INSTALLATION, USE AND MAINTENANCE MANUAL

Granmattino UL 120V.

UK English

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NECTA
VENDING SOLUTIONS SpA
A company of
N&W GLOBAL VENDING GROUP

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DICHIARAZIONE DI CONFORMITA'

DECLARATION OF CONFORMITY

DÉCLARATION DE CONFORMITÉ

KONFORMITÄTSERKLÄRUNG

DECLARACIÓN DE CONFORMIDAD

DECLARAÇÃO DE CONFORMIDADE

VERKLARING VAN OVEREENSTEMMING

INTYG OM ÖVERENSSTÄMMELSE

OVERENSSTEMMELSESERKLÆRING

YHDENMUKAISUUSTODISTUS

Valbrembo, 03/05/2001

Dichiara che la macchina descritta nella targhetta di identificazione, è conforme alle disposizioni legislative delle direttive: **89/392**, **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: **89/392**, **89/336**, **73/23 EEC** and further amendments and integrations.

Déclare que l'appareil décrit dans la plaque signalétique satisfait aux prescriptions des directives: **89/392**, **89/336**, **73/23 CEE** et modifications/intégrations suivantes.

Erklärt, daß das im Typenschild beschriebene Gerät den **EWG** Richtlinien **89/392**, **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: **89/392**, **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 **CEE 89/392, 89/336 e 73/23** e sucessivas modificações e integrações.

Verklaart dat de op de identificatieplaat beschreven machine overeenstemt met de bepalingen van de **EEG** richtlijnen **89/392, 89/336** en **73/23** en de daaropvolgende wijzigingen en aanvullingen.

Intygar att maskinen som beskrivs på identifieringsskylten överensstämmer med lagstiftningsföreskrifterna i direktiven: **89/392**, **89/336**, **73/23 CEE** och påföljande och kompletteringar.

Det erklæres herved, at automaten angivet på typeskiltet er i overensstemmelse med direktiverne **89/392, 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 **89/392, 89/336, 73/23** med endringer.

Vahvistaa, että arvokyltissä kuvattu laite vastaa **EU**-direktiivien **89/392**, **89/336**, **73/23** sekä niihin myöhemmin tehtyjen muutosten määräyksiä.

ANTONIO CAVO

C.E.O

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CERTIFICATE

IQNet and its partner
CISQ/IMQ-CSQ
hereby certify that the organization

NECTA VENDING SOLUTIONS 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: 2002 - 09 - 04

Registration Number: IT - 12979

Fabio Roversi
President of IQNet

Gianrenzo Prati
President of CISQ

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CERTIFICAZIONE DEI SISTEMI DI GESTIONE AMBIENTALE DELLE AZIENDE
CERTIFICATION OF COMPANIES ENVIRONMENTAL MANAGEMENT SYSTEMS

CSQ IQNet

CERTIFICATO n. / *CERTIFICATE n.* **9191.ZAV2**

SI CERTIFICA CHE IL SISTEMA DI GESTIONE AMBIENTALE DI
WE HEREBY CERTIFY THAT THE ENVIRONMENTAL MANAGEMENT SYSTEM OPERATED BY

NECTA VENDING SOLUTIONS S.p.A.

SITO
SITE

Via Roma, 24 – 24030 VALBREMBO (BG)

È CONFORME ALLA NORMA / *IS IN COMPLIANCE WITH THE STANDARD* **UNI EN ISO 14001**

PER LE SEGUENTI ATTIVITÀ
CONCERNING THE FOLLOWING ACTIVITIES

Apparecchiature elettromeccaniche/elettroniche per la distribuzione automatica e la ristorazione
Electronic/electromechanical vending-machines

IL PRESENTE CERTIFICATO È SOGGETTO AL RISPETTO DEL REGOLAMENTO PER LA CERTIFICAZIONE DEI SISTEMI QUALITÀ E DI GESTIONE DELLE AZIENDE
THE USE AND THE VALIDITY OF THE CERTIFICATE SHALL SATISFY THE REQUIREMENTS OF THE RULES FOR THE CERTIFICATION OF COMPANY QUALITY AND MANAGEMENT SYSTEMS

Prima emissione / *First issue* 19 Dicembre 1997

Emissione corrente / *Current issue* 31 Marzo 2000

La validità del presente certificato è subordinata a sorveglianza annuale e al riesame completo del Sistema di Gestione Ambientale con periodicità triennale secondo le procedure dell'IMQ S.p.A.
The validity of the certificate is submited to annual audit and a reassessment of the entire Environmental Management Systems within three years according to IMQ S.p.A. rules

Data di scadenza / *Expiring date*

IMQ - VIA QUINTILIANO, 43 - 20138 MILANO

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Mod. 417 - REV. 04/99

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

Each 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 as the identification of the apparatus, and carries all the data which readily and safely give technical information supplied by the manufacturer. It also assists in the spare parts management.
It is therefore recommended that this plate be neither damaged nor removed.

IN THE EVENT OF FAILURES

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

NECTA VENDING SOLUTIONS SpA
Via Roma 24
24030 Valbrembo
Italy
Tel. +39 - 035606111

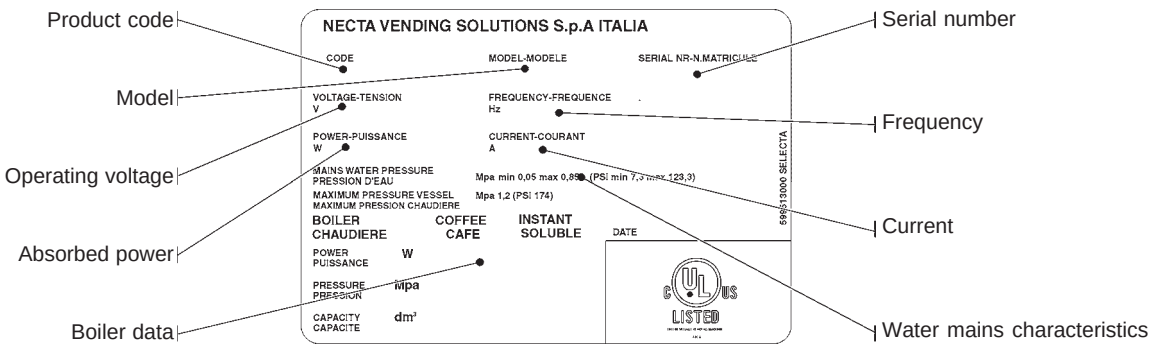
TRANSPORT AND STORAGE

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 forklift truck, and the forks are to be placed underneath the machine from the side clearly indicated by the symbol on the cardboard package.
At least two persons are required to move the machine by hand.

Do not:

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

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



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 beans;

- reconstituting instant and lyophilised products;

These products should be declared by the manufacturer as “suitable for automatic vending” in food-safe 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.

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 8 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.

The feet are not sized for withstanding impacts. Therefore they should be removed prior to moving the machine to another location.

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.

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 integrity of the vending machine and its conformity with the rules and regulations in force for its relevant systems must be checked periodically by qualified personnel.

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

Whenever the machine is to be scrapped, the laws in force regarding environment protection should be strictly observed. More specifically:

- ferrous and plastic materials and the like are to be disposed of in authorized areas only;

- insulating materials should be recovered by qualified companies.

TECHNICAL SPECIFICATIONS

DIMENSIONS

Height (base)	765 +165 mm
Width	565 mm
Depth	490 mm
Depth with drip tray	550 mm
Weight (without packing)	70 Kg

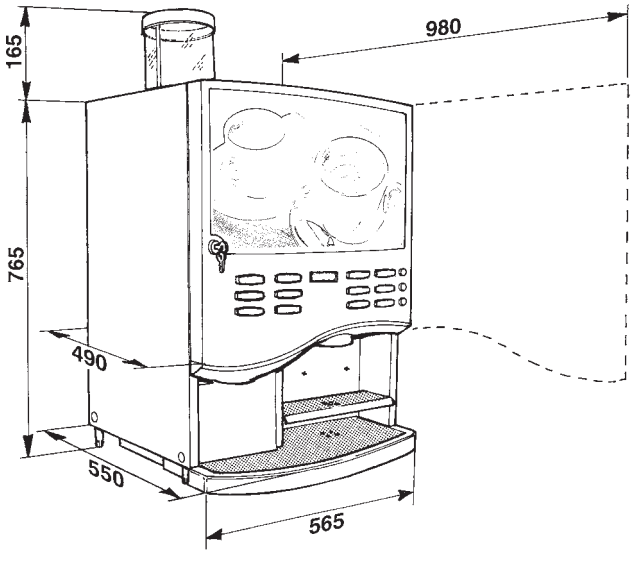


Fig. 1

RATINGS

Power supply voltage	(two-phase)	120	V~
Power supply frequency		60	Hz
Maximum power		2,450	W
Maximum current		12	A
Heating element power		2 x 1250	W

BOILERS

Instant 7.2 litre capacity with two 1,250 W armored-type heating element, for a total of 2,500 W.

Coffee 7.2 litre capacity with one 1,100 W armored-type heating element.

WATER SUPPLY

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

AUTONOMY OF OPERATION

Coffee beans	1.2	Kg
Instant coffee	0.6	Kg
Powdered milk	0.8	Kg
Sweetened chocolate	1.4	Kg
French Vanilla	1.2	Kg
Instant tea	2.0	Kg
Hot water hourly output	60	l/h
Liquid waste pan	2.5	l
Coffee waste tray (selections)	130	N.

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.
Under average conditions, and namely:

- Ambient temperature: 20° C
- Instant product boiler temperature: 94° C
- Coffee boiler temperature: 98° C
- Inlet water temperature: 20° C

the hourly stand-by power consumption levels is 87.7 kWh.

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

CHANGEABLE COMBINATION LOCK

The lock is supplied with one silver colour key 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 current 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.

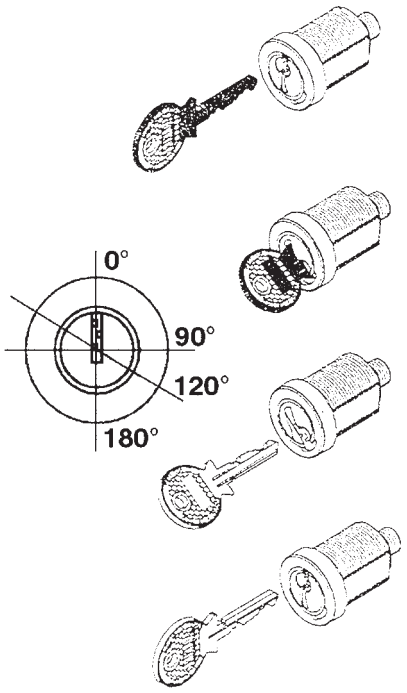


Fig. 2

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 new change key (gold);
- 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.

Chapter 1
LOADING AND CLEANING

PUSH-BUTTON PANEL SWITCH

When opening the door using the special key, a switch disconnects the electricity from the machine, allowing access to the area where the product containers and the parts to be cleaned are housed.
The machine is equipped with a switch (see Figure 3) which disconnects the push-button panel, leaving the heating unit switched on.

IMPORTANT NOTICE!!

The push-button panel switch DOES NOT disconnect the power from the machine.

All operations requiring the machine with the power on and without the protective covers must be carried out by qualified personnel, trained to use the machine and aware of the specific risks of such operations.

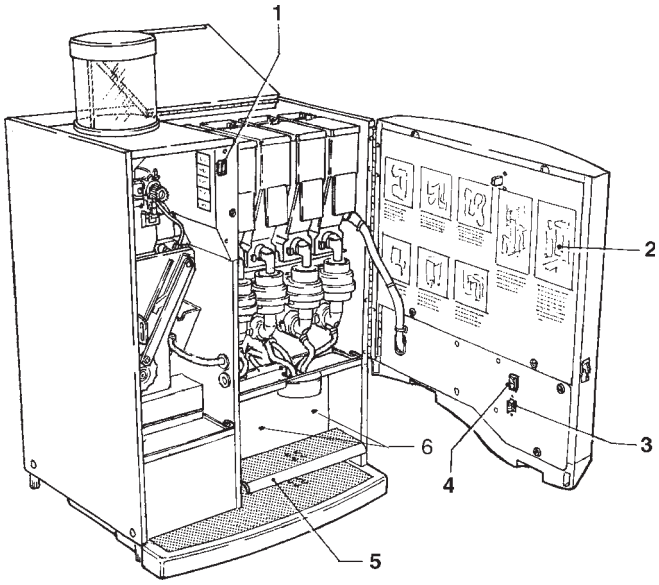


Fig. 3

1 - Keypad switch
2 - Washing and cleaning instruction plate
3 - RS232 serial port
4 - Door switch
5 - Tilting cup support
6 - Indicator lights

CONTROLS AND INFORMATION

All user controls are located on the external side of the door (see Fig. 4); the machine condition information and the operating instructions are shown on the Liquid-Crystal Display (LCD).
The buttons take on the functions indicated in the selection dose table.
The identification plates shall be inserted accordingly.

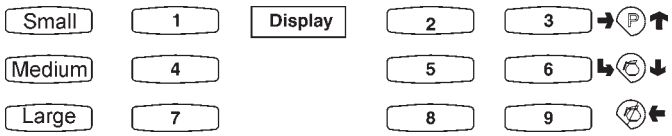


Fig. 4

1÷9:	Selection buttons
Small-Medium-Large:	dose pre-selection buttons
Ⓟ - ⓒ - ⓞ -3 - 6:	menu surfing buttons

Button Ⓟ (to access programming) can either be enabled or disabled; in any case it will be necessary to press it twice in a short sequence and enter the password (11111 by default) to access programming.
The surfing buttons are used for scrolling through the programming menus.
The pre-selection buttons are used for selecting, among the three doses, different doses for each selection.

MIXER CLEANING

During the cleaning cycle all mixers are operated at the same time, and all solenoid valves are actuated intermittently. Such intermittent operation ensures easier removal of the scaling.
To prevent any unintentional operations, button ⓒ must be pressed twice in a short sequence and then a programmable 5-digit password should be entered.
The default password is “55555”.
The display indicates the message “wash” and by pressing the confirm button ↳ a wash cycle will start.
The cleaning cycle can be interrupted with button ⓞ.

LOADING INSTANT PRODUCTS

Before filling the product containers, following the indications of the instructions plate (Fig. 3), check that:

- the type of product is suitable for automatic dispensing;
- the package is intact and the product is not past the expiry date;
- the product does not contain any clots.

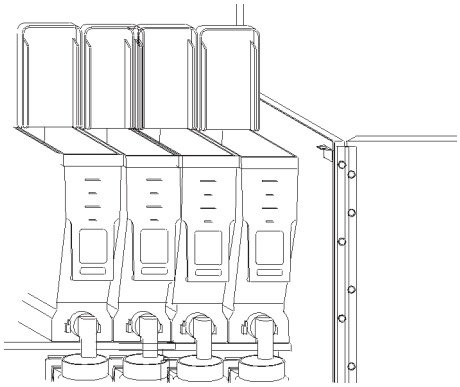


Fig. 5

It is advisable to load only the product amount sufficient for the expected use, so that excessive exposure to the environment is avoided.

Do not press the product in the container.

LOADING COFFEE BEANS

Pull the release button downwards and at the same time rotate the lid.
Fill the hopper and close the lid, ensuring that the shutter is fully open.

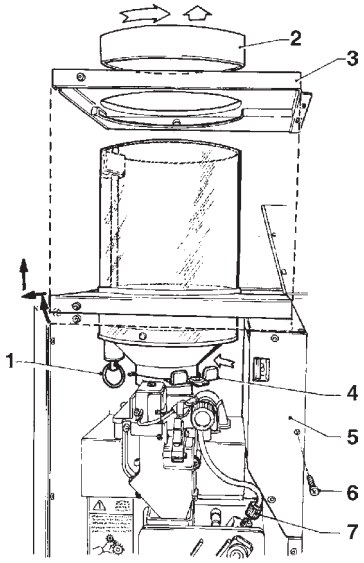


Fig. 6

1 - Lid release ring
2 - Coffee hopper lid
3 - Machine top panel
4 - Shutter
5 - Board cover
6 - Cover securing screw
7 - Boiler connecting hose

Each time coffee is refilled, empty and clean the waste tray as indicated on the instruction plate.

To remove the container for weekly cleaning do as follows:

- close the shutter;
- remove the lid from the container;
- lift from the front and slightly pull forward the top panel of the machine, then remove it from the container;
- remove the container from the grinder.

For reassembly, proceed in the reverse order.

HYGIENE AND CLEANING

According to current safety and health rules and regulations, the operator of an automatic vending machine is responsible for the hygiene and the maintenance of the foodstuff circuits, to prevent 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 any damage to persons caused by non-compliance with current health regulations.

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

PERIODICAL CLEANING

To ensure perfect operation for a long period, the machine must be subjected to some regular maintenance as indicated on the instruction plate.

Before disinfection, all solid residue and product films must be mechanically removed from the mixer components, using a brush or similar implements, if necessary.

Turn the machine off with the main external switch before any maintenance operations which require removal of components.

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:

- turn off the main switch and disconnect the electrical plug;
- completely empty the containers and thoroughly wash them with the sanitising products used to clean the mixers;
- completely drain the water from the boiler by loosening the special clamp (refer to the hydraulic system).

Chapter 2
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 and are aware of the specific risks of such operations.

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.

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.

The holes for the anchoring bracket securing the machine to the pallets must be closed with the plastic plugs provided.
Packing materials must be disposed of in authorised containers and the recyclable ones must be recovered by qualified companies.

INSERTING THE PRODUCT LABELS

The labels indicating the available product selections in the current language shall be inserted into the special slots following the procedure shown in the “selection dose” table supplied with the machine.
The labels are to be inserted in the three keypads as follows:

- open the keypad protective door after removing the three fastening screws;
- for each keypad, remove the two fastening knurled nuts from the button support frame;
- disconnect the keypad connector and remove the button support frame from the machine;
- remove the button cover stop frame;
- remove the clear cover and place the relevant product label between the rubber cover and the clear cover of each button;
- replace the clear covers, ensuring that the button lock tang lines up with the groove on the rubber cover of the button.
- Re-assemble the keypads in the reverse order.

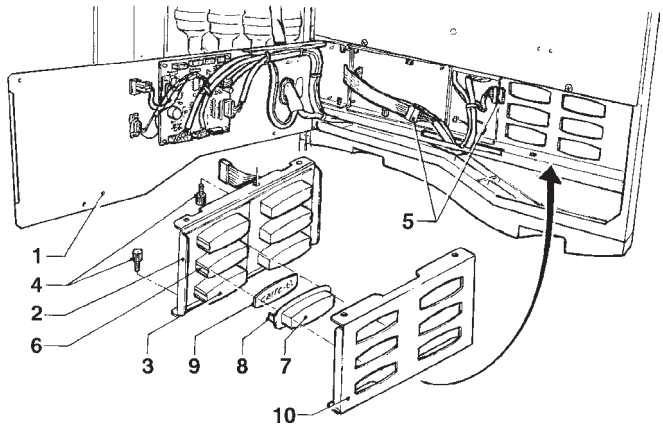


Fig. 7

1 - Keypad protective door
2 - Button supports
3 - Rubber cover
4 - Support fastening knurled nuts
5 - Keypad connectors
6 - Groove
7 - Clear cover
8 - Locking tang
9 - Label
10 - Button cover lock

INSTALLING THE TILTING GRATINGS

For supporting cups in alternative to jugs, a tilting stainless steel grating is supplied, to be fitted onto the special pins. To facilitate positioning of the cups by the user, plastic made, red colour markers are also supplied, to be inserted in the grating.
Two indicator lights, which indicate the point where to insert the container and light up during dispensing, are fitted on the back wall of the dispensing compartment, at the side of the dispensing location.

SANITISING

Before installing the machine the same procedure planned for the annual sanitising should be carried out (see relevant section) to eliminate any bacteria which may have formed during storage.

CONNECTING THE MACHINE TO THE WATER MAINS

The machine must be connected to the drinking water mains, taking into account the regulations in force in the country where the machine is installed.
The water pressure must be 0.05 to 0.85 MPa (0.5-8.5 bar).
N.B.: On the long run the water characteristics considerably affect the correct operation of the machine and increase the need of maintenance, particularly regarding the boiler and the dispensing solenoid set.
Run water from the mains until it is clear and without any traces of impurities.
Use a hose capable of withstanding the water mains pressure and suitable for use with foodstuffs (minimum inside diameter of 8 mm) to connect the water supply to the 3/4" gas-type union of the water inlet solenoid valve.
As an optional, a “water supply hose kit”, composed of a 1.5 m hose and all necessary fittings, is available.

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

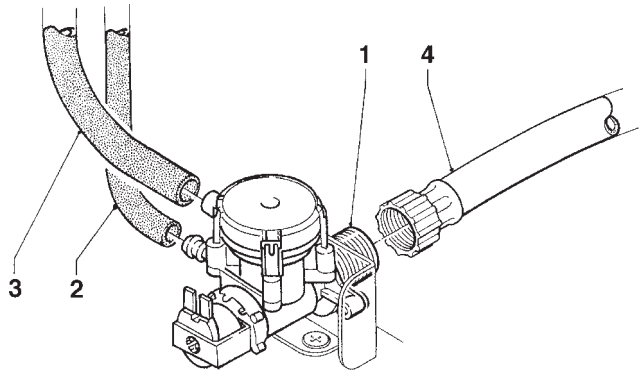


Fig. 8

1 - Water inlet fitting (3/4" gas)
2 - Supply pipe
3 - Overflow pipe
4 - Inlet hose fitting

OVERFLOW DEVICE

The water inlet solenoid valve (see Fig. 8) 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 system.
To restore normal operation, proceed as follows:

- turn off the external main switch and disconnect the electrical plug;
- 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 it again;
- open the tap and switch the machine on.

CONNECTING THE MACHINE TO THE POWER SUPPLY

The machine is designed to operate under two-phase 120 V~ voltage and is protected by 15 A fuses on each phase and on neutral.
The machine is supplied with a power supply cable type SJTO 4xAWG14 105° with yellow/green, complete with a two-pole plug type L14-20P HBL 2411.
Before making the connection ensure that the ratings correspond to those of the power grid, and more specifically that the supply voltage rating is within the range recommended for the connection points
A main switch, suitable for withstanding the required peak load required, must be installed and located within easy reach, and at the same time must ensure proper omnipolar disconnection from the power grid with the opening gap of the contacts of at least 3 mm.

The machine electrical connections must be permanent.

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

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

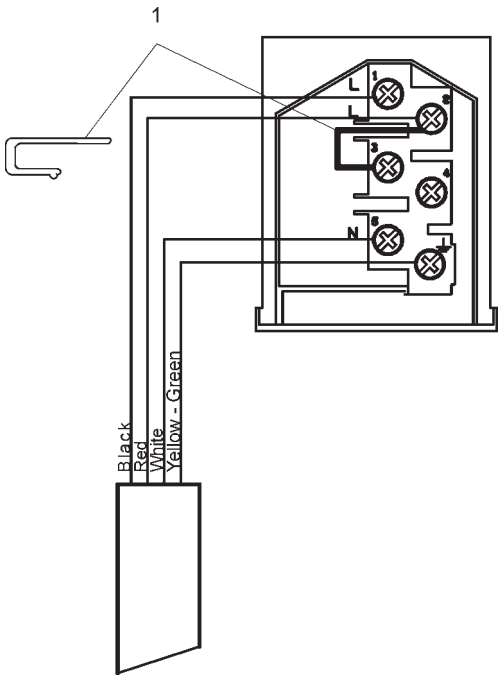
The electrical safety of the machine is ensured only when it is correctly earthed according to the safety standards in force.

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

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

Fig. 9

1 - Plate



REPLACING THE POWER SUPPLY CABLE

Any replacement of the power cable should be made by qualified personnel using only cables type SJTO 4xAWG14 105° with yellow-green, complete with a two-pole plug type L14-20P HBL 2411.
In order to replace the cable, after disconnecting the power supply, open the box supporting the line cable and connect the new cable according to the diagram indicated in the figure, using the special plates located on the terminal strip as jumpers.

FILLING THE WATER SYSTEM

Before switching the machine on, be sure it is correctly connected to the water mains and the cut-off valve is open. If the air-break device indicates the no-water condition for more than 10 seconds after the machine has been switched on, an installation cycle will automatically be started, and namely:

- the message “Installation” will be shown on the display for the entire duration of the cycle;
- the water mains solenoid valve will be opened;
- the air-break is filled;
- the coffee dispensing solenoid valve is opened so that the air may be bled from the boiler and 600 cc. of water filled.

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.

This coffee boiler filling operation must be carried out by hand, after any maintenance requiring the boiler to be emptied but not the air-break, using button 1.

INSTANT PRODUCT DISPENSING CYCLES

According to the type of pre-selection and to the type of product, the dispensing cycles of the different selections are designed to obtain the best possible results concerning drink quality and output.
With a small drink dose, the powder for chocolate-based drinks is dispensed intermittently, whereas for instant coffee-based drinks the powder is dispensed before the water.
On the other hand, with a large drink dose, the powder is dispensed intermittently for all types of drink; the correct water/powder proportion is always maintained, even in the case of dispensing interruption with button ⊘.
Intermittence times and number of operations are fixed.

It is therefore important not to alter the flow rate of the solenoid valves which is factory preset.

Only in the case of replacement or accidental tampering with the solenoid valves, the flow regulators should be adjusted to dispense 20 cc/sec for chocolate and coffee, 15 cc/sec for milk, and 30 cc/sec for water.

WASH CYCLES

A mixer cleaning cycle can be started either with the special button on the push-button card **(for qualified personnel only)**, or with button ⊘.
During the cleaning cycle all mixers are operated at the same time, and all solenoid valves are actuated intermittently. Such intermittent operation ensures easier removal of the scaling.
The cleaning cycle can be interrupted with button ⊘.

COFFEE DISPENSING CYCLE

When selecting coffee, the grinder is started and will continue until the coffee doser chamber is full (see Fig. 10). When the doser unit is full, the ground coffee dose is released into the coffee unit.
The coffee falls into the vertical brewing chamber (1) (see Fig. 10).

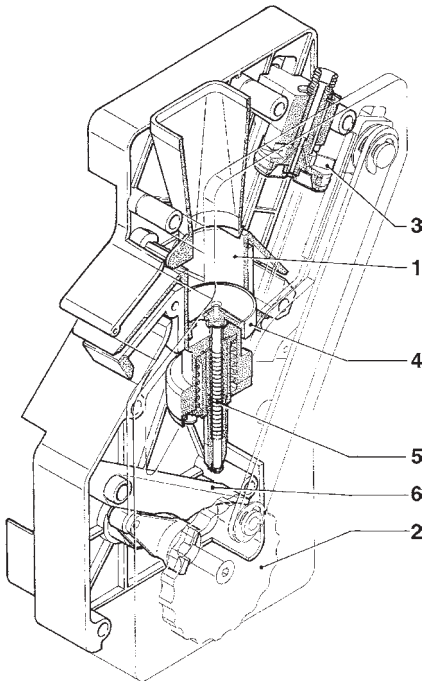


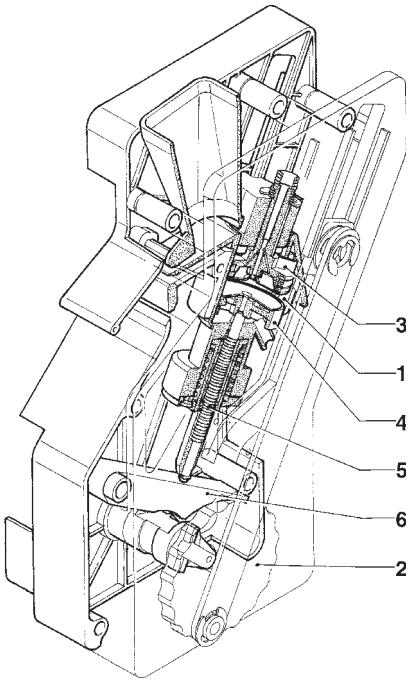
Fig. 10

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

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. 11).

Fig. 11

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



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 tea 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:

For coffee

That the used coffee dose is lightly compressed and damp.

The grade of grinding of ground coffee.

The dose weight of ground coffee.

The dispensing temperature.

The water dose.

For instant products

The dose weight of the instant products.

The drink temperature.

The water dose.

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

STANDARD SETTINGS

The vending machine is supplied with the following settings:

- coffee temperature (at the spout) 85-89°C approx.;

- instant product temperature (at the spout) 75°C approx.;

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

ADJUSTING THE BREWING CHAMBER VOLUME

When the upper piston is correctly positioned, the coffee unit can operate with coffee doses of 5.5 to 8.5 g.
To change the piston position (see Fig. 12) do as follows:

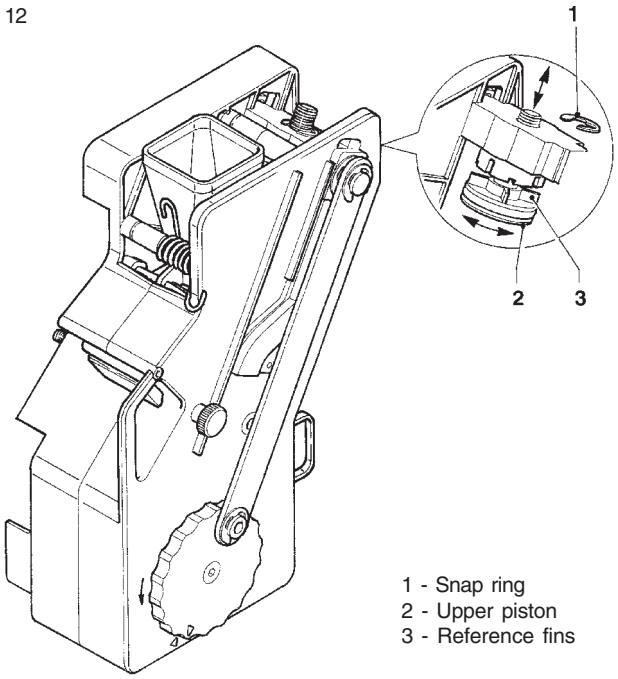
- remove the snap ring from its seat;

- place the piston in the proper adjusting notches:

  .less deep notches for 5.5 to 7.5 g doses;

  .deeper notches for 6.5 to 8.5 g doses.

Fig. 12



1 - Snap ring
2 - Upper piston
3 - Reference fins

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. 13) 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.

NB: 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.

ADJUSTING THE COFFEE DOSE

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 g.

In addition, when the lever is fully rotated upwards, the ratchet can be released from the groove in the dose regulator (see Fig.13) and replaced into a different groove to change the average dose setting to:

- low 6 g. ± 0,5

- medium 7 g ± 0,5

- high 8 g ± 0,5

To take the dose just remove the coffee unit and press key “2” from the “maintenance” menu (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).

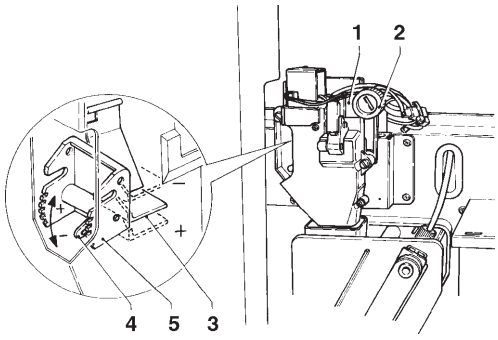


Fig. 13

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

COFFEE TEMPERATURE CONTROL

If the boiler temperature is to be changed, adjust the special trimmer (see Fig. 21) keeping in mind that:

- tightening increases the temperature;

- loosening reduces the temperature;

- every 2 turns the temperature varies by approx. 1°C.

INSTANT PRODUCT TEMPERATURE CONTROL

The machine is supplied with the boiler temperature control set to 86°C. Water temperature adjustments can be made by qualified technicians by turning the manual thermostat screw, after removing the protective panel (see Fig. 14).

However, temperature should never exceed 90°, to avoid the risk of the water boiling.

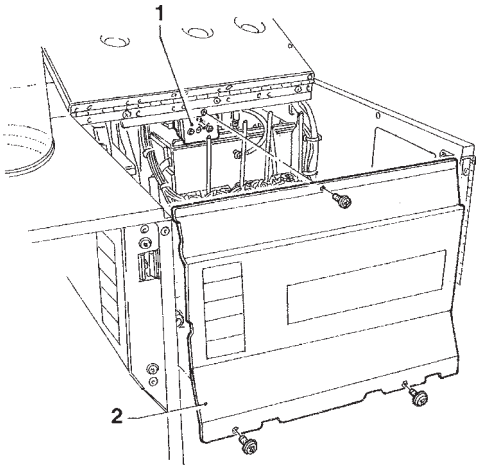


Fig. 14

1 - Instant prod. thermostat
2 - Protective panel

OPERATING MODES

Three different operating modes are provided for the machine; the buttons will have different functions according to the machine operating mode.
The available operating modes are as follows:

- normal operating mode, in this case the machine will display “Ready for use”.
- temporarily out of service for heating, boiler filling or cleaning.
- out of service due to a lockout failure or with the push-button panel disabled through the special switch (see Fig. 3).

NORMAL OPERATING MODE

When switching the machine on, the message “Starting” is displayed for a few seconds, after which the machine goes into normal operating mode.
The massages displayed according to the operation being carried out can be the following:

DISPLAY	FUNCTION
“Ready for use”	Machine ready
“Out of order”	Machine switched off
“Drink in process”	Drink preparation
“Heating”	Wait time before reaching operating temperature
“Filling”	Boiler filling
“Sel. Disabled”	Selection disabled
“Suspended serv.”	Selection buttons disabled
“Coffee sel. out”	For espresso models only Coffee unit out of order

PROGRAMMING MODE

The programming mode can be accessed either with the special button located on the push-button card **(for qualified technicians only)** or with button # on the external keypad, if enabled (see Fig. 4).
To prevent any unintentional operations of the external button, this must be pressed twice in a short sequence and then a programmable 5-digit password should be entered. The default password is “11111”.
The machine displays a menu which gives the option of either maintenance mode or programming.

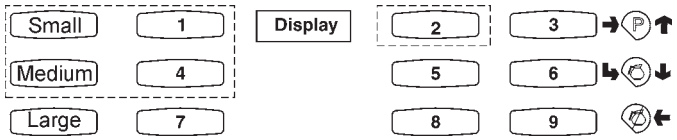


Fig. 15

When in programming mode, the keys of the external push-button panel are assigned different functions (see Figure 15), used for moving inside the menu and namely:

- previous function or increase data unit (+1)
- next function or decrease data unit (-1)
- delete data or exit function
- change data
- confirm data or confirm function.

In programming mode, the buttons shown within the dotted line (Fig. 15) are assigned direct functions and namely:

- Small - installation of coffee boiler
- 1 - resetting failures
- 2 - resetting the selection statistics
- Medium - displaying the statistics
- 4 - printing the statistics

MAINTENANCE MODE

When selecting the maintenance functions from the main menu, the “maintenance” menu will be displayed, enabling the following functions:

“Sel. Sel.”	Complete test dispensing
“Powd. only”	Dispensing powder only
“Water only”	Dispensing water only
“Set jug”	Not used in this model
“Unit Control”	Small operates the coffee unit if this is connected to the electrical system, and releases a dose of coffee if disconnected. 1 activates a mixer wash cycle.

Moving inside the menu and confirming of operations are as for the programming mode.

PROGRAMMING

When selecting the programming functions from the main menu, the machine goes into “Programming” mode and the buttons keys on the keypad are assigned the functions shown in Fig. 15.
The “programming” menu will be displayed, enabling the following functions:

“Powder doses”	powder dose setting
“Water doses”	water dose setting
“Buttons”	enabling/disabling of a selection, wash cycles
“Present failures”	present failure reading
“Initialise”	RAM initialising
“Machine code”	setting the machine code
“M. Lock Count.”	setting the number of selections after which the machine locks.
“Password”	setting new passwords
“Language”	Main language selection
“Fresh-brew data”	Function not performed in this model
“Shot number”	selecting the number of dispensing cycles (1 to 3) for the Small-Medium-Large buttons

It is also possible to perform some direct operations, such as:

- resetting failures;
- displaying the statistics;
- printing the statistics;
- resetting the statistics.

PROGRAMMING THE WATER AND POWDER DOSES

When either the “Water doses” or the “Powder doses” functions from the “programming” menu are displayed the related doses can be changed.
The dose code identifies the water and powder doses for a certain selection; changing the dose of one selection also affects the compound selections for which the dose code is used.
The dose codes are summarised in the “selection doses” tables supplied with the machine.
The displayed doses are expressed in tenths of second.
Press the confirm button “↵” to access the dose code list, which can be scrolled up and down with the “↓” and “↑” buttons.
When pressing the correction button “→”, this value starts blinking and can be modified as necessary (see the summary table).

ENABLING THE PUSH-BUTTONS

When the “Buttons” function from the “programming” menu is displayed, the status of a push-button can be changed (enabled/disabled).
Press the confirm button “↵” to access the button list, which can be scrolled up and down with the “↓” and “↑” buttons.
The selection buttons are identified by a number (see Fig. 4) while the others are identified by the following strings:
When pressing the correction button “→” the status of the button (enabled/disabled) starts blinking.
The status of the button can be changed with the “↓” and “↑” buttons;
press the confirm button “↵” again to store the current status present on the display.

DISPLAYING THE EXISTING FAILURES

When the “Present failure” function from the “programming” menu is displayed (see summary table), press the confirm button “↳” to display the list of existing failures;
when sequentially pressing button “##”, 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 FAILURE

The machine will stop if, after 40 seconds of dispensing water, no lowering of the water level in the air-break is detected.

FAILURE OF INSTANT PRODUCT BOILER

The machine will lock if there is no temperature variation in the boiler for more than 120 minutes.

ESPRESSO BOILER FAILURE

The machine will lock if there is no temperature variation in the boiler for more than 10 minutes.

RAM DATA FAILURE

The data contained in the (.e. the chip that stores the setting variations) is wrong and must be retrieved from the Eprom, thus losing all statistics information.

WATER FAILURE

The water inlet solenoid valve remains energised for more than 30 seconds (or 4 minutes after the machine is switched on) without reaching the minimum level in the boiler.

LIQUID WASTE CONTAINER FAILURE

This occurs after the liquid waste container float is triggered.

IMPELLER FAILURE

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

COFFEE UNIT FAILURE

This failure is due to a mechanical lock of the unit or when the unit is not present. 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.

COFFEE RELEASE FAILURE

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

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 confirm button “↳” a second time and the message “Working” is displayed for a few seconds.

PROGRAMMING THE MACHINE CODE

When the “Machine code” function is displayed the identification code number of the machine can be changed (from the default 0000 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 buttons have now numeric values (see Fig. 16).
When pressing a button, the blinking digit takes on that value and the next digit starts blinking.
Press the confirm button “↳” after setting the last digit and the new code will be stored.

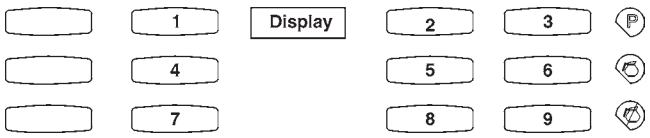


Fig. 16

SELECTION COUNTER

This function causes the machine to stop after a preset number of selections.
A non-programmable 4-digit password (4231) is required to have access to the counter.
After entering the password, it will be possible to set the number of selections; upon reaching such number, the machine stops, reads the number of selections made and resets the counter (refer to related table).

NB: The counter default setting is zero;

With the counter set to zero this function is disabled.

PROGRAMMING THE PASSWORD

When the “Password” function is displayed it will be possible to change the passwords which are used to access the statistics, the washing and programming procedures through the external button.
Press the “↓” and “↑” buttons to alternate between the password requests for statistics, washing and programming.
Press the confirm button “↳” and enter the current password, at this point the keypad will take on numeric values (see Fig. 16), the first digit will start blinking and can be modified. Pressing any of the buttons, causes the blinking digit to take its value and the next digit starts blinking.

LANGUAGE SELECTION

With this function is possible to select one of the three language (UK-FR-ES) used for the messages on the LCD display.

SHOT NUMBER

This function is used for defining the number of coffee selections (1 to 3) to dispense for each pre-selection button; Small, Medium and Large.

RESETTING THE FAILURES

Press the failure reset button “3”; the message “Running” is displayed for a few seconds and all present failures are reset.

STATISTIC DISPLAY

The machine stores the selection quantity data globally (from the the last programming menu reset) and partially (from the last operator menu reset).
When pressing the statistic display button “5” the stored data is sequentially displayed, and namely:

1 - partial counters for selections in normal operation or test mode

2 - total counters for selections in normal operation or test mode

3 - failure counters

PRINTING THE STATISTICS

Connect an RS232 serial printer having a Baud rate of 9600, 8 data bit, no parity, 1 stop bit to the serial port located on the push button board to print all the statistics described in the paragraph “Displaying the statistics”.
The printout will also contain the machine code 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 the statistic printing button “6” and the request message “Confirm?” will be displayed;
- connect the printer before confirming;
- press the confirm button “↵” to start printing.

RESETTING THE STATISTICS

When pressing the statistic reset button “3” the request message “Confirm?” will start blinking.
Press the confirm button “↵”, the message “Working” is displayed for a few seconds and the total statistics are reset. In order to reset the partial statistics, follow the procedures in the “Operator menu”.

Chapter 3
MAINTENANCE

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.

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).

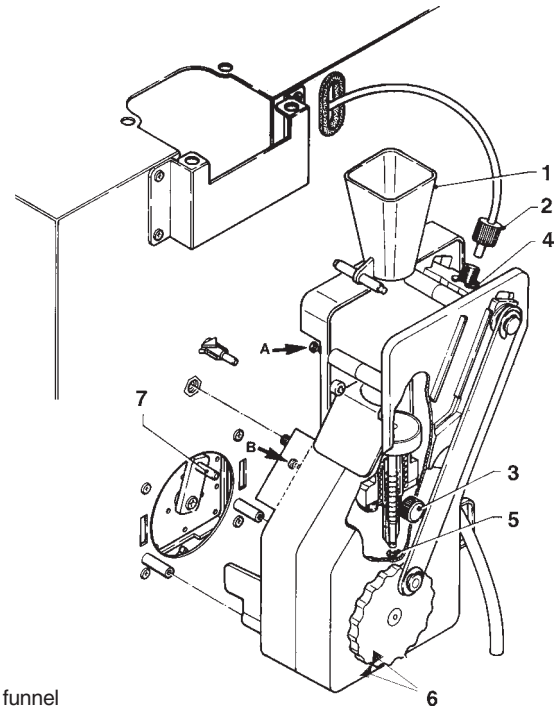
Under no circumstances should water jets be used to clean the machine.

COFFEE 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. 17);
- undo the knob securing the unit to the bracket;
- remove the coffee unit.

Fig. 17



1 - Coffee funnel
2 - Boiler connecting hose
3 - Unit securing knob
4 - Upper piston snap ring
5 - Lower piston snap ring
6 - Reference notches
7 - Ratiomotor handle pin

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.

Removing the lower filter

- Loosen screws A and B enough to release the coffee funnel (see fig. 17);
- 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 that:

- the piston is positioned in the correct notch for the coffee dose used (see relevant section);
- the two reference notches match and that the coffee unit is inserted.

Important notice!!!

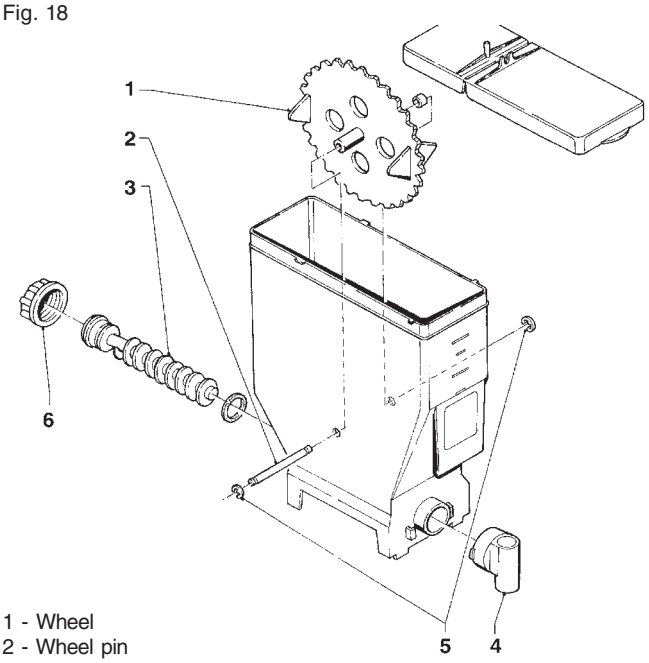
Check that the handle pin of the ratiomotor is correctly engaged in its seat.

PERIODICAL CLEANING

CLEANING THE PRODUCT CONTAINERS

- Remove the product containers from the machine;
- After unscrewing the rear forks (left-handed thread), undo the product ports and slide out the augers (see Fig. 18);
- Clean all parts in a solution of hot water and sanitising products, then thoroughly dry before reassembling.
- for the coffee bean hopper it will be sufficient to perform the cleaning as described for the other containers, but without removing the hopper.

Fig. 18



1 - Wheel
2 - Wheel pin
3 - Auger
4 - Front port
5 - Pin snap ring
6 - Rear port

SANITISING

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 sanitised (cleaned and disinfected) in the following way:

- all parts in contact with food, including the hoses, must be removed from the machine and fully disassembled;
- wash all parts with detergent being sure that all visible residue and product layers are mechanically removed, using a brush if necessary;
- soak all components in the previously prepared sanitising solution for at least 20 minutes;
- the machine internal surfaces are to be cleaned with the same sanitising solution;
- after disinfection thoroughly rinse all components to ensure that all residue of the detergent solution is removed;
- reinstall all parts.

Before restarting the machine, the sanitising procedure described on the maintenance plate (see Fig. 3) must be carried out with all parts reinstalled.

INSTANT PRODUCT BOILER MAINTENANCE

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

This operation should be carried out by qualified technicians only.

To descale the boiler, it is necessary to remove it from the machine.
For descaling use only biodegradable, non-toxic and mild products.
Thoroughly rinse all parts before reassembling.

When reassembling make sure that:

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

IMPORTANT NOTICE!!!

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

If the dry heating continues until the safety thermostat is activated (see hydraulic system) the boiler temperature sensor will be

PERMANENTLY DAMAGED

AND MUST BE REPLACED.

PRINTED BOARD FUNCTIONS AND INDICATOR LAMPS

CONTROL BOARD

This board (see Fig. 19) 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~ voltage required for board operation is supplied by a transformer (see Figure 15) which is protected by a 160 mA T fuse on the primary and a 1.25 A T fuse on the secondary winding. The voltage supply is rectified and stabilised directly by the board.
This board houses the EPROM chip.

- 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 heating of the espresso coffee boiler.

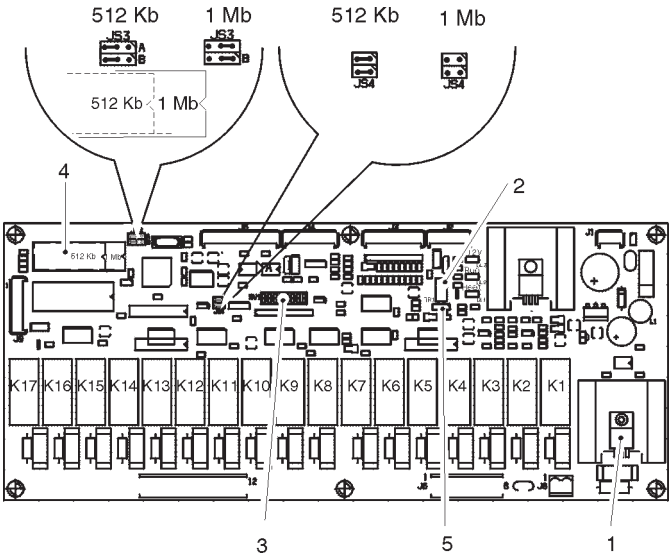


Fig. 19

1 - TRIAC for coffee boiler heating element
2 - Coffee boiler temperature control trimmer
3 - Configuration Minidips
4 - EPROM
5 - Jumper: fixed to 2-3

RELAY FUNCTION (see wiring diagram)

K1	=	ER
K2	=	ESC
K3	=	MAC
K4	=	PM
K5	=	M
K6	=	MF1
K7	=	MF2
K8	=	EV4
K9	=	EV2
K10	=	MD3
K11	=	MD2
K12	=	MD1
K13	=	EV1
K14	=	EV3
K15	=	TEL
K16	=	EIA
K17	=	MF3

A set of minidips, allowing configuration of the board for use in the various versions and in the different countries, and a jumper (5), allowing configuration of the board for Instant or Espresso models, are located at the centre of the control board (see Fig. 19). The board is also designed to support 512 Kb and 1 Mb EPROMs by setting jumpers JS3 and JS4.

EXPANSION BOARD

This small board, housed in the left hand side of the espresso coffee module, controls milk dispensing for espresso coffee.

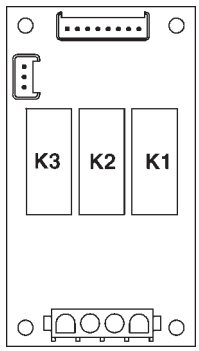


Fig. 20

RELAY FUNCTION (see wiring diagram)

K1	=	MD4
K2	=	MF4
K3	=	EV5

PUSH-BUTTON BOARD

This board controls the alphanumeric display, the selection buttons and the service buttons.
It supports the coin mechanism connectors as well as the printer port.

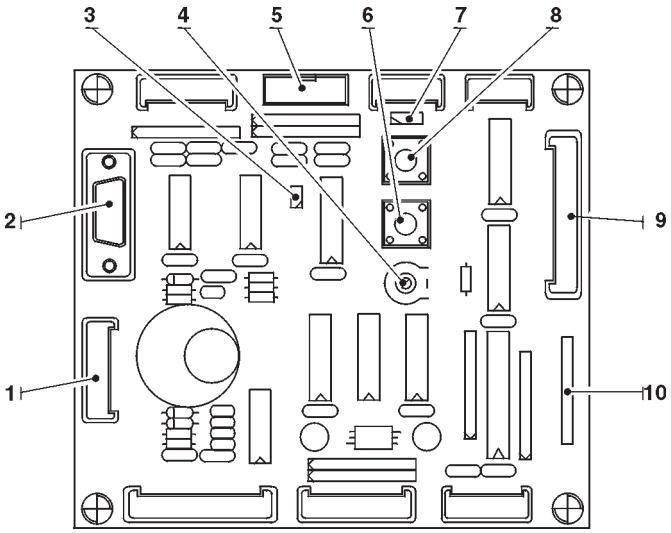


Fig. 21

1 - To the programmer
2 - RS232 serial port
3 - Jp1 = 
4 - LCD display contrast adjustment trimmer
5 - To the front validator
6 - Programming button
7 - Jp2 = 
8 - Mixer wash button
9 - To the LCD display
10 - To the keypad

REPLACING THE BOARDS

If it for any reason were necessary to replace the control or expansion board, proceed as follows:

- turn off the main power switch;
- remove the coffee hopper and the machine top panel (see Fig. 6);
- remove the brewing piston connection tube (see Fig. 22);
- completely undo the screw and remove the board cover;
- remove the protective panel of the expansion board;
- disconnect the connectors of the control board upper section, including the door switch cables;
- remove the fastening screws and remove the board support;
- disconnect the rest of the cables.

For reassembly, perform the operations in the reverse order.

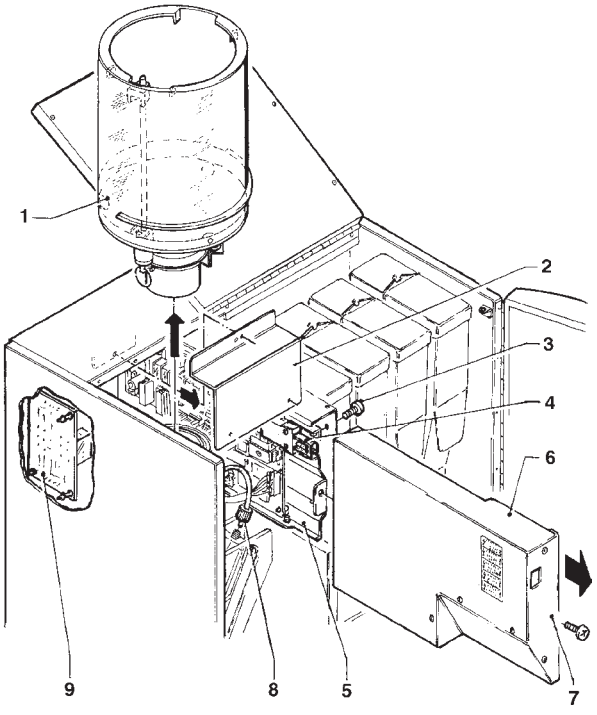


Fig. 22

1 - Coffee hopper
2 - Expansion board cover
3 - Control board support fastening screws
4 - Door switch
5 - Control board support
6 - Control board cover
7 - Board cover fastening screw
8 - Brewing piston connecting hose
9 - Expansion board

REPLACING THE LAMPS

The lamps can be accessed by opening the special door (see fig. 23) after removing the fastening screws.

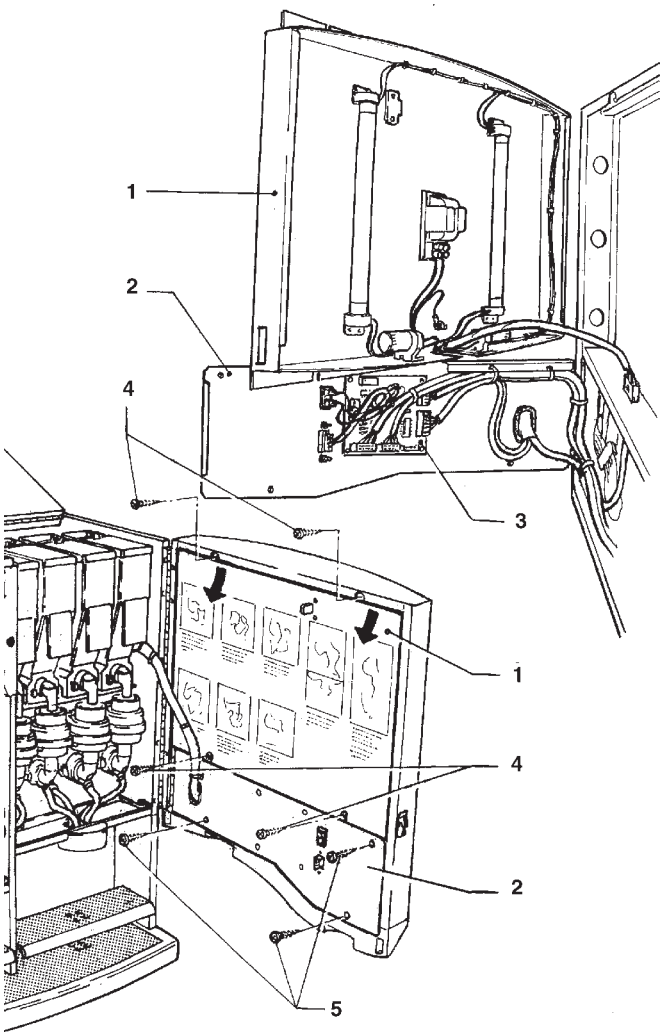
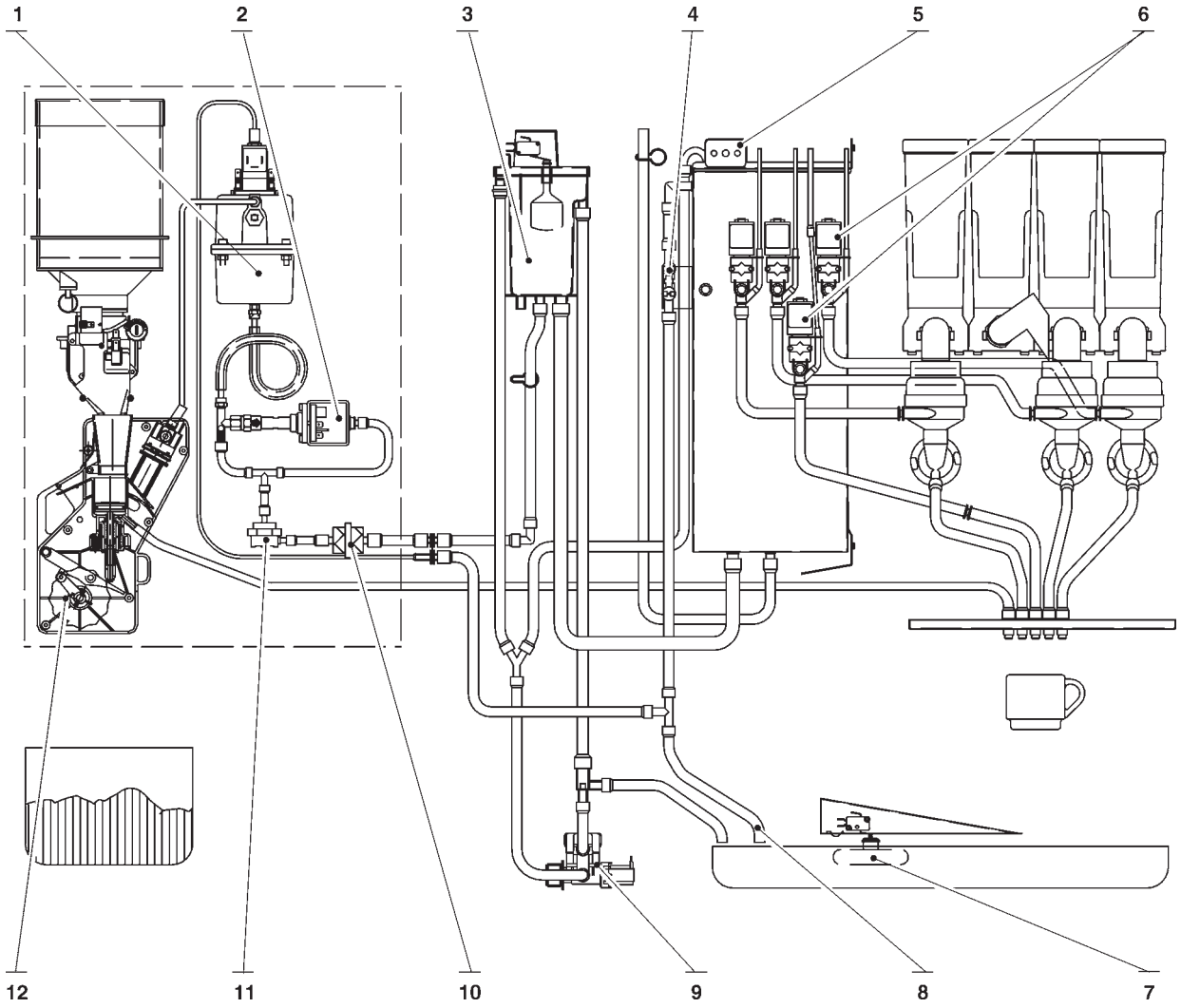


Fig. 23

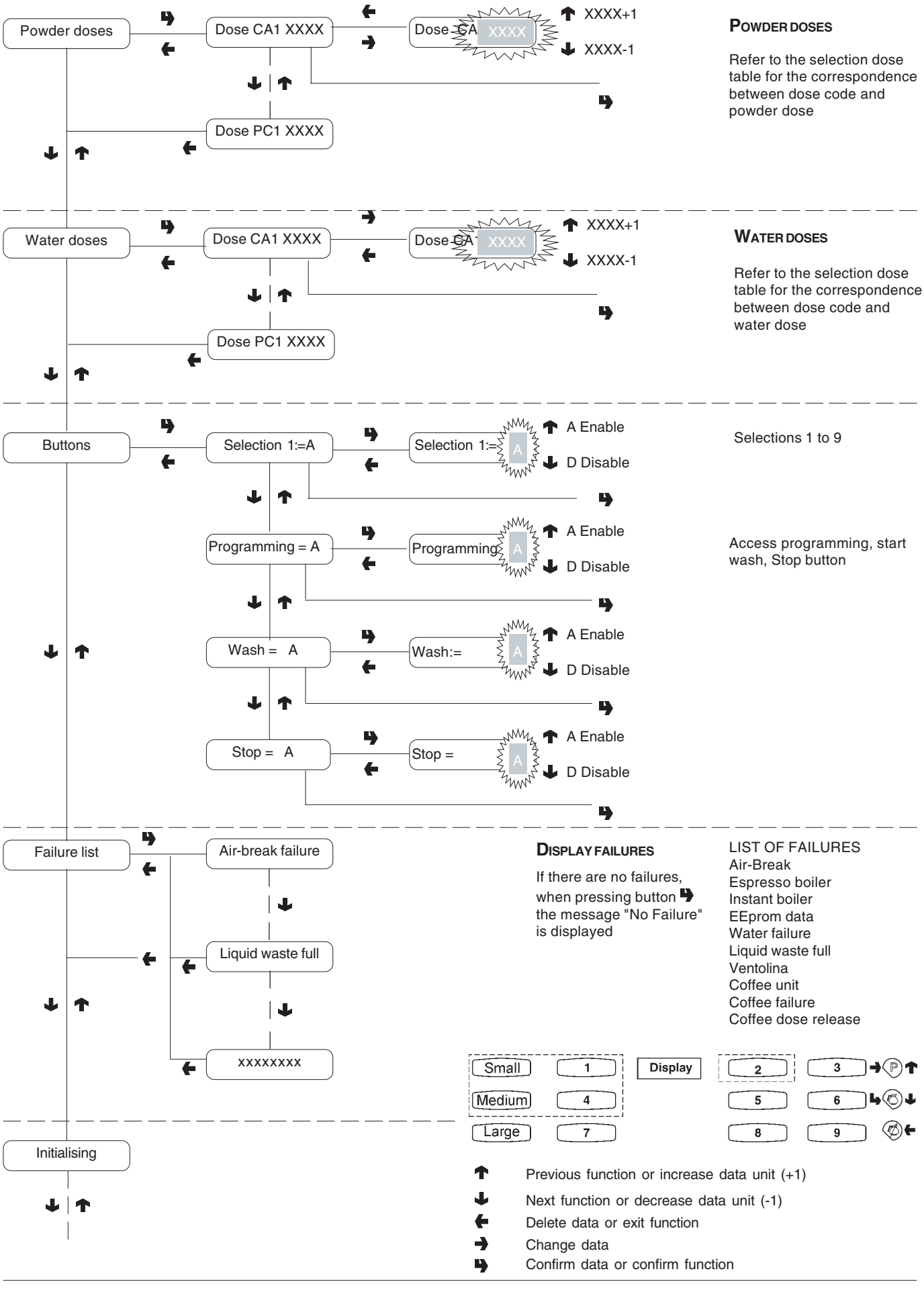
1 - Lamp protective door
2 - Keypad protective door
3 - Bush-button board
4 - Lamp door fastening screws
5 - Keypad door fastening screws

HYDRAULIC SYSTEM



1 - Coffee boiler
2 - Vibration pump
3 - Air-break
4 - Anti-boiling thermostats
5 - Boiler temperature thermostat
6 - Instant prod. solenoid valves
7 - Liquid waste container float
8 - Overflow pipe
9 - Water inlet solenoid valve
10 - Mechanical filter
11 - Volumetric counter
12 - Coffee unit

Programming menu



POWDER DOSES

Refer to the selection dose table for the correspondence between dose code and powder dose

WATER DOSES

Refer to the selection dose table for the correspondence between dose code and water dose

Selections 1 to 9

Access programming, start wash, Stop button

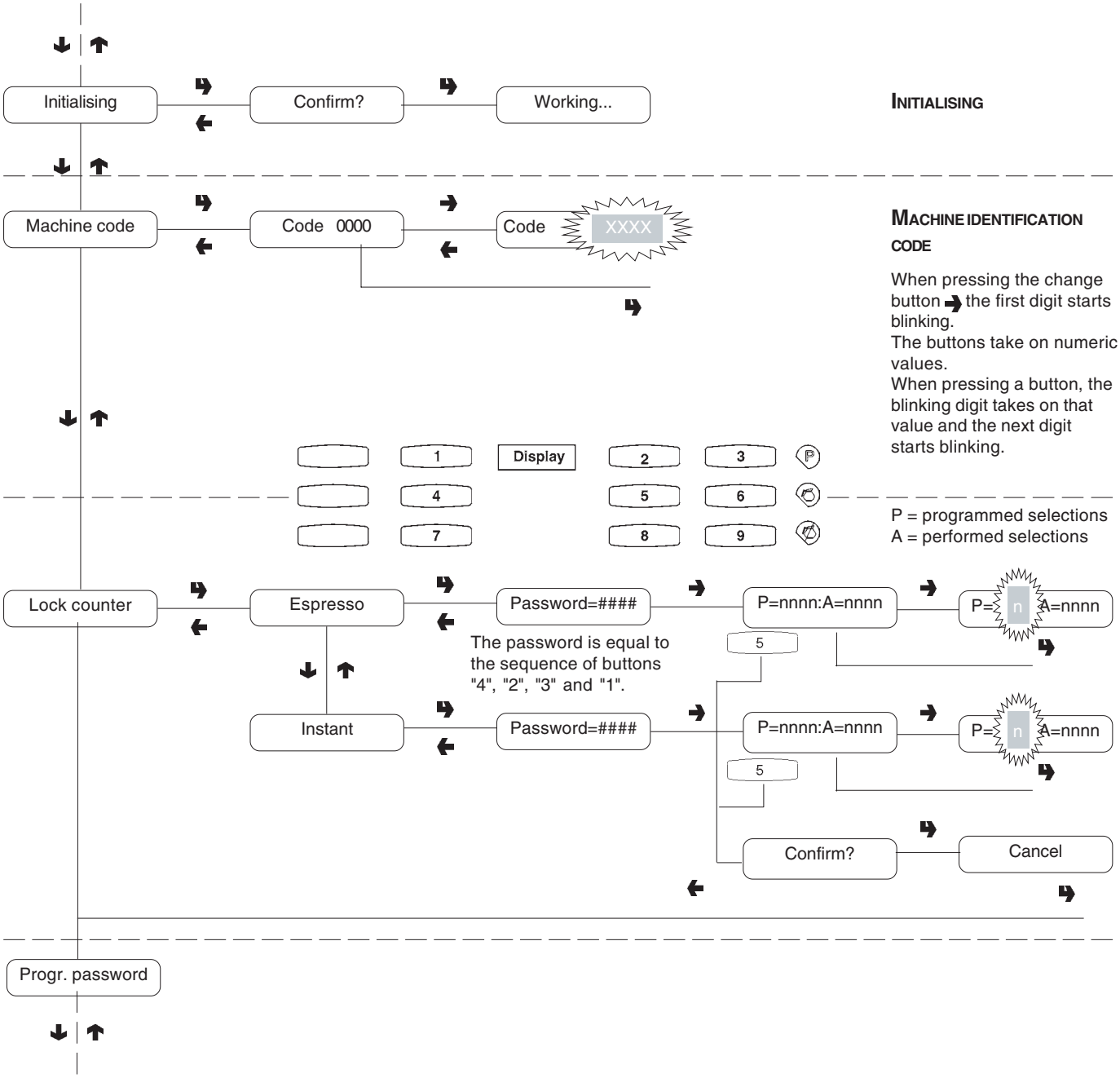
DISPLAY FAILURES

If there are no failures, when pressing button ↳ the message "No Failure" is displayed

LIST OF FAILURES
Air-Break
Espresso boiler
Instant boiler
EEprom data
Water failure
Liquid waste full
Ventolina
Coffee unit
Coffee failure
Coffee dose release

↑ Previous function or increase data unit (+1)
↓ Next function or decrease data unit (-1)
← Delete data or exit function
→ Change data
↳ Confirm data or confirm function

Programming menu

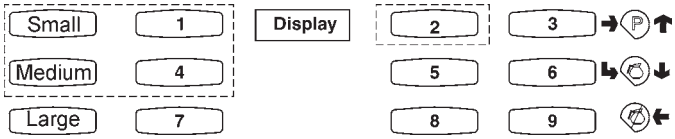


INITIALISING

MACHINE IDENTIFICATION CODE

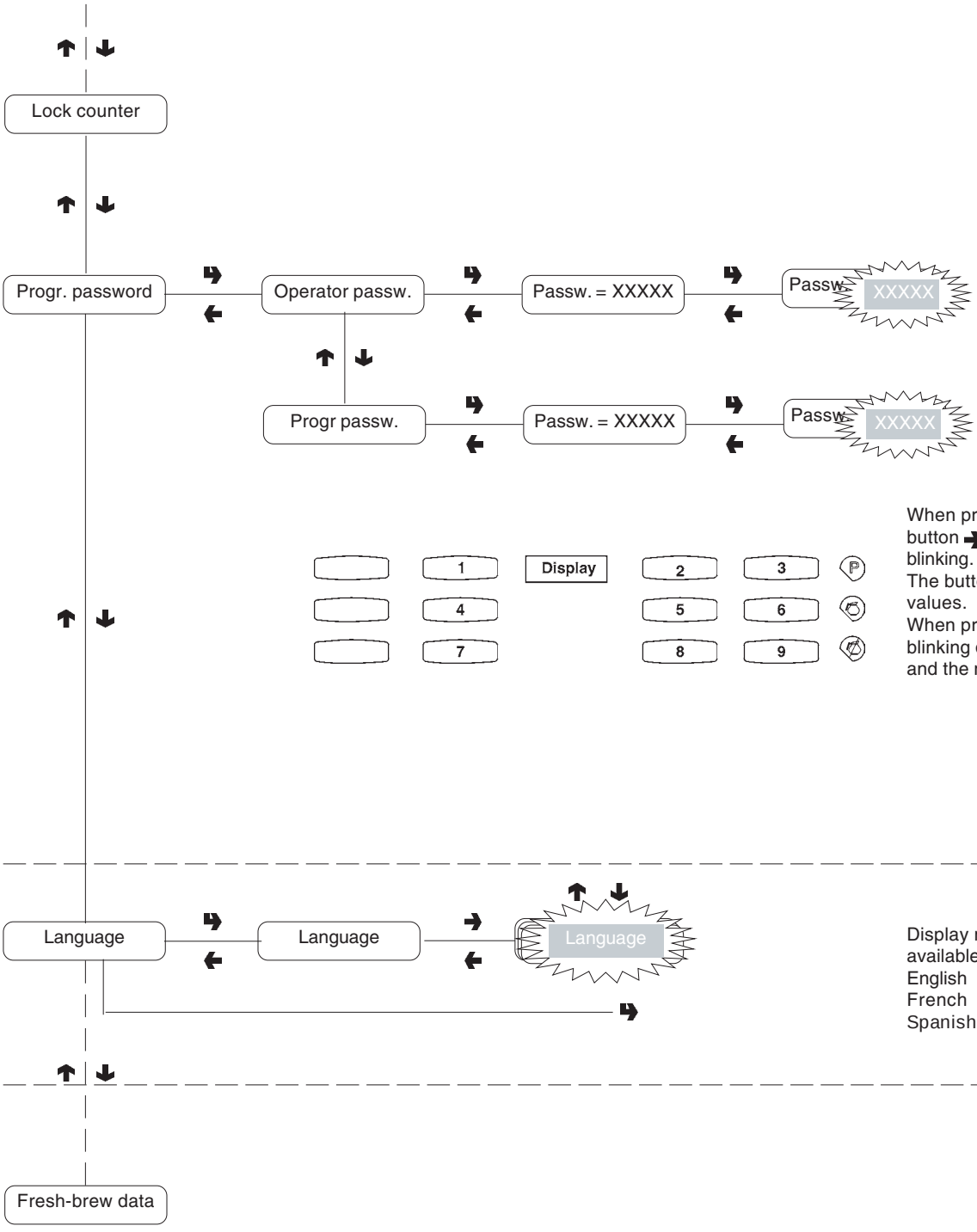
When pressing the change button ➜ the first digit starts blinking.
The buttons take on numeric values.
When pressing a button, the blinking digit takes on that value and the next digit starts blinking.

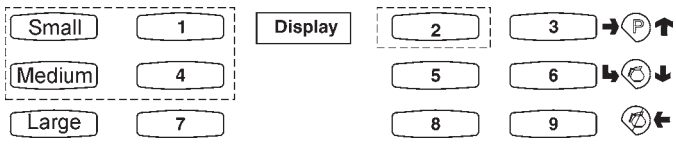
P = programmed selections
A = performed selections



- ↑ Previous function or increase data unit (+1)
- ↓ Next function or decrease data unit (-1)
- ← Delete data or exit function
- ➜ Change data
- ↳ Confirm data or confirm function

Programming menu





↑ Previous function or increase data unit (+1)

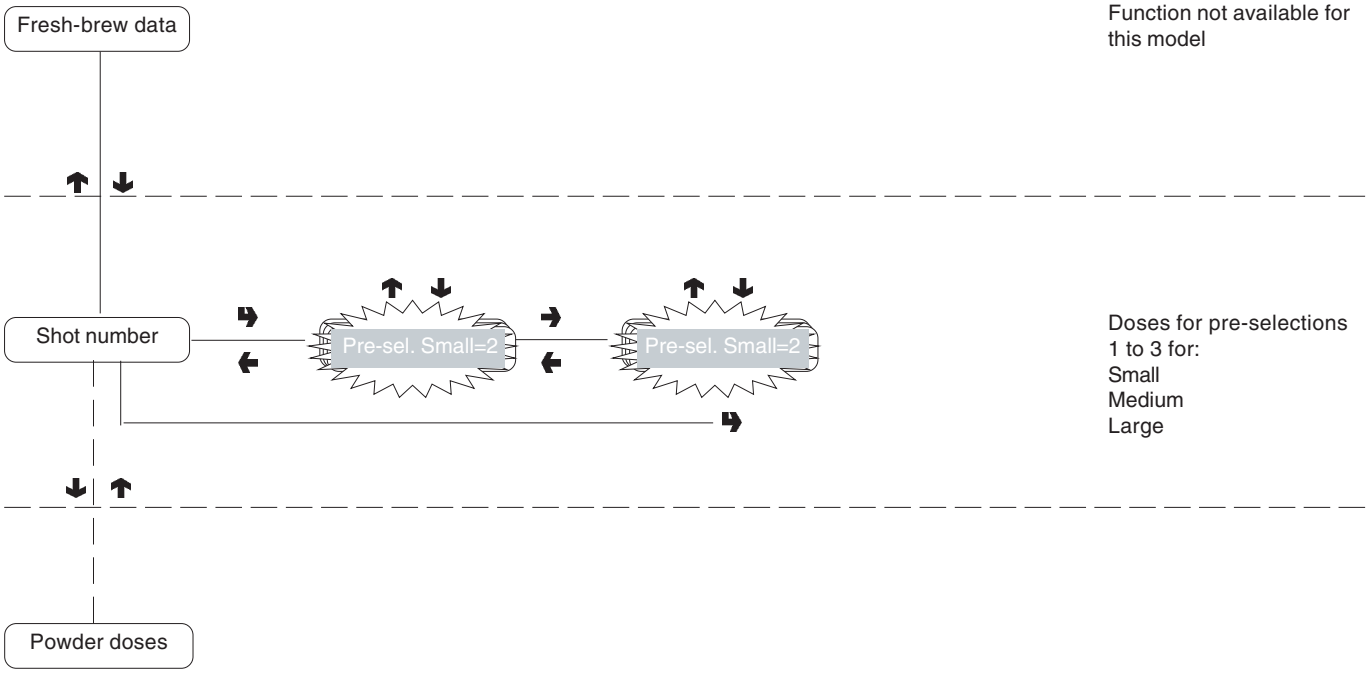
↓ Next function or decrease data unit (-1)

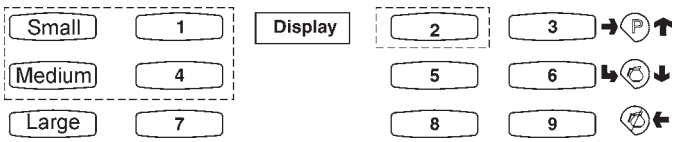
← Delete data or exit function

➜ Change data

↳ Confirm data or confirm function

Programming menu

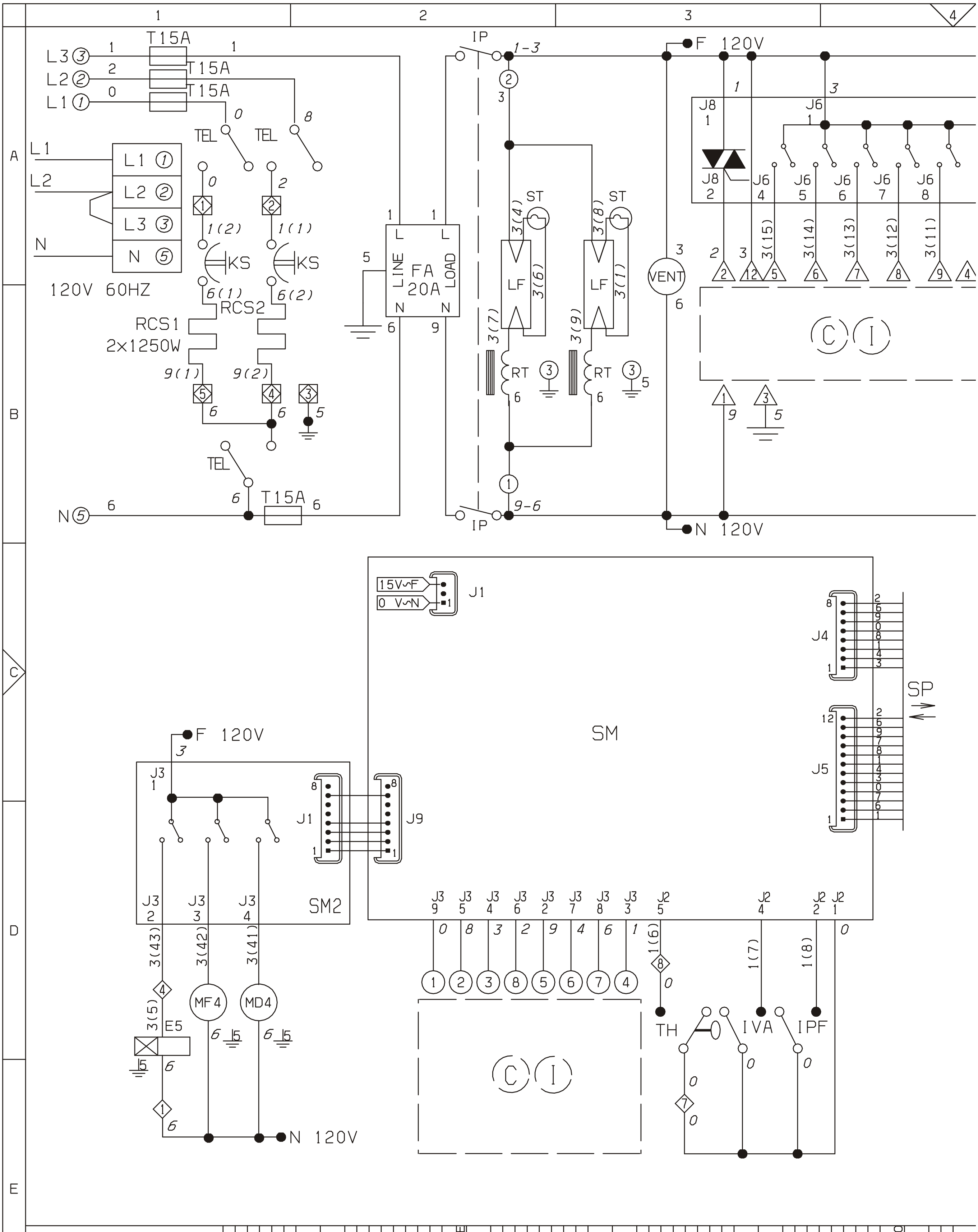




- Previous function or increase data unit (+1)
- Next function or decrease data unit (-1)
- Delete data or exit function
- Change data
- Confirm data or confirm function

WIRING DIAGRAM LEGEND

INITIALS	DESCRIPTION	INITIALS	DESCRIPTION
BFO	WASTE CONTAINER	MAC	GRINDER
CF	FILTER CONDENSER	MAX	WATER LEVEL SENSOR
CM1	COFFEE UNIT MOTOR CAM	MD1-..	INGREDIENT MOTOR - INSTANT
CM2	COFFEE DISPENSING POSITION CAM	MF1-..	WHIPPER MOTORS
CV	VOLUMETRIC COUNTER	MP	PROGRAMMING MICROSWITCH
E1-...	INSTANT SOLENOID VALVE	NTC1-.	TEMPERATURE PROBE
EEA	WATER INLET SOLENOID VALVE	PG	UNIT DETECTION MICROSWITCH
ER	COFFEE DISPENSER SOLENOID VALV	PM	PUMP
ESC	COFFEE RELEASE MAGNET	RCC	COFFEE BOILER HEATING ELEMENT
EX	EXECUTIVE COIN MECH CONNECTOR	RCS	INSTANT BOILER HEATING ELEMENT
FA	RADIO INTERFERENCE SUPPRESS	RT	BALLAST
ID	COFFEE DOSE SWITCH	SM	CONTROL BOARD
IP	DOOR SWITCH	SM2	EXPANSION BOARD
IPF	WASTE CONTAINER OVERFLOW SWIT	SP	PUSH-BUTTON BOARD
IVA	EMPTY BOILER MICRO-SWITCH	ST	STARTER
KC1-..	COFFEE BOILER CUTOUT	TEL	REMOTE CONTROL SWITCH
KS	BOILER CUTOUT SWITCH	TH	THERMOSTAT
KS1-..	SAFETY CUTOUT	TR	TRANSFORMER
LCD	LIQUID CRYSTAL DISPLAY	TX....	DELAYED FUSE (X=COURRENT)
LF	LAMP	VENT	FAN
M	COFFEE UNIT MOTOR		



NECTA VENDING SOLUTIONS 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

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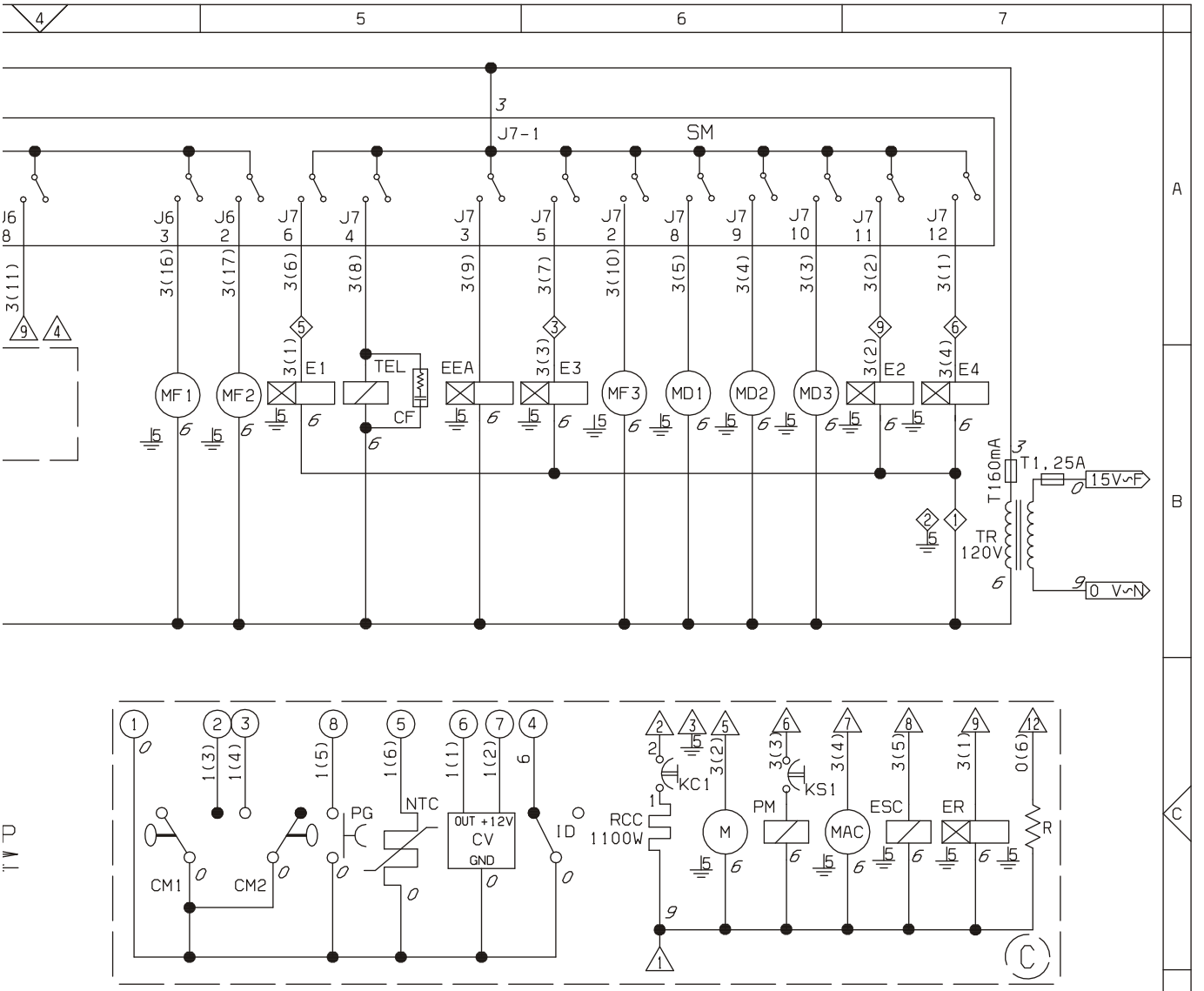
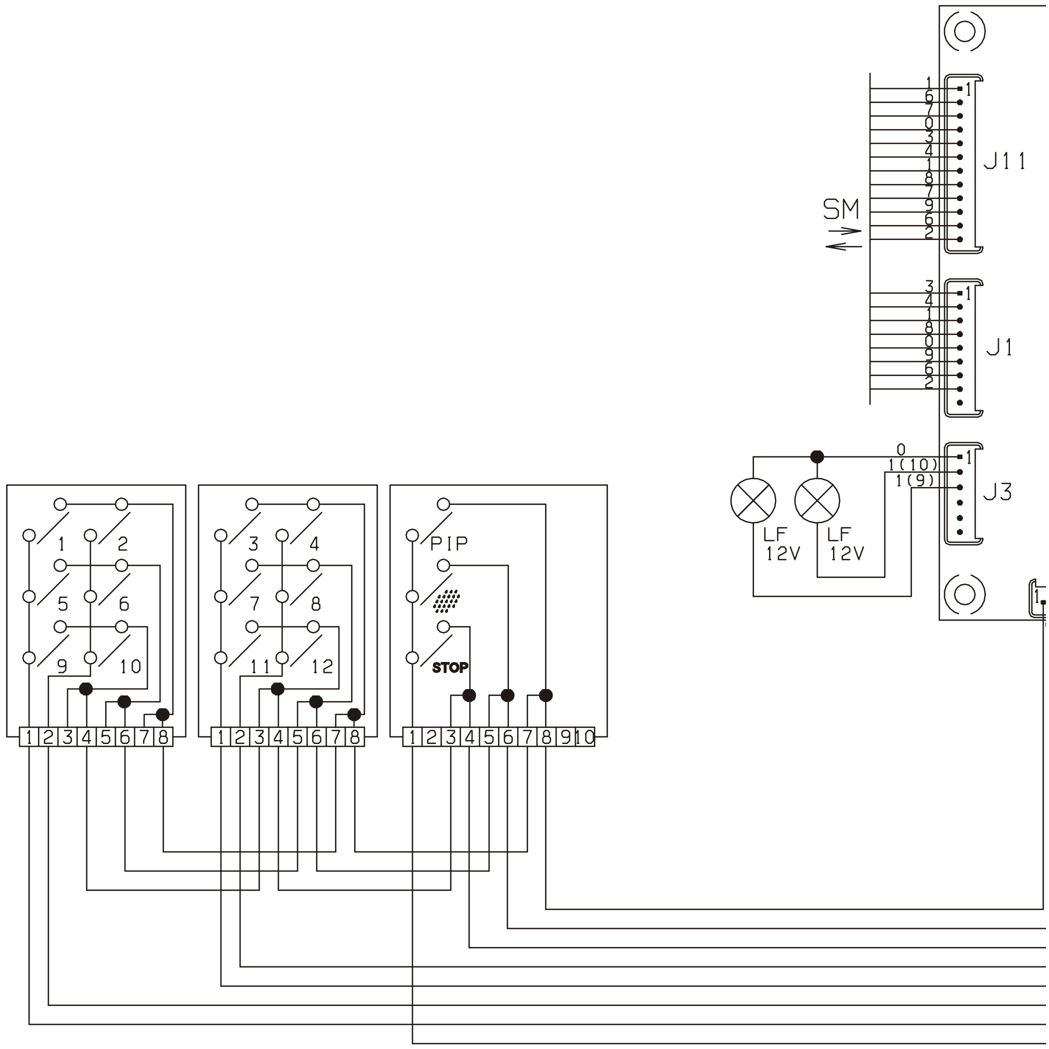


NECTA VENDING SOLUTIONS SpA A company of N&W GLOBAL VENDING GROUP	MODELLO Granmattino Kraft UL	GRUPPO SCHEMA ELETTRICO FUNZIONALE MACCHINA	DATA 29-10-03	FOGLIO 1/1	DISEGNATO BONACINA	CONTROLLATO MONGUZZI	
			LEGENDA .	CODICE 608541500			

8 GRIS
9 BLANCO



	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	AZUL OSCURO AZUL CLARO
7	ROSA VIOLA	PINK VIOLET	ROSE ROSE	ROSA LILLA	ROSA ROSA
8	GRIGIO	GREY	GRIS	GRAU	GRIS
9	BIANCO	WHITE	BLANC	WEISS	BLANCO

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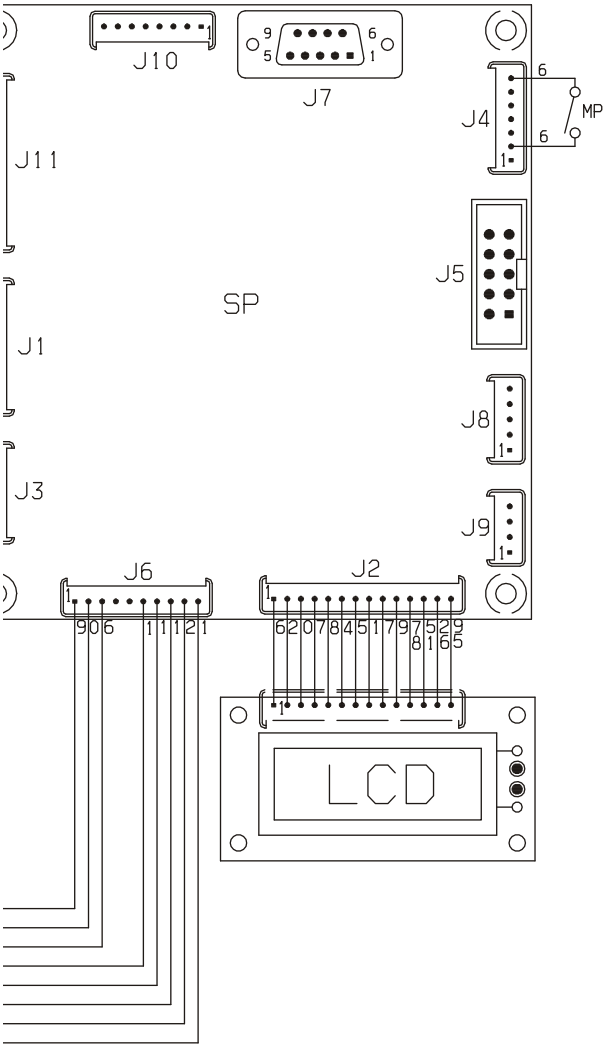

8 GRIS 9 BLANCO	NECTA VENDING SOLUTIONS SpA A company of N&W GLOBAL VENDING GROUP	MODELLO **Granmattino** *Kraft* *UL*	GRUPPO SCHEMA ELETTRICO FUNZIONALE PORTA	DATA 18-12-03	FOGLIO 1/1	DISEGNATO BONACINA	CONTROLLATO MONGUZZI
				LEGENDA .	CODICE 608541700		

EDITION 04 09 CODE: H 237U 00

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