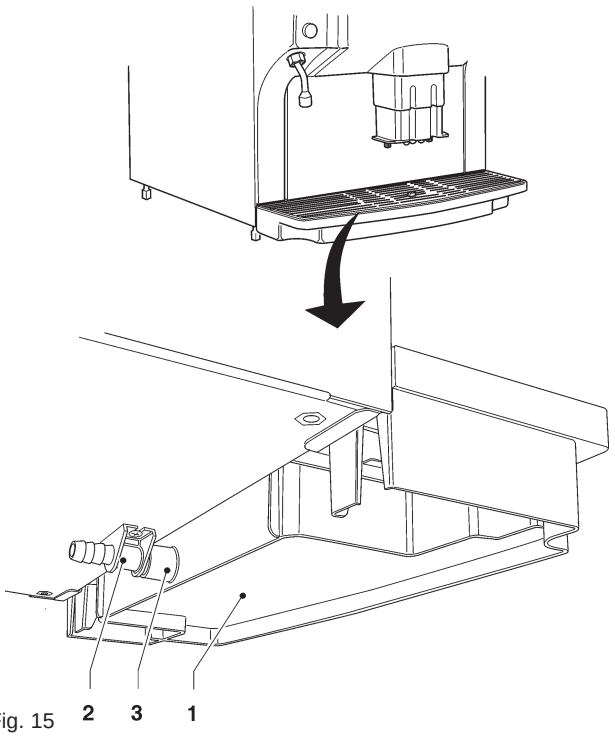


Fig. 15

1 - Liquid waste tray
2 - Drain union
3 - Predisposition to be drilled

ELECTRICAL CONNECTION

The machine is arranged for electrical operation at a 230 V~ voltage and it is protected by 15 A fuses on every single phase and on the neutral.
In consideration of the absorbed power, it is better to connect it with a 400 V~ 3N three-phase line. However, you can use a line with the following features for the electrical connection:

- three-phase+ neutral 400 V~ 50 Hz (recommended solution) (see fig. 17)
- single-phase 230 V~ 50 Hz (see fig. 18)

The machine is supplied without a line cable; for the connection use cables of the HO5 VV-F or HO5 VV H2 - F type only, having an adequate cross section.
For the connection make sure that the rating will comply with the mains data. In particular, make sure that the supply voltage value lies within the limits recommended for the connection points.
It is compulsory to use a main switch arranged in an accessible position, the features of which shall be able to support the maximum load required and to ensure omnipolar disconnection from the mains with an opening gap of the contacts of min. 3 mm.

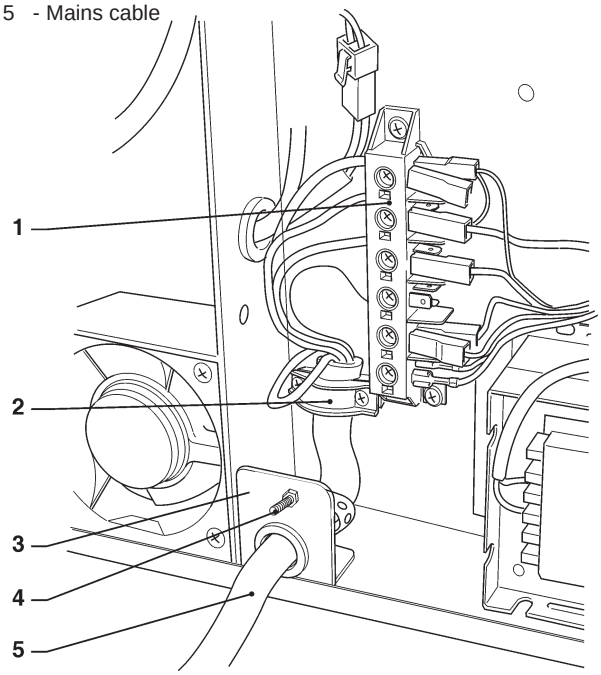
The machine shall be connected permanently. It is forbidden to use adapters, multiple sockets and/or extensions.

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.

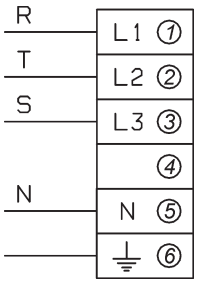
Fig. 16

1 - Connection terminal board
2 - Cable clamps
3 - Cable support
4 - External equipotential terminal
5 - Mains cable



The cable shall be connected with the terminal board arranged below the back of the machine. In doing this, please observe the position of the phases specified by the diagrams.

Fig. 17



Three-phase + N connection

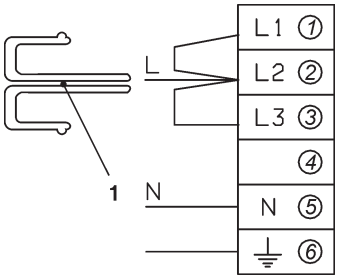
400 V*3N~	50 Hz	11.7 A	5,000 W

Cable 5 x 1.5 mm²

If no three-phase line is available, connect the machine with a 230 V~ single-phase line after you have made sure through qualified personnel that it is correctly dimensioned to support the 5,000 W load required.
The connection diagram is supplied by fig. 18 and it will use the links arranged on the terminal board as jumpers.

Fig. 18

1 - Links



32A single-phase connection

230 V~	50 Hz	22.1 A	5,000 W

Cable 3 x 4 mm²

16A single-phase connection

230 V~	50 Hz	15.2 A	3,250 W

Cable 3 x 1.5 mm²

When you power on the machine for the first time, you are required to specify the type of power supply you have selected.
If you should select a three-phase supply (recommended) or a 32A single-phase supply, boilers work at the same time.
If the line should not be fit to support a 5,000 W load, you can set the single-phase supply to 16A. Boilers work in sequence and alternatively. The necessary power is reduced to 3,250W and the productivity of the equipment is reduced correspondingly.
The connection shall be performed in observance of the phases specified by the diagram. A different connection might prevent the machine from working.

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 an incorrect installation of the payment system.

The use of payment systems, such as validators, “change givers” and “cashless” is made possible by means of special kits.
Payment systems, such as "change givers", must be physically arranged in the special side module (optional).

DECALCIFIER

The machine is supplied without a decalcifier.
If it is connected with a system, the water of which is very hard, you can mount a decalcifier.
Decalcifiers, available as an accessory, shall be regenerated according to the manufacturer's instructions at regular intervals.
Use decalcifiers, the capacity of which is adequate for the actual use of the machine.
If the machine is supplied from the tank, you can use the corresponding cartridge water filters.

PLATE INSERTION

The plates with the menu and the instructions are supplied with the machine and they shall be inserted at the time of the installation, according to the layout and language you may have selected (see the "selection dose" table).
Some types of preselection, such as half a jug, jug, decaffeinated, can be enabled or not according to the layouts. Some service buttons, such as mixer washing "" and "STOP" (selection interruption) can be enabled or not.
These functions can be associated to different keys. On mounting the plates, please take these associations into account.
Disassemble the display glass as specified by fig. 19.
To do this, exert a light pressure on the short side and unhook the 4 fins.
Insert the plates into the display glass and reassemble it by pressing it down.

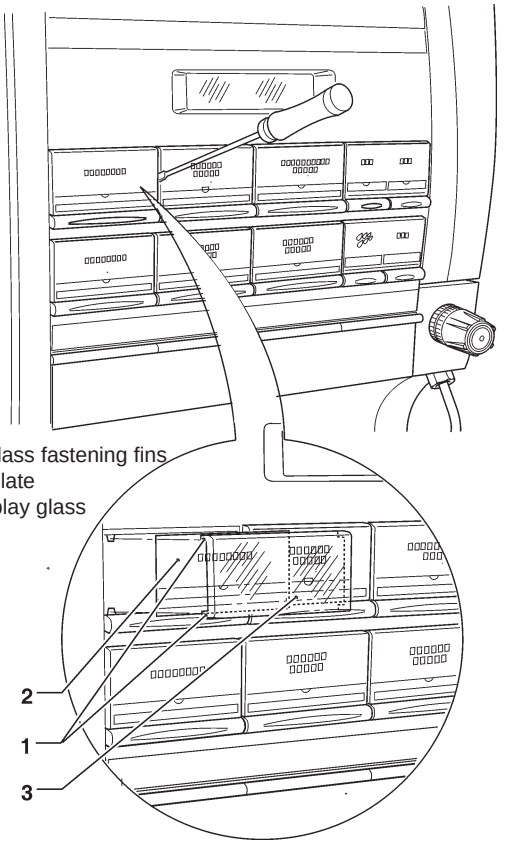
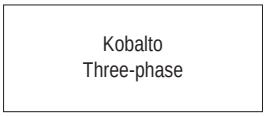


Fig. 19

1 - Display glass fastening fins
2 - Product plate
3 - Plate display glass

POWER ON

Before powering on the machine, make sure that all components and covers are properly positioned.
If the machine is powered on for the first time or after having initialised the CPU board, a message will flash on and off on the display requiring you to specify the type of power supply you have selected:



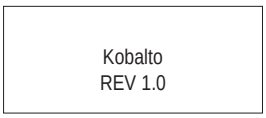
The type of power supply you have confirmed will remain stored. If the machine is complete with a device intended to dispense fresh milk (**milker**), the milker cleaning sequence will appear on the display whenever you power on the machine.
The following message will appear:

You can confirm the operation by pressing the "↵" key or cancel it by pressing another key. All the next operations will require the operator to act manually and they shall be confirmed. They are listed here below in sequence:

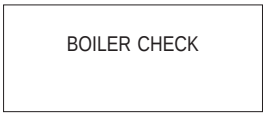
- Pour some detergent;
- Detergent cycle;
- Pour some water;
- Clean cycle.

If the machine is not equipped with a milker, the sequence is not proposed.

After having completed the power on cycle, the software release number will appear on the display.
You can programme the machine to display the number of dispensing cycles you have performed for some seconds.



A check is performed on espresso boilers.



The following message will appear on the display after some seconds:

INITIALISATION

The machine is supplied after the settings and the arrangement of the most widespread components (**layout**) have been defined.
You can change these settings from the "Technician Menu" "Initialisation".
When the "Initialisation" function appears on the display, you can initialise the machine by restoring all default data and/or change the settings available.
All statistical data are reset.
Press the Enter key "↵" to display the request for confirmation "Do you confirm?". Press the Enter key "↵" once again to display the first one of variable parameters in order to define the machine configuration.
Press "↓" and "↑" to scroll possible options (flashing on and off). Press the "↵" key to confirm your choice and to move to the next parameter. Press the "↵" key after the last parameter to display the "Execution" message for some seconds and to initialise the machine.
The parameters you can manage are listed here below:

"Nation"	Type of doses in use for selections
"Lay-out"	Arrangement of containers and selection menu among those available
"Tank"	Water supply from the mains or from a tank
"Steam boiler"	ON/OFF

Please Note: As soon as you power on the new machine for the first time or, any way, after the initialisation, the type of (three-phase / single-phase) power supply in use will be proposed.
Press "↓" and "↑" to scroll the options and press the "↵" key to confirm the choice.
If you fail to initialise the machine, the request will be no longer made.
However, you can change it by holding the CPU board button down (see fig. 40) whenever you power on the machine.

ENERGY SAVING

Where possible, to reduce the electric energy consumption, it is recommended to use the "energy saving" function that will enable the user to program the power on and off of the machine according to its actual use.
Power on the machine two hours before its actual use to ensure its operation at a steady temperature.

FILLING THE WATER CIRCUIT

Before powering on the machine, make sure that the water network is properly connected and that the cock is open.
If the air-break should signal no water for over 10" as soon as you power on the machine, the machine will automatically perform an installation cycle that will vary according to the number of boilers arranged on the machine, i.e.:

- the display will show “Installation” for the whole duration of the cycle;
- the network solenoid valve is opened
- the air-break is filled;
- the solenoid valve intended to dispense instant products is opened to bleed the air from the espresso boiler and to let ca. 800 cc. water in;
- the steam boiler is filled; air will escape from the vacuum valve. As soon as the minimum level is reached, the steam boiler will start heating and the vacuum valve will close, thus pressurising the boiler.

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

The coffee boiler shall be filled in manually by using the special function "installation" of the Technician menu as a result of maintenance operations requiring the user to empty the boiler, but not the air-break.

OPERATION

FUNCTION BUTTONS

The function buttons are arranged on the external keyboard. They enable the user to perform specific functions or to preselect different product doses.
The buttons may change their position or be unavailable according to the models, the arrangement of the keys and the products in use **(lay out)**.
At the time of the installation refer to the selection dose table to insert the plates correctly.
The keys are listed here below:

Mixer washing: if you hold it down for over two seconds, you will be required to enter a password.

STOP Stop: press it to stop the selection in progress.

Half a jug: if you press it before pressing a selectionbutton, you can dispense a larger product dose.

Jug: if you press it before pressing a selection button, you can dispense an even larger product dose.

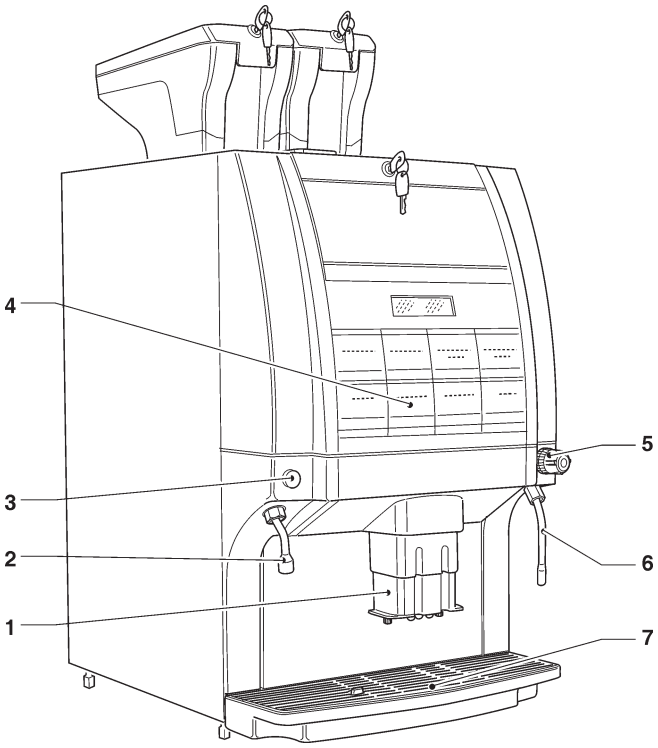


Fig. 20

1 - Telescopic dispensing nozzles
2 - Water dispensing nozzle
3 - Water dispensing button
4 - Available selection menu
5 - Steam cock
6 - Steam nozzle
7 - Liquid waste tray

INSTANT DISPENSING CYCLE

According to the type of product you may wish to dispense, the dispensing cycles of the various selections are conceived to achieve the best result in terms of performance and drink quality. Powder is dispensed intermittently for chocolate-based selections and it is dispensed before water for the selections based on instant coffee.
Powder is always dispensed intermittently for jug selections. This will enable you to keep a proportion between water and powder even if you press the "STOP" key to stop dispensing.

MIXER WASHING CYCLES

You can enable a washing cycle to clean the mixers by pressing the button on the internal side of the door and, if enabled, the button on the external pushbutton panel (**for qualified personnel only**).
To prevent the user from acting on the washing button unintentionally, it is necessary to hold it down for about two seconds and, then, to enter a 5-number programmable password.
Washing consists in starting all whipper motors and in operating all solenoid valves.
If the milker is available, a "milk removal" cycle is proposed, just as it is described by the paragraph "power on".
The and STOP buttons may be unavailable or change their position, according to the models/versions (**layouts**).

DISPENSING FRESH MILK FOR WHITE COFFEE

The machine can be equipped with a device intended to dispense fresh milk automatically (milker) in alternative to steam.
The draft tube of fresh milk can be mounted in alternative on the right side or on the left side of the machine.
If you open the steam solenoid valve for a programmable time interval (cc dose), vacuum is created in the milker and fresh milk is aspirated. On some models you can use an air regulator to define the quantity of milk froth and a flow regulator to adjust the milk temperature.
The milk dose can be set up from the menu.

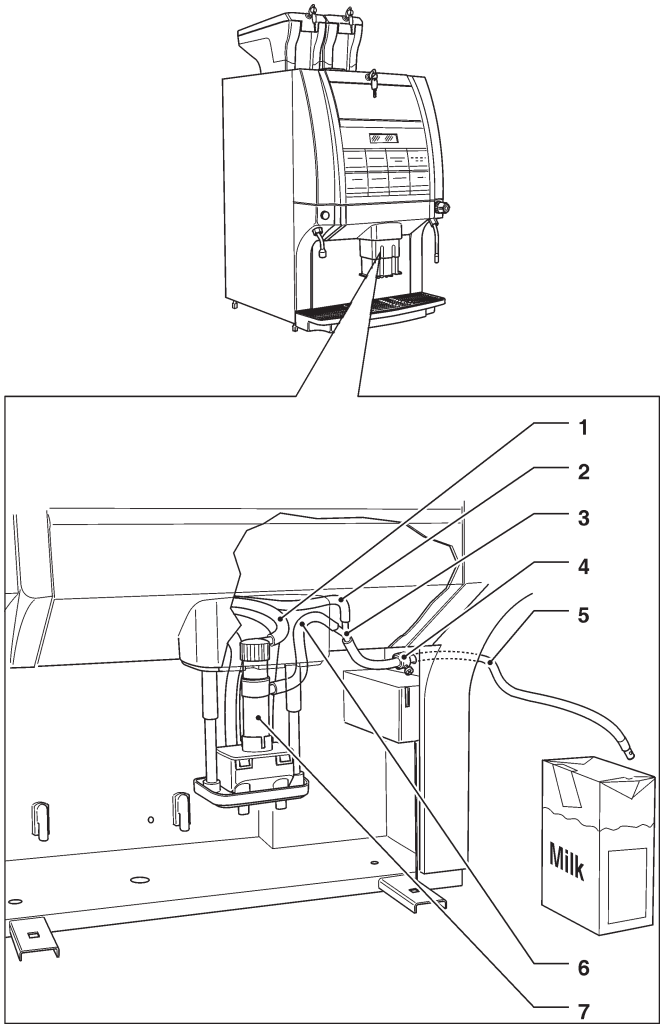


Fig. 21

1 - Steam inlet
2 - Washing water inlet
3 - Y-connection
4 - Flow regulator (temperature)
5 - Fresh milk suction tube
6 - Milk inlet
7 - Milk dispensing nozzle (milker)

DISPENSING STEAM

The machine can be equipped with a cock intended to dispense steam, in alternative to the device intended to dispense fresh milk (milker)
Open the cock (see fig. 20) on the front panel manually.
The dispensing time and flow rate are adjusted manually.
The water level in the steam boiler is controlled by a level probe intended to operate filling pumps.

DISPENSING HOT WATER

Press the button (see fig. 20) to dispense a programmable dose of hot water.
Press the same button to stop the dispensing cycle in progress.
However, the dispensing cycle is automatically stopped with reference to the dose you have programmed.
You can also hold down the key intended to dispense hot water. In this case, release the button to stop the cycle.

Note: The hot water that is being dispensed is taken mainly from the steam boiler and partially directly from the corresponding pump.

If you add cold water and mix it with boiling water, this will prevent steam and water jets coming out of the dispensing nozzle.
The water temperature at the outlet is not adjustable.

VARIABLE-CHAMBER COFFEE UNIT

COFFEE DISPENSING CYCLE

After having powered on the machine, the coffee unit will perform two complete rotations at the first selection before performing a normal cycle in order to make sure that the device is put into the initial position.
If you request for a coffee-based selection, the grinder will work for the time required to fill in the brewing chamber with the coffee dose set up via software.
After having reached the dose of ground products, the ratio-motor engaged on the crank (11) of the unit will turn by 180°, thus causing the brewing chamber (8) to swing (see fig. 22).

The pump is started. As a result of the water pressure, the upper piston (5) will move down just as required to close the brewing chamber and to compress ground coffee slightly. You can avoid compressing coffee mechanically on the selections using high coffee doses.
The pre-brewing cycle (water delivery and wait time) is started with programmable values.
The dispensing valve will open to enable the pump to force the boiler water onto the coffee for the brewing cycle.
At the end of the dispensing cycle, the purge valve will open and the coffee dose is slightly compressed to discharge residual water through the 3rd way of the dispensing solenoid valve. The purge solenoid valve will open to depressurise the upper piston.
As soon as the rotation of the ratio-motor is completed (see fig. 23), this will cause the rocking lever (5) to lift up the pistons and the dose.
While the brewing chamber is returning to the vertical position, the scraper on the coffee funnel will prevent the used dose from moving and cause it to fall down.
The lower piston will return to the top dead centre.

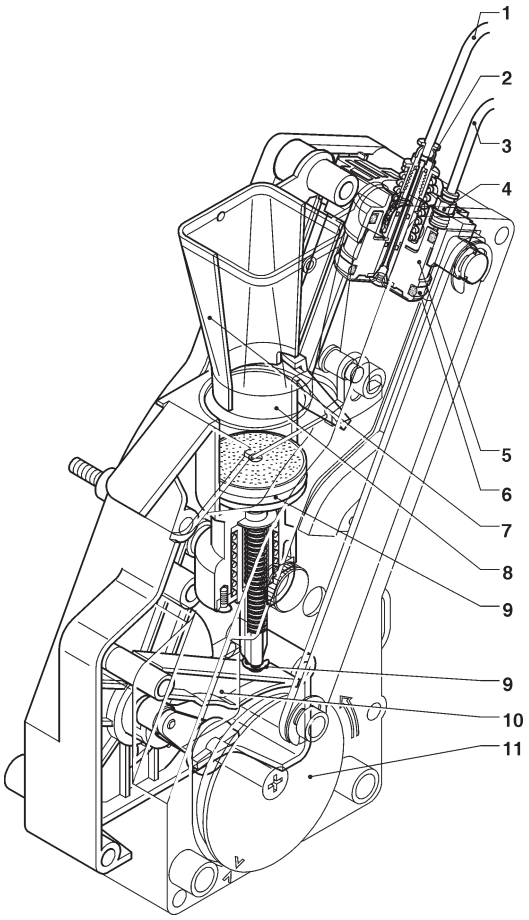


Fig. 22

1 - Boiler connection tube
2 - Central quick coupler
3 - Upper piston pressurisation tube
4 - Lateral quick coupler
5 - Upper piston
6 - Upper piston gasket
7 - Coffee funnel
8 - Brewing chamber
9 - Lower filter
10- Rocking lever
11- Crank

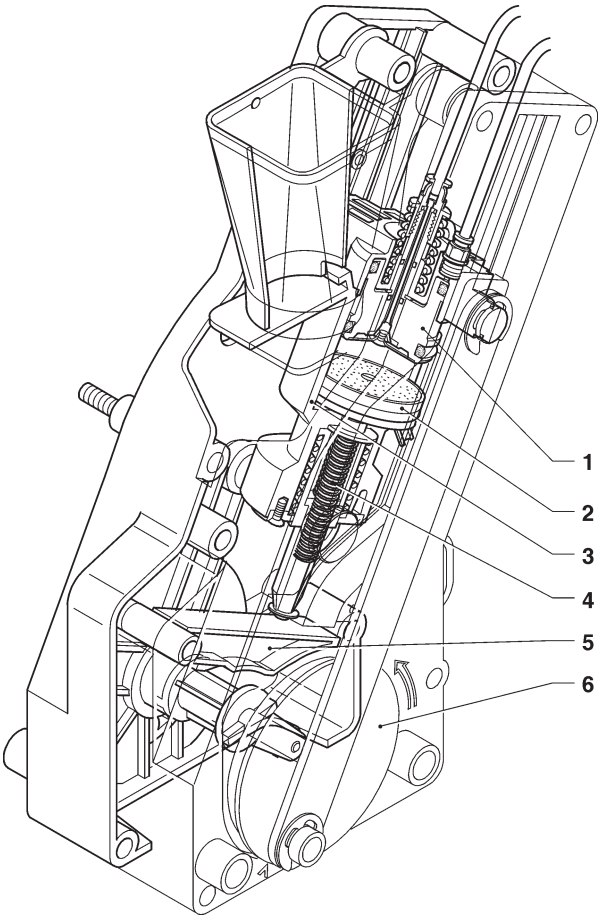
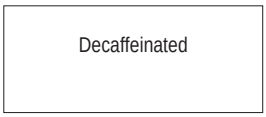


Fig. 23

1 - Upper piston
2 - Lower filter
3 - Brewing chamber
4 - Filter return spring
5 - Rocking lever
6 - Crank

DECAFFEINATED DISPENSING CYCLE

When the machine is supplied, the ground coffee flap is locked.
As required by the location, you may decide to unlock the door in order to be able to pour decaffeinated coffee or alike manually.
It is necessary to avoid pouring any other type of products.
A magnet arranged on the decaff coffee flap will signal to the machine that the door has been opened. Signalling will occur through a sensor arranged on the door
The "decaffeinated reset" button shall be arranged on the keyboard to enable the user to manage the decaffeinated cycle.



The following message will flash on and off on the display:

The selections based on decaffeinated coffee are dispensed without operating the grinder.
The dispensing cycle is the same as the one for espresso coffee.
If you press the "decaffeinated reset" key before dispensing, you will cancel the "decaffeinated" preselection. The machine will rotate the brewing unit and restore its normal operation.

CHECKING AND REGULATING THE SETUPS

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

The used coffee dose must be slightly compressed and moistened.

The granulometry of ground coffee.

The coffee dose of products.

The temperature of drinks

The water dose.

If it is necessary to vary the setup, act as it is specified by the following paragraphs.
The coffee dose of products, the water dose and the temperature are directly checked from the microprocessor.
To vary them, please follow programming procedures.

STANDARD SETUPS

The vending machine is supplied set up as follows:

- coffee temperature (on the nozzle) about 70-80°;

- soluble temperature (on the nozzle) about 70-80°;

The standard setup of the vending machine will combine all the selections with the same price supplied by the selection dose table.

WATER TEMPERATURE REGULATION

The temperature of coffee and instant boilers is controlled by the software and it can be directly regulated from the menu.

STEAM BOILER TEMPERATURE

The water and steam temperature in the boiler is indirectly determined by the pressure switch intended to control the boiler pressure.
If the temperature is set to 124-127°C, pressure will be equal to 0.13 - 0.15 Mpa (1.3 - 1.5 bar).

GRINDING DEGREE REGULATION

If it is necessary to change the grinding degree, act on the corresponding coffee-grinder knob (see fig. 24) and more precisely:

- turn counterclockwise to obtain a coarser grinding degree;

- turn clockwise to obtain a finer grinding degree.

It is recommended to vary the grinding degree during the operation of the coffee-grinder motor.

Please Note: after having changed the grinding degree, make at least 3 selections to check the new granulometry of ground products more carefully:

the finer the grinding degree, the longer the time required to dispense the coffee drink and viceversa.
After the regulation, please check the quantity of ground coffee that may slightly vary.
The regulation knob can be easily removed from the grinder to avoid unintentionally varying the grinding degree.
The knob shall be kept in the proximity of the machine for any subsequent operation.

COFFEE DOSE REGULATION

A sensor is arranged on the grinder to count the rotations of the grinding wheels.
This will enable the software intended to control the machine to establish the number of turns and, therefore, the number of coffee grams associated with every single selection.
Follow the programming procedures to establish how many grams of ground product shall be associated with every single selection.
Please Note: before programming the coffee doses, please use the ingredient motor setting to define the flow rate in gr/s.
To take the dose, just remove the coffee unit and select the corresponding item from "Special functions" of the "Technician" menu (see the relative paragraph).

Important!!!

To reassemble the coffee unit, pay great attention when positioning the piston.

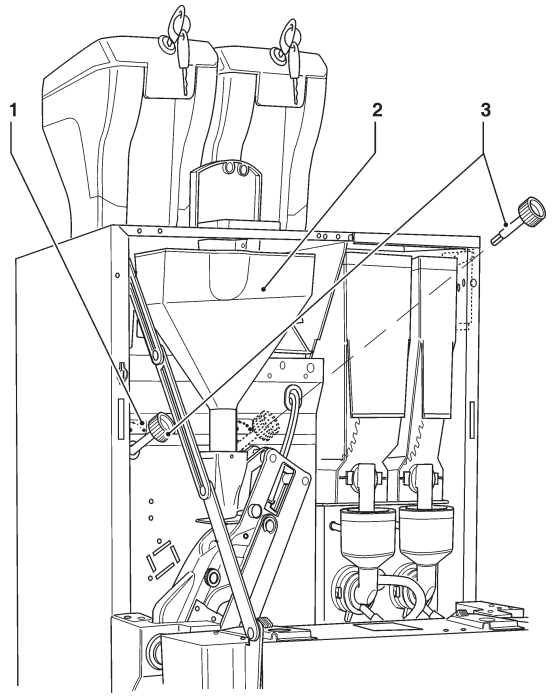


Fig. 24

1 -Grinding degree plate
2 - Coffee slide
3 - Extractable knob for grinding regulation

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). A dose table is supplied with the machine. It is intended to describe the various functions and layouts made available for the specific model and the flow chart of the programming menu.
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, Flash, 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.

POWER ON

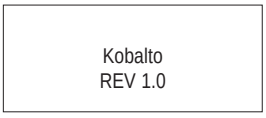
If the machine is complete with a device intended to dispense fresh milk (**milker**), the milker cleaning sequence will appear on the display whenever you power on the machine.
The following message will appear:

You can confirm the operation by pressing the "↵" key or cancel it by pressing another key. All the next operations will require the operator to act manually and they shall be confirmed. They are listed here below in sequence:

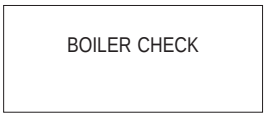
- Pour the detergent;
- Detergent cycle;
- Pour some water;
- Clean cycle.

If the machine is not equipped with a milker, the sequence is not proposed.

After having completed the power on cycle, the software release number will appear on the display.



You can programme the machine to display the number of dispensing cycles you have performed for some seconds.
A check is performed on espresso boilers.



The following message will appear on the display after some seconds:

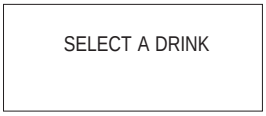
OPERATION STATES

The machine can work in three different operation states.
The keyboard buttons may assume different functions, according to its operation state.
Possible states are listed here below:

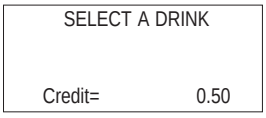
	FUNCTIONS
Normal operation mode	coin acceptance dispensing of selections
Filler menu	test dispensing V.M. maintenance
Technician menu	programming of the various parameters

NORMAL OPERATION MODE

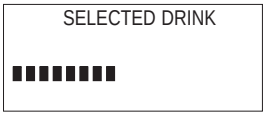
The message requiring the user to select a drink will appear on the display during the normal operation.



The key function will vary according to the layout and the choices you have made during programming.
If you insert some coins or a payment system, the credit still available will appear on the display.



A status bar indicating the drink preparation level is also displayed on dispensing.



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

SELECTION NOT AVAILABLE

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

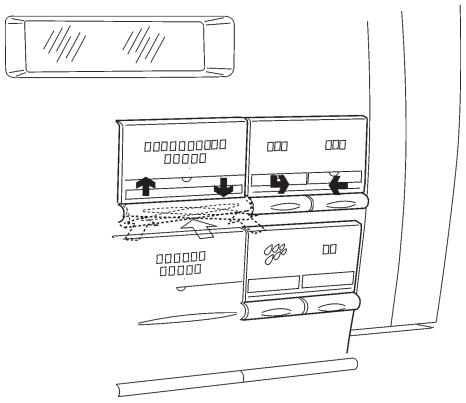
DRINK READY SERVE YOURSELF

NAVIGATION MODE

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

- Liquid crystal display (LCD) 2 lines per 16 characters.
- External direct-selection pushbutton panel that will assume the following functions in the "Filler" and "Technician" mode (see fig. 25):

Fig. 25



Scrolling keys "↑" and "↓" :

used to move to the previous or next menu option and to change the values (plus and minus).

Enter key "↵":

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

Exit key "←":

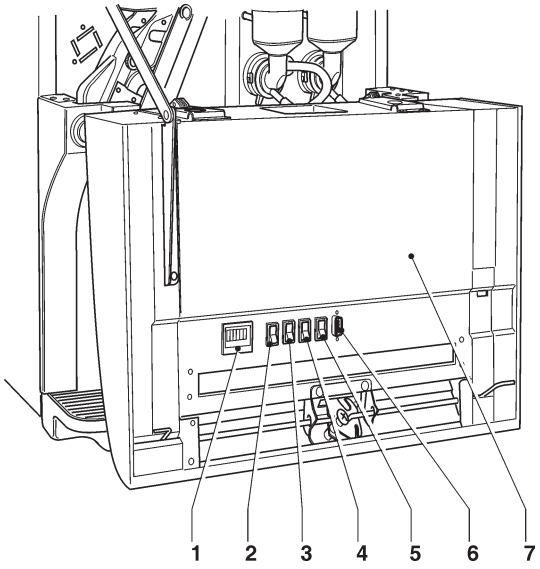
used to go back from a sub-menu to a higher level menu or not to confirm the data item that is currently active.
It is also used to move from the "Technician" mode to the "Filler" mode and vice versa.
If the door is open, the presence of the decaffeinated door magnet can not be properly detected.
The active menu function is displayed after the number, on the first line of the display.

FILLER MENU

Press the programming button on the coin mechanism compartment once to set the machine to the "filler menu" mode.

Fig. 26

1 - Mechanical counter
2 - Switch for service interruption
3 - Failure reset button
4 - Programming button
5 - Washing button
6 - RS232 serial port
7 - Board cover



The display will show the first "filler" menu item and a series of numbers that will enable the user to find out the current menu level.
Press the Enter key "↵" to access the menu.
Press the Exit key"←" to go back to the previous menu.

FILL> STATISTICS

↵ ←

FILL> Print statistics

↑ ↓

FILL> Display statistics

↑ ↓

FILL> Reset statistics

STATISTICS

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

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 statistics.
The machine information as well as the software date and release are also printed.
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

Display

Press the Enter key "↳" to sequence-display the same data you can obtain for total and relative counters by printing statistics.

Delete

Statistics can be reset for relative counters in a global (all types of data) or selective way, i.e. for:

- selections
- failures
- coin mechanism data

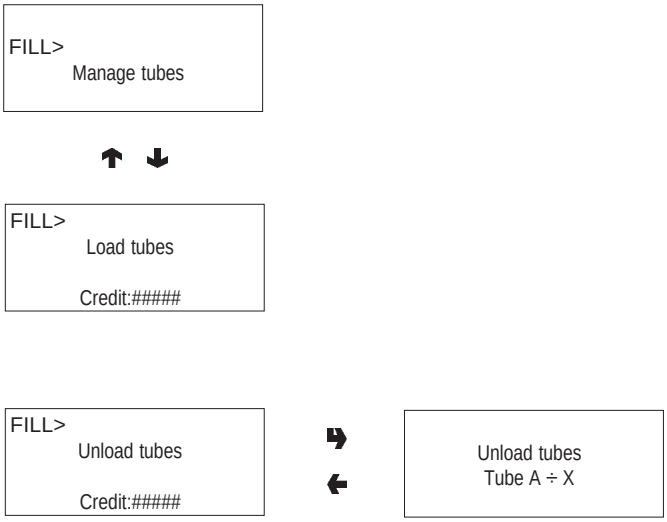
Press the Enter key "↳" to display the request for confirmation "Do you confirm?" flashing on and off.
Press the Enter key "↳" to display the "Execution" message for some seconds and to reset statistics.

SELECTION PRICES

Use this function to vary the sales price for every single selection and for every time band you may have set.

MANAGEMENT OF CHANGE TUBES

Access the function "Manage tubes" to load or empty the change tubes manually.
If you confirm loading, "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 unloading, 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.

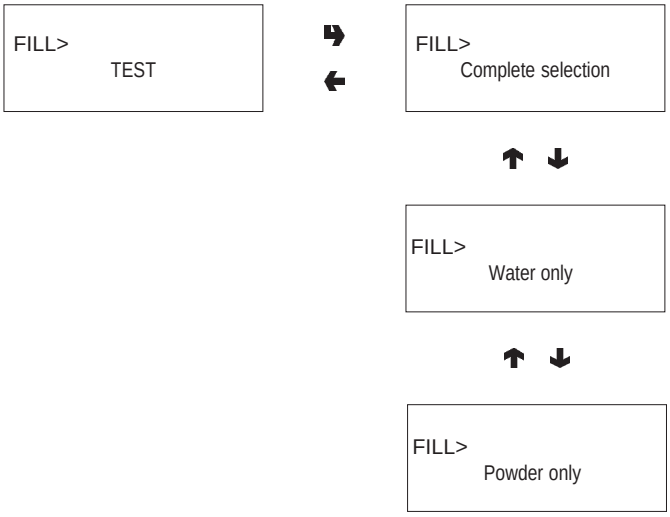


TEMPERATURE DISPLAY

Use this function to read the boiler temperature directly expressed in °C.

TEST DISPENSING

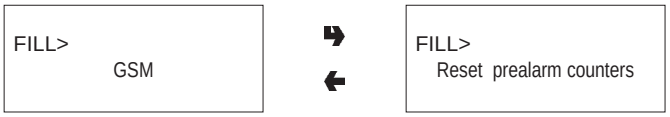
Every single button (or combination of keys according to the models) will operate the relative selection for complete or partial test dispensing (water, powder, water, only and without accessories) (see the selection dose table).



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. "

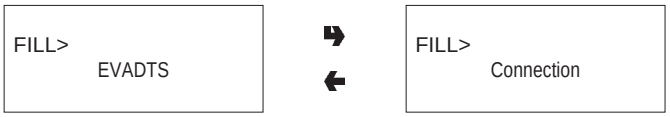
GSM PREALARMS

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



FILLER MENU MASKING

The functions described by this chapter can be selectively disabled by the "technician menu".

TECHNICIAN MENU

The main 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, Flash, Upkey etc.). As a consequence, the content of this chapter shall be understood as merely indicative.
For more information and explanations in details refer to the selection dose table supplied with the machine.
Please make reference to the revision number appearing on the display as soon as you power on the machine.
Press the programming button on the coin mechanism compartment once to set the machine to the "filler menu" mode.
Press key "🡐" in the "Filler" mode to set the machine to the "Technician menu" mode.

Note:

press key "🡐" in the "Technician" mode" to restore the "Filler menu" mode for the machine.
The display will show the first programming menu item intended to fulfil the following functions:

FAILURES

The machine is equipped with several sensors intended to control the various functional units.
As soon as a malfunction is found out, a failure is "declared" and the machine (or part of it) is set out of order. The failure is 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.
Expected failures are highlit in the following cases:

No water

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

Solid waste container full

The machine is intended to disable coffee-based selections after having reached the number of selections you have established.

Air - break

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

Volumetric counter

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

Instant boiler

The machine stops if the instant boiler 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.

CAN-BUS board

No communication between the C.P.U. board and the canbus board (FB unit management, some models only).

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 (Executive protocol) or 75 (BDV protocol) seconds.

Machine lock

The machine stops if it has reached the number of selections you have set up by means of the "selection counter" function.

Coffee dispenser

Coffee-based selections are disabled if the doser microswitch should signal the presence of coffee in the doser chamber after having dispensed the dose of ground products.

Espresso unit

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

Empty coffee

If the function is enabled from the programming menu, the "Pour coffee" message will appear on the display if the grinder should exceed the grinding speed for over 5 seconds.

Grinder lock

If the grinder is not rotating or it is rotating too slowly, the relative espresso coffee selections are disabled. The selections based on decaffeinated coffee will remain available.

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

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

Fresh brew piston 1

It is due to a positioning error of the unit (piston opening time > 8 seconds). The machine is not locked, but the selections based on fresh product are disabled.

Fresh brew scraper 1

It is due to a positioning error of the scraper (movement time > 6 seconds).
The machine is not locked, but the selections based on fresh product are disabled.

Fresh brew piston 2 / Fresh brew scraper 2

Just as unit and scraper 1 if the second brewing unit is mounted.

Coffee dispenser 2 - Empty coffee 2

Just as coffee dispenser and empty coffee for the second doser (optional).

Grinder lock 2

Just as grinder lock 1 (optional).

Espresso lock

The machine stops if the number of coffee selections you have separately set by means of the "selection counter" function is reached.

Instant lock

The machine stops if the number of instant selections you have separately set by means of the "selection counter" function is reached.

Empty steam boiler

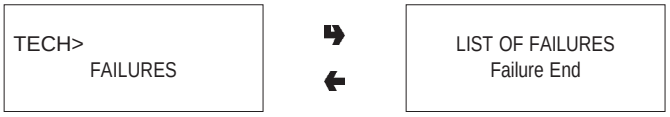
The machine will not dispense the selections based on milk or hot water if the presence of water is not signalled in the steam boiler. The boiler heating is disabled.
If the steam boiler should fail to reach the temperature 30 minutes after the power on or 10 minutes after the last selection, milk-based selections will be locked.

Steam pressure switch

The machine will dispense no milk-based selection if no pressure is signalled in the steam boiler.

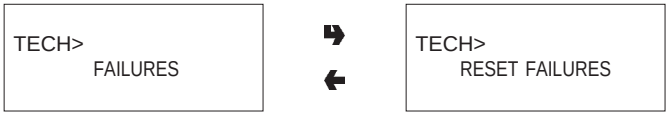
READING CURRENT FAILURES

When the "Failures" function is displayed, 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.



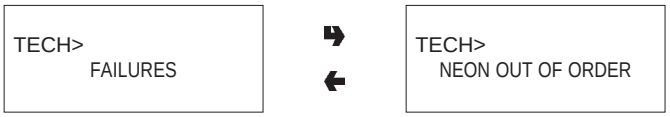
RESET

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



EXTERNAL LIGHTING

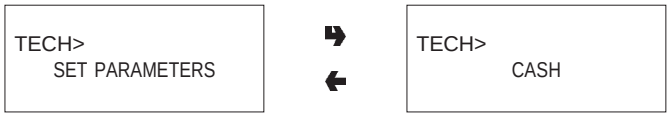
You can define whether to power on or off the lamps intended to illuminate the external panels (optional) when the machine is out of order or in case of "service interruption".



PROGRAMMING PARAMETERS

CASH

This group of functions is intended to manage all the parameters relative to the payment systems and sales prices.



Selection prices

For every single selection it is possible to set five different prices, the operation of which will vary according to the time bands, if enabled.
Prices can be programmed (from 0 to 65,535) globally (the same price for all selections) or on a selection basis.
Since most products shall be sold at the same price, it is advisable to program the price globally and to change the price of the selections having a different sales price.

Time bands

Four programmable time bands are arranged for the sale of products at different prices.
Time bands can be programmed by hour (from 00 to 23) and by minutes (from 00 to 59), at the start and at the end.
If the start-of-band and end-of-band values are equal to 00.00, the band is disabled.
The reference time is supplied by an internal clock that can be programmed by:
day/month/year week-day 1-7
and then
hour/minutes/seconds.

Coin mechanisms

It is possible to decide which is the protocol you wish to enable for the payment system and which are the functions you wish to manage.
The following payment systems are available:

- OFF = no system (free sale)
- Executive
- Validators
- BDV
- MDB

If you choose one of the systems, you can manage its functions.

Executive

The following payment systems are arranged for the Executive system:

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

Validators

Whenever the display shows the "Validat. Lines" function (line programming) of the "programming" menu, you can change the value of the 6 validator coin lines from A to F.

BDV

The BDV protocol menus will enable the user to define the following functions.
Type of sale
Change refused
Maximum credit
Maximum change
Coins accepted
Coins not accepted
Dispensing buttons
"exact amount" value
C.P.C. peripheral unit
Minimum tube level

MDB

The MDB protocol menus will enable the user to define the following functions.
Type of sale
Change refused
Maximum credit
Maximum change
Coins accepted
Coins returned
Banknotes accepted
Minimum tube level
Coins accepted with “exact amount”

FUNCTIONS SHARED BY ALL SYSTEMS

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.

Decimal point

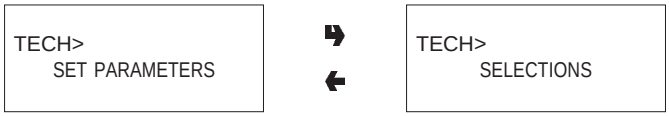
Press the Enter key "↵" to display the position of the decimal point, i.e.:

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

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

SELECTIONS

The selection menu is composed by various sub-menus that enable the user to set the various parameters relative to the composition of selections and their association to keys



Water dose

For every single selection key you can set the water dose (expressed in cc - FB - IN or "wheel strokes" ES according to models) for every single product composing the selection.

Management of mixers

For every single selection key 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 opening time of the solenoid valve. The duration of the mixing cycle is set in tenths of a second for instant models and in volumetric counter pulses for espresso models.

relative

i.e. by way of difference, either in excess or in default, compared to the closing time of the solenoid valve. The duration of the mixing cycle is always expressed in tenths of a second.

Solenoid valve setup

You can set (IN - FB - Milker) the flow rate value of every single solenoid valve in cc/s (the cc/s value set by default is supplied by the selection dose table) to enable the user to calculate the cc that shall be dispensed.

Dripping time

It is intended to define the interval of time between the end of the dispensing cycle and the sound signal:

Step water

It is intended to set up a step water dispensing cycle to adjust to the times and to the flow rate of solenoid valves on instant models. Intermittence is programmable on a percentage basis with reference to every single dispensing second.

Pre-brewing

It is intended to set up the water dose and the wait time before brewing.
Moreover, you can disable the compression of a coffee dose for every single selection.

Nozzle hot water

It is intended to set up the time required to dispense hot water from the corresponding nozzle.

Powder dose

For every single selection key you can set the powder dose expressed in grams for every single product composing the selection.

Powder cycles

Use this function to set up the number of steps or the decaffeinated cycle necessary to dispense powder for every single instant selection in order to improve the drink presentation.

Doser setup

For the correct conversion of the product dose values, you can set the flow rate value of every single doser in gr/s to enable the user to calculate the grams that shall be dispensed.

Global powder doses

Use this function to vary a well-defined powder dose on all the selections it is associated with.

Selection status

For every single selection key you can define whether to enable it or not.

Selection-key

It is intended to associate a selection number - as it appears in the selection dose table - with a key of the pushbutton panel.

Double key

You can combine two keys with one single selection, according to the model and the external pushbutton panel.

Selection no. check

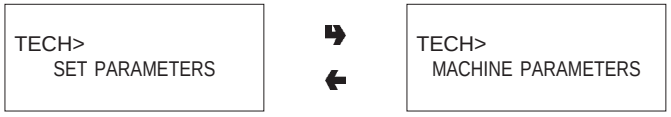
You can check the selection number associated with a key or a couple of keys.

Product code

It is intended to associate a 4-character code with every single selection for the purpose of managing statistics.

VENDING MACHINE PARAMETERS

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



Boiler temperature

Use this function to set the operating temperature, expressed in °C, of the boilers actually available on the machine.
Press the Enter key "↵" after having selected the boiler on which you wish to act. The temperature value will flash on and off and it can be modified.

Tank

The unit can be supplied with water from the mains or from an internal tank. You can also use two tanks at the same time for some applications.
Use this function to define whether the unit is supplied from the mains (tank = 0) or from the tanks (tank = 1 or 2).

Washing key enable

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

Rapid cycles

Enable this function to eliminate some time intervals necessary for a better drink quality;

- "post mixing" time intervals are eliminated.

For espresso-based selections

- ground products are not pre-brewed.

Water filter counter setup

You can display the "Replace the water filter" message after a programmable number of dispensing cycles. If it is set up in the programming menu, you can reset the message by entering a password after having replaced the filter when the door is closed.

Automatic 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).

Energy saving

Function used to power off the heating of boilers and/or the lights for external lighting in order to save electric energy whenever the machine is not used.
2 power-off time bands can be programmed on a weekly basis. The days of the week are identified by a progressive number (1= Monday, 2= Tuesday, etc.).
The same time band can not include days of different weeks.
If you should mistakenly set up overlapping time bands, the machine will remain on for the shortest period.
For example, if you wish to set up the energy saving time bands to operate the machine from 07.00 a.m. to 10.00 p.m. during the days of the week and to let it off on Saturdays and on Sundays, you shall set up the time bands according to the following table by using the corresponding menu.

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

Decaffeinated cycle

Enable this function to dispense the soluble coffee powder (if available) in two cycles in order to improve the drink presentation.

Equipped cabinet

Enable this function to manage the water level signaller as unavailable and to disable the coffee grounds counter.
The float and the coffee grounds collection functions are performed by the devices in the cabinet.

Pre-grinding

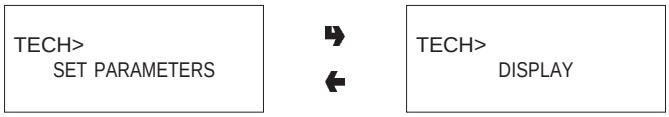
Function not managed on these models.

Selection counter

Use this function to lock the machine after a programmable number of coffee dispensing cycles and after a programmable number of soluble dispensing cycles. As an alternative, you can lock the machine after a programmable number of dispensing cycles.
Since it is a control device that can be used by the Manager only, enter a 5-digit password to have access to it.
After having entered the password, you can set the number of dispensing cycles, after the performance of which the machine is locked, read the number of dispensing cycles you have already performed and reset the lock counters.
Please Note: Counters are set to zero by default;
If the counters are set to zero, this function is not active.

DISPLAY

This group of functions is intended to control all the parameters relative to the display.



Language

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

Second language setup

Use this function to decide whether to display or not the messages in a second language among those available. Messages will be displayed alternately to those in the main language.

Promotional message

You can define whether to display the message or not. The 2-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.

LCD contrast regulation

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

PRESELECTIONS

Use this function to act on the selection-associated preselections available on a specific model and layout.

For every single preselection you can decide whether to enable it or not, the key for association, the change in the selection price and the change percentage of the product dose.

MISCELLANEOUS

This menu is gathering some less-frequently-used functions relative to the parameters of the machine.

Fresh brew unit data

You can set up the brewing time, the drying time of the used dose and the extraction pressure for the Fresh Brew unit.

Jug Facilities

You can obtain a number (programmable from 1 to 9.5 by default) of selections in order to fill in a jug.

Programming password

It is a 5-digit numeric code required to access the programming mode.
This code is set to 00000 by default.

Password enable

Used to enable or disable the function requiring the user to enter the password for access to the programming mode. The password request is disabled by default.

Counter reset password

Function used to set the password you shall type in the normal operation mode (door closed) to reset the selection counters.
If the password is set to zero, this function is not active.

Multiple dispensing password

Function used to set the password you shall type in the normal operation mode (door closed) to dispense several selections in consecutive mode (jug facilities). The function is disabled at the end of the selection.
If the password is set to zero, this function is not active.

Free sale password

Function used to set the password you shall type in the normal operation mode (door closed) to activate the Free-Vend function.
The function is disabled at the end of the selection.

Key lock password

You can set up the password that shall be typed in normal use (when the door is closed) to activate/ deactivate the keyboard lock.
"SERVICE INTERRUPTION" will appear on the display during the lock.
This function is not active if the password is set to zero.

Washing password

Function used to set the password you shall type in the normal operation mode (door closed) to wash the mixer.

Test selection password

You can set up the password that shall be typed in normal use (when the door is closed) to access the maintenance/programming mode and to perform test selections.
To go back to normal use, switch from the FILL to the TECH area and vice versa for three times.

Filter reset password

Use this function to set up the password necessary to reset the "Replace the water filter" message when the door is closed and to reset the corresponding counter after having replaced the filter.

Waste counter reset password

Use this function to set up the password necessary to reset the selection counters for the "Empty the waste tray" lock.

Filler menu enable

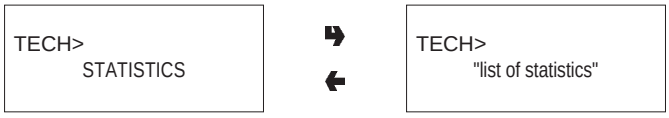
Function used to establish which options of the filler menu shall be enabled and which of them shall be disabled.
The reference numbers of the menus do not change even if some of them are disabled.

Automatic Espresso washing

Use this function to set up the time at which a washing cycle (rotation and water delivery) is performed for every single unit that has been mounted.

STATISTICS

The operation data of the machine are stored in general and relative counters that can be reset without losing total data.



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.

General displays

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

1 - counter by single selection;

2 - counter by band;

3 - discount counter;

4 - failure counter;

5 - coin mechanism data.

General reset

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 "Execution" message for some seconds and to reset statistics.

Relative displays

Press the Enter key "↵" to display the data you have stored in sequence, subdivided just as general statistics.

Relative reset

Statistics can be reset either globally (all types of data) or selectively, just as general statistics.

Enabling the electronic counter at 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, while you are powering on the machine.

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 "statistics display" paragraph.The machine data as well as the software date and release are also printed.
Statistics can be printed either partially or totally.
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

TEST

Use this group of functions to perform some checks on the machine.

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

Special functions

Access the function to act as follows:

Unit turn

- operate the brewing units (espresso and Fresh brew) you have actually mounted;

Dose dispenser

- dispense a dose of ground coffee or fresh brew; press the Enter key "↵" to store the dose:

Boiler discharge

- discharge water from the air break and open a solenoid valve to let air flow in if boilers are emptied for maintenance purposes

Manual installation

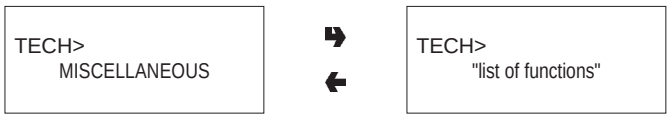
- manual installation of boilers (the water circuit is filled in);

Autotest

Function used to check the operation of the main components of the machine half-automatically.
Press the key "↵" to display the "AUTOTEST" message flashing on and off.
Press the key "←" to stop the operation. Press the key "↵" to start the autotest cycle.
Some checks occur automatically, others require the manual operation of the checked component.

MISCELLANEOUS

This menu is including some less-frequently-used sub-menus enabling the user to manage the functions described here below.



Machine information

Installation date
Function used 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
After having displayed the "Machine Code" function, you can change the 8-digit numeric code identifying the machine (0 by default).
Programming the manager code
After having displayed the "Manager Code" function, you can change the 6-digit numeric code identifying groups of machines (0 by default).

Initialisation

After having displayed the "Initialisation" function, you can initialise the machine by restoring all default data. 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.
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 = 45 cc - FR coffee = 80 cc). The "countries" made available vary according to the 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 - through the network
1 - by means of an internal tank
2 - by means of two internal tanks
Confirm the options to display the "Execution" message for some seconds.

"Steam boiler" ON/OFF

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

Please Note: As soon as you power on the new machine for the first time or, any way, after the initialisation, the type of (three-phase / single-phase) power supply in use will be proposed.
Press "↓" and "↑" to scroll the options and press the "↵" key to confirm the choice.
If you fail to initialise the machine, the request will be no longer made.
However, you can change it by holding the CPU board button down (see fig. 40) whenever you power on the machine.

EVADTS CODES

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:

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.
Press the Enter key "➧"to display the code as "0000", not depending upon the actual value. If you press the modification key "🡐", the first digit will flash on and off.

Press the scrolling keys to modify its value (the value is visible while you are modifying it).
If you press the Enter key "🡐", the next digit will flash on and off.
If you press the Enter key "➧" after having modified the fourth digit, the value is stored and the display will show "0000" once again.

SECURITY CODE

It is a further alphanumeric code for mutual recognition between the machine and the EVADTS terminal.
Programming is operating just as for the "Pass" code.
Connection
Function used to enable the machine to wait for connection in order to recall data.

EVADTS CONNECTION

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

UP KEY

SETUP MANAGEMENT

Up key -> Vending Machine

Confirm this function after having inserted the Up key into the plug on the C.P.U. board to select the setup file from the list on the display by means of the scrolling keys. Press the Enter key to load the setup you have selected on the vending machine.

Vending Machine -> Up key

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 setup file with the same configuration currently available on the vending machine. Please specify the name you wish to assign to the file (e.g.:Max000.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.

STATISTICS MANAGEMENT

Vending Machine -> up key

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.:Max000.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

The control software can signal via GSM modem that the machine is faulty or send a "prealarm" or "ending product" message after having dispensed a given (programmable) number or quantity of a well-defined product.

The machine provided with a modem can also fulfil "GSM master" functions, i.e. gather and transmit the data from other bank-connected vending machines.

PIN CODE

Function used to programme the SIM board identification code (0000 by default) 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 given product after which an "ending product" prealarm message is sent via modem .

COUNTER RESET

Function used to reset the counters intended to manage prealarms.
Press the Enter key "↵" to reset the values.

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.

Chapter 3
MAINTENANCE

Important!!

The machine is accessed at the back and on both sides in case of extraordinary maintenance and/or repair.
As a consequence, it shall be possible to rotate the machine around itself in order to disassemble the back and the side panels.

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.

If you open the machine door, **the terminal board intended to connect the line cable, the fuses and the interference suppressor** remain anyway live.

Never forget to detach the machine from the electric network 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.

VARIABLE CHAMBER BREWING UNIT MAINTENANCE

The brewing unit must be serviced, even if slightly, every 10,000 dispensing cycles or, any way, every 6 months.
To provide for maintenance, act as follows:

- detach the teflon tube connecting the boiler from the upper piston. Pay attention to avoid losing the gasket (see fig. 27);
- unscrew the knob fastening the unit to the shutter and extract the coffee unit by detaching the dispensing tube.

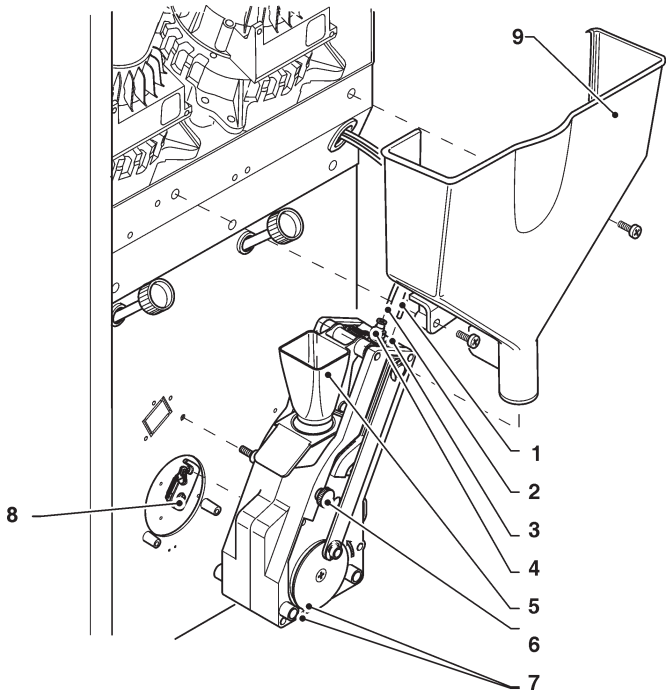


Fig. 27

1 - Boiler connecting tube
2 - Upper piston operating tube
3 - Lateral quick coupler
4 - Central quick coupler
5 - Coffee funnel
6 - Fastening knob
7 - Reference notches
8 - Ratio-motor crank
9 - Coffee slide

Disassembling the upper filter

- unscrew the central quick coupler;
- extract the piston from the crosspiece;
- remove the filter and the gasket from the piston.

Disassembling the lower filter

- disassemble the coffee funnel (see fig. 27);
- remove the snap ring intended to fasten the lower piston;
- remove the piston from the brewing chamber and disassemble the filter.

Dip the components you have removed from the unit into a solution of hot water and detergent for coffee machines for 20 minutes.
Rinse abundantly, let everything dry and reassemble by following the reverse order. Pay great attention on checking the efficiency of gaskets by lubricating them with food grease.

WASHING THE MILKER

The washing cycle shall be performed at least at the end of every single working day and/or according to the utilisation of the system.
If the machine is complete with a device intended to dispense milk (milker), a guided washing sequence is proposed as soon as you power on the machine. Press the "↩" key to cancel it.
All operations are indicated through specific messages on the display.
Press the "↵" key to confirm any message on the display.
The operations that shall be carried out are listed here below:

- "Pour some detergent"
  Insert the suction tube into a container with some thinned detergent according to the manufacturer's instructions and confirm by pressing the "↵" key.
- "Detergent cycle"
  Confirm by pressing the "↵" key. The machine will dispense the quantity of detergent solution that is enough to wash the relative water circuit.
  Confirm by pressing the "↵" key.
- "Pour some water"
  Insert the suction tube into a container with some lukewarm water and confirm by pressing the "↵" key.
- "Clean cycle"
  Confirm by pressing the "↵" key. The machine will dispense the quantity of water that is enough to rinse the water circuit.
  Confirm by pressing the "↵" key.

Please Note. To be sure that the circuit is completely filled with milk, it is necessary to perform at least two test white coffee selections.

However, the milker shall be sanitised at regular intervals.

DISASSEMBLING AND CLEANING MIXERS

The mixers and the conduits intended to dispense soluble 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.
The parts to be cleaned are listed here below:

- dispensing nozzles, dividing nozzle, milker (if mounted) and telescopic nozzle cover;
- disassemble the dividing nozzle and the milker completely (see fig. 28);
- powder deposit drawers, the mixer and the conduit intended to dispense soluble drinks;
- remove (see fig. 29) the powder funnels, the water funnels, the collection boxes, the powder deposit drawers and the whipper motor wheels from the mixers;
- turn the green ring nut counterclockwise to disassemble the water funnel;
  pay great attention to reclose it completely during the reassembly;

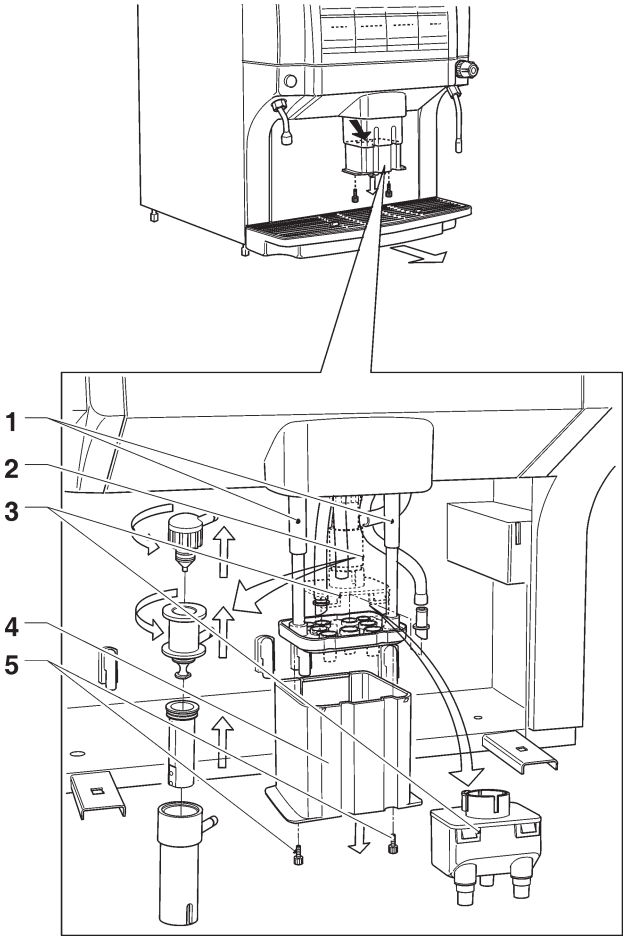


Fig. 28

1 - telescopic nozzle rods
2 - milker (some models only)
3 - dividing nozzles (coffee+milk)
4 - nozzle cover
5 - nozzle cover fastening knurls

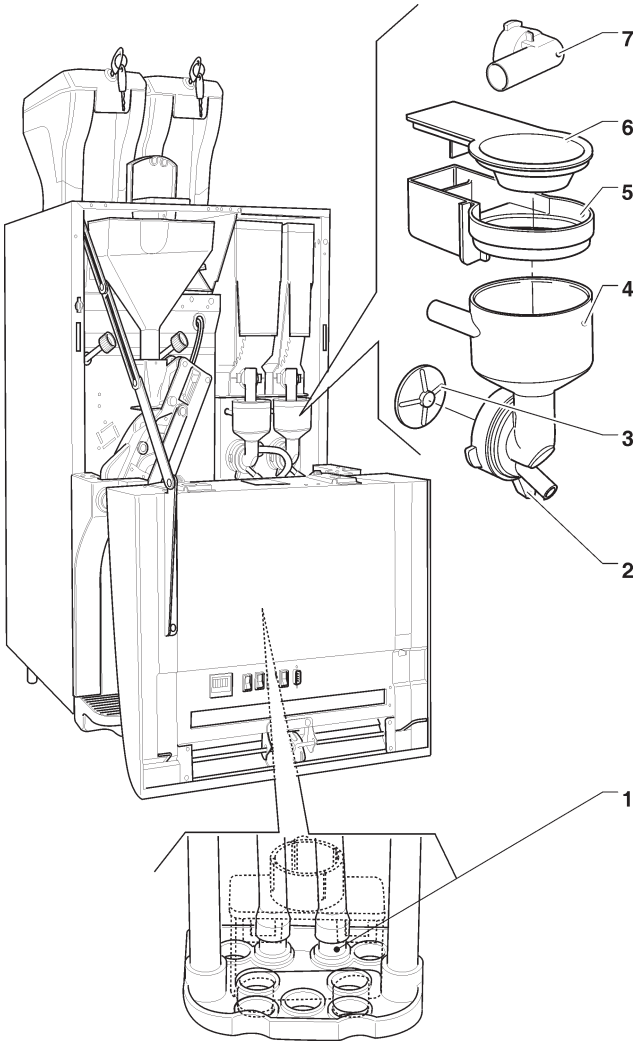


Fig. 29

1 - Dispensing nozzles
2 - Funnel fastening ring nut
3 - Mixer wheel
4 - Water funnel
5 - Powder deposit drawer
6 - Product funnel
7 - Product collection pipette

- to disassemble the wheels, just use a finger (see fig. 30) to lock the disk mounted on the whipper motor shaft, then turn the wheels to unscrew them;

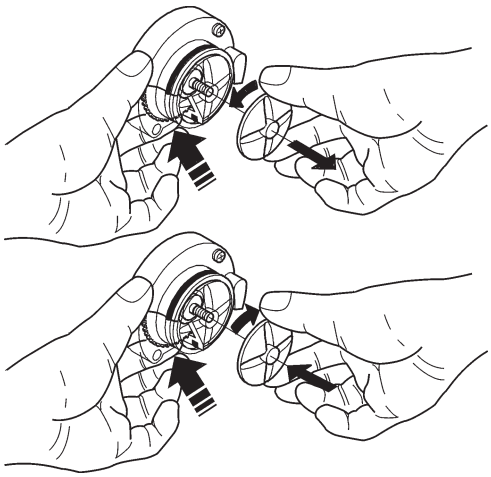


Fig. 30

- wash all the components by using detergents. Make sure that all visible residuals and films are mechanically removed. Use pigs and brushes, if necessary;

Sanitise by making use of sanitising agents.

- 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 dried them.

After having mounted the parts, it is anyway necessary to act as follows:

- pour some drops of the sanitising solution into the mixer;
- rinse the parts in question abundantly to remove any residual of the solution you have used. Use the mixer washing function when the door is closed.

CLEANING AT REGULAR INTERVALS

Clean and sanitise the whole food circuit at least once a year or more frequently, according to the use of the machine and the inlet water quality. To do this, act as described here below.

SANITISING

-all the components in contact with food, including tubes, shall be removed from the machine and disassembled completely;

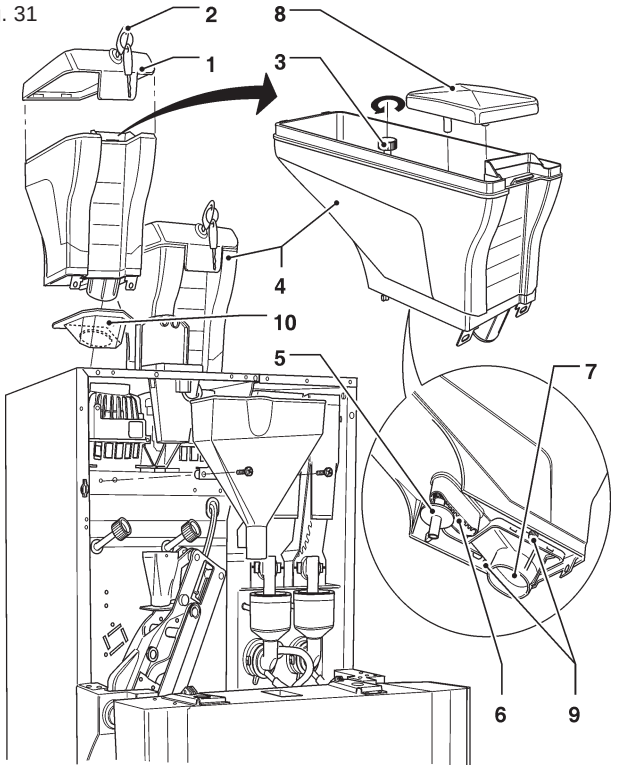
- all visible residues and films shall be mechanically removed by using, if necessary, pigs and scrapers;
- the components shall be immersed into a sanitising solution for at least 20 minutes;
- the surfaces inside the machine shall be cleaned by using the same sanitising solution;
- rinse abundantly 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".

CLEANING COFFEE CONTAINERS

- Close the shutter by turning the knob to the right completely;
- after having opened the door, remove the containers from the machine;
- disassemble the protection inside the grinder entrance of the container by unscrewing the two fastening screws completely;
- remove the gasket from the grinder entrance;

Fig. 31



1 - Container cover
2 - Container lock
3 - Shutter operating knob
4 - Container
5 - Hopper lock gasket
6 - Shutter gear
7 - Container shutter
8 - Container grinder entrance protection
9 - Protection fastening screws
10 - Seal for grinder

- clean all the parts by using a hot water solution and sanitising products and let them dry carefully;

- reassemble everything by acting in the reverse order.

CLEANING THE INSTANT PRODUCT CONTAINERS

- Remove the containers from the machine;

-disassemble the product outlet ports and extract the Augers from the rear side of the container;

- clean all the parts by using a solution of hot water and sanitising agents and dry them carefully.

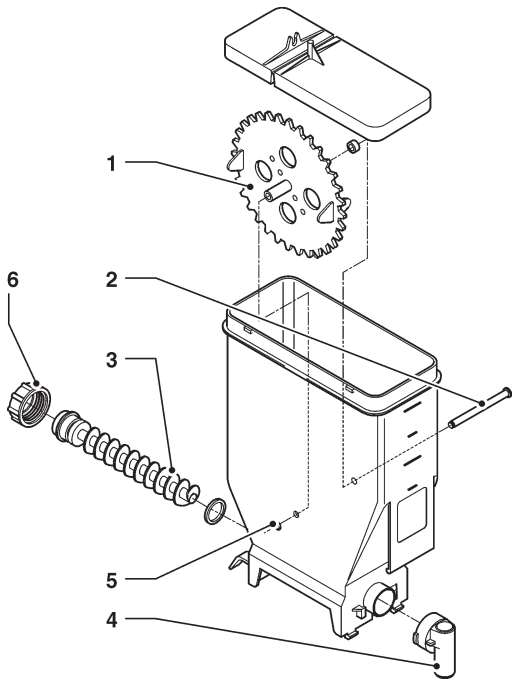


Fig. 32

1 - Wheel
2 - Pin for wheel
3 - Auger
4 - Powder outlet port
5 - Pin fastening clips
6 - Auger fastening ring nut

CLEANING THE STEAM SUCTION CHANNEL

To have access to the steam suction channel, remove the right panel of the machine by unscrewing the fastening screw.
Loosen the fastening knurl and remove the suction channel by detaching it from the flexible pipe.
After having washed and dried it carefully, reassemble it by acting in the reverse order.

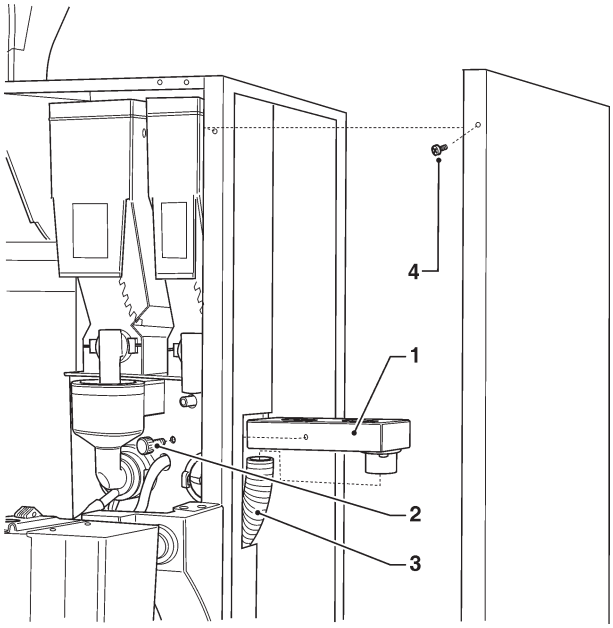


Fig. 33

1 - Suction channel
2 - Fastening knurl
3 - Flexible pipe
4 - Side fastening screw

BOARD FUNCTION AND SIGNAL LIGHTS

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.

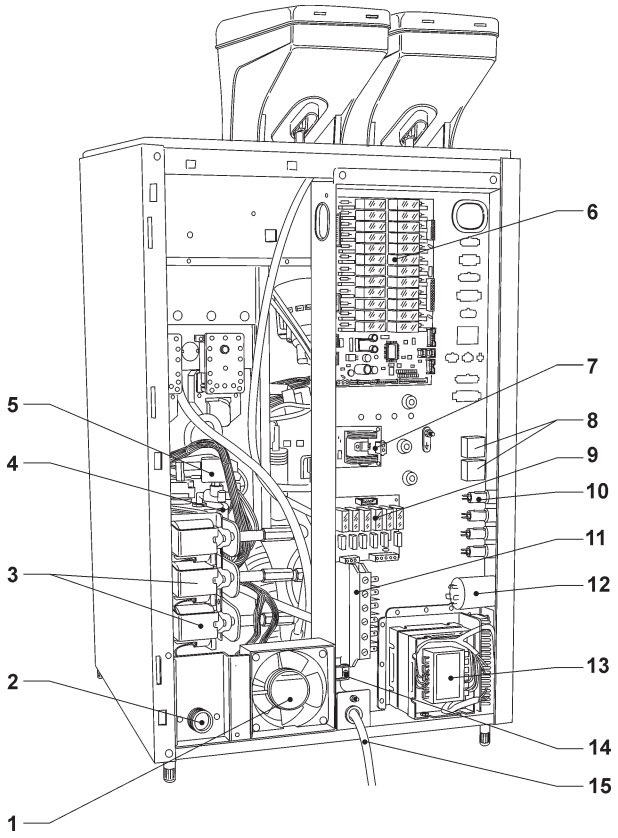


Fig. 34

1 - Fan
2 - Water inlet
3 - Steam boiler filler pumps
4 - Steam boiler
5 - Steam boiler valve
6 - Actuation board
7 - Coffee boiler management board
8 - Steam and/or instant boiler relay
9 - Expansion board
10 - Mains fuses
11 - Line cable terminal board
12 - Interference suppressor filter
13 - Transformer
14 - Cable clamps
15 - Line cable

SOFTWARE UPDATE

The machine is equipped with Flash EPROM's that can be electrically rewritten.
Use a proper program and system (personal Computer, Up Keys or alike) to rewrite the machine management software without replacing the EPROM's.

ACTUATION BOARD

This board (see fig. 36) is intended to activate the 230 V~ users through relays. Moreover, it can manage the signals from the cams and/or microswitches on the various users and control the boiler board.
The board is supplied at 24Vac.
The software intended to manage the board is directly loaded onto the microprocessor (by means of RS232 or UpKey onto the CPU).

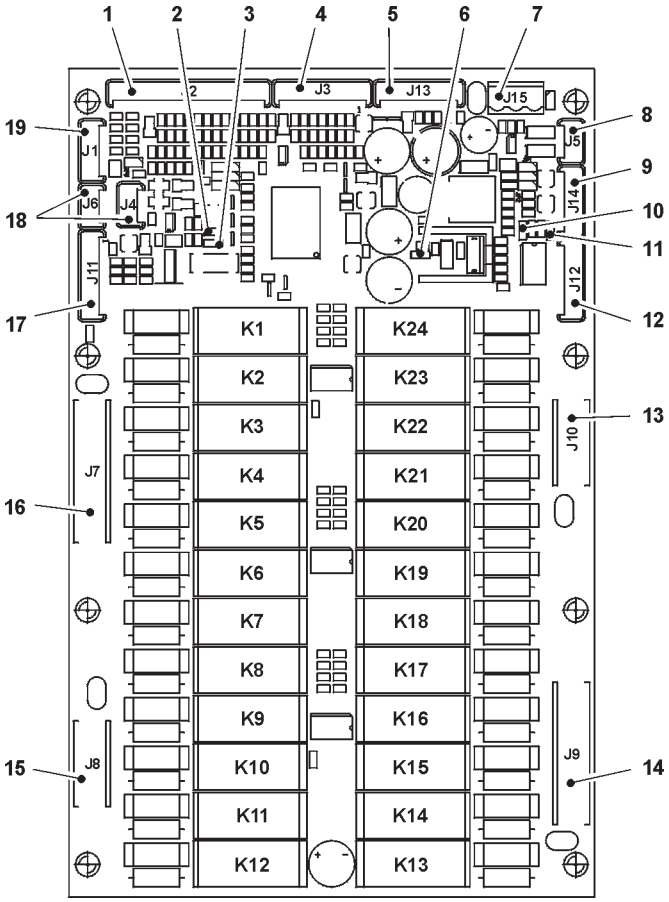


Fig. 35

1 - Input signals
2 - Green LED
3 - Red LED
4 - Input signals
5 - Board programming connector (RS232)
6 - Yellow LED
7 - Board supply (24 Vac)
8 - Not used
9 - Probe and boiler control
10- Coffee boiler heating element red LED (some models)
11- Red LED (not used) (some models)
12- Expansion board connection
13- 230 V ~ users
14- 230 V ~ users
15- 230 V ~ users
16- 230 V ~ users
17- Expansion board connection
18- "Can Bus" connection
19- Expansion board connection

- the green LED (2) is flashing on and off during the normal operation of the board;
- the yellow LED (6) is signalling that 5 Vdc is applied;
- the red LED (3) is on during the reset of the board;
- the red LED (10) is signalling the operation status of the boiler heating element (some models);

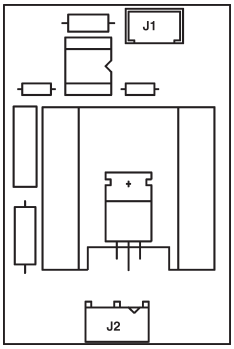
RELAY FUNCTION (see the wiring diagram)

		Espresso
K1	=	PMH2O
K2	=	ESC
K3	=	ESC1
K4	=	LF
K5	=	VENT
K6	=	Not used
K7	=	Not used
K8	=	PM
K9	=	ESP1
K10	=	ER
K11	=	MAC2
K12	=	MAC
K13	=	M
K14	=	EVAP
K15	=	ELAV
K16	=	EEA
K17	=	EH2O
K18	=	E2
K19	=	E1
K20	=	PMV
K21	=	MD2
K22	=	MD1
K23	=	MF2
K24	=	MF1

COFFEE BOILER CONTROL BOARD

This board (see fig. 37) is intended to control the trip of the coffee boiler heating element.

Fig. 36



BUTTON BOARD

These boards support the selection buttons and the corresponding leds (see fig. 38).
Button boards are connected with the C.P.U. board.

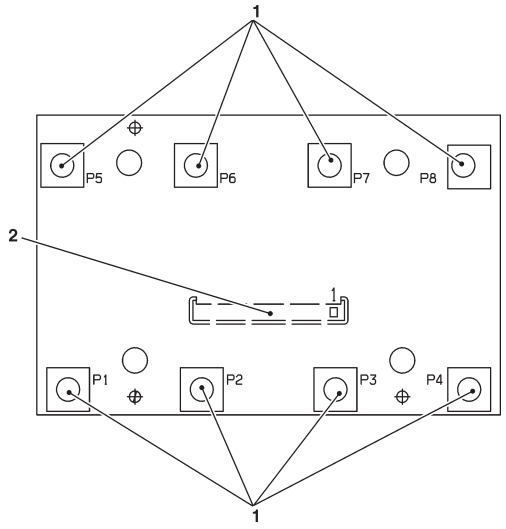


Fig. 37

1 - Selection buttons
2 - CPU connector

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 actuation boards and displays.
The LEDs can supply the following information during the operation:

- the green LED (3) is flashing on and off during the normal operation of the C.P.U. board;
- the yellow LED (4) will turn on when 5 Vdc is applied;
- the red LED (7) will turn on if the software is reset for any reason whatsoever.

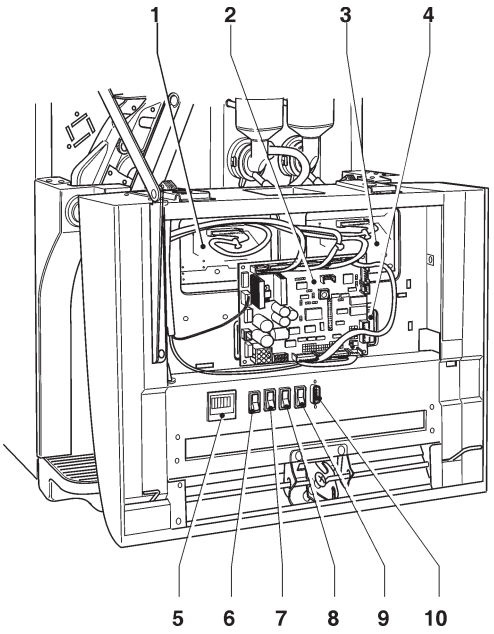


Fig. 38

1 - Button board
2 - CPU board
3 - Button board
4 - Display board
5 - Mechanical counter
6 - Switch for service interruption
7 - Failure reset button
8 - Programming button
9 - Washing button
10 - RS232 serial port

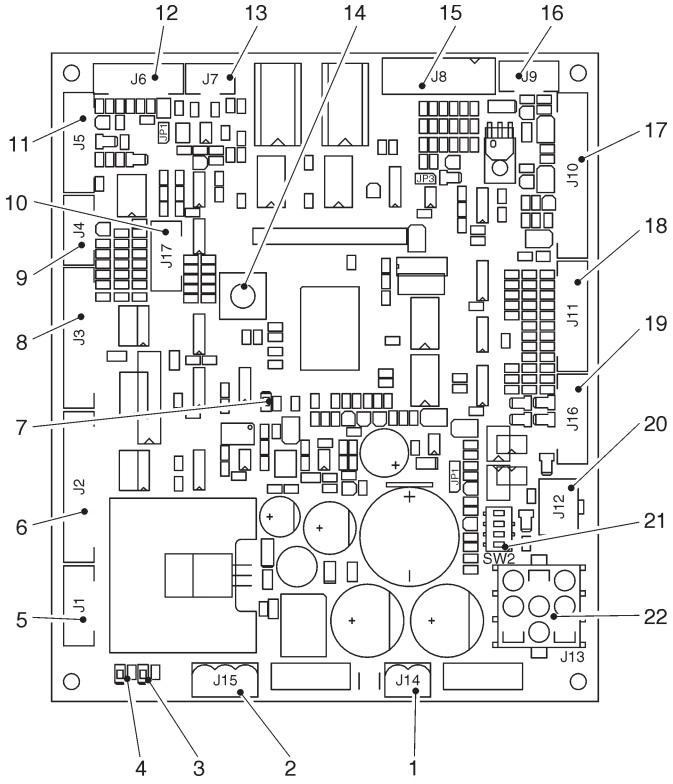
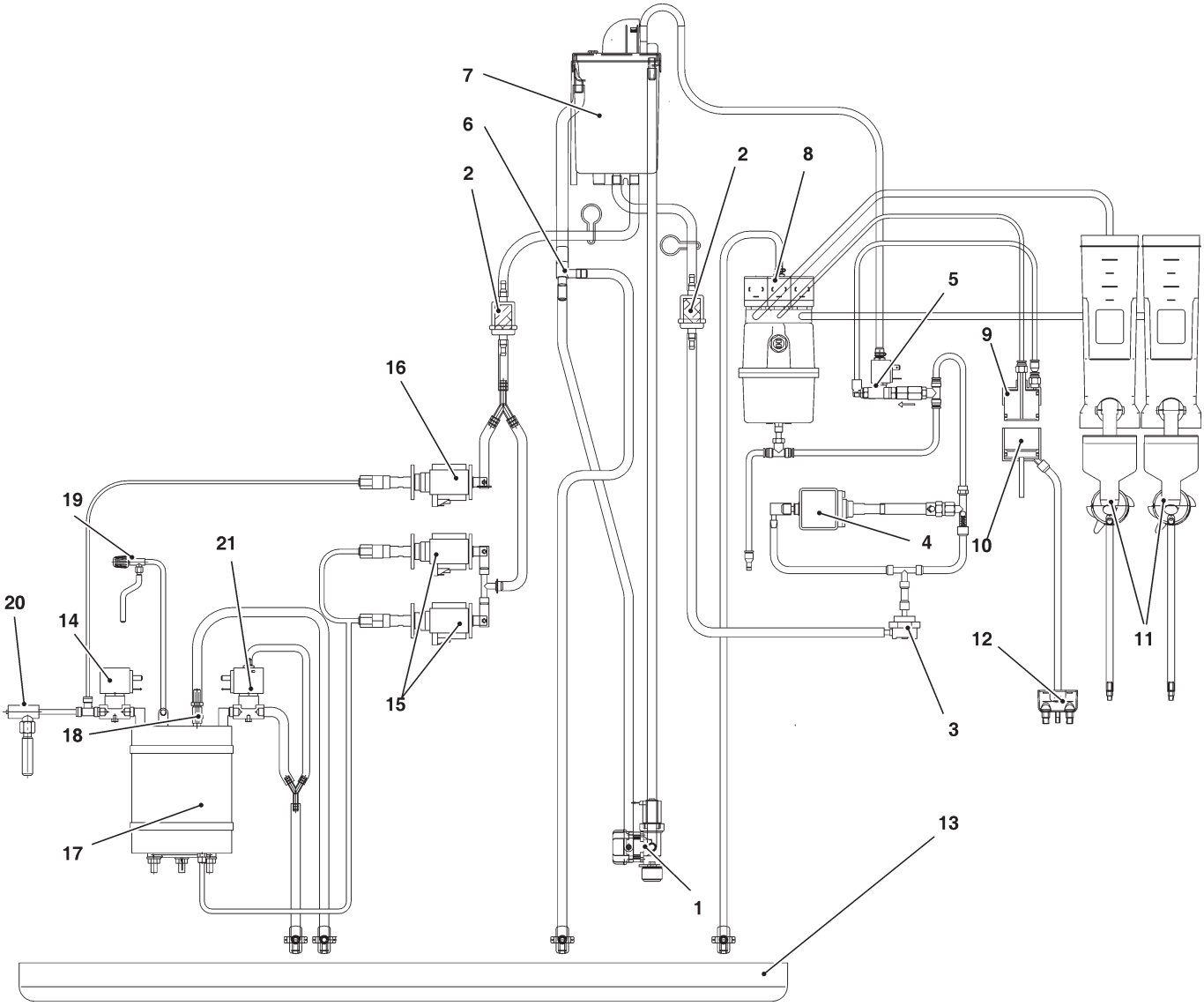


Fig. 39

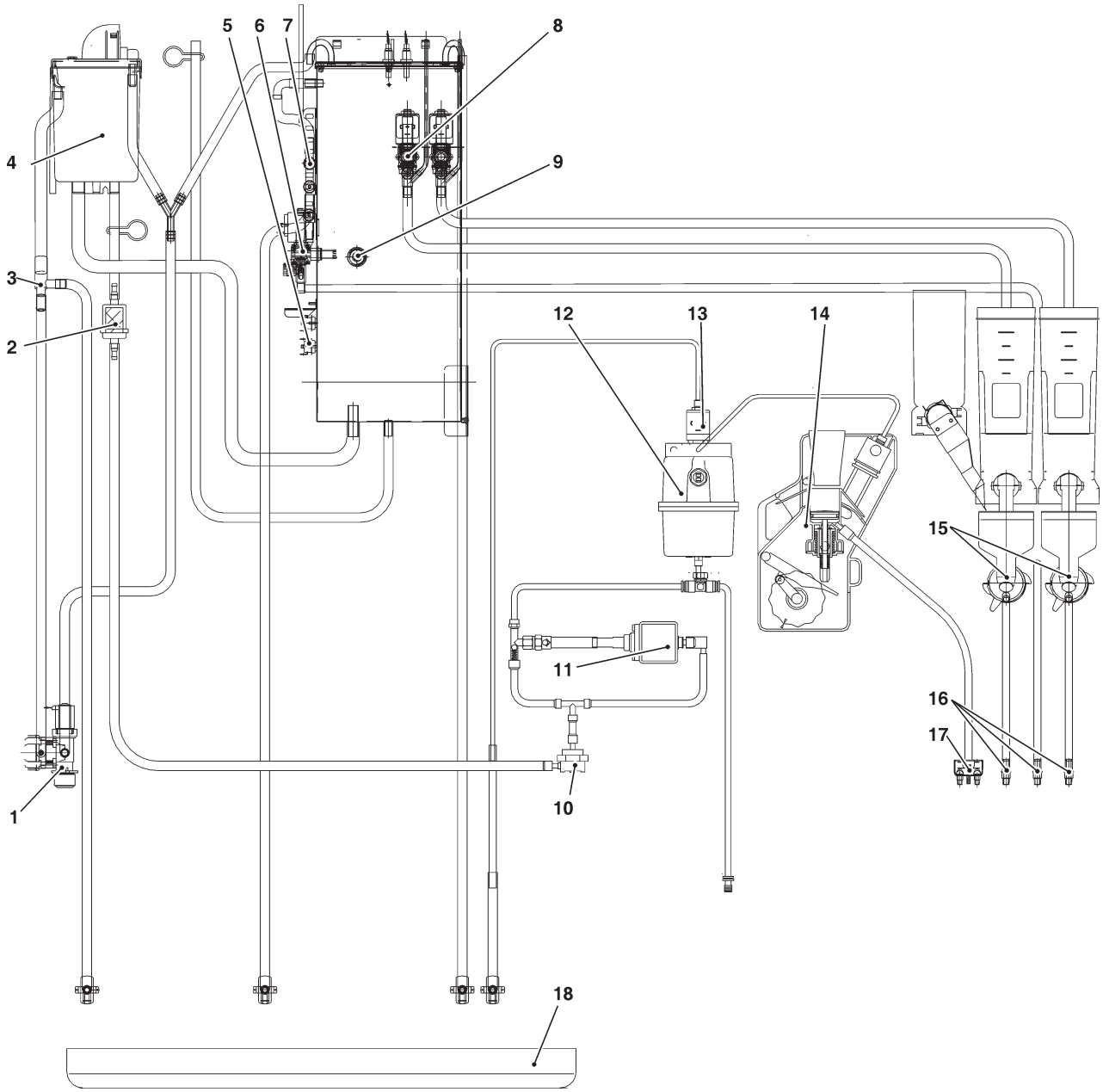
1 - J14 MDB and BDV coin mechanism supply
2 - J15 board supply (24Vac)
3 - Run green LED (DL2)
4 - 5 Vdc yellow LED (DL1)
5 - To the button boards and leds
6 - To the button boards, leds, stroke counters
7 - CPU reset red LED (DL3)
8 - J3 input/output and led and button boards
9 - J4 not used
10 - J17 Up Key connector
11 - J5 RS232 wiring
12 - J6 not used
13 - J7 can bus
14 - Power supply setup button
15 - J8 validators
16 - J9 not used
17 - J10 LCD liquid crystal display
18 - J11 button boards
19 - J16 button boards
20 - J12 MDB coin mechanism
21 - Coin mechanism setup minidip (SW2)
22 - J13 BDV/EXE expansion

ESPRESSO/STEAM WATER CIRCUIT



1 - Water inlet solenoid valve
2 - Mechanical filter
3 - Volumetric counter
4 - Coffee unit pump
5 - Pressurisation solenoid valve
6 - Condense recovery tee
7 - Air break
8 - Dispensing solenoid valves
9 - Upper piston
10 - Brewing chamber
11 - Instant mixers
12 - Dispensing nozzles
13 - Waste tray
14 - Hot water solenoid valve
15 - Steam boiler filler pumps
16 - Hot water mixing pump
17 - Steam boiler
18 - Safety valve
19 - Steam cock
20 - Water dispensing nozzle
21 - Steam solenoid valve

ESPRESSO/INSTANT WATER CIRCUIT



1 - Water inlet solenoid valve
2 - Mechanical filter
3 - Condense recovery tee
4 - Air break
5 - Safety thermostats
6 - Hot water solenoid valve
7 - Antiboil thermostats
8 - Instant solenoid valves
9 - Temperature probe
10 - Volumetric counter
11 - Coffee unit pump
12 - Coffee boiler
13 - Coffee dispensing solenoid valve
14 - Brewing unit
15 - Instant mixers
16 - Dispensing nozzles
17 - Dividing nozzle
18 - Waste tray

Programming Menu Summary

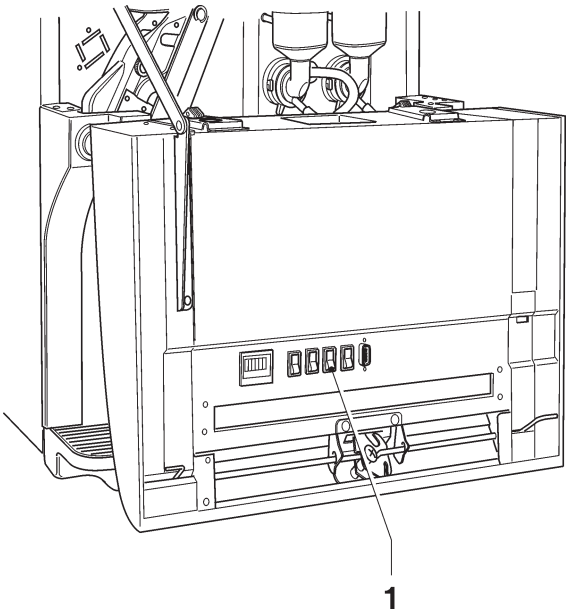
The machine can work in 3 different operation states:

- Normal operation mode;

- Filler menu;

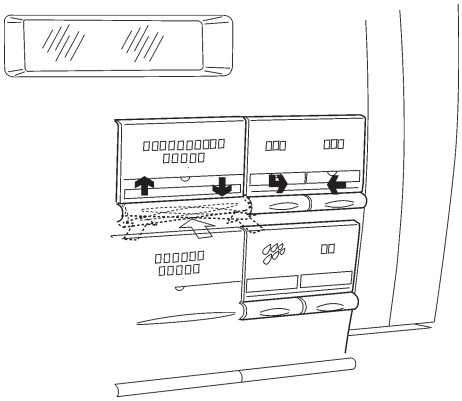
- Technician menu.

To be able to access the programming menu, press the programming button on the inner side of the door:



1 - Programming button

Now, the machine is set to the Filler Menu mode.
To move inside the menus, use the keys shown by the figure:



UP (↑) and DOWN (↓) scrolling keys

Press the UP and DOWN 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.

"Filler" Menu Summary

1 - STATISTICS

1.1 - STATIS. PRINTING

1.1.1 - PARTIAL PRINTING

1.1.1.1 - SEL. CNT. PRINT.

1.1.1.2 - PRINT BAND CNT

1.1.1.3 - DISC. CNT.PRINT.

1.1.1.4 - FAIL. CNT.PRINT.

1.1.1.5 - COIN MECH. PRINT

1.1.2 - TOTAL PRINTING

1.1.3 - TOTAL PRINT. DMR

1.2 - PRINT REL. STAT.

1.2.1 - PARTIAL PRINTING

1.2.1.1 - SEL. CNT. PRINT.

1.2.1.2 - PRINT BAND CNT

1.2.1.3 - DISC. CNT.PRINT.

1.2.1.4 - FAIL. CNT.PRINT.

1.2.1.5 - COIN MECH. PRINT

1.2.2 - TOTAL PRINTING

1.2.3 - TOTAL PRINT. DMR

1.3 - STATIST. DISPLAY

1.3.1 - SEL. CNT. DISP.

1.3.1.1 - CNT DIS. X S.SEL

1.3.1.2 - TOT CNT DISPLAY

1.3.1.3 - SEL.NO.CNT. DIS.

1.3.2 - DISPLAY BAND CNT

1.3.3 - DISC. CNT. DISP.

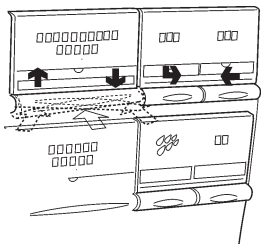
1.3.4 - FAIL. CNT. DISP.

1.3.5 - COIN MECH. DISP.

1.3.5.1 - AUDIT DATA DISP.

1.3.5.2 - CASH COUNT. DIS.

↑	previous function/ DECREASE VALUE (-1)	↓	next function/ INCREASE VALUE (+1)
↵	CONFIRM VALUES/ CONFIRM FUNCTION	←	DELETE VALUES/ QUIT FUNCTION



"Filler" Menu Summary

1.4 - DISP. REL. STAT.

1.4.1 - SEL. CNT. DISP.

1.4.1.1 - CNT DIS. X S.SEL

1.4.1.2 - TOT CNT DISPLAY

1.4.1.3 - SEL.NO.CNT. DIS.

1.4.2 - DISPLAY BAND CNT

1.4.3 - DISC. CNT. DISP.

1.4.4 - FAIL. CNT. DISP.

1.4.5 - COIN MECH. DISP.

1.4.5.1 - AUDIT DATA DISP.

1.4.5.2 - CASH COUNT. DIS.

1.5 - DELETE REL.STAT.

1.5.1 - PARTIAL RESET

1.5.1.1 - SEL. CNT. RESET

1.5.1.2 - DISC. CNT. RESET

1.5.1.3 - FAIL. CNT. RESET

1.5.1.4 - COIN MECH. RESET

1.5.2 - TOTAL RESET

2 - SET INDIV. PRICE

2.1 - PRICE BAND 0

2.2 - PRICE BAND 1

2.3 - PRICE BAND 2

2.4 - PRICE BAND 3

2.5 - PRICE BAND 4

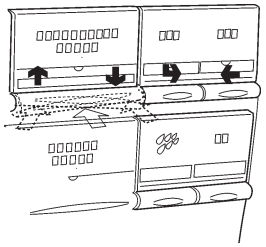
3 - TUBE CONTROL

3.1 - FILLING TUBE

3.2 - TUBE EMPTYING

4 - BOILERS TEMPER.

↑	previous function/ DECREASE VALUE (-1)	↓	next function/ INCREASE VALUE (+1)
↳	CONFIRM VALUES/ CONFIRM FUNCTION	←	DELETE VALUES/ QUIT FUNCTION



"Filler" Menu Summary

5 - TEST

- **5.1 - COMP. DISPENSING**
- **5.2 - WATER ONLY**
- **5.3 - POWDER ONLY**

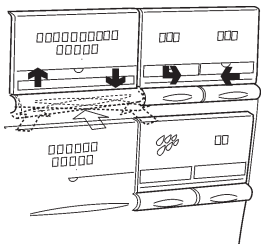
6 - GSM

- **6.1 - RES PRE-ALM CNT.**

7 - EVADTS

- **7.1 - CONNECTION**

↑	previous function/ DECREASE VALUE (-1)	↓	next function/ INCREASE VALUE (+1)
↵	CONFIRM VALUES/ CONFIRM FUNCTION	←	DELETE VALUES/ QUIT FUNCTION



"Technician" Menu Summary

1 - FAILURES

1.1 - FAILURE READING

1.2 - FAILURE RESET

1.3 - V.M.NEON O.OF S.

2 - SET PARAMETERS

2.1 - CASH

2.1.1 - PRICES

2.1.1.1 - SET INDIV. PRICE

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

2.1.1.2 - SET GLOB. PRICES

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

2.1.1.3 - TIME SCHEDULE

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

2.1.2 - COIN MECHANISM

2.1.2.1 - COIN MECH. SET.

2.1.2.2 - IMMEDIATE CHANGE

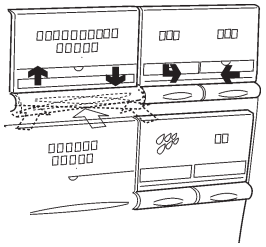
2.1.3 - DECIMAL POINT

previous function/ DECREASE VALUE (-1)

next function/ INCREASE VALUE (+1)

CONFIRM VALUES/ CONFIRM FUNCTION

DELETE VALUES/ QUIT FUNCTION



"Technician" Menu Summary

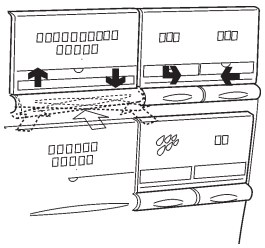
2.2 - SELECTIONS

- 2.2.1 - SET WATER
  - 2.2.1.1 - WATER DOSES
  - 2.2.1.2 - SET WHIP DOSES
    - 2.2.1.2.1 - SET WHIP DOSES
    - 2.2.1.2.2 - SET MODALITY
  - 2.2.1.3 - EL.VALVE SETTING
  - 2.2.1.4 - SET DRIPPING
  - 2.2.1.5 - SET ACQUA A STEP
  - 2.2.1.6 - PREBREW - Z3000V
    - 2.2.1.6.1 - PREBREWING TIME
    - 2.2.1.6.2 - PREBREWING VALUE
    - 2.2.1.6.3 - PISTON PRESSURE
  - 2.2.1.7 - NOZZLE HOT WATER
    - 2.2.1.7.1 - NOZZLE HOT WATER
    - 2.2.1.7.2 - PERC. MISCELAZ.
- 2.2.2 - SET POWDER
  - 2.2.2.1 - POWDER DOSES
  - 2.2.2.2 - SET CICLI POLV.
  - 2.2.2.3 - DOSER SETTING
  - 2.2.2.4 - GL. POWDER DOSES
- 2.2.3 - SELECTION STATUS
- 2.2.4 - SEL. <-> BUTTON
- 2.2.5 - 2 x BUTTON
- 2.2.6 - CHECK NO. SELEC.
- 2.2.7 - SET PROD. CODE

2.3 - MACHINE PARAM.

- 2.3.1 - BOILERS TEMPER.
- 2.3.2 - TANK
- 2.3.3 - ENAB.WASH BUTTON
- 2.3.4 - FAST CYCLES
- 2.3.5 - WATER FILTER
- 2.3.6 - ENAB.AUTOM. WASH
- 2.3.7 - ENERGY SAVING
  - 2.3.7.1 - SET ENERGY SAV.
  - 2.3.7.2 - ENERGY SAV. PAR.

↑	previous function/ DECREASE VALUE (-1)	↓	next function/ INCREASE VALUE (+1)
↳	CONFIRM VALUES/ CONFIRM FUNCTION	←	DELETE VALUES/ QUIT FUNCTION



2.3.8 - DEC. CYCLE

2.3.9 - EQ. CABINET

2.3.A - PREGRINDING

2.3.B - NUM. MAX CONTAT.

2.3.C - EN. HEATING ES

2.3.D - EN. EMPTY COFFEE

2.4 - DISPLAY

2.4.1 - LANGUAGE

2.4.1.1 - FIRST LANGUAGE

2.4.1.2 - SECOND LANGUAGE

2.4.2 - PROMO. ADVERT.

2.4.2.1 - ENABLE PR. ADV.

2.4.2.2 - SET PROMO. ADV.

2.4.3 - CONTRAST CONTROL

2.5 - PRE-SELECTIONS

2.5.1 - HALF JUG

2.5.1.1 - SELECTION ENABL.

2.5.1.2 - DOSE VARIATION

2.5.1.3 - PRICE VARIATION

2.5.2 - JUG

2.5.3 - EXTRA SUGAR

2.5.4 - SUGAR -

2.5.5 - SUGAR +

2.5.6 - WATER +

2.5.7 - ESPRESSO

2.5.8 - STRONG

2.5.9 - LIGHT

2.5.A - Coffee 2

2.5.B - EXTRA MILK

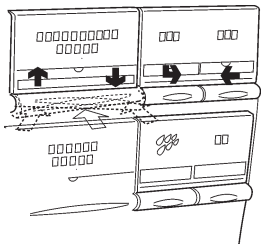
2.5.C - MOKKA

2.5.D - SUGAR +/-

2.5.E - WATER +/-

2.5.F - POWDER +/-

↑	previous function/ DECREASE VALUE (-1)	↓	next function/ INCREASE VALUE (+1)
↳	CONFIRM VALUES/ CONFIRM FUNCTION	←	DELETE VALUES/ QUIT FUNCTION



"Technician" Menu Summary

2.6 - MISCELLANEOUS

2.6.1 - FB DATA

2.6.1.1 - FR. BREW 1 UNIT

2.6.1.2 - FR. BREW 2 UNIT

2.6.2 - JUG FACILITIES

2.6.3 - PASSWORD

2.6.3.1 - SET PASSWORD

2.6.3.2 - ENABLE PASSWORD

2.6.3.3 - PWD AZZ. CONTAT.

2.6.3.4 - PWD JUG FACILITY

2.6.3.5 - PWD FREE VENDING

2.6.3.6 - PWD BLOCCO TAST.

2.6.3.7 - PWD LAVAGGI

2.6.3.8 - PWD SEL. PROVA

2.6.3.9 - PWD RESET FILTRO

2.6.3.A - PWD RESET FONDI

2.6.4 - ENABLE FILL MENU

2.6.5 - GRUPPO ES

2.6.6 - LAV. GRUPPO AUT.

3 - STATISTICS

3.1 - ELECTR. COUNTER

3.1.1 - DISPLAY COUNTERS

3.1.2 - RESET COUNTER

3.2 - STATIST. DISPLAY

3.2.1 - SEL. CNT. DISP.

3.2.1.1 - CNT DIS. X S.SEL

3.2.1.2 - TOT CNT DISPLAY

3.2.1.3 - SEL.NO.CNT. DIS.

3.2.2 - DISPLAY BAND CNT

3.2.3 - DISC. CNT. DISP.

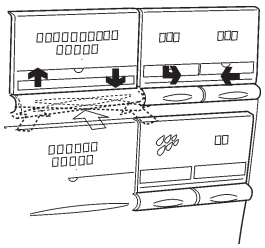
3.2.4 - FAIL. CNT. DISP.

3.2.5 - COIN MECH. DISP.

3.2.5.1 - AUDIT DATA DISP.

3.2.5.2 - CASH COUNT. DIS.

↑	previous function/ DECREASE VALUE (-1)	↓	next function/ INCREASE VALUE (+1)
↳	CONFIRM VALUES/ CONFIRM FUNCTION	←	DELETE VALUES/ QUIT FUNCTION



"Technician" Menu Summary

3.3 - STATISTICS RESET

3.3.1 - PARTIAL RESET

3.3.1.1 - SEL. CNT. RESET

3.3.1.2 - DISC. CNT. RESET

3.3.1.3 - FAIL. CNT. RESET

3.3.1.4 - COIN MECH. RESET

3.3.2 - TOTAL RESET

3.4 - DISP. REL. STAT.

3.4.1 - SEL. CNT. DISP.

3.4.1.1 - CNT DIS. X S.SEL

3.4.1.2 - TOT CNT DISPLAY

3.4.1.3 - SEL.NO.CNT. DIS.

3.4.2 - DISPLAY BAND CNT

3.4.3 - DISC. CNT. DISP.

3.4.4 - FAIL. CNT. DISP.

3.4.5 - COIN MECH. DISP.

3.4.5.1 - AUDIT DATA DISP.

3.4.5.2 - CASH COUNT. DIS.

3.5 - DELETE REL.STAT.

3.5.1 - PARTIAL RESET

3.5.1.1 - SEL. CNT. RESET

3.5.1.2 - DISC. CNT. RESET

3.5.1.3 - FAIL. CNT. RESET

3.5.1.4 - COIN MECH. RESET

3.5.2 - TOTAL RESET

3.6 - EN. CNT AT START

3.7 - STATIS. PRINTING

3.7.1 - PARTIAL PRINTING

3.7.1.1 - SEL. CNT. PRINT.

3.7.1.2 - PRINT BAND CNT

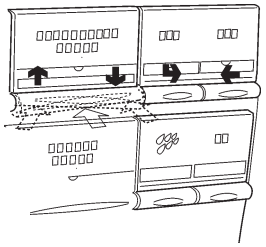
3.7.1.3 - DISC. CNT.PRINT.

3.7.1.4 - FAIL. CNT.PRINT.

3.7.1.5 - COIN MECH. PRINT

3.7.2 - TOTAL PRINTING

↑	previous function/ DECREASE VALUE (-1)	↓	next function/ INCREASE VALUE (+1)
↳	CONFIRM VALUES/ CONFIRM FUNCTION	←	DELETE VALUES/ QUIT FUNCTION



"Technician" Menu Summary

3.8 - PRINT REL. STAT.

3.8.1 - PARTIAL PRINTING

3.8.1.1 - SEL. CNT. PRINT.

3.8.1.2 - PRINT BAND CNT

3.8.1.3 - DISC. CNT.PRINT.

3.8.1.4 - FAIL. CNT.PRINT.

3.8.1.5 - COIN MECH. PRINT

3.8.2 - TOTAL PRINTING

4 - TEST

4.1 - TEST DISPENSING

4.1.1 - COMP. DISPENSING

4.1.2 - WATER ONLY

4.1.3 - POWDER ONLY

4.2 - SPECIAL FUNCT.

4.2.1 - ESPR.UNIT ROTAT.

4.2.2 - RELEASE DOSE

4.2.3 - EMPTY ES. BOILER

4.2.4 - MANUAL INSTALL.

4.3 - AUTOTEST

5 - MISCELLANEOUS

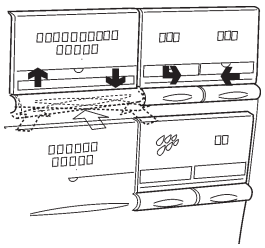
5.1 - D.A. REGISTRY

5.1.1 - INSTALL. DATE

5.1.2 - PR. MACHINE CODE

5.1.3 - OPER. CODE ENTRY

↑	previous function/ DECREASE VALUE (-1)	↓	next function/ INCREASE VALUE (+1)
↳	CONFIRM VALUES/ CONFIRM FUNCTION	←	DELETE VALUES/ QUIT FUNCTION



"Technician" Menu Summary

5.2 - INITIALISING DB

5.3 - EVADTS

5.3.1 - PASS CODE

5.3.2 - SECURITY CODE

5.3.3 - CONNECTION

5.4 - UPKEY

5.4.1 - SETUP MANAGEMENT

5.4.1.1 - UPKEY -> MACHINE

5.4.1.2 - MACHINE -> UPKEY

5.4.1.3 - DELETE

5.4.1.4 - DELETE ALL

5.4.2 - AUDIT MANAGEMENT

5.4.2.1 - MACHINE -> UPKEY

5.4.2.2 - DELETE

5.4.2.3 - DELETE ALL

6 - GSM

6.1 - GSM PIN CODE

6.2 - GSM PRE-ALARMS

6.2.1 - SET GSM THRESH.

6.2.2 - RES PRE-ALM CNT.

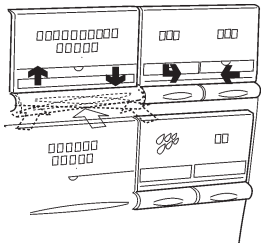
6.3 - GROUP NUMBER

previous function/
DECREASE VALUE (-1)

next function/
INCREASE VALUE (+1)

CONFIRM VALUES/
CONFIRM FUNCTION

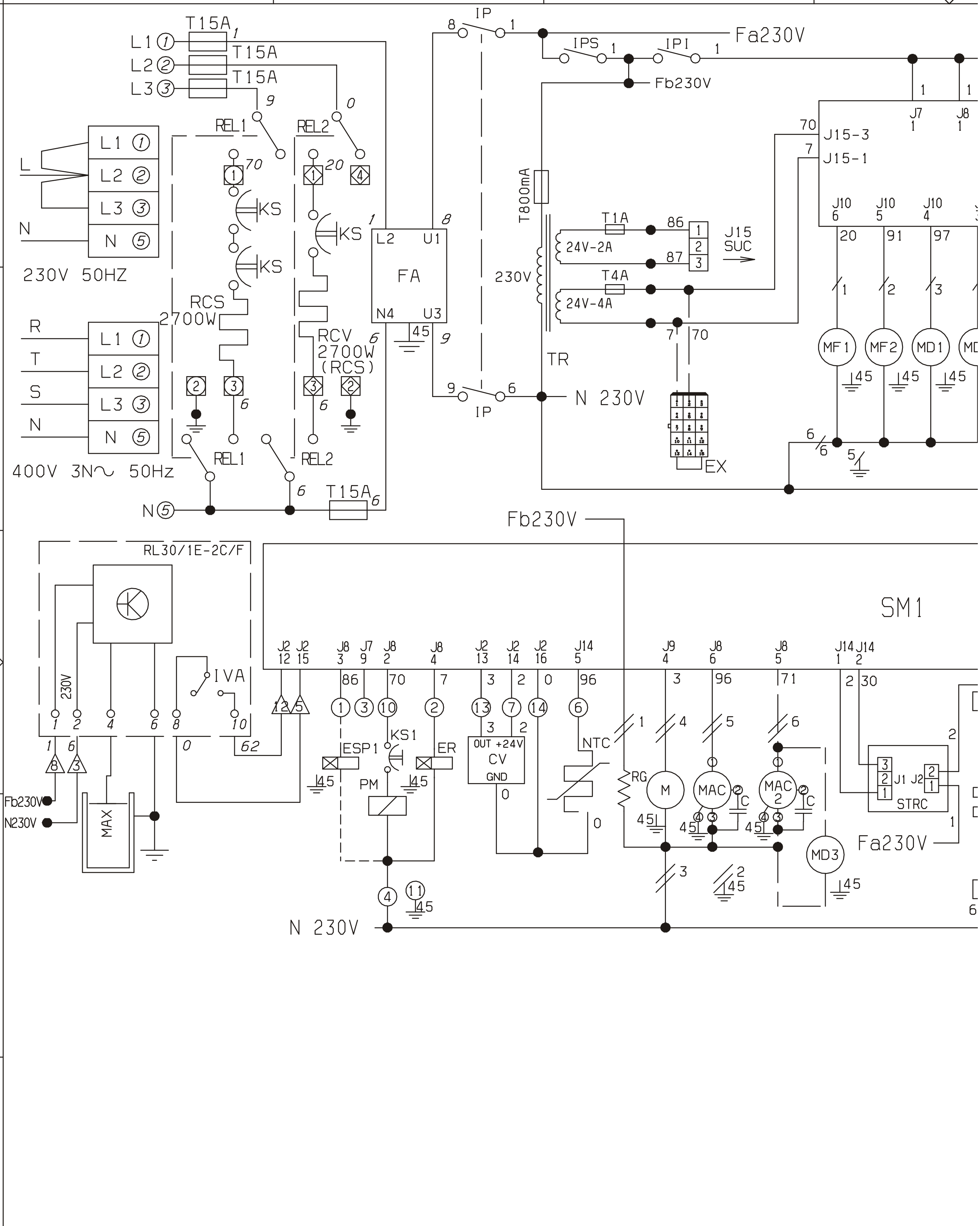
DELETE VALUES/
QUIT FUNCTION



WIRING DIAGRAM LEGEND

INITIALS	DESCRIPTION
BDV	BDV COIN MECH CONNECTOR
C	CONDENSER
CCG	GENERAL COUNTER
CM1	COFFEE UNIT MOTOR CAM
CV	VOLUMETRIC COUNTER
E1-...	INSTANT SOLENOID VALVE
EEA	WATER INLET SOLENOID VALVE
EH2O	HOT WATER SOLENOID VALVE
ELAV	MILKER WASHING SOLENOID VALVE
ER	COFFEE DISPENSER SOLENOID VALVE
ESC1-.	COFFEE DISPENSER ELECTROMAGNET
ESP1-.	DRAINING SOLENOID VALVE
EVAP	STEAM SOLENOID VALVE
EX	EXECUTIVE COIN MECH CONNECTORS
FA	RADIO INTERFERENCE SUPPRESSOR
FREE	FREE VENDING SWITCH
ID1-..	COFFEE DOSE SWITCH
IDEC	DECAFFEINATED DOOR SWITCH
IP	DOOR SWITCH
IPF1-.	WASTE CONTAINER FULL SWITCHES
IPV	SAFETY SWITCH
IVA	EMPTY WATER SWITCH
JUG	JUG FACILITIES SWITCH
KC1-..	COFFEE BOILER CUTOUT
KS	BOILER CUTOUT SWITCH
KS1-..	SAFETY CUTOUT
LCD	LIQUID CRYSTAL DISPLAY
LF	LAMP
M	COFFEE UNIT MOTOR
MAC1-.	COFFEE GRINDER
MAX	WATER LEVEL PROBE
MD1-..	INGREDIENT MOTOR - INSTANT

INITIALS	DESCRIPTION
MDB	CONNECTOR FOR MDB COIN MECHANI
MF1-..	WHIPPER MOTORS
MMA	GRINDING WHEEL REGULATION MOTOR
MVT	FAN
NTC	TEMPERATURE PROBE
NTCS	INSTANT BOILER TEMPERATURE PRO
P1-...	SELECTION BUTTONS
PH2O	HOT WATER BUTTON
PIP	PROGRAMMING BUTTON
PL	WASH CYCLE BUTTON
PM	PUMP
PMV	STEAM BOILER PUMP
PRC	STEAM BOILER PRESSURE SWITCH
PS1-..	SYRUP BUTTON
RCC	COFFEE BOILER HEATING ELEMENT
RCS	INSTANT BOILER HEATING ELEMENT
RCV	STEAM BOILER HEATING ELEMENT
REL1-.	RELAY
RG	UNIT HEATING ELEMENT
RL30	BOILER LEVEL SIGNALLER
RS232	SERIAL PORT
RT	BALLAST
SM1	CONTROL BOARD
SM2	EXPANSION BOARD
SM3	RELAY CARD
SP	PUSH-BUTTON BOARD
ST	STARTER
STRC	BOILER HEATING TRIAC BOARD
SUC	C.P.U. BOARD
TR	TRANSFORMER
TX....	DELAYED FUSE (X=CURRENT)
VAR	VARISTOR

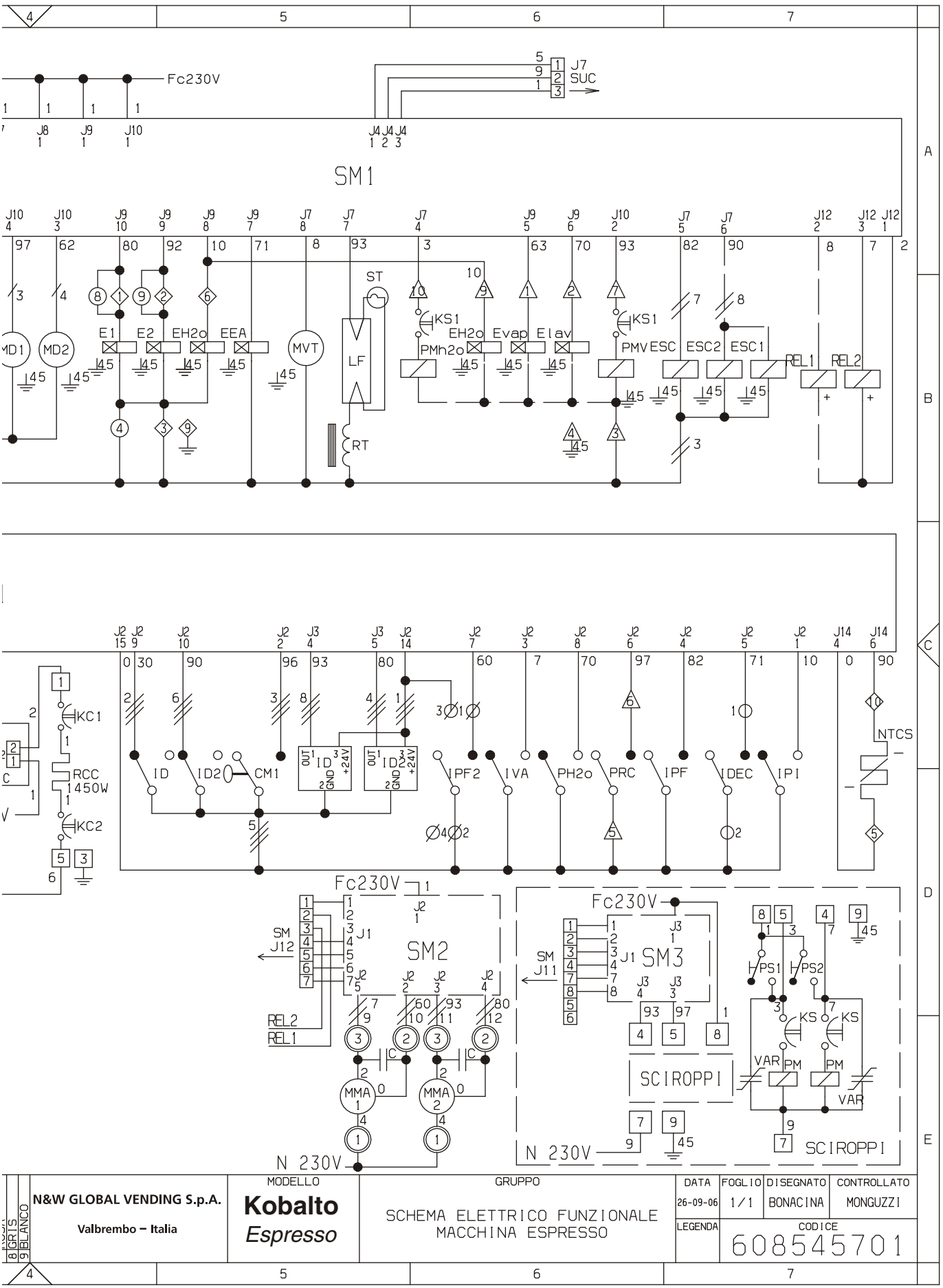


N&W GLOBAL VENDING S.P.A.
SI RISERVA A TERMINI DI LEGGE LA PROPRIETA' DEL PRESENTE DISEGNO CON DIVIETO DI RIPRODURLO O DIVULGARLO SENZA SUA PREVIA AUTORIZZAZIONE

0	NERO	BLACK	NOIR	SCHWARZ	NEGRO
1	MARRONE	BROWN	MARRON	BRAUN	MARRON
2	ROSSO	RED	ROUGE	ROT	ROJO
3	ARANCIO	ORANGE	ORANGE	ORANGE	NARANJA
4	GIALLO	YELLOW	JAUNE	GELB	AMARILLO
5	VERDE	GREEN	VERT	GRUEN	VERDE
6	BLU AZZURRO	BLUE LIGHT BLUE	BLEU BLEU CIEL	BLAU HELLBLAU	AZUL OSCURO AZUL CLARO
7	ROSA VIOLA	PINK VIOLET	ROSE ROSE	ROSA LILLA	ROSA ROSA
8	GRIGIO	GREY	GRIS	GRAU	GRIS
9	BIANCO	WHITE	BLANC	WEISS	BLANCO

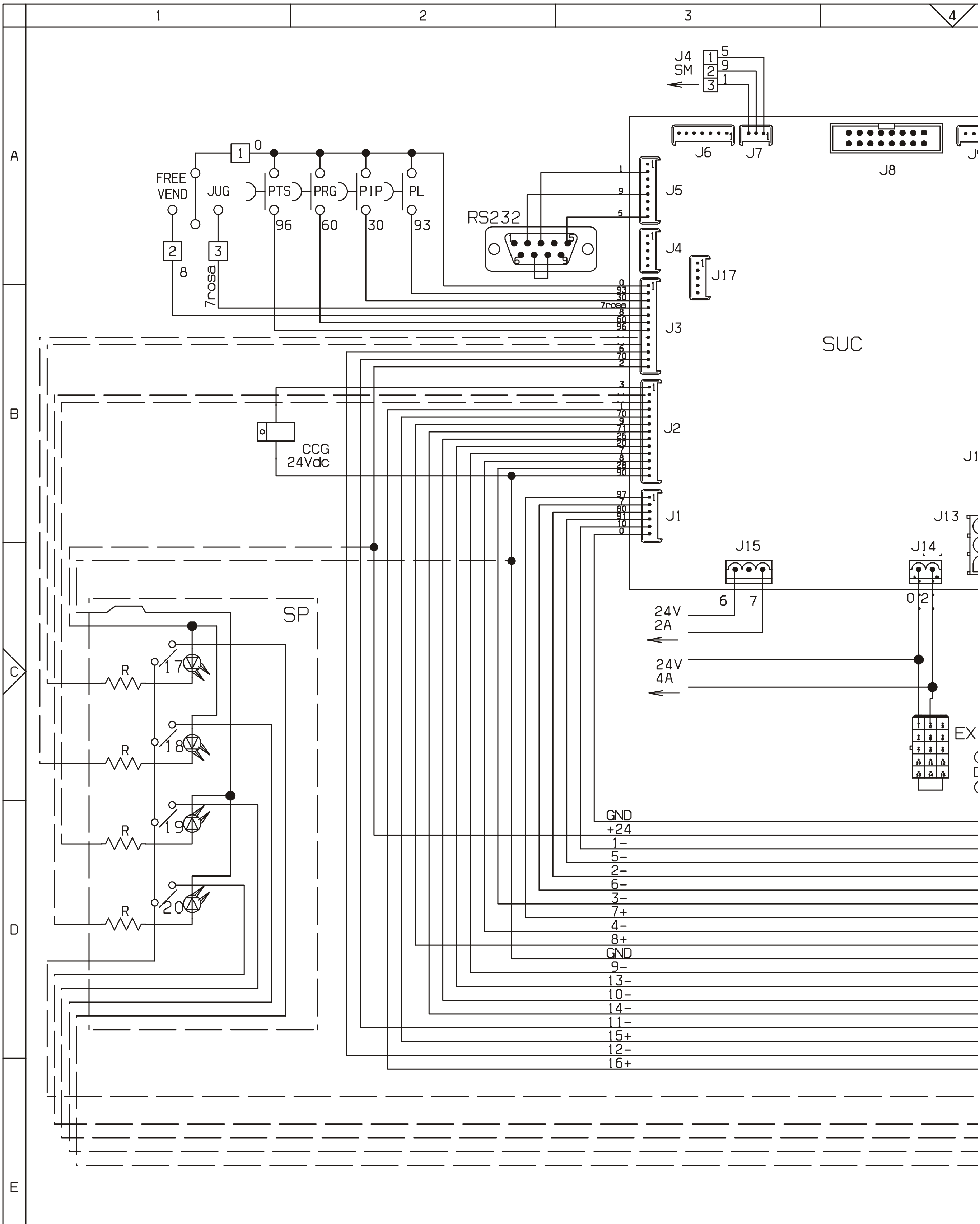
N&W

sx45701



N&W GLOBAL VENDING S.p.A. Valbrembo – Italia	MODELLO **Kobalto** *Espresso*	GRUPPO SCHEMA ELETTRICO FUNZIONALE MACCHINA ESPRESSO	DATA 26-09-06	FOGLIO 1/1	DISEGNATO BONACINA	CONTROLLATO MONGUZZI
			LEGENDA	CODICE 608545701		

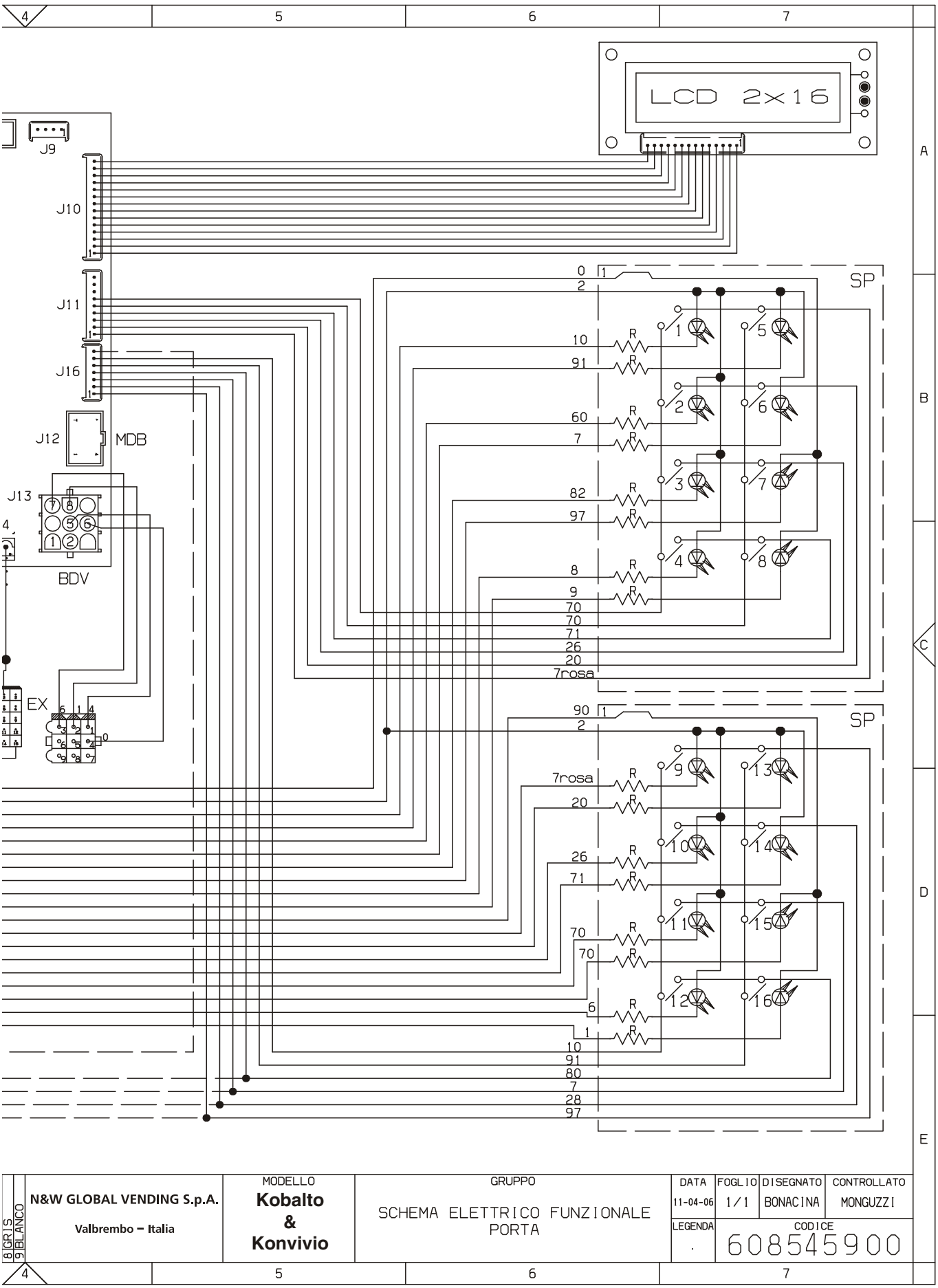
8 GRIS
9 BLANCO



0 NERO	0 BLACK	0 NOIR	0 SCHWARZ	0 NEGRO
1 MARRONE	1 BROWN	1 MARRON	1 BRAUN	1 MARRON
2 ROSSO	2 RED	2 ROUGE	2 ROT	2 ROJO
3 ARANCIO	3 ORANGE	3 ORANGE	3 ORANGE	3 NARANJA
4 GIALLO	4 YELLOW	4 JAUNE	4 GELB	4 AMARILLO
5 VERDE	5 GREEN	5 VERT	5 GRUEN	5 VERDE
6 BLU AZZURRO	6 BLUE LIGHT BLUE	6 BLEU BLEU CIEL	6 BLAU HELLBLAU	6 OSCURO AZUL CLARO
7 ROSA VIOLA	7 PINK VIOLET	7 ROSE ROSE	7 ROSA LILLA	7 ROSA ROSA
8 GRIGIO	8 GREY	8 GRIS	8 GRAU	8 GRIS
9 BIANCO	9 WHITE	9 BLANC	9 WEISS	9 BLANCO

N&

1 sx45900 2 3 4



N&W GLOBAL VENDING S.p.A. Valbrembo – Italia	MODELLO **Kobalto & Konvivio**	GRUPPO SCHEMA ELETTRICO FUNZIONALE PORTA	DATA 11-04-06	FOGLIO 1/1	DISEGNATO BONACINA	CONTROLLATO MONGUZZI
8 GRIS 9 BLANCO			LEGENDA .	CODICE 60854500		

EDITION 01-2007 CODE: H 285U00