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ZANUSSI VENDING by NECTA

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

Valbrembo, 04/04/00

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.

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THE EUROPEAN NETWORK FOR QUALITY SYSTEM ASSESSMENT AND CERTIFICATION

This is to state that

ZANUSSI VENDING S.p.A.
Via Roma, 24 - 24030 VALBREMBO (BG)

holds the Quality System Certificate

CISQ/CSQ 9130.ZAI8

for the standard from the
ISO 9000 / EN 29000
series, and the scope as specified therein

Signed for and on behalf of EQNet member

Federazione CISQ
IL PRESIDENTE
Dr. Ing. Vittorio Cassinis

DATE

June 1st, 1994

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Il presente certificato annulla e sostituisce il precedente 9130.ZAI8 del 01.06.94
This certificate supersedes the previous one 9130.ZAI8 issued on 01.06.94

Il CISQ è un sistema sovrasettoriale di certificazione indipendente dei Sistemi Qualità aziendali, gestito in modo coordinato da organismi di certificazione settoriali.

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CERTIFICAZIONE ITALIANA DEI SISTEMI QUALITA' AZIENDALI
ITALIAN CERTIFICATION OF COMPANIES QUALITY SYSTEMS

CSQ

CERTIFICATO n. / *CERTIFICATE No.* 9130.ZAI8

SI CERTIFICA CHE IL SISTEMA QUALITA' DI
WE HEREBY CERTIFY THAT THE QUALITY SYSTEM OPERATED BY

ZANUSSI VENDING S.p.A.

Via Roma, 24 - 24030 VALBREMBO (BG)

UNITA' OPERATIVA
OPERATIVE UNIT

Via Roma, 24 - 24030 VALBREMBO (BG)

E' CONFORME ALLA NORMA
IS IN COMPLIANCE WITH THE STANDARD UNI-EN 29001 ISO 9001

PER I SEGUENTI TIPI DI PRODOTTI - PROCESSI - SERVIZI
CONCERNING THE FOLLOWING KINDS OF PRODUCTS - PROCESSES - SERVICES

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

IL PRESENTE CERTIFICATO È SOGGETTO AL RISPETTO DEL REGOLAMENTO DELL'IMQ PER LA CERTIFICAZIONE DEI SISTEMI QUALITÀ DELLE AZIENDE
THIS CERTIFICATE SHALL SATISFY THE REQUIREMENTS ESTABLISHED BY IMQ FOR THE CERTIFICATION OF SUPPLIERS' QUALITY SYSTEMS

25 Luglio 1994
DATA DI RILASCIO / *ISSUED ON*

IMQ

CSQ È UN SISTEMA DI CERTIFICAZIONE DELL'IMQ, GESTITO IN COLLABORAZIONE CON IL CEPAS E ISPT - *CSQ IS A CERTIFICATION SYSTEM OF IMQ, MANAGED IN COOPERATION WITH CEPAS AND ISPT*

English

TABLE OF CONTENTS

INTRODUCTION PAGE 2

IDENTIFICATION OF THE VENDING MACHINE PAGE 2
IN CASE OF FAILURE PAGE 2
TRANSPORT AND STORAGE PAGE 2
USING THE VENDING MACHINE PAGE 3
POSITIONING THE VENDING MACHINE PAGE 3
WARNING FOR INSTALLATION PAGE 3
PRECAUTIONS IN USING THE MACHINE PAGE 3
WARNING FOR SCRAPPING PAGE 3

TECHNICAL SPECIFICATIONS PAGE 4

POWER CONSUMPTION PAGE 5
ACCESSORIES PAGE 5

LOADING AND CLEANING PAGE 6

DOOR SWITCH PAGE 6
MAINTENANCE AND DISINFECTION PAGE 6
CONTROLS AND INFORMATION PAGE 6
LOADING CUPS PAGE 7
LOADING COFFEE PAGE 7
LOADING SUGAR AND INSTANT PRODUCTS PAGE 7
LOADING STIRRERS PAGE 7
SANITISING THE FOODSTUFF CIRCUITS AND THE MIXERS PAGE 8
CLEANING THE MIXER PAGE 8
CLEANING THE WATER SUPPLY TANK PAGE 9
CLEANING THE SUGAR RELEASE DEVICE PAGE 9
CLEANING THE WASTE TRAYS PAGE 9
CLEANING THE CUP SHIFT ARM PAGE 10
WEEKLY CLEANING OF COFFEE UNIT PAGE 10
SUSPENDING FROM USE PAGE 10

INSTALLATION PAGE 11

UNPACKING THE VENDING MACHINE PAGE 11
CONNECTING TO THE WATER MAINS PAGE 11
CONNECTING TO THE POWER SUPPLY PAGE 12
DOOR SWITCH PAGE 12
INSTALLING THE PAYMENT SYSTEM PAGE 12
WATER SOFTENER UNIT PAGE 12
INSERTING THE LABELS PAGE 12
LENGTH OF THE STIRRERS PAGE 12
INITIALISING PAGE 13
FILLING THE WATER SYSTEM PAGE 13

OPERATION OF THE COFFEE UNIT PAGE 13

COFFEE DISPENSING CYCLE PAGE 13
CHECKING AND ADJUSTING THE MACHINE SETTINGS PAGE 14
STANDARD SETTINGS PAGE 14
ADJUSTING THE COFFEE UNIT PISTON STROKE SETTING PAGE 14
WATER TEMPERATURE CONTROL PAGE 14
ADJUSTING THE GRADE OF GRINDING PAGE 15
ADJUSTING THE COFFEE DOSE PAGE 15

OPERATING MODES PAGE 15

NORMAL OPERATING MODE PAGE 15
PRE-SELECTIONS PAGE 16
MAINTENANCE MODE PAGE 16
AUTOTEST PAGE 17
EMPTYING THE AIR-BREAK PAGE 17

DISPLAYING THE STATISTICS PAGE 17

PRINTING THE STATISTICS PAGE 17
RESETTING THE STATISTICS PAGE 17
GENERAL COUNTER PAGE 17

PROGRAMMING PAGE 18

DISPLAYING CURRENT FAILURES PAGE 18
PROGRAMMING WATER AND POWDER DOSES PAGE 19
PROGRAMMING THE PRICES PAGE 19
PROGRAMMING THE PRICES AND THE PUSH-BUTTON STATUS PAGE 19
PROGRAMMING THE BASIC COIN AND THE DECIMAL POINT PAGE 20
PAYMENT SYSTEMS PAGE 20
PROGRAMMING THE VALIDATOR PAGE 20
INITIALISING PAGE 20
SETTING THE MACHINE CODE PAGE 20
MACHINE CONFIGURATION PAGE 21
SELECTIONS COUNTER PAGE 21
SETTING THE PROMOTIONAL MESSAGE PAGE 21
SETTING THE LANGUAGE PAGE 21
WHIPPING TIME PAGE 21
PROGRAMMING ACCESS PASSWORD PAGE 21
CONFIGURING THE SELECTION PAGE 21
DISCOUNT PAGE 21
SPECIAL SALES PAGE 22
EURO PAGE 22
INSTALLATION PAGE 22
RESETTING FAILURES PAGE 22

PROGRAMMER PAGE 22

AUTOMATIC SETUP TRANSFER PAGE 22
TRANSFERRED DATA PAGE 23
CONFIGURING THE LANGUAGE PAGE 23

MAINTENANCE PAGE 24

INTRODUCTION PAGE 24
BREWING UNIT MAINTENANCE PAGE 24
REGENERATING THE SOFTENER UNIT PAGE 25
ANNUAL SANITISING PAGE 25

PRINTED BOARD FUNCTIONS AND INDICATOR LIGHTS PAGE 26

CONTROL BOARD PAGE 26
PUSH-BUTTON BOARD PAGE 27

HYDRAULIC SYSTEM PAGE 28

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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 sections.

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 to the cabinet on the right-hand side.
This plate (see Figure below) is the only one acknowledged by the manufacturer and indicates all of the data which readily and safely gives technical information supplied by the manufacturer. It also assists in spare parts management.

IN CASE OF FAILURE

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

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

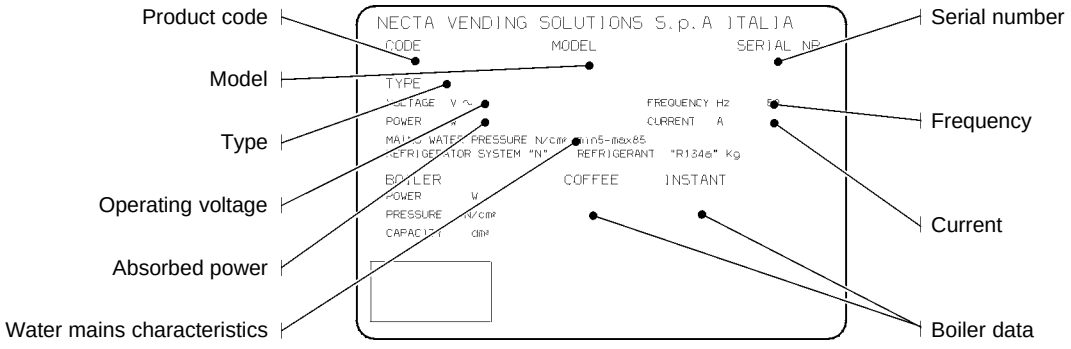
TRANSPORT AND STORAGE

To prevent any damage, special care should be taken when loading or unloading the vending machine.
The machine can be lifted by a motor-driven or manual fork lift truck, and the blades are to be placed underneath the machine.

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.
Using the original packing, no more than 2 machines can be stacked one on top of the other and always kept upright as indicated by the arrows on the packing.



USING THE VENDING MACHINES OF HOT DRINKS IN OPEN CONTAINERS

(Ex.: plastic cups, ceramic cups, jugs)

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

- brewing products like coffee and tea;

- reconstituting instant and lyophilized products;

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

The dispensed products should be consumed immediately. Under no circumstances should they 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 2°C and 32°C, and not where water jets are used for cleaning (e.g. in large kitchens, etc.).
The machine should be placed close to a wall, so that the back panel is at a minimum distance of 4 cm from it and correct ventilation may be ensured.
The machine must never be covered with cloth or the like.
The machine should be positioned with a maximum inclination of 2°.
If necessary provide proper levelling by way of the adjustable feet included.

Important notice!!

Access to the machine interior for maintenance and/or repairs is via the back panel.
Therefore, provisions should be made for the machine is to be rotated, thus allowing removal of the back panel.

Positioning the machine on a cabinet

The machine can be installed on a table or on any other suitable stand (recommended height is 820 mm).
If possible, it is advisable to use the special cabinet, which can house the liquid waste tray, the water supply kit, the payment system and, in the case of very hard water, the softener unit.

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 IN USING THE MACHINE

The following precautions will assist in protecting the environment:

- use biodegradable products only to clean the machine;

- adequately dispose of all containers of the products used for loading and cleaning the machine;

- switch the machine off during periods of inactivity, thus achieving considerable energy savings.

WARNING FOR SCRAPPING

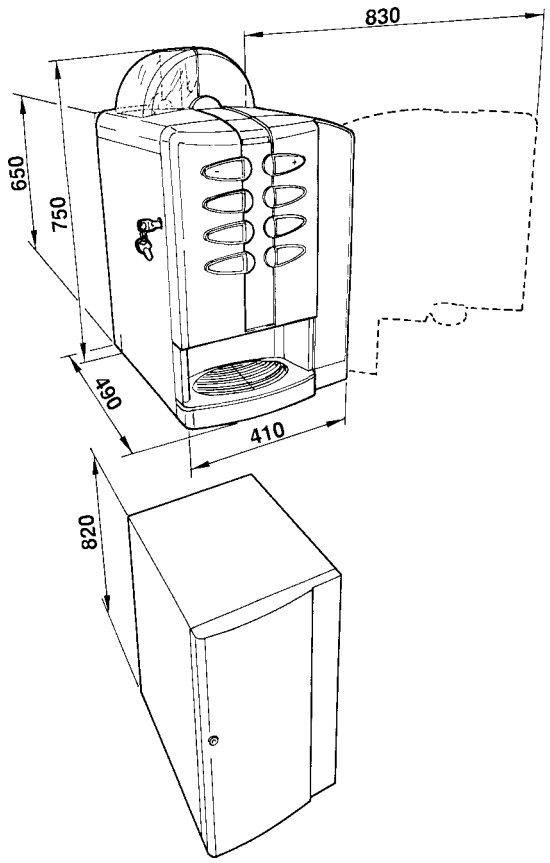
Whenever the machine is to be scrapped, the laws in force regarding environment protection should be strictly observed. More specifically:

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

- insulating materials should be recovered by qualified companies.

TECHNICAL SPECIFICATIONS

DIMENSIONS



Height	=	650	mm
Height with container	=	750	mm
Width	=	410	mm
Depth	=	490	mm
Overall dimension with door open	=	830	mm
Height of cabinet	=	mm.	820

Weight

Colibrì	Espresso	Instant
Kg.	38	33

Power supply voltage	230	V~
Frequency	50	Hz
Installed power	1300	W

CUP DISPENSER

Suitable for cups with a rim diameter of 73-74 mm. with a capacity of approximately 170 cups.

PAYMENT SYSTEM

The machine is supplied with all prearrangement for a front validator. Specific kits are provided for the installation of payment systems with Executive, MDB or BDV protocol. The machine can accommodate the "cashless" payment system, while the "change giver" payment system must be installed in the special support cabinet (optional).

SALES PRICES

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

COIN BOX

Made of plastic with lock as optional accessory.

WATER SUPPLY

From the mains, with a water pressure of 5 to 85 N/cm^2.
A water supply tank can be installed in the support cabinet (optional).

AVAILABLE ADJUSTMENTS

Grade of grinding for espresso coffee;
coffee and water doses by volume;
time adjustment for instant products.

Temperature control

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

CONTROLS

- Presence of cups
- Presence of water
- Presence of coffee
- Operating temperature reached
- Cup release microswitch

SAFETY DEVICES

- Door switch
- Presence of coffee waste container (Espresso models only)
- Manual-reset boiler safety thermostat
- Air-break float jamming (only with water supply from the mains)
- Overflow solenoid valve (only with water supply from the mains)
- Time protection for:
  - Pump
  - Coffee unit ratiomotor
  - Coffee grinder

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- Temperature protection for:
    - Doser units
    - Coffee unit ratiomotor
    - Magnets
    - Pump
    - Electric mixers
    - Coffee grinder motor
- Fuse protection for:
    - Main electrical circuit
    - Board power supply transformer

CAPACITY OF CONTAINERS

Capacity of containers (Kg)	Espresso	Instant
Coffee beans	2	-
Instant coffee	-	0.7
Sugar	1.0	1.9
Milk	0.8	0.8
Chocolate	1.4	1.4
Stirrers	160	-

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.

With an ambient temperature of 22° C the following power consumption levels resulted:

	Espresso	Instant
30 drink selections	0.96 l	1.21 l
average drink temperature	76.2° C	76.1° C
Power consumption		
to reach operating temperature	28.6 Wh	28.6 Wh
24 h of stand-by	1414 Wh	1414 Wh
30 selections /hour	171.2 Wh	152.9 Wh

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

ACCESSORIES

A wide range of accessories can be installed on the machine to change its performance:
The assembly kits are supplied with their own installation and test instructions, which must be strictly observed to ensure the machine's safety.

Important notice!!

The use of kits which are not approved by the manufacturer of the vending machine does not guarantee observance of safety standards, especially for energised parts.
The manufacturer declines all responsibility for the use of non approved components.

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

LOADING AND CLEANING

DOOR SWITCH

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

All operations requiring the machine to be energized should be carried out by qualified personnel ONLY, informed about the specific risks of such situation.

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

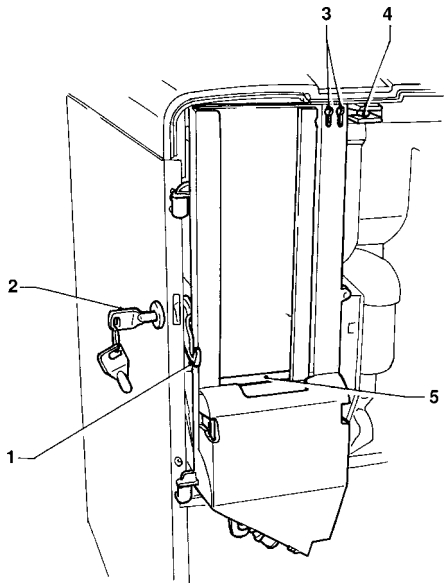

Fig. 1

1 - Door lock bolt
2 - Door lock
3 - Stirrer stacker adjusting slots
4 - Door switch
5 - Stirrer weight

CONTROLS AND INFORMATION

All user controls and information are located on the external side of the door (see Fig. 2).
The labels with the selection menu and the operating instructions supplied with the machine must be inserted at the time of installation, referring to the selection dose table.

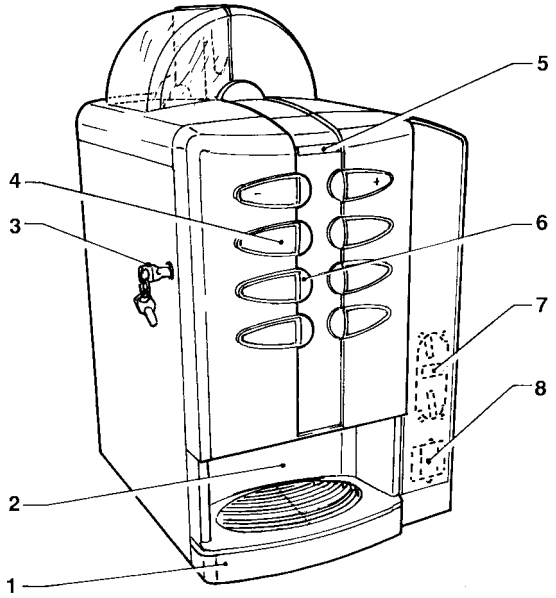

Fig. 2

1 - Liquid waste tray
2 - Dispensing compartment
3 - Lock
4 - Spaces for product labels
5 - Alphanumeric display
6 - Selection buttons
7 - Prearrangement for front validator
8 - Prearrangement for "cashless" payment systems

MAINTENANCE AND DISINFECTION

According to current safety rules and health 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 strong detergents.
The manufacturer declines all responsibility for any damage caused by the use of strong or toxic chemicals.

Before starting any maintenance operations requiring parts of the unit to be removed, the machine must always be disconnected from the power supply.

The Programming button, used to access the machine functions, is located on the internal side of the push-button board.
Press the button once to enter "Maintenance" mode;
press the Programming button twice to enter "Programming" mode.
Press selection button No. 3 and immediately after selection button No. 6 to automatically start filling the machine hydraulic system.

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LOADING CUPS

To load cups do as follows:

- open the door;
- slightly lift the cup dispenser and tilt it (see Fig. 3);
- do not rotate the columns during loading operations;
- **load the columns with cups, without exceeding the dispenser height;**
- re-engage the cup dispenser;
- close the machine and make a test selection.

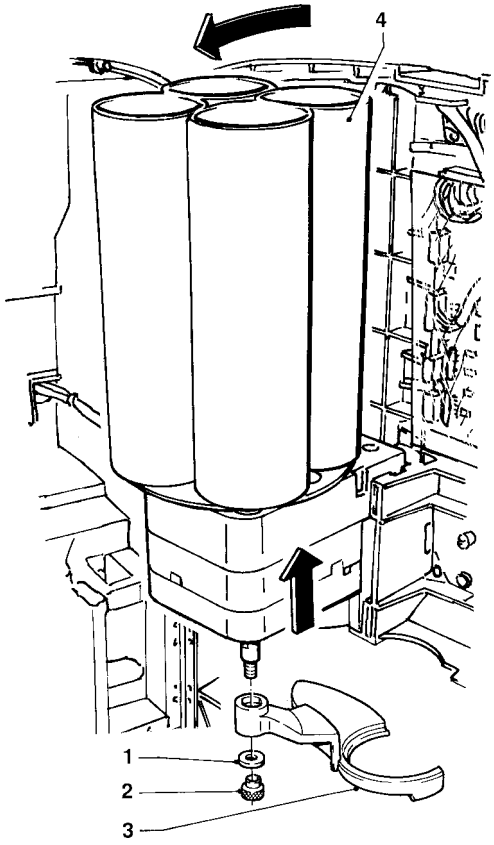


Fig. 3

1 - Spacer washer
2 - Knurled nut
3 - Cup shift arm
4 - Cup container

LOADING COFFEE

The cover can be opened only with the door open.
Lift the cover and fill the coffee container, ensuring that the shutter is fully open (see Fig. 4).

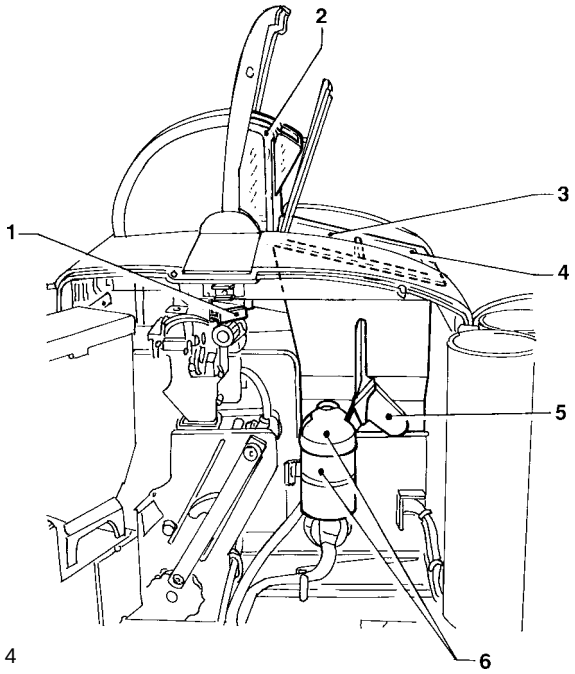


Fig. 4

1 - Coffee container shutter
2 - Coffee container
3 - Milk container
4 - Chocolate container
5 - Powder chute
6 - Powder feeder

LOADING SUGAR AND INSTANT PRODUCTS

The covers can be opened only with the door open.
After lifting their cover, fill the single containers with the appropriate products, taking care not to compress them to prevent packing. Make sure the products do not contain any clots.

When handling the sugar/stirrer dispenser shelf, ensure that the key (see Fig. C) is completely rotated clockwise to prevent the lock bolt from interfering with the stirrer stacker.

LOADING STIRRERS

Remove the stirrer weight (see Fig. 1) and insert the stirrers to be loaded.
Remove the paper strip, ensuring that the stirrers are all placed horizontally.
Replace the stirrer weight.

The stirrers must be burr free and not curved.

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 instant drink dispensing conduits must be thoroughly disinfected, to guarantee proper hygiene of the dispensed products.
The parts to be cleaned are the following:

- powder deposit drawers, mixer and instant drink dispensing conduit;
- coffee dispensing spout;
- sugar chute;
- dispensing compartment.

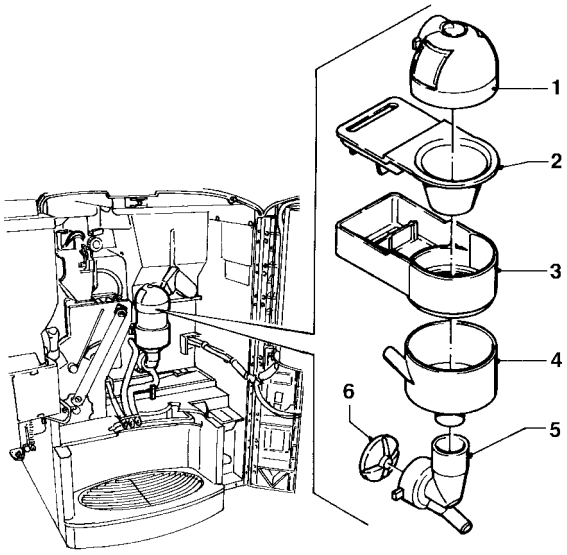
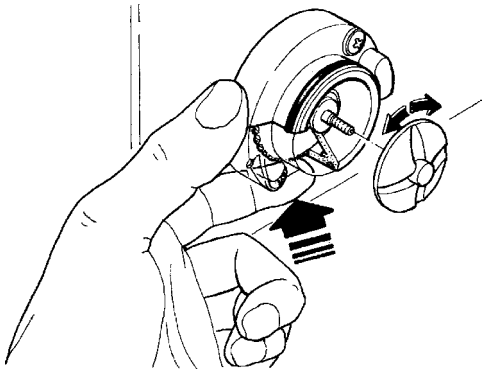


Fig. 5

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

- remove the powder and the water funnels, the feeders, the powder deposit drawers and the mixer wheels from the mixers (see Fig. 5);
- in order to remove the wheels, block the disk fitted on the mixer shaft with a finger (see Fig. 6);

Fig. 6



- wash all parts with detergent being sure that all visible residue and product layers are mechanically removed, using a brush if necessary;

Disinfection should be carried out using chlorine-based detergents.

- soak all components for approx. 20 minutes in a container filled with the previously prepared chlorine-based detergent;
- reinstall the feeders and the water funnels;
- reinstall the powder deposit drawers and the powder funnels after thoroughly drying them.

After reinstalling all parts the following is however required:

- add a few drops of the chlorine-based detergent in the mixer;
- using the mixer cleaning function with the door closed, thoroughly rinse all components to ensure that all residue of the detergent solution is removed.

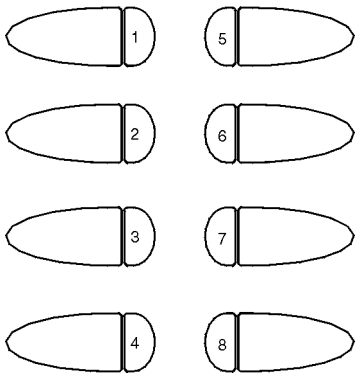
MIXER CLEANING

The mixer must cleaned daily and every time the machine is refilled to prevent clogging of the mixer if any product is accidentally spilled during refilling.
It must also be cleaned after the mixer sanitasing operations, as described in the relevant chapter.
The mixer is cleaned with the door closed doing as follows:

- press button 8 for 2 seconds

The display will show the request to enter the password;

- press one after the other buttons 4 4 8 8 to start cleaning.



CLEANING THE WATER SUPPLY TANK (OPTIONAL)

For machines equipped with a water tank inside the support cabinet, at least once a week, such tank must be sanitised with the chlorine-based detergent used for the mixers.

CLEANING THE SUGAR DISPENSER

For models with sugar dispensed directly into the cup, the sugar dispensing system must be cleaned periodically using hot water (see Fig. 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, thoroughly dry all parts and reinstall them in the reverse order.

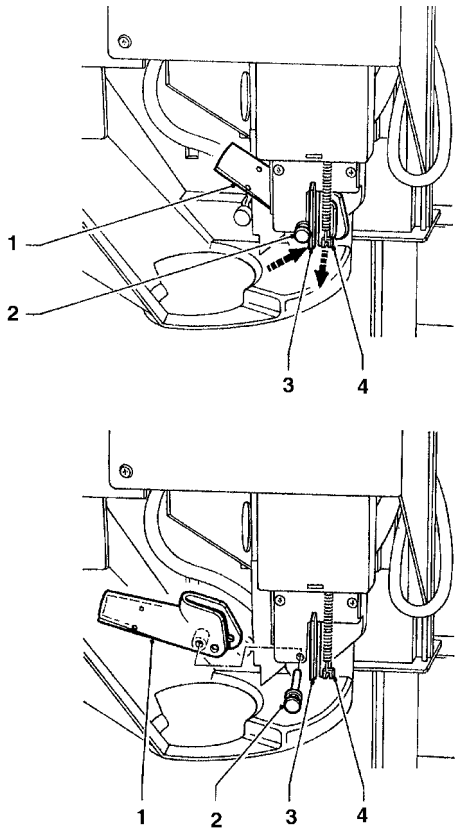


Fig. 7

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

CLEANING THE WASTE CONTAINERS

The waste containers can be easily removed even with the door closed (see Fig. 8) permitting quick emptying and cleaning.
The coffee container capacity is greater than that of the waste container (if the support cabinet is not used).
The machine control software indicates on the display that the maximum number of coffee selections has been reached with the message "Waste container full".
After a few further selections the machine will lock.
The waste container must be emptied without switching the machine off, to allow the software to detect the operation.

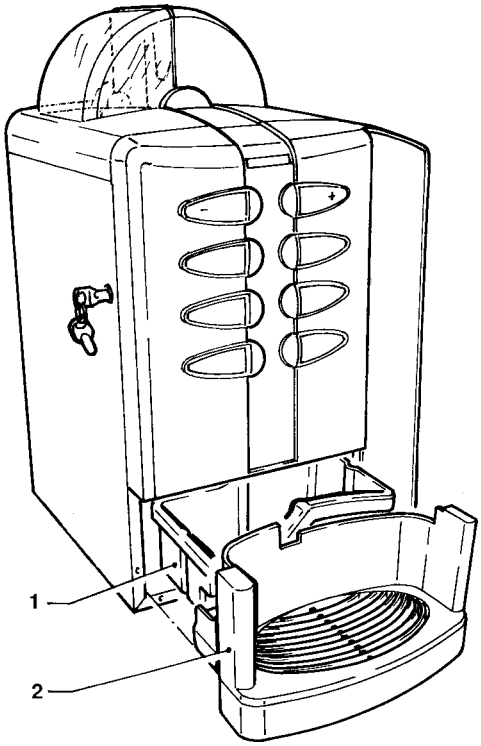


Fig. 8

1 - Coffee waste container
2 - Dispensing compartment drip tray

With the coffee waste container removed, the machine is still available for instant drink selections but indicating the message "Insert waste container" on the display.
The selection counters are reset with the door closed doing as follows:

- press button 8 for 2 seconds

The display will show the request to enter the password;

- press one after the other buttons 4231 to reset the counters.

CLEANING THE CUP SHIFT ARM

The cup shift arm must be cleaned periodically by removing it from the machine. In order to remove it, completely undo the fastening knurled nut (see Fig. 3).
When reinstalling it, ensure that the spacer washer is positioned correctly.

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 area (see Fig. 17).

SUSPENDING FROM USE

If for any reason the machine is switched off for a period exceeding the use-by date of the products, the following will be necessary:

- completely empty the containers and thoroughly wash them with the chlorine-based detergents used to clean the mixers.
- completely empty the coffee doser unit by dispensing coffee until the empty condition is indicated.
- completely empty the hydraulic system.

INSTALLATION

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

The machine must be installed in a dry room, where the temperature stays always between 2° 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 removing the packing, check that the machine is not damaged.
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 authorized areas only, and all recyclable materials must be recovered by specialised companies.

Important notice!!

The machine should be positioned with a maximum inclination of 2°.
If necessary provide proper levelling by way of the adjustable feet included (see Fig. 9).

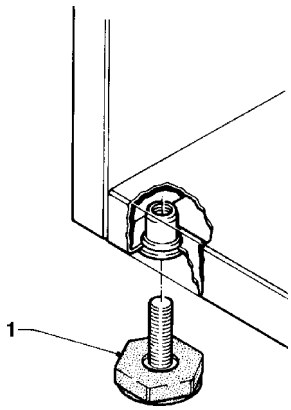


Fig. 9

1 - Adjustable foot

CONNECTING THE MACHINE TO THE WATER MAINS

The machine must be connected to the drinking water mains, taking into account law provisions in force in the country where the machine is installed.
The water pressure must be 5 to 85 N/cm^2 (0,5-8,5 bar).
Run some water from the mains until it is clear and without impurities.
Use a hose (also available as a kit) capable of withstanding the water mains pressure and suitable for use with foodstuff (min. inside diameter of 6 mm) to connect the water supply to the union (3/4" gas) of the water inlet solenoid valve (see Fig. 10).

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

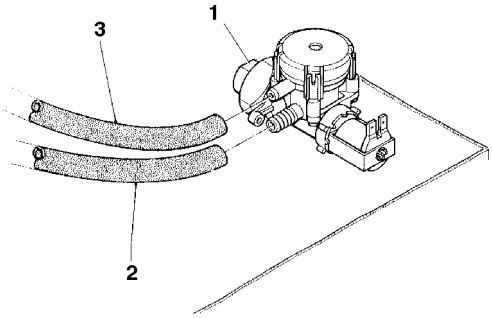


Fig. 10

1 - Water inlet union (3/4" gas)
2 - Water supply hose
3 - Overflow hose

OVERFLOW DEVICE

The water inlet solenoid valve (see Fig. 10) is equipped with an overflow device mechanically preventing the water from flowing in if there is a malfunction in the solenoid valve itself or in the control device of the boiler water level.
To restore normal operation, proceed as follows:

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

CONNECTING THE MACHINE TO THE POWER SUPPLY

The machine is designed to operate under a single-phase 240 V~ voltage and is protected by 10 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 capable of withstanding the peak load required, and at the same time ensure proper omnipolar disconnection from the power grid with an opening gap of the contacts of at least 3 mm.

The main switch, the power outlet and the plug should be located within easy reach.

The power cable is of the type fitted with a fixed plug.
Any replacement (see Fig. 11) 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.

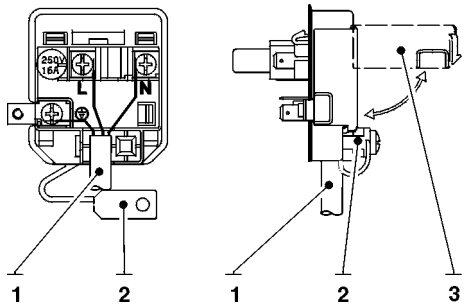


Fig. 11

1 - Cable from the mains
2 - Cable clamp
3 - Cover

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.

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 CAUSED BY NONCOMPLIANCE WITH THE ABOVE MENTIONED SAFETY RULES.

DOOR SWITCH

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

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.

To energize the system with the open door, simply insert the special key into the slot (see Fig. 1).

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

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 validator and make sure that the programming of the relevant parameters is correct.

Other payments systems such as "change giver" and "cashless" can be installed by using the specific kits.
The "cashless" systems can be housed inside the machine (see Fig. 2); other payments systems such as "change giver" must be housed inside the support cabinet (optional).

WATER SOFTENER UNIT

The machine is sold without water softener.
Should the water be very hard, a 2-litre ion-exchange resin water softener unit can be installed in the cabinet.
The water softener, available as accessory, must be replaced or regenerated regularly following the directions of the manufacturer.
For health and functional reasons, higher capacity water softener units should not be used.

INSERTING THE LABELS

The menu and instruction labels are supplied with the machine and must be inserted at the time of installation according to the layout and to the language (see "selection dose" table).

LENGTH OF STIRRERS

The correct installation position of the stirrer stacker must be checked according to the length of the stirrers to be used (see Fig. 1)

INITIALISING

The machine was designed for different market needs. The software is capable of managing all possible configurations.

For this reason, before starting the machine, some parameters must be set.

"Model"

Defining whether the machine is Espresso or Instant.

"Country"

Intended as type of basic doses for the different selections (e.g. strong coffee IT = 40 cc - strong coffee FR = 60 cc). The available "Countries" are:
It - Fr - Es- Uk

"Layout"

A number of Button/Selection combinations to choose from is provided for each dose type model (the combinations available for each layout are indicated in the dose selection table supplied with the machine).

"Tank"

Intended as water supply from a tank. This can be enabled or disabled (water supply from the mains):

FILLING THE WATER SYSTEM

When the machine is switched on the condition of air-break (full or empty), pump (electrical functioning and water flow) and boiler (pressure).
If required by the conditions, the machine will automatically start an installation cycle, and namely:

- the display will show "Installation" for the entire duration of the cycle;
- the water mains solenoid valve is opened or the water supply pump is started to fill the air-break;
- the milk solenoid valve is opened so that the air may be bled from the boiler and 400 cc. of water filled.

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

IMPORTANT NOTICE!!!

If a considerable amount of air bubbles is formed in the water system, for example during maintenance, it is possible that an installation cycle is automatically started when the machine is switched on.

Versions with internal tank

For models with an internal tank, when the machine is first switched on, the installation procedure MUST BE carried out manually (see relevant chapter).

OPERATION OF THE COFFEE UNIT

COFFEE DISPENSING CYCLE

After each time the machine is switched on, upon the first espresso coffee based selection, the coffee unit is rotated completely before the normal cycle, too ensure that the device is in the correct start position.
When selecting coffee, the grinder is started and will continue until the coffee doser chamber is full (see Fig. 15).
When the doser unit is full, the ground coffee dose is released into the coffee unit.
The coffee falls into the vertical brew chamber (1) (see Fig. 12).

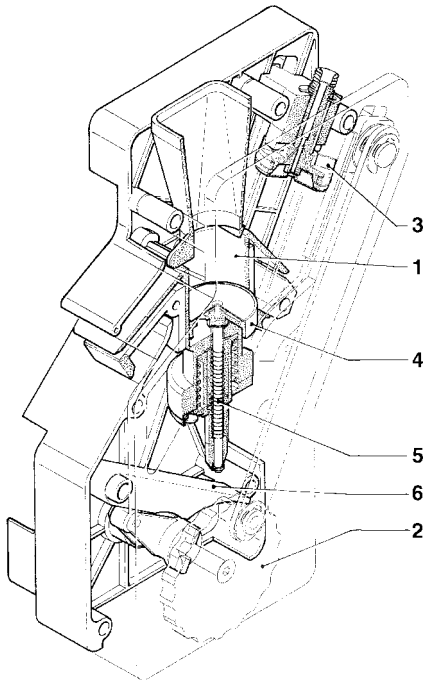


Fig. 12

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

The ratiomotor handle engaged with the disk (2) located outside of the unit rotates by 180°, causing the brew chamber to swing and lowering the upper piston (3) (see Fig. 13).
Due to the water pressure, the pre-brewing spring (5) sinks and the lower piston (4) goes down 4 mm, thus forming a water cushion which allows an even use of the coffee dose.
At the end of the dispensing cycle and during a pause of 3 seconds, the pre-brewing spring (5) will discharge the water through the third way of the dispensing solenoid valve, lightly pressing the used coffee dose.
By completing its rotation, the ratiomotor makes the swinging lever (6) lift the pistons and the 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.

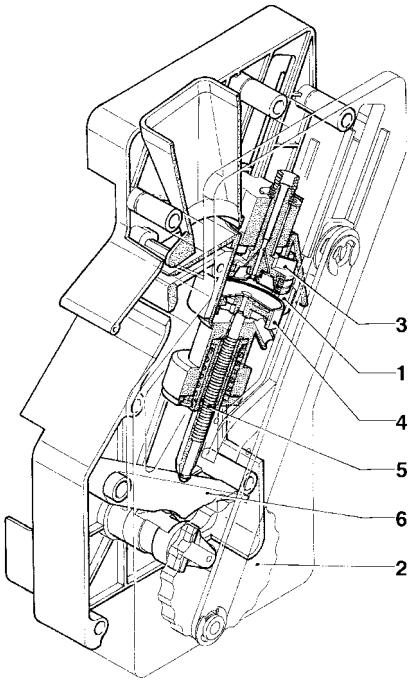


Fig. 13

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

CHECKING AND ADJUSTING THE MACHINE SETTINGS

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

for coffee

That the used coffee dose is lightly compressed and damp.

The grade of grinding of 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 settings:

- coffee temperature (at the spout) approx. 70÷80° C;
- instant product temperature (at the spout) approx. 70÷80° C;

The machine standard settings assign 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 Fig. 14):

- remove the snap ring from its seat;
- place the piston in the proper adjusting notches:

  .less deep notches for 5.5 to 6.5 g doses;

  .deeper notches for 6.5 to 7.5 g doses.

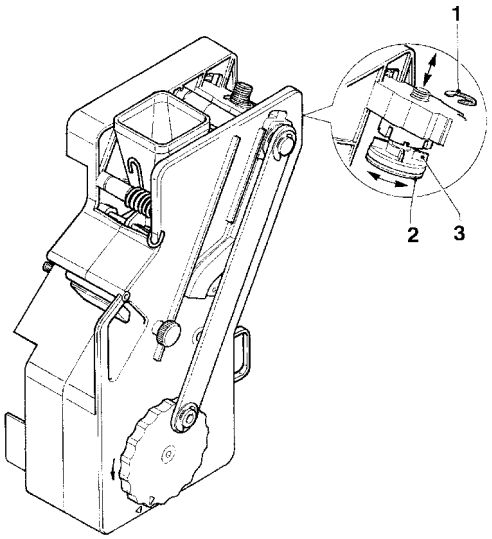


Fig. 14

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

WATER TEMPERATURE CONTROL

If the boiler temperature is to be changed, adjust the special trimmer (see Fig. 19) keeping in mind that:

- tightening will increase the temperature;
- loosening will decrease the temperature;
- the temperature varies by approx. 1° C every 2 turns.

ADJUSTING THE GRADE OF GRINDING

When a variation in the grade of grinding is desired, turn the relevant adjusting knob on the grinder (see Fig. S) and more specifically:

- turn the knob anticlockwise for coarser grinding;

- turn the knob clockwise for finer grinding.

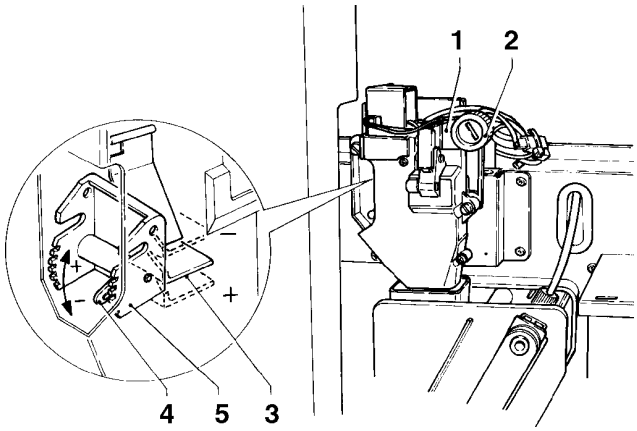


Fig. 15

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

For optimum results, it is good practice to vary the grade of grinding with the coffee grinder motor running.

N.B.: After adjustment of the grade of grinding, at least 2 test selections must be performed in order to check the new grade of 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 Fig. 15) and replaced into a different groove to change the average dose setting to:

- low 6 g. ± 0.5

- medium 7 g. ± 0.5

- high 8 g. ± 0.5

To take the dose just remove the coffee unit and press button "6" from "Special functions" of the "maintenance" menu (see relevant section).

Important notice!!!

To refit the coffee unit, pay special attention to the piston position. Reference notches on the external disk and on the unit case should match (see Fig. 17).

OPERATING MODES

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

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

NORMAL OPERATING MODE

When switching the machine on, the message "Rev. X.X" (X.X indicates the software release number) is displayed for a few seconds, after which the machine goes into normal operating mode.
The massages displayed according to the current operation are as follows:

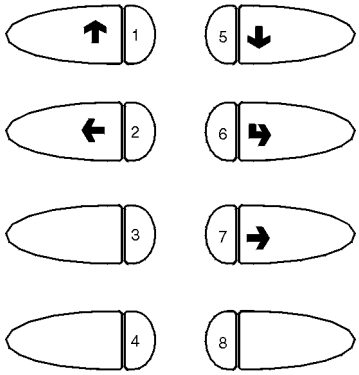
DISPLAY	FUNCTION
"Ready for use"	Machine ready.
"Price:...."	Price display selection made
"Credit:....."	Credit display.
"Out of Service"	Machine out of service
""Drink in Process"	Preparation of drink
"Temperature"	Wait time before reaching the operating temperature
"Installation"	Installation under way
"Sel. not avail."	Selection disabled
"Coffee sel. out"	For espresso models only Coffee unit out of service
"Take the drink"	Drink ready

PRE-SELECTIONS

According to the layout set at the time of initialising buttons "1" and "5" can be assigned the function of sugar dose selection; in this case the display will indicate
"Sugar ■ ■ ■ □ □ " which represents the programmed median dose. Each time buttons "1" (minus) and "5" (plus) are pressed the dispensed dose varies by 1/3 of the median dose.
For other layouts button "5" alone is used to increase the sugar dose by 1/3 of the median dose; when the highest level is reached, pressing button "5" again will bring the sugar dose to 0 (unsweetened selection).
In still other layouts, selections are normally unsweetened; it is possible to pre-select either a normal sugar dose (button 1) or extra sugar (button 5); sugar doses can be programmed. The display will indicate the message (sugar, extra sugar) which is current at the moment.

MAINTENANCE MODE

When the programming button located on the internal side of the push-button board (see Fig. 20) is pressed once the machine will go to "Maintenance" mode.
The message "Maintenance" is displayed for approx. two seconds and then the first option of the "Statistics" menu allowing management of data.
When in maintenance mode the buttons have the following functions:



1 - ↑ Previous function / Increase data item (+1)
2 - ← Exit function / Cancel change
3 -
4 -
5 - ↓ Next function / Decrease data item (- 1)
6 - ↵ Confirm function / confirm data item
7 - → Change data item
8 -

Press button "↵" to access the following functions:

Display statistics

Print statistics

Delete statistics

Display selection counter

Scroll through the menu with the "↑"and "↓" buttons to highlight the following functions:

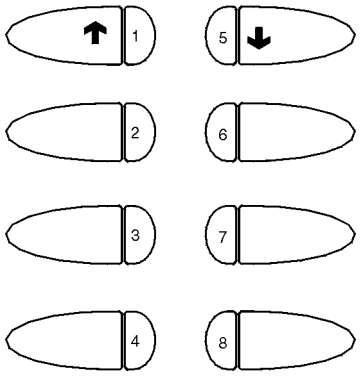
"Compl. selec."	Dispensing test including cup, sugar and stirrer
"Powd. only"	Dispensing powder only
"Water only"	Dispensing water only
"No Accessories"	Dispensing test without cup, sugar and stirrer

When pressing button "↵" the selection buttons will have the original function for 7 seconds, permitting the test dispensing provided for each function.

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

"Special functions"

When the display shows "Special functions" the buttons have the following functions:



1 - ↑ Previous function
2 - Grind and release a coffee dose
3 - Dispense sugar
4 - Autotest
5 - ↓ Next function
6 - Rotate coffee unit
7 - Release cup
8 - Empty air-break

In order to weigh the coffee dose using the "Grind and release" function, the coffee unit must be remover. The function stays enabled anyway.

If a coffee dose is accidentally released with the unit installed, the unit will have to be rotated to unload the excess coffee.

According to the type of pre-selection set in the layout, button "3" allows access to the sugar dose, which can be adjusted with buttons "1" and "5"; pressing button "6" again will release the set sugar dose.
Alternatively, button "3" indicates the available doses on the display (sugar, extra sugar).
When pressing button "6" the current sugar dose will be dispensed.

AUTOTEST

This function is used to check the functioning of the main machine components.
Before carrying out this operation, remove the waste tray and the powder containers and disassemble the coffee unit.
When pressing button "4" the message "AUTOTEST" will be displayed blinking.
Press button "2" to cancel the operation, confirm with button "6" to start the autotest cycle.
In a sequence:

- the doser units are activated for 2 seconds
- the mixers are activated for 2 seconds
- a cup is released
- a stirrer is released
- (for Espresso models only) the coffee unit is rotated, a coffee dose is ground and then released.
- (for Espresso models only) the waste tray is detected; the machine stops until the waste tray is manually re-inserted
- the push-button panel is checked; the machine displays the number of the button which must be pressed and waits for this to be done before going to the next button (number 9 corresponds to the cleaning button).

EMPTYING THE AIR-BREAK

This function is used to partially empty the air-break, dispensing water from the milk solenoid valve for 8 seconds before blocking the machine, to allow the machine to be moved without spilling water; to restore normal functioning the machine must be switched off and then on.
Before moving the machine on a long distance, especially if involving the use of a vehicle, the hydraulic system must be emptied manually.

DISPLAYING THE STATISTICS

Pressing button "↳" when the display indicates the "Display statistics" function causes the stored data to be sequentially shown on the screen, 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 button "↳" when the display indicates the "Print statistics" function and the message "Confirm?" will be displayed;
- before confirming connect and switch on the printer;
- press the confirm button "↳" to start printing.

RESETTING THE STATISTICS

Press button "↳" when the display indicates the "Reset statistics" function and the message "Confirm?" will be displayed blinking.
Press the confirm button "↳", the message "Working" is displayed for a few seconds and the statistics are reset.

GENERAL COUNTER

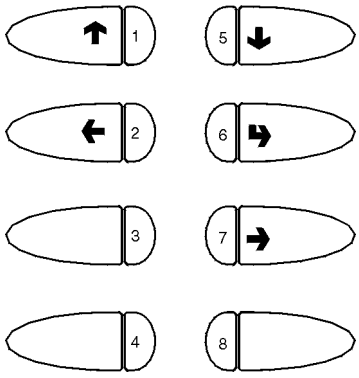
The machine stores all selections in this counter, which cannot be reset.
This function allows reading of the counter or its display when the machine is switched on.
Press button "↳" when the display indicates the "General counter" function and the function status (ON/OFF) will be displayed; press button "→" to display the status blinking, which can then be changed with the "↑"and "↓" buttons.
Press button "↳" again and the stored value will be displayed for 3 seconds.

PROGRAMMING

When the programming button located on the internal side of the push-button board (see Fig. 20) is pressed twice the machine will go to "Programming" mode.
The message "Programming" is displayed for approx. 2 seconds, after this the first option of the programming menu appears on the display enabling the following functions:

"Present failures"	reading of present failures
"Water dose"	water dose setting
"Powd. dose"	powder dose setting
"Set Price"	price setting
"Set price/button"	prices/button setting enable/disable selections
"Basic unit / DP"	basic coin value setting and decimal point position
"Payment systems"	validator totalizator Executive standard Executive price holding ECS URW3
"Initialising"	RAM initialising
"Machine code"	machine identification code setting
"Machine Config."	machine configuration setting
"Selec. counter"	setting the number of selections after which the machine will lock
"Prom. message"	enabling and setting the promotional message
"Language"	setting the language used to display messages
"Whipping time"	setting whipping time for instant coffee
"Password"	enabling password to access programming
"Selec. configuration"	determining the accessories to be dispensed with each single button.
"Discount"	determining the price reduction for selections without cup
"Special sales"	setting free vend and jug facilities parameters
"Euro"	displaying prices in the local currency and/or euro

When in "programming" mode the selection buttons have the following functions:



1 - ↑ Previous function / Increase data item (+1)
2 - ← Exit function / Cancel change
3 - Machine installation
4 -
5 - ↓ Next function / Decrease data item (- 1)
6 - ↳ Confirm function / confirm data item
7 - → Change data item
8 - Reset failures
The buttons preceded by the symbol allow scrolling through the menu or changing of data, the other buttons are used directly for that function.

DISPLAYING PRESENT FAILURES

When the "Present failure" function from the "programming" menu is displayed, pressing confirm button "↳" will display the error code of the current failure;
when pressing button "↓" the error code of the next applicable failure is displayed.
If no failure is currently present, pressing confirm button "↳" will display the message "No Failure".
The possible failures are shown in the following cases:

AIR-BREAK FAILURE

The machine will lock if after dispensing water corresponding to 150 pulses of the volumetric counter the microswitch has not signalled the lack of water.

BOILER FAILURE

The machine will lock if after 10 minutes of heating from the machine start, or from the last selection, the 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

Data contained in the EEprom (i.e. the chip that stores the setting variations) is wrong and must be retrieved from the Eprom, whereas all statistics information will be lost.
The message "INITIALISE" will be displayed blinking.

WATER FAILURE

Models with water supply from the mains

If the air-break microswitch is closed for more than one minute. When pressing a selection button the water inlet solenoid valve is triggered to check water flow from the mains.
If the machine is equipped with a liquid waste container (housed in the cabinet) fitted with an overflow warning device, the solenoid valve will stay triggered until water from the mains is resumed.

Models with water supply kit (tank)

If the water level in the tank falls to less than approximately 300 cc.

CUP FAILURE

When the empty cup column microswitch opens, the column shift motor is activated. If after one full turn of the cup dispenser the microswitch is not closed the message "No cups" is displayed and the machine locks.

WATER LEAK FAILURE

If water is requested by the air-break without having been used (selections, cleaning etc.) the machine will block further water requests.

VOLUMETRIC COUNTER FAILURE

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

COFFEE UNIT FAILURE

Due to a mechanical block, or non installation, of the unit. The machine is not locked, but all coffee based selections will be disabled.

COFFEE FAILURE

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

COFFEE RELEASE FAILURE

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

CUP RELEASE FAILURE

If after releasing one cup the positioning microswitch is not triggered the control software disconnects power from the release motor and the machine locks.

LIQUID WASTE CONTAINER FULL

If the machine is equipped with a liquid waste container (housed in the cabinet) fitted with an overflow warning device, the machine locks.

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 a dose code, which is displayed each time.
The dose code locates the water and powder doses related to a given selection; changing the doses of a selection will have effect also on composed selections where the dose code is used.
Refer to the selection dose table for the dose code list.
The values of the doses displayed are expressed in:

- tenths of a second for powder;

- number of pulses of the volumetric counter for water.

Press the confirm button "➔" from the "programming" menu to access the dose code list, which can be scrolled with the "↓" and "↑" buttons.
When pressing correction button "➔", this value will be displayed blinking and can be modified as necessary.

PRICE SETTING

When the "Set Price" function of the "programming" menu is displayed, the 8 sales prices stored can be changed.
The prices are indicated as number of basic coins.
Press the confirm button " ➔" from the "programming" menu to access the price list, which can be scrolled with the "↓" and "↑" buttons.
When pressing correction button "➔", this value will be displayed blinking and can be modified as necessary.

PROGRAMMING THE PRICES AND THE BUTTON STATUS

When the "Set Price/Button" (price setting) function of the "programming" menu is displayed, the combination of the button to one of the stored prices and/or to the status of a selection can be changed.
Press the confirm button "➔" from the "programming" menu to access the price list, which can be scrolled with the "↓" and "↑" buttons.
When pressing correction button "➔" the selection status will blink and can be changed from (enabled) to (disabled) with the "↓" and ↑" buttons.
Press again the confirm button "➔" to display the price number referred to in the price table.
When pressing correction button "➔", this value will be displayed blinking and can be modified as necessary.
The buttons which control pre-selections do not need combination with prices. In any case prices have no effect on the pre-selection buttons.

PROGRAMMING THE BASIC COIN AND THE DECIMAL POINT

When the "Basic unit / DP" (basic coin value) function of the "programming" menu is displayed, the value of the basic coin as well as the position of the decimal point can be modified.
Pressing the confirm button "➔" from the "programming" menu will display the current value of the basic coin.
By using the "↓" and "↑" buttons, 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 button "➔", these values will be blinking and can be modified as necessary.

PAYMENT SYSTEMS

When the "Payment system" function is displayed, it is possible to define which payment system with Executive communication protocol to use, selecting among:
Validator
Totalizator
Executive standard
Executive price holding
ECS
URW3
In order to instal payment systems different from the validator or cashless, special kits must be used.
The payment systems must be housed in the cabinet (optional).

PROGRAMMING THE VALIDATOR

If the selected payment system is a validator, the parameters with which operate must be defined.

CREDIT CONTROL

It is possible to decide whether to cash the excess credit paid or to leave it available to the user.

OPERATING VOLTAGE

According to the type of validator it necessary to select the operating voltage, 12 V or 24 V.

VALIDATOR LINES

When the "Validator lines" function (line programming) is displayed, the value of the 6 validator coin lines can be changed.
The value of the lines is expressed in number of basic coins.
Press the confirm button "➔" from the "programming" menu to access the list of lines, which can be scrolled with the "↓" and "↑" buttons.
When pressing correction button "➔", this value will be displayed blinking and can be modified as necessary.

INITIALISING

When the "Initialising" function is displayed, the machine can be initialised, thus resetting all default data.
This function is used in case of stored data error or replacement of the EPROM.
All statistical data are reset.
Press the confirm button "➔" and message "Confirm?" is displayed. Press the button "➔" again to display the first variable parameter to define the machine configuration.
The available options (blinking) can be scrolled with the "↓" and "↑" buttons, the selection is confirmed with button "➔" and the next parameter is presented. When pressing button "➔" after the last parameter the display will show the message "Working" for a few seconds and the machine is initialised.
The parameters are as follows:

"Machine type"	C -	Espresso
	I -	Instant
"Country"	Type of doses to be used for the selections	
"Layout"	Layout of containers and selection menu from the available ones	
"Tank"	Water supply from the mains or from a tank	

SETTING 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 the confirm button "➔" to display the current code; when pressing the correction button "➔" the first digit will blink.
The value of the blinking digit can be increased or decreased with the "↓" and "↑" buttons.
When pressing the confirm button "➔", the blinking digit will be given the displayed value and the next digit starts blinking.

MACHINE CONFIGURATION

When the "Machine Config." function is displayed, the machine configuration can be changed, and namely:

- cup dispensing / without cup
- dispensing stirrers with unsweetened selections
- water supply from the mains / internal tank
- presence of warning device for full liquid waste container (inside cabinet)
- for instant models, before releasing the cup, dispensing 20 cc. of water to heat the coffee mixer; this function can either be enabled or disabled.

Press the confirm button "↳" to display the current status; when pressing the correction button "→" the status blinks and can be changed with the "↓" and "↑" buttons.

IMPORTANT NOTICE!!!

When the machine is initialised, the configuration will be assigned the default values "/with cup/with stirrer/ without mixer heating/without full waste container warning device".

THEREFORE, AFTER INITIALISING THE MACHINE MUST BE RECONFIGURED.

SELECTION COUNTER

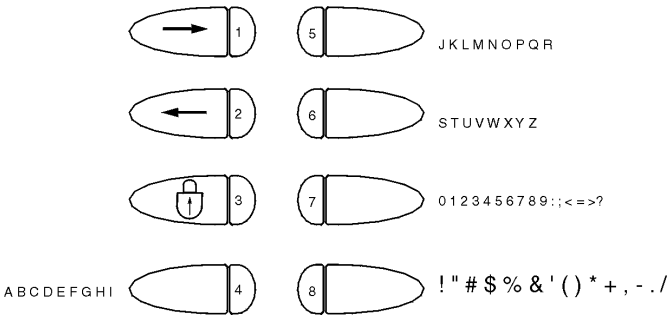
This function is used to lock the machine after a preset number of coffee selections, and a preset number of instant selections.
Since this is a control tool used only by the vending manager, a 4-digit password must be entered.
After entering the password, the number of selections, after which the machine locks, can be set, the number of selections already made can be read and the lock counter can be reset.

N.B.: The counters are set to zero by default;

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

SETTING THE PROMOTIONAL MESSAGE

When this menu is displayed, press the confirm button "↳" to display whether the message is enabled or not (ON/ OFF).
If the message is enabled, when pressing the confirm button "↳" the first character will blink, which can then be changed.
The buttons will be assigned the following functions:



1 - Previous character
2 - Next character
3 - Upper case/lower case
The values are displayed one after the other by pressing the button.
The message is stored by pressing button "2" when on the last position.

SELECTING THE LANGUAGE

This function is used to select the language to be used for displaying the messages.
The available languages are: Italian, French, English, Spanish, Portuguese and German.

WHIPPING TIME

This function is used to define how long (in tenths of a second) instant coffee is to be whipped according to the amount of drink to be obtained.

PROGRAMMING ACCESS PASSWORD

This function is used to enable the request for a password to access the programming procedures.
The password is composed the sequence of buttons 1 1 2 2 and cannot be changed.

SELECTION CONFIGURATION

This function is used to determine, as an exception to the machine configuration, which accessories should or should not be dispensed for a single selection.
The following is possible for each selection button (1 to 8, excluding the pre-selection buttons):

- not dispense the cup (if the machine configuration includes the cup, but not vice versa);
- not dispense the stirrer if the selection is unsweetened;
- not dispense sugar and stirrer for selections which are defined as sweetened (but not dispense sugar for selections which are defined as unsweetened).

The settings defined with the selection configuration are used also for complete test selections.

DISCOUNT

This function is used to define the price reduction (in basic coins) to be applied to the pre-selection "without cup".

SPECIAL SALES

Free Vend and "Jug facilities" can be enabled/disabled by entering a programmable password.
The password and the number of selections for each jug facilities cycle can be programmed only if the function to which they are connected is enabled.
A password already used for other functions is not accepted and a different button combination must be used.
The password must be entered for each special sales cycle, after pressing button "8" for 2 seconds.

EURO

Normally prices and credit are displayed according to what was set in price programming.
If enabled, this function allows the display of such values alternating in Euro and in the local currency.
It is also possible to define whether the conversion is to be made from Euro to local currency or vice versa; the calculation is carried out using the conversion parameters set for each currency.

INSTALLATION

Pressing the installation button “3” will enable the filling operation of the hydraulic system, even with the air break full.

RESETTING FAILURES

When pressing the failure reset button “8” the message "Working" is displayed for a few seconds and all current failures will be 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 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. 16) is used to connect the programmer to the machine, connecting the cable to the special connector of the push-button board (see Fig. 20).
Then enter the "programming" mode and press twice the relevant button on the push-button board.
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 button “E” will access the displayed function;
- Pressing button “O” will display the following function;
- Pressing button “C” will display the previous function.

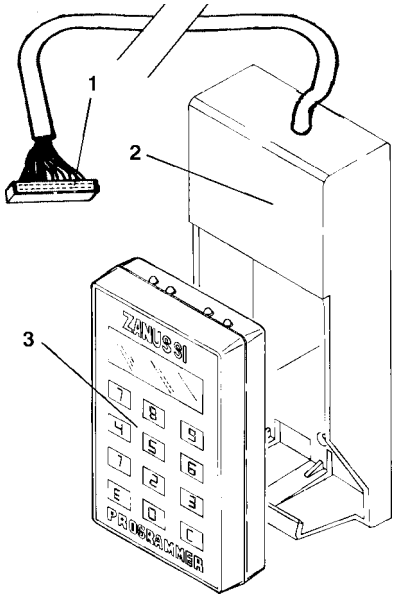


Fig. 16

1 - Connector
2 - Programmer holder
3 - Programmer

PROGRAMMER SETUP READING	SETUP READING SETUP 01 <X>	SETUP 01 <X> Confirm?
	SETUP READING SETUP 20 <X>	
PROGRAMMER CREATE SETUP	CREATE SETUP SETUP 01 <X>	SETUP 01 <X> Confirm?
	CREATE SETUP SETUP 20 <X>	

TRANSFERRED DATA

Data transferred with the set up is as follows:

Water and powder doses

8 price table

Prices/button status

Basic coin

Decimal point position

Payment systems

Validator operating voltage

Validator lines

Credit control

Machine type

Country

Layout

Water supply

Machine code

Machine configuration

Selection counter

Promotional message

Setting the language

Whipping time

Programming access password

Discount

Special sales

Password for Free Vend

Password for "Jug facilities"

Number of selections for "Jug facilities"

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:

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

LANGUAGE CONFIGURATION	CONFIGURATION ITALIAN	CONFIGURATION 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 the machine is started)	

MAINTENANCE

Important notice!!

Access to the machine interior for maintenance and/or repairs is via the back panel.
Therefore, provisions must be made for the machine to be rotated, thus allowing removal of the back panel.

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.

Switch the machine off before any maintenance operations which require removal of components.

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

INTRODUCTION

To ensure perfect operation for a long period, the machine must be subjected to regular maintenance.
The following sections contain the procedures and the maintenance schedule, which are only a general indication, as they greatly depend on the operating conditions (e.g. water hardness, environmental humidity and temperature, type of product used, etc.).
The procedures described in this chapter are not exhaustive of all maintenance operations to be carried out.
More complex operations (e.g. boiler descaling) should be carried out by qualified technicians only having specific knowledge of the machine.
To prevent oxidation or the action of chemical agents, the stainless steel and varnished surfaces should be kept clean by using mild detergents (solvents must not be used).

Never use water jets to clean the machine.

MAINTENANCE OF THE BREWING UNIT

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

- remove the boiler teflon hose connection from the upper piston, paying attention not to lose the seal (see Fig. 17);
- undo the knob securing the unit to the bracket;
- remove the brewing unit.

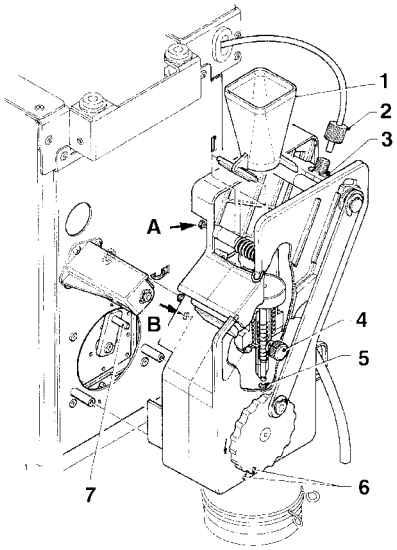


Fig. 17

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

Removing the upper filter

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

Removing the lower filter

- Loosen screws A and B enough to release the coffee funnel (see Fig. 17);
- remove the lower piston snap ring;
- take the piston from out of brew chamber and remove the filter.

Soak all components removed from the unit in a solution of boiling hot water and coffee machine detergent for approx. 20 minutes.
Thoroughly rinse and dry all parts, then reinstall them in the reverse order of disassembly, taking particular care that:

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

Important notice!!!

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

REGENERATING THE SOFTENER UNIT (OPTIONAL)

Only a 2-litre ion-exchange resin softener unit can be used on these machines.
The resins should be regenerated at least once a week or even more frequently depending on the hardness of the water from the mains used to supply the machine (see table below).

Water hardness		Number of selections	
° F	° G	60 cc.	130 cc.
10	5,6	5600	2800
20	11,2	2800	1400
30	16,8	1900	900
40	22,4	1400	700
50	28,0	1100	550

To regenerate the resins correctly do as follows:

- remove the softener unit from the cabinet and shake it vigorously to eliminate any preferential paths which may have formed;
- fill 0.5 Kg. of sodium chloride (ordinary salt);
- connect the side hose union to a tap and the middle rubber-holder to a drain point; the direction of the water flow must be

NECESSARILY

the one shown in the figure 18

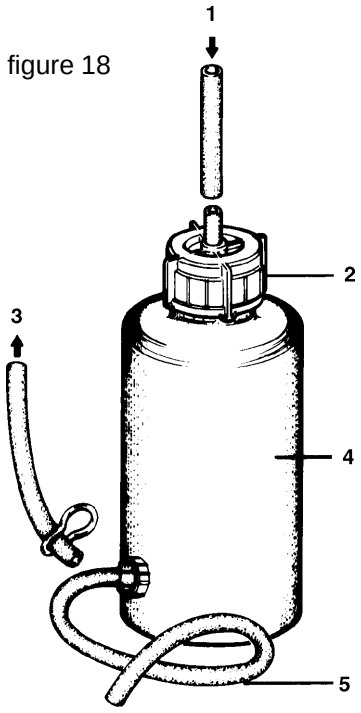


Fig.. 18

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

- adjust the water flow in such a way as to completely dissolve the salt in 10 litres water within 25 minutes;
- during the regeneration operation, ensure that the softener unit is always full of water, bleeding any air which may have entered;
- at the end of this operation ensure that outlet water is no longer salted; it is advisable to check the hardness of the water by means of appropriate chemical reagents: the outlet water hardness should be 0° F.

ANNUAL SANITISING

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

- all parts of the hydraulic system in contact with food, including the hoses, must be removed from the unit and fully disassembled;
- wash all components with detergents, ensuring that all visible residue and product films are mechanically removed using brushes or similar tools, if necessary;
- all components must be soaked in a sanitising solution for at least 20 minutes;
- the unit internal surfaces are to be cleaned with the same sanitising solution;
- Thoroughly rinse and then reinstall the parts.

Before restarting the unit, the same sanitising procedure described in section "Sanitising the foodstuff circuits and the mixers" should be repeated with the components reassembled.

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PRINTED BOARD FUNCTIONS AND INDICATOR LIGHTS

CONTROL BOARD

This board, placed at the back of the machine, (see Fig. 19) processes the information from the push-buttons and from the payment system, it also controls the actuations and the push-button board.
The 15 V AC voltage required for board operation is supplied by a transformer which is protected by a 125 mAT fuse on the primary and by a 1.25 AT fuse on the secondary winding. The voltage supply is rectified and stabilised directly by the board.
The board also houses the EPROM (see Fig. 19).

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

RELAIS	ESPRESSO	INSTANT
K1	ER	E3
K2	ESC	MD3
K3	MAC	MF2
K4	PM	PM
K5	M	MD4
K6	EV2	EV2
K7	EV1	EV1
K8	MF1	MF1
K9	MDZ	MDZ
K10	MD2	MD2
K11	MD1	MD1
K12	EEA	EEA
K13	MSCB	MSCB
K14	MSB	MSB
K15	MSP	MSP

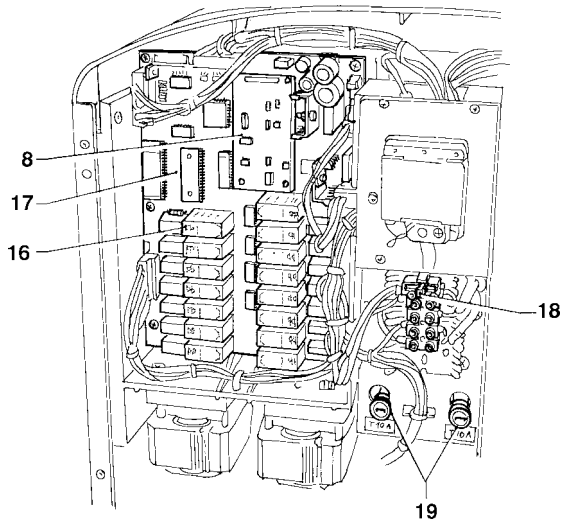
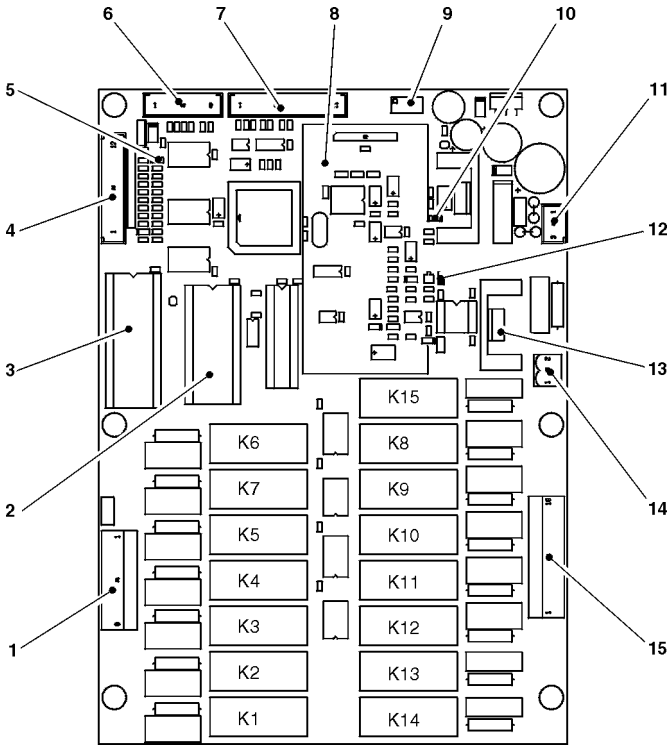


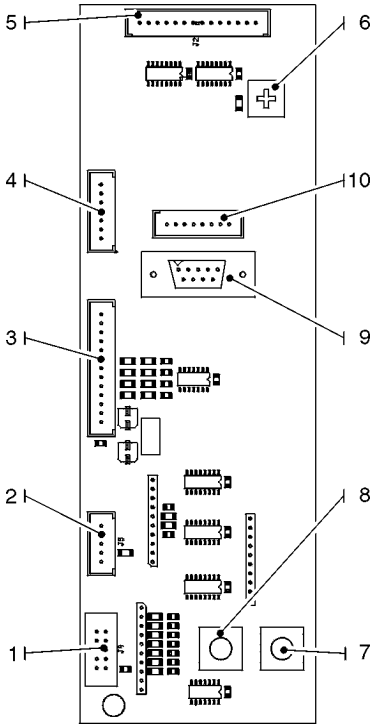
Fig. 19

1 - 230 V~ users
2 - RAM
3 - EPROM
4 - Input signal
5 - Green LED
6 - Not used
7 - To push-button board
8 - Expansion board for payment systems (optional)
9 - Boiler temperature trimmer
10 - Yellow LED
11 - Board power supply
12 - Red LED
13 - To boiler heating element
14 - Boiler heating element triac
15 - 230 V~ users
16 - Relay
17 - Expansion board
18 - Transformer fuse
19 - Mains fuse



PUSH-BUTTON BOARD

This board controls the alphameric display, the selection keys and the programming button (see Fig 20).
It supports the coin mechanism connectors as well as the printer port.



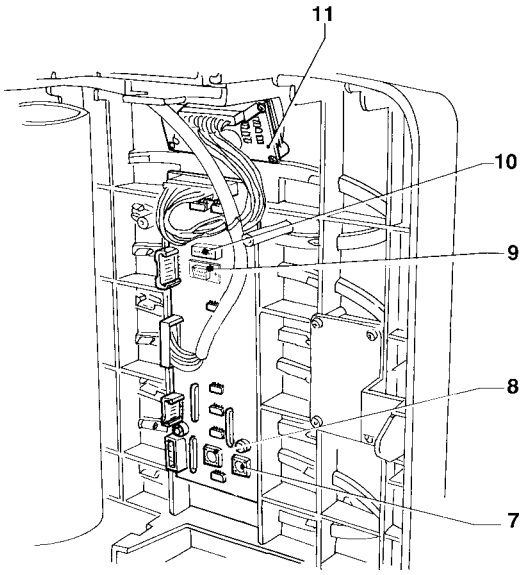
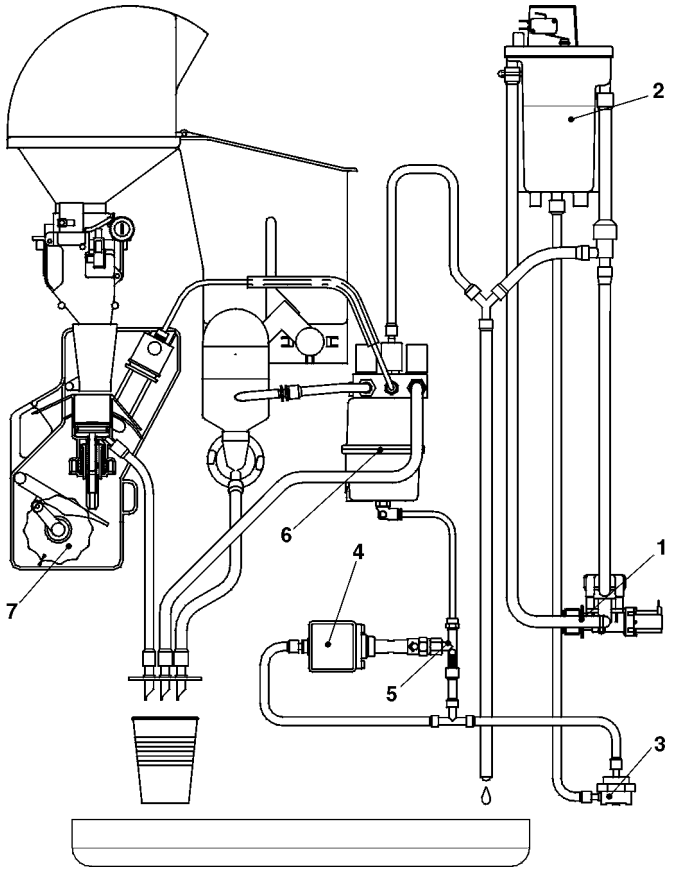


Fig. 20

1 - To the front validator
2 - Not used
3 - To machine board
4 - Signals: free vend- jug facilities
5 - To display board
6 - Display contrast adjusting trimmer
7 - Programming button
8 - Cleaning button
9 - RS232 port
10 - To the programmer
11 - Display board

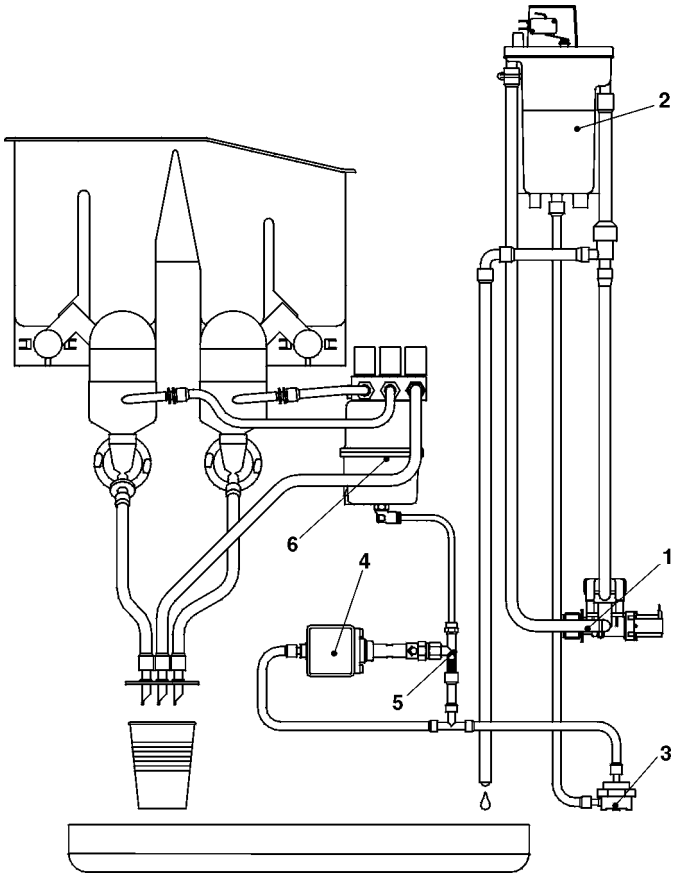
HYDRAULIC SYSTEM

Espresso

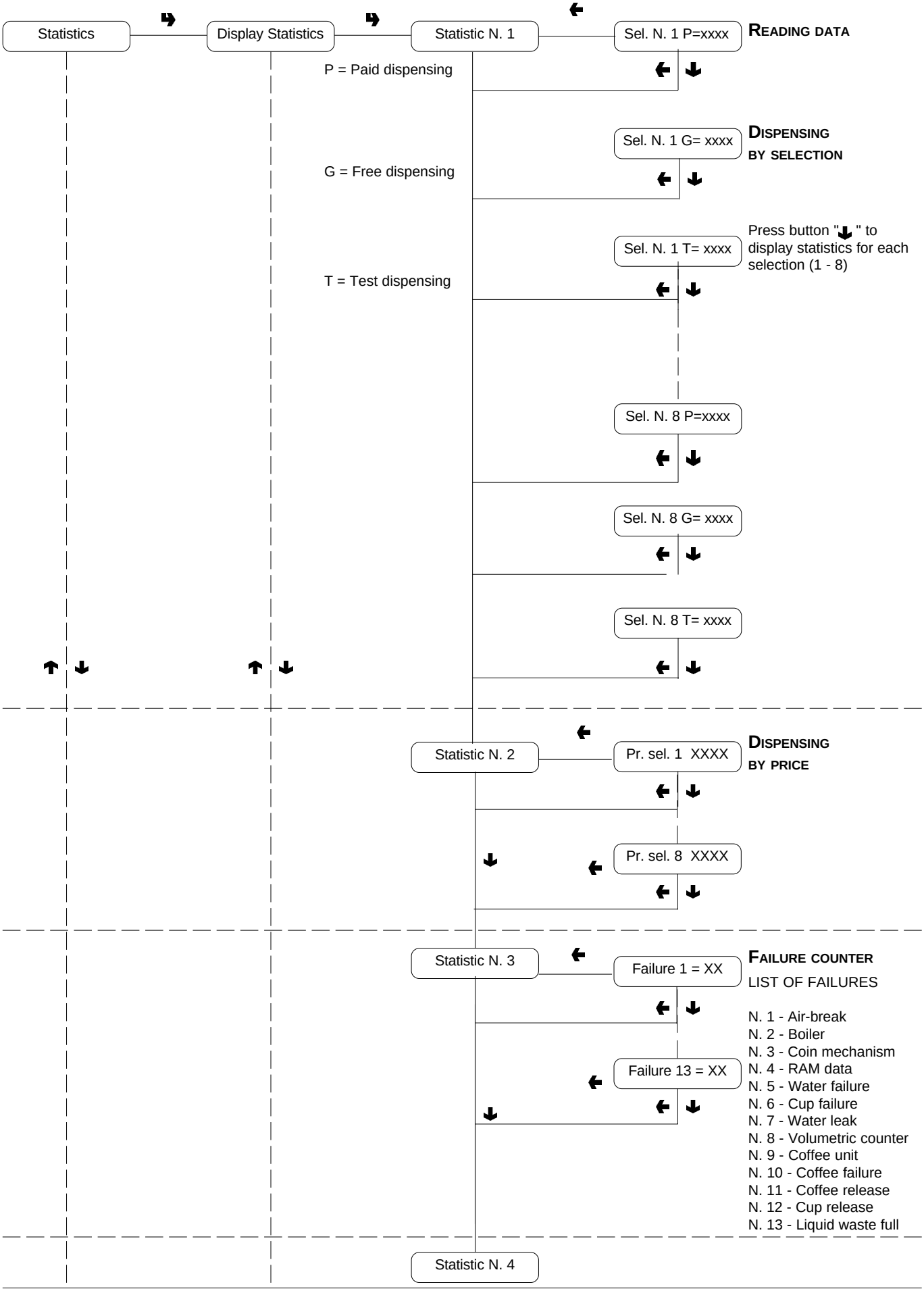


1 - Water inlet solenoid valve
2 - Air-break
3 - Volumetric counter
4 - Vibration pump
5 - Bypass
6 - Boiler
7 - Coffee unit

Instant



"Maintenance" menu



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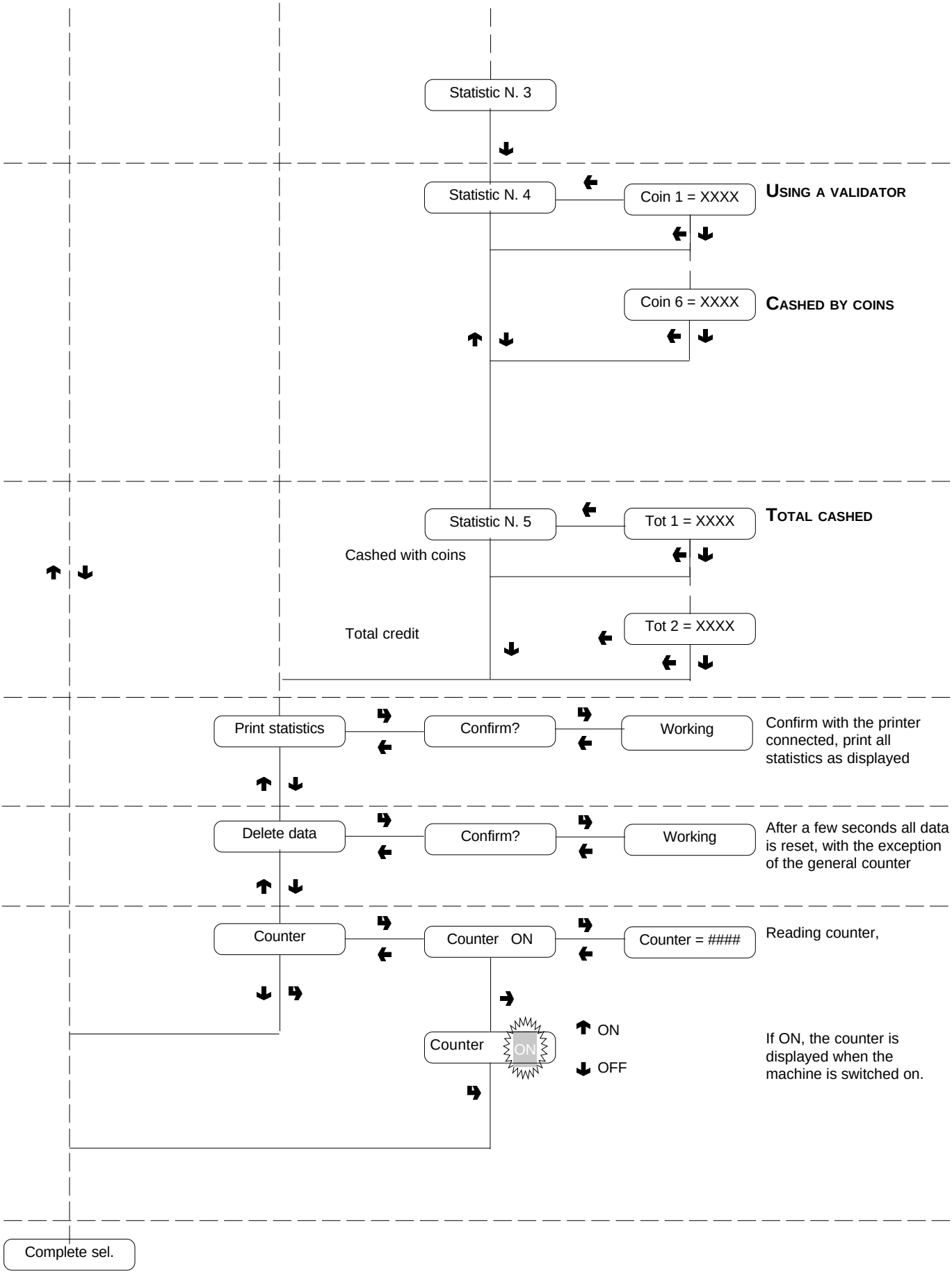
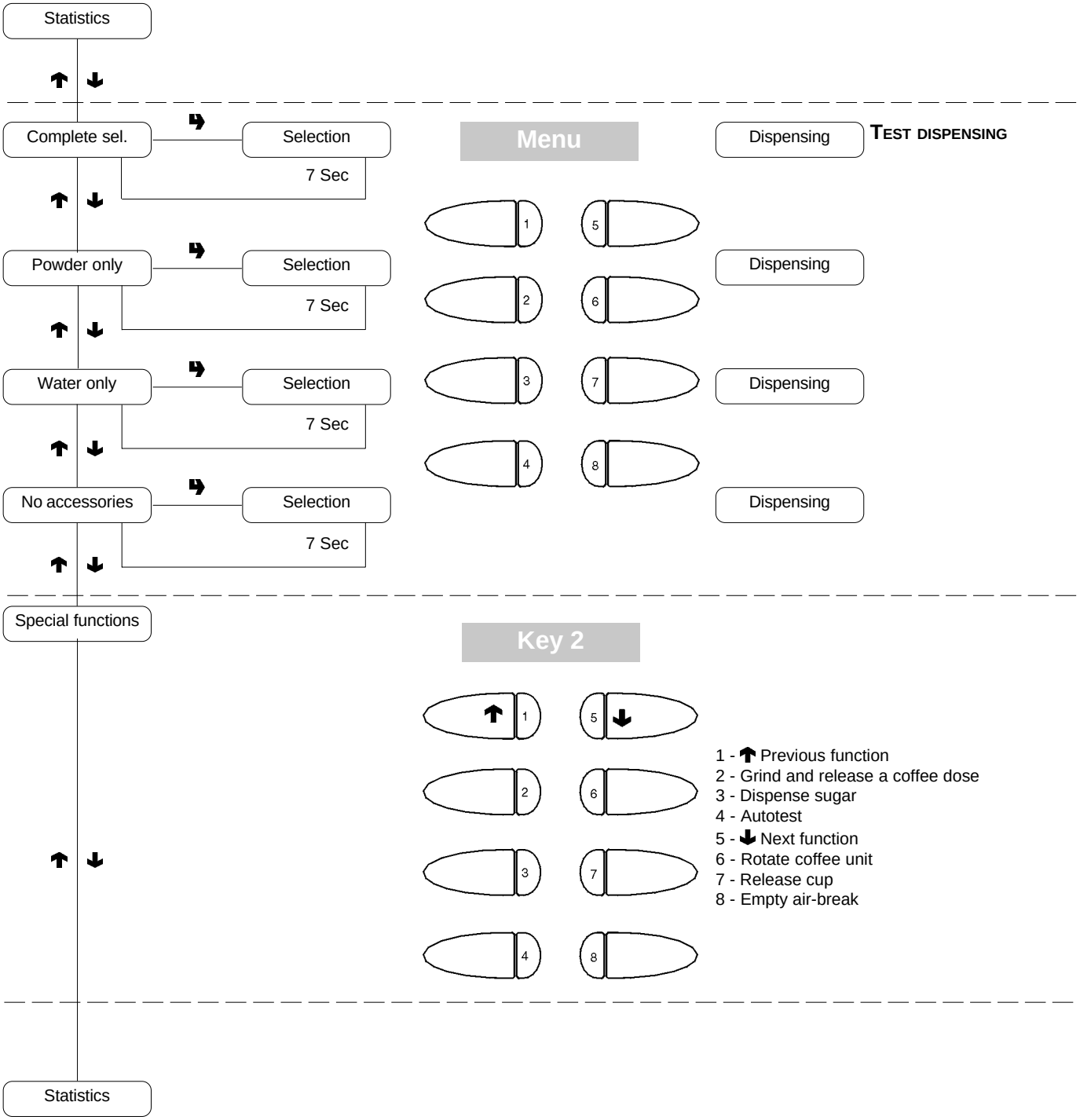
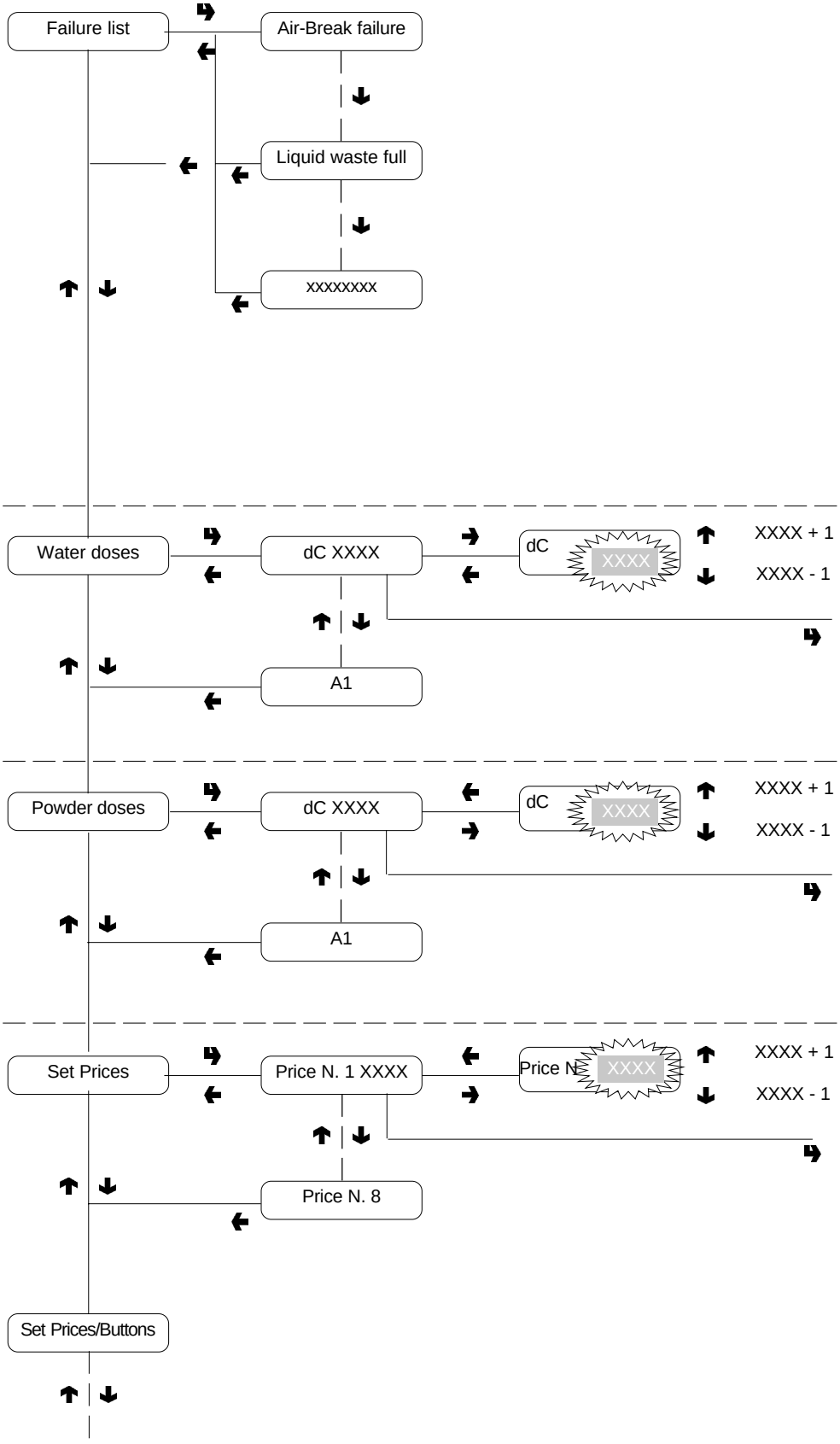
"Maintenance" menu



"Maintenance" menu



Programming menu



FAILURE DISPLAY

LIST OF FAILURES

N. 1 - Air-break
N. 2 - Boiler
N. 3 - Coin mechanism
N. 4 - RAM data
N. 5 - Water failure
N. 6 - Cup failure
N. 7 - Water leak
N. 8 - Volumetric counter
N. 9 - Coffee unit
N. 10 - Coffee failure
N. 11 - Coffee release
N. 12 - Cup release
N. 13 - Liquid waste full

WATER DOSES

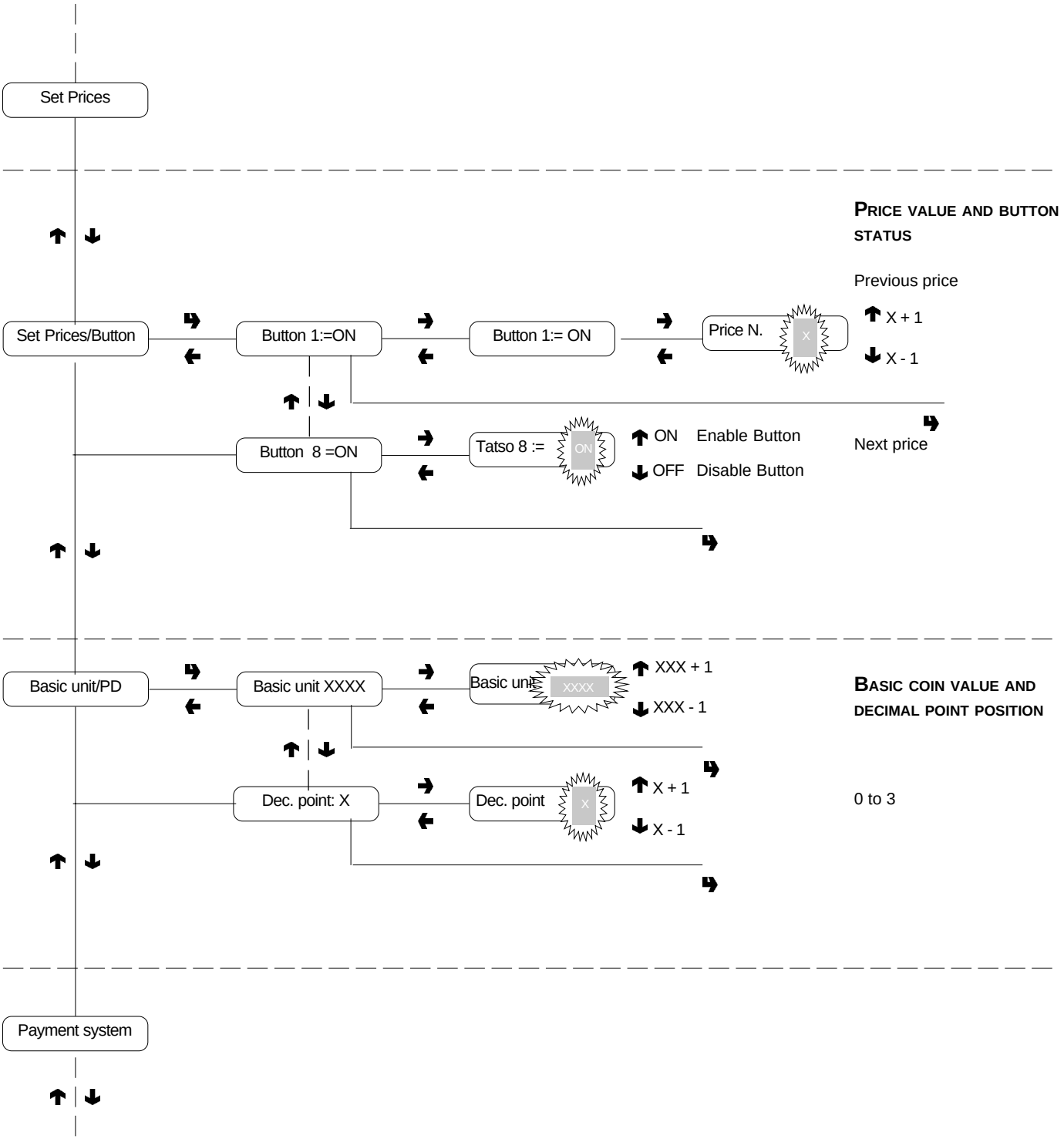
Refer to the selection dose table for the correspondence between dose code and water dose

POWDER DOSES

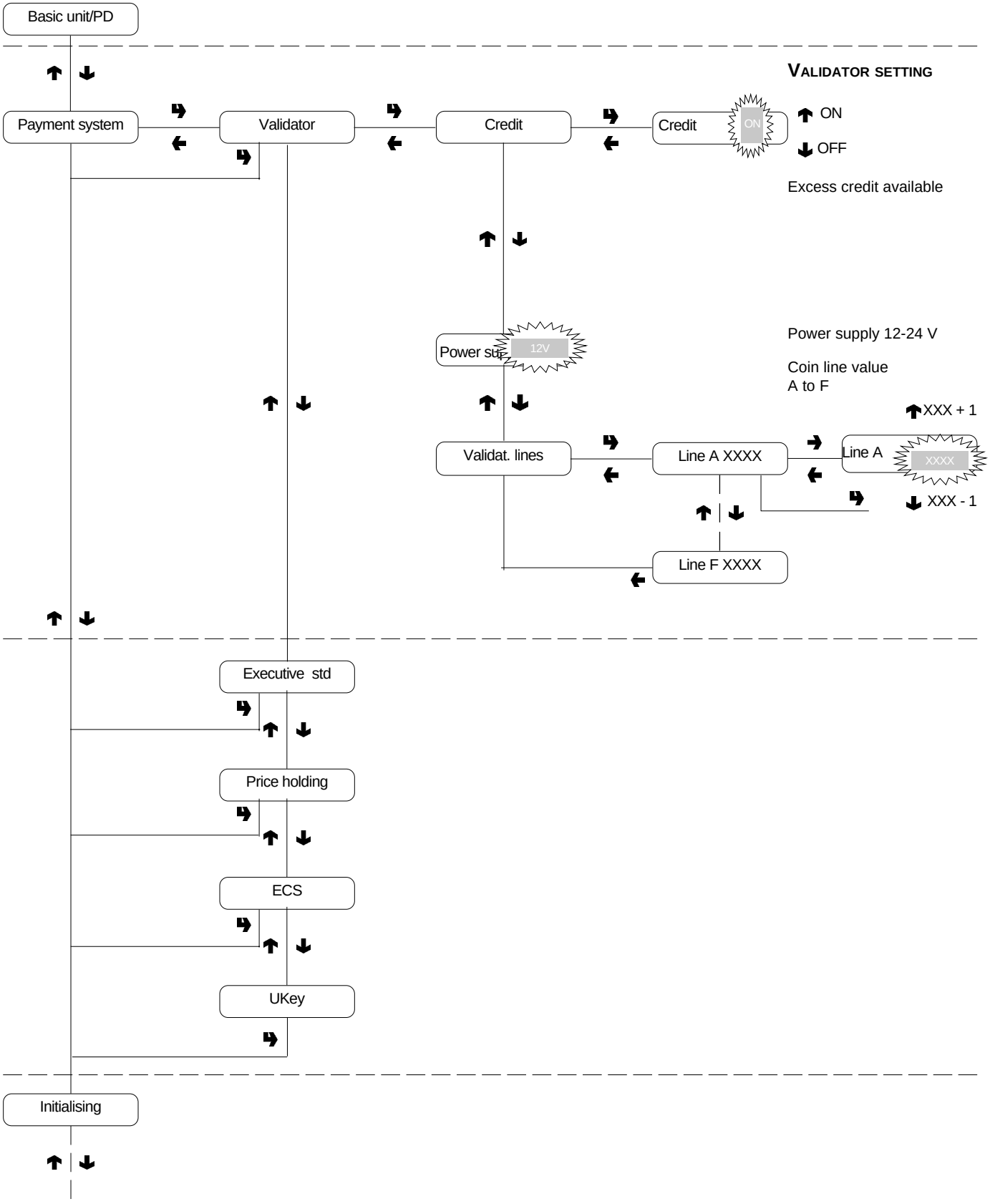
Refer to the selection dose table for the correspondence between dose code and powder dose

PRICE VALUE

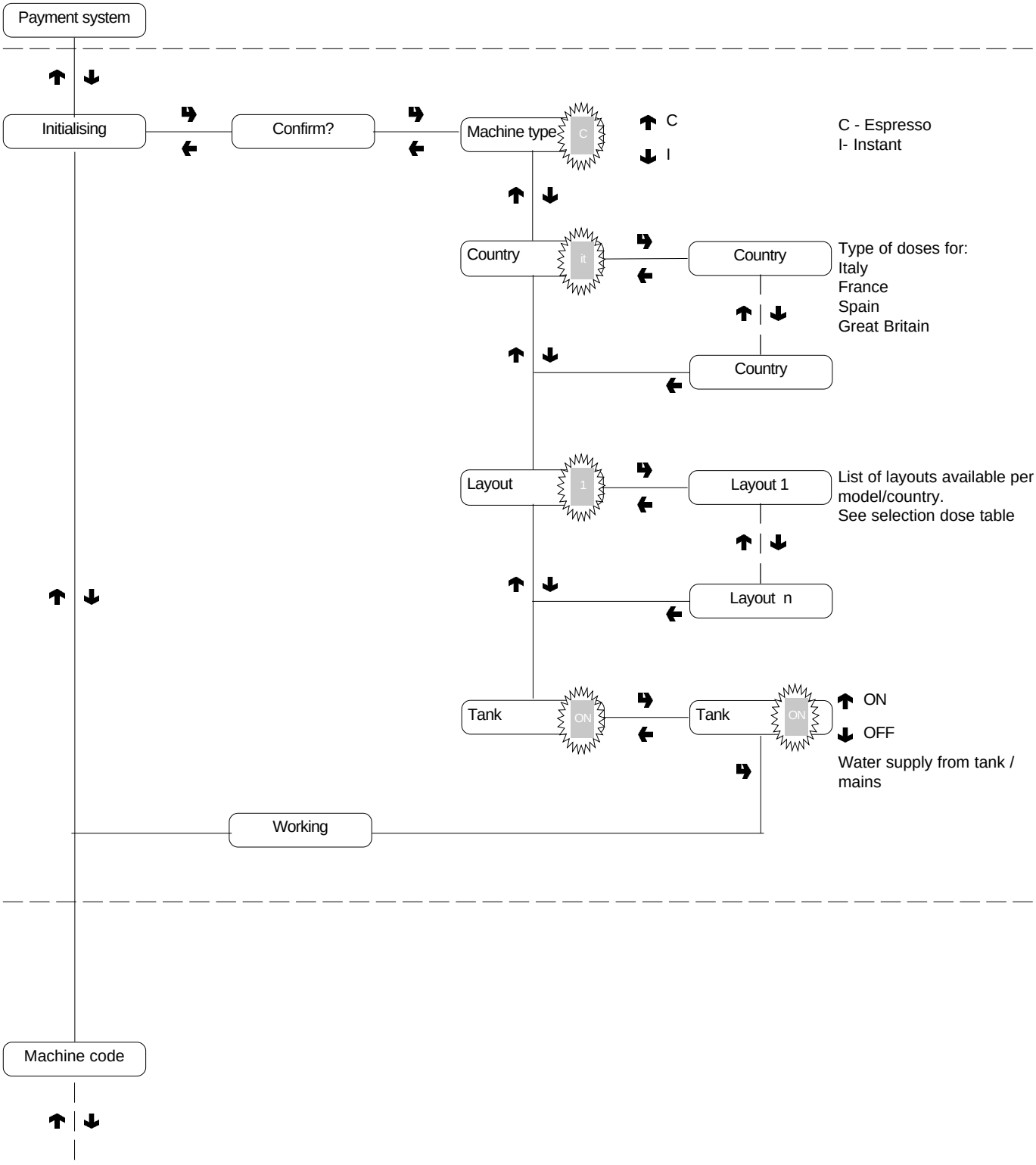
Programming menu



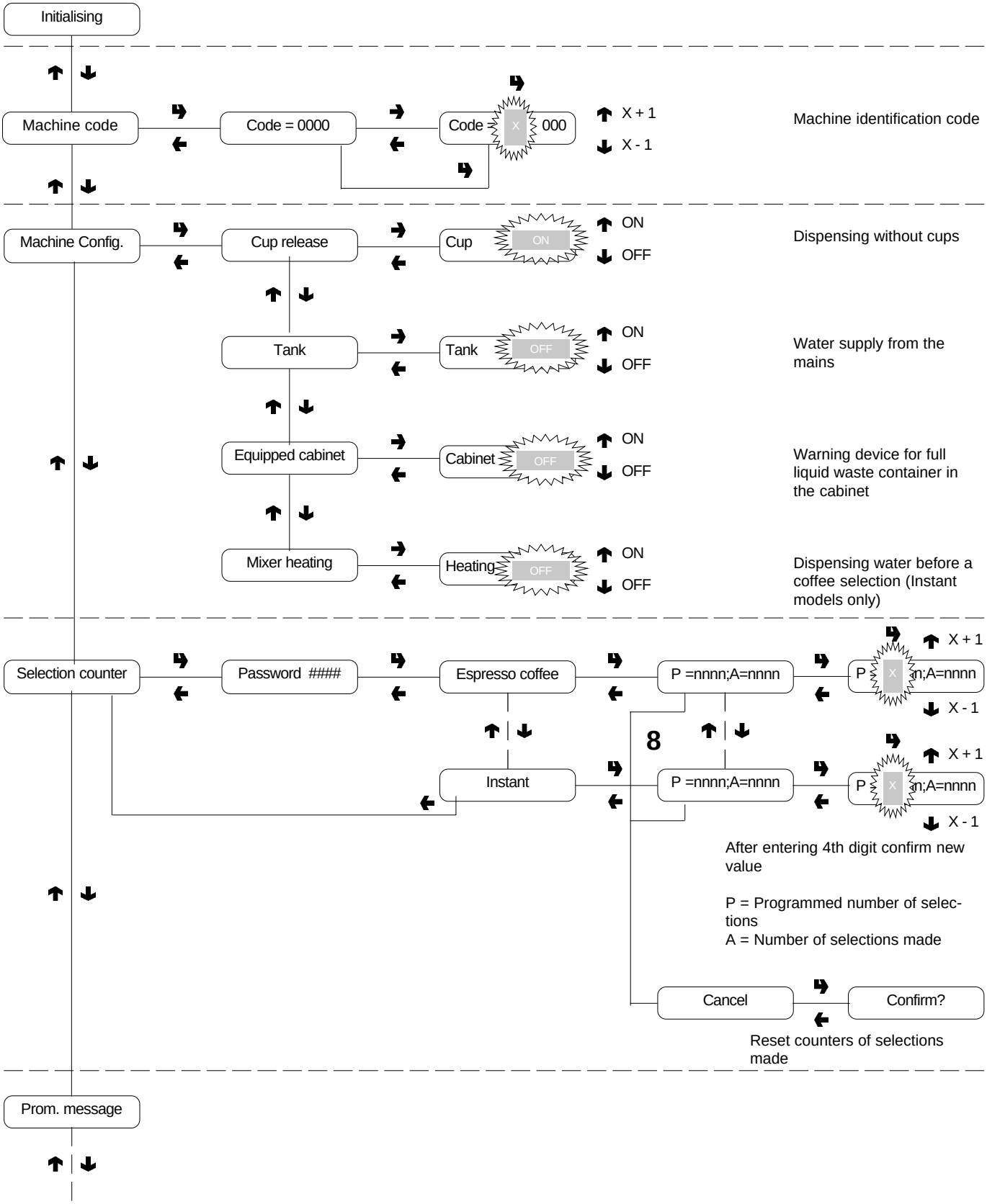
Programming menu



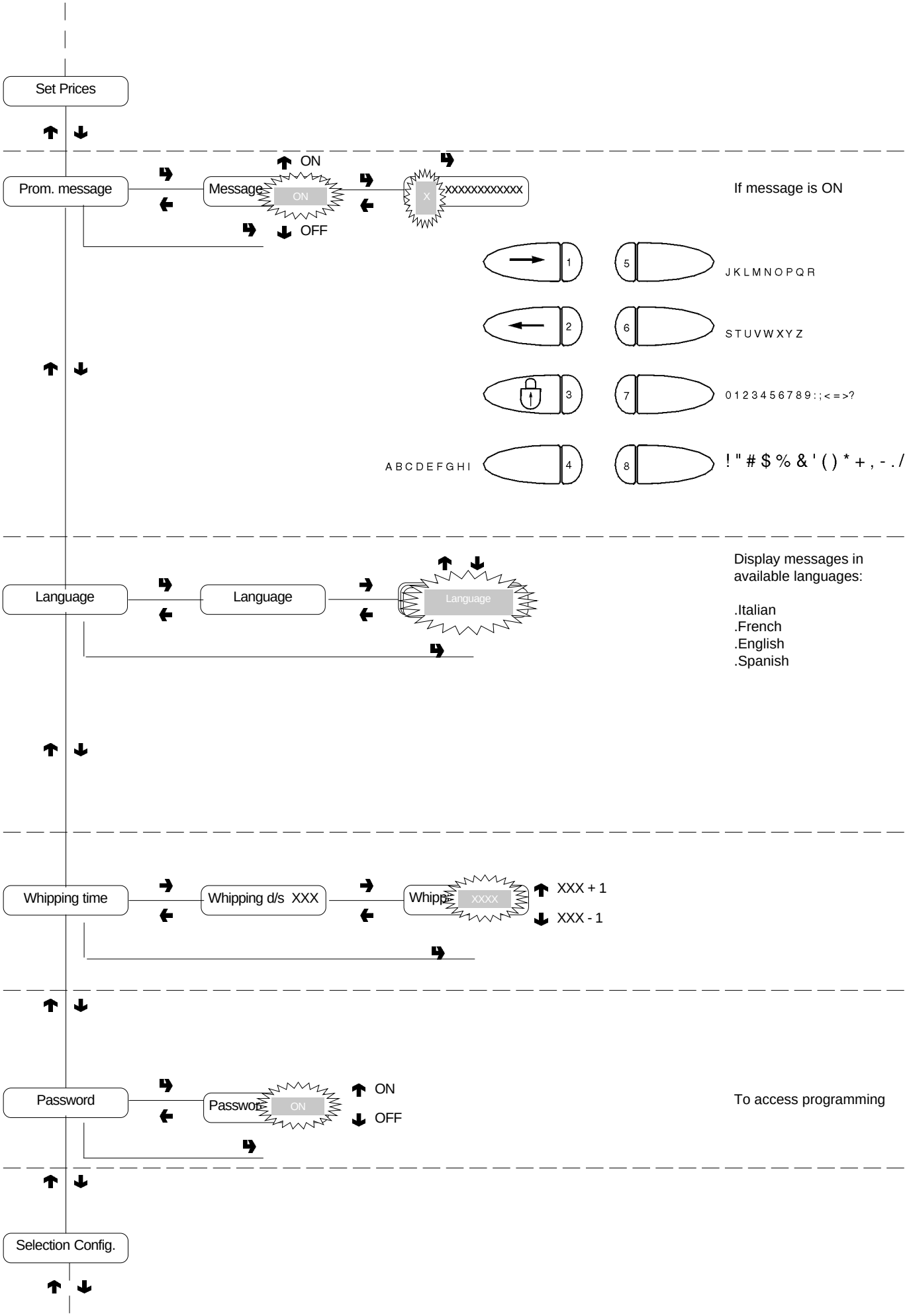
Programming menu



Programming menu



Programming menu



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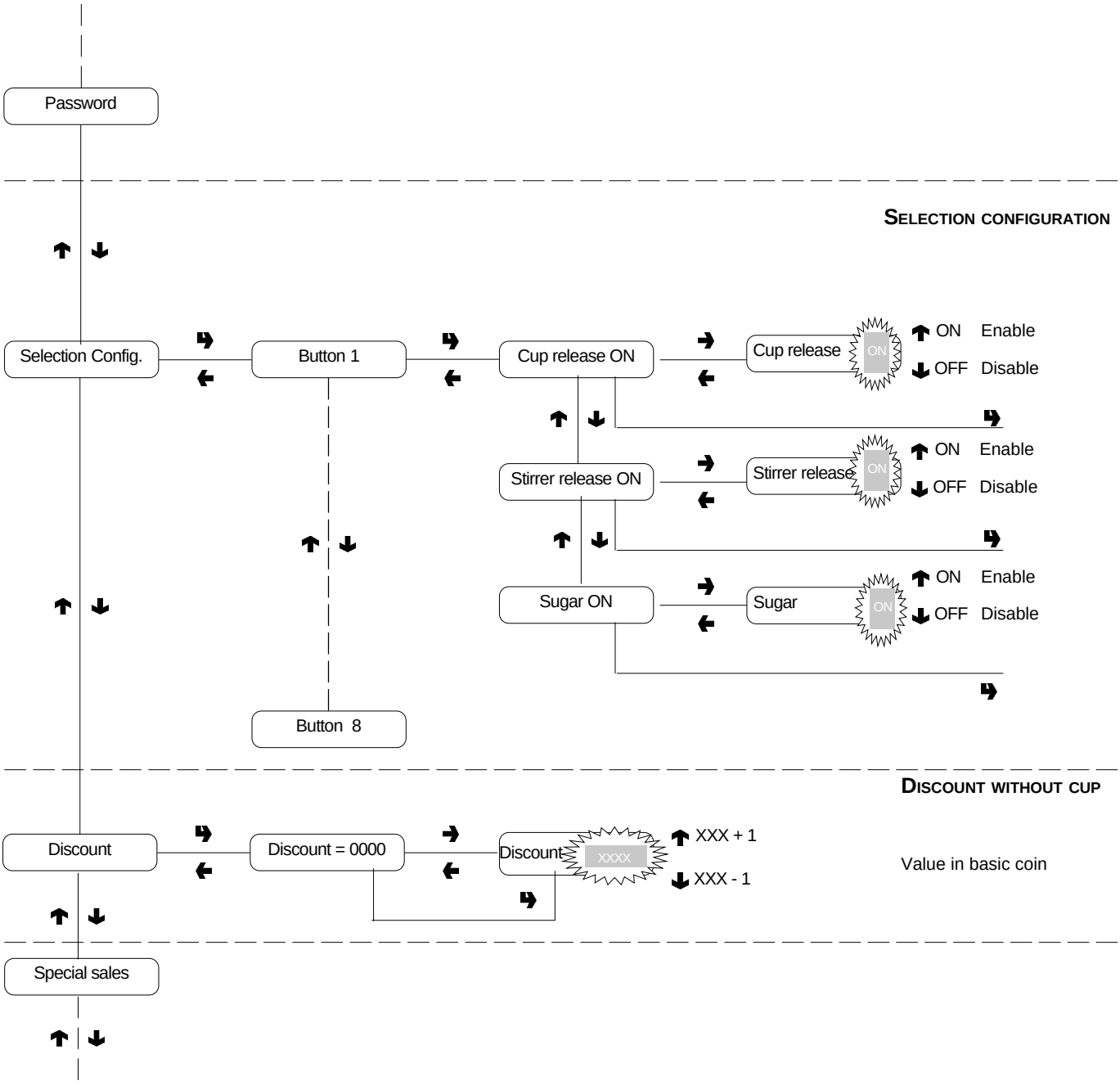
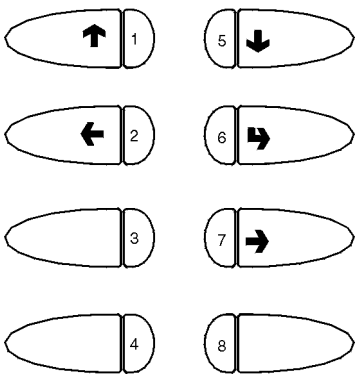
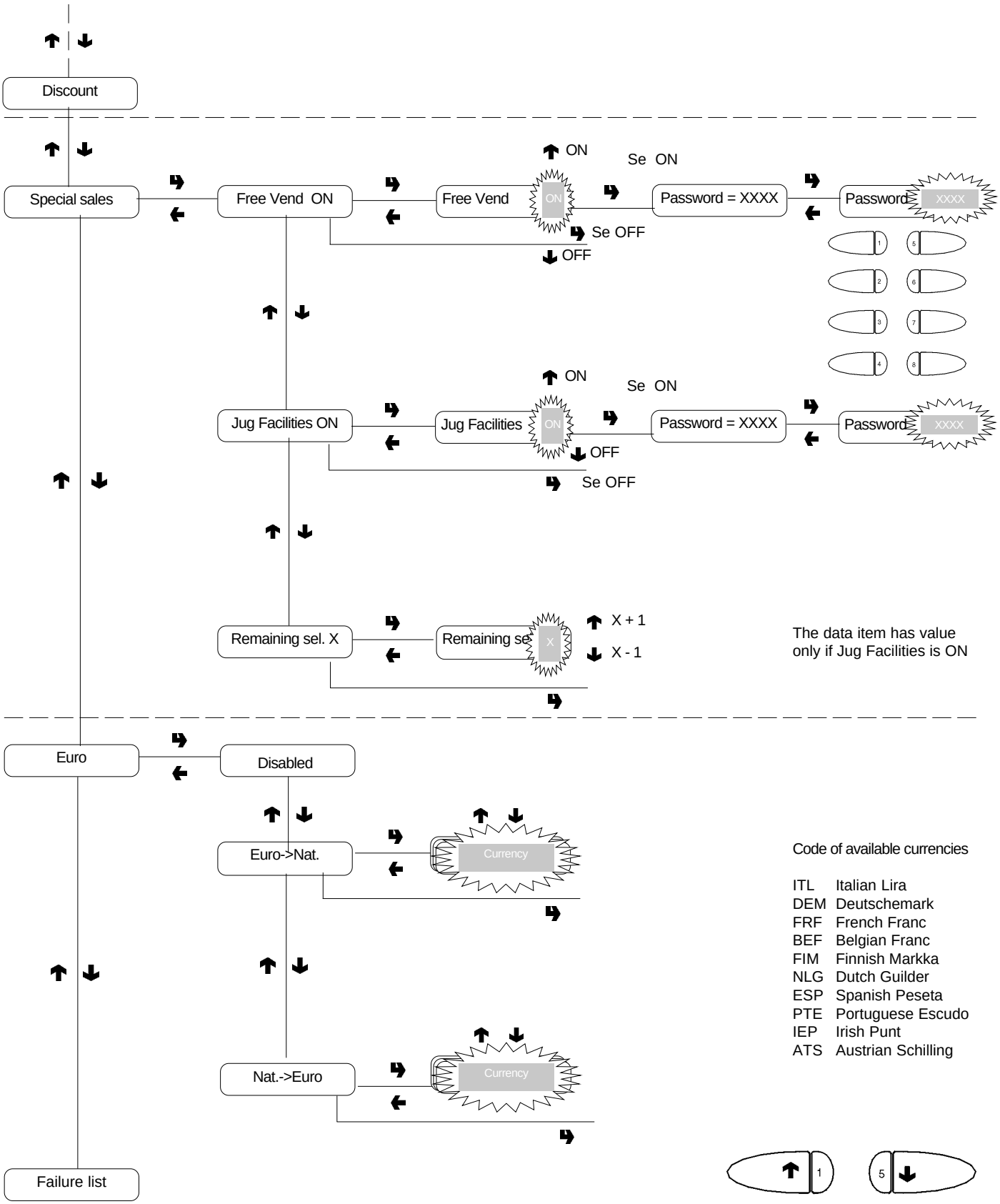
Programming menu





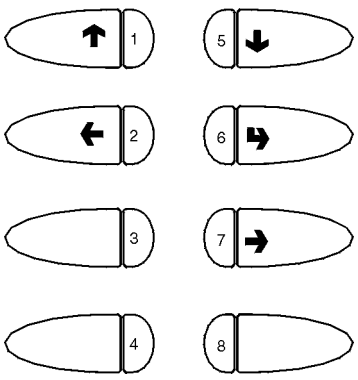
1 - ↑ Previous function / Increase data item (+1)
2 - ← Exit function / Cancel change
3 - Machine installation
4 -
5 - ↓ Next function / Decrease data item (- 1)
6 - ↳ Confirm function / confirm data item
7 - → Change data item
8 - Reset failures

Programming menu



Code of available currencies

ITL	Italian Lira
DEM	Deutschemark
FRF	French Franc
BEF	Belgian Franc
FIM	Finnish Markka
NLG	Dutch Guilder
ESP	Spanish Peseta
PTE	Portuguese Escudo
IEP	Irish Punt
ATS	Austrian Schilling



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8 - Reset failures

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WIRING DIAGRAM LEGEND

CODE	DESCRIPTION	CODE	DESCRIPTION
BDV	BDV COIN MECH CONNECTOR	MAC	GRINDER
CM1	COFFEE UNIT MOTOR CAM	MD1-..	DOSER UNITS - INSTANT
CMSB	CUP RELEASE MOTOR CAM	MDB	CONNECTOR FOR MDB COIN MECHANISM
CV	VOLUMETRIC COUNTER	MDZ	DOSER UNIT - SUGAR
E1-...	SOLENOID VALVE - INSTANT	MF1-..	WHIPPER MOTOR
EEA	WATER INLET SOLENOID VALVE	MSB	CUP RELEASE MOTOR
ER	COFFEE DISPENSER SOLENOID VALVE	MSCB	CUP CONTAINER SHIFT MOTOR
ESC	COFFEE RELEASE MAGNET	MSP	STIRRER RELEASE MOTOR
EX	EXECUTIVE COIN MECH CONNECTOR	NTC1-.	TEMPERATURE PROBE
FA	RADIO INTERFERENCE SUPPRESSOR	PM	PUMP
ID	COFFEE DOSE SWITCH	RCC	COFFEE BOILER HEATING ELEMENT
IMSP	STIRRER RELEASE MICROSWITCH	RIS	COFFEE UNIT HEATER
IP	DOOR SWITCH	RS232	SERIAL PORT
IPF	WASTE CONTAINER OVERFLOW SWITCH	SM	CONTROL BOARD
IVA	EMPTY BOILER MICROSWITCH	SP	PUSH-BUTTON BOARD
IVB	EMPTY CUP DISPENSER MICROSWITCH	TR	TRANSFORMER
KC1-..	COFFEE BOILER CUTOUT	TR1	TRANSFORMER 230 V 24 V
KS1-..	SAFETY CUTOUT	TX....	DELAYED FUSE (X=COURRENT)
LCD	LIQUID CRYSTAL DISPLAY	VAR	VARISTOR
M	COFFEE UNIT MOTOR	VENT	FAN

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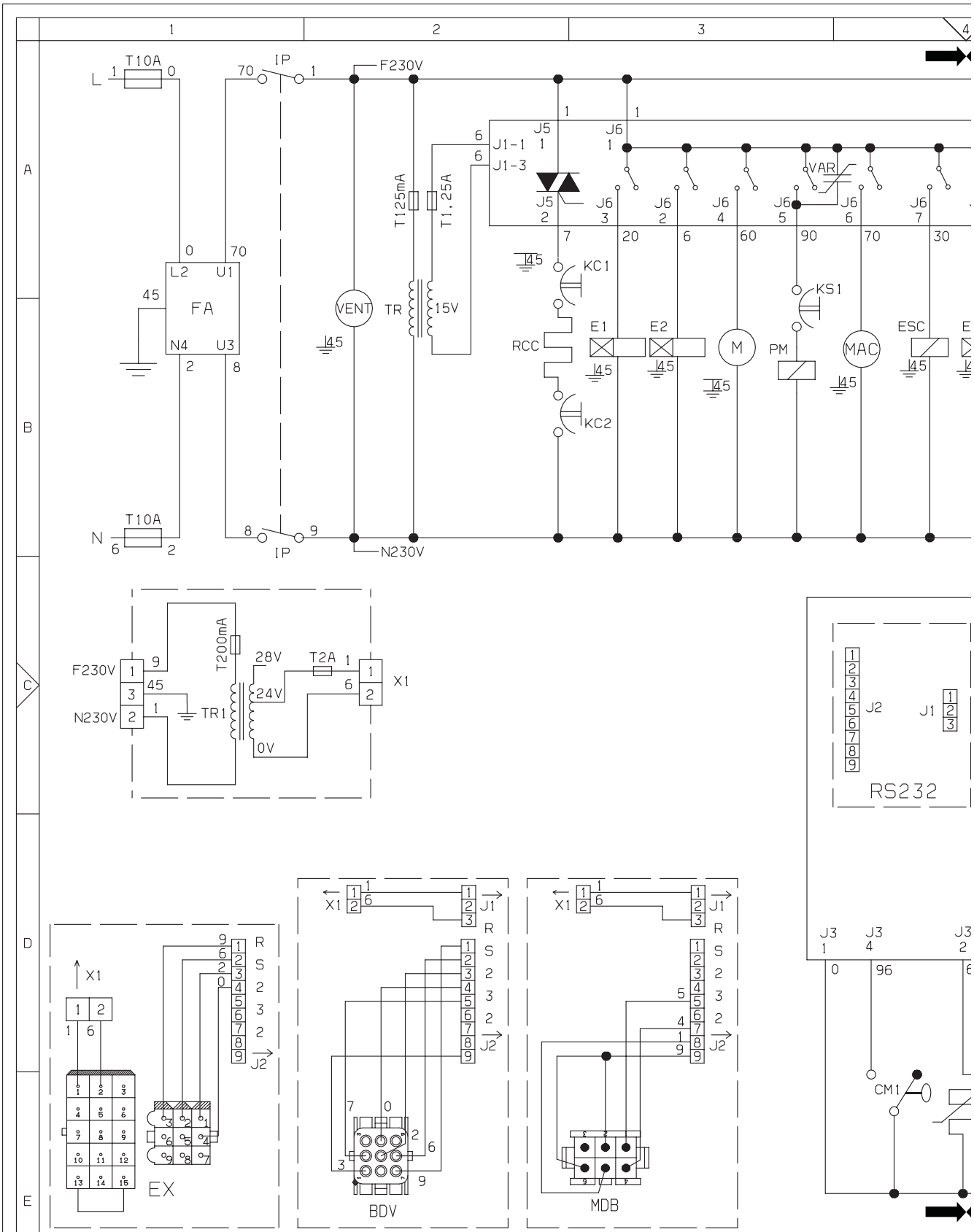
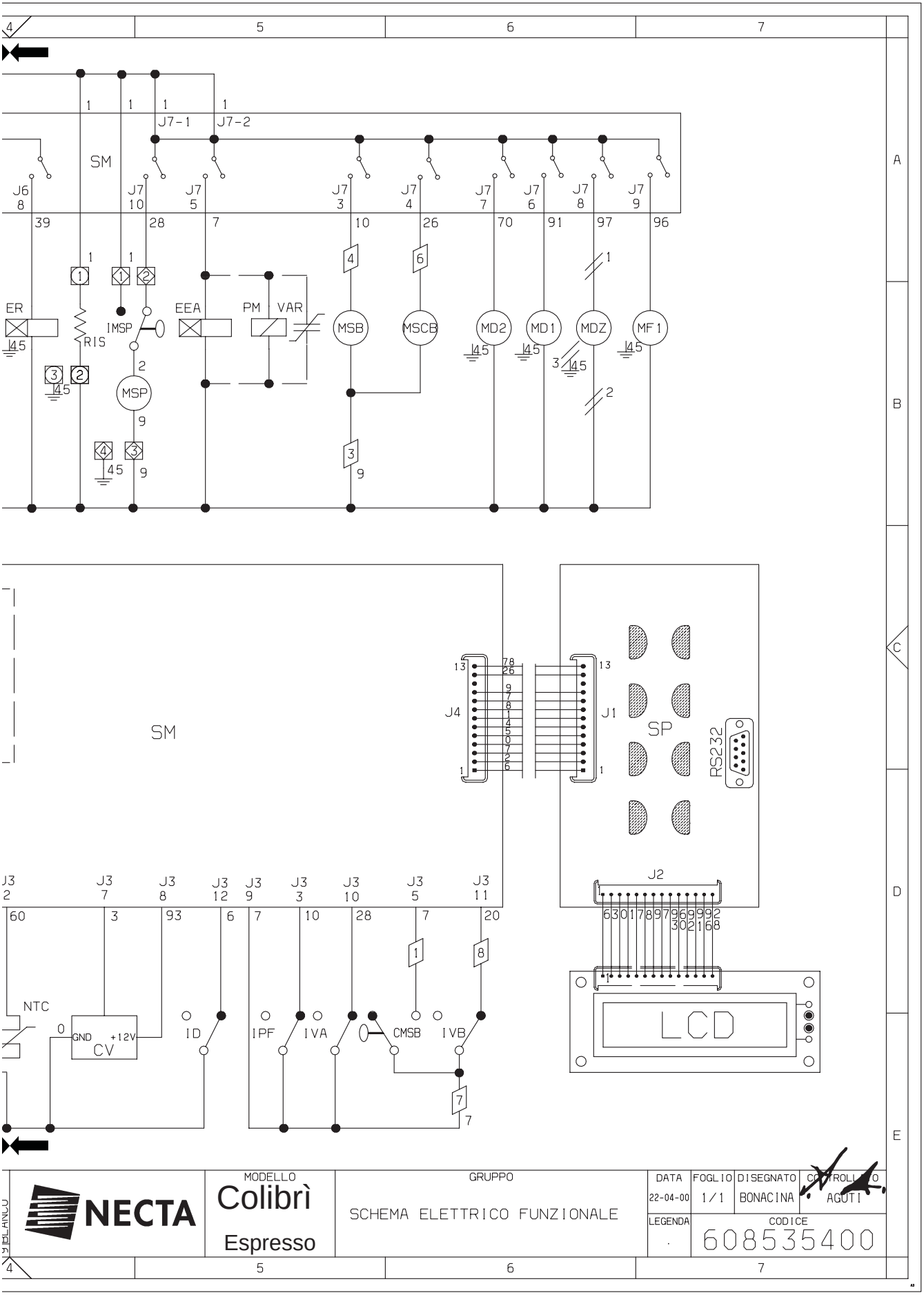
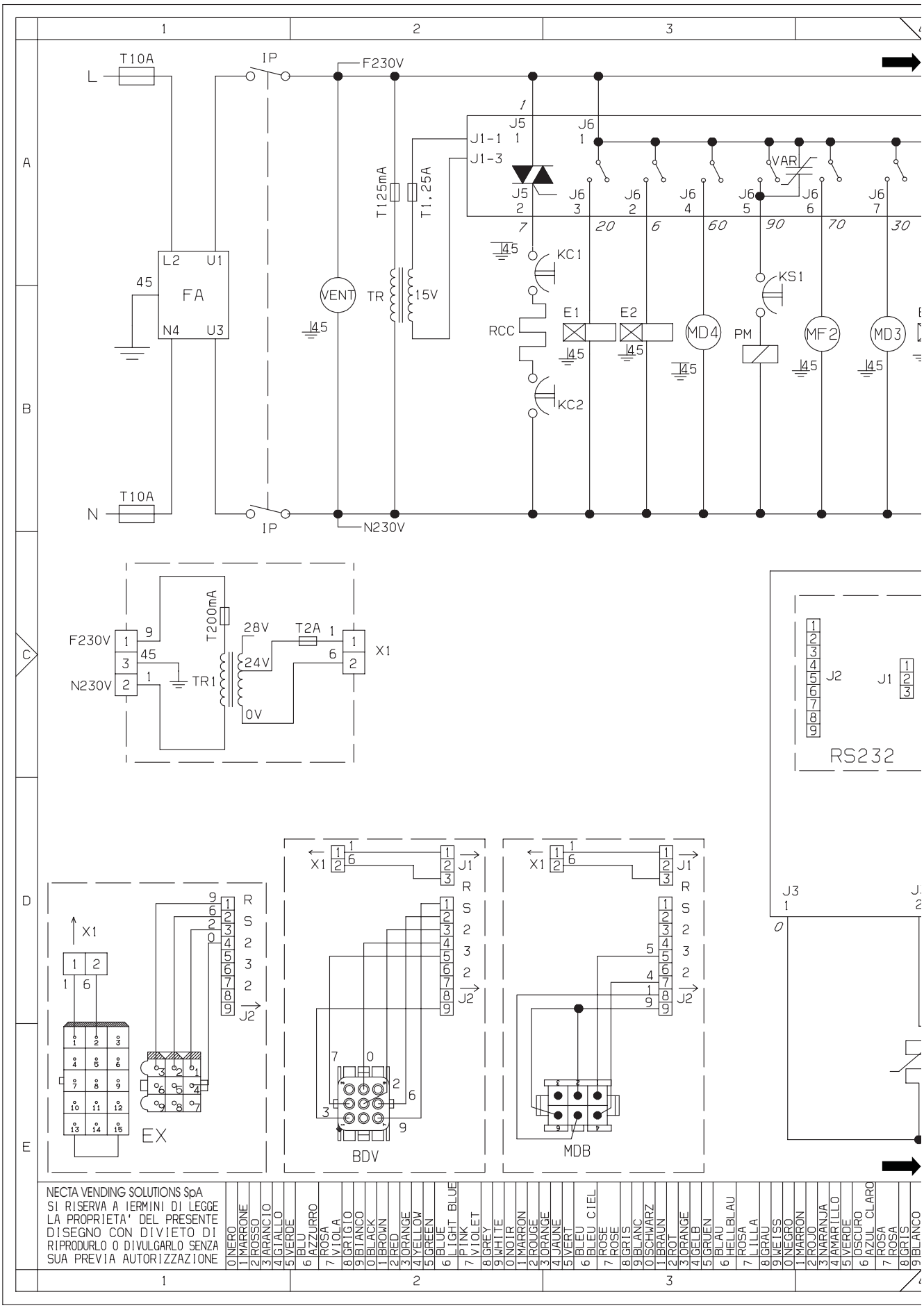

T10A
L
IP
F230V
J5
J6
J1-1
J1-3
VAR
T125mA
T1,25A
FA
L2
U1
N4
U3
45
VENT
TR
15V
KC1
KC2
KS1
RCC
E1
E2
M
PM
MAC
ESC
T10A
N
IP
N230V
F230V
T200mA
28V
24V
0V
T2A
X1
TR1
J2
J1
RS232
J3
CM1
EX
BDV
MDB
NECTA VENDING SOLUTIONS SpA
SI RISERVA A TERMINI DI LEGGE
LA PROPRIETA' DEL PRESENTE
DISEGNO CON DIVIETO DI
RIPRODURLO O DIVULGARLO SENZA
SUA PREVIA AUTORIZZAZIONE
0 NERO
1 MARRONE
2 ROSSO
3 ARANCIO
4 GIALLO
5 VERDE
6 BLU AZZURRO
7 VIOLA ROSA
8 GRIGIO
9 BIANCO
0 BLACK
1 BROWN
2 RED
3 ORANGE
4 YELLOW
5 GREEN
6 BLUE LIGHT BLUE
7 VIOLET PINK
8 GREY
9 WHITE
0 NOIR
1 MARRON
2 ROUGE
3 ORANGE
4 JAUNE
5 VERT
6 BLEU BLEU CIEL
7 ROSE
8 GRIS
9 BLANC
0 SCHWARZ
1 BRAUN
2 ROT
3 ORANGE
4 GELB
5 GRUEN
6 BLAU HELLBLAU
7 ROSA LILLA
8 GRAU
9 WEISS
0 NEGRO
1 MARRON
2 ROJO
3 NARANJA
4 AMARILLO
5 VERDE
6 OSCURO AZUL CLARO
7 ROSA
8 GRIS
9 BLANCO



NECTA	MODELLO: Colibrì Espresso	GRUPPO: SCHEMA ELETTRICO FUNZIONALE	DATA: 22-04-00	FOGLIO: 1/1	DISEGNATO: BONACINA	CONTROLLATO: AGUTI
			LEGENDA: .	CODICE: 608535400		


T10A
L
IP
F230V
J5
J6
J1-1
J1-3
VAR
T125mA
T1,25A
L2
U1
45
FA
N4
U3
VENT
TR
15V
KC1
KS1
RCC
E1
E2
MD4
PM
MF2
MD3
KC2
T10A
N
IP
N230V
T200mA
28V
T2A
F230V
N230V
TR1
24V
0V
X1
J2
J1
RS232
EX
BDV
MDB
J3
NECTA VENDING SOLUTIONS SpA
SI RISERVA A TERMINI DI LEGGE LA PROPRIETA' DEL PRESENTE DISEGNO CON DIVIETO DI RIPRODURLO O DIVULGARLO SENZA SUA PREVIA AUTORIZZAZIONE
0 NERO
1 MARRONE
2 ROSSO
3 ARANCIO
4 GIALLO
5 VERDE
6 BLU AZZURRO ROSA
7 VIOLA
8 GRIGIO
9 BIANCO
0 BLACK
1 BROWN
2 RED
3 ORANGE
4 YELLOW
5 GREEN
6 BLUE LIGHT BLUE
7 PINK VIOLET
8 GREY
9 WHITE
0 NOIR
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2 ROUGE
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5 GRUEN
6 BLAU HELLBLAU
7 ROSA LILLA
8 GRAU
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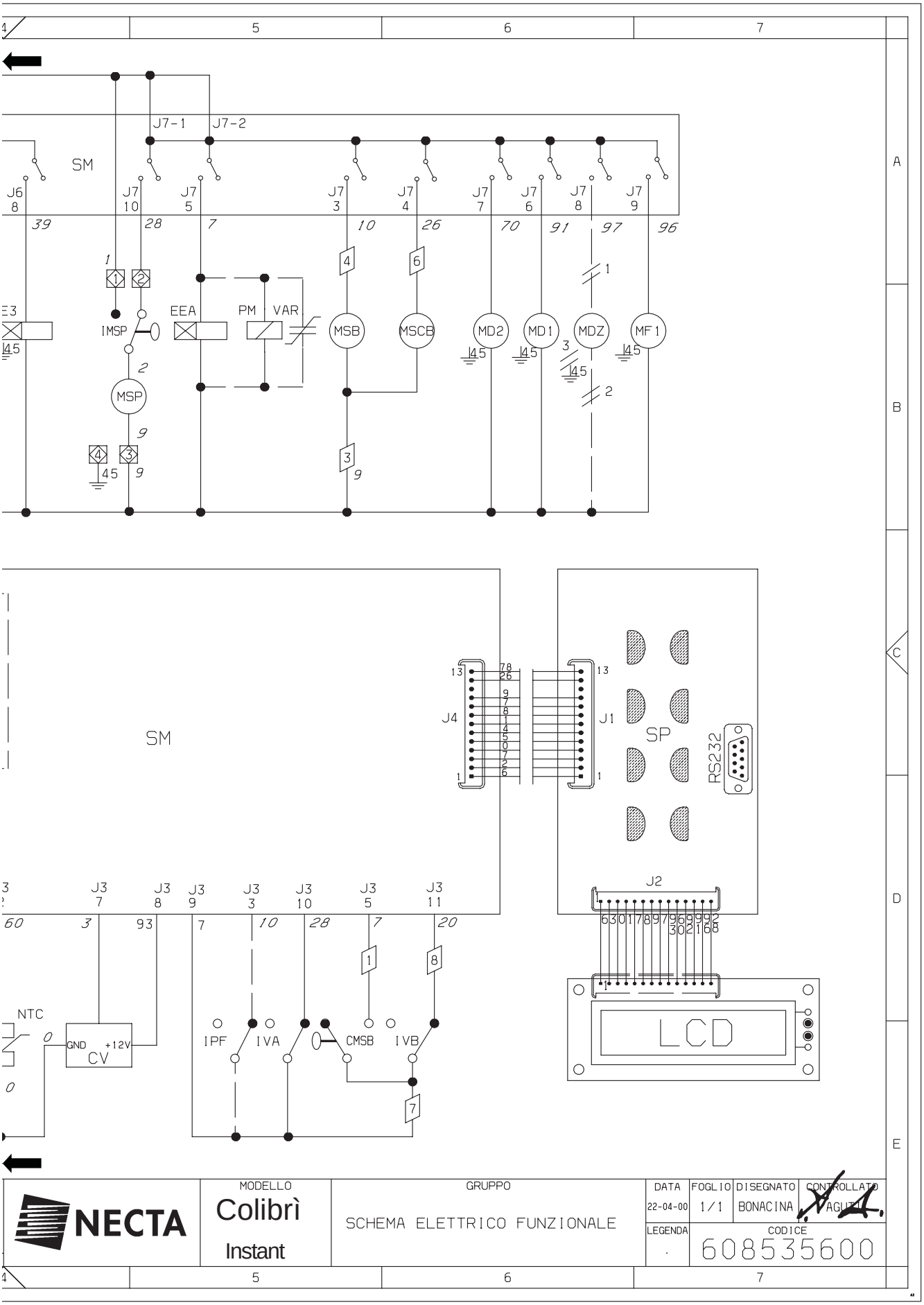

NECTA	MODELLO: Colibrì Instant	GRUPPO: SCHEMA ELETTRICO FUNZIONALE	DATA: 22-04-00	FOGLIO: 1/1	DISEGNATO: BONACINA	CONTROLLATO:
			LEGENDA: .	CODICE: 608535600		

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EDITION 12 00 CODE: H 155U 01

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