INSTALLATION, USE AND MAINTENANCE MANUAL

NECTA

Colibrì

SEMI-AUTOMATIC

Espresso

Instant

UK English

CE

DOC. NO. **H 197U 00**
EDITION 1 01-2003

NECTA
VENDING SOLUTIONS SpA
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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

YHDENMUKAISUUSTODISTUS

Valbrembo, 03/05/2001

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

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

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

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

Declara que la máquina 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.

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 direktiverne **89/392, 89/336** og **73/23 EU** og de senere ændringer og tillæg.

Forsikrer under eget ansvar at apparatet som beskrives i identifikasjonsplaten, er i overensstemmelse med vilkårene i EU-direktivene **89/392, 89/336, 73/23** med endringer.

Vahvistaa, että arvokyltissä kuvattu laite vastaa **EU**-direktiivien **89/392**, **89/336**, **73/23** sekä niihin myöhemmin tehtyjen muutosten määräyksiä.

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NECTA VENDING SOLUTIONS SPA

VIA ROMA 24 - 24030 VALBREMBO (BG) Italy

VIA DEL CHIOSO ANG. CAPITANI DI MOZZO - 24030 MOZZO (BG) Italy

for the following field of activities

Design, manufacturing and sale of electronical/electromechanical vending machines

Refer to quality manual for details of applications to ISO 9001:2000 requirements
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ISO 9001:2000

Issued on: 2002 - 09 - 04

Registration Number: IT - 12979

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CERTIFICAZIONE DEI SISTEMI DI GESTIONE AMBIENTALE DELLE AZIENDE
CERTIFICATION OF COMPANIES ENVIRONMENTAL MANAGEMENT SYSTEMS

CSQ IQNet

CERTIFICATO n. / *CERTIFICATE n.* **9191.ZAV2**

SI CERTIFICA CHE IL SISTEMA DI GESTIONE AMBIENTALE DI
WE HEREBY CERTIFY THAT THE ENVIRONMENTAL MANAGEMENT SYSTEM OPERATED BY

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SITO
SITE

Via Roma, 24 – 24030 VALBREMBO (BG)

È CONFORME ALLA NORMA / *IS IN COMPLIANCE WITH THE STANDARD* **UNI EN ISO 14001**

PER LE SEGUENTI ATTIVITÀ
CONCERNING THE FOLLOWING ACTIVITIES

Apparecchiature elettromeccaniche/elettroniche per la distribuzione automatica e la ristorazione
Electronic/electromechanical vending-machines

IL PRESENTE CERTIFICATO È SOGGETTO AL RISPETTO DEL REGOLAMENTO PER LA CERTIFICAZIONE DEI SISTEMI QUALITÀ E DI GESTIONE DELLE AZIENDE
THE USE AND THE VALIDITY OF THE CERTIFICATE SHALL SATISFY THE REQUIREMENTS OF THE RULES FOR THE CERTIFICATION OF COMPANY QUALITY AND MANAGEMENT SYSTEMS

Prima emissione / *First issue* 19 Dicembre 1997

Emissione corrente / *Current issue* 31 Marzo 2000

La validità del presente certificato è subordinata a sorveglianza annuale e al riesame completo del Sistema di Gestione Ambientale con periodicità triennale secondo le procedure dell'IMQ S.p.A.
The validity of the certificate is submited to annual audit and a reassessment of the entire Environmental Management Systems within three years according to IMQ S.p.A. rules

Data di scadenza / *Expiring date*

IMQ - VIA QUINTILIANO, 43 - 20138 MILANO

SINCERT

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Mod. 417 - REV. 04/99

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INTRODUCTION

This technical documentation is part and parcel of the vending machine and must always follow the machine in case it is moved or transfer of ownership, so as to allow consultation by different operators.

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

This manual is divided into three chapters.

The **first chapter** describes the loading and routine maintenance operations which are carried out in areas of the machine accessible with simple use of the door key, without using any other tools.
The **second chapter** contains the instructions for correct installation and all information necessary for optimum use of the machine.
The **third chapter** describes maintenance operations which involve the use of tools to access potentially dangerous areas.

The operations described in the second and third chapters 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.

The vending machines in the Colibrì range are designed to meet a wide spectrum of user needs.

This manual describes all possible machine configurations and the related safety and maintenance instructions.

Non-standard devices will be indicated as “optional”.

IDENTIFICATION OF THE VENDING MACHINE AND ITS CHARACTERISTICS

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

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

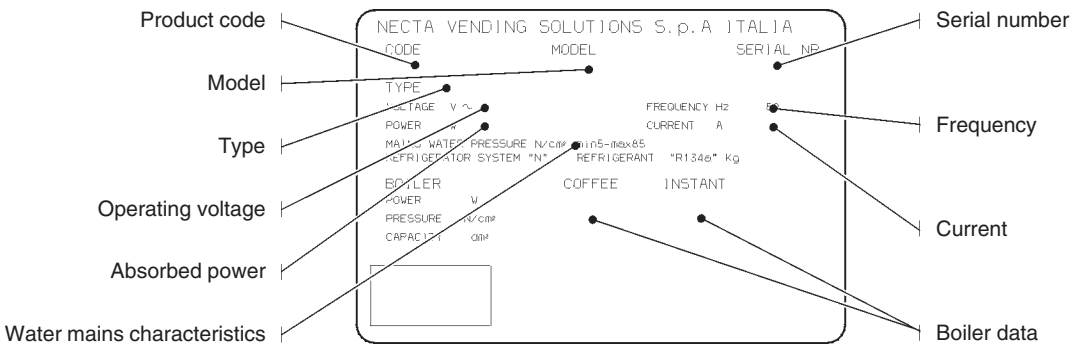
TRANSPORT AND STORAGE

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 must always kept upright as indicated by the arrows on the packing.



POSITIONING THE VENDING MACHINE

The vending machine is not suitable for outdoor installation. It must be positioned in a dry room where the temperature remains between 2°C and 32°C, and not where water jets are used for cleaning (e.g. in large kitchens, etc.).

The machine should be placed close to a wall, so that the back panel is at a minimum distance of 4 cm from it and correct ventilation may be ensured. The machine must never be covered with cloth or the like.

The machine should be positioned with a maximum inclination of 2°.

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

Important notice!!

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

Therefore the machine is designed to be rotated, thus allowing removal of the back panel.

Installation on the cabinet

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

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

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

All packing materials shall be disposed of in a manner which is safe for the environment.

PRECAUTIONS IN USING THE MACHINE

The following precautions will assist in protecting the environment:

- use biodegradable products only to clean the machine;
- adequately dispose of all containers of the products used for loading and cleaning the machine;
- switch the machine off during periods of inactivity, thus achieving considerable energy savings.

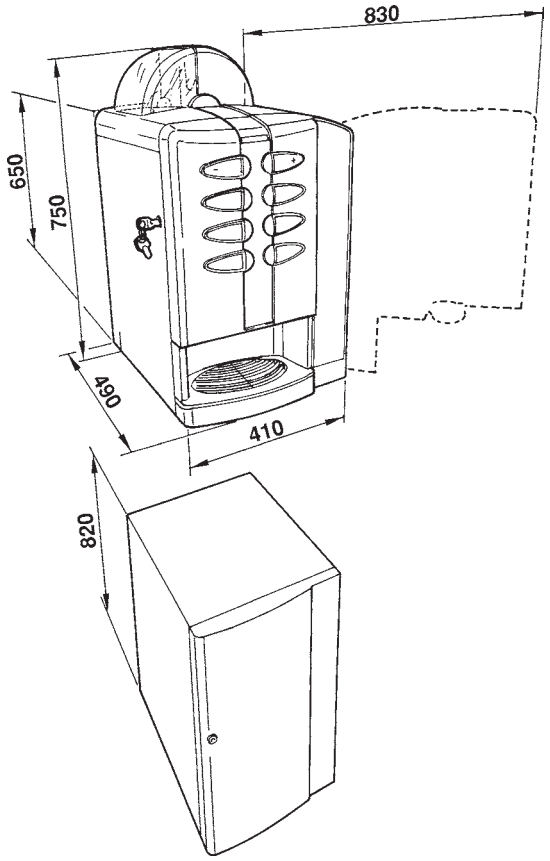
WARNING FOR SCRAPPING

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

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

TECHNICAL SPECIFICATIONS

DIMENSIONS



Height	=	650	mm
Height with container	=	740	mm
Width	=	410	mm
Depth	=	490	mm
Overall depth with door open	=	830	mm
Height of cabinet	=	820	mm

Weight

Colibrì	Espresso	Instant
Kg.	38	33

Power supply voltage	230 V~
Power supply frequency	50 Hz
Installed power	1850 W

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 single 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 self-contained water supply kit (tank + accessories) 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 via software (see “temperature setting” in the programming menu)

CONTROLS

- Presence of water
- Presence of coffee
- Operating temperature reached

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)
- Timer protection for:
  - Pump
  - Coffee unit ratiomotor
  - Coffee grinder
- Overheating 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	-	0.5 - 1
Milk	0.8	0.8
Chocolate	1.4	1.4
Tea	-	2

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
Drink for 30 selections	0.96 l	1.21 l
Average dring 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 vary its performance:
The installation kits are supplied with their own installation and test instructions, which must be strictly observed to ensure the machine safety.

Important notice!!

The use of kits which are not approved by the manufacturer of the vending machine does not guarantee compliance with 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 exclusively by personnel who have a specific knowledge of the machine functions from a point of view of electrical safety and health regulations.

Chapter 1
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.

MAINTENANCE AND DISINFECTION

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

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

It is advisable that specific sanitising agents (such as chlorine-based detergents or similar) are used for cleaning also the surfaces which are not directly in contact with foodstuff.
Some parts of the machine can be damaged by strong detergents.
The manufacturer declines all responsibility for any damage to persons caused by non-compliance with current health regulations.

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

USING THE VENDING MACHINES OF HOT DRINKS IN OPEN CONTAINERS

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

Vending machines for drinks in open containers should be used only to sell and dispense drinks obtained by:

- brewing products like coffee and tea;

- reconstituting instant and lyophilised products;

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

The dispensed products should be consumed immediately. They should never be preserved and/or packed for later consumption.

Any other use is unsuitable and thus potentially dangerous.

CONTROLS AND INFORMATION

The user controls and information are located on the outside of the door (see Fig. 1).
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.

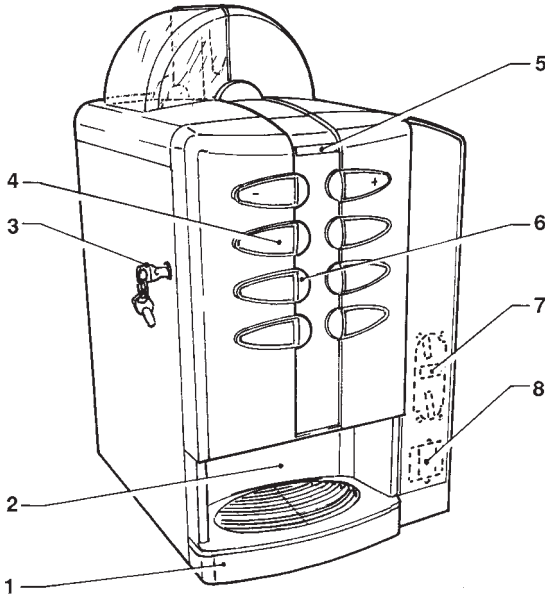


Fig. 1

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

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 set the machine to “Maintenance” mode;
press the Programming button twice to set the machine to “Programming” mode.
Press selection buttons No. 3 and No. 6 in a short sequence to automatically start filling the machine hydraulic system.

NOISE LEVEL

The continuous, weighted equivalent acoustic pressure level is below 70 dB.

LOADING COFFEE

The cover can be opened only with the door open.
Lift the cover and fill the hopper with coffee, ensuring that the shutter is fully open (see Fig. 2).

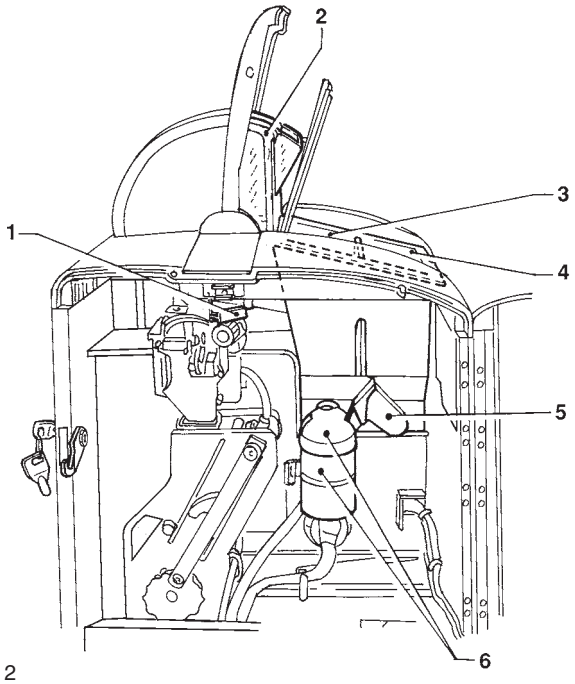


Fig. 2

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

LOADING 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.

SANITISING THE MIXERS AND FOODSTUFF CIRCUITS

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

- powder deposit drawers, mixer and instant drink dispensing conduit;
- coffee dispensing spout;
- sugar chute;
- dispensing compartment;
- remove the powder and the water funnels, the feeders, the powder deposit drawers and the mixer wheels from the mixers (see Fig. 3);

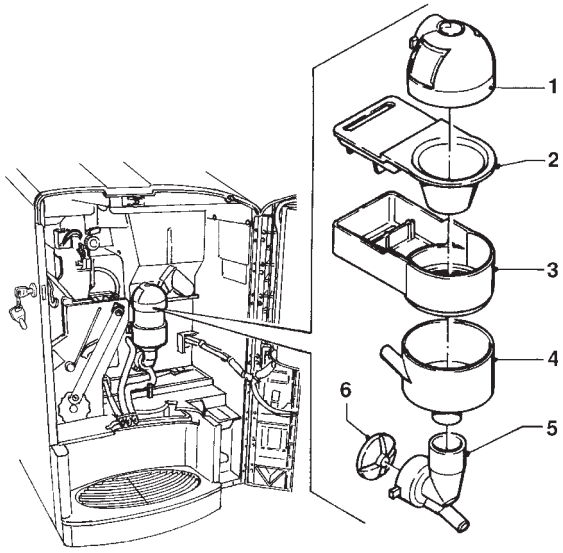
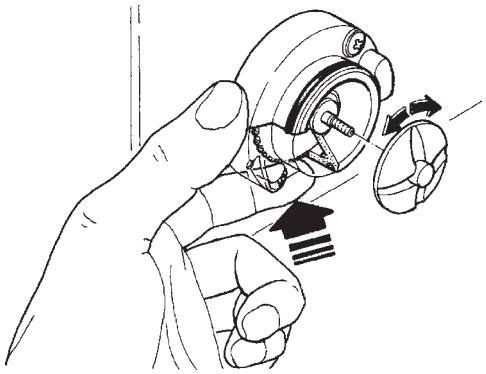


Fig. 3

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

- in order to remove the impellers, block the disk fitted on the mixer shaft with a finger (see Fig. 4);

Fig. 4



- 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.

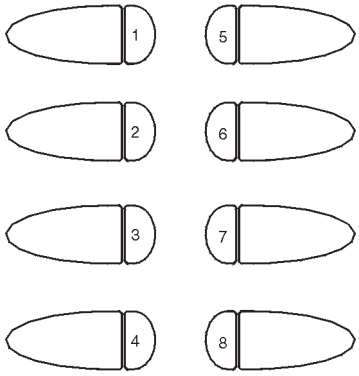
After reinstalling all parts the following is however required:

- 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 be cleaned also after the mixer sanitising 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 in a quick succession 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, such tank must be sanitised at least once a week with the chlorine-based detergent used for the mixers.

CLEANING THE WASTE TRAYS

The waste trays can be easily removed even with the door closed (see Fig. 5) permitting quick emptying and cleaning.
The coffee container capacity is greater than that of the waste tray (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 tray full”.
After a few further selections the machine will lock.
The waste tray must be emptied without switching the machine off, to allow the software to detect the operation.

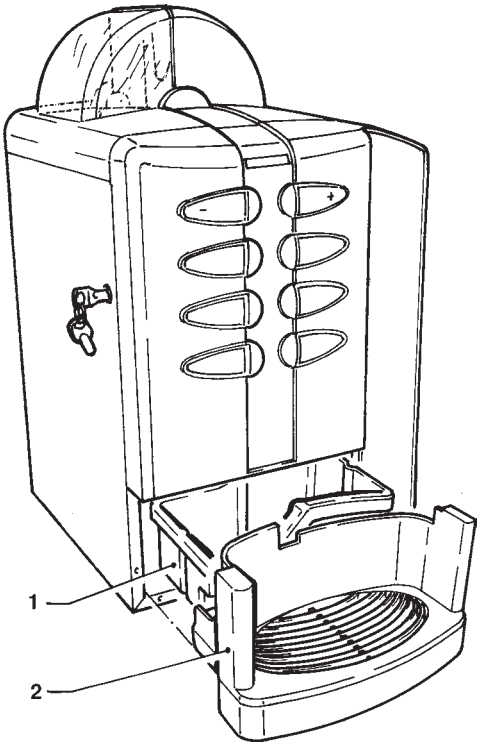


Fig. 5

1 - Coffee waste tray
2 - Dispensing compartment drip tray

With the coffee waste tray removed, the machine is still available for instant drink selections but indicating the message “Insert waste tray” 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 in a quick succession buttons 4231 to reset the counters.

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. 14).

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 water system.

Chapter 2
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 and are aware of the specific risks of such operations.

The machine must be installed in a dry room with temperature between 2°C and 32°C.

To energize the system with the open door, simply insert the special key into the slot (see Fig. 6).
The door can be closed only after removing the key.

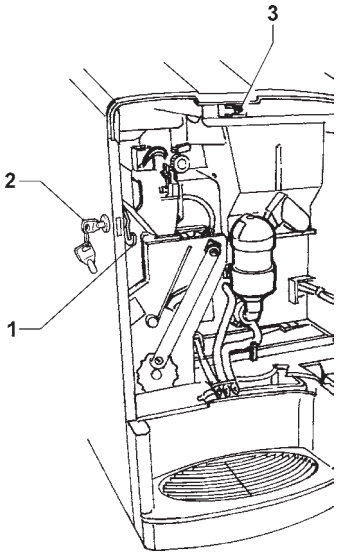


Fig. 6

1 - Door lock bolt
2 - Door lock
3 - Door switch

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

UNPACKING THE VENDING MACHINE

After removing the packing, ensure that the machine is intact.
If in doubt do not use the machine.

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

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

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. 7).

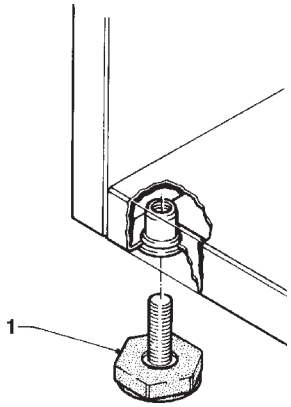


Fig. 7

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. 8).

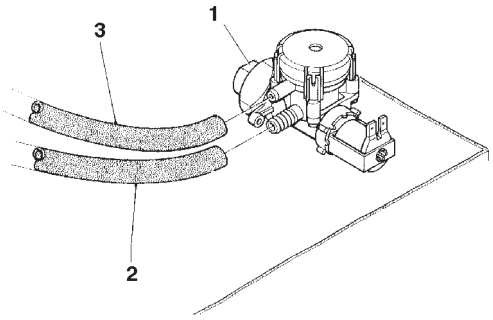


Fig. 8

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

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

OVERFLOW DEVICE

The water inlet solenoid valve (see Fig. 8) is equipped with an overflow device which mechanically stops the water inlet if there is a malfunction in the solenoid valve or in the boiler water level control device.
To restore normal operation, proceed as follows:

- drain the water contained in the overflow hose;
- shut off the water supply using the tap outside the machine;
- loosen the nut which secures the solenoid valve supply hose to relieve the water mains residual pressure and then tighten again (see Fig. 8);
- open the tap and switch the machine on.

CONNECTING THE MACHINE TO THE POWER SUPPLY

The machine is designed to operate under a single-phase 230 V~ voltage and is protected by 10 A fuses.
Before making the connection, ensure that the rating corresponds to that of the power grid, and more specifically:

- the supply voltage rating must be within the range recommended for the connection points;
- the main switch should be 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 switch, the power outlet and the plug must be located in an easily accessible position.

The power supply cable is of the type with a fixed plug. Any replacement of the power cable (see Fig. 9) should be made by qualified and suitably trained personnel only using cables type HO5 RN - F or HO5 V V-F or H07 RN-F with a 3x1-1.5 mm^2 section.
The electrical safety of the machine is ensured only when it is correctly earthed according to the safety standards in force.

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

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

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

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

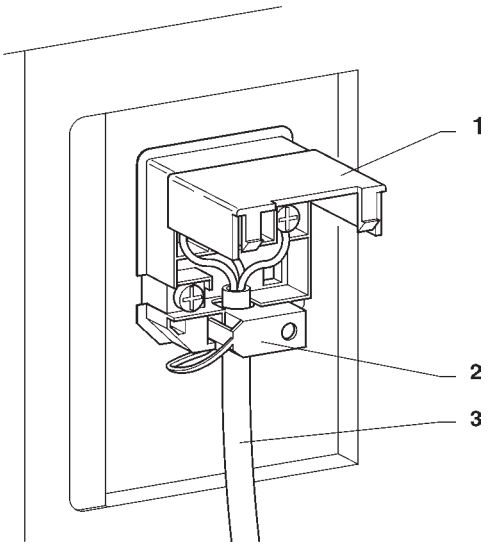


Fig.9

1 - Lift cover
2 - Cable clamp
3 - Cable from the mains

DOOR SWITCH

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

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

Before removing such covers disconnect the machine from the power grid.

To energize the system with the open door, simply insert the special key into the slot (see Fig. 6).

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. 1); other payments systems such as the "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 from the manufacturer.
For health and functional reasons, higher capacity water softener units should not be used.

INSERTING THE PRODUCT 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).

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 - P

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

- the message "Installation" will be shown on the display 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 from the mains during the installation cycle, the machine will stop until 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).

COFFEE UNIT OPERATION

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. 13).
When the doser unit is full, the ground coffee dose is released into the coffee unit.
The coffee falls into the vertical brewing chamber (1) (see Fig. 10).

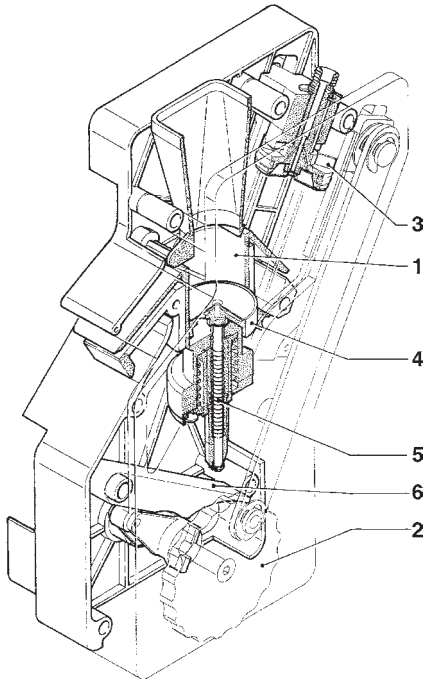


Fig. 10

1 - Brewing 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 assembly rotates by 180°, making the brew chamber swing and lowering the upper piston (3).
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 brewing chamber returns to its vertical position, the scraper on the coffee hopper stops the used coffee dose and drops it.
The lower piston now returns to the bottom dead centre.

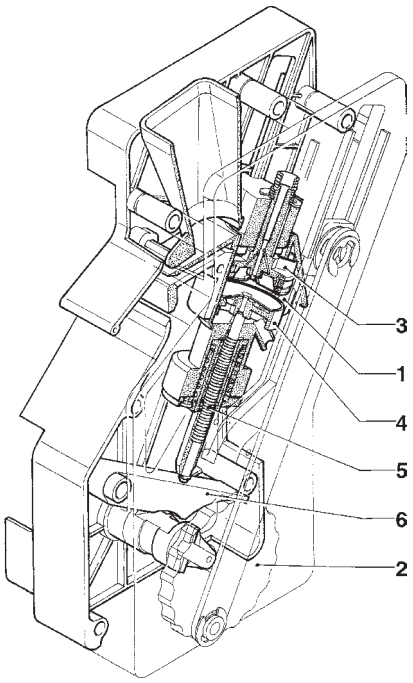


Fig. 11

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

CHECKING AND ADJUSTING THE MACHINE SETTINGS

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

For coffee

That the used coffee dose is lightly compressed and damp.

The grade of grinding of ground coffee.

The dose weight of ground coffee.

The dispensing temperature.

The water dose.

For instant products

The dose weight of the instant products.

The drink temperature.

The water dose.

Should the standard settings need to be changed, proceed as indicated in the next sections of this manual.
The weight of instant products, the water dose and temperature are directly controlled by the microprocessor.
To adjust them it is therefore necessary to follow the programming procedures.

STANDARD SETTINGS

The vending machine is supplied with the following settings:

- coffee temperature (at the spout) approx. 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 BREWING CHAMBER VOLUME SETTING

When the upper piston is correctly positioned, the coffee unit can operate with coffee doses of 5.5 to 8.5 g.
To change the piston position (see Fig. 12) do as follows:

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

  .less deep notches for 5.5 to 7.5 g doses;

  .deeper notches for 6.5 to 8.5 g doses.

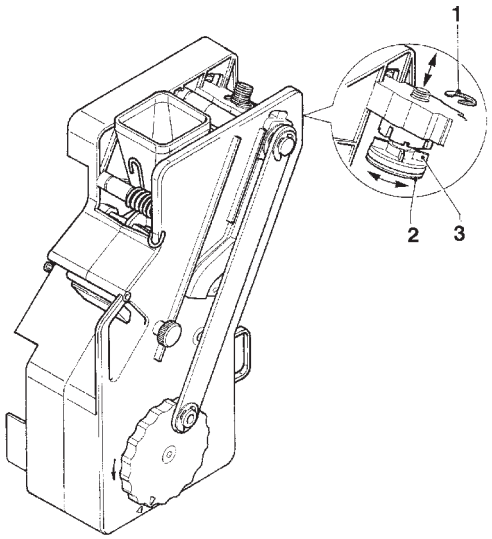


Fig. 12

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

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. 13) and more specifically:

- turn the knob anticlockwise for coarser grinding;

- turn the knob clockwise for finer grinding.

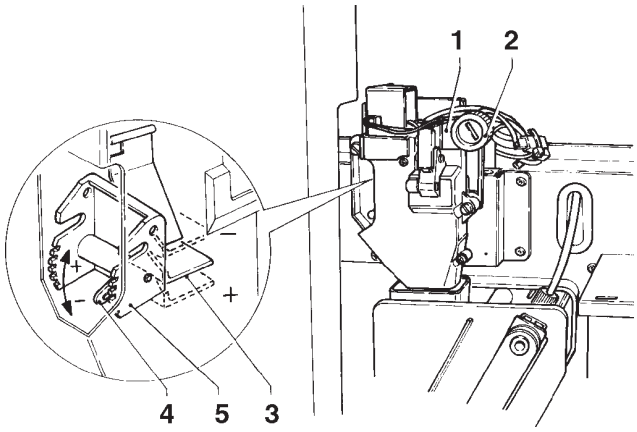


Fig. 13

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

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

N.B.: After adjustment of the grade of grinding, at least 2 test selections must be performed in order to check the new grade of grinding for ground coffee:

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

ADJUSTING THE COFFEE DOSE

The dose adjusting lever can be positioned in one of the 6 reference notches bearing in mind that:
- the dose is increased by lifting the lever:
- the dose is reduced by lowering the lever:
- every notch changes the dose by approx. 0.25 g.

In addition, when the lever is fully rotated upwards, the ratchet can be released from the groove in the dose regulator (see Fig.13) 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. 14).

OPERATING MODES

Three different operating modes are provided for the machine; the buttons will have different functions according to the machine operating mode.
The available operating modes are indicated in the following table:

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

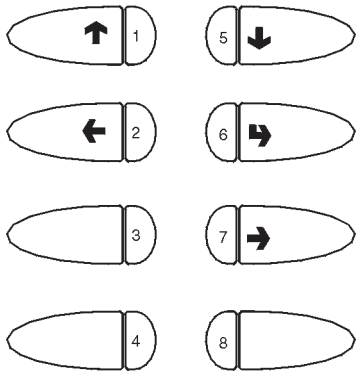
NORMAL OPERATING MODE

When switching the machine on, the display will show the message “Rev. X.X” (X.X indicates the software release number) for a few seconds, after which the machine will be set to normal operating mode.
The massages displayed according to the operation being carried out can be the following:

DISPLAY	FUNCTION
“Ready for use”	Machine ready
“Price:....”	Price display of selected product
“Credit:.....”	Displaying credit inserted
“Out of order”	Machine switched off
“Drink in process”	Drink preparation
“Temperature”	Wait time before reaching operating temperature
“Installation”	Installation under way
“Sel. Disabled”	Selection disabled
“Coffee sel. out”	For espresso models only Coffee unit out of order
“Take the drink”	Drink ready

MAINTENANCE MODE

When the programming button located on the internal side of the push-button board (see Fig. 17) 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 is presented, permitting data management.
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
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:

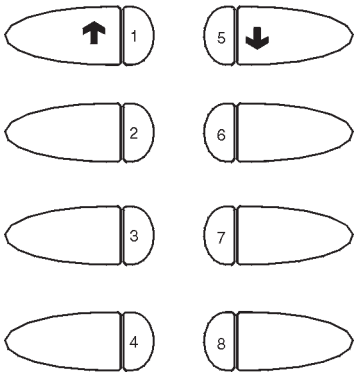
“Complete Sel.”	Test dispensing
“Powd. only”	Dispensing powder only
“Water only”	Dispensing water only

When pressing button “↵” the selection buttons will take on the original function for 7 seconds, permitting the test dispensing provided for each function.

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

SPECIAL FUNCTIONS

When the display shows “Special functions” the buttons take on the following functions:



1 - ↑ Previous function
2 - Grind and release a coffee dose
3 -
4 - Autotest
5 - ↓ Next function
6 - Rotate coffee unit
7 -
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.

AUTOTEST

This function allows testing of the main machine components.
Before carrying out this operation, remove the waste tray and the powder containers and disassemble the coffee unit.
Press button “4” and the message “AUTOTEST” will be start blinking.
Press button “2” to cancel the operation, confirm with button “6” to start the autotest cycle.
In a sequence:

- activation of the doser devices for 2 seconds
- activation of the mixers for 2 seconds
- (for espresso models only) the coffee unit is rotated, coffee is ground and then released when a full dose is reached.
- (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 water system must be emptied manually.

DISPLAYING THE STATISTICS

Press button “” when the display indicates the “Display statistics” function; then the stored data will be sequentially shown on the screen, and more precisely:

1 - counter by single selection;

2 - counter by single price;

3 - counter by type of coin cashed;

4 - total cashed counter;

5 - failure counter.

PRINTING THE STATISTICS

Connect an RS-232 serial printer with a Baud rate of 9600, 8 data bit, no parity, 1 stop bit to the serial port located on the push button board, to print all the statistics described in section “Displaying the statistics”. The hardcopy printout will also contain the machine code number and the printout progressive number.
The progressive hard-copy printout number can only be reset by initialising the machine.
To connect the printer, do as follows:

- Press 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, then the message “Confirm?” will be start blinking.
Press the confirm button “”, the message “Working” is displayed for a few seconds and all statistics are reset.

GENERAL COUNTER

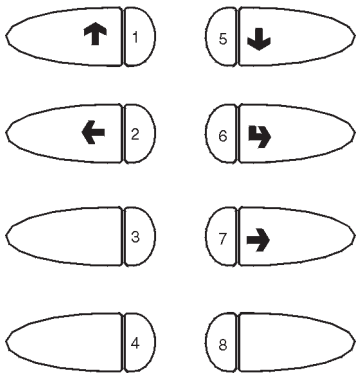
The machine stores all selections in this counter, which cannot be reset.
This function allows reading or displaying of the counter when the machine is switched started.
Press button “” when the display indicates the “General counter” function and the function status (ON/OFF) will be displayed; press button “”, the status will start blinking and then can 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. 17) is pressed twice the machine will be set to “Programming” mode.
The message “Programming” is displayed for approx. 2 seconds, and then the first option of the programming menu is displayed to activate the following functions:

“Present failures”	current failure reading
“Water doses”	water dose setting
“Powder doses”	powder dose setting
“Set Prices”	price setting
“Set Prices/button”	prices/button combination enables/disables button
“Basic coin / DP”	setting the basic coin value and position of the decimal point
“Payment systems”	Validator Totalizer Executive standard Executive Price Holding Executive UKEY Executive ECS
“Initialise”	RAM initialising
“Machine code”	machine identification code setting
“Machine Config.”	setting the machine configuration
“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 for the messages on the display
“Whipping time”	setting whipping time for instant coffee
“Password”	enabling password to access programming
“Special sales”	Free Vend and Jug Facilities
“Set temperature”	Programming the temperature
“Pre-grinding”	Enabling pre-grinding

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
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 THE EXISTING FAILURES

When the “Present failures” function from the “programming” menu is displayed, press the confirm button “↳” to display the error code of the current failure; then press button “↓” to display the error code of the next present failure.
If no failures are present, when pressing the confirm button “↳” the message “No Failure” is displayed.
The possible failures are indicated 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 an impulse longer than 2 seconds on a validator line or there is no communication with the serial coin mechanism for more than 30 seconds.

RAM DATA FAILURE

The data contained in the EEprom (i.e. the chip that stores the setting variations) is wrong and must be retrieved from the Eprom, thus losing all statistics information.
The message "INITIALISE" will start blinking on the display.

WATER FAILURE

Models with water supply from the mains

The machine locks if the air-break microswitch is closed for more than 10 seconds. When pressing a selection button the water inlet solenoid valve is triggered to check the 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)

The machine locks if the water level in the tank falls to less than approximately 300 cc.

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.

ROTOR FAILURE

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

COFFEE UNIT FAILURE

This failure is due to a mechanical lock of the unit or when the unit is not present. The machine is not locked, but all coffee-based selections are disabled.

COFFEE FAILURE

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

COFFEE DOSE RELEASE FAILURE

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

LIQUID WASTE 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 "Water doses" or the "Powder doses" functions from the "programming" menu are displayed the related doses can be varied.
The various doses are identified by dose codes, which are displayed each time.
The dose code locates the water and powder doses related to a given selection; any changes to one selection dose also affects the compound selections where the dose code is used.
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 powders;

- 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 start blinking and can be modified as necessary.

PRICE SETTING

When the "Set Prices" (price programming) function from 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 start blinking and can be modified as necessary.

PROGRAMMING THE PRICES AND THE BUTTON STATUS

When the "Set Prices/Button" (price combination) 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 the change button "→", the selection status starts blinking.
Using the "↓" and "↑" buttons, the selection status can be changed from (enabled) to (disabled).
Press again the confirm button "↵" to display the price number referred to in the price table.
When pressing correction button "→", this value will start blinking and can be modified as necessary.
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 coin / DP" (basic coin value) function from the "programming" menu is displayed, the value of the basic coin as well as the position of the decimal point can be modified.
Press the confirm button "↵" from the "programming" menu to display the current value of the basic coin.
Using the "↓" and "↑" buttons, the value of the basic coin and the number of the decimal point position "dP" are displayed alternately, i.e:

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

Press the change button "→", these values will start blinking and can then be modified as necessary.

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
Totalizer
Executive standard
Executive Price Holding
Executive UKEY
Executive ECS
In order to install payment systems different from a validator or cashless system, 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, its operating parameters must be defined.

CREDIT CONTROL

It is possible to decide whether any excess credit paid is to be cashed or made 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 "Validat. Lines" (line setting) function is displayed, the value of the 6 validator coin lines can be changed.
The value of the lines is indicated as number of basic coins.
Press the confirm button "↵" from the "programming" menu to access the line list, which can be scrolled with the "↓" and "↑" buttons.
When pressing correction button "→", this value will start blinking and can be modified as necessary.

INITIALISING

When the "Initialising" function is displayed the vending machine can be initialized restoring all default data.
This function should be used if there is a memory data error or when the EPROM is replaced.
All statistic information will be reset.
Press confirm button "↵" and the display will indicate the message "Confirm?". 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 9999).
Press the confirm button "↵" and the current code number is displayed; then press the correction button "→" and the first digit will start blinking.
The value of the blinking digit can be increased or decreased with the "↓" and "↑" buttons.
When pressing the confirm button "↵", the blinking digit will take on 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:

- water supply from the mains / internal canister (tank)
- presence of warning device for full liquid waste container (inside the cabinet)
- fast cycles ON / OFF

Press the confirm button “↵” to display the current status; when pressing the correction button “↵” the status starts blinking and can be changed with the “↓” and “↓” buttons.

IMPORTANT NOTICE!!!

When the machine is initialised, the configuration will take on the default values: “Water supply from the mains/without full waste container warning device/ fast cycles ON”.

THEREFORE, AFTER INITIALISING THE MACHINE MUST BE RECONFIGURED.

OPERATION COUNTER

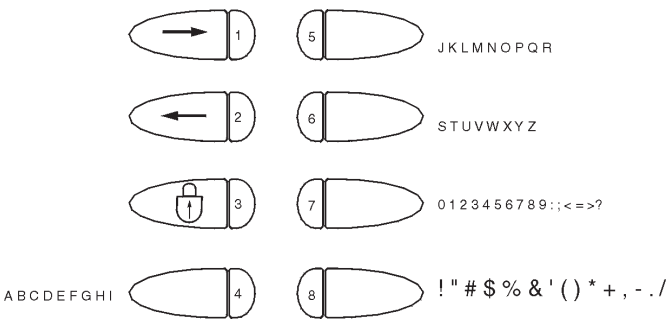
This function is used to lock the machine after a preset number of coffee selections, and a preset number of instant selections.
Since this is a control tool used only by the vending operator, a 4-digit password must be entered.
After entering the password, it is possible to set the number of selections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

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 or not the message is enabled (ON/ OFF).
If the message is enabled, when pressing the confirm button “↵” the first character will start blinking and can be changed.
The buttons will take on the following functions:



1 - Previous character
2 - Next character
3 - Upper/lower case

The values are displayed alternately by pressing the button sequentially.
The message is stored by pressing button “2” when on the last position.

LANGUAGE SELECTION

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

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 the button sequence 1 1 2 2 and cannot be changed.

SPECIAL SALES

This function is used to enable or disable Free Vend and to set the number of consecutive instant drinks (1 to 9; 5 by default) that are dispensed when the “Jug facilities” function is enabled.
After these functions are enabled, do as follows:

- while in normal operating mode, press button “8” for a few seconds;
- enter the password that was just set;
- make a selection within 10 seconds.

TEMPERATURE SETTING

This function is used to set the operating temperature, expressed in °C, of the boilers actually installed in the machine.

PRE-GRINDING

This function is used to enable/disable grinding of the coffee dose for the next selection. This permits the reduction of dispensing time for a coffee selection. The function is disabled by default.

DIRECT FUNCTIONS

INSTALLATION

Press the installation button “3” to carry out the hydraulic system filling operations, even with the air-break full.

RESETTING THE FAILURES

Press the failure reset button “8”; the message “Running” is displayed for a few seconds and all present failures are reset.

Chapter 3
MAINTENANCE

Important notice!!

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

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

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

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

INTRODUCTION

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

Never use water jets to clean the machine.

BREWER UNIT MAINTENANCE

Every 10,000 selections or every 6 months some maintenance of the brewer 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. 14);
- undo the knob securing the unit to the bracket;
- remove the brewer unit.

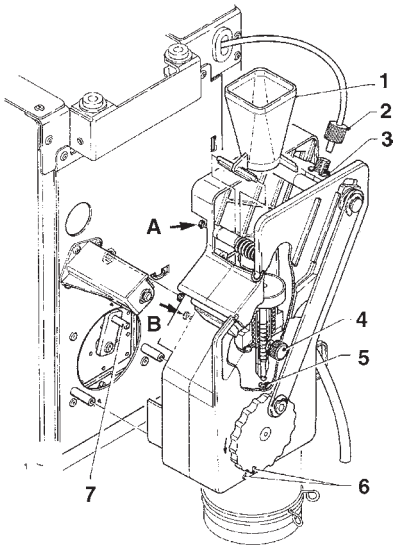


Fig. 14

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 seal.

Removing the lower filter

- Loosen screws A and B enough to release the coffee funnel (see Fig. 14);
- remove the lower piston snap ring;
- take the piston out of brew chamber and remove the filter.

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

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

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		N. of selections	
°fH	°dH	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 table salt);
- connect the side hose union to a tap and the middle rubber-holder to a drain point; the direction of the water flow must be

NECESSARILY

the one shown in figure 15

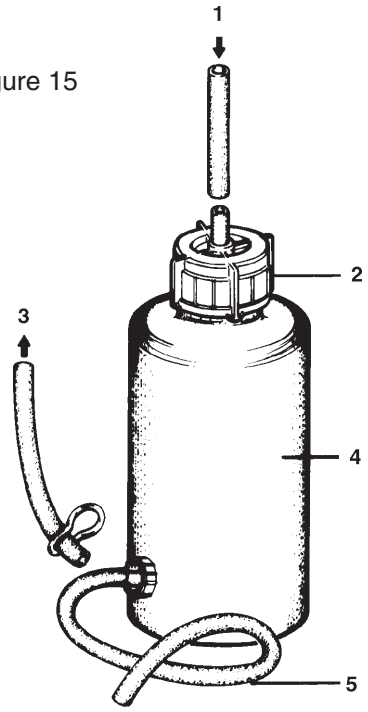


Fig.. 15

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°fH.

ANNUAL SANITISING

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

- all parts of the hydraulic system in contact with food, must be removed from the unit and fully disassembled;
- wash all parts with detergent being sure that all visible residue and product layers are mechanically removed, using a brush if necessary;
- all components must be soaked in a sanitising solution for at least 20 minutes;
- the unit internal surfaces are to be cleaned with the same sanitising solution;
- thoroughly rinse and then reinstall the parts.

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

PRINTED BOARD FUNCTIONS AND INDICATOR LIGHTS

CONTROL BOARD

This board, placed at the back of the machine, (see Fig. 16) 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. 16).

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

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

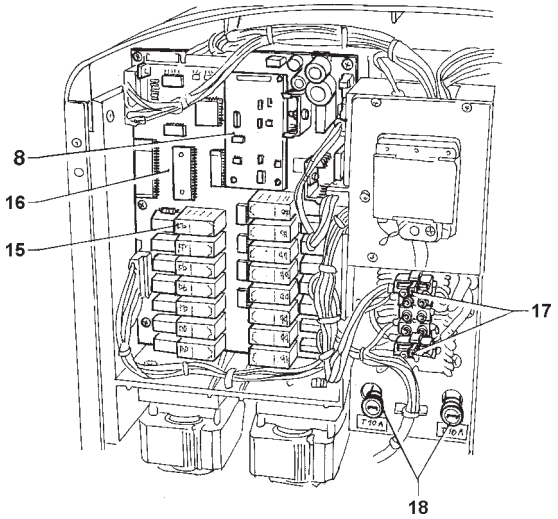
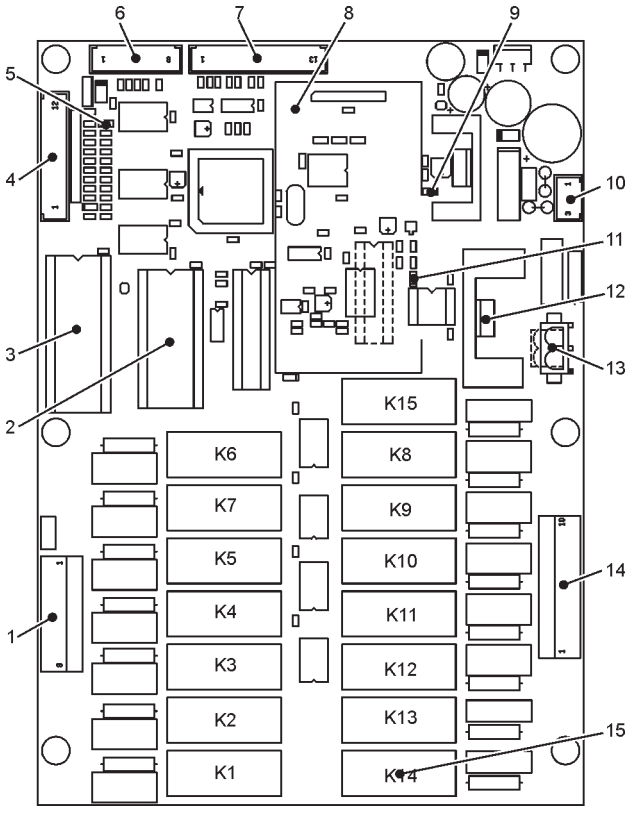


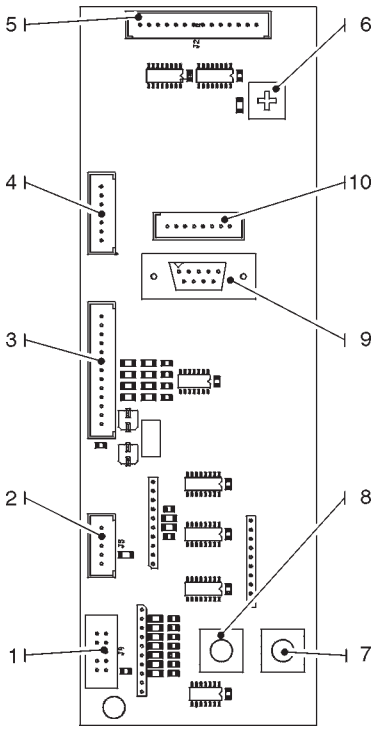
Fig.16

1 - 230 V~ power users
2 - RAM
3 - EPROM
4 - Input signal
5 - Green LED
6 - Not used
7 - To the push-button board
8 - Expansion board for payment systems (optional)
9 - Green LED
10 - Board power supply
11 - Red LED
12 - TRIAC for the boiler heating element
13 - To boiler heating element
14 - 230 V~ power users
15 - Relays
16 - Control board
17 - Transformer fuse
18 - Network fuses



PUSH-BUTTON BOARD

This board controls the alphanumeric display, the selection buttons and the programming button (see Fig 17).
It supports the coin mechanism connectors as well as the printer port.



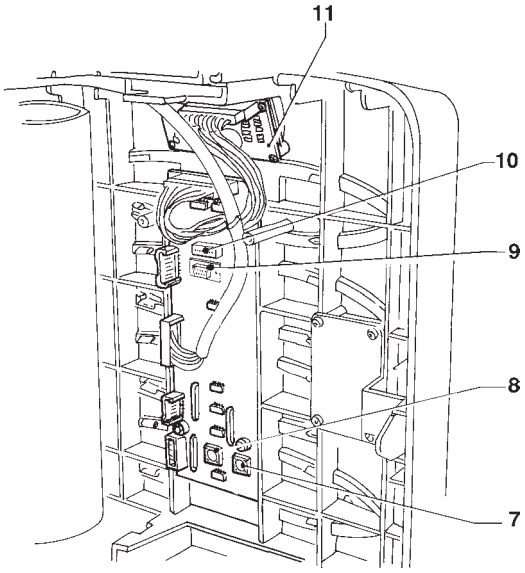
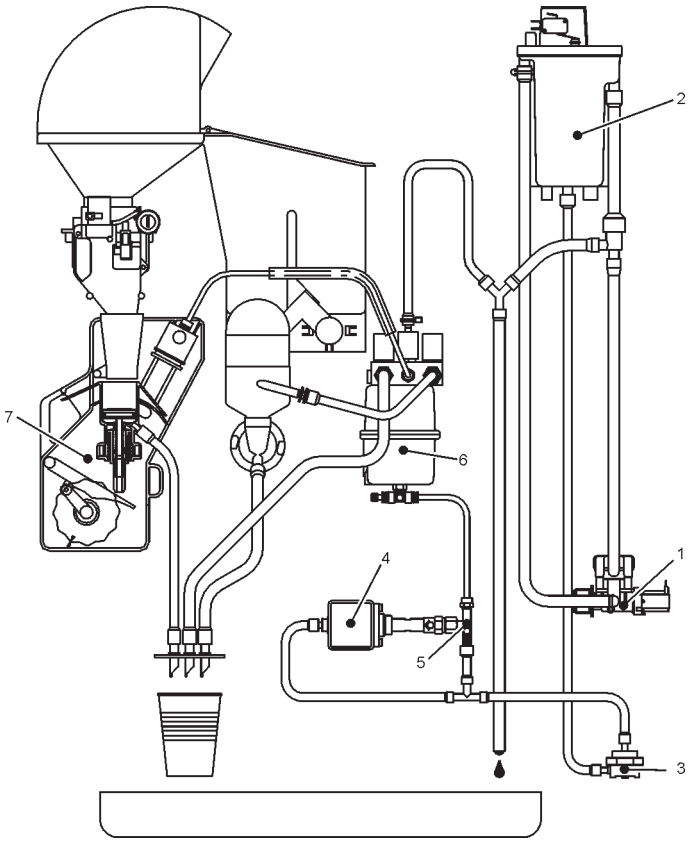


Fig. 17

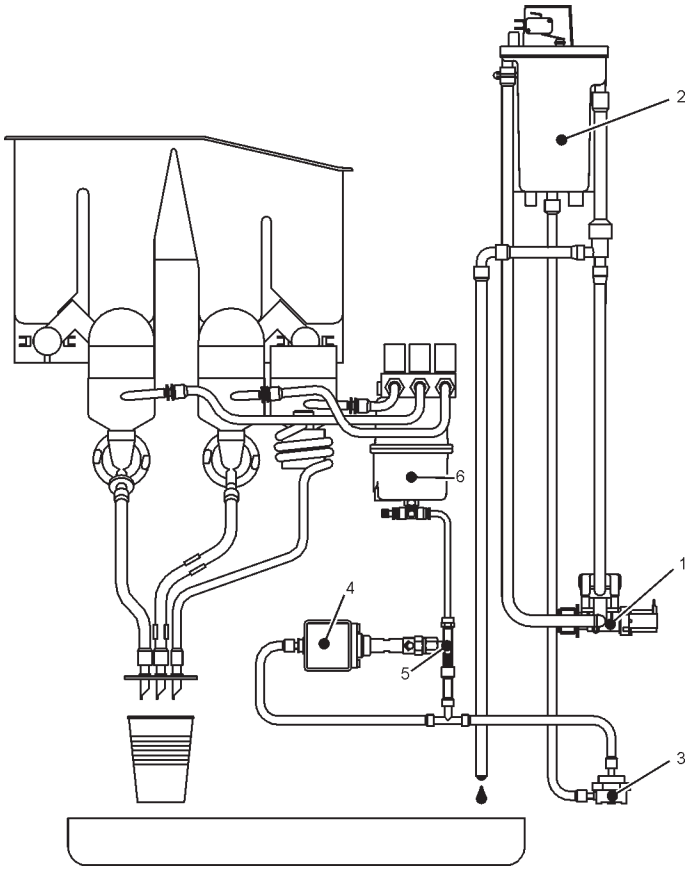
1 - To the front validator
2 - Not used
3 - To the machine board
4 - Signals: free vend - jug facilities
5 - To the display card
6 - Display contrast adjustment trimmer
7 - Programming button
8 - Wash button
9 - RS232 port
10 - To the programmer
11 - Display card

Espresso

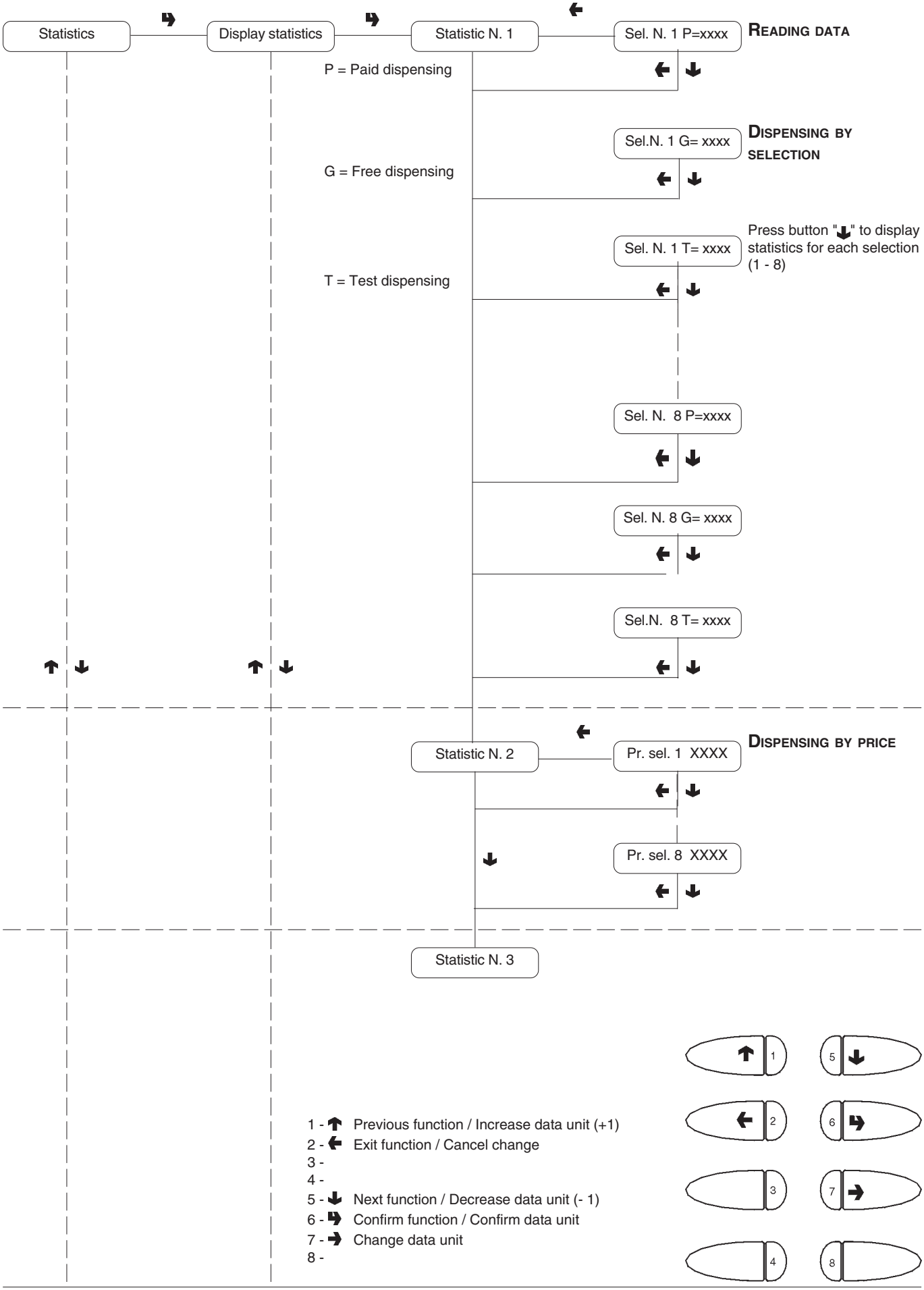


1 - Water inlet solenoid valve
2 - Air-break
3 - Volumetric counter
4 - Vibration pump
5 - Bypass
6 - Boiler
7 - Coffee unit

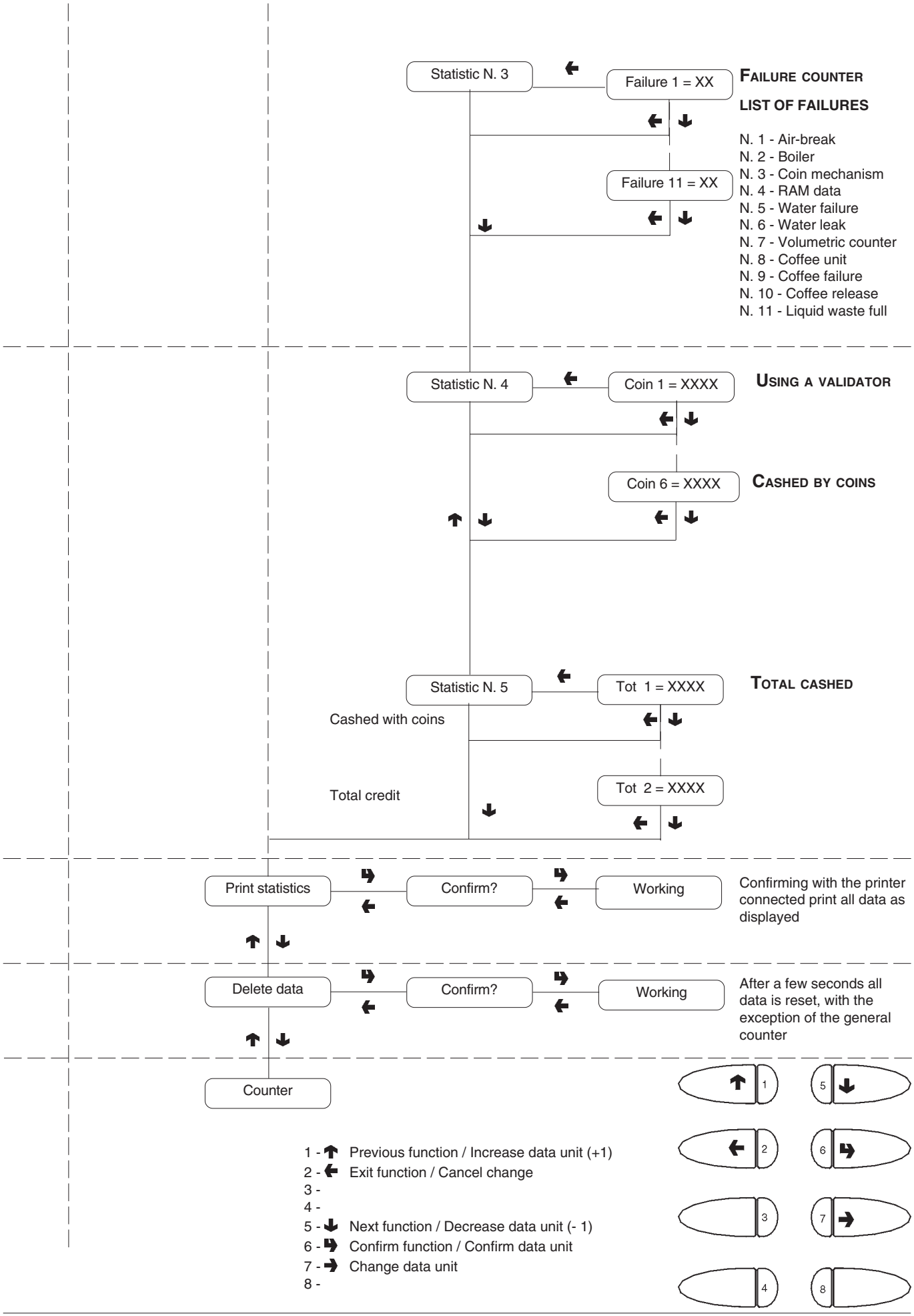
Instant



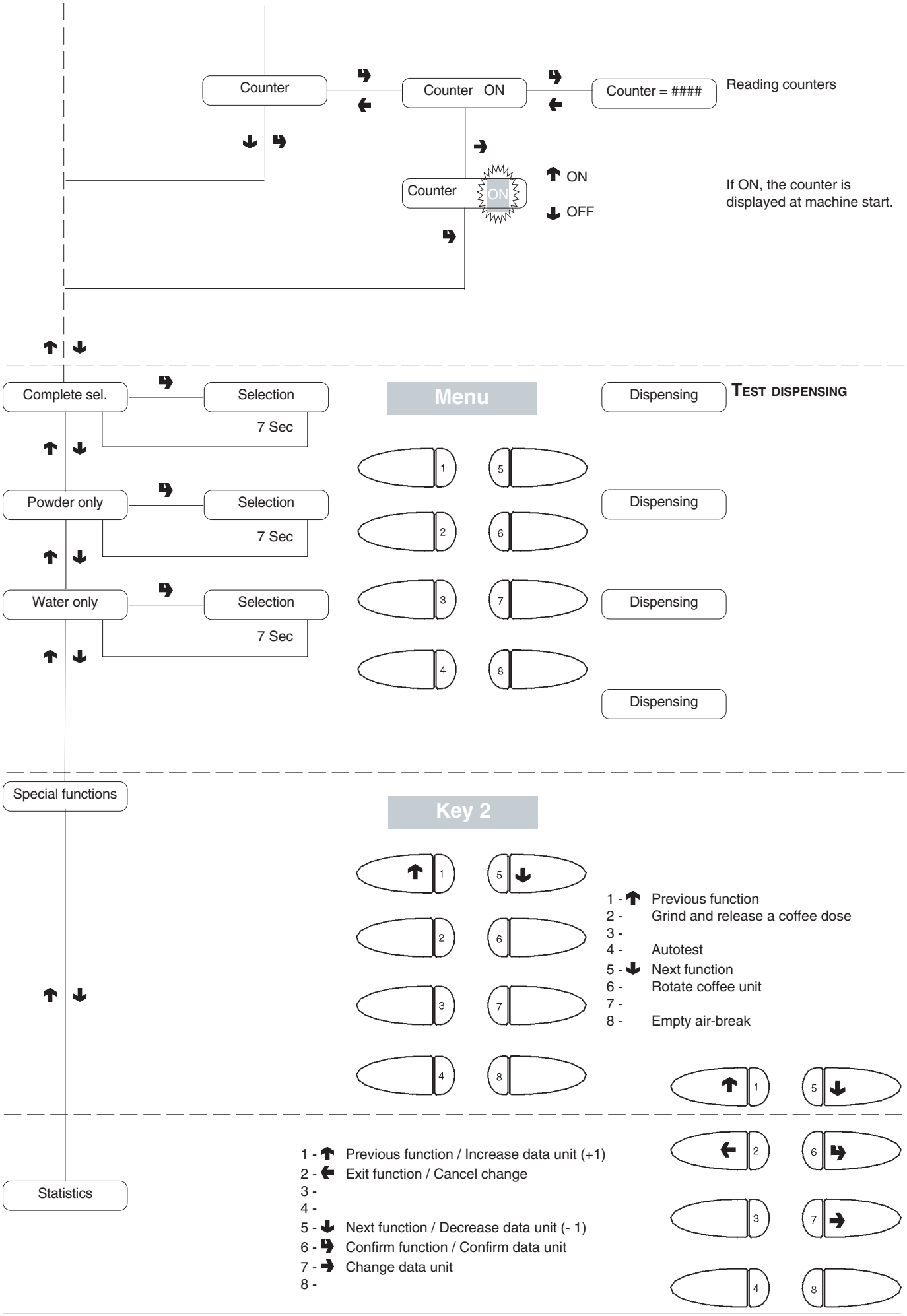
Maintenance menu



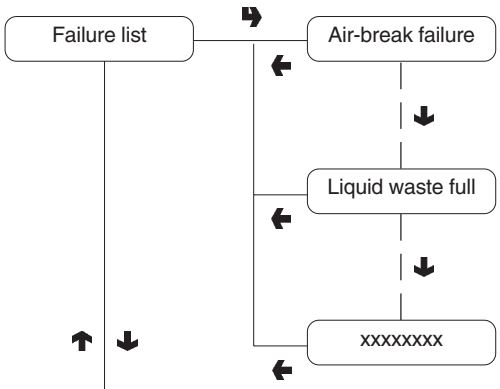
Maintenance menu



Maintenance menu



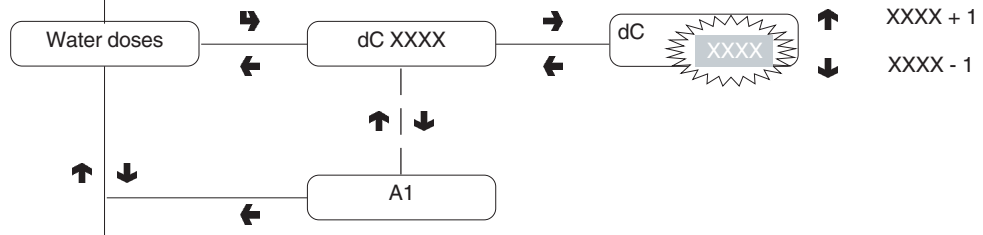
Programming menu



DISPLAY PRESENT FAILURES

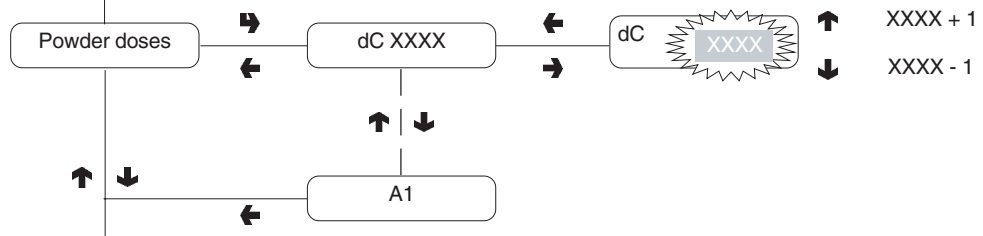
LIST OF FAILURES

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



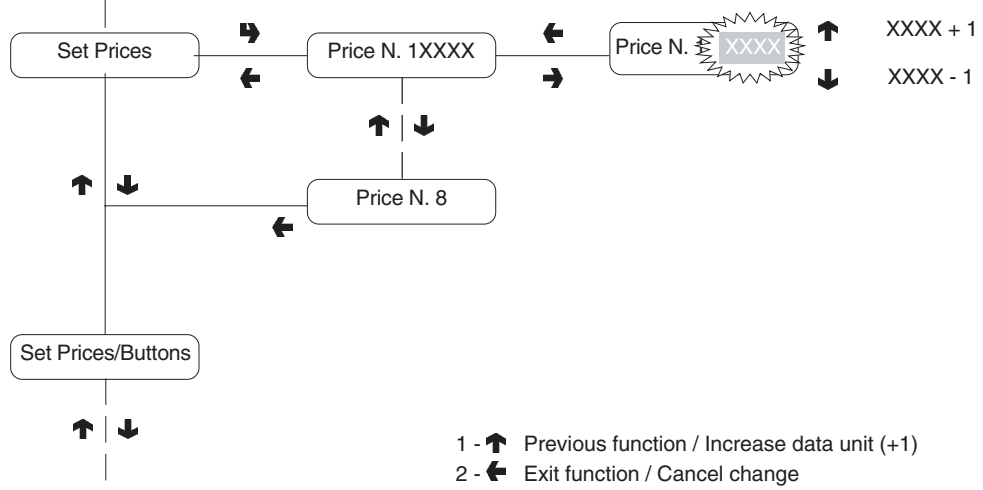
WATER DOSES

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



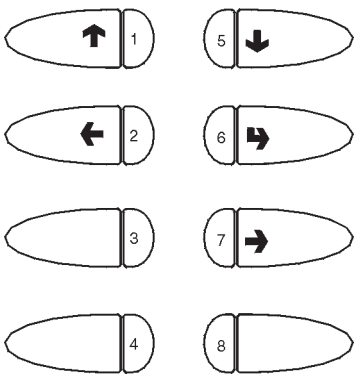
POWDER DOSES

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

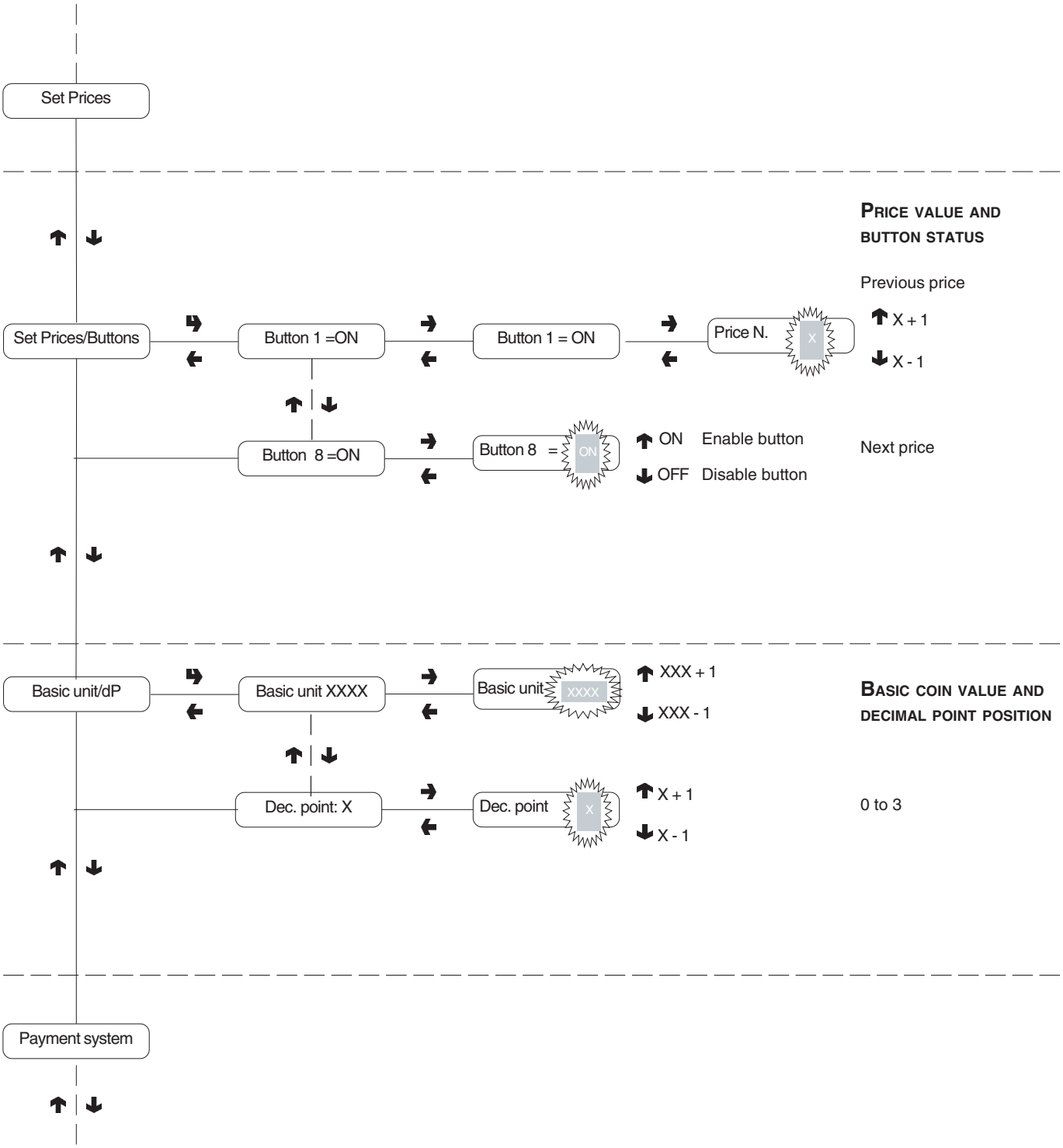


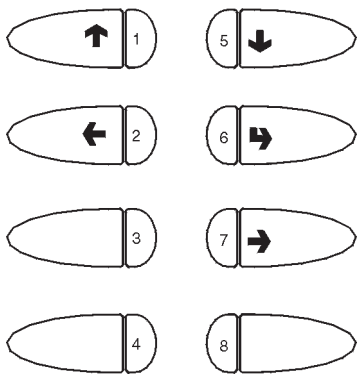
PRICE VALUE

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



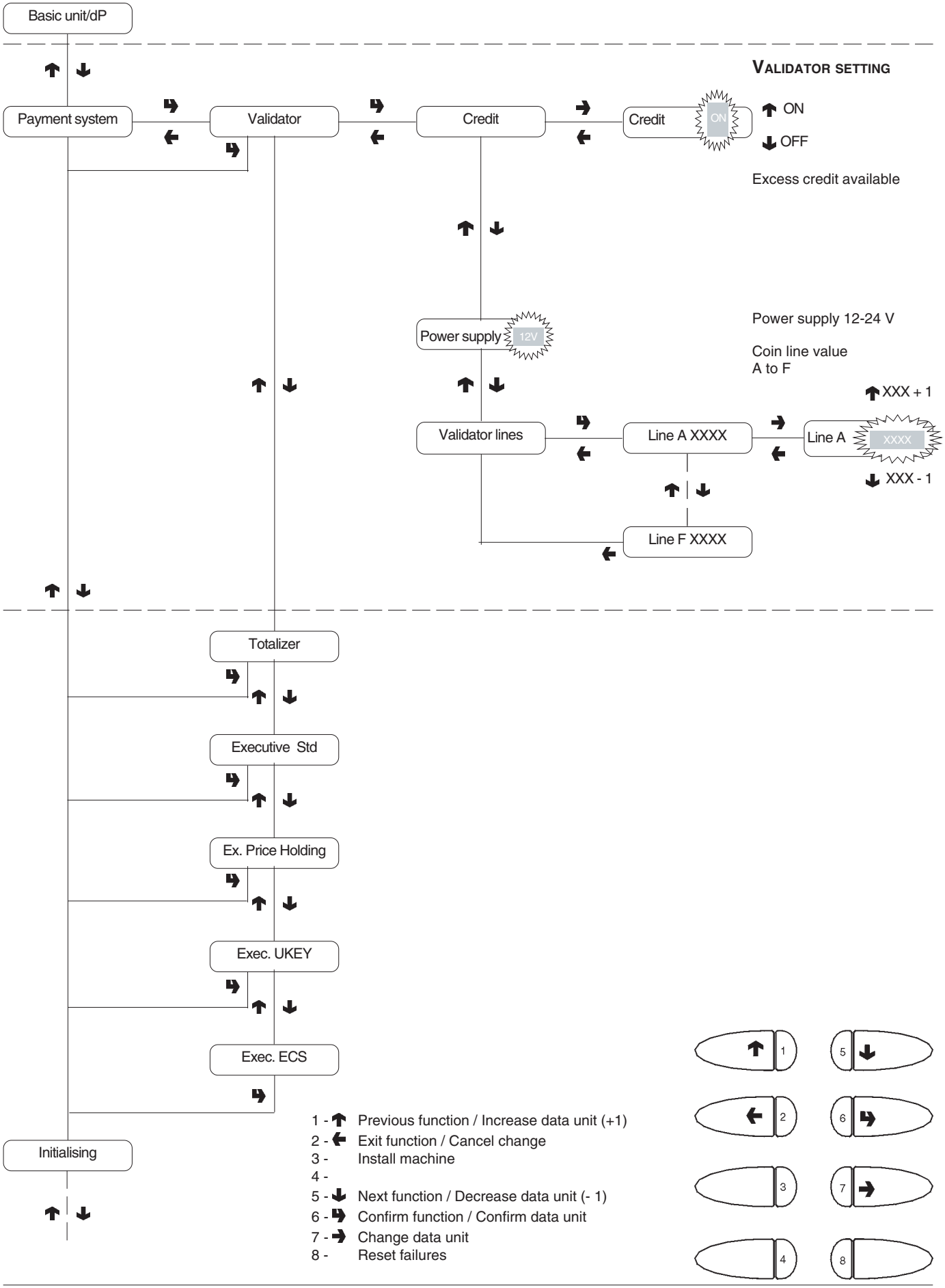
Programming menu



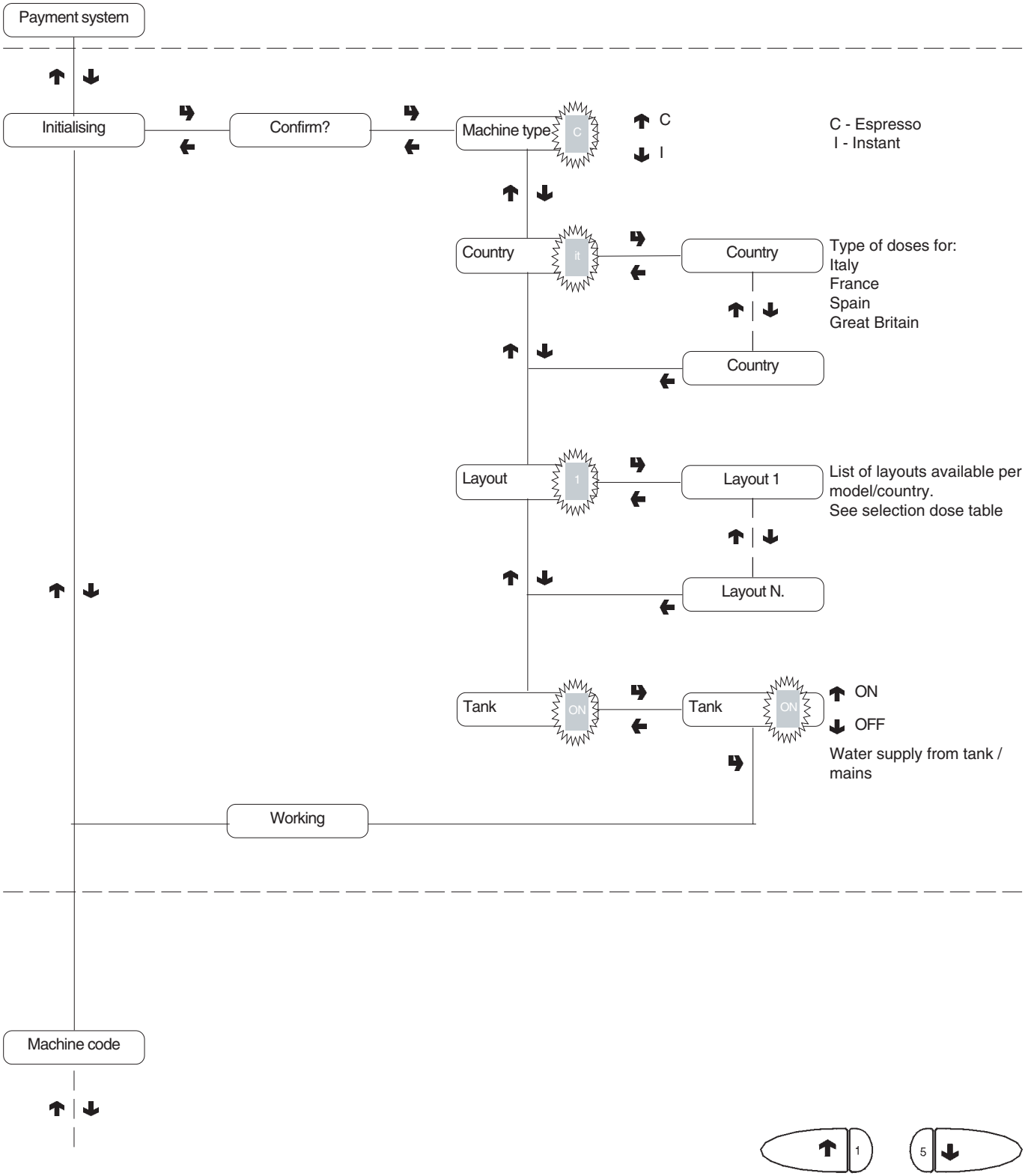


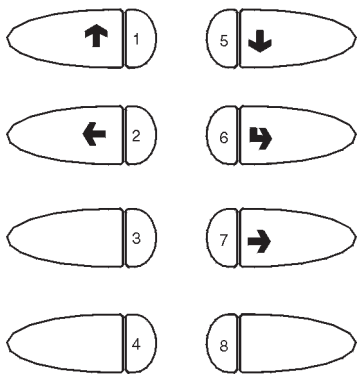
1 - ↑ Previous function / Increase data unit (+1)
2 - ← Exit function / Cancel change
3 - Install machine
4 -
5 - ↓ Next function / Decrease data unit (- 1)
6 - ↳ Confirm function / Confirm data unit
7 - → Change data unit
8 - Reset failures

Programming menu



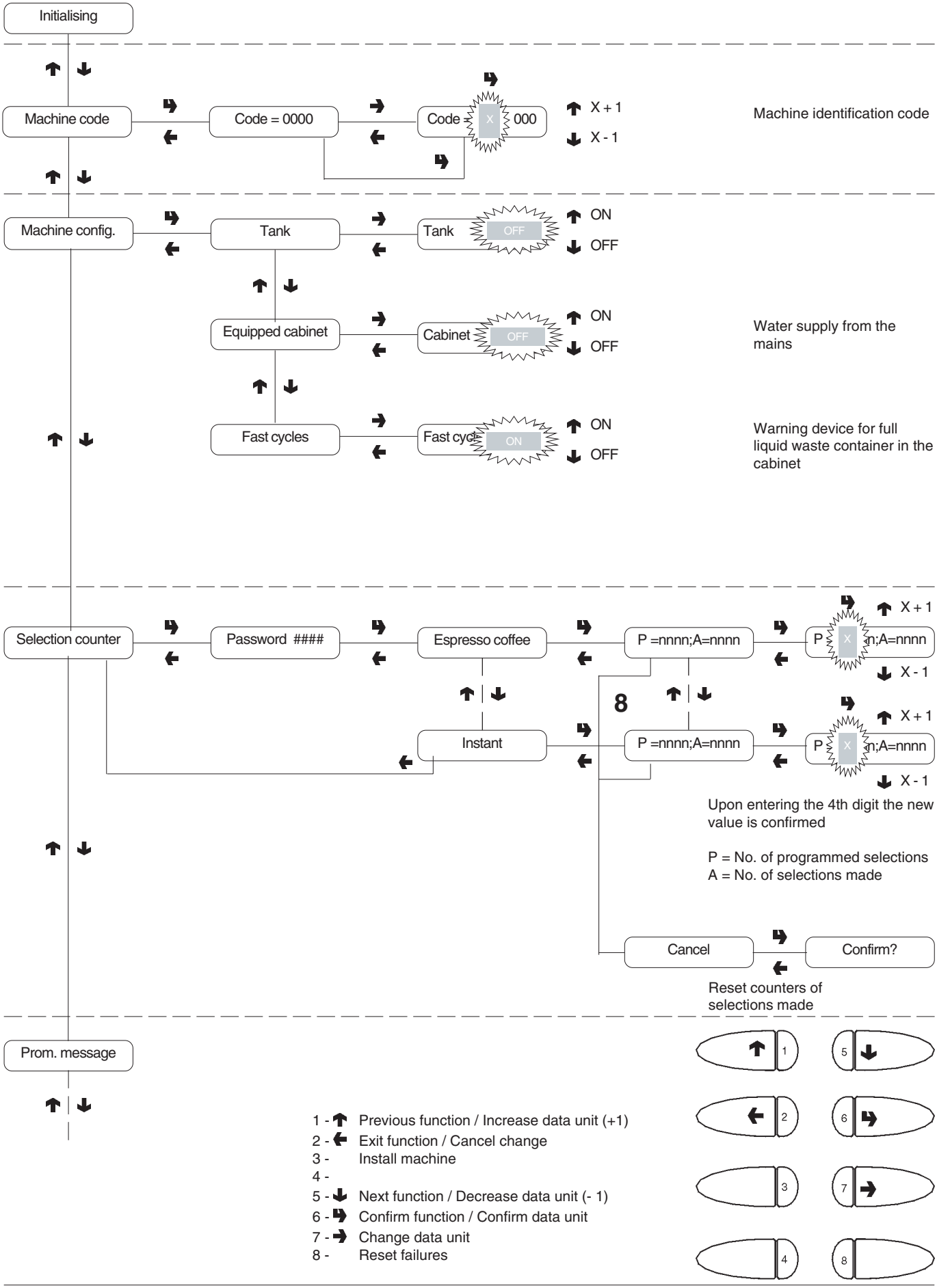
Programming menu



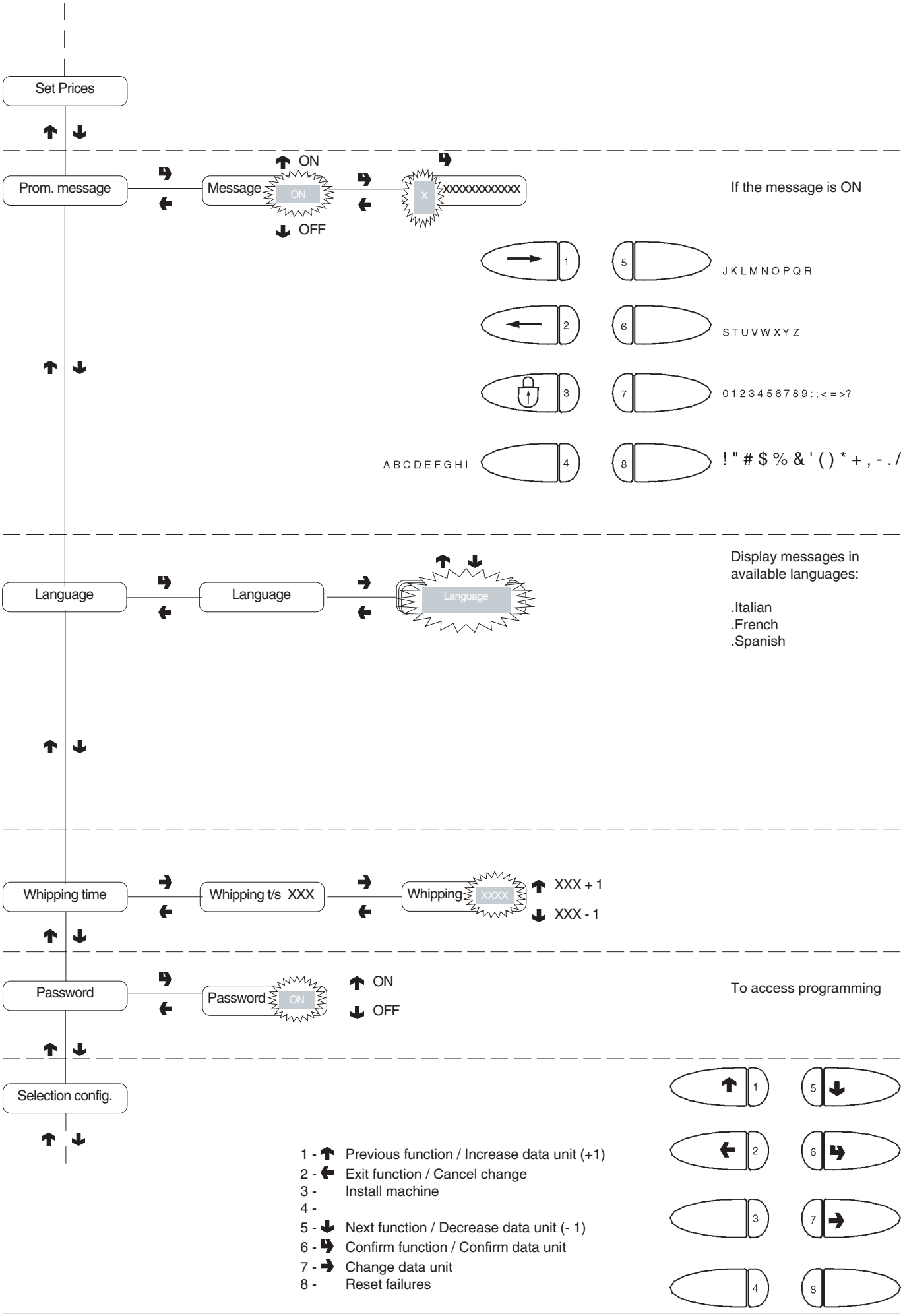


1 - ↑ Previous function / Increase data unit (+1)
2 - ← Exit function / Cancel change
3 - Install machine
4 -
5 - ↓ Next function / Decrease data unit (- 1)
6 - ↳ Confirm function / Confirm data unit
7 - → Change data unit
8 - Reset failures

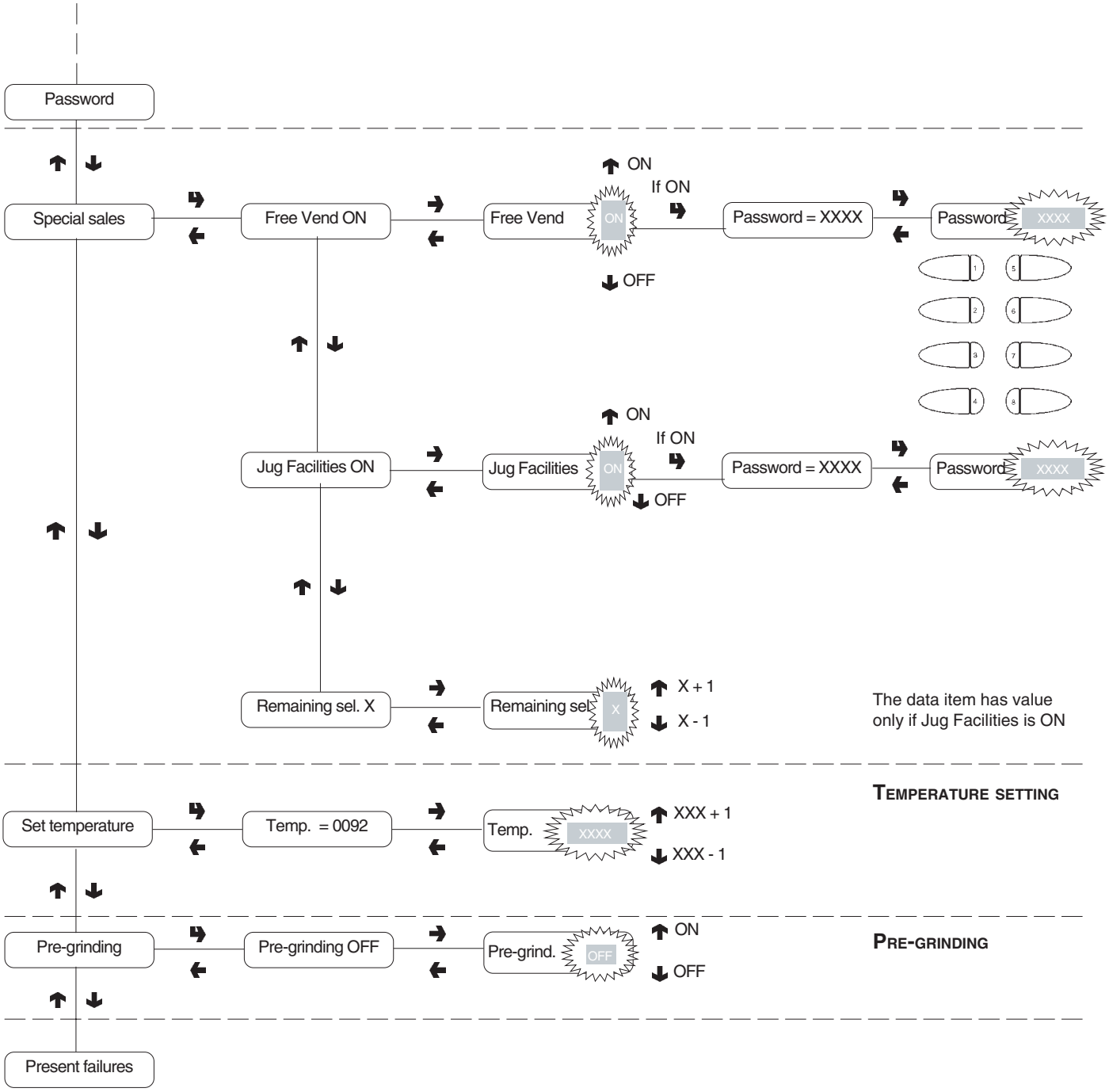
Programming menu

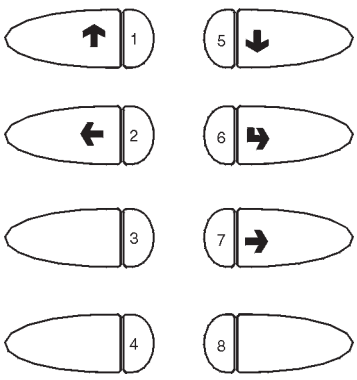


Programming menu



Programming menu



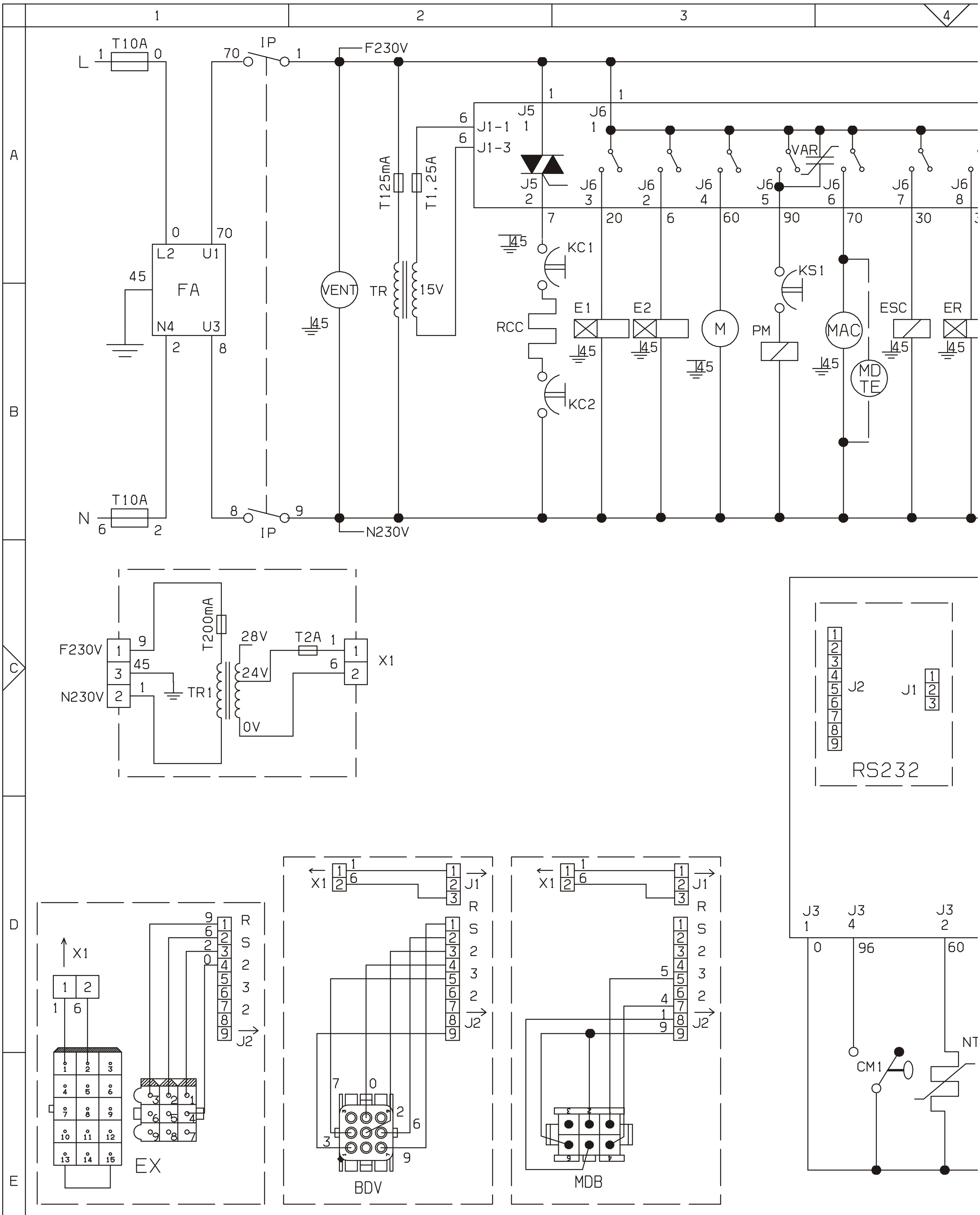


1 - ↑ Previous function / Increase data unit (+1)
2 - ← Exit function / Cancel change
3 - Install machine
4 -
5 - ↓ Next function / Decrease data unit (- 1)
6 - ↳ Confirm function / Confirm data unit
7 - → Change data unit
8 - Reset failures

WIRING DIAGRAM LEGEND

INITIALS	DESCRIPTION
BDV	BDV COIN MECH CONNECTOR
CM1-2	COFFEE UNIT MOTOR CAM
CMSB	CUP RELEASE MOTOR CAM
CV	VOLUMETRIC COUNTER
E1-...	INSTANT SOLENOID VALVE
EEA	WATER INLET SOLENOID VALVE
ER	COFFEE DISPENSER SOLENOID VALVE
ESC	COFFEE RELEASE MAGNET
EX	EXECUTIVE COIN MECH CONNECTOR
FA	RADIO INTERFERENCE SUPPRESSOR
ID	COFFEE DOSE SWITCH
IMSP	STIRRER RELEASE MICRO-SWITCH
IP	DOOR SWITCH
IPF	WASTE CONTAINER OVERFLOW SWITCH
IVA	EMPTY BOILER MICRO-SWITCH
IVB	EMPTY CUP DISPENSER MICRO SWITCH
KC1-..	COFFEE BOILER CUTOUT
KS1-..	SAFETY CUTOUT
LCD	LIQUID CRYSTAL DISPLAY
M	COFFEE UNIT MOTOR
MAC	GRINDER

INITIALS	DESCRIPTION
MD1-..	DOSER UNIT - INSTANT
MDB	MDB COIN MECH CONNECTOR
MDTE	DOSER UNIT - TEA
MDZ	DOSER UNIT - SUGAR
MF1-..	WHIPPER MOTORS
MSB	CUP RELEASE MOTOR
MSCB	CUP CONTAINER SHIFT MOTOR
MSP	STIRRER RELEASE MOTOR
NTC	TEMPERATURE PROBE
PM	PUMP
RCC	COFFEE BOILER HEATING ELEMENT
RIS	COFFEE UNIT HEATER
RS232	SERIAL PORT
SM	CONTROL BOARD
SP	PUSH-BUTTON BOARD
TR	TRANSFORMER
TR1	TRANSFORMER 230 V 24 V
TX....	DELAYED FUSE (X=COURRENT)
VAR	VARISTOR
VENT	FAN



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 AZUL 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

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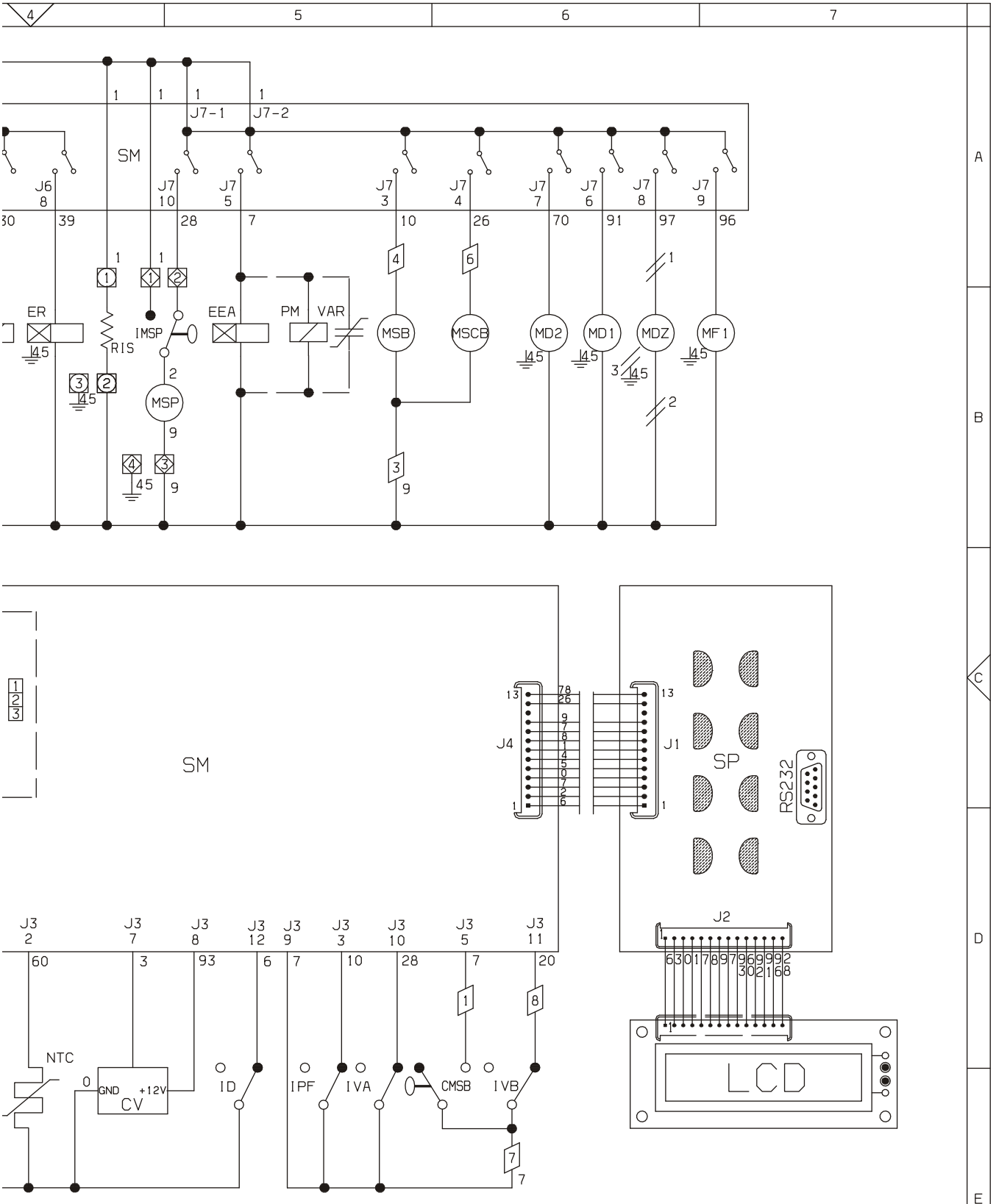
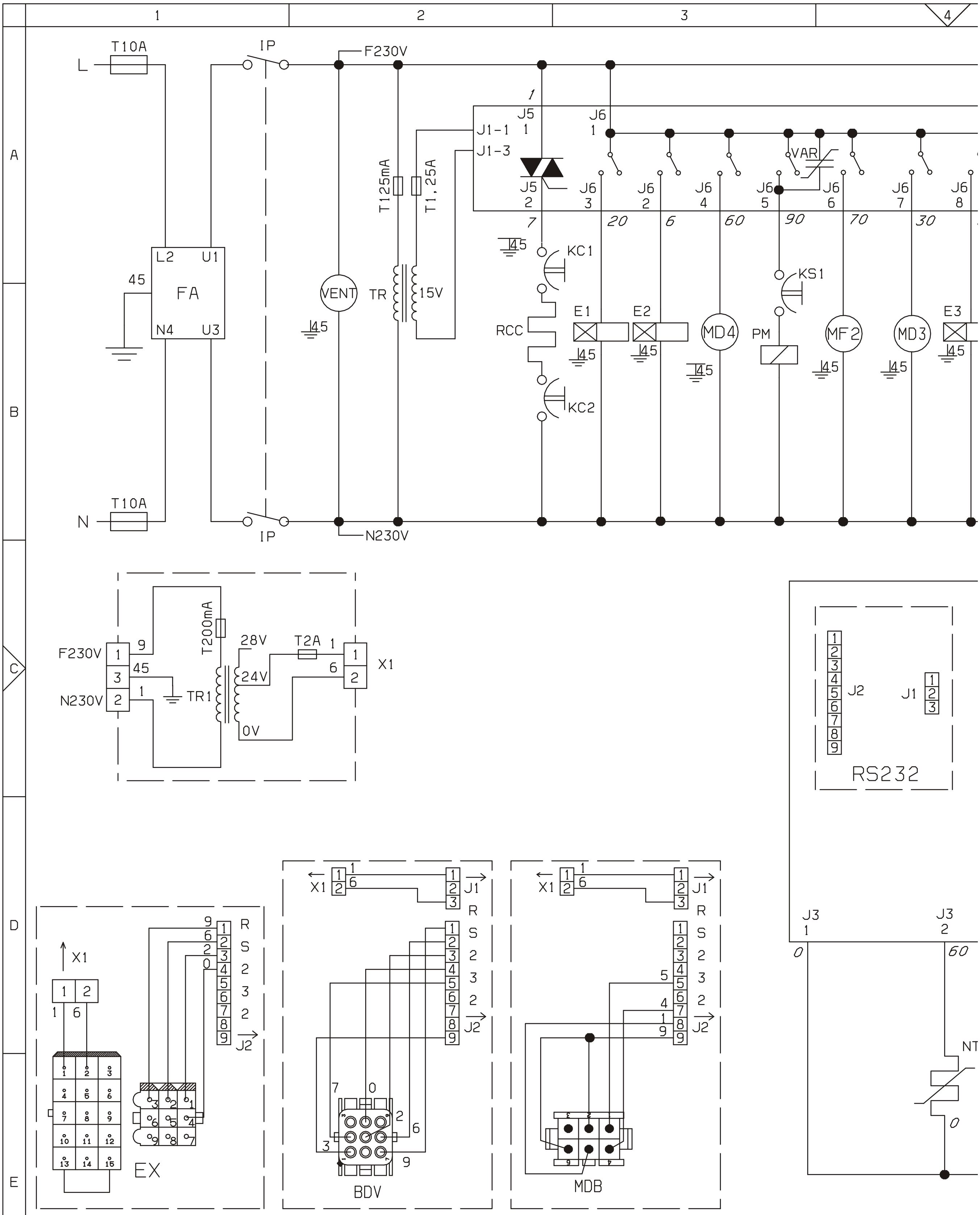
Sx35401 1 2 3 4



NECTA VENDING SOLUTIONS SpA A company of N&W GLOBAL VENDING GROUP	MODELLO: Colibrì Espresso	GRUPPO: SCHEMA ELETTRICO FUNZIONALE	DATA: 22-04-00	FOGLIO: 1/1	DISEGNATO: BONACINA	CONTROLLATO: MONGUZZI
			LEGENDA: .	CODICE: 608535401		

8 GRIS
9 BLANCO



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

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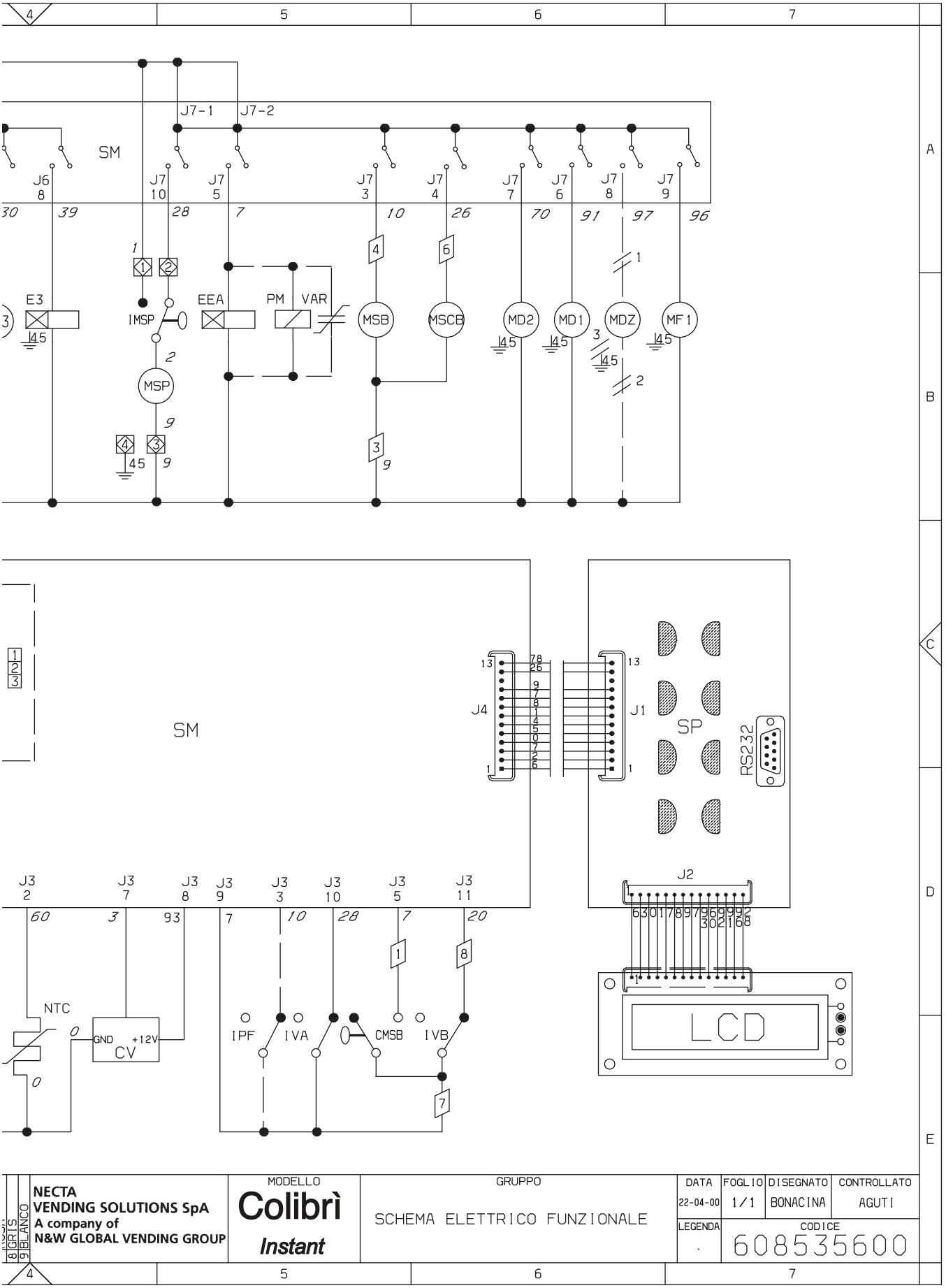
Sx35600 1 2 3 4



NECTA VENDING SOLUTIONS SpA A company of N&W GLOBAL VENDING GROUP	MODELLO Colibrì Instant	GRUPPO SCHEMA ELETTRICO FUNZIONALE	DATA 22-04-00	FOGLIO 1/1	DISEGNATO BONACINA	CONTROLLATO AGUTI
8 GRIS 9 BLANCO			LEGENDA .	CODICE 608535600		

EDITION 1 01-2003 CODE: H 197U 00

NECTA
VENDING SOLUTIONS SpA
A company of
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