



## **SERVICE MANUAL**

# **“ SFERA ”**

## **BASIC TECHNICAL MANUAL**

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

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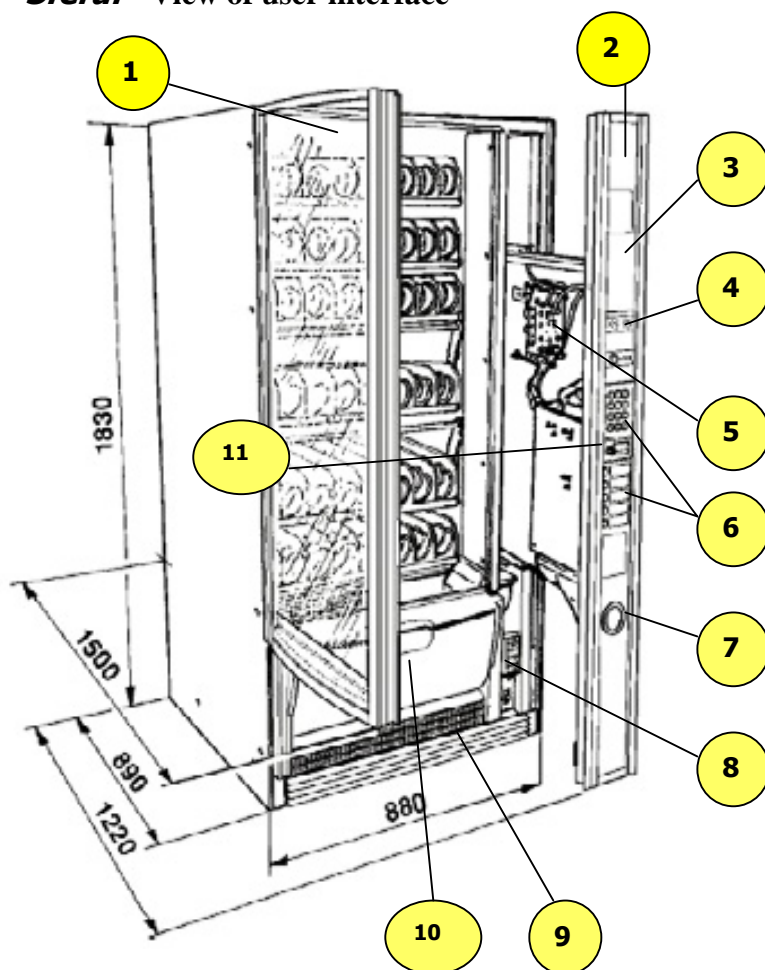
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### NOTE

The above systems and functional units are specific to this machine.

All functional units installed but not listed in this document, are also used in other machines in the same range; therefore they will be described in a separate manual for machines belonging to the same range, where all base functional units will be described more in detail.

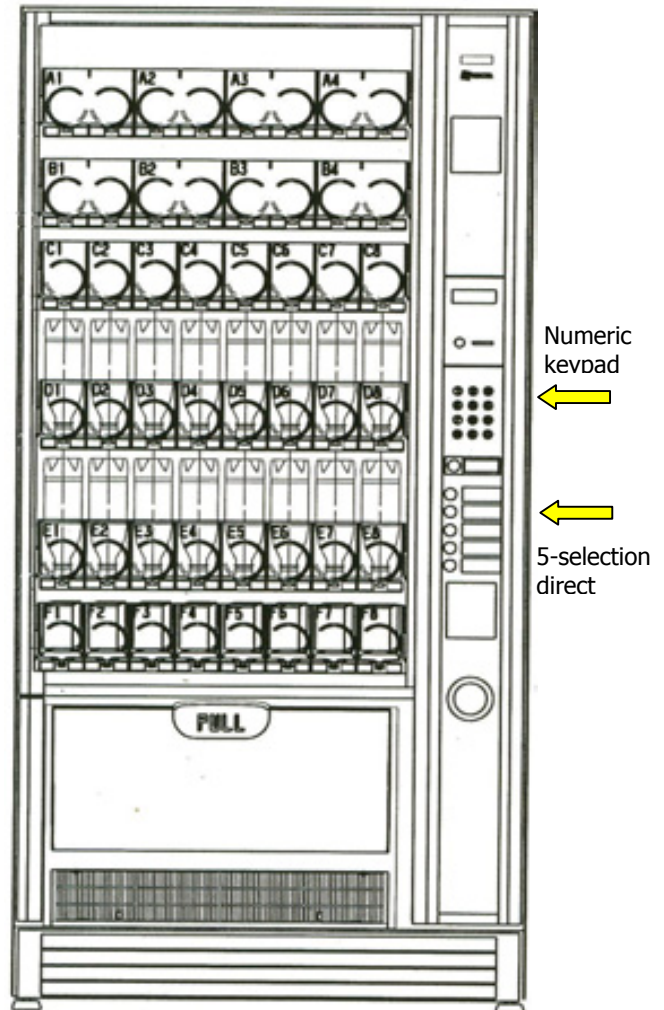
### **Sfera:** View of user interface



Ref.	DESCRIPTION
<b>1</b>	Rounded glass door
<b>2</b>	Advertising spaces
<b>3</b>	Compartment pre-set for key-type payment systems or other systems
<b>4</b>	Machine status information display
<b>5</b>	CPU board
<b>6</b>	Double keypad with direct and numeric selection
<b>7</b>	Coin return compartment
<b>8</b>	Power supply unit / fuses / door safety switch
<b>9</b>	Removable grille for cleaning the condenser's filter
<b>10</b>	Product dispensing compartment
<b>11</b>	Key lock

# 1 – LAYOUT - MODELS

DESCRIPTION	VARIABLES
<b>TRAYS</b>	Up to 6 max
<b>HEIGHT OF TRAYS</b>	96 mm min and up to 219 mm max
<b>PARTITIONS PER TRAY</b>	2 triple + 1 double (or 2 singles) 4 doubles 8 singles
<b>PRICES PER TRAY</b>	One for each selection
<b>TIME BANDS</b>	Available for configuration
<b>PAYMENT SYSTEMS</b>	Serial – EXE- as standard feature MDB – BDV – with additional board
<b>VEND SYSTEMS</b>	With single and double spiral
<b>DIMENSIONS</b>	<b>H 1830 x L 880 x D 890</b>
<b>WEIGHT</b>	-----
<b>OVERALL DIMENSION (with door open)</b>	<b>H 1830 x L 880 x D1 1500</b>
<b>LAMP</b>	1 x 36 W (Flourescent/Neon)
<b>ABSORBED POWER</b>	<b>510 W</b>



Example of Sfera model's codification  
**Layout Italy - Version**  
**6-40R / I LX**

**Meaning:** *SFERA* with 6 trays for a total of 40 selections

**Refrigerated version R** (a non refrigerated version is also available)

**Country:** Italy **I**

Approved by **IMQ Q**

**NB 1:** (if the letter Q is not present it means that such version is not approved by IMQ, or that it is awaiting approval)

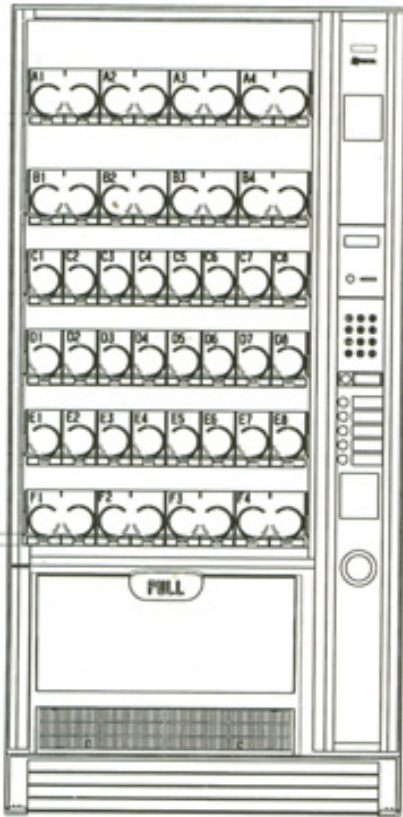
**Version LX** - Model with double keypad (Numeric and direct for five advertised selections)

**NB2:** without such code, the machine is supplied with only the 12-button numeric keypad

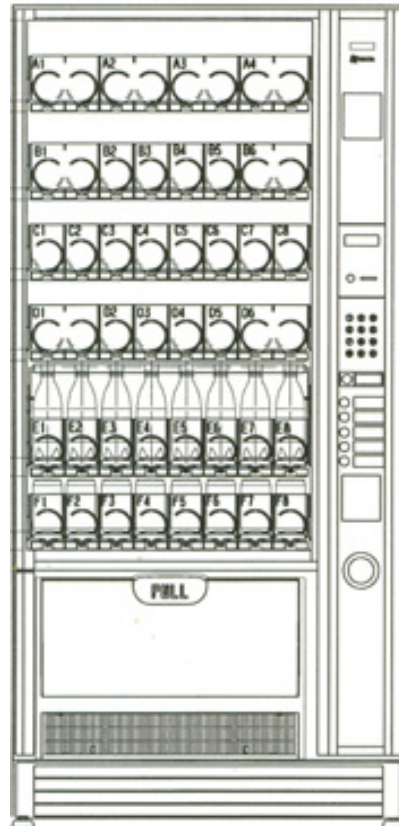
**Examples of different tray configurations and positions.**

The examples correspond to real layouts (the code is indicated on the side); in any case there are many configurations options with simple and quick change operations.

Release spirals with different pitches are provided, as indicated in the user manual

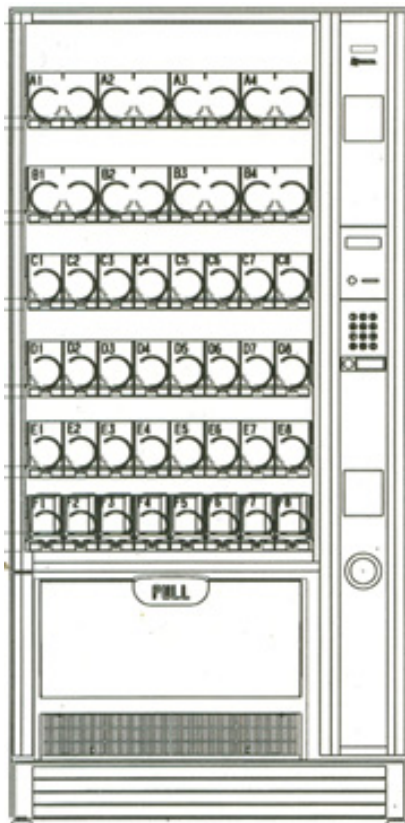


**Sfera 6 – 36 R/F**

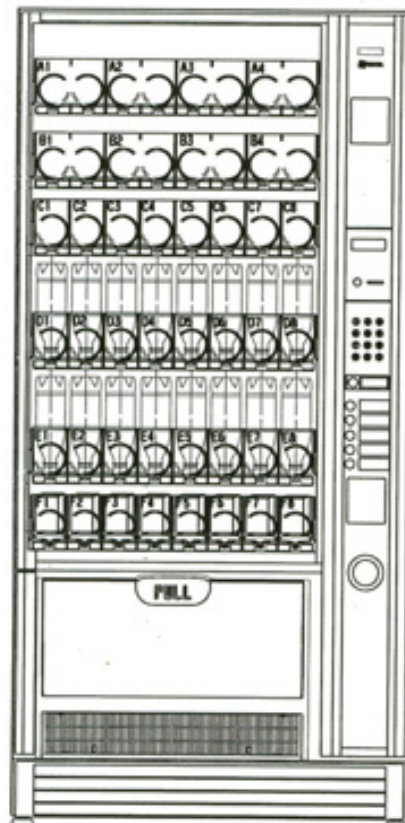


**Sfera 6 – 40 R/F**

Versions provided for the French market



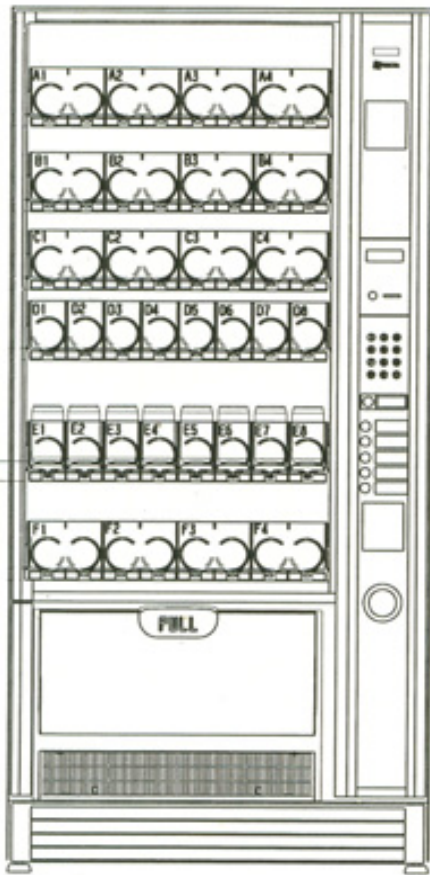
**Sfera 6 – 36 R/I**



**Sfera 6 – 40 R/I LX**

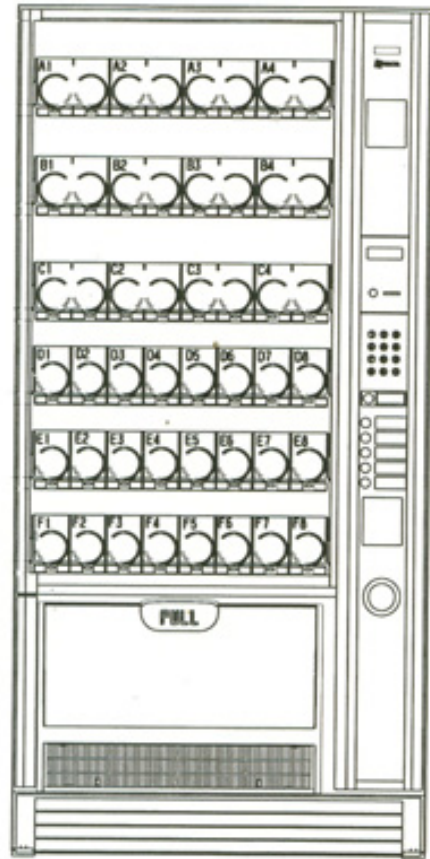
Versions provided for the Italian market



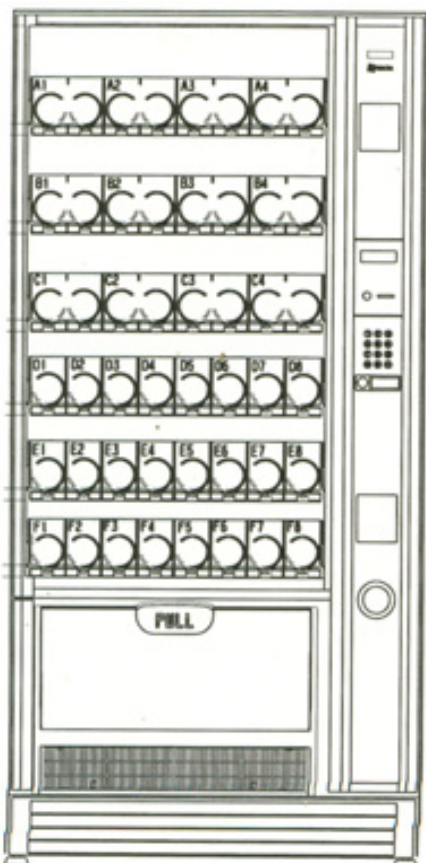


**Sfera 6 – 32R / E**

Version provided for Spain



**Sfera 6 – 36R/UK**

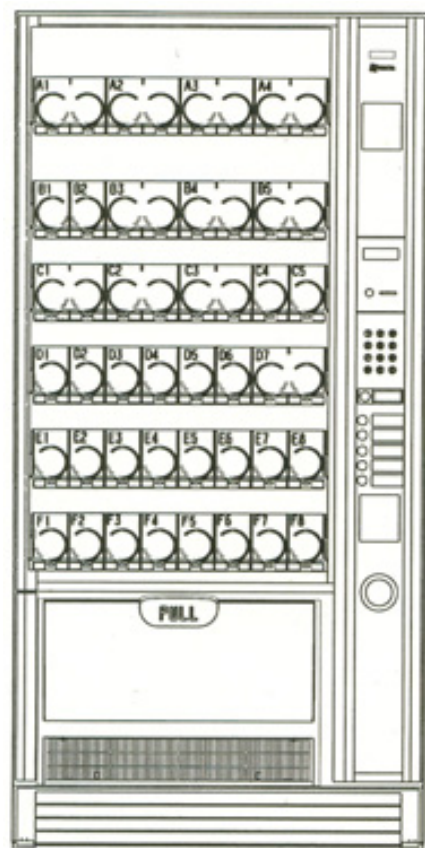
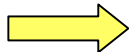


**Sfera 6 – 36R / B**

Version provided for Belgium



Version provided for Germany



**Sfera 6 – 36R / D**

## 2 - ELECTRICAL SYSTEMS - CONNECTIONS - CONFIGURATIONS

The machine is designed to operate under a single-phase voltage of **230 V AC (+5-10V)**

It is protected with **two T 6,3 A** fuses on both phases.

A safety transformer supplies power to very-low voltage components (**24 V DC**), while the cooling unit and the Fluorescent lamp are powered with the mains voltage.

With regard to the safety transformer:

The primary winding is protected with a **T 800 mA fuse**

The secondary winding 25 V is protected with the following fuses: **T 1 A – T 4 A**

The slide-out compartment door is fitted with a bipolar safety switch.

The switch is located on the front panel of the power supply unit, and when opening the compartment it disconnects the power from all parts that can be accessed for normal maintenance and cleaning operations. The only parts that stay energised are those protected by suitable covers carrying a plate with the warning **"Disconnect power before removing the cover"**; to clear the voltage the power the power supply cable must be disconnected from power outlet or in the case of connection to a dedicated power board, it should be set to **OFF**

The power cable can be supplied as standard feature and chosen among the following types:

HO5 RN – F copper with a 3 x 1.5 mm<sup>2</sup> section

1) HO5 VV – F " " " "

2) HO7 RN – F " " " "

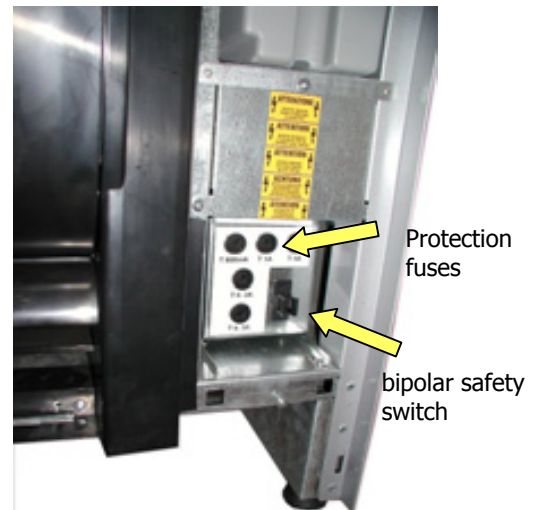
In all configurations the cable is fitted with a **SCHUKO** plug permanently fixed to the cable

### NOTE :

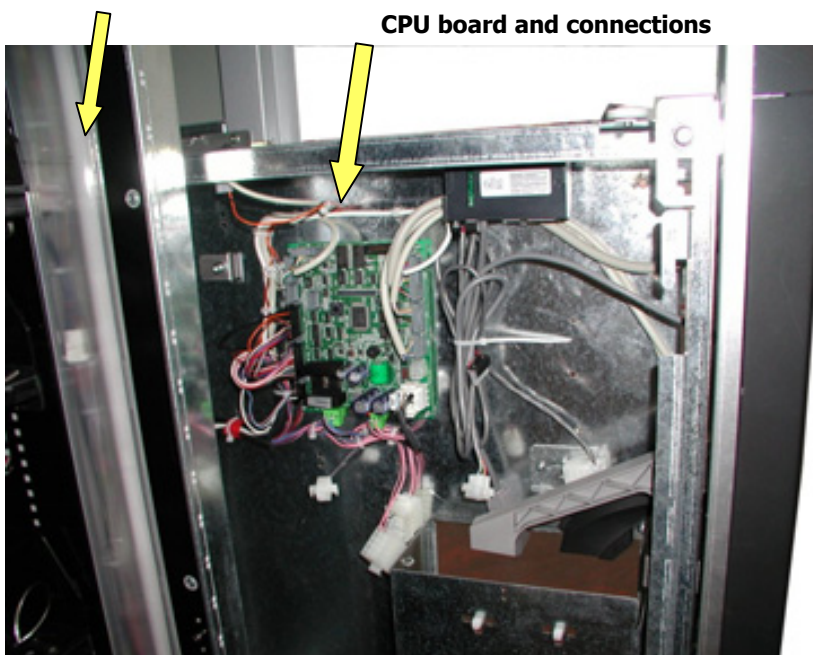
In the event of replacement cables of exactly the same characteristics must be used.

Since the "SFERA" vending machine is approved by an electrical safety certification institute (IMQ), replacements with non-original components are not permitted.

Otherwise the electrical safety certificate and the warranty will be void.



### Fluorescent lamp compartment



### ACTUATION BOARD AND CONNECTIONS (Electrical compartment open)

A fluorescent lamp is located vertically on the right-hand side inside the cabinet; the starter is fitted inside the lamp holder. (see page 12)

The ballast is located inside the power supply compartment.

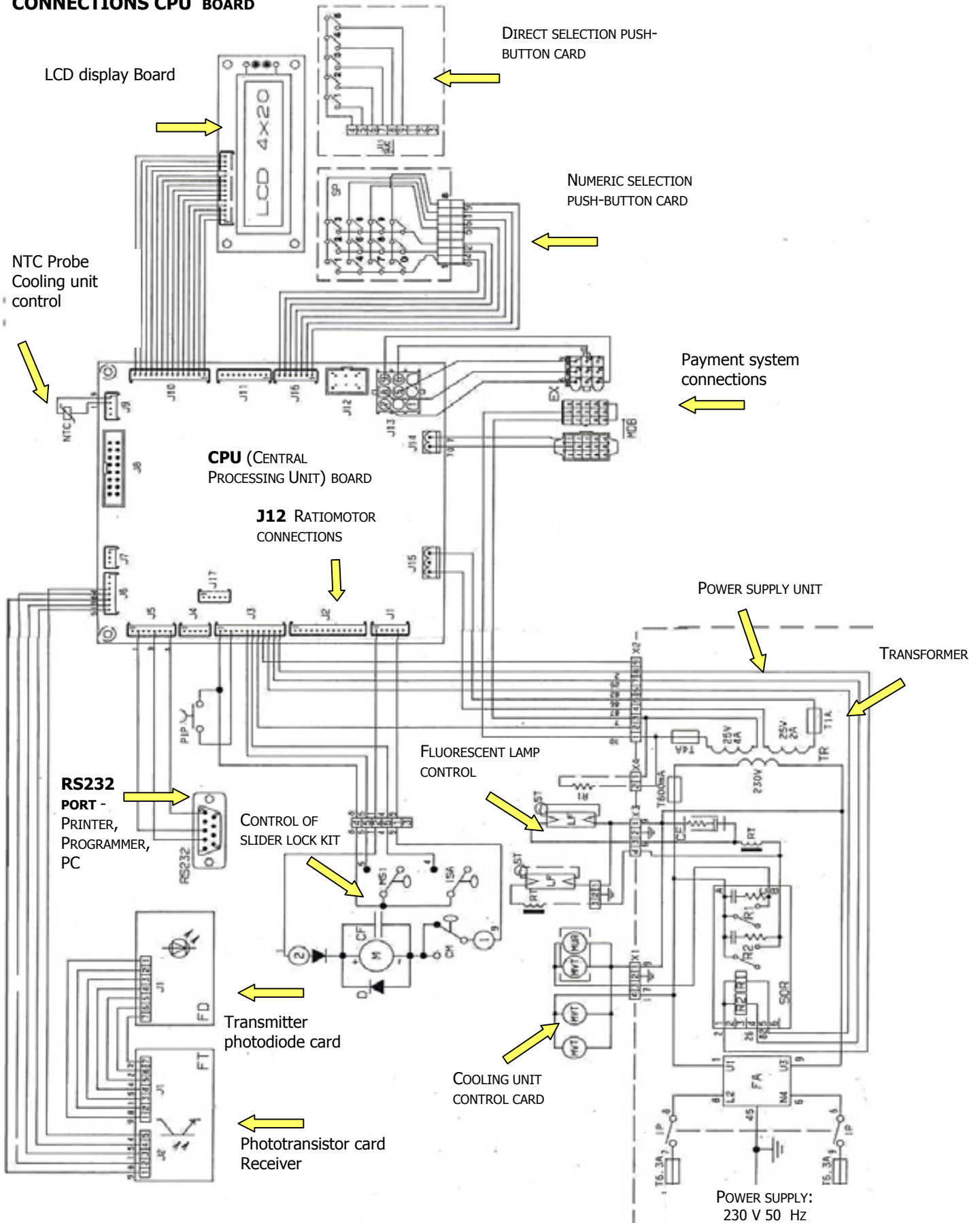
The CPU board controls also the 24 V actuations by means of TRIACs and Darlington switches, while the lamp and the cooling unit are controlled by a relay card located inside the power supply compartment. (see page 12)

Some versions are provided with monitoring of the selected product fall into the dispensing compartment by means of a card with receiver/transmitter diodes (infrared).

If during a selection the barrier is not interrupted it means that a product is finished or jammed, in this case the system will further attempt releasing the product with small rotations; if also this fails the selection is disabled and the customer is entitled to a new selection.

# 2.1 – CONNECTIONS, BOARD, WIRING DIAGRAMS

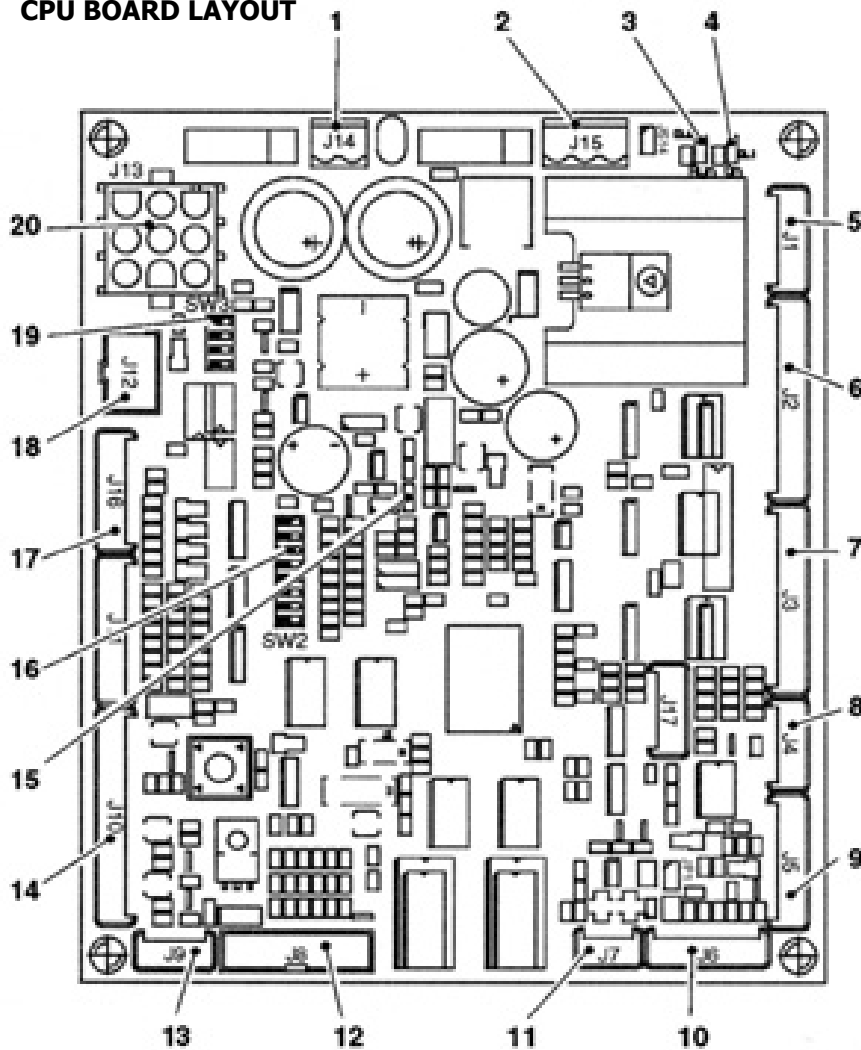
## CONNECTIONS CPU BOARD





# CPU BOARD( SUC)

## CPU BOARD LAYOUT



The CPU board is housed inside the payment system compartment, on the sliding door, and includes all low-voltage (24 V DC) actuations, it controls the display, the push-button card, the photodiode barrier, the payment system and the NTC probe that monitors that cooling unit temperature.

The software is written in a Flash EPROM that, by means of a special program, can be rewritten and updated without replacing. It is powered from the power supply unit through connection J15 (ref. 2)

The photodiode barrier is supplied as standard feature in some versions, or as an after-sales kit.

### COLOURED LED FUNCTIONS

#### GREEN LED

blinking during the normal operation

#### YELLOW LED

It glows when 5 V DC is present in the board

#### RED LED

it glows when the software is reset (program malfunction)

#### Minidip functions 1-4

REF.(20)

Coin mechanism setting 2-3

By default set to OFF

#### Minidip 1-8 (16)

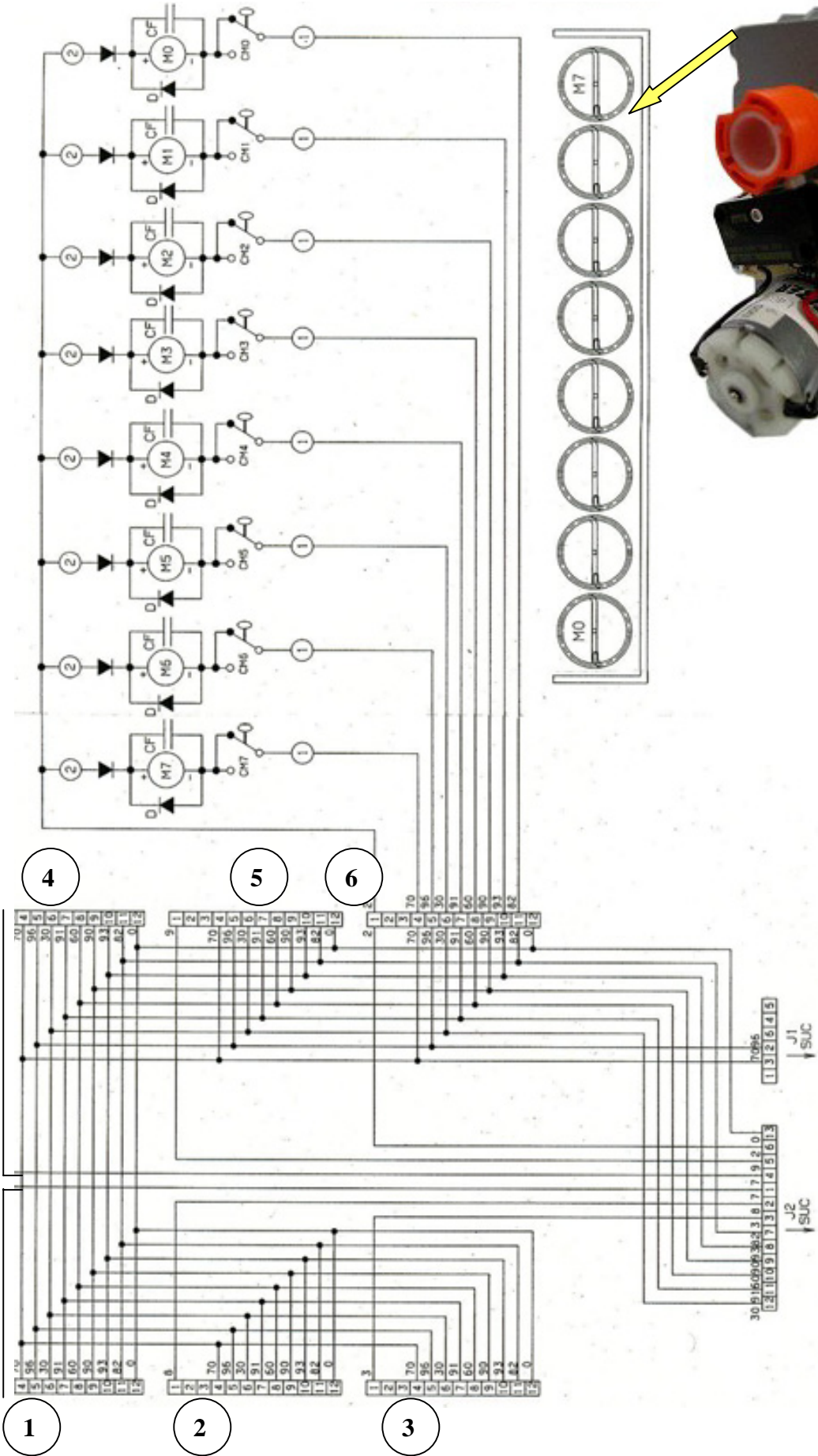
Default configuration setting fixed to OFF

Both minidips will be eliminated in the near future, therefore since now the configuration is only via software setting.

N° rif.	COMPONENT DESCRIPTION	N° rif.	COMPONENT DESCRIPTION
1	Coin mechanism power supply connector	11	CAN BUS connector
2	Board power supply connector	12	Validator connector
3	<b>GREEN LED</b> ( DL2)	13	NTC sensor connector
4	<b>YELLOW LED</b> 5 V dc ( DL1)	14	LCD display connector
5	Connector for push-button panel LED's	15	<b>LED RED</b>
6	Spiral ratiomotor control connector	16	Configuration minidip SW2 (will be eliminated)
7	<b>RED LED</b> reset CPU	17	Selection push-button panel connector
8	Input/output connector	18	Expansion board connector for MDB
9	Connector not used	19	Coin mechanism setting minidips
10	Programmer device connector	20	Expansion board connector for BDV / EXE



Detail of spiral control ratiomotor



To connector  
**J 12**  
CPU board

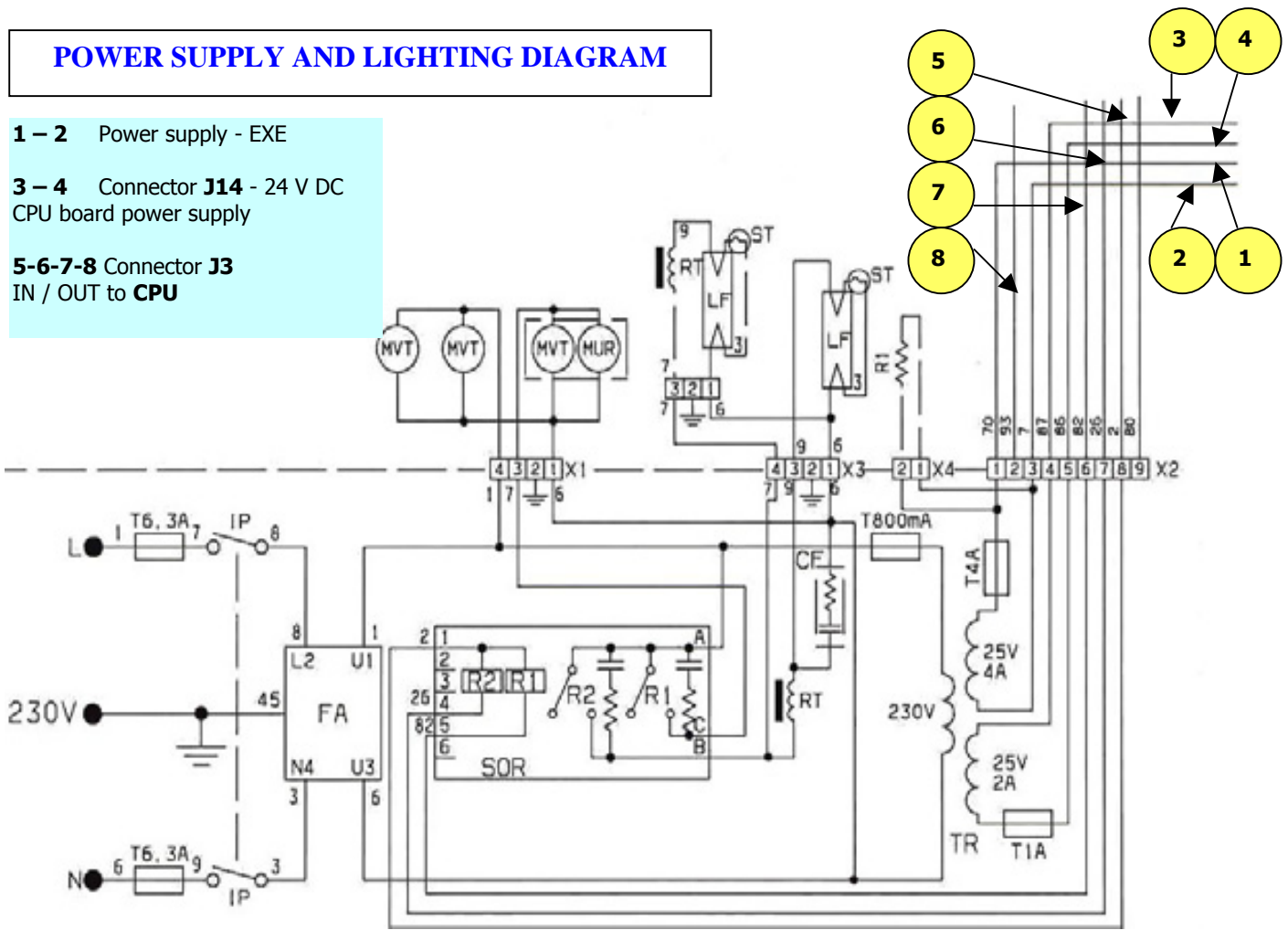
TRAY CONNECTION WIRING DIAGRAM

## POWER SUPPLY AND LIGHTING DIAGRAM

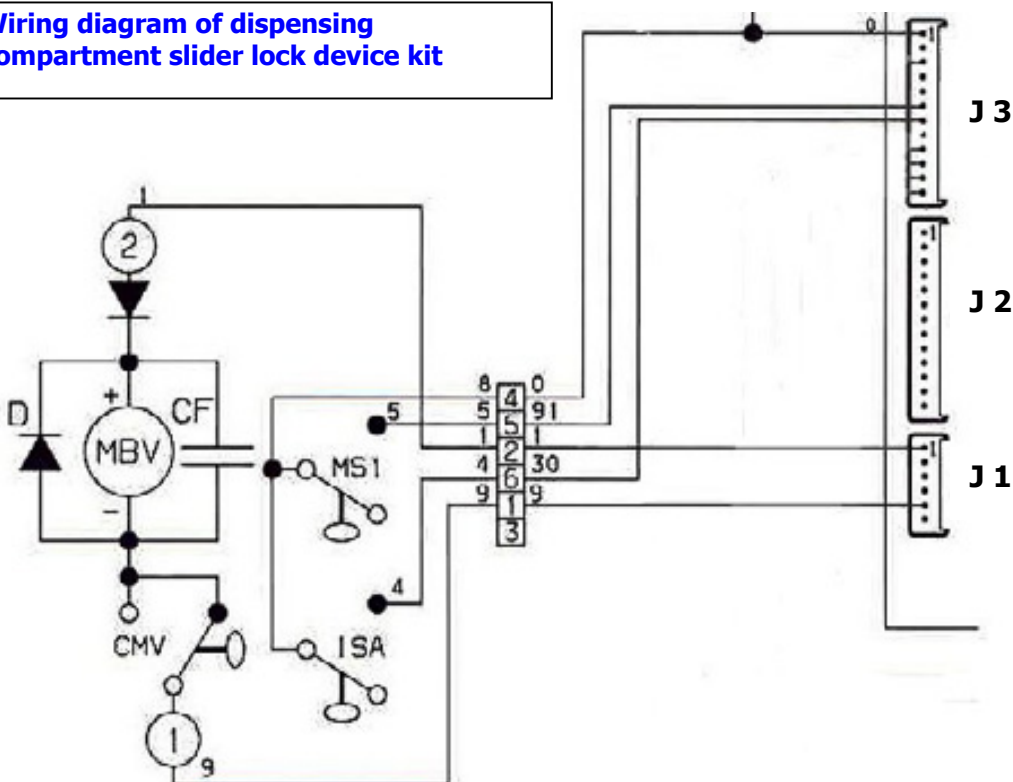
**1 – 2** Power supply - EXE

**3 – 4** Connector **J14** - 24 V DC  
CPU board power supply

**5-6-7-8** Connector **J3**  
IN / OUT to **CPU**



## Wiring diagram of dispensing compartment slider lock device kit



# 3 – VENDING SYSTEMS

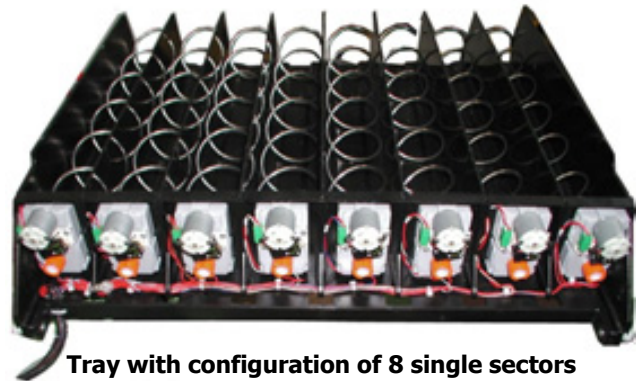
"Sfera" is a vending machine belonging to the S&F range, with product dispensing by means of the rotation of spirals. During their rotation the steel spirals, because of their "auger effect", push forward the product loaded onto the tray, dropping it in the dispensing compartment.

As an optional kit on request, some versions are provided with infrared barriers with receiver/transmitter diodes and transistors that detect the falling product and signal to the software that the product was released correctly. In the event the barrier is not interrupted, the option of trying the selection again is given; if the selection fails again, the option of another choice or refund is given. (SW option)

The tray is modular, and by simply moving the partitions it is possible to change it from single to double or triple; there are also some specific accessories for dispensing special products. Different pitch spirals are provided, to be able to dispense 20 to 76 mm wide products.

In addition the spirals can be right or left hand, to be used in double compartment configuration with double spiral. The ratiomotor is fitted with a "minidip" switch to reverse the rotation.

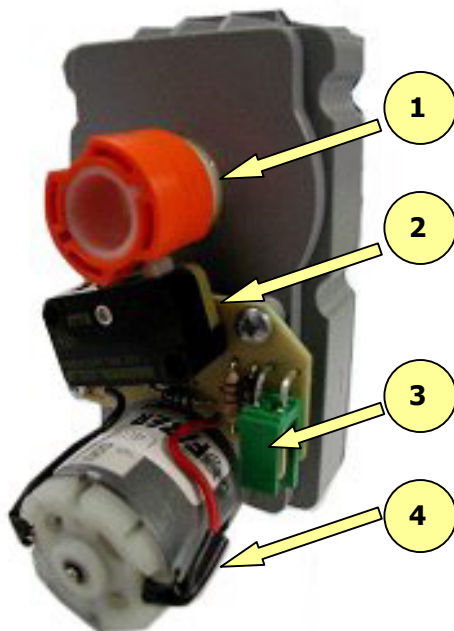
The tray is held into position automatically by a stop located on the guides; to slide out the tray it need to be lifted slightly from the front and then pulled fully to the second safety stop. To extract it completely it needs to be lifted further and then removed (after disconnecting the electrical connector located on the right side). As standard feature, the vending machine is provided with 6 trays, however up to 8 trays can be fitted by reducing the space between trays (see configuration instructions).



Tray with configuration of 8 single sectors - View from ratiomotors side



Tray with configuration of 8 single sectors - View while being removed



## SPIRALS ROTATION RATIOMOTOR

- 1 - Limit microswitch control cam
- 2 - Microswitch
- 3 - Motor control card
- 4 - Motor

Availability of spiral pitches and direction of rotation

### Useful pitch:

20, 26, 30, 36, 42, 50, 60, 76 right and left rotation

20 Right-hand 180° rotation with central partition for dispensing sticks



# 4 - POWER SUPPLY AND WIRING

Like all other NECTA products, the "SFERA" vending machine is type-approved (or awaiting approval) by IMQ, therefore all components and electric units are certified as conforming to European directives, and all cables are fully sheathed and provided with double insulation. The door cables are sectioned and fitted with special connectors to facilitate disassembly of the door.

All connectors for the vending machine control function branch out from the power supply unit: Keypads, payment systems, ratiomotors, heating elements, display, cooling units, electronic cards.

The power supply unit transforms the grid electricity to 24 V AC and the CPU board acts as rectifier and controller of actuations to the power users.

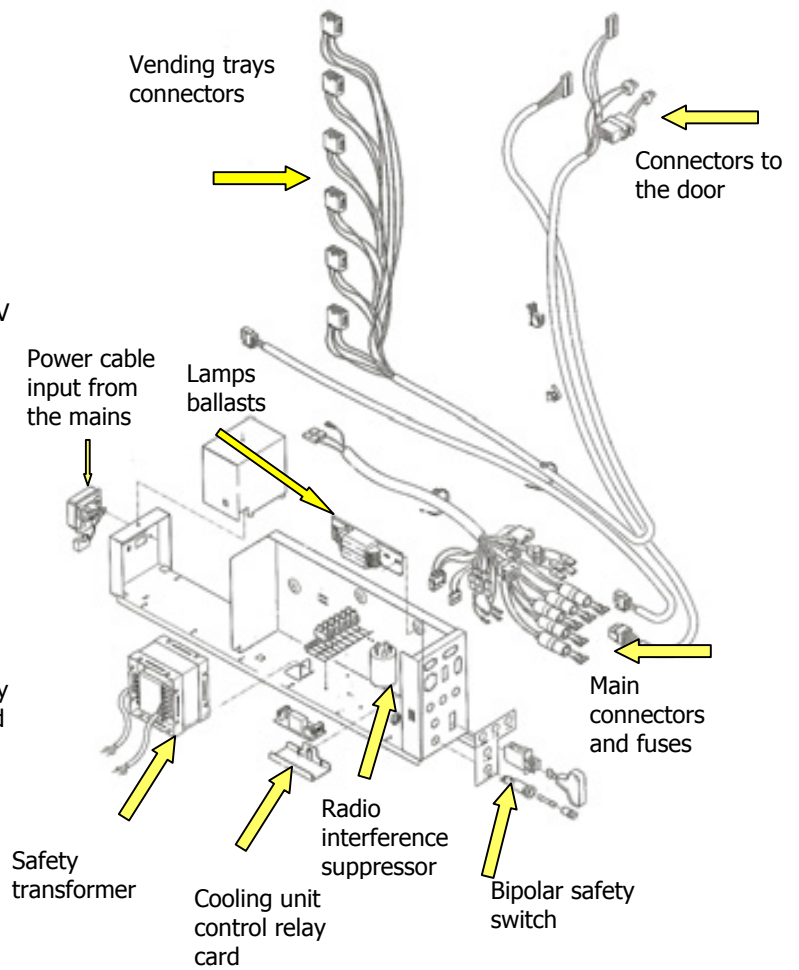
All actuations are under extra-low safety voltage, while the lamps and the cooling unit are controlled by means of special relay cards at the grid voltage.

The power supply unit is housed in a removable galvanised steel metal box for greater accessibility.

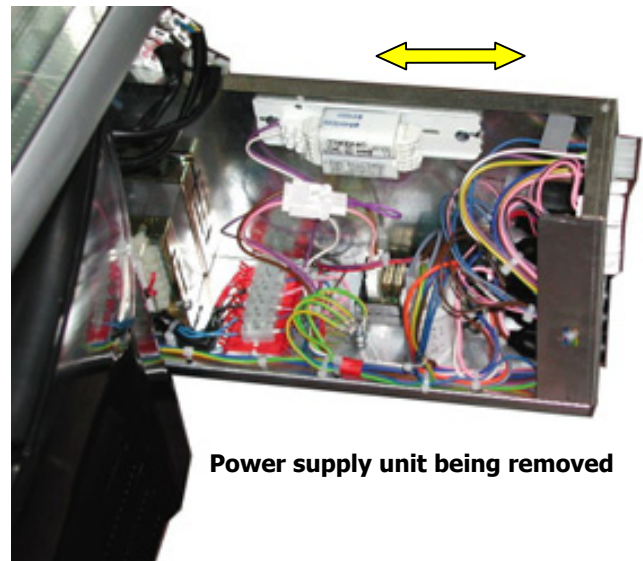
When opening the door a safety switch is deactivated, disconnecting the power from all accessible parts.

The unit is protected by electrical interference suppressor systems in conformity with the European directives.

The power supply unit houses a safety transformer for the extra-low voltage, the grid fuses, the transformer secondary winding fuses, the fluorescent lamps ballasts, the relay card for controlling the cooling unit, the noise interference suppressors and the safety switch.



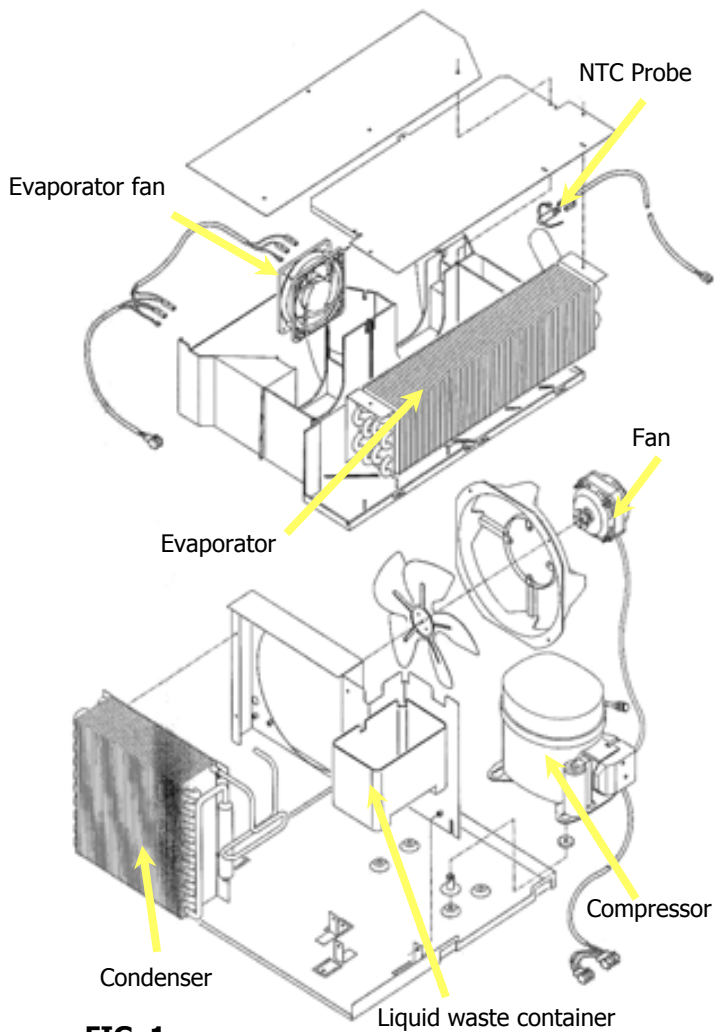
**Power supply unit in operating position showing fuses and safety switch with protective casing**



**Power supply unit being removed**



# 5- COOLING UNIT



**FIG. 1**

The internal temperature controlled by means of an **NTC** type electronic, controlling a traditional type cooling unit, but with design features that will bring it to the top of what is currently available on the market.

The NTC probe has an internal resistance that varies according to the ambient temperature change.

At the temperature of 0° C it is 2612 Ohm  
 At the temperature of 3° C it is 2267 Ohm  
 At the temperature of 30°C it is 733 Ohm

This way the software controls the unit switching on and off with extreme accuracy.

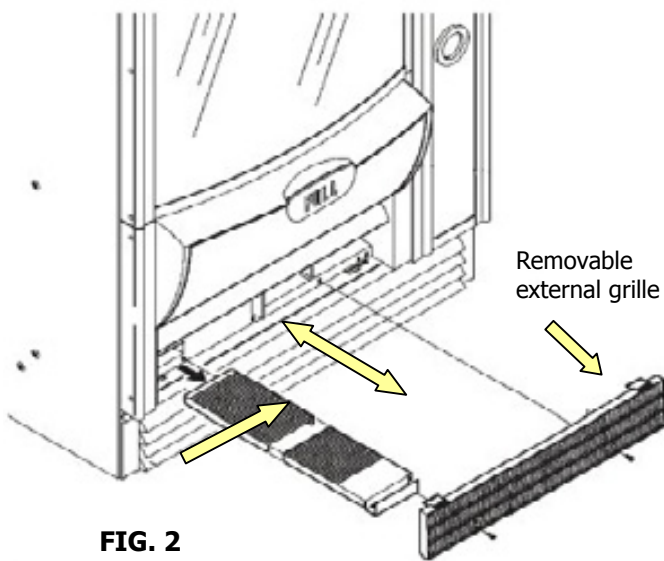
The unit is controlled by means of a relay card located in the power supply unit (SOR card).

When the machine is switched on, the software reads the value (in Ohm) from the NTC probe and, according to that value, sends a signal to the relay card that activates or deactivates the cooling unit operation.

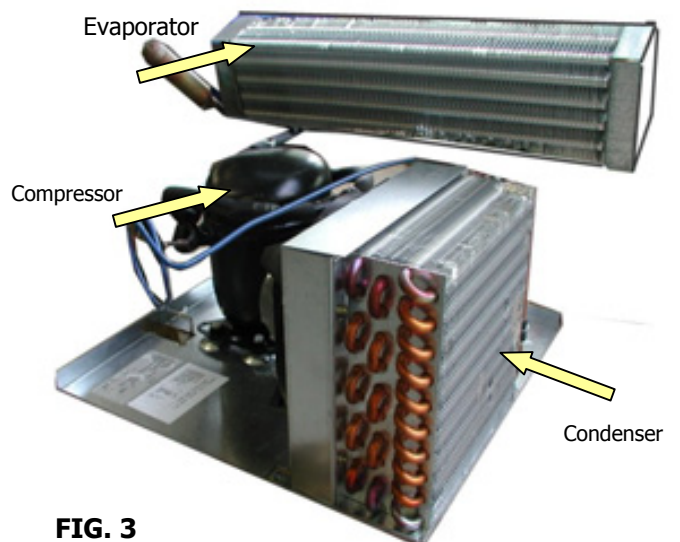
The cooling unit is very compact, with the air intake for the condenser cooling from the lower part of the base through a filter that removes the dust; such filter is accessible and easy to remove for cleaning FIG. 2. The cooling air is expelled from the front side through the lower grille, allowing installation in a bank of machines or in a small space without causing problems to the cooling unit.

In order to completely remove the cooling unit the dispensing compartment assembly has to be removed (quick and simple operation), therefore remove the fastening screws from the unit and support the evaporator during the extraction operation, ensuring that the power cable and the power supply unit connector are disconnected. FIG 3

The control software has the option of setting switching on time periods, or the safety temperature. See specific programming manual for further details. It is possible to set the first two trays with a temperature suitable for perishable food products.



**FIG. 2**  
Condensation dust removing filter



**FIG. 3**  
Perspective view of cooling unit

## 6- CABINET AND DOOR

The cabinet is made of pre-varnished sheet-metal, assembled with rivets and various reinforcements; pre-formed polystyrene foam insulation panels are placed between the external pre-varnished sheet-metal part and the internal refrigerated box part.

The advantage of this solution, compared to the injected polyurethane foam insulation, is mainly from an environmental point of view, as in the event of future scrapping of the machine, the cabinet can be disassembled completely without any complications. (almost impossible in the case of cabinet injected with foam and welded)  
The base is made from sturdy sheeting, welded and varnished to obtain greater stability. The feet are adjustable for perfect levelling. By removing the lower grille a regular trans-pallet can be used for routine movement of the machine.

The SFERA is provided with two opening systems: main door and side sliding compartment.

The main door, for loading products, is a glass front type with double glazing.

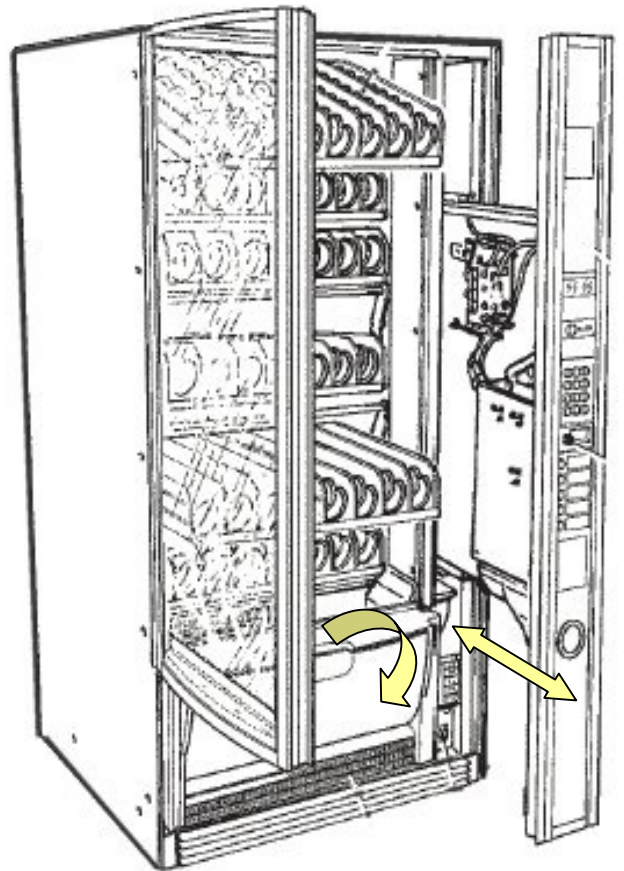
The handle for opening is part of the perimeter profile of the frame, and locking is by means of a single lock located inside the sliding compartment on the right.

A sliding compartment is located on the front right side, with the user interface integrated on its front panel; the CPU board and the payment system compartment are fitted inside on the central wall.

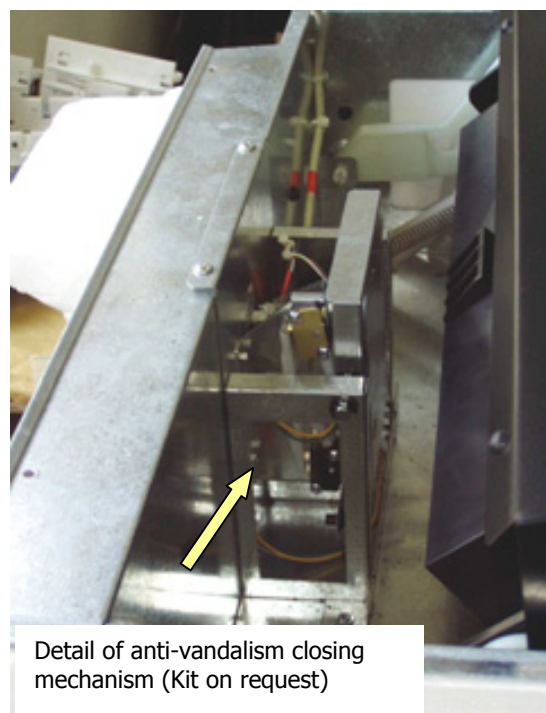
The following are fitted on the front panel (user interface) : the main display, the coin slot and the coin return button, the selection keypad and the lock, that as well as ensuring a three-point lock it keeps the glass door closed.

The sliding compartment is protected by a safety switch that disconnects the 230 V AC power, leaving anyway the option of operating in programming mode by inserting the special key in the safety switch slot.

The dispensing compartment, with hinged hatch opened from the upper side, is located on the lower base; such compartment is fitted with an anti-theft device and anti-vandalism system that will keep it closed when no selections are made, permitting opening only during a selection.



Before opening the glass door the sliding door, provided with a lock, must be opened. To close everything proceed in the reverse order, i.e. close the glass door, then push the sliding compartment into position and lock with the key.



## 7 – TROUBLESHOOTING

<b>PROBLEM</b> (and/or indication on the display)	<b>POSSIBLE CAUSE</b>	<b>SOLUTION</b>
<b>The display indicates the message:</b> <b>“Compressor”</b>	If the compressor runs for 24 hours consecutively without the cabinet reaching the temperature set via the SW, the machine is locked and the selection disabled. The following could be the cause: Lack of gas in the refrigeration circuit due to possible leaks. Failure to the evaporator’s electric fan. Failure to the condenser’s electric fan or PTC triggered. Clogged lower and/or side grille Failed probe (in this case the message “probe failure” will be displayed)	Normally two to four hours are required to reach the operating temperature (according to the load). A longer time means that there is a malfunction: check for any small leaks in the refrigerating gas circuit; if necessary repair the leak and charge with the correct dose of gas. Check that the electric fans work correctly. Check for the correct cooling airflow inside the refrigerated box. In the case of failure to components, replace with original parts.
<b>The display indicates the message</b> <b>“Coin mechanism”</b>	If the CPU for more than 30 seconds does not receive communication impulses from an Executive serial coin mechanism, or 75 seconds from a BDV serial coin mechanism, or if it receives an impulse for longer than 2 seconds, the machine locks and the selections are disabled.	Replace the coin mechanism with one that is certain to work and check the communication. Check connections. Check the CPU board, and if necessary replace with that is certain to work. Check that the 24 V DC power supply fuse is intact.
<b>The display indicates the message</b> <b>“RAM data”</b>	One or more areas of the RAM contain wrong data, which could change the operating default values. The machine will continue working, but some parameters could have been changed, with consequences to the general functioning - the RAM needs to be initialised as soon as possible to recover data from the EPROM.	Initialise the CPU again. After initialising, all data settings will go back to the default settings; restore the customised data using the programmer or a PC. If, in spite of initialising, the malfunction persists, replace the CPU board with an already tested one that is certain to work. If the malfunction persists, replace the cables or check the suitability of connections. The machine was designed to comply with the EMC directive, but if located in an environment subject to high interference immunity problems could arise, therefore in the event of such interference persisting the vending machine should be moved to a different location.
<b>The display indicates the message</b> <b>“Probe”</b>	The temperature control probe in the refrigerated box is of the NTC type, with the internal resistance that lowers as the temperature rises. If the probe is interrupted, the machine locks after 5 minutes from the failure and the selections are disabled (THE DISPLAY WILL INDICATE THE TEMPERATURE – 5 ° C) If there is a short-circuit in the probe, the machine locks after 60 minutes and the selections are disabled (THE DISPLAY WILL INDICATE THE TEMPERATURE +32° C) <b>NB:</b> AFTER THE SENSOR FAILURE HAS BEEN DISPLAYED FOR TWO HOURS, A COMPRESSOR FAILURE WILL ALSO BE INDICATED.	Check the internal resistance in the NTC probe using a digital multimeter: A resistance of 730 ohm corresponds to a temperature of 30° C. A resistance of 2612 ohm corresponds to a temperature of 0° C (melting ice). Replace the probe with an original one; before installing the new one check that the internal resistance corresponds to the above parameters. Reset the failures by accessing the special software function. See programming manual



<p><b>The display indicates the message</b> <b>"Motor failure n. XY"</b></p>	<p>At machine start, an automatic test routine checks the presence of trays and their number, therefore a motor failure is not indicated, as they are not activated. When a selection is made a microswitch is activated, which must close at the end of the cycle; should this function not occur the motor locks or continues running because of an actuation card failure. In this case a time-out is triggered to stop the motor, placing it out of service.</p>	<p>Check that there are no interferences to the motor rotation. Check that the motor is efficiently running. Check that the microswitch is efficiently working. Check that in fact there is not a time-out. If the motor does not pick up at all, check the electrical connection ensuring that a 24 V DC reaches the motors. If all checks are OK replace the card, as the actuation or the software may be malfunctioning.</p>
<p><b>The display indicates the message</b> <b>"product finished"</b></p>	<p>This information can be displayed in the version fitted with infrared sensors. And it means that the barrier was not interrupted during a selection due to two possible causes: 1) end of product, 2) jammed product</p>	<p>The software automatically tries to make the product drop with small movements, and if this fails the selection is blocked. In this case the failure must be reset after correcting the problem. The software allows a new selection to be made and the customer does not lose his credit.</p>
<p><b>The display indicates a number of trays not corresponding to the real situation</b></p>	<p>At machine start, an automatic test routine checks the presence of trays and their number, therefore if a tray is not indicated it is because it is not electrically detected.</p>	<p>Check that the cables are correctly connected. Check that the cables are efficient.</p>
<p><b>The machine does not start and the display is off</b></p>	<p>The vending machine is protected against short-circuits with two line fuses (one on each phase), with fuses on the secondary winding and on CPU board power supply (see wiring diagram).</p>	<p>Check that the fuses are intact and if necessary replace. First identify the cause of the blown fuses. Check the power supply cable. The transformer's functioning.</p>
<p><b>The refrigerated box does not cool down and the operating temperature is not reached in spite of being correctly set</b></p>	<p>The cooling unit sucks in air from the lower section and expels it downwards through the front grille. This route must be free. Ensure that there are no objects in the lower section of the vending machine. Check that the pre-filter is not clogged. The amount of refrigerant is not sufficient The probe is interrupted or short-circuited, or moved away from the correct position set at the factory (After some time the display indicates the message "probe failure" or "unit failure", or both).</p>	<p>The vending machine can be positioned against a wall, but no objects can be positioned under the vending machine base. Check for small leaks using a special instrument and detecting foam. Restore the charge after eliminating the leak. Check that the NTC probe is positioned and functioning correctly.</p>
<p><b>The internal lamps do not light</b></p>	<p>Switching on and off of the lamps can be programmed; therefore check that such option was not included in the programming. Probable failure to the starter / ballast</p>	<p>Check the functioning of the fluorescent lamp, starter and ballast Check the functioning of the relay card (SOR) that controls the 230 V AC power supply Check in the special software program that the time band setting is correct.</p>
<p><b>The display indicates the message: "programming"</b></p>	<p>The CPU and payment system compartment door closure is monitored by a microswitch that in the event of actuation with the door open indicates "Programming" In this situation it is not possible to have correct operation. If the warning is with the door closed, check the microswitch.</p>	<p>Check that microswitches are activated correctly, check that cables are not damaged or disconnected. Replace the microswitches and/or the cables</p>



## 8 – HACCP DIRECTIVE

### **HACCP DIRECTIVE (EEC 93/43 and 96/3)**

Outline and instructions for use

**Notes: What is indicated by the EC Directive**

Directives **EEC 93/43 and 96/3** concern the hygiene of food products and are based on the **HACCP (Hazard Analysis Critical Control Point)**.

The purpose of this directive is to safeguard the consumer health, suggesting a series of actions to be taken by the vending company, aimed at checking, identifying and correcting any critical aspects in the foodstuff chain, from the purchase of products and machines to the dispensing of the product.

The **HACCP** is a system used to analyse any potential risks in the manufacturing and distribution cycle of food product and to identify critical points where such risks can occur; the system also highlights the actions to be undertaken and the decisions to be made with regard to such critical points, as well as the implementation of checking and monitoring procedures.

*Therefore, each vending company must develop a Company Hygiene Self-control Manual according to the provisions of the directive - and if necessary use the information and recommendations formulated by some associations in the sector. The manual must contain a programming and checking schedule for the hygiene condition of each vending machine, and when a new machine is added this must be updated immediately.*

#### **Important notes:**

For a correct use of the machine, the directives must be fully applied. **The operator is responsible for correct operations on a vending machine**

### **HACCP Directives (EEC 93/43 and 96/3)**

#### **Guidelines for correct application**

- Ensure hygiene control with a special manual for correct hygiene practices.
- After cleaning, do not touch the surface of any elements that may come into contact with food.
- Wash your hands thoroughly, preferably using disinfectant, before starting any hygiene operations
- Use disposable sterile gloves
- Always use a clean cloth to wipe dry.
- Keep the work area tidy.
- Check that the product packages are intact and not damaged.
- Use products within the recommended time period (see expiry date on the package).
- Always use products from the warehouse according to the principle of "first-in first-out".
- Consumables must be kept and transported separate from the cleaning and hygiene products.
- Drums and sectors must be cleaned regularly (see operating instructions).
- Do not fill internal zones of the machine with products to be loaded in a second occasion.
- The products that need to be kept at a refrigerated temperature must be transported to the location of the machine in containers that maintain the products at the ideal temperature or in containers that do not allow excessive temperature difference.

#### **CLEANING THE MACHINE**

##### **Carefully observe the following cleaning instructions! Considering that:**

The Snakky normally dispenses products with a long shelf life, but it can be enabled to dispense short shelf life products; in this case cleaning must be more frequent and stricter.

In the following instructions, only the cleaning and hygiene operations for the **FIRST** case are described.

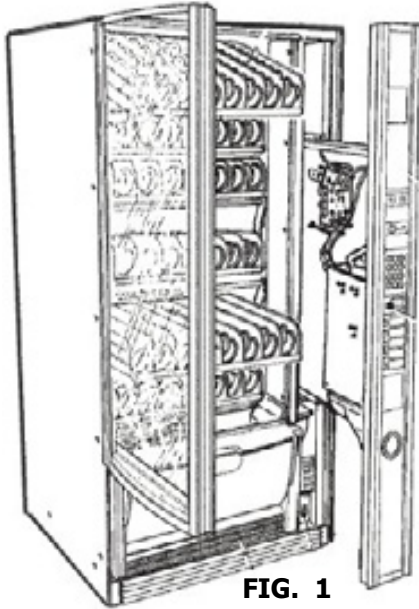
Clean the machine, preferably at the end of the day or in the morning before the machine is used, and before loading the products to be sold.

- Fill in the checklist log for cleaning operations.
- When the display indicates an error message immediately check the trouble-shooting sheet.
- Use only recommended cleaning products approved for foodstuff, preferably liquid; do not use powder and abrasive products that could scratch plastic surfaces.

# 9 – PERIODIC CLEANING AND HYGIENE

## DAILY CLEANING AND HYGIENE

**( Expected time 4 min.)**



**FIG. 1**

Open the door and disconnect the machine from the power supply (FIG 1).

Clean the outside and inside of the glass front with suitable detergent.

Clean the inside of the trays with a cloth dampened with chlorine-based detergents.

Wipe the dispensing compartment and the flap door with a clean cloth

(These operations must be carried out before loading the machine in the morning)

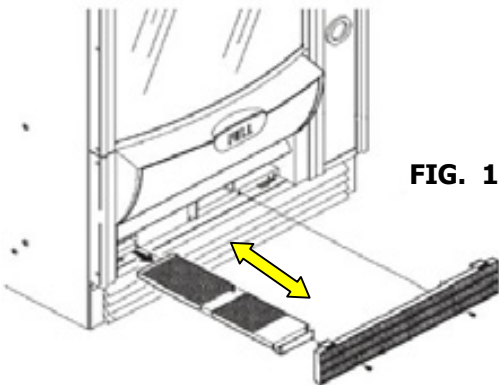
Dust all of the inside of the refrigerated box, especially the base.

Enter the operation in the HACCP log.

When loading new products, check the expiry date of the unsold ones and load the new products according to the FIFO. (first in - first out) logic.

## WEEKLY CLEANING AND HYGIENE

**( Expected time 8 min.)**



**FIG. 1**

In addition to the daily cleaning operations:

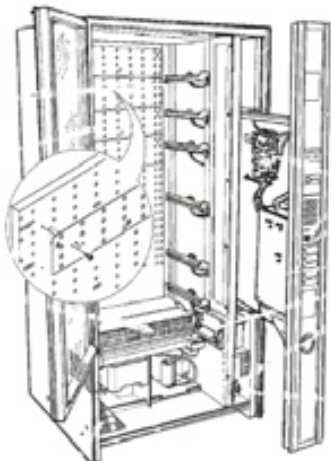
Remove the lower grille and slide out the pre-filter of the cooling unit condenser (FIG. 1)

Clean and if necessary remove the dust with a vacuum cleaner

(alternatively blow with compressed air in a different place from the installation area).

Slide out the trays without removing them (FIG. 2-3) and clean the inside of the cabinet with a cloth dampened with a chlorine based detergent.

Check that there are no small insects.



**FIG. 2**



**FIG. 3**

## ANNUAL CLEANING AND HYGIENE

The "annual" period is intended as maximum term, as such maximum time must be reduced in accordance to the specific situation and location of the vending machine to maintain its perfect state of hygiene at all times.

**Expected time 20 min. (excluding the pull-down time "\*")**

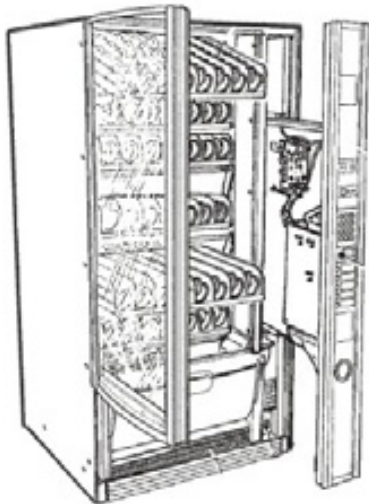


FIG. 1

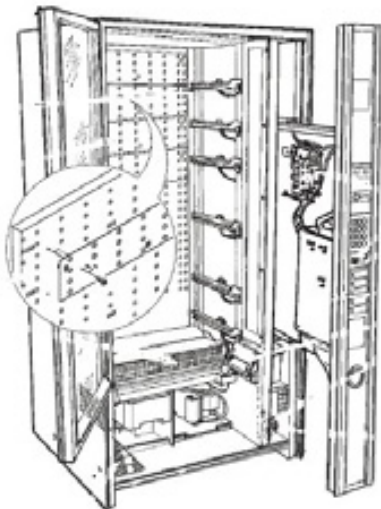


FIG. 2

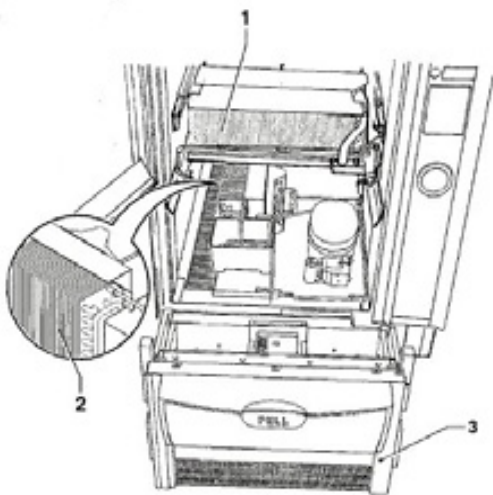


FIG. 3

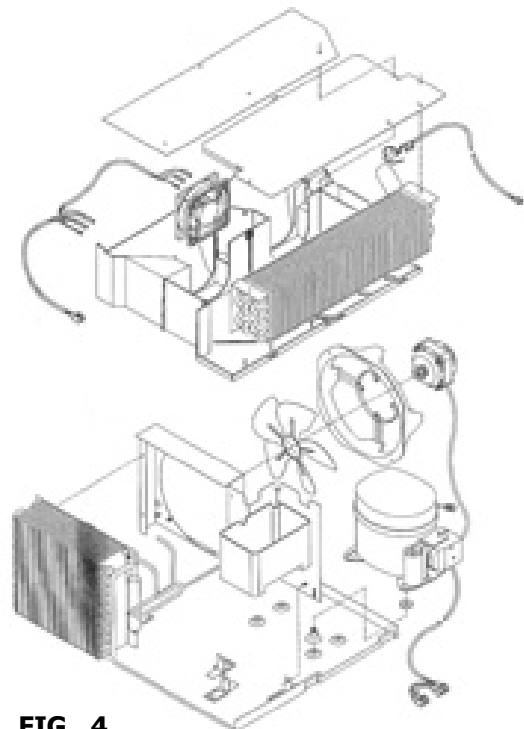


FIG. 4

Open the door and disconnect the machine from the power supply (FIG.1)

Remove all trays, placing them in a clean area or in any case protected by possible interference (FIG. 2)

Clean the inside of the refrigerated box with a damp cloth soaked in chlorine-based detergents.

Completely remove the cooling unit

(FIG. 3) thoroughly clean the internal base and make hygienic.

Remove all the dust from the fans and cooling unit condenser (FIG. 4).

Clean and make hygienic the condensation tray (FIG. 4)

Reassemble the cooling unit proceeding in the reverse order.

Reinsert into the operating position.

Clean the external parts, especially the coin-return compartment and the push-buttons. Reassemble all trays after cleaning the internal product loading parts. Thoroughly clean the inside of the dispensing compartment.

Start the machine and bring the internal temperature to operating value.

Load all vending products.

\* Pull-Down: technical term that defines the length of time required for bringing the temperature inside the cabinet to the correct level