

# Snakky

UK English



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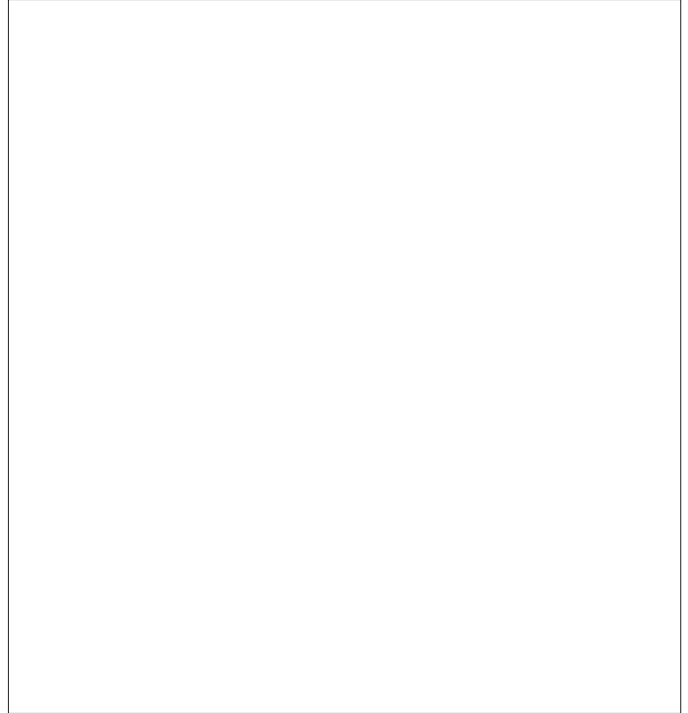


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**DICHIARAZIONE DI CONFORMITA'**  
**DECLARATION OF CONFORMITY**  
**DÉCLARATION DE CONFORMITÉ**  
**KONFORMITÄTSERKLÄRUNG**  
**DECLARACIÓN DE CONFORMIDAD**  
**DECLARAÇÃO DE CONFORMIDADE**  
**VERKLARING VAN OVEREENSTEMMING**  
**INTYG OM ÖVERENSSTÄMMELSE**  
**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 descrita en la placa de identificación, resulta conforme a las disposiciones legislativas de las directivas: **89/392, 89/336, 73/23 CEE** y modificaciones y integraciones sucesivas.

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

Verklaart dat de op de identificatieplaat beschreven machine overeenstemt met de bepalingen van de **EEG** richtlijnen **89/392, 89/336** en **73/23** en de daaropvolgende wijzigingen en aanvullingen.

Intygat 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.

  
ANTONIO CAVO

C.E.O



THE INTERNATIONAL CERTIFICATION NETWORK

# CERTIFICATE

**IQNet and  
CISQ/IMO-CSQ**

hereby certify that the organization

**NECTA VENDING SOLUTIONS S.p.A.**  
Via Roma, 24 - I-24030 VALBREMBO (BG)

for the following field of activities  
Design, manufacturing and sale of  
electromechanical/vending machines  
has implemented and maintains a  
Quality Management System  
which fulfills the requirements of the following standard

**ISO 9001**

Issued on: 2000 - 03 - 31

Registration Number: **IT - 12979**



*Catherine Neville*  
Catherine Neville  
President of IQNet



*Gianrenzo Prati*  
Gianrenzo Prati  
President of CISQ

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ITALIAN CERTIFICATION OF COMPANY QUALITY SYSTEMS



CERTIFICATO n. **9130.ZAVE**  
CERTIFICATE n. \_\_\_\_\_

SI CERTIFICA CHE IL SISTEMA QUALITÀ DI  
NE HEREBY CERTIFY THAT THE QUALITY SYSTEM OPERATED BY

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UNITÀ OPERATIVE  
OPERATIVE UNITS

Via Roma, 24 - 24030 VALBREMBO (BG)

**UNI EN ISO 9001**

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PER LE SEGUENTI ATTIVITÀ  
CONCERNING THE FOLLOWING ACTIVITIES

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Design, manufacturing and sale of  
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1 Giugno 1994

Prima emissione  
First issue

31 Marzo 2000

Emissione corrente  
Current issue

La validità del presente certificato è subordinata a sorveglianza annuale e al riesame completo del Sistema di  
Qualità con periodicità triennale secondo le procedure dell'IMO S.p.A.  
The validity of the certificate is submitted to annual audits and a reassessment of the entire Quality System  
within three years according to IMO S.p.A. rules

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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, operating and maintenance safety.

**This manual is divided into three sections.**

The **first section** 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 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 rating plate placed internally on the right side.

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

## IN CASE OF FAILURE

In most cases, any technical problems are corrected by small repair operations; however, before contacting the manufacturer we recommend that this manual be read carefully.

Should there be serious failures or malfunctions, then contact the following:

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

## TRANSPORT AND STORAGE

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

The machine can be lifted by a motorised or manual fork lift truck, and the forks are to be placed underneath the machine from the side clearly indicated by the symbol on the cardboard package.

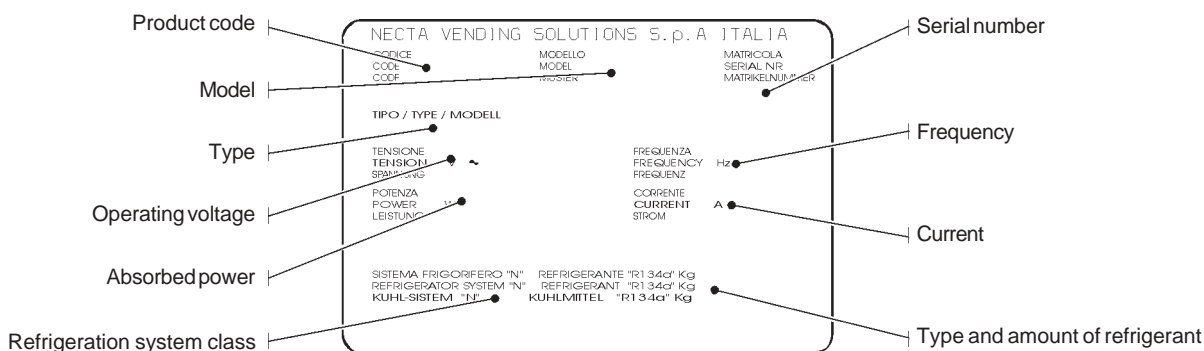
**Do not:**

- overturn the vending machine;
- drag the vending machine with ropes or similar;
- lift the vending machine by its sides;
- lift the vending machine with slings or ropes;
- shake or jolt the vending machine.

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

Avoid stacking machines one on top of the other and always keep it upright as indicated by the arrows on the packing.

Fig. 1



## USING THE VENDING MACHINE FOR PACKAGED PRODUCTS

A different sale price can be set for each product selection by the machine electronic control. The various functions are programmed through the selection keypad without any need for additional equipment.

All models are equipped with variable configuration trays, adding or removing dividers, spirals and ratiomotors; therefore the machine can be easily suited to specific needs.

All trays are preset for the operation of up to 6 selections (maximum setting).

The trays are equipped with independent motors and spirals; each selection will continue its operation autonomously even if the other selections are disconnected.

**This vending machine should only be used to sell and dispense packaged products that do not need refrigeration to be preserved.**

Strictly comply to the producer's specifications regarding storage method and expiry date for each product.

**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 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.

The ventilation system allows the back panel to be leaned against the wall, thus saving space, as air is drawn from under the machine and exhausted through a grille on the right-hand side. However, the grille must be completely free without obstructions to the airflow for at least 40 cm. If this were not possible, the spacer supplied with the machine must be fitted to ensure the required distance from the wall (see Fig. 2).

### Warning!

**Incorrect ventilation may compromise the proper functioning of the cooling unit.**

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

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

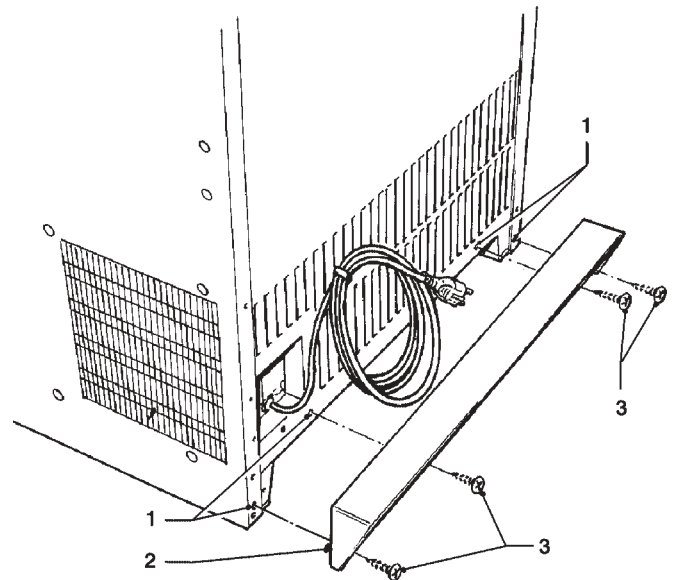


Fig. 2

- 1 - Fori di fissaggio
- 2 - Distanziatore
- 3 - Viti di fissaggio

## 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 is responsible 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.**

## 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;
- keep the machine away from heat sources;
- regularly check the condition of the door seal to limit any heat dispersion;
- limit as much as possible door opening time during loading operations to avoid temperature increase inside the cabinet and subsequent power consumption.



## 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.
- the gas inside the cooling unit, regardless of the type (see the identification plate), should be recovered by qualified companies by means of special equipment.

## TECHNICAL DATA

Power supply voltage	230	V~
Frequency	50	Hz
Max. absorbed power	345	W
Max. operating conditions:		
Ambient temperature	32	°C
Relative humidity	65%	

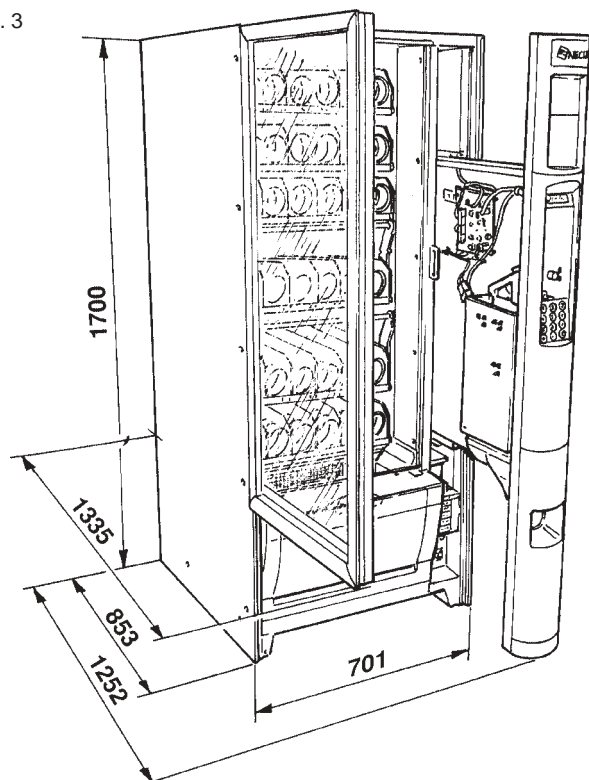
### Refrigeration system:

Compressor's refrigeration output	320	W
Fan-forced evaporator		
Programmable defrosting cycle		

## DIMENSIONS

Height	1700	mm
Width	701	mm
Depth	854	mm
Overall depth with door open	1335	mm
Weight	190	Kg

Fig. 3



## NOISE LEVEL

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

## PAYMENT SYSTEM

The machine is supplied with all electrical prearrangement for systems with Executive, BDV and MDB protocol, as well as for installation of 24 V DC validators.

Beside the coin mechanism housing, suitable space is provided for the installation (optional) of the most widely used payment systems.

## SALES PRICES

A different programmable price can be set for each single selection.

## COIN BOX

Cover and lock are available as an optional feature.

## CONTROLS AND SAFETY DEVICES

- payment system compartment switch
- timeout for power supply to dispensing motors
- compressor overheating protection
- line fuses
- fuses on transformer primary and secondary windings,

## 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.

**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.**

## POWER CONSUMPTION

The machine power consumption depends on many factors, such as temperature and ventilation of the room where it is installed, temperature of loaded products, internal temperature of the refrigerated box.

Under average conditions, and namely:

- ambient temperature: 20° C
- refrigerated box temperature: 8° C
- temperature of loaded products (machine completely empty) 20° C

the following power consumption levels resulted:

- hourly stand-by power consumption 151 Wh

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



## CHANGEABLE COMBINATION LOCK

Fig. 4

Some machine models are fitted with a changeable combination lock.

The lock is supplied with two silver colour keys to be used for normal opening and closing.

The lock can be customised by using a kit, available as accessory, which permits the combination of the lock to be changed.

This kit includes a change key (black) for the current lock combination as well as the change (gold) and use (silver) keys for the new combination.

Sets of change and use keys with other combinations can be supplied on request.

Additional sets of use keys (silver) may be requested, indicating the combination stamped on the keys.

Generally, only the use key (silver) is used, while the combination change keys (gold) can be kept as spares.

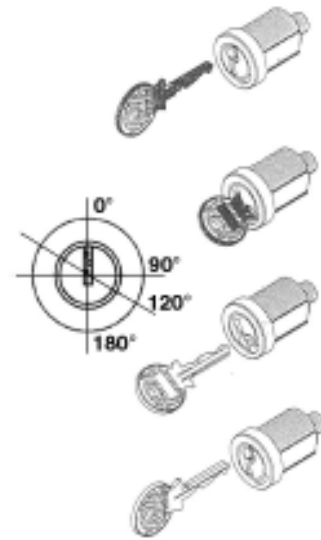
**Do not use the change key for normal opening, as it may damage the lock.**

### To change combination do as follows:

- insert the current change key (black) and rotate to the change position (reference notch at 120°);
- remove the current change key and insert the new change key (gold);
- rotate to the close position (0°) and remove the change key.

The lock will now have the new combination.

**The keys with the old combination cannot be used for the new combination.**



# LOADING AND CLEANING

## MAIN SWITCH

When extracting the sliding compartment, a special switch (see Fig. 28) disconnects the power from the machine electrical system to allow maintenance and cleaning operations in full safety.

**The only parts that stay energised are those protected by covers and carrying a plate with the warning “disconnect the power before removing the cover”.**

## CONFIGURING THE SPIRALS

According to the size of the products to be dispensed, each machine can be fitted with a variable number of trays (maximum 6), compartments and with dispensing spirals of different pitch.

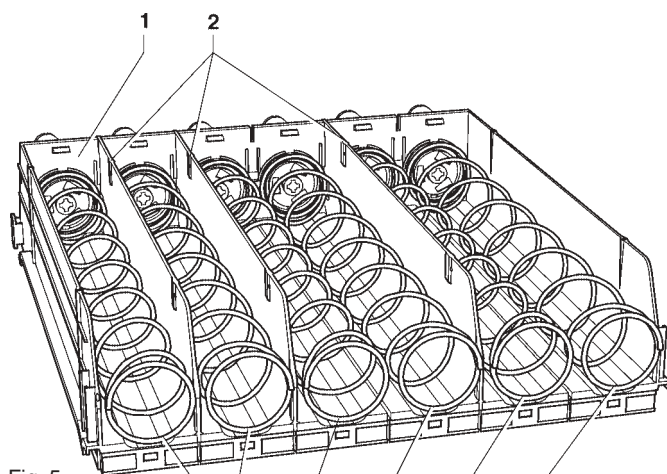
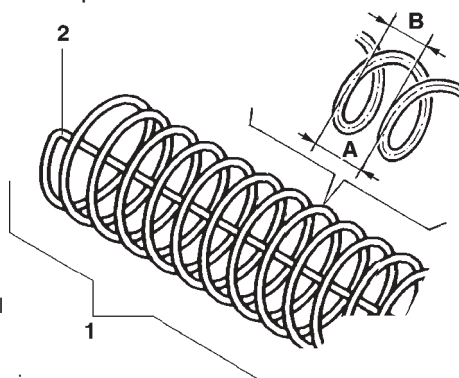


Fig. 5

- 1 - Tray
- 2 - Mobile walls
- 3 - Right-hand spiral
- 4 - Left-hand spiral

The spirals can be housed either in 152 mm compartments (two spirals, right-hand and left-hand, in each compartment) for large size products, or into 75 mm compartments (one right-hand spiral in each compartment) for small size products.

When dispensing sticks of candies or similar products, it is possible to set the rotation of the spirals to 180° instead of 360° for the 75 mm compartments and use a special right hand spiral fitted with a divider (see Fig. 6), doubling the capacity of the compartment.



- Fig. 6
- 1 - 180° rotation spiral
- 2 - Divider
- A - Spiral pitch
- B - Maximum product size

It is also possible to insert a divider in the already installed spirals (see Fig. 7).

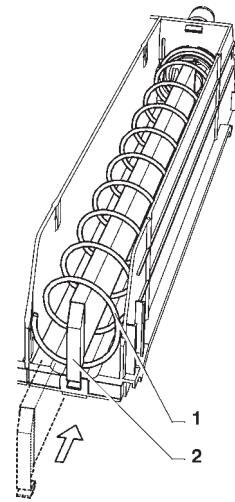


Fig. 7

- 1 - Spiral
- 2 - Divider

As standard feature or using special kits, the machine can be equipped with small compartments, suitable for dispensing cans, plastic bottles up to 69 mm dia., 0.2 litre Tetra-Paks.

I cassette così equipaggiati si possono riconoscere dalla forma del rialzo prodotti (vedi fig. 8).

Some types of bottles can be dispensed without the aid of raised supports.

Most bottles can be dispensed without using any specific accessories, loading the bottles so that the top slides inside the compartment's channel.

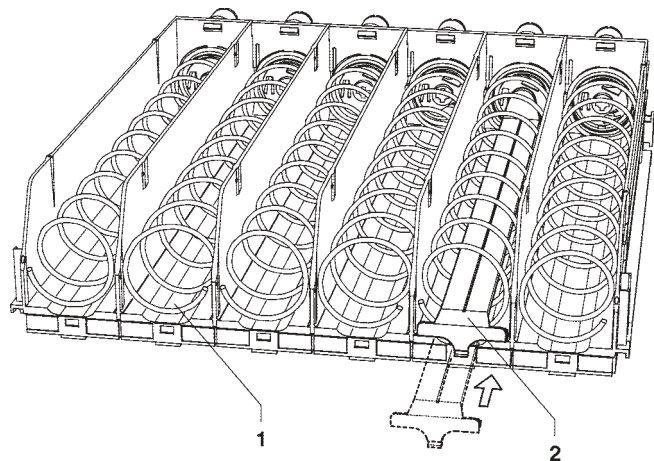





Fig. 8

- 1 - Compartment's channel
- 2 - Product raised support

The spirals can be positioned with 22,5 degree steps by pulling them towards the front and rotating them in the direction of ejection.

Normally, the products can be dispensed without any problems when the spiral end is in the lower centre position.

The size (see Fig. 6) and the number of products, the pitch and the direction of rotation of the spirals are shown in the following table.

	<b>A mm.</b>	<b>B mm.</b>	<b>N.</b>
	84	80	5
	64	60	7
	54	50	8
	46	42	10
	34	30	13
	24	20	19
	77	73	6
	24 (180°)	20	19+19

The machine is supplied with a table indicating the optimum setting for the different product types. The configuration can be changed following the indications of the relevant chapter.

## HYGIENE AND CLEANING

According to current health and safety regulations, the operator of vending machines is responsible for their hygiene and cleaning.

It is advisable to use sanitising products (chlorine based detergent or similar) to clean all surfaces even if not in direct contact with food.

Some parts of the machine can be damaged by strong detergents.

The manufacturer declines all responsibility for damage to persons caused by the noncompliance with current regulations.

At least every six months it is necessary to clean the ventilation grilles of the cooling system using a vacuum cleaner or compressed air.

**Under no circumstances should sprayed water be used.**

**Before any maintenance operation always switch the machine off.**

**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.**

## LOADING PRODUCTS

- Remove one tray at a time, lifting it and pulling it past the retaining slide. The upper trays will tilt downwards to facilitate loading.

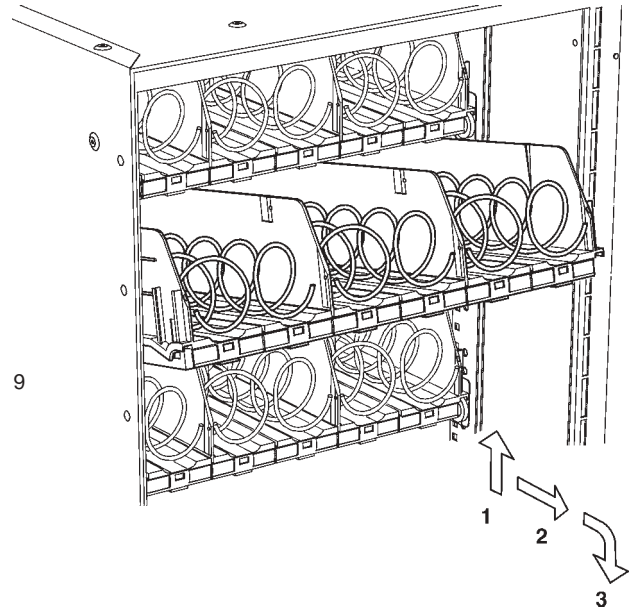


Fig. 9

- Load all products starting at the front, without inserting products with a temperature above 30° C, ensuring that all spaces are filled. The bottom of the product must rest at the bottom of the compartment with the label facing the window so that it can be identified.

**All products should load easily, do not insert products which are too large for the space.**

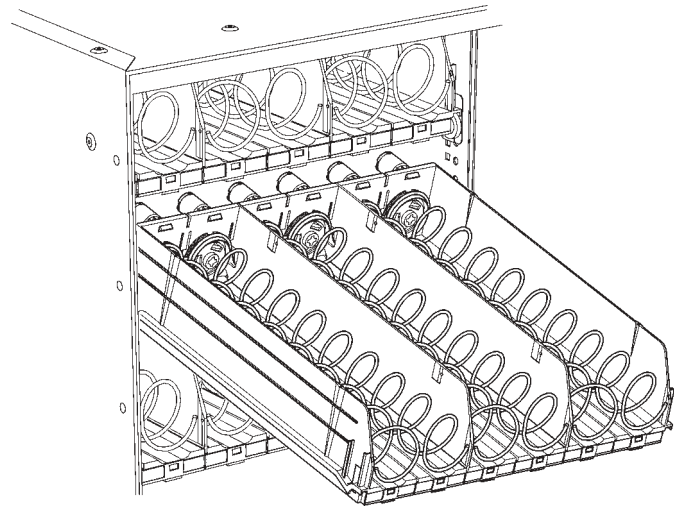


Fig. 11

- Push in the trays completely, ensuring that they go past the retaining slide.

The sealed end of bags may be caught under the spiral, preventing the free fall of the product.

Fold the seal towards the front of the unit and upwards before inserting the product in the spiral.

**More fragile products must be placed on the lower trays to prevent damage when they drop.**

Very thin products can be dispensed only using the special spacer.

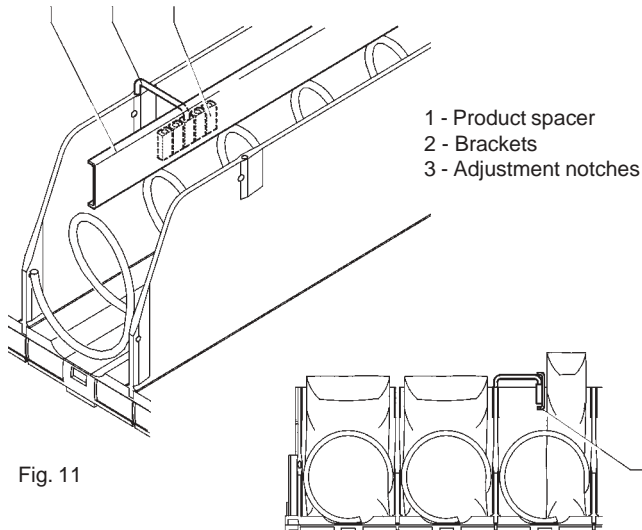


Fig. 11

## START-UP

Each time the machine is started the number of trays connected to the system are checked by the electronic controls and indicated on the display. Also the number of actually connected compartments is checked.

## 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 is not suitable for outdoor installation, it must be installed in a dry room where the temperature remains between 2° C and 32° C.**

**It cannot be positioned where water jets are used for cleaning (e.g. in large kitchens, etc.).**

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

**The relative humidity must not exceed 65%.**

## UNPACKING THE VENDING MACHINE

After removing the packing, ensure that the machine is intact.

If the vending machine is found to be damaged, immediately inform the carrier and 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.

**If the vending machine had been laid down during transport, allow at least one hour before connecting it to the mains.**

## INSTALLING THE PAYMENT SYSTEM

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 incorrect installation.

Install the coin mechanism paying attention, according to the type used, to:

- choose the most suitable securing holes;
- loosen the fastening screw and adjust the coin slot chute according to the coin mechanism opening;
- loosen the fastening screws and adjust the selector opening lever;
- to aid installation the coin mechanism support plate can be lifted and rotated.

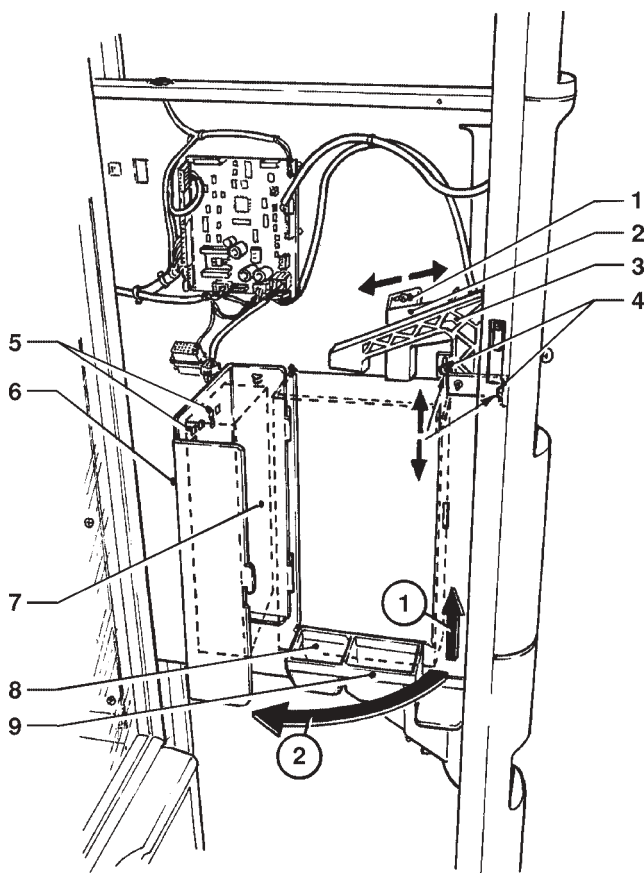


Fig. 12

- 1 - Coin chute fastening screw
- 2 - Coin chute
- 3 - Selector opening cam
- 4 - Selector lever fastening screw
- 5 - Coin mechanism securing holes
- 6 - Coin mechanism housing cover
- 7 - Coin mechanism
- 8 - Coin slot chute
- 9 - Coin return chute

## CONNECTING TO THE POWER SUPPLY

The machine is designed to operate under a single-phase 230 V~ voltage and is protected by T6.3 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 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.**

The power supply cable is of the type with a fixed plug. Any replacement (see figure) 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<sup>2</sup>.

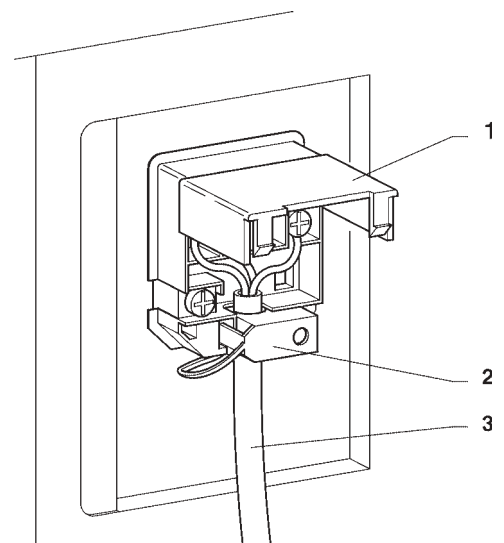


Fig. 13

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

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

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



## CONTROLS AND INFORMATION

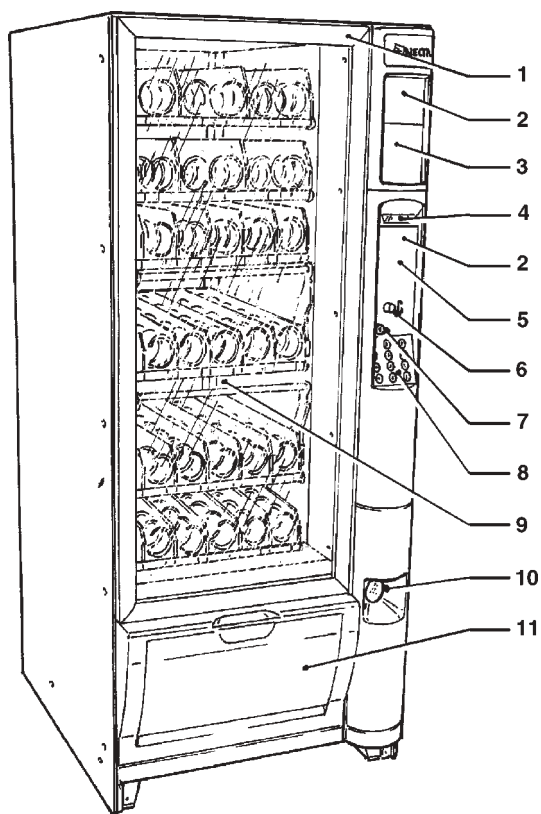


Fig. 14

- 1 - Door opening handle
- 2 - Advertising spaces
- 3 - Prearrangement for bill acceptor
- 4 - Display
- 5 - Prearrangement for key type payment systems
- 6 - Coin slot/return
- 7 - Lock
- 8 - Selection keypad
- 9 - Glass front
- 10 - Coin return flap
- 11 - Product flap

The user controls and information are located on the outside of the sliding compartment (see Fig. 14).

The credit and all function messages are indicated on the display.

The keypad contains a series of numbered keys. To select a product, key in the double digit number corresponding to the desired product.

Key © is used to cancel a selection already made.

Keys Ⓔ and Ⓕ are not available to the user; they are used only for programming.

## INTERNAL COMPONENTS

The evaporator assembly mounted on the cabinet shelf comprises two fans, the evaporator, the air duct and a water retaining tray placed under the evaporator.

The C.P.U. board (central processing unit) fitted inside the payment system compartment controls the different functions of the vending machine.

The cooling unit is located in the lower part of the cabinet. When removing the cover of the last ventilation grille (see Fig. 15) the air circulation ensures a uniform temperature inside the refrigerated box, between 9° and 12° C.

When covering the ventilation grille, the temperature inside the refrigerated box is differentiated between the upper three trays (12°-16° C) and the lower three trays (8°-10° C).

The cooling unit is defrosted automatically every 6 hours. However, the timing is programmable

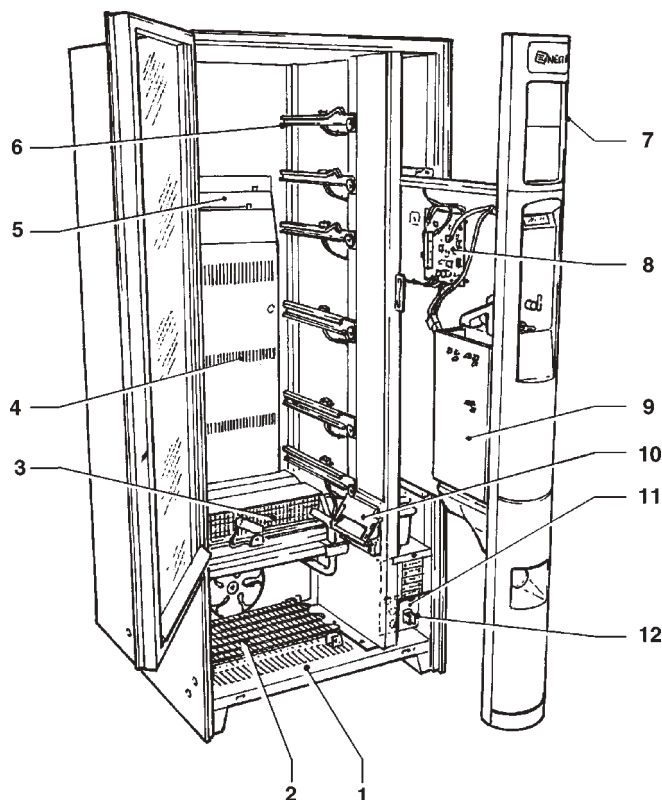


Fig. 15

- 1 - Product dispensing compartment
- 2 - Cooling unit condenser
- 3 - Cooling unit evaporator
- 4 - Cold air flow grilles
- 5 - Removable grille cover
- 6 - Tray guides
- 7 - Removable payment system compartment
- 8 - C.P.U. board
- 9 - Coin mechanism support
- 10 - Product passage photocells
- 11 - Power supply unit
- 12 - Payment system compartment door switch

The power supply unit, mounted in the lower section of the cabinet, contains the relay card which activates the compressor, the protection fuses and the switch on the payment system door.

## MAIN SWITCH

The power supply unit (see Fig. 28) is fitted with a microswitch that, when opening the sliding compartment, disconnects the power from the machine electrical system,

**except from the terminal board supporting the line cable, the line fuses and from the same switch area.**

**Before removing the cover from these parts (indicated with a specific plate) it is necessary to disconnect the external switch.**

The power supply can be reconnected, if necessary, by inserting the special key supplied with the machine.

**All operations which require the machine to be energised with the door open must be carried out by qualified personnel who are aware of the specific risks of such condition.**

## OPERATING MODES

The machine control software has three different function levels, which are:

- normal operation;
- filler menu;
- technician menu.

According to the operating mode, the display and keypad functions change as described in the following paragraphs.

### USER INTERFACE

The interaction between system and operator happens through the following components:

- Liquid crystal display (LCD) 2 lines of 16 characters.
- External keypad configured via software with numeric keys from 0 to 9, having with the following functions in the in the filler and technician menus:

#### Numeric keys

1 to 7 are used to select directly a menu item by keying in the corresponding number shown in the summary tables included in the appendix to this manual.

#### Next menu key Ⓣ:

"Ⓣ" is used to move to the next menu option.

In the case of command management it varies the status of Logical Data where required, or in the case of Numeric Data it writes the value 0.

#### Previous menu key Ⓢ:

"Ⓢ" is used to move to the next menu option.

In the case of command management it varies the status of Logical Data where required, or in the case of Numeric Data it writes the value 9.

#### Enter key ⓔ:

"ⓔ" is used to move from a menu to a sub-menu or to enter a command.

In the case of Logical Data it enters the status that appears on the display.

#### Exit key ⓐ:

"ⓐ" is used to move from a sub-menu to the higher level menu, or to exit from the current command.

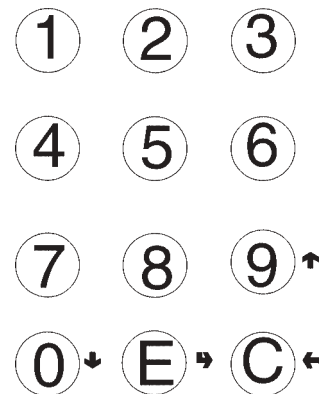


Fig.16

## NORMAL OPERATING MODE

The machine is preset to "Normal operation" mode when connected to the power supply and the payment system door is closed (see door switch - Fig. 24).

The lighting is switched on and the messages for the customer are indicated on the display.

## FILLER MENU

The machine is preset to "Filler menu" when pressing the menu access button (located on the CPU board- see Fig. 17).

The keys "Ⓢ" and "Ⓣ" scroll through the filler menu which permits:

"Statistics"	Data reading and display
"Single Prices"	Changing the price for one selection
"Tube control"	Manual refilling and release of change tubes
"Special selections"	Virtual selections Return of virtual price Two-motor selections Photocell parameters
"Test"	Test selection Motor test Autotest

Key Ⓢ is used to access directly the price/selection settings, if the function is enabled in the "Technician" menu.

**If a menu is not enabled during programming, a title is displayed in the list but it cannot be accessed.**



## STATISTICS

Data on the machine operations is stored in both general counters and relative counters, which can be reset without losing total data.

### PRINT

Connect an RS232 serial printer having a Baud rate of 9600, 8 data bit, no parity, 1 stop bit (the CITIZEN I-DP 3110-24RF 230A p/n 9210219 printer is recommended) to the serial port located on the push button board to print all of the statistics, and namely:

#### Total

- 1 - single selection counter;
- 2 - time band counter;
- 3 - failure counter;
- 4 - coin mechanism data.
- 5 - photocell errors;
- 6 - motor errors;


#### Relative (to be implemented)

- 1 - single selection counter;
- 2 - time band counter;
- 3 - failure counter;
- 4 - coin mechanism data.
- 5 - photocell errors;
- 6 - motor errors;


The hardcopy printout will also contain the machine information, and namely:

- date/time of print
- machine name
- software version
- operator code
- machine code
- Installation date.

To connect the printer, do as follows:

- press the confirm print button “

### DISPLAY


When pressing the confirm button “


### RESETTING THE RELATIVE STATISTICS

#### (To be implemented)

Statistics can be reset for relative counters globally (all types of data) or selectively for:

- selections
- failures
- coin mechanism data
- photocell errors;
- motor errors;

Press the confirm button “

Press the confirm button “

## PRICES FOR SINGLE SELECTIONS


This function is used to change the sales price for each selection according to the time band.

Key ② is used to access directly the price/selection settings, if the function is enabled in the “Technician” menu.

## CHANGE TUBES CONTROL

By accessing the “Tube control” function the change tubes can be filled or released manually.

Confirm refilling, and the display will indicate “Credit: —” which is the value of money available in change the tubes; insert the desired coin into the selector and the display will indicate the value of money available in the change tubes.

When confirming releasing, it will be possible to decide which tube to release. Each time the confirm button “

## SPECIAL SELECTIONS

### VIRTUAL SELECTIONS

This function is used to define a pair of selections that can be sold at a price different from the sum of the two selections, using a single selection number. 10 virtual selections can be programmed (70 to 79).

### RETURN OF VIRTUAL PRICE

This function is used to define, in the event of failed second dispensing in a virtual selection, not to cash the price of the second selection (only if an MDB payment system or validator are used). With other payment systems, it can be decided whether or not return the entire amount.

### SELECTIONS WITH TWO MOTORS

#### (To be implemented)

In order to dispense long products, dividers can be fitted so that two motors are used for each single selection. This function is used to set the selection number and the pair of motors that will be controlled simultaneously by such selection.

A maximum of 18 selections can be set for two motor operation, identified by a letter.

For example, for selection A it is possible to assign the operation of motor N. 61 (tray 6, first position) and motor N. 63 (tray 6, third position) (position 62 is empty).

The position defined as motor N. 1 (61 in the example) will be available to the user as selection number.

#### Important notice!

**After changing these parameters and after a failure to the motors of these selections, the machine configuration procedure in the “Filler” menu must be followed.**

## DISPENSING DETECTION

The vending machine can be fitted (as standard feature or as optional according to the model) with a device that, by means of photocells, detects the passage of dispensed products.

This device permits, in the event of failed detection of the dispensed product:

- to set a rotation time for the spiral beyond the limit switch, to overcome any jamming;
- to return or not the paid amount;
- to block further selections for the involved spiral.

## TEST

### SELECTIONS

This function is used to simulate the normal dispensing of products without inserting any money to check the functioning of the spiral rotation by pressing the selection buttons.

### MOTOR TEST

It activates all motors in a sequence, indicating the number of the involved selection on the display.

### AUTOTEST

A function to check, in a semiautomatic manner, the correct operation of some devices is implemented in the software.

Some checks occur automatically, others need the manual operation of the monitored component; button "▶" is pressed to go to the next check.

The monitored devices are:

### "Push-button panel"

Press the button requested on the display, if functioning correctly. The request for the next button then is made.

### "Temperature"

The value of the temperature detected by the probe is displayed.

In the event of disconnection the value -11.0 is displayed.

In the event of a short-circuit the value 41.0 is displayed.

"◀" to advance to the next check.

### "Buzzer"

A series of sounds is emitted.

### "Compressor"

The compressor is activated and deactivated with the buttons "▶" and "◀".

### "Selections"

All selections are activated in a sequence.

### "Coin mechanisms"

Checking that communication with the coin mechanism is correctly and which validator lines are set as active.

### "Photocells"

If the device detecting the passage of products is present, reading and interruption of the light beam are monitored.

### "Compartment lock"



If the device locking the dispensing compartment at opening is present, the compartment opening is locked using buttons "▶" and "◀".

## TECHNICIAN MENU

Using the programming procedures described in this section, it is possible to set all variables regarding machine configuration.

The machine is preset to "Technician menu" when pressing the button  from the filler menu.


**N.B. By pressing again the button from the technician menu, the machine will return to "Filler" mode.**


The keys "" and "" scroll through the technician menu which permits:

Failures	Reading	Read Failures Reset failures Motor errors Motor status Reset motor errors	Statistics	Display	partial total
				Delete	partial total
				Display relat.	partial total
				Delete relat.	partial total
				Print relative	partial total
				Delete	partial total
Prog. parameters	Cash	Prices Coin mechanisms Decimal point Bonus	Test	Complete selections Motor test Autotest	
	Spirals/sel.	Configuration Return of virtual price Two-motor selections Product code Spiral settling time Money return Empty spiral control	Miscellaneous	Machine info	Installation date Machine code Operator code
	Cold param.	Temperature Defrosting Cooling unit		Initialising	
	Display	Language User messages Promotional message Personalised strings Display counter Contrast adjustment			
	Miscellaneous	Password Energy saving Menu masking			

## PRESENT FAILURES

### READING

When the “Failure” function is displayed, press the confirm button “” to display the present failures.

If no failures are currently present, after pressing the confirm button “” the message “End failures” will be displayed.

The monitored failures are:

#### Compressor

The machine is blocked if the compressor runs non-stop for more than 24 hours.

#### Coin mechanism

The machine is locked 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 (Executive protocol) or 75 seconds (BDV protocol).

#### RAM Data

One or more areas of the RAM contain wrong data which was corrected with the default values.

The machine will continue to function, but it would be advisable to initialise as soon as possible.

#### Probe

The machine is locked after 5 minutes if the internal temperature sensor is disconnected; the display will indicate a temperature of -11° C.

The machine is locked after one hour if a sensor short-circuit is detected; in this case the display will indicate a temperature of +41° C.

#### Motor errors

With this function the current motor errors are displayed for approximately 1 second.

Scrolling through all motors that currently have errors is automatic

#### Note:

By restarting the machine any blocked motors are detected as not present.

### Motor status

This function is used to read the last failure that occurred in each spiral, even if the machine configuration has an empty position.

A motor can be in one of the following conditions:

- motor functioning;
- motor not present; when the motor is not detected at machine start-up.
- motor disconnected; when a motor detected at machine start-up is not detected during a selection.
- motor blocked; when the positioning button is not operated within the “timeout”.
- empty spiral; when, with the dispensing control installed, no dispensed product is detected.

#### Note:

By restarting the machine any blocked motors are detected as not present.

#### RESET

By confirming this function all current failures will be reset.

# PROGRAMMING PARAMETERS

## CASHCASH

This set of functions controls all parameters regarding the payment systems and the sales prices.

### SELECTION PRICES

Four different prices can be set for each selection according to the programmed time bands for when the time table option is set.

For each of the 4 time bands prices (0 to 65,535) can be programmed globally (same price for all selections) or for the single selections.

Should the majority of products be sold at the same price, it will be convenient to set the price globally and then change the figure of the selections with different prices.

### TIME BANDS

Four programmable time bands are provided for selling products at different prices.

The time periods are programmable for beginning and end time by hours (00 to 23) and minutes (00 to 59).

If the values for start and end of the time band are set to 00.00 the time period is disabled.

The reference time is kept by an internal clock, programmable as:

day/month/year week-day 1-7

and then

hour/minutes/seconds.

### COIN MECHANISMS

It is possible to decide which of the payment system protocols available are to be enabled for the functions.

The available payment systems are:

- Executive
- Validators
- BDV
- MDB

By selecting one of the systems it is possible to control its functions.

### EXECUTIVE

The following payments systems are available for the Executive system:

- Standard
- Price Holding
- Coges
- U-Key

### VALIDATORS

When the "Validat. Lines" (line setting) function of the "Technician" menu is displayed, the value of the 6 validator coin lines can be changed.

## BDV / MDB

The BDV and MDB protocol menus are relatively similar. The following structure shows the differences.

### Type of vending

Setting the operating mode for multiple or single dispensing. With multiple dispensing, the change is not automatically returned after a successful selection, however the credit is available for further selections. When pressing the coin return button, the available credit is returned if its value is lower than the maximum change value.

### Credit control

This function enables/disables the return of credit if no selections are made.

If enabled, this function will hold the credit until the first selection has been made. If however a selection fails for any reason, the change will be returned if requested.

### Maximum credit

This function is used to define the maximum accepted credit.

### Maximum change

It is possible to set a limit to the total amount of change returned by the coin mechanism when pressing the coin return button or after a single dispensing serving.

The value can be 0 to 250 basic coins. Any credit exceeding the amount programmed with this function will be cashed.

### Accepted coins

It is possible to define which, among the coins recognised by the validator, are to be accepted.

Check the label on the coin mechanism for the correct coin to value matching, indicating the position of the coins.

### Rejected coins (BDV only)

This function programs the rejection of coins when in "exact amount" mode.

Check the label on the coin mechanism for the correct coin to value matching, indicating the position of the coins.

### Disabled coin return (MDB only)

This function disables the return of a specific coin.

### Dispensing buttons (BDV only)

This function enables or not the buttons on the coin mechanism used to release the coins in the change return tubes.

### Value of "exact amount" (BDV only)

This value defines the combination of empty coin tubes, setting the coin mechanism in "exact amount" mode. The possible combinations of empty coin tubes are indicated below.

For greater simplicity, the combination is described with reference to tubes A, B and C, where tube A receives the lower value coins and tube C the greater value coins.

0	=	A or (B and C)
1	=	A and B and C
2	=	A and B only
3	=	A and (B or C)
4	=	A only
5	=	A or B only (default)
6	=	A or B or C
7	=	A or B only
8	=	A or C only
9	=	B and C only
10	=	B only
11	=	B or C only
12	=	C only

### C.P.C. devices (BDV only)

It dialogues with the coin mechanism if devices are installed or removed from the serial interface (C.P.C.-type devices - the monitoring unit is always enabled by default).

### Minimum level of tubes

It brings forward the "Insert exact amount" message for the user, by adding a number of coins between 0 and 15 to the programmed number of coins, to set the "full change tubes" status.

### Free Vend (BDV only)

Most payment systems with the BDV protocol control the free vend function.

However, there are some payment systems without such function.

In this case, if free selections are to be dispensed, free vending must be enabled with VMC (vending machine control, disabled by default) and the price of the selections must be set to zero.

### Immediate change

Normally, the amount of credit inserted for a selection is cashed after the machine sends the message "Selection successful".

When this function is enabled, disabled by default, the cash message is sent at the beginning of dispensing.

### Change tubes control

By accessing the "Tube control" function the change tubes can be filled or released manually.

Confirm refilling, and the display will indicate "Credit: —" which is the value of money available in change the tubes; insert the desired coin into the selector and the display will indicate the value of money available in the change tubes.

When confirming releasing, it will be possible to decide which tube to release. Each time the confirm button "➡" is pressed, a coin is ejected from the active tube.

### DECIMAL POINT

Press the confirm button "➡" to display the position of the decimal point, i.e.:

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

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

### FREE VEND BONUS

This function, compatibly with the national laws, permits the dispensing of a free product every certain programmed number of sold selections. The free selection in any case occurs at random within the programmed number. The machine sends an intermittent sound signal and the display indicates a congratulation message.

### SPIRALS/SELECTIONS

This set of functions is used to define the selection control parameters.

### MACHINE CONFIGURATION

This function is used to detect and store the number and position of the trays and of the selection motors.

### VIRTUAL SELECTIONS

This function is used to define a pair of selections that can be sold at a price different from the sum of the two selections, using a single selection number. 10 virtual selections can be programmed (70 to 79).

### RETURN OF VIRTUAL PRICE

This function is used to define, in the event of failed second dispensing in a virtual selection, not to cash the price of the second selection (only if an MDB payment system or validator are used). With other payment systems, it can be decided whether or not return the entire amount.



## SELECTIONS WITH TWO MOTORS

In order to dispense long products, dividers can be fitted so that two motors are used for each single selection. This function is used to assign the operation of two motors, specifying the number of the selection and of the second motor.

The lower motor number will be the selection number, while the selection number of the associated motor will be disabled.

### Important notice!

**After a failure to the motors for these selections, the machine configuration procedure in the “Spirals/Selections” menu must be followed.**

## PRODUCT CODE

This function is used to assign a 4-digit identification code to each spiral for processing the statistics.

## PHOTOCELL PARAMETERS

The vending machine can be fitted (as standard feature or as optional according to the model) with a device that, by means of photocells, detects the passage of dispensed products.

When this device is installed, the following can be monitored:

- Error before dispensing; when at the selection start the photocell beam is not read.
- Error after dispensing; when the motor fails during dispensing.
- Error for no product; when the device does not detect the passage of a product during dispensing.

In these cases the machine can be programmed to:

- set a rotation time for the spiral beyond the limit switch, to overcome any jamming;
- return or not the paid amount;
- block further selections for the involved spiral.

## DISPENSING COMPARTMENT LOCK PARAMETERS

The dispensing compartment can be fitted (as standard feature or as optional according to the model) with a device that locks the product compartment.

This function is used to decide whether to leave the compartment “always free” or “unlock it when dispensing”.

When set to “unlock upon dispensing” the slider is locked only for a certain length of time, programmable between 1 and 10 minutes, after each dispensing.

The function that places the machine out of service for a certain length of time, programmable between 1 and 10 minutes, in the event of forcing the lock, can be enabled. It is also possible to define whether to leave the slider “always free” or place the machine out of service in the event of faulty lock device.

## REFRIGERATION PARAMETERS

The operation of the refrigeration system can be programmed for the following functions.

### TEMPERATURE

The machine internal temperature during normal operation can be set directly in °C (8° to 20° C, 8° C by default). The temperature differential deviation defined with the previous function for starting/stopping the cooling unit is 2° C.

### DEFROSTING

This function allows for a defrosting cycle (switching the cooling unit off, regardless of the temperature) of 20 minutes. The time interval between cycles can be programmed from 0 to 99 hours (set to 6 hours by default); the time interval will be determined according to the relative humidity and the frequency of door openings. With the timing set to 0 the function is disabled.

### COLD UNIT ENABLE

The cooling unit operation can be disabled. The change will apply when restarting the machine.

## DISPLAY

This set of functions is used to manage the messages indicated on the external display.

### LANGUAGE

There is an option of language, selected among the available ones, to be used for the messages on the display.

### DISPLAYING MESSAGES FOR THE USER

It is possible to choose the kind of information to be indicated on the display during normal operation.




The following information can be displayed:

- Internal temperature
- Time



It is possible to choose the language for the displayed messages.


### PROMOTIONAL MESSAGE


#### Enable

When in this menu, press the confirm button “” to display the status of the message (enabled or disabled). The status can then be changed using the “” and “” buttons.

#### Setting

The 2-line message can be written using the “” and “” buttons to scroll through the available characters.

Press the confirm button “”, the first character will start blinking and can be modified.

The message is stored by pressing button “”.



## CUSTOMISING THE MESSAGES

The machine uses standard messages to give information to the user during normal operation (e.g. "Ready", "Take" etc.). When this function is enabled, the message can be changed in the same manner as setting the promotional message. Changes are stored as copies of the standard messages.

Therefore, if this function is disabled, the standard messages will be displayed again, but the changed messages are still stored.

## SELECTION COUNTER DISPLAY

This function is used to enable/disable the display of the total number of sales since the last statistic reset, during the start-up phase of the machine.

## LCD CONTRAST ADJUSTMENT

This function is used to adjust the display contrast; 5% minimum to 99% maximum (default).

## MISCELLANEOUS

This set of functions contains some sub-menus, used less frequently, which permit control of the functions described below.

## PASSWORD

### ENABLING THE PASSWORD

This function is used to enable the option of requesting the password to access the technician menu; the password request is disabled by default.

### ENTERING THE PASSWORD

It is a 5-digit numeric code which is required to access the technician menu.

The default value of this code is set to 00000.

## ENERGY SAVING

This function is used to disable dispensing in certain hours.

2 switch-off time bands can be programmed.

## DISPLAYING THE FILLER MENU

This function is used to determine the filler menu options to be left active or to be disabled (ON/OFF):

- Statistics
- Single selection prices
- BDV tube control
- Special selections
- Test

The reference numbers of the menus do not change even if some are disabled.

## STATISTICS

Data on the machine operations is stored in both general counters and relative counters, which can be reset without losing total data.

### PRINT

Connect an RS232 serial printer having a Baud rate of 9600, 8 data bit, no parity, 1 stop bit (the CITIZEN I-DP 3110-24RF 230A p/n 9210219 printer is recommended) to the serial port located on the push button board to print all of the statistics, and namely:

#### Total

- 1 - single selection counter;
- 2 - time band counter;
- 3 - failure counter;
- 4 - coin mechanism data.
- 5 - photocell errors;
- 6 - motor errors;

#### Relative

- 1 - single selection counter;
- 2 - time band counter;
- 3 - failure counter;
- 4 - coin mechanism data.
- 5 - photocell errors;
- 6 - motor errors;

The hardcopy printout will also contain the machine information, and namely:

- date/time of print
- machine name
- software version
- operator code
- machine code
- Installation date.

To connect the printer, do as follows:

- press the confirm print button "☛", displaying the message "Confirm?";
- connect the printer before confirming;
- press the confirm button "☛" again to start printing.

### DISPLAY

When pressing the confirm button "☛" the data described in the paragraph "Printing the statistics" is sequentially displayed.

### RESET STATISTICHE

Statistics can be reset for counters globally (all type of data) or selectively for:


#### Total

- selections
- failures
- coin mechanism data
- photocell errors;
- motor errors;

#### Relative

- selections
- failures
- coin mechanism data
- photocell errors;
- motor errors.

Press the confirm button “”, and the message “Confirm?” starts blinking.

Press the confirm button “”, the message “Working” is displayed for a few seconds and all statistics are reset.

**N.B.:** when resetting the total statistics, also the relative statistics are reset.

### **Coin mechanism Audit (BDV only)**

Data regarding the coin mechanism is an indication in real currency for:

Aud. 1 Money in the tubes  
Money present that moment in the change-giver tubes

Aud. 2 Money to the tubes  
Money sent to the change-giver tubes

Aud. 3 Money to the box  
Money sent to the coin-box

Aud. 4 Change return  
Total returned money

Aud. 5 Dispensed money  
Total money dispensed manually

Aud. 6 Excess  
Excess money. Extra amounts paid by the customer, which were not returned (in the even there is no money available for change).

Aud. 7 Total sales  
Total value of sales.

Aud. 8 Exact change  
Value of sales in the condition of “no change given”.

Aud. 9 Mixed dispensing  
Total value of dispensing paid differently; for example, also other payment types (C.P.C., token).

Aud. 10 Manual loading  
Money inserted in the coin mechanism by means of the manual loading function.

## **TEST**

### **SELECTIONS**

This function is used to simulate the normal dispensing of products without inserting any money.


Check the functioning of the spiral rotation by pressing the selection buttons.

### **MOTOR TEST**

It activates all motors in a sequence.

### **AUTOTEST**

A function to check, in a semiautomatic manner, the correct operation of some devices is implemented in the software.

Some checks occur automatically, others need the manual operation of the monitored component; button “” is pressed to go to the next check.

The monitored devices are:

#### **“Push-button panel”**


Press the button requested on the display, if functioning correctly. The request for the next button then is made.

#### **“Temperature”**

The value of the temperature detected by the probe is displayed.

In the event of disconnection the value -11.0 is displayed.



In the event of a short-circuit the value 41.0 is displayed.

“” to advance to the next check.

#### **“Buzzer”**

A series of sounds is emitted.

#### **“Compressor”**

The compressor is activated and deactivated with the buttons “” and “”.

#### **“Selections”**

All selections are activated in a sequence.



#### **“Coin mechanisms”**

Checking that communication with the coin mechanism is correctly and which validator lines are set as active.

#### **“Photocells”**

If the device detecting the passage of products is present, reading and interruption of the light beam are monitored.

#### **“Compartment lock”**

If the device locking the dispensing compartment at opening is present, the compartment opening is locked using buttons “” and “”.

## **MACHINE INFORMATION**

The machine can memorize a series of codes which will identify it when retrieving statistics.

More specifically the following can be stored:

- 6-digit operator code;
- 8-digit vending machine code.

### **INSTALLATION DATE**

This function is used to store the current date of the system, if set correctly, as installation date.

The date is printed when retrieving the statistics.

### **MACHINE CODE**

When the "Machine code" function is displayed the eight-digit numeric code identifying the machine can be changed (from the default 0).

### **OPERATOR CODE**

When the "Operator code" function is displayed the six-digit numeric code identifying groups of machines can be changed (from the default 0).

## **INITIALISING**

When the "Initialise" function is displayed the vending machine can be initialized, selecting the "country" (intended as configuration type) and the language, restoring all relative default data.

This function should be used in the event of a memory data error or when the software version is replaced/updated.

All statistic information will be reset.

When pressing the confirm button "➤" the country and the language are requested, therefore the message "Confirm?" is displayed. Press confirm button "➤" a second time and the message "Working" is displayed for a few seconds.

# MAINTENANCE

The maintenance operations described in this chapter should be carried out with the machine energised and therefore by qualified personnel, who are trained in the correct use of the machine and are aware of the specific risks of such condition.

To energize the system with the open door, simply insert the special key into the switch on the payment system compartment door (see Fig. 28).

**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 protective covers the external switch must be disconnected.**

## PRINTED BOARD FUNCTIONS AND INDICATOR LIGHTS

The C.P.U. (Central Processing Unit) board controls all users set for the maximum configuration of the spiral compartment and processes the input signals from the keypad, the payment system and the cooling unit sensors.

The board houses some LEDs which, during the machine operation, give the following indications:

- Green LED (3): blinks during normal operation of the C.P.U. board;
- Yellow LED (4): glows when 5 VDC are detected;
- Red LED (16): glows when, for any reason, the software is reset.

## CONFIGURING THE BOARD

This board is preset for the MDB protocol.

The 4 minidips for setting the SW3 coin mechanism (see Fig. 17) should all be set to OFF (Executive).

## SOFTWARE UPDATE

The machine is fitted with Flash EPROMs which can be electronically updated.

By means of a special program and suitable system (Personal Computer or similar) the machine management software can be updated without replacing the EPROMs.

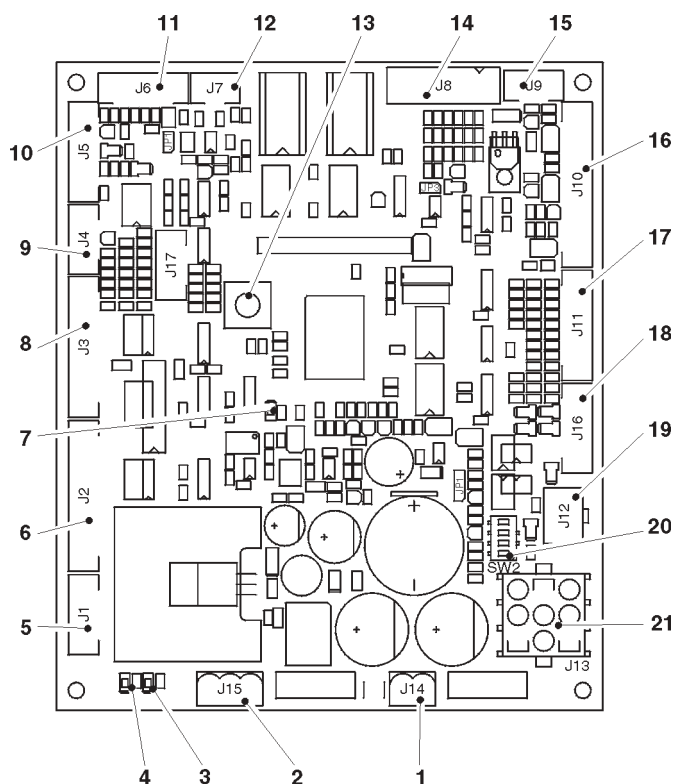


Fig. 17

- |    |  |
|----|--|
| 1  | - J14 Coin mechanism power supply      |
| 2  | - J15 Board power supply               |
| 3  | - Green LED: run (DL2)                 |
| 4  | - Yellow LED: 5 V DC (DL1)             |
| 5  | - Connection to push-button panel LED  |
| 6  | - J2 Spiral motor control              |
| 7  | - Red LED: CPU board reset (DL3)       |
| 8  | - J3 Input/output                      |
| 9  | - J4 not used                          |
| 10 | - J5 programmer (RS232)                |
| 11 | - J6 not used                          |
| 12 | - J7 Can bus                           |
| 13 | - Button not used                      |
| 14 | - J8 Validators                        |
| 15 | - J9 not used                          |
| 16 | - J10 LCD (Liquid crystal display)     |
| 17 | - J11 Push-button panel                |
| 18 | - J16 not used                         |
| 19 | - J12 Expansion for MDB                |
| 20 | - Coin mechanism setting Minidip (SW2) |
| 21 | - J13 Expansion for BDV/EXE            |

## CONFIGURING THE TRAYS

### PRODUCT SPACERS

The spacers are used when loading “narrow” products. The spacers should be fitted to contain products, without blocking them, towards the right-hand side of the compartment, so that they stay upright. According to the type of products, assess whether it is more convenient to use the short or long side of the brackets and in which of the five adjustment notches to connect them. Pull the spacer towards the front to close the space and push it back to open the space. There must be at least 3 mm between the spacer and the products.

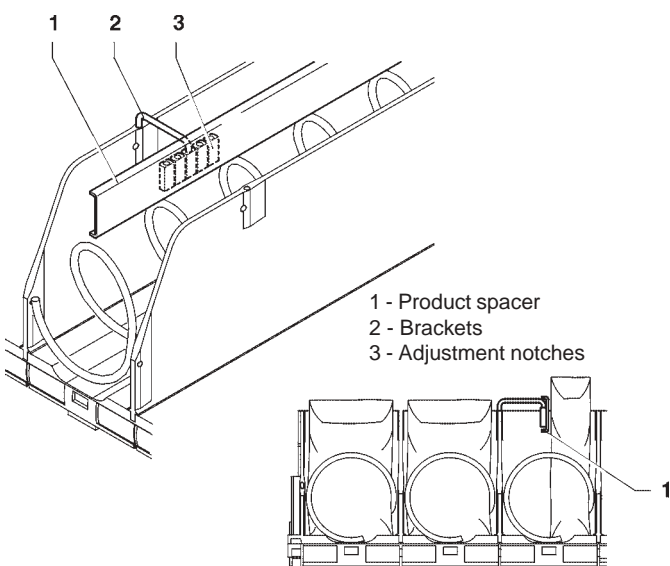


Fig. 18

### PRODUCT EJECTOR

The ejectors, right-hand and left-hand, must be used for products packed in bags, such as potato crisps or similar. As they are hooked at the end of the spiral they push the products further out. If necessary slide the ejector along the spiral wire to locate the most appropriate position according to the product being dispensed.

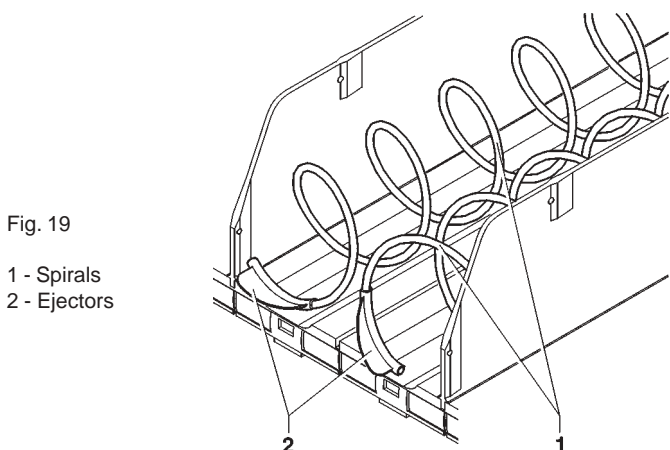


Fig. 19

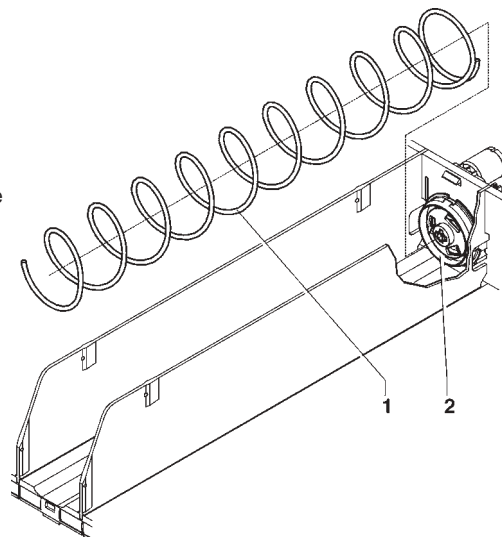
## REPLACING THE SPIRALS

In order to change the number and the set-up of the product holders, proceed as follows:

- Slide out the concerned tray.
- Rotate the spiral in the opposite direction to the ejection rotation, holding the plastic support flange still, to separate the two parts and fit the other spiral.
- Fit the new spiral assembly proceeding in the opposite direction, ensuring that the spiral is positioned correctly

Fig. 20

- 1 - Spiral  
2 - Plastic flange

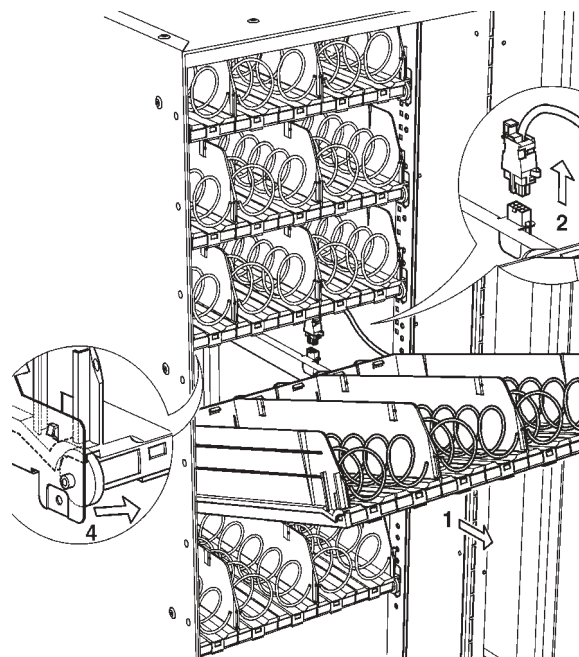


## REMOVING THE TRAYS

To replace the trays proceed as follows:

- Slide out the tray to be modified;
- remove the electrical connector from the tray;
- lift the tray to unblock the retaining slide.
- To fit a new tray, proceed in the reverse order.

Fig. 21



## CHANGING THE NUMBER OF TRAYS

The vending machines are supplied with 6 trays. It is however possible to bring the number of trays to 5, proceeding as follows:

- Disconnect the plug from the power supply.
- Remove all trays from the machine.
- Move the guides (see Fig. 22) placed on the side supports, except the first ones at the bottom which stay in the same position.
- Carry out the same operation for the connectors, placed at the bottom of the cabinet.
- Remove the pair of guides not used.
- Replace the 5 trays, ensuring that the connectors are inserted properly.
- Secure the removed cables, as not to be in the way of other trays and cables.
- Reprogram the machine.

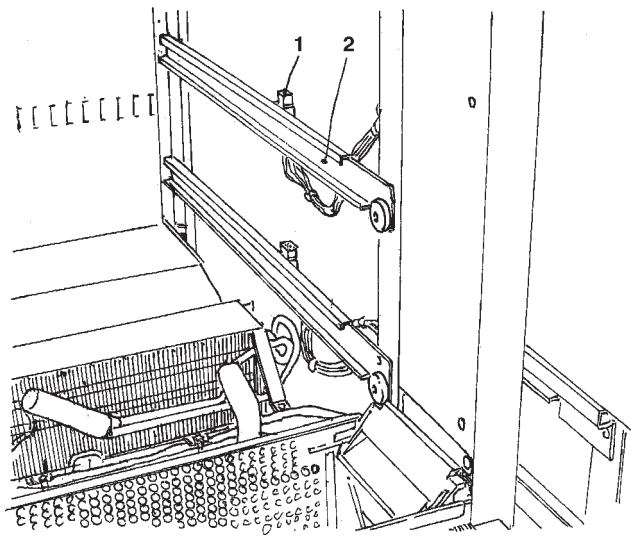


Fig. 22

- 1 - Tray connector
- 2 - Tray guide

## CHANGING THE TRAY CONFIGURATION

The configuration of the spirals on each tray can be changed. To go from two selections with single spirals to one selection with double spirals, do as follows:

- Remove the tray to be modified.
- Remove the centre wall, pushing it towards the back and then lifting.
- Remove the spirals, and the flanges, from the two motors.
- Disconnect the left-hand side motor from the cable and remove it from the tray. In its place, fit the bush and pin bush.
- Install the right-hand and left-hand spirals with the same pitch onto the new flanges (right and left are identical), fitted with a cogged wheel, and then connect the right-hand one to the motor still on the tray and the left-hand one onto the previously installed bushes. The two cogged wheels must mesh.
- Remove the price labels and the product holders no longer used, and if necessary update the price labels still in use.
- Program the new selections with the desired price.
- Test the modified selections, to be sure of their correct operation.

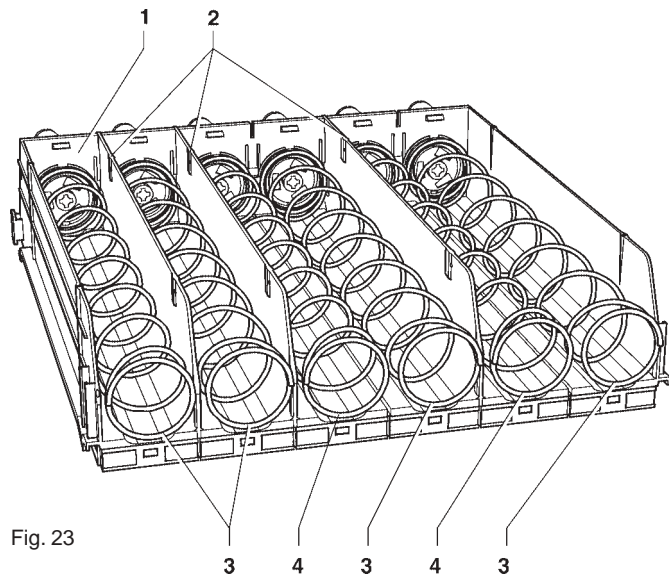


Fig. 23

- 1 - Tray
- 2 - Mobile walls
- 3 - Right-hand spiral
- 4 - Left-hand spiral

**N.B.:** The selection numbers are formed by two figures; the first figure refers to the tray number, counting from the top (1-6), the second figure refers to the spiral number, counting from the left (0-5).

The selection number to which the motor is connected will therefore be formed by the tray number plus the wire code number.



## POWER SUPPLY UNIT

Fuses, switch and connectors positioned at the front of the power supply unit have the functions indicated below.

**When replacing any fuses the power supply cable must be disconnected from the mains.**

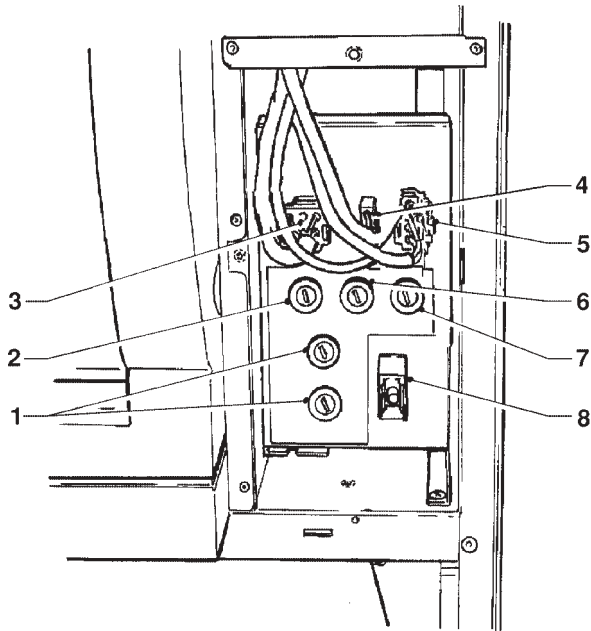


Fig. 24

- 1 Line fuses
- 2 Transformer primary winding protection fuse
- 3 CPU board power supply connector
- 4 Lamp connector
- 5 Compressor and fan connector
- 6 Secondary winding protection fuse
- 7 Secondary winding protection fuse
- 8 Payment system compartment switch

## ACCESS TO THE COOLING UNIT

If for any reason the cooling unit need to be accessed from the machine, do as follows:

- remove the last tray;
- remove the anti-theft grille;
- remove the photocell supports, if installed;
- undo the fastening screws from the product dispensing compartment and remove it.
- For reassembly, proceed in the reverse order.

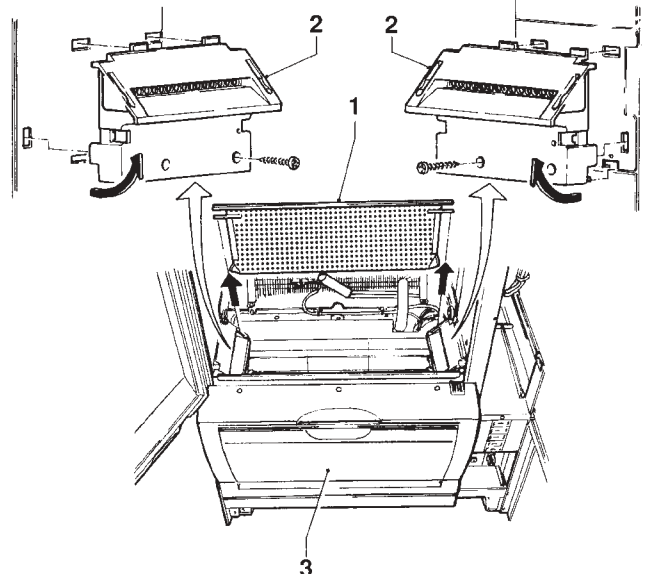
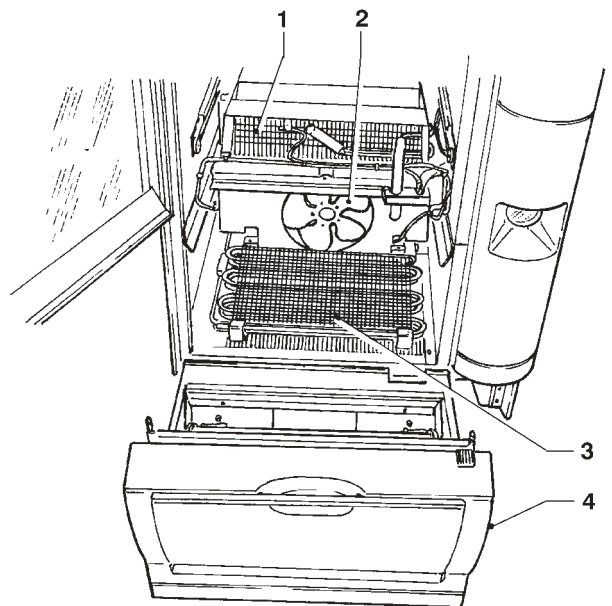


Fig. 25

- 1 Anti-intrusion grille
- 2 Photocell support
- 3 Dispensing compartment

Fig. 26

- 1 Evaporator
- 2 Fan
- 3 Condenser
- 4 Dispensing compartment





# PROGRAMMER (OPTIONAL)

(To be implemented)

## AUTOMATIC SETUP TRANSFER

With the programmer device, the programming routines set and transferred to other machines can be read from a reference vending machine.

This data is preserved also when the programmer is disconnected thanks to two 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 differentiate among the 20 set-ups available those containing data, a special character is displayed, and namely:

< - > = Setup free

< □ > = Setup with data.

When creating the setup only those programs containing data are available; if no setup contains data, the message "no data available" will appear on the programmer display.

To connect the programmer to the machine the special holder is to be used (see Fig. 18) connecting the special cable to the connector of the C.P.U. board (see Fig. 19). Then enter the "programming" mode.

At this point, inserting the programmer in its holder, connection will take place automatically, and the setup menu will be shown on the programmer display:

- press key **Ⓔ** to access the displayed function;
- press key **Ⓕ** to display the next function;
- press key **Ⓖ** to display the previous function.

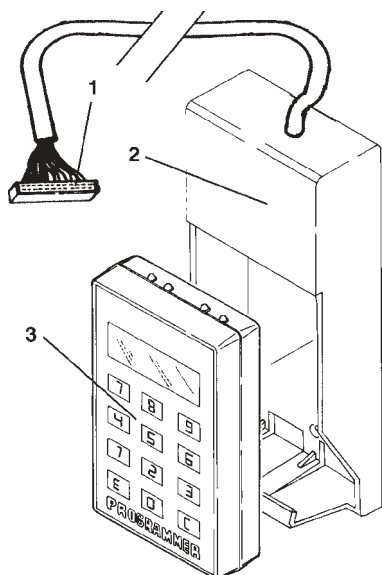
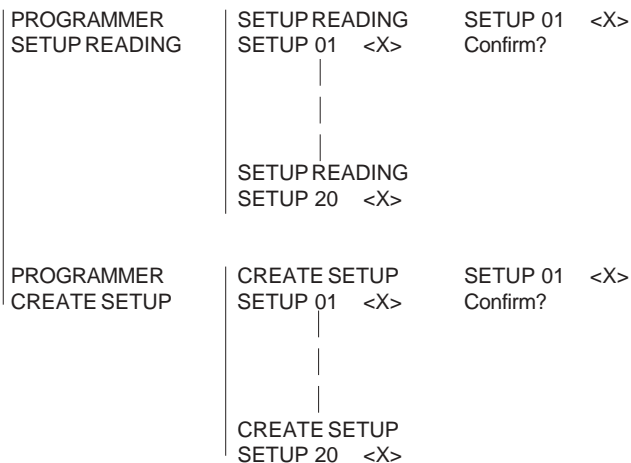


Fig. 27

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



## TRANSFERRED DATA

The programming data which are transferred are as follows:

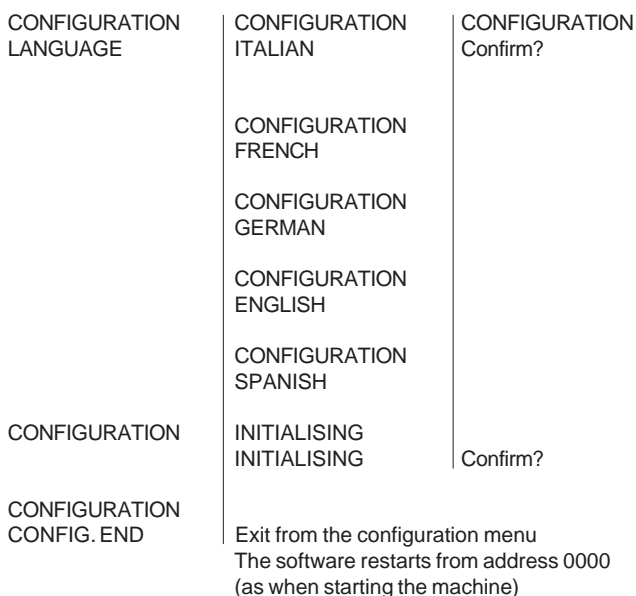
- Price table
- Prices/selection status
- Decimal point position
- Discount data
- Time bands
- Refrigeration parameters

## CONFIGURING THE LANGUAGE

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

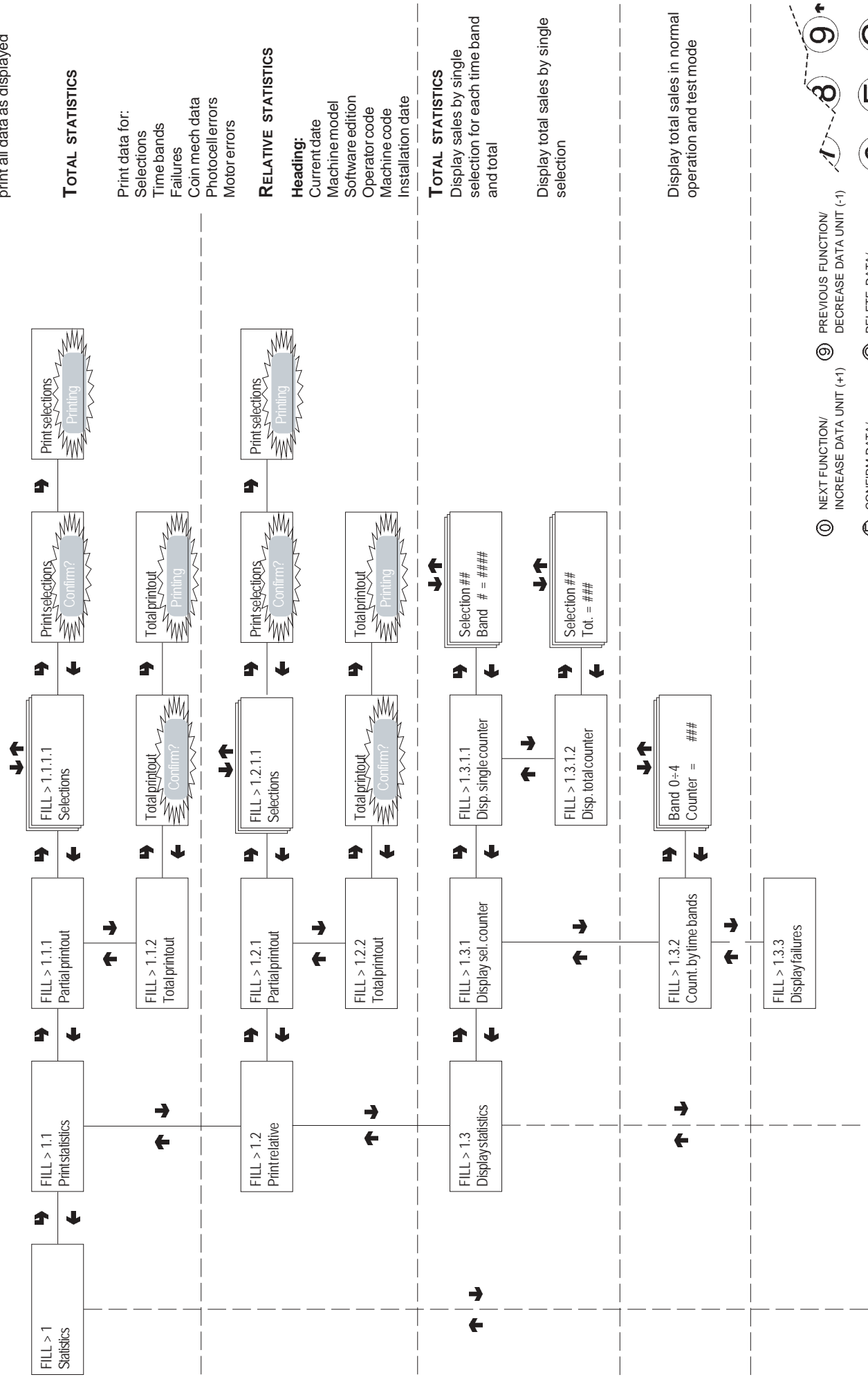
To activate the "Programmer configuration" mode do as follows:

- insert the programmer in its holder and start the machine.
- wait about 10 seconds and then press programmer keys **Ⓖ** and **Ⓕ**; the first function will be displayed:



# Filler menu - Summary

With the printer connected  
print all data as displayed



## TOTAL STATISTICS

Print data for:  
Selections  
Time bands  
Failures  
Coin mech data  
Photocell errors  
Motor errors

## RELATIVE STATISTICS

Heading:  
Current date  
Machine model  
Software edition  
Operator code  
Machine code  
Installation date

## TOTAL STATISTICS

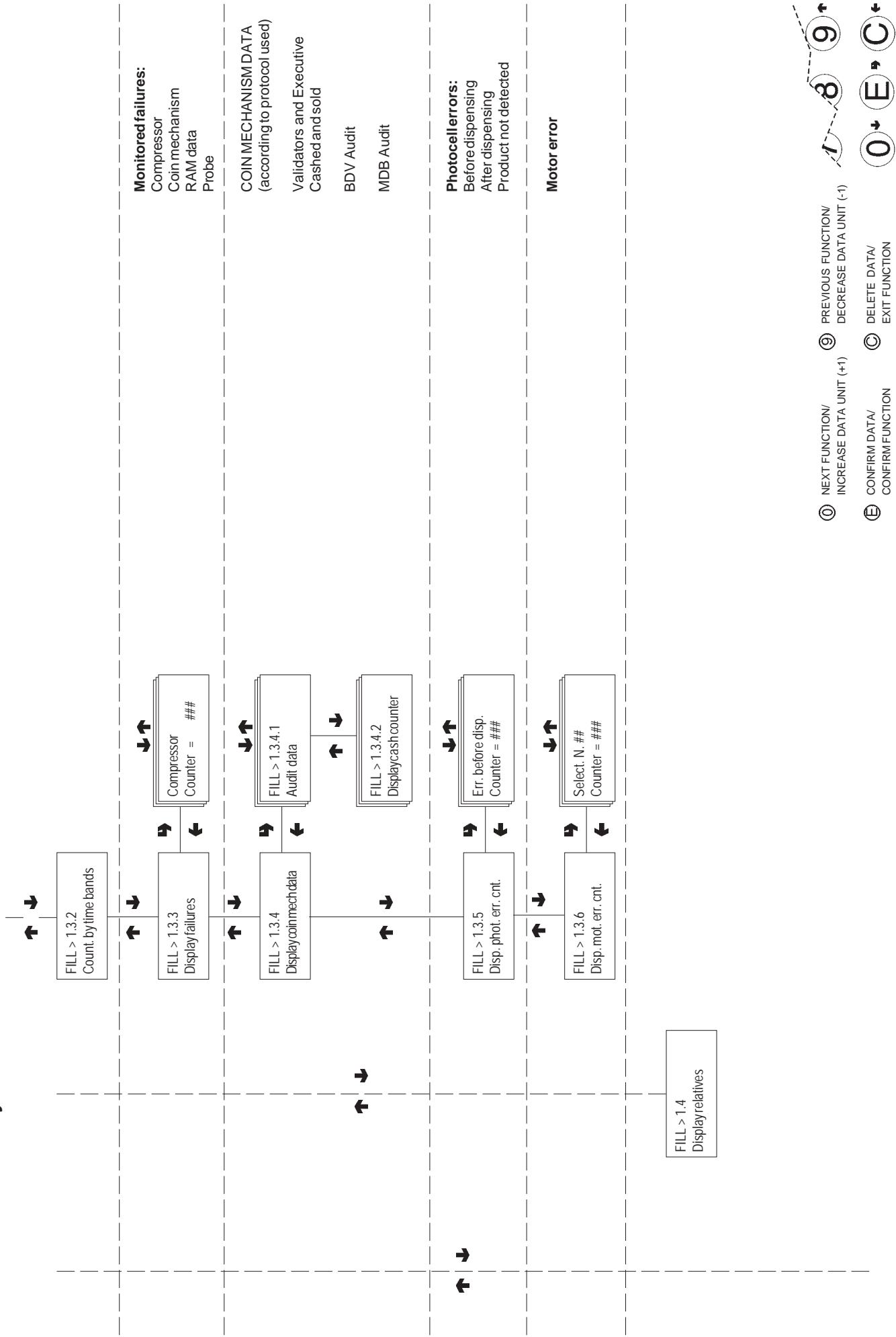
Display sales by single  
selection for each time band  
and total

Display total sales by single  
selection

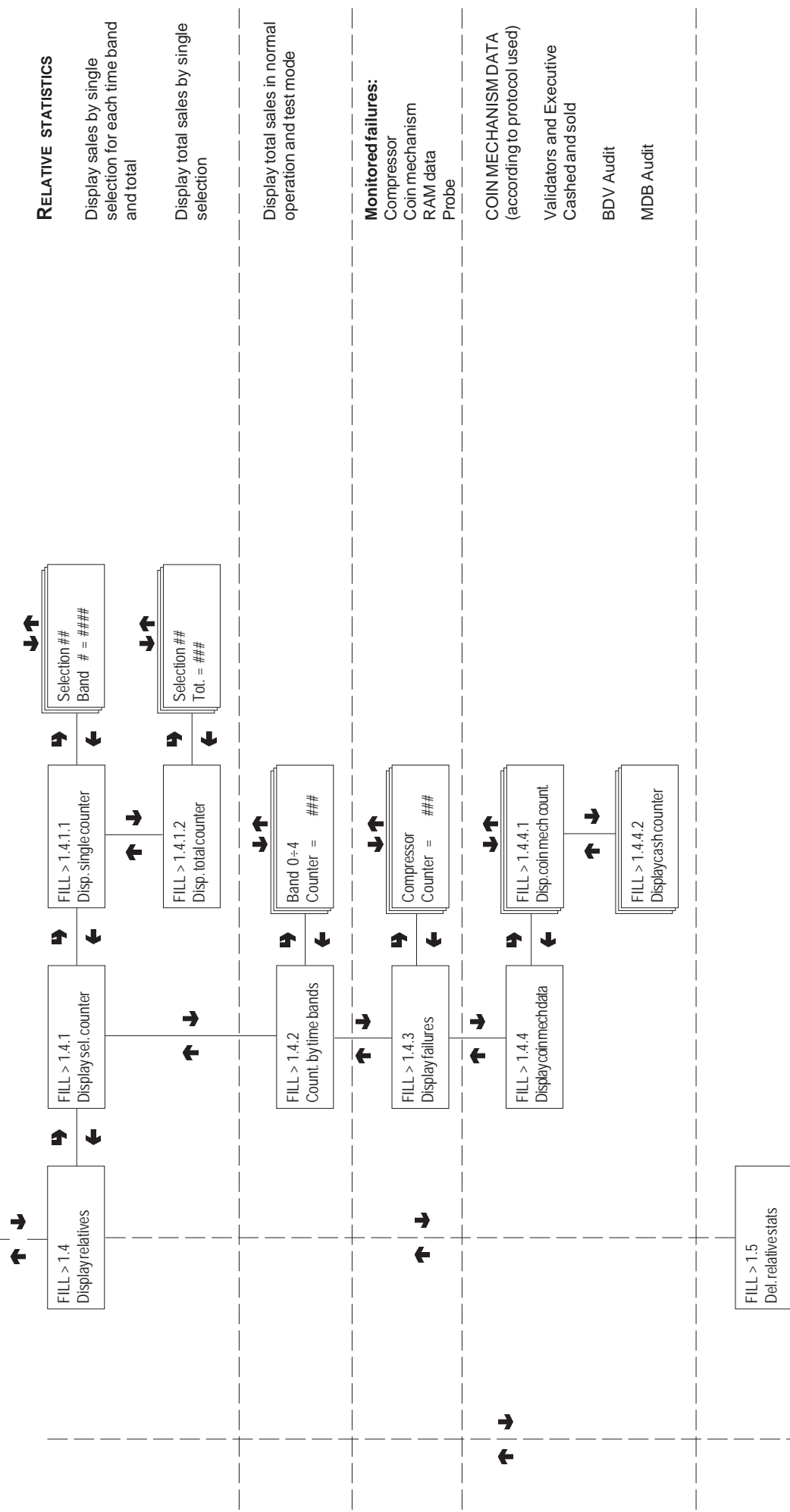
Display total sales in normal  
operation and test mode

- ⏪ NEXT FUNCTION/  
INCREASE DATA UNIT (+1)
- ⏩ PREVIOUS FUNCTION/  
DECREASE DATA UNIT (-1)
- ⏹ CONFIRM DATA/  
CONFIRM FUNCTION
- ⏴ DELETE DATA/  
EXIT FUNCTION
- 1 8 9
- 0 → E → C

# Filler menu - Summary



# Filler menu - Summary



## RELATIVE STATISTICS

Display sales by single selection for each time band and total

Display total sales by single selection

Display total sales in normal operation and test mode

## Monitored failures:

- Compressor
- Coin mechanism
- RAM data
- Probe

COIN MECHANISM DATA (according to protocol used)

Validators and Executive  
Cashed and sold

BDV Audit

MDB Audit

⊕ NEXT FUNCTION/  
INCREASE DATA UNIT (+1)

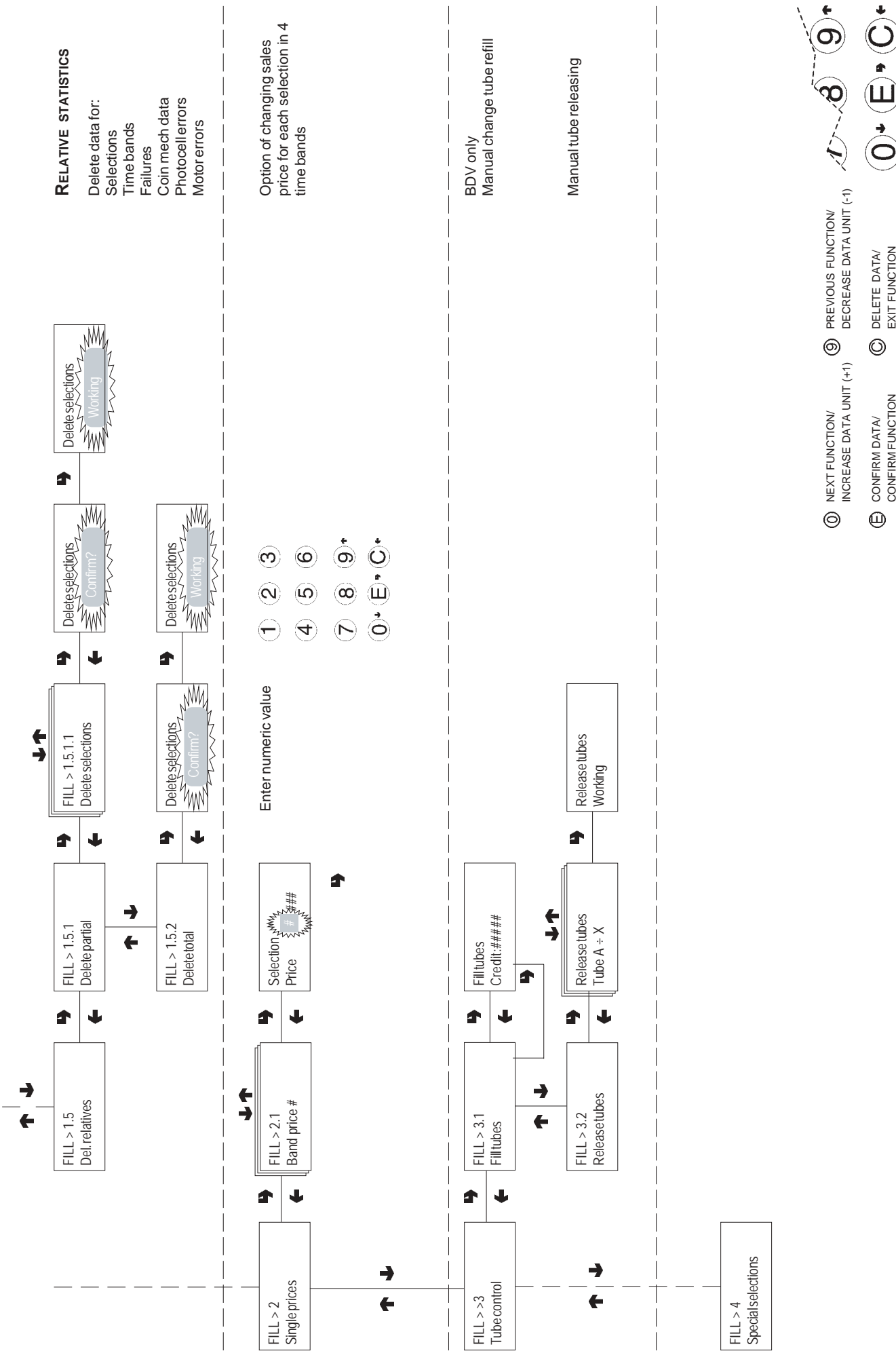
⊖ PREVIOUS FUNCTION/  
DECREASE DATA UNIT (-1)

⊙ CONFIRM DATA/  
CONFIRM FUNCTION

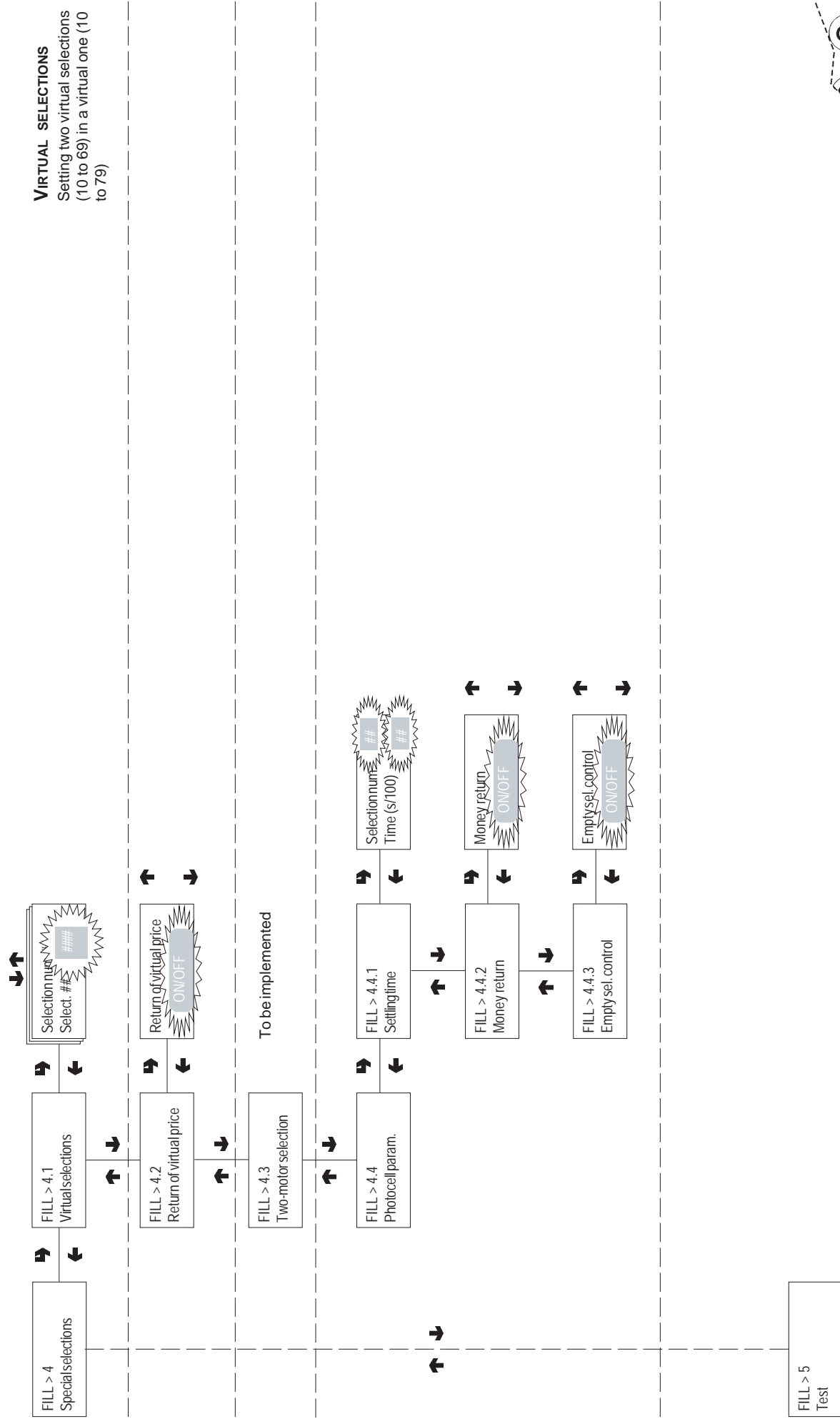
⊗ DELETE DATA/  
EXIT FUNCTION

0 → E → C

# Filler menu - Summary

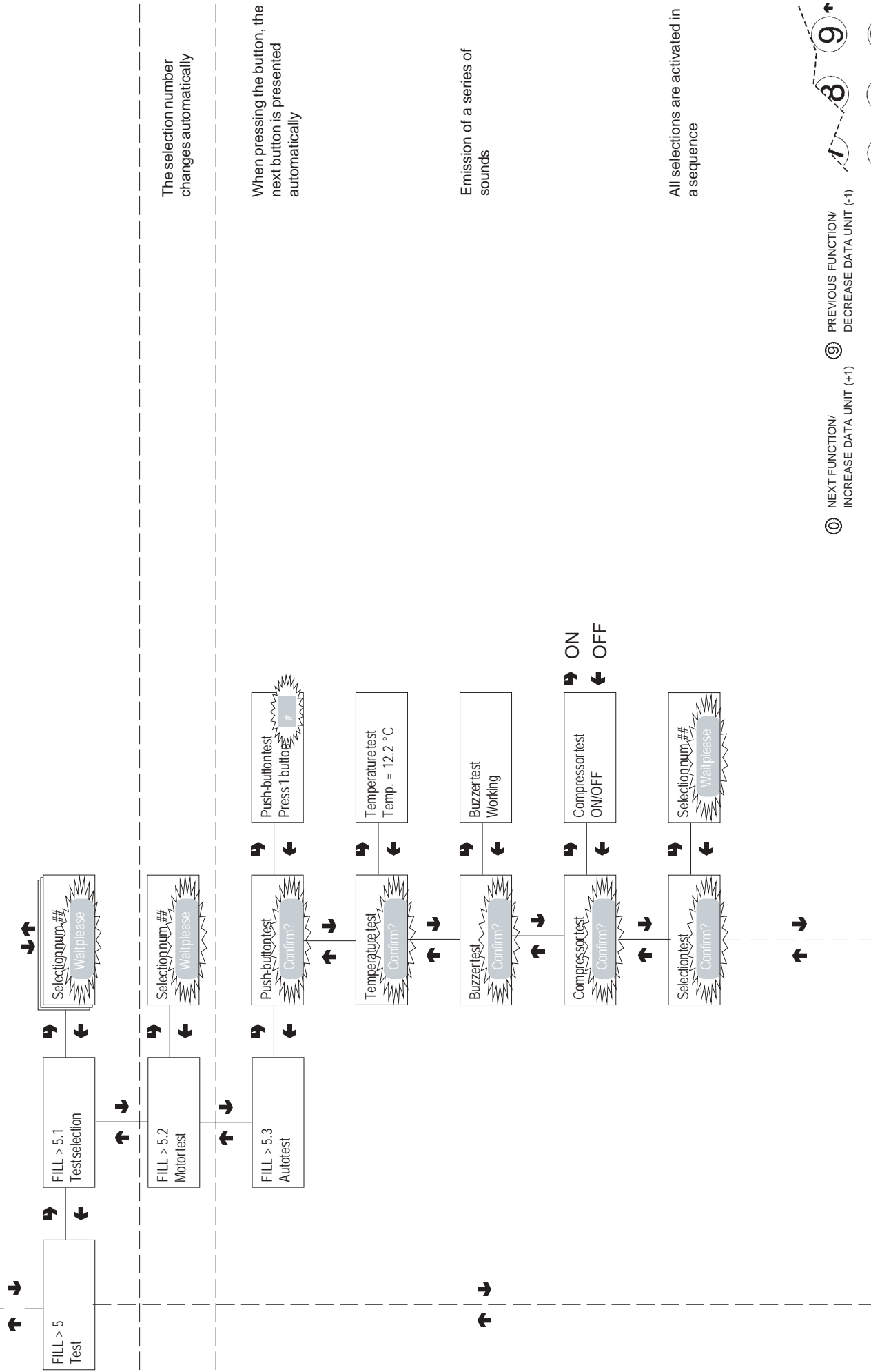


# Filler menu - Summary



① NEXT FUNCTION/ INCREASE DATA UNIT (+1)    ⑨ PREVIOUS FUNCTION/ DECREASE DATA UNIT (-1)  
 ② CONFIRM DATA/ CONFIRM FUNCTION    ⑩ DELETE DATA/ EXIT FUNCTION  
 ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

# Filler menu - Summary



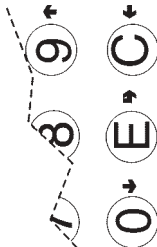
The selection number changes automatically

When pressing the button, the next button is presented automatically

Emission of a series of sounds

All selections are activated in a sequence

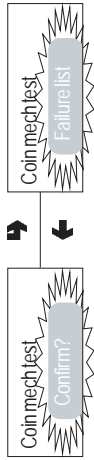
- ① NEXT FUNCTION/ INCREASE DATA UNIT (+1)
- ② PREVIOUS FUNCTION/ DECREASE DATA UNIT (-1)
- Ⓞ CONFIRM DATA/ CONFIRM FUNCTION
- Ⓞ DELETE DATA/ EXIT FUNCTION





# Filler menu - Summary

**WITH EXECUTIVE OR BDV COIN MECHANISM**  
 If the coin mechanism communicates it displays "OK"  
 or:  
 -  
 -



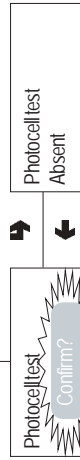
ALTERNATIVELY

**WITH A VALIDATOR**  
 Line two remains for approximately 2 seconds



Activating a validator line A - F

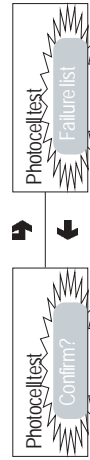
**WITH PHOTOCELLS DISCONNECTED**



ALTERNATIVELY

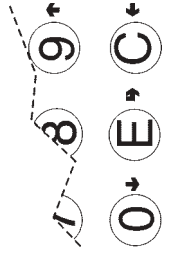
**WITH PHOTOCELLS**

If the light beam is interrupted within 2.5 seconds it displays "OK"  
 or  
 Error no product  
 If a failure is present:  
 Error after dispensing  
 Error before dispensing



FILL > 1  
 Statistics

- Ⓢ NEXT FUNCTION/ INCREASE DATA UNIT (+1)
- Ⓣ PREVIOUS FUNCTION/ DECREASE DATA UNIT (-1)
- Ⓤ CONFIRM DATA/ CONFIRM FUNCTION
- Ⓟ DELETE DATA/ EXIT FUNCTION



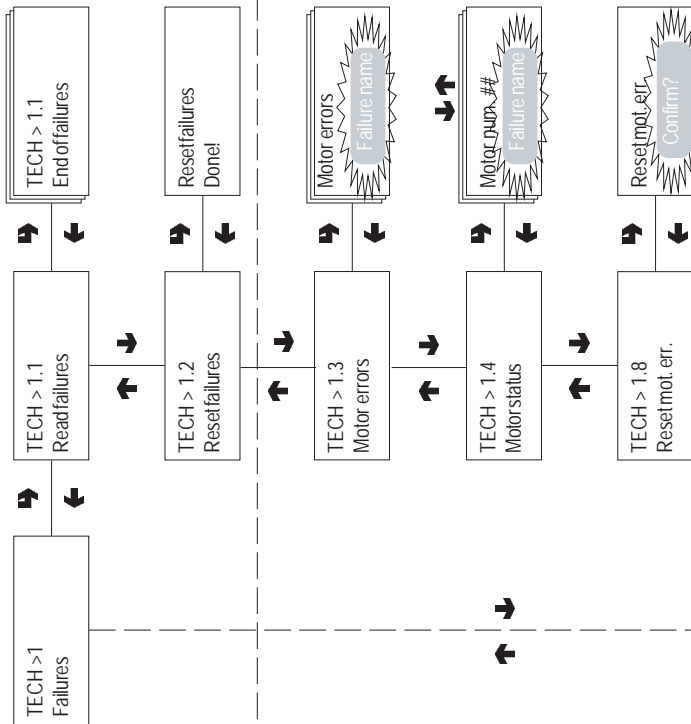
# Technician menu - Summary

## DISPLAYING FAILURES

### Monitored failures:

- Compressor
- Coin mechanism
- RAM data
- Probe

Time scrolling of present failures



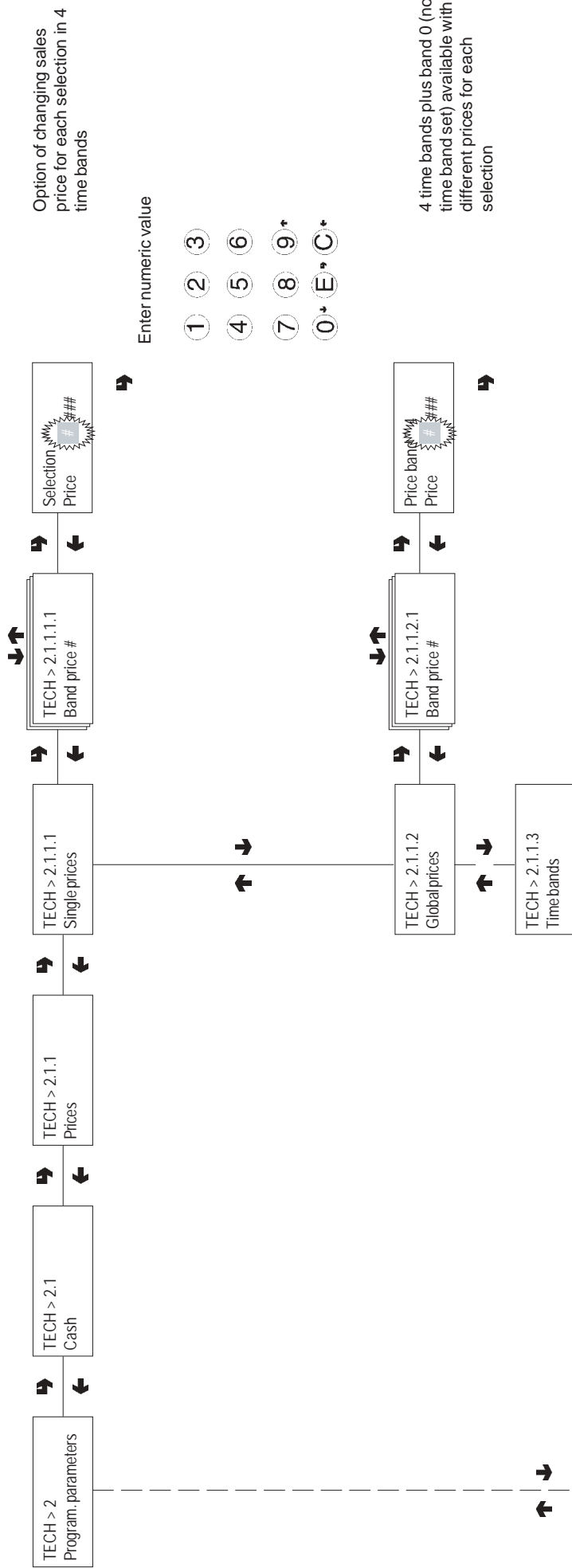
Time scrolling of present failures

### Possible motor conditions:

- OK
- Blocked
- Disconnected
- Not functioning
- Not present
- Empty selection

- ⊕ NEXT FUNCTION/  
INCREASE DATA UNIT (+1)
- ⊖ PREVIOUS FUNCTION/  
DECREASE DATA UNIT (-1)
- Ⓢ CONFIRM DATA/  
CONFIRM FUNCTION
- Ⓞ DELETE DATA/  
EXIT FUNCTION

# Technician menu - Summary



- Ⓜ NEXT FUNCTION/ INCREASE DATA UNIT (+1)
- Ⓝ CONFIRM DATA/ CONFIRM FUNCTION
- Ⓟ PREVIOUS FUNCTION/ DECREASE DATA UNIT (-1)
- Ⓞ DELETE DATA/ EXIT FUNCTION

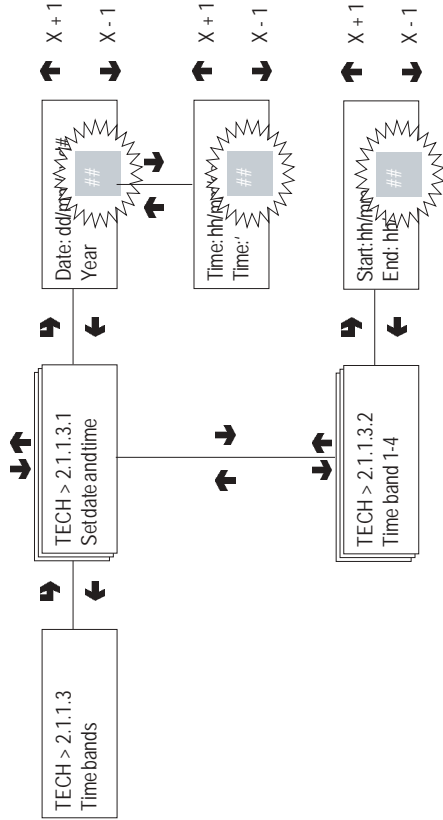
# Technician menu - Summary

## CLOCK

When confirming the blinking values, day, month, year and week day are entered one after the other. When confirming the week day, hour and minutes are displayed, which can then be changed and confirmed.

## TIME BANDS

When confirming the blinking values, hour and minute for start and end of time band are entered one after the other. If start and end values are set to 00.00 the time bands are deactivated.



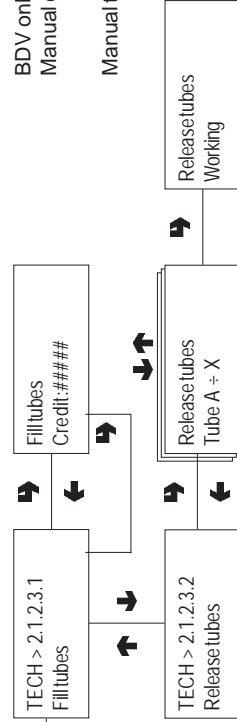
## AVAILABLE COIN MECHANISMS

Validators  
Executive  
BDV

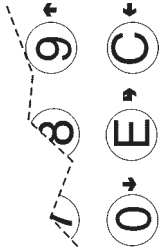


BDV only  
Manual change tube refill

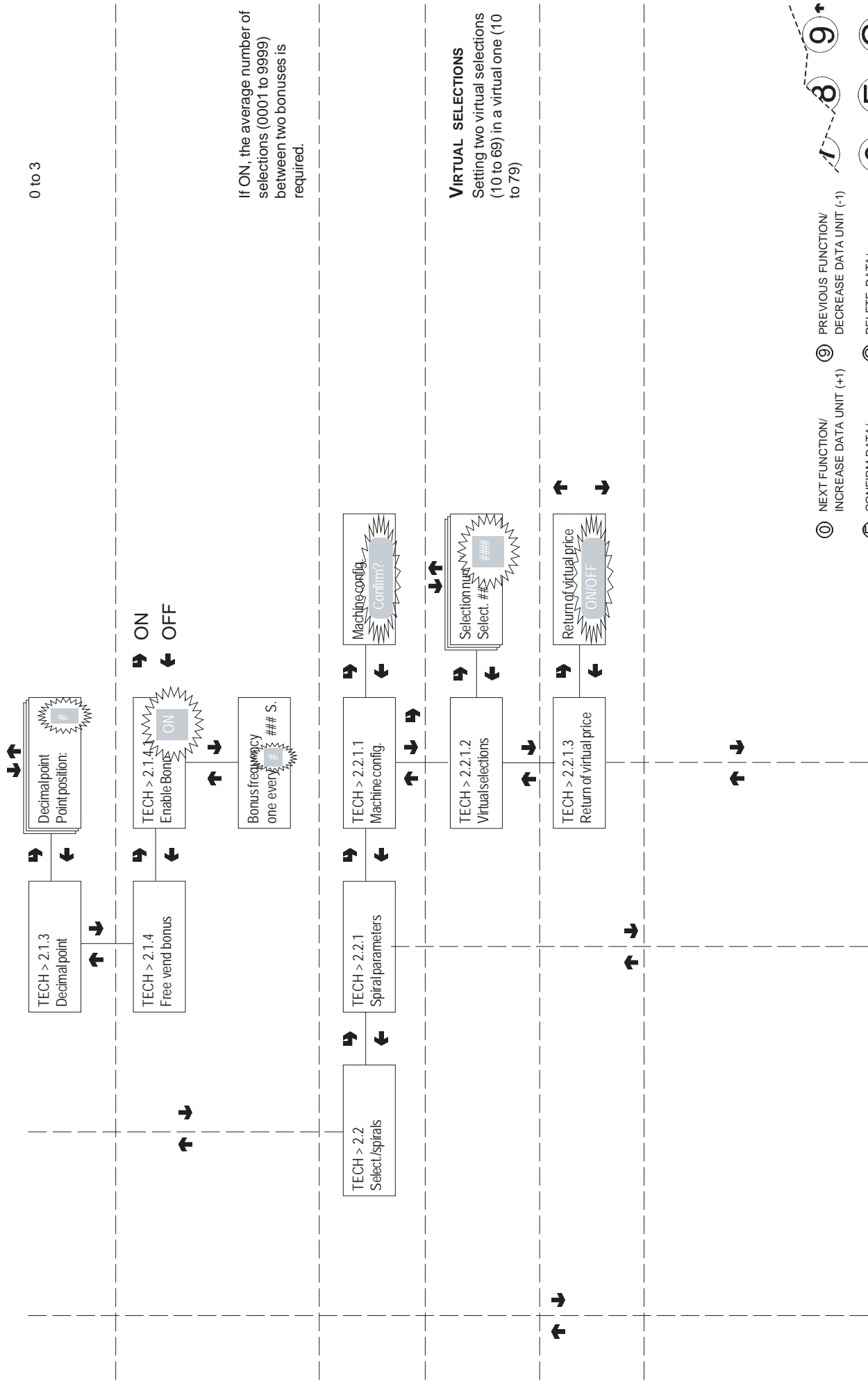
Manual tube releasing



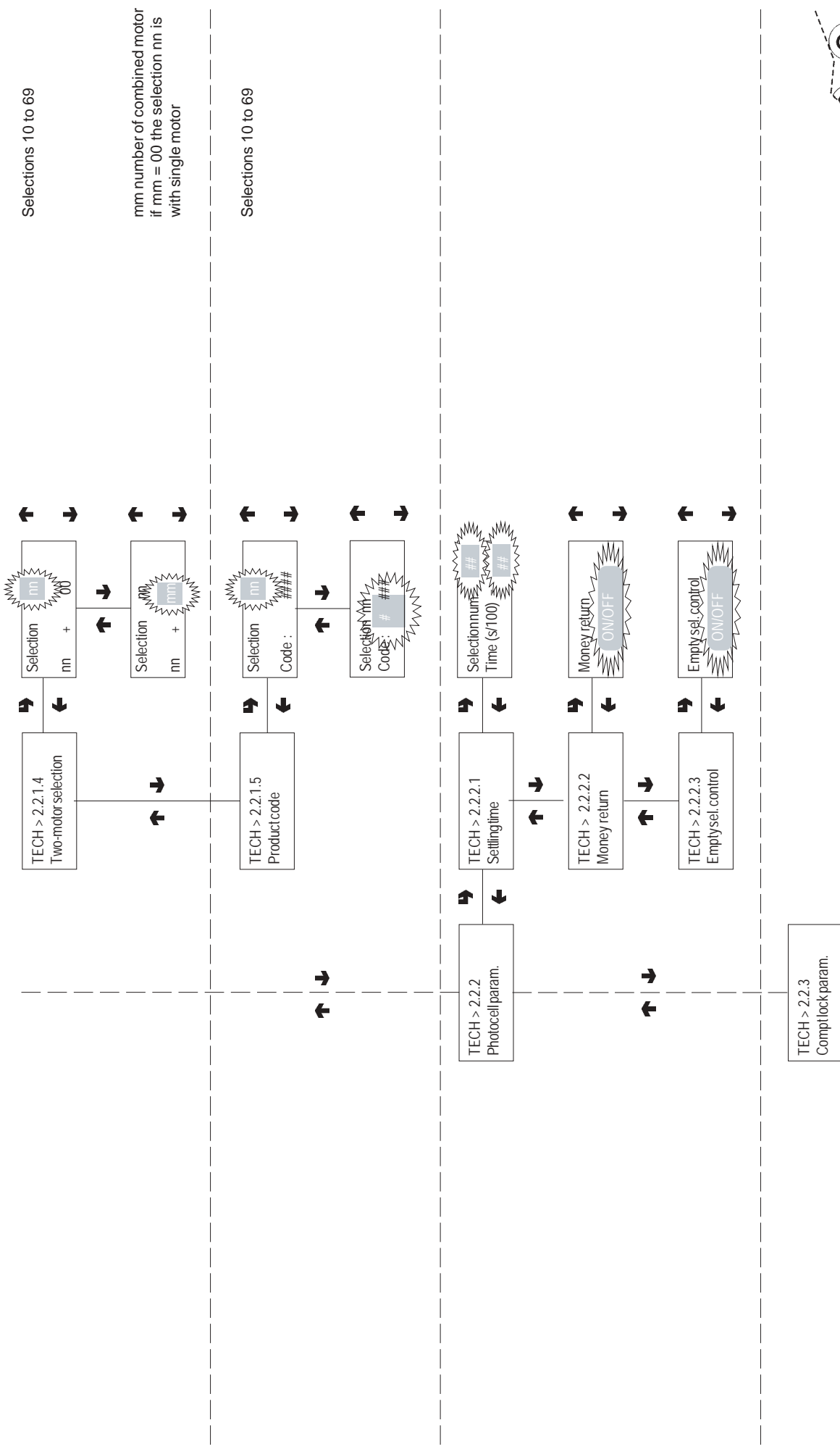
- Ⓜ NEXT FUNCTION/  
INCREASE DATA UNIT (+1)
- Ⓜ PREVIOUS FUNCTION/  
DECREASE DATA UNIT (-1)
- Ⓜ CONFIRM DATA/  
CONFIRM FUNCTION
- Ⓜ DELETE DATA/  
EXIT FUNCTION



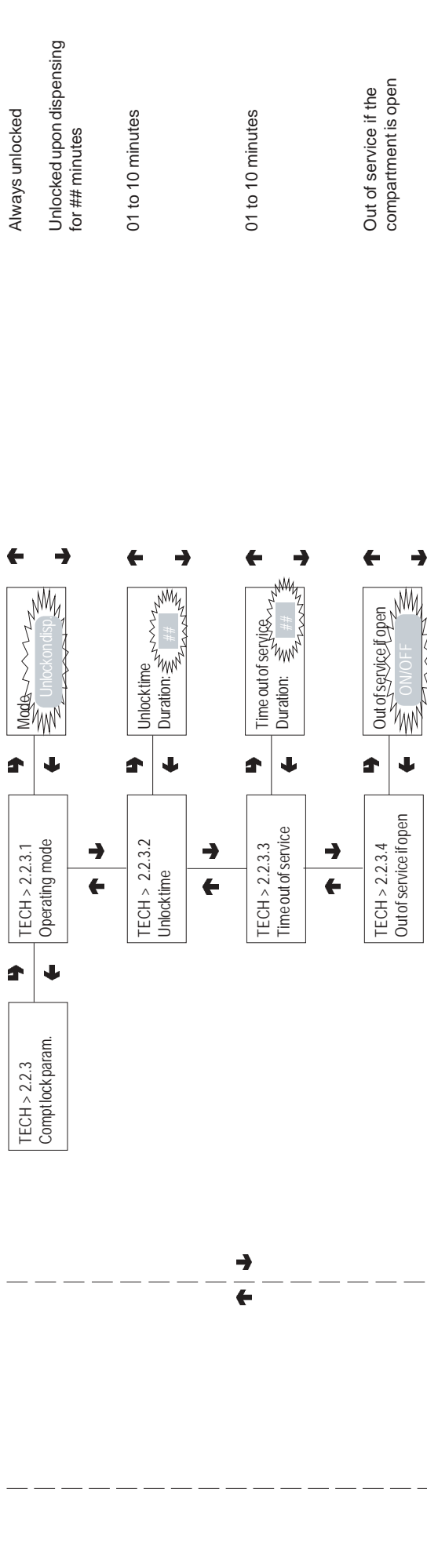
# Technician menu - Summary



# Technician menu - Summary



# Technician menu - Summary

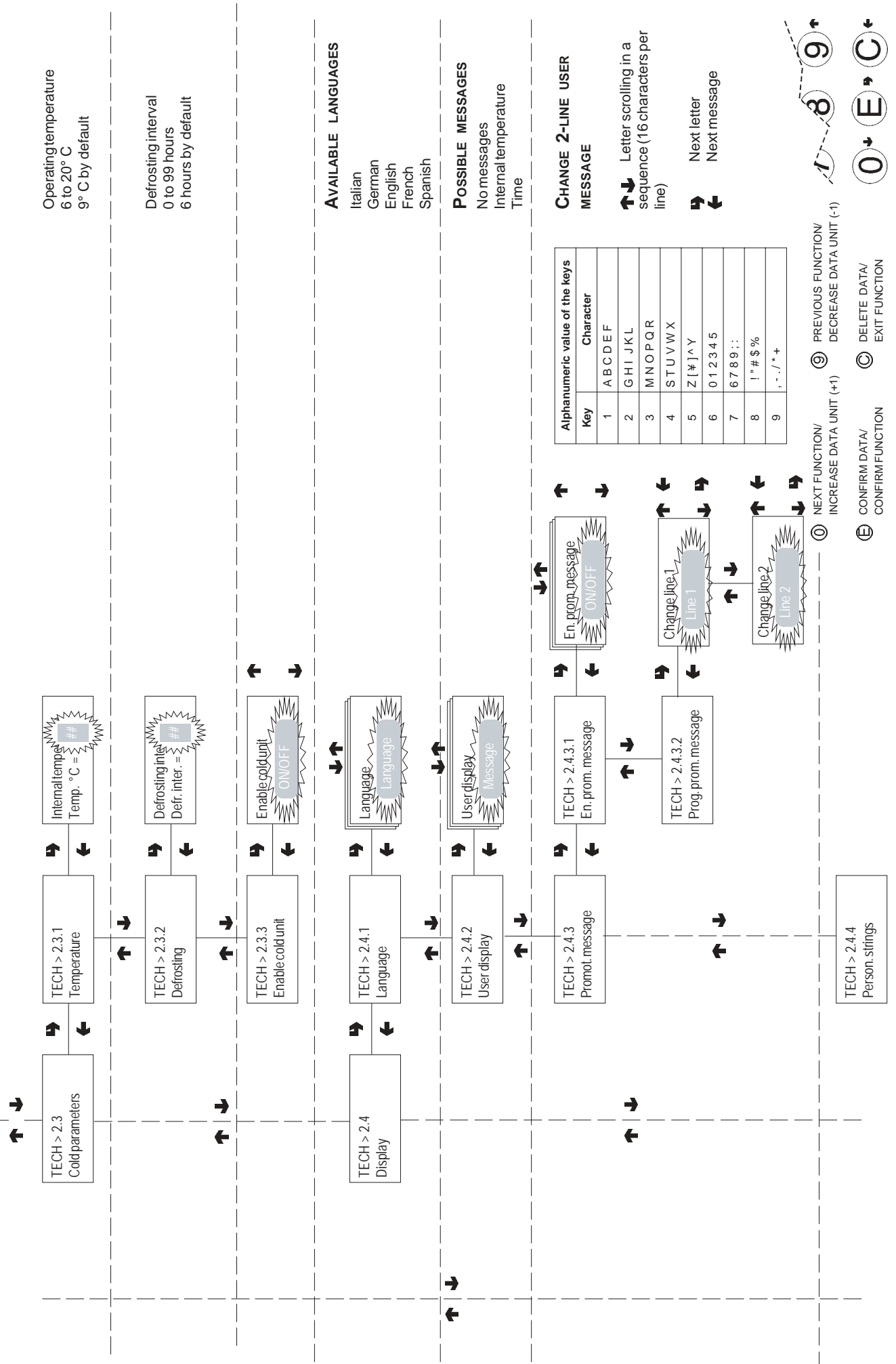


**UNLOCK DISPENSING COMPARTMENT**  
 Always unlocked  
 Unlocked upon dispensing for ## minutes  
 01 to 10 minutes  
 01 to 10 minutes  
 Out of service if the compartment is open

- Ⓢ NEXT FUNCTION/ INCREASE DATA UNIT (+1)
- Ⓣ PREVIOUS FUNCTION/ DECREASE DATA UNIT (-1)
- Ⓤ CONFIRM DATA/ CONFIRM FUNCTION
- Ⓦ DELETE DATA/ EXIT FUNCTION



# Technician menu - Summary



Operating temperature  
6 to 20° C  
9° C by default

Defrosting interval  
0 to 99 hours  
6 hours by default

### AVAILABLE LANGUAGES

- Italian
- German
- English
- French
- Spanish

### POSSIBLE MESSAGES

- No messages
- Internal temperature
- Time

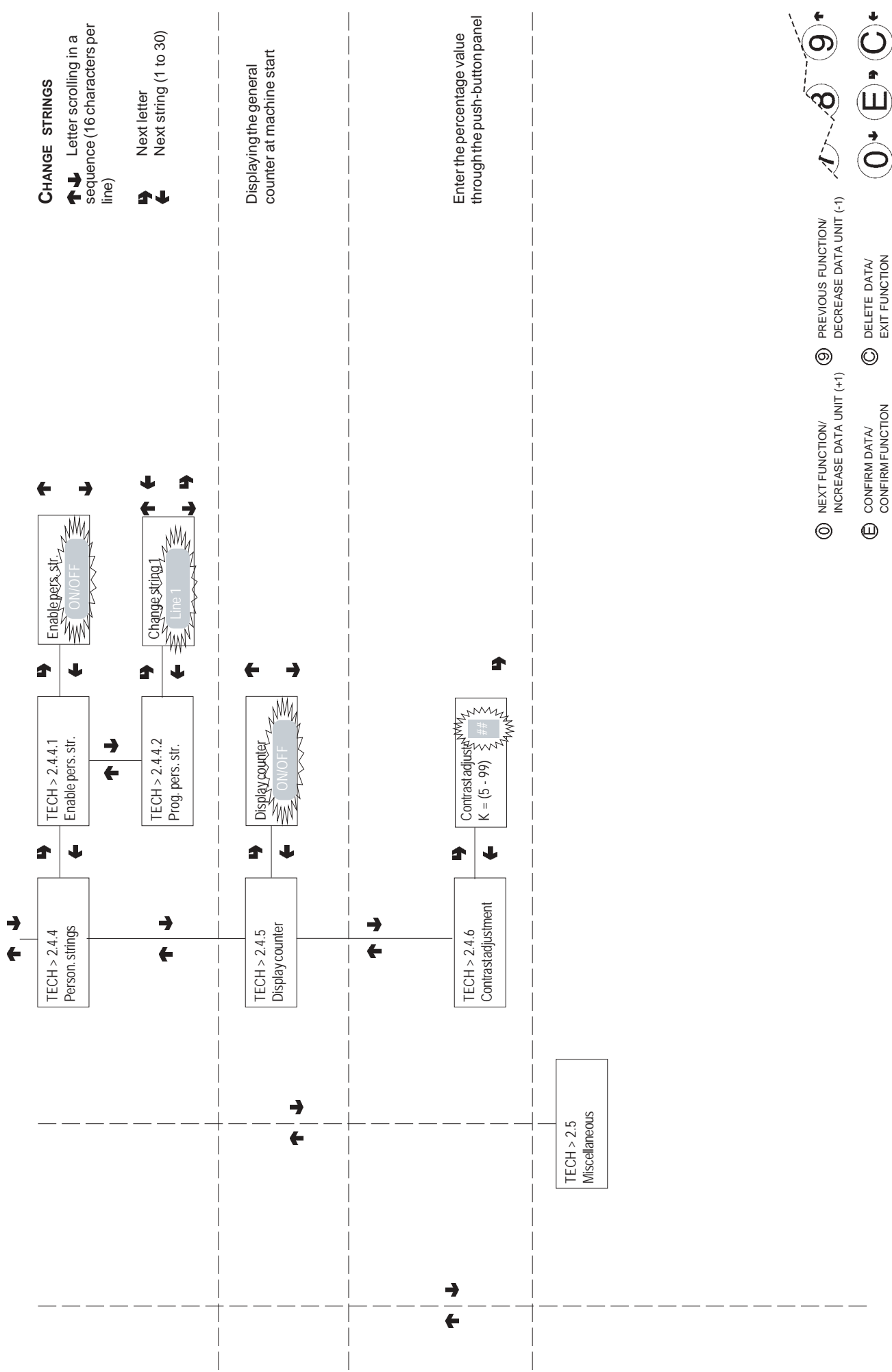
### CHANGE 2-LINE USER MESSAGE

- Letter scrolling in a sequence (16 characters per line)
- Next letter
- Next message

Alphanumeric value of the keys	
Key	Character
1	A B C D E F
2	G H I J K L
3	M N O P Q R
4	S T U V W X
5	Z [ * ] ^ Y
6	0 1 2 3 4 5
7	6 7 8 9 ; :
8	! " # \$ %
9	, . - / * +

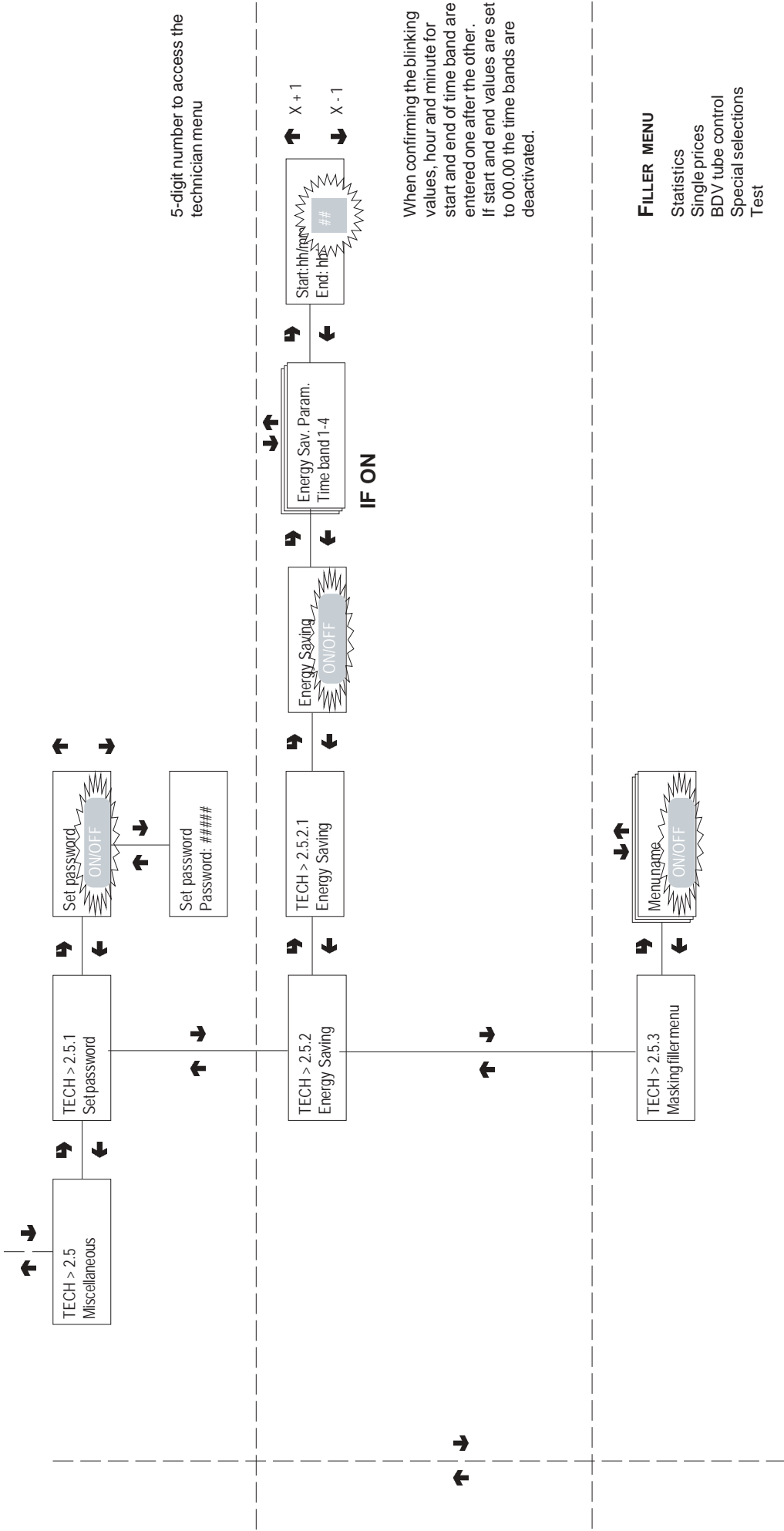
- ⏪ PREVIOUS FUNCTION/ DECREASE DATA UNIT (-1)
- ⏩ NEXT FUNCTION/ INCREASE DATA UNIT (+1)
- ⏹ CONFIRM DATA/ CONFIRM FUNCTION
- ⏸ DELETE DATA/ EXIT FUNCTION

# Technician menu - Summary



- ① NEXT FUNCTION/ INCREASE DATA UNIT (+1)
- ② PREVIOUS FUNCTION/ DECREASE DATA UNIT (-1)
- Ⓔ CONFIRM DATA/ CONFIRM FUNCTION
- Ⓕ DELETE DATA/ EXIT FUNCTION
- ⑧
- ⑨
- 0
- ➔ E ➔ C

# Technician menu - Summary



When confirming the blinking values, hour and minute for start and end of time band are entered one after the other. If start and end values are set to 00.00 the time bands are deactivated.

## FILLER MENU

- Statistics
- Single prices
- BDV tube control
- Special selections
- Test

① NEXT FUNCTION/  
INCREASE DATA UNIT (+1)

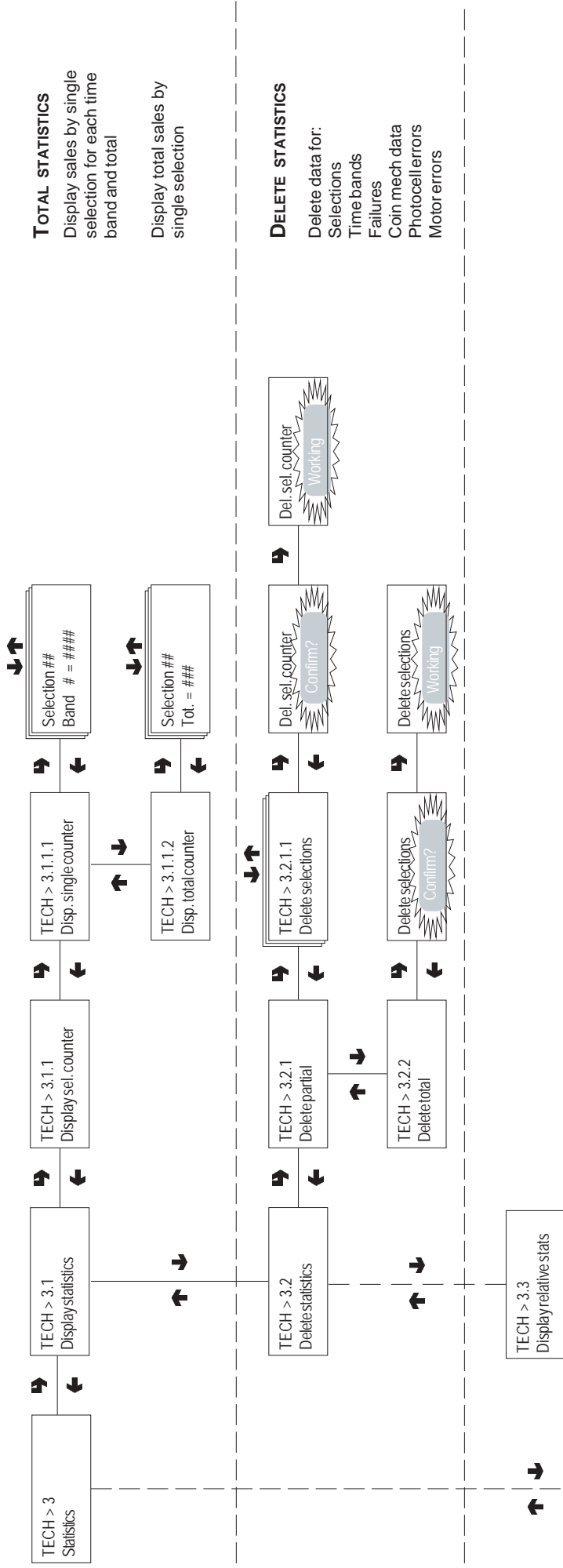
② PREVIOUS FUNCTION/  
DECREASE DATA UNIT (-1)

Ⓢ CONFIRM DATA/  
CONFIRM/FUNCTION

Ⓢ DELETE DATA/  
EXIT FUNCTION

0 → E → C

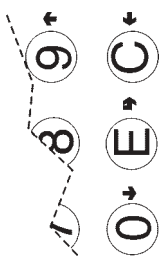
# Technician menu - Summary



**TOTAL STATISTICS**  
 Display sales by single selection for each time band and total

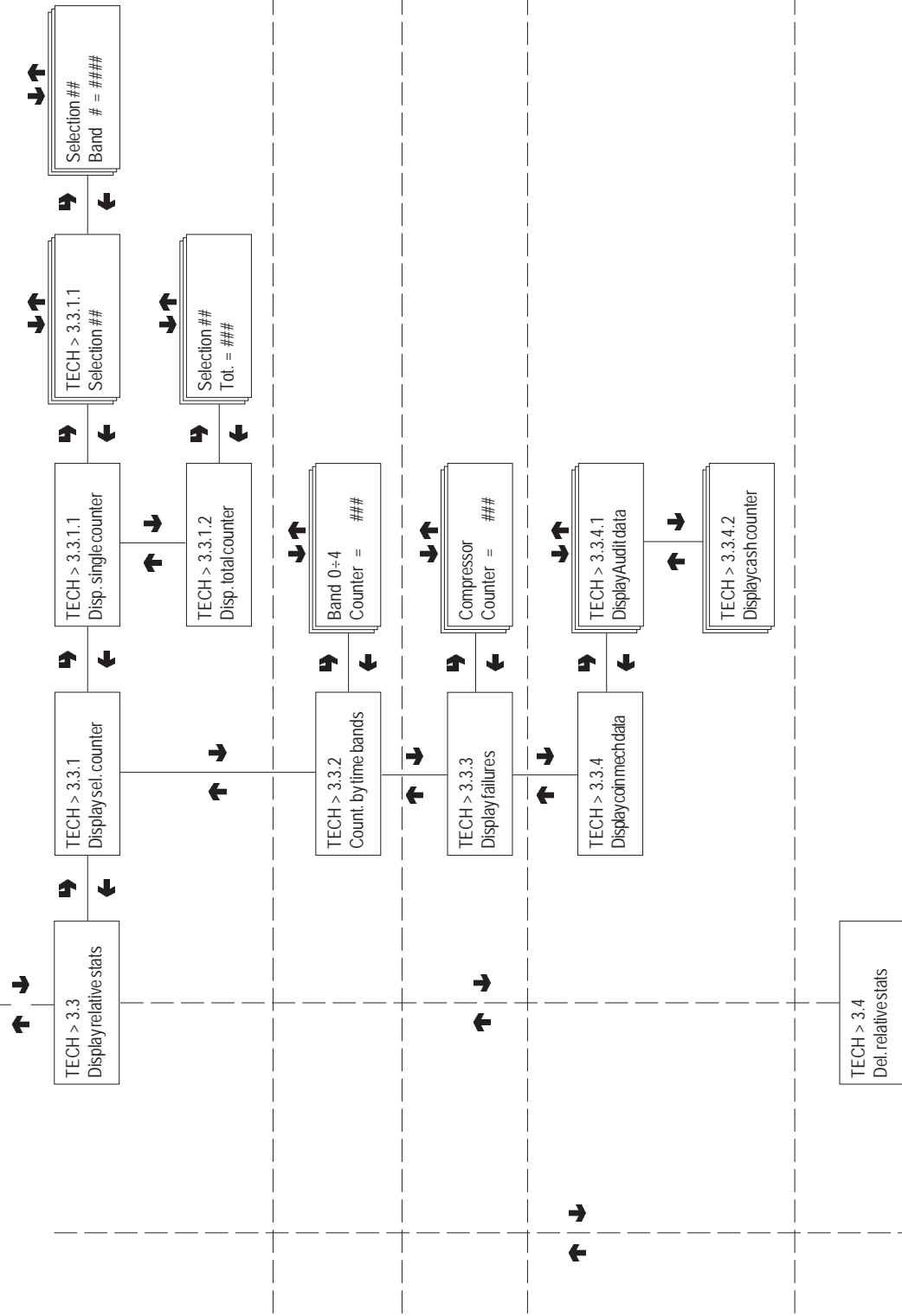
Display total sales by single selection

**DELETE STATISTICS**  
 Delete data for:  
 Selections  
 Time bands  
 Failures  
 Coin mech data  
 Photocell errors  
 Motor errors



- Ⓜ NEXT FUNCTION/ INCREASE DATA UNIT (+1)
- Ⓜ PREVIOUS FUNCTION/ DECREASE DATA UNIT (-1)
- Ⓜ CONFIRM DATA/ CONFIRM FUNCTION
- Ⓜ DELETE DATA/ EXIT FUNCTION

# Technician menu - Summary



**RELATIVE STATISTICS**  
Display sales by single selection for each time band and total

Display total sales by single selection

**TOTAL SALES**  
by band in test mode free

**Monitored failures:**  
Compressor  
Coin mechanism  
RAM data  
Probe

COIN MECHANISM DATA  
(according to protocol used)

Validators and Executive  
Cashed and sold

BDV Audit

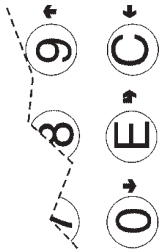
MDB Audit

Ⓜ NEXT FUNCTION/  
INCREASE DATA UNIT (+1)

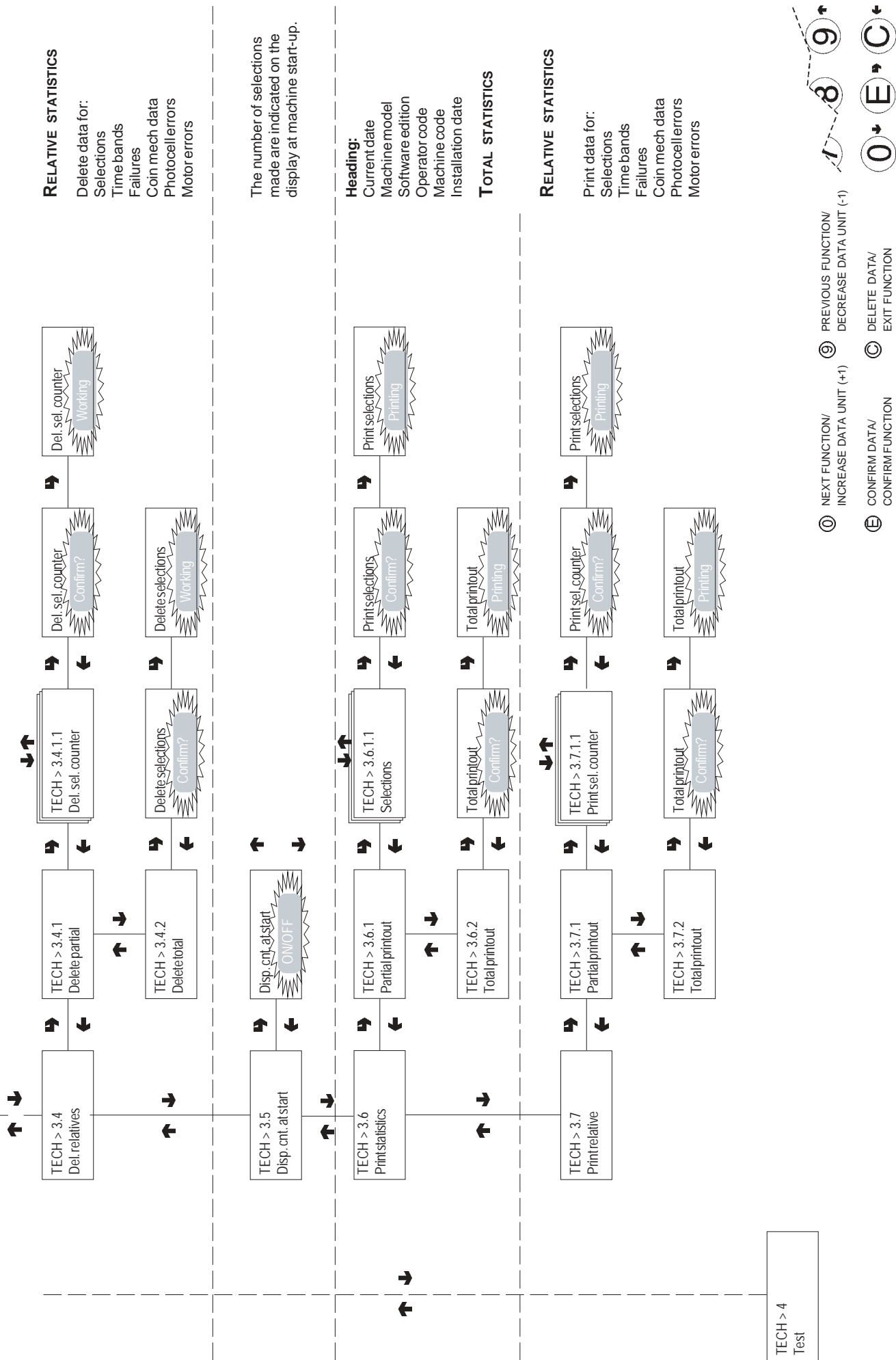
Ⓜ PREVIOUS FUNCTION/  
DECREASE DATA UNIT (-1)

Ⓜ CONFIRM DATA/  
CONFIRM FUNCTION

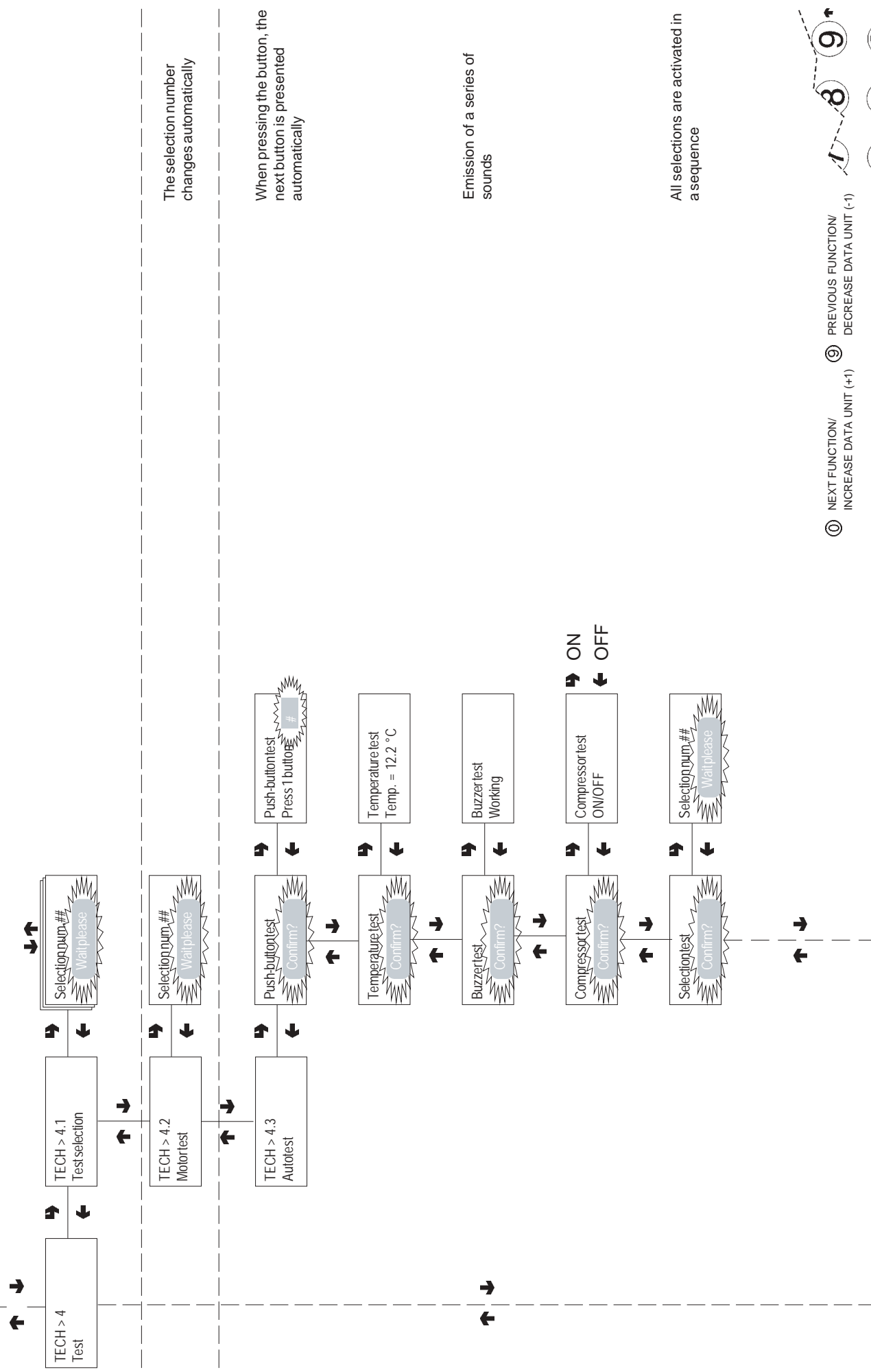
Ⓜ DELETE DATA/  
EXIT FUNCTION



# Technician menu - Summary



# Technician menu - Summary



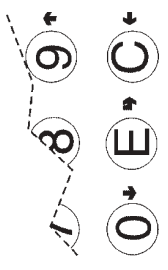
The selection number changes automatically

When pressing the button, the next button is presented automatically

Emission of a series of sounds

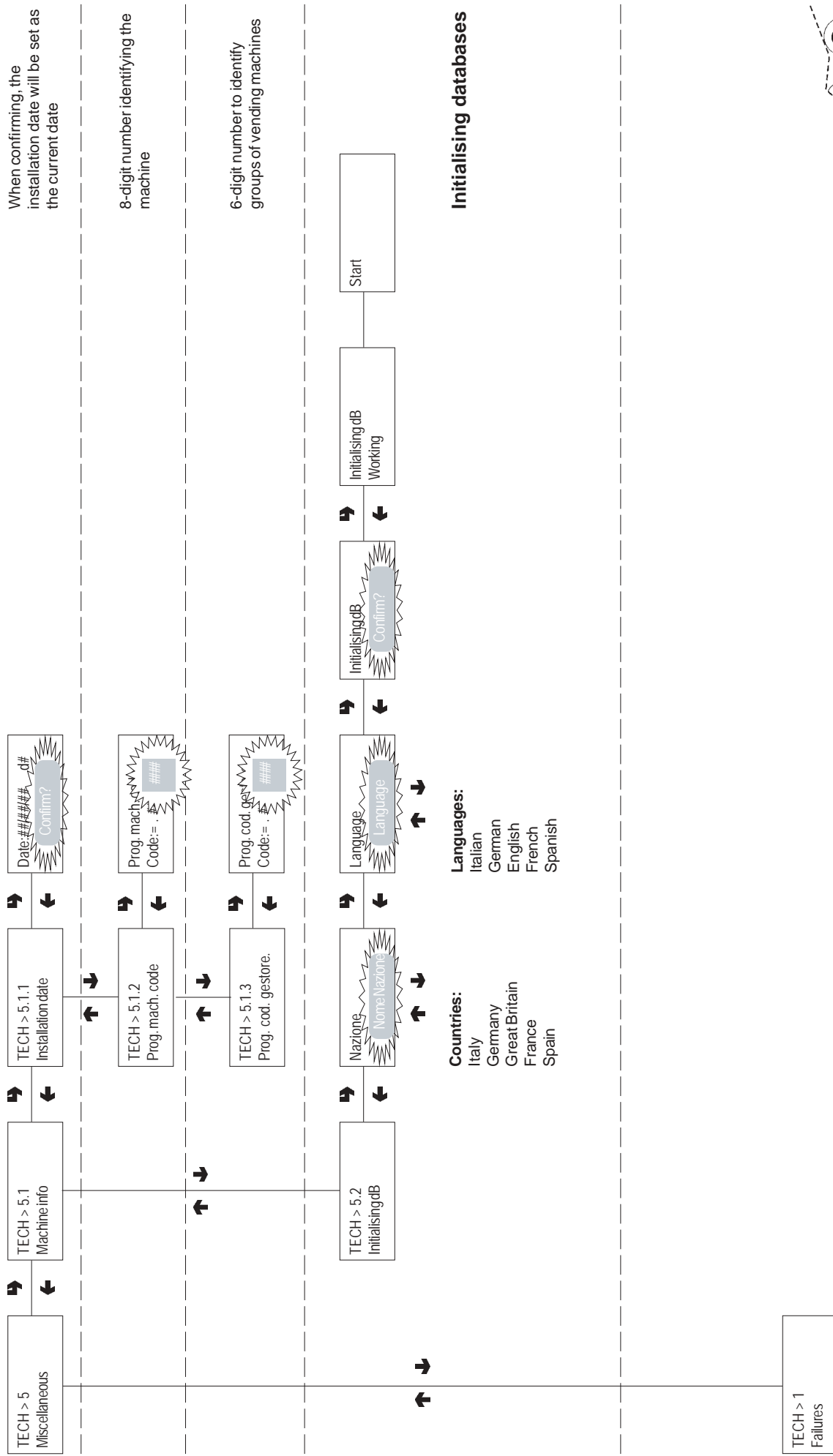
All selections are activated in a sequence

- Ⓢ NEXT FUNCTION/ INCREASE DATA UNIT (+1)
- Ⓣ PREVIOUS FUNCTION/ DECREASE DATA UNIT (-1)
- Ⓤ CONFIRM DATA/ CONFIRM FUNCTION
- Ⓡ DELETE DATA/ EXIT FUNCTION





# Technician menu - Summary



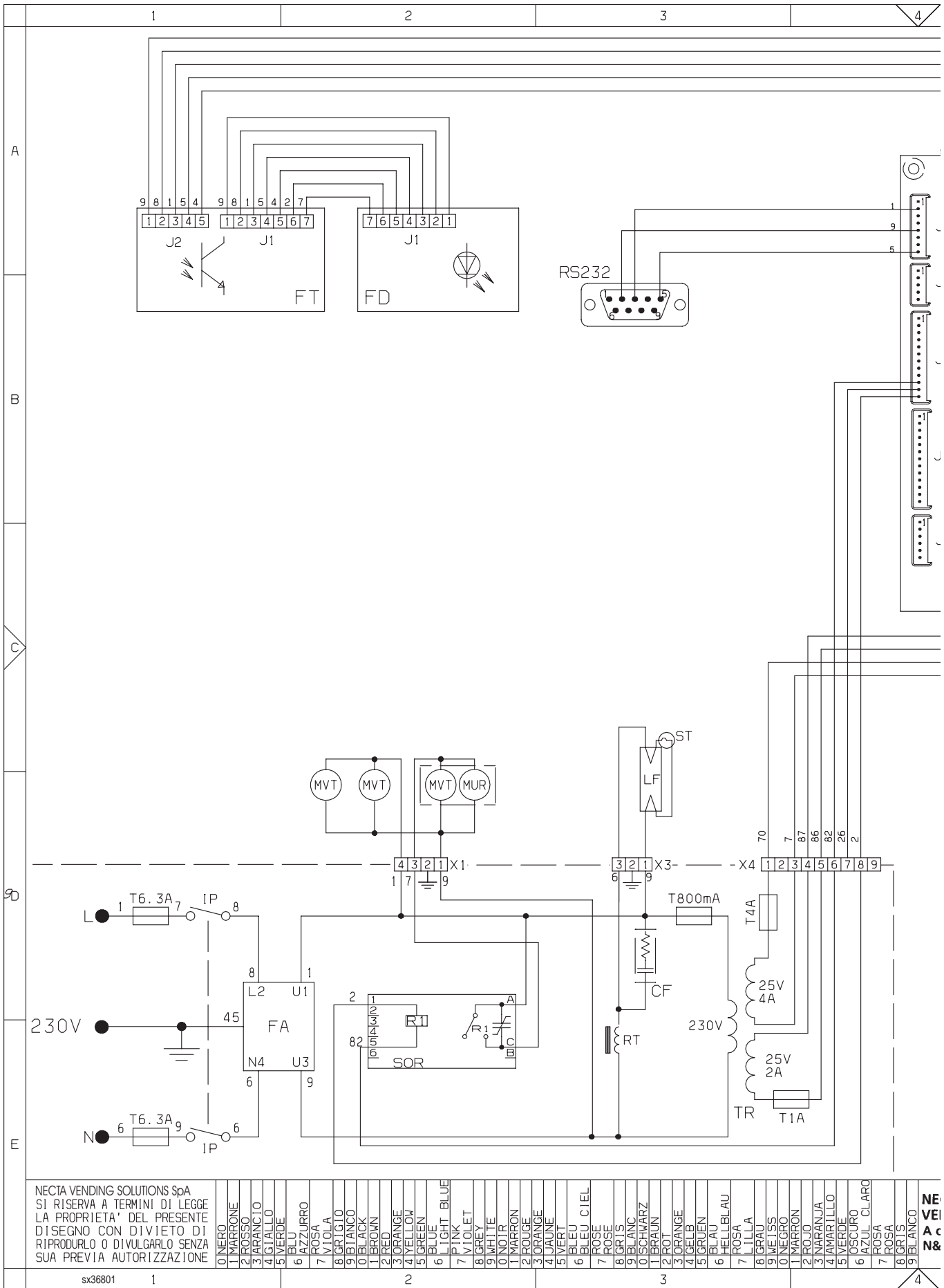
## Initialising databases

- Ⓢ NEXT FUNCTION/  
INCREASE DATA UNIT (+1)
- Ⓣ PREVIOUS FUNCTION/  
DECREASE DATA UNIT (-1)
- Ⓤ CONFIRM DATA/  
CONFIRM FUNCTION
- Ⓦ DELETE DATA/  
EXIT FUNCTION
- 1 8 9
- 0 → E → C

## WIRING DIAGRAM LEGEND

INITIALS	DESCRIPTION	INITIALS	DESCRIPTION
CF	FILTER CONDENSER		
CM0-9	VENDING MOTOR CAM		
D	DIODE		
EX	EXECUTIVE COIN MECH CONNECTO		
FA	RADIO INTERFERENCE SUPPRESSO		
FD	PHOTODIODE		
FT	PHOTOTRANSISTOR		
IP	DOOR SWITCH		
LCD	LIQUID CRYSTAL DISPLAY		
M1-...	RELEASE MOTOR		
MDB	CONNECTOR FOR MDB COIN MECH		
MUR	COMPRESSOR		
MVT	FAN		
NTC	TEMPERATURE PROBE		
RS232	SERIAL PORT		
RT	BALLAST		
SOR	OUT/R BOARD		
SP	PUSH-BUTTON BOARD		
ST	STARTER		
SUC	C.P.U. BOARD		
TR	TRANSFORMER		
TX....	DELAYED FUSE (X=COURRENT)		





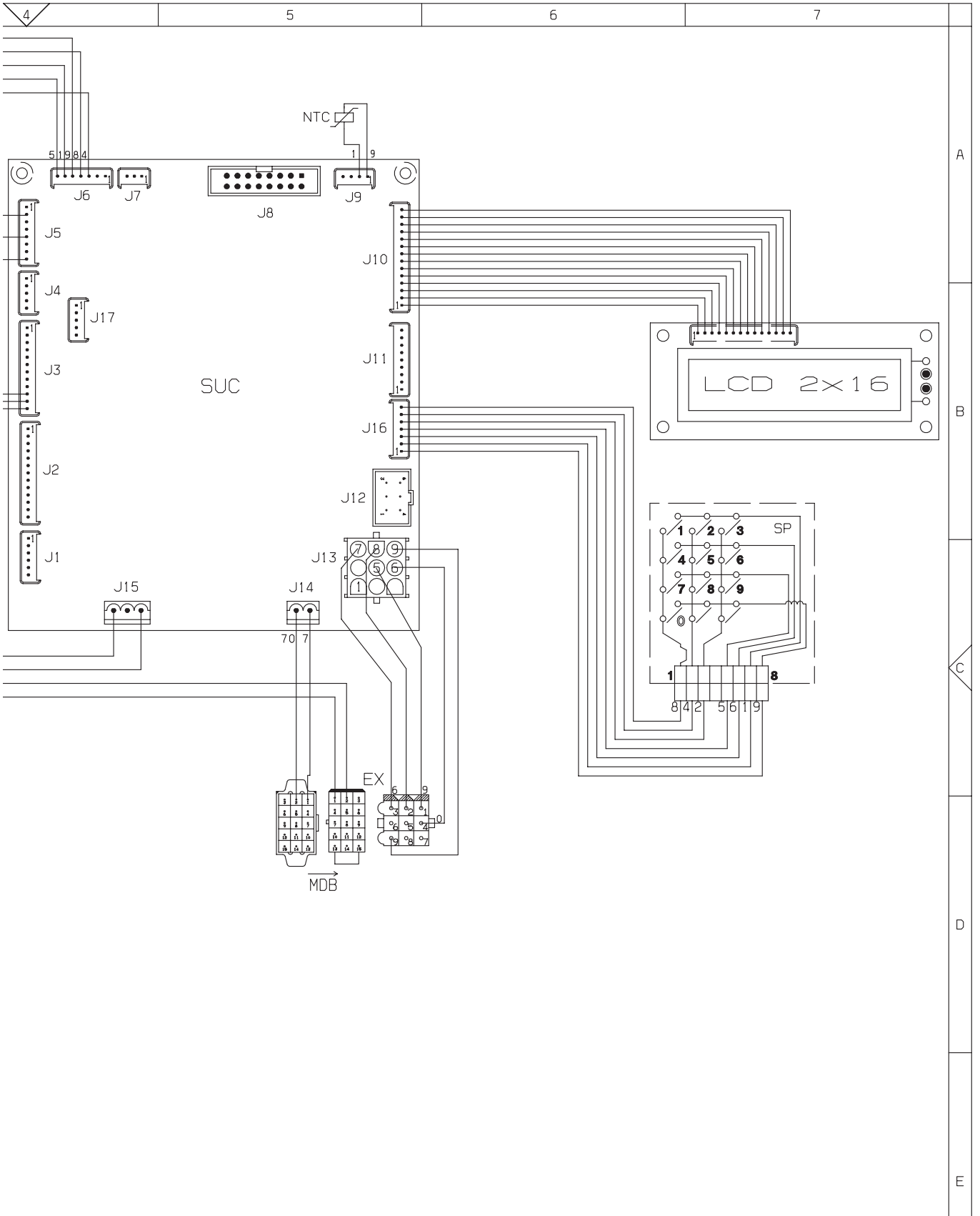
NECTA VENDING SOLUTIONS SpA  
 SI RISERVA A TERMINI DI LEGGE  
 LA PROPRIETA' DEL PRESENTE  
 DISEGNO CON DIVIETO DI  
 RIPRODURLO O DIVULGARLO SENZA  
 SUA PREVIA AUTORIZZAZIONE

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

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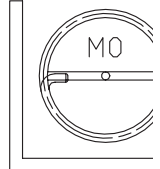
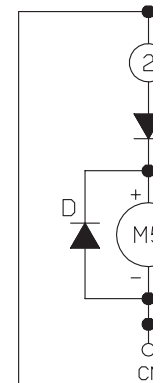
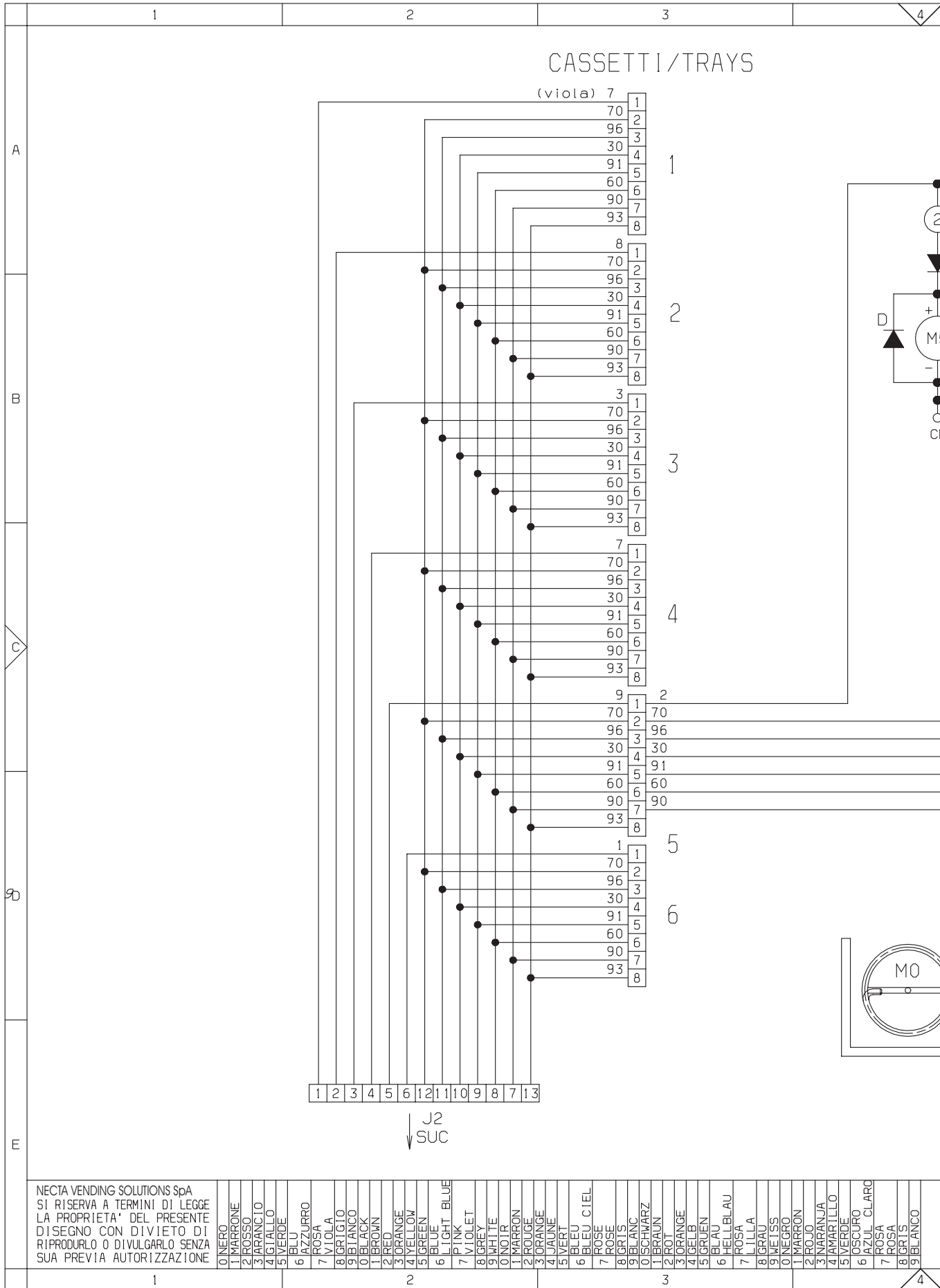
sx36801





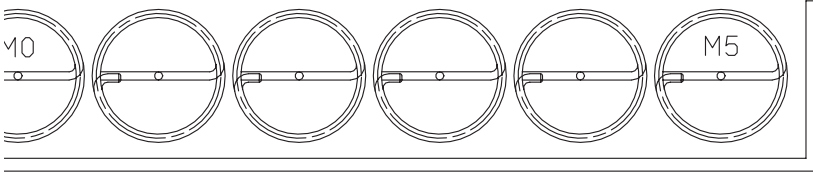
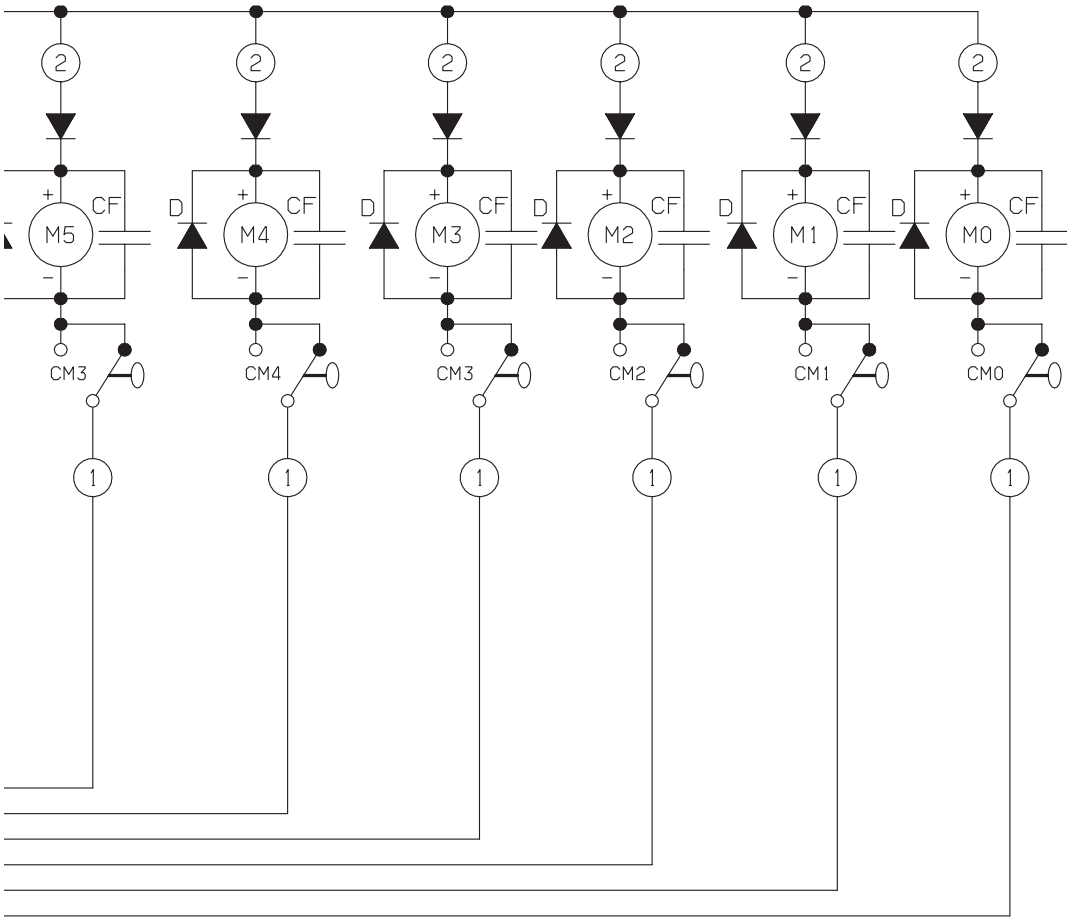
8 CRLS 9 BLANCO	NECTA VENDING SOLUTIONS SpA A company of N&W GLOBAL VENDING GROUP	MODELLO <b>Snakky</b>	GRUPPO SCHEMA ELETTRICO FUNZIONALE MACCHINA	DATA 21-02-01	FOGLIO 1/1	DISEGNATO BONACINA	CONTROLLATO MONGUZZI
	LEGENDA						CODICE 608536801







4	5	6	7
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BICRIS BLANCO	NECTA VENDING SOLUTIONS SpA A company of N&W GLOBAL VENDING GROUP	MODELLO <b>Snakky</b>	GRUPPO SCHEMA ELETTRICO FUNZIONALE CASSETTI	DATA 21-02-01	FOGLIO 1/1	DISEGNATO BONACINA	CONTROLLATO MONGUZZI
			LEGENDA		CODICE <b>608536900</b>		
4	5	6	7				







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