



## INDEX

<b>1</b>	<b>GENERAL WARNINGS</b> .....	<b>3</b>
1.1	Purpose of this manual .....	3
1.2	To whom this manual is addressed .....	3
1.3	Responsibility .....	3
1.4	Manufacturer .....	3
1.5	Service centres .....	4
1.6	Warranty .....	5
1.7	General safety warnings .....	5
1.8	Symbols .....	6
<b>2</b>	<b>MACHINE PARTICULARS</b> .....	<b>7</b>
2.1	Technical particulars .....	7
2.2	Description of components .....	9
2.3	Coin introduction – selection panel .....	11
2.4	Control box .....	11
2.5	Cooling system .....	12
2.6	Vending mechanism .....	13
<b>3</b>	<b>INSTALLATION</b> .....	<b>14</b>
3.1	Transport and positioning .....	14
3.2	Installation environment characteristics .....	15
3.3	Removing the wooden bases .....	15
3.4	Levelling .....	16
3.5	Connection to the power mains .....	16
3.6	Installing the coin mechanism .....	18
3.7	Control settings .....	19
3.8	Price setting .....	19
3.9	Label installation .....	20
<b>4</b>	<b>ACCESS TO THE INTERNAL PART</b> .....	<b>21</b>
4.1	Access to vending motors and product delivery area .....	21
<b>5</b>	<b>USING THE VENDING MACHINE</b> .....	<b>22</b>
5.1	Warnings .....	22
5.2	Final check .....	29
5.3	Control settings .....	29
5.4	Start up .....	29
<b>6</b>	<b>MAINTENANCE</b> .....	<b>31</b>
6.1	Preventive maintenance .....	31
6.2	Preventive maintenance .....	31
6.3	Replacing neon lamps .....	32
6.4	Cleaning the vending machine .....	33
6.5	Warnings .....	34
6.6	General cleaning operation .....	35
6.7	Recommended cleaning products .....	37
6.8	Cleaning safety device .....	37
<b>7</b>	<b>INFORMATION – DANGER SIGNS</b> .....	<b>38</b>
<b>8</b>	<b>TROUBLESHOOTING</b> .....	<b>40</b>
<b>9</b>	<b>STORAGE AND DISPOSAL</b> .....	<b>44</b>
9.1	Storage .....	44
9.2	Disposal .....	44
9.3	Person in charge of disposal .....	45
9.4	Sanctions .....	46

VENDING MACHINE	CE	Rev. 00
Models: VDI 100 – 189 – 217 - 254		Pag. 2 di 46

## GENERAL WARNINGS

### 0.1 Purpose of this manual

The manual contains the correct procedures for the loading, use, routine / special maintenance and installation of the Vending Machine. This manual is an integral part of the machine and must therefore be kept intact and available to hand for the machine's entire productive life.



*KEEP INSIDE THE MACHINE*

### 0.2 To whom this manual is addressed

This manual is addressed to those persons in charge of loading, cleaning, and routine maintenance of the machine (**Filling Attendant**), to the final user of the vending machine (**User**) and to those persons in charge of installation, adjustment, special maintenance of the vending machine (**Installer/maintenance technician**). It is compulsory that all personnel in charge of these operations are familiar with the instructions and abide by the procedures contained in this manual.

### 0.3 Responsibility

The **manufacturer's** responsibility is confined to the correct use of the vending machine, in the limits indicated in this manual. The company "**SandenVendo**" reserves the rights to make changes to its vending machine without any prior warning, furthermore declares that the vending machine, the subject matter of this manual, complies with the requirements indicated by Machine Directive 98/37/EC (EC Marking Directive).

"**SandenVendo**" declines all responsibility for any damages caused to persons and/or things as the result of:

- Incorrect installation
- Use of unoriginal spare parts
- Execution of changes unforeseen / unauthorised by the manufacturer
- Improper use of the machine
- Connection to inadequate supply systems and not in conformity with the regulations in force

### 0.4 Manufacturer

" SandenVendo" has over twenty years experience in constructing beverage vending machine and it is precisely the technological know-how it has developed over many years of research working closely with the production and international marketing, which is the best guarantee that SandenVendo can offer.

VENDING MACHINE	CE	Rev. 00
Models: VDI 100 – 189 – 217 - 254		Pag. 3 di 46

0.5 Service centres

“SandenVendo” is represented by a valid and prepared sales network in both Italy and Europe.

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VENDING MACHINE		Rev. 00
Models: VDI 100 – 189 – 217 - 254		Pag. 4 di 46

## Warranty

The warranty on the Vending Machine components, starting from the date shown on the delivery note, is for 24 months for the cooling system.

The warranty includes exclusively the parts replaced, with labour excluded.

The Warranty does not include, damages to the vending machine caused by:

- Transport and/or handling
- Operator errors
- Lack of maintenance contemplated for in this manual
- Failures and/or breakages not due to malfunction of the vending machine

## 0.6 General safety warnings

- § Carefully read the manual before starting or loading the vending machine
- § Protect the vending machine against weather conditions
- § Only maintenance technicians should remove the protective covers
- § Always read the programming manual before operating the electronic board settings
- § Never position the vending machine in direct sunlight
- § Never sell the products with the door open
- § Refer to the routine maintenance chapter to clean the vending machine
- § Disconnect the power cable before giving assistance or unblocking a blocked product
- § Use a special protection system
- § Install the appliance so that the electrical plug can be easily accessed afterwards
- § If the power cable is damaged, it must be replaced by the manufacturer or by one of its technical assistance service or in any case by a person with similar qualifications, in order to prevent all risks
- § This machine is unsuitable for installation in areas where water jets are used
- § This machine is unsuitable for outside installation
- § To prevent hazards due to machine instability, secure the machine according to the instructions
- § In case of a failure and/or poor operation, only seek help of the qualified personnel of our service centres.
- § Use only spare parts authorised by the manufacturer
- § Should this manual be lost or damaged, you may ask for a copy from the manufacturer: enclose the serial number of your vending machine with your request.












**CAUTION:** FAILURE TO ABIDE BY THE INSTRUCTIONS CONTAINED IN THIS MANUAL MAY INVOLVE DAMAGES TO THE MACHINE AND/OR PERSONNEL

VENDING MACHINE	CE	Rev. 00
Models: VDI 100 – 189 – 217 - 254		Pag. 5 di 46

## Symbols

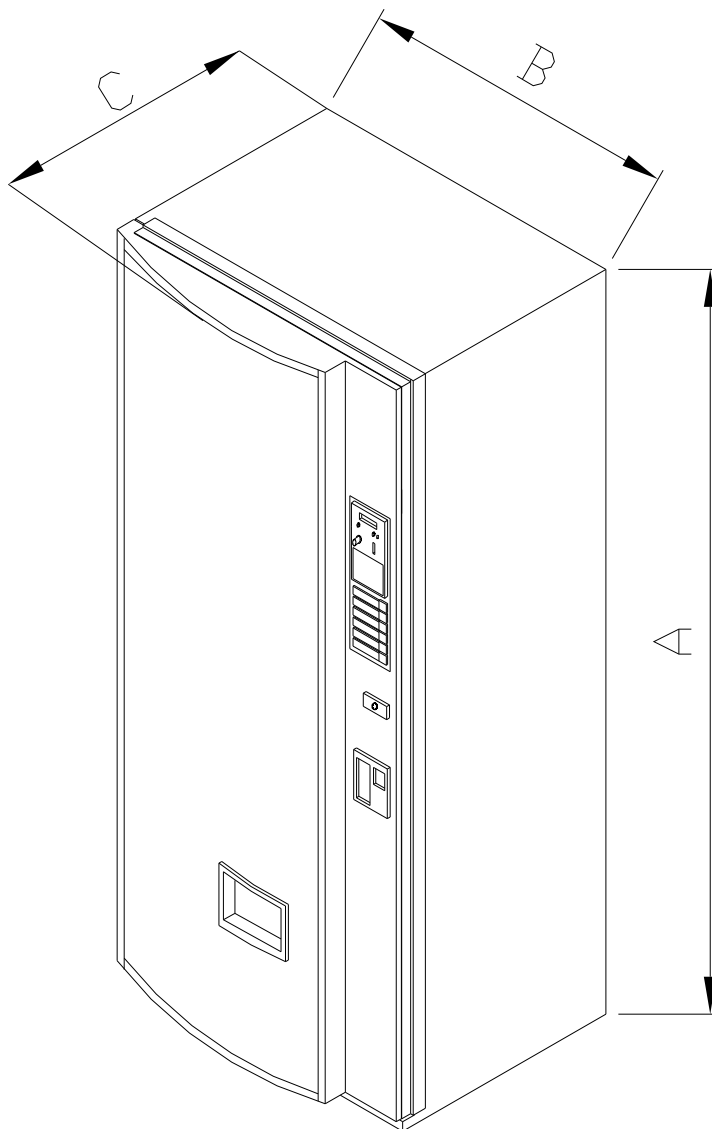
In the manual and/or on the machine, dangerous areas are shown with signs, plates, symbols and icons that indicate danger or obligation in each case.

Here are the symbols used in the manual and on the vending machine:

SYMBOL	MEANING	COMMENT
	Compulsory	Compulsory for all personnel involved
	Compulsory	Compulsory for all personnel involved to wear protective gloves during maintenance of the vending machine
	Compulsory	Compulsory for all personnel involved to protective clothing during maintenance.
	Additional information	Additional information is given.
	Manual	Before carrying out this operation, refer to the Instruction Manual.
	Maintenance operations	In case of special operations and/or anomalies, a particular mechanical adjustment and/or electrical setting may be required.
	Warning	Indicates a warning, failure to comply may involve damages to the vending machine.
	Danger	Extreme care must be given whilst operating the coin mechanisms.
	Danger	Extreme care must be given whilst handling electric cables.
	Danger	Indicates information regarding personnel safety and machine integrity.
	Danger/prohibition	Indicates the danger of electric shocks and mechanical risks. Never remove this safety guard. Only SandenVendo Europe technicians or authorised personnel can open this safety guard.
	Disposal	Dispose in conformity with recycling procedures.
	Recycling	Recycling this product goes toward reducing the need of new materials and the accumulation of waste.

## 1 MACHINE PARTICULARS

### 1.1 Technical particulars



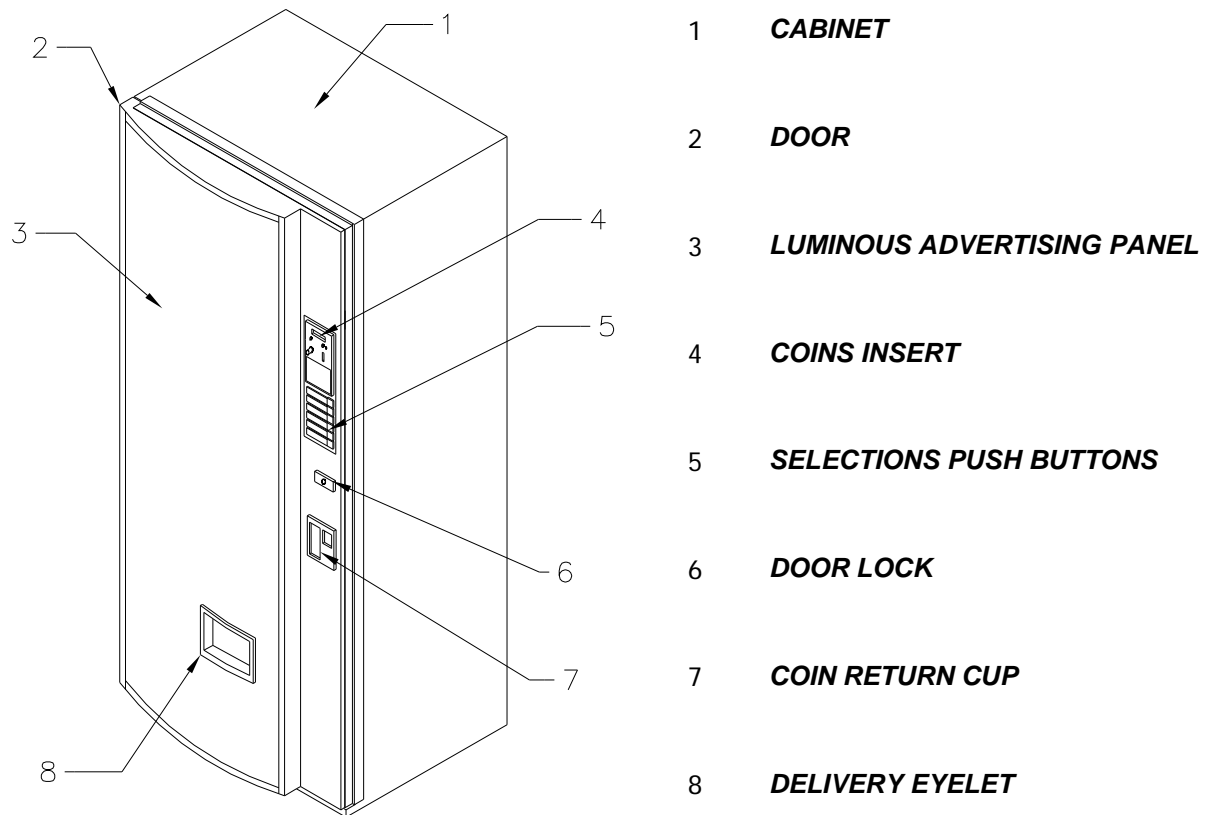
**FIG. 2.1 - DIMENSIONS**

VENDING MACHINE	CE	Rev. 00
Models: VDI 100 – 189 – 217 - 254		Pag. 7 di 46

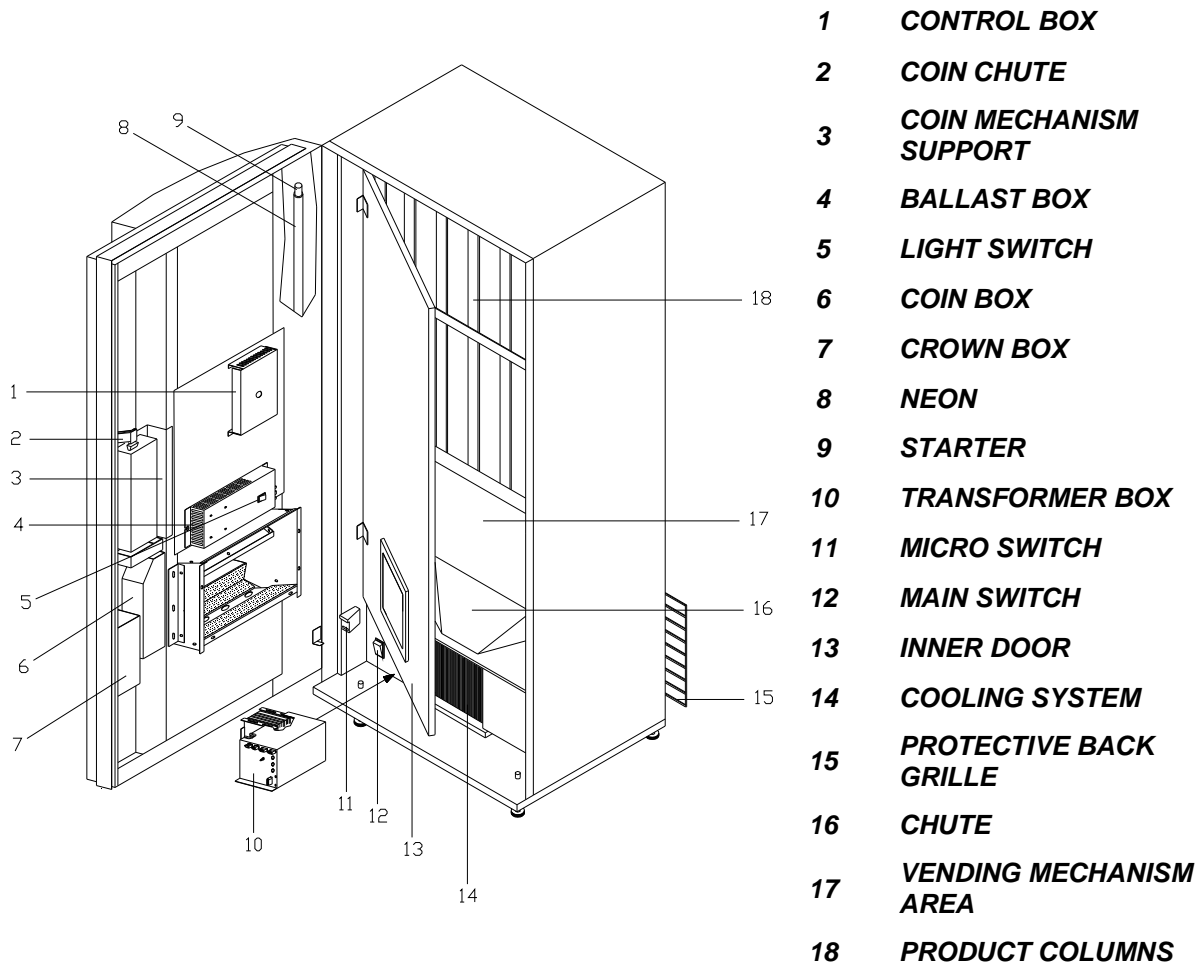
<b>MODELS</b>	<b>100</b>	<b>189</b>	<b>217</b>	<b>254</b>
<i>Dimensions</i>				
Height (A)	1425 mm	1830mm	1830 mm	1830 mm
Width (B)	705 mm	705 mm	853 mm	1010 mm
Depth (C)	745 mm	745 mm	745 mm	745 mm
Weight	186 Kg	235 Kg	264 Kg	294 Kg
<i>Electrical particulars</i>				
Nominal voltage	230/240 Vac	230/240 Vac	230/240 Vac	230/240 Vac
Nominal frequency	50 Hz	50 Hz	50 Hz	50 Hz
Installed power	450 W	600 W	450 W	450 W
Machinery noise	Lower than 70 dB	Lower than 70 dB	Lower than 70 dB	Lower than 70 dB
<i>Cooling system</i>				
Compressor	5,67 cm <sup>3</sup>	8,85 cm <sup>3</sup>	8,85 cm <sup>3</sup>	8,85 cm <sup>3</sup>
Refrigerator power	260 W	260 W	474 W	474 W (-5°C - +55°C)
Expansion	Direct with capillary	Direct with capillary	Direct with capillary	Direct with capillary
Cooling	Forced circulation by means of one fan	Forced circulation by means of one fan	Forced circulation by means of one fan	Forced circulation by means of two fans
Working range	10°C / 32°C 65% RH	10°C / 32°C 65% RH	10°C / 32°C 65% RH	10°C / 32°C 65% RH
Settable temperature range	0°C y 15 °C	0 °C y 15 °C	0 °C y 15 °C	0 °C y 15 °C
Coolant	R134A	R134A	R134A	R134A
Load	0,200 Kg	0,220 Kg	0,220 Kg	0,220 Kg



1.2 Description of components



**FIG. 2.2**



**FIG. 2.3**

1.3 Coin introduction – selection panel

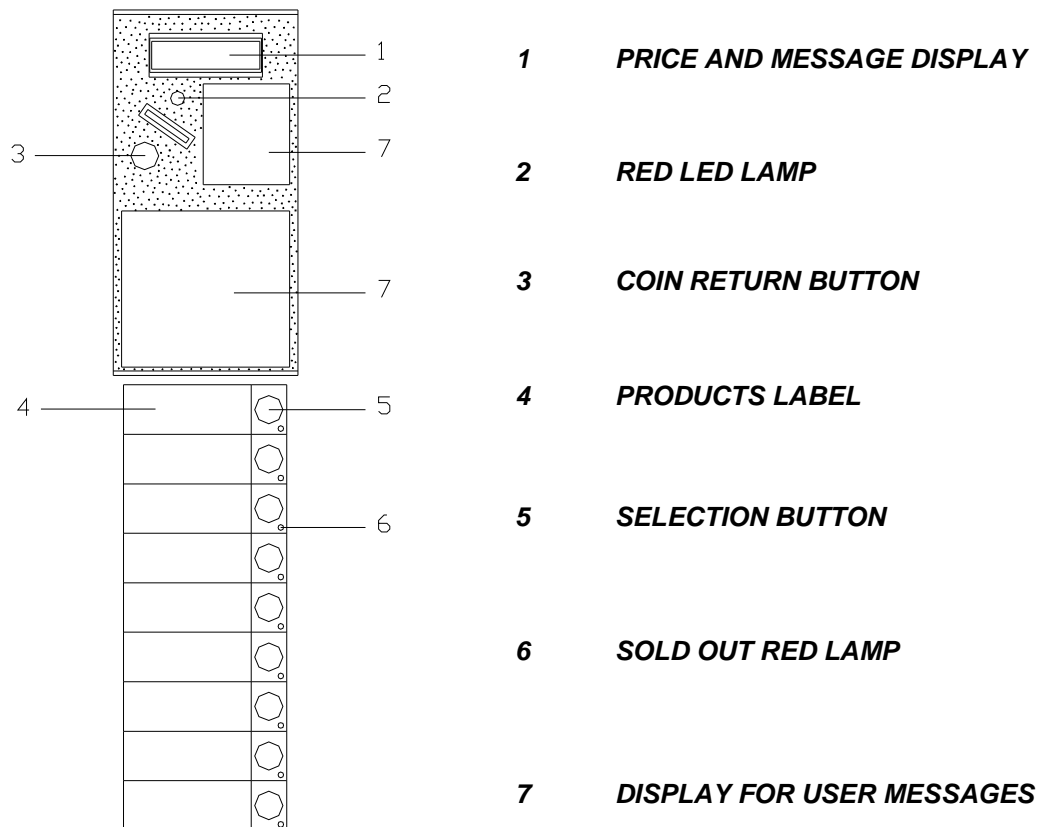


FIG. 2.4

1.4 Control box

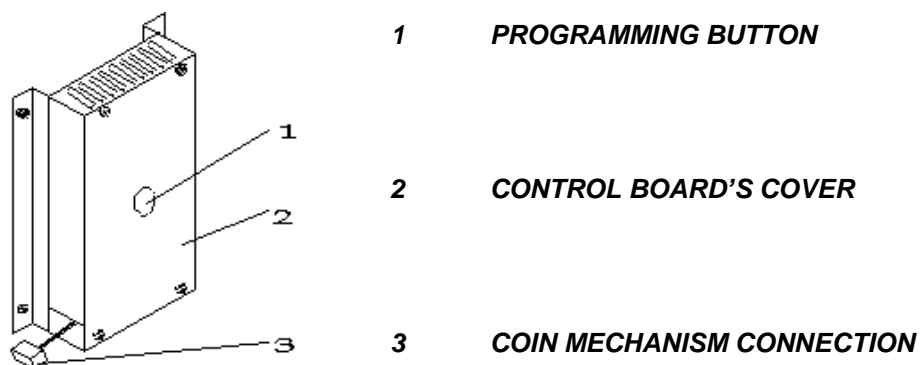
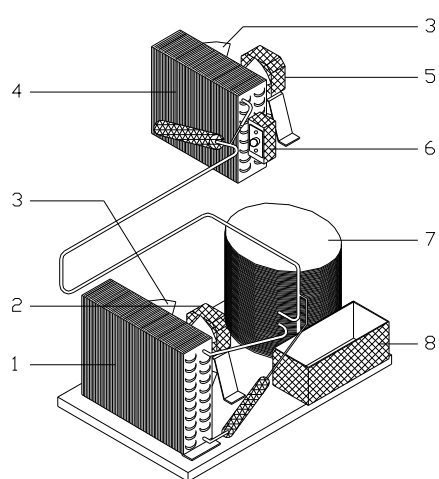


FIG.2.5

The control board coordinates the link with the coinage and drives the vending motors, constantly monitoring the situation of the mechanisms and selections micro switch. For further details refer to the programming manual.

### 1.5 Cooling system



- 1 CONDENSER**
- 2 CONDENSER FAN MOTOR**
- 3 FANS**
- 4 EVAPORATOR**
- 5 EVAPORATOR FAN MOTOR**
- 6 THERMOSTAT**
- 7 COMPRESSOR**
- 8 CONDENSER PAN**

**FIG.2.6**

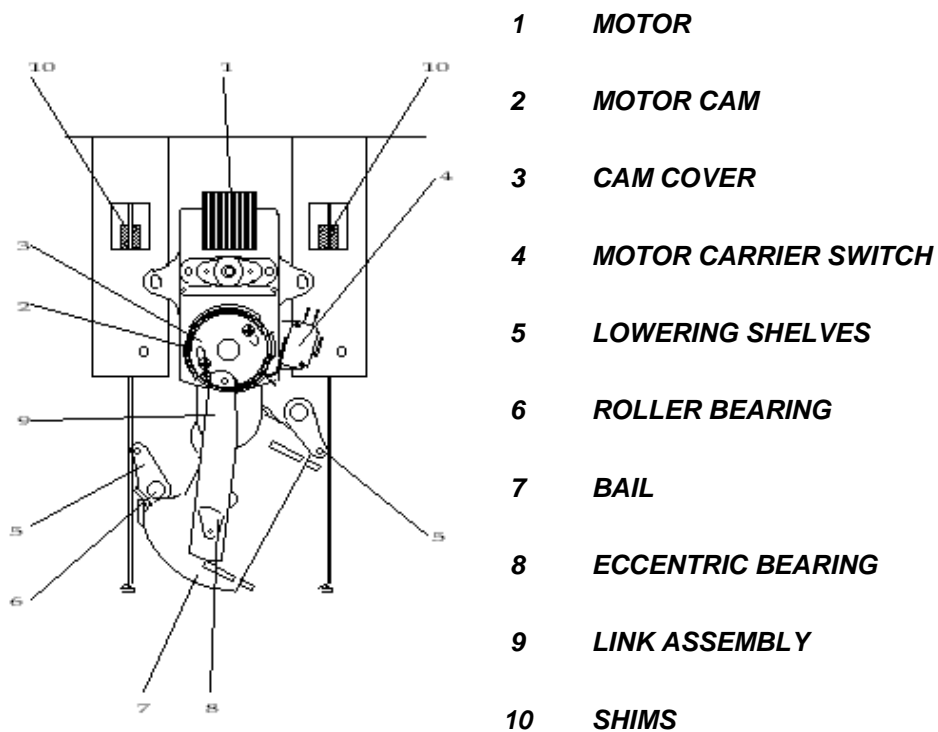
The cooling system starts working when the machine is connected to the electrical supply. The compressor stops when it reaches the temperature set on the thermostat. It automatically re-starts when the temperature lowers of 2 or 3 degrees.



*Caution: when you open the frontal door the cooling system doesn't stop*

VENDING MACHINE	CE	Rev. 00
Models: VDI 100 – 189 – 217 - 254		Pag. 12 di 46

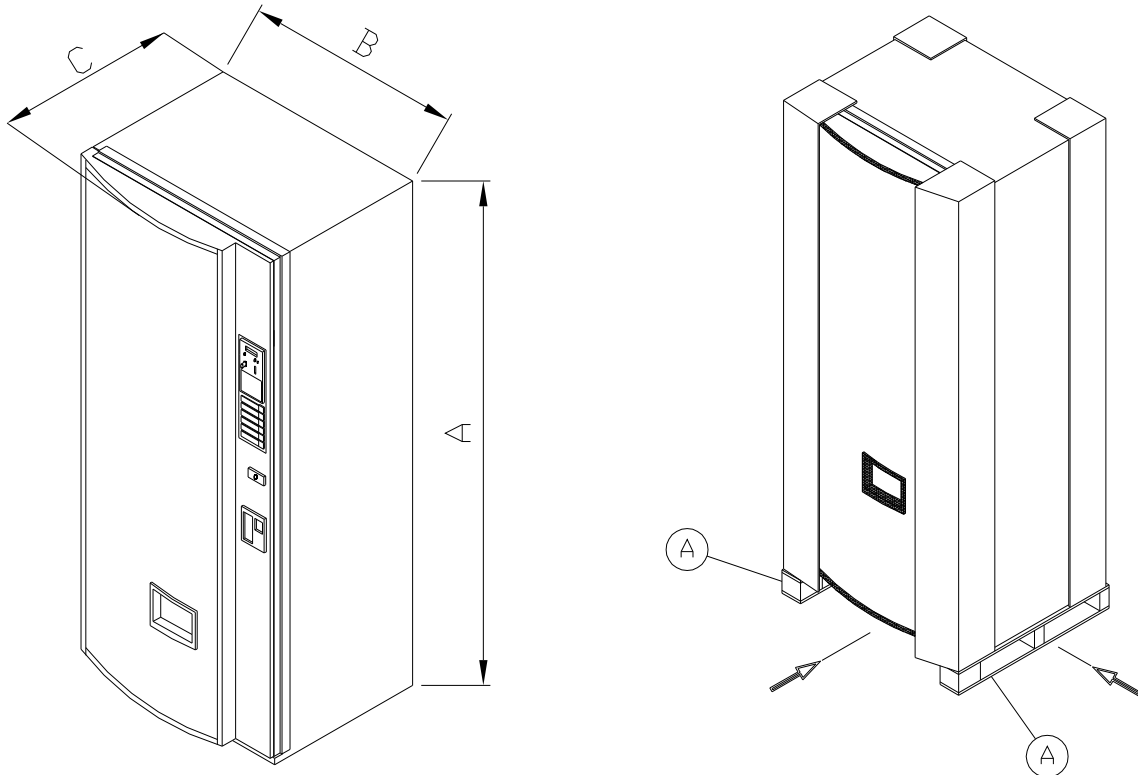
1.6 Vend mechanism



**FIG.2.7**

## 2 INSTALLATION

### 2.1 Transport and positioning



**FIG. 3.1**



*To transport and handle the vending machine carefully follow the instructions below.*

- Use a trans pallet/lift truck with minimum carrying capacity of 400 Kg, the wooden bases (A) allow for gripping of the 4 sides of the vending machine (fig. 3.1)
- Should you not wish to install the machine immediately, position the vending machine vertically and in a dry and protected room.
- CAUTION: it is absolutely forbidden to transport and/or position the vending machine horizontally.
- In the event that the machine is mistakenly laid horizontally, re-position in the working position (vertically) and wait at least 12 hours before starting it, otherwise you may cause damages and anomalies to the cooling system
- Position the vending machine in the installation area, work carefully, avoid manouvres that may suddenly jolt and crash the machine.
- Remove all packaging from the vending machine, extract the power cable from the rear protective grille and carefully move it to its final position.

VENDING MACHINE	CE	Rev. 00
Models: VDI 100 – 189 – 217 - 254		Pag. 14 di 46

## 2.2 Installation environment characteristics



*CAUTION: THE APPLIANCE IS UNSUITABLE FOR INSTALLATION OUTSIDE*

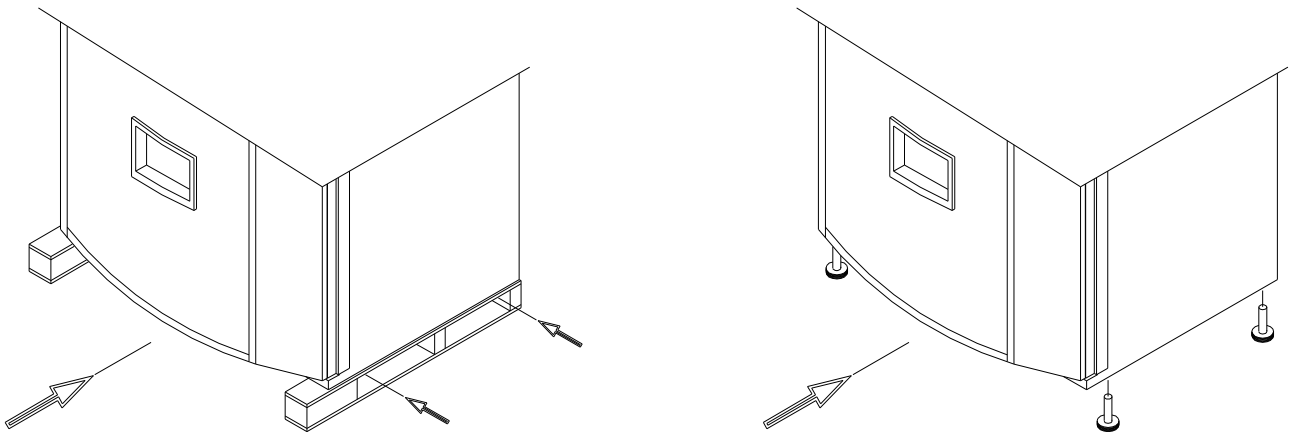


*CAUTION: DO NOT USE WATER JETS TO CLEAN THE VENDING MACHINE, IT IS UNSUITABLE TO INSTALL IT IN ENVIRONMENTS WHERE WATER JETS ARE USED*

### Environments conditions for installing the vending machine

- The vending machine models described in this document must be installed in environment/area where the temperature does not exceed 32 °C or fall below 10 °C. failing this the electrical parts (compressor) may be subject to overheating or may work not properly.
- Air circulation is crucial for cooling system: check that there is at least a 10 cm gap between the rear of the vending machine and any obstacle (ex. a wall).
- Make sure that the capacity load of the surface on which the vending machine is positioned is adequate to support the weight declared by the manufacturer.

## 2.3 Removing the wooden bases



**FIG. 3.2**

To remove the wooden bases, work as follows:

- With a trans pallet, lift the vending machine from the floor (holding it from the front)
- With a size 10 adjustable spanner (we recommend using a ratchet wrench) unscrew the screws that fasten the wooden bases to the machine; 2 screws for the right hand base and 2 screws for the left hand base
- Fit the 4 feet onto the base of the machine
- Rest the machine on the floor

VENDING MACHINE	CE	Rev. 00
Models: VDI 100 – 189 – 217 - 254		Pag. 15 di 46

## 2.4 Levelling

In order for the vending machine to run perfectly, position it on a perfectly level surface. Any irregularities in the floor can be compensated adjusting the screw-on feet on the vending machine in order to obtain a perfect level and guarantee stability.



THE VENDING MACHINE WILL OPERATE PERFECTLY WHEN POSITIONED ON A HORIZONTAL SURFACE

## 2.5 Connection to the power mains

### SERVICE CORD INSTALLATION

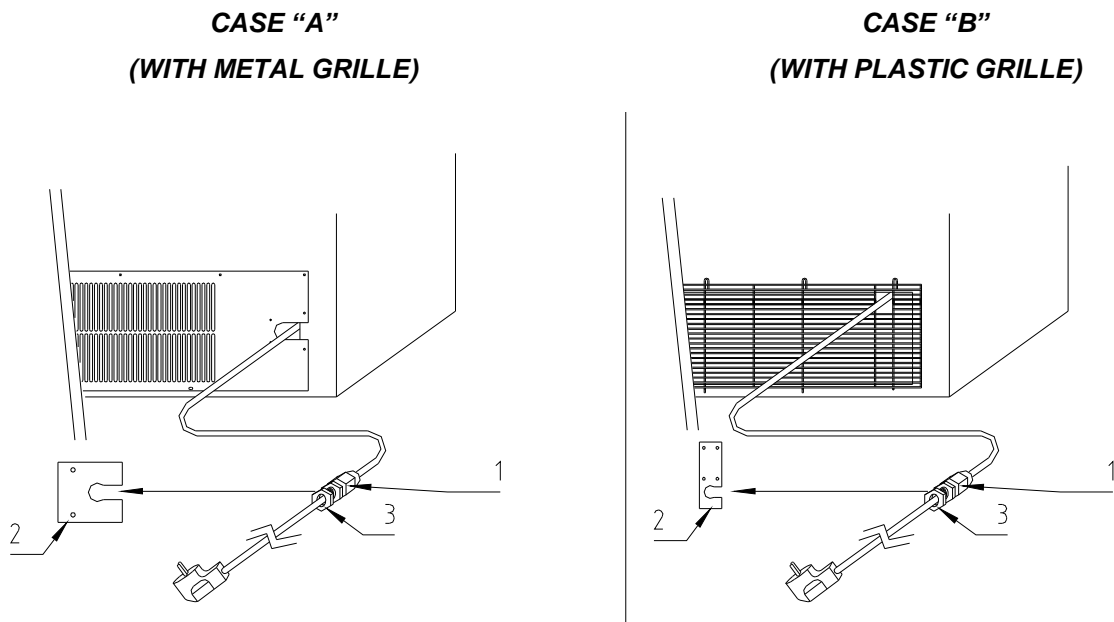


FIG. 3.3



CAUTION: BEFORE DOING THE ELECTRICAL CONNECTION MAKE THE FOLLOWING CHECKS

VENDING MACHINE	CE	Rev. 00
Models: VDI 100 – 189 – 217 - 254		Pag. 16 di 46





*Make sure* that the particulars of the power mains (tension and frequency) are the same as those indicated on the machine' s rating plate: this vending machine must be connected to a 230 V , 50 Hz power mains, each voltage below 207 V or over 253 V can causes failure.

*Make sure* that the supply outlet is grounded and that, after making the connection, the entire appliance is ground connected.

*Make sure* that the appliance is positioned so that the plug connecting it to the power mains can be easily accessed after installation.

*Make sure* that the neutral wire is blue; otherwise, you must invert the poles.



CAUTION: should you find any anomalies with the supply cable or should it be damaged, it must be replaced. For the safety of personnel and to prevent all risks of damages to the machine never replace the supply cable, contact the manufacturer or the technical assistance service.



CAUTION: NEVER USE EXTENSION LEADS

You may now connect the machine to the power mains, the neon advertising panel and all the signal lamps of the empty columns should light up and the cooling system should start.

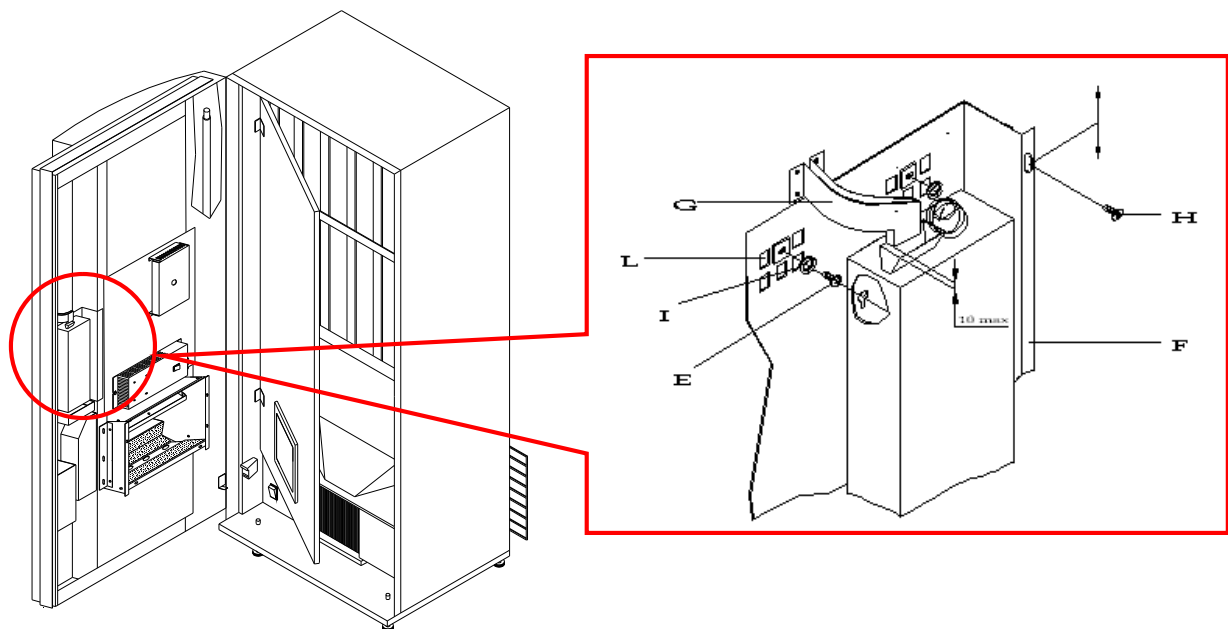
VENDING MACHINE	CE	Rev. 00
Models: VDI 100 – 189 – 217 - 254		Pag. 17 di 46

## 2.6 Installing the coin mechanism

Hook the coin mechanism on 3 screws suitably placed (E) on the door (F) (fig. 3.4).

Check that the coin mechanism has the coin entrance in line with the exit of the curved channel (G) and that the distance between the two parts is around 10 mm maximum.

The mentioned distance is simply adjustable by loosening the 3 fastening screws (H) on the door and therefore moving it upwards or downwards. After doing this operation remember to tighten the screws again.



**FIG 3.4**

It is possible to change the coinage position in the two direction of the horizontal plane to adapt the products of some manufacturers that do not follow exactly the international standards. To do this, apply the 3 supporting screws in the holes (L) and move from right to left.

It is also possible to move the coin mechanism up and down installing spacers (washers) (I) between the coinage door and the bottom of the coinage box.

Once the setting is done remove the selector and tighten the 3 supporting screws (E).

(These operations are not necessary if you use a coinage mechanism suggested by SandenVendo).

Actuate the coin return button (M) and check that the mechanism works properly: make sure that the selector opens as much as possible. If this doesn't happen, you will have to adjust again the height of the coinage door.

Connect the coin mechanism to the connector, which is above the control box.

**i** THE COIN BOXES WITH EXECUTIVE PROTOCOL HAVE 2 CONNECTORS, A POWER SUPPLY CONNECTOR THAT COMES DIRECTLY FROM THE TRANSFORMER BOX, AND A COMMUNICATION CONNECTOR FROM THE MAIN BOARD.

VENDING MACHINE	CE	Rev. 00
Models: VDI 100 – 189 – 217 - 254		Pag. 18 di 46

### Control settings

All the machine' s control and operation settings can be set through the programming routine of the electronic board.

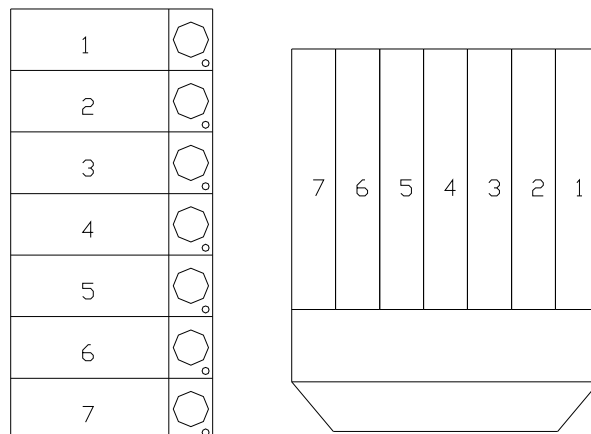
The programming routine of the electronic board is described in the PROGRAMMING MANUAL supplied with the vending machine.

**i** REFER TO THE PROGRAMMING MANUAL

### 2.7 Price setting

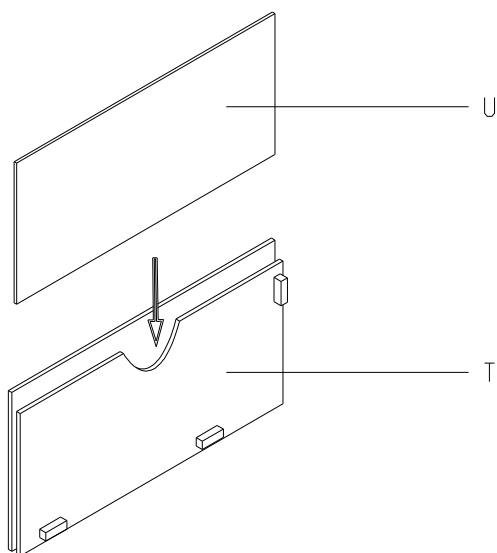
For setting price refer to the programming manual of the control board. This vending machine allows you to use different prices for each single selection and to make any kind of pairing between column and selection button.

**i** SANDENVENDO ALWAYS SUPPLIES VENDING MACHINE WITH ALL THE SELECTION SET ON SAME PRICE AND WITH COLUMNS PAIRED AS FOLLOWS



**FIG. 3.5**

2.8 Label installation



**FIG. 3.6**

Unscrew the screw from the coin mechanism door, open it and install the label (U) from the top of each window (T) inserting them between the two plastic parts. Remember that the first button on the top actuates the first column on the right and so on up to the last button on the bottom that actuates the last column on the left.

Close the coin mechanism door.

VENDING MACHINE	CE	Rev. 00
Models: VDI 100 – 189 – 217 - 254		Pag. 20 di 46

### 3 ACCESS TO THE INTERNAL PARTS

You can only access to the internal part of the machine (maintenance area) using the special key provided with the vending machine (rif. Fig. 4.1).

Access to the *service area* is only possible using the specially provided tool.

Hereunder is a list of the *service areas* of Vending Machine:

- Vending motors (product delivery area)
- Neon lamps, reactors (lighting area)
- Evaporator
- Compressor and transformer box

#### 3.1 Access to vending motors and product delivery area

You can only access the motors of the vending mechanism (product delivery area) by opening the internal door.



**FIG. 4.1**

VENDING MACHINE	CE	Rev. 00
Models: VDI 100 – 189 – 217 - 254		Pag. 21 di 46

## 4 USING THE VENDING MACHINE

### 4.1 Warnings

- § CAUTION: NEVER LOAD THE VENDING MACHINE WITH PRODUCTS DIFFERENT FROM THOSE RECOMMENDED BY THE MANUFACTURER (REFER TO CHAPTER: PROPER USE).
- § CAUTION: NEVER LOAD THE VENDING MACHINE WITH PRODUCT FORMATS DIFFERENT FROM THOSE RECOMMENDED BY THE MANUFACTURER.

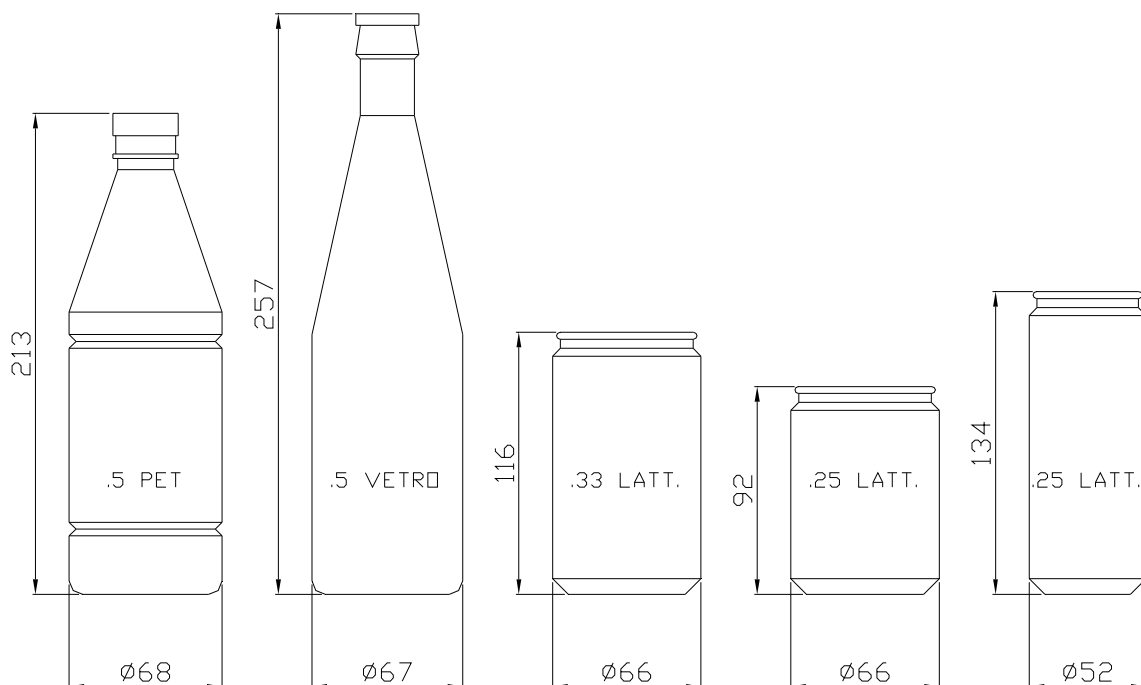
The vending machine Mod. 100 - 189 - 217 - 254, described in this document can deliver the products by means of a vending mechanism called SUPER STACK.

#### 4.1.1 Column set up

" Super Stack" columns can vend all cylindrical products included in the following measures:

<i>f</i> MIN [mm]	<i>f</i> MAX [mm]	L. MIN [mm]	L. MAX [mm]
52	68	92	306

Some examples here below:



**FIG. 5.6 – PRODUCT FORMATS**

VENDING MACHINE	CE	Rev. 00
Models: VDI 100 – 189 – 217 - 254		Pag. 22 di 46



**SANDENVENDO RESERVES THE RIGHT TO APPROVE THE VEND OF ALL PRODUCTS WHICH ARE NOT PERFECTLY CYLINDRICAL ONLY AFTER TESTING THEM**



**MOREOVER SANDENVENDO IS NOT RESPONSIBLE FOR USES AND APPLICATIONS OF THE VENDER, WHICH ARE NOT EXPLAINED IN THIS MANUAL.**

#### 4.1.2 LOADING

This mechanism can vend some packages stacked in double depth (2D column) (ref. Fig 5.7) and other in single depth (1D column) (ref. Fig 57)



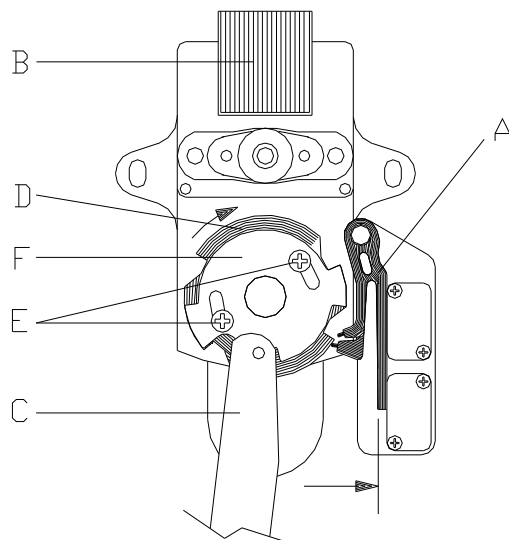
**FIG.5.7 – EXAMPLE OF CHARGING**

#### 4.1.3 Conversion from 1D to 2D and from 2D to 1D

If conversions are necessary, refer to the instructions below:

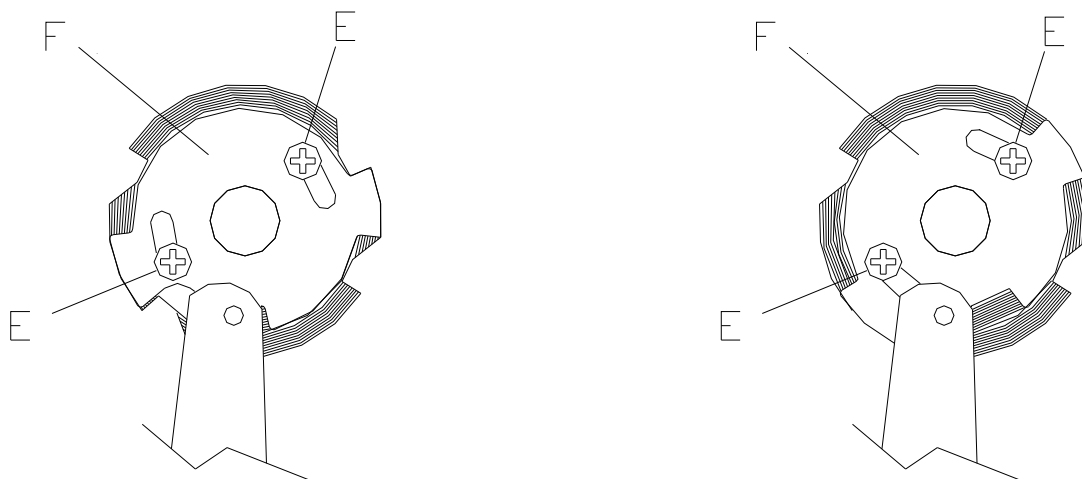
- 1) Remove the mechanism cover
- 2) Power the vending machine
- 3) Enter the board-programming mode (refer to the programming manual), using " Test" function, start the motor of the column to be converted. This will cause the rotation of the cam, which will be rotated until the link assembly (C) connected to the cam (D) will be in its lower position showing the two mounting screws (E) the cam cover (rif. Fig. 5.8).

VENDING MACHINE	CE	Rev. 00
Models: VDI 100 – 189 – 217 - 254		Pag. 23 di 46



**FIG.5.8 – VEND MOTOR**

- 4) Disconnect power to the vending machine
- 5) Loosening the two mounting screws (E) of the cam cover (F) and turn it as much as possible counter clockwise to convert from 2D to 1D (ref. Fig 5.9) or clockwise to convert from 1D to 2D tighten screws again.

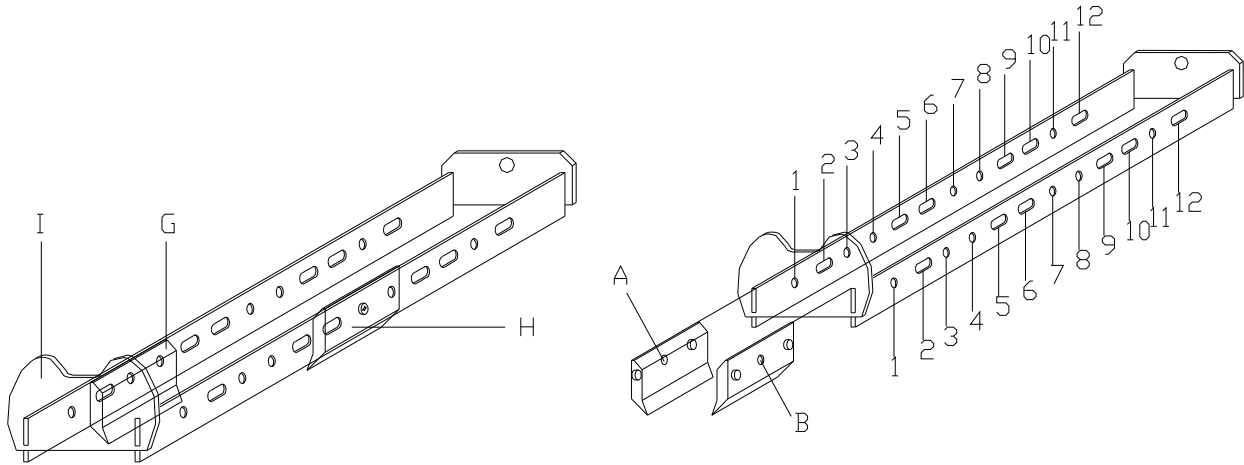


**FIG.5.9 – CAM**

- 6) Remove the delivery chute to get better access to the lower area of vend mechanism
- 7) Remove the plastic wedge (G) that is installed on the lower bail rod (I) if you have to convert from 2D to 1D. Install the wedge in the proper hole if you have to convert from 1D to 2D (rif. Fig. 5.10).

VENDING MACHINE	<b>CE</b>	Rev. 00
Models: VDI 100 – 189 – 217 - 254		Pag. 24 di 46





PRODOTTO	POSIZIONE
LATTINE .25 Ø66 X 92	A2 - B6
LATTINE .33 Ø66 X 116	A3 - B7

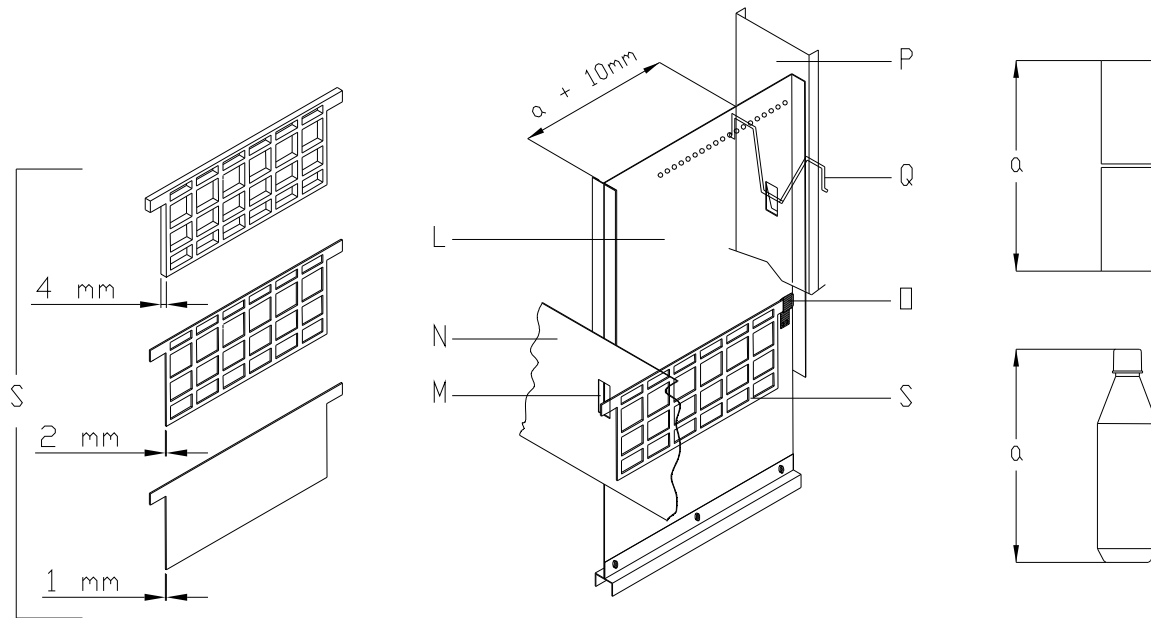
**FIG.5.10 – CAM**

- 8) Power again the vending machine and start the motor once or twice to run the crank to its highest position. In this case the bail has rotated approximately 180 degrees and you have access now to the opposite rod
- 9) Disconnect power to the vending machine.
- 10) Remove or install the plastic wedge (H) on the second bail rod accordingly to the conversion you want to make (rif. Fig. 5.10).
- 11) Install the mechanism cover

#### 4.1.4 Loading

The machine is equipped with a number of both metal (1 mm) and plastic (4 mm – 2 mm) shims (S), which will allow you to set the stack for the most common packages. Installation of them is based on average diameter of products.

Once you have determined the mix of shims to be installed, hang them to the partition (L), sliding one lobe into the slot (M) which is on the vend mechanism front plate (N) and then engaging the second lobe into the spring support (O) which is screwed closed to back end of the partition (L) (rif. Fig. 5.11).



**FIG.5.11 –**

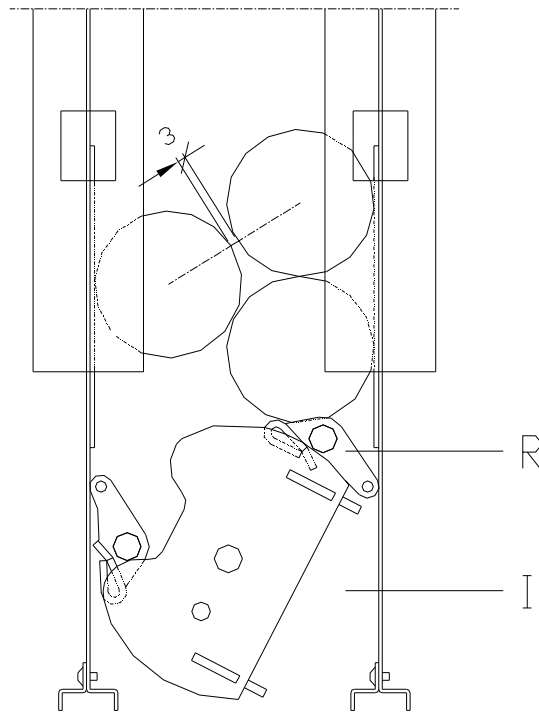
Thicker shims must always be installed first.

For those products whose diameter is far from the range, which the vender can vend with standard shims supplied with, you need to install special kits. Installation instructions are attached to any kit supplied by the factory.

Measure the length of a row of product, add 10 mm and move back spacers (P) to the back to get desired distance between backs pacer and partition front flange, then load first product on the lowering shelf which is in " up" position.

Place the product on the shelf (R) as far forward as possible and, if the column is adjusted for 2D place the second of the row directly behind it. At this time there must not be any product on the bail (I) (rif. Fig. 5.12).

VENDING MACHINE	CE	Rev. 00
Models: VDI 100 – 189 – 217 - 254		Pag. 26 di 46



**FIG.5.12 –**

Check again, and adjust if necessary the back spacer (P), so that between it and the row of products just loaded there is a space of about 10 mm (rif. Fig. 5.12).

Load the second row of products on opposite side of column and third row above the first in the same manner described above.

Check spacing between the largest parts of products in row 2 and row 3 for a desired spacing of 3 mm. Add or remove shims to get desired spacing (rif. Fig. 5.11).

Your vending machine is now completely initialised and ready to be used.

Continue to load column in stagger manner until at least 12 rows of product have been loaded.

Switch on power to the vending machine. Having the coinage already been installed and some products loaded, the display must show a message (and not the writing sold-out), the red lamp above the coin return button must be on (this alerts you on using correct change because pay back system of the coinage does not exist or it is empty) and all the sold out lamps near each selection button must be off.

Assuming that the amount of each selling price is already set on the coinage electronic board, close both to the inner and the outer doors, insert proper amount of coins and make a selection.

VENDING MACHINE	CE	Rev. 00
Models: VDI 100 – 189 – 217 - 254		Pag. 27 di 46

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Repeat the above procedure for any selection.

During the first series of selections the following should happen:

Each vending mechanism is going to load itself thus you will not have any delivery of product.

From now on, to any selection made should correspond the delivery of one product. Test each vending column until at least 4 products from a 2D column or 2 products from a 1D column have been vended.

Open the door again and complete loading the vending machine in stagger pattern.

VENDING MACHINE	CE	Rev. 00
Models: VDI 100 – 189 – 217 - 254		Pag. 28 di 46

#### 4.2 Final check

- 1- Completely load the column
- 2- Make several selection, check the reloading and the delivery of the product

For some product format the column needs spacers or other special kits: in this case contact SandenVendo or the authorized service centres for the correct set up.

If it is necessary you can send you product to the company: the necessary test will be carried out to obtain the exact adjustment.



**USUAL PRODUCTS ARE NORMALLY TESTED AT OUR FACTORY. ASK FOR THE SET NUMBER OF THE PRODUCT YOU WISH TO SELL AND REFER TO THIS NUMBER WHEN ORDERING. WE WILL MANUFACTURE THE VENDING MACHINE ACCORDING TO YOUR SPECIFICATIONS**

#### 4.3 Control settings

All the machine' s control and operation settings can be set through the programming routine of the electronic board.

The programming routine of the electronic board is described in the PROGRAMMING MANUAL supplied with the vending machine.



*REFER TO THE PROGRAMMING MANUAL*

#### 4.4 Start up

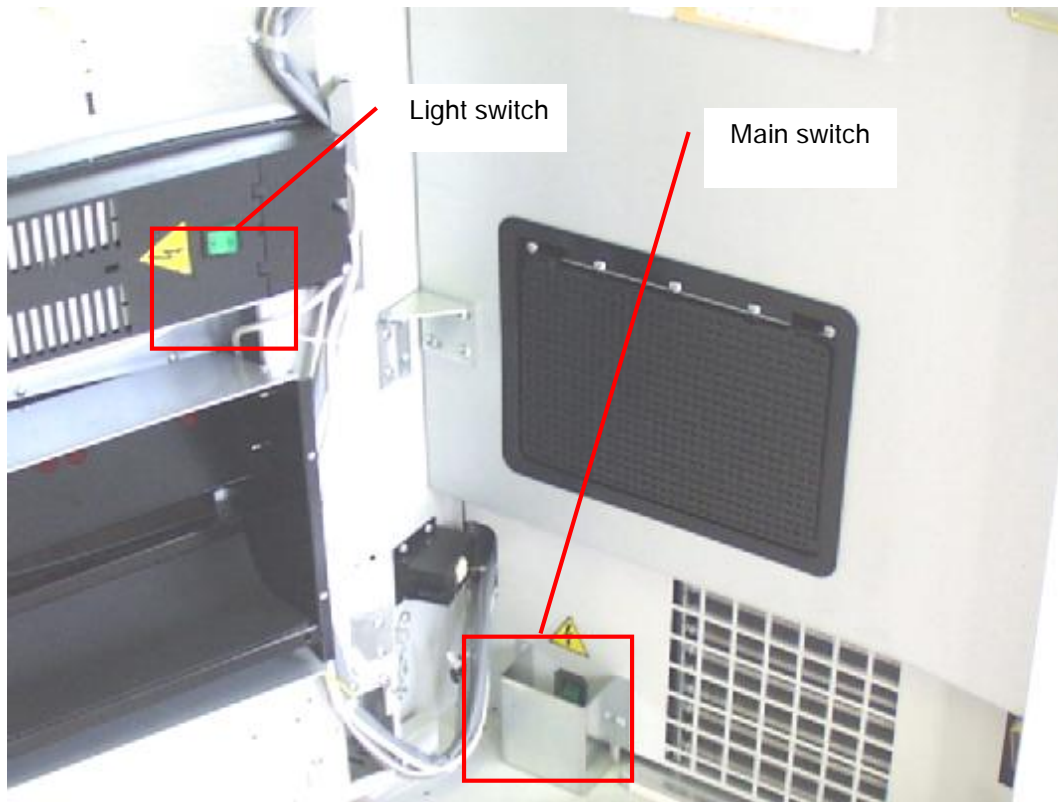
To start up the vending machine work as follows:

- Make sure the plug is connected with the supply mains;
- Power the vending machine: press the luminous green MAIN SWITCH pushbutton (ref. Fig. 5.13) situated on the transformer box inside the machine (lower left hand side);
- Switch on the neon lamps: press the luminous green LIGHT SWITCH pushbuttons (ref. fig. 5.13) situated on the inner side of the door;
- Execute the programming routine: refer to the Programming Manual;
- Load the vending machine with the product desired;
- Close the door of the vending machine and wait for the general machine check;
- The vending machine is now ready for use.

VENDING MACHINE	CE	Rev. 00
Models: VDI 100 – 189 – 217 - 254		Pag. 29 di 46



*CAUTION: IN CASE OF FAILURE AND/OR POOR MACHINE OPERATION, ONLY CONTACT THE SKILLED PERSONNEL AT OUR SERVICE CENTRES*



**FIG. 5.13**

VENDING MACHINE	CE	Rev. 00
Models: VDI 100 – 189 – 217 - 254		Pag. 30 di 46

## 5 MAINTENANCE

The following chapter contains the information about the maintenance and cleaning the vending machine.

### 5.1 Preventive maintenance

You can only access the internal part of the machine (***maintenance area***) using the special key supplied with the vending machine.



**FIG. 6.1 – ACCESS KEY**

### 5.2 Preventive maintenance

To guarantee the machine operates perfectly we recommend that you periodically carry out the following maintenance operations:

- Check the vending machine and the surrounding area, check for signs of rust on the outer cabinet and obstructions in the air vents.
- Open the door and check there is no accumulation of water, signs of rust, and humidity around the corners.
- Check the evaporator outlet is not blocked (the condensed water in the evaporator must drain out towards the condenser pan).
- Periodically check the door seals. Should they be damaged, replace the seals immediately.
- Periodically check that the condenser is clean.
- Check that the evaporator fan and the heating system work normally (the fan blades must be free from every foreign matter).
- Check that the compressor and the condenser fans work normally (the fan blades must be free from every foreign matter).
- Check that all the selections are correctly delivered.

VENDING MACHINE	CE	Rev. 00
Models: VDI 100 – 189 – 217 - 254		Pag. 31 di 46

### 5.3 Replacing neon lamps

To replace a neon lamp, work as follows:

- Open the door of the vending machine using the special key supplied (ref. Fig. 6.1).
- Press the luminous green LIGHT SWITCH pushbutton to disconnect power to the neon lamps: switch from position " 1" to position " 0"



*CAUTION: AT THIS STAGE ONLY THE POWER CIRCUIT OF NEON LAMPS IS CUT OFF, THE VENDING MACHINE IS STILL POWERED*

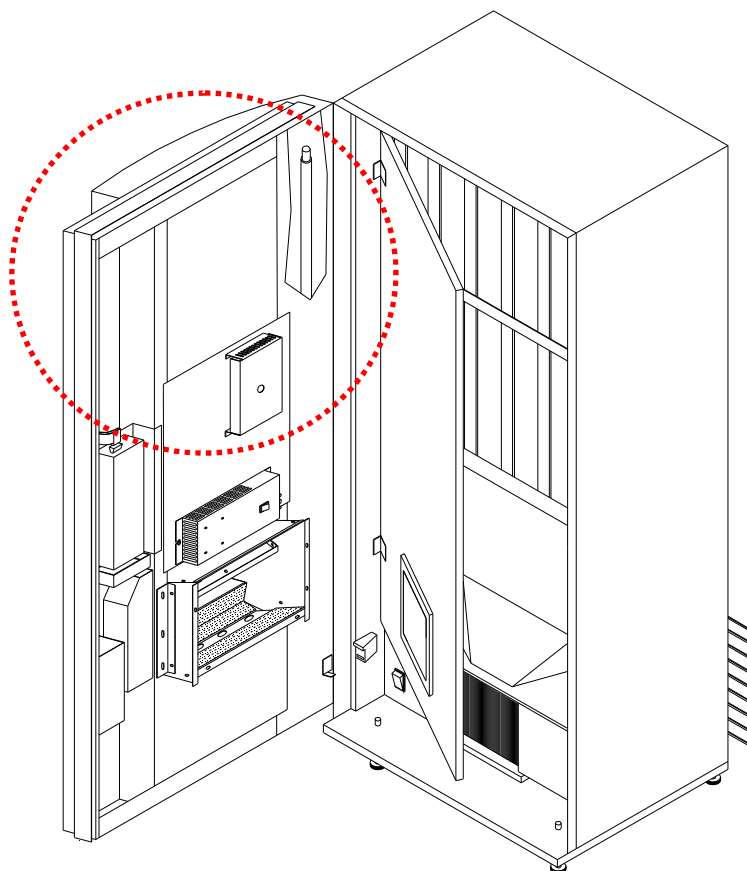
- By means of the inspections holes (ref. Fig. 6.2) take out the neon lamps to be replaced by the two fastening clips
- Disconnect the neon lamp from its wiring
- Wire up the new neon lamp and fasten it to with the clip

Once you have replaced the neon lamp work as follows:

- Press the luminous green LIGHT SWITCH pushbutton to switch on the neon lamps, turn from position " 0" to position " 1" ;
- Re-close the door of the vending machine and make sure you lock it using the access key supplied

VENDING MACHINE	CE	Rev. 00
Models: VDI 100 – 189 – 217 - 254		Pag. 32 di 46





**FIG. 6.2 – INSPECTIONS HOLES**

#### 5.4 Cleaning the vending machine

The vending machine should be generally cleaned in order to keep the machine in perfect working order. In general we advise that you:

- Check the vending machine and the surrounding area; check for sign of rust on the outer cabinet and obstructions in the air vents
- Open the door and check for accumulation of water, sign of rust, humidity around the corners



**CAUTION: NEVER USE PRESSURED WATER CLEANER AND WATER JETS**

VENDING MACHINE	CE	Rev. 00
Models: VDI 100 – 189 – 217 - 254		Pag. 33 di 46

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## 5.5 Warnings

Before carrying out any cleaning operation on the machine, pay careful attention to the following directions:

- Cut off the power supply to the machine
- Do not use blades or other sharp tools to scrape parts or components in the vending machine.
- Do not clean the machine in direct sunlight or in high temperatures.
- Cut off the power supply to the machine before cleaning the electrical parts and/or parts protected by covers.
- Do not use cleaning materials other than those recommended.
- All types of cleaning that require the use of liquids should only be carried out after disconnecting the machine from the power mains.

VENDING MACHINE	CE	Rev. 00
Models: VDI 100 – 189 – 217 - 254		Pag. 34 di 46

### 5.6 General cleaning operation

In order that the machine is in perfect working condition, it is important that it is clean and well kept.

Please follow the instructions below:

<p>Cleaning painted areas and removing small scratches</p>	<p>Clean the vending machine with soap and water. Any good car wax can be applied to the exterior surfaces of the vending machine.</p> <p>Small sign of corrosion can be removed using fine sand paper and covering over the surfaces with nitrocellulose lacquer</p> <p>Paint splashes and grease or glue marks can be removed using solvent.</p>
<p>Cleaning the neon advertising board.</p>	<p>The neon-advertising panel should be cleaned with care. It is advisable to follow these directions:</p> <ul style="list-style-type: none"> <li>• Wash with neutral soaps or detergents in warm water</li> <li>• Use soft cloths or sponges.</li> <li>• Do not rub harshly</li> <li>• Rinse with warm water</li> <li>• Dry with cotton rags or synthetic skin cloths</li> <li>• CAUTION: almost all the organic solvent fuel oils, kerosene or alcohol will corrode the panel material. If used the panel will be permanently damaged</li> </ul>
<p>Cooling area</p>	<p>The condenser and the evaporator should be kept clean and in working order. You must check that all openings and the pipes are clean and there is nothing obstructing the passage of air.</p>
<p>Product delivery chute</p>	<p>Check that the product delivery chute is clean and without any deposit</p>
<p>Cleaning the drainage tube</p>	<p>Check that there are any obstructions in the drainage tube</p>
<p>Crown box</p>	<p>Periodically empty the crown box (when used)</p>

<p>General precautions</p>	<p>Never use:</p> <ul style="list-style-type: none"> <li>• Cleaning products that are abrasive or harsh from a chemical point of view</li> <li>• Strong based (alkaline) cleaning products or strong acids</li> <li>• Benzene</li> <li>• Leaded petrol</li> <li>• Acetone</li> <li>• Never clean with blades or sharp objects</li> <li>• Never clean in height temperatures</li> <li>• Never clean the machine when the surfaces are boiling hot from the sun</li> <li>• Never clean using water jets</li> <li>• Pay attention when cleaning parts that may be powered: disconnect the power supply first</li> <li>• Never use water or other liquid detergents</li> <li>• If using liquid detergents, disconnect power supply from the machine</li> </ul>

Only technicians from SandenVendo or authorised personnel may carry out the operations that require the machine's lower protection to be opened, because of possible risks due to electric shock and moving mechanical parts.



### 5.7 Recommended cleaning products

We recommend cleaning the machine using only the following types of products and materials:

- Neutral detergent
- Compressed air (2 bar max)



**CAUTION:** in order to avoid any oxidation, corrosion, brattling, peeling of paint and other damages to the machine, NEVER USE under any circumstance the following products:

- Abrasive detergents
- Very alkaline or acidic detergents
- Benzene
- Petrol
- Acetone

### 5.8 Cleaning safety device

For each cleaning operation, it is advisable to wear protective gloves and/or clothing.



VENDING MACHINE	CE	Rev. 00
Models: VDI 100 – 189 – 217 - 254		Pag. 37 di 46

## 6 INFORMATION – WARNING SIGNS

A series of warning messages are written inside all the SandenVendo vending machines; this is to make the user is aware of the dangers that exist while he is working on the machine.

Here follows some examples:

<p>1) Watt indicator of the neon advertising panel</p>	
<p>2) CAUTION: vending machine must be fitted with a grounding system.</p>	
<p>3) Type of gas in the cooling system.</p>	<p>CFC FREE R134A</p>
<p>4) Fuse type and state indicator</p>	<p>F10A/250V</p>
<p>5) CAUTION: Mains voltage ON</p>	
<p>6) Ground connection indicator</p>	
<p>7) Alternate current indicator</p>	
<p>8) Fuse symbol</p>	
<p>9) Lamp indicator</p>	
<p>10) Equipment suitable for internal use indicator</p>	

11) ON	
12) OFF	i
<p>13) Vending machine identification and main technical data</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p>Manufacture date: Month/Year</p> </div>	
14) CAUTION: pay extreme care whilst operating the delivery mechanisms	
15) CAUTION DANGER AND PROHIBITION: danger of electric shocks and mechanical risks	

<p>16) Final inspection certificate.</p>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <p style="text-align: center; font-size: small;">WHEN ORDERING REPLACEMENT PARTS GIVE THE FOLLOWING INFORMATION</p> <p style="text-align: center;">MODEL _____</p> <p style="text-align: center;">SERIAL NO. _____</p> </div> <div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center; font-weight: bold; font-size: small;">FINAL INSPECTION CHECK</p> <table style="width: 100%; font-size: x-small;"> <tr> <td>INSULATION TESTED <input type="checkbox"/></td> <td>HI.POT. TESTED <input type="checkbox"/></td> </tr> <tr> <td>COOLING UNIT TESTED <input type="checkbox"/></td> <td>MAIN BOARD SET-UP AND TESTED <input type="checkbox"/></td> </tr> <tr> <td>VEND MECHANISM TESTED <input type="checkbox"/></td> <td>LIGHTS WORKING <input type="checkbox"/></td> </tr> <tr> <td>SAFETY CUT-OUT SWITCH TESTED <input type="checkbox"/></td> <td>ALL DOORS CHECKED FOR PROPER CLOSING <input type="checkbox"/></td> </tr> <tr> <td>MACHINE CLEAN <input type="checkbox"/></td> <td>FINAL ACCEPTANCE <input type="checkbox"/></td> </tr> </table> </div>	INSULATION TESTED <input type="checkbox"/>	HI.POT. TESTED <input type="checkbox"/>	COOLING UNIT TESTED <input type="checkbox"/>	MAIN BOARD SET-UP AND TESTED <input type="checkbox"/>	VEND MECHANISM TESTED <input type="checkbox"/>	LIGHTS WORKING <input type="checkbox"/>	SAFETY CUT-OUT SWITCH TESTED <input type="checkbox"/>	ALL DOORS CHECKED FOR PROPER CLOSING <input type="checkbox"/>	MACHINE CLEAN <input type="checkbox"/>	FINAL ACCEPTANCE <input type="checkbox"/>
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MACHINE CLEAN <input type="checkbox"/>	FINAL ACCEPTANCE <input type="checkbox"/>										

## 7 TROUBLESHOOTING

The following table lists the problems that may occur on our vending machines. We have listed the possible causes together with the recommended solutions to eliminate the problems.



**CAUTION: IN CASE OF FAILURE AND/OR POOR OPERATION ONLY CONTACT THE SKILLED PERSONNEL AT OUR SERVICE CENTRES**

**I** MAY WE REMIND YOU THAT OUR AFTER SALES SERVICE CENTRE IS AT YOUR COMPLETE DISPOSAL FOR ANY TECHNICAL INFORMATION YOU MAY NEED

<b>PROBLEM</b>	<b>POSSIBLE CAUSES</b>	<b>RECOMMENDED SOLUTIONS</b>
<p><i>All coins returned.</i></p>	<p>The vending machine is not powered.</p> <p>The coin box is not powered.</p> <p>The coin box is out of use or the money return handle does not close.</p> <p>Dirty money channel.</p>	<p>Check the electrical plug.</p> <p>Check that the connection wiring is not faulty and that the fuse has not blown.</p> <p>Check the coin box or replace the levers.</p> <p>Clean the coin box with an approved detergent. Dry completely.</p>



<b>PROBLEM</b>	<b>POSSIBLE CAUSES</b>	<b>RECOMMENDED SOLUTIONS</b>
	Machine has sold out.	Either all the columns are empty or the full columns have signalled a product blockage to the board. Check that the full columns work properly with the manual test after which reset the errors (ref. Programming Manual).
<i>Coins accepted no product delivered.</i>	Prices are set too high.	Set the prices (ref. Programming Manual).
	Communication error coin box – board.	Check the connection wire between the coin box and the board. If necessary, try replacing the coin box or board.
	The motors are jammed.	Make sure the motor is powered by 24V when the selection is made (always cancel the errors on the board).
<i>The delivery motor runs until two or three products are sold, after which the column signals sold-out.</i>	The motor has a dirty micro switch.	Clean or replace it.
<i>The sales made are not counted.</i>	The door switch does not activate when the door is closed.	Adjust the door square and try a sale with the door closed.
<i>The display shows the sales counter.</i>	The “ door closed” sensor is not installed correctly.	Adjust the position of the “ door closed” sensor
<i>The column signals sold-out even when it is full.</i>	The products are over the sold out sensor.	Check that the column arrangement is correct. Check if the sold -out micro switch works.
<i>The cooling system does not work.</i>	The vending machine is not powered. Communication failure between the power board and the vending machine.	Check the power source. Check the power cable connections and the fuses. Check the communication cable is intact.
<i>The compressor does not work, the</i>	The overload protection and relay do not work.	Check the overload protection or the compressor relay.

<b>PROBLEM</b>	<b>POSSIBLE CAUSES</b>	<b>RECOMMENDED SOLUTIONS</b>
<i>Condenser fan works, but the compressor is not cold.</i>	The relay board is faulty.	Check that the compressor windings have the right electrical resistance. Check that the guide relay has control wiring.
<i>The compressor works, but the temperature is not ideal.</i>	The condenser fan does not work. The condenser is dirty. The evaporator fan does not work. No gas in system. The temperature setting is not exact. EMS programmed badly.	Check the circuit. Replace the motor. Check if the fan is blocked. Check the guide relay board. Check if the condenser fins are dirty or obstructed. Check the circuit. Replace the motor and check that the fan is not blocked. Check the guide relay board. Check for any leaks and only reload with the quantity and type of gas recommended by the manufacturer. Set the desired temperature (ref. Programming Manual). Check if the energy saving program is correct and change if necessary (ref. Programming Manual).
<i>The compressor works continuously.</i>	Faulty relay board. Incorrect temperature setting. Gas leak.	Check the relay board and wiring. Check the setting. Reload the cooling system after repairing the leak.
<i>Evaporator covered in ice.</i>	Evaporator fan does not work. The cooling compartment is badly sealed.	Check the evaporator fan (see previous instructions). Change the sealing and/or adjust the internal door closure. Check that the product door is not blocked.

Only technicians from SandenVendo or authorised personnel may carry out operations that require the machine's lower protection to be opened, because of possible risks due to electric shocks and moving mechanical parts.



**TECHNICIANS ALLOWED TO OPERATE ON THIS VENDING MACHINE**

- q Operator (allowed only to load the vending machine by the products to be sold)
  - § This operator can only charge the vending machine by the products to be sold.
  - § To charge the machine, this operator is not allowed to remove the safe-protection below as it is indicated on the related safety icon-label on the protection.
  
- q Maintenance technician (skilled technician)
  - § In order to perform all that operations requiring to dismount the safe-protection below, it is necessary to contact only SandenVendo Europe technicians or only authorized (by SandenVendo) skilled and prepared technicians due to the potential electrical and mechanical risks.

VENDING MACHINE	CE	Rev. 00
Models: VDI 100 – 189 – 217 - 254		Pag. 43 di 46

## 8 STORAGE AND DISPOSAL

### 8.1 Storage

Should the vending machine not be used immediately or is stowed for long periods, check that it is correctly packed and positioned vertically.

Meaning it should be stored in a closed, but well ventilated room and which does not have particular characteristics hazardous to the machine' s components, in particular the electronic ones.

Protect unpainted parts against corrosion with greases or special sprays, if necessary stow them with dehydrating salts.

In any case, after lengthy periods of inactivity, the machine requires controls and special checks that cannot be described in this context, ask the manufacturer for instructions.

### 8.2 Disposal

Information about protecting the environment



Dispose of the packing in conformity with the recycling procedures.

In this way, you contribute towards reducing the need for virgin wood, using material that would otherwise accumulate at landfills.



Recycling the vending machine. Do not dispose the vending machine with other domestic waste. This vending machine contains electrical and electronic material, which, as indicated by Directive ROHS 2002/95/CE, and Directive WEEE 2002/96/CE, if treated correctly, can be salvaged and recycled at the end of its working life. Recycling this product contributes towards reducing the need for new materials and reducing the accumulation of waste.



**CAUTION: THE MANUFACTURER IS NOT RESPONSIBLE FOR DAMAGES TO THE ENVIRONMENT CAUSED BY ILLEGAL WASTE.**



To obtain updated information on treatment and recycling WEEE centers, please visit our website:

[www.sandenvendo.com](http://www.sandenvendo.com)

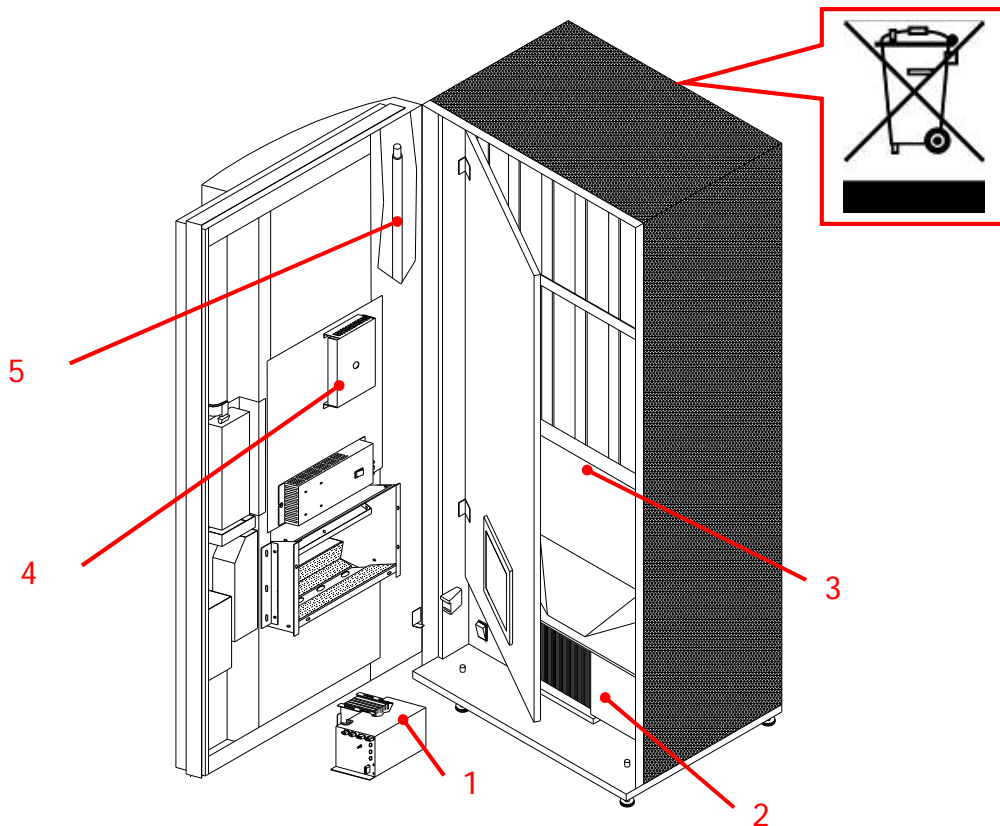
VENDING MACHINE	CE	Rev. 00
Models: VDI 100 – 189 – 217 - 254		Pag. 44 di 46

8.3 Person in charge of disposal

Directive WEEE 2002/96/CE enforces the obligation NOT to dispose WEEE (Waste Electrical and Electronic Equipment) as household waste and to select this waste for separate collection.



By law, the person in charge of disposal must, upon receiving an appliance showing this symbol before disposing of it select the WEEE waste and make it available for collection.



**FIG. 9.1 – VENDING MACHINE MOD. VDI 100-189 217 254**

- 1 Transformer box
- 2 Cooling system
- 3 Vending motors
- 4 Programming board
- 5 Neon lamps

VENDING MACHINE	CE	Rev. 00
Models: VDI 100 – 189 – 217 - 254		Pag. 45 di 46

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#### 8.4 Sanctions

The sanctions in case of the illegal DISPOSAL of WEEE waste are indicated in the national decrees related to the Directive ROHS 2002/95/CE, Directive WEEE 2002/96/CE.

VENDING MACHINE	CE	Rev. 00
Models: VDI 100 – 189 – 217 - 254		Pag. 46 di 46