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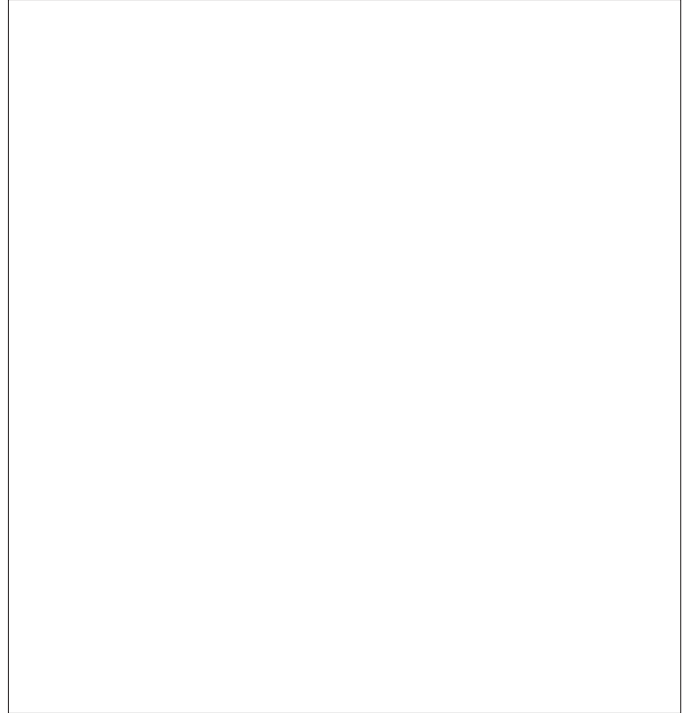


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DICHIARAZIONE DI CONFORMITA'
DECLARATION OF CONFORMITY
DÉCLARATION DE CONFORMITÉ
KONFORMITÄTSEKTLÄRUNG
DECLARACIÓN DE CONFORMIDAD
DECLARAÇÃO DE CONFORMIDADE
VERKLARING VAN OVEREENSTEMMING
INTYG OM ÖVERENSSTÄMMELSE
OVERENSSTEMMELSESERKLÆRING
YHDENMUKAISUUSTODISTUS



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 descrita 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.

Intygat 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



THE INTERNATIONAL CERTIFICATION NETWORK

CERTIFICATE

**IQNet and
CISQ/IMQ-CSQ**

hereby certify that the organization

NECTA VENDING SOLUTIONS S.p.A.

Via Roma, 24 - I-24030 VALBREMBO (BG)

for the following field of activities
Design, manufacturing and sale of
electromechanical/electronic vending machines
has implemented and maintains a
Quality Management System
which fulfills the requirements of the following standard

ISO 9001

Issued on: 2000 - 03 - 31

Registration Number: IT - 12979



Catherine Neville
Catherine Neville
President of IQNet



Gianrenzo Prati
Gianrenzo Prati
President of CISQ

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CISQ is a multi-sector, independent,
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of company management systems,
each operating in its own sector
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**CERTIFICAZIONE ITALIANA DEI SISTEMI QUALITÀ AZIENDALI
ITALIAN CERTIFICATION OF COMPANY QUALITY SYSTEMS**

esq

CERTIFICATO n. _____
CERTIFICATE n. **9130.ZAVE**

SI CERTIFICA CHE IL SISTEMA QUALITÀ DI
NE HEREBY CERTIFY THAT THE QUALITY SYSTEM OPERATED BY

NECTA VENDING SOLUTIONS S.p.A.

UNITÀ OPERATIVE
OPERATIVE UNITS

Via Roma, 24 - 24030 VALBREMBO (BG)

UNI EN ISO 9001

È CONFORME ALLA NORMA
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PER LE SEGUENTI ATTIVITÀ
CONCERNING THE FOLLOWING ACTIVITIES

Progettazione, produzione e commercializzazione di
apparecchiature elettromeccaniche/elettroniche per la
distribuzione automatica e la ristorazione
Design, manufacturing and sale of
electromechanical/electronic vending machines

L'PRESENTI CERTIFICATO È SOGGETTO AL RISPETTO DEL REGOLAMENTO
PER LA CERTIFICAZIONE DEI SISTEMI QUALITÀ DELLE AZIENDE
THE USE AND THE VALIDITY OF THE CERTIFICATE SHALL SATISFY THE REQUIREMENTS
OF THE RULES FOR THE CERTIFICATION OF COMPANY QUALITY SYSTEMS

Prima emissione
First issue
1 Giugno 1994

Emissione corrente
Current issue
31 Marzo 2000

La validità del presente certificato è subordinata a sorveglianza annuale e al riesame completo del Sistema di
Qualità con periodicità triennale secondo le procedure dell'IMQ S.p.A.
The validity of the certificate is submitted to annual audits and a reassessment of the entire Quality System
within three years according to IMQ S.p.A. rules

SINGERT
SINGERT CERTIFICATION

EA: 19

IMQ 1994 - 021 394

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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 sections.

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

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

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

IDENTIFICATION OF THE VENDING MACHINE AND ITS CHARACTERISTICS

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

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

IN CASE OF FAILURE

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

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

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.

Do not:

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

The machine should be stored in a dry room where the temperature remains between 0° C and 40 °C.

Avoid stacking machines one on top of the other and always keep it upright as indicated by the arrows on the packing.

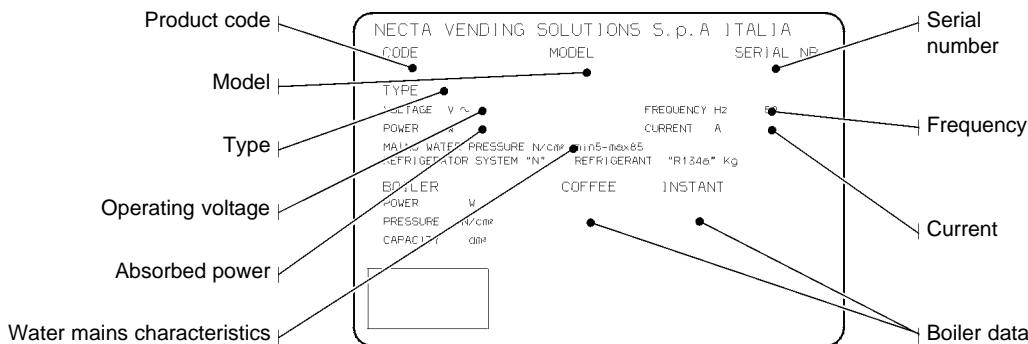


Fig. 1

USING VENDING MACHINES FOR HOT DRINKS IN OPEN CONTAINERS

(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.

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 (see Figure 12).

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 a system is responsible 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

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 DATA

Height	1830 mm
Width	680 mm
Depth	720 mm
Overall depth with door open	1300 mm
Weight	220 Kg

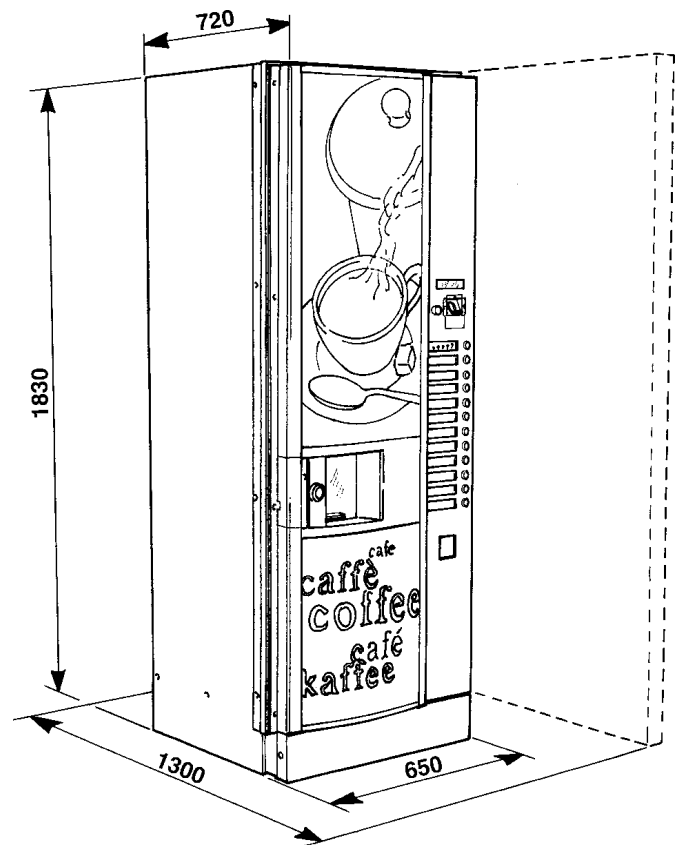


Fig. 2

Power supply voltage	230 V~
Power supply frequency	50 Hz
Installed power	2300 W

CUP DISPENSER

Suitable for cups with a rim diameter of 70-71 mm. with a capacity of approximately 600 cups;

COIN MECHANISM

The machine is factory-fitted for installation of an "EXECUTIVE" type coin mechanism.

SALE PRICES

A different programmable price can be set for each selection; the standard setting has the same sales price for all selections.

COIN BOX

Made of aluminised plate. Cover and lock are available as accessories.

WATER SUPPLY

From the mains, with a water pressure of 5 to 85 N/cm². The machine software is pre-set to control the water supply from an internal tank (optional kit).

AVAILABLE ADJUSTMENTS

Espresso models: volumetric adjustment for coffee, granulometry, instant products and water doses.

Instant models: time adjustment for coffee, instant product and water doses.

TEMPERATURE CONTROL

Factory setting on the correct operating temperature. Two trimmers, one on the control board for the coffee boiler, and the other on the expansion board for the instant boiler, are used to make small corrections (if necessary).

CONTROLS

- Presence of cups
- Presence of water
- Presence of coffee
- Presence of the coffee unit
- Liquid waste container empty
- Operating temperature reached
- Position of mobile dispensing spouts
- Product slider/flap closing
- absence of cup in the dispensing compartment.

SAFETY DEVICES

- Door switch
- Manual-reset boiler safety thermostats
- Air-break float jammed
- Overflow solenoid valve
- Float for full liquid waste container
- Instant boiler anti-over-boiling thermostat
- Boiler sensor short-circuit/failure control

- Timer protection for:

- Pump
- Coffee unit ratiomotor
- Coffee dispensing
- Coffee grinder
- Cup column shift motor
- Slider lock motor
- Spout movement motor

- Overheating protection for:

- Doser units
- Coffee unit ratiomotor
- Coffee release magnets
- Pump
- Electric mixers
- Coffee grinder motor

- Fuse protection for

- Board power supply transformer (primary and secondary windings)
- Executive supply transformer

CAPACITY OF CONTAINERS

Coffee beans	3.5 Kg
Sugar	4.4 Kg
Powdered milk	3.7 Kg
Decaffeinated coffee	1.2 Kg
Tea	4.7 Kg
Chocolate	3.4 Kg
Broth	3.9 Kg
Stirrers (No.)	550

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
 - boiler temperature: 94° C
 - Inlet water temperature: 18° C
 - Water (average) per selection: 93 cc
- the following power consumption levels resulted:
- to reach operating temperature 280 Wh
 - Hourly stand-by power consumption 156 Wh
 - for each selection (average) 11,2 Wh

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 two silver colour keys to be used for normal opening and closing.

The lock can be customised by using a kit, available as accessory, which permits the combination of the lock to be changed.

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.

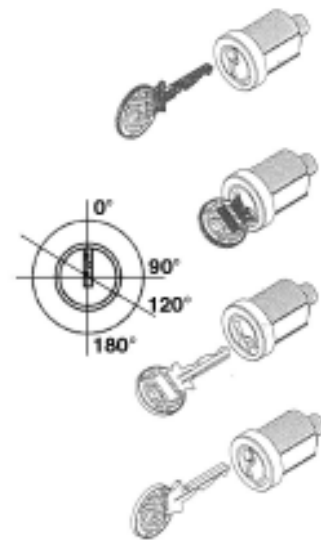
To change combination do as follows:

- 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.

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.

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.

LOADING AND CLEANING

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.

To energize the system with the open door, simply insert the special key into the slot (see Fig. 4).

The door can be closed only after removing the key.

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.

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 button, to access the machine functions, and mixer cleaning button are located on the right-hand side of the coin mechanism compartment.

Fig. 4

- 1 - Door switch
- 2 - Mechanical counter
- 3 - Network fuses

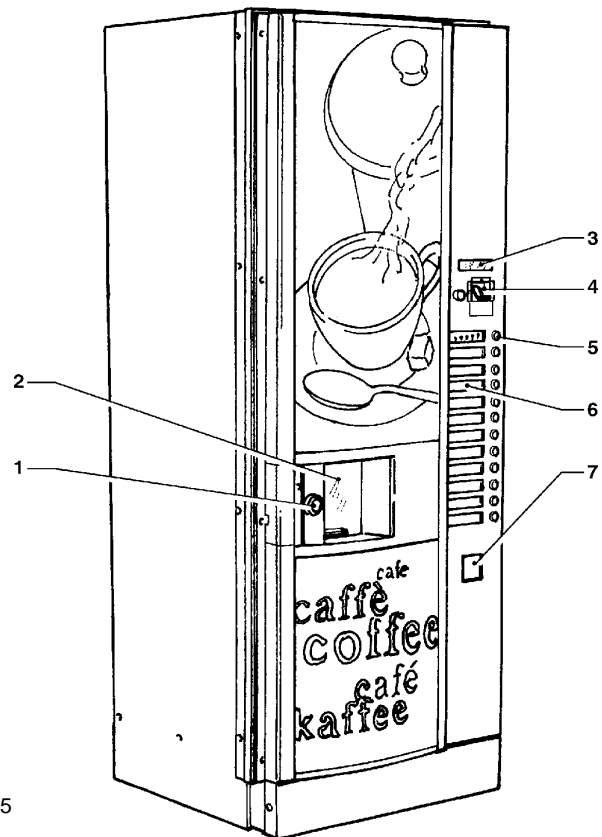
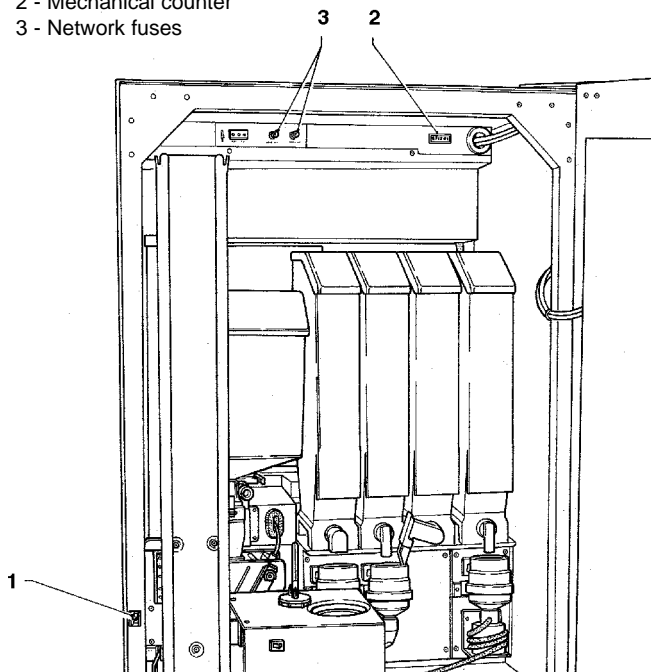


Fig. 5

MAINTENANCE 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 agents (such as chlorine-based detergents or similar) 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.

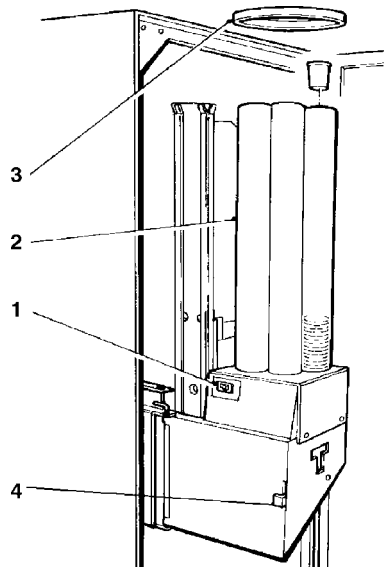
- 1 - Lock
- 2 - Dispensing compartment
- 3 - LCD display: 2 x 16 characters
- 4 - Coin slot / return button
- 5 - Pre-selection button
- 6 - Selection menu
- 7 - Coin return flap

LOADING CUPS

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

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

Fig. 6

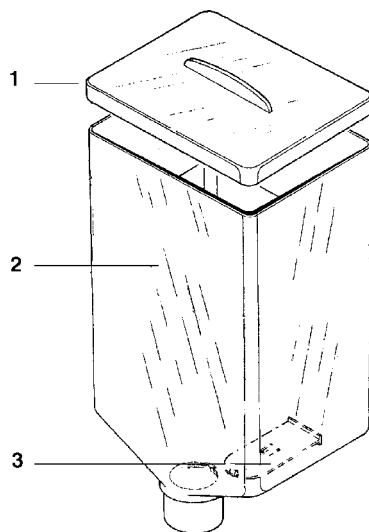


- 1 - Cup release button
- 2 - Cup stacker
- 3 - Cover
- 4 - Shelf release lever

LOADING COFFEE

Lift the lid and fill the hopper with coffee, ensuring that the shutter is fully open (see Fig. 7).

Fig. 7



- 1 - Lid
- 2 - Coffee hopper
- 3 - Shutter

LOADING SUGAR AND INSTANT PRODUCTS

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

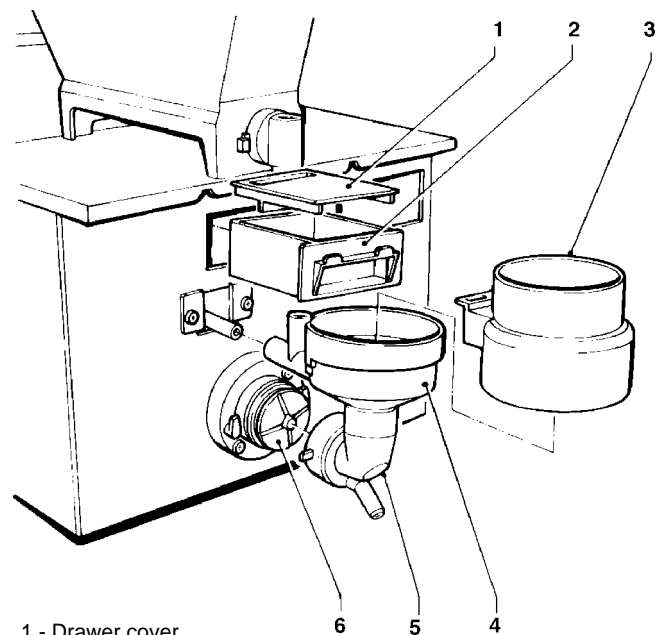
After lifting their cover, fill the single containers with the appropriate products, taking care not to compress them to prevent packing. Make sure the products do not contain any clots.

SANITISING THE MIXERS AND 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:

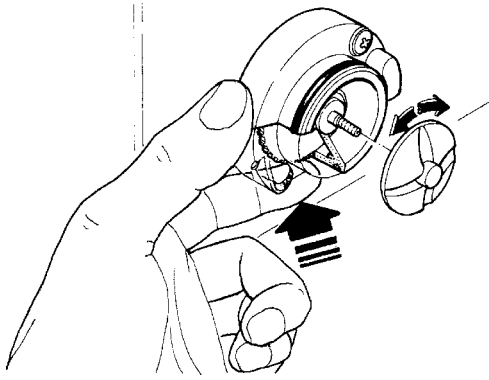
- powder deposit drawers, mixer and instant drink dispensing conduit;
- dispensing tubes and spouts;
- sugar chute;
- dispensing compartment;
- remove the powder and the water funnels, the feeders, the powder deposit drawers and the mixer wheels from the mixers (see Fig. 8);



- 1 - Drawer cover
- 2 - Powder deposit drawer
- 3 - Powder funnel
- 4 - Water funnel
- 5 - Feeder
- 6 - Mixer wheel

Fig. 8

Fig. 9



CLEANING THE SUGAR DISPENSER

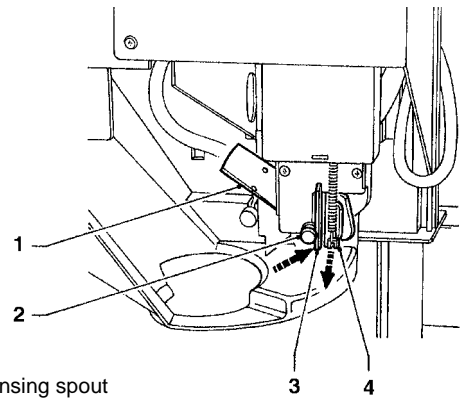
For models with sugar dispensed directly into the cup, the sugar dispensing system must be cleaned periodically using hot water (see Fig. 10) proceeding as follows:

- in order to remove the wheels, simply block the disk fitted on the mixer shaft with a finger;
 - wash all parts with detergent being sure that all visible residue and product layers are mechanically removed, using a brush if necessary;
- Disinfection should be carried out using chlorine-based detergents;
- soak all components for approx. 20 minutes in a container filled with the previously prepared chlorine-based detergent;
 - reinstall the feeders and the water funnels;
 - reinstall the powder deposit drawers and the powder funnels after thoroughly rinsing and drying them.

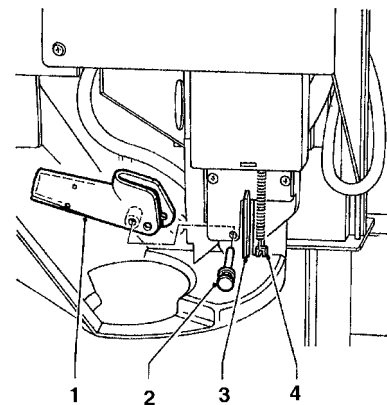
After reinstalling all parts the following is however required:

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

Fig. 10



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



- release the return spring;
- lift the flexible lever to free the pin;
- remove the pin and the dispensing spout;
- after cleaning, reinstall all parts in the reverse order.

WEEKLY 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.

REGENERATING THE SOFTENER UNIT

The ion-exchange resins, contained in the softener unit, should be regenerated at least once a week or even more frequently depending on the hardness of the water from the mains used to supply the machine (see table below).

Water hardness		Number of selections	
° F.	° G.	60 cc.	130 cc.
10	5.6	25,000	12,500
20	11.2	12,500	6,000
25	14	11,000	5,250
30	16.8	9,400	4,500
40	22.4	6,300	3,000
50	28.0	5,500	2,500

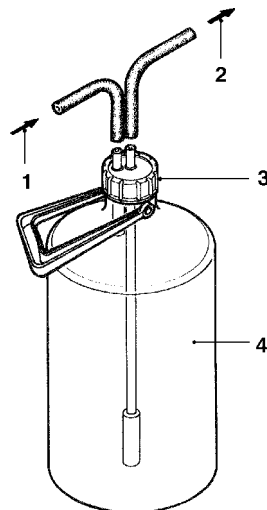
To regenerate the resins correctly do as follows:

- remove the softener unit from the cabinet and shake it vigorously to eliminate any preferential paths which may have formed;
- fill 1.5 Kg. of sodium chloride (ordinary table salt);
- connect the side hose union to a tap and the middle rubber-holder to a drain point; the direction of the water flow must be

NECESSARILY

the one shown in the figure 11

Fig. 11



- 1 - From the tap
- 2 - To the drain
- 3 - Cap
- 4 - Softener unit

- adjust the water flow in such a way as to completely dissolve the salt in 20 litres water within 35 minutes;
- during the regeneration operation, ensure that the softener unit is always full of water, bleeding any air which may have entered;
- at the end of this operation ensure that outlet water is no longer salted; it is advisable to check the hardness of the water by means of appropriate chemical reagents: the outlet water hardness should be 5° F.

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 chlorine-based detergents used to clean the mixers.
- completely empty the dosing grinder by dispensing coffee until the empty condition is indicated.
- completely empty the air-break and the instant product boiler, loosening the clamp on the hose.

INSTALLATION

The machine installation and the following maintenance operations should be carried out with the **machine energised** and therefore by qualified personnel, who are trained in the correct use of the machine and are aware of the specific risks of such condition.

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.

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

INSERTING THE PRODUCT LABELS

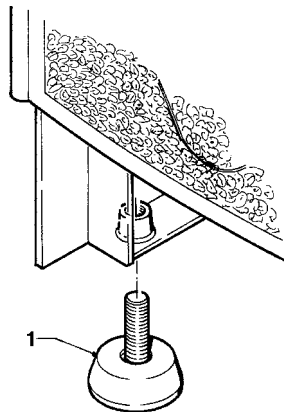
The labels indicating the available product selections are supplied with the machine and must be inserted into the special slots at installation.

According to the model, some buttons may not be used (refer to the selection dose table).

To insert the labels (see Fig. 13), proceed as follows:

- open the coin mechanism compartment door
- remove the fastening knurled nut and open the coin mechanism support
- disconnect the display button board connector
- remove the fastening knurled nuts and extract labels support frame
- insert the labels and reassemble everything in the reverse order

Fig. 12



1 - Adjustable foot

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. 12).

If required by its operating conditions, the machine can be secured to the wall and/or floor by means of the brackets available as accessories.

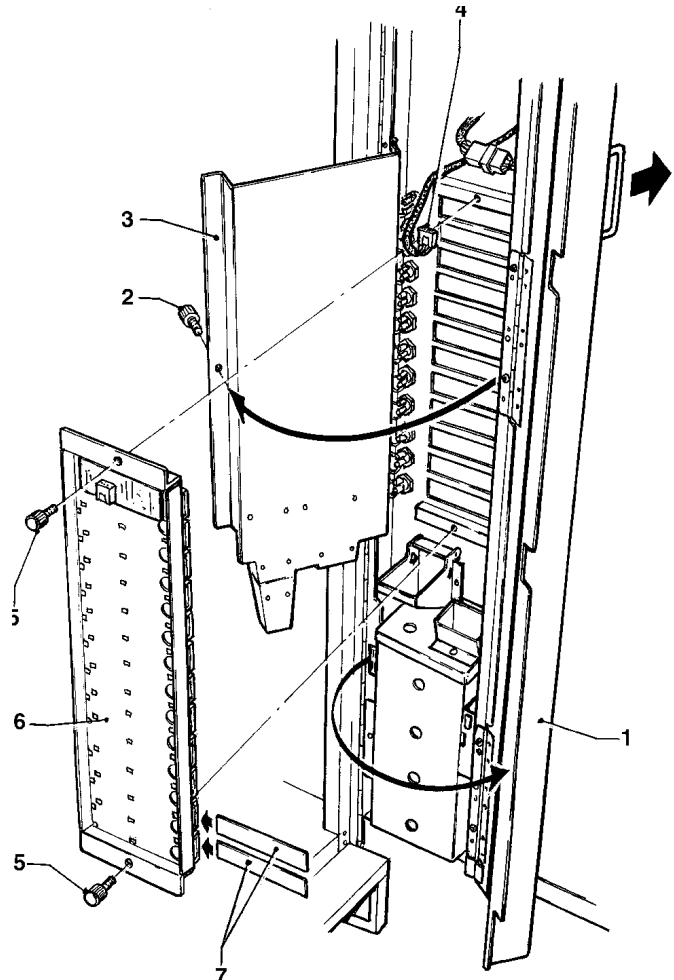


Fig. 13

- 1 - Coin mechanism compartment door
- 2 - Support knurled nut
- 3 - Coin mechanism support
- 4 - Display board connector
- 5 - Frame knurled nuts
- 6 - Label support frame
- 7 - Product labels

CONNECTING THE MACHINE TO THE WATER MAINS

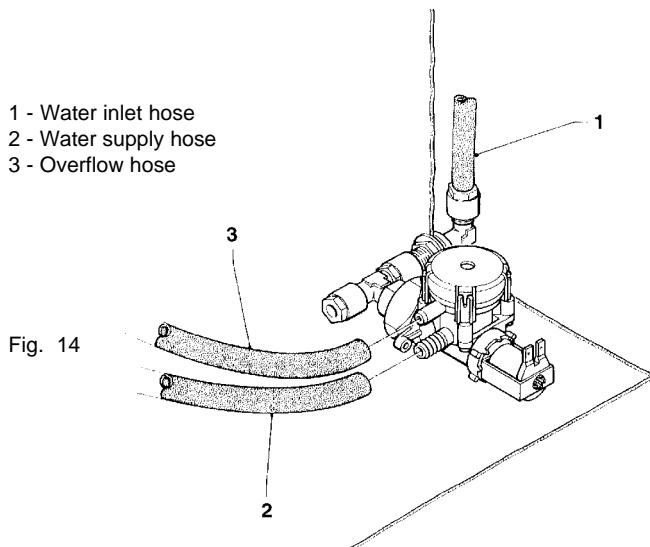
The machine must be connected to the drinking water mains.

The water pressure must be 5 to 85 N/cm².

Run some water from the mains until it is clear and without impurities.

Use a hose capable of withstanding the water mains pressure and suitable for use with foodstuff (min. inside diameter of 6 mm) to connect the water supply to the fitting (1/4" gas) of the water inlet pipe at the bottom of the machine back panel.

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



OVERFLOW DEVICE

The water inlet solenoid valve (see Fig. 14) 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 water supply tube fitting to relieve the water mains residual pressure and then tighten again (see Fig. 14);
- open the tap and switch the machine on.

CONNECTING TO THE POWER SUPPLY

The machine is designed to operate under single-phase 230 V~ voltage and is protected by 15 A fuses.

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

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

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

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

The power supply cable is of the type with a fixed plug.

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

Before switching the machine on, be sure it is correctly connected to the water mains and the cut-off valve is open.

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

REPLACING THE POWER SUPPLY CABLE

Any replacement should be carried out by qualified personnel only, using exclusively cables of the type HO5 RN - F or HO5 V V-F or H07 RN-F with a section of 3x1-1.5 mm².

To replace the cable, after disconnecting it from the grid, the following is necessary to:

- undo the 10 fastening screws from the back protecting cover inside the machine;
- holding the back protecting cover, remove the two external screws located on the back of the machine.
- remove the cover and replace the cable with a suitable one;
- reposition the back protecting cover, ensuring that it is secured by all the screws.

DOOR SWITCH

When opening the door a special microswitch disconnects the power from the machine electrical system.

To energize the system with the open door, simply insert the special key into the slot (see Fig. 4).

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

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

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

INSTALLING THE PAYMENT SYSTEM

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

- Install the coin mechanism and make sure that the programming of the relevant parameters is correct;
- adjust the selector opening lever bracket to allow complete opening of the selector;
- adjust the coin chute according to the type of coin mechanism installed.

CLEANING THE SOFTENER RESINS

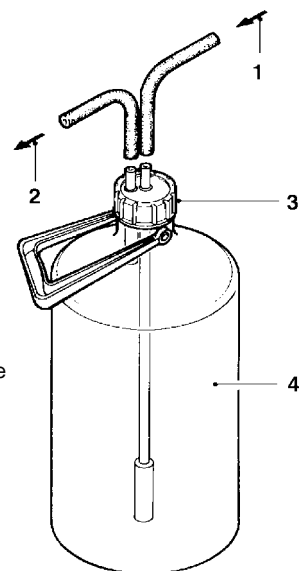
(Models C only)

Before filling the machine water system the resins contained in the softener unit must be cleaned, operating as follows:

- remove the hose connected to the air-break from the softener unit fitting (see Fig. 15);
- insert a new hose, provided with the machine, onto the now free hose fitting and direct it towards a drain;
- switch the machine on;
- bleed air out of the softener unit by loosening the plug, wait until it is full of water and tighten the plug, let a few litres of water flow out until it is clear;
- re-insert the hose connected to the air-break.

Fig. 15

- 1 - From the water inlet solenoid valve
- 2 - To the air-break
- 3 - Cap
- 4 - Softener unit



FILLING THE WATER SYSTEM

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 display will show

“INSTALLATION”

for the entire duration of the cycle;

- the air-break and the instant product boiler are filled;
- (for espresso models only) the coffee solenoid valve is opened so that air may be bled from the boiler and 800 cc. of water filled.

N.B.: If there is no water flow from the mains during the installation cycle, the machine will be blocked until the water is resumed or the machine is switched off.

This operation must be carried out manually by pressing the appropriate button in “programming” mode, if the **kit (optional) for water supply from an internal tank is fitted** or after any maintenance requiring the boiler to be emptied but not the air-break.

OPERATION

CUP DISPENSING

The machine is fitted with a cup sensor and a dispensing slider/flap with automatic lock.

During the normal operation, the slider cannot be opened. The presence of the cup is checked by the sensor at the beginning of dispensing. If the cup is not detected, the machine releases the cup a second time, locking the machine operation if the cup is not present after the second attempt.

At the end of dispensing, the slider is unlocked and the drink can be picked up.

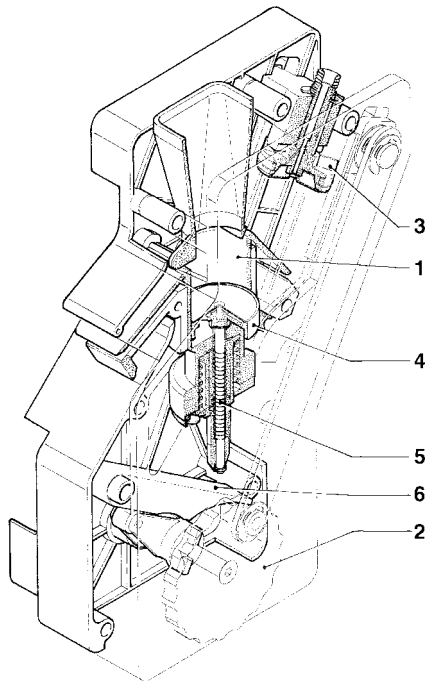
After closing, the slider is locked only if the cup is not detected.

If the slider is left open, the display indicates the message "Close the slider" and the vending machine is pre-set to the next selection.

COFFEE DISPENSING CYCLE

When selecting coffee, the grinder is started and will continue until the coffee doser chamber is full (see Figure 19).

Fig. 16



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

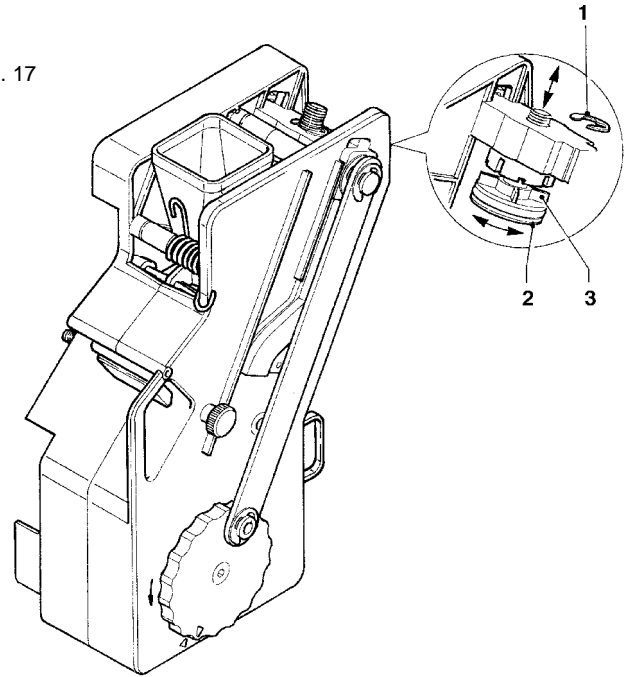
When the doser unit is full, the ground coffee dose is released into the coffee unit.

The coffee falls into the vertical brewing chamber (see Fig. 19).

The ratiomotor handle engaged with the disk located outside of the assembly rotates by 180°, making the brew chamber swing and lowering the upper piston (see Figure 18).

Due to the water pressure, the pre-brewing spring sinks and the lower piston goes down 4 mm, thus forming a water cushion which allows an even use of the coffee dose.

Fig. 17



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

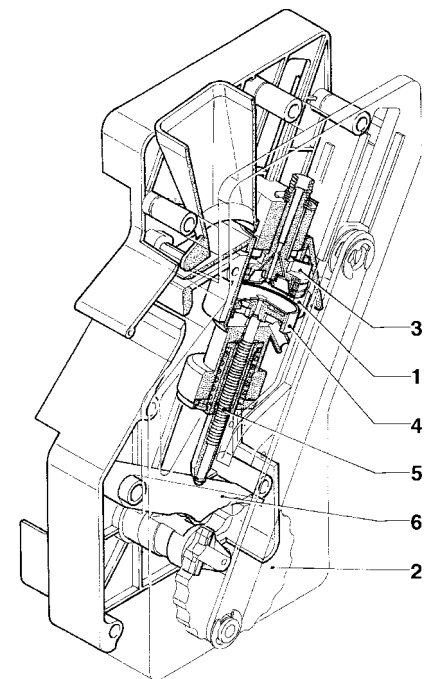
At the end of the dispensing cycle and during a pause of 3 seconds, the pre-brewing spring will discharge the water through the third way of the dispensing solenoid valve, lightly pressing the used coffee dose.

By completing its rotation, the ratiomotor makes the swinging lever 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.

Fig. 18



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

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) 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.

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. 19) 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.

WATER TEMPERATURE CONTROL

If the boiler temperature must be changed, adjust the special trimmers (see figures 18 and 20) keeping in mind that:

- tightening increases the temperature;
- loosening reduces the temperature;
- every 2 turns the temperature varies by approx. 1°C.

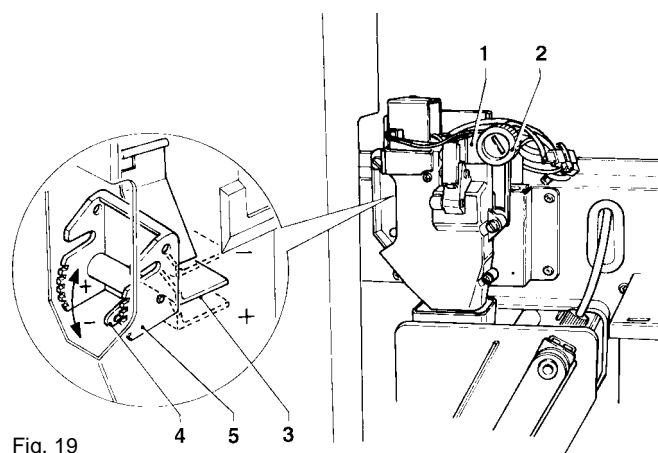


Fig. 19

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

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. 19) and more specifically:

- turn the knob anticlockwise for coarser grinding;
- turn the knob clockwise for finer grinding.

For optimum results, it is good practice 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.

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.19) 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. 25).

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 indicated in the following table:

DISPLAY	FUNCTIONS
Normal mode "Ready for use"	coins accepted products dispensed
Maintenance "Maintenance"	test dispensing machine maintenance
Programming "Programming"	programming

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 messages displayed according to the operation being carried out can be the following:

DISPLAY	FUNCTION
"Ready for use"	Machine ready
"Price:...."	Price display of selected product
"Credit:...."	Inserted credit display.
"Out of service"	Machine switched off
"Drink in process"	Drink preparation
"Temperature"	Waiting to reach operating temperature
"Installation"	Installation under way
"Disabled Sel."	Selection disabled
"Coffee off"	For espresso models only Coffee unit out of service
"Token"	Displayed if the payment system includes pulse sales
"Take"	Drink ready Cup in the dispensing compartment
"Instant prod. off"	Instant products out of service
"Close the slider"	Dispensing compartment slider open

MAINTENANCE MODE

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

The message "Maintenance" is displayed for approx. 2 seconds and then the first option of the "maintenance" menu is displayed to activate the following functions:

"Complete Sel."	Test dispensing including cup, sugar and stirrer
"Powd. only"	Dispensing powder only
"Water only"	Dispensing water only
"No Accessories"	Test dispensing without cup, sugar and stirrer
"Special functions"	Grinding and dispensing coffee rotating unit dispensing sugar

From the "maintenance" menu, when pressing a selection button (not menu scrolling) 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", indicating a disabled selection, will be displayed.

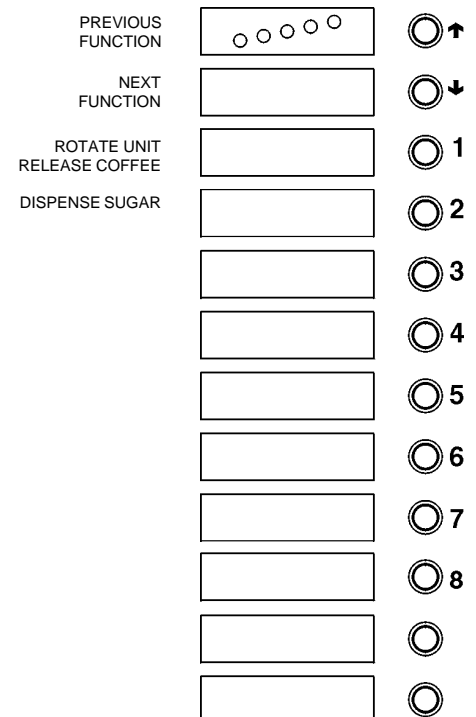


Fig. 20

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

Button "1" operates the coffee unit if this is connected to the electrical system, and releases a dose of coffee if disconnected.

Button "2" dispenses the sugar dose, that can be adjusted with button "↑".

PROGRAMMING

If pressing twice the programming button on the coin mechanism compartment the machine is set to “Programming” mode:

The message “Programming” is displayed for approx. 2 seconds, and then the first option of the programming menu is displayed to activate the following functions:

“Curr. failures”	current failure reading
“Water dose”	water dose setting
“Powder dose”	powder dose setting
“Set Prices”	price setting
“Set Prices/Select”	price/selection combination enable/disable selections
“Basic coin / DP” decimal point position	Setting the basic coin value and decimal point position
“Validat. lines”	setting the validator line value
“Initialise”	RAM initialising
“Machine code”	setting the machine code
“Coffee whipping” coffee	setting whipping time for instant coffee

The following functions are also available:

- resetting failures;
- machine installation;
- showing statistics on the display;
- printing statistics;
- resetting statistics.

At this point the buttons on the push-button panel take on different functions, as indicated in the figure below. The buttons shown within the dotted line perform direct functions, the ones outside are used to scroll through the menu or to change data.

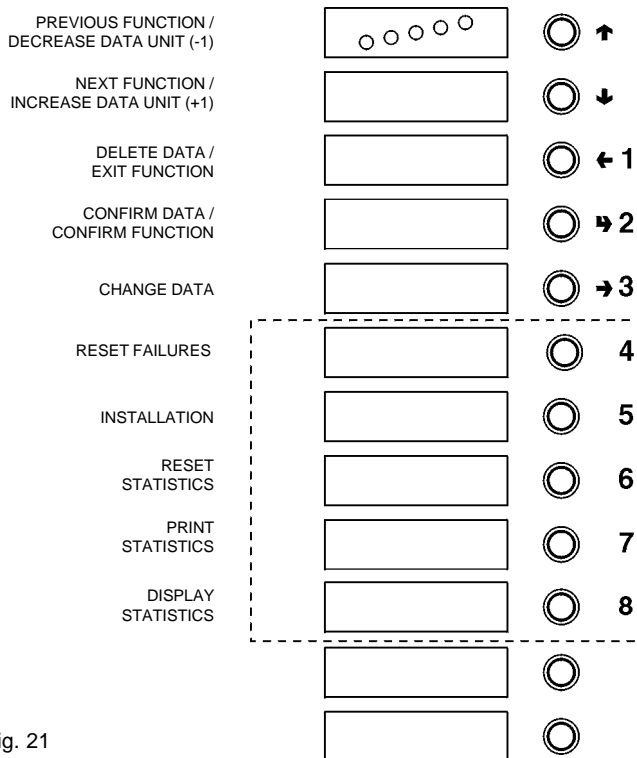


fig. 21

DISPLAYING THE EXISTING 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; when sequentially pressing button “” 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 15 possible failures are indicated in the following cases:

AIR-BREAK FAILURE

The machine is locked if after 7 selections the microswitch has never signalled the lack of water.

ESPRESSO BOILER FAILURE

If the coffee boiler fails to reach the operating temperature after 10 minutes of heating time from machine start or from the last selection, coffee based selections are disabled.

INSTANT BOILER FAILURE

If the instant boiler fails to reach the operating temperature after 20 minutes of heating time from machine start or from the last selection, selections containing an instant product are disabled.

COIN MECHANISM FAILURE

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 FAILURE

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

WATER FAILURE

If the air-break microswitch is closed for more than one minute, the water inlet solenoid valve will remain energized until the water flow is restored; if the machine is fitted with the internal tank water supply kit the pump is switched off.

CUP FAILURE

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

LIQUID WASTE CONTAINER FAILURE

The machine locks if the liquid waste container float is triggered.

ROTOR FAILURE

Failed computation of the volumetric counter within a max. given time; coffee based selections are disabled.

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 microswitch of the coffee doser unit indicates the presence of coffee in the dosing chamber, all coffee-based selections are disabled.

MOBILE SPOUTS FAILURE

If the spouts do not reach the dispensing position, the machine is disabled.

CUP RELEASE FAILURE

A cup is released at the beginning of dispensing; if this is not detected by the sensor a second cup is released. If also after the second attempt the cup is not detected, the machine locks.

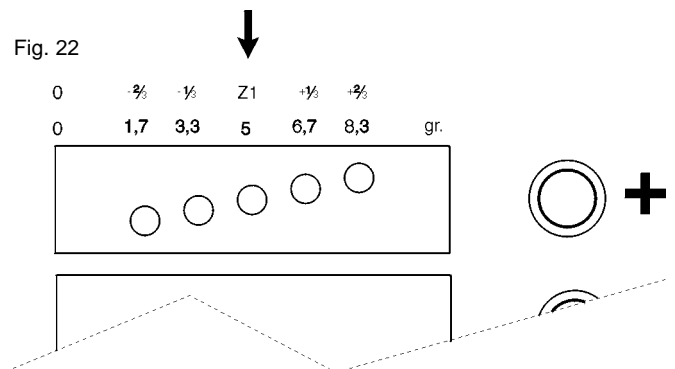
SLIDER MOTOR FAILURE

The machine stops if no opening/closing of the slider lock motor control switch is detected.

PROGRAMMING THE WATER AND POWDER DOSES

When either the "Wat. dose sett." or the "Powd. dose sett." functions from the "programming" menu are displayed the related doses can be varied.

The various doses are identified by dose codes, which are 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.

For example, when the water dose for strong coffee is increased also the dose for cappuccino, containing strong coffee and milk, is increased.

The sugar dose controls the median dose. This dose can be changed by the user for each selection with the "+" button.

Each time the "+" button is pressed the dispensed dose varies by 1/3 of the median dose. For example:

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;
- tenths of a second for water in the instant models;
- N° of pulses of the volumetric counter for water in the espresso models.

Press the confirm button "☑" from the "programming" menu to access the dose code list, which can be scrolled with the "↓" and "↑" buttons.

When pressing correction button "↔", this value will start blinking and can be modified as necessary.

PRICE SETTING

When the "Price sett." (price programming) function from the "programming" menu is displayed, the 11 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 correction button "↔", this value will start blinking and can be modified as necessary.

PRICE SETTING AND SELECTION STATUS

When the “Set Prices/Sel.” (price combination) function of the “programming” menu is displayed, the combination of the selection to one of the stored prices and/or to the status of a selection can be changed.

Press the confirm button “**↵**” from the “programming” menu to access the selection 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) to (disabled).

Press again the confirm button “**↵**” to display the price number referred to in the price table.

When pressing correction button “**↔**”, this value will start blinking and can be modified as necessary.

N.B.: The residual credit is controlled by the minidips located on the CPU card. Refer to the “board configuration” chapter for settings.

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 “**↑**” the value of the basic coin and the number of the decimal point position “dP” are displayed alternately, i.e:

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.

PROGRAMMING THE VALIDATOR LINES

When the “Validat. Lines” (line setting) function of the “programming” menu 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 correction button “**↔**”, this value will start blinking and can be modified as necessary.

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 confirm button “**↵**” to display the message “Confirm?”. Press 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 correction button “**↔**” and the first digit will start blinking.

The push-buttons take on numeric values.

When pressing a button, the blinking digit takes on that value and the next digit starts blinking

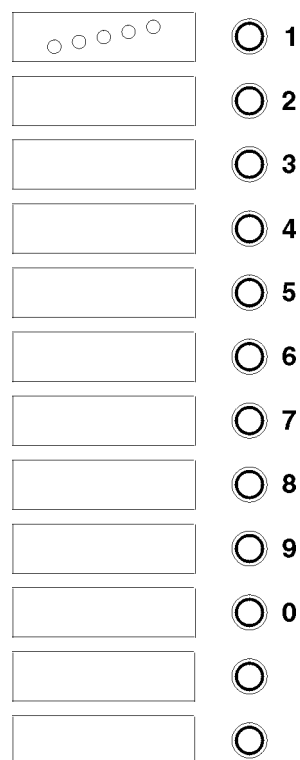


Fig 23

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. The whipper operates also after the end of water dispensing.

INSTALLATION

Press the installation button "5" to carry out the hydraulic system filling operations, even with the air-break full.

RESETTING THE FAILURES

Press the failure reset button "4"; the message "Running" is displayed for a few seconds and all present failures are reset.

DISPLAYING THE STATISTICS

Pressing the statistics display button "8" causes the stored data to be sequentially presented on the screen with a time interval of 1 second if no other button is pressed, and namely:

- 1 - counter by single selection;
- 2 - counter by single price;
- 3 - counter by type of coin cashed;
- 4 - total cashed counter;
- 5 - 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 (the CITIZEN I-DP 3110-24RF 230A p/n 9210219 printer is recommended) 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 the statistic printing button "7" and the request message "Confirm?" will be displayed;
- connect the printer before confirming;
- press the confirm button "↵" again to start printing.

RESETTING THE STATISTICS

When pressing the statistic reset button "6" the request message "Confirm?" will start blinking.

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

PROGRAMMER (OPTIONAL)

AUTOMATIC SETUP TRANSFER

Using the programmer device, the programming routines set and transferred to other machines can be read from a reference vending machine.

This data is preserved also when the programmer is disconnected thanks to two Duracell batteries LR03 Format AAA 1.5 V (to be replaced every 12 months).

The programmer allows up to twenty different programs (setups) to be stored.

To differentiate among the 20 set-ups available those containing data, a special character is displayed, and namely:

< - > = Set-up free

< □ > = Setup with data.

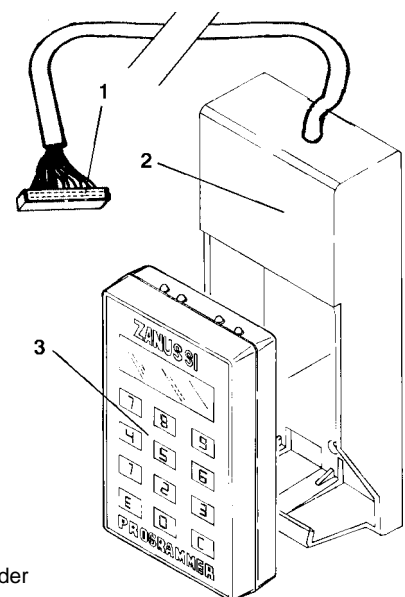
When creating the setup, only those programs containing data are available; if no setup contains data, the message "no data available" will appear on the programmer display. To connect the programmer to the machine the special holder is to be used (see Fig. 24) connecting the special cable to the connector of the push-button board (see Fig. 27).

Then enter the "programming" mode by pressing twice the relevant button on the coin mechanism compartment.

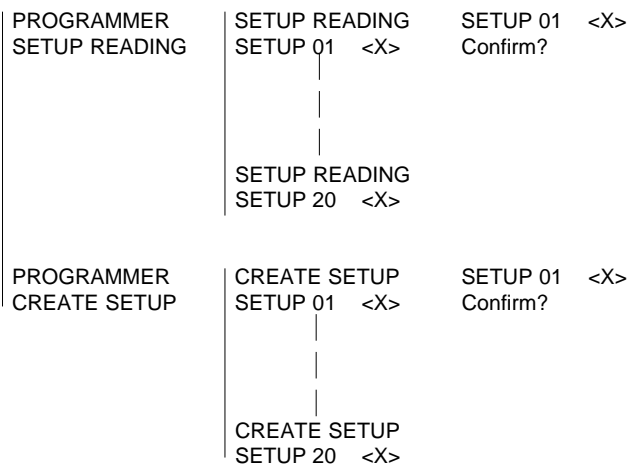
At this point, by inserting the programmer in its holder, connection will take place automatically, and the setup menu will be shown on the programmer display:

- | | | |
|-------------|-----|-----------------------------------|
| - press key | "E" | to access the displayed function; |
| - press key | "O" | to display the next function |
| - press key | °C | to display the previous function |

Fig. 24



- 1 - Connector
- 2 - Programmer holder
- 3 - Programmer



CONFIGURING THE LANGUAGE

It is possible to change the programmer configuration regarding the language in which the messages are to be displayed as well as to reset all of the data therein contained.

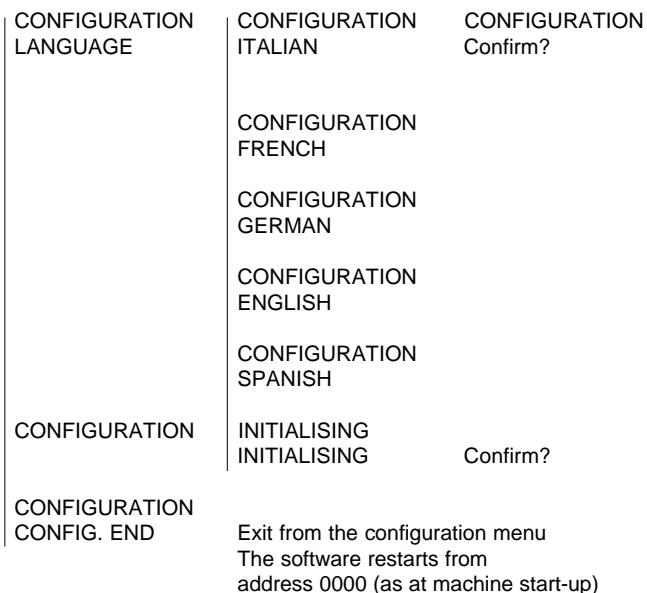
To activate the "Programmer configuration" mode do as follows:

- insert the programmer in its holder and start the machine.
- wait for about 10" and then press programmer keys "C" and "O"; the first function will be thus displayed:

TRANSFERRED DATA

The following data is transferred with the setup:

- . Water and powder doses
- . 16 price table
- . Prices and selections status
- . Basic coin
- . Decimal point
- . Value of the validator lines
- . Mixer heating
- . Whipping time
- . Pre-wash



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).

Never use water jets to clean the machine.

BREWING 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. 25);
- undo the knob securing the unit to the bracket;
- remove the coffee unit.

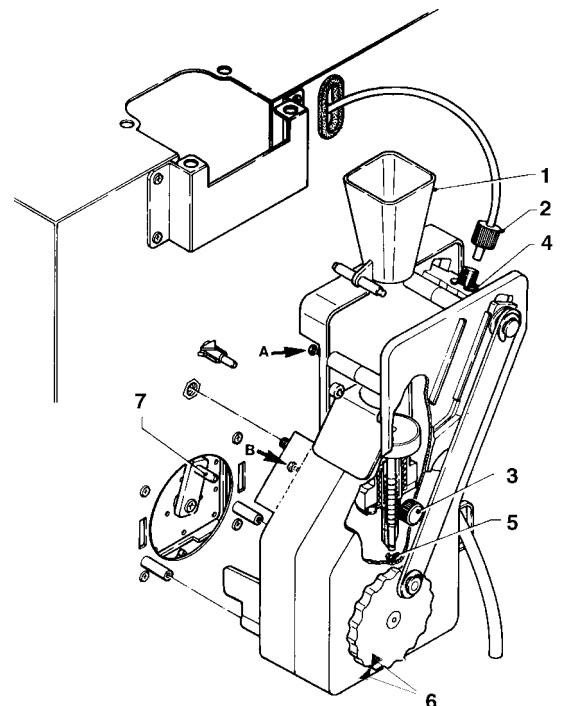
Removing the upper filter

- Take the snap ring out of its seat;
- remove the piston from the crosspiece;
- remove the filter and the piston seal.

Removing the lower filter

- Loosen screws A and B enough to release the coffee funnel (see fig. 25);
 - remove the lower piston snap ring;
 - take the piston out of brew 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.

Fig. 25



- 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

Important notice!!!

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

ANNUAL 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 cleaned and sanitized in the following way:

- 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 foodstuff circuits and the mixers” should be repeated.

PRINTED BOARD FUNCTIONS AND INDICATOR LIGHTS

CONTROL BOARD

This board (see Fig. 26) processes the information from the push-buttons and from the payment system, it also controls the actuators 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 125 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.

The 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 the operating status of the Espresso boiler heating element.



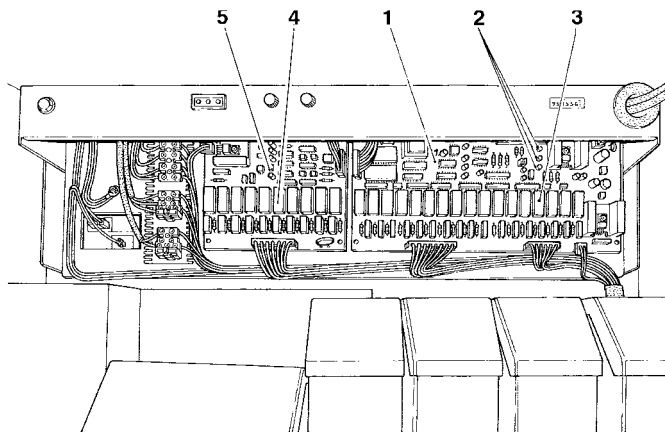
- 1 - To the programmer
- 2 - RS232 serial port
- 3 - Payment system minidips
(1-2 OFF = EXE ON = MDB)
- 4 - Jp1 = 
- 5 - LCD display contrast adjustment trimmer
- 6 - Programming button
- 7 - Jp2 = 
- 8 - Mixer cleaning button
- 9 - To the LCD display
- 10 - To the push-button panel
- 11 - To the sugar LED card

Fig. 26



- 1 - Control board
- 2 - LED indicators
- 3 - Relays
- 4 - Expansion board
- 5 - Red LED

EXPANSION BOARD

This board (see Fig. 27) controls the actuators for the instant boiler and for other users.

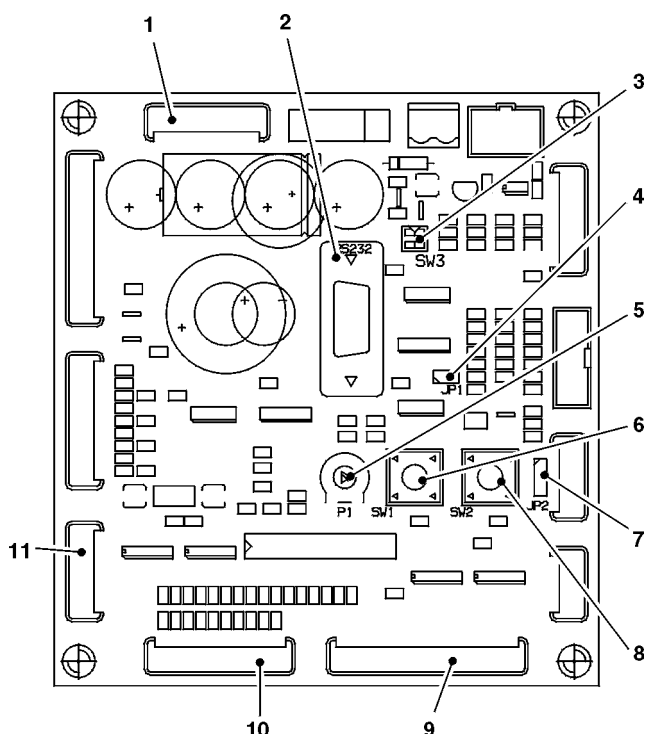
- the red LED indicates the operating status of the Instant boiler heating element.

PUSH-BUTTON BOARD

This board (see Fig. 18) controls the alphanumeric display, the selection buttons and the service buttons.

It supports the Executive coin mechanism connectors (MDB if available) as well as the printer port.

Fig. 27



CONFIGURING THE ELECTRONIC BOARDS

The electronic board is designed to be used in many machine models.

In case of replacement, or when wishing to change the unit performance, the configuration of the boards needs to be checked.

Two sets 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. 28) and of the expansion board.

The board is also designed to support 512 Kb and 1 Mb EPROMs by setting jumpers JS3 and JS4. Refer to the following table to correctly configure the boards, keeping in mind that the numbers indicate the minidips on the control board and the numbers followed by "E" indicate the minidips on the expansion board.

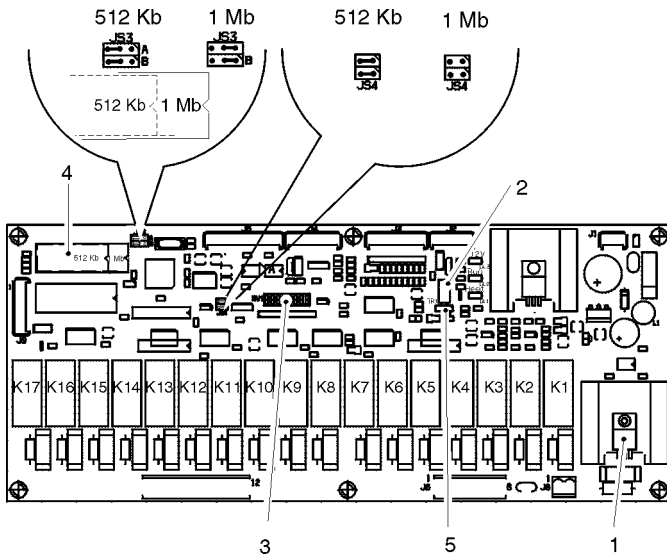


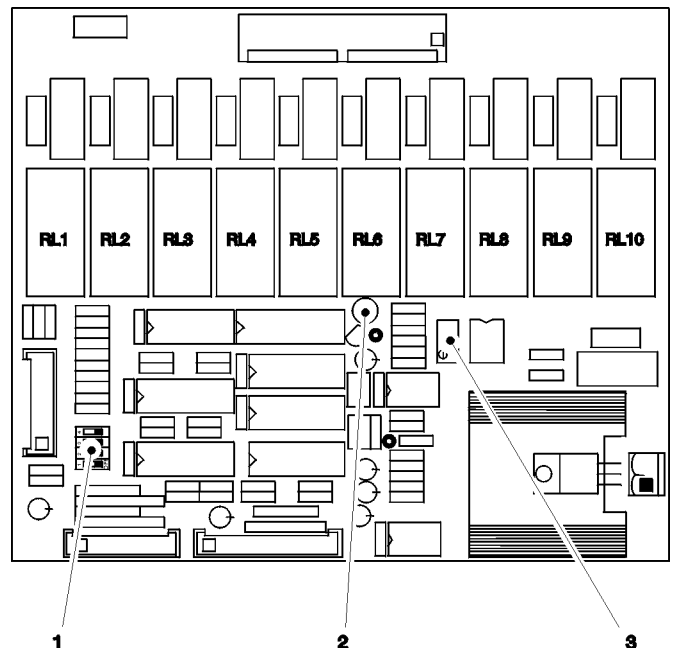
Fig. 28

- 1 - TRIAC for the boiler heating element
- 2 - Temperature control trimmer
- 3 - Configuration Minidips
- 4 - EPROM
- 5 - Jumper: Espresso 2-3
Instant 1-2

RELAY FUNCTION (see Wiring diagram)

	ESPRESSO	INSTANT
K1	ER	MF4
K2	ESC	MF3
K3	MAC	MD5
K4	PM	E4
K5	M	E3
K6	MSU	LF
K7	E1	E1
K8	MF1	MF1
K9	MD3	MD4
K10	MD2	MD3
K11	MD1	MD2
K12	MDZ	MD1
K13	MSB	MSB
K14	MSP	MSP
K15	MSCB	MSCB
K16	EIA	EIA
K17	MF2	MF2

Fig. 29



- 1 - Minidips
- 2 - Boiler heating element LED
- 3 - Instant boiler temperature control trimmer

RELAY FUNCTION (see Wiring diagram)

	ESPRESSO	INSTANT
RL1	MD5	MD7
RL2	E4	EV sanit.
RL3	MCR	MCR
RL4	free	free
RL5	LF	MSU
RL6	E2	E2
RL7	MAS	MAS
RL8	E3	E5
RL9	MF3	MF5
RL10	MD4	MD6

LAYOUT CONFIGURATION

According to the selections to be dispensed, minidips 6 and 7 on the control board and minidips 1 and 2 on the expansion board must be set as indicated in the selection dose table supplied with the machine.

MODEL CONFIGURATION

According to the model, minidip 5 must be set as follows:

MODEL	INSTANT	ESPRESSO
MINIDIP 5	ON	OFF

STIRRER CONFIGURATION

The unsweetened drinks can be dispensed with or without stirrers by setting minidip 2 to:

STIRRER	Dispensed with unsweetened drinks	Not dispensed with unsweetened drinks
MINIDIP 2	ON	OFF

PAYMENT SYSTEM CONFIGURATION

Serial payment systems or only a 24 V validator can be installed on the Spazio range machines, setting minidip 1 as shown in table below:

SYSTEM	SERIAL	VALIDATOR
MINIDIP 1	ON	OFF

If free vending is to be adopted, without using a payment system, minidip 1 must be set to OFF.

CREDIT CONTROL CONFIGURATION

If only a validator is used, it is possible to make available to the user the credit paid in excess for a period of three minutes by setting minidip 3 as shown in the table

CREDIT	CONTROLLED	NOT CONTROLLED
MINIDIP 3	ON	OFF

SERIAL SYSTEM CONFIGURATION

When serial systems are used minidips 3, 4 and 8 must be configured as shown in the table below.

SERIAL SYSTEM	DIP 3	DIP 4	DIP 8
Executive std. U-key URW 2	OFF	OFF	OFF
Executive Price Holding (parameter 36 = 3)	OFF	ON	OFF
ECS system	ON	OFF	OFF
U-Key URW3	OFF	OFF	ON

WATER SUPPLY CONFIGURATION

According to the setting of minidip 4E on the expansion board, it is possible to select the water supply either from the mains or from the internal tank.

Water supply	Internal tank	Mains
MINIDIP 4E	ON	OFF

SELECTION CONFIGURATION

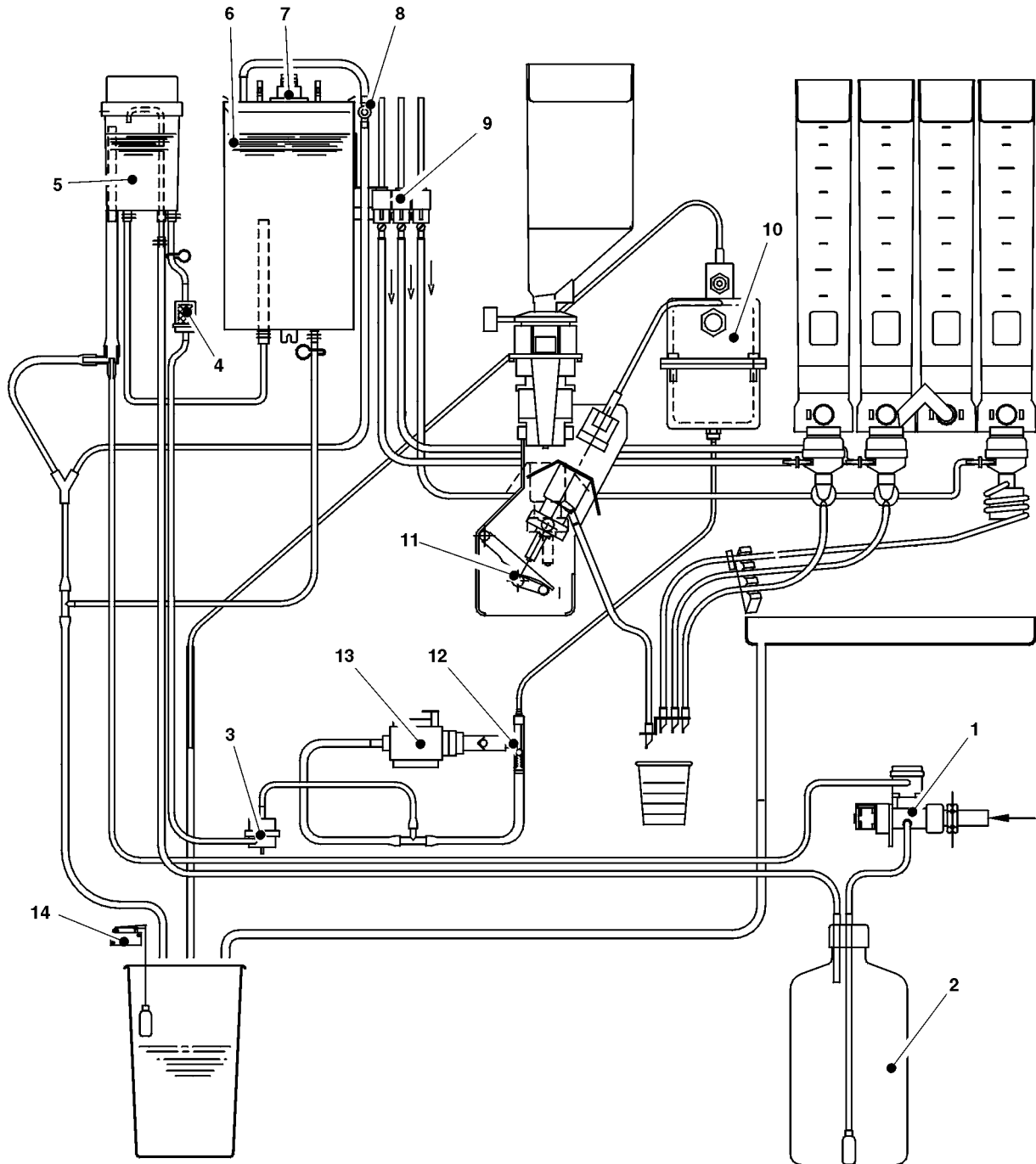
Minidips 6, 7, 1E and 2E control the type of selections that can be dispensed.

The available combinations are indicated in the "selection dose" table supplied with the machine.

Important notice:

Minidips which are not mentioned are to be set to OFF.

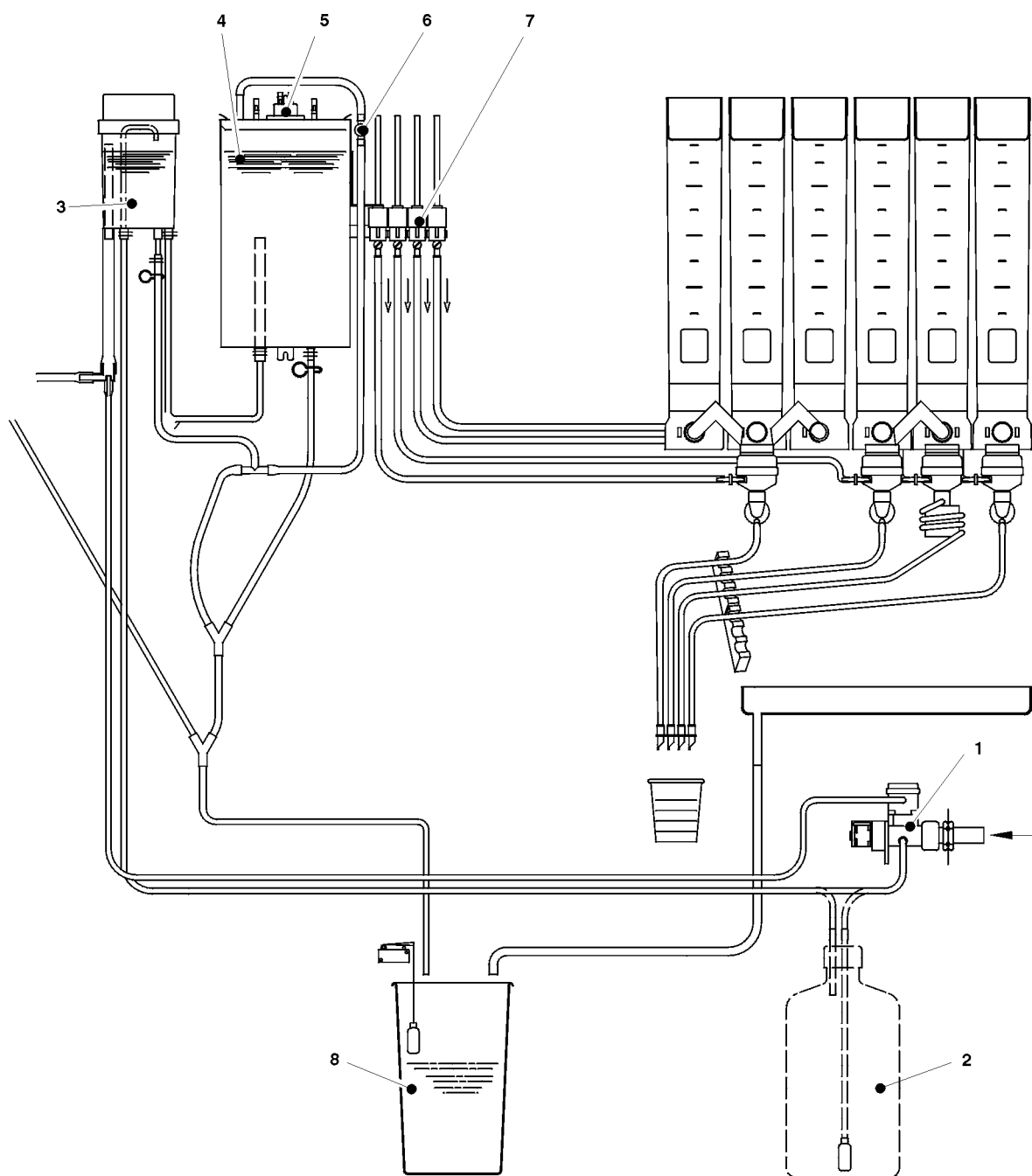
HYDRAULIC SYSTEM FOR ESPRESSO



- 1 - Water inlet solenoid valve
- 2 - Softener unit
- 3 - Volumetric counter
- 4 - Mechanical filter
- 5 - Air-break
- 6 - Instant prod. boiler
- 7 - Safety thermostat

- 8 - Anti-boiling thermostat
- 9 - Instant prod. solenoid valves
- 10 - Coffee boiler
- 11 - Coffee unit
- 12 - Bypass
- 13 - Vibration pump
- 14 - Liquid waste container float

HYDRAULIC SYSTEM FOR INSTANT




- 1 - Water inlet solenoid valve
- 2 - Water softener (optional)
- 3 - Air-break
- 4 - Instant prod. boiler

- 5 - Safety thermostat
- 6 - Anti-boiling thermostat
- 7 - Instant prod. solenoid valves
- 8 - Liquid waste container

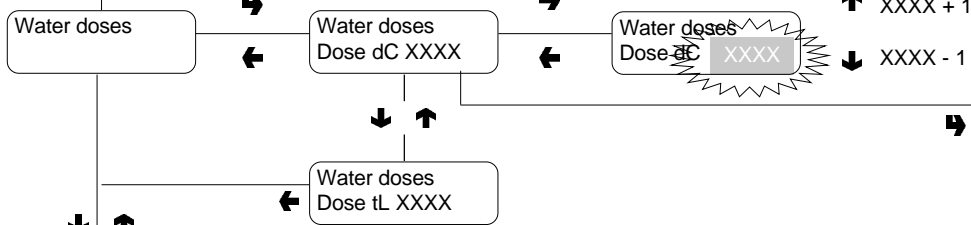
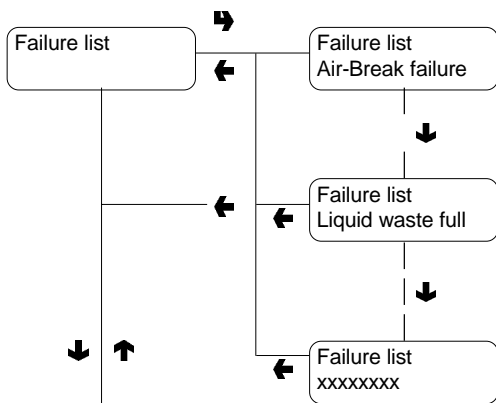
Programming menu

FAILURE DISPLAY

If no failure is detected, when pressing the confirm button  the message "No failures" is displayed

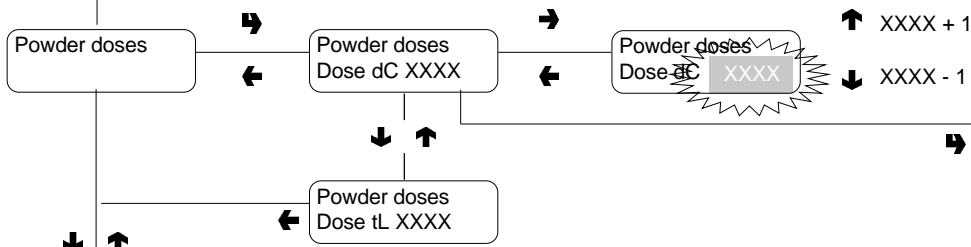
FAILURE LIST

- Air-break
- Espresso boiler
- Instant boiler
- Coin mechanism
- RAM data
- Water failure
- Cup failure
- Liquid waste full
- Mixer wheel
- Coffee unit
- Coffee failure
- Coffee release
- Mobile spouts
- Cup release
- Slider motor



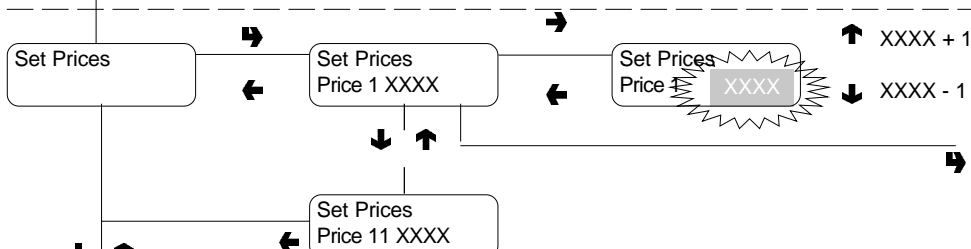
WATER DOSES

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



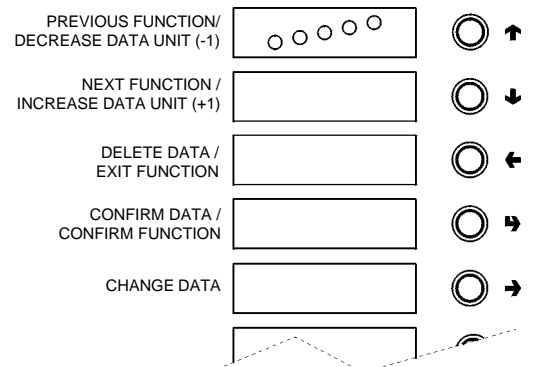
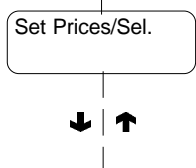
POWDER DOSES

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

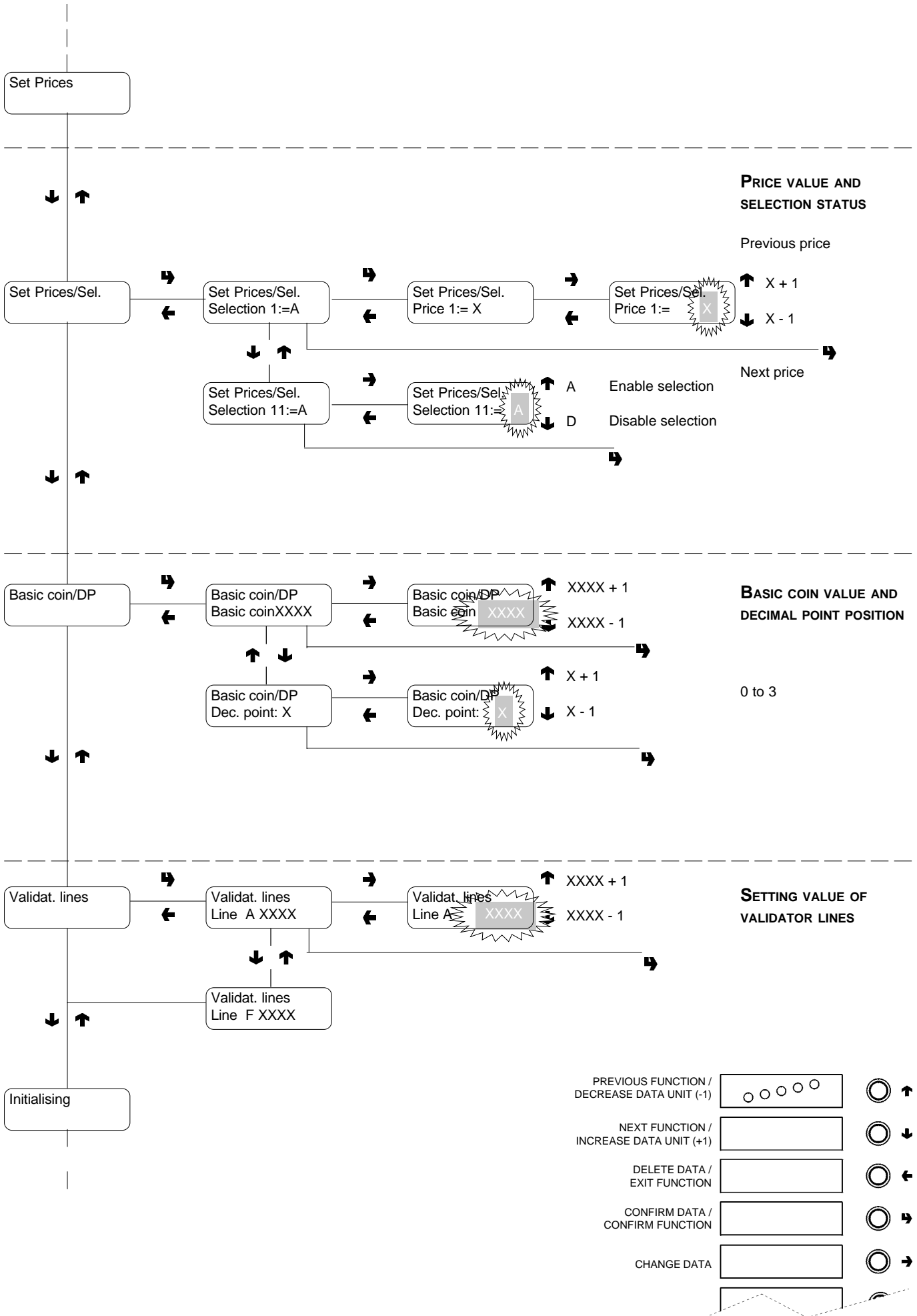


PRICE VALUE

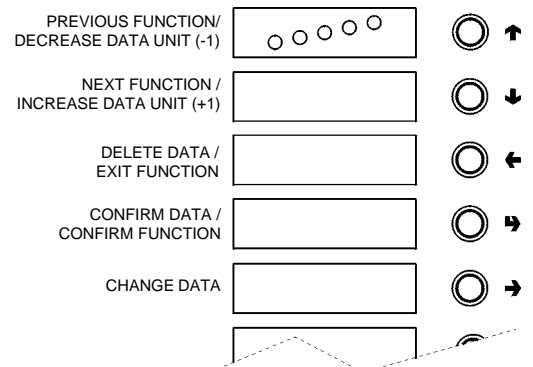
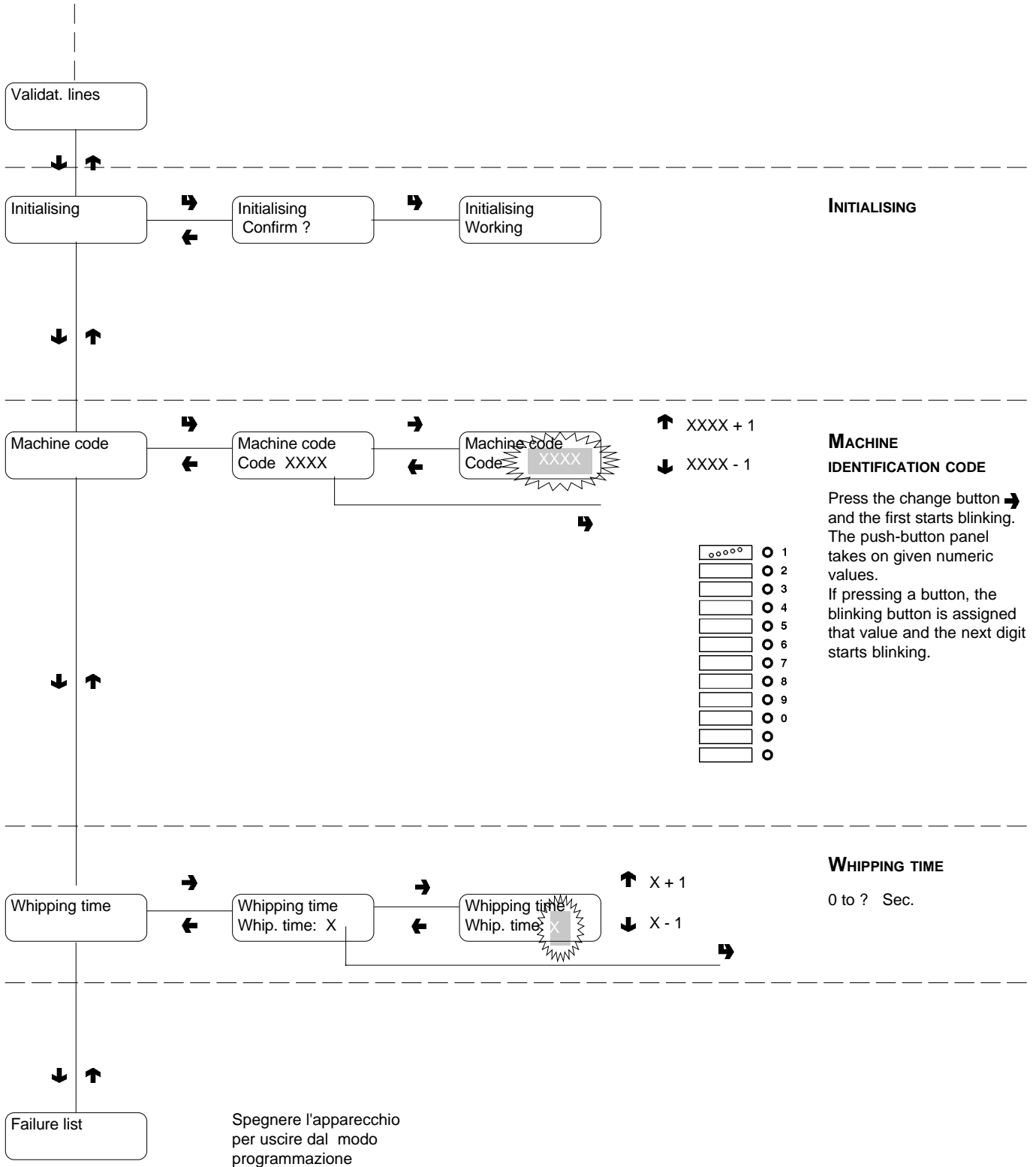
Price table; values expressed in basic coins



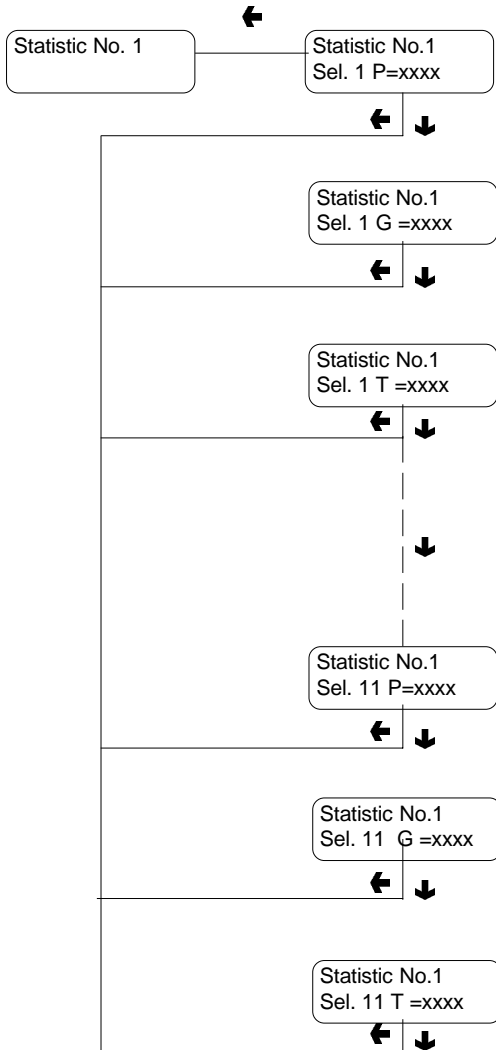
Programming menu



Programming menu



Programming menu



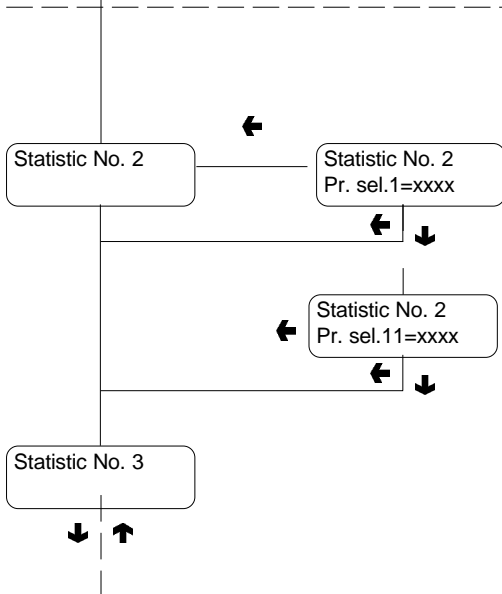
P = Paid dispensing

G = Free dispensing

T = Test dispensing

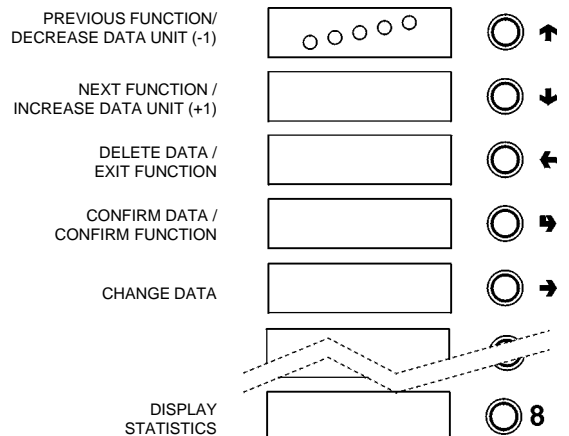
DISPENSING BY SELECTION

Press the "display statistics" button for each selection (1 - 11)

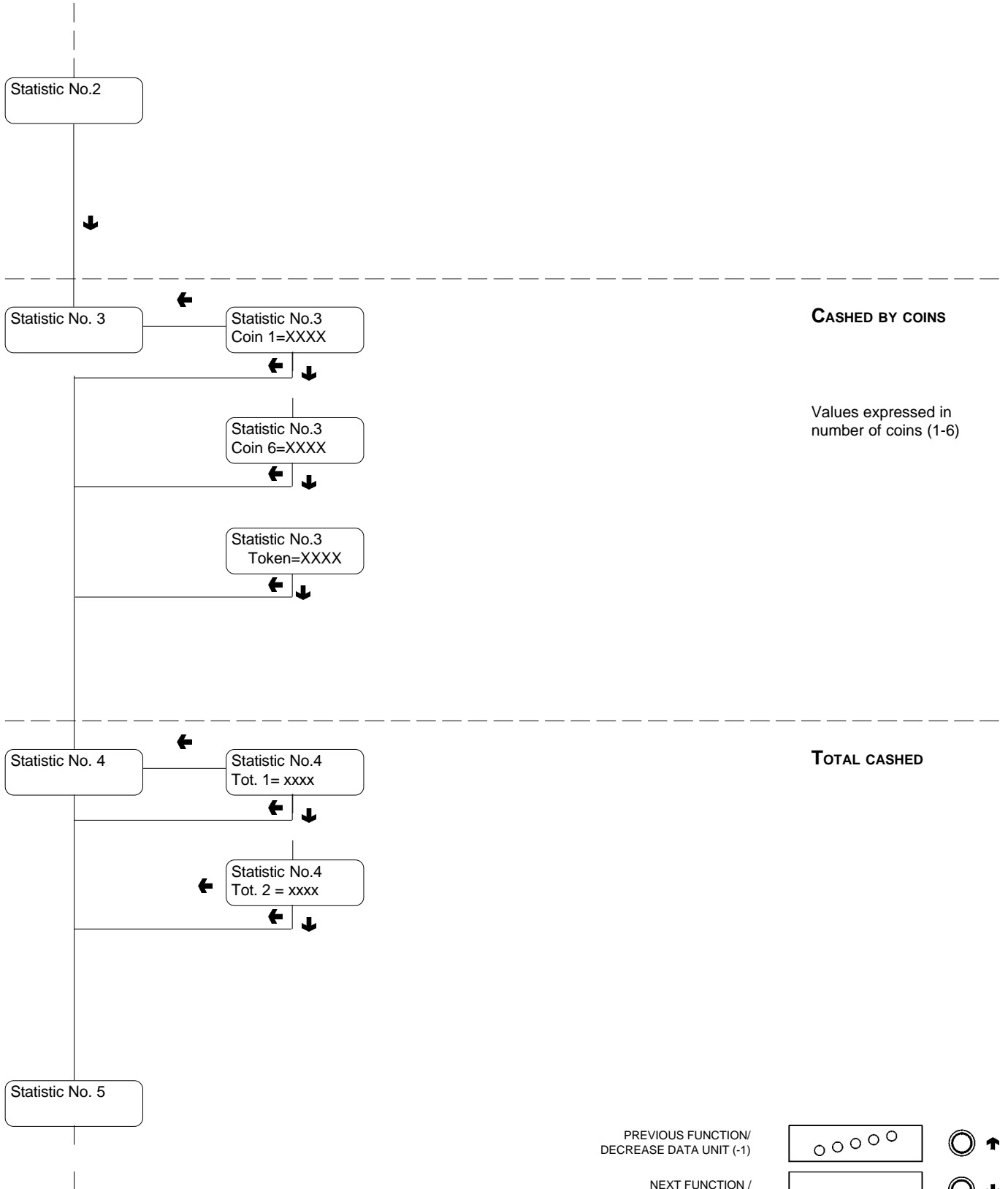


DISPENSING BY PRICE

Automatic data reading scrolling at one second intervals



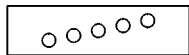





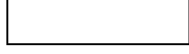

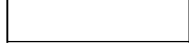

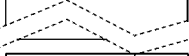

Programming menu



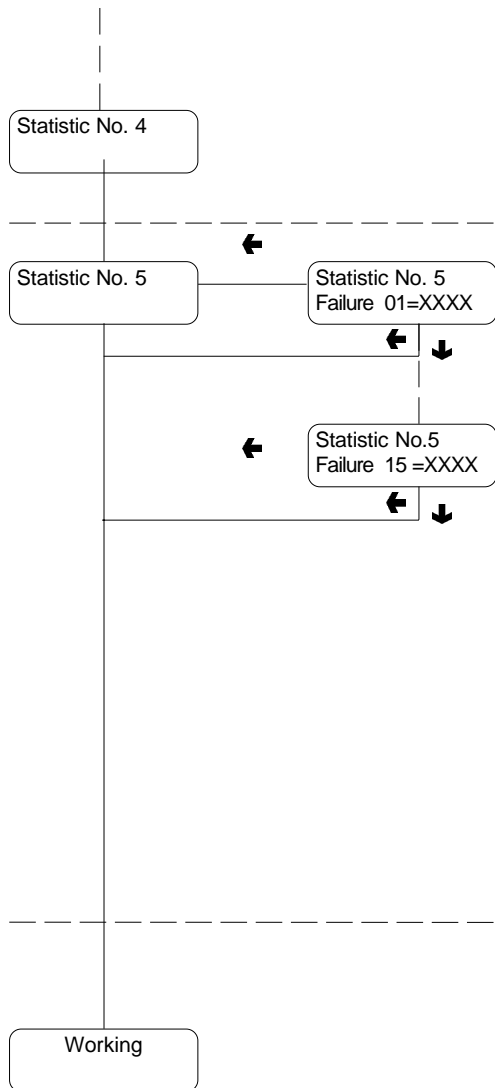
CASHED BY COINS

Values expressed in number of coins (1-6)

TOTAL CASHED

- PREVIOUS FUNCTION / DECREASE DATA UNIT (-1)  
- NEXT FUNCTION / INCREASE DATA UNIT (+1)  
- DELETE DATA / EXIT FUNCTION  
- CONFIRM DATA / CONFIRM FUNCTION  
- CHANGE DATA  
- DISPLAY STATISTICS  

Programming menu

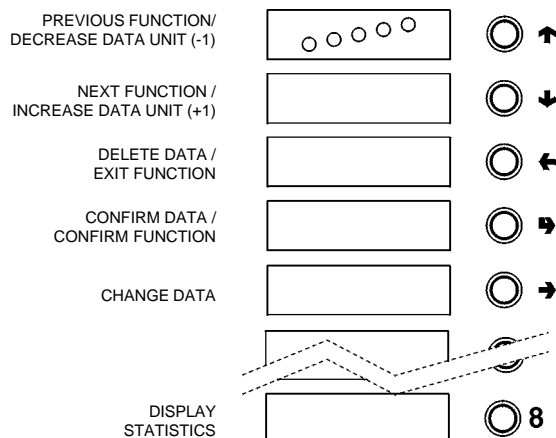


FAILURE COUNTER

Automatic data reading scrolling at one second intervals

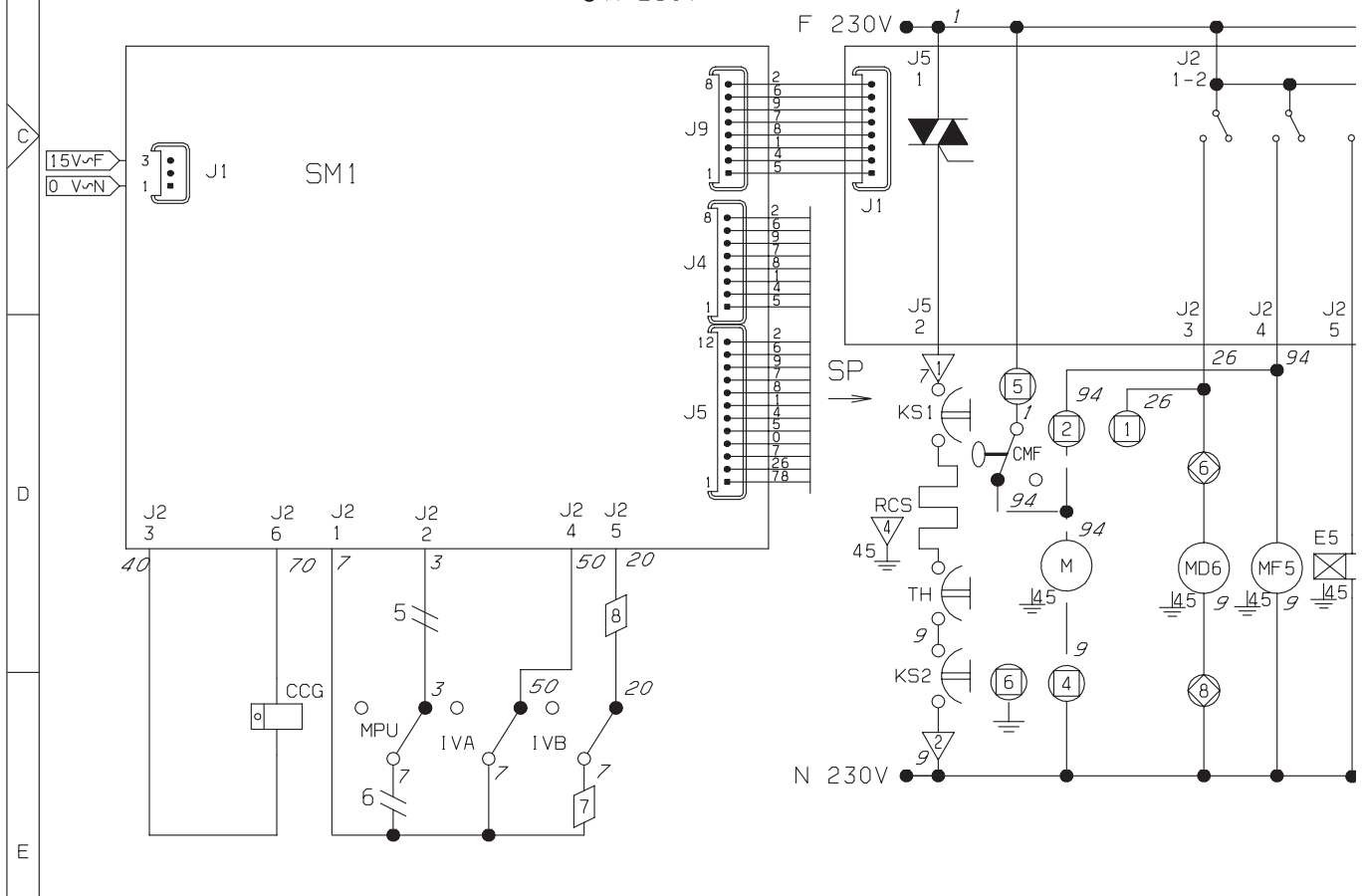
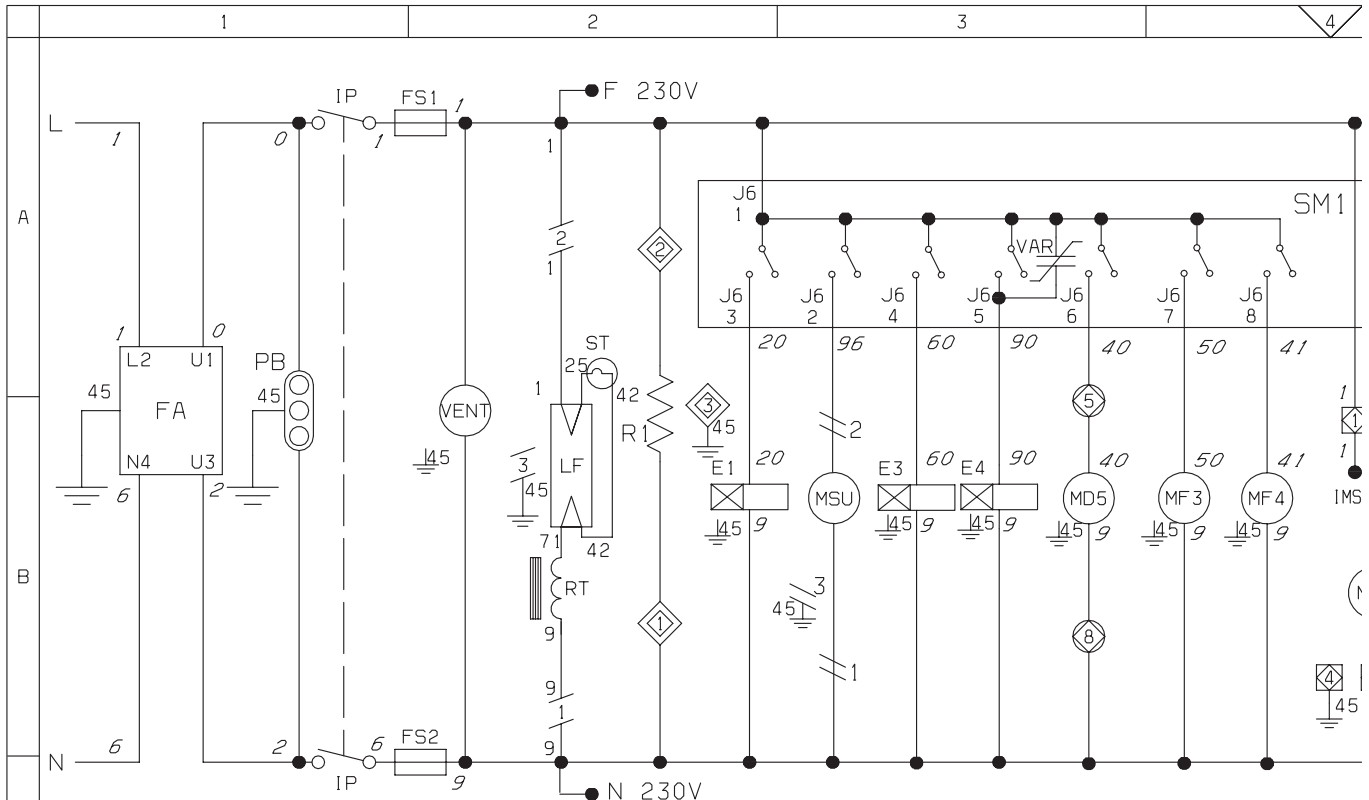
FAILURE LIST

- 01- Air-break
- 02- Espresso boiler
- 03- Instant boiler
- 04- Coin mechanism
- 05- RAM data
- 06- Water failure
- 07- Cup failure
- 08- Liquid waste full
- 08- Mixer wheel
- 10- Coffee unit
- 11- Coffee failure
- 12- Coffee release
- 13- Mobile spouts
- 14- Cup release
- 15- Slider motor



WIRING DIAGRAM LEGEND

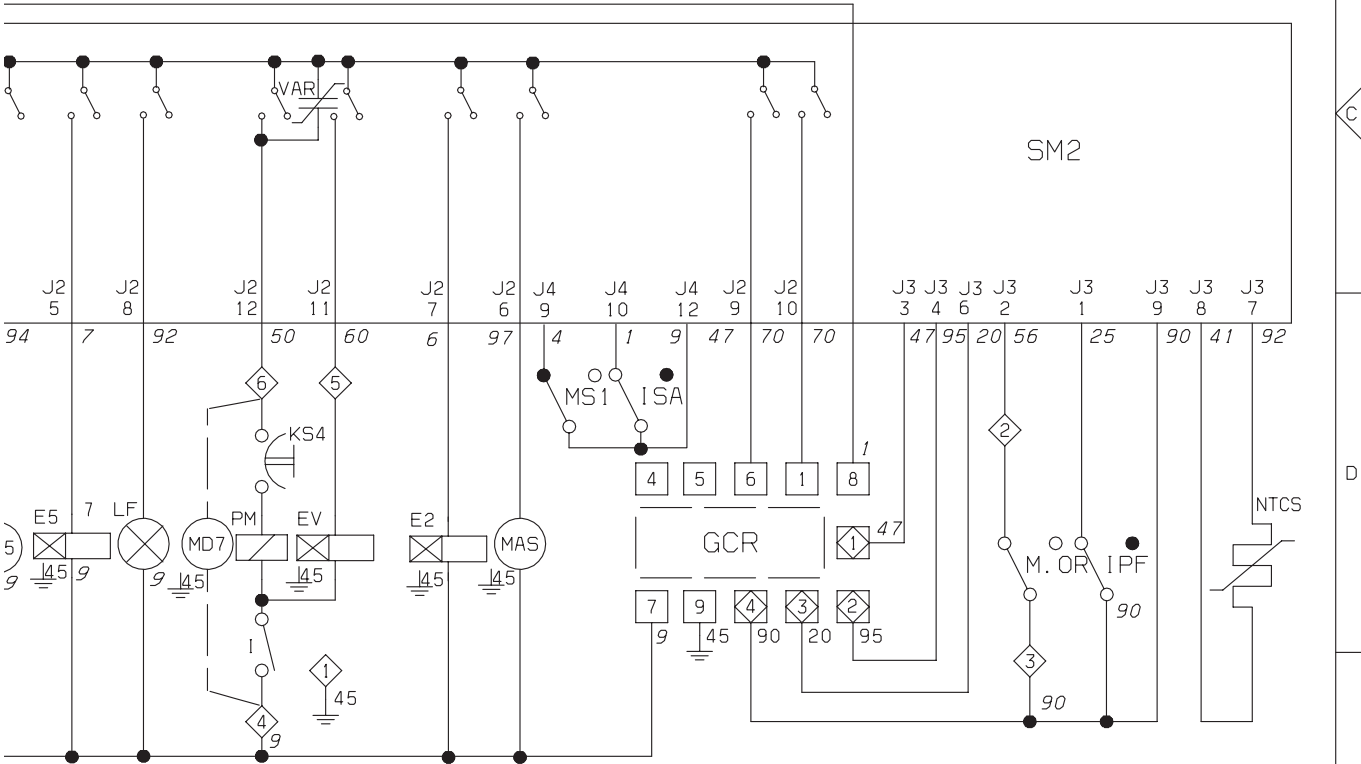
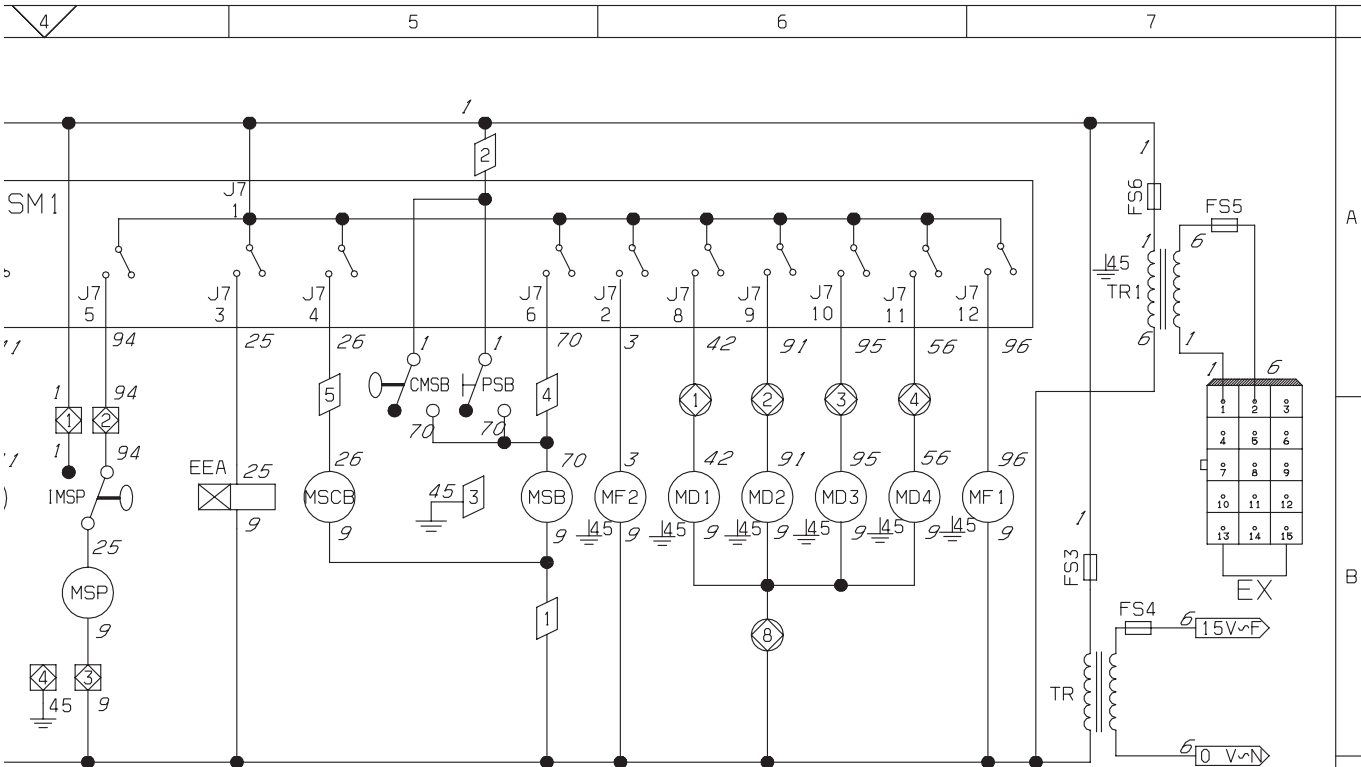
CODE	DESCRIPTION	CODE	DESCRIPTION
BDV	BDV COIN MECH CONNECTOR	MAC	GRINDER
CCG	GENERAL COUNTER	MAS	OPENING SLIDER MOTOR
CM1	COFFEE UNIT MOTOR CAM	MD1-..	DOSER DEVICE - INSTANT
CM2	COFFEE DISPENSING POSITION CAM	MDZ	SUGAR DOSER DEVICE
CMF	FRESH BREW MOTOR CAM	MF1-..	MIXERS - INSTANT
CMPF	FRESH BREW UNIT PISTON MICROSWITCH	MFB	FRESH-BREW MOTOR
CMSB	CUP RELEASE MOTOR CAM	MPU	SPOUT POSITIONING MICROSWITCH
CV	VOLUMETRIC COUNTER	MS1	SLIDER MOTOR MICROSWITCH
E1-...	INSTANT BOILER ELECTROVALVE	MSB	CUP RELEASE MOTOR
EEA	WATER INLET ELECTROVALVE	MSCB	CUP CONTAINER SHIFT MOTOR
ER	THREE-WAY ELECTROVALVE	MSP	STIRRER RELEASE MOTOR
ESC	COFFEE DISPENSER SOLENOID	MSU	SPOUT SHIFT MOTOR
EV	SANITATION KIT ELECTROVALVE	NTC1-.	BOILER TEMPERATURE PROBE
EX	EXECUTIVE COIN MECH CONNECTORS	NTCS	INSTANT BOILER TEMPERATURE PROBE
FA	RADIO INTERFERENCE SUPPRESSOR	PB	MAINS SOCKET
FREE	FREE VEND SWITCH	PG	COIN MECHANISM BUTTON
FS1-..	FUSE	PM	PUMP
GCR	COFFEE CREAM UNIT	PR	PRESSURE SWITCH
I	SANITISING KIT SWITCH	PSB	CUP TEST BUTTON
ID	COFFEE DOSE MICROSWITCH	R1	RESISTOR
IMSP	STIRRER RELEASE MICRO-SWITCH	RCC	COFFEE BOILER HEATER
IP	DOOR SWITCH	RCS	INSTANT BOILER HEATING ELEMENT
IPF	WASTE CONTAINER OVERFLOW SWITCH	RT	BALLAST
ISA	OPEN SLIDER SWITCH	SLED	LED BOARD
IVA	NO-WATER MICRO SWITCH	SM1	CONTROL BOARD
IVB	NO-CUPS MICRO SWITCH	SM2	EXPANSION BOARD
JUG	JUG FACILITIES SWITCH	SP	PUSH BUTTON BOARD
KC1-..	COFFEE BOILER CUTOUT	ST	STARTER
KS1-..	SAFETY CUTOUT	TH	THERMOSTAT
KS3-4	PUMP SAFETY CUTOUT	TR	TRANSFORMER
LCD	LIQUID CRYSTAL DISPLAY	TR1	230 V / 24 V TRANSFORMER
LF	LAMP	TX....	DELAYED FUSE (X=COURRENT)
M	COFFEE UNIT MOTOR	VAR	VARISTOR
M.OR	TIMER MICROSWITCH	VENT	FAN



NECTA VENDING SOLUTIONS SpA SI
 RISERVA ATERMINI DI LEGGE
 LA PROPRIETA' DEL PRESENTE
 DISEGNO CON DIVIETO DI
 RIPRODURLO O DIVULGARLO SENZA
 SUA PREVIA AUTORIZZAZIONE

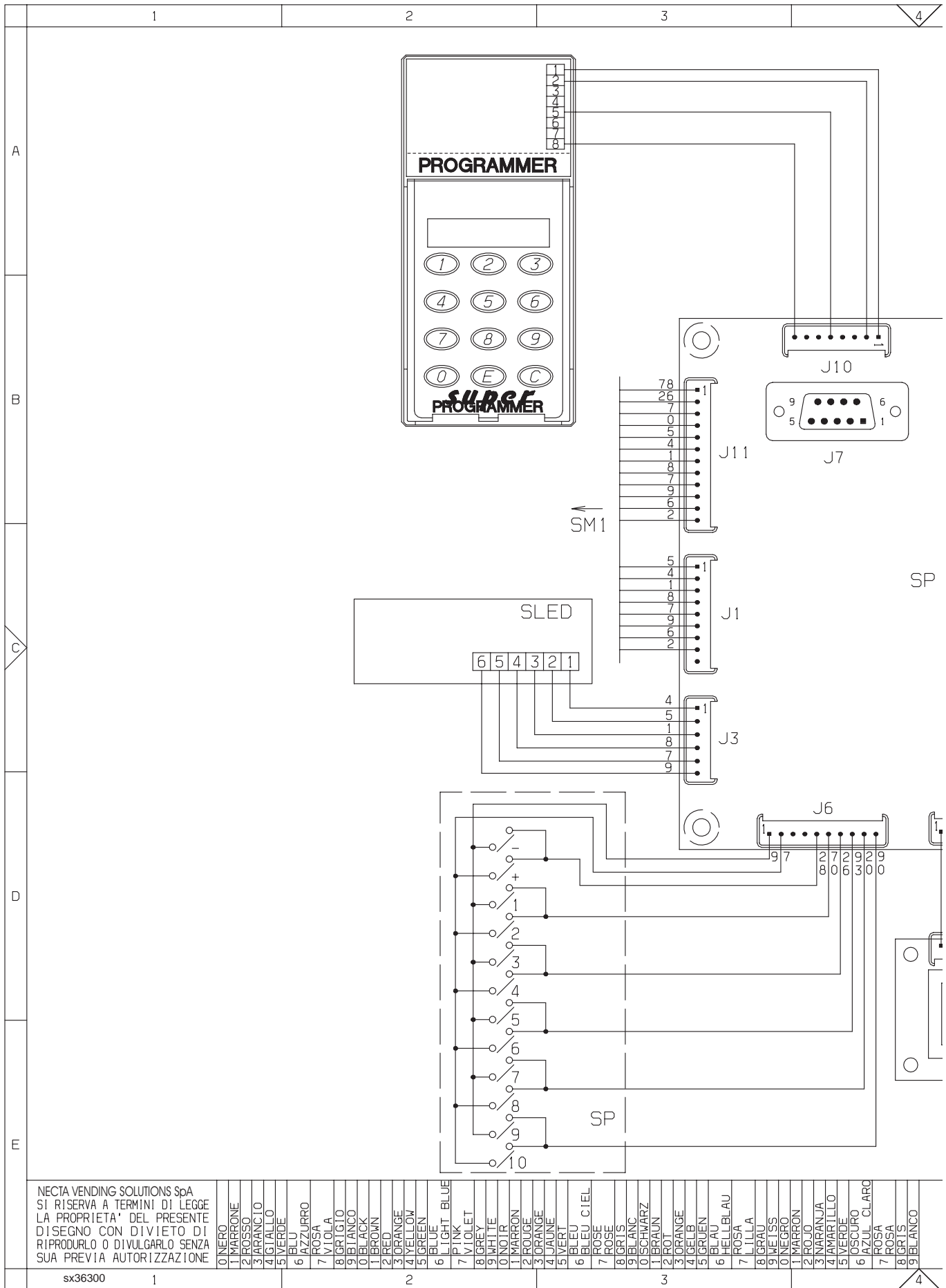
- 0 NERO
- 1 MARRONE
- 2 ROSSO
- 3 ARANCIO
- 4 GIALLO
- 5 VERDE
- 6 BLU
- 7 ROSA
- 8 GRIGIO
- 9 BIANCO
- 0 BLACK
- 1 BROWN
- 2 RED
- 3 ORANGE
- 4 YELLOW
- 5 GREEN
- 6 BLUE
- 7 LIGHT BLUE
- 8 PINK
- 9 VIOLET
- 0 NOIR
- 1 MARRON
- 2 ROUGE
- 3 ORANGE
- 4 JAUNE
- 5 VERT
- 6 BLEU
- 7 BLEU CIEL
- 8 ROSE
-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





8 GRIS 9 BLANCO	NECTA VENDING SOLUTIONS SpA A company of N&W GLOBAL VENDING GROUP	MODELLO Spazio P <i>Instant</i>	GRUPPO SCHEMA ELETTRICO FUNZIONALE MACCHINA	DATA 02-10-00	FOGLIO 1/1	DISEGNATO BONACINA	CONTROLLATO MONGUZZI	
					LEGENDA		CODICE 608536201	





NECTA VENDING SOLUTIONS SpA
 SI RISERVA A TERMINI DI LEGGE
 LA PROPRIETA' DEL PRESENTE
 DISEGNO CON DIVIETO DI
 RIPRODURLO O DIVULGARLO SENZA
 SUA PREVIA AUTORIZZAZIONE

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

sx36300

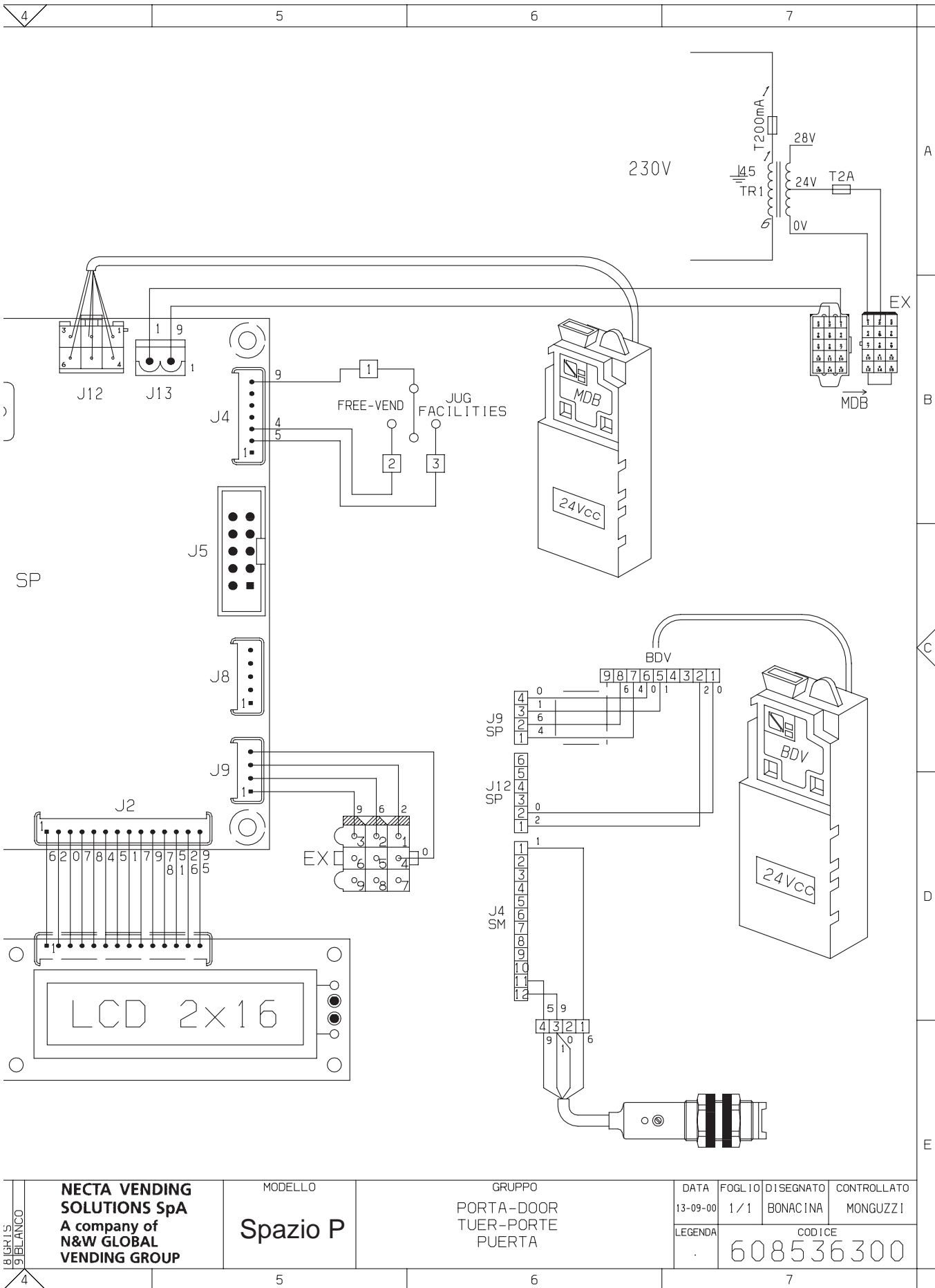
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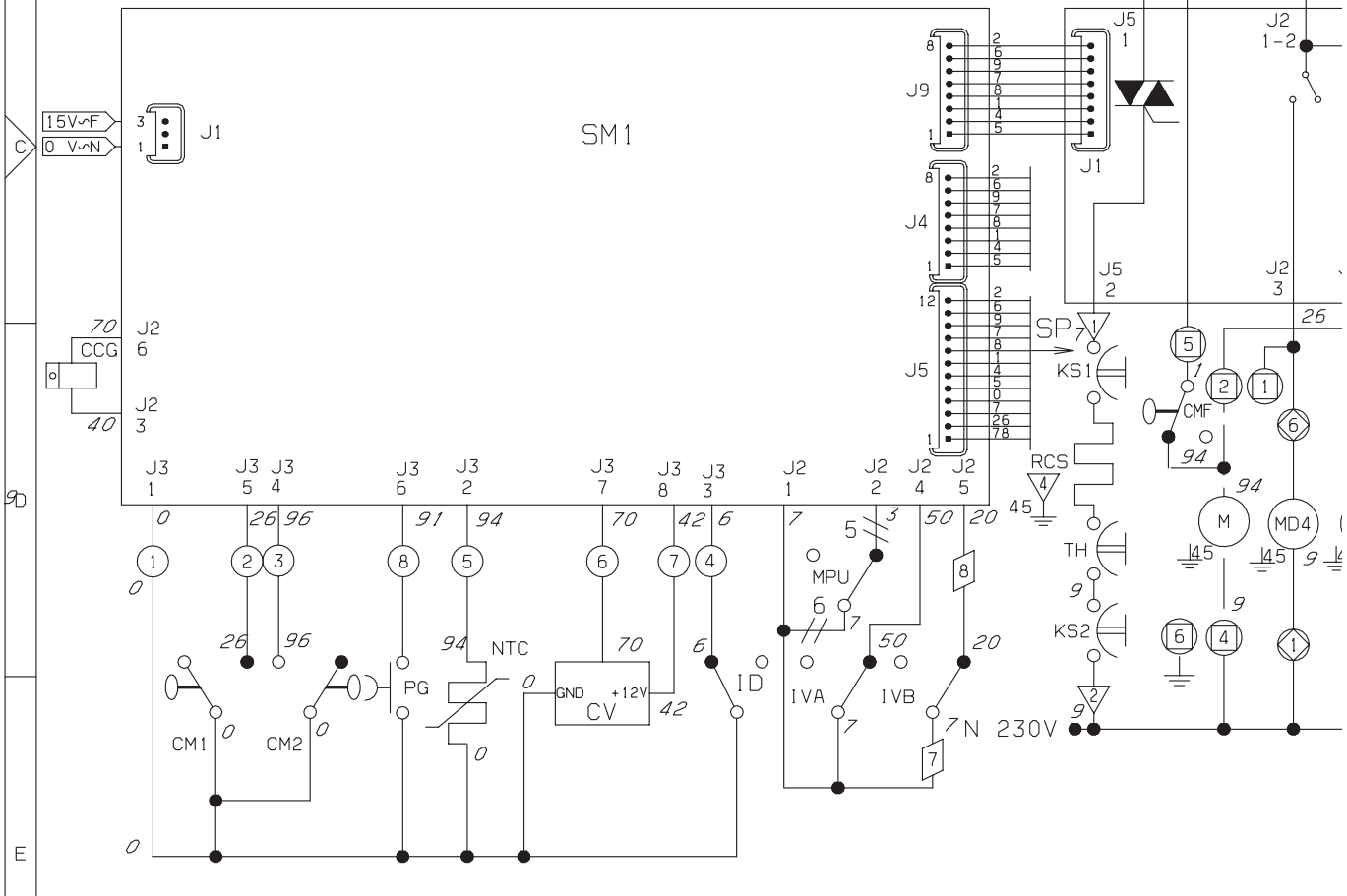
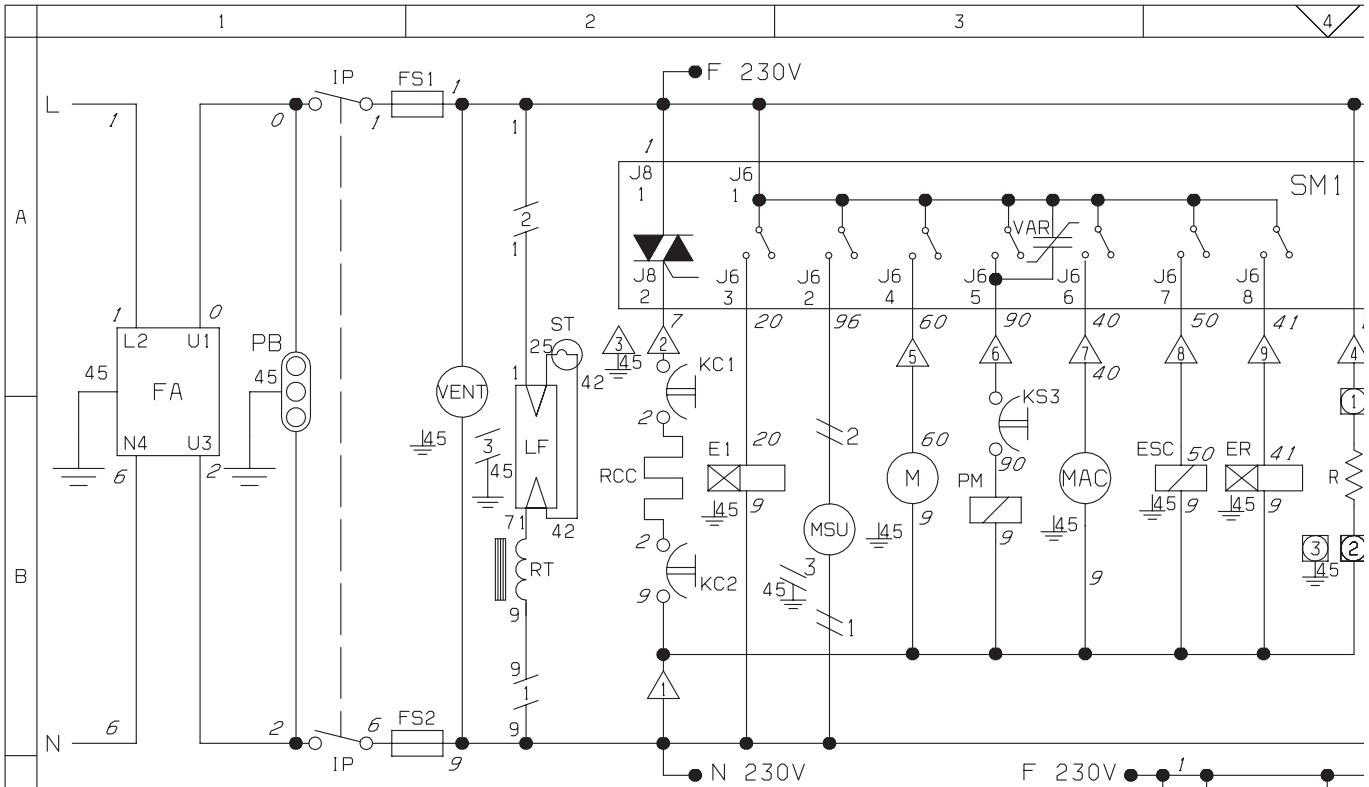
2

3

4



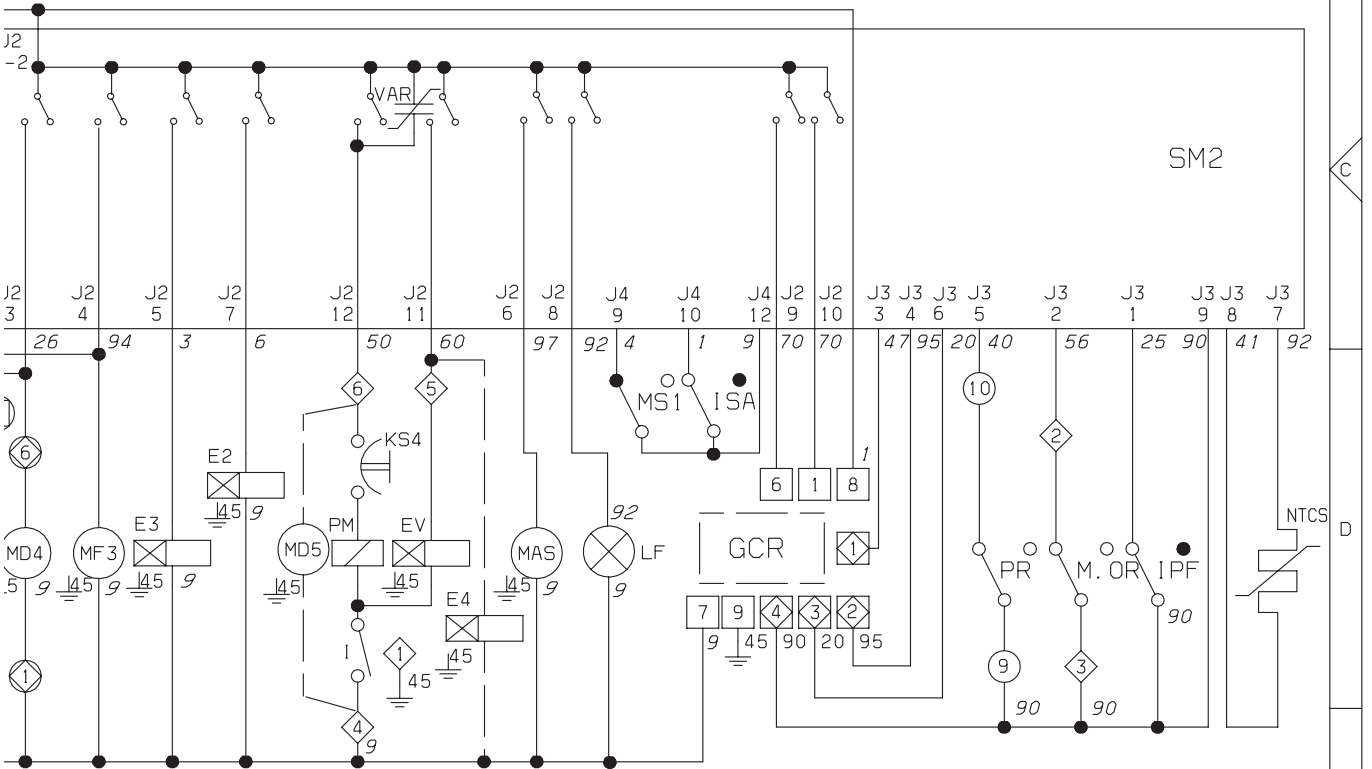
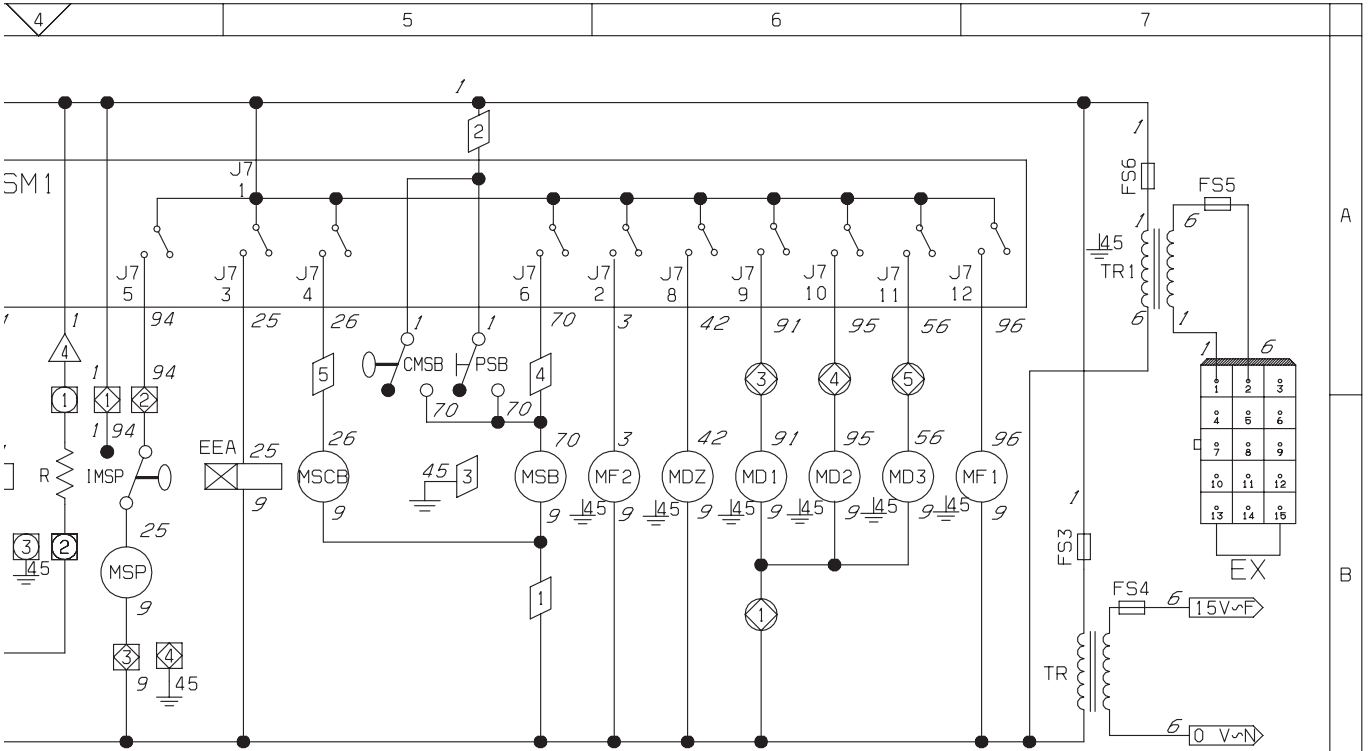




NECTA VENDING SOLUTIONS SpA
 SI RISERVA A TERMINI DI LEGGE
 LA PROPRIETA' DEL PRESENTE
 DISEGNO CON DIVIETO DI
 RIPRODURLO O DIVULGARLO SENZA
 SUA PREVIA AUTORIZZAZIONE

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





8 9 B 9 BLANCO	NECTA VENDING SOLUTIONS SpA A company of N&W GLOBAL VENDING GROUP	MODELLO Spazio P <i>Espresso</i>	GRUPPO SCHEMA ELETTRICO FUNZIONALE MACCHINA	DATA 16-05-01	FOGLIO 1 / 1	DISSEGNA TO BONACINA	CONTROLLATO MONGUZZI
				LEGENDA .	CODICE 608537100		



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