INSTALLATION, OPERATING AND MAINTENANCE MANUAL

SPAZIO   FB -   FRESH BREW
**   I   -   INSTANT**

UK   English

$C\epsilon$

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

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Dichiara che la macchina descritta nella targhetta di identificazione, è conforme alle disposizioni legislative delle direttive: **89/392**, **89/336**, **73/23 CEE** e successive modifiche ed integrazioni.

Declares that the machine described in the identification plate conforms to the legislative directions of the directives: **89/392**, **89/336**, **73/23 EEC** and further amendments and integrations.

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

Erklärt, daß das im Typenschild beschriebene Gerät den **EWG** Richtlinien **89/392**, **89/336**, **73/23** sowie den folgenden Änderungen/Ergänzungen entspricht.

Declara que la máquina descripta en la placa de identificación, resulta conforme a las disposiciones legislativas de las directivas: **89/392**, **89/336**, **73/23 CEE** y modificaciones y integraciones sucesivas.

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

Verklaart dat de op de identificatieplaat beschreven machine overeenstemt met de bepalingen van de **EEG** richtlijnen **89/392, 89/336** en **73/23** en de daaropvolgende wijzigingen en aanvullingen.
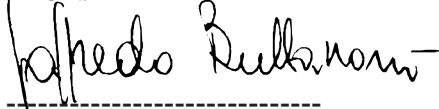
Zanussi intygar att maskinen som beskrivs på identifieringsskylten överensstämmer med lagstiftningsföreskrifterna i direktiven: **89/392**, **89/336**, **73/23 CEE** och påföljande och kompletteringar.

Det erklæres herved, at automaten angivet på typeskiltet er i overensstemmelse med ovsdirektiverne **89/392, 89/336** og **73/23 CEE** og de senere ændringer og tillæg.
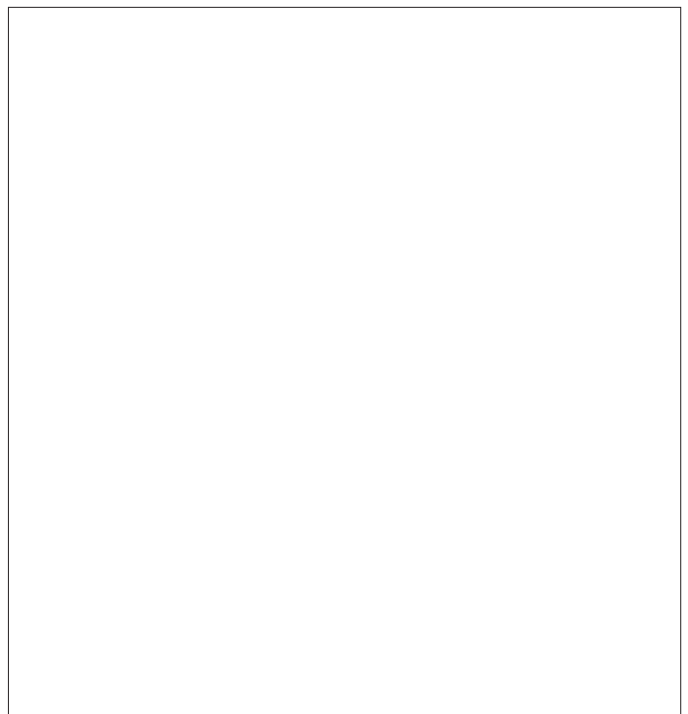
Valbrembo, 04/04/96

GOFFREDO BUTTAZZONI

Direttore Generale
General Manager
Directeur General
Generaldirektor
Director General
Director-Geral
Directeur-generaal
Verkställande direktor
Direktør

FIRMA-SIGNATURE-UNTERSCHRIFT-
ASSINATURA-HANDTEKENING-
UNDERSKRIFT

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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, so as to permit 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 hints on safe installation, use and maintenance.

This manual is divided into three parts.

The **first section** describes the loading and routine cleaning operations which are carried out in areas of the machine accessible with simple use of the door key, without using any other tools.

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

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

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

IDENTIFICATION OF THE VENDING MACHINE AND ITS CHARACTERISTICS

Every machine is identified by its own serial number, indicated on the data plate attached 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 indicates all the data which readily and safely give technical information supplied by the manufacturer. It also assists in the spare parts management.

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

IN 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:

ELECTROLUX ZANUSSI VENDING S.p.A.
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 by its sides;

- lift the vending machine with slings or ropes;

- shake or jolt the vending machine and its packing.

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

Avoid stacking machines one on top of the other and always keep it upright as indicated by the arrows on the packing.
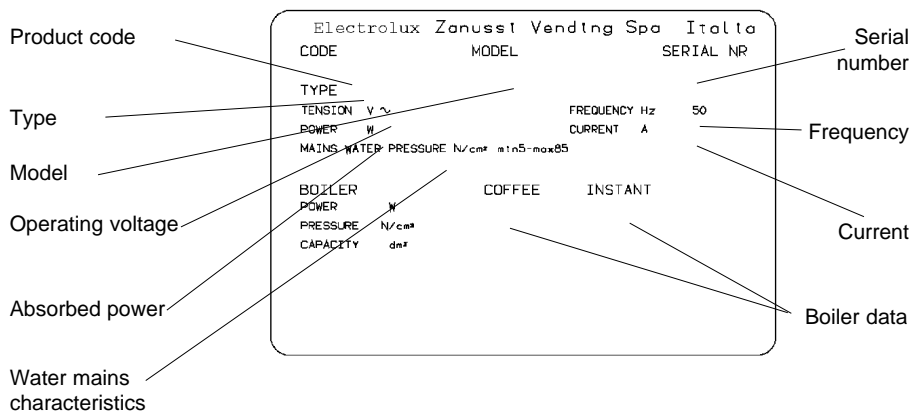
USING THE VENDING MACHINES OF HOT DRINKS IN OPEN CONTAINERS
(e.g.: plastic cups, china cups, jugs)

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;

- reconstitution of instant and freeze-dried products;

These products should be indicated by the manufacturer as "suitable for automatic vending" in 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.

POSITIONING THE VENDING MACHINE

The vending machine is not suitable for outdoor installation. It must be installed in a dry room where the temperature is between 0°C and 32°C, and not where water jets are used for cleaning (e.g. in large kitchens, etc.).
The machine should be placed close to a wall, so that the back panel is at a minimum distance of 4 cm from it and correct ventilation may be ensured.
The machine should never be covered with cloth or the like.
The machine should be positioned flat.
If necessary provide proper levelling by way of the adjustable feet included.

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.

All packing materials shall be disposed of in a manner which is safe 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 the machine off during periods of inactivity, thus achieving considerable energy savings.

WARNING FOR SCRAPPING

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

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

- insulating materials should be recovered by qualified companies.

TECHNICAL DATA

Height	1830	mm
Width	650	mm
Depth	630	mm

DIMENSIONS
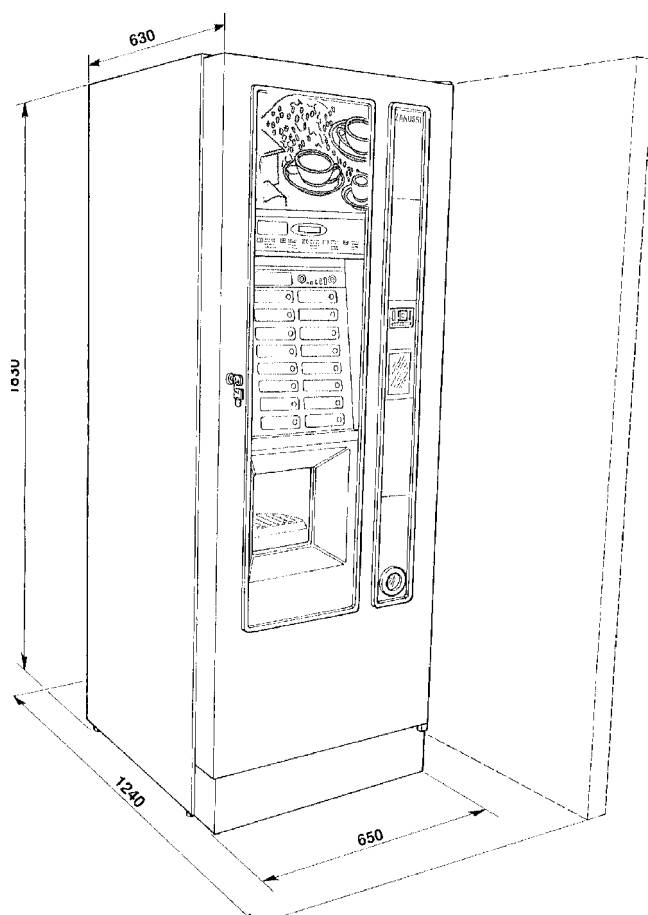
Power supply voltage	240	V~
Power supply frequency	50	Hz
Installed power	2.500	W
Weight	140	Kg

CUP DISPENSER

- for cups with a rim diameter of 73-74 mm. Capacity of 600 cups approximately;

COIN MECHANISM

The machine is supplied with arrangement for the EXECUTIVE coin mechanism.

SALES PRICES

A different sales price can be programmed for each selection.

The sales price of selections for coffee and/or tea based products can be reduced or increased according to the concentration of the product required by the user.

The standard setting has the same sales price for all selections.

JUG FACILITIES AND FREE VEND

Using a special key, up to 5 selections of fresh brew without dispensing cups can be made to fill a jug, or free dispensing of normal beverages can be obtained.

COIN BOX

Made with aluminized metal sheeting. Lid and lock are available as optional accessories.

WATER SUPPLY

From the mains, with a water pressure of 5 (or 20 if a refrigerating unit is used) to 85 N/cm^2.

AVAILABLE ADJUSTMENTS

Time adjustment for coffee, instant products and water doses.

Temperature control

Factory set on the correct operating temperature. A trimmer located on the control board allows small adjustments (if necessary).

ENABLING FUNCTIONS

- presence of cups

- presence of water

- presence of the brewing unit

- full liquid waste container

- operating temperature reached

SAFETY DEVICES

- door switch

- manually-reset boiler safety thermostats

- manually-reset boiler anti-boiling thermostat

- float jamming

- overflow electrovalve

- float for full liquid waste tray

- short circuit/boiler sensor cutoff control

- time protection for:
    coffee unit ratiomotor
    coffee dispensing
- temperature protection for:
    motor dosers
    coffee unit ratiomotor
    mixer motors
- fuse-protection for:
    board power supply transformer
    Executive power supply transformer

CAPACITIES OF THE CONTAINERS

fresh coffee	4.3	Kg	approx
fresh tea	2.5	Kg	
sugar	4.2	Kg	
whitener	1.4	Kg	
instant coffee	1.2	Kg	
instant tea	4.3	Kg	
chocolate	3.0	Kg	

POWER CONSUMPTION

The machine power consumption depends on many factors, such as the temperature and ventilation of the room where it is installed, the inlet water and boiler temperature, etc.

Under average conditions, and namely:

- Ambient temperature:		20°	C
- Instant product boiler temperature:		94°	C
- Inlet water temperature:	18°	C	
- Water dose (average) per selection:		93	cc

the following power consumption levels resulted:

- To reach operating temperature	280	Wh
- Hourly stand-by power consumption	156	Wh
- Average consumption for instant products	11.2	Wh

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

ACCESSORIES

Many different accessories can be installed on the machine to change its performance:

The accessory kits include the installation and testing instructions, which must be thoroughly observed to ensure the machine safety.

Important notice!!

The use of kits which are not approved by the manufacturer does not guarantee compliance with the safety standards, more specifically regarding energised parts.

The manufacturer declines all responsibility if non-approved components are used.

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

LOADING AND CLEANING

DOOR SWITCH

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

All operations requiring the machine to be energized with the door open should be carried out by qualified personnel ONLY who must be informed about the risks of such condition.

To energize the system with the door open, just insert the special key into the slot (see fig. 1).
The door can be closed only after removing the key.

Do not leave the machine unattended when open.

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

MAINTENANCE AND DISINFECTION

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

At installation, thorough sanitising of the hydraulic circuits and the parts in contact with food is required to remove any bacteria which may have built up during storage.

It is a good rule that sanitation 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 strong detergents.
The manufacturer declines all responsibility for any damage caused by non compliance with the above instructions or by the use of strong or toxic chemicals.

Before any maintenance operations requiring disassembly of parts of the unit, the machine should always be switched off.

CONTROLS AND INFORMATION

All controls and information for the user are conveniently located on the external side of the door (see fig. 2).
The selection labels and the operating instructions supplied with the apparatus shall be inserted at the time of installation.

Fig. 2

1 - Selection menu
2 - Spaces for user information
3 - Operating instructions plate
4 - Coin slot / return button. "Exact amount" warning light
5 - Alphanumeric display
6 - Dispensing compartment
7 - Lock
8 - Coin return hatch
9 - Jug facilities & free vend key
10- Coffee and tea pre-selection

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

CUP LOADING

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

- disconnect the power from the machine;

- remove the cover from the cup container;

- fill the columns with cups, except the one aligned with the dispensing opening;

- switch the machine on; the filled column will be positioned automatically over the dispensing opening;

- fill the empty column;

- release one or more cups using the special button and replace the cover.

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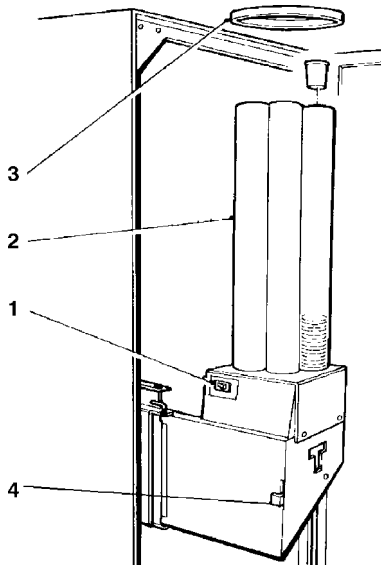
1 - Cup release button
2 - Cup stacker
3 - Cover
4 - Shelf release lever

LOADING SUGAR AND INSTANT PRODUCTS

Each container must carry an appropriate label indicating the type of product.
After lifting its cover, fill the single containers with the appropriate products, taking care not to compress them to prevent packing. Make sure the products do not contain any clots.

SANITISING THE MIXERS AND FOODSTUFF CIRCUITS

When installing the machine, and then at least once a week or even more frequently according to the use of the machine and the quality of the inlet water, the mixers and the dispensing conduits must be thoroughly sanitised (cleaned and disinfected), to guarantee proper hygiene of the dispensed products.

To make the sanitising operations faster, the machine is supplied with spare parts, to be installed in place of the components being cleaned.

The parts to be cleaned are the following:

- powder deposit drawer, mixer and drink dispensing conduit;

- dispensing hoses and spouts;

- sugar chute;

- dispensing compartment.

- remove the powder and the water funnels, the feeders, the powder deposit drawers and the mixer blades from the mixers (see Figure 4);

- to remove the mixer blades it is sufficient to block the disk fitted on the mixer shaft with a finger

- Wash all parts with detergent, ensuring that all visible residue and product layers are mechanically removed, if necessary using a brush or similar tools;

Fig. 4

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

Disinfection should be made using chlorine-based detergents.

- soak all components for approx. 20 min. in a container filled with the previously prepared chlorine-based detergent;

- reinstall the feeders and the water funnels;

- refit the powder deposit drawers and the powder funnels after thorough rinsing and drying.

After installing all parts, the following is required:

- go into "Maintenance" mode to clean the mixer (see relevant section) and add some drops of the chlorine-based detergent into each funnel.

- after disinfection, thoroughly rinse all parts to remove all possible residue of the solution used.

WEEKLY CLEANING OF THE BREWING UNIT

On a weekly basis, besides cleaning the external parts of the brewing unit to remove any dust residue, especially in the area of the funnel, also the parts of the unit in contact with the drink should be sanitised.

These operations should be carried out with machine switched off

- Undo the screw and remove the cover to gain access to the brewing unit

- Disconnect the pipe from the mixer and remove the mixer (5-1) from the brewing cylinder.

- Release the cylinder from the assembly by pulling the release lever (5-2) and then pulling it out of the piston control fork (5-3).

- Take the piston out of the cylinder.

- Remove the sliding filter holder (5-4) from the guide (5-7) by releasing the tie-rod (5-5) from the stop spring (5-6).

- Remove the scraper assembly (5-8).

- Wash all parts with mild detergent, ensuring that all visible residue and product layers are mechanically removed, if necessary using a brush or similar tools.
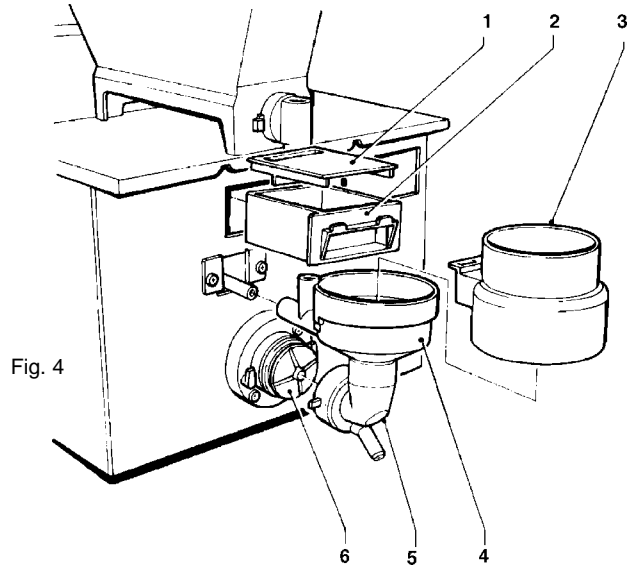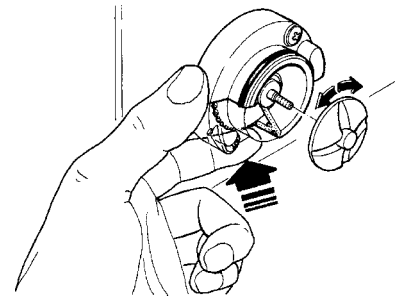
- Soak them for approx. 20 min. in a container filled with the chlorine-based detergent previously used for the mixers.

Fig. 5
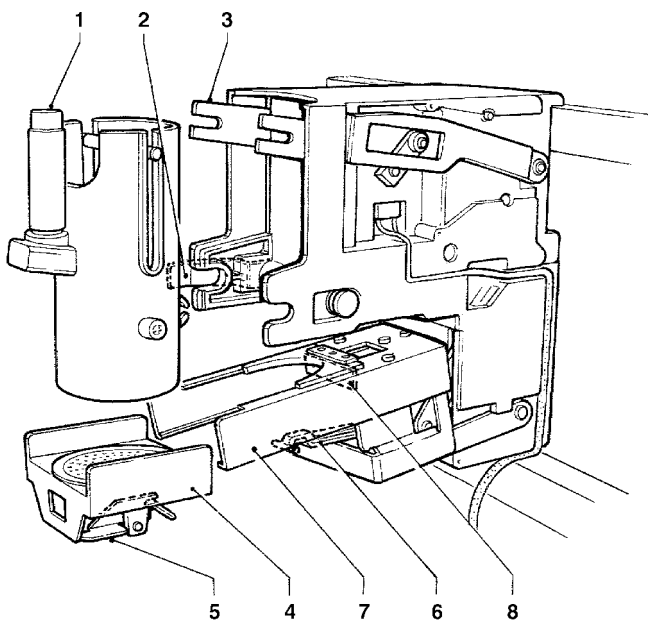
1 - Mixer
2 - Cylinder release lever
3 - Piston control lever
4 - Sliding filter holder
5 - Control tie-rod
6 - Filter holder stop spring
7 - Filter holder guide
8 - Scraper assembly

Do not use screwdrivers or any other sharp objects against the filter holder seal and avoid placing the seal on surfaces which may damage it.

If the metal filter is blocked it should be replaced or cleaned with a specific product.
To remove the metal filter, first pull out the seal from its edge (see Fig. 6).
The filter must be cleaned at least every 2,500 selections.
To reassemble the brewing unit follow the above instruction in the reverse order, making sure that the seal is installed before the filter.

Fig. 6
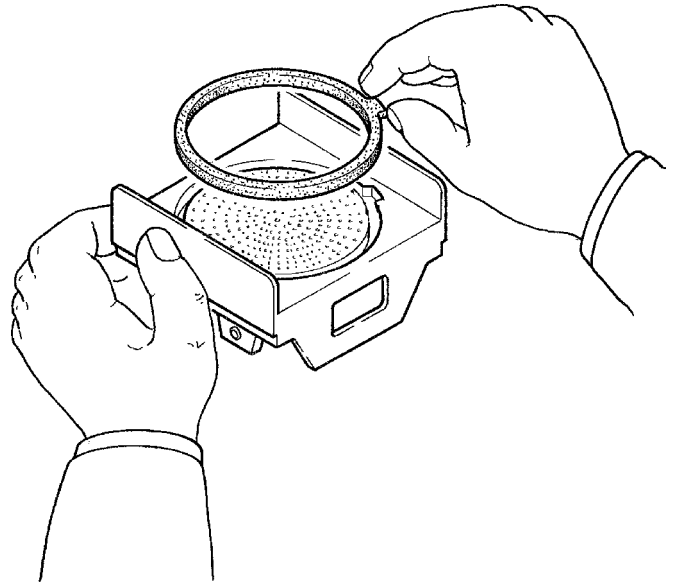
REPLACING THE FILTER CARTRIDGE

Every 30,000 drink selections or every 6 months, the mains metal filter cartridge should be replaced according to the procedure described in section "Installing the filter cartridge".

SUSPENDING FROM USE

If for any reason the machine is switched off for a period of time exceeding the products expiry date, it will be necessary:

- fully empty the containers and thoroughly wash them with the chlorine-based detergents used for the mixers.

- fully empty the grinder and doser device by dispensing coffee until the empty status is signalled.

- fully empty the air-break and the boiler, loosening the clamp on the relevant hose.

Before reinstating the machine, the cleaning and sanitising procedure described in the section "Yearly sanitising" should be performed.

INSTALLATION

Installation and the following maintenance operations must be carried out with the **unit energised**, and therefore by qualified personnel only, trained in the correct use of the machine and informed on the specific risks of such condition.

The machine must be installed in a dry room, where the temperature stays always between 0° C and 32° C.

At installation it is necessary to completely sanitise the hydraulic system and all parts in contact with food, in order to eliminate any possible bacteria formed during storage.

UNPACKING THE VENDING MACHINE

After unpacking, be sure the machine is thoroughly intact. If in doubt, do not use the machine.

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

Packing materials must be disposed of in authorised areas only, employing the services of specialised companies for recyclable materials.

Important notice!!

The machine should be positioned on a level surface.
If necessary, provide proper levelling by means of the adjustable feet (see fig. 7) which are supplied with the machine.

Fig. 7
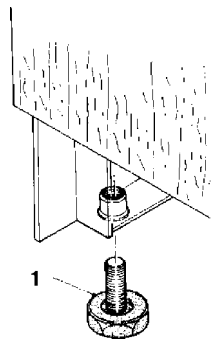
1 - Adjustable foot

INSERTING THE PRODUCT LABELS

The labels indicating the available product selections are supplied with the machine and should be inserted into the special slots at installation.
According to the model, some push-buttons may not be used (refer to the selection dose table).

INSTALLING THE FILTER CARTRIDGE

Make sure that the coloured ring is in the lower position (turned to the left).
Wet the two cartridge seals (see Fig. 8).

a) insert the cartridge into the ring,

b) turn the cartridge to the right,

c) turn the ring fully to the right until locking the cartridge;

d) block the ring into place by lowering the lever, so that it is just in front of the ring nose.

Fig. 8

1 - Lock lever
2 - Coloured ring
3 - Cartridge
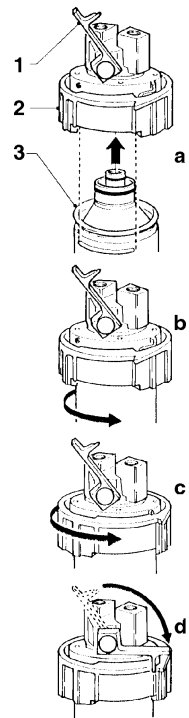
NOTE: The lever is used as a tap.

lever lifted   = tap closed

lever lowered   = tap opened.

CONNECTING THE MACHINE TO THE WATER MAINS

The machine is to be connected to the drinking water supply . Water pressure should be 5 to 85 N/cm^2.
Run water from the mains until it is clear and without impurities. Use a hose capable of withstanding the water mains pressure and suitable for use with foodstuffs (minimum inside diameter of 6 mm) to connect the water supply to the 1/4" gas-type union of the water inlet solenoid valve (see Figure 9)

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

1 - 1/4" gas-type water inlet union
2 - Supply hose
3 - Overflow pipe
4 - Inlet hose union
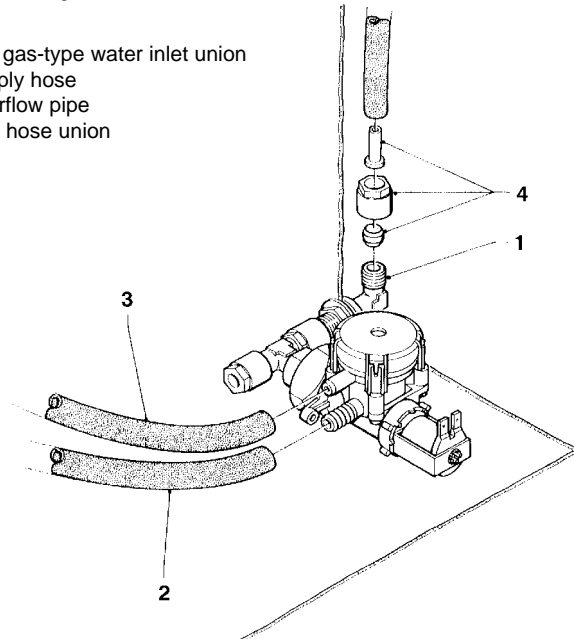
Fig. 9

OVERFLOW DEVICE

The water inlet electrovalve (see Fig. 9) is equipped with an overflow device mechanically preventing the water from flowing in if there is a malfunction in the electrovalve itself or in the control device of the boiler water level.
To restore normal operation, proceed as follows:

- disconnect the electric power from the machine;

- 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 tube to relieve the water mains residual pressure and then tighten again (see Fig. 12);

- open the valve and switch on the machine.

CONNECTING THE POWER SUPPLY

The machine is designed to operate under a single-phase 240 V~ voltage and is protected by 15 A fuses.
Before making the connection make sure that the ratings correspond to those of the power grid, and more specifically:

- the supply voltage rating should be within the limits recommended for the connection points;

- the main switch should be located within easy reach and be capable of withstanding the peak load required, and at the same time should ensure proper omnipolar disconnection from the power grid when the opening gap of the contacts is of at least 3 mm.

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

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

The power cable is of the type fitted with a fixed plug.
Any replacement should be done by qualified personnel only, using exclusively cables of the type HO5 RN - F or HO5 V V-F or H07 RN-F with a section of 3x1-1,5 mm^2.

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

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

THE MANUFACTURER DECLINES ALL RESPONSIBILITY FOR ANY DAMAGE THAT MAY BE CAUSED BY THE NONCOMPLIANCE WITH THE ABOVE MENTIONED SAFETY RULES.

DOOR SWITCH

When opening the door a special micro-switch disconnects the power from the machine electrical system.
To energize the system with the open door, simply insert the special key into the slot (see Fig. 1).

With the door open, no energised parts can be accessed. Inside the machine the only energised parts are the ones which are covered with protective casings which are marked with a plate indicating "before removing the cover disconnect the electricity".

Before removing these covers it is necessary to unplug the machine from the mains socket.

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

INSTALLING THE PAYMENT SYSTEM

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

- Install the coin mechanism and make sure that the programming of the relevant parameters is correct;

- adjust the selector opening lever 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 no-water for more than 10 seconds after the machine has been switched on, an installation routine will start automatically, and namely:

- the display will show

"INSTALLATION"

for the whole duration of the routine;

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

BREWING UNIT OPERATION

The brewing unit can be used for ground coffee (suitable for automatic vending) by just fitting a type of filter suitable for brewing

Make sure that the powder funnel is cleaned sufficiently at the end of dispensing.

DISPENSING CYCLE

When a selection is made, the brewing unit motor (10-1) will lift the sliding filter holder (10-2) against the cylinder of the brewing chamber (10-3) until a proper seal is obtained. At the same time, the brewing piston (10-4) is raised to let the water and the product mixture in the chamber.
Water dispensing starts one second after the unit motor starts.

Fig. 10
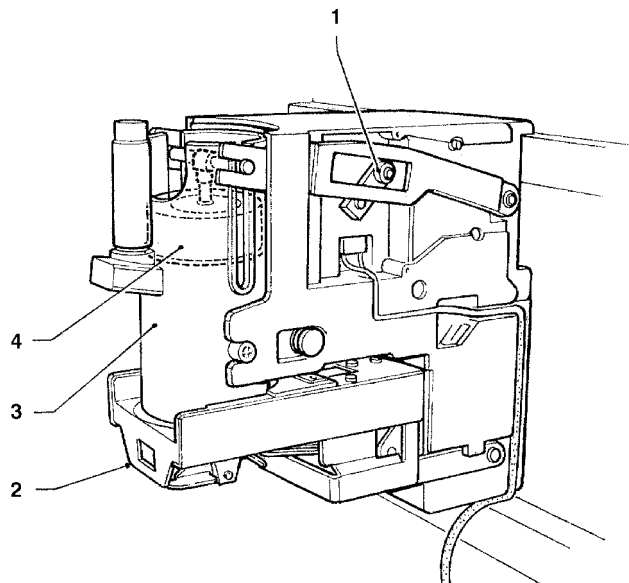
1 - Brewing unit crank
2 - Sliding filter holder
3 - Brew chamber cylinder
4 - Brewing piston
5 - Sliding filter holder motor
6 - Grounds removing scraper
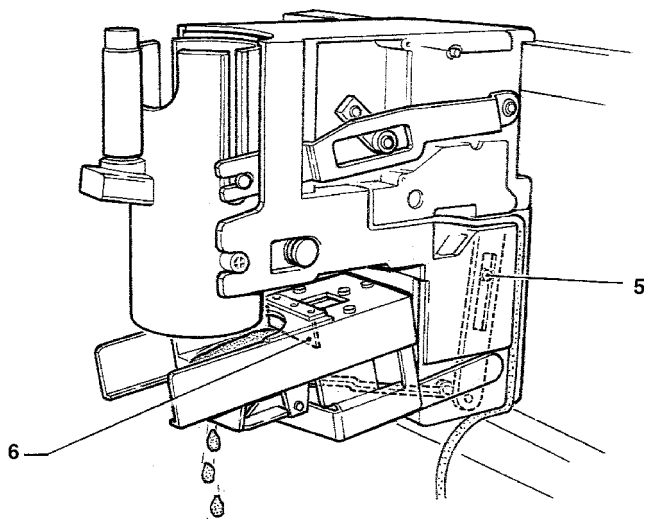
Brewing will continue for a preset period of time, which can be programmed via software, then the piston is lowered to dispense the brewed drink and dry the dose of grounds. At the end of drink dispensing, the filter holder will be lowered, the filter holder motor (10-5) moves back the sliding filter holder, thus enabling the grounds to be removed by the scraper (10-6).

It is also possible to program a pause for drying the product dose to further improve the drink quality.

To improve the performance of tea brewing, a special dispensing spout is used (see Fig. 11), which prevents the pressure generated by the brewing piston from being directly discharged into the cup.

Fig .11

1 - Tea dispensing spout
2 - Plug
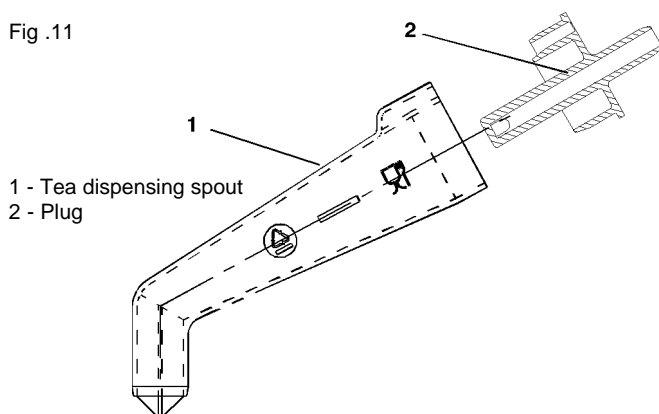
CHECKING AND ADJUSTING THE UNIT SETTINGS

To get the best possible results from the product used, the following checks should be carried out:

product weight in grams

the water dose

temperature of the drink

The weight of the products and the water dose are directly controlled by the microprocessor.

To vary these parameters, it is therefore necessary to follow the programming procedures

STANDARD SETTINGS

The vending machine is supplied with the following factory settings:

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

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

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

WATER TEMPERATURE CONTROL

If the boiler temperature is to be changed, adjust the special trimmer (see figures 15 and 16) keeping in mind that:

- tightening will increase the temperature;

- loosening will decrease the temperature;

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

OPERATING MODES

Three different operation modes are available for the machine; according to the specific mode, the buttons may have different functions.
The available operation modes are as follows:

DISPLAY	FUNCTIONS
Normal mode	
"In operation"	coins accepted products dispensed
Maintenance mode	
"Maintenance"	test dispensing machine maintenance
Programming mode	
"Programming"	programming

NORMAL OPERATING MODE

After the apparatus has been turned on, the message "Starting" is displayed for a few seconds, after which the machine normal operating mode is started.
The massages displayed according to the current operation are the following:

DISPLAY	FUNCTION
"Ready"	Machine ready to dispense drinks against payment.
"Free Vend"	Machine ready to dispense free drinks (key turned anticlockwise).
"Jug facility"	Machine ready to dispense up to 5 drinks without accessories (key turned clockwise).
"Price:...."	Price display selection made
"Credit:....."	Credit display
"Out of Service"	Machine out of service
"Preparing"	Preparation of drink
"Temperature"	Wait time before reaching the operating temperature
"Installation"	Installation under way
"Sel. disabled"	Selection disabled
"FB out of S."	Brewing unit out of service (Instant models excluded)
"Take"	Drink ready
"Cup"	Cup present

JUG FACILITIES

With the key (see Figure 2) turned by a quarter of a turn anticlockwise, the machine is set to free dispensing of up to 5 consecutive drinks without accessories to permit jug filling.
The selection sequence can be interrupted by turning the key to the central position before one selection is ended.
At the beginning of the first selection the display will show the number of selections remaining to end the sequence.

PRESELECTIONS

The dose powder of the coffee and tea based selections can be varied before selecting the drink, by using the "-" and "+" buttons in steps of 10% of the programmed dose.
The user's choice is displayed by the 5-LED card.
The price of the selections with dose variation may be increased or decreased by a programmed amount.

D - 10%   D   D + 10%
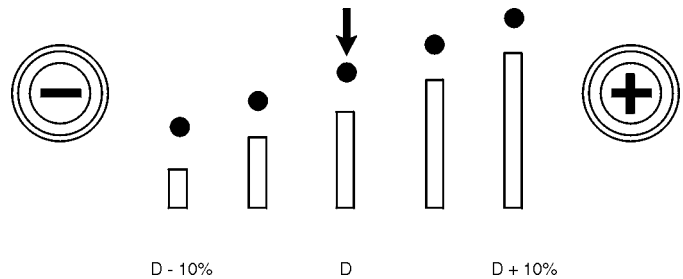
Usually, all selections are all unsweetened. By using the special control buttons before making the selection, drinks with either sugar or extra sugar can be obtained. The relevant message will appear on the display.

MAINTENANCE MODE

When the programming key located in the coin mechanism compartment is pressed once the machine will go to "Maintenance" mode.
The message "Maintenance" is displayed for approx. 2 seconds and then the first option of the "maintenance" menu will appear to activate the following functions:

"Compl. selec."	Complete test dispensing including cup and sugar
"Powd. only"	Dispensing powder only
"Water only"	Dispensing water only
"No accessories"	Test dispensing without cup or sugar
"Special functions"	Rotating and brushing the unit Dispensing sugar Dispensing extra sugar

Each button controls the relevant selection for complete or partial test dispensing (see the selection dose table).
When the display shows "Special functions" the keys will have the following functions:
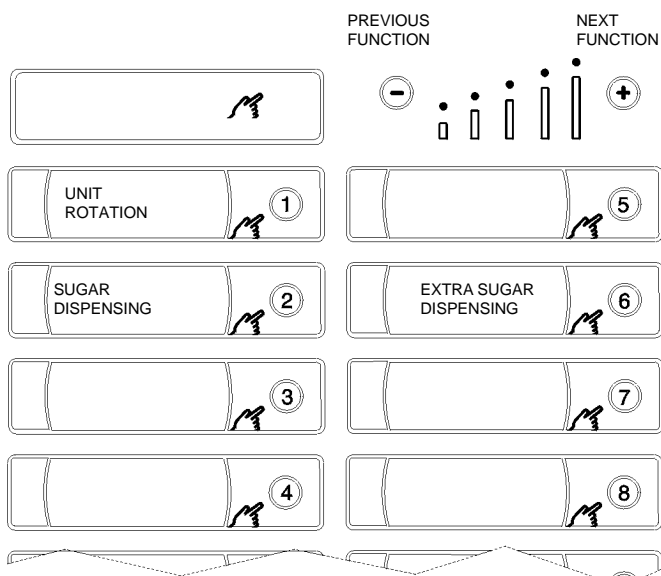
PROGRAMMING

When pressing the programming key located in the coin mechanism compartment twice, the machine will go to "Programming" mode.
The message "Programming" is displayed for approx. 2 seconds, and after this the first option of the programming menu appears on the display enabling the following functions:

"Curr. failure"	current failure reading
"Water dose"	water dose setting
"Powd. dose"	powder dose setting
"Set Price"	price setting
"Set price/select."	prices/selections setting enable/disable selections
"Basic coin / DP"	basic coin value setting and decimal point position
"Validat. lines"	validator line value setting
"Initialise"	RAM initialising
"Machine code"	machine code setting
"Discount"	price variation depending on the preselections made
"Mixer temper."	preliminary dispensing of hot water in the sugar mixer
"Dose var."	preselection dose variations setting

"Mixer cooling"	preliminary dispensing of cold water from the water spout
"FB data"	parameter setting for fresh product dispensing

The following is also possible:
- failure reset;
- machine installation;
- statistics display;
- statistics printout;
- statistics reset.

Now the buttons on the push-button panel will have different functions as shown in the figure below.
The buttons within the dotted line perform direct functions, the ones outside permit either menu scrolling or changing of data.
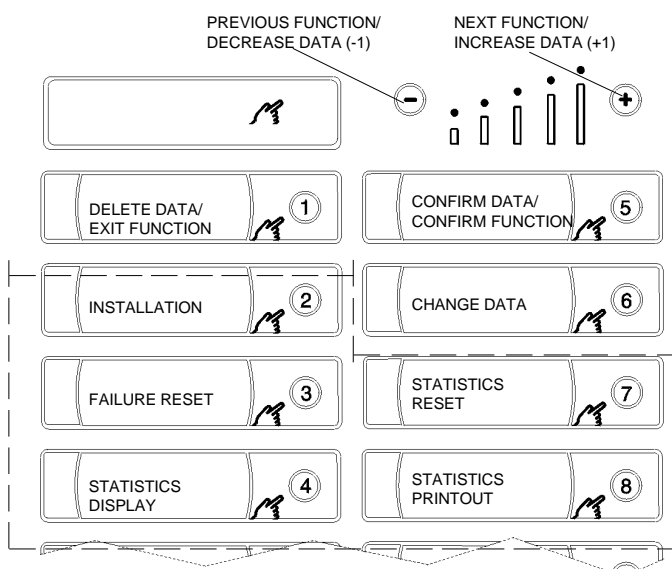
DISPLAY OF CURRENT FAILURES

When the "Curr. failure" function from the "programming" menu is displayed (see Table I), pressing confirm key "5" will display the error code of the current failure;
when pressing the "+" key the error code of the next applicable failure is displayed. If no failure is currently present, pressing confirm key "5" will display the message "No Failure".
The various failures are shown in the following cases:

BOILER LEVEL
The machine will lock if after 3 selections the float microswitch has not signalled the lack of water.

BOILER FAILURE
The machine will lock if after 20 minutes of heating time from the machine start or from the last selection the instant boiler fails to reach the operating temperature.

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.

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.

WATER FAILURE

If the air-break micro-switch is turned off for one minute, the water inlet solenoid valve will remain triggered until the water flow is restored.

CUP FAILURE

When the empty cup column micro-switch is turned on , the column shift motor is actuated. If after one full turn the micro-switch is not turned off the machine will lock.

LIQUID WASTE CONTAINER FAILURE

This occurs after the liquid waste container float is triggered.

BREWING UNIT FAILURE

This failure is due to the unit's wrong position. The machine will not lock but all fresh product based drinks are disabled.

FB SCRAPER FAILURE

Wrong positioning of the waste ejection scraper. The machine will not lock but all fresh product based drinks are disabled.

SYRUP 1 AND 2 FAILURE

The selections containing syrup are disabled.

MOBILE SPOUT FAILURE

If the spouts do not reach the dispensing points the machine is disabled.

WATER FAILURE (COLD UNIT)

Cold selections are disabled if the pressure switch at the network inlet indicates a no-water condition.

PROGRAMMING THE
WATER AND POWDER DOSES

When either the "Wat. dose" or the "Powd. dose" functions are displayed the doses can be varied from the "programming" menu.
The various doses are identified with dose codes, which are displayed each time.
The dose code locates the water and powder doses related to a given selection.
The dose codes of the various selections can be viewed in the selection dose table which is supplied with the machine.
The values of the doses displayed are expressed in tenths of a second.
Pressing key "5" from the "programming" menu for confirmation will access the dose code list, which can be scrolled with the "-" and "+" keys.
When pressing the correction key "6" this value will be blinking and can be modified as necessary.

PRICE SETTING

When the "Set Price" function is displayed, the 14 sales prices stored can be changed from the "programming" menu.

The prices are indicated as number of basic coins.
Pressing the confirm key "5" from the "programming" menu will access the price list, which can be scrolled with the "-" and "+" keys.
When pressing the correction key "6" this value will be blinking and can be modified as necessary.

PROGRAMMING THE PRICES
AND THE SELECTION STATUS

When the "Set Price/Select." (price setting) function is displayed, the selection setting to one of the memorised prices and/or the state of one selection can be varied from the "programming" menu.
The prices are indicated as number of basic coins.
Pressing the confirm key "5" from the "programming" menu will access the price list, which can be scrolled with the "-" and "+" keys.
When pressing the correction key "6" the selection state will be flashing and can be changed from (enabled) to (disabled) with the "-" and "+" keys.
Pressing the confirm key "5" from the "programming" menu sets the price for each selection and can be changed with the "-" and "+" keys.
When pressing the correction key "6", this value will be blinking and can modified as necessary.

NOTE: The residual credit is controlled by the minidips located on the CPU board. Refer to the "configuring the electronic boards" section for settings.

PROGRAMMING THE BASIC
COIN AND THE DECIMAL POINT

When the "Basic coin / DP" (basic coin value) function is displayed, the value of the basic coin as well as the position of the decimal point can be modified from the "programming" menu.
Pressing the confirm key "5" from the "programming" menu will display the current value of the basic coin.
By using the "-" and "+" keys, the display will alternate between the value of the basic coin and the number of the decimal point position "DP", i.e.:

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

When pressing the correction key "6" these values will be blinking and can be modified as necessary.

PROGRAMMING THE VALIDATOR LINES

When the "Validat. lines" (lines programming) function is displayed, the value of the 6 coin lines of the validator can be varied from the "programming" menu.
The values of the lines are indicated as number of basic coins.
Pressing the confirm key "5" from the "programming" menu will access the line list, after which this can be scrolled with the "-" and "+" keys.
When pressing the correction key "6" this value will be blinking and can be modified as necessary.

INITIALISING

When the "Initialise" function is displayed the vending machine can be initialised, restoring all default data.
This function should be used when a memory data error occurs or when the EPROM is replaced.
All statistical information will be reset.
Pressing key "5" makes the request "Confirm?" appear on the display for confirmation. When pressing key "5" a second time, the message "Working" is displayed for a few seconds.

PROGRAMMING THE MACHINE CODE

When the "Machine code" function is displayed the identification code number of the machine can be changed (from the default 0000 to a number up to 9999).
Press key "5" to confirm and display the current code number; when using the correction key "6" the first digit will blink.
The keys will now have numeric functions.
Pressing any of the keys will give its value to the flashing digit and the next digit starts blinking.

DISCOUNT DATA

This function is used to set the amount of price increase or reduction of a selection resulting from the preselection of a higher or lower dose of powder. When setting this value to 0 this function will be disabled.

HEATING THE MIXER

When the "heating mixer" function is displayed, pressing the confirm key "5" will display the status (enabled/disabled); press the correction key "6" to change the status of the function.
If the function is enabled and no dispensing has occurred in the milk or instant coffee mixers in the last 5 minutes, a small amount of hot water is dispensed before any selection of strong instant coffee, instant coffee with milk and espresso coffee with milk.

COOLING THE MIXER

When the "cooling mixer" function is displayed, pressing the confirm key "5" will display the status (enabled/disabled); press the correction key "6" to change the status of the function.

If the function is enabled and no dispensing of cold drinks has occurred into the fresh drink mixer in the last 5 minutes, a small amount of cold water is dispensed before any selection.

CHANGING DOSE

This function is used to determine by which percentage to increase or decrease the powder dose for coffee based selections (default = 10%).
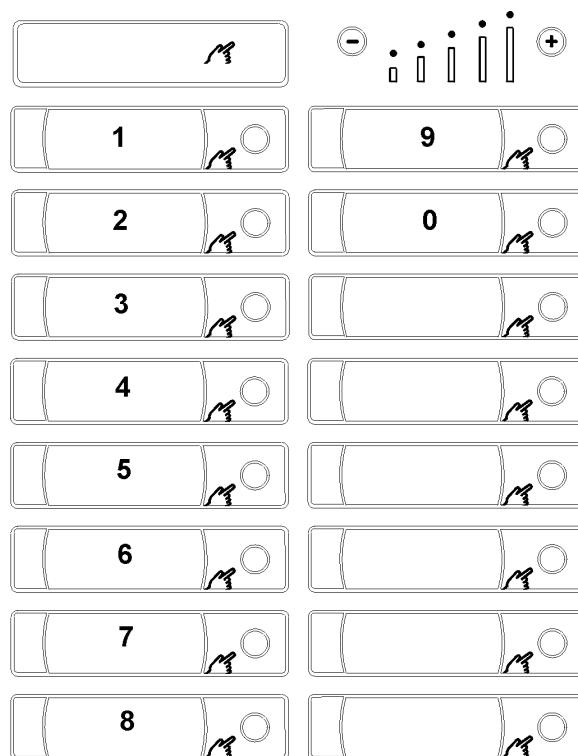
FRESH BREW DATA

This group of functions will configure programming to adapt the operating cycle of the brewing unit to the type and to the characteristics of the product used and more precisely:

"Brewing time"   brewing time setting

"Drying time"   time setting for drying
                  of the dose

"FB configuration "   not used (setting for future use)

INSTALLATION

Pressing the installation key "2" will enable the filling operation of the hydraulic system, even with the air break full.

RESETTING FAILURES

When pressing the failure reset key "3" the message "Working" is displayed for a few seconds and all current failures will be reset.

DISPLAYING THE STATISTICS

Pressing the statistics display key "4" causes the stored data to be sequentially shown on the screen with a time interval of 1 second if no other key is pressed and more precisely:

1 - single selection counter;

2 - single price counter;

3 - counter per type of coin cashed;

4 - total cash counter;

5 - failure counter.

PRINTING THE STATISTICS

The statistics described in the section "displaying the statistics" can be printed with a RS-232 serial printer with a Baud rate of 9600, 8 data bit, no parity, 1 stop bit, connected to the serial port located on the push button board (the CITIZEN I-DP 3110-24RF 230 A p/n 9210219 printer is recommended). The hardcopy printout will also contain the machine code number and the printout progressive number.
The progressive hardcopy printout number can be reset only by initializing the machine.
To connect the printer do as follows:

- Press the statistics printout key "8" and the message "Confirm?" will be displayed for confirmation;

- before confirming connect the printer;

- press the confirm key "5" to start printing.

RESETTING THE STATISTICS

When pressing the statistics reset key "7" the flashing message "Confirm?" will be displayed for confirmation. Pressing the confirm key "5" the message "Working" is displayed for a few seconds and the statistics are reset.

PROGRAMMER (OPTIONAL)

AUTOMATIC SETUP TRANSFER

Using the programmer device makes it possible to read out the programming routines set and transferred to other apparatuses 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

- 14-price table

- Prices/selection status

- Basic coin

- Decimal point position

- Value of the validator lines

- FB data

- Discount data

- Mixer heating

- Dose changing

The programmer allows up to twenty different programs (setups) to be stored.
To identify, among the 20 setups available, those containing data, a special character is displayed, and more precisely:

< - > = Setup free

< □ > = Setup with data.

When creating the setup only the programs containing data are available; if no setup contains data, the message "no data available" will appear on the programmer display. The special holder (see Fig. 12) is used to connect the programmer to the machine, connecting the cable to the special connector of the push-button board (see fig. 15). Then enter the "programming" mode and press twice the relevant key on the coin mechanism compartment.

Fig. 12
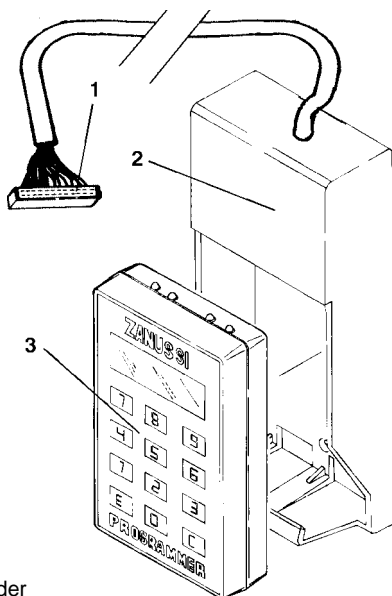
1 - Connector
2 - Programmer holder
3 - Programmer

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

- Pressing key   "E"   will access the displayed function;

- Pressing key   "O"   will display the following function;

- Pressing key   "C"   will display the previous function.

```
PROGRAMMER        SETUP READING      SETUP 01    <X>
SETUP READING     SETUP 01    <X>    Confirm?
                        |
                        |
                        |
                  SETUP READING
                  SETUP 20    <X>


PROGRAMMER        CREATE SETUP       SETUP 01    <X>
CREATE SETUP      SETUP 01    <X>    Confirm?
                        |
                        |
                  CREATE SETUP
                  SETUP 20    <X>
```
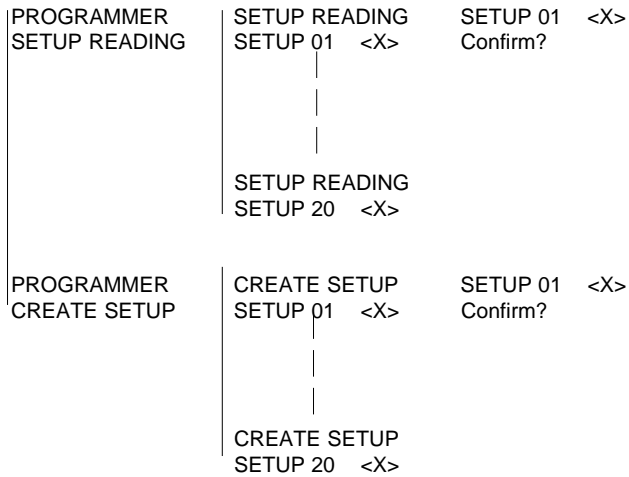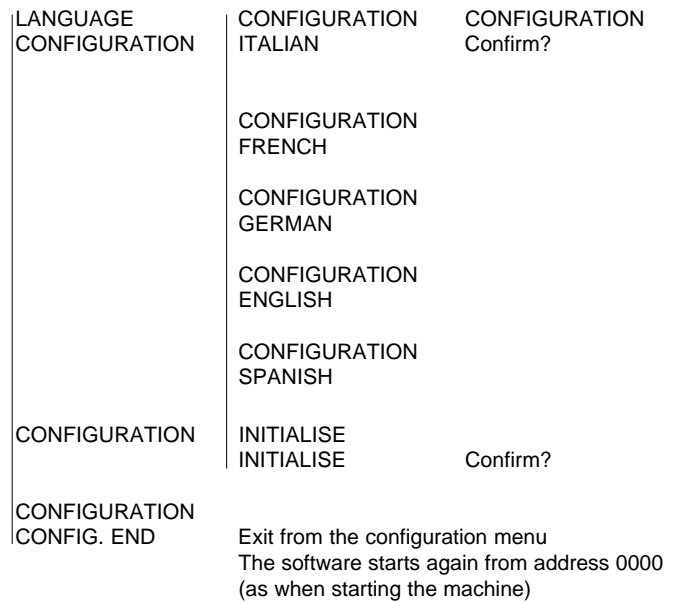
SETTING THE LANGUAGE

It is possible to change the programmer configuration as concerns the language in which the messages are to be displayed as well as to reset all of the data therein contained. To activate the "Programmer configuration" operate as follows:

- fit the programmer in its holder and start the machine.

- wait for about 10" and then press the programmer keys "C" and "O"; the first function will be thus displayed:

```
LANGUAGE          CONFIGURATION      CONFIGURATION
CONFIGURATION     ITALIAN            Confirm?


                  CONFIGURATION
                  FRENCH

                  CONFIGURATION
                  GERMAN

                  CONFIGURATION
                  ENGLISH

                  CONFIGURATION
                  SPANISH

CONFIGURATION     INITIALISE
                  INITIALISE         Confirm?

CONFIGURATION
CONFIG. END       Exit from the configuration menu
                  The software starts again from address 0000
                  (as when starting the machine)
```

MAINTENANCE

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

Switch the machine off before any maintenance operations which involve disassembly of its components.

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

INTRODUCTION

To ensure correct operating conditions over time, the machine must be subjected to regular maintenance.
The following sections contain the procedures and the maintenance schedule, which are given only as an indication, since they greatly depend on the operating conditions (e.g. water hardness, environmental humidity and temperature, type of product used, etc.).
To prevent any risks of oxidation or the action of chemical agents, the stainless steel and painted surfaces should be cleaned with mild detergents (solvents should be avoided).

Do not use water jets to clean the machine.

BREWING UNIT MAINTENANCE

As well as cleaning every week and/or every 2,500 selections, the brewing filter and its seal must be replaced every 25,000 selections, even if they appear to be still sound.
The brewing unit must be disassembled completely and its components thoroughly cleaned every 100,000 selections replacing all worn out parts.
The brewing cylinder must be changed even if it appears to be still sound and efficient.
During these operations the area beneath the brewing chamber is to be properly cleaned.

Important notice!!
Should the whole unit need to be removed, do not handle it by the cylinder or by the filter holder

OVERHEAT PROTECTION

If the brewing unit stops, the software control shuts off the power from the brewing unit motor.
The motor is however fitted with an overheat protection with automatic reset.

BOILER MAINTENANCE

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

This operation should be carried out by qualified technicians only.

The boiler must be removed from the machine for descaling. Use only biodegradable, nontoxic and mild products for descaling. Thoroughly rinse all parts before reassembling them.

When reassembling make sure that:

- the electrical contacts (terminals, fastons etc.) are perfectly dry and correctly connected;

- the safety and anti-boiling thermostats are suitably positioned and fastened;

- the hydraulic connections are correctly made.

IMPORTANT NOTICE!!!

If for any reasons the heating system of the boiler is operated without water, before restarting the machine the correct functioning of the boiler temperature sensor should be checked.

If heating without water continues until the safety thermostat is triggered (see hydraulic system) the boiler temperature sensor will be

PERMANENTLY DAMAGED

AND IT MUST BE REPLACED.

ANNUAL SANITATION

At least once a year, or more frequently depending on the use of the machine and the quality of the inlet water, the entire foodstuff circuit must be cleaned and sanitised in the following way:

- all parts of the system in contact with food, including pipes, must be removed from the unit and fully disassembled;

- wash all part with detergents, making sure to mechanically remove all visible residue and product layers with brushes or similar tools, if necessary;

- all parts removed must be soaked in a sanitising solution for at least 20 minutes;

- the unit internal surfaces must be cleaned with the same type of sanitising 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 "Disinfecting the foodstuff circuits" should be repeated.
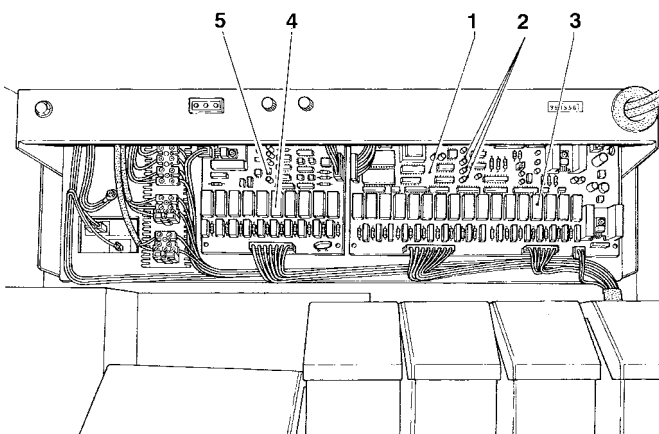
IMPORTANT NOTICE!!!

The inlet filter MUST NOT be washed or disinfected. It should be replaced according to schedule.

PRINTED BOARD FUNCTIONS AND INDICATOR LIGHTS

CONTROL BOARD

This board (see Figure 13) processes the information from the key panel and from the payment system, and controls the actuations and the push-button board.

Fig. 13

1 - Control board
2 - LEDs
3 - Relay
4 - Expansion board
5 - Red LED

The 15 V~ voltage required for board operation is supplied by a transformer 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 shows the presence of a 12 V DC voltage;

- the green LED blinking indicates that the microprocessor is working correctly;

- the red LED indicates the operating state of the boiler heating element.

EXPANSION BOARD

This board (see figure 13) controls the actuations concerning the instant product boiler as well as the various optional applications (e.g. tea brewer, cold unit etc.).

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.

Fig. 14
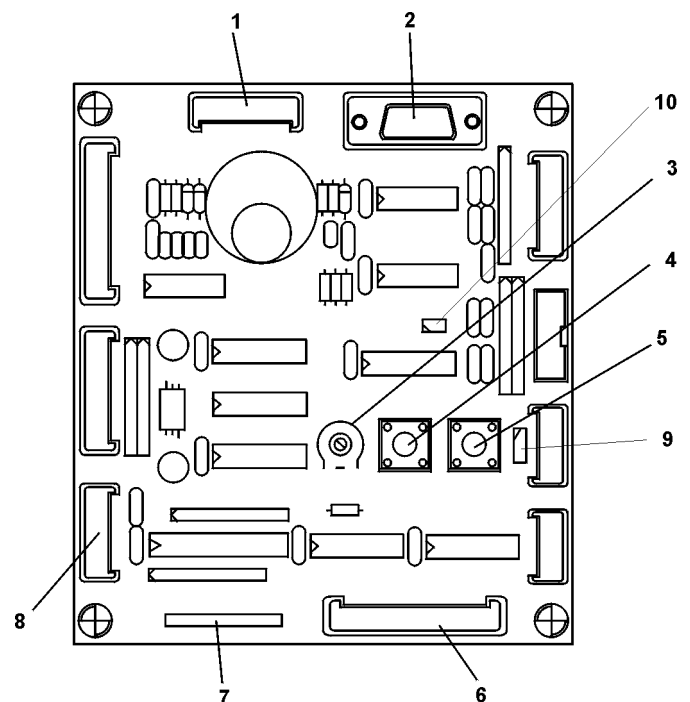
1 - To the programmer
2 - RS232 serial port
3 - LCD display contrast adjustment trimmer
4 - Programming key
5 - Mixer cleaning button
6 - To the LCD display
7 - To the push-button panel
8 - To the sugar LED card

9 - Jp2 =

10 - Jp1 =

CONFIGURING THE ELECTRONIC BOARDS

The electronic boards are designed to be used in many machine models.
In case of replacement, or when wishing to change the unit performance, the configuration of the boards needs to be checked.
At the centre of the control board (see Fig. 15) and the expansion board (see Fig. 16) two rows of minidips are located, which permit the board to be suitably configured for use in the various unit versions.
To correctly configure the boards, refer to the following tables, keeping in mind that the numbers are referred to the dips of the control board and the numbers followed by an "E" are to be referred to the dips of the expansion board.
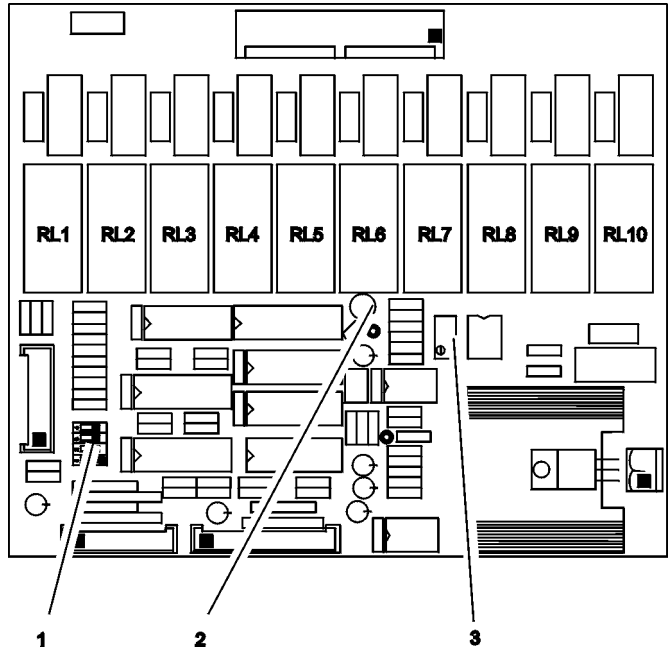
Fig. 15
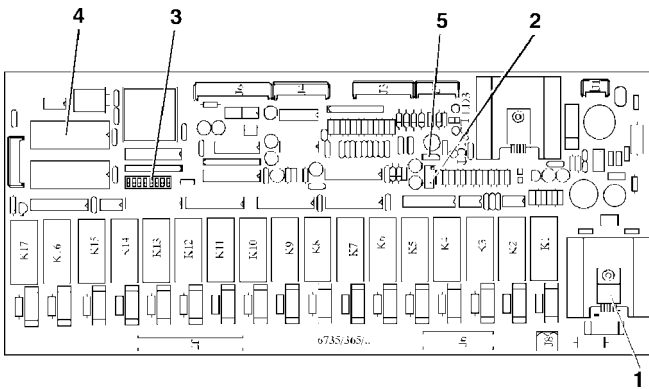
1 - Triac of the boiler heating element
2 - Temperature control trimmer
3 - Configuration minidip
4 - EPROM
5 - Jumper fixed on 2-3

RELAY FUNCTION (see wiring diagram)

		BREWER	INSTANT
K1	=	MF3	MF4
K2	=	MF2	MF3
K3	=	MD5	MD5
K4	=	E4	E4
K5	=	E3	E3
K6	=	E2	E2
K7	=	E1	E1
K8	=	MFB1	MF1
K9	=	MD4	MD4
K10	=	MD3	MD3
K11	=	MD2	MD2
K12	=	MD1	MD1
K13	=	MSB	MSB
K14	=	MSP	MSP
K15	=	MSCB	MSCB
K16	=	EIA	EIA
K17	=	MF1	MF2

Fig. 16

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

RELAY FUNCTION (see wiring diagram)

		BREWER	INSTANT
RL1	=	MPF2	PM sanit
RL2	=	MFB2.	EV sanit.
RL3	=	PMF2	PMF2
RL4	=	PMF1	PMF1
RL5	=	EVF1	EVF1
RL6	=	EVF2	EVF2
RL7	=	MSU	MSU
RL8	=	MPF1	E5
RL9	=	MF4	MF5
RL10	=	MD6	MD6

CONFIGURING THE LAY OUT

Depending on the selected drinks to be dispensed, minidips 6 and 7 on the control board and minidips 1 and 2 on the expansion board shall be set according to the selection dose table supplied with the machine.

CONFIGURING THE MODEL

According to the model minidip 5 shall be set as follows:

MODEL	INSTANT	ESPRESSO
MINIDIP 5	ON	OFF

CONFIGURING THE PAYMENT SYSTEM

On the units of the Spazio range it is possible to either mount serial payment systems or only the 24 V validator, by setting minidip 1 as shown in table below:

SYSTEM	SERIAL	VALIDATOR
MINIDIP 1	ON	OFF

If the machine is to dispense free drinks, without using payment systems, it will be necessary to ensure that minidip 1 is positioned to OFF.

CONFIGURING THE CREDIT MANAGEMENT

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

CREDIT	MANAGED	NOT MANAGED
MINIDIP 3	ON	OFF

CONFIGURING THE SERIAL SYSTEM

When serial systems are used dips 3, 4 and 8 shall be configured as shown in the table below.
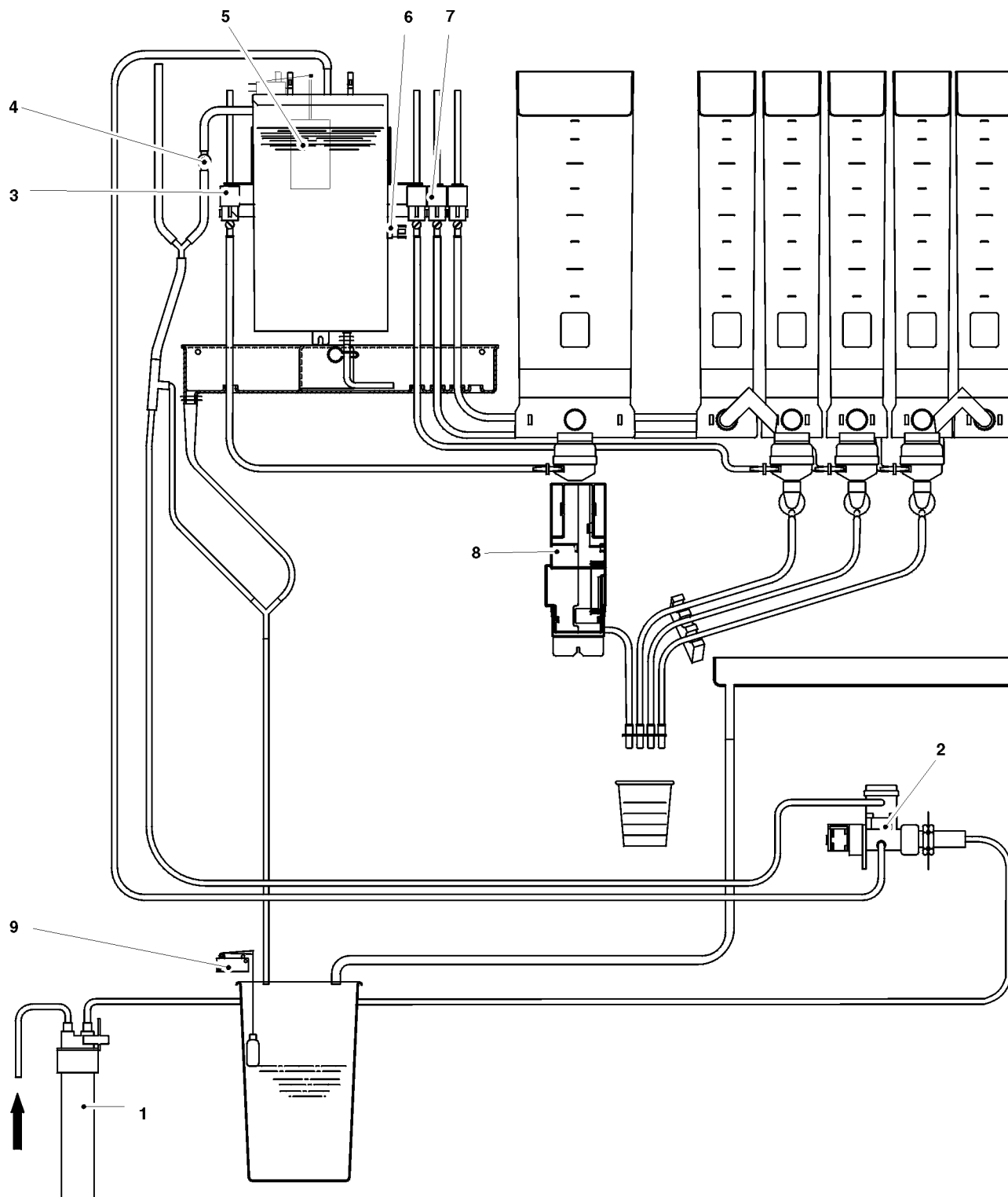
SERIAL SYSTEM	DIP 3	DIP 4	DIP 8
Executive std. U-key URW 2	OFF	OFF	OFF
Executive price holding (parameter 36 = 3)	OFF	ON	OFF
ECS system	ON	OFF	OFF
U-Key URW3	OFF	OFF	ON

Important notice:

The minidips which are not mentioned must be placed in the OFF position.

HYDRAULIC SYSTEM
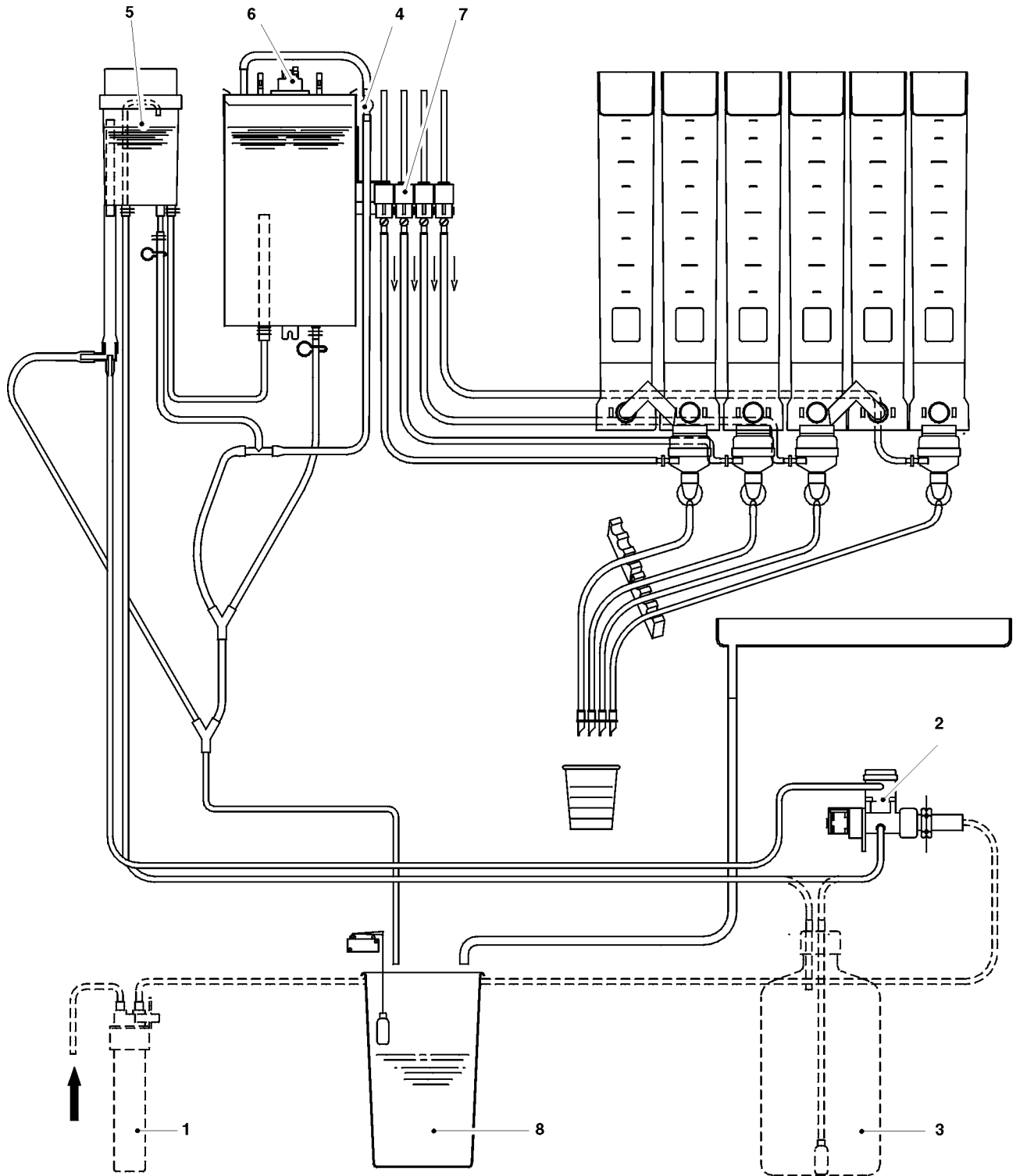
models equipped with brewing unit

1 - Dechlorinating filter
2 - Water inlet electrovalve
3 - Brewing unit electrovalve
4 - Anti-boiling thermostat
5 - Boiler float

6 - Safety thermostat
7 - Instant product electrovalves
8 - Brewing unit
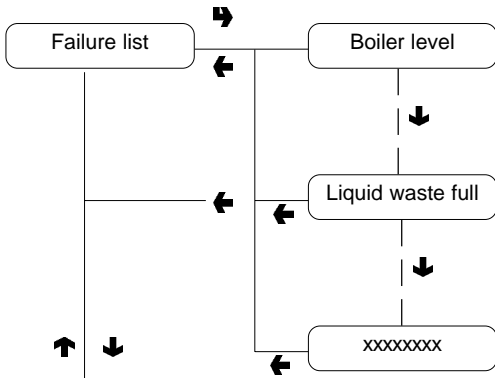9 - Liquid waste container float

HYDRAULIC SYSTEM

instant models

1 - Dechlorinating filter (optional)
2 - Water inlet electrovalve
3 - Softener (optional)
4 - Anti-boiling thermostat

5 - Air break
6 - Safety thermostat
7 - Instant product electrovalves
8 - Liquid waste container

Programming menu

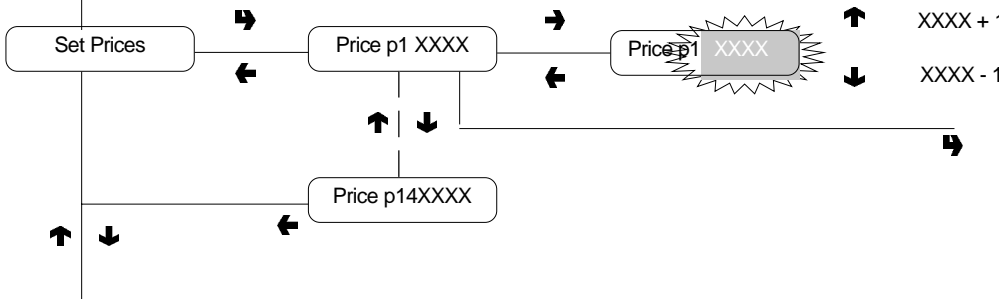If no failure is detected, when pressing confirm key ↳ the message "No failures" is displayed

FAILURE LIST
Boiler level
Boiler
Coin mechanism
RAM data
Water failure
Cup failure
Liquid waste full
Mixer wheel
Brewing unit
Unit scraper
Syrup 1 failure
Syrup 2 failure
Mobile spouts
Cold unit water failure

Failure list	Boiler level
	Liquid waste full
	xxxxxxxx
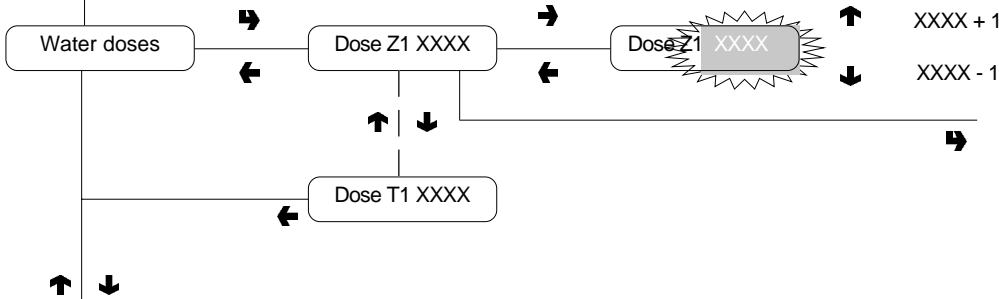
WATER + POWDER DOSES

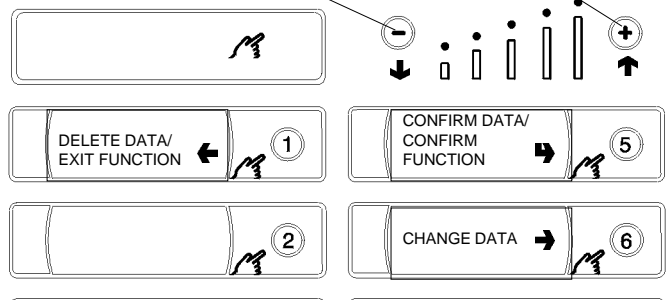Refer to the slection dose table for the correspondence between dose code and powder or water dose

Water doses	Dose Z1 XXXX	Dose Z1 XXXX	XXXX + 1
			XXXX - 1
	Dose T1 XXXX		

PRICE VALUE

Price table; values expressed in basic coin

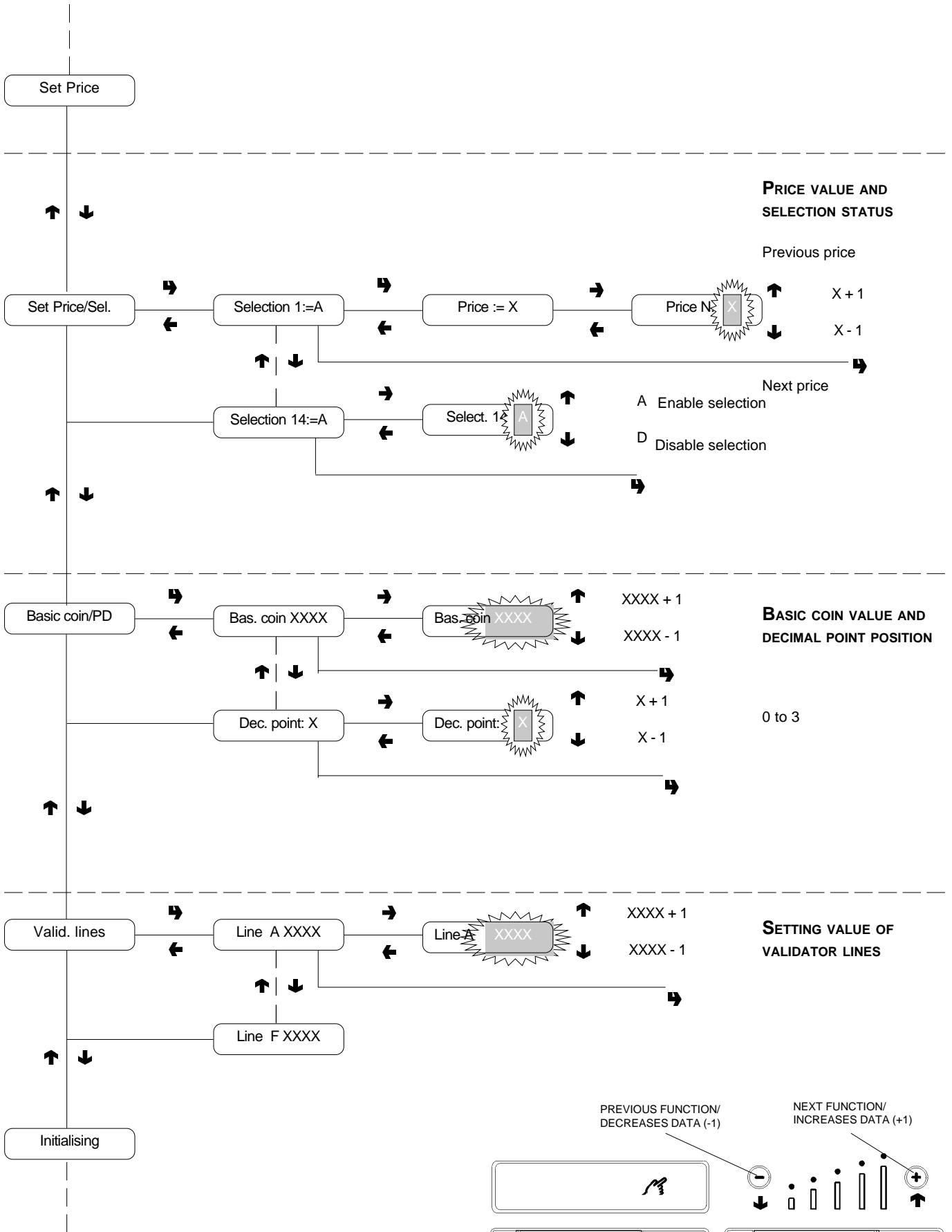| Set Prices	Price p1 XXXX	Price p1 XXXX	XXXX + 1
			XXXX - 1
	Price p14XXXX		

Set Prices/Sel.

PREVIOUS FUNCTION/
DECREASE DATA (-1)

NEXT FUNCTION/
INCREASE DATA (+1)

DELETE DATA/ EXIT FUNCTION ←	1	CONFIRM DATA/ CONFIRM FUNCTION ↳	5
	2	CHANGE DATA →	6

Programming menu

Set Price

Previous price

Set Price/Sel. → Selection 1:=A → Price := X → Price N: X | X + 1 | X - 1

Next price

Selection 14:=A → Select. 14: A

A Enable selection

D Disable selection

**BASIC COIN VALUE AND
DECIMAL POINT POSITION**

Basic coin/PD → Bas. coin XXXX → Bas. coin XXXX | XXXX + 1 | XXXX - 1

Dec. point: X → Dec. point: X | X + 1 | X - 1

0 to 3

**SETTING VALUE OF
VALIDATOR LINES**

Valid. lines → Line A XXXX → Line A XXXX | XXXX + 1 | XXXX - 1

Line F XXXX

Initialising

PREVIOUS FUNCTION/
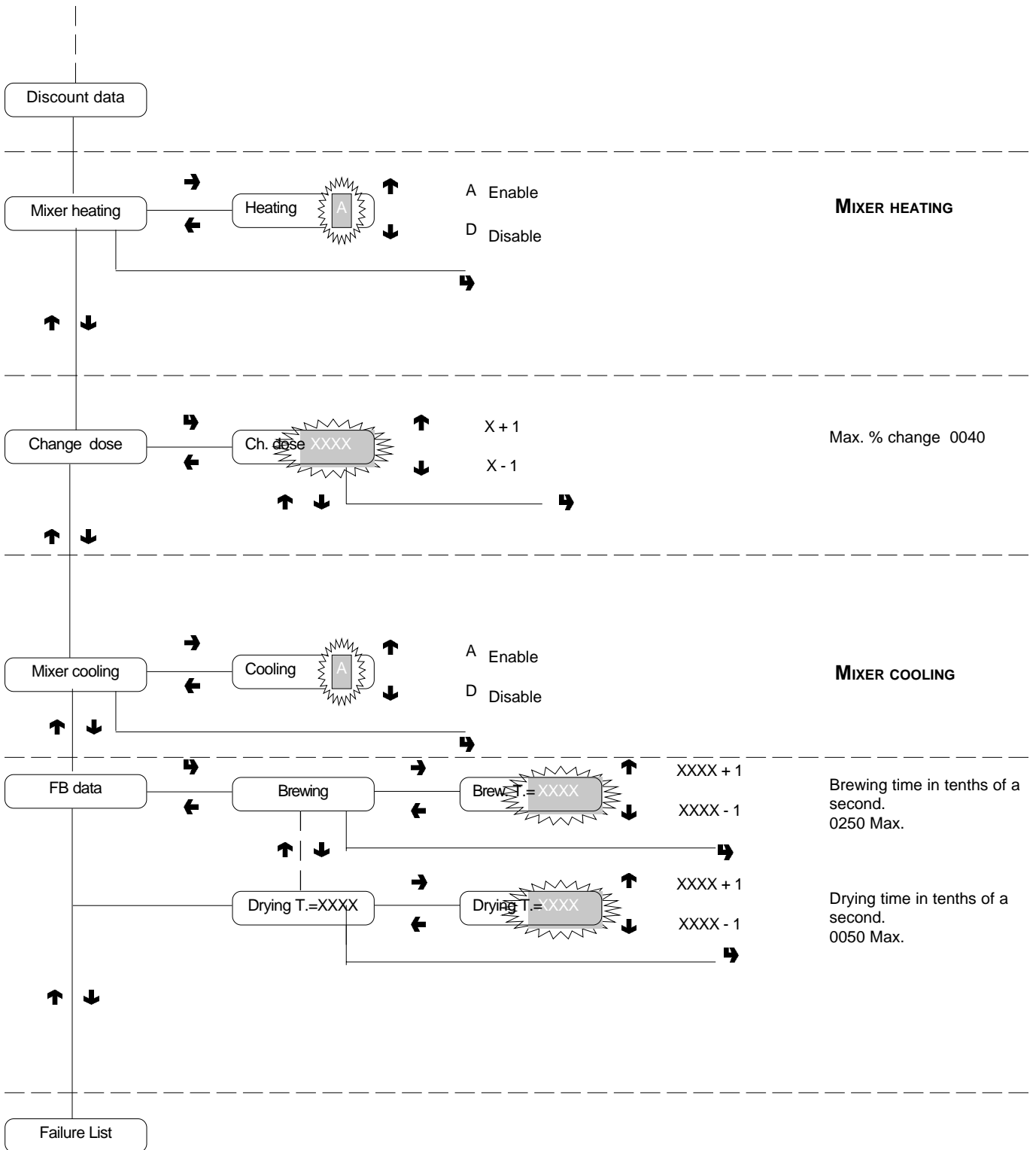DECREASES DATA (-1)

NEXT FUNCTION/
INCREASES DATA (+1)

| DELETE DATA/
EXIT FUNCTION ← | 1 | CONFIRM DATA/
CONFIRM
FUNCTION ➥ | 5 |
| | 2 | CHANGE DATA → | 6 |

Programming menu

Valid. lines

⬆ ⬇

Initialising   ↳   Conferm ? ← ↳   Working   **I**NITIALISING

⬆ ⬇

Machine code ↳ Code XXXX → Code = XXXX ← ⬆ XXXX + 1 ⬇ XXXX - 1

MACHINE
IDENTIFICATION CODE

Pressing change key ➜
causes the first digit to blink.
The push-button panel is
given numeric values.
If pressing a button, the
blinking button is assigned
that value and the next digit
starts blinking.

⬆ ⬇

Discount data ↳ Discount = → Disc.= XXXX ← ⬆ XXXX + 1 ⬇ XXXX - 1

In basic coins

⬆ ⬇

Mixer heating

PREVIOUS FUNCTION/
DECREASE DATA (-1)

NEXT FUNCTION/
INCREASE DATA (+1)

DELETE DATA/
EXIT FUNCTION ←   1

CONFIRM DATA/
CONFIRM
FUNCTION ↳   5

2

CHANGE DATA ➜   6

9912 SPAZIO FB-I

Programming menu

Discount data

Mixer heating → Heating [A] ↑↓
- A Enable
- D Disable

MIXER HEATING

Change dose → Ch. dose XXXX ↑↓
- X + 1
- X - 1

Max. % change 0040

Mixer cooling → Cooling [A] ↑↓
- A Enable
- D Disable

MIXER COOLING

FB data → Brewing → Brew. T.= XXXX ↑↓
- XXXX + 1
- XXXX - 1

Brewing time in tenths of a second.
0250 Max.

Drying T.=XXXX → Drying T.= XXXX ↑↓
- XXXX + 1
- XXXX - 1

Drying time in tenths of a second.
0050 Max.

Failure List

PREVIOUS FUNCTION/
DECREASES DATA (-1)

NEXT FUNCTION/
INCREASES DATA (+1)

Switch machine off to exit programming mode

| DELETE DATA/ EXIT FUNCTION ← | 1 |

| CONFIRM DATA/ CONFIRM FUNCTION ➥ | 5 |

| | 2 |

| CHANGE DATA → | 6 |
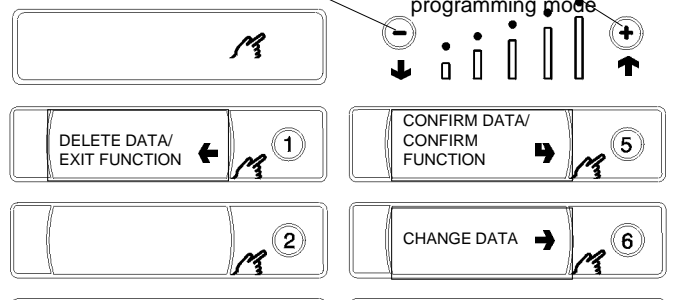
Reading data
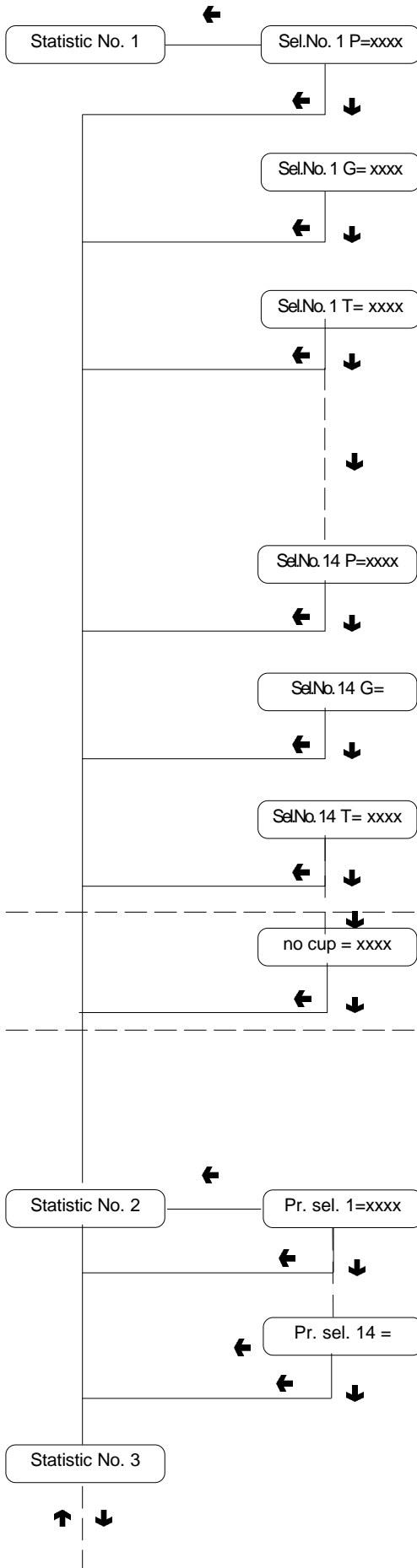
Statistic No. 1 → Sel.No. 1 P=xxxx	P = Paid dispensing	**DISPENSING BY SELECTION**
Sel.No. 1 G= xxxx	P = Free dispensing	Press button "8" to display statistics for each selection (1 - 16)
Sel.No. 1 T= xxxx	P = Test dispensing	Automatic data scrolling at intervals of one second
Sel.No. 14 P=xxxx		
Sel.No. 14 G=		
Sel.No. 14 T= xxxx		
no cup = xxxx	Total selections without cup	

DISPENSING BY PRICE

Statistic No. 2 → Pr. sel. 1=xxxx

Pr. sel. 14 =

Statistic No. 3

PREVIOUS FUNCTION/ DECREASE DATA (-1)

NEXT FUNCTION/ INCREASE DATA (+1)

DELETE DATA/ EXIT FUNCTION ← ①	CONFIRM DATA/ CONFIRM FUNCTION ➡ ⑤
②	CHANGE DATA → ⑥
③	RESET STATISTICS ⑦
④	DISPLAY STATISTICS ⑧

Reading data

Statistic No. 2

↓

Statistic No. 3 ← Coin No. 1=XXXX — **CASHED BY COINS**

← ↓
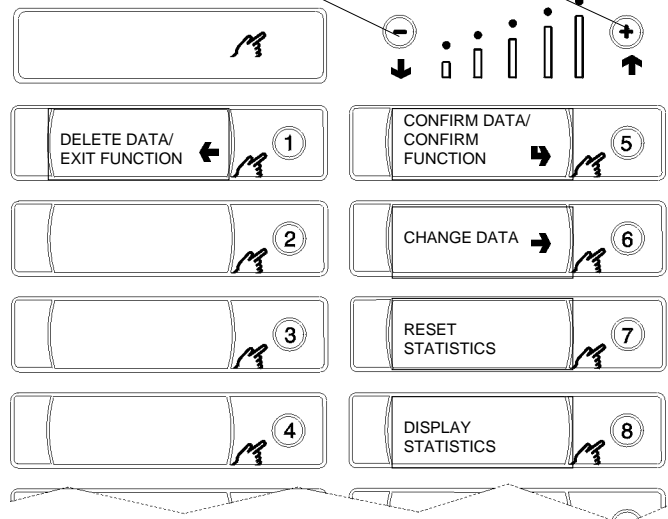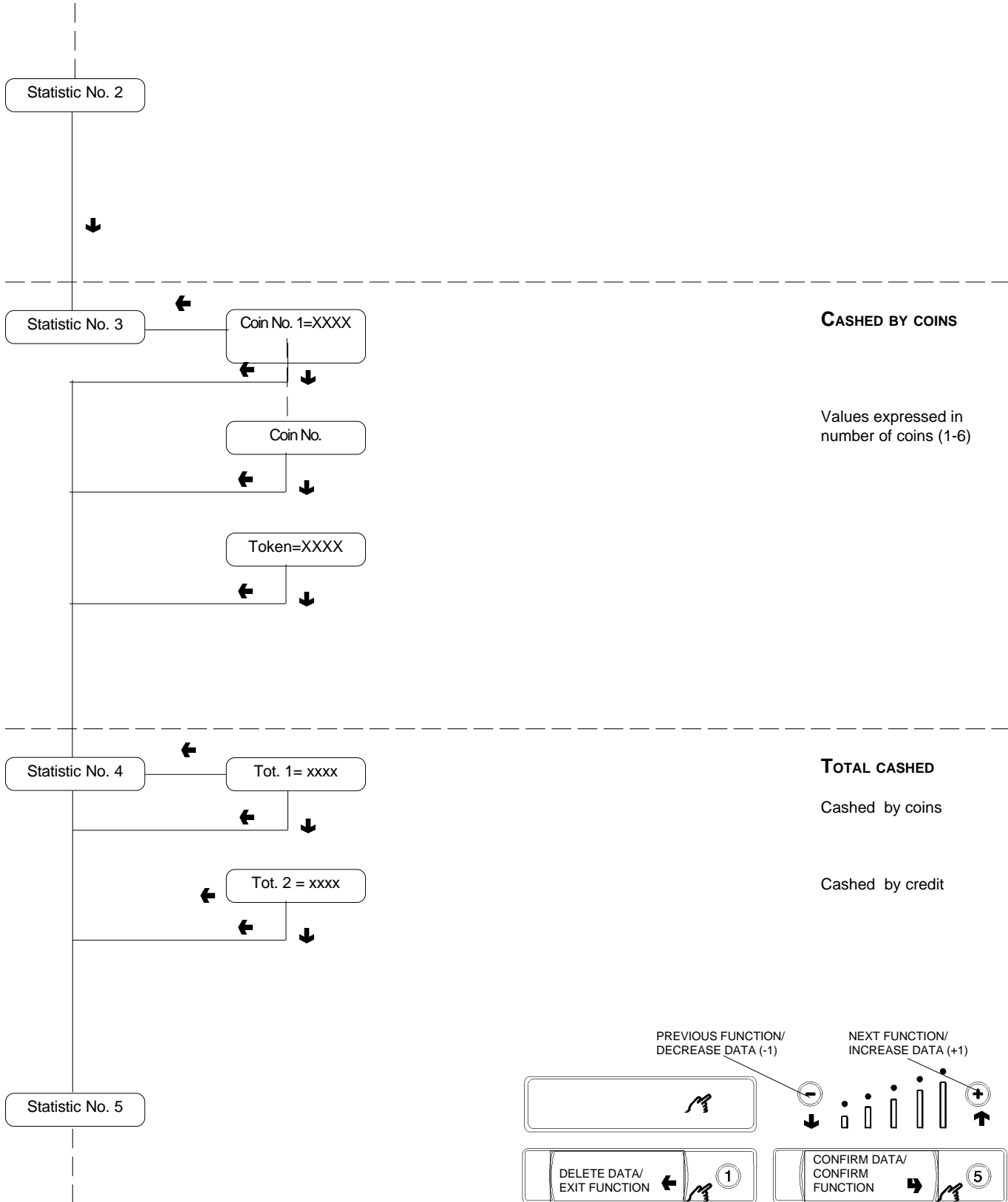
Coin No. — Values expressed in number of coins (1-6)

← ↓

Token=XXXX

← ↓

Statistic No. 4 ← Tot. 1= xxxx — **TOTAL CASHED**

← ↓ — Cashed by coins

Tot. 2 = xxxx ← — Cashed by credit

← ↓

Statistic No. 5

PREVIOUS FUNCTION/
DECREASE DATA (-1)

NEXT FUNCTION/
INCREASE DATA (+1)

DELETE DATA/ EXIT FUNCTION ←	1	CONFIRM DATA/ CONFIRM FUNCTION ➡	5
	2	CHANGE DATA ➡	6
	3	RESET STATISTICS	7
	4	DISPLAY STATISTICS	8

Reading data

Statistic No. 4

Statistic No. 5 ← Failure No.01=XXXX

↓

Failure No.16=XXXX ←

↓

Working
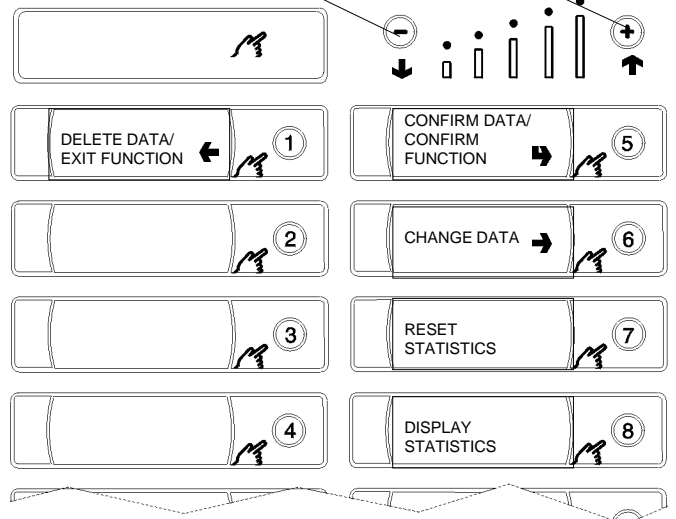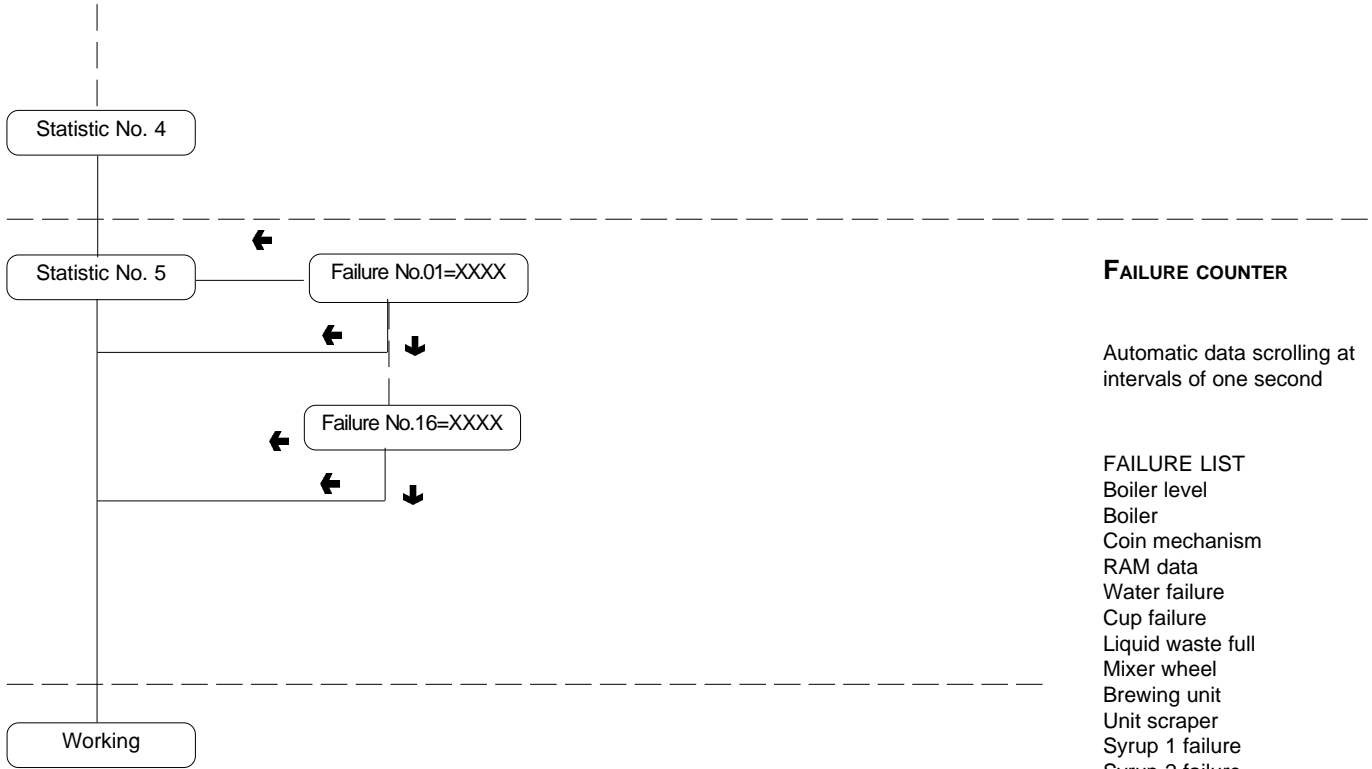
FAILURE COUNTER

Automatic data scrolling at
intervals of one second

FAILURE LIST
Boiler level
Boiler
Coin mechanism
RAM data
Water failure
Cup failure
Liquid waste full
Mixer wheel
Brewing unit
Unit scraper
Syrup 1 failure
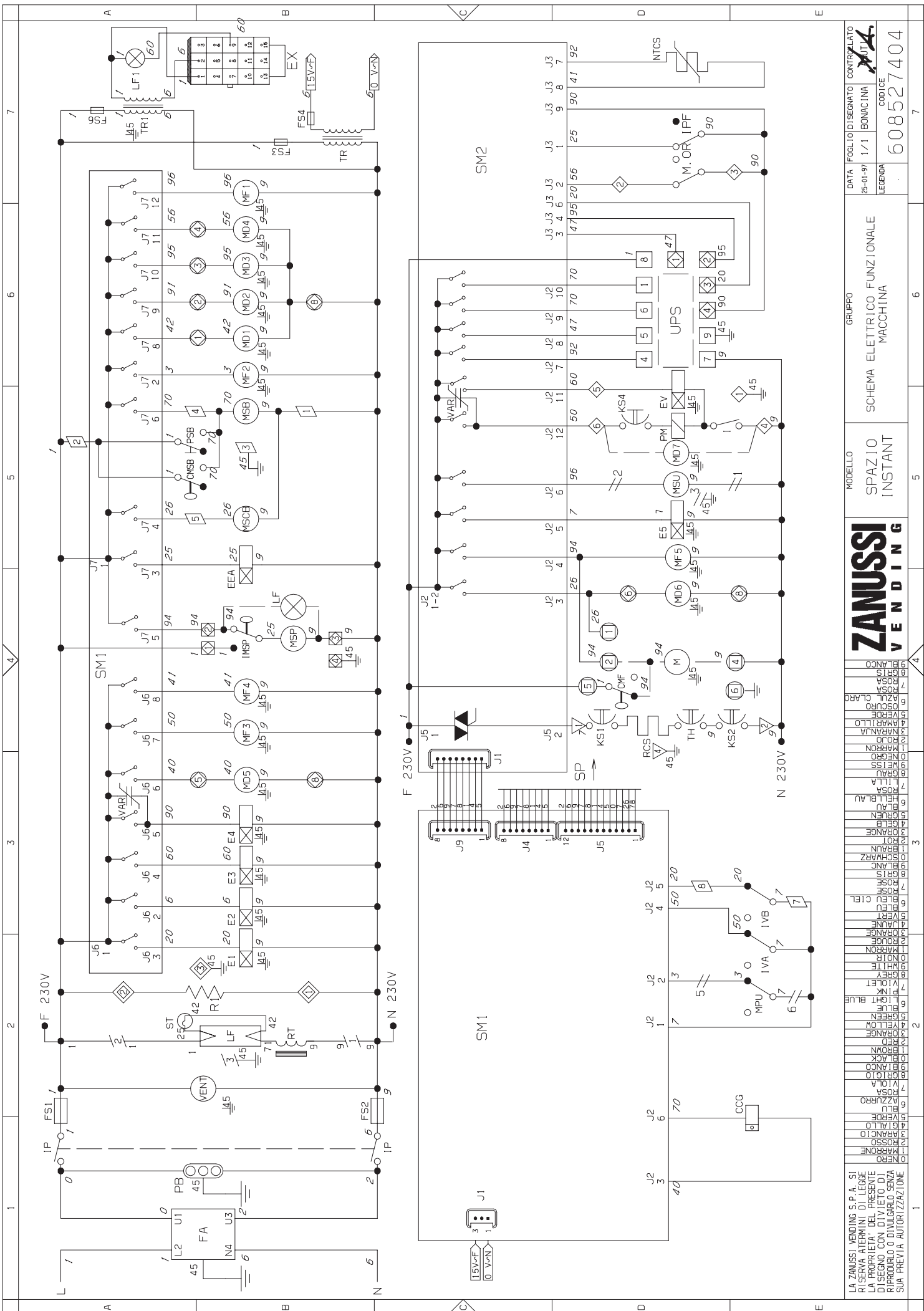Syrup 2 failure
Mobile spouts
Cold unit water failure

PREVIOUS FUNCTION/
DECREASE DATA (-1)

NEXT FUNCTION/
INCREASE DATA (+1)

DELETE DATA/ EXIT FUNCTION ←	①	
CONFIRM DATA/ CONFIRM FUNCTION ➡	⑤	
	②	
CHANGE DATA →	⑥	
	③	
RESET STATISTICS	⑦	
	④	
DISPLAY STATISTICS	⑧	
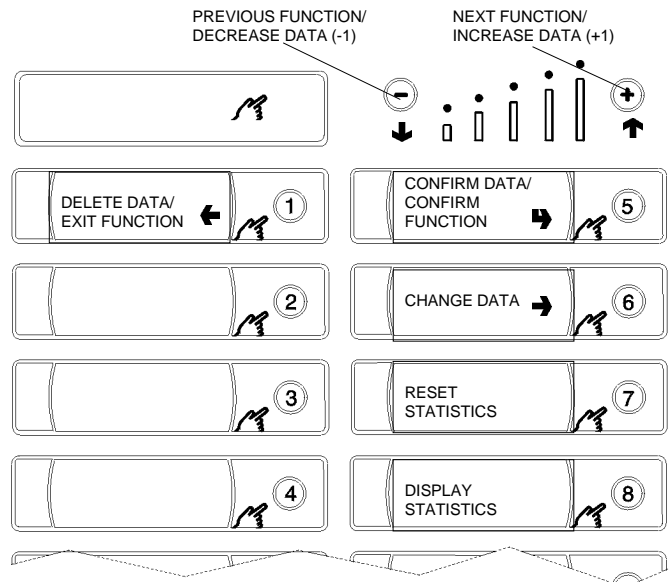
WIRING DIAGRAM LEGEND

CODE	DESCRIPTION	CODE	DESCRIPTION
CCG	GENERAL COUNTER	MDZ	SUGAR DOSER DEVICE
CM1	COFFEE UNIT MOTOR CAM	MF1-..	MIXERS - INSTANT
CM2	COFFEE DISPENSING POSITION CAM	MFB	FRESH-BREW MOTOR
CMF	FRESH BREW MOTOR CAM	MPU	SPOUT POSITIONING MICROSWITCH
CMPF	FRESH BREW UNIT PISTON MICROSWITCH	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	MSU	SPOUT SHIFT MOTOR
EEA	WATER INLET ELECTROVALVE	NTC	BOILER TEMPERATURE PROBE
ER	THREE-WAY ELECTROVALVE	NTCS	INSTANT BOILER TEMPERATURE PROBE
ESC	COFFEE DISPENSER SOLENOID	PB	MAINS SOCKET
EV	SANITATION KIT ELECTROVALVE	PD	DIODE RECTIFIER
EX	EXECUTIVE COIN MECH CONNECTORS	PG	COIN MECHANISM BUTTON
FA	RADIO INTERFERENCE SUPPRESSOR	PM	PUMP
FREE	FREE VEND SWITCH	PR	PRESSURE SWITCH
FS1-..	FUSE	PSB	CUP TEST BUTTON
I	SANITISING KIT SWITCH	R1	RESISTOR
ID	COFFEE DOSE MICROSWITCH	RCC	COFFEE BOILER HEATER
IP	DOOR SWITCH	RCS	INSTANT BOILER HEATING ELEMENT
IPF	WASTE CONTAINER OVERFLOW SWITCH	RT	BALLAST
IVA	NO-WATER MICRO SWITCH	SAL	POWER SUPPLY BOARD
IVB	NO-CUPS MICRO SWITCH	SLED	LED BOARD
JUG	JUG FACILITIES SWITCH	SM1	CONTROL BOARD
KC1-..	COFFEE BOILER CUTOUT	SM2	EXPANSION BOARD
KS1-..	SAFETY CUTOUT	SP	PUSH BUTTON BOARD
KS3-4	PUMP SAFETY CUTOUT	ST	STARTER
LCD	LIQUID CRYSTAL DISPLAY	TH	THERMOSTAT
LF	LAMP	TR	TRANSFORMER
M	COFFEE UNIT MOTOR	TR1	230 V / 24 V TRANSFORMER
M.OR	TIMER MICROSWITCH	UPS	COLD UNIT PRINTED BOARD
MAC	GRINDER	VAR	VARISTOR
MD1-..	DOSER DEVICE - INSTANT	VENT	FAN

ZANUSSI VENDING

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SPAZIO

ZANUSSI VENDING

PROGRAMMER

LCD

SP

SAL

FSS

BDV

SLED

SM1

EX

JUG FACILITIES
FREE-VEND

LF 12V

J1 J2 J3 J4 J5 J6 J7 J8 J9 J10 J11

TR1
230V 24V
PD

ZANUSSI VENDING

LEGENDA

LA ZANUSSI VENDING S.P.A. SI
RISERVA ATERMINI DI LEGGE
LA PROPRIETA' DEL PRESENTE
DISEGNO CON DIVIETO DI
RIPRODURLO O DIVULGARLO SENZA
SUA PREVIA AUTORIZZAZIONE

L
N
F 230V
N 230V
IP
FS1
FS2
FA
L2
U1
N4
U3
PB
VENT
ST
LF
R1
RT
SM1
SM2
J1
J2
J3
J4
J5
J6
J7
J9
VAR
E1
E2
E3
E4
E5
EEA
MD1
MD2
MD3
MD4
MD5
MD6
MF1
MF2
MF3
MF4
MFB1
MFB2
MPF1
MPF2
MSU
MSB
MSCB
MSP
IMSP
CMSB
PSB
FS3
FS4
FS6
TR
TR1
LF1
EX
15V~F
0 V~N
SP
KS1
KS4
CMF
RCS
TH
M
PM
EV
UPS
M.OR
IPF
NTCS
CCG
CMF1
CMPF1
CMF2
CMPF2
MPU
IVA
IVB

LA ZANUSSI VENDING S.P.A. SI RISERVA A TERMINI DI LEGGE LA PROPRIETA' DEL PRESENTE DISEGNO CON DIVIETO DI RIPRODURLO O DIVULGARLO SENZA SUA PREVIA AUTORIZZAZIONE

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

ZANUSSI
VENDING

MODELLO	GRUPPO	DATA	FOGLIO	DISEGNATO	CONTROLLATO
SPAZIO FRESH-BREW	SCHEMA ELETTRICO FUNZIONALE MACCHINA	05-03-97	1/1	BONACINA	BUTI A.
		LEGENDA 6085561	CODICE 608529501		

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