



INSTALLATION, OPERATING AND MAINTENANCE MANUAL

VENEZIA

**C - ESPRESSO
I - INSTANT**

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KONFORMITÄTSEKTLÄRUNG
DECLARACIÓN DE CONFORMIDAD
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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.

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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.

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INTRODUCTION

This 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.

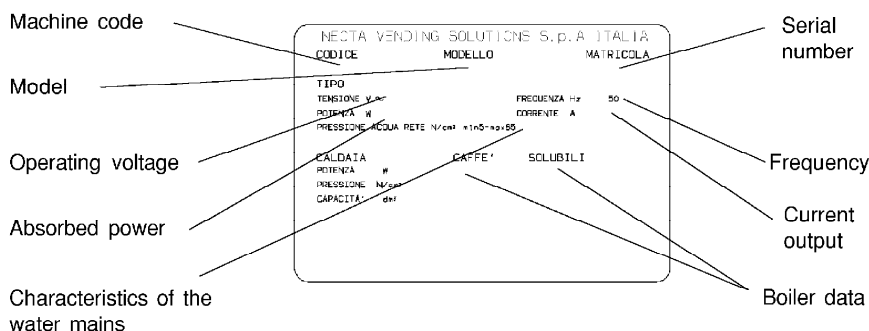
Before starting installation and use of the machine, it is first necessary to carefully read the instructions contained in this manual, as they offer important hints on installation, operating and maintenance safety.

IDENTIFICATION OF THE VENDING MACHINE AND ITS CHARACTERISTICS

Every machine is identified by its own serial number, indicated on the rating plate placed internally on the right side.

This plate (see figure below) is the only one acknowledged by the manufacturer as the identification of the apparatus, and carries all the data which readily and safely give technical information supplied by the manufacturer. It also assists in the spare parts management.

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



These products should be declared by the manufacturer as "suitable for automatic vending" in food-safe open containers.

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 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 motorised 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.

Avoid stacking more machines and always maintain the vertical position as indicated by the arrows on the packing.

USING THE VENDING MACHINE FOR HOT DRINKS IN OPEN CONTAINERS (e.g. plastic cups, ceramic cups, jugs)

The vending machines of drinks in open containers should only be used to sell and dispense drinks obtained by:

- brewing products such as coffee and tea;
- reconstituting instant and lyophilized products;

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.).

Because of its lightweight, the machine must be secured to a wall using the special mounting bracket.

This way the back of the machine will be at a distance of 4 cm. from the wall to ensure proper ventilation.

The machine must never be covered with cloth or the like.

The machine must be positioned with a maximum slope of 2°.

Provide proper levelling by way of the adjustable feet included.

WARNING FOR INSTALLATION

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

The apparatus is sold without the payment system, and for this reason the person who performs such installation will be liable for any damage to the machine, to persons or things due to the wrong installation of the payment system.

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.

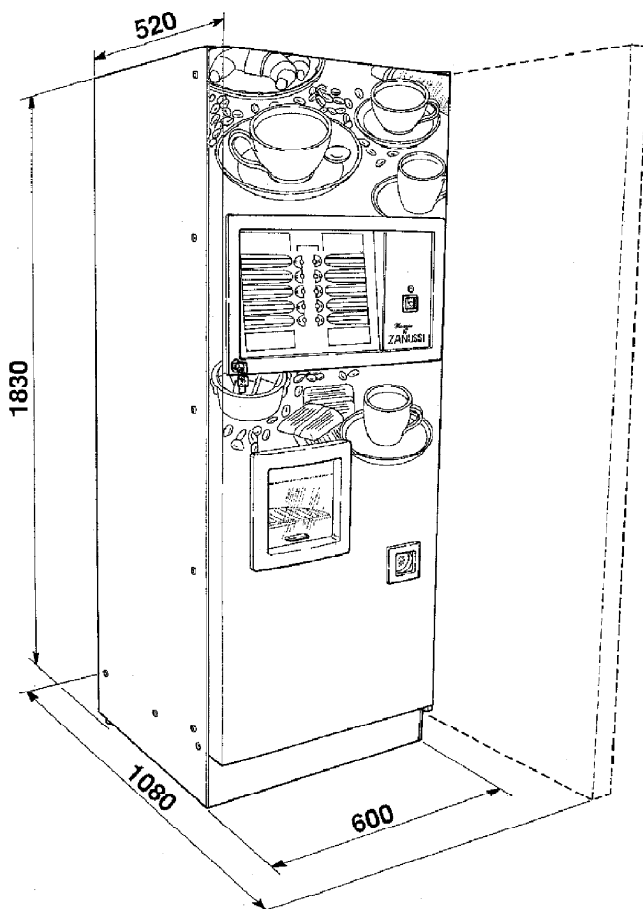
Packing materials must be disposed of with respect for the environment.

WARNING FOR DEMOLITION

Whenever the machine is to be demolished, the laws in force regarding the environment protection should be strictly observed. In particular:

- ferrous and plastic materials and the like are to be disposed of in authorized areas only;
- insulating material should be recovered by qualified companies.

DIMENSIONS



TECHNICAL SPECIFICATIONS

Height	1830 mm.
Width	600 mm.
Depth	520 mm.
Power supply voltage	230 V~
Frequency	50 Hz
Installed power	
- Espresso	1.5 kW
- Instant	2.1 kW

CUP DISPENSER

Suitable for cups with a rim diameter of 70-71 mm. with a capacity of about 500 cups.

COIN MECHANISM

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

SALES PRICES

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

COIN BOX

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

WATER SUPPLY

From the water mains with a supply pressure of 0,5 to 8,5 bar.

AVAILABLE ADJUSTMENTS

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

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

TEMPERATURE CONTROL

Factory setting on the correct operating temperature. A trimmer on the control board allows small corrections to be made (if necessary).

CLEANING THE MIXER

The machine will perform a washing cycle of the mixer and will rotate the coffee unit when pressing the special button on the coin mech. housing.

CONTROLS

- presence of cups
- presence of water
- presence of coffee
- presence of the coffee unit
- liquid waste container empty
- operating temperature attained.

SAFETY DEVICES

- Door switch
- Manual-reset boiler safety thermostat
- Air-break float jamming
- Overflow electrovalve
- Float for full liquid waste container
- Timer protection for:
 - coffee dispenser
 - Pump
 - Coffee unit gearmotor
 - Coffee grinder
- Thermal protection for:
 - motor dosers
 - Coffee unit gearmotor
 - Coffee release magnets
 - Pump
 - Mixer motors
 - Coffee grinder motor

CAPACITY OF CONTAINERS

Coffee grains	2.5	Kg.
Sugar	4.2	Kg.
Granulated whitener	1.4	Kg.
Instant coffee	1.2	Kg.
Tea	4.3	Kg.
Chocolate	3.0	Kg.
Stirrers	500	

OPERATING INSTRUCTIONS

DOOR SWITCH

When opening the door a special micro-switch disconnects the electricity from the machine electrical system, **with the exception of the terminal block for power grid cable connection and the door switch area. Before removing the covers from these parts (indicated by a special label) it is necessary to disconnect the external switch and remove the plug.**

To energize the system with the open door, just insert the special key into the slot (see Figure 2).

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

The door can be closed only after removing the key.

MAINTENANCE AND DISINFECTION

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

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

It is advisable that specific sanitising 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 unsuitable detergents.

The manufacturer declines all responsibility for any damage caused by the use of unsuitable chemicals.

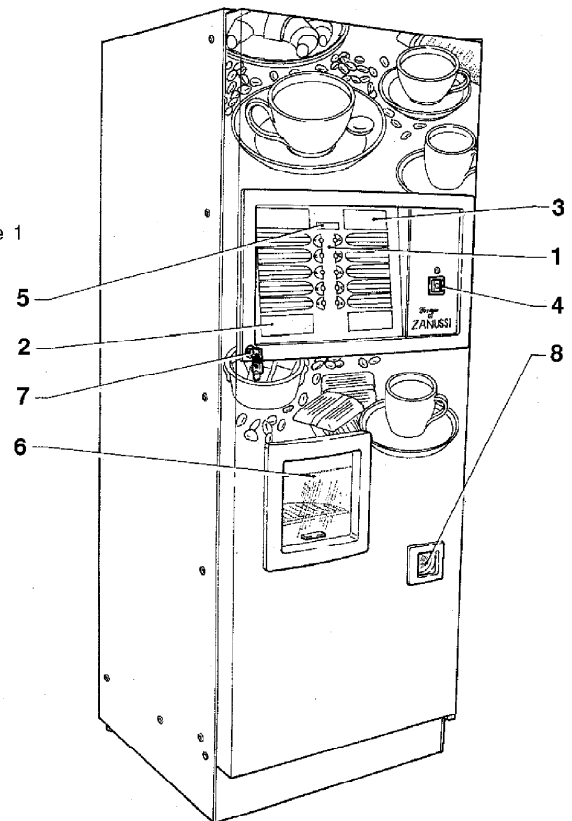
Before starting any maintenance operations requiring parts of the unit to be removed, the machine must always be turned off.

CONTROLS AND INFORMATION

All user controls and information are conveniently located on the external side of the door (see Figure 1).

The labels with the selection menu and the operating instructions supplied with the machine shall be inserted at the time of installation according to the order indicated in the selection dose table provided.

Figure 1



- 1 - Selection menu
- 2 - User information spaces
- 3 - Operating instructions label
- 4 - Coin slot
- 5 - 4-digit display
- 6 - Dispensing compartment
- 7 - Lock

The Programming button, to access the machine functions, is located on the internal side of the push-button card.

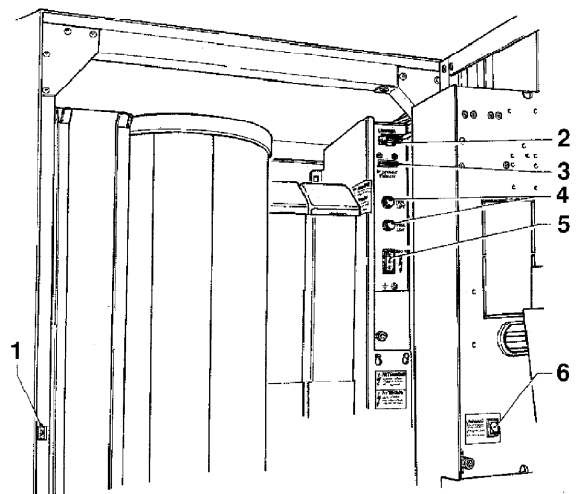


Figure 2

- 1 - Door switch
- 2 - 230V~ 8 W max. door lamp socket
- 3 - Mechanical counter
- 4 - Network fuses
- 5 - Permanently powered 230V ~ socket
- 6 - Washing button

LOADING PROCEDURES

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 of the cup container;
- fill the columns with cups, except the one aligned with the dispensing opening;
- turn on the machine 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 (see Figure 3).

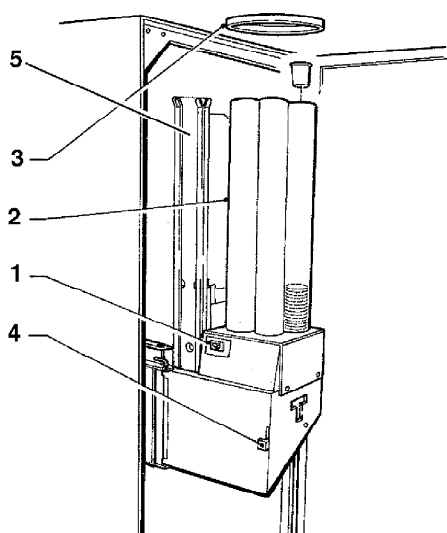
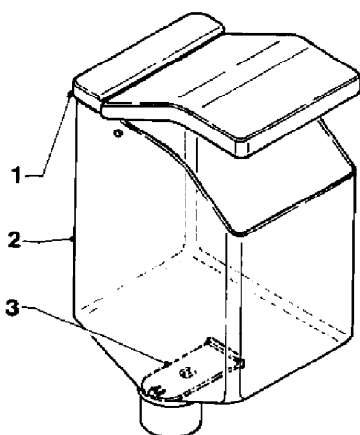


Figure 3
1 - Cup release button
2 - Cup stacker
3 - Cover
4 - Shelf release lever
5 - Stirrers stacker

LOADING COFFEE

Lift the cover and fill the hopper with coffee, ensuring that the shutter is fully open (see Figure 4); then close the cover.

Figure 4



1 - Cover
2 - Coffee hopper
3 - Shutter

LOADING STIRRERS

Remove the weight from the stirrer dispenser (see figure 4) and insert the stirrers in the special stacker ensuring that the stirrers are all placed horizontally.

The stirrers must be burr free and not curved.

Place the weight on top of the stirrers.

LOADING SUGAR AND INSTANT PRODUCTS

Open the cup dispenser shelf and, after lifting its cover, fill the single containers (see selection dose table) with the appropriate products, taking care not to compress them to prevent packing. Make sure the products do not contain any clots.

SANITISING THE FOODSTUFF CIRCUITS AND THE MIXERS

When installing the unit, 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 the following:

- powder deposit drawer, mixer and drink dispensing conduit;
- brewed products dispensing spout;
- dispensing compartment.
- Remove the powder and the water funnels, the feeders, the powder deposit drawers and the mixer blades from the mixers (see Figure 6);
- clean all parts with detergent being sure that all residue and visible product layers are mechanically removed, using a brush if necessary.

Disinfection should be carried out using chlorine-based detergents usually available in pharmacies.

- 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 drying them.

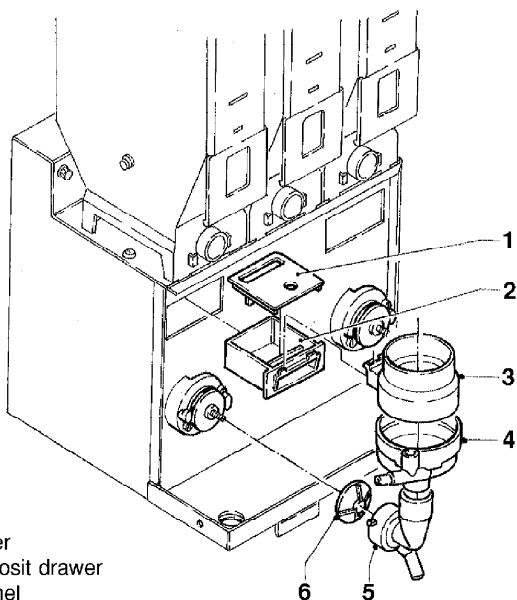


Figure 6

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

After reinstalling all parts the following is however required:

- press the mixer washing button and add some drops of the chlorine-based solution into the funnels;
- carry out several washing cycles to ensure that all residue is removed through thorough rinsing of all components;
- after the disinfecting cycle, thoroughly rinse all components to remove all residue of the chlorine-based solution.

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 figure 7) proceeding 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 the reverse order.

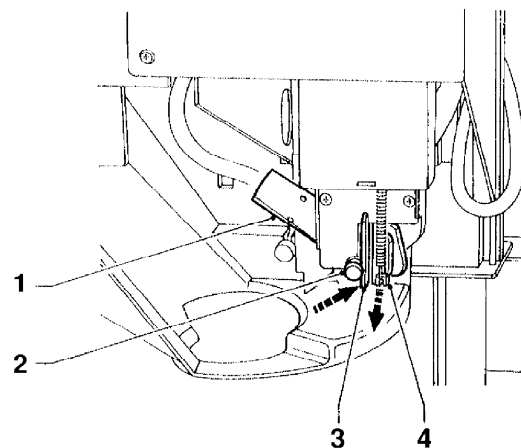
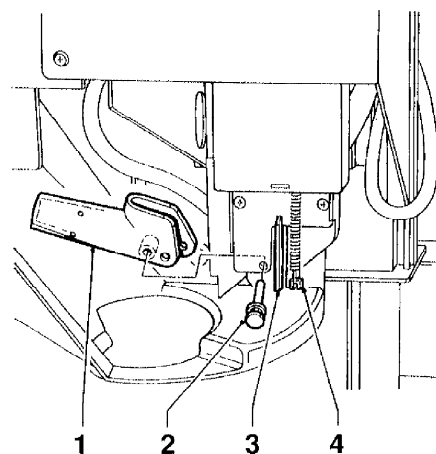


Figure 7

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



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.

SUSPENDING THE SERVICE

If for any reason the machine is turned off for a period of time exceeding the product expiry dates the following will be necessary:

- completely empty the containers and thoroughly wash them with the chlorine-based detergents used to clean the mixer
- completely empty the doser-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.

Before restarting the machine the cleaning and sanitation operations described in the chapter "Yearly sanitation" must be carried out.

INSTALLATION

Installation should be carried out by qualified technical personnel only.

UNPACKING THE VENDING MACHINE

After removing the packing, check that the machine is not damaged.

If in doubt, do not use the machine.

Packing elements (i.e. plastic bags, polystyrene foam, nails, etc.) must not be left within the reach of children, as they are potentially dangerous.

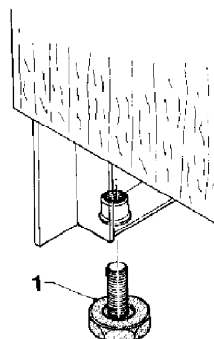
POSITIONING THE VENDING MACHINE

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 must be placed close to a wall and with the back panel at a distance of not less than 4 cm. from it, to ensure proper ventilation. The machine must never be covered with cloth or the like.

The machine must never be covered with cloth or the like. The machine must be positioned with a maximum slope of 2°. Provide proper levelling by way of the adjustable feet included (see Figure 8).

Figure 8



1 - Adjustable foot

Because of its lightweight, the machine must be secured to a wall using the special mounting bracket included (see Figure 9).

The manufacturer declines all responsibility for any malfunction caused by failing to comply with the above recommendations.

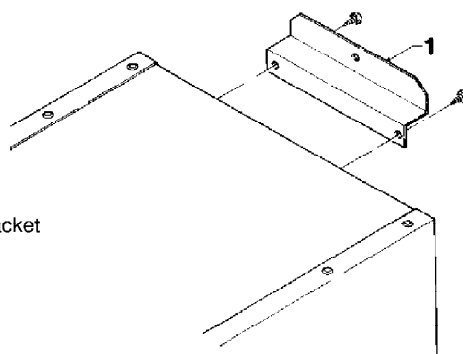


Figure 9

1 - Mounting wall bracket

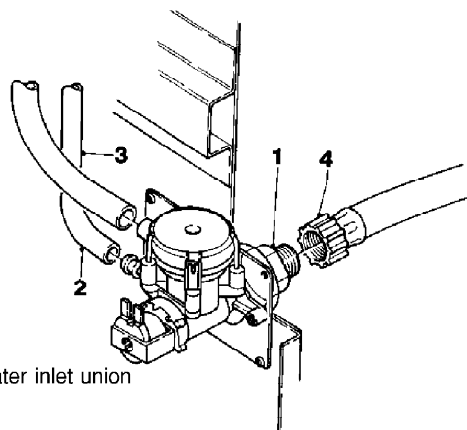
CONNECTING THE MACHINE TO THE WATER MAINS

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 (minimum inside diameter of 6 mm) to connect the water supply to the 3/4" gas-type union of the water inlet electrovalve (see Figure 10). As an optional, a 1.5 m. long, food grade quality, "water supply hose" is available, including all necessary connections.

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

Figure 10



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

OVERFLOW DEVICE

The water inlet electrovalve (see Fig. 10) is fitted with an overflow device which mechanically stops the water flow when there is a malfunction of the electrovalve or of the air-break water level control device.

To restore normal operations, proceed as follows:

- drain the water contained in the overflow pipe;
- shut off the valve of the water supply outside the machine;
- loosen the nut which secures the electrovalve supply hose to relieve the water mains residual pressure and then tighten it again (see Fig. 10);
- Open the valve and switch on the machine.

WATER SOFTENER

The machine is sold without water softener.

If the water is very hard, it is possible to install a water softener (available as optional) or another ion-exchange resin softener of a capacity adequate to the machine consumption.

The water softener must be regenerated regularly following the directions of the manufacturer.

CONNECTING THE POWER SUPPLY

The machine is designed to operate under a single-phase voltage of 230 V~ and is protected by 10 A fuses.

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

- the supply voltage rating must not differ more than 6% from the rated voltage;
- the main switch should be located within easy reach and be capable of withstanding the peak load required and, at the same time, ensuring proper disconnection from the power grid when the opening gap of the contacts is 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 the doubt the system must be tested by qualified technicians.

Use cables of type H05 RN - F or H05 VV-F with 3x1.5 mm² section only for connection to the power grid. Replacement of the supply cable should only be carried out by qualified and suitably trained personnel.

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

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

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

INSTALLING THE PAYMENT SYSTEM

The machine is sold without payment system, therefore the technician or person who will install the unit will be responsible for any damage to the machine or persons and things resulting from wrong installation.

- Install the coin mechanism and make sure that the programming of the relevant parameters is correct;
- adjust the selector opening lever square piece in order to enable a complete selector opening;
- adjust the coin chute according to the type of coin mechanism installed.

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 *In St* for the whole duration of the cycle;
- the air-break is filled;
- (for espresso models only) one of the instant products' electrovalves is opened to bleed the air from the boiler and fill it with 400 cc. of water.

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

This operation must be carried out by hand after any maintenance requiring the boiler to be emptied but not the air-break.

OPERATION OF THE COFFEE UNIT

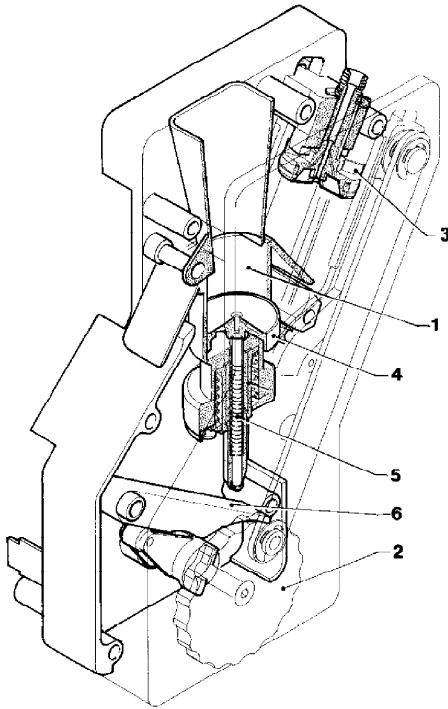
COFFEE DISPENSING CYCLE

When selecting coffee, the grinder is started and will continue until the coffee doser chamber is full (see Figure 14).

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

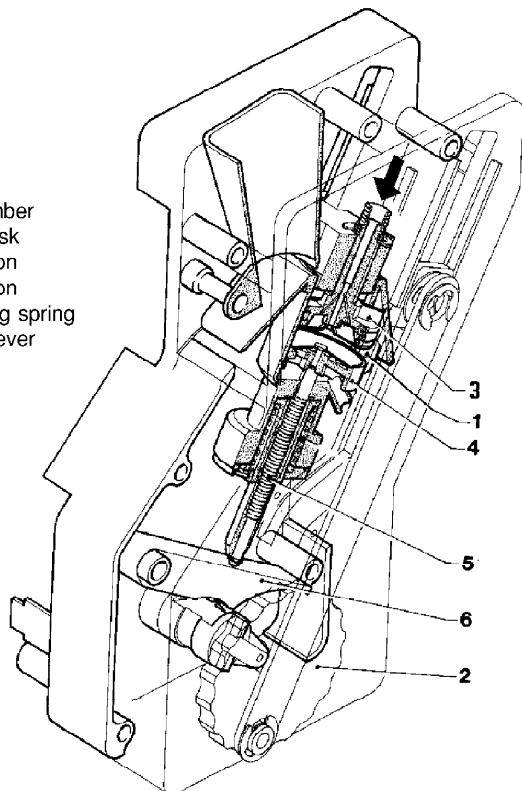
The coffee falls into the vertical brew chamber (1) (see Figure 11).

Figure 11
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°, making the brew chamber swing and lowering the upper piston (3) (see Figure 12).

Figure 12
1 - Brew chamber
2 - External disk
3 - Upper piston
4 - Lower piston
5 - Pre-brewing spring
6 - Swinging lever



Due to the water pressure, the pre-brewing spring (5) sinks and the lower piston (4) goes down 4 mm, thus forming a water cushion which allows an even use of the coffee dose. At the end of the dispensing cycle and during a pause of 3 seconds, the pre-brewing spring (5) will discharge the water through the third way of the dispensing electrovalve, lightly pressing the used coffee dose.

By completing its rotation, the gearmotor makes the swinging lever (6) lift the pistons and the coffee dose. At the same time, when the brew chamber returns to its vertical position, the scraper on the coffee hopper stops the used coffee dose and drops it. The lower piston now returns to the bottom dead centre.

CHECKING AND ADJUSTING THE MACHINE SETTINGS

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

for coffee

That the used coffee dose is lightly compressed and damp.

The granulometry of the ground coffee.

The weight of the ground coffee.

The dispensing temperature.

The water dose.

for instant products

The weight of the instant products.

The drink temperature.

The water dose.

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

The weight of the 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 standard settings:

- coffee temperature (at the spout) approx. 85-89°C;
- instant product temperature (at the spout) approx. 85°;
- safety valve operating pressure 12 bar;
- coffee pump by-pass operating pressure 11-12 bar.

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

ADJUSTING THE SETTING OF THE COFFEE UNIT PISTON STROKE

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 13):

- 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.

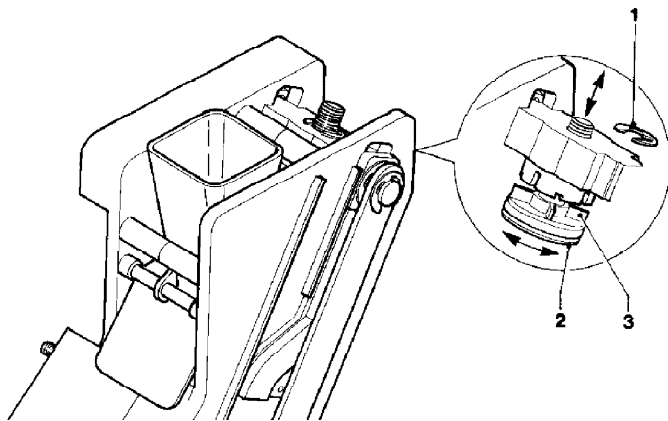


Figure 13
1 - Snap ring
2 - Upper piston
3 - Reference fins

WATER TEMPERATURE CONTROL

If the boiler temperature must be changed, adjust the special trimmer (see figure 17) 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 Figure 14) as follows:

- 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 coffee the grinder motor running.

N.B.: After adjusting 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 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 Figure 14) and replaced into a different groove to change the average dose setting to:

- low 6 g. \pm 0.5
- medium 7 g. \pm 0.5
- high 8 g. \pm 0.5

To take the dose just remove the coffee unit and press key "2" from the "maintenance" menu (see relevant section).

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 15).

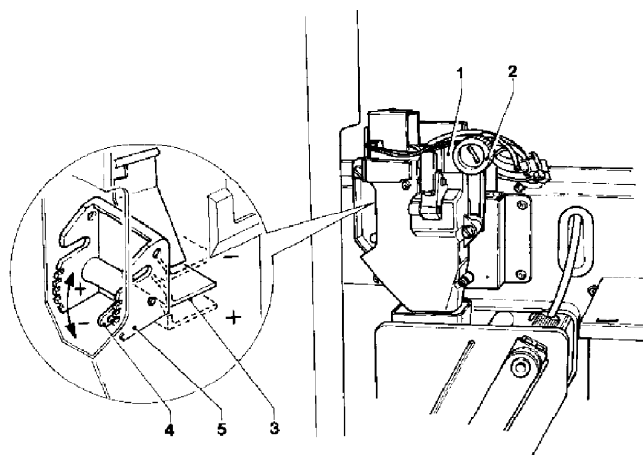


Figure 14
1 - Coffee grinder
2 - Grinding adjusting knob
3 - Dose regulator
4 - Dose adjusting lever
5 - Reference notches

OPERATING STATUS

Three different status of operation are provided for the apparatus, accordingly the buttons may have different functions based on the preset status of the keys. The available status of operations are those indicated in the following table:

MACHINE STATUS DISPLAY FUNCTIONS

Normal mode	- - - -	coins accepted products dispensed
Maintenance	RRn-	test dispensing machine maintenance
Programming	Pro-	programming

NORMAL OPERATING MODE

When switching the machine on, the display segments are checked which are then displayed for a few seconds, after which the machine goes into normal operating mode. The LEDs next to the selection buttons and sugar preselection buttons indicate the following:

LED on	- Button available
LED blinking	- Button busy
LED off	- Button disabled

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

DISPLAY FUNCTION

- - - -	Machine ready. For Executive coin mechanisms models, the dashes blink when the change-return unit is empty
P350	Price display of selected product
C 100	Stored credit display. If the credit is larger than 4 digits, only the first 4 digits are displayed.
out -	Machine switched off
SEL -	Drink preparation
tENP	Wait time before reaching operating temperature
GEtt	Token Inserted
InSt	Installation under way
d 15-	Selection disabled



MAINTENANCE OPERATING MODE

When the programming key placed in the coin mechanism compartment is pressed once, the apparatus is placed in the status of "Maintenance" mode.

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



C o n P	Complete dispensing test including cup, sugar and stirrer
P o L -	Dispensing powder only
H2o-	Dispensing water only
n o n C	Dispensing test without cup, sugar and stirrer
P - L -	Rinse

Now the key-pad keys are assigned different functions according to the selected menu, i.e. either a complete or a partial dispensing test (see the dose selection table).

previous function			next function
dispensing espresso	1	5	dispensing capp. choc.
dispensing long coffee	2	6	dispensing lemon tea
dispensing whitener coffee	3	7	dispensing chocolate
dispensing cappuccino	4	8	dispensing whitener

N.B. For espresso coffee selections, only the additions are dispensed with the partial dispensing of powder and water; if a selection requires no addition the message **d 15- indicating a disabled selection will be displayed.**

When the display shows the function "Rinse" the keys are assigned the following functions:

previous function			next function
rinsing mixer	1	5	unit rotation coffee release
dispensing zucchero	2	6	dispensing extra sugar
not used	3	7	not used
not used	4	8	not used

Key "5" operates the coffee unit, when this is connected to the electrical system, and releases a dose of coffee if the unit is disconnected.

PROGRAMMING

Pressing the programming key located in the inner side of the push-button card twice (see Figure 16), the machine is set to "Programming" mode.

The following message is displayed

Pro- for approx. 2 seconds, and then the first option of the "programming" menu is displayed, activating the following functions:

GUA- current failure reading

H2o- water dose setting

Pol- powder dose setting

Pr-- price setting

PrS- assignment of prices/selections
enable/disable selections

bRS- setting of the basic coin value
and position of the decimal point

LIn- setting of the validator line value

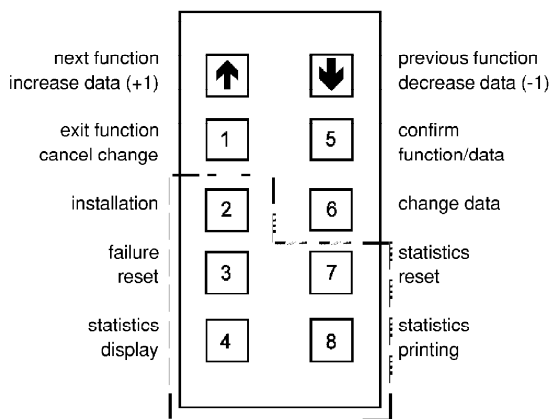
InI- initialising

[od- setting of the machine code

In addition, the following operations are possible:

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

Now the key-pad keys are assigned different functions as indicated in the following figure:



The keys within the dotted line perform direct functions, the others are used either to scroll through the menu or to change data.

Throughout the menu, the LEDs of the enabled keys are ON while the LEDs of the keys which are not used for the function are OFF.

CURRENT FAILURE DISPLAY

When the **CUR** - function from the "programming" menu is displayed (see Table I), pressing confirmation key "5" displays the error code of the current failure.

When pressing key "↓" the error code of the next failure is displayed (if present). If no failure is currently present, pressing confirmation key "5" has no effect.

The 11 possible failures are highlighted in the following cases:

Er.01 - AIR-BREAK FAILURE:

The machine will stop if after 7 selections the micro-switch has never signalled the lack of water.

Er.02 - BOILER FAILURE:

The machine will stop if, either after 10 minutes (espresso models) or 20 minutes (instant models) of heating time from machine start or from the last selection, the boiler fails to reach the operating temperature.

Er.03 - COIN MECHANISM FAILURE:

The machine will lock if it receives a pulse longer than 2 seconds on a validator line or the communication with the serial coin mechanism does not take place for more than 30 seconds.

Er.04 - EEPROM 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 Eeprom, whereas all the statistics information will be lost. This type of failure is indicated in the failure counter and does not stop the machine, which will continue operating with the default data stored in the Eeprom.

Er.05 - WATER FAILURE:

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

Er.06 - CUP FAILURE:

When the empty cup column microswitch opens, the column exchange motor is switched on for a period of 92 seconds; during this time 3 selections can be made. After the 92 seconds' period has lapsed the machine stops.

Er.07 - LIQUID WASTE CONTAINER FAILURE:

This occurs after the liquid waste container float response has taken place.

Er.08 - ROTOR FAILURE:

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

Er.09 - 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.

Er.10 - NO-COFFEE FAILURE:

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

Er.11 - COFFEE RELEASE FAILURE:

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

PROGRAMMING THE WATER AND POWDER DOSES

When either the **H₂O** - (water) or the **P_oL** - (powder) 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 whitener is increased.

The following dose table defines for which selections the dose codes are used.

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.

N.B.: In the models with pre-mixed sugar option, the codes **W** and **P** of the water added to the "Whitener" selection control the water for normal and extra sugar; the water dose **W** is added to the unsweetened whitener selections.

These codes have no effect in the other versions.

Press confirmation key "5" from the "programming" menu to access the dose code list which can be scrolled up and down with keys "↓" and "↑".

Press again confirmation key "5" to display the value of the dose code.

Press correction key "6" to display this value blinking to be modified as necessary.

The combination selection/dose code can be determined from the selection dose table.

PROGRAMMING THE PRICES

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

The prices are indicated as number of basic coins.

Press confirmation key "5" from the "programming" menu to access the price list, which can be scrolled up and down with keys "↓" and "↑".

Press again confirmation key "5" to display the price value.

Press correction key "6" to display this value blinking to be modified as necessary.

PROGRAMMING THE PRICES AND THE SELECTION STATUS

When the **PR S** - (price assignment) function from the "programming" menu is displayed the assignment of one selection to one of the stored prices and/or the status of one selection can be varied.

The prices are indicated as number of basic coins.

Press confirmation key "5" from the "programming" menu to access the price list, which can be scrolled up and down with keys "↓" and "↑".

Pressing correction key "6" the selection status blinks.

Using keys "↓" and "↑" the selection status can be changed from **R** (enabled) to **d** (disabled).

Press again confirmation key "5" to display the number of the price referred to in the price table.

Press correction key "6" to display this value blinking to be modified as necessary.

N.B.: The residual credit is controlled by the minidips located on the CPU card. Refer to section "Configuration of the cards" for settings.

PROGRAMMING THE BASIC COIN AND THE DECIMAL POINT

When the **bRS** - (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 confirmation key "5" from the "programming" menu to display the current value of the basic coin.

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

Press correction key "6" to display these values blinking to be modified as necessary.

PROGRAMMING THE VALIDATOR LINES

When the **L ln** - (lines programming) function from the "programming" menu is displayed, the value of the 6 coin lines of the validator can be varied.

The value of the lines is indicated as number of basic coins.

Press confirmation key "5" from the "programming" menu to access the line list, after which this can be scrolled up and down with keys "↓" and "↑".

Press correction key "6" to display this value blinking to be modified as necessary .

INITIALISING

When the **ln !** - function is displayed the vending machine can be initialized restoring all default data.

This function should be used if there is a memory data error or when the EPROM is replaced.

All statistics information will be reset.

Press confirmation key "5" to display the message **[on?** for confirmation.

Pressing key "5" a second time will display the message **EXEC** (execution) for a few seconds.

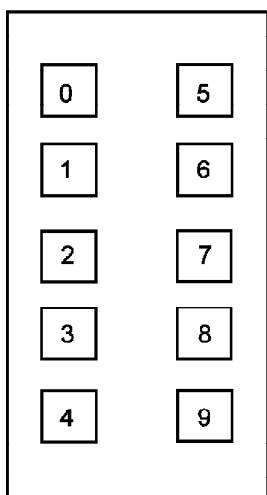
PROGRAMMING THE MACHINE CODE

When the **[od]** - function is displayed the identification code number of the machine can be changed (from the default 0000 to 9999).

Press confirmation key "5" to display the current code number; using correction key "6" the code will blink and the decimal point next to the first digit will be displayed.

The keys have now numeric functions.

Press a key to assign its value to the digit with the decimal point and display the decimal point of the next digit.



INSTALLATION

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

RESETTING THE FAILURES

Pressing failure reset key "3" the message **E S E C** (execution) is displayed for a few seconds and all present 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 (see Table VI), and namely:

- 1 - single selection counter;
- 2 - single price counter;
- 3 - coin type cashed counter;
- 4 - total cash counter;
- 5 - failure counter.

N.B. The first 4 digits of values greater than 4 digits are displayed first and after 1 second the second 4 digits are displayed.

For example, for 110.500 the value 0011 will be displayed first and then the value 0500.

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 board (see Figure 16) 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.

Press the statistics hard-copy printout key "8" to display the request message **[onP]** for confirmation.

Press confirmation key "5" to start printing.

Statistics resetting.

Pressing statistics reset key "7" causes the confirmation request message **[onP]** to be displayed blinking.

Pressing confirmation key "5" will display the message **E S E C** (execution) for a few seconds and then the statistics are reset.

MAINTENANCE

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).

Do not use water jets to clean the machine.

CLEANING THE COFFEE UNIT

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

Maintenance is carried as follows:

- remove the boiler connection teflon hose from the upper piston, paying attention not to lose the seal (see Figure 15);
- 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 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.
 - Wash all components with detergent, ensuring that all residue and visible layers are physically removed, using if necessary a swab or a brush.
 - Soak them for approx. 20 minutes in a chlorine-based detergent solution similar to the one used for the mixers.
- 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 fully to ensure that all contacts are properly connected.

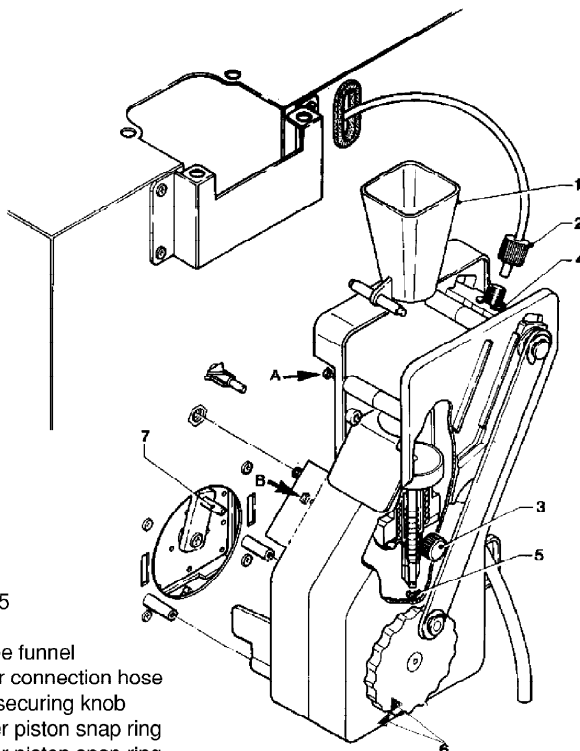


Figure 15

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

PRINTED BOARD FUNCTIONS AND INDICATOR LIGHTS

CONTROL BOARD

This board (see Fig. 16) processes all information from the key-pad and the payment system, and controls the actuators, the 4-digit display and the LEDs.

The 15V AC 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 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 espresso boiler heating element.

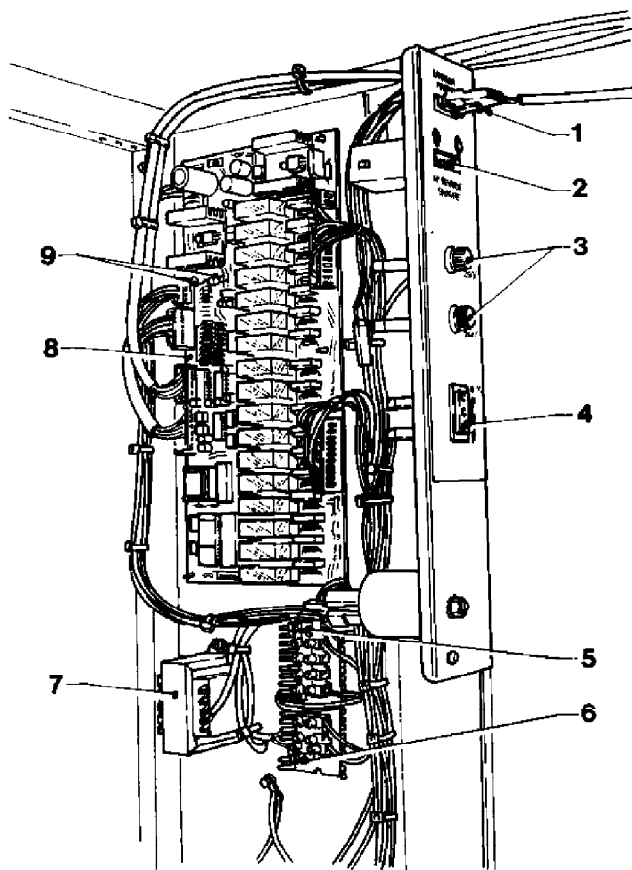


Figure 16

- 1 - 230 V~ 8 W max. light bulb socket
- 2 - Main counter
- 3 - Network fuses
- 4 - 230 V~ permanently live socket
- 5 - Fuse for primary
- 6 - Fuse for secondary
- 7 - Transformer
- 8 - Control board
- 9 - LED indicators

PUSH-BUTTON BOARD

This board controls the alphameric display, the selection keys and the service keys.

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

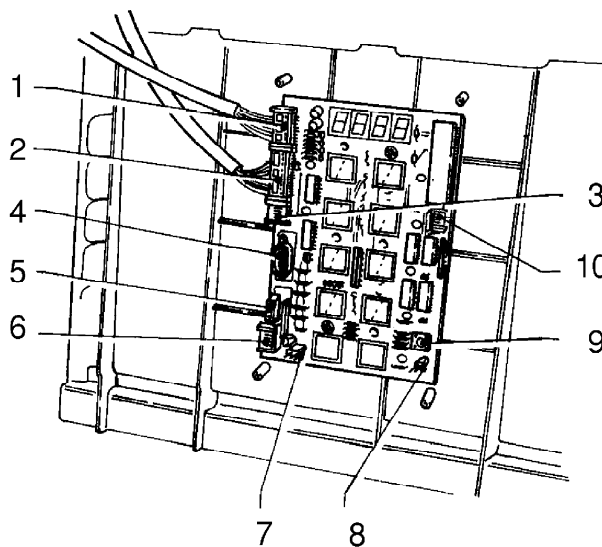




Figure 17

- 1 - To the control board
- 2 - To the control board
- 3 - Executive coin mechanism
- 4 - Printer
- 5 - Front validator
- 6 - Token/card mechanism
- 7 - Jp2 = 
- 8 - Jp1 = 
- 9 - Programming key
- 10 - To the cleaning button

CONFIGURING THE BOARD

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

When replacing the board ensure that the new board configuration is correct.

The centre of the control board (see Figure 18) houses a bank of minidips (3), allowing the board to be configured for use on the various versions and in the different countries, and a jumper (5) allowing the board to be configured for Instant and Espresso models.

To correctly configure the board or to change the unit performance, refer to the following tables.

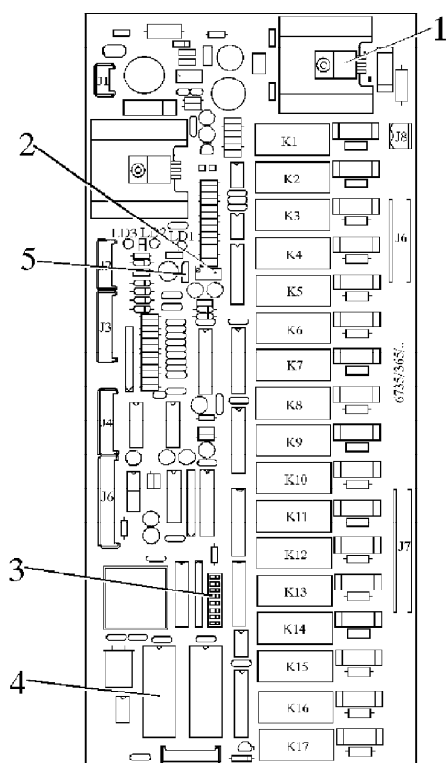


Figure 18
 Triac of the boiler heating element
 2 - Temperature control trimmer
 3 - Configuration minidips
 4 - EPROM
 5 - Jumper: 1-2 Instant versions
 2-3 Espresso versions

RELAY FUNCTION (see Figure 18 and Wiring diagram legend)

	ESPRESSO	INSTANT
K1	= ER	MF4
K2	= ESC	MF3
K3	= MAC	MD5
K4	= PM	EV4
K5	= M	EV3
K6	= EV2	EV2
K7	= EV1	EV1
K8	= MF1	MF1
K9	= MD4	MD4
K10	= MD3	MD3
K11	= MD2	MD2
K12	= MD1	MD1
K13	= MSB	MSB
K14	= ESZ	ESZ
K15	= MSCB	MSCB
K16	= EIA	EIA
K17	= MF2	MF2

CONFIGURING THE COUNTRY

According to the Country minidips 6 and 7 must be set according to the following table:

	COUNTRY		
MINIDIP	ITALY	FRANCE	SPAIN
6	OFF	ON	OFF
7	OFF	OFF	ON

CONFIGURING THE MODEL

According to the model minidip 5 and the jumper (see Figure 17) must be set as follows:

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

CONFIGURING THE STIRRER DISPENSER

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

ON	OFF
- stirrer dispensed with unsweetened drinks	- stirrer not dispensed with unsweetened drinks

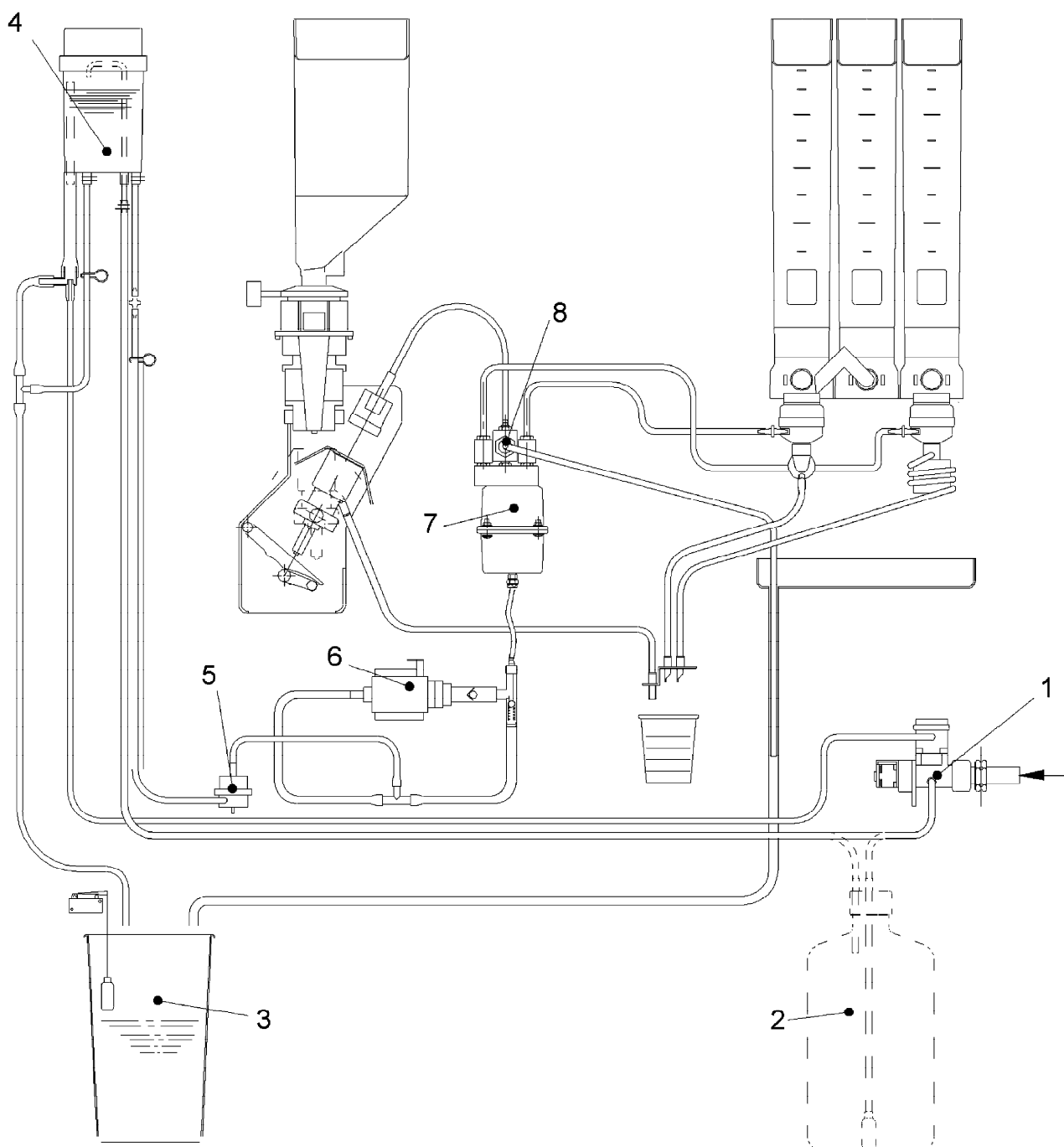
CONFIGURING THE PAYMENT SYSTEM

The serial payment systems are configured as follows:

DIP 1 SET TO ON	DIP 3	DIP 4	DIP 8
Executive std. U-key URW 2	OFF	OFF	OFF
Executive price holding (parametro 36 = 3)	OFF	ON	OFF
U-Key URW3	OFF	OFF	ON

HYDRAULIC SYSTEM

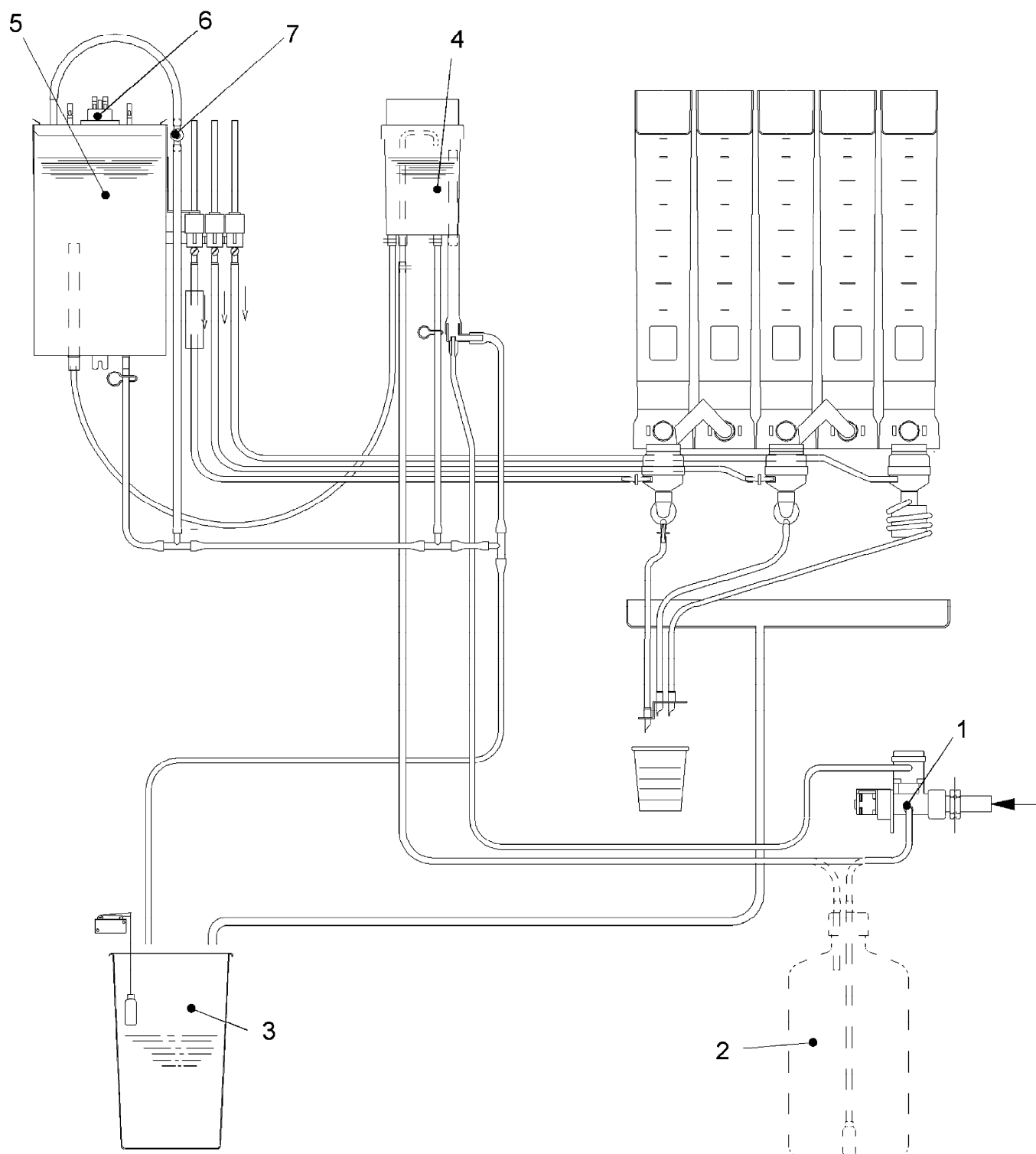
(ESPRESSO MODELS)



- 1 - Water inlet electrovalve
- 2 - Softener (optional)
- 3 - Liquid waste container
- 4 - Air-break
- 5 - Volumetric counter
- 6 - Vibration pump
- 7 - Coffee boiler
- 8 - Instant electrovalves

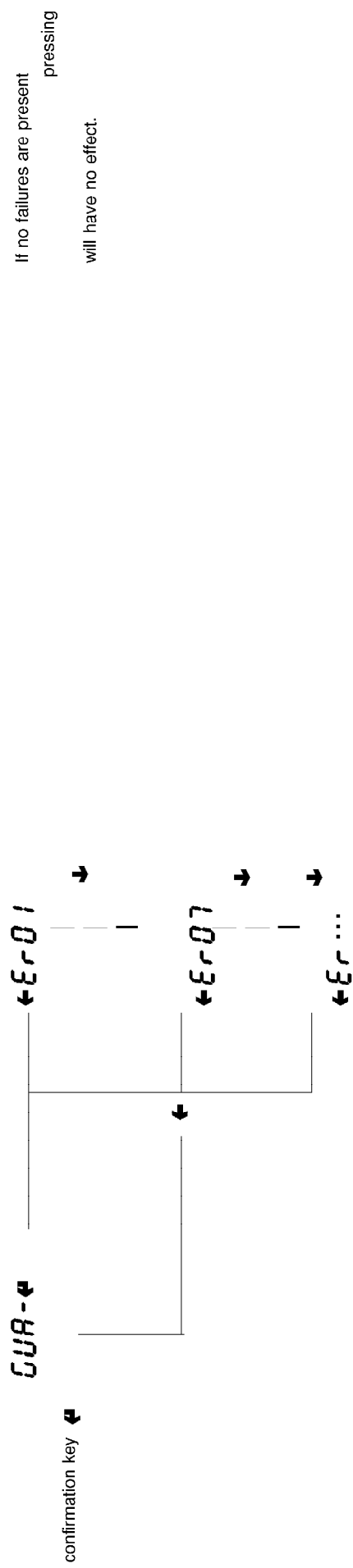
HYDRAULIC SYSTEM

(INSTANT MODELS)



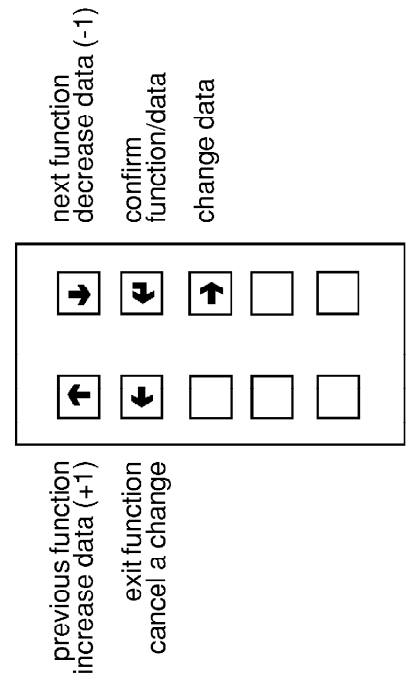
- 1 - Water inlet electrovalve
- 2 - Softener (optional)
- 3 - Liquid waste container
- 4 - Air-break
- 5 - Boiler
- 6 - Safety thermostat
- 7 - Anti-boiling thermostat

Programming table I

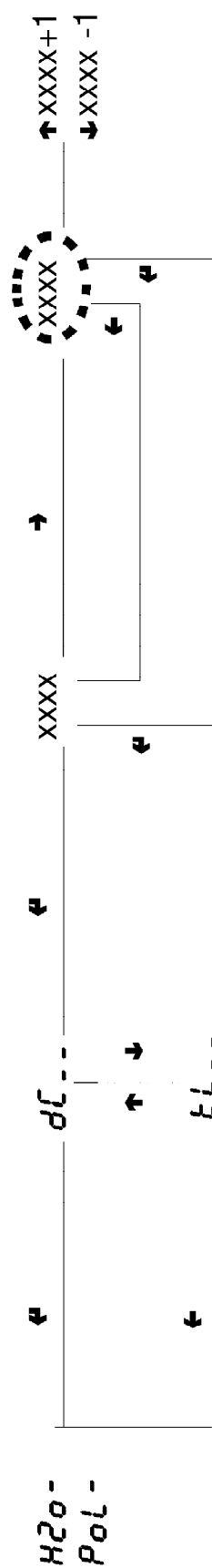


LIST OF FAILURES

- N. 1 - Air-Break
- N. 2 - Boiler
- N. 3 - Coin mechanism
- N. 4 - EEprom data
- N. 5 - Empty water container
- N. 6 - Empty cup dispenser
- N. 7 - Full liquid waste container
- N. 8 - Mixer wheel
- N. 9 - Caffee unit
- N. 10 - Empty coffee container
- N. 11 - Caffee dose release



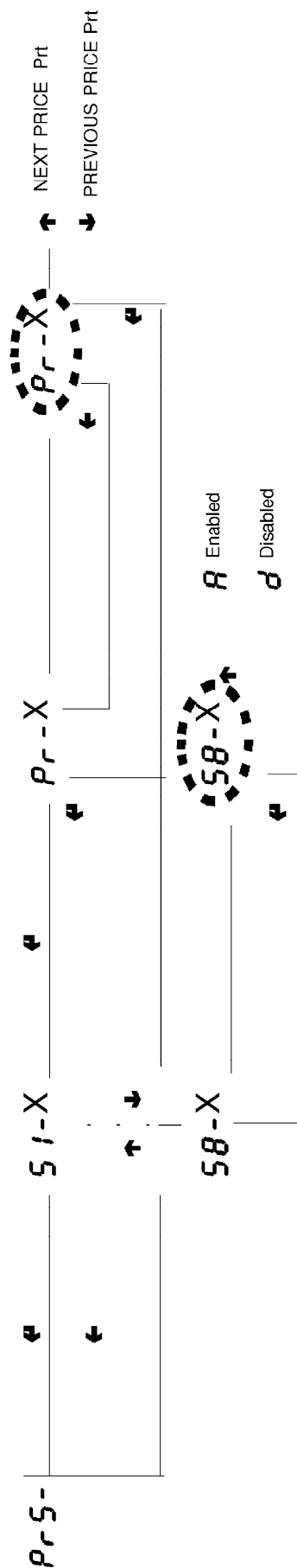
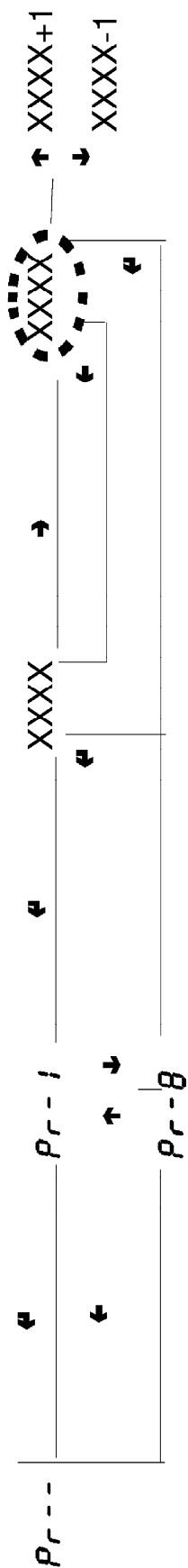
Programming table II



See selection dose table

The diagram shows a 2x5 grid of buttons. The top row contains buttons with the following labels from left to right: "next function", "decrease data (-1)", "confirm", "function/data", and "change data". The bottom row contains buttons with the following labels from left to right: "previous function", "increase data (+1)", "exit function", "cancel", and "a change". Each button is represented by a square icon: a right arrow for "next function", a left arrow for "previous function", a right arrow for "decrease data (-1)", a left arrow for "increase data (+1)", a right arrow for "confirm", an empty square for "function/data", a right arrow for "change data", a left arrow for "exit function", an empty square for "cancel", and an empty square for "a change".

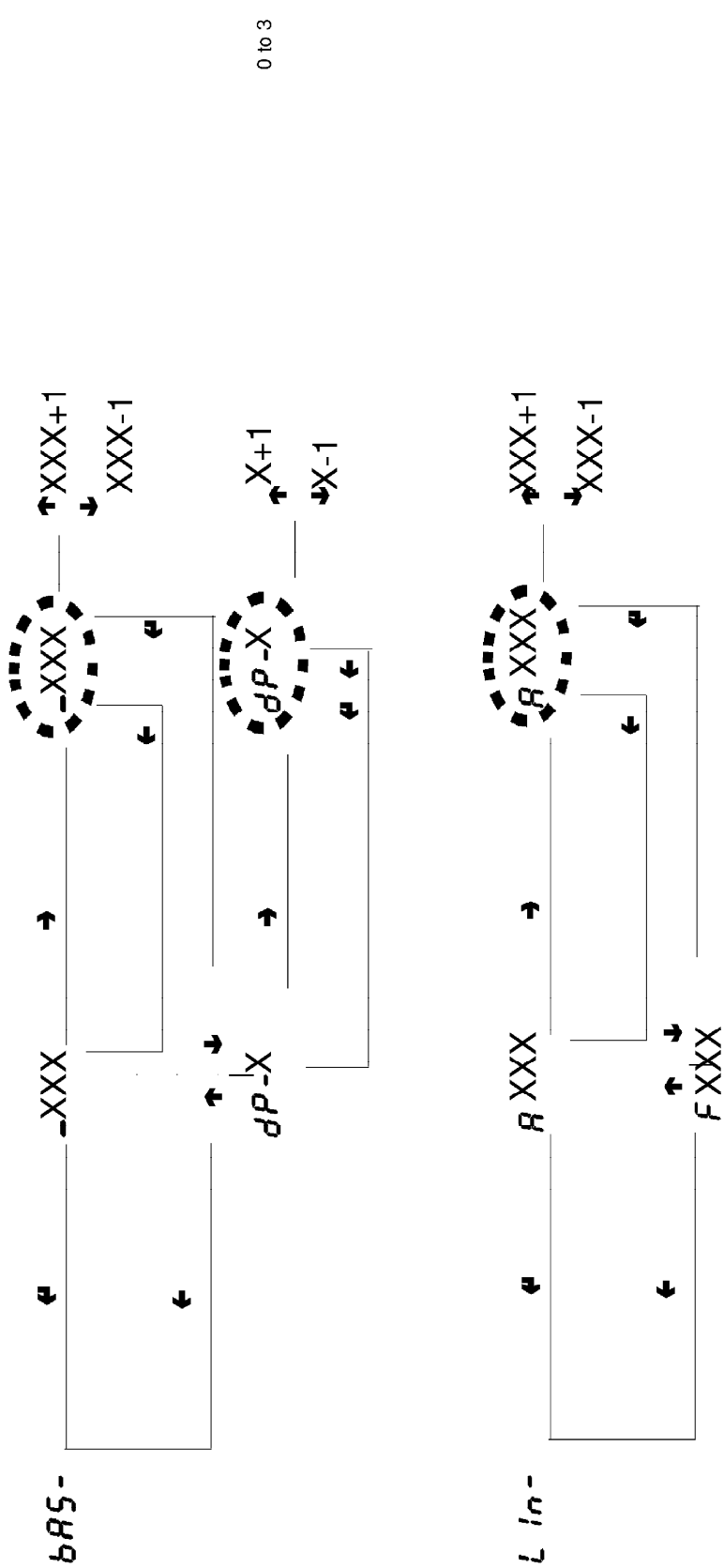
Programming table III



previous function increase data (+1)
exit function cancel a change

next function decrease data (-1)
confirm function/data
change data

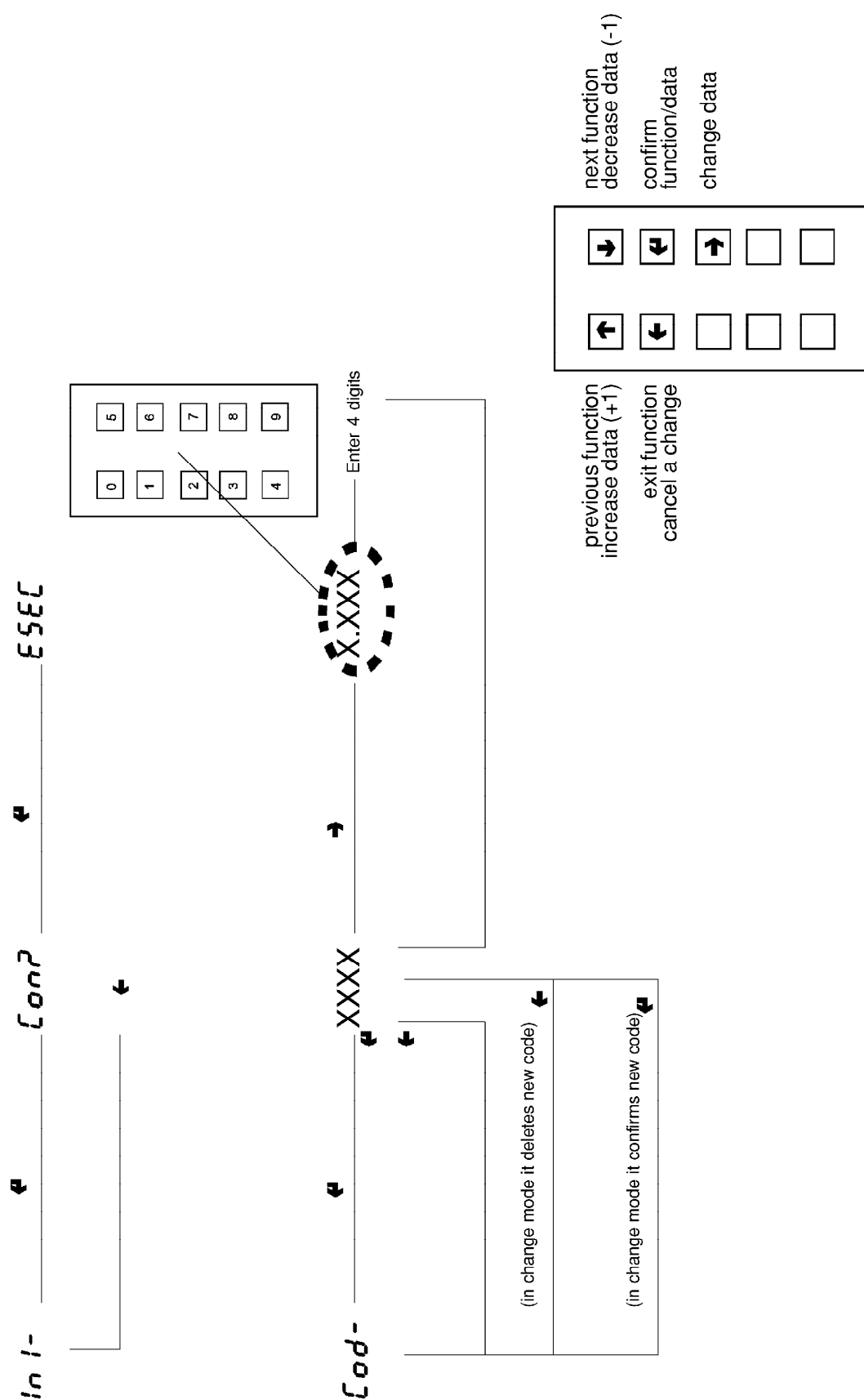
Programming table IV



0 to 3

previous function increase data (+1)	next function decrease data (-1)
exit function cancel a change	confirm function/data
change data	

Programming table V



Statistics table VI

After pressing the statistics display key

Servings by
selection

5t - 1

t

←

51-P

t

←

XXXX

51-C

t

←

XXXX

51-E

t

←

XXXX

58-P

t

←

XXXX

58-C

t

←

XXXX

58-E

t

←

XXXX

5t - 2

TO TABLE VII

t = 1 sec. waiting time

Paid servings

Free servings

Test servings

↑

←

□

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□

→

↩

→

□

□

previous function
increase data (+1)

exit function
cancel a change

statistics
display

next function
decrease data (-1)

confirm
function/data

change data

Statistics table VII

FROM TABLE VI

Dispensing by
price

t = 1 second wait time

[illegible]

XXXX XXXX XXXX XXXX

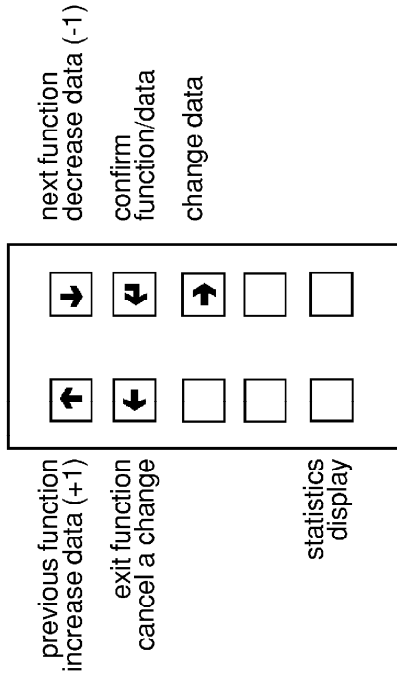
XXXX XXXX XXXX XXXX

XXXX XXXX XXXX XXXX

XXXX XXXX XXXX XXXX

3-75

TO TABLE VIII



Statistics table VIII

FROM TABLE VII

Total cash	t = 1 second waiting time			
	first 4 digits		second 4 digits	
	t	t	t	t
	XXXX	XXXX	XXXX	XXXX
total in coin box				
Failure counters	XXXX of which as credit			
	first 4 digits		second 4 digits	
	t	t	t	t
	XXXX	XXXX	XXXX	XXXX
of which as credit				

Failure counters	XXXX			
	first 4 digits		second 4 digits	
	t	t	t	t
	XXXX	XXXX	XXXX	XXXX
of which as credit				

- LIST OF FAILURES
- N. 1 - Air-Break
 - N. 2 - Boiler
 - N. 3 - Coin mechanism
 - N. 4 - EEPROM data
 - N. 5 - Empty water container
 - N. 6 - Empty cup dispenser
 - N. 7 - Full liquid waste container
 - N. 8 - Mixer wheel
 - N. 9 - Coffee unit
 - N. 10 - Empty coffee container
 - N. 11 - Coffee dose release

previous function
increase data (+1)

next function
decrease data (-1)

exit function
cancel a change

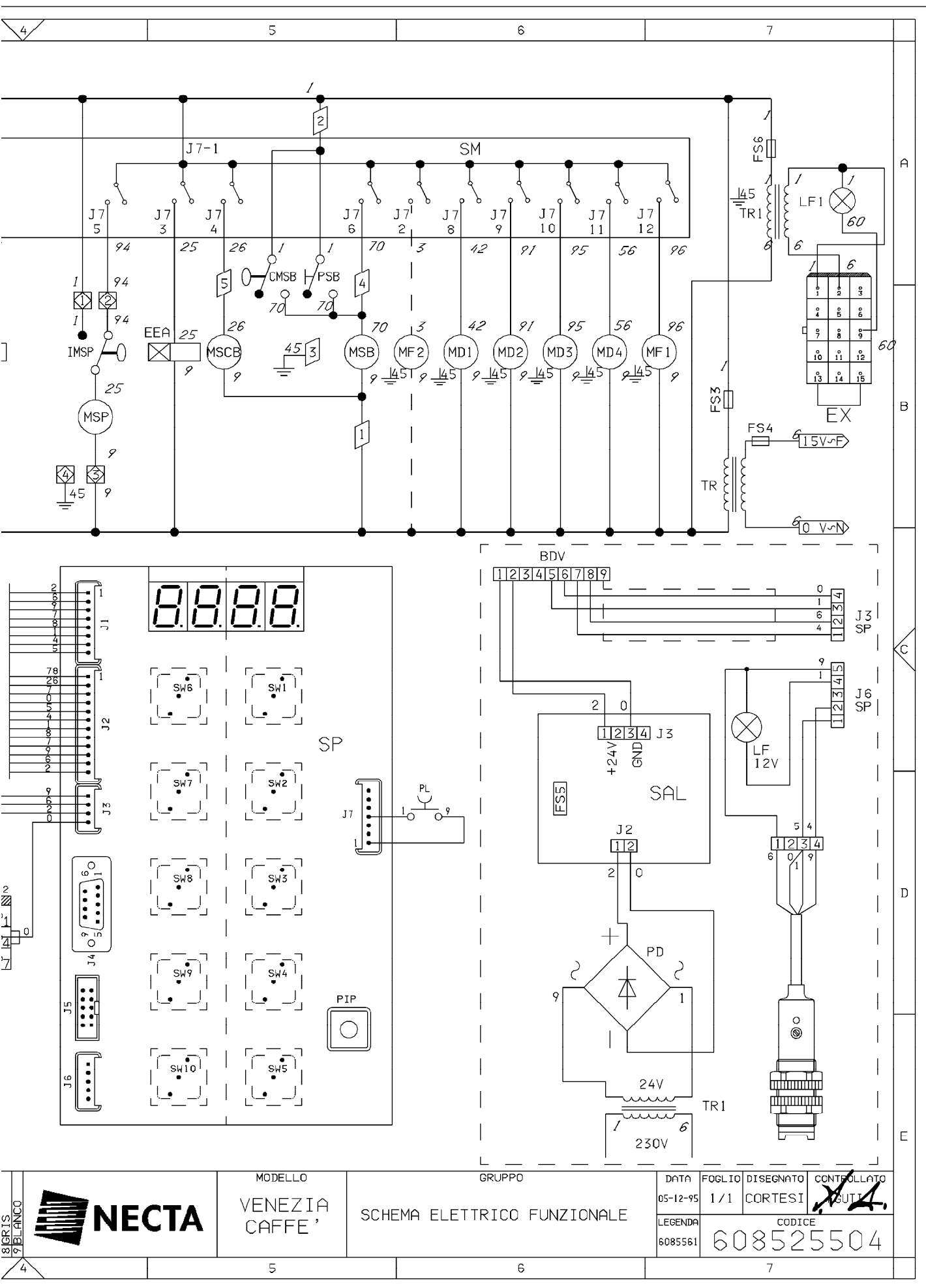
confirm
function/data

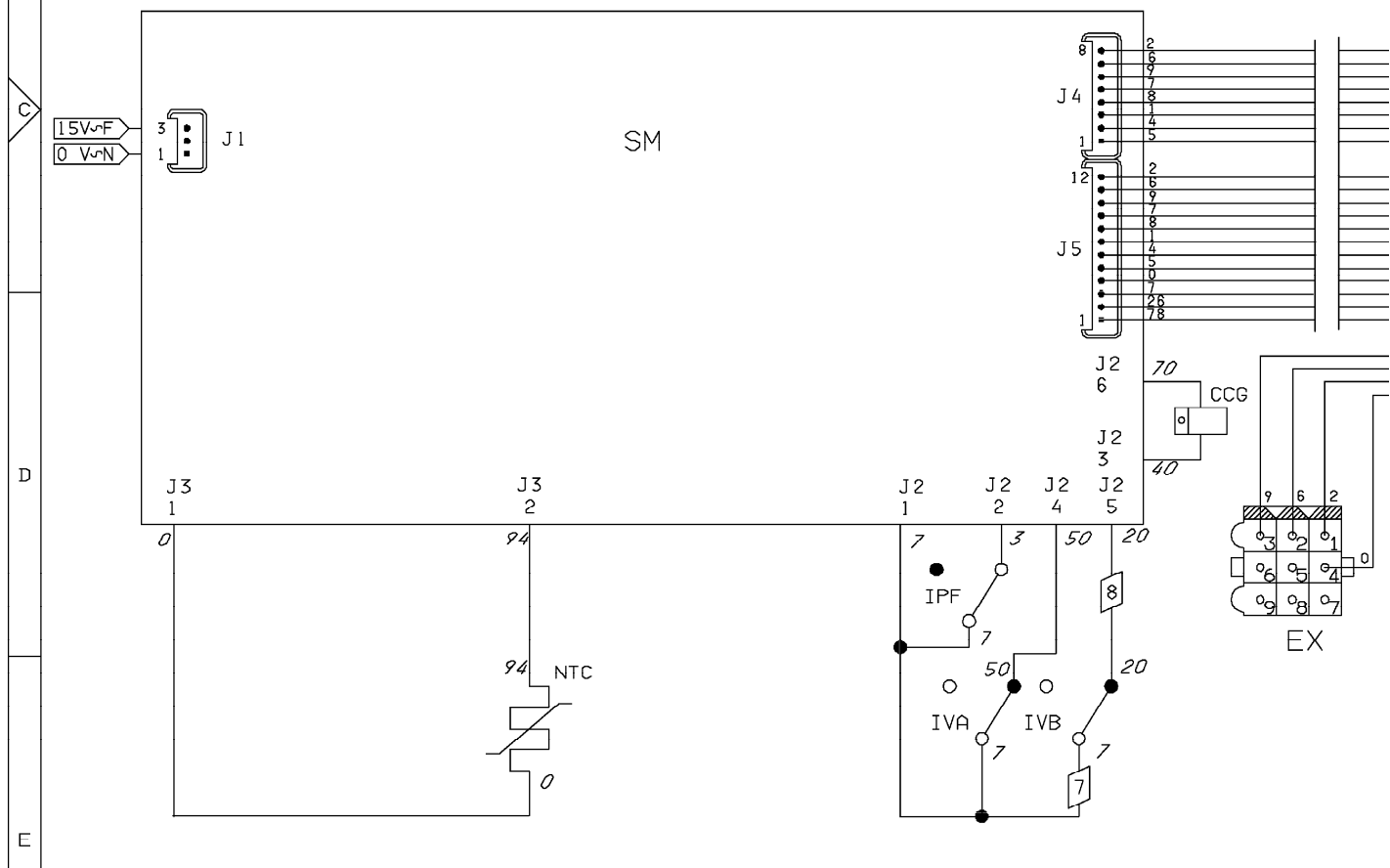
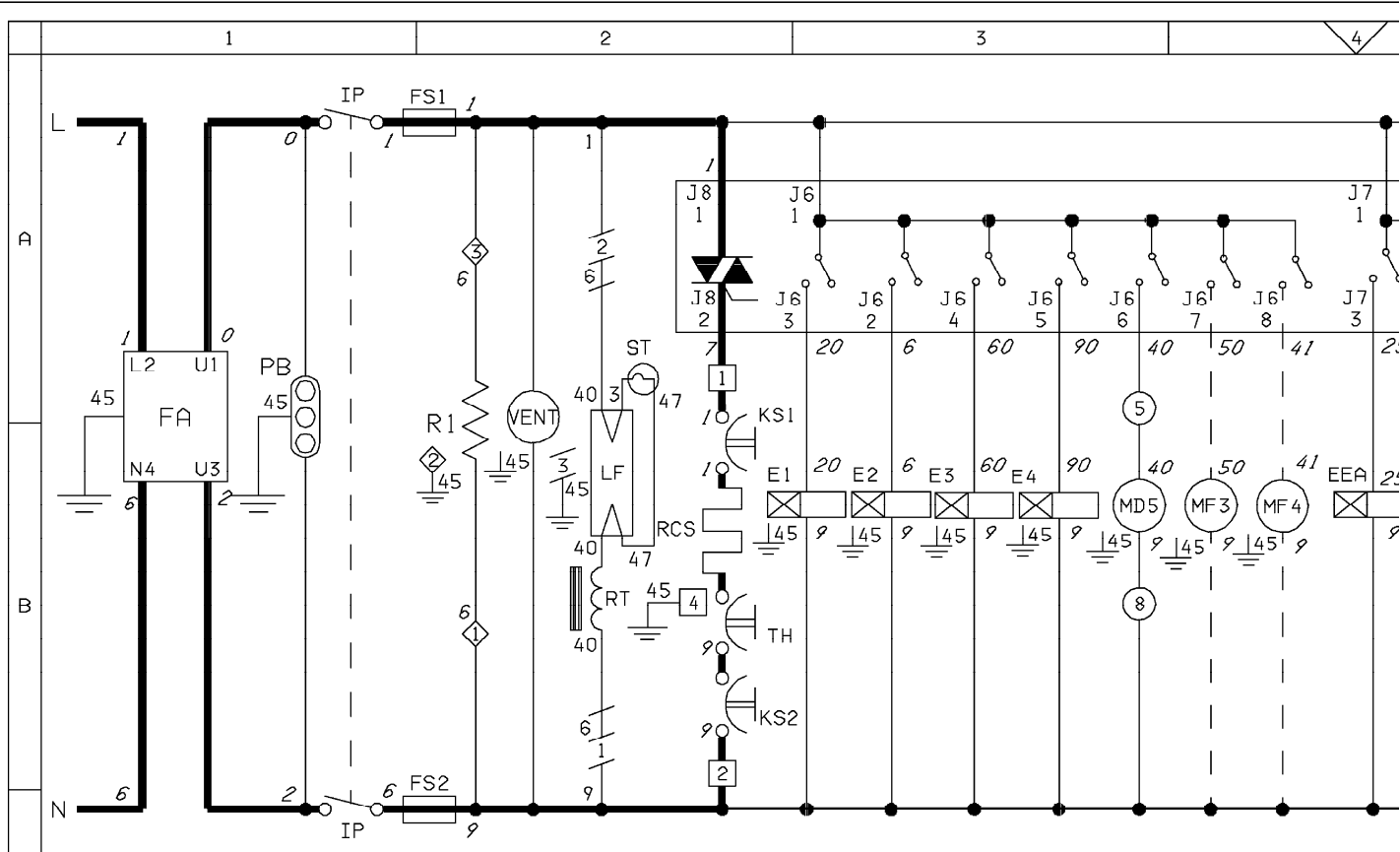
statistics
display

change data

WIRING DIAGRAM LEGEND

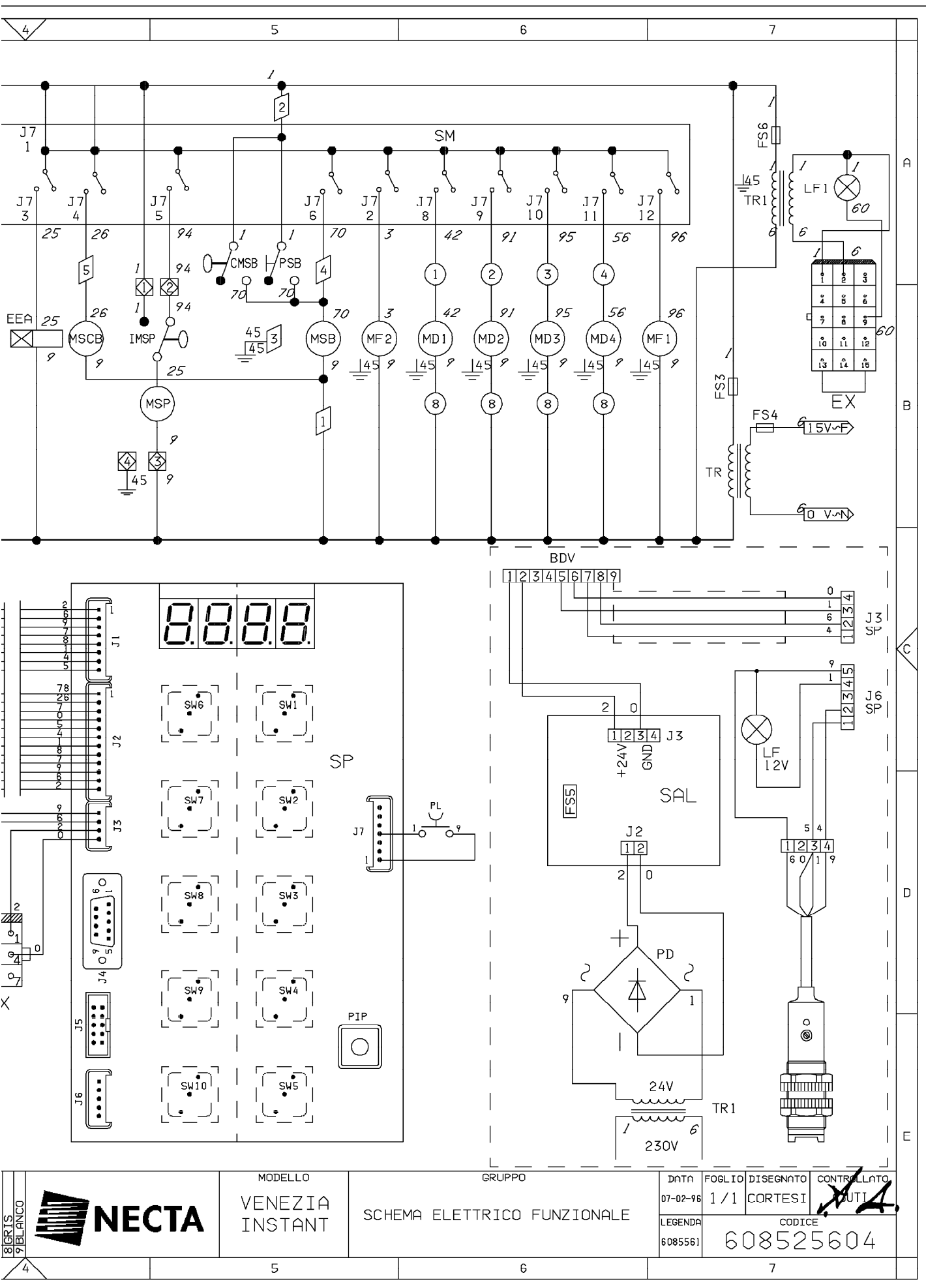
INITIALS	DESCRIPTION		
BDV	BDV COIN MECH CONNECTORS	MD1-..	INGREDIENT MOTOR
CCG	GENERAL COUNTER	MF1-..	WHIPPER MOTOR
CM1	COFFEE UNIT MOTOR CAM	MSB	CUP DELIVERY MOTOR
CM2	COFFEE DELIVERY CAM	MSCB	CUP TRANSPORT MOTOR
CMSB	CUP RELEASE MOTOR CAM	MSP	STIRRER DISPENSER MOTOR
CV	VOLUMETRIC COUNTER	NTC	BOILER TEMPERATURE SENSOR
E1-...	ELECTROVALVE - WATER FOR INSTANT	PB	MAINS SOCKET
EEA	WATER INLET ELECTROVALVE	PD	DIODE RECTIFIER
ER	THREE-WAY ELECTROVALVE	PG	CYCLE BUTTON
ESC	COFFEE DISPENSER SOLENOID	PIP	PROGRAMMING SWITCH
EX	EXECUTIVE COIN MECH CONNECTORS	PL	WASH BUTTON
FA	RADIO INTERFERENCE SUPPRESSOR	PM	PUMP
FS1-..	FUSE	PSB	CUP TEST BUTTON
ID	EMPTY GROUND COFFEE MICROSWITCH	RCC	COFFEE BOILER HEATER
IMSP	STIRRER DISPENSER MICRO SWITCH	RCS	INSTANT BOILER HEATING ELEMENT
IP	DOOR SWITCH	RT	BALLAST
IPF	WASTE BUCKET OVERFLOW SWITCH	SAL	VOLTAGE SUPPLY BOARD
IVA	BOILER EMPTY WATER MICRO SWITCH	SM	MACHINE BOARD
IVB	EMPTY CUP MICRO SWITCH	SP	PUSH BUTTON BOARD
KC1-..	COFFEE BOILER CUTOUT	ST	STARTER
KS1-..	SAFETY CUTOUT	SW1-..	SELECTION BUTTONS
LF1-..	LAMP	TR1-..	TRASFORMER
M	ESPRESSO UNIT MOTOR	VAR	VARISTOR
MAC	GRINDER MOTOR	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

0NERO	1MARRONE	2ROSSO	3ARANCIO	4GIALLO	5VERDE	6BLU	7AZZURRO	8ROSA	9VIOLETTA	10GRIGIO	11BIANCO	12NERO	13MARRONE	14ROSSO	15ARANCIO	16GIALLO	17VERDE	18BLU	19AZZURRO	20ROSA	21VIOLETTA	22GRIGIO	23BIANCO	24NERO	25MARRONE	26ROSSO	27ARANCIO	28GIALLO	29VERDE	30BLU	31AZZURRO	32ROSA	33VIOLETTA	34GRIGIO	35BIANCO	36NERO	37MARRONE	38ROSSO	39ARANCIO	40GIALLO	41VERDE	42BLU	43AZZURRO	44ROSA	45VIOLETTA	46GRIGIO	47BIANCO	48NERO	49MARRONE	50ROSSO	51ARANCIO	52GIALLO	53VERDE	54BLU	55AZZURRO	56ROSA	57VIOLETTA	58GRIGIO	59BIANCO	60NERO	61MARRONE	62ROSSO	63ARANCIO	64GIALLO	65VERDE	66BLU	67AZZURRO	68ROSA	69VIOLETTA	70GRIGIO	71BIANCO	72NERO	73MARRONE	74ROSSO	75ARANCIO	76GIALLO	77VERDE	78BLU	79AZZURRO	80ROSA	81VIOLETTA	82GRIGIO	83BIANCO	84NERO	85MARRONE	86ROSSO	87ARANCIO	88GIALLO	89VERDE	90BLU	91AZZURRO	92ROSA	93VIOLETTA	94GRIGIO	95BIANCO	96NERO	97MARRONE	98ROSSO	99ARANCIO	100GIALLO
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	MODELLO VENEZIA INSTANT	GRUPPO SCHEMA ELETTRICO FUNZIONALE	<table border="1"> <tr> <td>DATA 07-02-96</td><td>FOGLIO 1/1</td><td>DISEGNATO CORTESI</td><td>CONTROLLATO AUTI</td></tr> <tr> <td>LEGENDA 6085561</td><td colspan="3">CODICE 608525604</td></tr> </table>	DATA 07-02-96	FOGLIO 1/1	DISEGNATO CORTESI	CONTROLLATO AUTI	LEGENDA 6085561	CODICE 608525604		
DATA 07-02-96	FOGLIO 1/1	DISEGNATO CORTESI	CONTROLLATO AUTI								
LEGENDA 6085561	CODICE 608525604										

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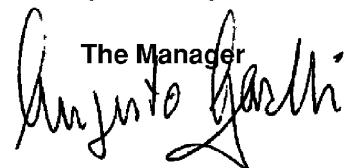
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FOR APPROVAL

The Manager

A handwritten signature in black ink, appearing to read "Augusto Garlini", written over the printed text "The Manager".

