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INSTALLATION, OPERATING AND MAINTENANCE MANUAL

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**BRIO**      **Coffee Machine**

English



DOC. NO. **H 106U 02**  
EDITION 2 9910



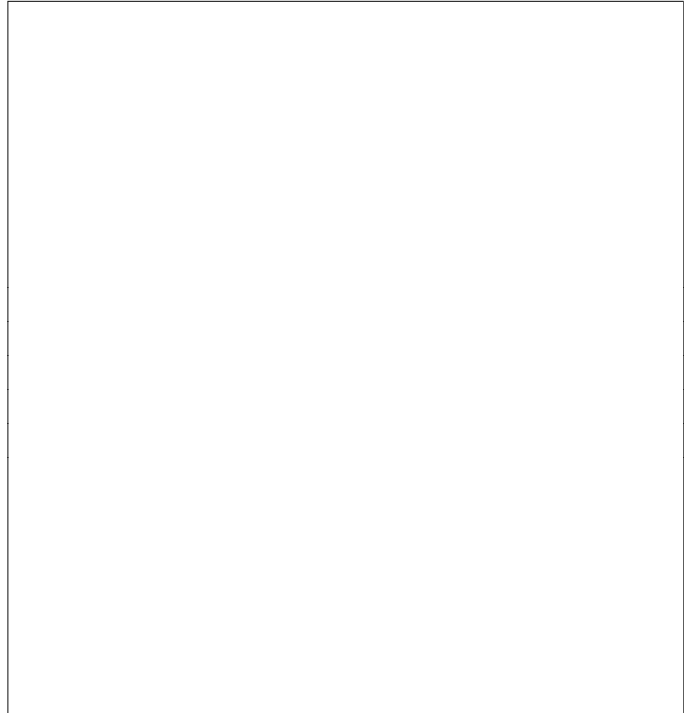
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**DICHIARAZIONE DI CONFORMITA'**  
**DECLARATION OF CONFORMITY**  
**DÉCLARATION DE CONFORMITÉ**  
**KONFORMITÄTSERKLÄRUNG**  
**DECLARACIÓN DE CONFORMIDAD**  
**DECLARAÇÃO DE CONFORMIDADE**  
**VERKLARING VAN OVEREENSTEMMING**  
**INTYG OM ÖVERENSSTÄMMELSE**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

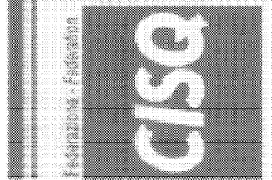
Declara que o distribuidor descrita na chapa de identificação é conforme às disposições legislativas das directivas **CEE 89/392, 89/336 e 73/23** e sucessivas modificações e integrações.

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.

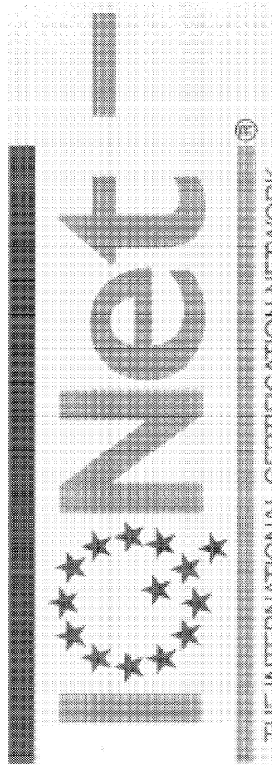
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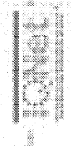
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Issued on: 2000 - 03 - 31

Registration Number: IT - 12979



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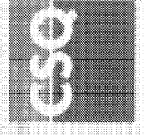
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**UNI EN ISO 9001**

PROGETTAZIONE E COMMERCIALIZZAZIONE DI  
APPARECCHIATURE ELETTROMECCANICHE PER LA  
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Design, manufacturing and sale of  
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Periodo di validità: 31 Marzo 2000

Data di emissione: 1 Giugno 1999

*Antonio Sina*  
Antonio Sina  
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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 ownership is transferred, to allow consultation by different operators.**

Before installing and using the machine, it is first necessary to carefully read and understand the instructions contained in this manual, as they offer important information for safe installation, use and maintenance.

## 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 hand side.

This plate (see figure below) 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.

It is therefore recommended that this plate be neither damaged nor removed.

## TRANSPORT AND STORAGE

To prevent any damage, special care should be taken when loading or unloading the vending machine.

The machine can be lifted by a motor-driven or manual fork lift truck, and the 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 its sides;
- lift the vending machine with slings or ropes;
- shake or jolt the vending machine and its packing.

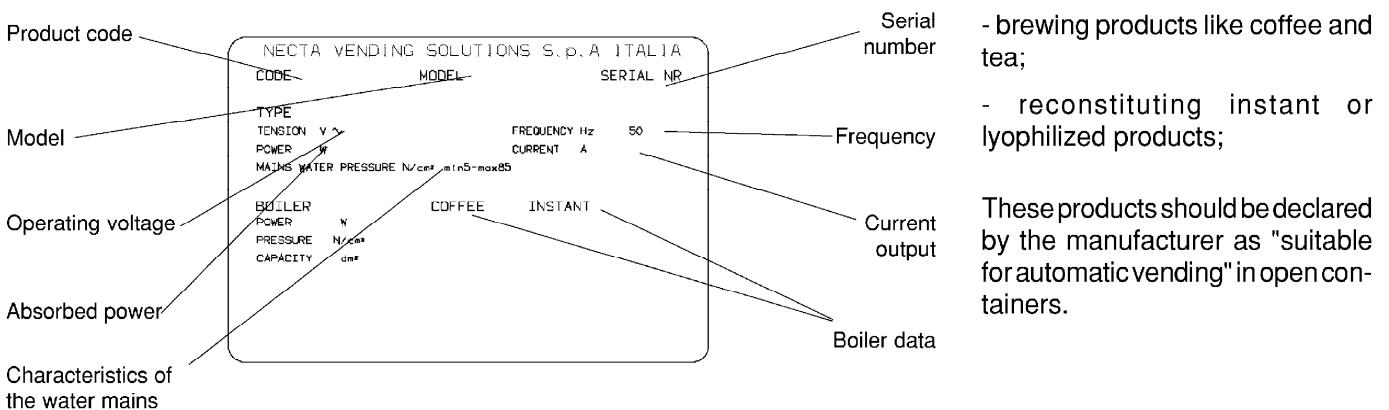
The machine should be stored in a dry room where the temperature is always included between 0 and 40° C.

Do not stack machines one on top of the other and always keep it upright as indicated by the arrows on the packing.

## USING THE VENDING MACHINE 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 made by:



**The 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.

## 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 more serious problems or malfunctions, then contact the following:

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

## POSITIONING THE VENDING MACHINE

The vending machine is not suitable for outdoor installation, it should be installed in a dry room where the temperature never drops below 0° C, and cannot be installed in environments where water jets are used for cleaning (e.g. in large kitchens, etc.).

The machine should be placed close to a wall with a minimum distance of 4 cm from the back panel so that correct ventilation may be ensured.

The machine must never be covered with cloth or the like. The machine should be positioned in such a way that it has a maximum inclination of 2°.

If necessary provide proper levelling by way of the adjustable feet included.

### Important notice!!

Access to the machine interior for maintenance and/or repairs is via the back panel.

Therefore provisions must be made for the machine to be rotated, thus allowing removal of the back panel.

### Installation on a cabinet

The machine can be installed on a table or on any other suitable stand (recommended height is 820 mm).

Where possible, it is advisable to use the special cabinet available as optional, which can house the liquid waste tray, the water tank kit and a water softener if the water is very hard.

## 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 has sole responsibility for any damage to the machine or to things and persons caused by faulty installation.

**The integrity of the vending machine and its conformity with the rules and regulations in force for its relevant systems must be checked by qualified personnel at least once a year.**

Packing materials must be disposed of with respect for the environment.

## PRECAUTIONS FOR 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;
- turn off the machine during periods of inactivity, thus achieving considerable energy savings.

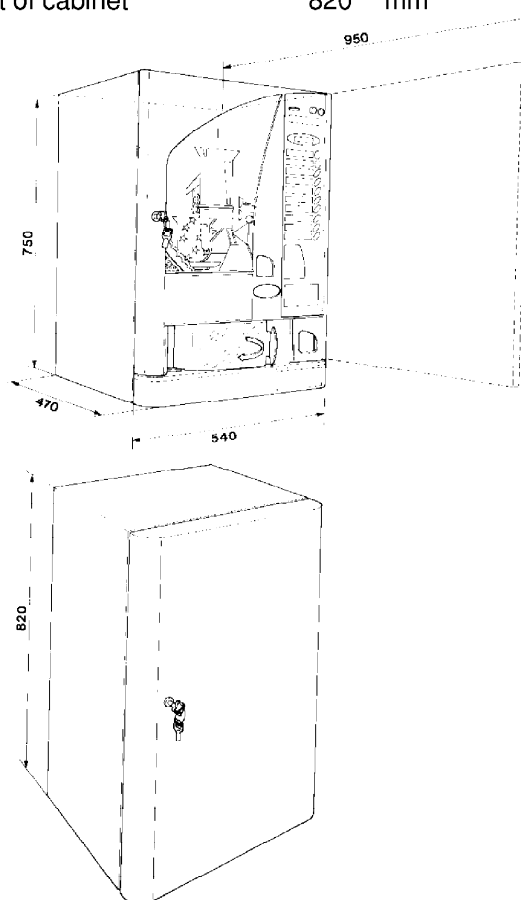
## WARNING FOR SCRAPPING

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 specialised companies.

## DIMENSIONS

Height	750	mm
Width	540	mm
Depth	470	mm
Height of cabinet	820	mm



## TECHNICAL DATA

Power supply voltage	120	V~
Frequency	60	Hz
Max. absorbed power	1.4	kW
Weight	55	Kg

## CUP DISPENSER

- for cups with a rim diameter of 73-74 mm with a capacity of 200 cups approximately.

## COIN MECHANISM

The machine is factory-fitted for the installation of coin mechanisms with MDB protocol.

## SALES PRICES

Two different programmable prices can be set for each single selection, with regard to value and the time period to which they apply.

The standard setting has the same sales price for all selections, in a single time period.

## COIN BOX

Made of plastic, with lock available as accessory.

## WATER SUPPLY

The machine is designed for water supply from the mains, with a pressure of 5 to 85 N/cm<sup>2</sup>.

## AVAILABLE ADJUSTMENTS

Granulometry adjustment, volumetric adjustment for coffee and water doses, time adjustment for instant products and water doses.

### Temperature control

Factory set on the correct operating temperature.

If necessary, a trimmer on the control board allows small adjustments.

## ENABLING FUNCTIONS

- cup detection
- water detection
- coffee detection
- coffee unit detection
- full liquid waste container detection
- operating temperature detection

## SAFETY DEVICES

- door switch
- liquid waste container
- manual-reset boiler safety thermostat
- air-break float jamming
- overflow electrovalve
- liquid waste container float
- timer protection for:
  - pump
  - coffee unit ratiomotor
  - grinder
- temperature protection for:
  - electric dose device
  - coffee unit ratiomotor
  - solenoids
  - pump
  - electric mixers
  - grinder motor
- fuse protection for
  - power supply transformer to card (primary and secondary winding)
  - power supply transformer to MDB (primary and secondary winding)
  - 120 V leading-in line and neutral

## CAPACITY OF THE CONTAINERS

coffee beans	1.2 Kg
sugar	1.9 Kg
milk powder	0.8 Kg
tea	2.0 Kg
chocolate	1.5 Kg
stirrers	200



# OPERATING INSTRUCTIONS

## INSTALLATION

The installation and the following maintenance operations must be carried out with the **machine energised**, therefore by qualified personnel only, 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 0°C and 32° C.**

**When installing the hydraulic circuits and the parts in contact with the foods should be thoroughly cleaned and disinfected to remove any bacteria which may have built up during storage.**

## UNPACKING THE VENDING MACHINE

After removing the packing, be sure the apparatus is thoroughly intact.

If there should be any doubts about this, avoid using the machine. All packing elements (i.e. plastic bags, polystyrene foam, nails, etc.) shall never be left within children's reach, as they may be potentially dangerous.

Packing materials shall be disposed in authorized areas only whereas specialized companies shall be commissioned to recover all materials which can be recycled.

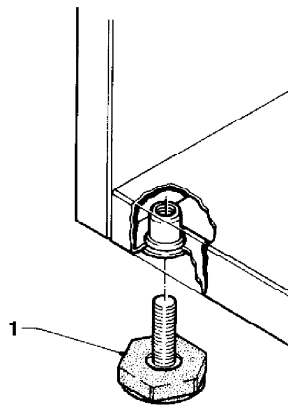
### Caution!!

The apparatus should be positioned in such a way so that it may have a maximum inclination of 2°.

Provide a proper leveling using the adjustable feet supplied (see i Fig. 1), if necessary.

Fig. 1

1 - Adjustable foot



- the main switch should be located within easy reach and be suitable to withstand the required peak load, also ensuring 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 apparatus is ensured only when it is correctly earthed according to the safety standards in force.

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

Any replacement of the supply cable should only be made by qualified and suitably trained personnel using UL SJT 3x16 AWG cable types only.

**The use of adapters, multiple sockets and/or extensions is not tolerated.**

Before switching on the apparatus, be sure it is correctly connected to the water mains and the cutoff valve is open.

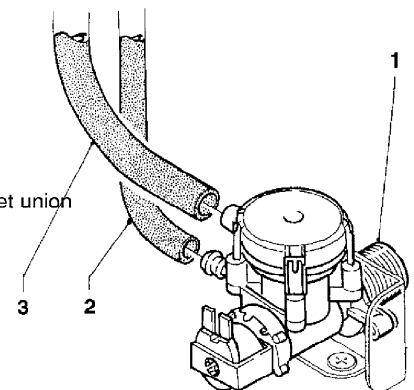
**THE MANUFACTURER DECLINES ALL RESPONSIBILITY FOR ANY DAMAGE THAT MAY BE CAUSED BY THE NON-COMPLIANCE WITH THE ABOVE MENTIONED SAFETY RULES.**

## CONNECTING THE MACHINE TO THE WATER MAINS

The apparatus must be connected to the drinking water supply network. Water pressure should be 5 to 85 N/cm<sup>2</sup>. Let the water flow out until it is well clear and without impurities.

Fig. 2

1 - 3/4" gas-type water inlet union  
2 - Supply hose  
3 - Overflow pipe



## CONNECTING THE POWER SUPPLY

The apparatus is designed to operate under a single-phase voltage of 120 V~ 60 Hz and is protected by 15 A fuses.

Before performing the connection make sure that the ratings correspond to those of the power grid, namely:

- the supply voltage rating should fall within the recommended limits for the connecting points;

Use a hose (also available as a separate kit) capable of withstanding the water mains pressure and suitable for use with foodstuffs (minimum inside diameter of 6 mm) to connect the water supply to the 3/4" gas-type union of the water inlet electrovalve (see Fig. 2).

**It is good practice to install a suitable cutoff valve on the water supply outside the apparatus in an easily accessible position.**

## OVERFLOW DEVICE

The water inlet electrovalve (see fig. 2) is equipped with an overflow device mechanically preventing the water from flowing in when a malfunction of the electrovalve or the control device of the boiler water level takes place.

To restore the normal operation, proceed as follows:

- clear voltage from the apparatus;
- drain the water contained in the overflow pipe;
- shut off the valve of the water supply outside the apparatus;
- loosen the fitting which secures the electrovalve supply hose to relieve the water mains residual pressure and then tighten again (see Fig. 2);
- open the valve and switch on the apparatus.

## CONTROLS AND INFORMATION

All controls and information for the user are conveniently located on the external side of the door (see Fig. 3).

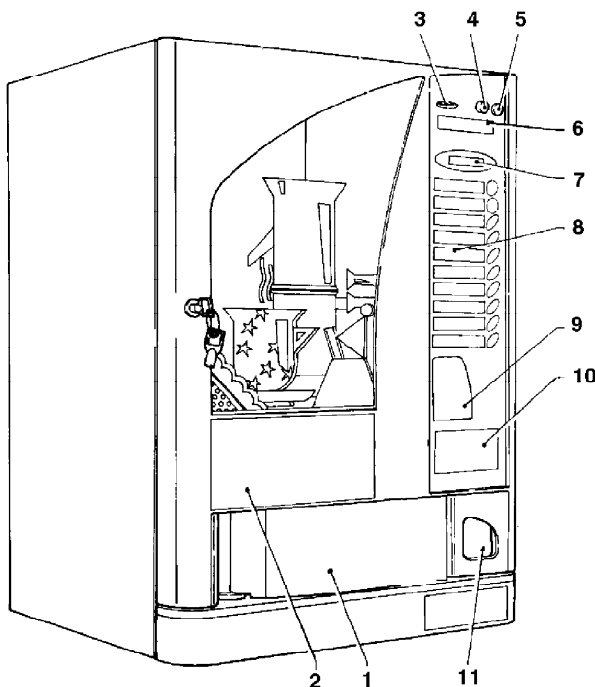


Fig. 3

- 1 - Supply compartment
- 2 - Spaces for ingredient labels
- 3 - Coin inlet
- 4 - Coin return button
- 5 - "Exact amount" pilot light
- 6 - "Exact amount" instruction plate
- 7 - Alphanumeric display
- 8 - Selection buttons
- 9 - Instruction plate
- 10 - Advertising space
- 11 - Coin return opening

The plates with the selection menu and the operating instructions supplied together with the apparatus shall be placed on installation.

The slots on the door are provided for all of the machine versions; those which are not used are duly plugged.

In the internal side of the keyboard card is placed the Programming button which permits the apparatus functions to be accessed.

Pressing the programming button twice, the apparatus "Programming Mode" is entered.

Pressing the selection button 5, the apparatus automatically starts filling the hydraulic system.

## DOOR SWITCH

When opening the door a special microswitch clear the voltage from the apparatus electrical system,

**fatta eccezione della morsettiere di appoggio cavo linea e della zona dell'interruttore stesso. Prima di togliere la copertura di queste parti (evidenziate dall'apposita targhetta) è necessario disinserire l'interruttore esterno e staccare la spina.**

**with the exception of the terminal block for the connection of the power grid cable and the switch area. Before removing the cover of these parts (indicated by the special plates), it is first necessary that the external switch is cut off and the electrical plug removed.**

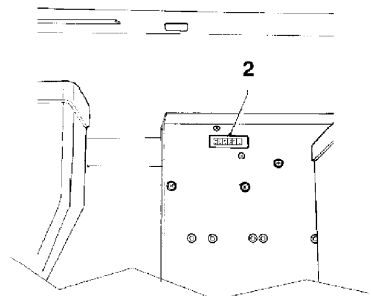
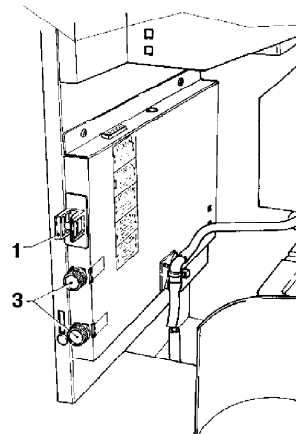


Fig. 4

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



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

**All operations requiring the apparatus to be energized with the door opened should be performed by qualified personnel only, who must be informed about the risks that this condition implies.**

he door can only be closed after removing the key.

## FILLING THE WATER SYSTEM

If the air-break device indicates no water for more than 10" when started, the machine goes through an automatic set-up routine and namely:

- the message "Set-up" is displayed for the entire cycle;
- the water mains supply electrovalve is opened or the water supply pump is started;
- the air-break is filled;
- (for the espresso models only) the instant product electrovalve is opened to bleed the air from boiler and to let in 400 cc. of water.

**N.B.:** If no water is available during setup the machine will lock until the water is supplied or the machine is switched off.

### IMPORTANT WARNING!!!

**Should the boiler but not the air-break be emptied for maintenance, the same operation shall be carried out by hand (refer to the relevant section).**

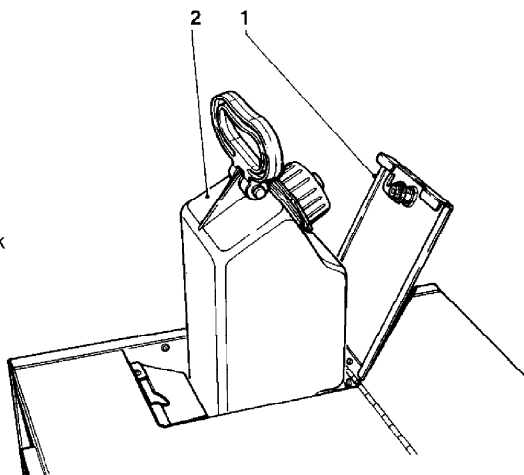
## FILLING THE WATER (OPTION)

For the machine versions equipped with either built-in tank (3.5 l) or cabinet mounted tank (20 l), the water should be filled manually in the following manner:

- lift the hatch and remove the tank from above (see Fig. 5) or remove the tank from the cabinet;
- perform cleaning and disinfection as described in section "Cleaning the water supply tank";
- fill with drinking-water and replace.

Fig. 5

- 1 - Hatch
- 2 - Water tank



## INSERTING THE LABELS

The labels indicating menu and instructions are supplied with the machine and shall be fit during installation. According to the model, some buttons are not used (see the table of "selection doses").

## MAINTENANCE AND DISINFECTION

According to the current rules and regulations in the safety and sanitary fields, the operator of an automatic vending machine is held responsible for the hygiene of the foodstuff circuits, to prevent bacteria formation, and the maintenance of the same.

**When installing the hydraulic circuits and the parts in contact with the foods should be thoroughly cleaned and disinfected to remove any bacteria which may have built up during storage.**

It is recommended that sanitising products (chlorine-based detergents or the like) be used also for cleaning the surfaces which are not directly in contact with food.

Some parts of the machine can be damaged when using unsuitable detergents.

The manufacturer disclaims all responsibility for any damage resulting from the use of unsuitable/toxic chemicals.

**Before starting any maintenance requiring parts to be dismantled, the machine should always be switched off.**

## SANITISING THE MIXERS AND THE FOODSTUFF CIRCUITS

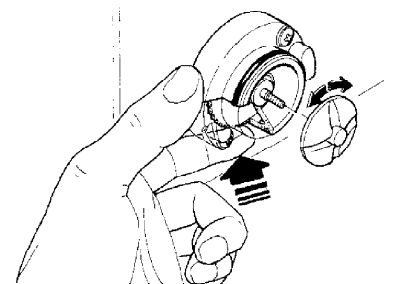
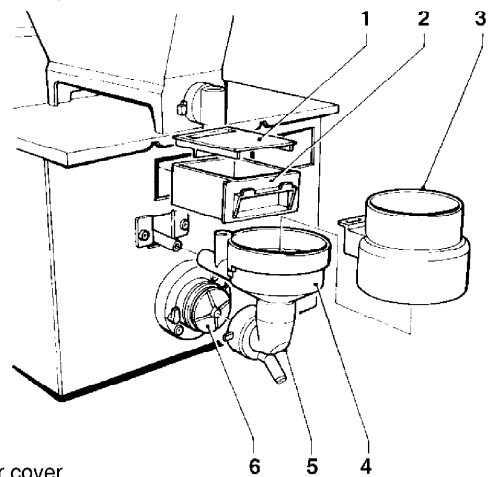
On installation and at least weekly, or even more frequently depending on the use of the apparatus and the quality of the inlet water, a careful sanitising (cleaning plus disinfection) of the mixers and the supply lines should be carried out in order to ensure the vending products hygiene.

Parts to be cleaned are as follows:

- powder deposit drawers, mixers and instant drink feeder pipe;
- tea dispensing spout;
- sugar chute;
- dispensing opening.

Fig. 6

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



- remove from the mixers the powder and the water funnels (see Fig. 6), the feeder pipes, the powder deposit drawers and the mixer wheels;
  - to remove the mixer wheels just lock in place the disk fitted on the mixer shaft with a finger;
  - clean all parts with detergents, taking care of mechanically removing all visible residues and product films by using brushes and similar tools if necessary;
- Disinfection should be made using chlorine-based detergents.
- soak them for approx. 20' in a container filled with the previously prepared chlorine-based detergent;
  - reinstall the wheels, the feeders and the water funnels;
  - refit the powder deposit drawers and the powder funnels after carefully drying them.

**After installing all parts the following is required:**

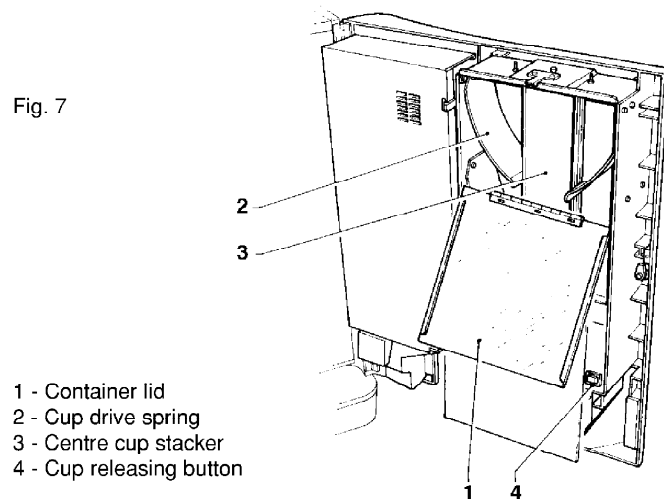
- enter the "Maintenance" mode to clean the mixer (see relevant paragraph) and add some drops of the chlorine-based detergent into each funnel.
- After disinfection, thoroughly rinse all parts to remove any residual traces of the detergent solution.

**LOADING CUPS**

To load the cups operate as follows:

- clear the voltage from the machine;
- lower the lid of the cup container;
- if necessary, manually turn the centre cup stacker anti-clockwise;
- load all containers with cups taking care so that **they do not get stuck at the top**;
- if **paper cups** are used both side cup containers must be completely filled with cups to avoid they may be deformed by the drive springs;
- close the machine and carry out a selection test.

Fig. 7

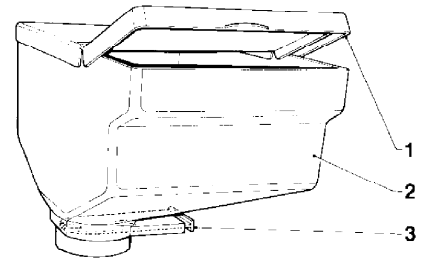


**LOADING COFFEE**

Lift up the lid and fill the coffee container, being sure that the shutter is fully opened (see fig. 8).

Fig. 8

- 1 - Lid
- 2 - Coffee container
- 3 - Shutter



**LOADING SUGAR AND INSTANT PRODUCTS**

On each container is placed a self-adhesive label for the concerned product.

After lifting up the relevant lid, fill each container with the product to be dispensed avoiding compression so as not to pack them. Make sure the products do not contain clots.

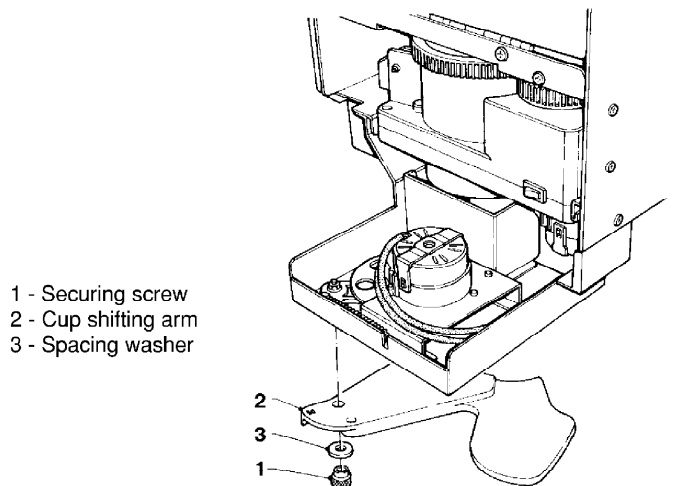
**CLEANING THE WATER SUPPLY TANK (OPTION)**

For those machines which are equipped with water tank, installed either in the cabinet (20 l) or in the machine (3.5l), it is required that such tank be duly cleaned and disinfected at least once a week with the same chlorine-based detergents used for mixer cleaning.

**CLEANING THE CUP SHIFTING ARM**

Periodically it is required that the cup shifting arm be dismantled from the machine for cleaning. To do so, just loosen the securing screw thoroughly (see fig. 9). When reinstalling be sure the spacing washer is correctly fitted.

Fig. 9



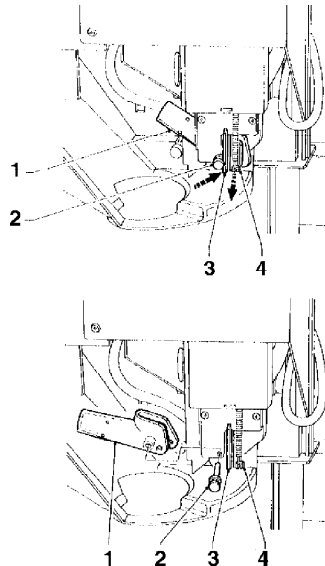
## CLEANING THE SUGAR DISPENSER

For machines having sugar directly dispensed into the cup, the sugar releasing device should be periodically cleaned using hot water (see fig. 10). Proceed as follows:

- 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 reverse order.

Fig. 10

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



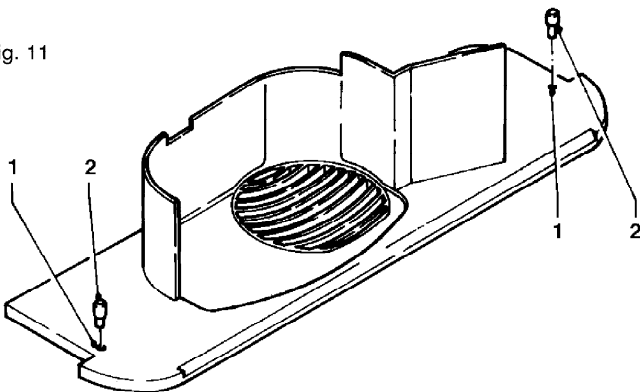
## CLEANING THE LIQUID WASTE CONTAINER

The liquid waste container is easily taken for emptying and cleaning.

If the special pins mounted in the container cover are removed and fit into the special holes (see fig.11), the container can only be removed with open door.

For safety reasons, when the container is removed, a special switch placed at the left side clears the voltage from the machine.

Fig. 11



- 1 - Holes for tray fastening
- 2 - Pins

## SUSPENDING FROM USE

If for any reasons the machine must be put out of service for a period of time above one week, the following will be necessary:

- fully empty the containers and carefully wash them with the chlorine-based detergents used for mixer cleaning.
- fully empty the dosing grinder by dispensing coffee as long as an empty condition is signalled.
- fully empty the air-break and the boiler, loosening the clamp on the related hose.

**Before resuming work, the cleaning and sanitising procedure described in section "Annual sanitising" should be performed.**

## INSTALLING THE PAYMENT SYSTEM

**The unit is delivered without system of payment, therefore the technician or person who will install it shall have the sole responsibility for any damage to machine, persons or things resulting from a wrong installation or failure to comply with the rules herewith contained.**

The machine is fitted with all the necessary electrical connections for the installation of the MDB type payment systems and more specifically:

- coin validator
- changer
- bill validator
- cashless system for keys and magnetic cards which can be differently combined.

**The installer of such payment systems shall verify, under "his own responsibility", that the correct unit is installed.**

When started, the machine carries out a test to detect which system of payment is installed and automatically configures for that.

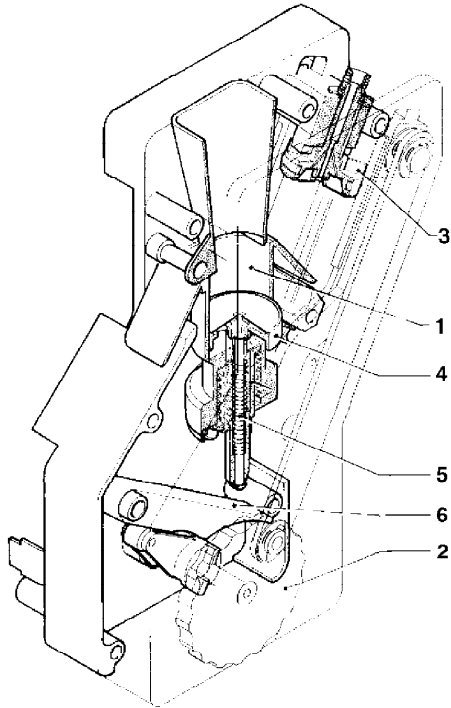
# OPERATION OF THE COFFEE UNIT

## COFFEE DISPENSING CYCLE

When selecting coffee, the grinder operation is started and will continue as long as the coffee doser chamber is full (see fig. 15). When the dosing unit is full, the ground coffee dose is released in the coffee unit.

The coffee falls into the vertical brew chamber (1) (see fig. 12).

Fig. 12



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

The gearmotor handle engaged with the disk (2) located outside of the assembly, rotates by 180° causing the oscillation of the brew chamber and the lowering of the upper piston (3) (see fig. 13).

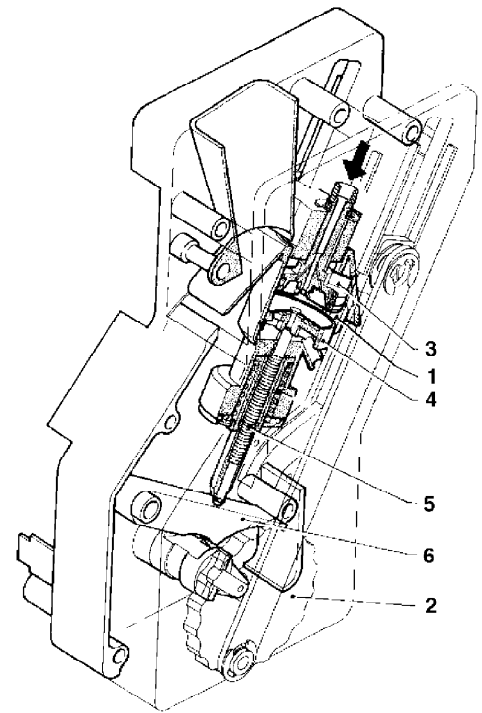
Due to the pressure of the water, pre-brewing spring (5) sinks and lower piston (4) goes down of 4 mm, thus giving form to a water cushion which permits the coffee dose to be evenly used.

At the end of supply and during a pause of 3 seconds, pre-brewing spring (5) will eject the water through the third way of the supply electrovalve also slightly compressing the used coffee dose.

The completion of the rotation of the gearmotor causes the pistons and the coffee dose to be lifted by swinging lever (6).

At the same time when the brew chamber returns in vertical position, the scraper placed on the coffee hopper prevents the used coffee dose from being moved making it fall. The lower piston now returns to the bottom dead position.

Fig. 13



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

## CHECKING AND ADJUSTING THE MACHINE SETTINGS

So as the best results may be obtained from the product used, the following checks should be carried out:

### for the coffee

The used coffee dose should be slightly compressed and damp.

The granulometry of the ground coffee.

The weight of the ground coffee.

The supply temperature.

The amount of the delivered water.

### for the instant products

The weight of the instant products.

The temperature of the beverages.

The amount of the delivered water.

Should the standard settings be varied, proceed as indicated in the next sections in this manual.

The weight of the instant products, the delivered amount of water and the temperature are directly controlled by the microprocessor.

To change them it is therefore necessary to use the programming procedures.

## STANDARD SETTINGS

The vending machine is supplied with the following standard settings:

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

The standard setting of the machine assigns the same price to all selections, which is expressed in number of basic coins.

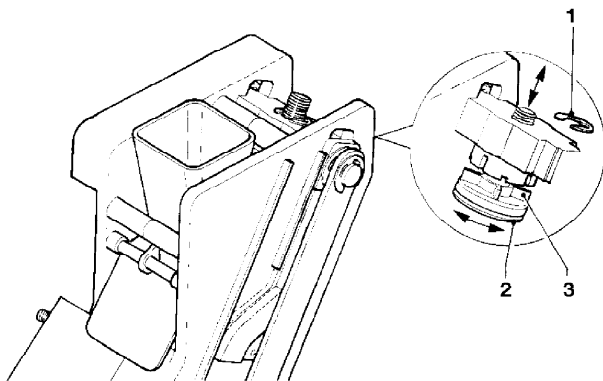
## ADJUSTING THE COFFEE UNIT PISTON STROKE SETTING

When the upper piston is correctly positioned, the coffee unit can operate with coffee doses of 5.5 to 7.5 g.

To change the piston position (see Figure 14):

- remove the snap ring from its seat;
- place the piston in the proper adjusting notches:
  - .less deep notches for 5.5 to 6.5 g doses;
  - .deeper notches for 6.5 to 7.5 g doses.

Fig. 14



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

## WATER TEMPERATURE CONTROL

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

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

## 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. 15) as follows:

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

For better results it is recommended 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 granulometry of the ground coffee:**

the finer the grade of grinding the longer the time necessary for dispensing the drink and vice versa.

## ADJUSTING THE DOSE OF COFFEE

The dose adjusting lever can be positioned in one of the 6 reference notches considering that:

- the dose is increased by lifting the lever;
- the dose is reduced by lowering the lever;
- every notch changes the dose by approx. 0,25 gr.

In addition, when the lever is fully rotated upwards, the ratchet can be released from the groove in the dose regulator (see Figure 16) 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).

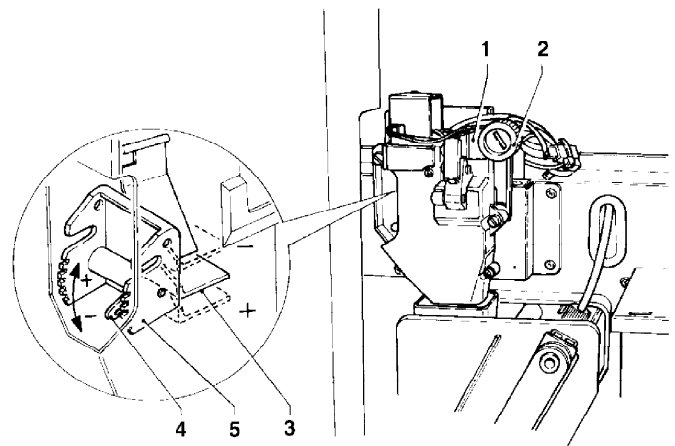


Fig. 15

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

## Warning!!!

**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 Figure 16).**

## 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 vending machine and its conformity with the rules and regulations in force for its relevant systems must be checked by qualified personnel at least once a year.**

**Turn the unit off before any maintenance operations which require removal of components.**

**The following operations 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 perfect 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.**

## WEEKLY CLEANING OF THE COFFEE UNIT

Every time the coffee is loaded or at least once a week, it is recommended that the external parts of the coffee unit be cleared from any residual powder and particularly the area of the coffee funnel (see fig. 16).

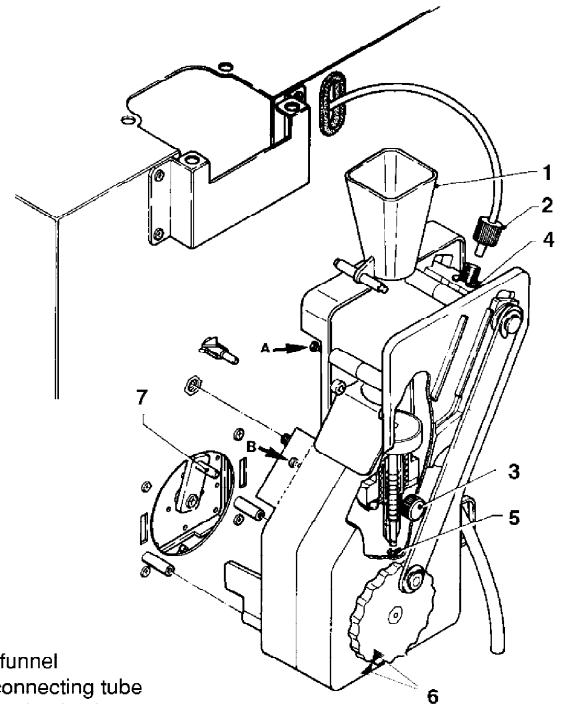
## CLEANING THE COFFEE UNIT

Every 10,000 drinks or anyway every 6 months a little maintenance of the coffee unit is to be carried out.

Maintenance is performed as follows:

- separate the teflon tube that connects the boiler from the upper piston, paying attention not to lose the related seal (see fig. 16);
- unloosen the knob securing the unit to the bracket;
- remove the coffee unit;

Fig. 16



- 1 - Coffee funnel
- 2 - Boiler connecting tube
- 3 - Unit securing knob
- 4 - Upper piston snap ring
- 5 - Lower piston snap ring
- 6 - Reference notches
- 7 - Gearmotor 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 sealing.



## REMOVING THE LOWER FILTER

- Loosen screws A and B enough to release the coffee funnel;
- take the lower piston snap ring;
- withdraw the piston from the brew chamber and remove the filter.
- Clean all components with detergent, ensuring the all residues and visible product films are mechanically removed using, if necessary, a brush and similar tools.
- Soak all components in a container filled with a chlorine based solution, of the same type used for mixer cleaning, 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);
- insert the coffee unit completely to assure a correct connection of the contacts.

## ANNUAL MACHINE SANITIZING

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 disinfected in the following way:

- all parts of the hydraulic system in contact with food, must be removed from the unit and fully disassembled;
- all components are to be cleaned with detergent, ensuring the all residues and visible product films are mechanically removed using, if necessary, a brush and similar tools;
- all components must be soaked in a disinfecting solution for at least 20 minutes;
- the unit internal surfaces are to be cleaned with the same disinfecting solution;
- Thoroughly rinse and then reinstall the parts.

**Before restarting the unit, and after all parts have been reinstalled, the same disinfecting procedure described in section "Sanitising the foodstuff circuits and the mixers" shall be carried out once again.**

## OPERATING MODES

Three different operating modes are provided for the machine, accordingly the buttons may have different functions based on the preset mode of the buttons. The available operating modes are indicated in the following table:

DISPLAY	FUNCTIONS
<b>Normal mode</b>	
"Operating"	coins accepted drinks dispensed
<b>Maintenance mode</b>	
"Maintenance"	test dispensing machine maintenance
<b>Programming mode</b>	
"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
"Operating"	Machine ready
"Price:...."	Price display of selected product
"Credit:....."	Inserted credit display
"Off"	Machine switched off
"Preparation"	Drink preparation
"Heating"	Wait time before reaching operating temperature
"Installation"	Installation under way
"Sel. disabled"	Selection disabled
"Coffee off"	Espresso models only: Coffee unit out of service
"Take"	Drink ready

Pressing a sugar preselection button the indication "Sugar" or "Extra Sugar" is displayed for a few seconds.

## JUG FACILITIES

To be able fill a jug rotate the by a quarter of a turn clockwise, the machine will be set to dispense 5 consecutive free selections without accessories. The selection sequence can be stopped by turning the key back to central position before the end of a selection. The number of residual available selections will be shown on the display at the beginning of each selection.

## MAINTENANCE OPERATING MODE

When pressing the programming key placed on the internal side of the key control card (see fig. 20), 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:

"Compl. selec."	Complete dispensing test including cup, sugar and stirrer
"Powd. only"	Dispensing powder only
"Water only"	Dispensing water only
"No accessories"	Dispensing test without cup, sugar and stirrer
"Cleaning"	Coffee unit rotation Sugar dispensing Extra sugar dispensing Cleaning
"Filling tubes"	manual coin return tube filling/emptying

For dispensing tests, either complete or partial, each button controls the relevant selection (see the selection dose table).

**N.B. As regards coffee-based selections (espresso), only additions are dispensed with the partial deliveries of powder and water; if a selection requires no addition, the message "Sel. disabled" will be displayed.**

When the function "Cleaning" is displayed, the following functions are given to the keys:







previous function	
next function	
mixer cleaning	
coffee release unit rotation	
sugar dispensing	
extra sugar dispensing	
not used	
not used	
not used	
not used	

Key "2" operates the coffee unit, when this is connected with the electrical system, and releases a dose of coffee if the unit is disconnected.

To manually fill the coin return tubes when function "Filling tubes" is displayed the following applies:

- press a key to enable filling; it will be displayed "Credit : —", which is the money in the tubes available for the user;
- insert the coin into the selector (the amount of money in the tubes available for the user is displayed);
- press key "8" to end this operation.

When the "Filling tubes" function is activated, the key are assigned the following functions:

emptying of tube "a"	
emptying of tube "b"	
emptying of tube "c"	
emptying of tube "d"	
not used	3 
exit of function tube filling	

**This function will not be accessible if the programming mode is entered. In this case the machine needs to be switched off and on.**

## PROGRAMMING

When the programming key located on the push button card inner side is pressed twice (see fig. 20), the machine is set to the "Programming" status and a password is required: this is obtained by pressing keys "8", "6", "5" and "7" in sequence.

After entering the password, the indication "Programming" is displayed for approx. 2 seconds, and then the first option of the programming menu appears in the display for the activation of the following functions:

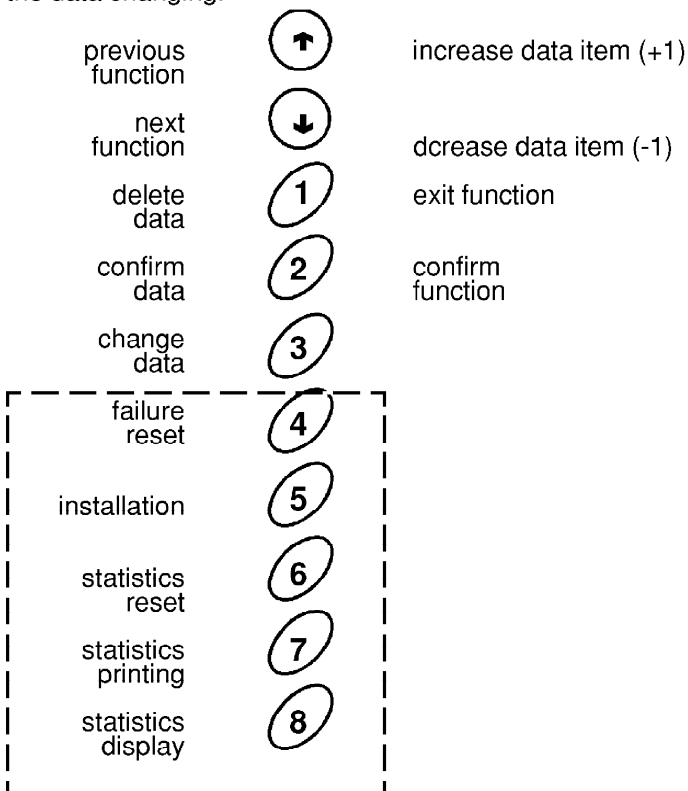
"Curr. failure"	current failure reading
"Wat. dose sett."	water dose setting
"Powd. dose sett."	powder dose setting
"Price sett."	price setting
"Sel. price sett."	assignment of prices/selections enable/disable selections
"Basic coin / DP"	setting of the basic coin value and position of the decimal point
"Initialising"	RAM initialising
"Machine code"	setting of the machine code
"Mach. Config."	apparatus version input (manual/automatic-network/tank)
"Total counter"	sets the number of selections, after which the machine locks out.
"MDB Data"	MDB protocol control
"Consecutive sel."	sets the number of selections, after which the machine goes in standby for heating.
"Pregrinding"	while a selection is being made sets grinding for next drink selection.
"Set date/time"	time setting.
"Set washing"	sets time for automatic cleaning.
"Set band"	sets the time table periods with different sales price
"Set price band"	sets the sales price for the time table periods with different sales price

In addition the following is possible:

- failure reset;
- machine installation routine;
- statistics display;
- statistics printout;
- statistics reset.

Now the keys of the keypad are assigned different functions as the figure below shows:

The keys contained in the dotted line perform direct functions, the external keys permit either menu scrolling or the data changing.



### IMPORTANT WARNING!!!

**WHEN THE MACHINE IS INITIALISED, THE CONFIGURATION TAKES THE DEFAULT VALUES: "SUPPLY FROM THE MAINS/AUTOMATIC CUP DISPENSING".**

**THEREFORE, AT THE END OF INITIALISING, THE MACHINE SHOULD BE RECONFIGURED.**

## DISPLAY OF CURRENT FAILURES

When the "Curr. failure" function from the "programming" menu is displayed (see Table I), pressing confirmation key "2" displays the error code of the current failure;

When pressing key "↓" the error code of the next failure is displayed (if any). If no failure is currently displayed, pressing confirmation key "2" displays the message "No Failure". The 11 possible failures are displayed in the following cases:

### AIR-BREAK FAILURE

The machine will lock if after 7 selections the microswitch has never signalled the lack of water.

### BOILER FAILURE

The machine will lock if after either 10 minutes' (espresso models) or 20 minutes' heating time from the machine starting or the last selection the boiler fails to reach the operating temperature.

### PAYMENT SYSTEM FAILURE

The machine will lock if none of the MDB payment systems dialogues with the C.P.U.

### RAM DATA FAILURE

The data contained in the EEprom (i.e. the chip that stores the setting variations) are wrong and must be retrieved from the Eprom, whereas all the statistics information will be lost.

**Also the machine configuration is defaulted and it shall be reconfigured.**

The default configuration is the maximum available, i.e.: automatic machine functions with water supply from the mains.

### WATER FAILURE

If the air-break microswitch is closed for one minute, the water inlet electrovalve will remain energized until the water flow is restored.

### CUP FAILURE

When the empty cup container microswitch opens, the cup container exchange motor is switched on. If after one full turn the microswitch is not closed the machine locks.

### LIQUID WASTE CONTAINER FAILURE

This occurs after the liquid waste container float response has taken place (if installed).

### VOLUMETRIC COUNTER WHEEL 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 the lack of the unit. The machine won't be locked, but all coffee-based selections are disabled.

### COFFEE UNIT FAILURE

If after a period of 15 seconds' grinding no coffee dose is obtained, all coffee-based selections are disabled.

### COFFEE RELEASE FAILURE

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

## CHANGER FAILURE

The coin return mechanism is not operating or communicating.

## BILL VALIDATOR FAILURE

The bill acceptor is not operating or communicating.

## CASHLESS FAILURE

The key reader or magnetic card is not operating or communicating.

## PROGRAMMING THE WATER AND POWDER DOSES

When either the "Wat. dose sett." or the "Powd. dose sett." function from the "programming" menu is displayed the related doses can be duly 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 of one selection doses also affects the compound selections where the dose code is used.

The dose codes relating to the various selections are illustrated in the selection dose table supplied with the machine.

The displayed values for the doses are expressed in:

- tenths of second for the powders;
- tenths of second for the water in the instant models;
- No. of pulses of the volumetric counter for the water in the espresso models.

When pressing confirmation key "2" from the "programming" menu the dose code list can be accessed and scrolled down and up by means of keys "↓" and "↑". Pressing correction key "3" allows this value to be displayed blinking and modified as necessary.

## PROGRAMMING THE PRICES

When the "Price sett." (price programming) function from the "programming" menu is displayed, the 8 sales prices stored can be varied.

Pressing confirmation key "2" from the "programming" menu permits the price list to be accessed, which can be scrolled down and up by way of keys "↓" and "↑".

Pressing correction key "3" allows this value to be displayed blinking and modified as necessary.

## PROGRAMMING THE PRICES AND THE SELECTION STATUS

When the "Sel. price sett." (price assignment) function from the "programming" menu is displayed the assignment of one selection to one of the memorised prices and/or the status of one selection can be varied.

Pressing confirmation key "2" from the "programming" menu permits the price list to be accessed, which can be scrolled down and up by way of keys "↓" and "↑".

Pressing correction key "3" the status of selection blinks. Using keys "↓" and "↑" the status of selection can be changed from (enabled) to (disabled).

When pressing again confirmation key "2" the number of the price referred to in the price table is displayed.

Pressing correction key "3" allows this value to be displayed blinking and modified as necessary.

## 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.

Pressing confirmation key "2" from the "programming" menu permits the current value of the basic coin to be displayed.

Using keys "↓" and "↑" the value of the basic coin and the number of the decimal point position "dP" are alternately displayed, i.e.:

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

Pressing correction key "3" allows these values to be displayed blinking and modified as necessary (see Table IV).

## INITIALISING

When the "Initialising" function is displayed the vending machine can be initialised also restoring all default data. This function should be used in case of memory data error or when the EPROM is replaced.

All of the statistics information will be reset.

Pressing key "2" makes the request "Confirm?" appear on the display for confirmation. Pressing key "2" a second time, the message "Working" is displayed for a few seconds.

**Also the machine configuration is the one given by default and should be reconfigured. The default configuration is: automatic machine functions with water supplied from the mains.**

## 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 key "2" to confirm and display the current code number; using correction key "3" the first digit blinks.

The keys have now numeric functions.

Pressing any of the keys, the blinking digit takes that value and the next digit starts blinking.

1

2

3

4

5

6

7

8

9

0

## MACHINE CONFIGURATION

When the "Mach. Config." function is displayed, it is possible to change the machine configuration in the following manner:

- water supply from the mains/inside tank (Canister);
- automatic/manual cup/sugar dispenser.

(- in the instant models, 20 cc of water are delivered to heat the coffee mixer before releasing cups; this function can be either enabled or disabled).

Pressing confirmation key "2" displays the current status; with correction key "3" the current status is displayed blinking and can be modified with keys "↓" and "↑" (refer to table).

## IMPORTANT WARNING!!!

**WHEN THE MACHINE IS INITIALISED, THE CONFIGURATION TAKES THE DEFAULT VALUES: "SUPPLY FROM THE MAINS/AUTOMATIC CUP DISPENSING".**

**THEREFORE, AT THE END OF INITIALISING, THE MACHINE SHOULD BE RECONFIGURED.**

## TOTAL COUNTER

This function permits the machine to be locked after a preset number of selections of coffee and instant products has been dispensed.

Since this control device is only to be used by the manager, a 4-digit password is to be entered to obtain access.

Once the password has been entered, it will be possible to set the number of dispensed drinks after which the machine is locked out; read the number of dispensed drinks and reset the lockout counters (see relevant table).

**NB: The counter default setting is zero.**

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

## PROGRAMMING THE MDB DATA

The MDB protocol menu has the following structure:

- Type of vending.
- Coin return setting.
- Maximum credit.
- Maximum coin change.
- Accepted coins.
- Coin return inhibition.
- Minimum tube coin level.

## TYPE OF VENDING

This function is used to set operating mode for either single or multiple dispensing. When a multiple dispensing is set, the change is not automatically returned at the end of a successful drink dispensing, but the credit remains available for further dispensing. By pressing the coin return button, the remaining credit will be returned if it is lower than the maximum change stored.

## COIN RETURN SETTING

This function permits the credit return to be enabled/disabled after pressing the coin return button.

When activated, this function will prevent the change from being returned if at least one drink has not been purchased.

## MAXIMUM CREDIT

This function permits the maximum acceptable credit to be defined.

## MAXIMUM COIN CHANGE

It is possible to set a limit for the total amount of the change that the coin mechanism will return after pressing the coin return button or after a single drink has been dispensed. With this function the credit exceeding the programmed amount will be cashed.

## ACCEPTED COINS

It is possible to define which coins among those recognized shall be accepted by the validator.

For proper coin/value combination check labels on the coin mechanism to identify the coin position.

## COIN RETURN INHIBITION

This function permits the return of a given coin to be inhibited.

## MINIMUM TUBE COIN LEVEL

To advance the warning message "insert exact amount" to the user, add 1 to 15 coins to the programmed coin number to determine the full coin tube condition.

## CONSECUTIVE SELECTIONS

It is possible to set the number of consecutive drinks (0 to 99) (which can be dispensed in a period of 2 minutes), after which the machine won't dispense any more drinks until the boiler correct temperature is reached. This function is disabled when value is set to 0 (default).

## PREGRINDING

This function enables/disables grinding of a coffee dose for the next selection. This reduces the dispensing time of a coffee selection. By default this function is disabled.

## SETTING THE CLOCK

This function enables setting of date and time of the internal clock.

## AUTOMATIC CLEANING

This function permits setting of the mixer automatic cleaning time. By entering time 24.00 this function is disabled (default).

## SETTING THE TIME BANDS

This function sets the time band for sales with different prices.

## SETTING THE TIME BAND PRICES

This function sets the prices to be used during the time band for sales with different price.

## INSTALLATION

Pressing installation key "5" allows filling the hydraulic system, even when the air break is full.

## RESETTING THE FAILURES

Pressing failure reset key "4" message "Working" is displayed for a few seconds and all failures are reset.

## DISPLAYING THE STATISTICS

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

### 1 - MDB statistics

- total cash
- inserted coins
- returned coins
- inserted bills
- total sales amount
- cash sales amount
- cashless sales amount
- filling
- discount amount

### 2 - single selection counter;

### 3 - failure counter

### 4 - price counter

- normal
- discounted

## PRINTING THE STATISTICS

Connect a serial printer RS-232 having 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 card to print all the statistics described in section "displaying the statistics". The hard-copy printout will also contain the machine code number and the printout progressive number.

The progressive hard-copy printout number can only be reset by initializing the machine again.

To connect the printer operate as follows:

- Press the statistics hard-copy printout key "7" to display the request message "Confirm?" for confirmation;
- Before confirming be sure the printer is connected;
- Press confirmation key "2" to start printing.

## RESETTING THE STATISTICS

Press statistics reset key "6" to display the blinking request message "Confirm?" for confirmation.

Press confirmation key "2", and message "Working" will be displayed for a few seconds and all statistics reset.

# PROGRAMMER (OPTIONAL)

## AUTOMATIC SETUP TRANSFER

Using the programmer device makes it possible to read out the programming routines set and transfer them to other units from a given vending machine.

These data are preserved also when the programmer is disconnected thanks to a couple of Duracell batteries LR03 Format AAA 1.5 V to be replaced every 12 months. The programming data which are transferred are as follows:

- Water doses
- Powder doses
- 8-price table
- Prices/Status of selections
- Basic coin
- Decimal point position
- Counters
- MDB programming
- Consecutive selections
- Pregrinding
- Cleaning time
- Time band beginning/end
- Time band prices

It is possible to set the number of consecutive drinks (0 to 99) (which can be dispensed in a period of 2 minutes), after which the machine won't dispense any more drinks until the boiler correct temperature is reached. This function is disabled when value is set to 0 (default).

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

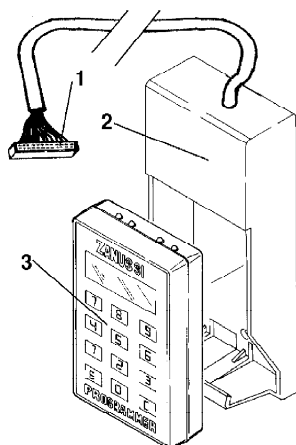
To differentiate among the 20 setups available those containing data, a special character is displayed, and namely:

< - > = Available setup

< □ > = 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 in the programmer display.

Fig. 17



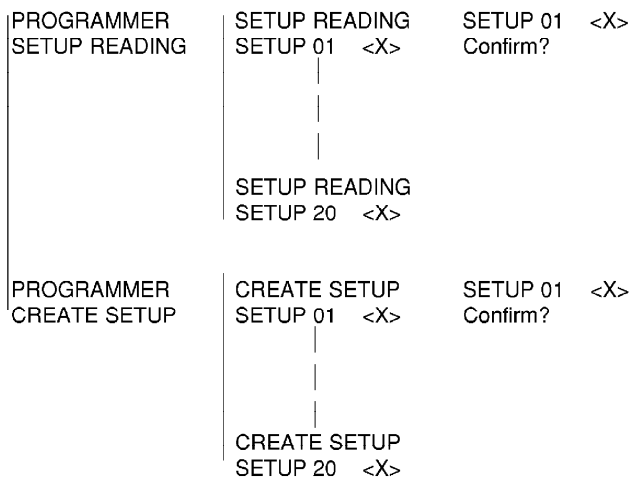
- 1 - Connector
- 2 - Programmer holder
- 3 - Programmer

To connect the programmer to the machine the special holder is to be used (see fig. 17) connecting the special cable to the connector of the push-button card.

Thereafter enter the "programming" mode and press twice the relevant key on the push-button card.

Now, inserting the programmer in its holder, an automatic connection will take place, and the setup menu will be shown in the programmer display:

- Pressing key "E" access to the displayed function is obtained;
- Pressing key "O" the next function is displayed;
- Pressing key "C" the previous function is displayed.

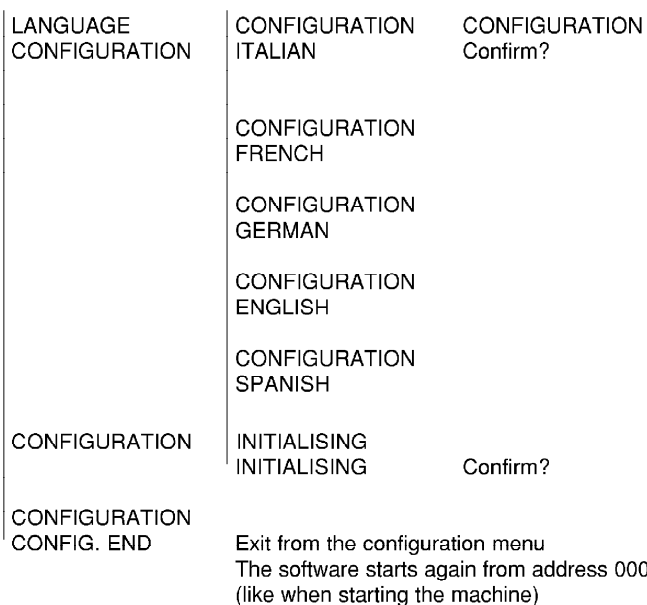


## CONFIGURING THE LANGUAGE

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

To activate the "Programmer configuration" operate as follows:

- fit 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:





# PRINTED BOARD FUNCTIONS AND INDICATOR LIGHTS

## CONTROL BOARD

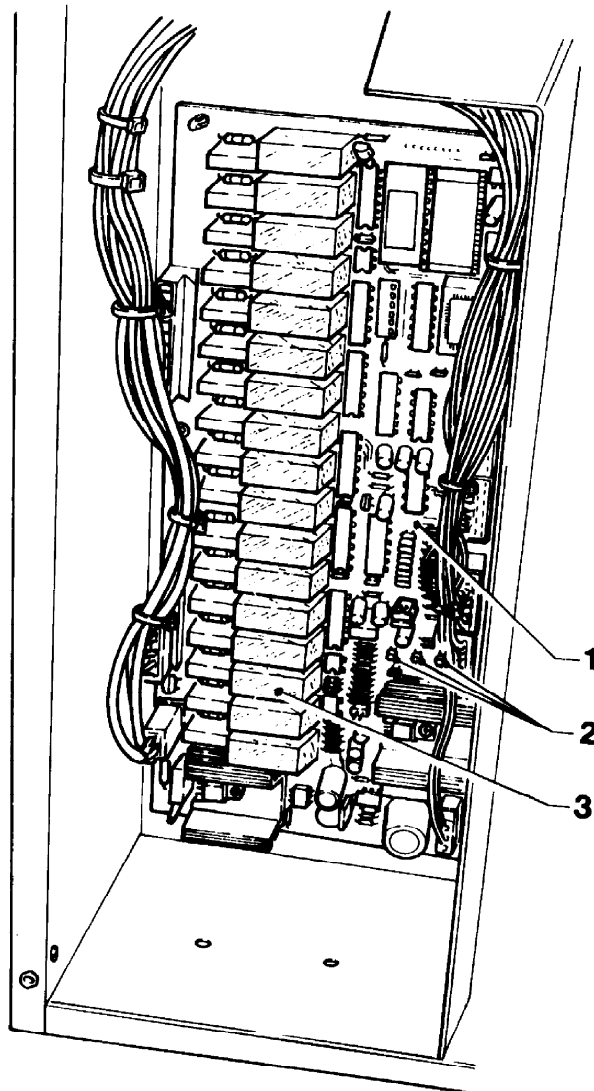
This board (see Figure 18) processes all information from the keypad and the payment system, and controls the actuations and the push-button card.

The 15 V a.c. voltage required for board operation is supplied by a transformer 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.

The board also houses the EPROM chip.

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

Fig. 18



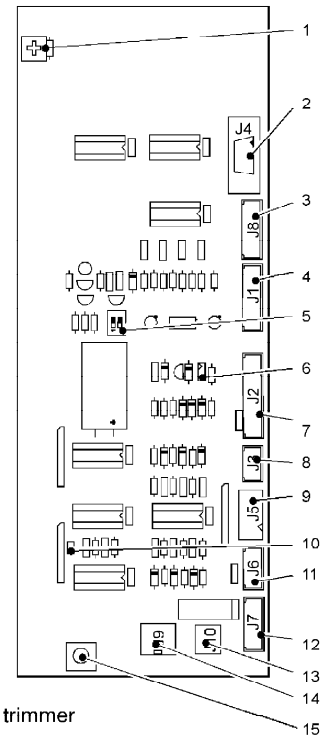
- 1 - Control board
- 2 - LED indicators
- 3 - Relay

## PUSH-BUTTON CARD



This card controls the alphanumeric display, the selection keys and the programming button.

It supports the coin mechanism connectors as well as the printer port.

Fig. 19



- 1 - Brightness control trimmer
- 2 - Printer
- 3 - Programmer connector
- 4 - To the control board
- 5 - Payment system minidip  
(1-2 ON = MDB - OFF = Executive)

- 6 - Jp2 = 
- 7 - To the control board
- 8 - Executive serial interface
- 9 - Front validator
- 10 - Jp1 = 
- 11 - Coin return lamp
- 12 - Not used
- 13 - MDB coin mech supply
- 14 - Programming button
- 15 - MDB coin mechanism

## CONFIGURING THE CONTROL BOARD

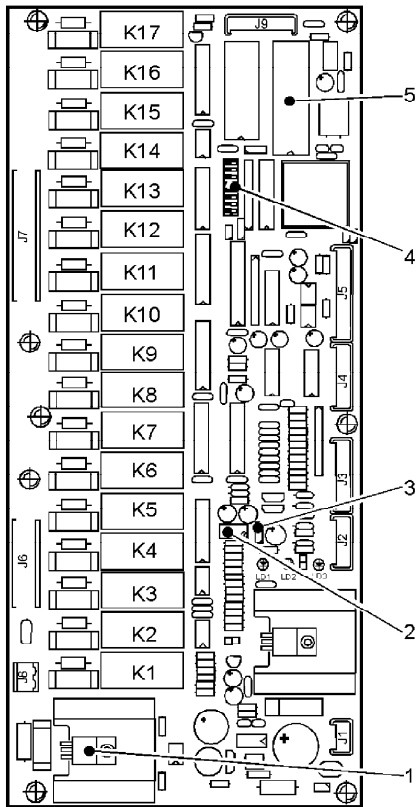
At the centre of the board (see Fig. 20) it is located a set of 8 minidips (3) which permit the card to be configured according to the applications in the various versions and the use made in the different countries of destination, and a jumper (5) allowing the card to be configured either for the Instant or the Espresso models.

To correctly configure the card after a replacement or to change the machine performance, refer to the following tables and the "selection doses" table supplied with the unit.

The control board is designed to be used on several machine models.

When the board is replaced, the new board should be carefully checked for correct configuration.

Fig. 19



- 1 - Triac of the boiler resistance
- 2 - Temperature control trimmer
- 3 - Jumper:           1-2 Instant versions  
                          2-3 Espresso versions
- 4 - Configuration minidip
- 5 - EPROM

RELAY FUNCTION (see wiring diagram)

K1	= ER	COFFEE DELIVERY ELECTROVALVE
K2	= ESC	COFFEE RELEASE MAGNET
K3	= MAC	GRINDER
K4	= PM	PUMP
K5	= M	COFFEE UNIT MOTOR
K6	= EV2	ELECTROVALVE FOR INSTANT PROD. 2
K7	= EV1	ELECTROVALVE FOR INSTANT PROD. 1
K8	= MF1	MIXERS FOR INSTANT PROD. 1
K9	= MD4	DOSING UNITS FOR INSTANT PROD. 4
K10	= MD3	DOSING UNITS FOR INSTANT PROD. 3
K11	= MD2	DOSING UNITS FOR INSTANT PROD. 2
K12	= MD1	DOSING UNITS FOR INSTANT PROD. 1
K13	= MSB	CUP RELEASE MOTOR
K14	= MSP	STIRRER RELEASE MOTOR
K15	= MSCB	CUP STACKER EXCHANGE MOTOR
K16	= EIA	WATER INLET ELECTROVALVE
K17	= MF2	MIXERS FOR INSTANT PROD. 2

## CONFIGURING THE LANGUAGE

According to the selected language for message display, minidips 6 and 7 shall be adjusted as illustrated in the "selection doses" table.

## CONFIGURING THE MODEL

According to the model minidip 5 and the jumper (see fig. 19) shall be set as follows:

MODEL	INSTANT	ESPRESSO
MINIDIP 5	ON	OFF
JUMPER	1-2	2-3

## CONFIGURING THE STIRRER DISPENSER

It is possible to choose whether or not the stirrer is to be dispensed with the unsweetened drinks using minidip 2:

STIRRER	dispensed with unsweetened drinks	not dispensed with unsweetened drinks
MINIDIP 2	ON	OFF

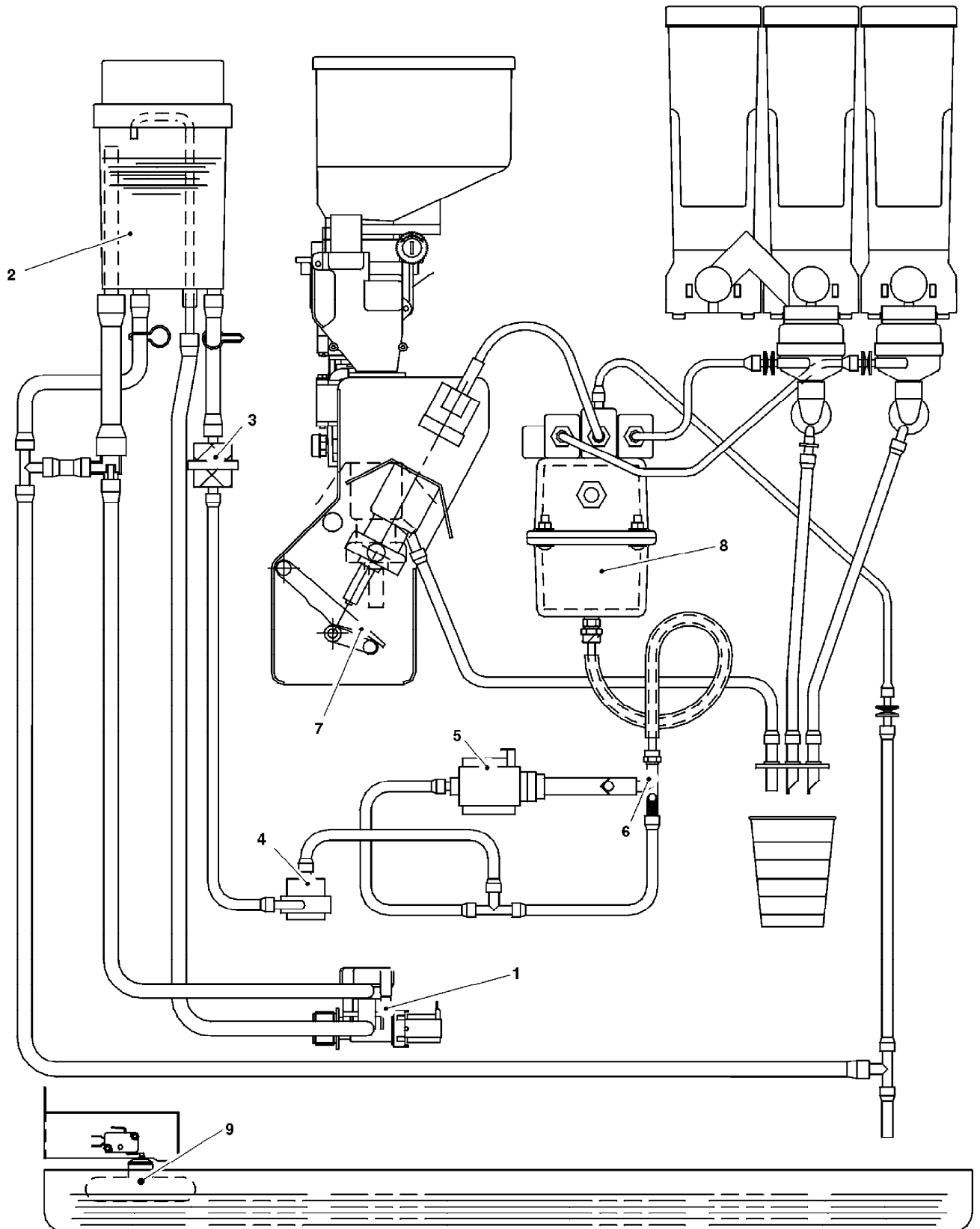
## CONFIGURING THE FREE VENDING

By suitably setting minidip 1 it is possible to choose whether or not a system of payment is to be used:

Systems of payment	activated	disactivated
MINIDIP 1	ON	OFF

**The minidips which are not mentioned are to be placed in OFF position.**

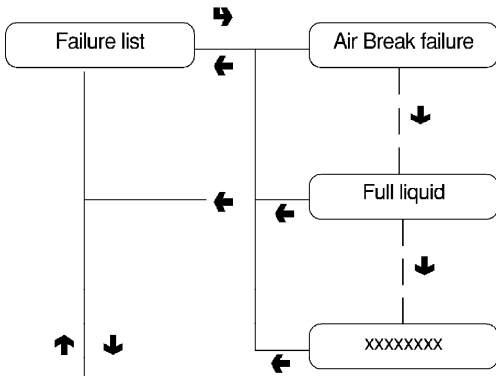
# HYDRAULIC SYSTEM




- 1 - Water inlet electrovalve
- 2 - Air-Break
- 3 - Mechanical filter or softener cartridge (option)
- 4 - Volumetric counter
- 5 - Vibration pump

- 6 - By-pass
- 7 - Coffee unit
- 8 - Boiler
- 9 - Liquid waste container float

# Programming menu

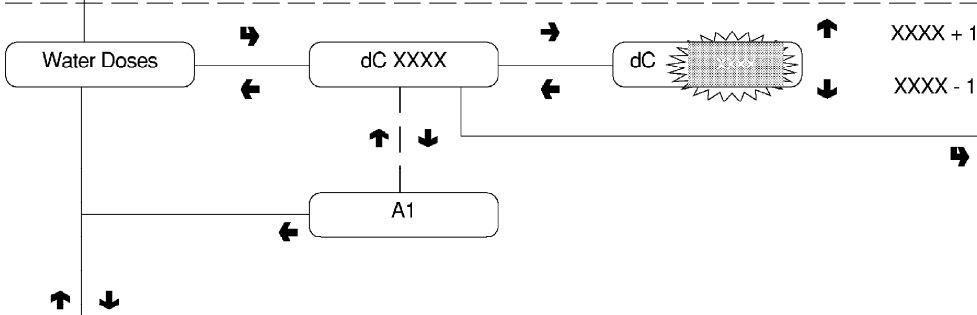


## FAILURE DISPLAY

If no failure is shown, pressing key  will display message "No failure" for 1 second

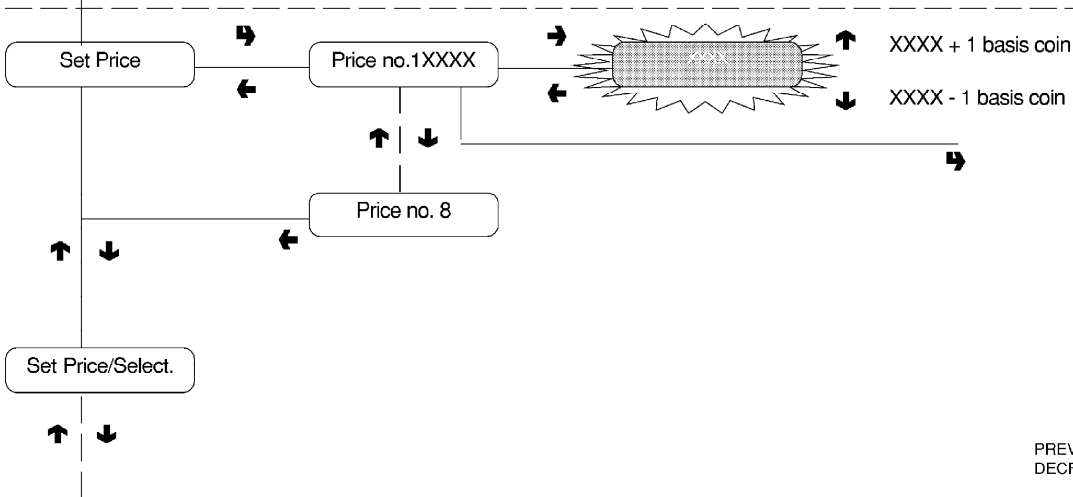
## LIST OF FAILURES

- N. 1 - Air-Break
- N. 2 - Boiler
- N. 3 - System of payment
- N. 4 - EEprom data
- N. 5 - No water
- N. 6 - No cups
- N. 7 - Full liquid container
- N. 8 - Volumetric counter
- N. 9 - Coffee unit
- N. 10 - No coffee
- N. 11 - Coffee release
- N. 12 - Changer
- N. 13 - Bill validator
- N. 14 - Cashless



## WATER & POWDER DOSES

For correct matching between the dose code and the powder or water dose, refer to the attached selection dose table



## PRICE VALUES

PREVIOUS FUNCTION/  
DECREASE ITEM (-1)



NEXT FUNCTION/  
INCREASE ITEM (+1)



DELETE DATA/  
EXIT FUNCTION



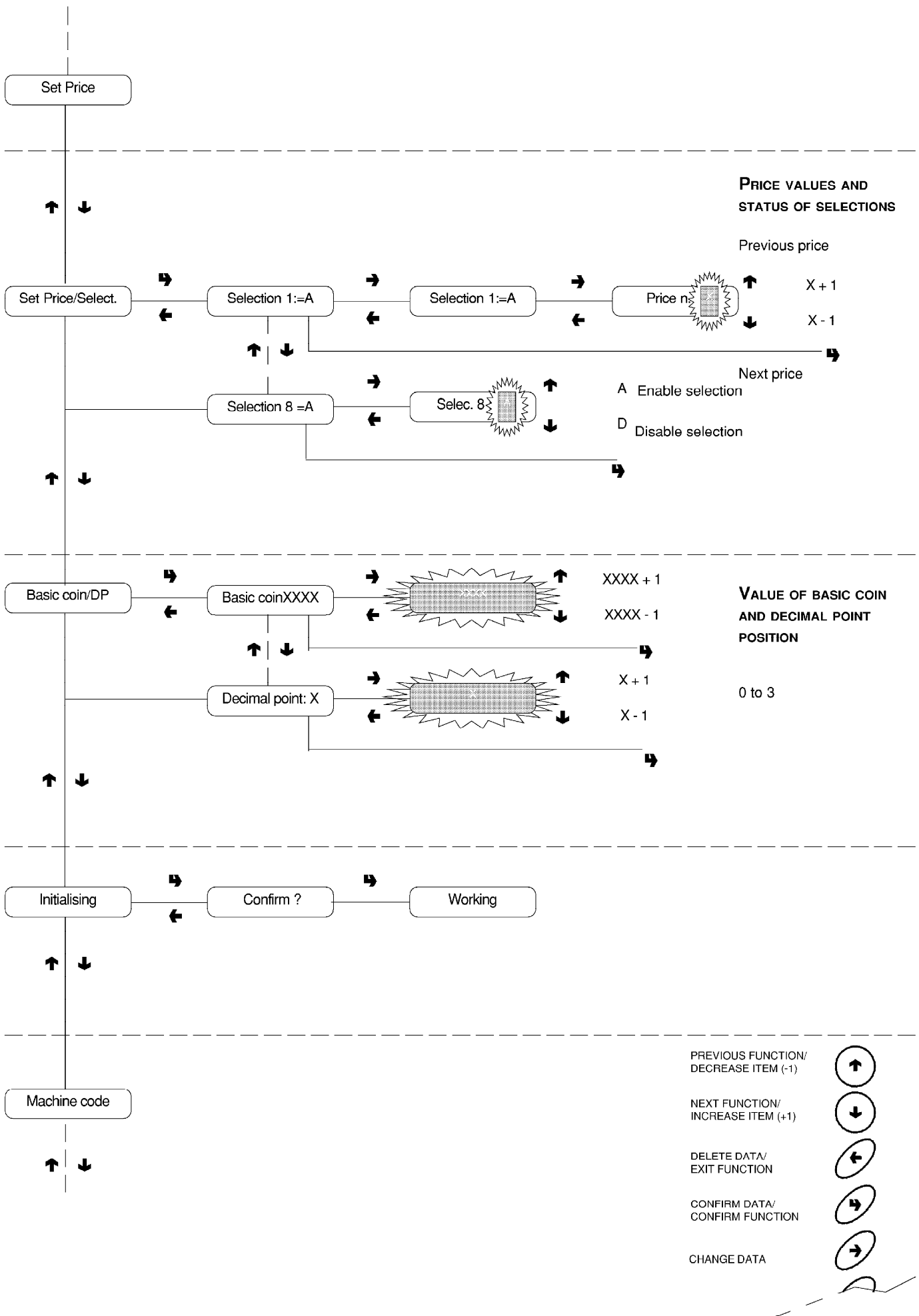
CONFIRM DATA/  
CONFIRM FUNCTION



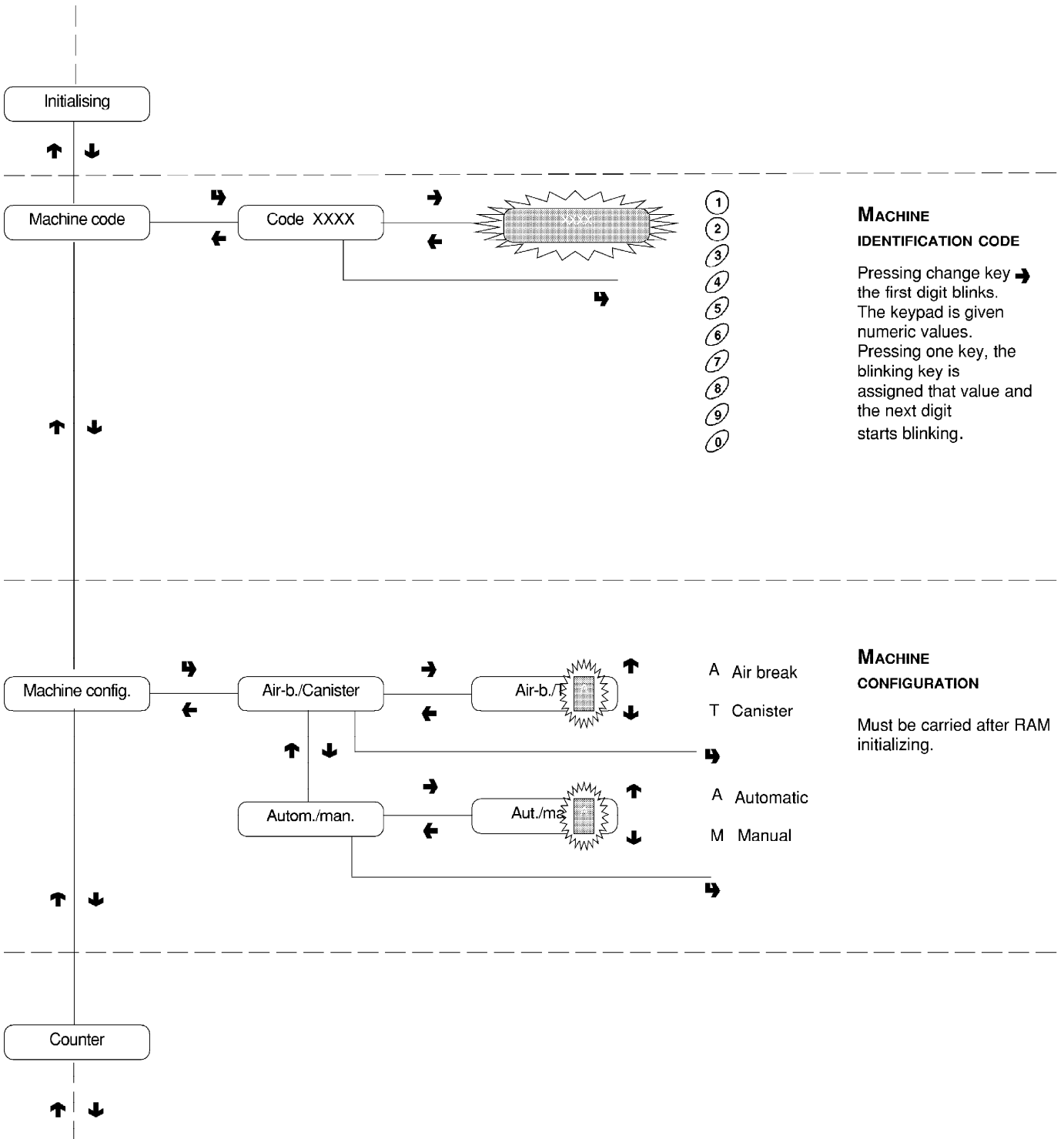
CHANGE DATA



# Programming menu



# Programming menu



## MACHINE IDENTIFICATION CODE

Pressing change key → the first digit blinks. The keypad is given numeric values. Pressing one key, the blinking key is assigned that value and the next digit starts blinking.

- ①
- ②
- ③
- ④
- ⑤
- ⑥
- ⑦
- ⑧
- ⑨
- ⑩

## MACHINE CONFIGURATION

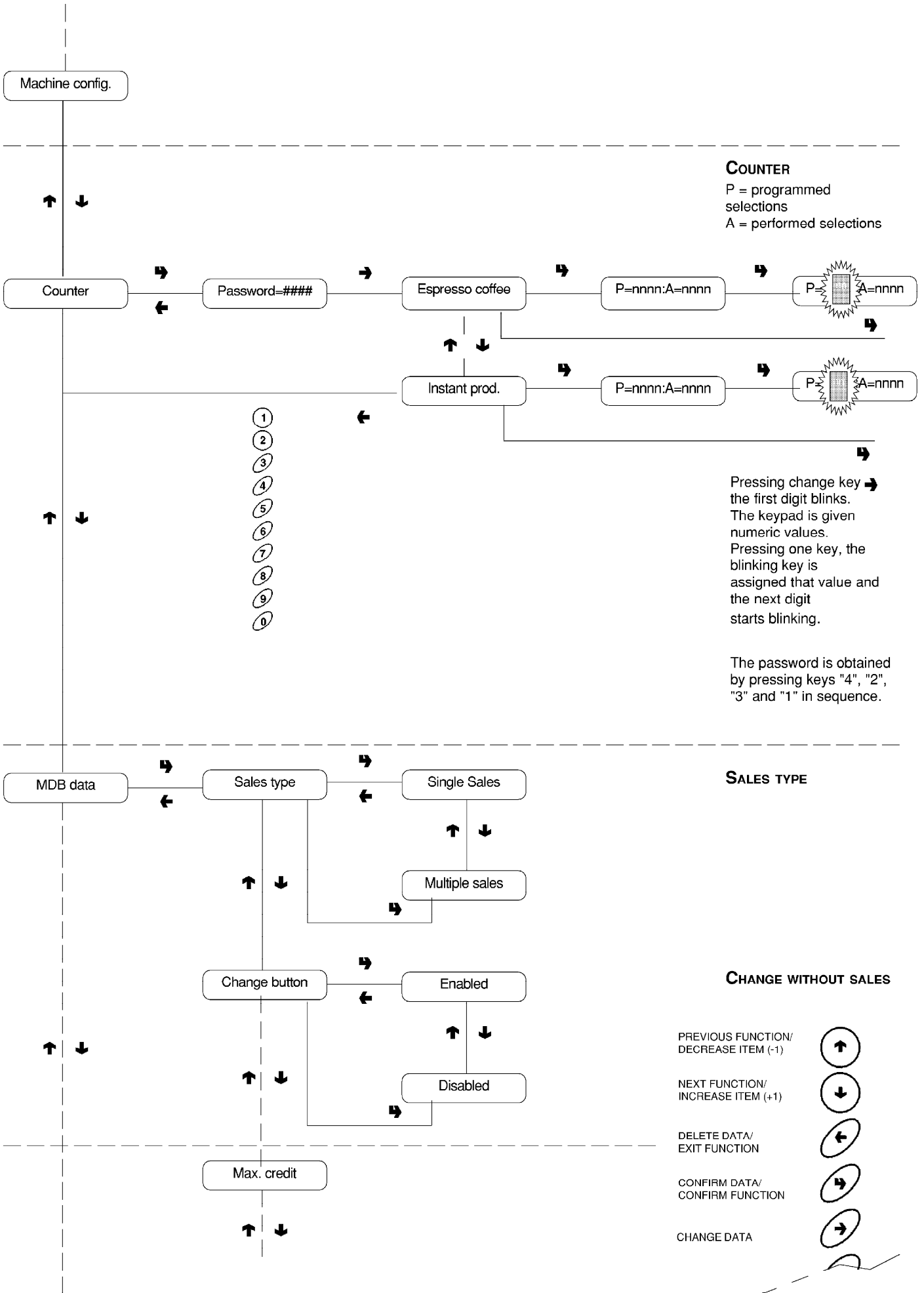
Must be carried after RAM initializing.

- A Air break
- T Canister
- A Automatic
- M Manual

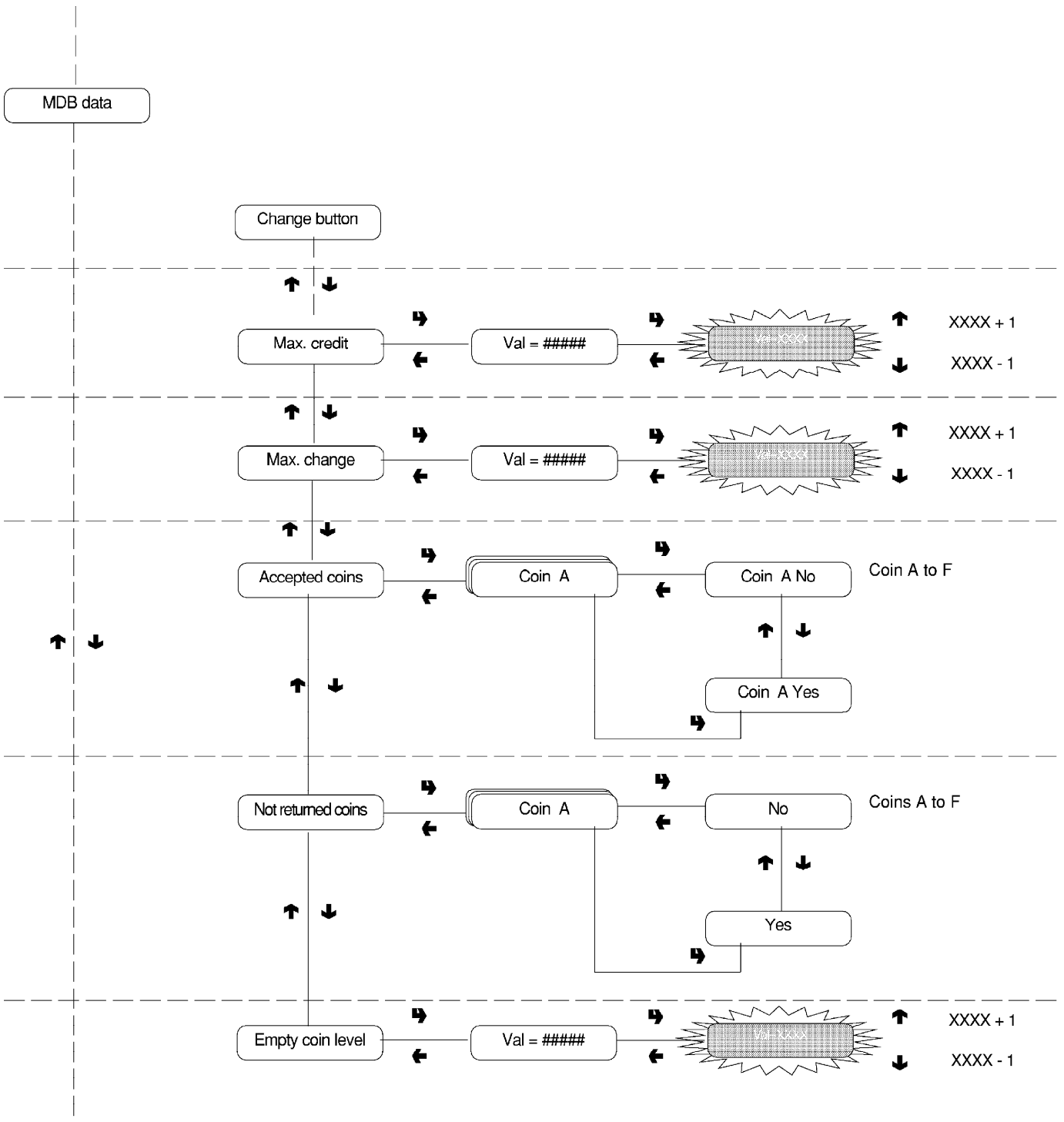
- PREVIOUS FUNCTION/  
DECREASE ITEM (-1)
- NEXT FUNCTION/  
INCREASE ITEM (+1)
- DELETE DATA/  
EXIT FUNCTION
- CONFIRM DATA/  
CONFIRM FUNCTION
- CHANGE DATA



# Programming menu



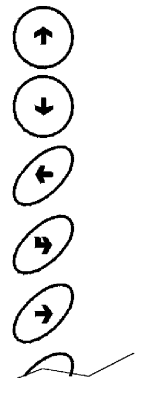
# Programming menu



Consecutive sel.

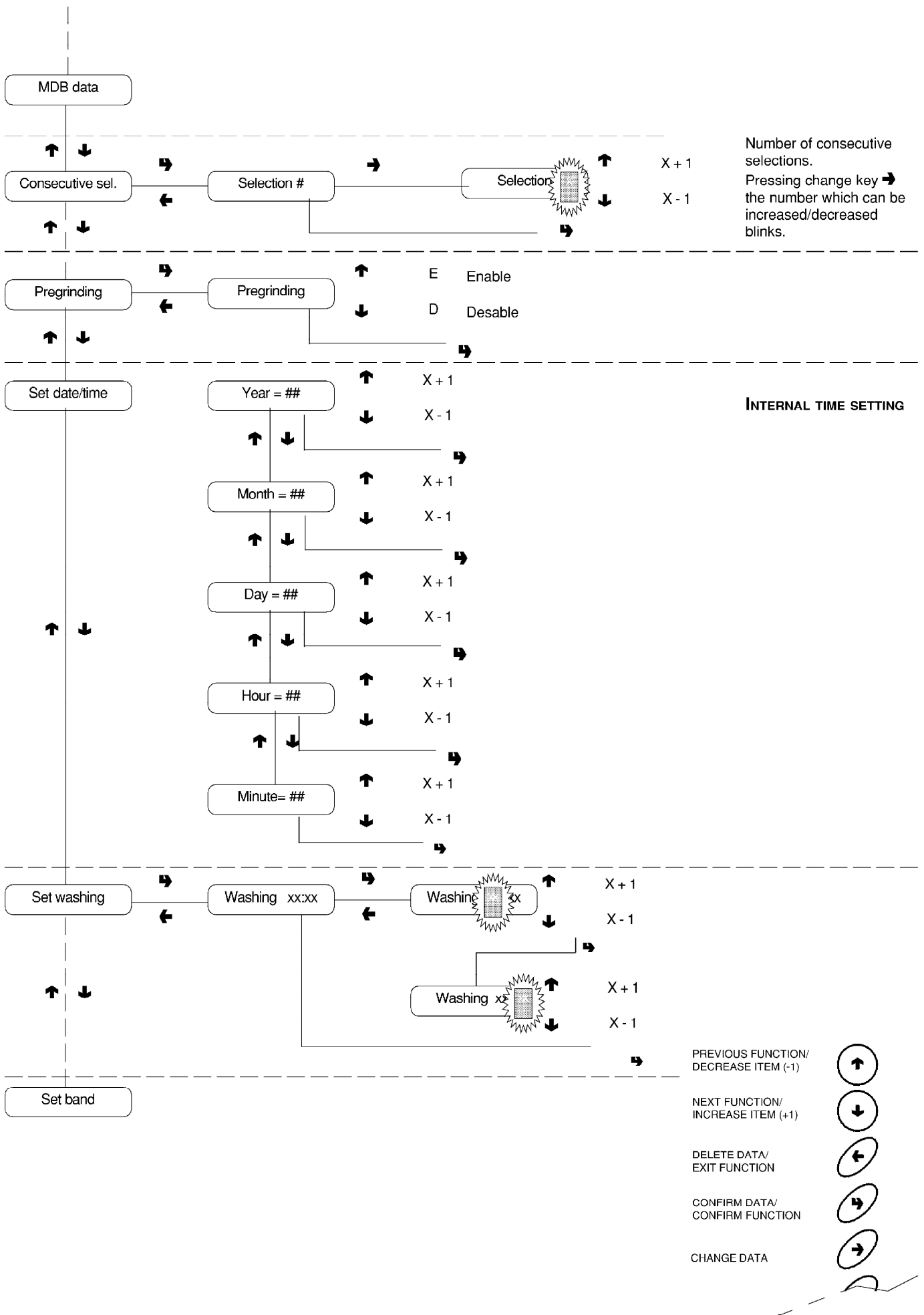


- PREVIOUS FUNCTION/  
DECREASE ITEM (-1)
- NEXT FUNCTION/  
INCREASE ITEM (+1)
- DELETE DATA/  
EXIT FUNCTION
- CONFIRM DATA/  
CONFIRM FUNCTION
- CHANGE DATA

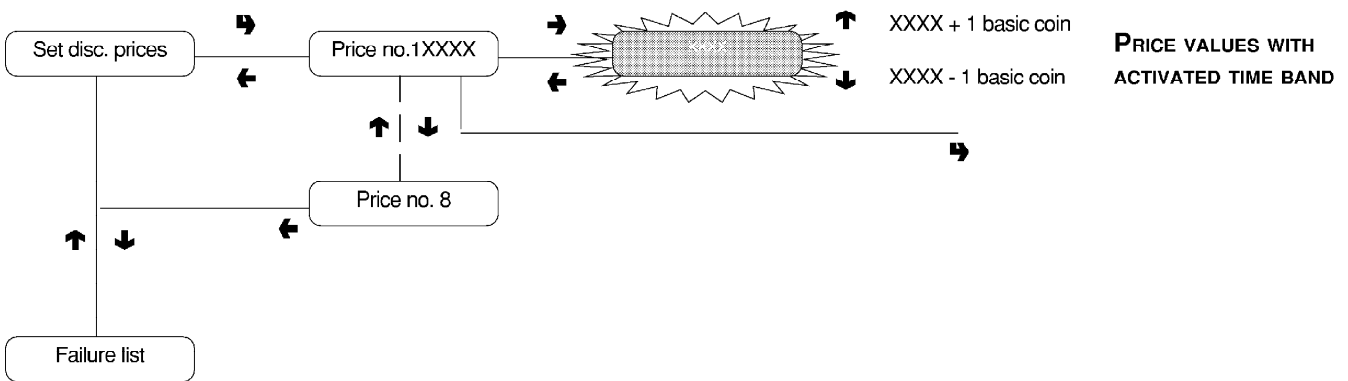
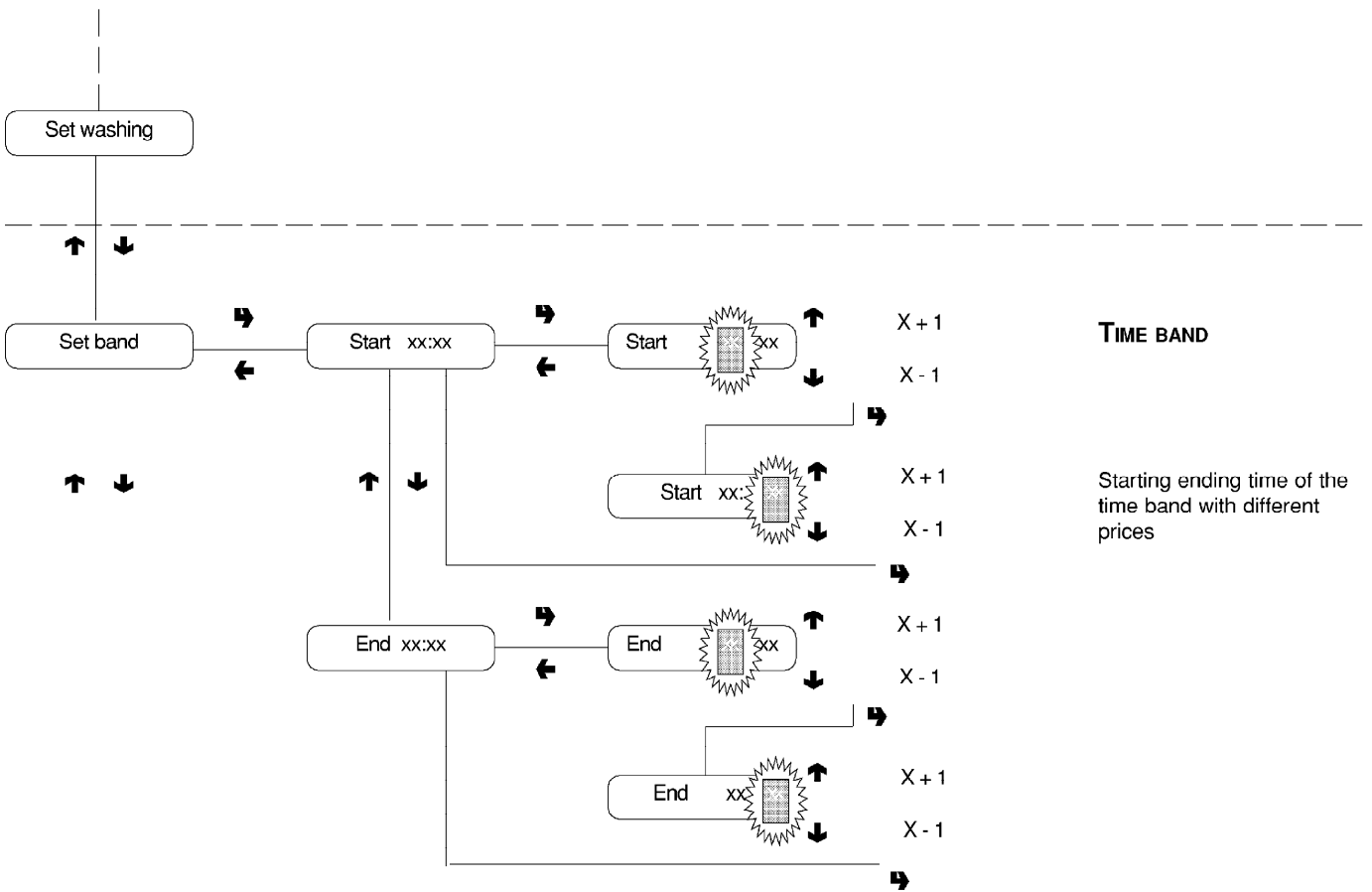




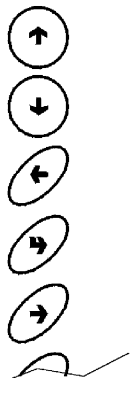
# Programming menu



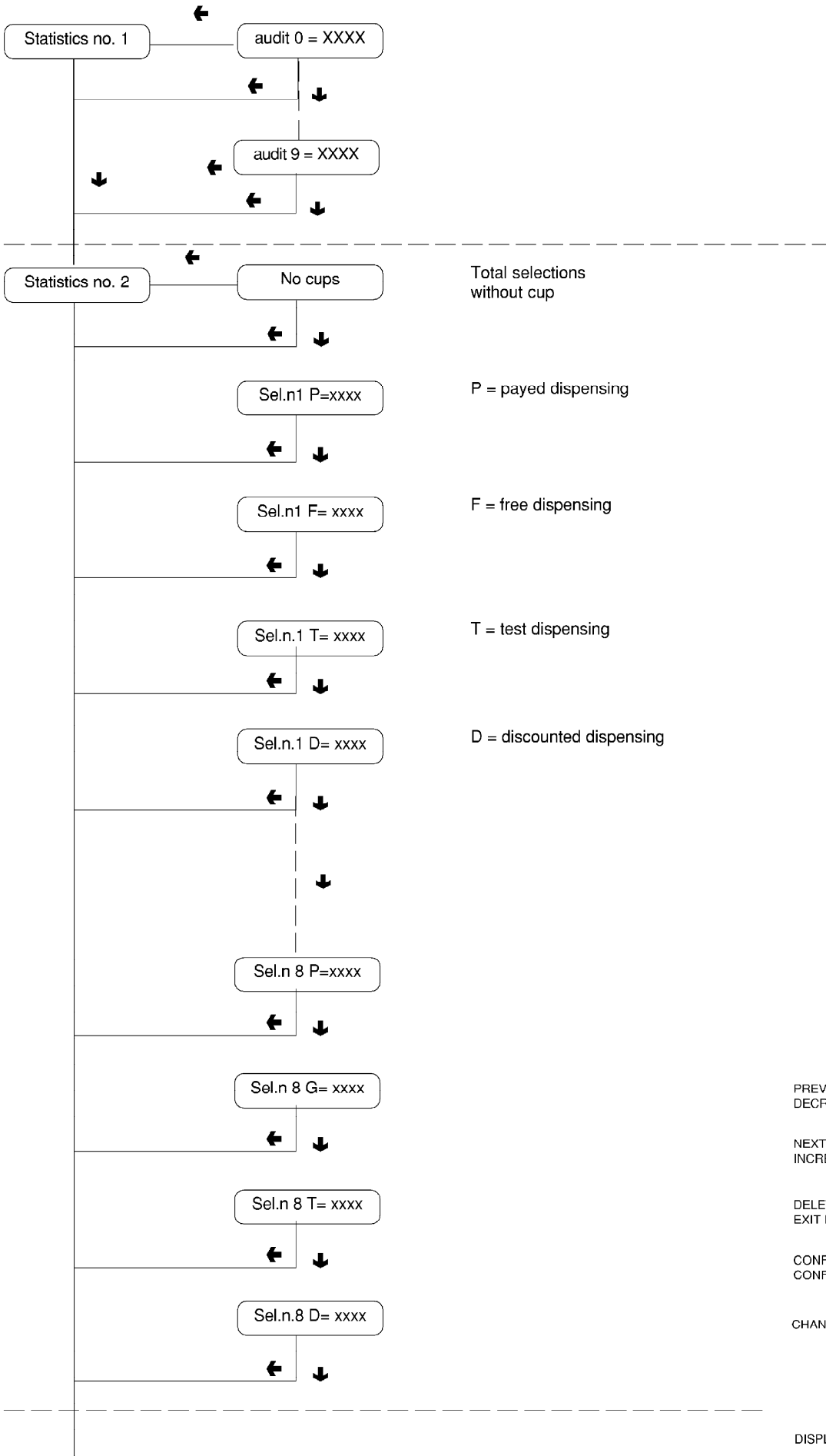
# Programming menu



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



# Data reading



Automatic data reading scrolling at 1 second intervals

## MDB STATISTICS

- MDB statistics
- 1 -total cash
  - 2 -inserted coins
  - 3 -returned coins
  - 4 -inserted bills
  - 5 -total sales amount
  - 6 -cash sales amount
  - 7 -cashless sales amount
  - 8 -filling
  - 9 -discount amount

## DISPENSING BY SELECTION

Pressing key "8" the statistics of each selection is displayed (1 - 8)

For correct matching between dose code and the powder/water dose, refer to the selection dose table

PREVIOUS FUNCTION/  
DECREASE ITEM (-1)



NEXT FUNCTION/  
INCREASE ITEM (+1)



DELETE DATA/  
EXIT FUNCTION



CONFIRM DATA/  
CONFIRM FUNCTION



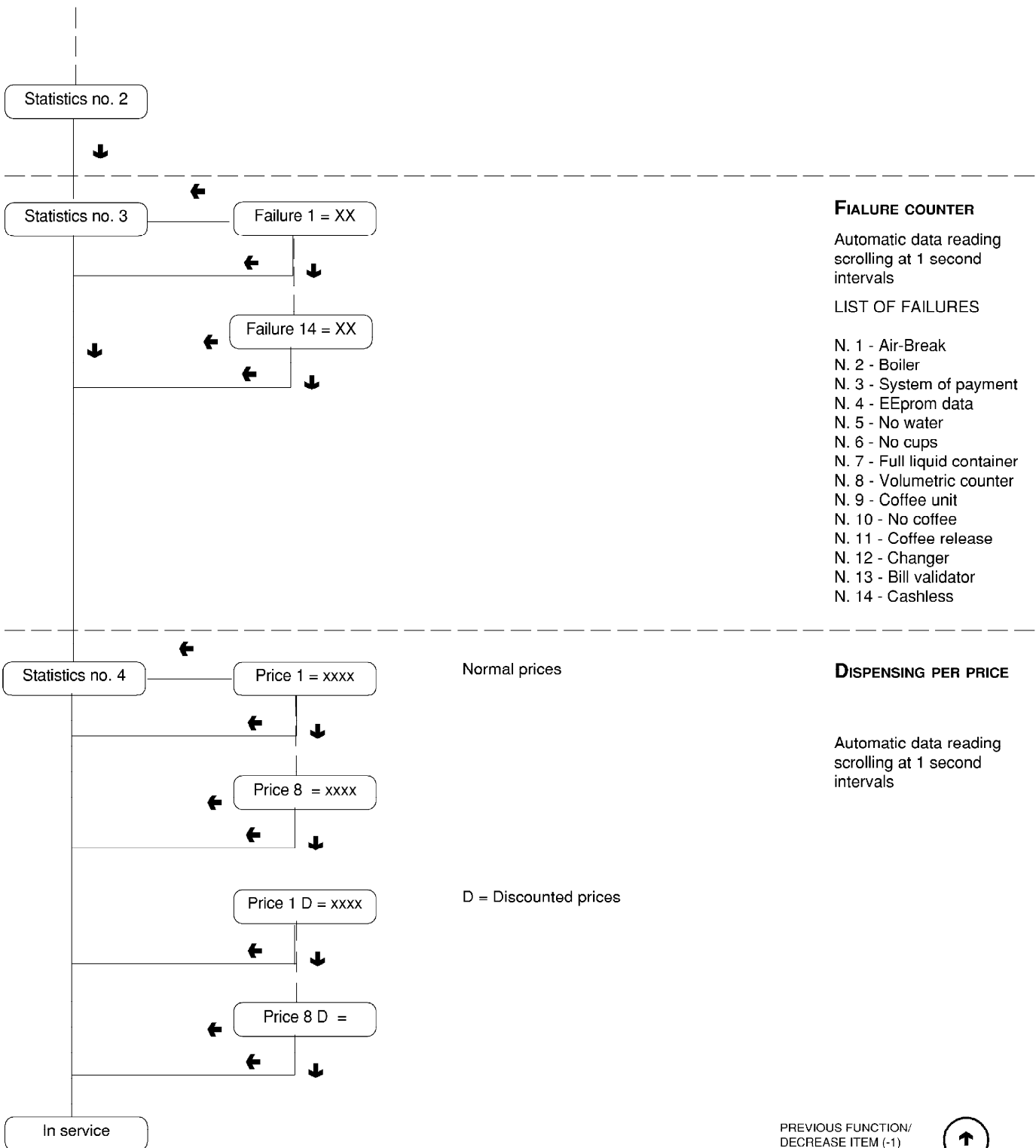
CHANGE DATA



DISPLAY STATISTICS



# Data reading



## FAILURE COUNTER

Automatic data reading scrolling at 1 second intervals

### LIST OF FAILURES

- N. 1 - Air-Break
- N. 2 - Boiler
- N. 3 - System of payment
- N. 4 - EEprom data
- N. 5 - No water
- N. 6 - No cups
- N. 7 - Full liquid container
- N. 8 - Volumetric counter
- N. 9 - Coffee unit
- N. 10 - No coffee
- N. 11 - Coffee release
- N. 12 - Changer
- N. 13 - Bill validator
- N. 14 - Cashless

## Normal prices

## DISPENSING PER PRICE

Automatic data reading scrolling at 1 second intervals

D = Discounted prices

PREVIOUS FUNCTION/  
DECREASE ITEM (-1)



NEXT FUNCTION/  
INCREASE ITEM (+1)



DELETE DATA/  
EXIT FUNCTION



CONFIRM DATA/  
CONFIRM FUNCTION



CHANGE DATA

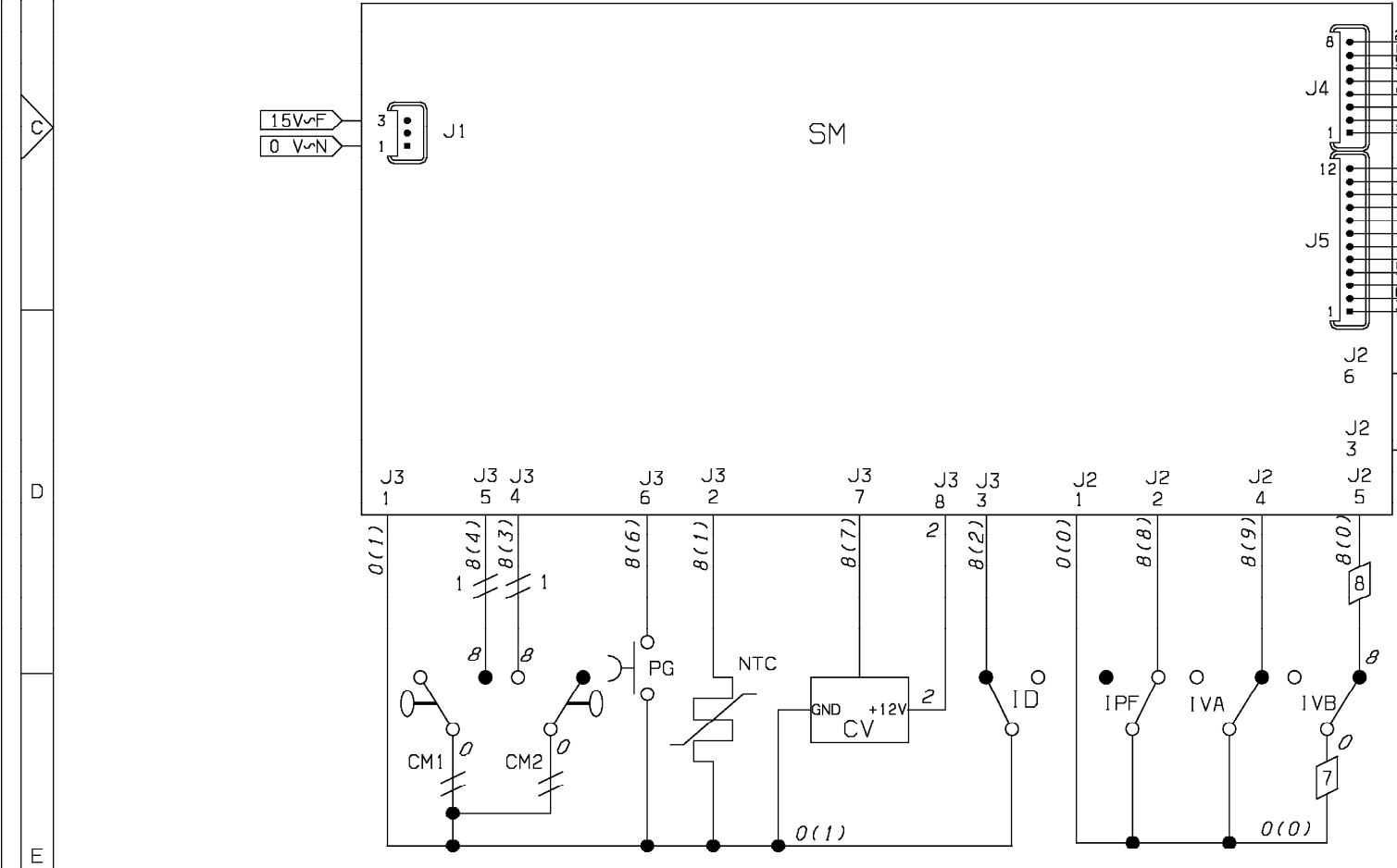
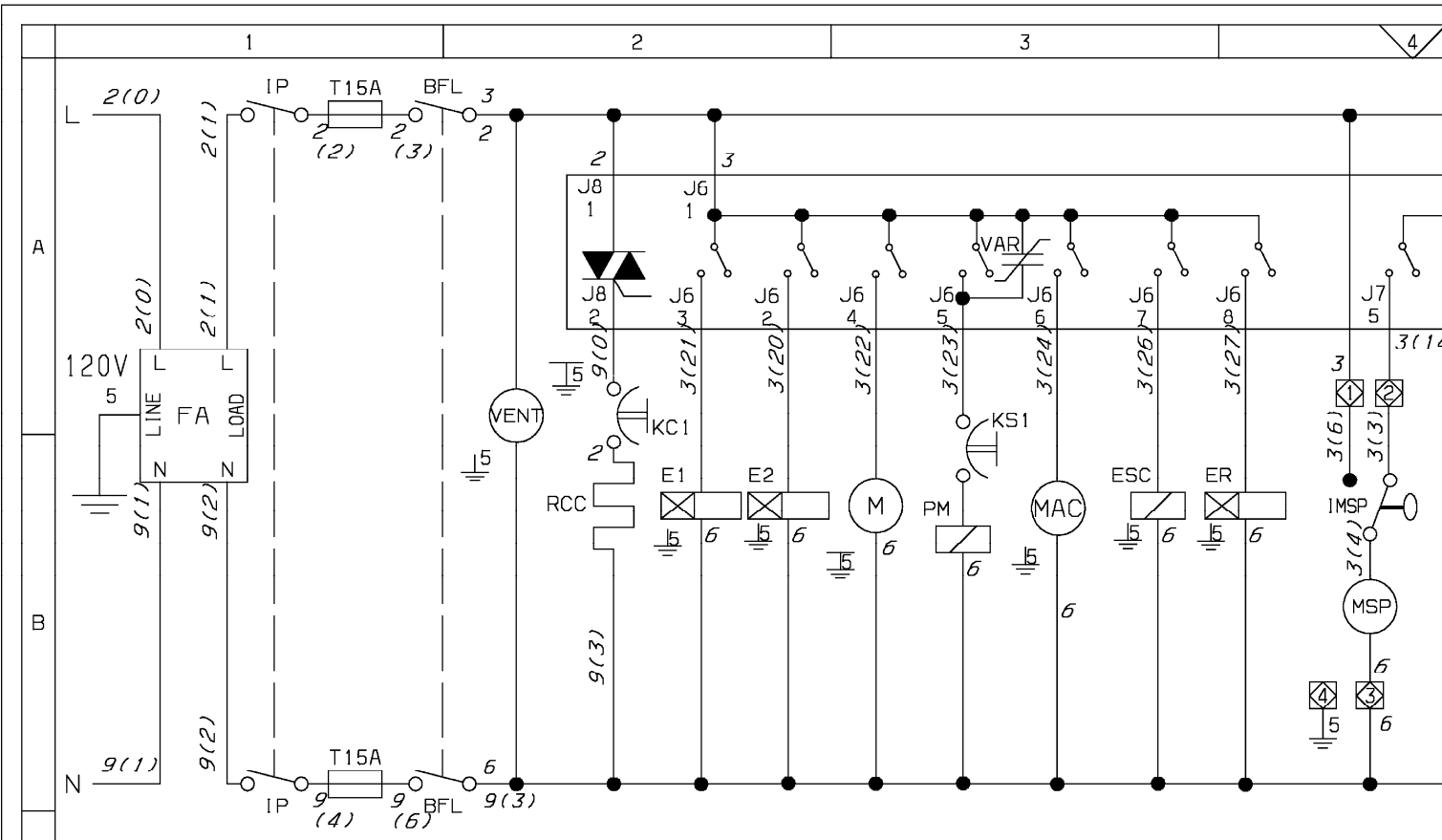


DISPLAY STATISTICS



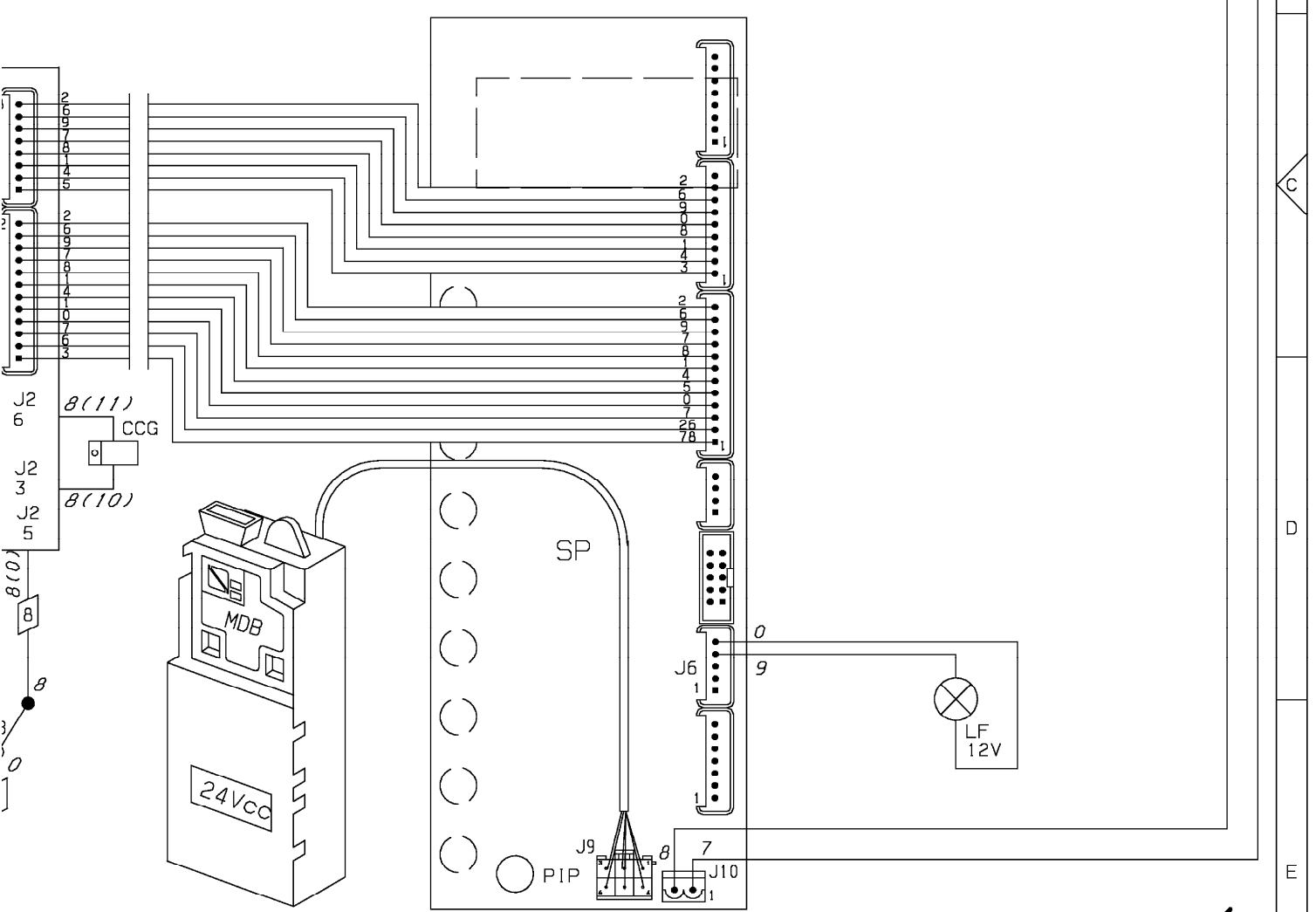
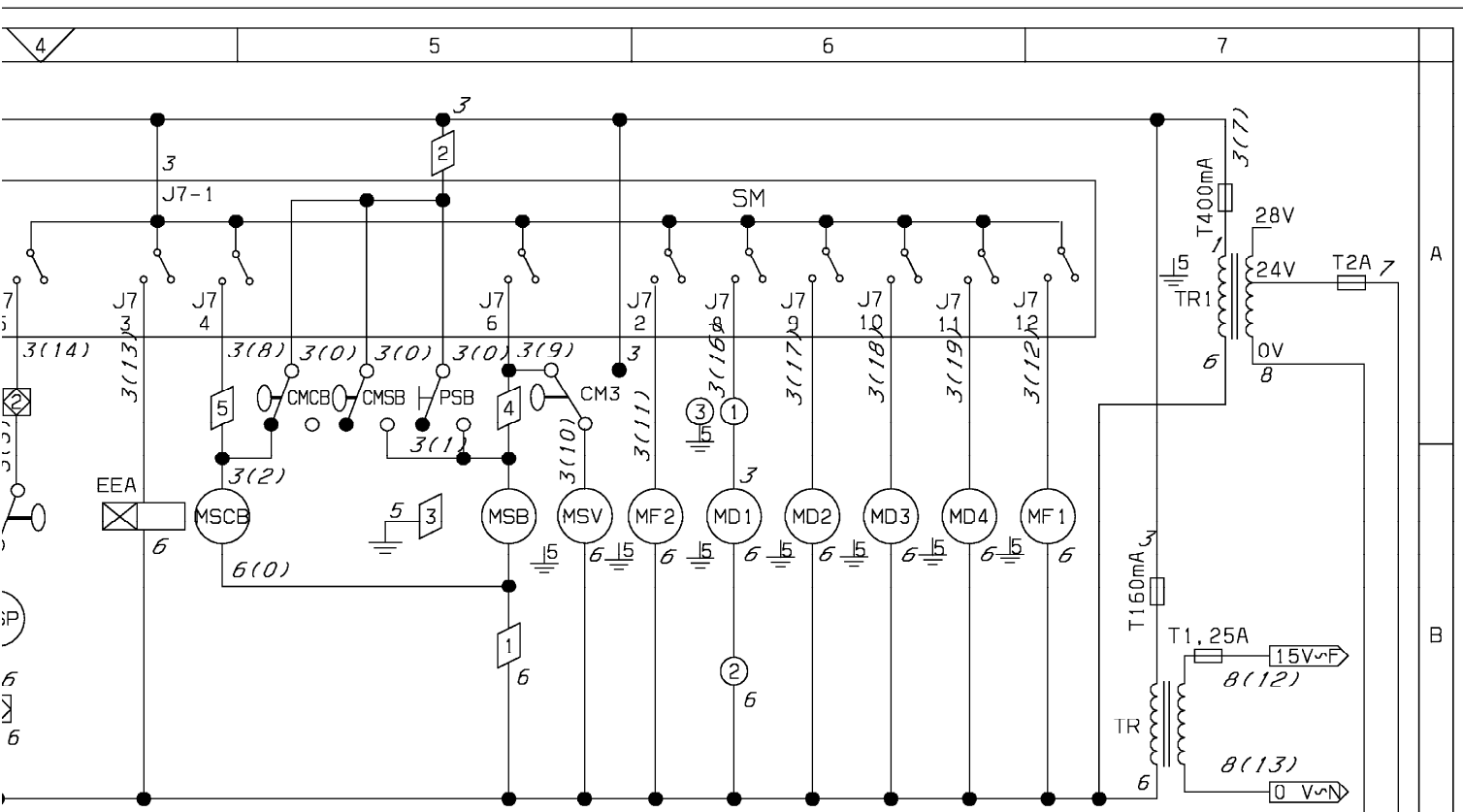
## WIRING DIAGRAM LEGEND

CODE	DESCRIPTION	CODE	DESCRIPTION
BFL	LIQUID WASTE TRAY SWITCH	M	COFFEE UNIT MOTOR
CCG	GENERAL COUNTER	MAC	GRINDER
CM1	COFFEE UNIT MOTOR CAM	MD1-..	MOTOR DOSE DEVICE - INSTANT
CM2	COFFEE DISPENSING POSITION CAM	MDB	CONNECTOR FOR MDB COIN MECH.
CM3	TRAY / CUP MICRO-SWITCH	MF1-..	MOTOR MIXERS - INSTANT
CMCB	CUP CONTAINER MOTOR MICRO-SW.	MSB	CUP RELEASE MOTOR
CMSB	CUP RELEASE MOTOR CAM	MSCB	CUP CONTAINER SHIFT MOTOR
CV	VOLUMETRIC COUNTER	MSP	STIRRER RELEASE MOTOR
E1-...	INSTANT BOILER ELECTROVALVE	MSV	TRAY SHIFT MOTOR
EEA	WATER INLET ELECTROVALVE	NTC1-	TEMPERATURE PROBE
ER	COFFEE DISPENSER ELECTROVALVE	PG	COIN MECH. BUTTON
ESC	COFFEE RELEASE SOLENOID	PIP	PROGRAMMING ACCESS SWITCH
FA	RADIO INTERFERENCE SUPPRESSOR	PM	PUMP
ID	COFFEE DOSE SWITCH	PSB	CUP RELEASE BUTTON
IMSP	STIRRER RELEASE MICRO SWITCH	RCC	COFFEE BOILER HEATING ELEMENT
IP	DOOR SWITCH	SM	MACHINE CONTROL BOARD
IPF	WASTE CONTAINER OVERFLOW SWITCH	SP	PUSHBUTTON BOARD
IVA	EMPTY BOILER MICRO-SWITCH	TR	TRANSFORMER
IVB	EMPTY CUP DISPENSER MICRO-SWITCH	TR1	TRANSFORMER 120 V / 24 V
KC1-..	COFFEE BOILER CUTOUT	TX....	DELAYED FUSE (X=CURRENT)
KS1-..	SAFETY CUTOUT	VAR	VARISTOR
LF	LAMP	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	AZZURRO
7	ROSA
8	VIOLETTA
9	GRIGIO
0	BIANCO
1	NERO
2	ROSSO
3	ARANCIO
4	GIALLO
5	VERDE
6	AZZURRO
7	ROSA
8	VIOLETTA
9	GRIGIO
0	BIANCO



BGRIS 9/BIANCO	MODELLO	GRUPPO	DATA	FOGLIO	DISEGNATO	CONTROLLATO
	BRIO		19-09-97	1/1	BONACINA	ALUT
	CAFFE'	SCHEMA ELETTRICO FUNZIONALE	LEGENDA	CODICE		
	120V		6085561	608530502		









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EDITION 10 99    CODE: H 106U 02

**Com.Doc.  
FOR APPROVAL**

**The Manager**

A handwritten signature in black ink, appearing to read "Augusto Garlini". The signature is written in a cursive style with a large, stylized initial 'A'.

