USE AND INSTALLATION MANUAL

Colibrì

Espresso semi-automatic
automatic

UL 120V

EN English

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Cod. identificativo: IT 05035600963

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

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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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WE HEREBY CERTIFY THAT THE ENVIRONMENTAL MANAGEMENT SYSTEMS OPERATED BY

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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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THE USE AND THE VALIDITY OF THE CERTIFICATE SHALL SATISFY THE REQUIREMENTS OF THE RULES FOR THE CERTIFICATION OF COMPANY QUALITY AND MANAGEMENT SYSTEM

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

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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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ENGLISH

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INTRODUCTION

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

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

This manual is divided into three chapters.

The **first chapter** describes the loading and routine maintenance operations which are carried out in areas of the machine accessible with simple use of the door key, without using any other tools.
The **second chapter** contains the instructions for correct installation and all information necessary for optimum use of the machine.
The **third chapter** describes maintenance operations which involve the use of tools to access potentially dangerous areas.

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

IDENTIFICATION OF THE VENDING MACHINE AND ITS CHARACTERISTICS

Every machine is identified by its own serial number, indicated on the rating plate attached inside the cabinet on the right side.
This plate (see figure below) is the only one acknowledged by the manufacturer and indicates all of the data which readily and safely gives technical information supplied by the manufacturer. It also assists in spare parts management.

IN CASE OF FAILURE

In most cases, any technical problems are corrected by small repair operations; however, before contacting the manufacturer we recommend that this manual be read carefully.
Should there be serious failures or malfunctions, contact the following:

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

TRANSPORT AND STORAGE

To prevent any damage, special care should be taken when loading or unloading the vending machine.
The machine can be lifted by a motor-driven or manual fork lift truck, and the blades are to be placed underneath the machine.

Do not:

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

The machine should be stored in a dry room where the temperature remains between 0" C and 40 "C.
Using the original packing, no more than 2 machines can be stacked one on top of the other and must always kept upright as indicated by the arrows on the packing.

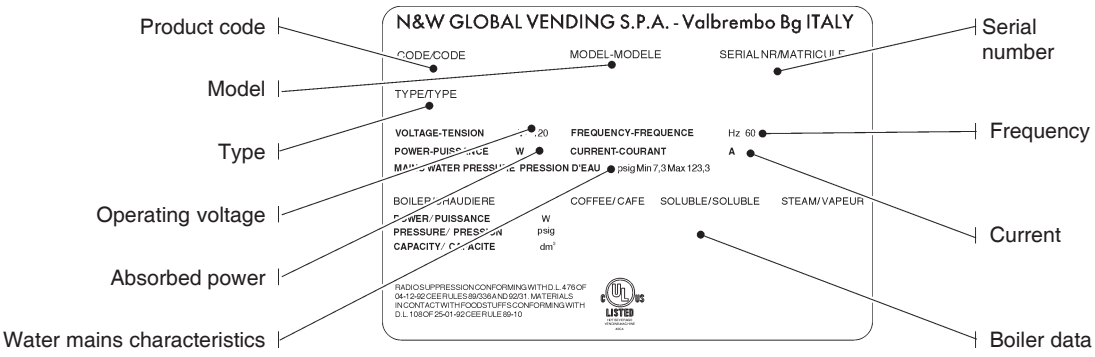


Fig. 1

POSITIONING THE VENDING MACHINE

The vending machine is not suitable for outdoor installation. It must be positioned in a dry room where the temperature remains between 2"C and 32"C, and not where water jets are used for cleaning (e.g. in large kitchens, etc.).
The machine should be placed close to a wall, so that the back panel is at a minimum distance of 4 cm from it and correct ventilation may be ensured. The machine must never be covered with cloth or the like.
The machine should be positioned with a maximum inclination of 2".
If necessary provide proper levelling by way of the adjustable feet included.

Important notice!!

Access to the machine interior for maintenance and/or repairs is via the back panel.
Therefore the machine is designed to be rotated, thus allowing removal of the back panel.

Installation on a cabinet

The machine can be installed on a table or on any other suitable stand.
If possible, it is advisable to use the special cabinet, which can house the liquid waste tray, the water supply kit, the payment system and, in the case of very hard water, the softener unit.

WARNING FOR INSTALLATION

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

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

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

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

PRECAUTIONS IN USING THE MACHINE

The following precautions will assist in protecting the environment:

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

WARNING FOR SCRAPPING

The symbol  indicates that the machine may not be disposed of as ordinary waste; it must be disposed of in accordance with the provisions of the European directive 2002/96/CE (Waste Electrical and Electronic Equipment - WEEE) and of any resulting national laws, for preventing any possible negative consequences to the environment and to health.
For correct disposal of the machine, contact the dealer from whom you have purchased the machine or our after-sales service.

TECHNICAL SPECIFICATIONS

Height	mm	650
Height with container	mm	760
Width	mm	410
Depth	mm	490
Overall depth with door open	mm	830
Height of base cabinet (optional)	mm	820
Weight	Kg	38
Power supply voltage	V~	120
Power supply frequency	Hz	60
Installed power	W	1300

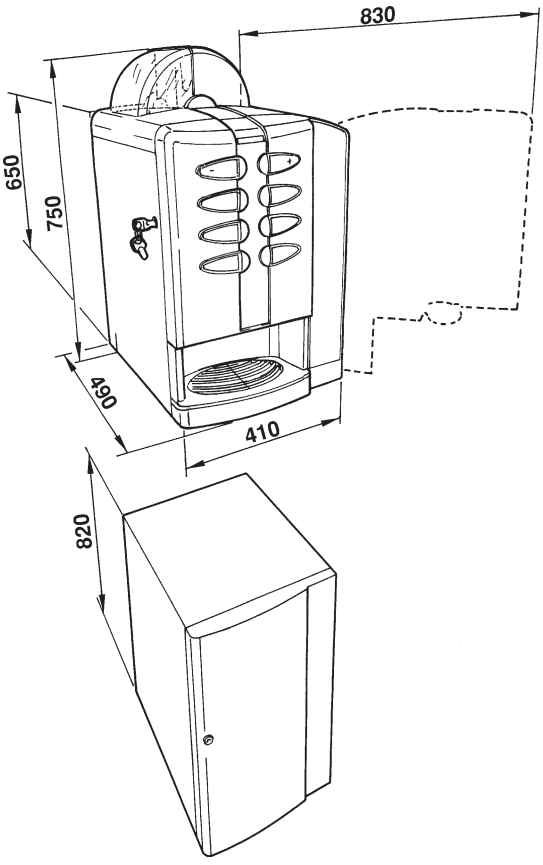


Fig. 2

CUP DISPENSER

Only in automatic models for cups with a rim diameter of 73-74 mm with a capacity of approximately 170 cups.

PAYMENT SYSTEM

The machine is supplied with all prearrangements for an MDB coin mechanism; the machine can accommodate the "cashless" payment system, while the "change-giver" payment system must be installed in the special base cabinet.

SALES PRICES

A different programmable price can be set for each selection;

COIN BOX

Made of plastic with lock as optional accessory.

WATER SUPPLY

From the mains, with a water pressure of 7.3 to 123 Psig (0.5 - 8.5 bar).

AVAILABLE SETTINGS

- Grade of grinding for espresso coffee
- Coffee and water doses by volume
- Time adjustment for instant products
- Water temperature adjusted via software

CONTROLS

- Presence of water
- Presence of coffee
- Operating temperature reached

SAFETY DEVICES

- Door switch
- Presence of coffee waste tray
- Manual-reset boiler safety thermostat
- Air-break float jamming (only with water supply from the mains)
- Overflow solenoid valve (only with water supply from the mains)
- Timer protection for:
  - Pump
  - Coffee unit ratiomotor
  - Coffee grinder
- Overheating protection for:
  - Doser units
  - Coffee unit ratiomotor
  - Magnets
  - Pump
  - Electric mixers
  - Coffee grinder motor
- Fuse protection for:
  - Main electrical circuit
  - Board power supply transformer

CAPACITY OF CONTAINERS

Products quantities are indicated in the following table:

Capacity of containers (Kg)	Espresso
Coffee beans	2
Ground decaffeinated coffee	0.4
Instant decaffeinated coffee	0.6
Instant coffee	0.5
Milk	0.8
Chocolate	1
French Vanilla	1.4

The effective quantity of product can differ from what is indicated, according to the density of the various products.

POWER CONSUMPTION

The machine power consumption depends on many factors, such as the temperature and ventilation of the room where it is installed, the inlet water and boiler temperature, etc.
With an ambient temperature of 22" C the following power consumption levels resulted:

To reach operating temperature:	28.6	W/h
For 24 h in stand-by:	1414	W/h

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

CHANGEABLE COMBINATION LOCK

Some machine models are fitted with a changeable combination lock.
The lock is supplied with one silver colour key, with standard combination, to be used for normal opening and closing.
The lock can be customised by means of a kit, available as accessory, permitting changing of the lock combination.
This kit includes a change key (black) for the standard lock combination as well as the change (gold) and use (silver) keys for the new combination.
Sets of change and use keys with other combinations can be supplied on request.
Additional sets of use keys (silver) may be requested, indicating the combination stamped on the keys.
Generally, only the use key (silver) is used, while the combination change keys (gold) can be kept as spares.

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

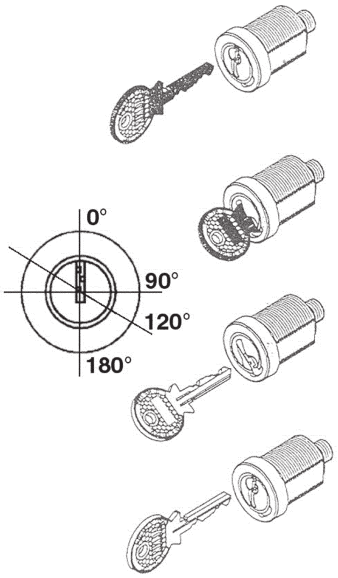
To change combination do as follows:

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

The lock will now have the new combination.

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

Fig. 3



ACCESSORIES

A wide range of accessories can be installed on the machine to vary its performance:
The installation kits are supplied with their own installation and test instructions, which must be strictly observed to ensure the machine safety.

Important notice!!

The use of kits which are not approved by the manufacturer of the vending machine does not guarantee compliance with safety standards, especially for energised parts.
The manufacturer declines all responsibility for the use of non approved components.

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

Chapter 1
LOADING AND CLEANING

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

DOOR SWITCH

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

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

CLEANING AND DISINFECTION

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

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

It is advisable that specific sanitising products are used for cleaning also the surfaces which are not directly in contact with foodstuff.
Some parts of the machine can be damaged by strong detergents.
The manufacturer declines all responsibility for damage caused by non-compliance with the above instructions or by the use of strong or toxic chemical agents.

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

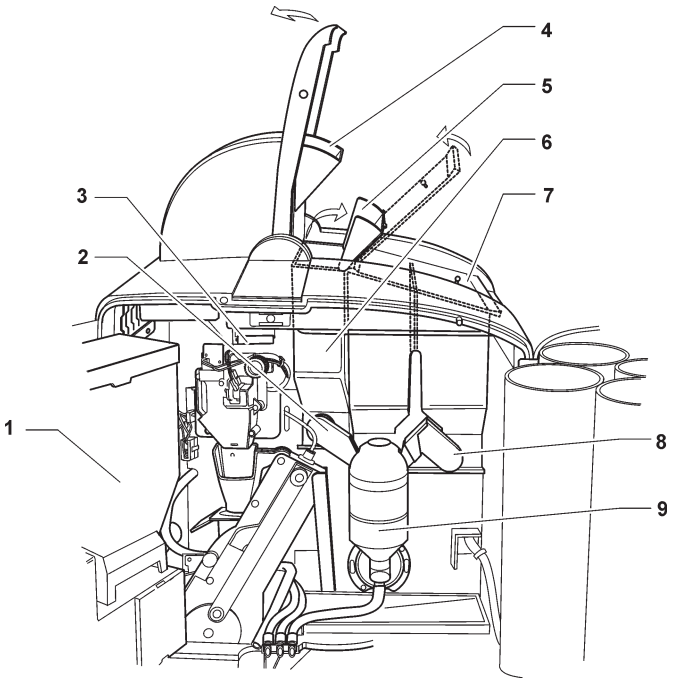


Fig. 4

1 - Powder chute
2 - Coffee container shutter
3 - Door switch
4 - Coffee beans hopper
5 - Small container lid
6 - Small container
7 - Instant prod. container lid
8 - Powder chute
9 - Mixers

USING THE VENDING MACHINES FOR HOT DRINKS IN OPEN CONTAINERS

(Ex.: plastic cups, ceramic cups, jugs)

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

- brewing products like coffee and tea;

- reconstituting instant and lyophilised products;

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

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

Any other use is unsuitable and thus potentially dangerous.

CONTROLS AND INFORMATION

The user controls and information are located on the outside of the door (see fig. 5).
The labels with the selection menu and instructions, supplied with the machine, must be inserted at the time of installation.
The “Programming” buttons and the “Mixer wash” button are located inside the machine.

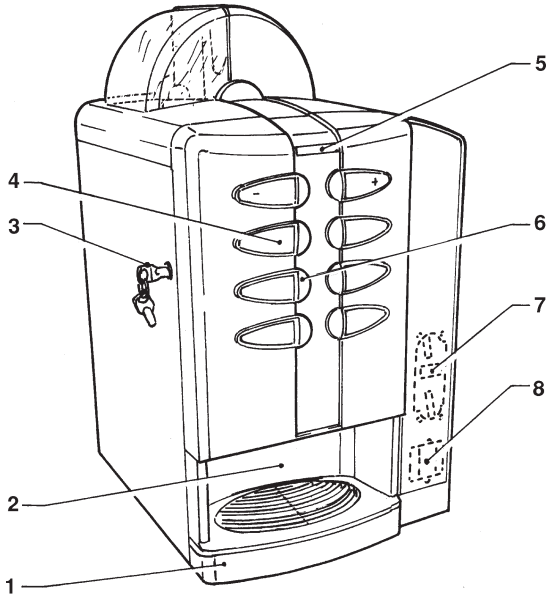


Fig. 5

1 - Liquid waste tray
2 - Dispensing compartment
3 - Door lock
4 - Product label
5 - Display
6 - Selection button
7 - Prearrangement for front validator
8 - Prearrangement for “cashless” payment systems

NOISE LEVEL

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

LOADING CUPS

For automatic models only

In order to load the columns of the cup dispenser do as follows:

- Open the door of the machine.
- Slightly lift the cup dispenser and tilt it (see fig. 6).
- Do not rotate the columns during the loading operations.
- **Load the columns with cups, without exceeding the dispenser height.**
- Re-engage the cup dispenser.
- Close the machine and make a test selection.

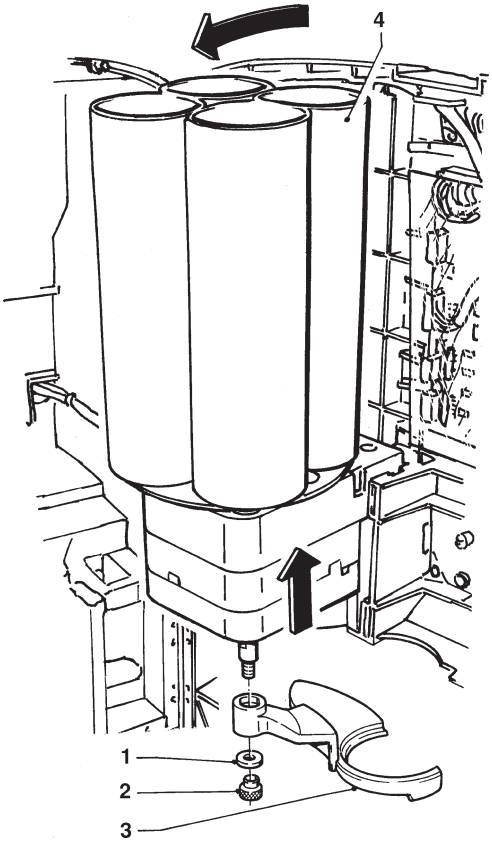


Fig. 6

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

LOADING INSTANT PRODUCTS

The covers can be opened only with the door open (see fig. 7).
Only after having lifted their cover, fill the single containers with the appropriate products, taking care not to compress them to prevent packing.
Make sure the products do not contain any clots.

LOADING COFFEE

The cover can be opened only with the door open.
(see fig. 7)
Lift lid and fill the canister with coffee, ensuring that the shutter is open.

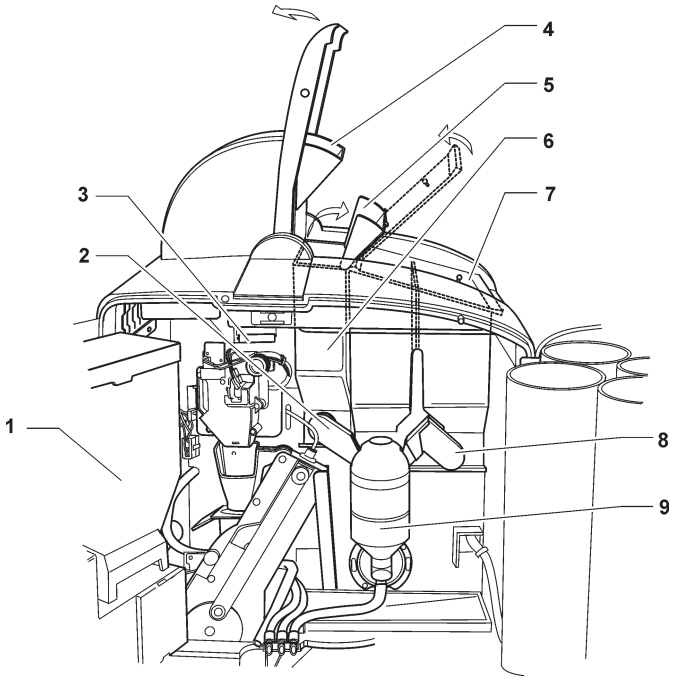


Fig. 7

1 - Powder chute
2 - Coffee container shutter
3 - Door switch
4 - Coffee beans hopper
5 - Small container lid
6 - Small container
7 - Powder chute
8 - Port
9 - Mixer

SANITISING THE MIXERS AND THE FOODSTUFF CIRCUITS

When installing the machine, and then at least once a week or even more frequently according to the use of the machine and the quality of the inlet water, the mixers and the dispensing conduits must be thoroughly sanitised (cleaned and disinfected), to guarantee proper hygiene of the dispensed products.
The parts to be cleaned are as follows:
- powder deposit drawers, mixer and instant drink dispensing conduit;
- dispensing tubes and spouts;
- dispensing compartment;
- remove the powder and the water funnels, the feeders, the powder deposit drawers and the mixer impellers from the mixers (see fig. 8);

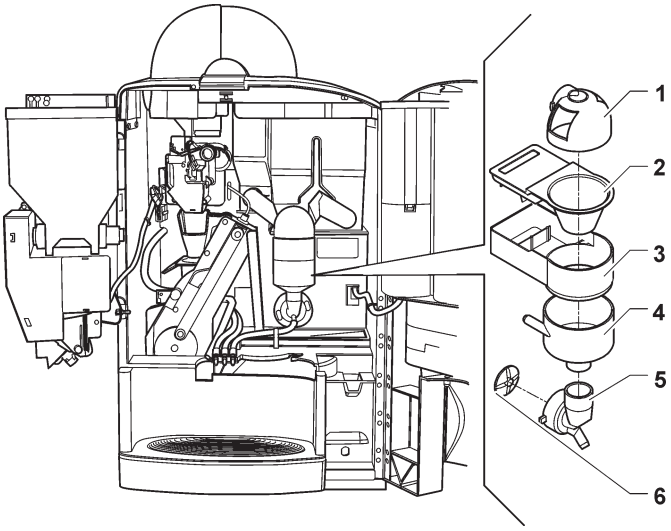
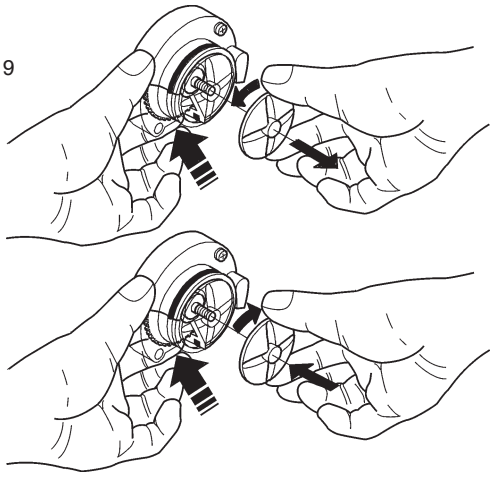


Fig. 8

1 - Powder funnel
2 - Powder deposit drawer
3 - Water funnel
4 - Mixer feeder
5 - Mixer impeller

- in order to unscrew the wheels, simply block the disk fitted on the mixer shaft with a finger;

Fig. 9



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

Disinfection should be carried out using sanitising products.

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

After reinstalling all parts the following is however required:

- Perform a mixer wash cycle and add few drops of the sanitising solution in the various funnels.
- After disinfection thoroughly rinse all components to ensure that all residue of the detergent solution is removed.

CLEANING THE WATER SUPPLY TANK (OPTIONAL)

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

PERIODIC CLEANING OF THE COFFEE UNIT

Every time coffee is refilled, or at least once a week, any powder residue should be removed from the external parts of the coffee unit, particularly from the coffee funnel.

CLEANING THE CUP SHIFT ARM

For the automatic models the cup shift arm must be cleaned periodically after removing it from the machine. In order to remove it, completely undo the fastening knurled nut (see fig. 6).
When reinstalling it, ensure that the spacer washer is positioned correctly.

CLEANING THE SUGAR DISPENSER

(for automatic models only)

For models with sugar dispensed directly into the cup, the sugar dispensing system must be cleaned periodically using hot water, proceeding as follows:

- Release the return spring.
- Lift the flexible lever to free the pin.
- Remove the pin and the sugar dispensing spout.
- After cleaning, thoroughly dry all parts and reinstall them in the reverse order.

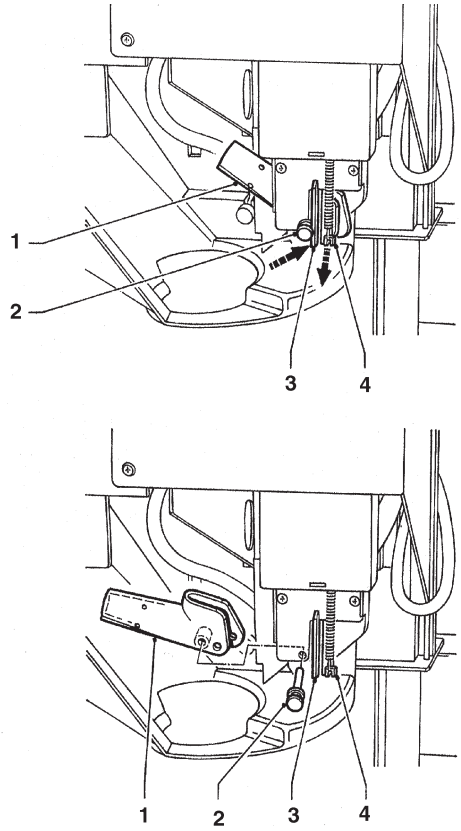


Fig. 10

1 - Sugar dispensing spout
2 - Pin
3 - Flexible lever
4 - Return spring

CLEANING THE WASTE TRAYS

The waste trays can be easily removed even with the door closed (see fig. 11) permitting quick emptying and cleaning.
The coffee canister capacity is greater than that of the waste tray (if the base cabinet is not used).
The machine control software indicates on the display that the maximum number of coffee selections has been reached with the message “Waste tray full”.
After a few further selections the machine will lock.
The waste tray must be emptied without switching the machine off, to allow the software to detect the operation.
With the coffee waste tray removed, the machine is still available for instant drink selections but indicating the message “Insert waste tray” on the display.
The selection counters are reset with the door closed, doing as follows:

- press button 8 for 2 seconds
- the display will indicate the request for a password
- press in a quick succession buttons 4231 to reset the counters.

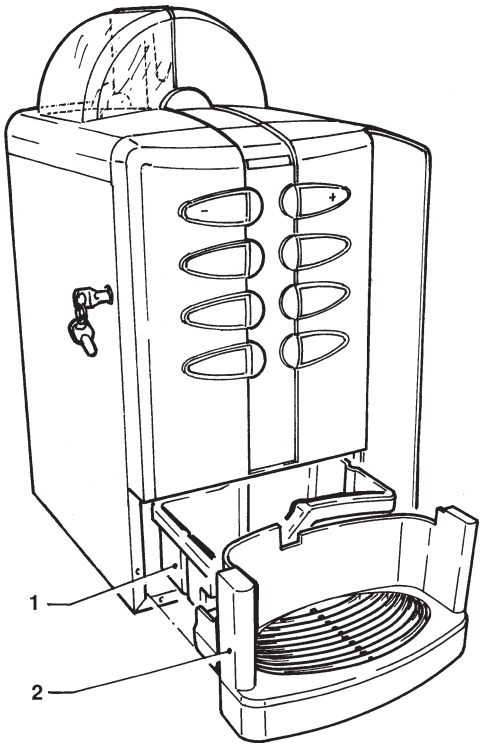


Fig. 11

1 - Coffee waste tray
2 - Dispensing compartment drip tray

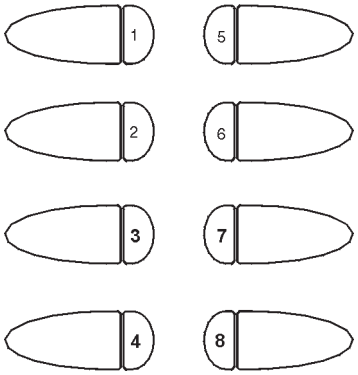


Fig. 12

SUSPENDING FROM USE

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

- completely empty the containers and thoroughly wash them with the sanitising products used to clean the mixers;
- completely empty the dosing grinder by dispensing coffee until the empty condition is indicated.
- completely empty the hydraulic system.

Chapter 2
INSTALLATION

Installation and the following maintenance operations should be carried out with the **machine switched on** and therefore by qualified personnel only, who are trained in the correct use of the machine and informed about the specific risks of such situation.
To energize the system with the open door, simply insert the special key into the door switch (see fig. 13).
The door can be closed only after removing the yellow key from door switch.

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

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

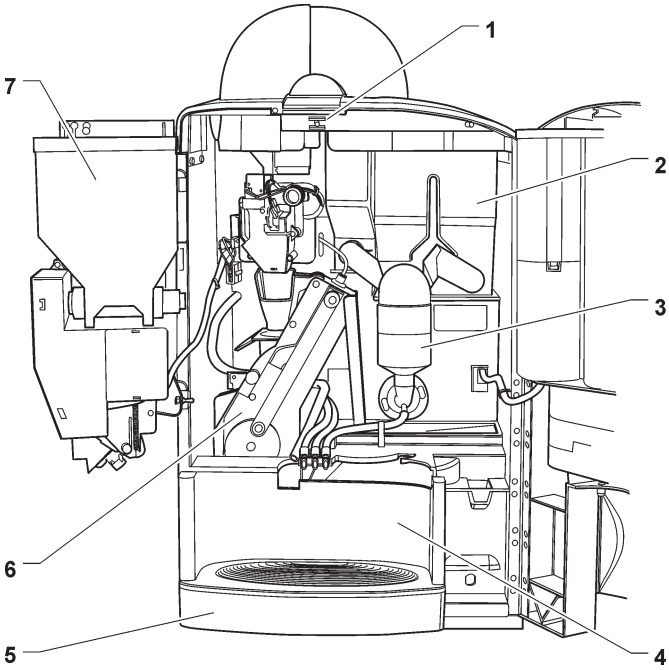


Fig. 13

1 - Door switch
2 - Instant prod. canisters
3 - Mixers
4 - Dispensing compartment
5 - Liquid waste tray
6 - Espresso unit
7 - Instant prod. shelf

DOOR SWITCH

When opening the door a special micro-switch disconnects the power from the machine electrical system.
To energize the system with the open door, simply insert the special key into the door switch (see fig. 13).

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

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

All operations requiring the machine to be energized with the door open should be carried out with the door switch key inserted, and therefore by qualified personnel informed about the specific risks of such situation.

The door can be closed only after removing the key from the door switch.

UNPACKING THE VENDING MACHINE

After removing the packing, ensure that the machine is intact.
If in doubt do not use the machine.

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

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

Important notice!!

The machine should be positioned with a maximum inclination of 2".
If necessary provide proper levelling by way of the adjustable feet included (see fig. 14).

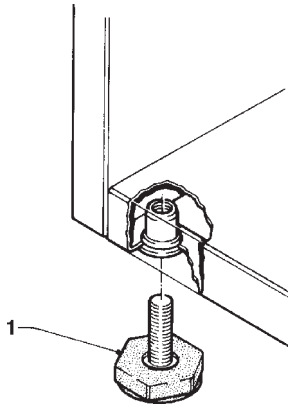


Fig. 14

1 - Adjustable foot

INSERTING THE SELECTION LABELS

The selection labels are supplied with the machine and must be inserted at the time of installation according to the layout and to the language (see “selection dose” table).
According to the layout settings, the buttons may perform different selections.

CONNECTING THE MACHINE TO THE WATER MAINS

The machine must be connected to the drinking water mains, taking into account law provisions in force in the country where the machine is installed.
The water pressure must be 7.3 to 123.3 Psig (0.5 - 8.5 bar).
Run some water from the mains until it is clear and without impurities.
Use a hose capable of withstanding the water mains pressure and suitable for use with foodstuffs (minimum inside diameter of 6mm) to connect the water supply to the 3/4" gas-type union of the water inlet solenoid valve.

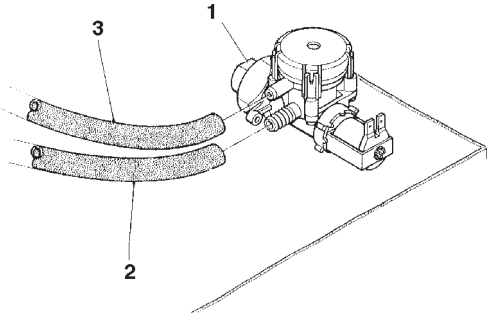


Fig. 15

1 - 3/4" water inlet hose
2 - Water supply hose
3 - Overflow hose

OVERFLOW DEVICE

The water inlet solenoid valve (see fig. 15) is equipped with an overflow device which mechanically stops the water inlet if there is a malfunction in the solenoid valve or in the boiler water level control device.
To restore normal operation, proceed as follows:
- disconnect the electricity from the machine;
- drain the water contained in the overflow hose;
- shut off the water supply using the tap outside the machine;
- loosen the nut which secures the solenoid valve supply hose to relieve the water mains residual pressure and then tighten again (see fig. 15);
- open the tap and switch the machine on.

WATER SOFTENER UNIT

The machine is sold without water softener.
Should the water be very hard, a water softener unit can be installed.
The water softener, available as accessory, must be replaced or regenerated regularly following the directions from the manufacturer.

CONNECTING TO THE POWER SUPPLY

The machine is designed to operate under single-phase 120V~ voltage and is protected by 15 A fuses.
Before making the connection, ensure that the rating corresponds to that of the power grid, and more specifically:
- the supply voltage rating must be within the range recommended for the connection points;
- the main switch should be capable of withstanding the peak load required, and at the same time ensure proper omnipolar disconnection from the power grid with an opening gap of the contacts of at least 3 mm.

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

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

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

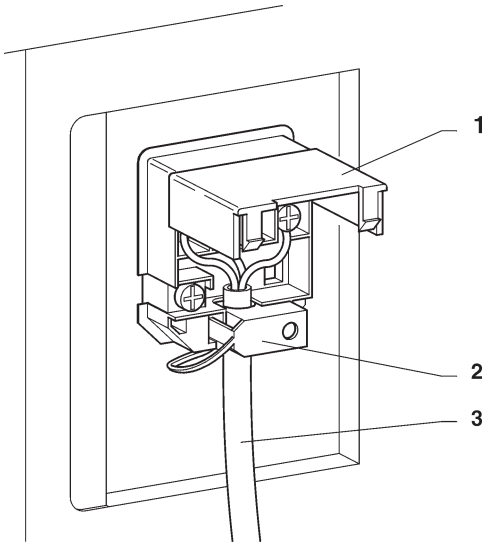


Fig. 16

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

The power supply cable is of the type with a fixed plug. When necessary, the power supply cable (see fig. 16) should be replaced by qualified personnel only, using cables type UL SJTO 3x16 AWG.

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

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

INSTALLING THE PAYMENT SYSTEM

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

The machine is electrically pre-set for the installation of MDB payment systems, and namely:

- coin accepter or “validator”
- change-giver coin mechanisms or “changer”
- bill accepter or “bill validator”
- key / magnetic card reader or “cashless”

that can be used in various combinations.

Compatibility for housing the payment systems must be ascertained by and under the sole responsibility of the installer.

When switched on, the machine goes through a control routine to determine which payment systems are actually installed and therefore configure the correct system.
Install the validator and make sure that the programming of the relevant parameters is correct.
Other payments systems such as “change giver” and “cashless” can be installed by using the specific kits.
The “cashless” systems can be housed inside the machine; other payments systems such as “change giver” must be housed inside the base cabinet.

FILLING THE WATER SYSTEM

When the machine is switched on the conditions of the following are checked: air-break (full or empty), pump priming and boiler.
When pressing twice the programming button located on the inside of the vending machine door, the machine goes into Programming mode.
Press in a sequence buttons 3 and 6 to perform the installation routine; the installation routine consists of:

- Opening the water mains solenoid valve and filling the air-break.
- Opening the solenoid valve so that the air may be bled from the boiler and 400 cc of water filled.
- The message “Installation” will be shown on the LCD display for the entire duration of the cycle.

N.B.: If there is no water flow from the mains during the installation cycle, the machine will stop until water is resumed or the machine is switched off.
Important notice!!!
If a considerable amount of air bubbles is formed in the water system, for example during maintenance, it is possible that an installation cycle is automatically started when the machine is switched on.

WATER SOFTENER UNIT

The machine is sold without water softener.
Should the water be very hard, a water softener unit (optional) can be installed.
The water softener, available as accessory, must be replaced or regenerated regularly following the directions from the manufacturer.

OPERATION

PRE-SELECTIONS

According to the layout settings, it is possible to have different pre-selections; the available pre-selections for each layout are indicated in the selection dose table supplied with the machine.

Decaffeinated

This pre-selection is used for choosing whether the next coffee based selection will be with decaffeinated type coffee.

Syrups (with syrup kit only)

This pre-selection is used for choosing whether to add syrup to the next selection.

Sugar (only for models with sugar dispenser)

This pre-selection is used, in unsweetened selections, for adding sugar to the next selection

COFFEE DISPENSING CYCLE

After each time the machine is switched on, the coffee unit is rotated completely before the normal cycle to ensure that the device is in the correct start position.
According to the layout settings of the machine, the dispensing cycle can be:

- With single grinding and single coffee release:

The grinder operates until filling the coffee doser chamber. When the doser is full, the ground coffee dose is released into the brewing chamber (1) positioned vertically (see fig. 17).

Fig. 17

1 - Brewing chamber
2 - External disk
3 - Upper piston
4 - Lower piston
5 - Pre-brewing spring
6 - Swinging lever
7 - Markers

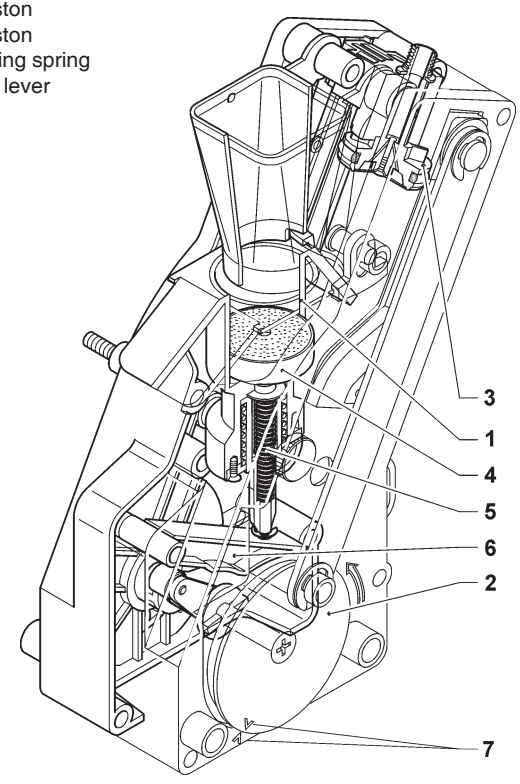
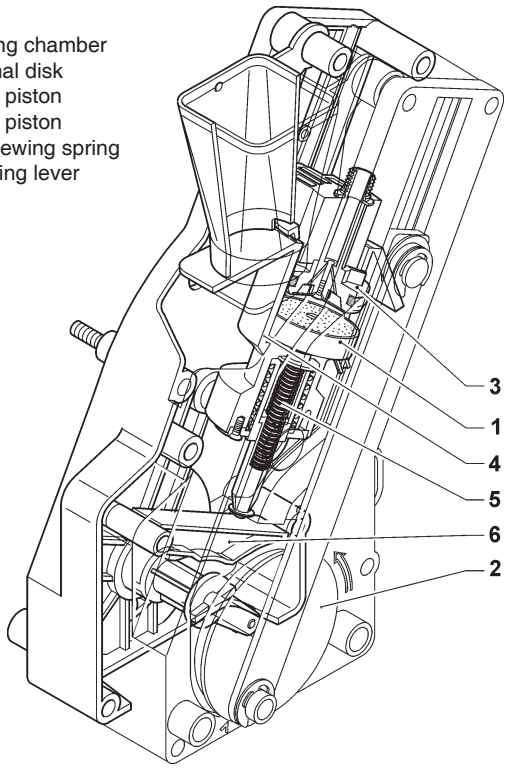


Fig. 18

1 - Brewing chamber
2 - External disk
3 - Upper piston
4 - Lower piston
5 - Pre-brewing spring
6 - Swinging lever



- With double grinding and double coffee release:

The grinder operates until filling the coffee doser chamber. When the doser is full, the ground coffee dose is released into the coffee brewer unit. The grinder starts for a second grinding cycle and the dose is released again into the brewing chamber (1) positioned vertically (see fig. 17).
After the release of ground coffee dose(s) is completed, the ratiomotor handle engaged with the disk (2) located outside of the assembly rotates by 180", making the brew chamber swing and lowering the upper piston (3) (see fig. 18).
Due to the water pressure, the pre-brewing spring (5) sinks and the lower piston (4) goes down 4 mm, thus forming a water cushion which allows an even use of the coffee dose.
At the end of the dispensing cycle and during a pause of 3 seconds, the pre-brewing spring (5) will discharge the water through the third way of the dispensing solenoid valve, lightly pressing the used coffee dose.
By completing its rotation, the ratiomotor makes the swinging lever (6) lift the pistons and the coffee dose.
At the same time, when the brewing chamber returns to its vertical position, the scraper on the coffee hopper stops the used coffee dose and drops it.
The lower piston now returns to the bottom dead centre.

CHECKING AND ADJUSTING THE MACHINE SETTINGS

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

- That the used coffee dose is lightly compressed and damp.
- The grade of grinding of ground coffee.
- The dose weight of the products.
- The drink temperature.
- The water dose.

Should the standard settings need to be changed, proceed as indicated in the next sections of this manual.
The dose weight of instant products, the water dose and temperature are directly controlled by the microprocessor.

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

SETTINGS

The vending machine is supplied with the following settings:

- coffee temperature (at the spout) approx. 85-89"C
- instant product temperature (at the spout) approx. 75"C

The machine standard settings assign the same price, expressed in number of basic coins, to all selections.

WATER TEMPERATURE CONTROL

The boiler temperature is controlled by the software (92"C by default) and can be adjusted directly from a menu.

IDENTIFICATION OF THE BREWER UNIT

Some adjustments and/or setting changes are specific to the espresso unit installed in the machine; before proceeding to any adjustments and/or settings it is indispensable to identify the type of brewer unit installed.
To identify the brewer unit refer to the diameter of the brewing chamber (see fig. 19).

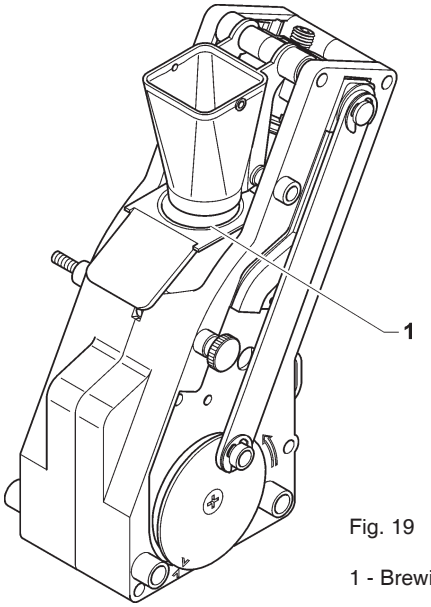


Fig. 19

1 - Brewing chamber

Standard brewer unit

It has a brewing chamber with diameter of 37 mm; the unit operates with coffee doses between 5.5 and 8.5 gr.

Large brewer unit

It has a brewing chamber with diameter of 45 mm; the unit operates with coffee doses between 5.5 and 8.5 gr.
It is possible to use a layout with double dose release.
In this case the dose will have to be 6 gr maximum (for a total of 12 gr); greater doses can jam the brewer unit.

ADJUSTING THE BREWING CHAMBER VOLUME

The brewing chamber volume must be adjusted according to the layout settings. To change the piston position (see fig. 20) do as follows:

- Take the snap ring out of its seat.

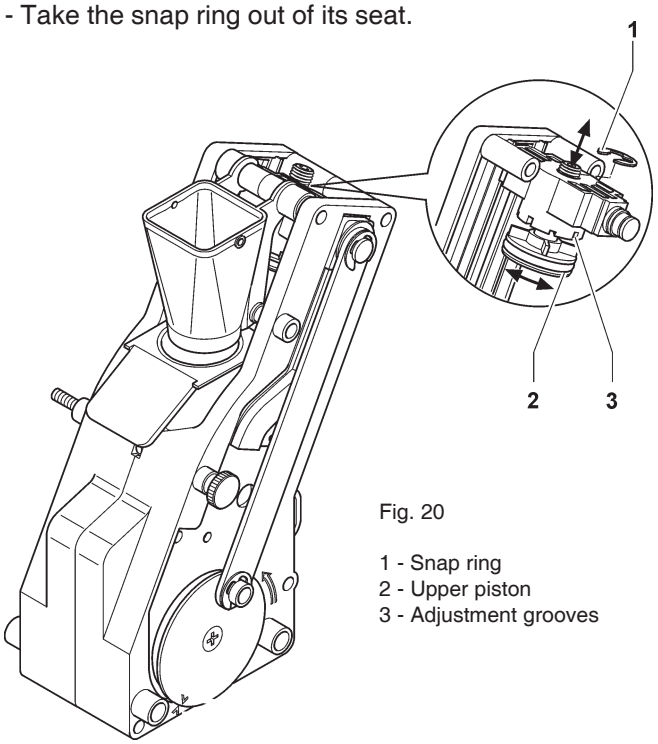


Fig. 20

1 - Snap ring
2 - Upper piston
3 - Adjustment grooves

- According to the dose and to the type of release, place the piston as indicated in the table:

	Standard brewer unit Ø 37mm	**Large brewer unit Ø 45mm**
1 dose release 5.5gr to 7.5gr	less deep grooves	not possible
1 dose release 6.5gr to 8.5gr	deeper grooves	less deep grooves
2 dose release 6gr max. (12gr)	not possible	deeper grooves

ADJUSTING THE GRADE OF GRINDING

When a variation in the grade of grinding is desired, turn the relevant adjusting knob on the grinder (see fig. 21) and more specifically:
- turn the knob anticlockwise for coarser grinding;
- turn the knob clockwise for finer grinding.

For optimum results, it is advisable to vary the grade of grinding with the coffee grinder motor running.

N.B.: After adjustment of the grade of grinding, at least 2 test selections must be performed in order to check the new grade of grinding for ground coffee: the finer the grade of grinding the longer the time necessary for dispensing the coffee and vice versa.

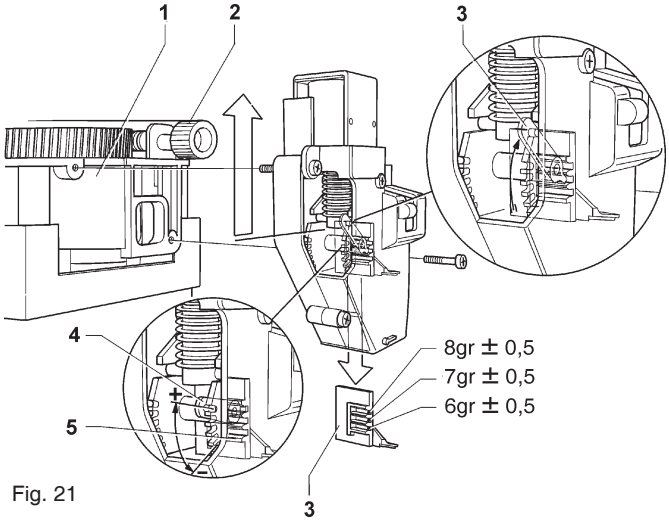


Fig. 21

1 - Coffee grinder
2 - Grinder knob
3 - Dose regulator
4 - Dose adjusting lever
5 - Reference notches

ADJUSTING THE COFFEE DOSE

Warning !!!
The coffee dose must be adjusted only in machines set for single release.
In machines set for double release it is necessary to set the coffee dose to 6 g.
The dose adjusting lever can be positioned in one of the 6 reference notches bearing in mind that:
- the dose is increased by lifting the lever,
- the dose is reduced by lowering the lever,
- every notch changes the dose by approx. 0.25 gr.

In addition, when the lever is fully rotated upwards, the ratchet can be released from the groove in the dose regulator (see fig. 21) and replaced into a different groove to change the average dose setting to:
- high 8 gr. ± 0,5
- medium 7 gr. ± 0,5
- low 6 gr. ± 0,5

To take the dose just remove the coffee unit and use the special functions in the “maintenance” (see relevant section).

Important notice!!!

To refit the coffee unit, pay special attention to the piston position. Reference notches on the external disk and on the unit case should match (see fig. 17).

NOTES ON PROGRAMMING

The machine electronic control allows or not the use of many functions:
All of the available functions are described in the machine program, including the ones that are not used for the specific configuration of the model (layout).
The machine is supplied with a dose table, describing the different functions and layouts available for the specific model and the flowchart of the programming menu.
Below is listed a summary explanation of the main functions useful for managing the operation of the machine, not necessarily in the order in which they are displayed in the menu.
The messages on the display that indicate the current operation
are fixed, while any action required by the user is blinking.

POWER ON

When closing the door, the display indicates the software version number to which referring; after which the machine goes into normal vending operation.
The machine can be programmed for displaying, for a few second, the number of selections made.

OPERATING MODES

The machine can be in three different operating modes.
According to the operating mode, the buttons take on different functions.
The available operating modes are as follows:

MODE	FUNCTIONS
Normal vending mode	Coins are accepted Products are dispensed
Maintenance mode	Test dispensing Machine maintenance
Programming mode	Programming the different parameters

NORMAL VENDING MODE

During the normal vending mode the display shows the message for the user with the prompt to select the drink. The function of the buttons can be different according to the layout and to the choices made during programming. The massages displayed according to the operation being carried out can be the following:

DISPLAY MESSAGE	DESCRIPTION
“Ready for use”	Machine ready
“Price:....”	Displaying the price of the selected product
“Credit:.....”	Displaying the inserted credit
“Out of service”	Machine out of service
“Drink in process”	Drink preparation
“Temperature”	Waiting to reach the boiler operating temperature
“Installation”	Installation under way
“Sel. disabled”	Selection disabled
“Coffee off”	Coffee unit out of service
“Take”	Drink ready

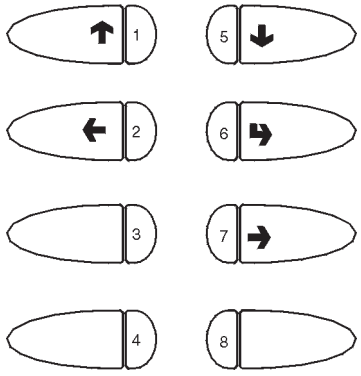
PRE-SELECTIONS

According to the layout set at the time of initialising buttons “1”, “5” and “8” can take on the following functions:
- Decaffeinated pre-selection
- Syrup pre-selection (with KIT only)
- Sugar pre-selection (only for models with sugar dispenser)

MAINTENANCE MENU

Press once the programming button located on the internal side of the push-button board for the machine to go into "Maintenance" mode.
When in maintenance mode the buttons take on the following functions:

Fig. 22



- ↑ Previous function / Decrease data item (-1)
- ← Exit function / Cancel change
- ↓ Next function / Increase data item (+1)
- ↵ Confirm function / Confirm data item
- → Change data item

Scroll through the menu with the "↑"and "↓" buttons to show the following functions:

"STATISTICS"

Functions: display statistics, print statistics, delete statistics, display selection counters.

"COMPLETE SEL."

(For automatic models only)
Function of test dispensing complete with cup, sugar and stirrer

"POWD. ONLY"

Function of test dispensing (powder only)

"WATER ONLY"

Function of test dispensing (water only)

"NO ACCESSORIES"

(For automatic models only)

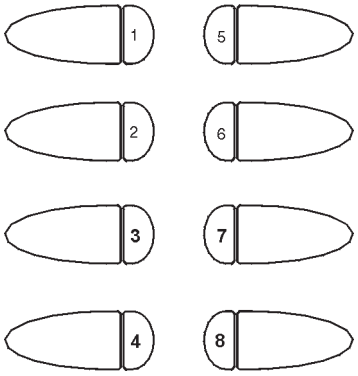
Function of test dispensing without cup, sugar and stirrer
In the test dispensing functions, when pressing the confirm button "↵" the selection buttons will take on the original function for 7 seconds, permitting the test dispensing provided for each function.

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

"SPECIAL FUNCTIONS"

When the display shows "Special functions" the buttons take on the following functions:

Fig. 23



2 Grind a coffee dose
3 Dispense sugar (automatic models only)
4 Autotest
6 Rotate the coffee unit
7 Release a cup (automatic models only)
8+6 Empty the air-break
8+4 Empty the boiler

Grinding a coffee dose (direct function)

Press button "2" for grinding coffee; this function is useful for getting a dose of ground coffee and checking its weight.

Dispensing sugar (direct function)

Automatic models only.
Press button "3" for performing a sugar dispensing test.

Autotest (direct function)

Before performing this operation, remove the waste tray and the powder and coffee canisters.
From the "Special functions" menu press button "4" on the display and the message "AUTOTEST" will start blinking.
Press button "2" to cancel the operation, confirm with button "6" to start the autotest cycle.
In a sequence:

- The doser units are activated for 2 seconds
- The mixers are activated for 2 seconds
- A cup is released (automatic models only)
- A stirrer is released (automatic models only)
- The coffee unit is rotated
- Liquid waste container float
- Push-button panel test; the machine displays the number of the button which must be pressed and waits for this to be done before going to the next button (number 9 corresponds to the wash button).

Rotating the coffee unit (direct function)

Press button “6” for a complete rotation of the brewer unit

Releasing a cup (direct function)

Automatic models only.
Press button “7” for performing a cup releasing test.

Emptying the air-break (direct function)

This function is used for partially emptying the air-break, dispensing water from the milk solenoid valve for 8 seconds before blocking the machine, to allow the machine to be moved without spilling water. To restore normal functioning the machine must be switched off and then on.
From the “Special functions” menu:

- Press in a sequence buttons “8” and “6” to empty the air-break

Before moving the machine over a long distance, especially if involving the use of a vehicle, the hydraulic system must be emptied.

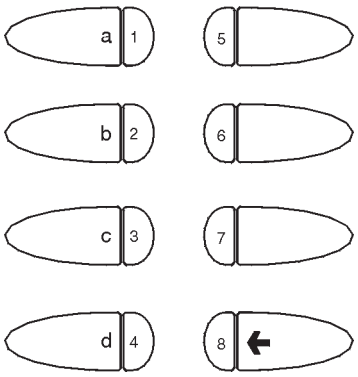
Emptying the boiler (direct function)

Emptying of the boiler may become necessary in the event the vending machine is placed on storage or when the boiler needs maintenance.
This function is used for emptying the boiler. To correctly empty the boiler refer to the maintenance chapter.

“FILLING THE CHANGE TUBES”

It is used for filling the change tubes manually.
To fill the change tubes manually do as follows:

- Press any button to enable filling; the display will indicate “Credit: ——” which is the value of money in the tubes available as change.
- Insert the desired coin into the selector (the display will indicate the value of money in the tubes available as change).
- Press button “8” to end the operation.



STATISTICS

DISPLAYING THE STATISTICS

Press button “↵” when the display indicates the “Display statistics” function; then the stored data will be shown on the screen, and more precisely:

- counter by single selection;
- counter by single price;
- counter by type of coin cashed;
- total cashed counter;
- failure counter.

PRINTING THE STATISTICS

Connect an RS-232 serial printer with a Baud rate of 9600, 8 data bit, no parity, 1 stop bit to the serial port located on the push button board, to print all the statistics described in section “Displaying the statistics”. The hardcopy printout will also contain the machine code number and the printout progressive number.
The progressive hard-copy printout number can only be reset by initialising the machine.
To connect the printer, do as follows:

- Press button “↵” when the display indicates the “Print statistics” function and the message “Confirm?” will be displayed;
- before confirming connect and switch on the printer;
- press the confirm button “↵” again to start printing.

RESETTING THE STATISTICS

Press button “↵” when the display indicates the “Reset statistics“ function, then the message “Confirm?” will be start blinking.
Press the confirm button “↵”, the message “Running” is displayed for a few seconds and all statistics are reset.

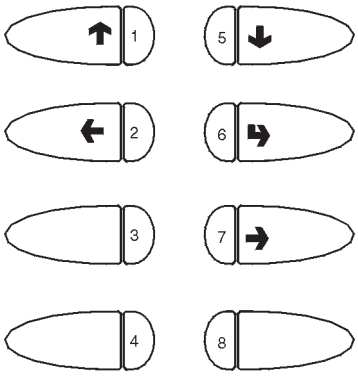
GENERAL COUNTER

The machine stores all selections in this counter, which cannot be reset.
This function allows reading or displaying of the counter when the machine is switched started.
Press button “↵” when the display indicates the “General counter” function and the function status (ON/OFF) will be displayed; press button “→”, the status will start blinking and then can be changed with the “↑”and “↓” buttons.
Press button “↵” again and the stored value will be displayed for 3 seconds.

PROGRAMMING MENU

When the programming button located on the internal side of the push-button board (see Fig. 30) is pressed twice the machine will be set to “Programming” mode.
The message “Programming” is shown on the display for approx. 2 seconds and then the first option of the Programming menu is presented.
When in Programming mode the buttons take on the following functions:

Fig. 24



1 - ↑ Previous function / Decrease data item (-1)
2 - ← Exit function / Cancel change
3 - Machine manual installation
4 - //
5 - ↓ Next function / Increase data item (+1)
6 - ↵ Confirm function / confirm data
7 - → Change data item
8 - Reset failures

Buttons “1”, “2”, “5”, “6”, “7” are used for scrolling through the menu or changing data.
Buttons “3” and “8” are for direct functions: press button “3” for filling the hydraulic system, even with the air break full.
Press button “8” for resetting the present failures.
Scroll through the menu with the “↑”and “↓” buttons to show the following functions:

“Curr. failures”	Reading current failures
“Water dose”	Setting the water doses
“Powder dose”	Setting the powder doses
“Set Prices”	Setting the prices
“Set Prices/button”	Prices/button combination enables/disables button
“Basic coin / DP”	Setting the basic coin value and decimal point position
“Payment systems”	Validator MDB
“Initialise”	Initialising the RAM
“Machine code”	Setting the machine identification code
“Machine config.”	Setting the machine configuration
“Selec. counter”	Setting the number of selections after which the machine will lock
“Prom. message”	Enabling and setting the promotional message
“Language”	Setting the language used to display the messages
“Whipping time”	Setting whipping time for instant coffee
“Prog. password”	Enabling the password to access programming
“Selec. configuration”	Determining the accessories to be dispensed with each single button (automatic models only)
“Special sales”	Setting free vend and jug facilities parameters
“Set date/time”	Setting the system date/time
“Set wash”	Setting the time for mixer washing
“Discount time band”	Setting a time band with differential price selections
“Consecutive sel.”	setting the number of selections after which the machine will pause for heating
“Pre-grinding”	Setting the option of pre-grinding
“Set Temperature”	Setting the boiler temperature
“Display pre-sel.”	Setting the pre-selection on the display (semiautomatic models only)
“Syrup pre-sel.”	Setting the syrup pre-selection on the display (semiautomatic models only)
“Syrup overprice”	Setting an overprice if selections with syrup are made
“Syrup cycle”	Dispensing syrup before or after the selection
“Dex UCS-EVADTS”	Acquiring the EVADTS statistics

MANUAL INSTALLATION (direct function)

Press the installation button “3” to fill the hydraulic system, even with the air-break full.

RESETTING FAILURES (direct function)

Press the failure reset button “8”; the message “Running” is displayed for a few seconds and all present failures are reset.

DISPLAYING THE CURRENT FAILURES

When the “Present failure” function from the “programming” menu is displayed, press the confirm button “↳” to display the error code of the current failure;
then each time button “↓” is pressed the error code of the next failure is displayed (if present). If no failures are present, when pressing the confirm button “↳” the message “No Failure” is displayed.
The possible failures are indicated in the following cases:

AIR-BREAK

The machine will lock if after dispensing water corresponding to 150 pulses of the volumetric counter the micro-switch has not signalled the lack of water.

BOILER

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

COIN MECHANISM

The machine will lock if it receives an impulse longer than 2 seconds on a validator line or there is no communication with the serial coin mechanism for more than 30 seconds.

RAM DATA

The data in the EEprom (i.e. the chip that stores the setting variations) contains errors and must be retrieved from the Eprom, thus losing all statistics information.
The message “INITIALISE” will be shown on the display.

WATER FAILURE

Models with water supply from the mains

The machine locks if the air-break micro-switch is closed for more than 10 seconds. When pressing a selection button the water inlet solenoid valve is triggered to check the water flow from the mains.

Models with water supply from the tank

The machine locks if the water level in the tank falls to below approximately 300 cc.

CUP FAILURE (for automatic models only)

When the empty cup column micro-switch opens, the column shift motor is activated. If after one full turn, the micro-switch is not closed the message “Cup failure” is displayed and the machine locks.

WATER LEAK

If water is requested by the air-break without having been used (selections, washing, etc.) the machine will block further water requests.

IMPELLER FAILURE

Failed computation of the volumetric counter within a max. given time.

COFFEE UNIT FAILURE

Due to mechanical blocking of the unit.
The machine is not locked, but all coffee-based selections are disabled.

COFFEE FAILURE

If after a period of 15 seconds of grinding coffee a dose is not obtained, all coffee-based selections are disabled.

WASTE CONTAINER FAILURE

If the machine is equipped with a liquid waste container (housed in the base cabinet) and the overflow warning device is triggered, the machine locks.

COFFEE RELEASE FAILURE

If after releasing the ground coffee dose the micro-switch of the coffee doser unit indicates the presence of coffee in the dosing chamber, all coffee-based selections are disabled.

CUP RELEASE FAILURE (for automatic models only)

If after releasing one cup the positioning micro-switch is not triggered the control software disconnects the power from the release motor and the machine locks.

WATER FAILURE

The machine locks if the air-break micro-switch is closed for more than 10 seconds.
When pressing a selection button the water inlet solenoid valve is triggered to check the water flow from the mains.
If the failure is not reset automatically, it will be necessary to restart the machine to be able to reset the failure again by pressing a selection button.

CHANGER FAILURE (MDB only)

The change-giver coin mechanism is not working or does not communicate.

BILL VALIDATOR FAILURE (MDB only)

The bill accepter is not working or does not communicate.

CASHLESS FAILURE (MDB only)

The key or magnetic card reader is not working or does not communicate.

WATER AND POWDER DOSES

When either the “Water dose” or the “Powder dose” functions from the “programming” menu are displayed the related doses can be changed.
The different doses are identified by a dose code, which is displayed each time.
The dose code locates the water and powder doses related to a given selection; any changes to one selection dose also affects the compound selections where the dose code is used.
Refer to the selection dose table for the dose code list.
The displayed values for the doses are expressed in:

- tenths of a second for powders;

- number of pulses of the volumetric counter for water.

Press the confirm button “” from the “programming” menu to access the dose code list, which can be scrolled with the “” and “” buttons.
When pressing change button “”, this value will start blinking and can be modified as necessary.
The water dose settings cannot be increased to more than a certain limit.

PROGRAMMING THE PRICES

When the “Set Prices” (price programming) function from the “programming” menu is displayed, the 8 sales prices stored can be changed.
The prices are indicated as number of basic coins.
Press the confirm button “” from the “programming” menu to access the price list, which can be scrolled with the “” and “” buttons.
When pressing the change button “”, this value will start blinking and can be modified as necessary.

PROGRAMMING THE PRICES AND THE PUSH-BUTTON STATUS

When the “Set Prices/Button” (price combination) function of the “programming” menu is displayed, the status of a selection and the combination of the button to one of the stored prices can be changed.
Press the confirm button “” from the “programming” menu to access the button list, which can be scrolled with the “” and “” buttons.
When pressing the change button “”, the selection status starts blinking.
Using the “” and “” buttons, the selection status can be changed from enabled (ON) to disabled (OFF).
Press again the confirm button “” to display the price number referred to in the 8 programmed prices.
When pressing the change button “”, this value will start blinking and can be modified as necessary.
The buttons which control the pre-selections do not need to have a combination with prices. In any case prices have no effect on the pre-selection buttons.

PROGRAMMING THE BASIC COIN AND THE DECIMAL POINT

When the “Basic coin / DP” (basic coin value) function from the “programming” menu is displayed, the value of the basic coin as well as the position of the decimal point can be modified.
Press the confirm button “” from the “programming” menu to display the current value of the basic coin.
Using the “ and “” buttons, the value of the basic coin and the number of the decimal point position “dP” are displayed alternately, and namely:

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

Press the change button “”, these values will start blinking and can then be modified as necessary.

PAYMENT SYSTEMS

When the “Payment system” function is displayed, it is possible to define which payment system with MDB communication protocol to use, selecting among:
- Validator
- MDB
In order to install payment systems different from a validator or “cashless” systems, special kits must be used.
The payment systems must be housed in the base cabinet.

VALIDATOR

If the selected payment system is a validator, its operating parameters must be defined.
“Credit control”
It is possible to decide whether any excess credit paid is to be cashed or made available to the user.
“Operating voltage”
According to the type of validator it necessary to select the operating voltage, 12 V or 24 V.
“Validator lines”
When the “Validator lines” function (line programming) is displayed, the value of the 6 validator coin lines can be changed.
The value of the lines is indicated as number of basic coins.
Press the confirm button “” from the “programming” menu to access the line list, which can be scrolled with the “” and “” buttons.
When pressing the change button “”, this value will start blinking and can be modified as necessary.

MDB

The menu of the MDB protocol is used for defining:

Type of vending

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

Change control

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

Maximum credit

It is used to define the maximum accepted credit.

Maximum change

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

Accepted coins

It is possible to define which, among the coins recognised by the validator, are to be accepted when the change tubes are full.
Check the coin mechanism configuration for the correct coin to value matching.

Returned coins

It is possible to define which, among the coins available in the tubes, are to be used for returning the change. This parameter is active only with coin mechanisms that automatically control the choice of tube to be used (Auto changer payout).
Check the coin mechanism configuration for the correct coin to value matching.

Accepted bills

It is possible to define which, among the bills recognised by the reader, are to be accepted.
Check the reader configuration for the correct bill to value matching.

Minimum level of tubes

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

Accepted coins with "exact amount"

It is possible to define which, among the coins recognised by the validator, are to be accepted when the machine is in the "exact amount" condition.
Check the coin mechanism configuration for the correct coin to value matching.

Accepted coins with "exact amount"

It is possible to define which, among the bills recognised by the accepter, are to be accepted when the machine is in the "exact amount" condition.
Check the accepter's configuration for the correct bill to value matching.

INITIALISING

When the "Initialise" function is displayed the vending machine can be initialised restoring all default data.
This function should be used if there is a memory data error or when the EPROM is replaced.
All statistic information will be reset.
Press the confirm button "↳" and the display will indicate the message "Confirm?". Press the button "↳" again to display the first changeable parameter to define the machine configuration.
The available options (blinking) can be scrolled with the "↓" and "↑" buttons, the selection is confirmed with button "↳" and the next parameter is presented. When pressing button "↳" after the last parameter the display will show the message "Working" for a few seconds and the machine is initialised.
The parameters are as follows:

Machine type

According to the models, it is possible to select Automatic or Semiautomatic

"Country"

By setting the country it is possible to set the type of doses to be used for the selections

"Layout"

Layout of containers and selection menu from the available ones

"Tank"

Water supply from the mains or from the internal tank

SETTING THE MACHINE CODE

When the "Machine code" function is displayed the identification code number of the machine can be changed (from the default 0000 up to 9999).
Press the confirm button "↳" and the current code number is displayed; then press the change button "→" and the first digit will start blinking.
The value of the blinking digit can be increased or decreased with the "↓" and "↑" buttons.
When pressing the confirm button "↳", the blinking digit will take on the displayed value and the next digit starts blinking.

MACHINE CONFIGURATION

When the “Machine Config.” function is displayed, the machine configuration can be changed, and namely:
- cup dispensing / without cup (for automatic models)
- water supply from the mains or from the tank
- presence of the equipped base cabinet
- fast cycles ON / OFF
- coffee grounds tray ON / OFF

Press the confirm button “” to display the current status; when pressing the change button “” the data item starts blinking and can be changed with the “” and “” buttons.

IMPORTANT NOTICE!!!

When initialising the machine, the configuration takes on the default values.

THEREFORE, AFTER INITIALISING THE MACHINE MUST BE RECONFIGURED.

When the “fast cycles” function is enabled, some of the time that is useful for improving the drink quality is eliminated.

Instant selections

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

Espresso selections

- Pre-brewing of ground coffee is not performed.
- the pump, used to increase the boiler pressure after an instant drink selection, is not started;
- the “post-whipping” time is eliminated.

SELECTION COUNTER

This function is used to lock the machine after a programmable number of coffee selections, and a programmable number of instant selections; alternatively, the machine can be locked after a programmable number of selections.
Since this is a control tool used only by the vending operator, a 4-digit password must be entered.
After entering the password, it is possible to set the number of selections after which the machine locks, read the number of selections already made and reset the lock counter.

N.B.: The counters are set to zero by default.

With the counters set to zero, this function is disabled.

SETTING THE PROMOTIONAL MESSAGE

When this menu is displayed, press the confirm button “” to display whether or not the message is enabled (disabled by default).
If the message is enabled, when pressing the confirm button “” the first character will start blinking and can be changed.
The buttons will take on the following functions:

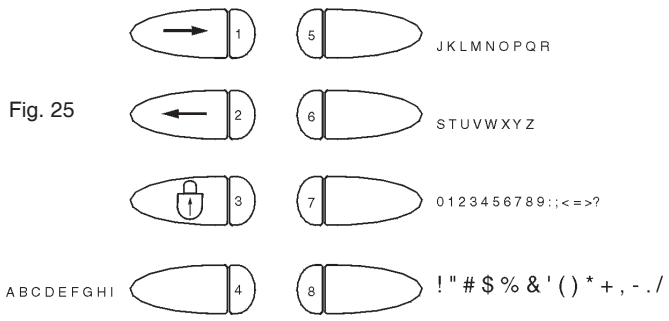


Fig. 25

1 - Go to the next character
2 - Go to the previous character
3 - Upper case/lower case
The values are displayed alternately by pressing the button sequentially.
The message is stored by pressing button “2” when on the last position.

LANGUAGE SELECTION

This function is used to select the language to be used for displaying the messages.

WHIPPING TIME

This function is used to define how long (in tenths of a second) instant coffee is to be whipped according to the amount of drink to be obtained.

PROGRAMMING ACCESS PASSWORD

This function is used to enable the request for a password to access the programming procedures.
The password is the button sequence 1 1 2 2 and cannot be changed.

SELECTION CONFIGURATION

(for automatic models only)

This function is used to determine, as an exception to the machine configuration, which accessories should or should not be dispensed for a specific selection.
The following is possible for each selection button (1 to 8, excluding the pre-selection buttons):
- not dispense the cup (if the machine configuration includes the cup, but not vice versa);
- not dispense the stirrer if the selection is unsweetened;
- not dispense sugar and stirrer for selections which are defined as sweetened (but not dispense sugar for selections which are defined as unsweetened).

The settings defined with the selection configuration are used also for complete test selections.

SPECIAL VENDING

It is possible to enable or disable Free Vend, to enable or disable the “jug facilities” function and to set the number of consecutive selections (1 to 9; 5 by default) that are dispensed when “jug facilities” is enabled.
The password and the number of selections for each jug facilities cycle can be programmed only if the function to which they are connected is enabled.
A password already used for other functions is not accepted and a different button combination must be used.
The password must be entered for each special vending cycle, after pressing button “8” for 2 seconds in normal vending mode.

SETTING DATE AND TIME

This function is used for setting date and time in the control software.

AUTOMATIC WASHING OF THE MIXERS

Option of setting the time when automatically cleaning the mixers and rotating the brewer unit.
When setting the time to 24.00 the function is disabled.
The time must be in the hh.mm. format.

SETTING THE TIME BAND

A time band can be programmed for vending at differentiated prices. This function requires the entry of the start time and of the end time, which must be in the hh.mm. format.

SETTING THE TIME BAND PRICES

This function is used for defining the the price of each single selection when the machine is within the time band for vending at differentiated prices.
The function is active if the start time and the end time were set for the time band.

CONSECUTIVE SELECTIONS

It is possible to set the number of consecutive selections (0 to 99) (dispensed at less than 2 minutes intervals) after which the machine will not dispense other selections until the boiler reaches the correct temperature.
With the value set to 0 (default) the function is disabled.

PRE-GRINDING

This function is used for enabling/disabling the grinding of coffee for the next selection.
This permits the reduction of dispensing time for a coffee selection. The function is disabled by default.

TEMPERATURE SETTING

With this function, it is possible to set the boiler temperature directly in "C.

DISPLAYING THE PRE-SELECTION

For semiautomatic models only.
It is possible to set which of the available pre-selection messages is to be shown on the display.

SYRUP PRE-SELECTION

For semiautomatic models only.
For models with syrup KIT. It is possible to set which of the available syrup pre-selection messages is to be shown on the display.

SETTING THE OVERPRICE FOR SYRUPS

For models with syrup KIT. This function is used for setting an overprice to the selection if drinks with syrups are selected.

SETTING THE SYRUP CYCLE

For models with syrup KIT. This function is used for setting if syrups are to be dispensed before or after the selection.

DEX UCS - EVADTS

This function sets the machine in wait mode for the connection with a device to acquire the EVADTS statistics.

Chapter 3
MAINTENANCE

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

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

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

INTRODUCTION

To ensure correct operation for a long period, the machine must be subjected to regular maintenance.
The following sections contain the procedures and the maintenance schedule, which are only a general indication, as they greatly depend on the operating conditions (e.g. water hardness, environmental humidity and temperature, type of product used, etc.).
The procedures described in this chapter are not exhaustive of all maintenance operations to be carried out.
More complex operations (e.g. boiler descaling) should be carried out by qualified technicians only having specific knowledge of the machine.
To prevent oxidation or the action of chemical agents, the stainless steel and varnished surfaces should be kept clean by using mild detergents (solvents must not be used).

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

ESPRESSO UNIT MAINTENANCE

Every 10,000 selections or every 6 months some maintenance of the coffee unit must be carried out.
Maintenance is carried out as follows:

- remove the boiler Teflon hose connection from the upper piston, paying attention not to lose the seal (see fig. 23);
- undo the knob securing the unit to the bracket;
- remove the coffee unit.

Removing the upper filter

- Take the snap ring out of its seat
- Remove the piston from the crosspiece
- Remove the filter and the piston seal

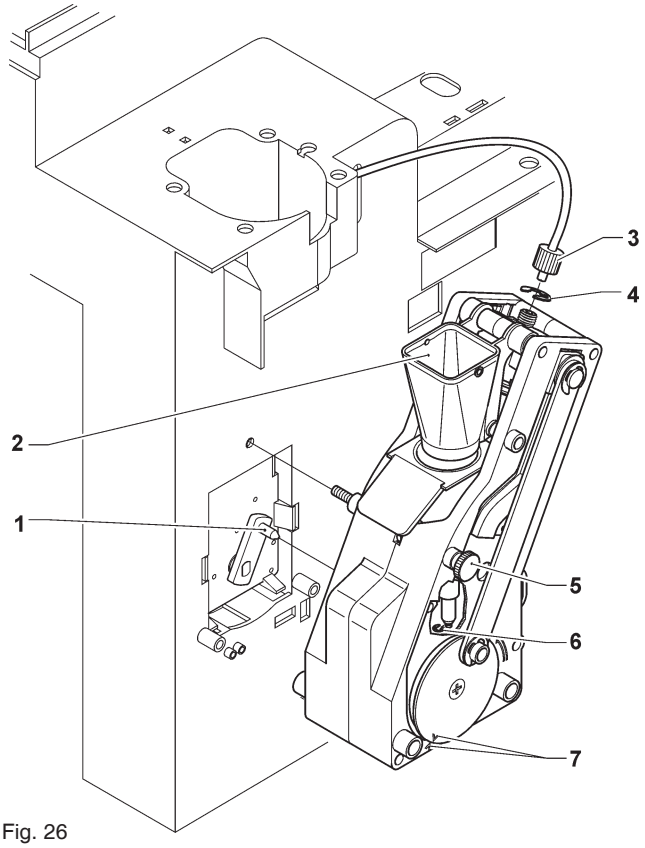


Fig. 26

1 - Ratiomotor handle pin
2 - Coffee funnel
3 - Brass ring nut
4 - Snap ring
5 - Brewer unit fastening knurled knob
6 - Lower piston fastening snap ring
7 - Reference notches

Removing the lower filter

- Open the two half-shells to access the internal brewing chamber
- Extract the brewing chamber and remove the lower piston snap ring.
- Take the piston out of brewing chamber and remove the filter.

Soak all components removed from the unit in a solution of boiling hot water and coffee machine detergent for approx. 20 minutes.
Thoroughly rinse and dry all parts, then reinstall them in the reverse order of disassembly, taking particular care in:

- matching the two reference notches and inserting the coffee unit;
- checking the efficiency of the seals, lubricating them with food-safe grease.

Important notice!!!

During reassembly, check that the handle pin of the ratiomotor is correctly engaged in its seat.

PERIODICAL CLEANING

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

SANITISING

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

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

CLEANING THE PRODUCT CONTAINERS

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

EMPTYING THE BOILER

Emptying of the boiler may become necessary in the event the vending machine is placed on storage or when the boiler needs maintenance.

During its operation the boiler contains very hot water under pressure and can cause injury to persons.

- Open the vending machine door and make sure the machine is switched off.
- Completely empty the air-break.
- Wait for the water inside the boiler to cool down.
- Undo and remove, from the by-pass end, the tube connecting the by-pass to the boiler and direct it to a container.
- Insert the yellow key into the door switch.
- Access the maintenance menu and find the item "Special functions". Press in a sequence buttons 8 and 4; water will start flowing from the boiler.

When emptying is completed, switch off the machine e reconnect the by-pass tube.

PRINTED BOARD FUNCTIONS AND INDICATOR LAMPS

CONTROL BOARD

This board, placed at the back of the machine, (see fig. 28) processes the information from the push-buttons and from the payment system; it also controls the actuations and the push-button board.
The 15 V AC voltage required for board operation is supplied by a transformer which is protected by a 160 mAT fuse on the primary and by a 1.25 AT fuse on the secondary winding. The voltage supply is rectified and stabilised directly by the board.
The board also houses the EPROM (see fig. 28).

- the yellow LED indicates the presence of 12 V DC;
- the green LED blinking indicates that the microprocessor is working correctly;
- the red LED indicates the operating status of the boiler heating element.

RELAY	ESPRESSO	INSTANT
K1	ER	E3
K2	ESC	MD3
K3	MAC	MF2
K4	PM	PM/EIA
K5	M	MD4
K6	EV2	EV2
K7	EV1	EV1
K8	MF1	MF1
K9	MD3	MD3
K10	MD2	MD2
K11	MD1	MD1
K12	EIA	EIA
K13		
K14		
K15	MD4	MD4

RELAY CARDS

The 2 relay card is controlled by the actuation board and controls some of the 120 V~ power users in the automatic models.

RELAY	POWER USER
K1	
K2	MSCB
K3	MSB

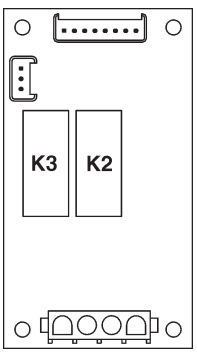
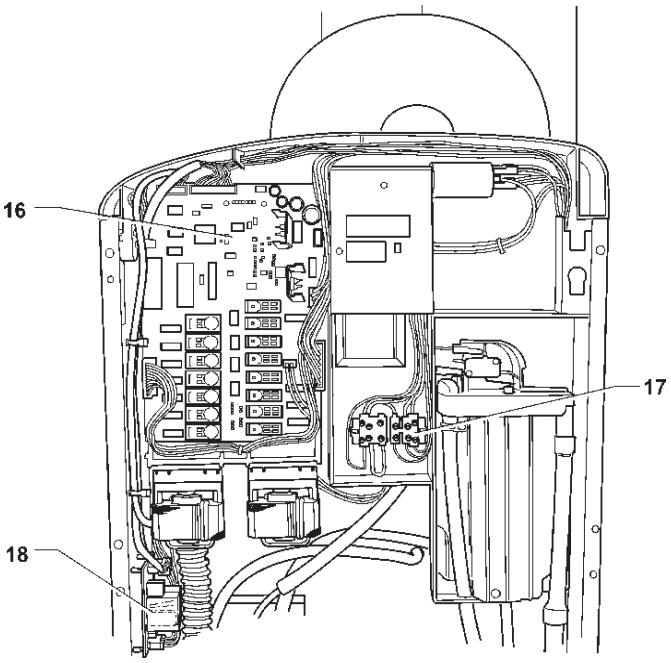
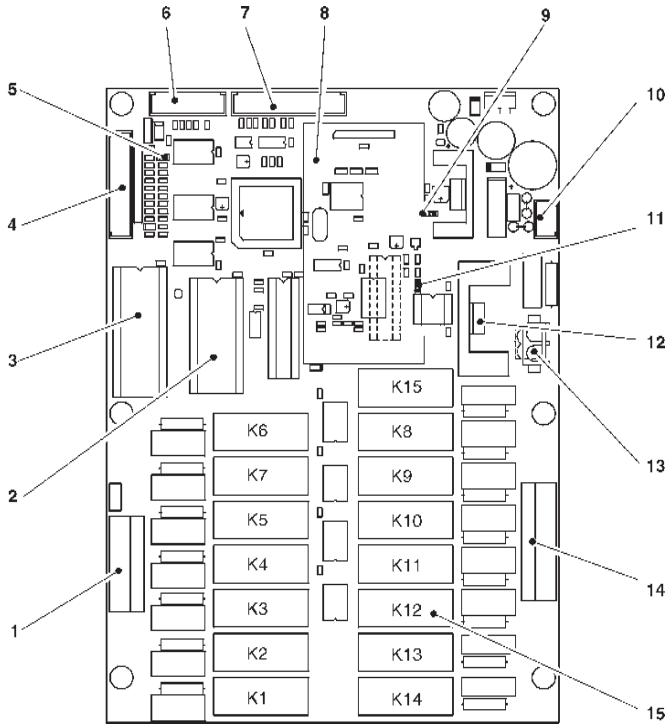


Fig. 27



1 - 120 V~ users
2 - RAM
3 - EPROM
4 - Input signal
5 - Green LED
6 - Not used
7 - To the push-button board
8 - Expansion board for payment systems (optional)
9 - Yellow LED
10 - Board power supply
11 - Red LED
12 - Boiler heating element triac
13 - To boiler heating element
14 - 120 V~ users
15 - Relays K1÷K15
16 - C.P.U. board
17 - Transformer fuses
18 - 2-relay expansion board (automatic models only)

Fig. 28



PAYMENT SYSTEM EXPANSION BOARD

This board (see fig. 29) is supplied with the installation kit of “change giver” or “cashless” payment systems.
It must be connected to the control board using the special connector.
According to the communication protocol used by the payment system, the 2 minidips will have to be set to OFF (Executive) or to ON (MDB).

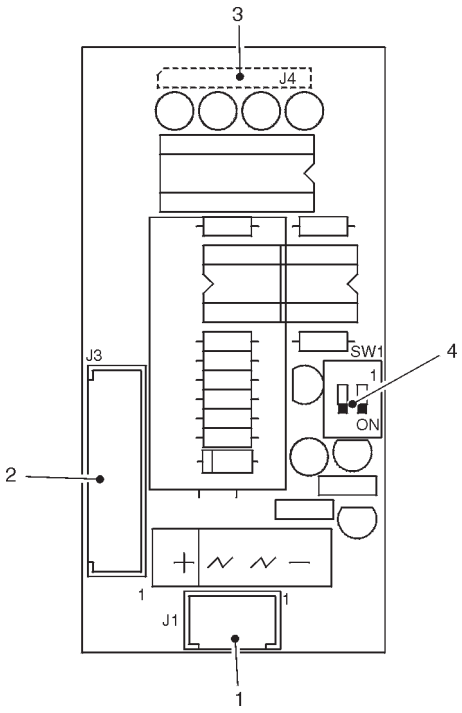


Fig. 29

1 - Power supply (MDB - BDV)
2 - To the the payment system (with special cable)
3 - To the control board
4 - Payment system configuration minidips
OFF = Executive / BDV
ON = MDB

PUSH-BUTTON BOARD

This board controls the alphanumeric display, the selection buttons and the programming button (see fig. 30).
It supports the coin mechanism connectors as well as the printer port.

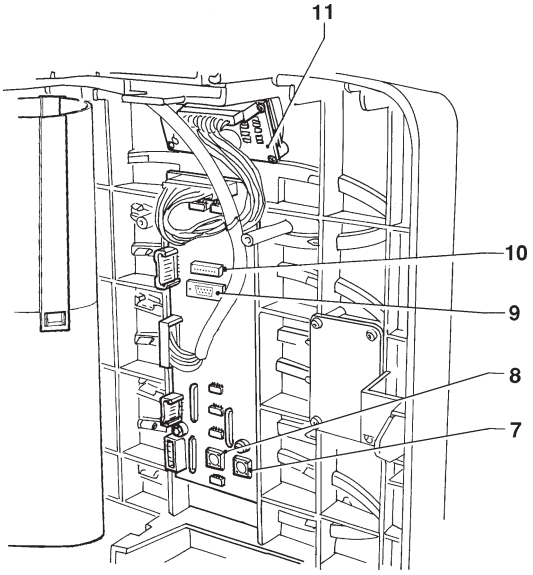
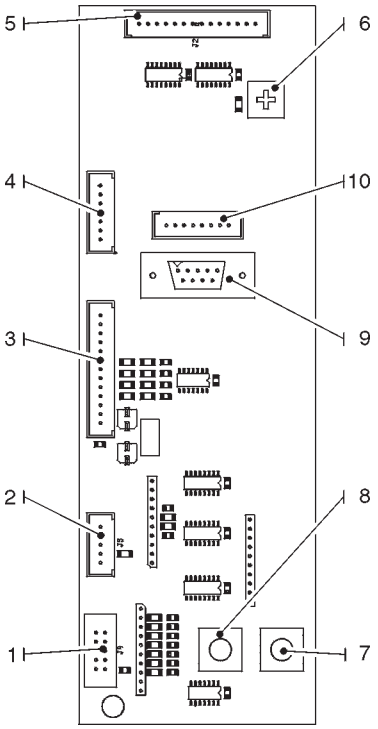


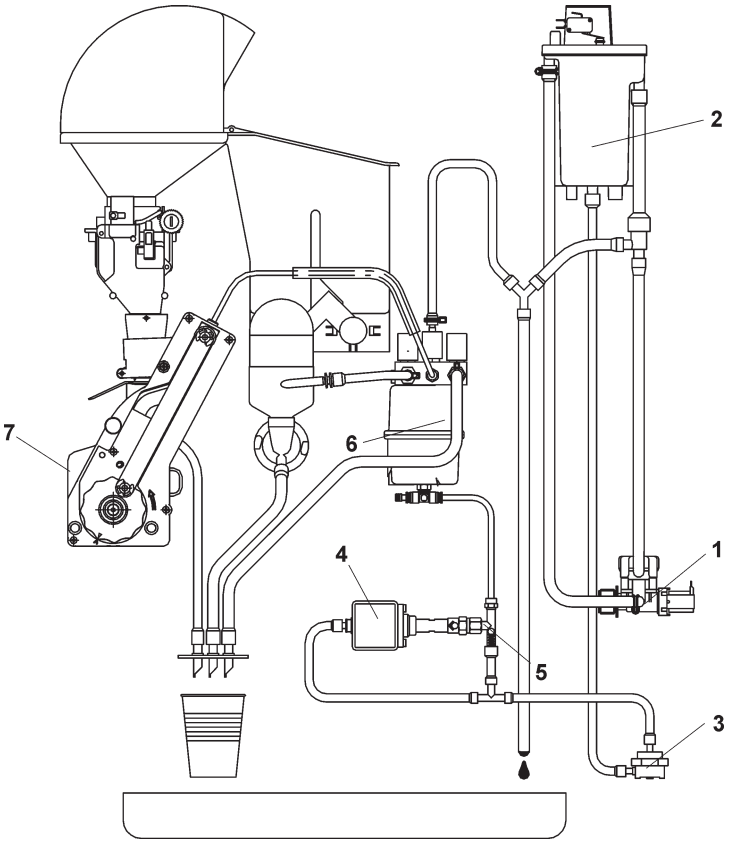
Fig. 30

1 - To the front validator
2 - Not used
3 - To machine board
4 - Signals: free vend - jug facilities
5 - To display board
6 - Display contrast adjusting trimmer
7 - Programming button
8 - Wash button
9 - RS232 port
10 - To the programmer
11 - Display board



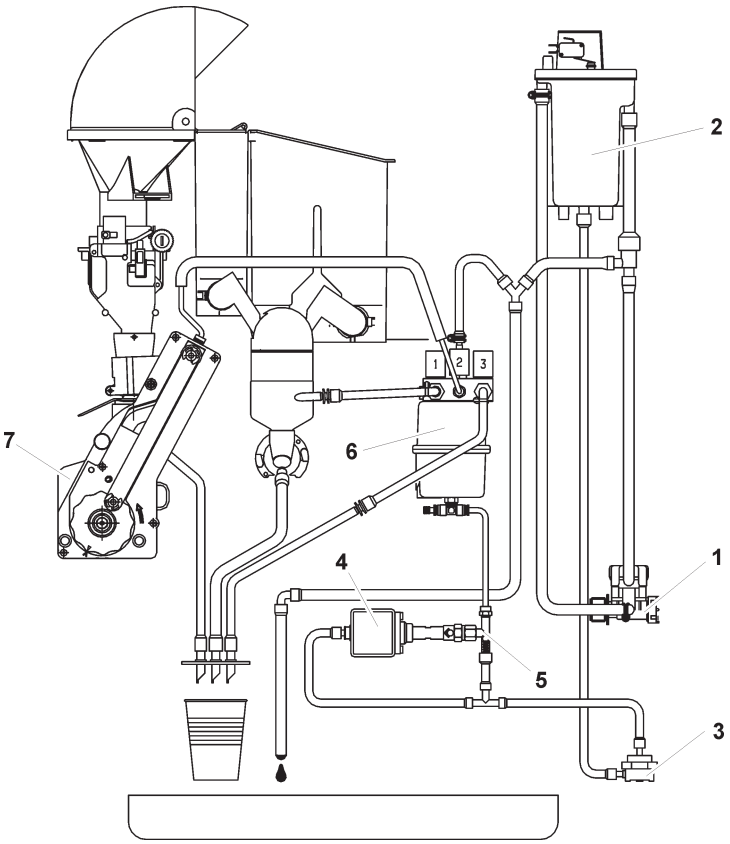
HYDRAULIC SYSTEM
SEMI-AUTOMATIC MODEL

1 - Water inlet solenoid valve
2 - Air-break
3 - Volumetric counter
4 - Pump
5 - By-pass
6- Boiler
7- Espresso unit



HYDRAULIC SYSTEM
AUTOMATIC MODEL

1 - Water inlet solenoid valve
2 - Air-break
3 - Volumetric counter
4 - Pump
5 - By-pass
6- Boiler
7- Espresso unit



Programming menu summary

The machine can function in 3 different operating modes:

- Normal vending mode

- Maintenance Menu

- Programming menu

In order to access the programming menus, press the programming button located on the inside of the door.

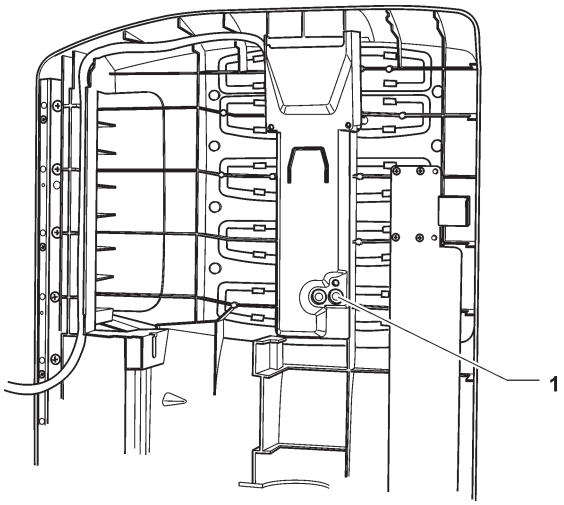


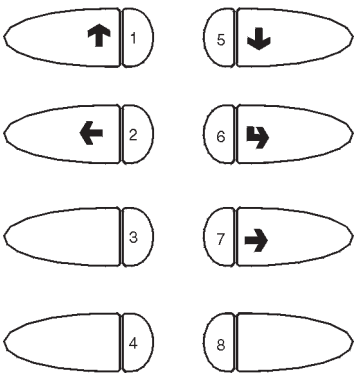
Fig. 31

1 - Programming access button

When pressing the programming button, the machine goes into “Maintenance menu” mode.

The buttons shown in the figure are used for surfing through the different menus:

Fig. 32



SCROLLING BUTTONS UP (↑) AND DOWN (↓)

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

CONFIRM / ENTER BUTTON (↳)

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

EXIT BUTTON (←)

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

INSERTING THE VALUES

When the control software requests the entry of letters and/or numbers the buttons take on the following functions:
The confirm button “↳” is for changing / entering the first character, then for confirming it and going to the next character.
The “↑” and “↓” buttons are for scrolling through the available values.
After entering the values, press the confirm button “↳” and the display will show the message “Confirm?”; press again the confirm button to store the values.

"Maintenance" menu summary

STATISTICS

Display statistics

Statistic N. 1

- Coin 1= XXXX
- ↓
- ...
- ↑
- Coin 8= XXXX

Statistic N. 2

- Sel.1 P= XXXXX
- Sel.1 F= XXXXX
- ↓
- Sel.1 T= XXXXX
- Sel.1 D= XXXXX
- ↑
- .....
- Sel.8 P= XXXXX
- .....

P= paid dispensing
F= free dispensing
T= test dispensing
D= discounted dispensing

x 8 selectons

Statistic N. 3

- Failure 1 = XXX
- ↓
- .....
- ↑
- Failure 15 = XXX

Failure list:

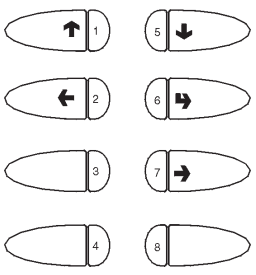
1 Air-break
2 Boiler
3 Coin mechanism
4 RAM data
5 Water failure
6 Water leak or Cup failure (automatic models only)
7 Impeller failure
8 Coffee unit
9 Coffee failure
10 Coffee release
11 Waste container
12 Water failure
13 Changer (MDB)
14 Bill validator (MDB)
15 Cashless (MDB)

Statistic N. 4

- Price 1 = XXX
- ↓
- .....
- ↑
- Price 8 = XXX

Print statistics

1 - ↑ Previous function / Decrease data item (-1)
2 - ← Exit function / Cancel change
3 - Machine installation
4 - //
5 - ↓ Next function / Increase data item (+1)
6 - ↳ Confirm function / Confirm data item
7 - → Change data item
8 - Reset failures



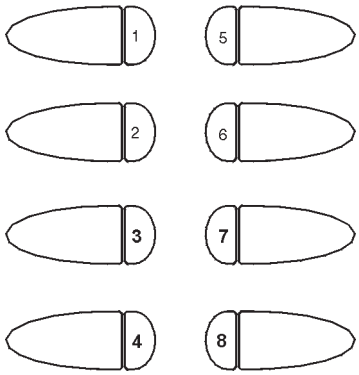
"Maintenance" menu summary

COMPLETE SEL.

POWDER ONLY

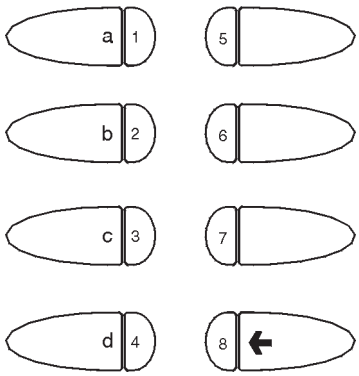
WATER ONLY

SPEC. FUNCTIONS



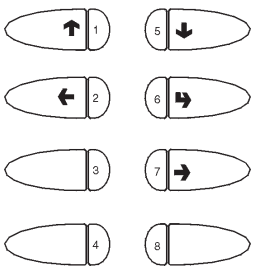
1= Previous function
2= //
3= Dispense sugar (automatic models only)
4= Perform autotest
5= Next function
6= //
7= Release a cup (automatic models only)
8+6= Empty the air-break
8+4= Empty the boiler

TUBES FILLING



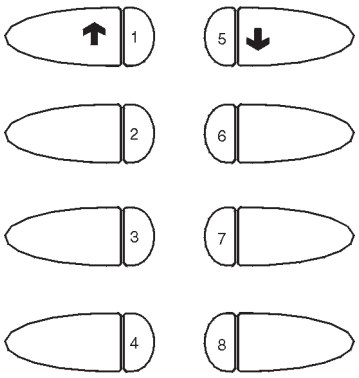
8= Terminate the operation

1 - ↑ Previous function / Decrease data item (-1)
2 - ← Exit function / Cancel change
3 - Machine installation
4 - //
5 - ↓ Next function / Increase data item (+1)
6 - ↵ Confirm function / Confirm data item
7 - → Change data item
8 - Reset failures



"Programming" menu summary

PRESENT FAILURES



1= Previous function
2= //
3= Installation
4= Perform autotest
5= Next function
6= Confirm button
7= //
8= Reset failures

Failure list:

1 Air-break
2 Boiler
3 Coin mechanism
4 RAM data
5 Water failure
6 Water leak or Cup failure (automatic models only)
7 Impeller failure
8 Coffee unit
9 Coffee failure
10 Coffee release
11 Waste container
12 Water failure
13 Changer (MDB)
14 Bill validator (MDB)
15 Cashless (MDB)

WATER DOSES

Dose C1
.....
.....
Dose SF

Refer to the selection dose table for the dose sequence

POWDER DOSES

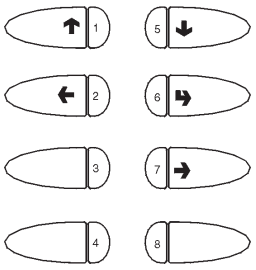
Dose C1
.....
.....
Dose SF

Refer to the selection dose table for the dose sequence

SET PRICES

Price 1 = XXXX
Price 2 = XXXX
Price 3 = XXXX
Price 4 = XXXX
Price 5 = XXXX
Price 7 = XXXX
Price 8 = XXXX

1 - Previous function / Decrease data item (-1)
2 - Exit function / Cancel change
3 - Machine installation
4 - //
5 - Next function / Increase data item (+1)
6 - Confirm function / Confirm data item
7 - Change data item
8 - Reset failures



"Programming" menu summary

SET PRICES/BUT.

Button 1 = on/off → Price N. X
Button 2 = on/off → Price N. X
Button 3 = on/off → Price N. X
Button 4 = on/off → Price N. X
Button 5 = on/off → Price N. X
Button 7 = on/off → Price N. X
Button 8 = on/off → Price N. X

Refer to the selection dose table for the "Price N./Price" combination

BASE UNIT / DP

Base unit = XXXX
Decimal point = X

Values for decimal point:
0 = decimal point disabled
1 = xxx.x (one digit after the decimal point)
2 = xx.xx (two digits after the decimal point)
3 = x.xxx (three digits after the decimal point)

PAYMENT SYST.

Validator

Credit = on/off

Power supply =12/24 V

Line A= XXXX

Line B= XXXX

Line C= XXXX

Line D= XXXX

Line E= XXXX

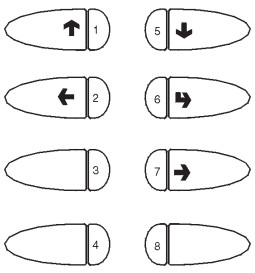
Line F= XXXX

INITIALISING

MACHINE CODE

Code= XXXXX

1 - ↑ Previous function / Decrease data item (-1)
2 - ← Exit function / Cancel change
3 - Machine installation
4 - //
5 - ↓ Next function / Increase data item (+1)
6 - → Confirm function / Confirm data item
7 - → Change data item
8 - Reset failures



"Programming" menu summary

MACHINE CONFIG.

Tank = on /off

↓ Equipped cabinet = on /off

↑ Fast cycles = on /off

Coffee grounds tray = on /off

SELEC. COUNTER

Password = XXXXX

PROM. MESSAGE

Prom. message = enabled / disabled

LANGUAGE

Language = XXXXXXXX

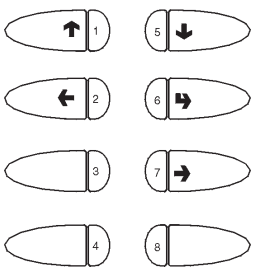
WHIPPING TIME

Whip. time = XX

PASSWORD PROG.

Password prog. = on /off

1 - ↑ Previous function / Decrease data item (-1)
2 - ← Exit function / Cancel change
3 - Machine installation
4 - //
5 - ↓ Next function / Increase data item (+1)
6 - ↳ Confirm function / Confirm data item
7 - → Change data item
8 - Reset failures



"Programming" menu summary

SPECIAL VENDING

Free vend = on /off

↓ Jug facility = on /off

↑ Drink jug N. = X

SET DATE/TIME

Year = XXXX

↓ Month = XXXX

↑ Day = XXXX

Hour = XXXX

Minutes = XXXX

SET WASHING

Wash = XX.XX

SET BAND

↓ Start = XX.XX

↑ End = XX.XX

SET PRICES BAND

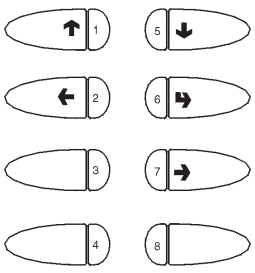
Price 1 = XXXX

↓ ...

↑ ...

Price 8 = XXXX

1 - ↑ Previous function / Decrease data item (-1)
2 - ← Exit function / Cancel change
3 - Machine installation
4 - //
5 - ↓ Next function / Increase data item (+1)
6 - ↳ Confirm function / Confirm data item
7 - → Change data item
8 - Reset failures



"Programming" menu summary

CONSECUTIVE SEL.

PRE-GRINDING

Pre-grinding = on/off

SET TEMPERATURE

Temperature = XXXXX

PRESEL. DISPLAY Semiautomatic models only

PRESEL. FLAVOURS Semiautomatic models only

FLAVOURS UPCHARGE

upcharge = XXXXX

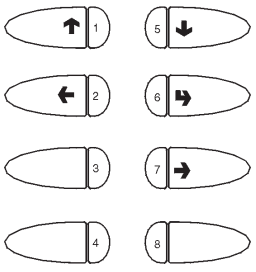
FLAVOURS CYCLE

Before the selection

After the selection

DEX UCS - EVADTS

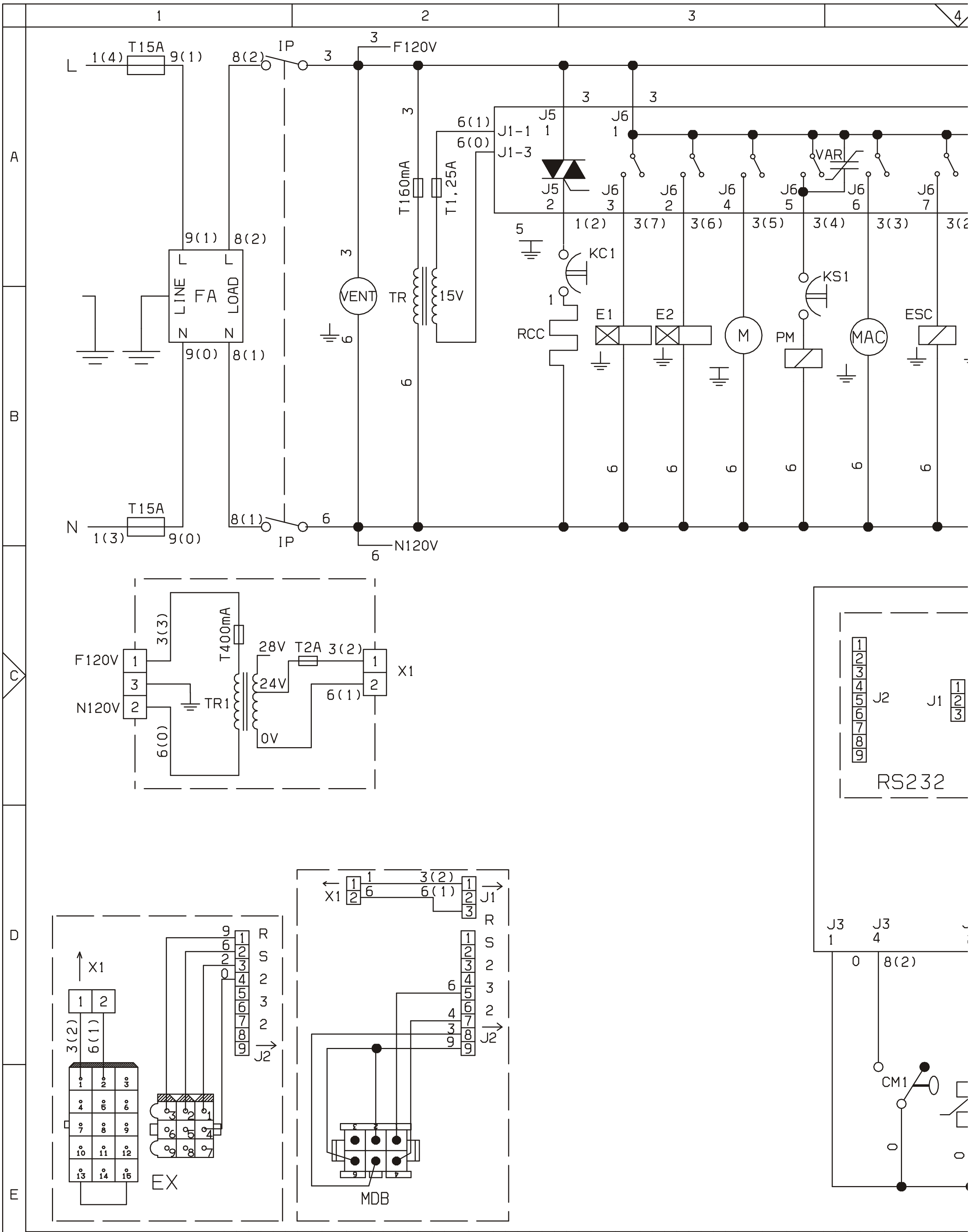
1 - ↑ Previous function / Decrease data item (-1)
2 - ← Exit function / Cancel change
3 - Machine installation
4 - //
5 - ↓ Next function / Increase data item (+1)
6 - ↳ Confirm function / Confirm data item
7 - → Change data item
8 - Reset failures



WIRING DIAGRAM LEGEND

INITIALS	DESCRIPTION
CM1-2	MICROSWITCH FOR BREW UNIT MOTOR
CMSB	CUP RELEASE MOTOR CAM
CV	VOLUMETRIC COUNTER
E1-...	INSTANT SOLENOID VALVE
EEA	WATER INLET SOLENOID VALVE
ER	COFFEE DISPENSER SOLENOID VALVE
ESC	COFFEE RELEASE MAGNET
EX	EXECUTIVE COIN MECH CONNECTOR
FA	RADIO INTERFERENCE SUPPRESSOR
ID	COFFEE DOSE SWITCH
IP	DOOR SWITCH
IPF	WASTE CONTAINER OVERFLOW SWITCH
IVA	EMPTY BOILER MICRO-SWITCH
IVB	EMPTY CUP DISPENSER MICRO SWITCH
KC1-..	COFFEE BOILER CUTOUT
KS1-..	SAFETY CUTOUT
LCD	LIQUID CRYSTAL DISPLAY
M	COFFEE UNIT MOTOR
MAC	GRINDER
MD1-..	INGREDIENT MOTOR - INSTANT

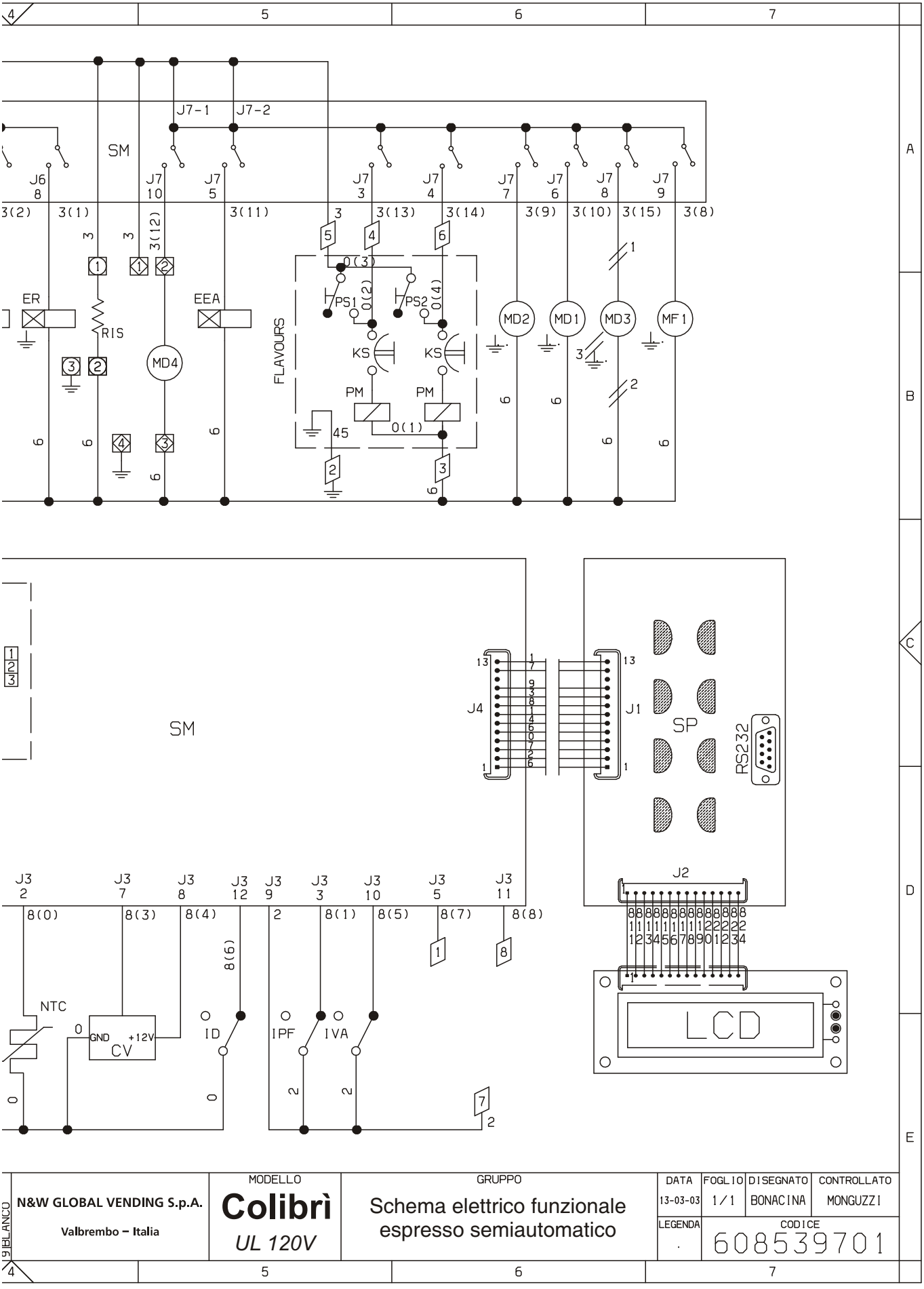
INITIALS	DESCRIPTION
MDB	CONNECTOR FOR MDB COIN MECHANI
MDTE-.	FRESH TEA INGREDIENT MOTOR
MDZ	INGREDIENT MOTOR - SUGAR
MF1-..	WHIPPER MOTORS
MSB	CUP RELEASE MOTOR
MSCB	CUP CONTAINER SHIFT MOTOR
MSP	STIRRER RELEASE MOTOR
NTC	TEMPERATURE PROBE
PM	PUMP
RCC	COFFEE BOILER HEATING ELEMENT
RIS	COFFEE UNIT HEATER
RS232	SERIAL PORT
SM	CONTROL BOARD
SP	PUSH-BUTTON BOARD
TR	TRANSFORMER
TR1	TRANSFORMER 230 V 24 V
TX....	DELAYED FUSE (X=CURRENT)
VAR	VARISTOR
VENT	FAN



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

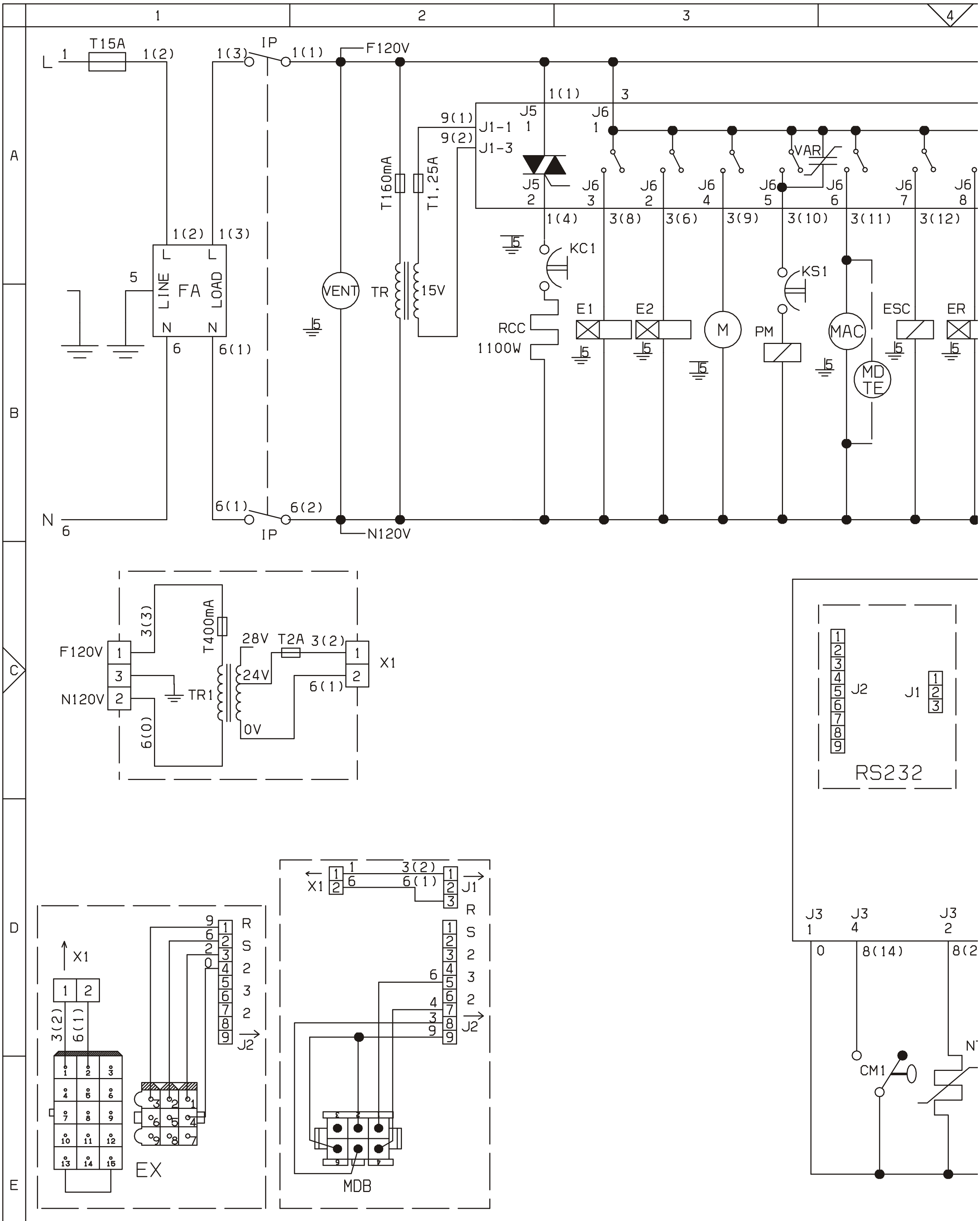
Code	IT	EN	FR	DE	ES
0	NERO	BLACK	NOIR	SCHWARZ	NEGRO
1	MARRONE	BROWN	MARRON	BRAUN	MARRON
2	ROSSO	RED	ROUGE	ROT	ROJO
3	ARANCIO	ORANGE	ORANGE	ORANGE	NARANJA
4	GIALLO	YELLOW	JAUNE	GELB	AMARILLO
5	VERDE	GREEN	VERT	GRUEN	VERDE
6	BLU AZZURRO	BLUE LIGHT BLUE	BLEU BLEU CIEL	BLAU HELLBLAU	OSCURO AZUL CLARO
7	ROSA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

1 Sx39701 2 3 4



N&W GLOBAL VENDING S.p.A. Valbrembo – Italia	MODELLO **Colibrì** *UL 120V*	GRUPPO Schema elettrico funzionale espresso semiautomatico	DATA 13-03-03	FOGLIO 1/1	DISEGNATO BONACINA	CONTROLLATO MONGUZZI
			LEGENDA .	CODICE 608539701		

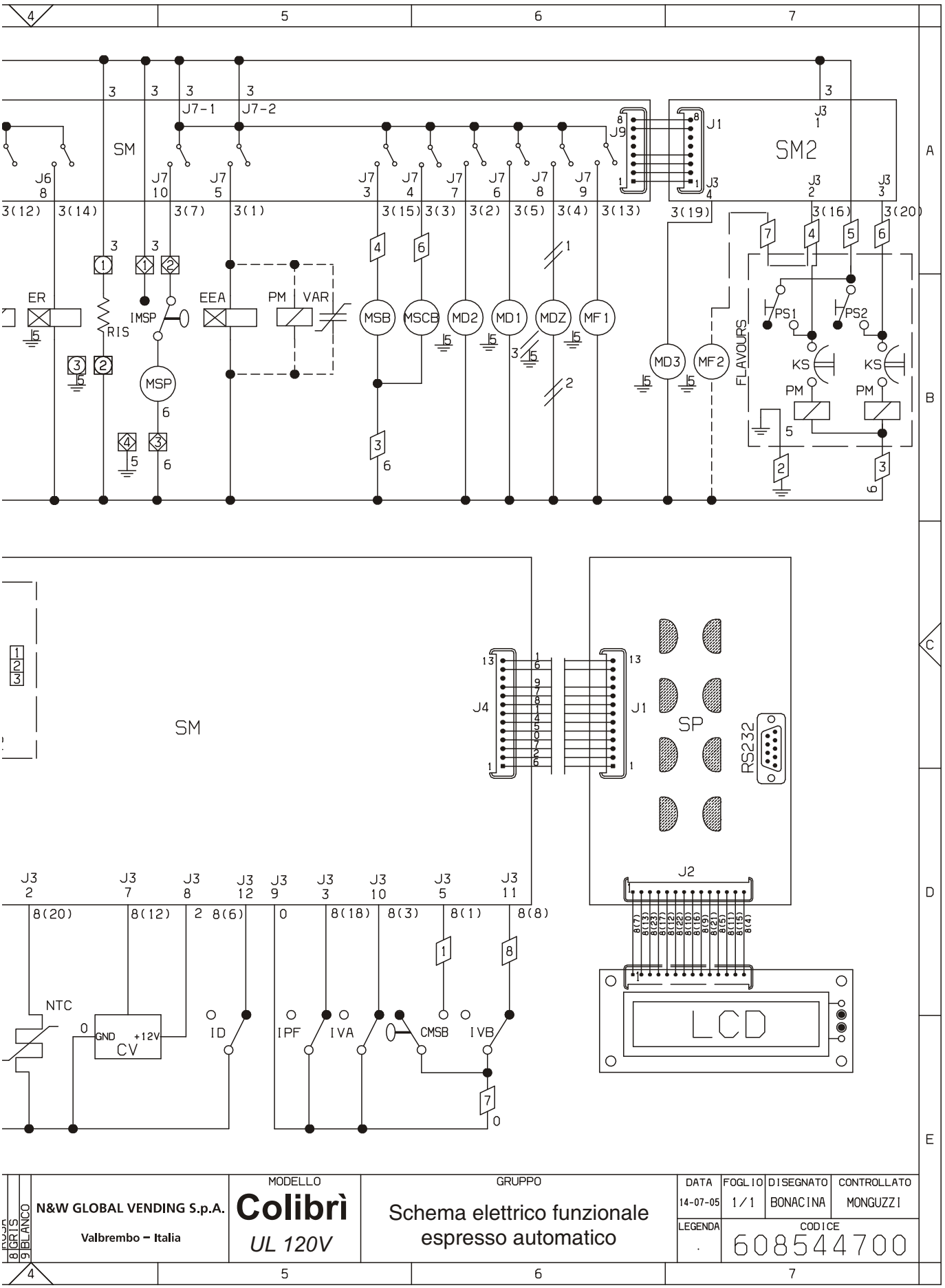
9 BLANCO



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	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

Sx44700



N&W GLOBAL VENDING S.p.A. Valbrembo – Italia	MODELLO **Colibrì** *UL 120V*	GRUPPO Schema elettrico funzionale espresso automatico	DATA 14-07-05	FOGLIO 1/1	DISEGNATO BONACINA	CONTROLLATO MONGUZZI
			LEGENDA .	CODICE 608544700		

8 GRIS
9 BLANCO

EDITION 1 02-2007 **CODE: H 266U 00**