

**Software**

# SERVICE MANUAL

# PROGRAMMING MANUAL

# "Kikko"

THE CONTENTS OF THIS DOCUMENT ARE INTENDED FOR NECTA'S AFTER SALES PERSONNEL.

# INTRODUCTION

The programming instructions described below are used to set the sales prices, set any discounts, move through the operating modes, reset any failures that are indicated, read the audit data and, make test selections etc.

## 1 - OPERATING MODES

The machine can be in three different operating modes, and according to its mode the vending machine push-buttons take on different functions:

### 1.1 NORMAL OPERATING MODE

### 1.2 FILLER MENU

### 1.3 TECHNICIAN MENU

**Normal operating mode:** When switching the power on, the display indicates for a few seconds the message "Kikko" and the installed software version.

The vending machine checks the boiler, and if the boiler is empty a filling cycle is started automatically; at the end of such cycle the heating phase starts, then the machine goes into normal operating mode and is ready for making selections; the push-buttons perform normal operating functions and the display indicate the following messages on two lines:

**"Select drink" - "Machine out of service" - "Drink selected - Wait please" - "Take drink" + clock function**

The displayed messages indicating the operation being carried out are fixed, while the message requiring an action from the user is blinking.

The clock function display can be activated or deactivated through programming (technician menu).

**Filler menu:** when in normal operating mode, press once only the "Menu Access" button located on the coin mechanism compartment; the machine will go into maintenance mode (filler menu) and the display will indicate the message

**"FILL>1 Statistics"**; the other filler menus are:

**Single Prices – BDV tube control – Boiler temperature – Test – GSM**

All these menus have a series of sub-menus indicated in chapter 1 - FILLER MENU

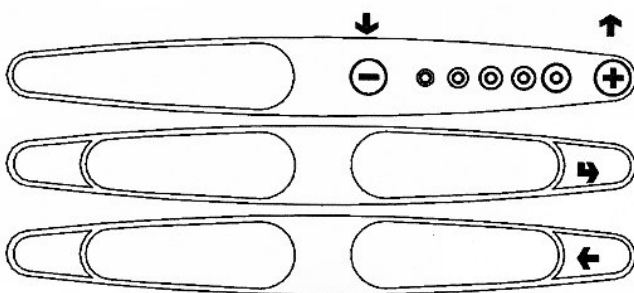
**Technician menu:** When in "FILLER MENU" mode, press the button ← and the machine will go into Technician menu mode, the display will indicate the message regarding the first menu: **"TECH>1 Failures"**

The other technician menus are: **Parameters – Statistics – Test – Miscellaneous - GSM.**

All these menus have a series of sub-menus (see details in the specific chapter TECHNICIAN MENU).

## 2 - PROGRAMMING PUSH-BUTTON FUNCTIONS

The selection push-button panel is used also for programming operations, and in this mode the first three buttons take on the following functions:



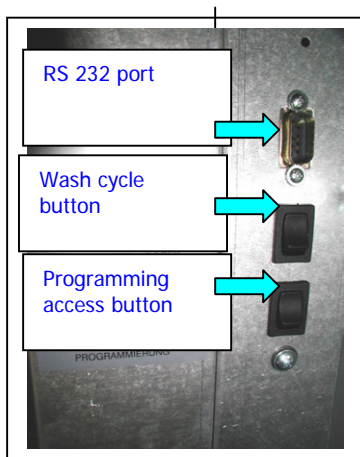
- ↑ ↓ **Scrolling keys:** to go to the previous or to the next menu option
- **Confirm key:** to go from a menu to a sub-menu, or to confirm the information on the display.
- ← **Exit key:** to go back from a sub-menu to the higher level, or to confirm that active data.

Programming is divided into two main modes:

**FILLER MENU " FILL > 1 ÷ 6 "**  
FILL > 1 STATISTICS  
FILL > 2 PRICES  
FILL > 3 BDV / MDB TUBE CONTROL  
FILL > 4 DISPLAY BOILER TEMPERATURE  
FILL > 5 TEST  
FILL > 6 GSM

**TECHNICIAN MENU " TECH > 1 ÷ 6 "**  
TECH > 1 FAILURES  
TECH > 2 PROG. PARAMETERS  
TECH > 3 STATISTICS  
TECH > 4 TEST  
TECH > 5 MISCELLANEOUS  
TECH > 6 GSM

# 1 – FILLER MENU



With the vending machine in normal operating mode, press **once** the menu access button located on the inside of the door, **on the coin mechanism compartment**, and the vending machine will go to the **Filler menu**. The keys  $\downarrow$   $\uparrow$  scroll through the filler menu items, which are as follows: Statistics – Single Prices – BDV tube control – Special selections – Test. Each of these menus has a series of sub-menus, accessed by means of the selection buttons as indicated in the previous page

**After pressing the menu access button, the display will indicate the first available menu:**

## FILL > 1 STATISTICS

In this menu it is possible to display and print statistical sales data, the failure list, coin mechanism data, photocell errors, and motor errors

( see list at page xy)

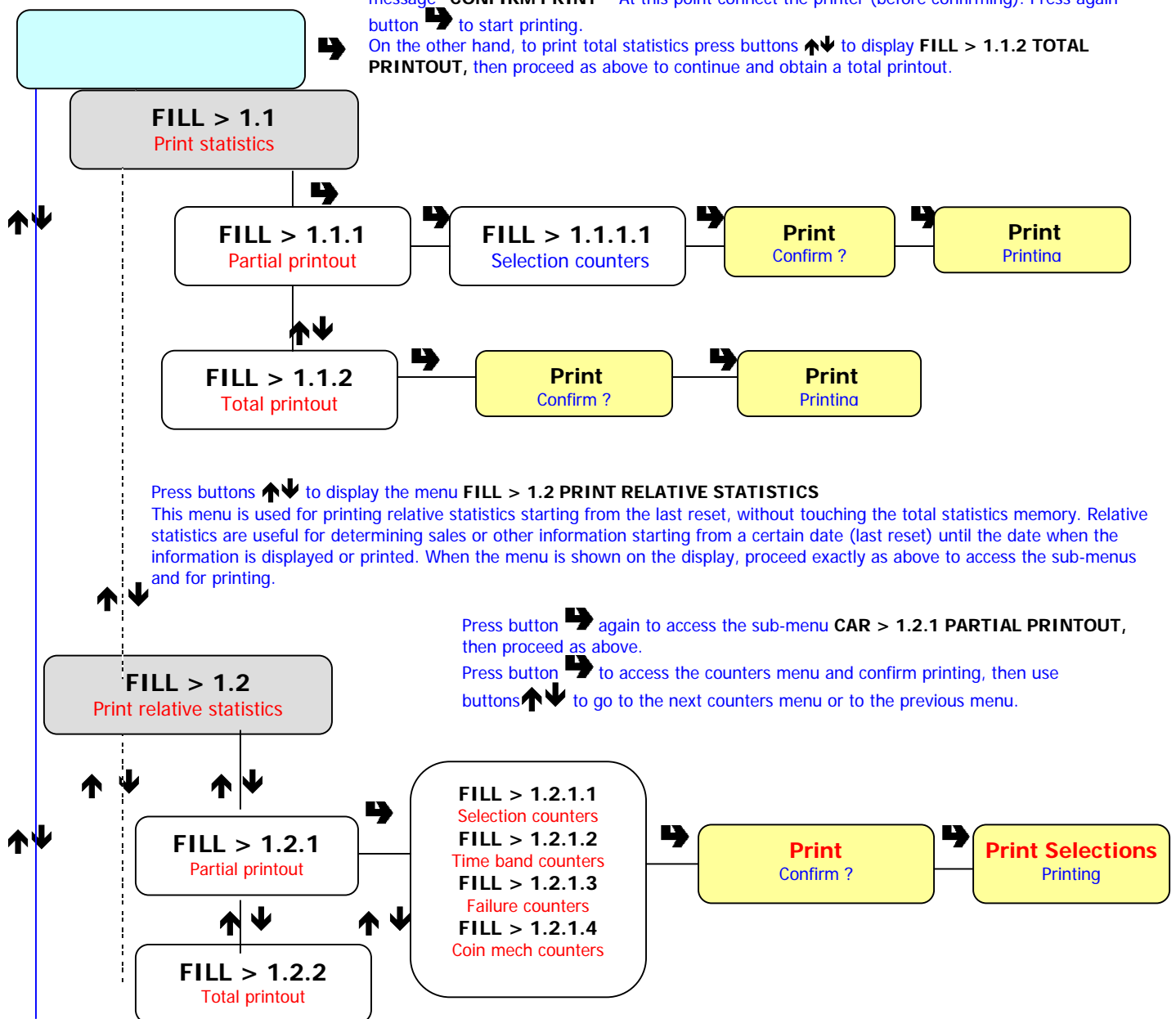
Press button  $\rightarrow$  to access the sub-menu **FILL > 1.1 PRINT STATISTICS**.

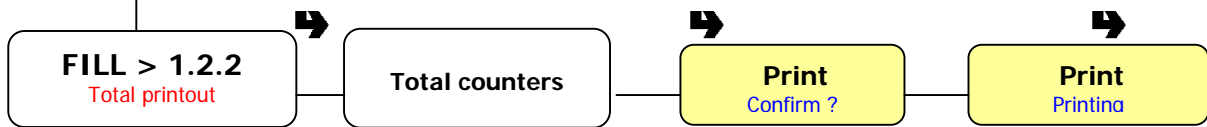
Press again button  $\rightarrow$  to access sub-menu **FILL > 1.1.1 PARTIAL PRINTOUT**. Press again

button  $\rightarrow$  to access the different items of the sub-menu

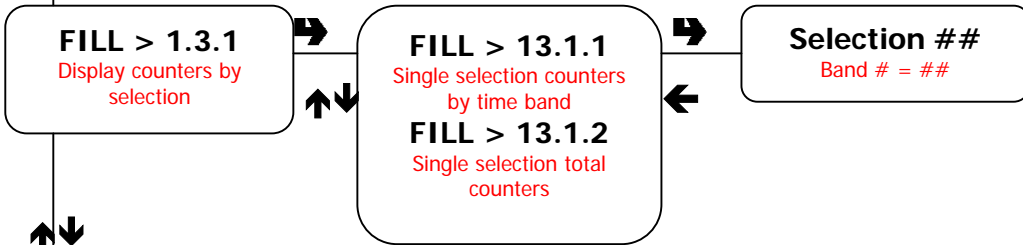
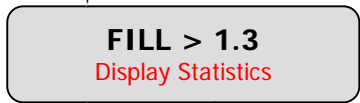
Press again button  $\rightarrow$  to display the sub-menu **FILL > 1.1.1.1 COUNTERS**. The buttons  $\uparrow$   $\downarrow$  are then used to display the relevant counters. Press again button  $\rightarrow$  and the display will indicate the message **"CONFIRM PRINT"** At this point connect the printer (before confirming). Press again button  $\rightarrow$  to start printing.

On the other hand, to print total statistics press buttons  $\uparrow$   $\downarrow$  to display **FILL > 1.1.2 TOTAL PRINTOUT**, then proceed as above to continue and obtain a total printout.

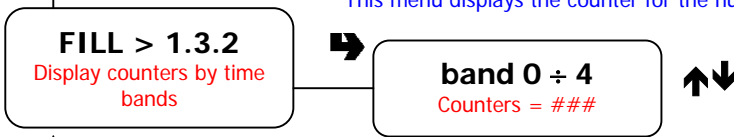




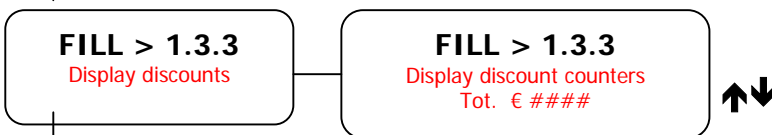
In this menu it is possible to display the number of sales for each single selection, for each time band and the number of total sales for each single selection; press button **➡** to access the sub-menu **FILL > 1.3.1**, then proceed as above. After displaying the selection use buttons **⬆****⬆** to go to the next selections and button **⬅** to go back to the previous menu.



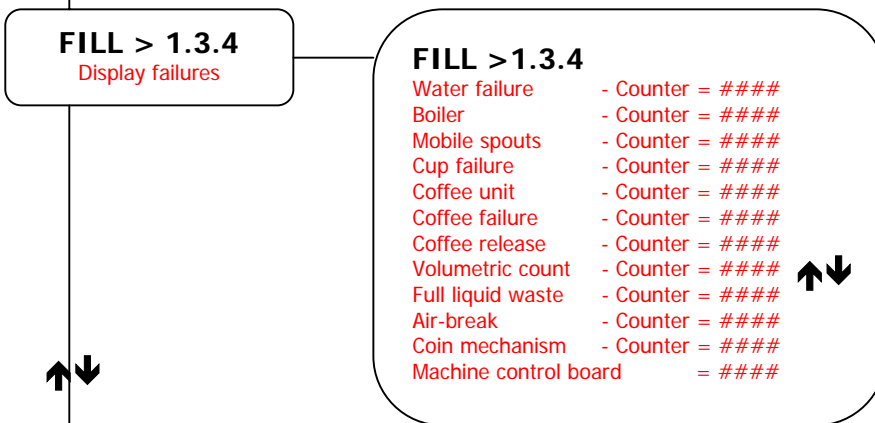
This menu displays the counter for the number of sales by time bands.



This menu displays the counter for the number of sales with discounts and overprice

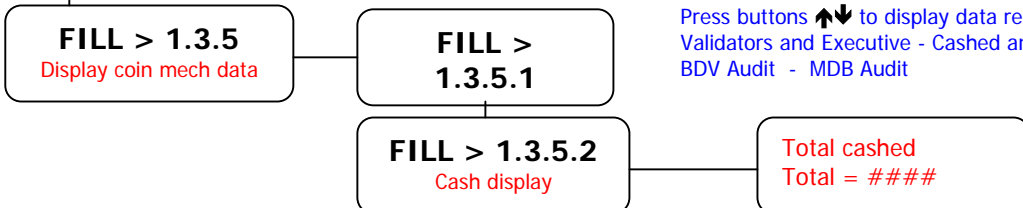


This menu displays the type and number of failures occurred and monitored by the software, listed below. Press button **➡** to access to the list and buttons **⬆****⬆** to scroll through the list.



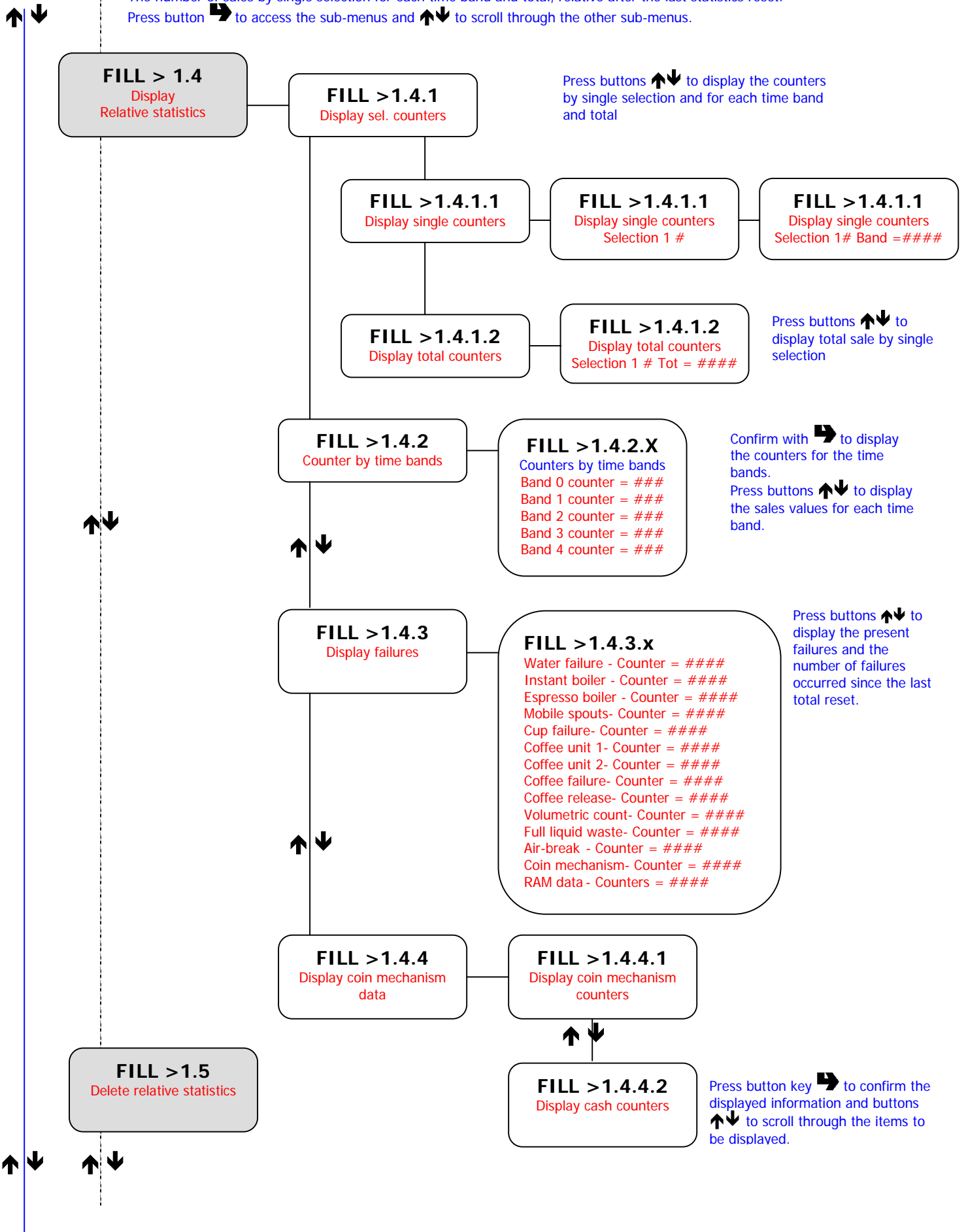
Press buttons **⬆****⬆** to display the present failures and the number of failures occurred since the last total reset

This menu displays the coin mechanism data according to the protocol used, with cashed values and sold values

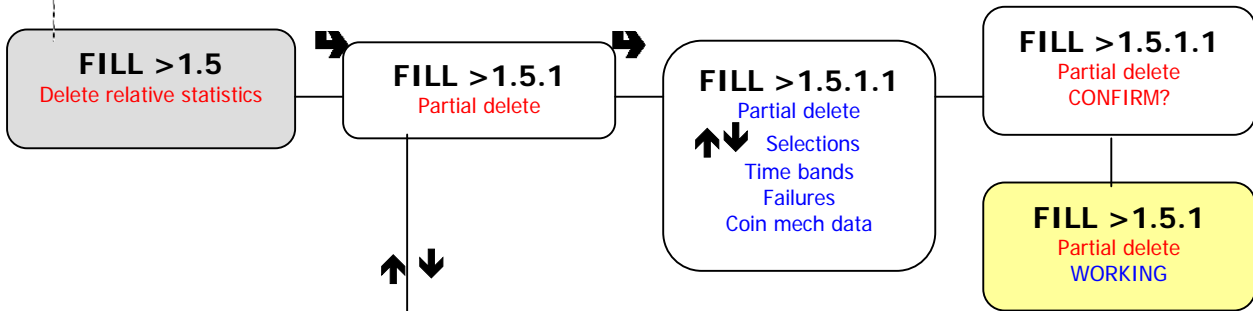


Press buttons **⬆****⬆** to display data regarding:  
Validators and Executive - Cashed and sold  
BDV Audit - MDB Audit

This menu **CAR > 1.4** displays the relative statistics, and more specifically:  
 The number of sales by single selection for each time band and total, relative after the last statistics reset.  
 Press button **→** to access the sub-menus and **↑↓** to scroll through the other sub-menus.

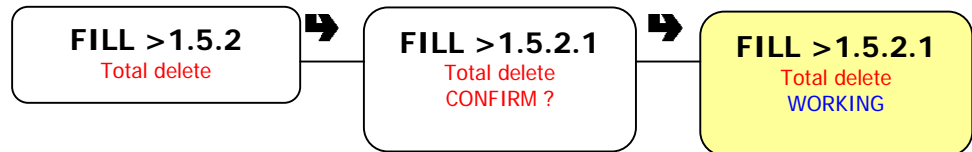


In this menu **FILL > 1.5** it is possible to delete and reset the relative statistics, partially (for each selection) or globally

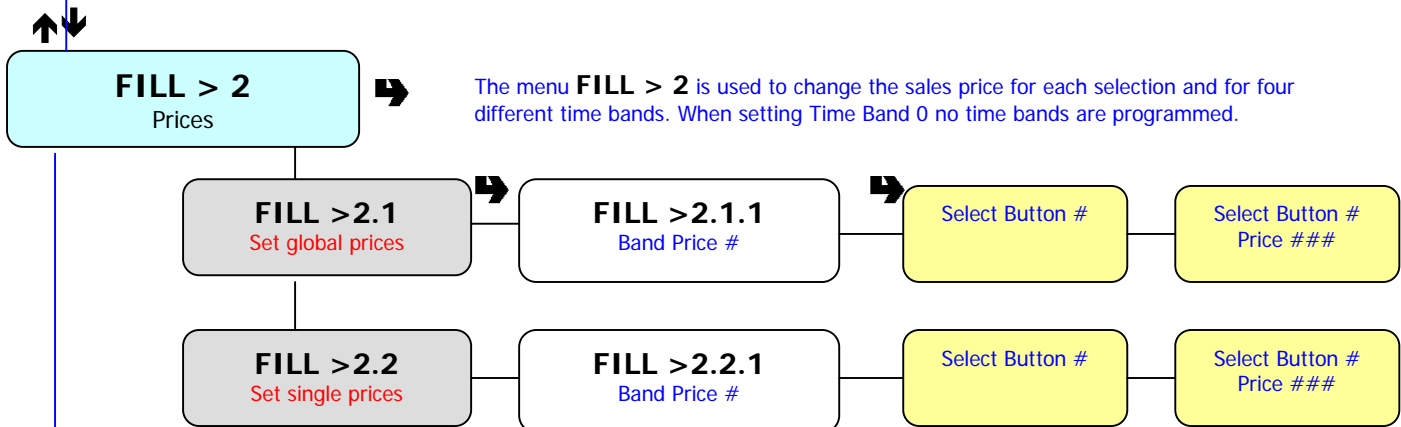


Press button **→** to access the sub-menu **FILL > 1.5.1**, press it again to access the sub-menu **FILL > 1.5.1.1**; use buttons **↑↓** to scroll through the selections, when pressing a second time button **→** the request message is displayed, then press is again to do a partial delete

In the menu **CAR > 1.5.2** it is possible to delete the relative statistics globally and reset the counters.



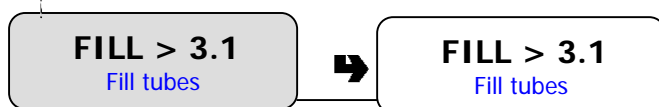
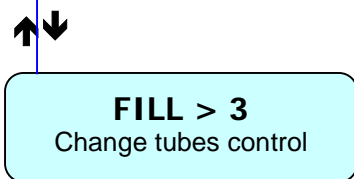
The menu **FILL > 2** is used to change the sales price for each selection and for four different time bands. When setting Time Band 0 no time bands are programmed.



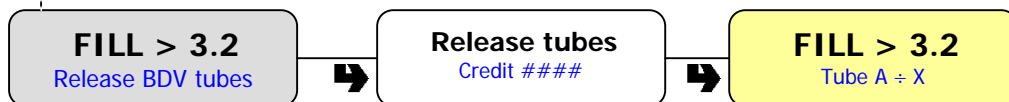
Press button **→** to access the sub-menu for the time bands, press buttons **↑↓** to scroll through the time bands and then press again button **→** to display the selection menu **##** combine with a price shown blinking, use the buttons **↑↓** to change the set figure, then press button **→** to confirm the operation.

The menu **FILL > 3** is used to load (**FILL > 3.1**) or empty (**FILL > 3.2**) the change tubes manually.

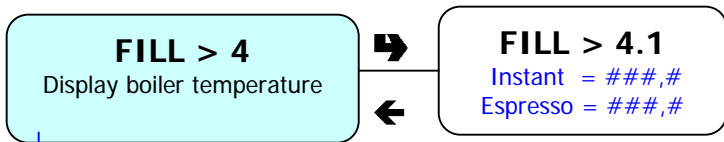
When confirming with button **→** the display indicates the message "Fill BDV tubes", confirm again and the display will indicate the message "Credit: ####" which is the value of money available in change the tubes; when inserting the desired coin into the selector the display will increase the value of money available in the change tubes.



In this sub-menu **FILL > 3.1** it is possible to load the BDV change tubes manually

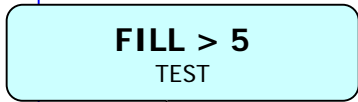


Use the buttons **↑↓** to choose the relevant tube and then press button **→** to release (or load) one coin at the time from the active tube

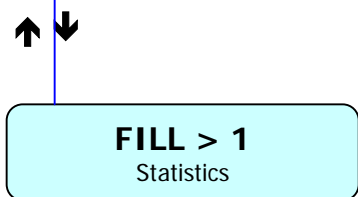
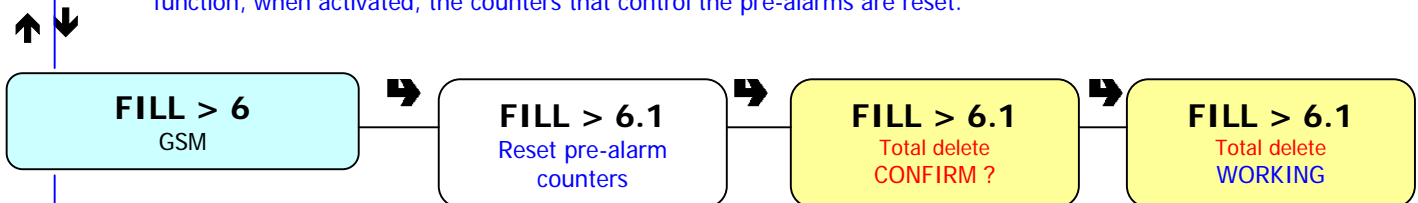


Press button **→** to display the boiler's instantaneous temperature.  
 Considering that "I" is the open-top instant boiler temperature, "C" is the pressure espresso boiler temperature.  
 Press button **←** to go back to the previous menu.

The menu **FILL > 5** is used to make test selections (complete, liquid only, powder only, without accessories, accessories only). Press button **→** to access the sub-menus and use buttons **↑↓** to scroll through them, press button **→** a second time to confirm; then press the desired selection button to make a **TEST** selection



The GSM menu **FILL > 6** control is used for being able to send a "running-out" signal via GSM modem when a programmed number of pieces or grams of instant powder for a certain product have been used up. With this function, when activated, the counters that control the pre-alarms are reset.



This is the initial menu of the section for the filler **FILL > 1** statistics, switch the vending machine off and then on again to go into normal operating mode.  
 From the filler menu **FILL > 1** press button **←** once to access the program for the **TECHNICIAN TECH > 1**

# 4 - TECHNICIAN MENU

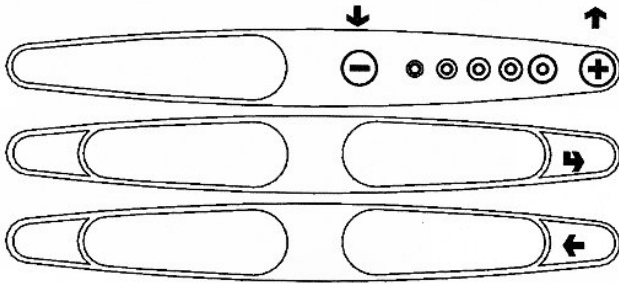
With the vending machine in normal operating mode, press **once** the programming button located on the inside of the door and the vending machine will be set to **"FILLER MENU"** mode; from this menu **"FILL >1 "** press button **←** and the vending machine will be set to **"TECHNICIAN MENU"**.

The display will indicate the first available menu **"TECH > 1 Failures"**.

In this menu it is possible to set all variables regarding machine configuration and control

Switch the vending machine off and then on again to exit programming and return to normal operating mode

*As in the filler menu, the selection push-buttons have the following functions:*



**↑ ↓ Scrolling keys:**

to go to the previous or to the next menu option

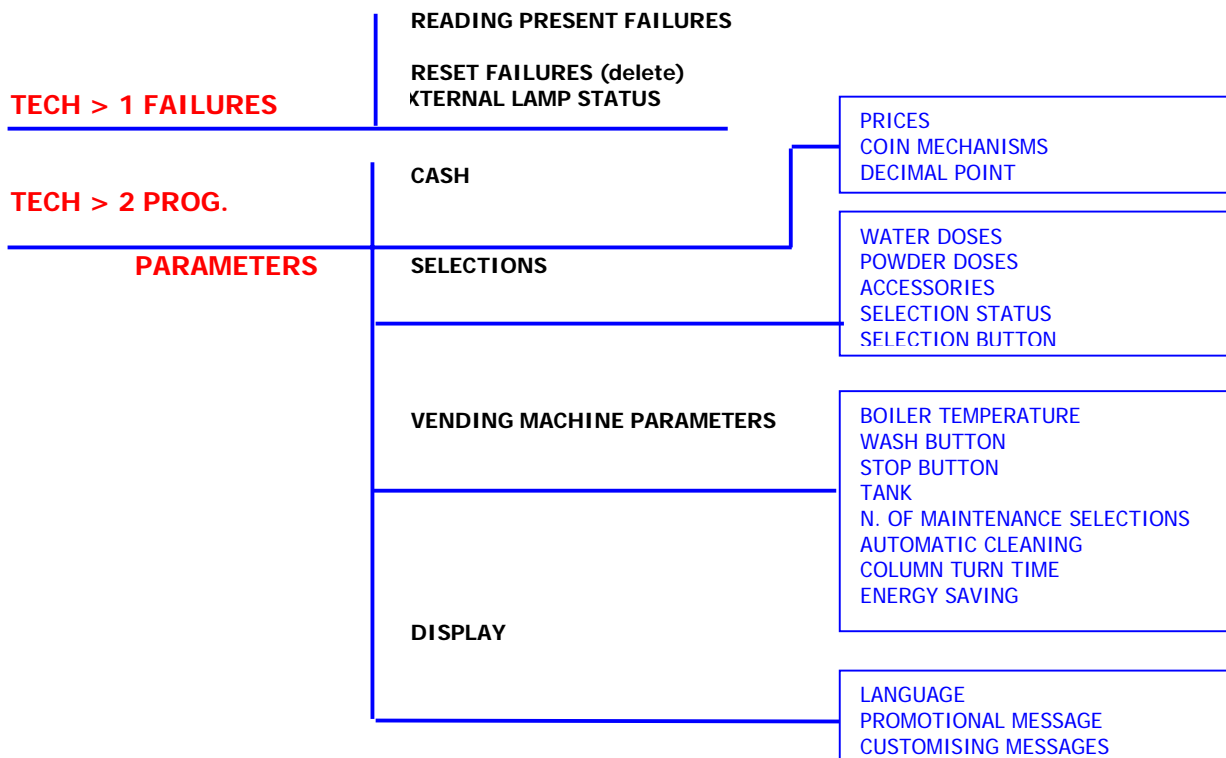
**➡ Confirm key:**

to go from a menu to a sub-menu, or to confirm the information on the display.

**← Exit key:**

to go back from a sub-menu to the higher level, or to confirm that active data.

*The main menus (TECH> 1 - 6) and their sub-menus are as follows:*





**TECH >2 ( follows)**

**PRE-SELECTIONS**

NO CUP
EXTRA SUGAR
LESS SUGAR
MORE SUGAR
LESS WATER (MOKKA)
MORE POWDER
LESS POWDER
ESPRESSO
COFFEE POWDER

**MISCELLANEOUS**

**JUG FACILITIES:** SETTING THE N. OF SELECTIONS

**PASSWORD:** ENABLE THE PASSWORD REQUEST

**TECH >3 STATISTICS**

<b>GENERAL COUNTER</b>	READ AND DELETE
<b>DISPLAY</b>	SELECTION COUNTERS
<b>DELETE</b>	PARTIAL AND TOTAL
<b>DISPLAY RELATIVE STATISTICS</b>	SELECTION COUNTERS
<b>DELETE RELATIVE STATISTICS</b>	PARTIAL AND TOTAL
<b>DISPLAY COUNTERS AT START-UP</b>	
<b>PRINT</b>	PARTIAL
<b>PRINT RELATIVE STATISTICS</b>	PARTIAL AND TOTAL

**TECH>4 TEST**

<b>DISPENSING</b>	COMPLETE WATER ONLY - POWDER ONLY WITHOUT ACCESSORIES ACCESSORIES ONLY
<b>SPECIAL FUNCTIONS</b>	UNIT ROTATION - COFFEE RELEASE - BOILER EMPTYING - MANUAL INSTALLATION
<b>AUTO TEST</b>	<b>ACTUATION IN A SEQUENCE OF:</b> DOSER DEVICES - ELECTRIC MIXERS CUP RELEASE - STIRRER RELEASE FLUORESCENT LAMPS - DOOR LEDS PUSH-BUTTONS - MOBILE SPOUTS COFFEE DOSE - COFFEE UNIT ROTATION WASTE CONTAINER FULL

**TECH>5 MISCELLANEOUS**

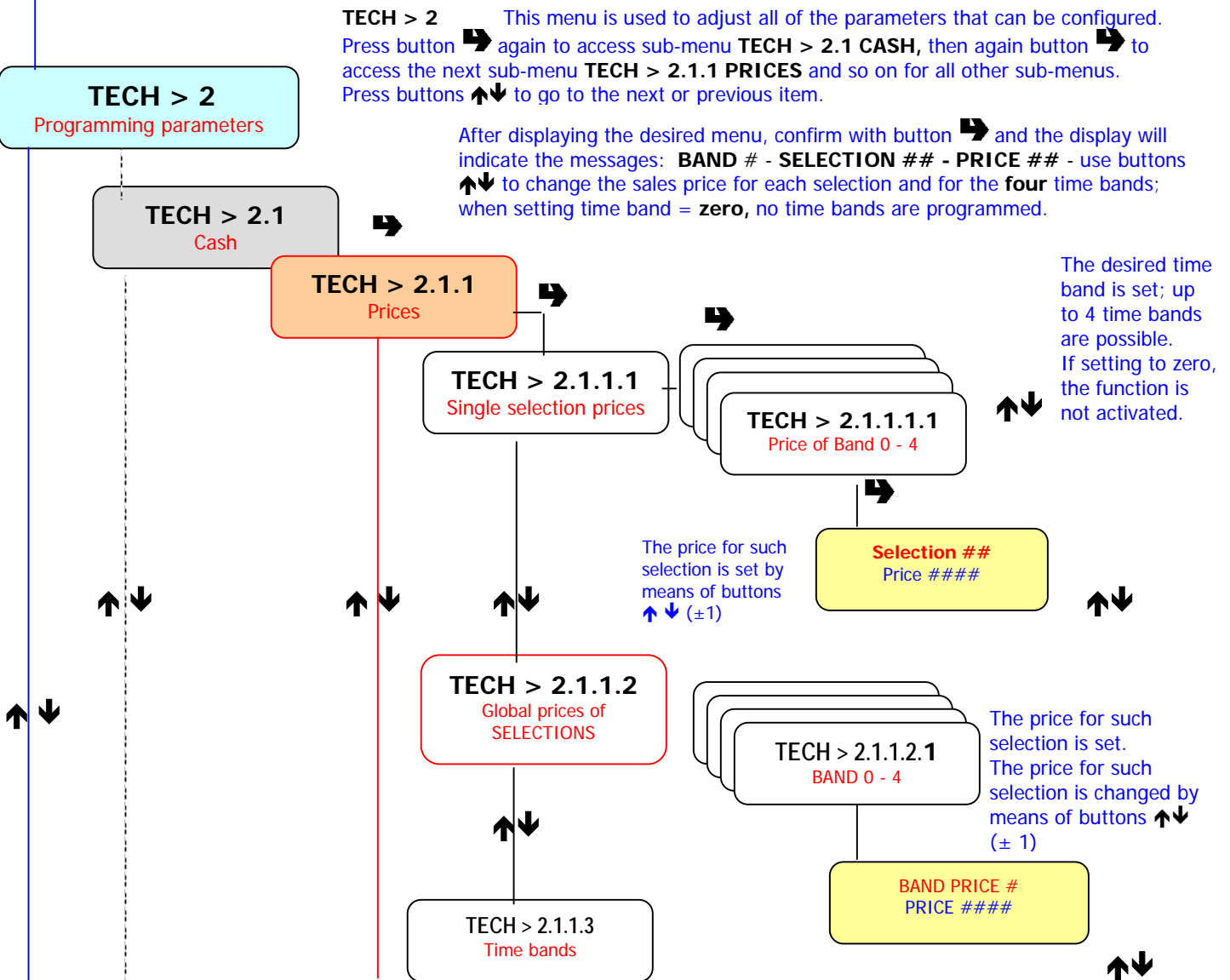
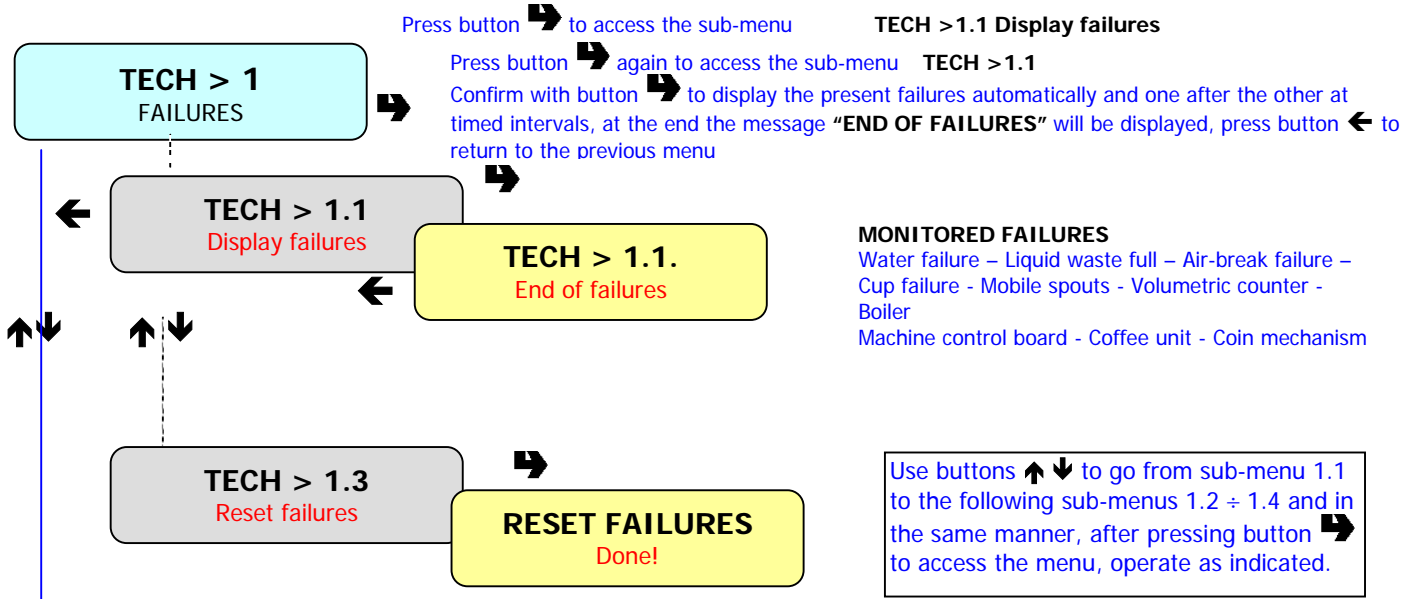
<b>MACHINE INFORMATION.</b>	INSTALLATION DATE MACHINE IDENTIFICATION CODE OPERATOR CODE
<b>INITIALISING DATABASE</b>	COUNTRY - LANGUAGE - MACHINE TYPE - INITIALISING

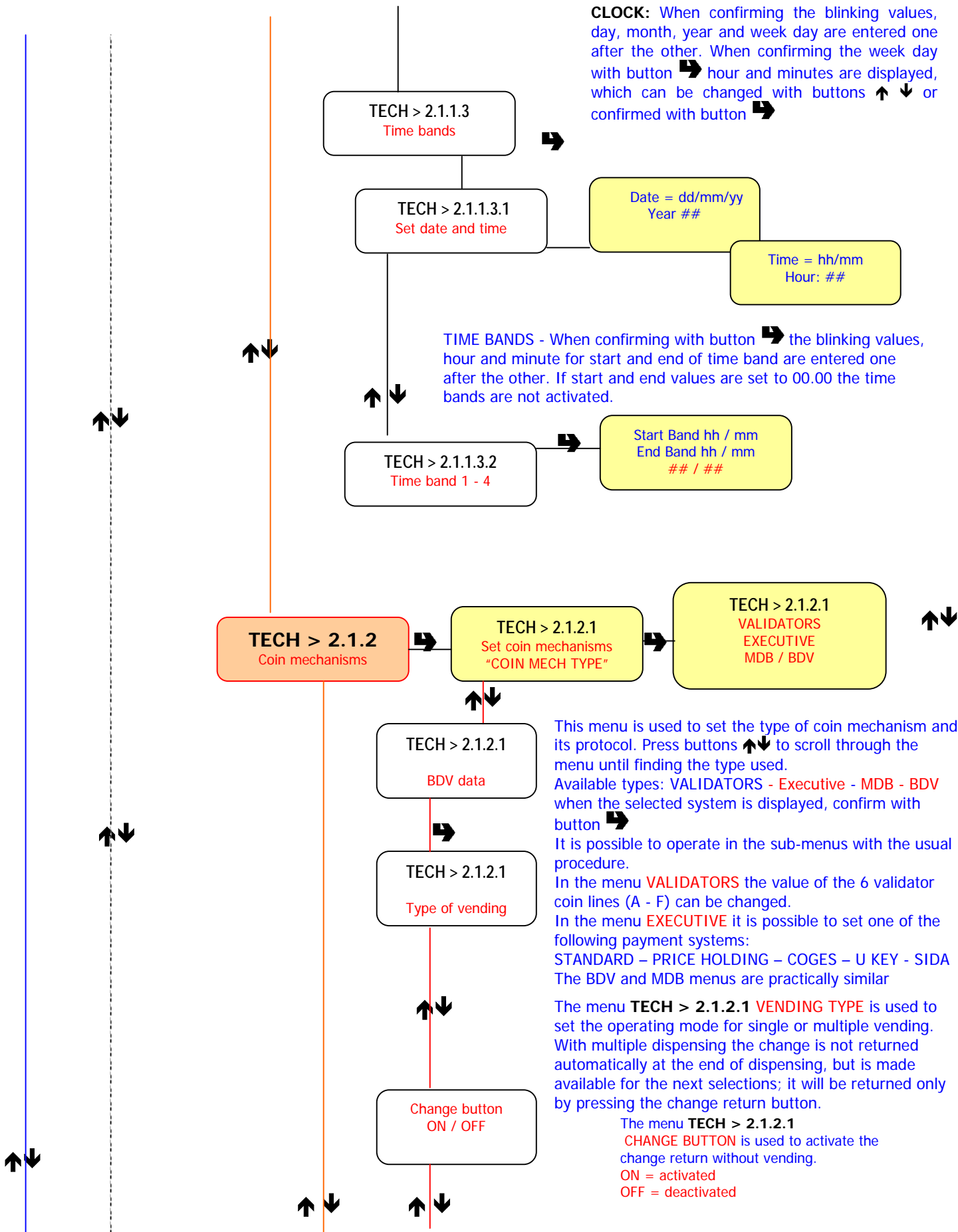
**TECH>6 GSM**

<b>PIN</b>	CODE
<b>Set THRESHOLDS</b>	PRODUCT NAME > GRAMS RESET PRE-ALARMS > CONFIRM

With the vending machine in normal operating mode, press the programming button located on the coin mechanism door inside the vending machine to access the first programming menu for the filler "FILL > 1"; press again button ← on the push-button panel to access the first programming menu for the technician "TECH>1 Failures"

**TECH > 1 FAILURES** - In this menu the present failures can be displayed, and then deleted. ( RESET )



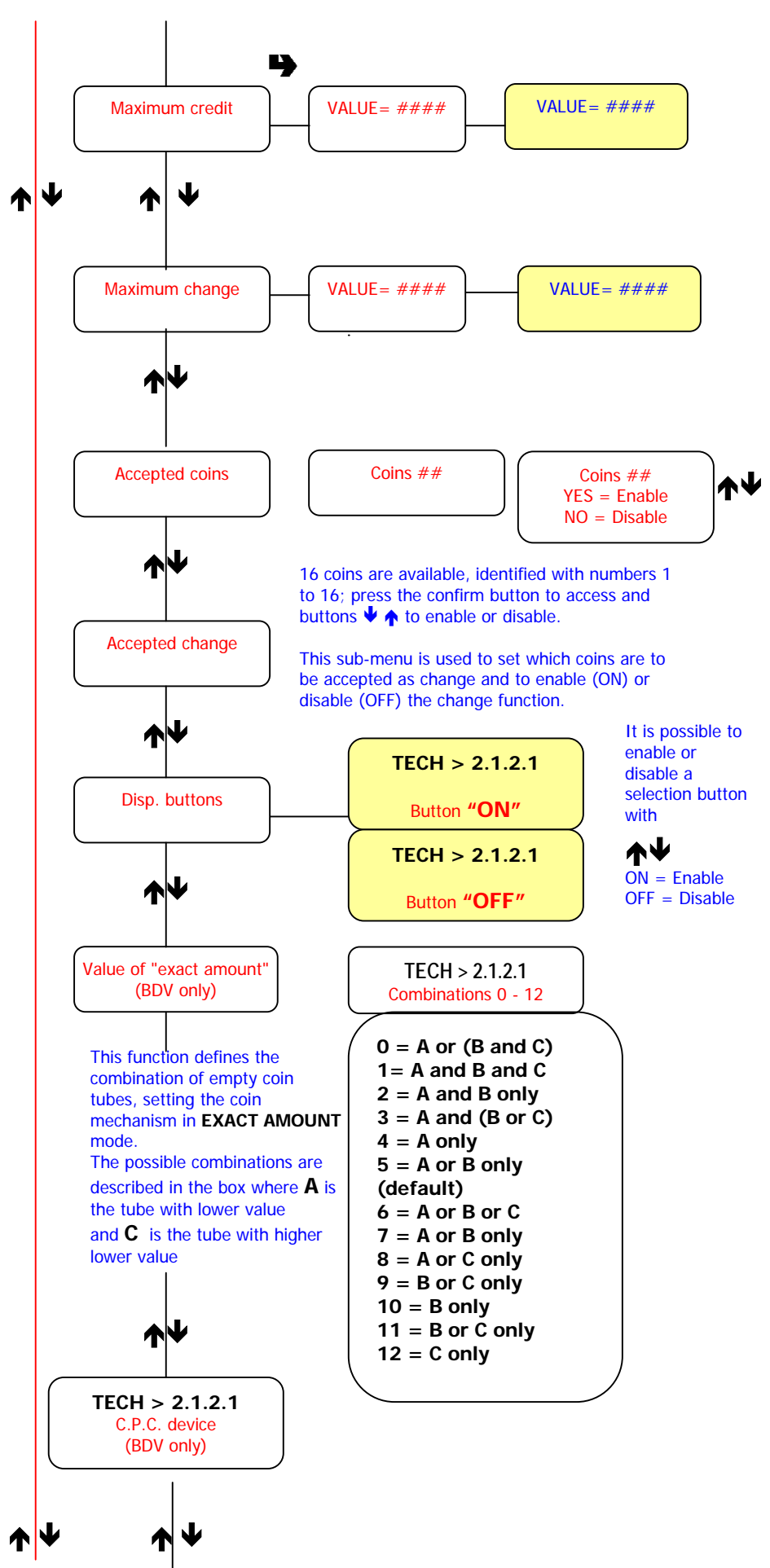


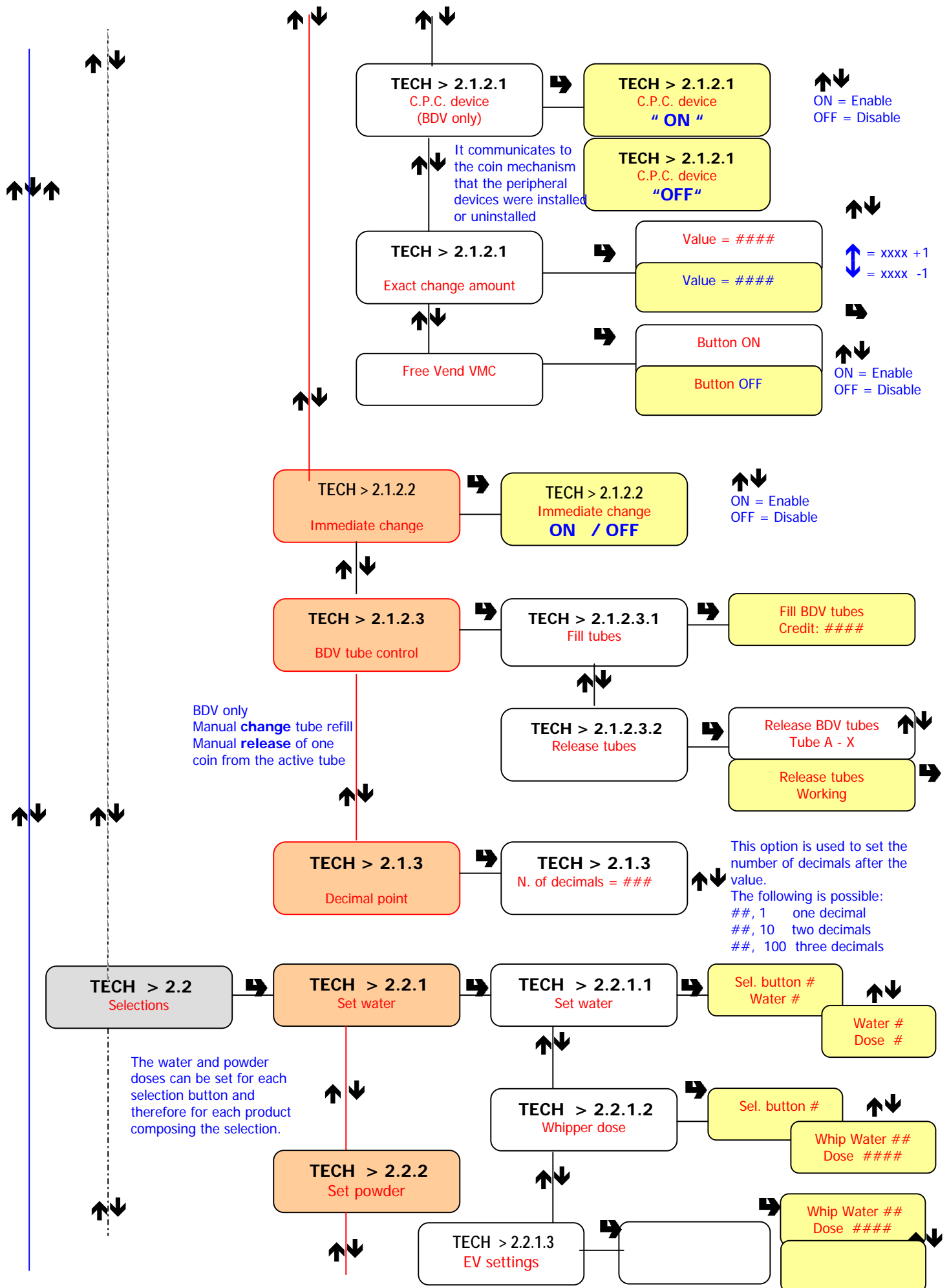
Press button to access the sub-menus and buttons to go the available options, then press button to confirm the choice.

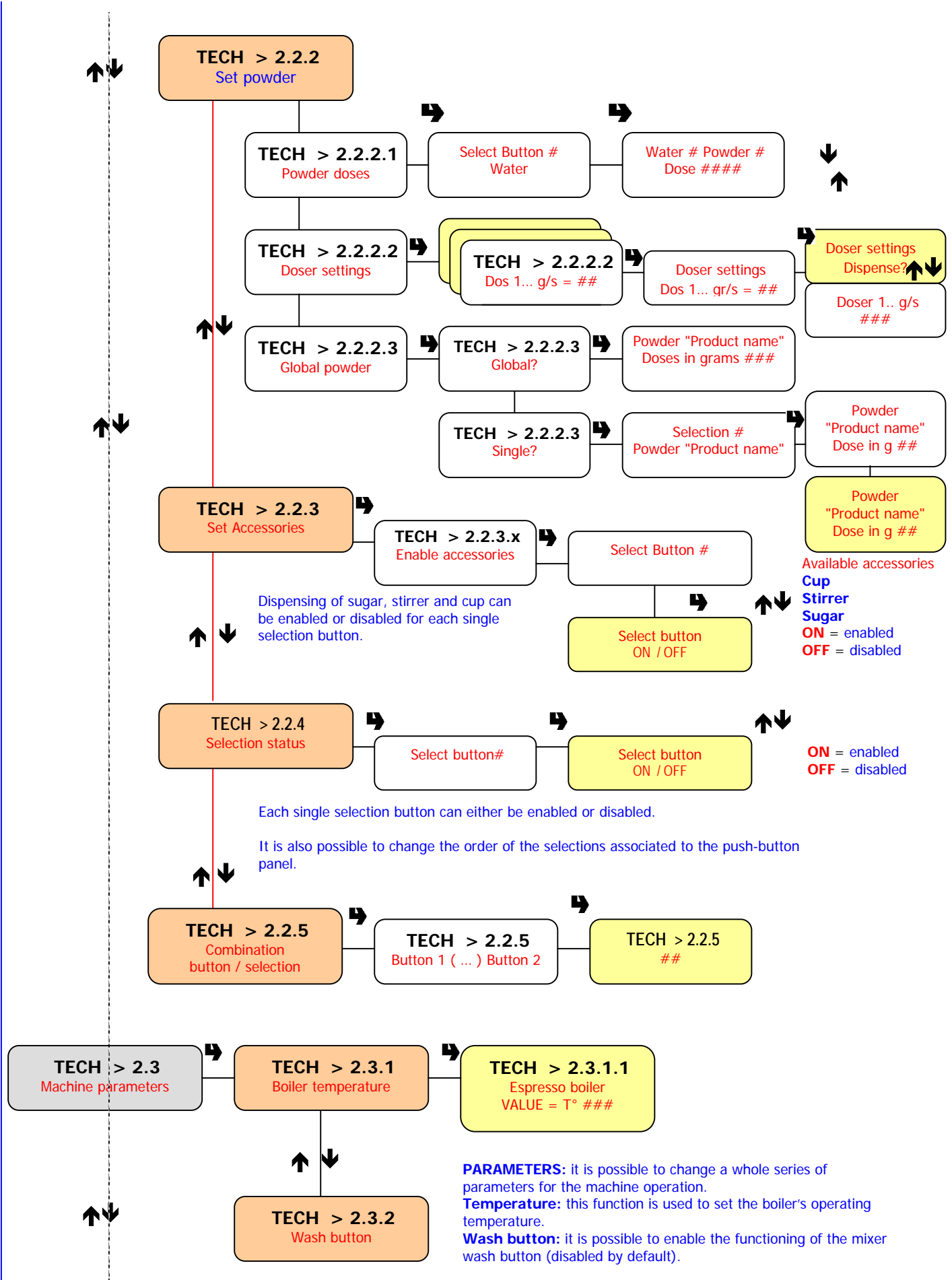
The **MAXIMUM CREDIT** function is used to set the maximum credit value that can be inserted.

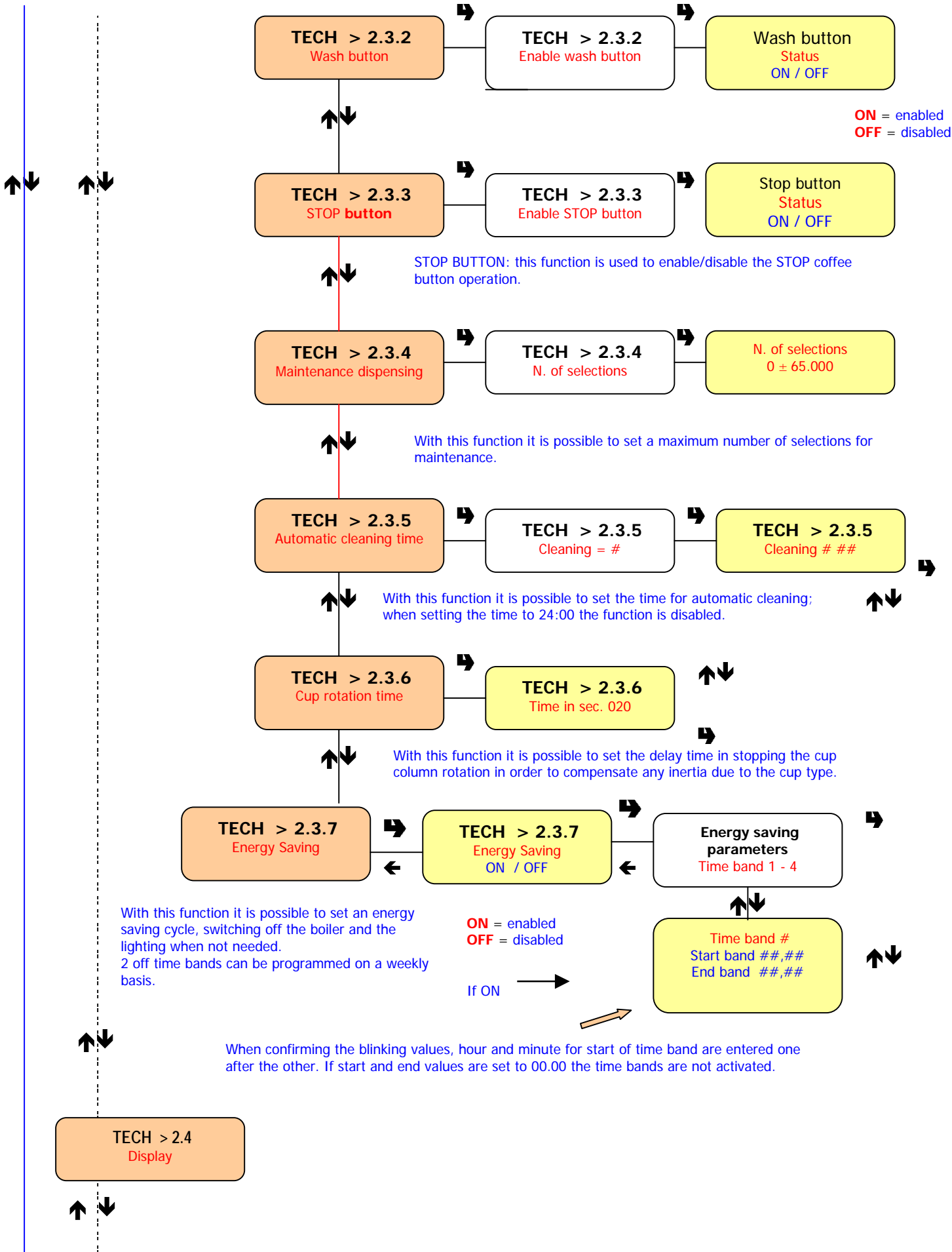
The **MAXIMUM CHANGE** function is used to set the maximum CHANGE value; setting between 0 and 250 base coin

The **ACCEPTED COINS** function is used to define which, among the coins recognised by the validator, are to be accepted.

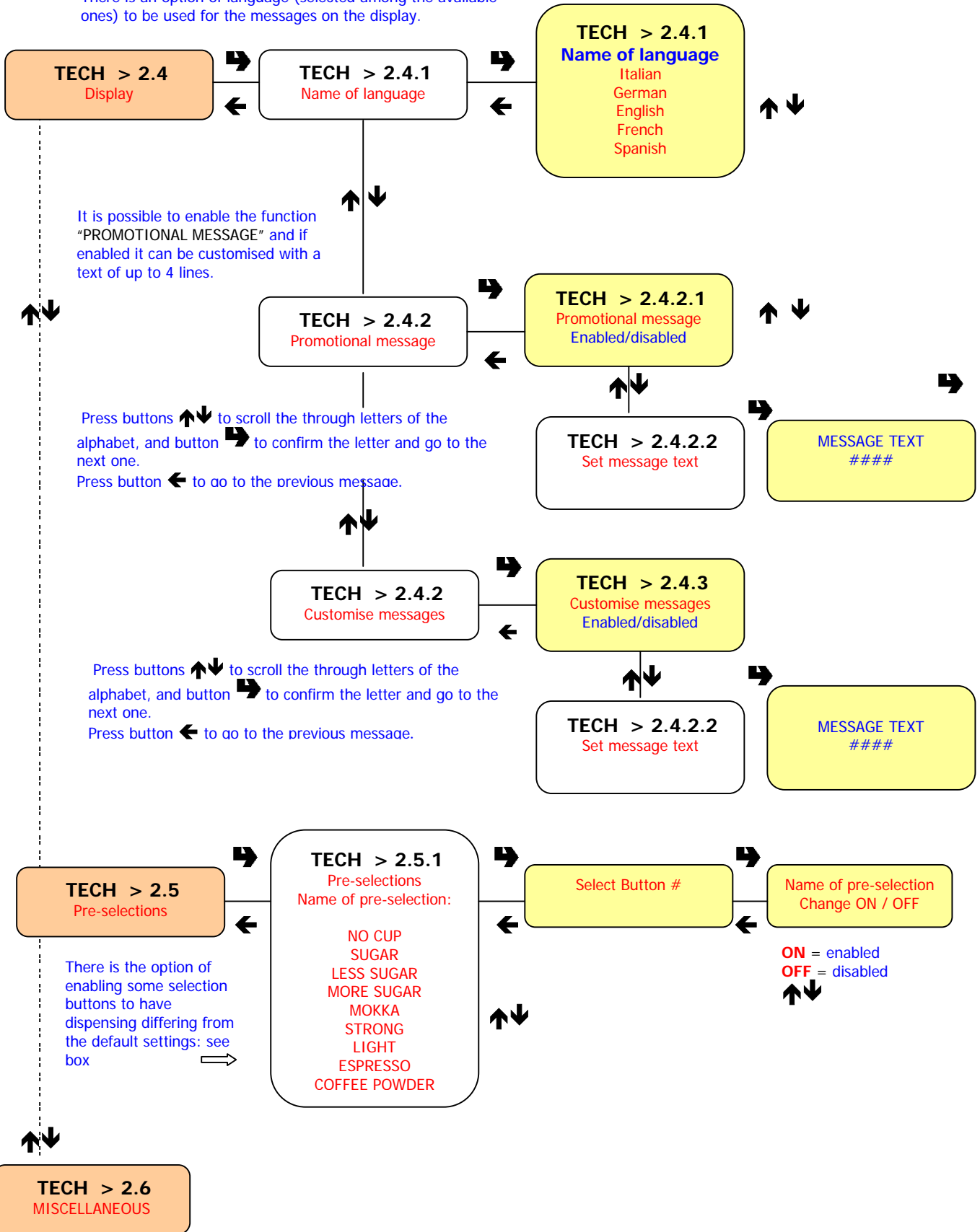




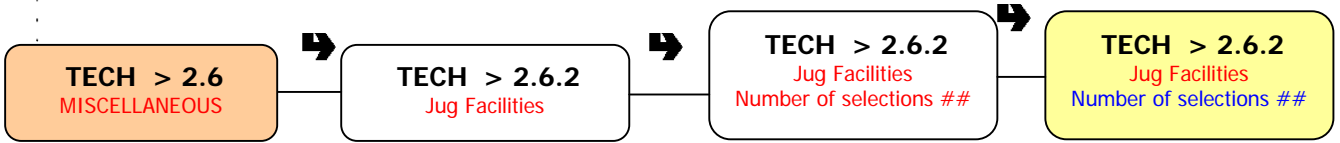




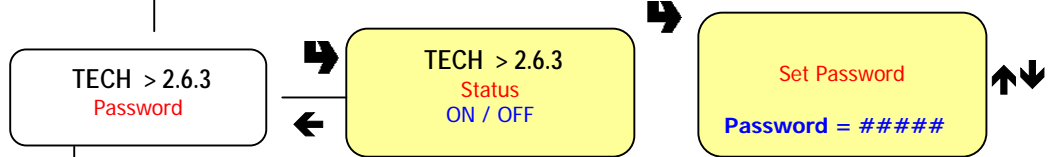
There is an option of language (selected among the available ones) to be used for the messages on the display.





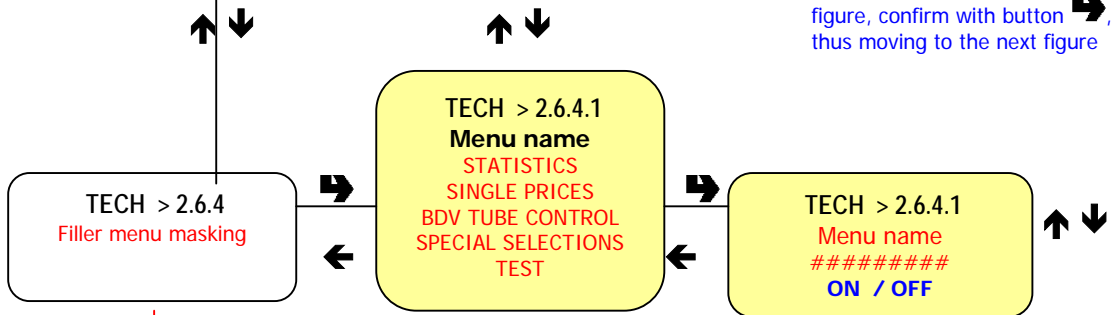


From this menu **TECH > 2.6.2** it is possible to set the number of selections for free JUG dispensing, to be activated with a key. Values of 1 to 9 can be set.

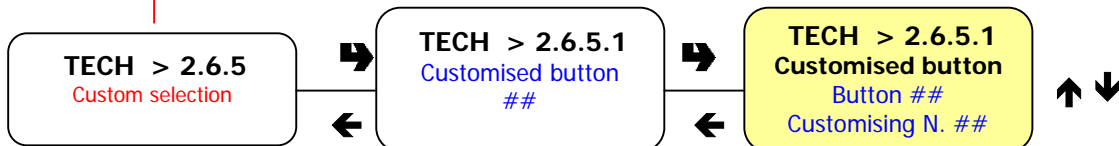


**ON** = enabled  
**OFF** = disabled

A five-figure password can be set from this menu. The default value of is set to 00000, and the password is not requested. Press buttons to move up or down one unit for each of the five figures. When reaching the desired figure, confirm with button , thus moving to the next figure



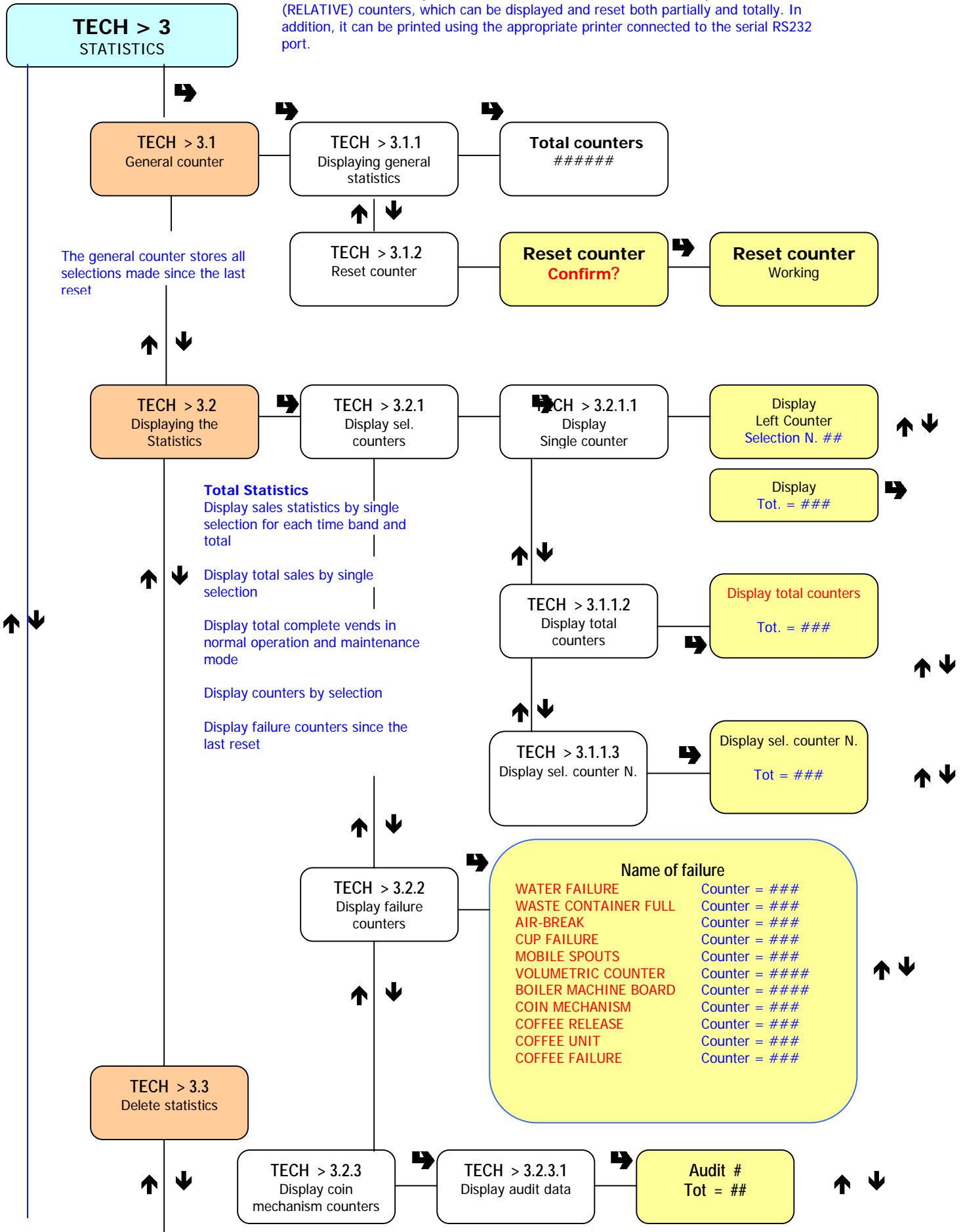
From this menu it is possible to "mask" some menus enabled for the filler, so that they are not visible and therefore cannot be used by the "Filler". After displaying the menus to be masked, press buttons to enable (ON) or disable (OFF), then press button to return to the main menu.

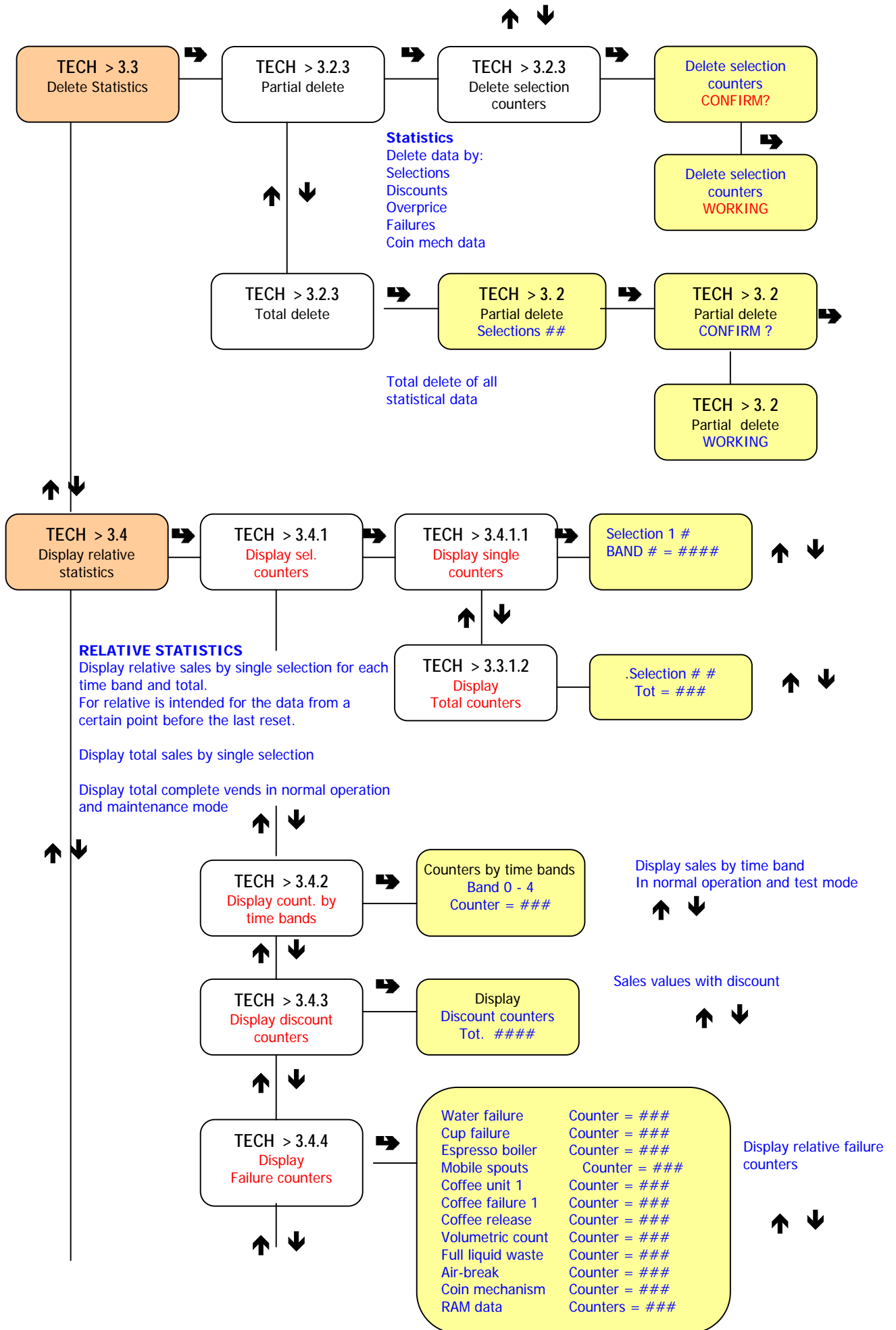


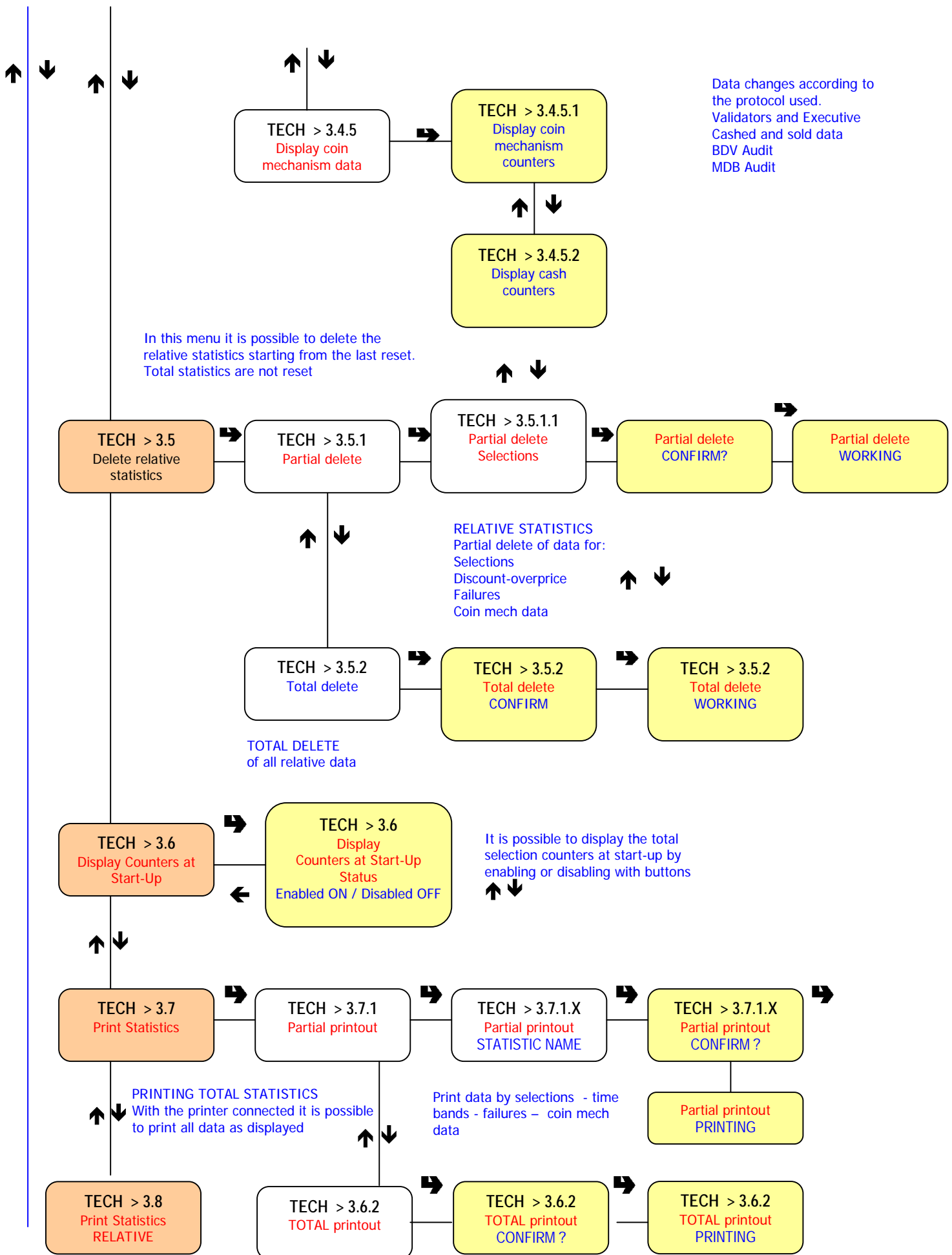
From this menu **TECH > 2.6.5** it is possible to store up to for special selections that are alternative to the standard 24. It is possible to decide to which button assign them (replacing the standard selection in the layout).



Data on the machine operations is stored in both total counters and partial (RELATIVE) counters, which can be displayed and reset both partially and totally. In addition, it can be printed using the appropriate printer connected to the serial RS232 port.







TECH > 3.8  
Print relative statistics

**PRINT RELATIVE STATISTICS, PARTIAL AND TOTAL**

With the printer connected it is possible to print all data as displayed, but only the relative ones from a certain point. (Before a reset)  
The printable data is the same as the total statistics.

TECH > 3.8.1  
Partial printout

TECH > 3.8.1.1  
PARTIAL printout  
STATISTIC NAME

STATISTIC NAME  
Partial printout  
CONFIRM ?

TECH > 3.8.2  
Total printout

TECH > 3.8.2  
Total printout  
CONFIRM ?

TECH > 3.8.2.x  
Partial printout  
PRINTING

TECH > 3.7.1  
Total printout  
PRINTING

**Heading:** current date, machine model, SW version, operator and machine codes, installation date.

Printable statistics - dispensing by:  
Complete selections, water only, powder only, without accessories, accessories only.

TECH > 4  
TEST

From this menu it is possible to make complete selections without inserting the money, or with the options indicated.

It is also possible to activate the special functions for specific tests **TECH > 4.2**

TECH > 4.1  
Test dispensing

TECH > 4.1.X  
Complete selection  
Water only  
Powder only  
No Accessories  
Accessories only

TECH > 4.1  
Select button  
##

Press a button to start complete dispensing with all accessories (sugar - cups - stirrers) or scroll through the other items of the menu with buttons ↑↓.

TECH > 4.2  
Special functions

TECH > 4.2.x  
FUNCTION NAME

TECH > 4.2.X  
WORKING

AVAILABLE SPECIAL FUNCTIONS  
Coffee unit rotation  
Coffee dose release  
Boiler emptying

TECH > 4.3  
Autotest

TECH > 4.3.1  
Autotest  
CONFIRM?

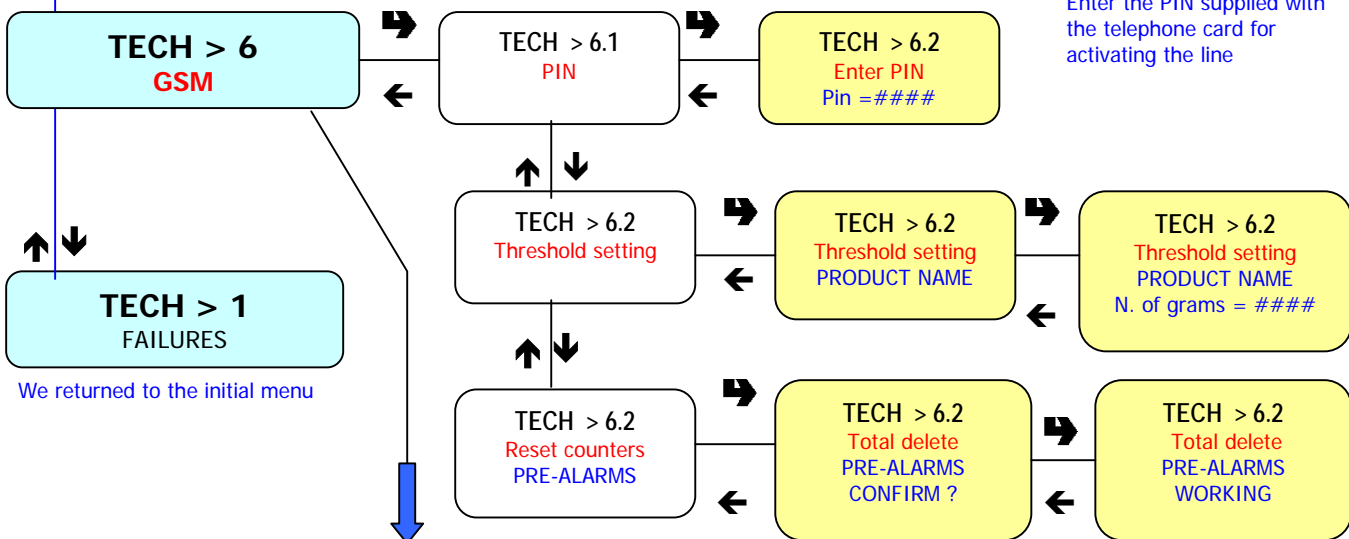
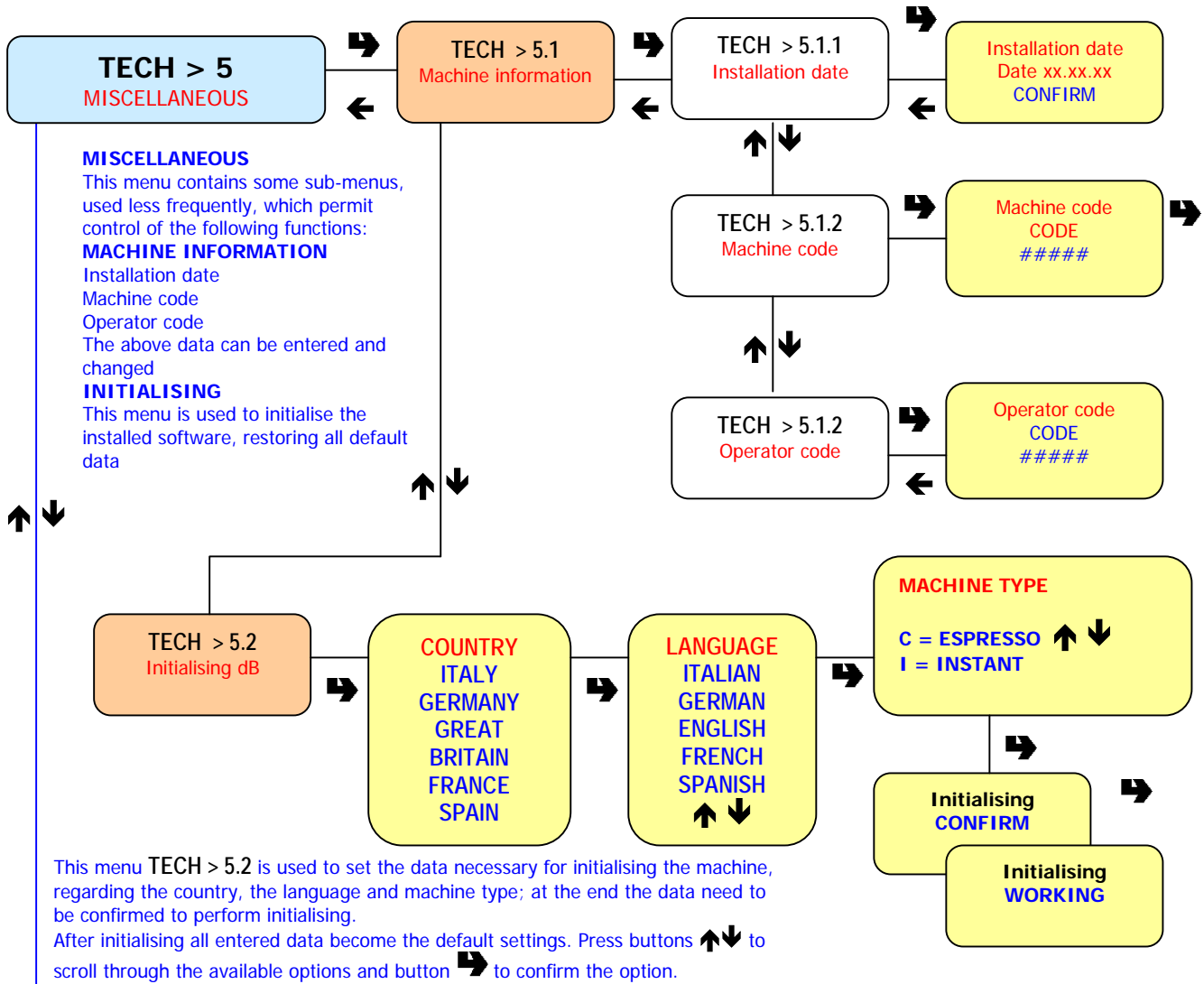
TECH > 4.3.1.X  
Function name  
WAIT PLEASE

From this sub-menu **TECH > 4.3** it is possible to auto test the functional units.  
Confirm with button → to activate in a sequence the following functional units:  
Dosers devices - whippers - cup dispenser - stirrer dispenser - fluorescent lamps - door LEDs - push-buttons\* - mobile spouts - coffee dose - unit rotation - full waste container\*  
The units marked with an asterisk \* must be activated manually by the personnel performing the test.  
The full waste container requires manual triggering of the microswitch.  
The push-buttons need to be pushed by the operator.

TECH > 4.3.1  
Push-button test\*  
Press button  
N. ##

TECH > 4.3.1  
Full waste container\*  
Operate microswitch

TECH > 5  
MISCELLANEOUS



**GSM - TECH > 6**

From this menu it is possible to send a signal for machine failure through the GSM line (if properly installed and activated) (For the failures monitored by the internal software of the vending machine).

Or:

A **pre-alarm** signal (if programmed and activated) or later an **End-of-product** signal for a given item or for any selection.

**TECH > 6. 2** from this sub-menu it is possible to totally reset the counters that control the **End-of-product** pre-alarm signals.

## FAILURES - TECH > 1

### READING PRESENT FAILURES - TECH > 1.1

When the "Failure" item 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.

### RESET PRESENT FAILURES - TECH > 1.2

When the "Reset failures" item is displayed, press the confirm button to reset the present failures.

## PROGRAMMING PARAMETERS - TECH > 2

### CASH - TECH > 2.1

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

#### SELECTION PRICES - TECH > 2.1.1

Four different prices can be set for each selection according to the programmed time bands for when the time table option is enabled. For each of the 4 time bands the 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 - TECH > 2.1.1.3

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 weekday 1-7 and then hour/minutes/seconds. If the values for start and end of the time band are set to 00.00 the time period is disabled.

#### COIN MECHANISMS - TECH > 2.1.2

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

The available payment systems are:

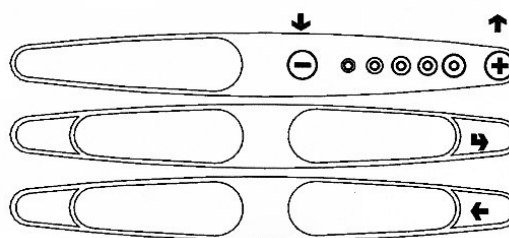
- Executive
- Validators
- BDV
- MDB

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

#### EXECUTIVE - TECH > 2.1.2.1

The following payments systems are available for the Executive system:

- Standard
- Price Holding
- Coges
- U-Key



Button function diagram for programming

#### VALIDATORS - TECH > 2.1.2.1

When the "Validat. Lines" (line setting) function of the "Technician" menu is displayed; the value of the 6 validator coin lines (A - F) 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 is 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 only B (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 (BDV only)

According to the BDV protocol 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.

### DECIMAL POINT - TECH > 2.1.3

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.

### SELECTIONS - TECH > 2.2

The selection menu is composed of various sub-menus, which allow setting of the different parameters.

#### WATER DOSE - TECH > 2.2.2.1

The water dose, expressed in cc, can be set for each selection button and therefore each product assigned to it; the display indicates the name of the product being selected.

It is also possible to set the water flow rate of the single solenoid valves expressed in cc/s (the default value setting in cc/s is indicated in the selection dose table) to calculate the amount of water to be dispensed.

#### POWDER DOSE - TECH > 2.2.2.2

The powder dose, expressed in grams, can be set for each selection button and therefore each product assigned to it; the display indicates the name of the product being selected.

For correct conversion of product dose values, the flow rate of the single dosing units, expressed in g/s, can be set to calculate the amount of powder to be dispensed. It is also possible to program the doses of a product "Globally", i.e. setting all selections with a single operation.

### ACCESSORIES - TECH > 2.2.3

Dispensing of sugar, stirrer and cup can be enabled or disabled for each single selection button, as well as the water supply from an internal tank.

### SELECTION STATUS - TECH > 2.2.4

Each single selection button can either be enabled or disabled.

### BUTTON/SELECTION ASSOCIATION TECH > 2.2.5

This function is used to change the order of the selections associated to the push-button panel.

## VENDING MACHINE PARAMETERS - TECH > 2.3

### TEMPERATURE - TECH > 2.3.1

This function is used to set the operating temperature, expressed in °C, for the boilers actually installed in the machine. After selecting the boiler, press the confirm button "##", the temperature value starts blinking on the display and can be modified as necessary.

### ENABLE WASH BUTTON - TECH > 2.3.2

This function is used to enable the functioning of the mixer wash button (see Fig. 1). Normally, the button is disabled.

### STOP COFFEE - TECH > 2.3.3

This function is used to enable/disable button "##", which stops coffee selections during normal operation



## SETTING THE REGENERATION COUNTER **TECH > 2.3.4**

Upon accessing "Filler menu" mode the message "Regenerate the water softener" can be displayed after a set number of drinks dispensed.

## AUTOMATIC CLEANING - **TECH > 2.3.5**

Option of setting the time when automatically washing the mixers and rotating the brewing units installed. When setting the time to 24.00 the function is disabled (default).

## COLUMN ROTATION DELAY - **TECH > 2.3.6**

This function is used to set the delay time in stopping the cup column rotation in order to compensate any inertia due to the cup type.

## ENERGY SAVING - **TECH > 2.3.7**

In order to save electric energy when the machine is not in use, this function is used to switch off boiler heating and/or external lighting. 2 switch-off time bands can be programmed on a weekly basis; the weekdays are identified by a progressive number (1=Monday, 2=Tuesday etc.). The same time band cannot include days from different weeks.

If time bands are set overlapping, the machine will remain switched on for the shorter period.

For example, in order to set energy saving time bands to run the vending machine from 07.00 to 22.00 during the week and leave it switched off on the weekend, the time bands should be set, using the special menu, as indicated in the table below.

Day		1	2	3	4	5	6	7
Band 1	Start	00.00	00.00	00.00	00.00	00.00	00.00	00.00
	End	07.00	07.00	07.00	07.00	07.00	23.59	23.59
Band 2	Start	22.00	22.00	22.00	22.00	22.00	00.00	00.00
	End	23.59	23.59	23.59	23.59	23.59	00.00	00.00

## DISPLAY - **TECH > 2.4**

### LANGUAGE - **TECH > 2.4.1**

There is a choice of language, selected among the ones included in the EPROM, to be used for the messages on the display.

### ENABLE PROMOTIONAL MESSAGE - **TECH > 2.4.2**

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 buttons ↑ ↓.

### SETTING THE PROMOTIONAL MESSAGE - **TECH > 2.4.2.2**

The 4-line message can be written using 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 "←".

### CUSTOMISE MESSAGES - **TECH > 2.4.3**

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.

## PRE-SELECTIONS - **TECH > 2.5**

There is the option of enabling some selection buttons to have dispensing:

- **Without cup**

- **With extra sugar, i.e. a greater amount of sugar (programmable) on all selections where it is dispensed**

- **Unsweetened, i.e. without sugar on all selections where it is dispensed**

- **Mokka, i.e. with a reduced amount of water (programmable) for coffee.**

The "-" and "+" buttons can be used to vary the amount of sugar or, alternatively of coffee.

The LEDs will indicate the average dose change.

- Strong/light, i.e. varying the amount of product (programmable) for coffee.

- Espresso, i.e. varying the amount of water (adjustable) for coffee selections.

- Coffee powder, i.e. varying the amount of product (adjustable) for instant and fresh-brew coffee.

For each pre-selection it is possible to decide whether or not it is to be enabled, which button will be assigned to, the selection price change and the percentage change in product dose.

## MISCELLANEOUS - **TECH > 2.6**

### JUG FACILITIES - **TECH > 2.6.2**

Some models, supplied with a special button, permit dispensing of a number of selections (programmable between 1 and 9; 5 by default) without cup to fill a jug

## **PASSWORD - TECH > 2.6.3**

It is a 5-digit numeric code which is required to access programming. The default value of this code is set to 00000.

### **ENABLE PASSWORD - TECH > 2.6.3.1**

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

### **FILLER MENU MASKING - TECH > 2.6.4**

This function is used to determine the filler menu options to be left active or to be disabled. The reference numbers of the menus do not change even if some are disabled.

### **BUTTON / CUSTOMISED - TECH > 2.6.5**

The machine has the option of customising up to four selections as alternative to the standard ones.

With this function it is possible to decide to which button assign them (replacing the standard selection)

## **STATISTICS - TECH > 3**

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

### **GENERAL DISPLAY - TECH > 3.1**

When pressing the confirm button "###" the stored data is sequentially displayed at 1 second intervals, and namely:

- 1 - counter by single selection;
- 2 - counter by time bands;
- 3 - discount counter;
- 4 - failure counter;
- 5 - coin mechanism data.

### **GENERAL RESET - TECH > 3.2**

Statistics can be reset either globally (all types of data) or partially for:

- selections
- discounts/overprice
- failures
- coin mechanism data

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.

### **RELATIVE DISPLAY - TECH > 3.3**

When pressing the confirm button "###" the stored data is sequentially displayed at 1 second intervals, and namely:

- 1 - counter by single selection;
- 2 - counter by time bands;
- 3 - discount counter;
- 4 - failure counter;
- 5 - coin mechanism data.

### **RELATIVE RESET - TECH > 3.4**

Statistics can be reset either globally (all types of data) or partially for:

- selections - discounts - overprice - failures - coin mechanism data

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.

### **DISPLAY COUNTERS - TECH > 3.5**

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.

### **PRINT - TECH > 3.6**

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 described in the paragraph "statistics display". The printout will also contain the machine code, the date and the software version.

Statistics can be printed partially or totally. 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 to start printing.

## **TEST - TECH > 4**

### **COMPLETE DISPENSING - TECH > 4.1**

This function is used to get a complete selection with the door open without inserting any money.

### **SPECIAL FUNCTIONS - TECH > 4.2**

After accessing this function, it is possible to:

- 1) Activate the coffee unit
- 2) Grind and release a coffee dose
- 3) Open a solenoid valve to let air in for boiler emptying

Install the boiler manually

## **AUTO TEST - TECH > 4.3**

This function allows testing of the main machine components.

Press the **CONFIRM** button and the message **"AUTO TEST"** will start blinking.

Confirm by pressing **THE SAME BUTTON** to start the auto test cycle.

In a sequence:

- 1) the doser devices are activated for 2 seconds
- 2) the mixers are activated for 2 seconds
- 3) a cup is released
- 4) a stirrer is released
- 5) the fluorescent lamps are switched on
- 6) the door LEDs are lit
- 7) the push-button panel is tested (the machine will display the number of the button which must be pressed and awaits the actuation before going to the next button)
- 8) the dispensing spouts are operated/repositioned
- 9) (for espresso models only) the coffee unit is rotated, coffee is ground and then released when a full dose is reached.
- 10) waste container switch (the machine awaits until the waste container microswitch is manually operated)

## **MISCELLANEOUS - TECH > 5**

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

### **MACHINE INFORMATION - TECH > 5.1**

#### **INSTALLATION DATE - TECH > 5.1.1**

This function is used to store the current date of system as installation date.

The date is printed when retrieving the statistics.

#### **PROGRAMMING THE MACHINE CODE - TECH > 5.1.2**

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

#### **PROGRAMMING THE OPERATOR CODE - TECH > 5.1.3**

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

### **INITIALISING - TECH > 5.2**

When the "Initialise" function is displayed the vending machine can be initialised restoring all default data. This function should be used if there is a memory data error or when the software is replaced.

All statistic information will be reset.

Press confirm button to display the message "Confirm?". Press again the confirm button and some parameter are requested, and namely:

#### **"MODEL"**

Defining whether the machine is Espresso or Instant.

#### **"COUNTRY"**

Intended as type of doses to be used for the selections

e.g. IT coffee = 45 cc FR coffee = 80 cc

The available countries are: IT – FR - ES

#### **"LAYOUT"**

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

#### **"TANK"**

This function is intended as water supply from a tank. It can be enabled or disabled (water supply from the mains). When confirming the option the message **"Working"** is displayed for a few moments.

## **GSM - TECH > 6**

The control software can send a machine failure signal or a **"running-out"** **"pre-alarm"** signal via GSM modem when a programmed number of selections for a certain product.

### **PIN CODE - TECH > 6.1**

This function is used to program the identification codes that will be sent to the GSM modem (optional).

### **THRESHOLD SETTINGS - TECH > 6.2**

This function is used for setting the number of selections for each product after which a **"running-out"** pre-alarm signal is sent via modem.

#### **RESET COUNTERS - TECH > 6.2.2**

With this function the counters that control the pre-alarms are reset.