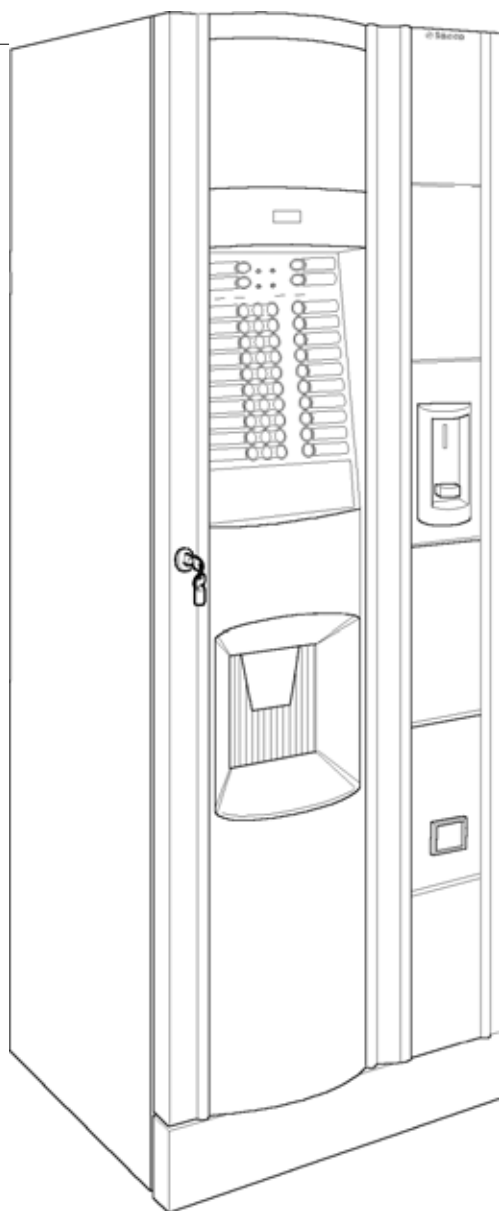

Vending machine

model

Saeco Group 700

single and double boiler



CE

INSTALLATION AND MAINTENANCE MANUAL

CE CONFORMITY DECLARATION

We hereby:

SAECO S.p.A.
Via Torretta, 230
40041 GAGGIO MONTANO (BO)

Declare under our own responsibility that the following product:

HOT BEVERAGE VENDING MACHINE

TYPE: D.A. GROUP 700

To which the present declaration refers is in compliance with the following norms:

- Machinery safety – Fundamental concepts, main design principles.
Terminology, basic methodology EN 292 part 1 – September 1991
- Machinery safety – Fundamental concepts, main design principles.
Technical specifications and principles EN 292 part 2 – September 1991
Electrical domestic appliance and electrical appliance safety – General requirements EN 60335-1 June 1988 +
Modifications 2,5,6,A51
- Electrical domestic appliance and electrical appliance safety – Part 2 –
Specific requirements of liquid heating appliances
EN 60335-2-15 – November 1990
- Electrical domestic appliance and electrical appliance safety – Part 2 –
Specific requirements for sprayers and coffee grinders
EN 60335-2-33 – April 1990
- Electrical domestic appliance and electrical appliance safety – Part 2 –
Specific requirements for distributors and vending machines
IEC 335-2-75 – Document
- Limits and measurement methods of radio disturbance generated by electric and thermal motors for domestic and
related use, electrical instruments and the like
Electrical appliances – EN 55014 – Ed. 1993
- Electromagnetic compatibility (EMC)
Part 3 – Limits – Section 2: harmonic current emission limits (appliance input power $\pm 16A$ per phase) -
EN 61000-3-2 – Ed. 1993
- Electromagnetic compatibility (EMC)
Part 3 – Limits – Section 3: Limitation of current fluctuations and peaks in low tension power supply systems for appliances
with rated current of $\pm 16A$ -
EN 61000-3-3 – Ed. 1994
- Immunity requirements for domestic electrical appliances, musical instruments and the like.
Norm for product family – EN 55104 – Ed. 1995

According to the provisions of the following directives:

CE 73/23 - CE 89/392 - CE 89/336 - CE 91/368
CE 92/31 - CE 93/44 - CE 93/68

The Director: Sergio Zappella



BEFORE USING THE MACHINE, READ THIS MANUAL CAREFULLY SO AS TO OPERATE IN ACCORDANCE WITH CURRENT SAFETY STANDARDS.



ATTENTION: Important safety indications!



READ the instruction manual carefully before using the machine.

For any service or maintenance, switch off the machine.



ATTENTION: machine switched on!

ATTENTION: hot parts in contact!

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1 - PREMISE

1.1 User instructions

This vending machine is safe for all those who follow the loading and ordinary cleaning instructions given in this manual.

Caution

For no reason at all the operator must access those parts of the machine that are protected by guards requiring special instruments to be unlocked.

Some maintenance operations (to be done solely by specialised technicians) expressly require to switch off some safety devices.

Acquaintance and absolute respect, from a technical point of view, of safety standards and danger warnings contained in this manual, are fundamental for installing, using and servicing the machine in conditions of minimum risk.

1.2 General instructions



Before using the vending machine, read this manual carefully.

Knowledge of the information and instructions contained in this document is essential for a correct use of the vending machine by the user.

- Interventions by the user on the automatic vending machine are allowed only if they are of his competence and if he has been duly trained.
The user must be fully acquainted with all operating mechanisms of the machine according to his competence
- It is the buyer's responsibility to ascertain that the users have been trained and informed on all the indications and specifications contained in the documentation supplied.
Also with these certainties the operator or the user must be aware of the potential risks that exist while operating with the automatic vending machine.
- This manual is an integral part of the equipment and as a consequence must be always nearby the machine so as to allow easy consultation by the operators until the dismantling and/or scrapping.
- In case of loss or damage of this manual it is possible to request a new copy to the manufacturer mentioning the data registered on the machine serial number label.
- Functional reliability and optimisation of machine services are guaranteed only if original parts are used.
- Modifications to the machine performed by the user are to be considered under his entire responsibility.
All the operations necessary to maintain the machine in working order, before and during the use are at the user's charge.
- Manipulations or modifications made to the machine not previously authorized by the manufacturer, relieve the latter from all responsibility for damage deriving from, or referable to the above mentioned modifications.
- This manual reflects the status at the moment of the emission of the automatic vending machine on the market; possible modifications, upgrading and adjustments that are made to the machines that are commercialised afterwards, do not oblige SAECO S.p.A either to intervene on the machine previously supplied or consider it and the relevant manual to be defective or inadequate.

- It is however SAECO S.p.A faculty, when they deem it opportune for valid motives, to adjourn the manual already present on the market and send adjournment sheets to their customers who are due to keep them in the original manual.

Possible technical problems that may arise are easily resolvable consulting this manual. For further information, contact the distributor where the machine has been purchased, or contact the Technical Service at the following numbers:

 Tel. 0534 / 37700 - fax 0534 / 37650

When calling, please, give the following information:

- The data registered on the serial number label (fig. 1);
- The version of the programme contained in the microprocessor (adhesive label applied to the component assembled on the C.P.U. board) (ref. 1, fig. 2);
- The card code appearing on the welding side of the C.P.U. board.

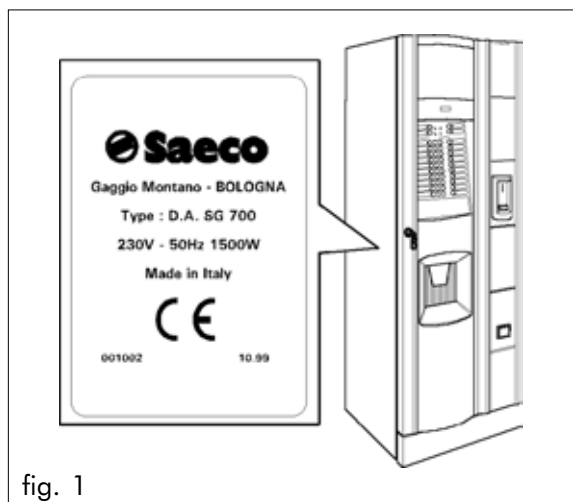


fig. 1

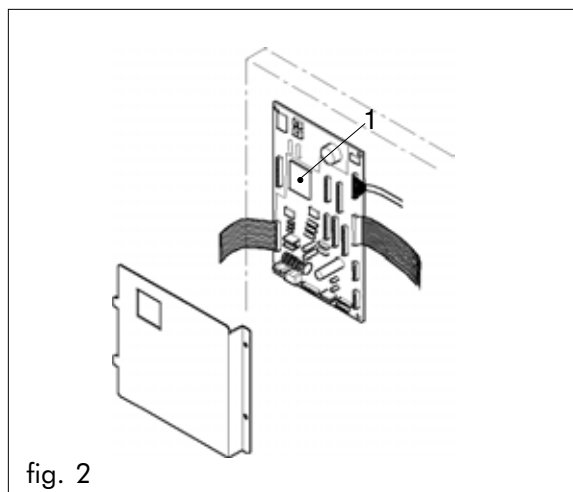


fig. 2

SAECO S.p.A declines all responsibility for damage caused to persons or property in consequence of:

- Incorrect installation
 - Inappropriate electrical and/or water connection
 - Inadequate cleaning and maintenance
 - Unauthorised modifications
 - Improper use of the distributor
 - Unoriginal spare parts
- In no case SAECO S.p.A is held to indemnify possible damages caused by forced inactivity of the machine due to failures.
 - Installation and maintenance operations must be done exclusively by qualified engineers.
 - Use only foodstuff specific for automatic vending machines
 - The automatic vending machine is not fit to be installed outside. The machine must be installed in dry places, with temperatures that never go below 1°C and it must not be installed in places where cleaning is done with water hoses (e.g. big kitchens ...).
 - If at the moment of the installation use conditions are different from those established or are eventually subject to changes, please contact immediately the manufacturer before using the machine. Furthermore always act in compliance with national or local standards.

2 - TECHNICAL SPECIFICATIONS

Height mm 1830
 Width mm 657
 Depth mm 745
 Weight from kg 146 to kg 155

Power supply voltage Volt 230
 Power frequency Hz 50
 Installed power

kW 2.80 for double boiler
 kW 1.50 for single boiler

AVERAGE CONSUMPTION:

In standby 100 W/h
 For 50 drinks 300 W/h

Water connection 3/8 gas
 Electric connection SCHUCO plug

WATER SUPPLY
 From net with pressure between 0.5 and 6.5 bar

CUP DISPENSER
 Suitable for cups with diameter mm 70-71

BOILER RESISTANCES
 armoured type:
 1000 Watt for coffee boiler
 1300 Watt for instant boiler

CONTAINER CAPACITY

Coffee in beans	Kg 4.0
Instant coffee	Kg 1.5
Powder milk	Kg 2.1
Chocolate	Kg 4.3
Tea	Kg 5.9
Consommé	Kg 5.5
Sugar	Kg 5.6
Cups	700
Spoons	540

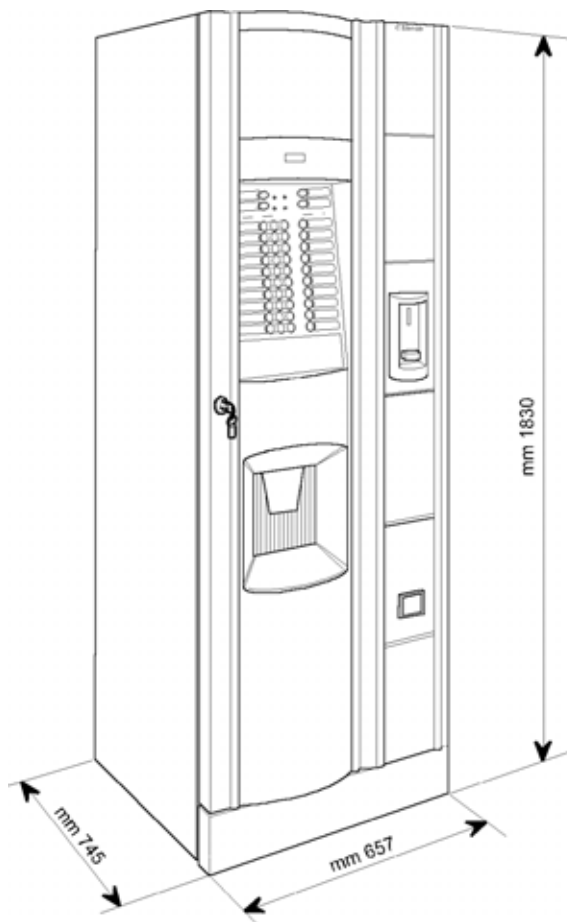


fig. 3

3 - GENERAL TECHNICAL DESCRIPTION

3.1 Machine description

(fig. 4)

- ref.1 Coffee group and grinder
- ref.2 Drinks distributor group
- ref.3 Sugar dispenser group
- ref.4 Cup dispenser
- ref.5 Coin box group

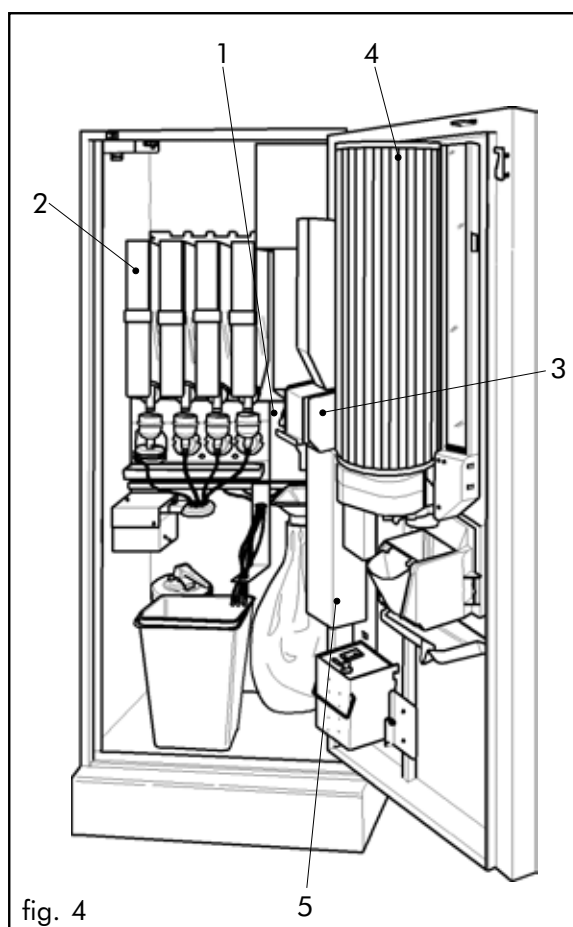


fig. 4

3.2 Use allowed

The distributor is to be used exclusively for the dispensing of drinks, prepared mixing foodstuff with water (by infusion as far as concerns coffee). For this purpose use products that the manufacturer has declared suitable for the automatic distribution in open containers.

The drinks flow down into specific plastic cups automatically dispensed by the machine.

The sugar stirring spoon is dispensed automatically.

The drinks must be consumed immediately and in no case are to be kept for subsequent consumption.

3.3 Models

The following terminology is used so as to distinguish the various models of automatic distributors:

SAECO GROUP 700 STANDARD

Version with plastic coffee group and 4 instant products, equipped with double boiler

SAECO GROUP 700 4S

Version with plastic coffee group and 4 instant products, equipped with single boiler

SAECO GROUP 700 3S

Version with plastic coffee group and 3 instant products, equipped with single boiler

SAECO GROUP 700 INSTANT

Version with instant products only



Attention

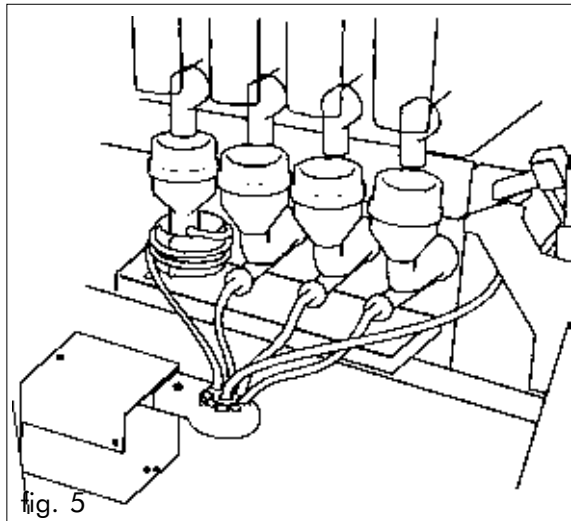
This manual refers to the most complete model: it is therefore possible to find descriptions or explanations not related to your machine.

3.4 Basic operation concepts

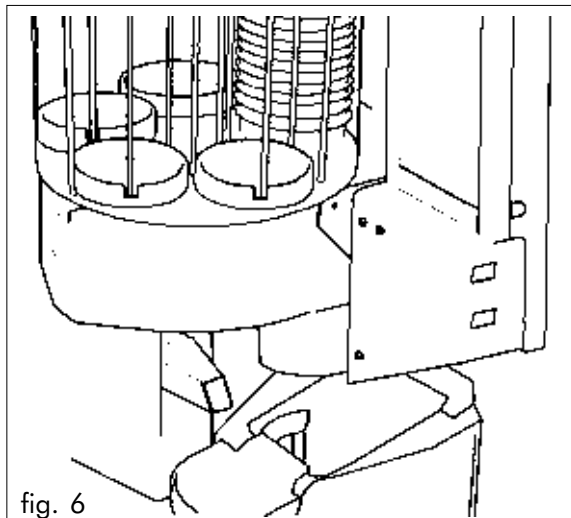
During the normal functioning the distributor is in standby status. Introducing the necessary amount, according to the pre-set price and after pressing the key relative to the desired drink, the drink dispensing cycle is activated: It can be divided in different processes:

CUP DISPENSER

- It is the first operation that the distributor activates (except for the "without CUP" dispensing).
- The nozzle support movement motor is engaged to move the support back to allow the cup to fall (fig.5).



- The motor inside the cup dispenser moves the scrolls to separate and make the cup fall into the special support fork inside the receptacle (fig.6).

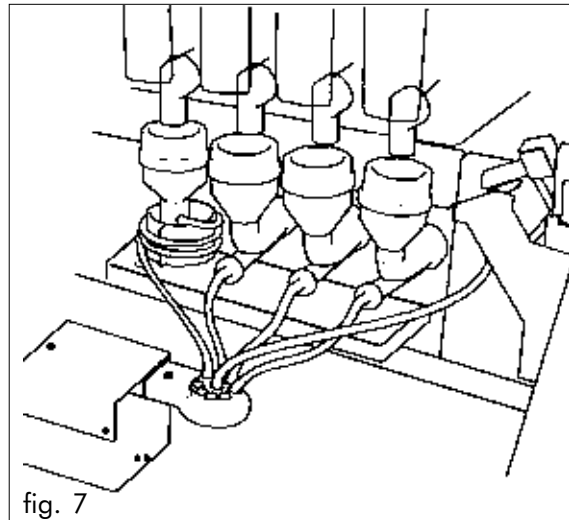


SUGAR AND SPOON DISPENSER

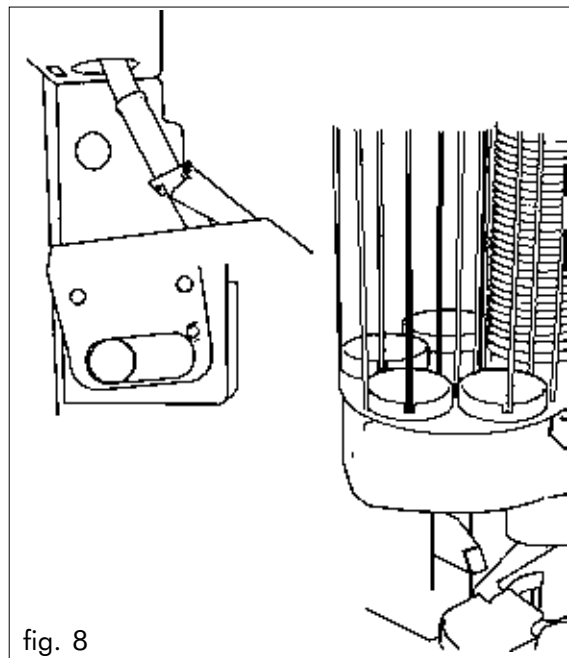
Where set and requested, an amount of sugar that is pre-set to the maximum dose is dispensed with the possibility to stop in correspondence to the desired dose.

The dispensing procedure occurs according to the following phases:

- The geared motor activates the helicoidal screw conveyor of the sugar container, dispensing the desired quantity into the product chute (fig.7).



- The chute drive motor is engaged and allows sugar to be unloaded into the cup (fig.8).



- The electromagnet that controls the spoon is engaged and the spoon is expelled directly into the cup through a proper chute (fig.9).

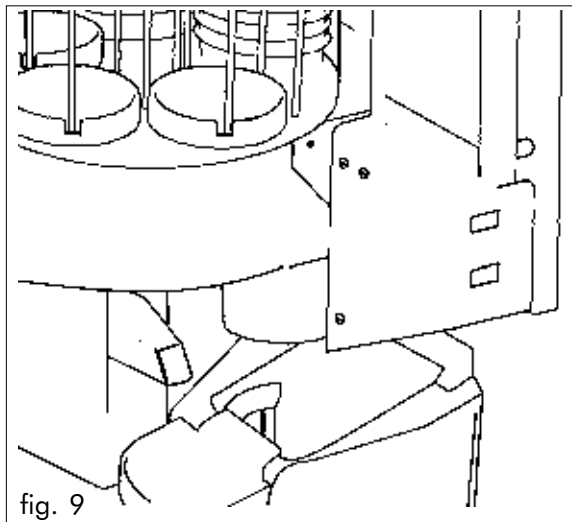


fig. 9

INSTANT DRINKS

This process is activated after dispensing cup, sugar and spoon.

According to the drink type requested and distributor model (single or double boiler), more processes described here below can be activated to prepare the drink.

- If present, the motor-mixer is activated (fig.10).

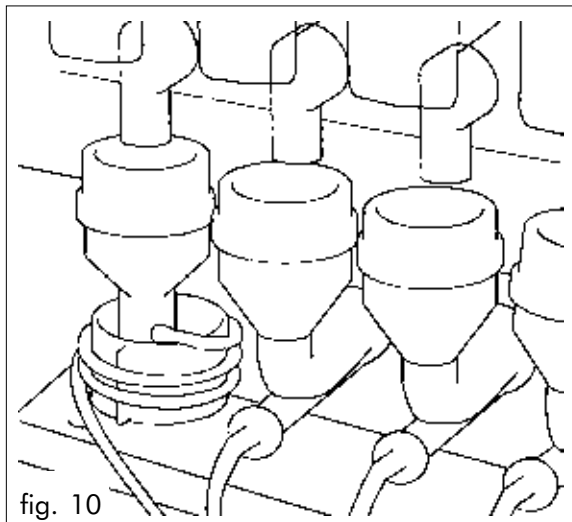


fig. 10

- In models with single boiler for espresso coffee, the instant solenoid valve, fixed to the coffee boiler, is engaged in order to deliver the

required quantity of water into the mixer (fig.11); the pump that delivers the required amount of water -controlled by a special electronic device (volumetric counter)- starts up

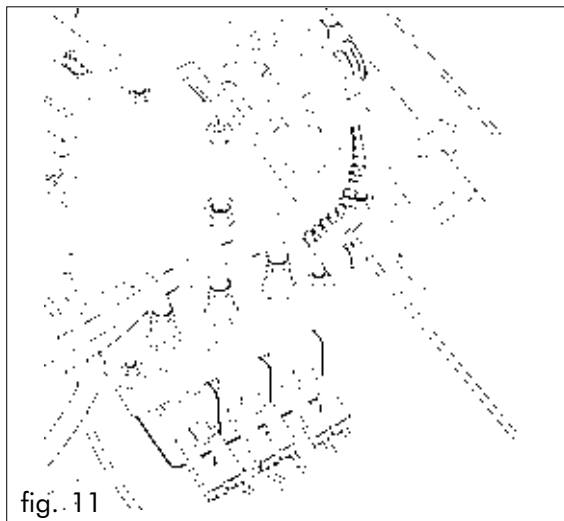


fig. 11

- In models with double boiler, the instant solenoid valve that is fixed to a boiler not under pressure (fig.12). is duly activated in order to deliver the required quantity of water. In this case, water flows by drop.

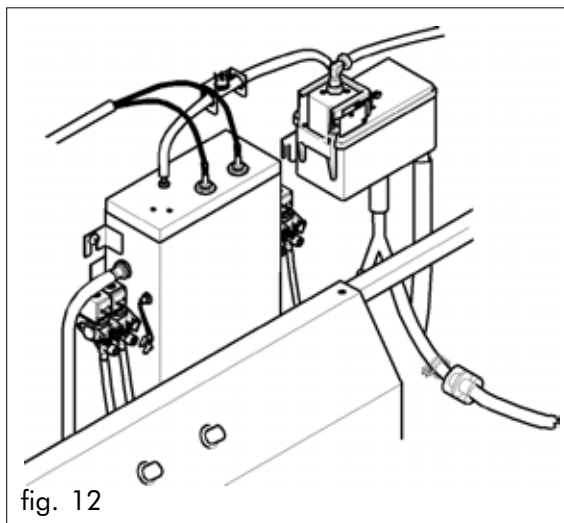
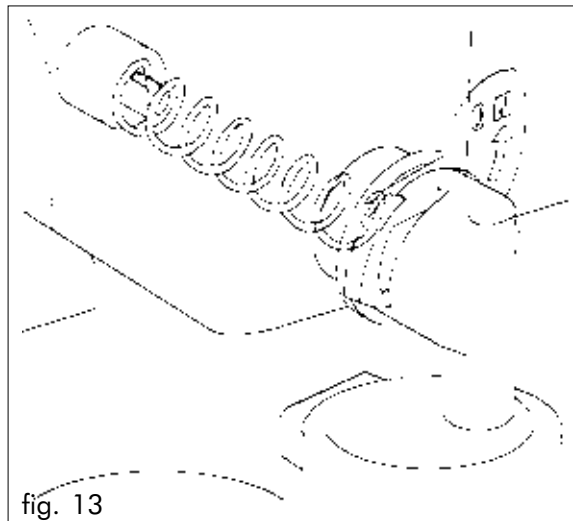


fig. 12

- The instant product geared motor activates the helicoidal screw conveyor so as to dispense the quantity of product programmed into the mixer (in some versions more products can be conveyed into the same mixer) (fig.13).

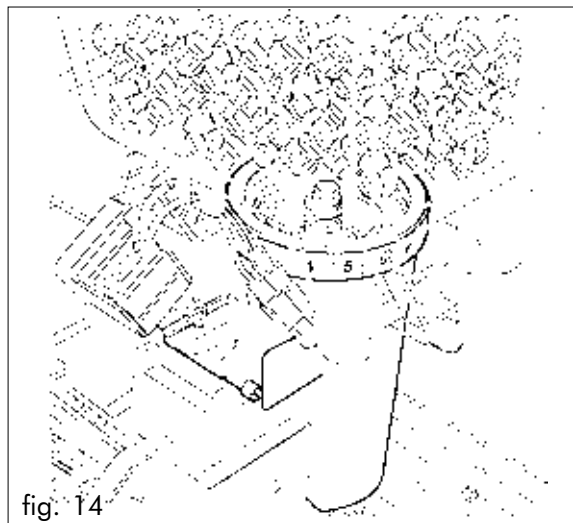


- Once the pre-set quantity of water and powder is dispensed, the motor-mixer is switched off.

ESPRESSO COFFEE

This process occurs after dispensing cup, sugar and spoon.

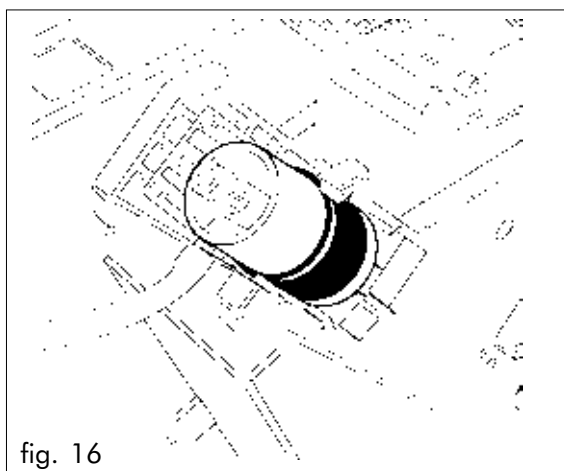
- The grinder is activated until it produces the dose of ground coffee set by the doser (fig.14).



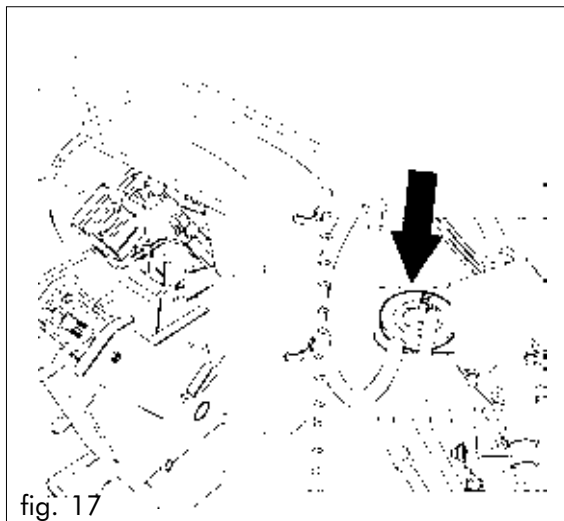
- The doser electromagnet is activated, causing the opening of the door and the consequent fall of the coffee into the brew chamber (fig.15).



- The rotation group geared motor starts-up, brings it into the dispensing position and simultaneously compresses the ground coffee (fig.16).



- The pump that delivers the required amount of water -controlled by a special electronic device (volumetric counter)- starts up, withdrawing the water from the coffee boiler(fig.17).



- The coffee group geared motor is activated again so as to return into standby position; during this movement the coffee grounds are expelled (fig.18).

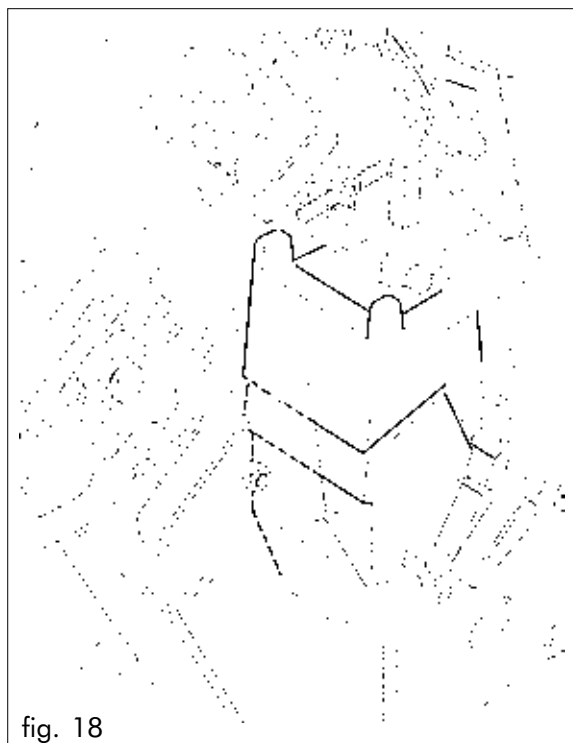


fig. 18

The activation sequence of grinder and coffee doser can be inverted depending on the pre-set programming type (see programming menu).

4 - VENDING MACHINE HANDLING

4.1 Handling and transport

(fig. 19)



fig. 19

The transport of the distributor must be effected by competent personnel.

The distributor is delivered on a pallet; for the shifting, use a truck and move it slowly in order to avoid capsizing or dangerous movements.

 **Attention**

Avoid:

- lifting the distributor with ropes or presses
- dragging the distributor
- upsetting or laying down the distributor during transport
- giving jolts to the distributor

With regard to the distributor, avoid :

- bumping it
- overloading it with other packages
- exposing it to rain, cold or sources of heat
- keeping it in damp places

4.2 Stocking

For eventual stocking, avoid superposing machines one upon another, maintain it in vertical position, in dry places with temperatures not below 1° C (fig.20).

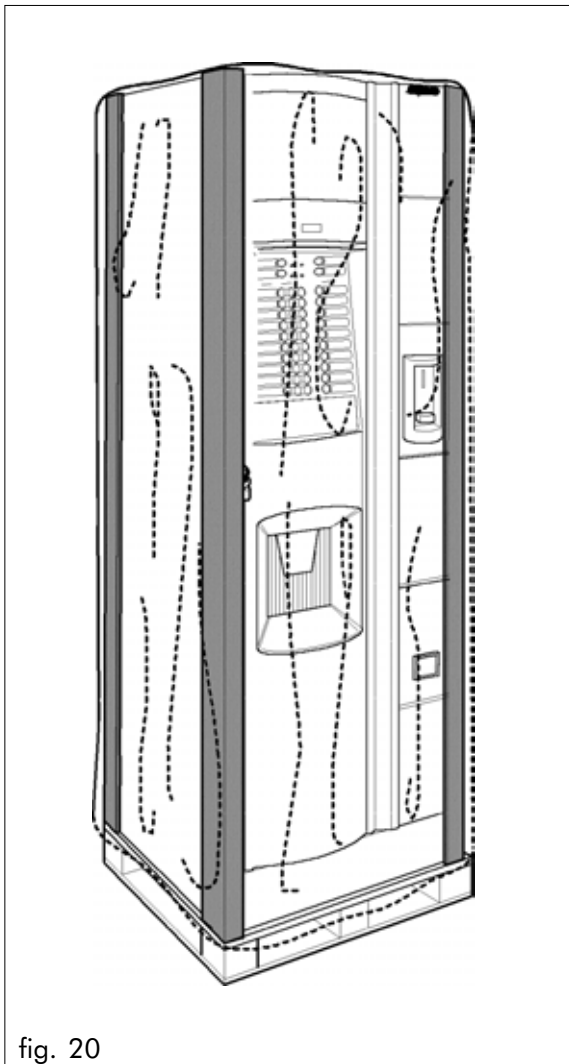


fig. 20

4.3 Packing

The distributor is protected with polyester angles and by a transparent film in polypropylene (fig.20). The automatic distributor will be delivered packed, assuring both a mechanical guard and protection against damage from the external environment.

On the package, labels are applied indicating:

- manoeuvre with care
- don't turn upside-down
- protect from the rain
- don't superimpose
- protect from sources of heat
- not resistant against bumps
- type of distributor and serial number

4.4 Reception

Upon reception of the automatic distributor you need to check it has not suffered damage during the transport. If any damage nature is noticed, place a claim with the forwarder immediately.

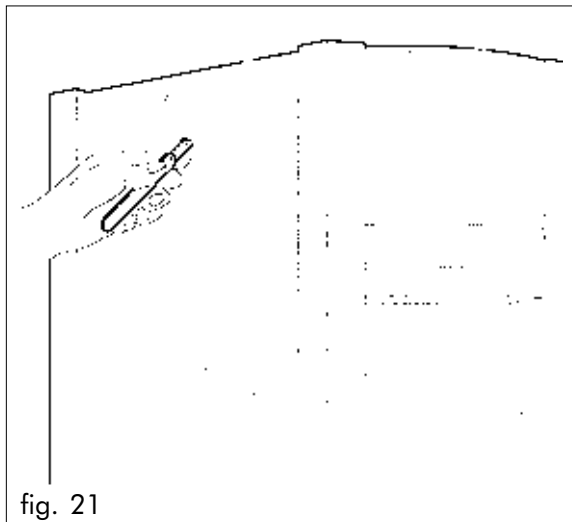
 **Attention**

At the end of the transport, the packing must result integer which means it must not:

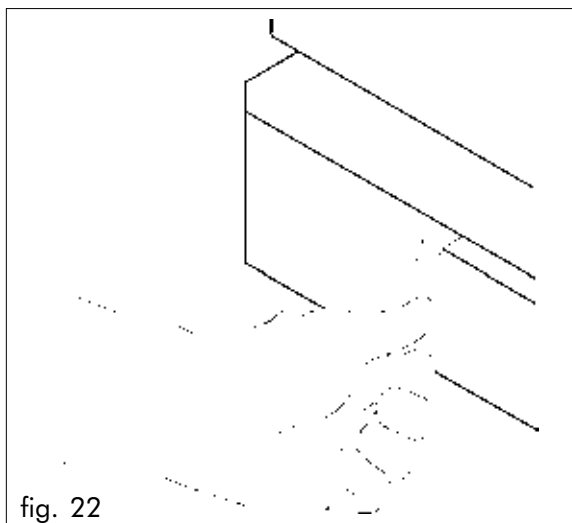
- present dents, signs of bumps, deformations or breaks of the external packaging
- present wet zones or signs that could lead one to suppose that the packing has been exposed to rain, cold or heat
- present signs of tampering

4.5 Unpacking

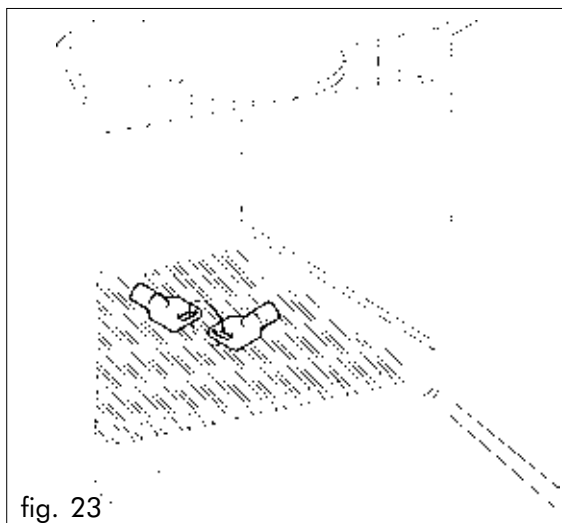
- Free the distributor from the packing, cutting the protective film in which it is wrapped, along one of the protection angles (fig.21).



Remove the distributor from the transport pallet, unscrewing the screws that secure it to the pallet (fig.22).

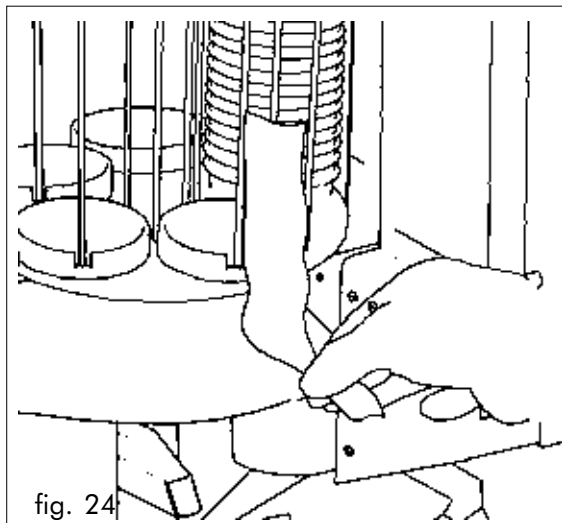


- Remove the key from the drink dispenser (fig.23).

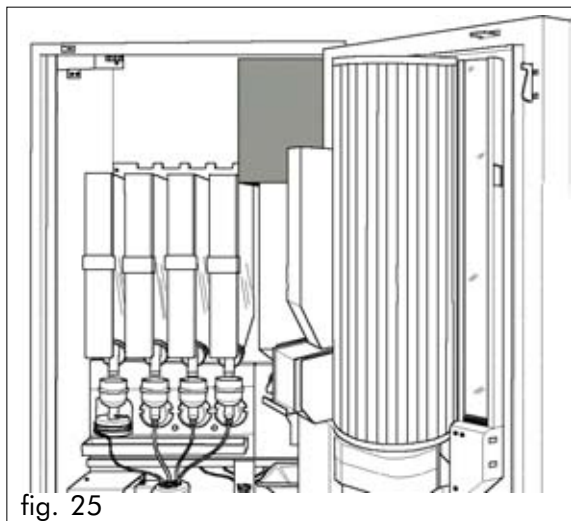


Open the door of the distributor and remove the adhesive tape from the components, listed here below:

- cup turret (example in fig.24)
- coin box
- coffee group, coffee chute
- spoon column counter-weight
- product containers
- liquid waste float mechanism
- bottom skirting-board
- liquid waste bin



- remove the polystyrene that blocks the product containers (fig.25)



 **Caution**

The packing material must not be left accessible to others, as it is a potential source of danger. For the disposal, contact qualified companies.

5 - SAFETY STANDARDS



- Before using the automatic distributor, read this manual carefully.
- The installation and maintenance operations must be performed exclusively by qualified technical personnel.
- For no reason at all the operator must access those parts of the machine that are protected by guards requiring special instruments to be unlocked.
- Acquaintance and absolute respect, from a technical point of view, of the safety standards and danger warnings contained in this manual, are fundamental for installing, using and servicing the machine in conditions of minimum risk.

Always disconnect the POWER CABLE before maintenance or cleaning interventions.

Absolutely do not intervene on the machine and do not remove safety guards before hot parts have cooled!

- Functional reliability and optimisation of machine services are guaranteed only if original parts are used.
- The automatic vending machine is not fit to be installed outside. The machine must be installed in dry places, with temperatures that never go below 1°C and must not be installed in places where cleaning is done with water hoses (e.g. big kitchens).
- In order to guarantee a regular operation, always maintain the automatic distributor in perfect cleaning conditions.

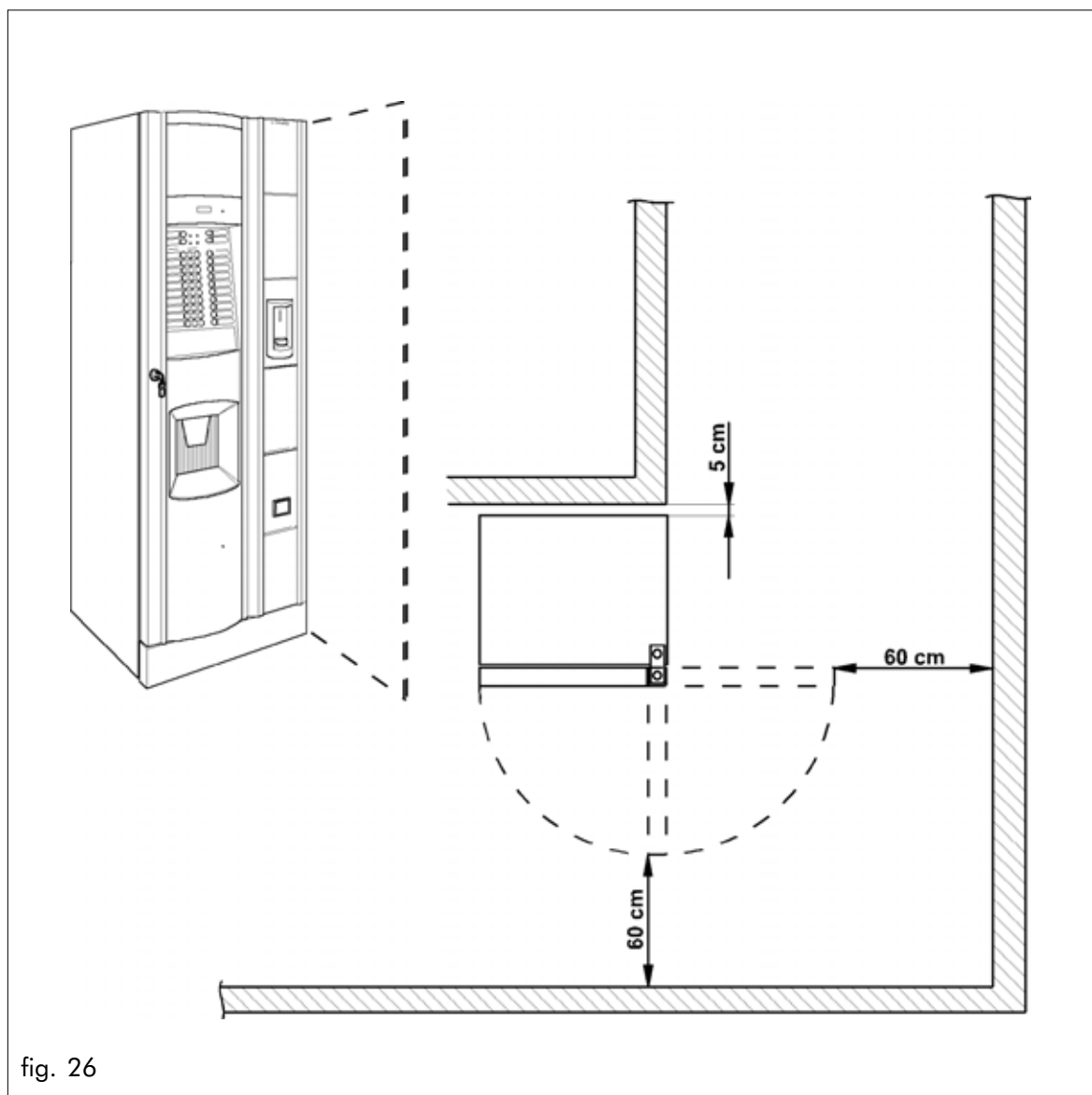
- SAECO S.p.A. decline all responsibility for damage caused to persons or property in consequence of:
 - Incorrect installation
 - Inappropriate electrical and/or water connection
 - Inadequate cleaning and maintenance
 - Unauthorised modification
 - Improper use of the distributor
 - Unoriginal spare parts
- Furthermore you are advised to always act in compliance with national or local standards.

6 - INSTALLATION

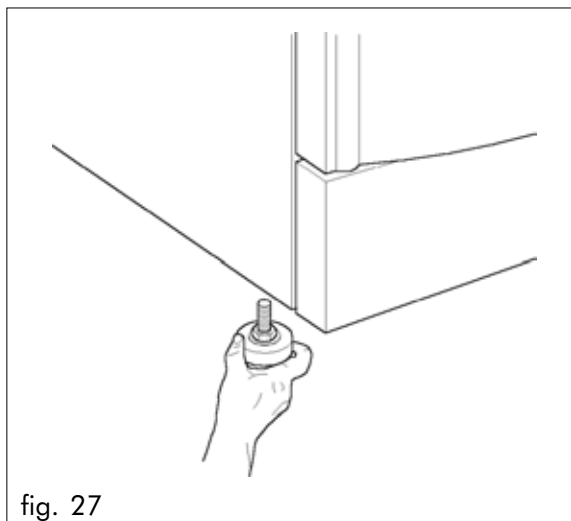
6.1 Positioning

The automatic vending machine is not fit to be installed outside. The machine must be installed in dry places, with temperatures that never go below 1°C ; besides, it must not be installed in places where cleaning is done with water hoses or in places with danger of explosions or fires.

- If positioned near a wall, there must be a minimum distance from the wall of at least 5 cm. (fig.26) so as to allow a regular ventilation. In no case cover the distributor with cloths or similar.



- Position the distributor, checking the levelling by means of the adjustable feet already assembled on the machine (fig.27). Make sure that the distributor doesn't have an inclination of more than 2 degrees.



SAECO S.p.A. declines all responsibility for inconveniences due to the non observance of the above mentioned installation norms.

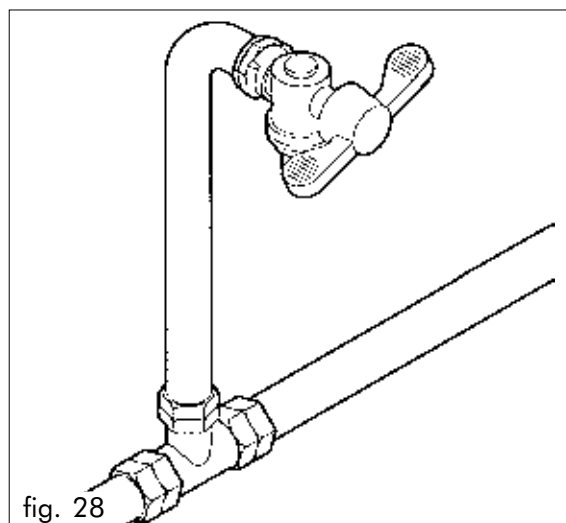
If the installation is made in safety evacuation corridors, make sure that the distributor with the door open let in any event sufficient space to pass by (fig.26).

Not to dirty the floor with accidental spilling of products, use, if necessary, a protective matting sufficiently wide to cover the operating area under the distributor.

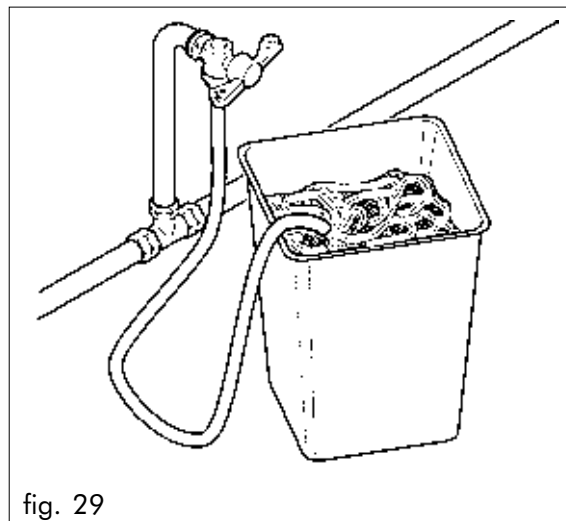
6.2 Water mains connection

Before connecting the distributor to the water mains make sure that the water :

- is drinkable (eventually through a test laboratory certification);
- has a pressure ranging between 0.5 bar and 6.5 bar (otherwise use a pump or a water pressure reducer according to the case).
- Install, if not present, a tap in an accessible position so as to separate the apparatus from the water mains should it be necessary (fig.28);



- make some water flow out of the tap so as to eliminate possible traces of impurities and dirt (fig.29);



- connect the tap to the distributor, using for the purpose a rigid copper or nylon pipe, suitable for food and adequate to bear the water supply pressure. Should a flexible pipe be used, it is necessary to assemble internally the reinforcement bearing supplied with the machine (fig.30);

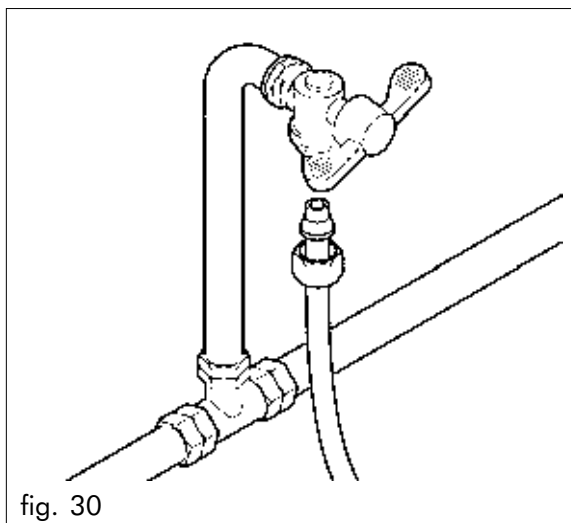


fig. 30

- the foreseen connection is a 3/8 gas (Fig.31).

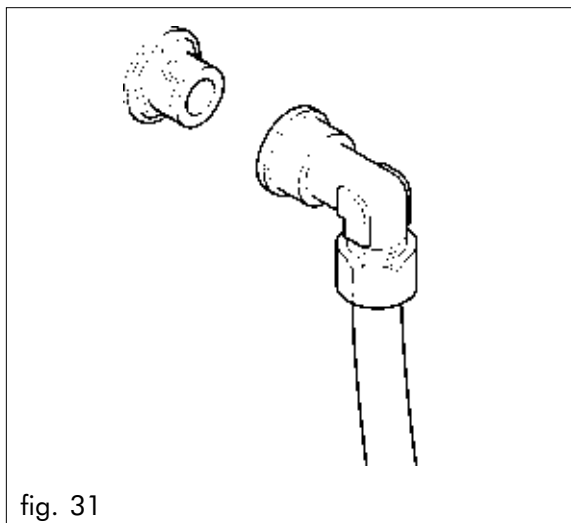


fig. 31

6.3 Electric Mains connection

The distributor is designed to operate with monophasic 220 Volt voltage and is protected with 10A and 16A fuses.

We suggest that you should check the following:

- the mains voltage of 220 V must not have a difference of more than $\pm 6\%$;
- the power supply must be adequate to bear the load of the machine;
- use a diversified protection system.

The machine must be connected to earth in observance with operative safety norms.

For this reason, verify the plant earth wire connection to ascertain that it is efficient and in compliance with national and European electric safety standards.

If necessary, require the intervention of qualified personnel for the verification of the plant.

- The distributor is equipped with a power supply cable H05VV-F 3x1.5 mm², with SCHUCO plug (fig.32).

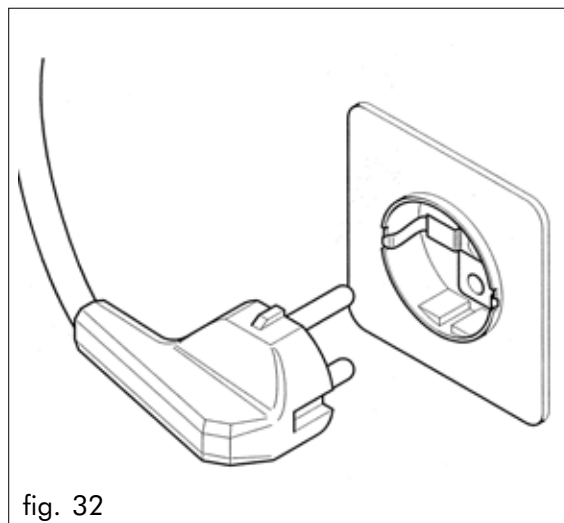


fig. 32

- The sockets that are not compatible with the plug of the machine must be replaced.
- The use of extensions, adapters and/or multiple plugs is forbidden (fig.33).

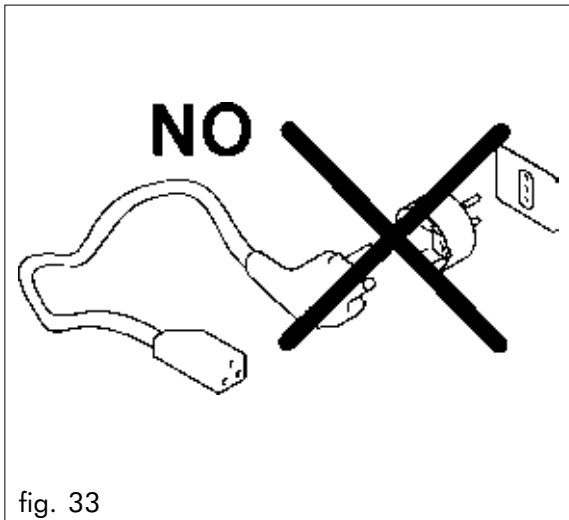


fig. 33

SAECO S.p.A. decline all responsibility for damage due to the non observance of the aforesaid norms.

6.4 Machine starting up

The distributor is equipped with a safety switch (fig.34) that disconnects the machine whenever the door is opened (see electric schema). In case of necessity, therefore, open the door or unplug the installation.

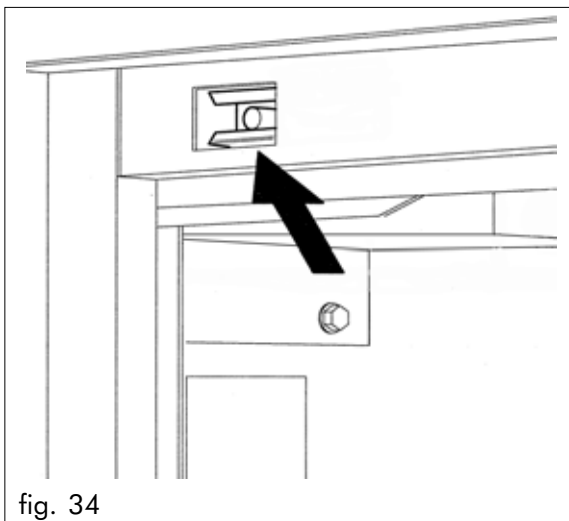


fig. 34

⚠ Caution

During the setting-up phase, before energising the machine, make sure you have connected it to the hydraulic system and opened the water tap.

⚠ Caution

The power cable plug (ref. 1, fig.35) as well as the service switch inside the distributor (ref.1, fig. 36) remain alive.

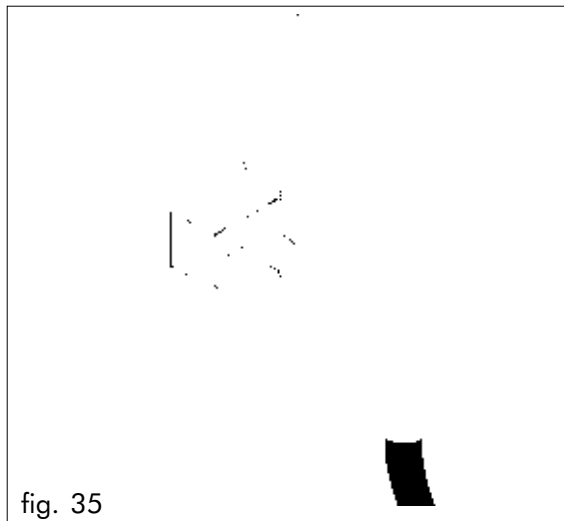


fig. 35

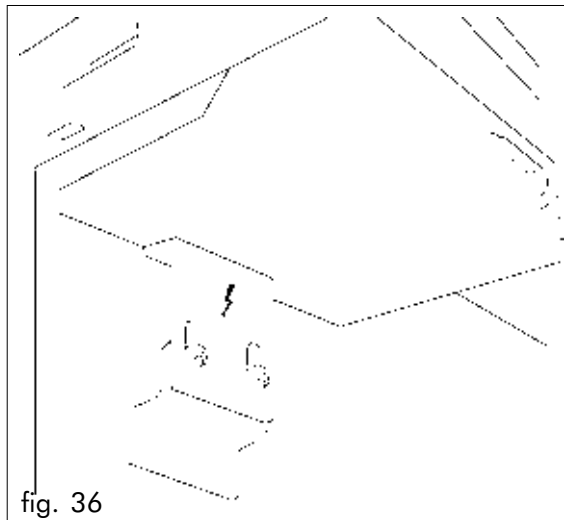


fig. 36

- For some operations it's however necessary to operate with the door open but the distributor connected.

For competent technicians only, it is possible to operate like that by inserting the special plastic key, supplied with the distributor, into the door switch, rotating it 90° (fig.37).

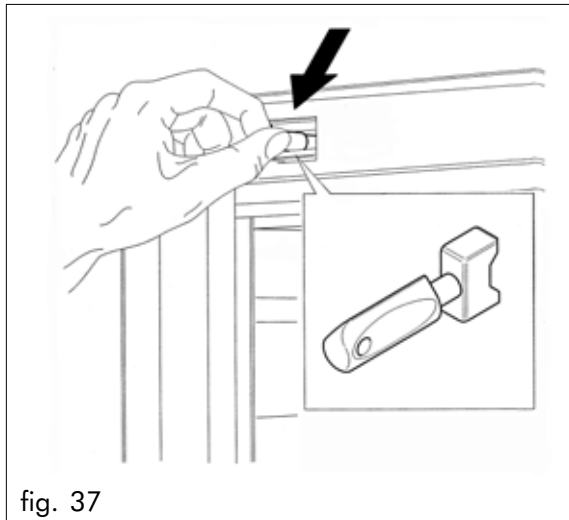


fig. 37

⚠ Caution

The opening and the distributor connection with the door open (for cleaning reasons only) must be performed only by authorized and technically qualified personnel. Don't leave the distributor unattended when it is open.

Give the key only to qualified personnel. Each time the distributor is switched on a diagnosis cycle is performed in order to verify the correct position of the mobile parts and the presence of water and other products.

6.5 Installation

6.5.1 Regeneration of water softener resins (available as a kit)

Before filling the water circuit of the distributor, it would be better to perform the water softener resin regeneration (if installed), operating as follows:

- Insert the pipe of the bottom faucet in a container suitable for this use.
- Open the faucet (fig.38).

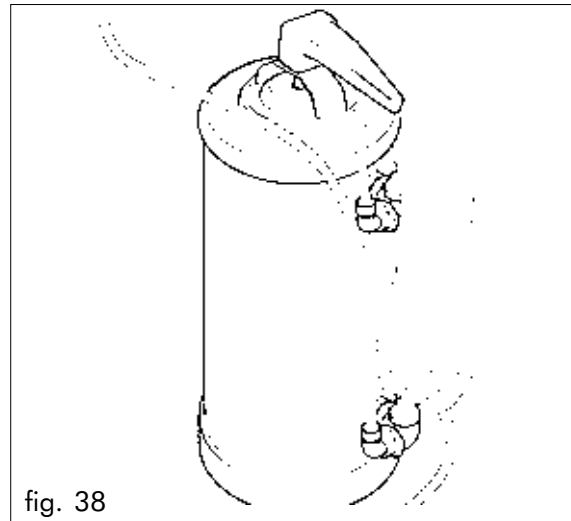


fig. 38

- Insert the key in the door switch (fig.39).

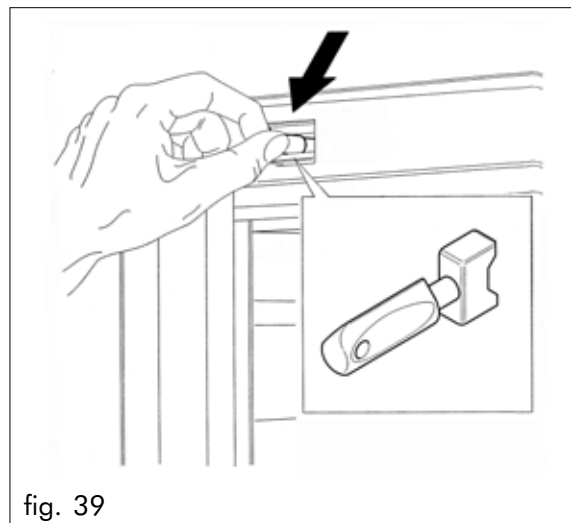
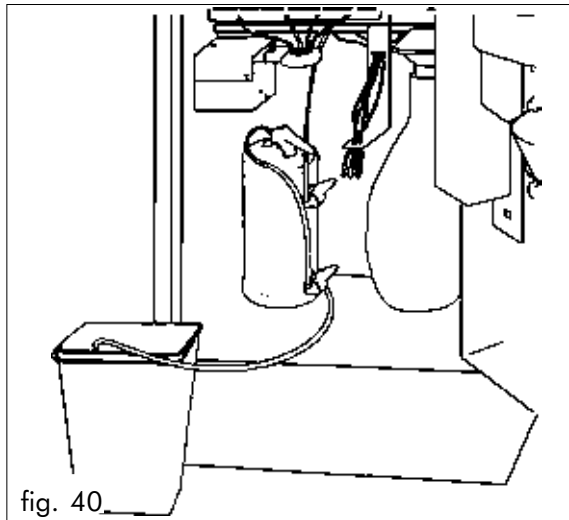


fig. 39

- Let the water flow out until it is clear (fig.40).



- Take out the key and close the faucet.

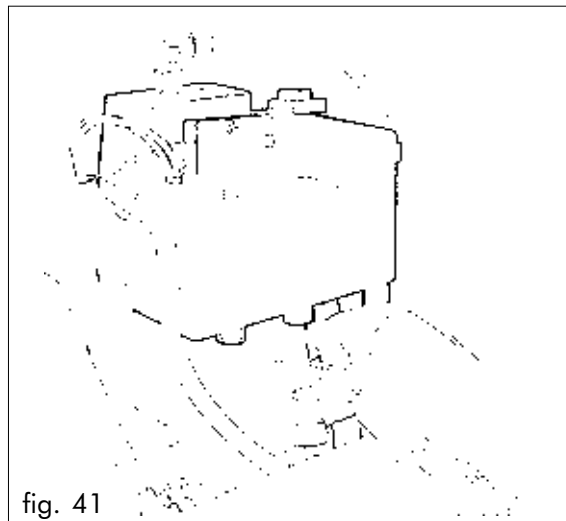
6.5.2 Water circuit filling

The machine automatically fills the hydraulic circuit of the float reservoir and instant boiler (in double boiler models) whereas the boiler filling for the coffee group must be performed manually, operating in "Service" mode.

The sequence of operations will be:

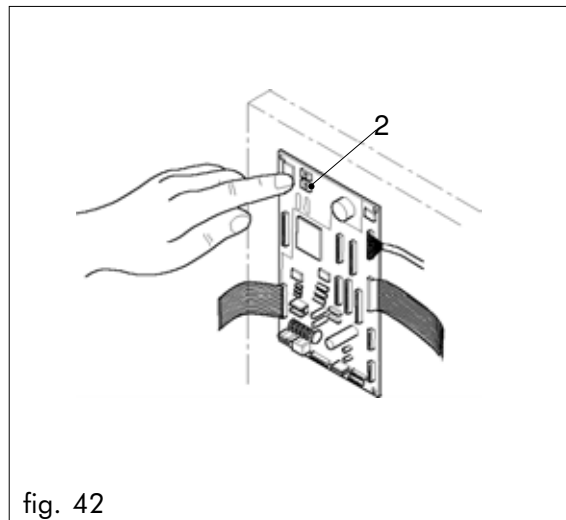
- Insert the proper key in the door switch
- When the machine is switched on, the automatic filling of the float water reservoir starts while the machine runs the automatic diagnostic phase.

We suggest sometimes compressing the tube that connects the boiler to the water reservoir so as to eliminate eventual air bubbles that may be created (fig.41).



During the diagnostic the following parts are activated sequentially:

- the coffee group, nozzle arm and sugar conveyor in order to perform a correct start positioning;
- the cup basket in order to perform the loading of the first column of cups in the release device;
- at the end of the diagnostic phase press the pushbutton 2 on the CPU board to enable the "Service" mode (fig.42);



- in the double boiler model, activate repeatedly the "coffee in beans" selection by the "water only test" button until the water flows out of the coffee group dispenser (this assures that the coffee boiler is filled);

In the single boiler model, still in "Service" mode, activate repeatedly the cleaning function for any mixer group up to the water flows out of the dispenser nozzle (fig.43);

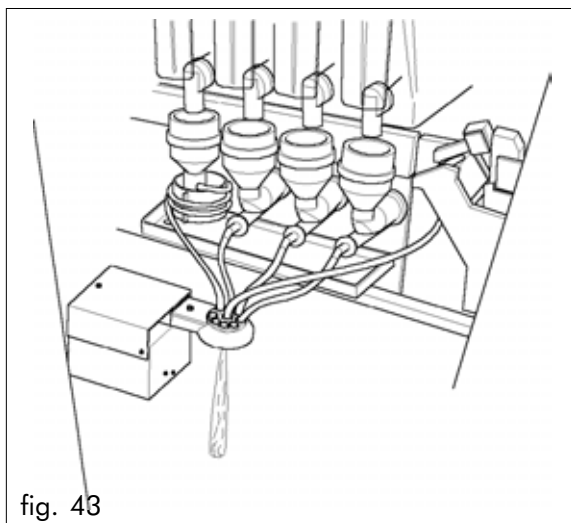


fig. 43

- When the minimum level set by the floater is reached inside the reservoir (fig. 44), the boiler heating resistance will be automatically enabled;

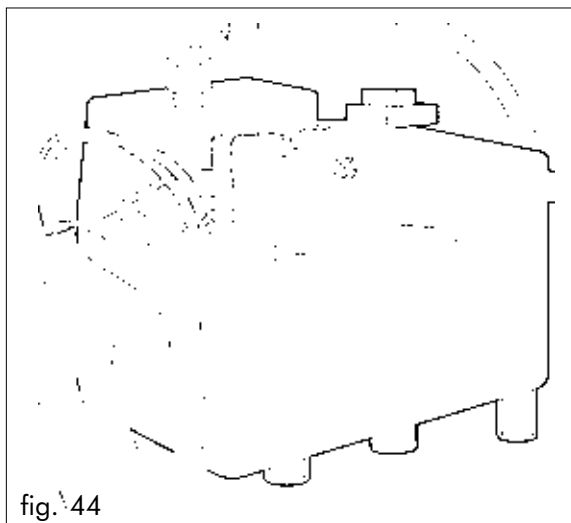


fig. 44

⚠ Danger

CAUTION: fill the coffee boiler through coffee dispensing tests or cleaning cycles of a mixer group so as to fill all the circuits, removing residual matters from the boiler and also prevent the heating resistance from operating dry.

NB: To enable dispensing tests or cleanings, see the use of the pushbutton panel in "Service" mode (fig.45).

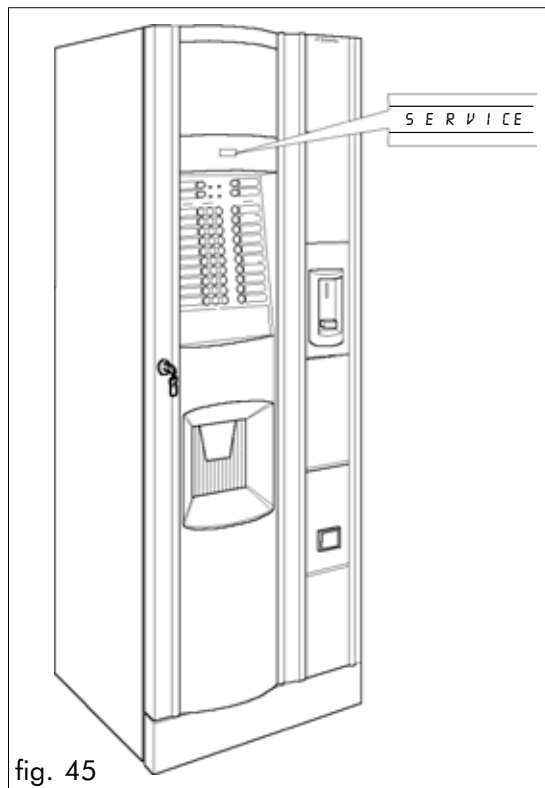


fig. 45

- after performing these operations, wait about ten minutes until the operating temperature is reached.

6.5.3 Cleaning the parts in contact with foodstuff

With distributor switched on, perform some cleanings of mixers pressing the buttons according to what is described in the service functions so as to eliminate any dirt from the coffee boiler and the instant boiler.

- Wash your hands carefully.
- Prepare an anti-bacterial cleaning solution with a chlorine base (products that can be purchased in pharmacies) following the concentrations given on the product instruction labels.
- Remove all the product containers from the distributor (fig.46).

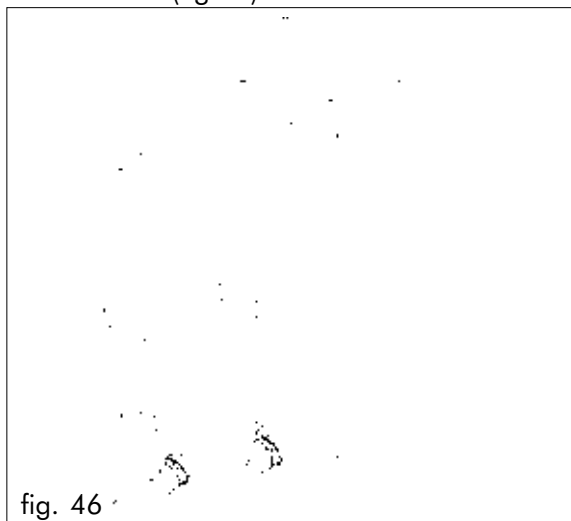


fig. 46

- Remove the lids and product chutes from the containers (fig. 47). Dip all in the solution previously prepared

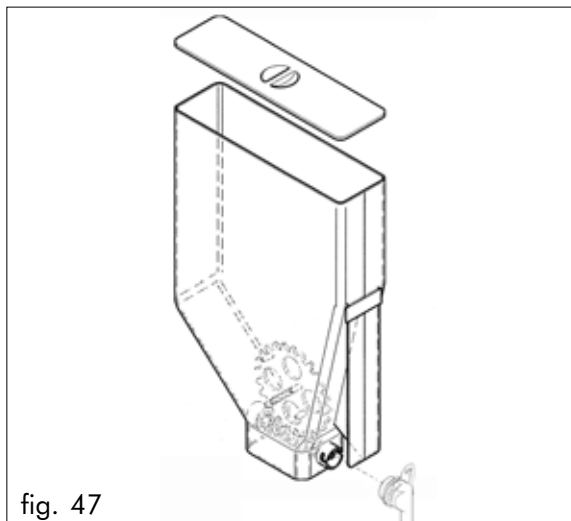


fig. 47

- Remove all the powder chutes, water funnels, mixing bowls and whippers and silicone tubes; also dip these parts in the prepared solution (fig.48).

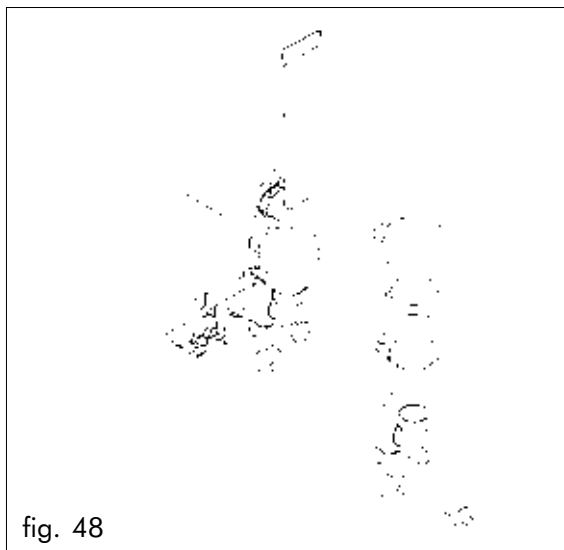


fig. 48

- With a cloth soaked with the solution clean the whipper assembly base (fig.49).

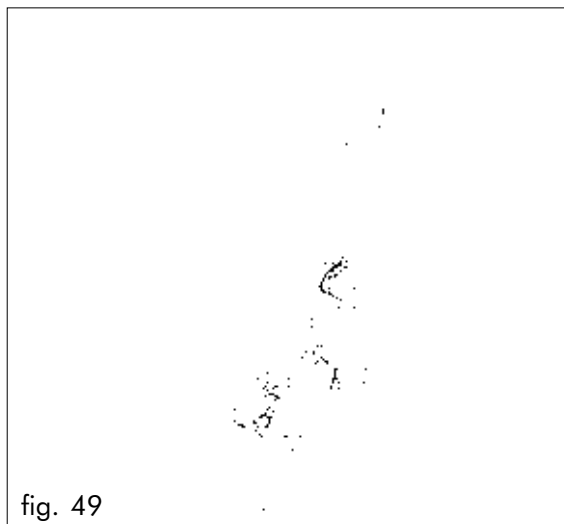


fig. 49

- The parts must soak in the solution for the time indicated on the instruction label.
- Recover all the parts, rinse them abundantly, dry them perfectly and proceed with the re-assembly in the distributor.

Danger

For further safety after reassembling the parts, perform some automatic cleanings so as to eliminate possible residual matters.

6.6 Product loading

6.6.1 Container loading

- To load containers, take out each of them paying attention to close the sliding door provided on the product exit mouth (Fig.50). Particularly, for the coffee bean container, it is necessary to close the hopper sliding door before removing the container.

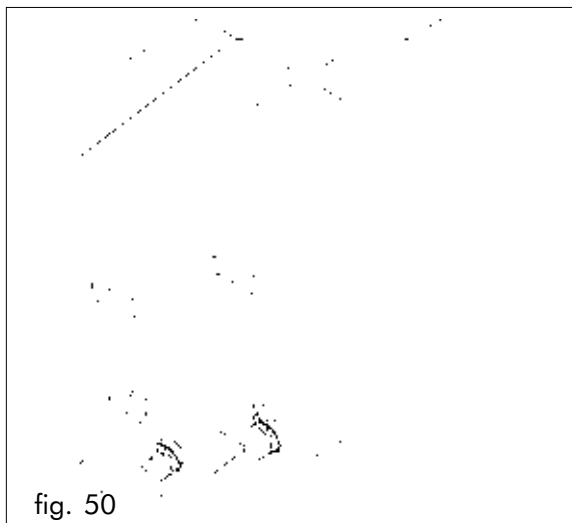


fig. 50

NB: You can also load containers without taking them out of the supports.

- Lift the cover of each container and load the product (fig.51)

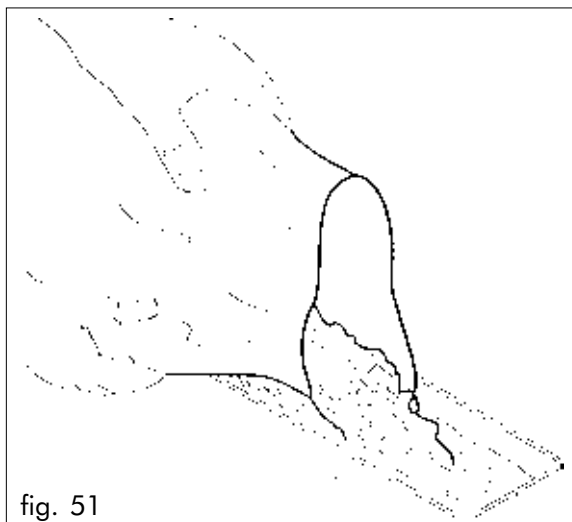


fig. 51

- Check out for clots; avoid pressing the product or using excessive quantity, to avert ageing. We suggest filling the containers with the quantity of product needed for the consumption estimated within two subsequent loadings (fig.52)

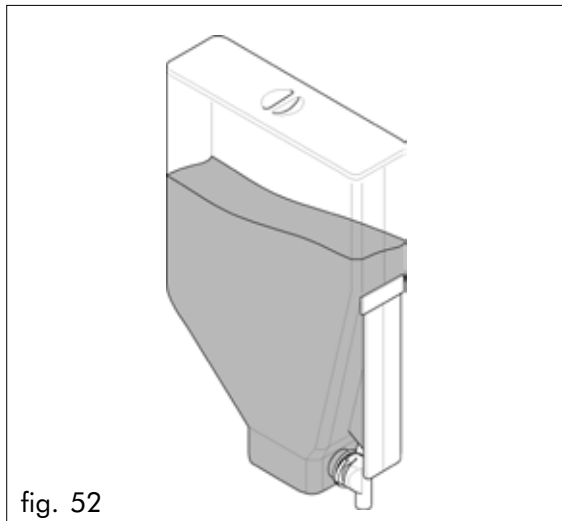


fig. 52

Check the capacity of each container in the TECHNICAL SPECIFICATIONS section.

6.6.2 Label insertion

- The labels indicating the product selections must be inserted in the special slots according to the order indicated (see fig. 64).

Perform the operation as follows:

- Remove the cup turret (fig. 53).

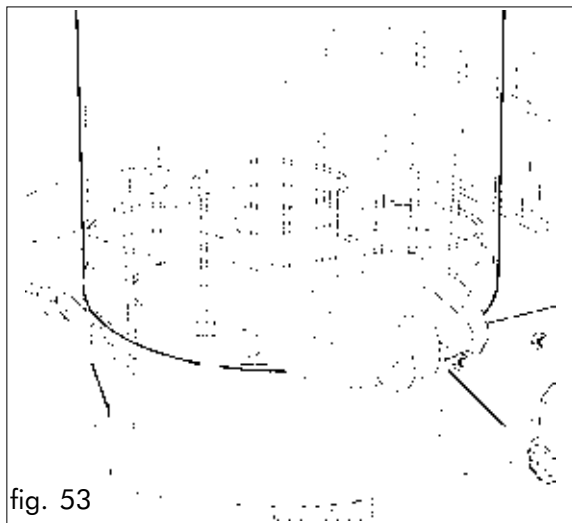


fig. 53

- Insert the labels in the order according to the selections used on the vending machine (Fig. 54).
- Re-assemble the cup turret.

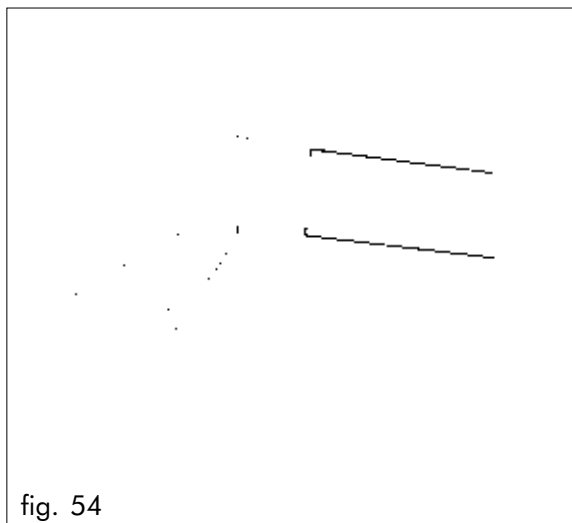


fig. 54

6.6.3 Cup loading

Use only cups designed for automatic vending machines, with a diameter of 70-71 mm, avoid compressing the cups between themselves during the loading.

ATTENTION: DON'T TRY TO ROTATE THE TURRET MANUALLY.

In installation phase with the cup dispenser completely empty, operate as follows:

- Before switching on the vending machine, load a column of cups as long as it is not the one correspondent to the dispensing ring (fig.55).

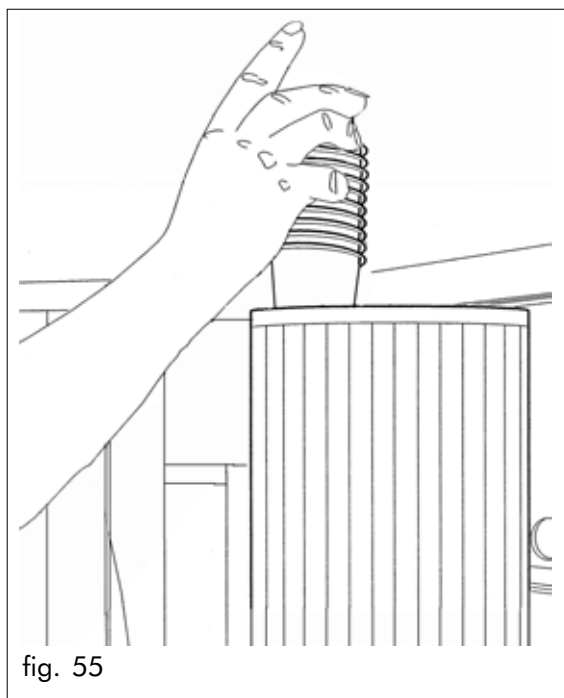


fig. 55

- Insert the key in the door switch (fig.37) and wait until the column is positioned in the cup dispensing ring.
- Load all the other columns anticlockwise.
- Replace the lid on the cup column (fig.56).

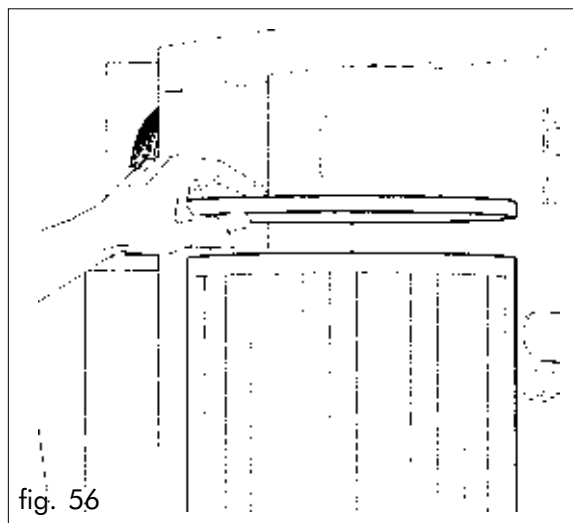


fig. 56

6.6.4 Spoon loading

- Remove the metal counter-weight from the spoon dispensing column (fig.57).

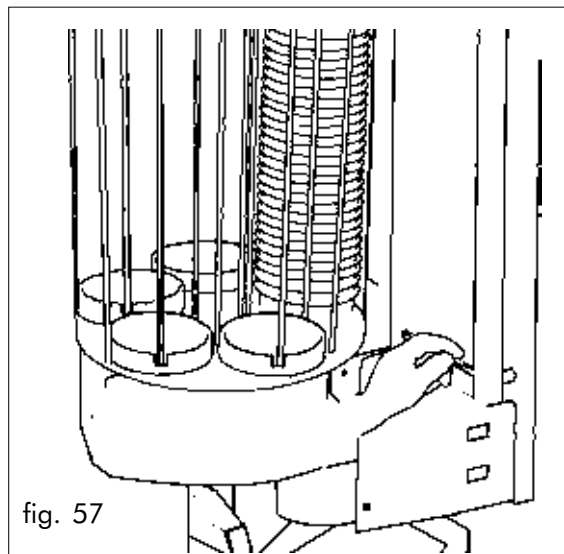


fig. 57

- Insert the spoons with their pack wrapping in the column and when they are positioned on the bottom, cut and remove the wrapping (fig.58).

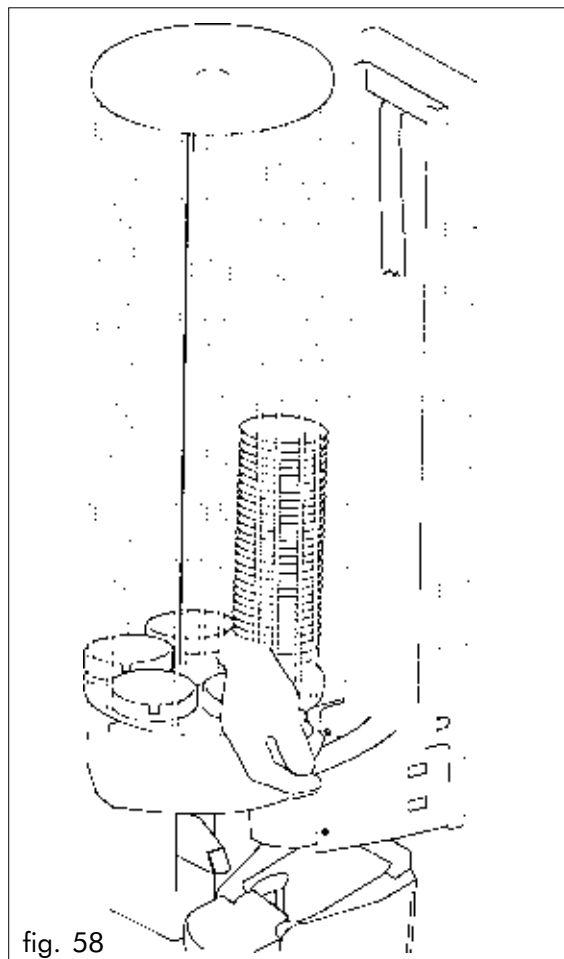


fig. 58

- Once the loading is completed replace the counter-weight. (fig.59).

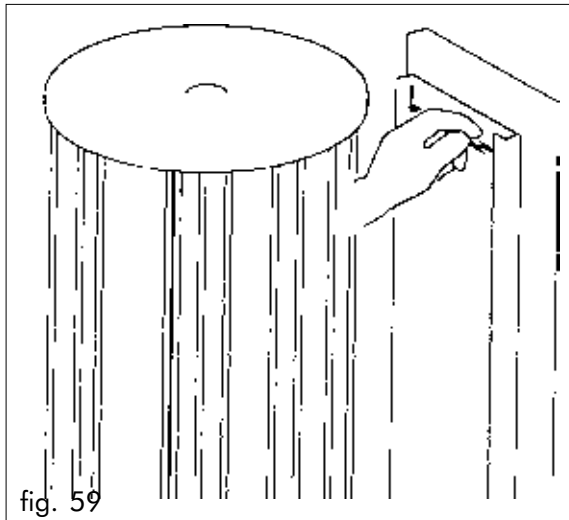


fig. 59

- Take care the spoons have no burrs, are not bent and are all placed horizontally.

6.6.5 Coffee-grounds bag insertion

- Take the coffee dregs chute off its housing.
- Apply the bag locking spring onto the chute.
- Insert the plastic bag wrapping it around the chute and securing it with the spring (fig.60).
- Re-insert the chute in the guide.

Use plastic bags that are sufficiently long so as to touch the bottom of the distributor.

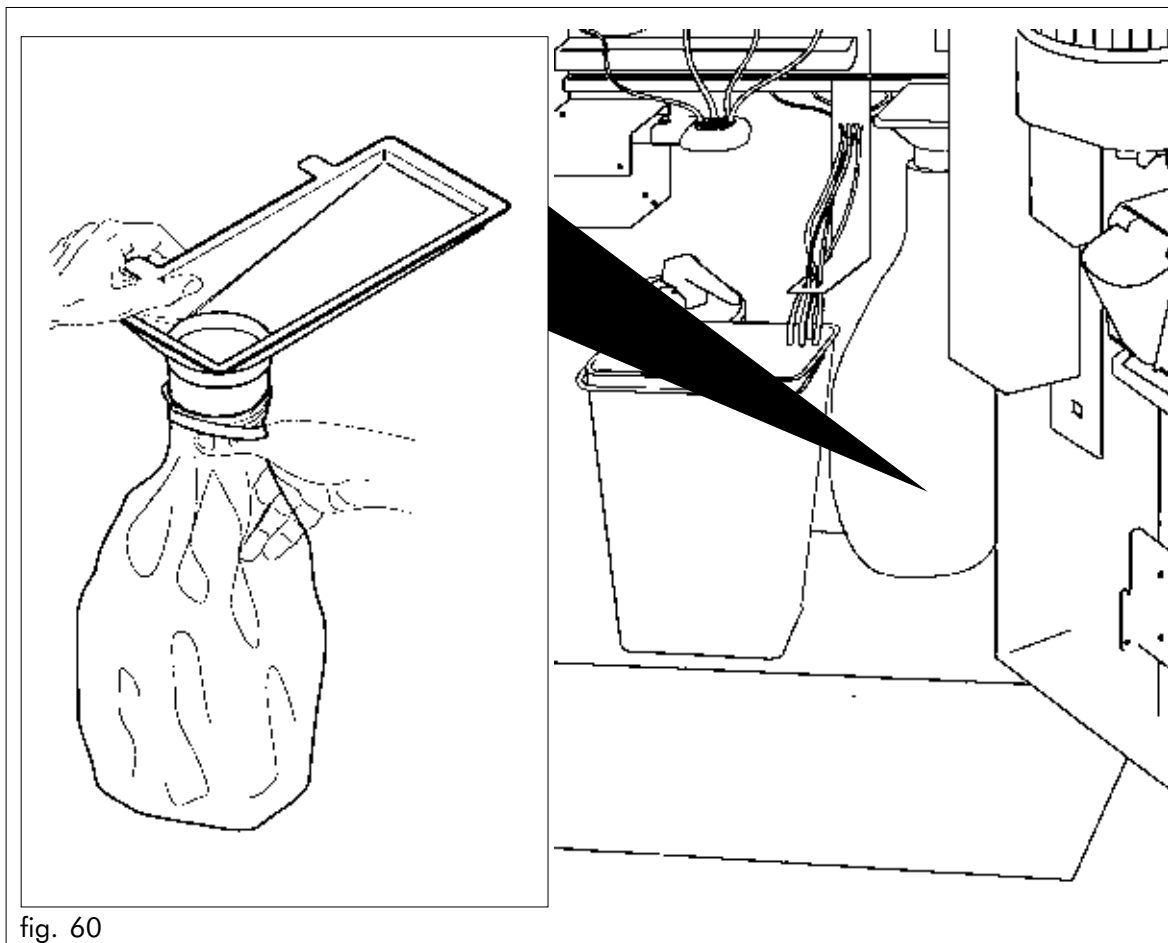


fig. 60

6.6.6 Payment system installation

The distributor does not have a payment system; any possible damage to the distributor itself and/or persons and/or property deriving from its incorrect installation are responsibility of the installer of the payment system.

- Remove the support bracket from the machine (fig.61).

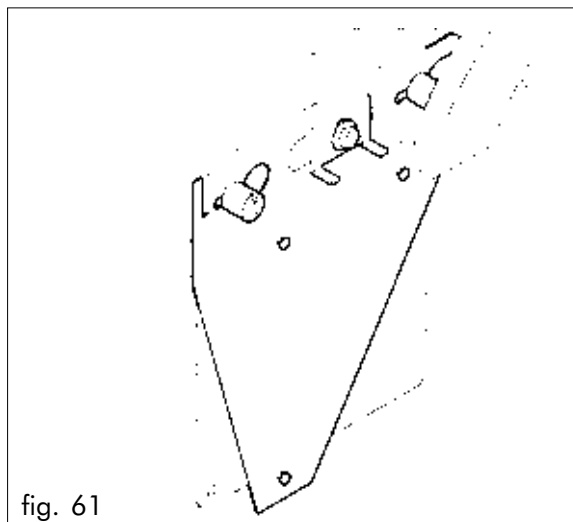


fig. 61

- Clasp the coin mechanism to the support brackets (fig.62).
- Fix the support with the two knobs.
- Connect the coin mechanism to the C.P.U. board.

NB. The 24V dc coin validators must be directly connected to the CPU board; the serial executive systems through the interface cable supplied with machine.

The 12V dc coin validators require a special interface board to be connected to the CPU board.

Then enter the programming for the correct settings.

Consult chapter "7.0 PROGRAMMING" to verify if the parameter setting is consistent with the system used.

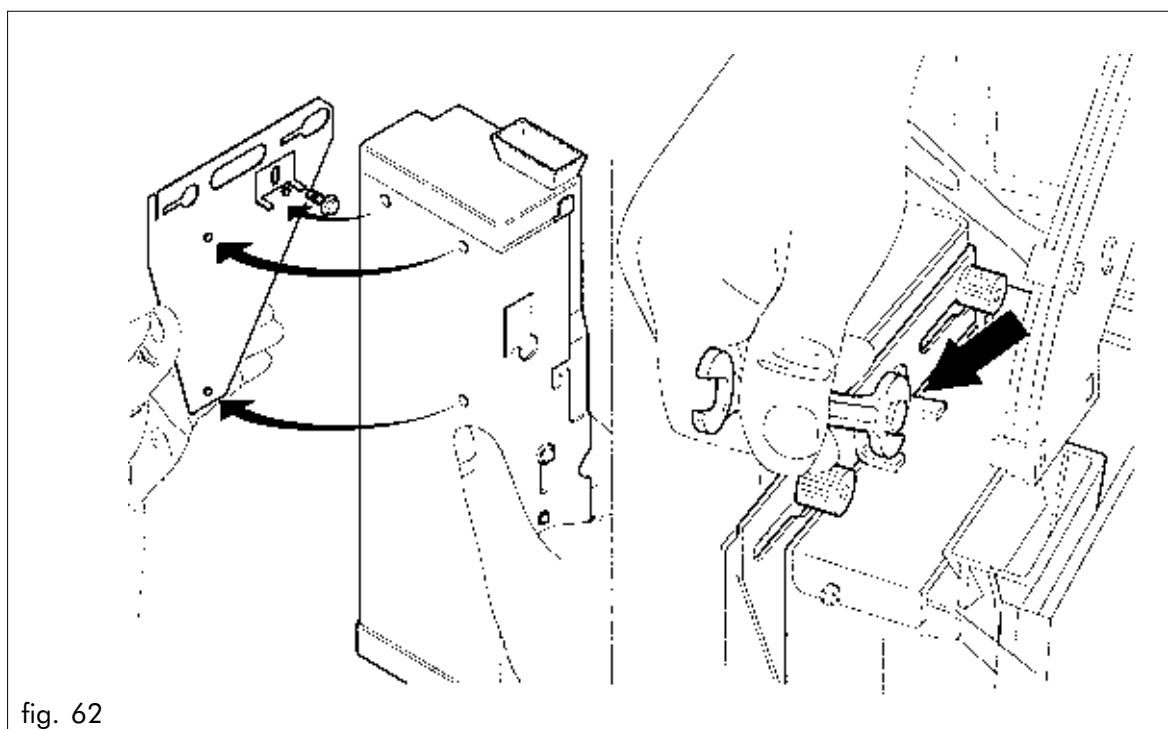


fig. 62

7 - PROGRAMMING

With the programming procedures described in this section you can set all the parameters related to the machine configuration, doses and drink prices and also draw sales statistical data.

The "dialogue" between the operator and the machine occurs by means of the 20 digit liquid crystal display and the use of the selection keyboard.

Programming key

The programming function is accessed by pressing the button 1 positioned on the C.P.U. board (fig.63); the request of the access code to be entered by means of the keypad, will appear on the display.

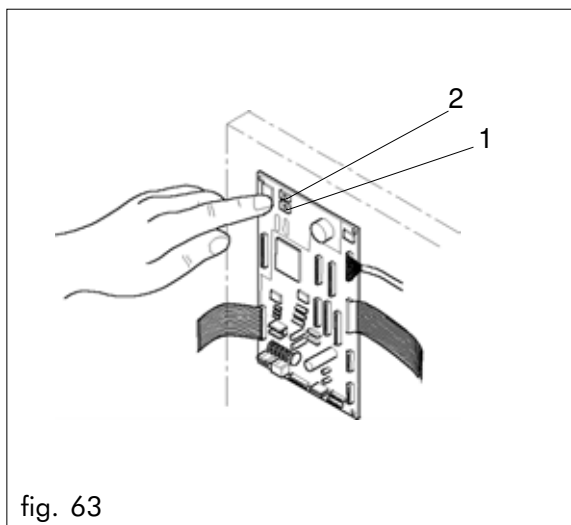


fig. 63

- The display messages can be in two different languages that can be selected at choice by the operator during the installation phase.

NB: By using the eprom kit, the available languages are seven.

The programming data can be of two kinds:

➤ NUMERICAL DATA

That is all the data that refer to the settings of water, powder, prices, time and date.

➤ LOGICAL DATA

That is all the data that refer to the logical status of the OPTION menu that describe the condition (enabled or disabled) of a specific function.

For programming some of the keys of the keyboard are used (fig 64), namely:

- Key PRESEL: DECAFF./ "PRG"
exits from the current programming sub-menu to go back to the original sub-menu.
- Key STRONG COFFEE / +
has the double function of increasing the value of a selected figure (e.g.: the value of a dose) and/or scroll forward the list of functions available in the sub menu.
- Key LONG COFFEE / -
has the function of decreasing the value of a selected figure.
- Key COFFEE WITH MILK / NUMBER
allows the user to move the display cursor in correspondence with the digit that as to be changed by means of the previous keys + and -
- Key CAPPUCCINO / ENTER (also identified as E)
used to confirm the changes done or scroll the option menu.

Once the parameter modifications are concluded, you can exit from programming mode by pressing again the key 1 on the C.P.U. board (fig.63).

KEYBOARD (fig.64).

Maintenance – “Service” Mode

The external keyboard besides being used for the selections is also partially used for programming and maintenance.

In particular the keys and their functions are:

Programming

- a= presel. decaffeinated prg
- 1 = strong coffee + (increase)
- 2 = long coffee - (decrease)
- 3 = coffee with milk clear (cancel)
- 4 = cappuccino enter (confirm)

- a= presel. decaf. test without cup, sugar and spoon
- b = extra milk water test
- c = without cup test selections complete
- d = sugar stop failure reset
- 1 = strong coffee coffee unit rotation
- 2 = long coffee tea mixer cleaning
- 3 = coffee with milk milk mixer cleaning
- 4 = cappuccino freeze-dried coffee mixer cleaning
- 5 = cappucc. and choc. Chocolate mixer cleaning
- 8 = milk with coffee dispensing nozzles movement
- 10 = tea with milk electronic counter reading

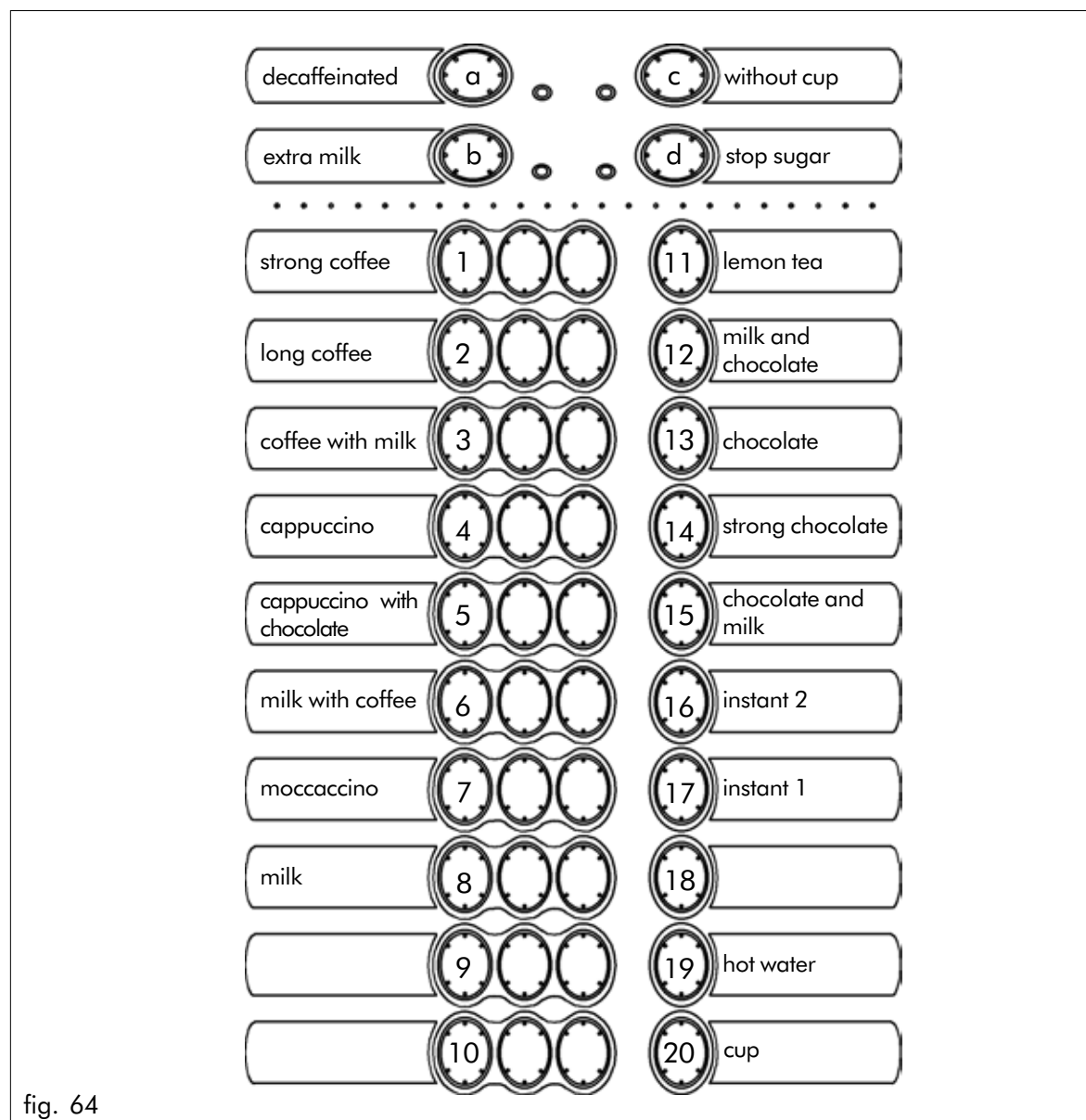


fig. 64

Structure of job menus

To access the programming it is necessary to know the access code or password

cod. 00000

The code to be entered is composed of five digits.

The cursor appears under the first digit; by the keys "+" and "-" (1st and 2nd of the keyboard) increase or decrease the number; by the 3rd key ("number") move the cursor.

Repeat the operations until the access code is composed.

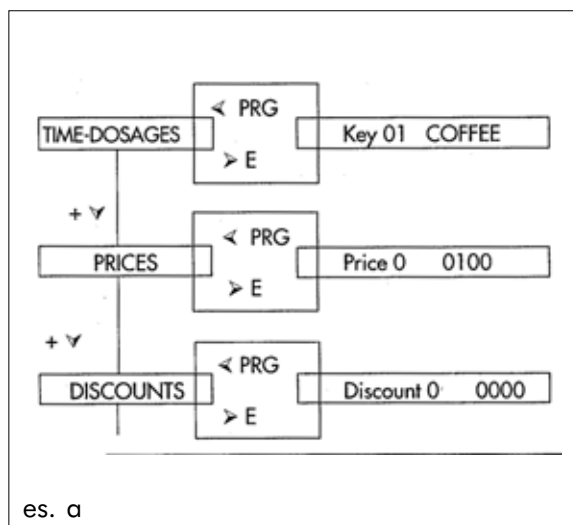
Once the code is composed, press the key "Enter" (4th) so as to access the programming.

Attention

The default code is 00000

After entering the code, the display visualises the first function:

- Pressing ENTER you access the first function;
- Pressing + the next function will be displayed;
- Pressing PRG you exit from the job sub menu (see example a).



N.B.: If you are in selection mode you can pass to the programming mode.

If you are in SERVICE mode, first, go to SELECTION, pressing key 2 (fig.63) then go to PROGRAMMING, pressing key 1 (fig. 63).

The main menu is composed as follows:

- | | |
|-----------------|-------------|
| TIMES-DOSES | OPTIONS |
| PRICES | COINS |
| DISCOUNTS | VENDS |
| PRICE-SELECT. | TEMPERATURE |
| INCLUDE-SELECT. | |

To exit from the programming mode press "PRG" until one of the above listed functions appears, then press the programming key placed on the C.P.U. board (key 1, fig.63) to return to the selection mode.

After setting a machine, you can memorise the data in a portable programmer, (PAGE P 3000), and use those data for other machines of the same model.

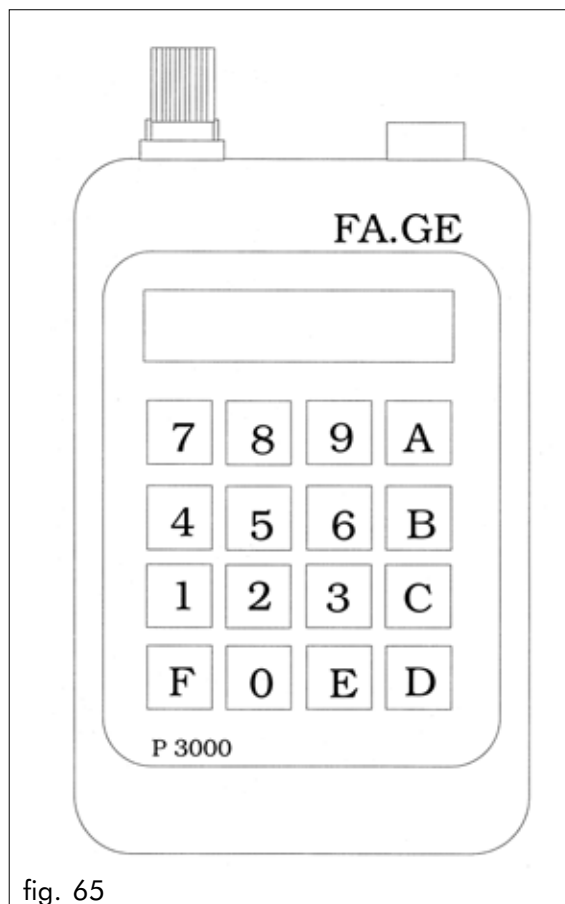
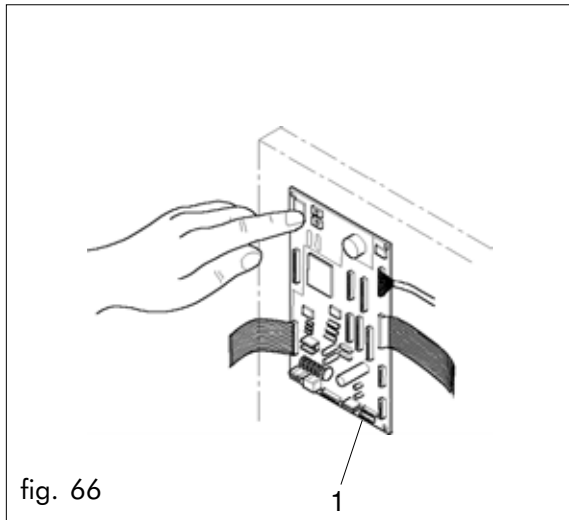


fig. 65

The connection between the C.P.U. and the programmer P 3000 is effected by means of a cable; verify the position of the connector on the connecting board (ref.1, fig.66).



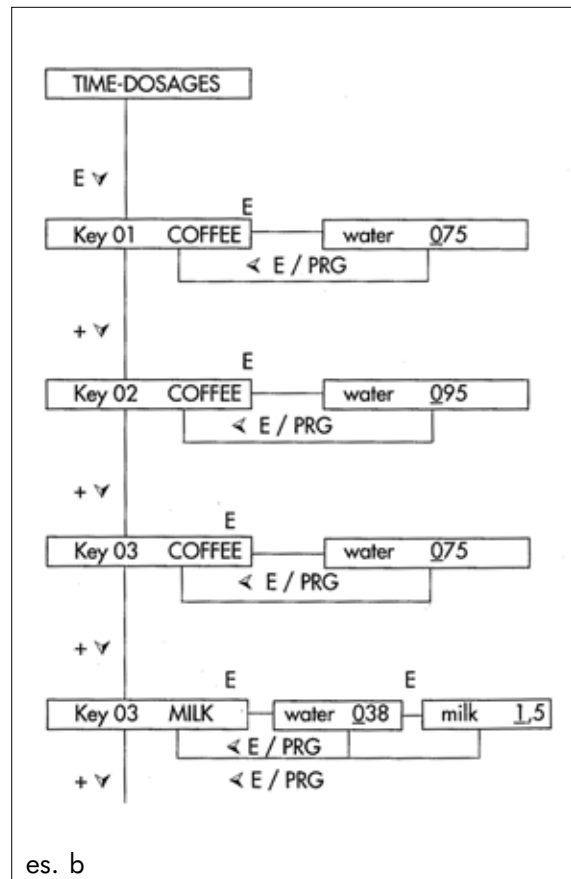
Data are stored in the programmer until a new configuration reading is carried out and/or when the programmer batteries run out.

- To read the configuration, press in sequence:
F ⇒ 1 ⇒ 1 ⇒ F ⇒ 1 ⇒ F
- To update the machine memory:
F ⇒ 1 ⇒ 2 ⇒ F ⇒ 1 ⇒ F ⇒ 1 ⇒ F

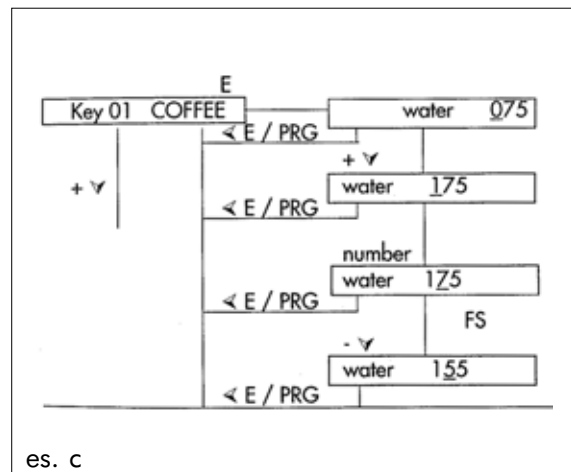
⚠ Caution

Connect and disconnect the programmer to/from the C.P.U. board with the distributor switched off.

The following example "b" shows how to move through the menu using the keys "+, ENTER, PRG".



The example here below shows how to perform changes in programs:



The schemas illustrated above are valid as example for all the menus.

7.1 Function description

TIMES-DOSES

This menu allows the access to the water and product powder dose settings for each available drink.

Pressing ENTER once, this appears on the display:

"Key 01 coffee"

Pressing ENTER again, you can start the dose setting operation for the first selection:

"water 065"

to indicate the water dose.

By the keys "+", "-", "number", the values of the water dose related to the espresso coffee of the first selection can be changed.

Pressing ENTER again the dose set is confirmed and the subsequent setting, if any, appears on the display (in case of instant SELECTIONS, the powder) otherwise the program returns automatically to the starting point; this appears on the display:

"Key 01 coffee"

by the key "+" you can go through the menu and choose the next selection to be changed. Here below is the combination of the keys and selections indicated in programming:

- Key 01 = strong coffee
- Key 02 = long coffee
- Key 03 = coffee with milk
- Key 04 = cappuccino
- Key 05 = cappuccino with chocolate
- Key 06 = milk with coffee
- Key 07 = moccaccino
- Key 08 = milk
- Key 09 = tea
- Key 10 = tea with milk
- Key 11 = lemon tea
- Key 12 = milk and cocoa
- Key 13 = chocolate
- Key 14 = strong chocolate
- Key 15 = chocolate and milk
- Key 16 = instant 2

- Key 17 = instant 1
- Key 18 =
- Key 19 = hot water + cup
- Key 20 = cup
- Key 21 = strong decaffeinated coffee
- Key 22 = long decaffeinated coffee
- Key 23 = decaffeinated coffee with milk
- Key 24 = decaffeinated cappuccino
- Key 25 = decaffeinated capp-choc
- Key 26 = milk with decaffeinated coffee

Coffee group time-out:

maximum activation time of the coffee group motor (we advise you not to change it)

Sugar time:

time for the maximum sugar dose

Extra sugar time:

time for the extra sugar dose

Extra milk time:

time for the extra milk dose

Grinder time-out:

maximum grinding time

The water control of espresso coffee (and of instant in single boiler models) occurs by means of a volumetric counter (fan).

In double boiler models the dosage of water for instant products is expressed in seconds.

The dosage of instant product powders is expressed in seconds.

PRICES

Up to 10 prices are available and singularly applicable to each selection.

Press Enter to access the price table programming; this appears on the display:

"Price 0 0000"

The vending prices are set with the same procedure used for the dose setting i.e. using the keys "+", "-", "number".

For free vends it is sufficient to set the vending price at zero.

Press ENTER again to confirm the set value; the next price is visualised on the display:

"Price 01 0000"

Pressing PRG you return to the PRICES menu.

DISCOUNTS

Up to a maximum of 10 discounts can be programmed (from Discount 0 to Discount 9) as many as the vending prices. Furthermore it is possible to program a special discount for the exclusion of the cup (indicated with SB)



Attention

The discounts S0-S9 are tied to time bands and consequently to the presence of the clock device on the C.P.U. board.

The discount for the cup is available without the clock.

Pressing ENTER once, this appears on the display:

"Discount 0 0000"

by the keys "+", "-", "number", you can perform the discount setting.

Press ENTER again to confirm the set value; the next discount is visualised on the display:

"Discount 1 0000"

Pressing "PRG" you return to the DISCOUNTS menu.

PRICE-SELECTIONS

This menu allows the combination of each single selection (indicated as Key 1 - Key 26) to the prices previously set (indicated with Price 0 ÷ Price 9).

Press ENTER to go to the sub-menu whose first function allows the operator to program all selections at P0; this appears on the display:

"All at price 0 ? Y/N"

Using the key "+" the desired option is chosen:

Y (=yes) or N (=no)

Selecting the option Yes and pressing ENTER you can go to the programming of:

"Extra milk price = 0000"
"Extra sugar price = 0000"

these regard eventual price increases for the extra milk and extra sugar pre-selections.

Vice versa, selecting the option NO you access the programming of the single price for each single selection as follows:

"Key 1 = Price 0"

using the key "+" or "-" you can scroll the table of prices, from 0 to 9; once the desired price is chosen, it must be confirmed by ENTER passing in this manner directly to the programming of the next drink.

Of course it is possible to combine more than one selection to the same price.

As usual, press the PRG key to exit from the sub-menu.

INCLUDE-SELECTIONS

This function allows the operator to exclude the unwanted selections (from Key 01 to Key 26), making them unavailable.

Pressing ENTER once, this appears on the display:

"INCLUDE key 01 = Y"

by the keys "+" and "-", the desired option is selected: ENTERING "N" THE SELECTION IS EXCLUDED.

Press ENTER again to confirm the value and go ahead to the next selection.

OPTIONS

This function provides sequentially a series of available options as listed below; press ENTER to access the sub menu that visualises the first option.

For each OPTION it is necessary to set the logical status "Y" or "N" that does or does not enable the function.

By the keys "+" and "-", you change logic values, i.e. the status, from "yes" (Y= enabled) to "no" (N= disabled); by the keys "+", "-", "number", you change numeric values.

Pressing ENTER again, you confirm the pre-set value and the next option is visualised on the display; pressing PRG again, you return to the "OPTIONS" menu.

Cup function = enables the cup exclusion pre-selection key

Fresh-ground = option for fresh-ground coffee

Spoon = enables (Y) the spoon dispensing for all types of selections (bitter and/or instant)

Extra milk = enables the extra milk pre-selection key

Motor delay = option to introduce a delay on the instant powder motors

One sugar setting = option to get one only setting respectively for all "sugar" and "extra sugar" selections

EV hot water = for double boiler models only; this option enables the water delivery directly from the boiler to the dispensing nozzle (by means of an appropriate optional electric valve kit) without passing through the tea mixer.

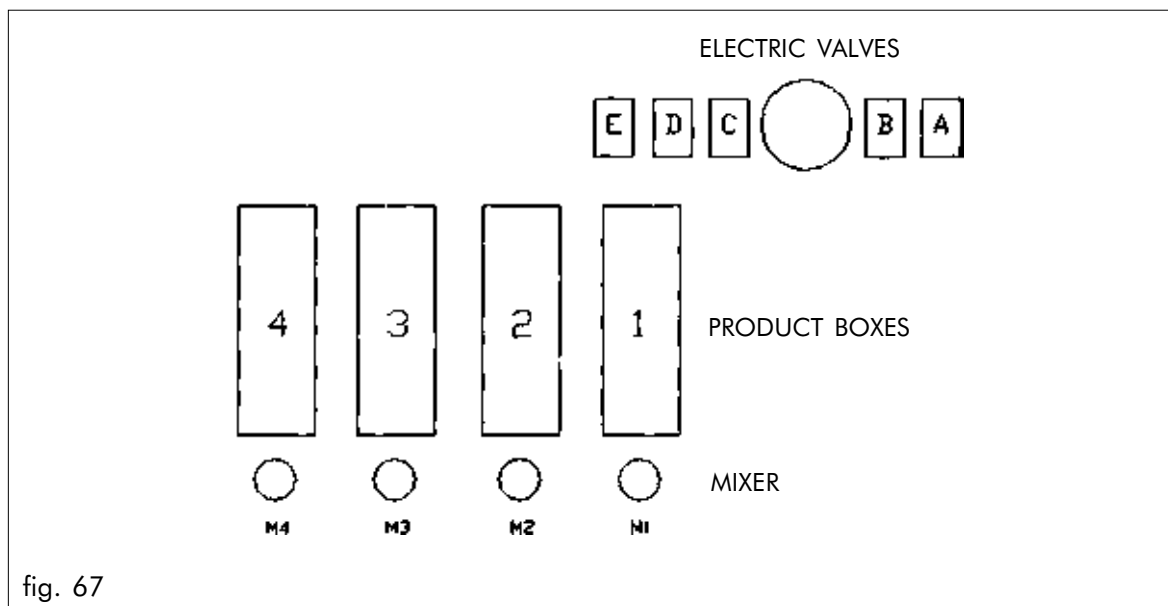


fig. 67

Double Boiler Machine Configuration =

<u>Configuration</u>	<u>Electric Valves</u>	<u>Containers</u>	<u>ProductProduct</u>	<u>Mixer</u>
<u>D1</u>	A	1	Chocolate	Whipper
	B	2	Milk	Whipper
	C	3	Dried Coffee	Whipper
	D	4	Tea	Coil
<u>D2</u>	A	1	Chocolate	Whipper
	B	2	Milk	Whipper
	C	3	Natural tea	Whipper
	D	4	Tea	Coil
<u>D3</u>	A	1	Chocolate	Whipper
	B	2	Milk	Whipper
	C	3	Dried Coffee after	Whipper
	D	4	Tea	Coil
<u>D4</u>	A	1	Chocolate	Whipper
	B	2	Milk	Whipper
	C	3	Chocolate	Whipper
	D	4	Tea	Coil

<u>Configuration</u>	<u>Electric Valves</u>	<u>Containers</u>	<u>ProductProduct</u>	<u>Mixer</u>
<u>D5</u>	<u>A</u>	<u>1</u>	<u>Chocolate</u>	<u>Whipper</u>
	<u>B</u>	<u>2</u>	<u>Milk</u>	<u>Whipper</u>
	<u>C</u>	<u>3</u>	<u>Milk</u>	<u>Whipper</u>
	<u>D</u>	<u>4</u>	<u>Tea</u>	<u>Coil</u>
<u>D6</u>	<u>A</u>	<u>1</u>	<u>Chocolate</u>	<u>Whipper</u>
	<u>B</u>	<u>2</u>	<u>Milk</u>	<u>Whipper</u>
	<u>C</u>	<u>3</u>	<u>Milk</u>	<u>Whipper</u>
	<u>D</u>	<u>4</u>	<u>Dried Coffee</u>	<u>Whipper</u>
<u>D7</u>	<u>A</u>	<u>1</u>	<u>Chocolate</u>	<u>Whipper</u>
	<u>B</u>	<u>2</u>	<u>Milk</u>	<u>Whipper</u>
	<u>C</u>	<u>3</u>	<u>Chocolate</u>	<u>Whipper</u>
	<u>D</u>	<u>4</u>	<u>Dried Coffee</u>	<u>Whipper</u>
<u>D8</u>	<u>A</u>	<u>1</u>	<u>Chocolate</u>	<u>Whipper</u>
	<u>B</u>	<u>2</u>	<u>Milk</u>	<u>Whipper</u>
	<u>C</u>	<u>3</u>	<u>Dried Coffee</u>	<u>Whipper</u>
	<u>D</u>	<u>4</u>	<u>Cold (T-17)</u>	<u>Whipper</u>
<u>D9</u>	<u>A</u>	<u>1</u>	<u>Chocolate</u>	<u>Whipper</u>
	<u>B</u>	<u>2</u>	<u>Milk</u>	<u>Whipper</u>
	<u>C</u>	<u>3</u>	<u>Instant (T-16)</u>	<u>Whipper</u>
	<u>D</u>	<u>4</u>	<u>Cold (T-17)</u>	<u>Whipper</u>
<u>D10</u>	<u>A</u>	<u>1</u>	<u>Chocolate</u>	<u>Whipper</u>
	<u>B</u>	<u>2</u>	<u>Milk</u>	<u>Whipper</u>
	<u>C</u>	<u>3</u>	<u>Dried Coffee</u>	<u>Whipper</u>
	<u>D</u>	<u>4</u>	<u>Tea</u>	<u>Coil</u>

In configuration D1 the freeze-dried coffee is dispensed before water flows into the relevant mixer.
 In configuration D3 the freeze-dried coffee is dispensed after water flows out of the relevant mixer.
 In configuration D4 two chocolate containers operate alternatively.
 In configuration D5 two milk containers operate alternatively.
 In configurations D6 and D7 two milk or chocolate containers operate alternatively combined with freeze-dried coffee instead of tea.
 In configuration D10 the selection keys for freeze-dried coffee correspond to the last three buttons of the pushbutton panel, in the following sequence:

- Strong coffee
- Coffee with milk
- Cappuccino

The optional electric valve "E" is used only for selecting hot water and is connected directly to the nozzle support.

Single Boiler Machine Configuration =

Configuration	Electric Valves		Containers Product	Type and Mixer
<u>4S</u>	<u>c</u>	1	Milk	Left chute
	<u>c</u>	2	Chocolate	Whipper
	<u>b</u>	3	Dried Coffee	Whipper
	<u>a</u>	4	Tea	Coil
<u>3S</u>	<u>b</u>	1	Milk	Left chute
	<u>b</u>	2	Chocolate	Whipper
	<u>a</u>	4	Tea	Coil
<u>3SL</u>	<u>b</u>	1	Milk 1	Left chute
	<u>b</u>	2	Chocolate	Whipper
	<u>b</u>	3	Milk 2	Right chute
	<u>a</u>	4	Tea	Coil
<u>3SC</u>	<u>b</u>	1	Milk	Left chute
	<u>b</u>	2	Chocolate 1	Whipper
	<u>b</u>	3	Chocolate 2	Right chute
	<u>a</u>	4	Tea	Coil

In configuration 3SL two milk containers operate alternatively.
 In configuration 3SC two chocolate containers operate alternatively.

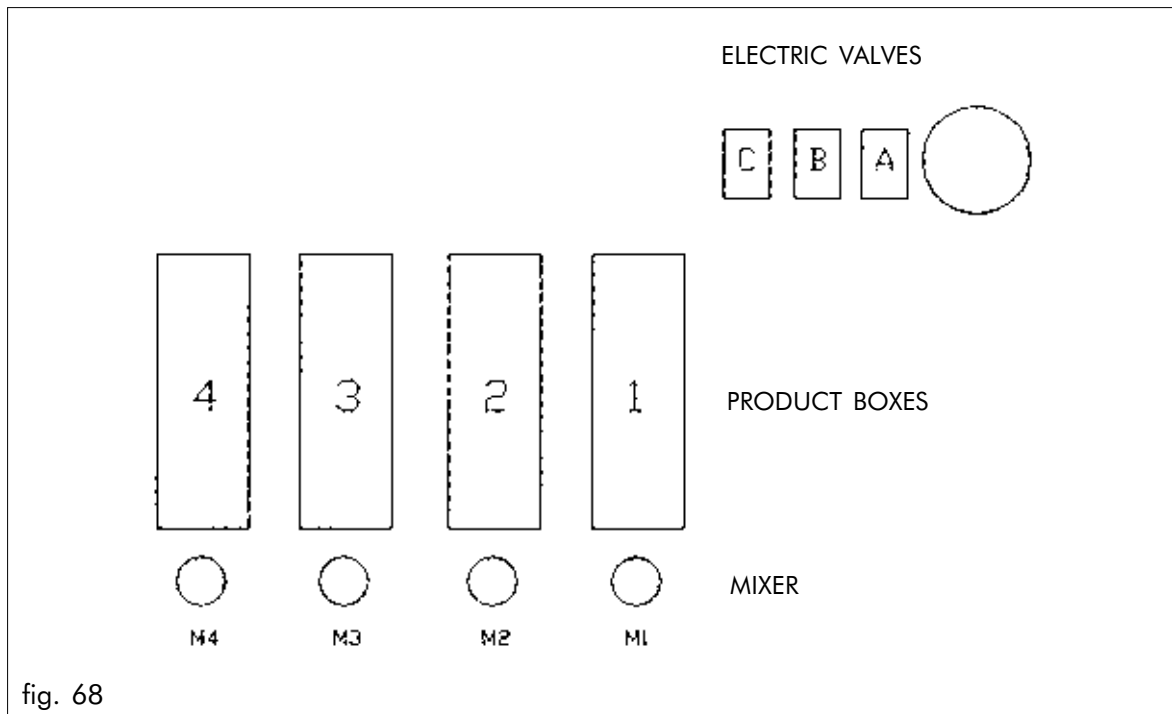


fig. 68

Milk first = option to dispense milk for coffee with milk: first (Y) or after (N)

Validator = enables (Y) the connection to the coin box-selector

Permanent credit² = option to visualise the credit until it runs out (Y) (set the Multivend option to Y)

² (The two functions are related; entering "N" for the Multivend option, any Permanent Credit operation will automatically result null)

Executive = enables (Y) the executive coin box (set Y also for the validator option)

Change giver = option to give the change (with the system COGES and RUBBINI – SAECO CARD, set Y)

ECS differentiated = to be enabled (Y) when the COGES ECS system with differentiated prices for keys-coins is used. Leave "N" with non-ECS systems. It is not necessary to set the codes 241, 242, 243 etc. on the machine

BVD System = enables (Y) BDV coin boxes (available with kit)

MDB- ICP System = enables (Y) MDB coin boxes

Multi-vend² = option to visualise the remaining credit for 3 minutes (Y) or zero it out (N) at the end of the drink dispensing

Clock = enables the clock (by kit)

Language = language used for displaying all messages (possibility of choosing between two stored languages)

Decimal = display of the amount with the decimal point

Washing = enables the automatic washing (available with the clock device)

Washing cycle = enables, without expansion boards, a washing of mixers 30 minutes after the machine has been switched on.

A second washing cycle will follow if no drinks are dispensed within the 6 subsequent hours; at this point the cleaning time restarts from the last drink dispensed. Consequently, one mixer cleaning per day is guaranteed.

Cleaner * = decanter, with indication for the water softener resin regeneration

Grindstones * = decanter, with indication for the substitution of the grindstones

Filters * = decanter, with indication for the coffee filter regeneration

* (In any event they don't stop the distributor operation)

Code = new programming access code

COINS

Access this menu for programming coins (from coin 1 to coin 8) in order to make them compatible with the system used; then verify that the coin box channels are corresponding to the machine channels.

Press ENTER once, this appears on the display:

```
"Coin 1  0050"
```

by the keys "+", "-", and "number" you can change values.

Pressing ENTER, you confirm the change or in any event the value visualised on the display and you can go on to the next coin. In particular:

```
"Coin 7  0000"
```

This channel is used for setting the value for the oblierator cut or the token, using the specific interface kit.

Press PRG to return to the COINS menu.

SALES

This function enables the access to all selling statistics audited by the machine.

Confirming with ENTER, you sequentially enter the following menu of statistics and relevant management.

By pressing the key "+" you can scroll the menu up to the required function; pressing ENTER, you access the first item of the selected function and keeping on pressing ENTER you can read the other items, if any.

TOTAL CASH

Total cashed, which cannot be reset, per sales prices

CASH

Total per sales prices

DISCOUNT

Discounted value total

OVERPAY

Total cashed without sales

TOTAL COUNT

Total selection count (sales + tests) which cannot be reset

COUNT

Total selection count (sales + tests) and total count per each selection.

FREE

Total count and count per each single selection of "free selections" (free vend key)

TEST

Total count and count per each single selection of the "test selections"

COINS

Total per each single coin introduced

BILLS

Total per each single bill introduced (only with MDB)

ERASE ALL

Function for resetting all the statistics

Pressing the PRG key you return to the original menu.

To reset the data operate as follows:

- go to CANCEL
- press ENTER
- COD 0000 will appear on the display
- Enter the resetting code, following the standard procedure
- Press ENTER
- You will be requested if you want to change the resetting code
- Press "+" if you don't want to change the code
- "RESET ?" will appear on the display
- Confirm by the NUMBER key

At the end of the resetting, press PRG to return to the original menu.

The data resetting code (4 digits) is different from the programming access code (5 digits).

```
The default code is 0001
```



Warning

If you want to change the default code proceed as follows:

- When the request if you want to change the code appears, press ENTER

- The old code will be displayed
- Use the keys "+", "-", "number" to compose the new code
- Confirm with ENTER at the end

TEMPERATURE

This menu permits the working temperature regulation of the coffee boiler and the instant boiler with double-boiler models.

Pressing ENTER, this appears for example:

"Temp. H₂O Coff. 087"

Pressing ENTER again, this appears:

"Temp. H₂O Inst. 084"



by the keys "+", "-" and "number" you can increase or decrease the temperature of the water in the respective boilers.

In any event the machine is provided with safety limits so that the maximum values of temperature you can set can't exceed these limits.

8 - SERVICE

The service functions are accessed by pressing the service button (key 2) on the CPU board as indicated in drawing 63.

"SERVICE" appears on the display
In the service mode the keys of the external keypad identify the functions illustrated in drawing 64, i.e.:

- TEST: after pressing the key it is possible to use the keypad as in normal service so as to dispense any complete selection (counted as a test dispensing).
-  **Warning**
- To cancel a test pre-selection without dispensing drinks you have only to press the service key. In this case the distributor will remain in SERVICE mode.*
- FAILURE RESET: to reset the failures registered by the distributor and start a subsequent diagnostic control so as to check out for other failures.
 - COFFEE GROUP CLEANING: to perform a cycle of the coffee group (ESPRESSO version).
-  **Warning**
- In case of failures, this key has the function to scroll the list of the anomalies memorised by the distributor.
- MIXER 1 CLEANING: to wash the chocolate mixer
 - MIXER 2 CLEANING: to wash the milk mixer
 - MIXER 3 CLEANING: to wash the freeze-dried coffee mixer
 - MIXER 4 CLEANING: to wash the tea mixer
 - TOTAL VENDS: allows the display of the number of drinks dispensed (general meter). To return to the service mode you have to press the service key again.
 - NOZZLE MOVEMENT: allows the nozzle movement
 - TEST WITHOUT SUGAR: after pressing the key it is possible to use the keypad as in normal service so as to dispense any selection without cup, sugar and spoon.
 - WATER TEST: after pressing the key it is possible to use the keypad as in normal service, so as to dispense any selection with water only.

9 - MAINTENANCE AND INACTIVITY

9.1 Cleaning and Loading

Warning

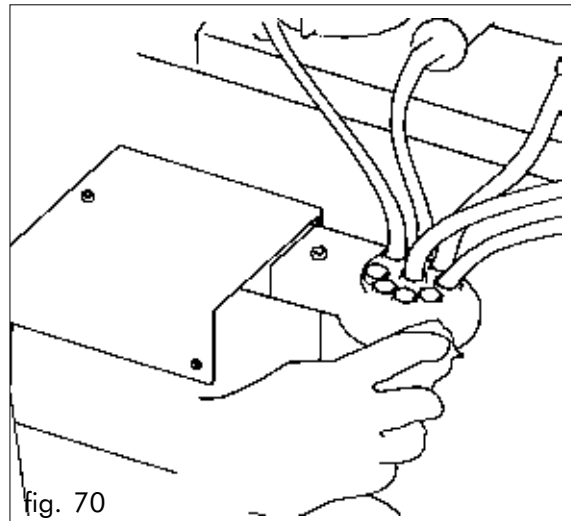
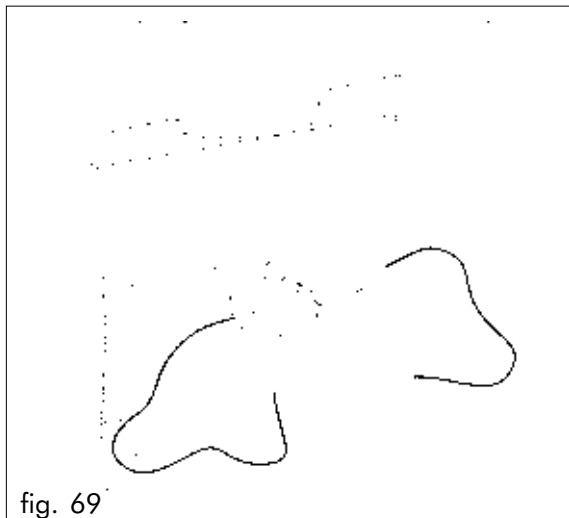
To guarantee the correct operation of the distributor in time, it is necessary to perform some operations regularly, being some of them strictly recommended by sanitary regulations. These operations must be carried out with the distributor open and off; the cleaning must occur before loading products.

9.1.1 Daily cleaning

The object is to prevent bacteria in the food areas. The tools necessary to perform cleaning operations are: brushes, clean cloths and drinkable water.

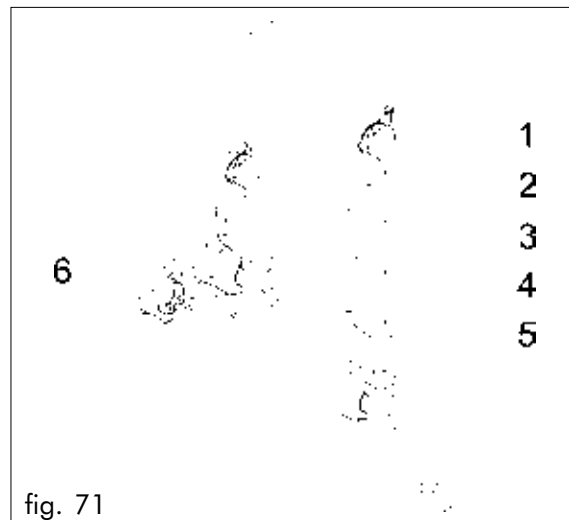
Operate as follows:

- Wet the cloth and clean all the visible parts in the dispensing area (fig.69 and fig.70).

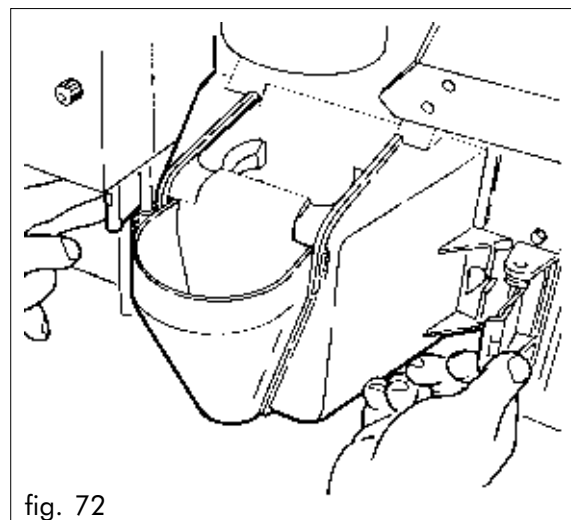


Remove and clean carefully:

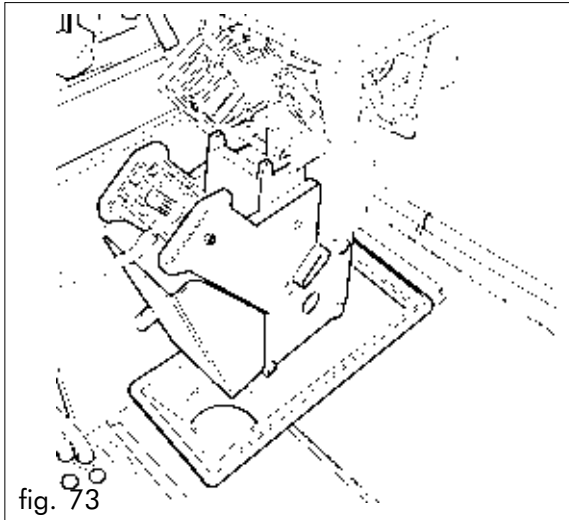
- powder conveyors (ref. 1, Fig.71), suction chamber (2), ring (3), water conveyor (4), mixing bowl (5), whipper fan (6)
- silicone dispensing tubes (fig.70)



- dispensing chamber (fig.72)

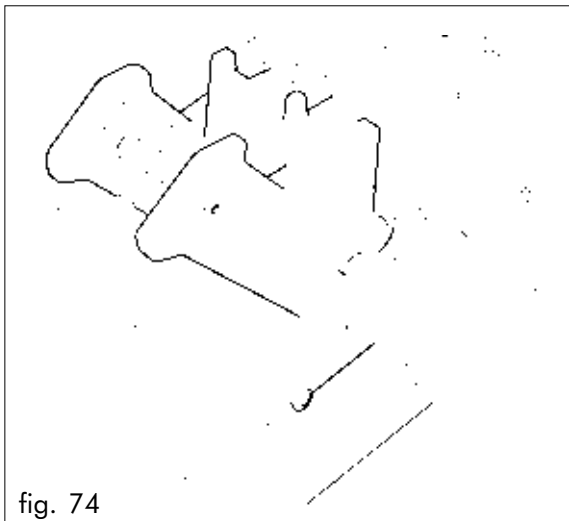


- chute and coffee funnel (fig.73)

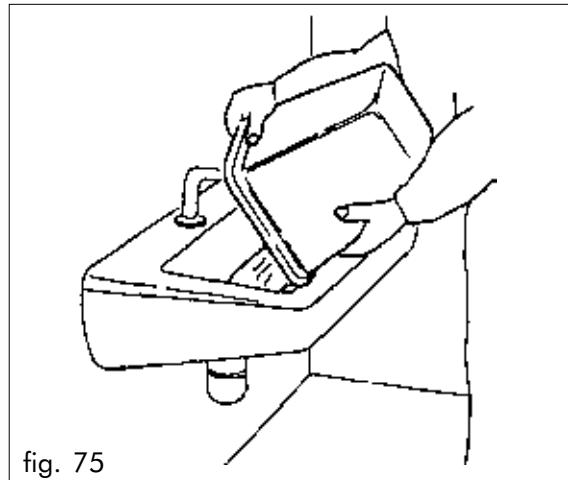


Before re-assembling, wipe all the elements carefully.

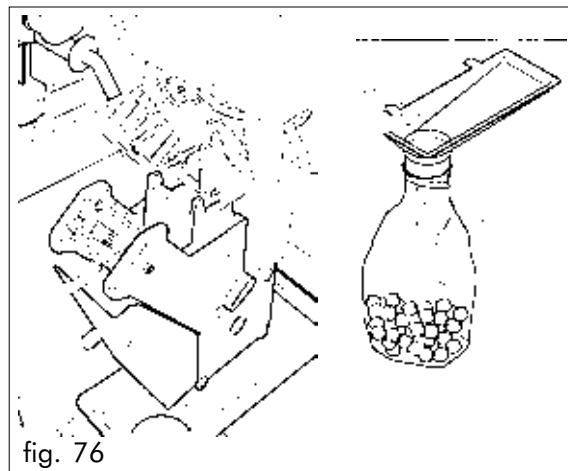
- draw out the group to facilitate the cleaning (fig.74) and with the brush, clean residual coffee powder off the group.



- empty the liquid waste-bin, clean it and/or replace it (fig.75)

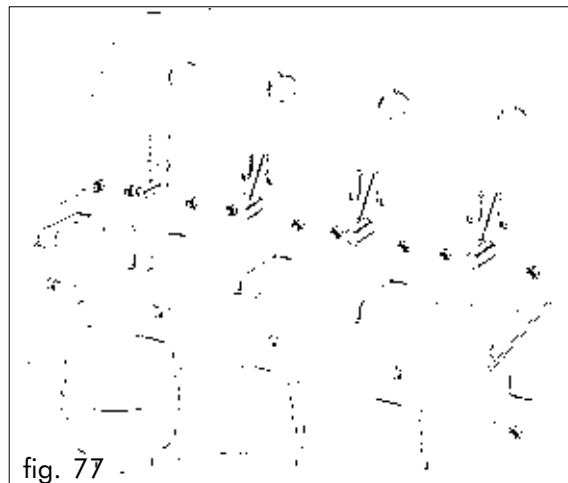


- replace the coffee grounds bag (coffee in beans versions) (fig.76)



9.1.2 Weekly cleaning

Remove all the containers and clean with a wet cloth all the container support parts, as well as the bottom and the outside of the distributor, in particular the dispensing area (fig.77)



9.1.3 Product loading

When necessary, provide for the loading of products and/or materials of the automatic vending machine.

For these operations please refer to the installation operations described in Chapter 4.0

9.2 Maintenance

	EVERY DAY	EVERY WEEK	EVERY MONTH	EVERY SIX MONTHS	EVERY 10.000 DRINKS
Remove and clean all the visible parts in the dispensing zone	■				
Empty the liquid waste-bins, clean and/or substitute them	■				
Replace the coffee grounds bag	■				
Remove all the containers and clean with a wet cloth all the container support parts, as well as the bottom and the outside of the distributor, in particular the dispensing area		■			
Disinfect all the parts in contact with food			■		
Remove and rinse the coffee group; lubricate all the mobile parts using silicone grease for alimentary use			■		
Replace packing and filters					■

9.2.1 Ordinary and extraordinary maintenance

The operations described in this section are purely indicative as they are tied to variable factors such as the water hardness, humidity, products used and workload, etc.

Caution

For all operations requiring the disassembly of distributor components make sure the machine is off.

Entrust the operations mentioned here below to qualified personnel. Should it be necessary to let the distributor on, use specially trained personnel.

For more complicated interventions, such as boiler descaling, good knowledge of the equipment is necessary.

Monthly disinfect all parts in contact with foodstuff using chlorine solutions following the procedures already described in Chapter 4.0

9.2.2 Coffee group maintenance

Plastic group. Monthly we advise you to remove the group and wash it thoroughly in hot water, every 5000 vends; in any event, it is advisable to lubricate monthly all the mobile parts of the group, using silicone grease for alimentary use (fig.78):

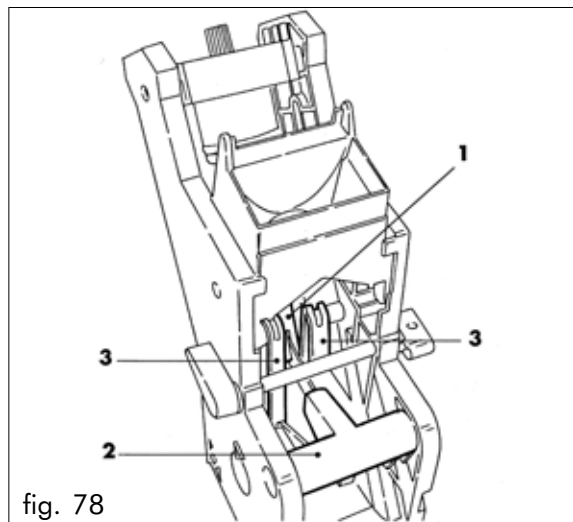


fig. 78

- lower filter piston (1)
- connecting bar (2)
- guide pistons (3)

Every 10000 vends we advise you to substitute gaskets and filters.

- gaskets

For the upper filter (fig.79):

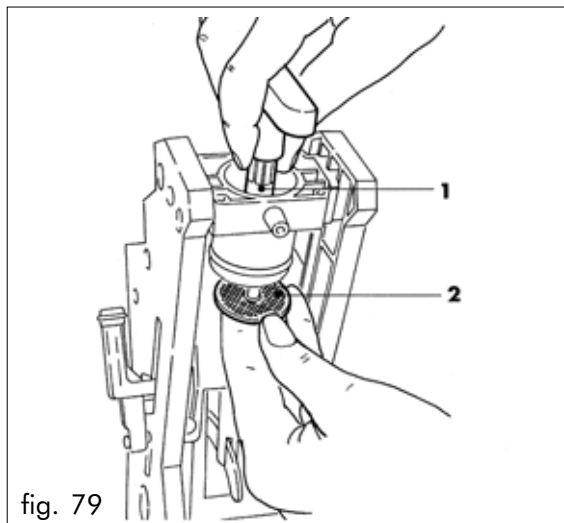


fig. 79

- loosen the upper pin (1) with the supplied spanner
- unscrew the filter manually (2)

For the lower filter:

- unscrew the two side screws (ref. 1, fig.80) and remove the upper piston block (2)

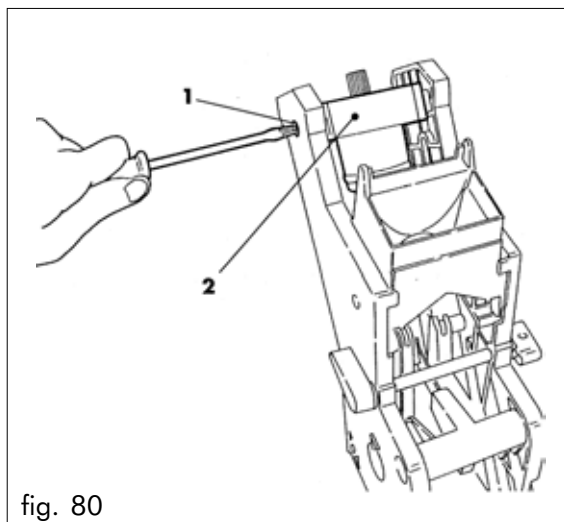
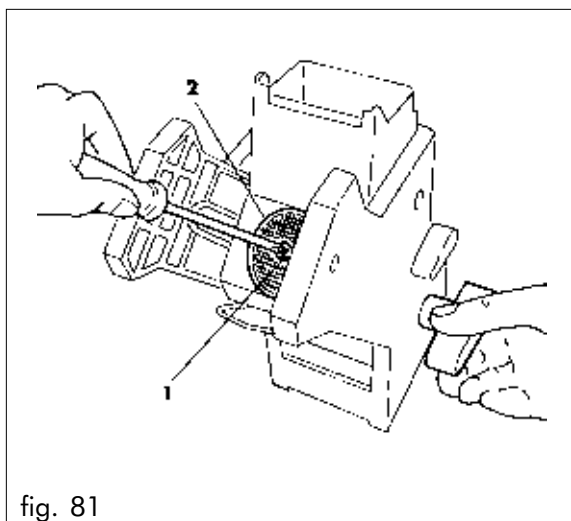


fig. 80

- with the supplied spanner, rotate manually until the lower filter is borderline with the cup (fig.81)
- unscrew the screw (1) and substitute the filter (2)
- Re-assemble everything backwards



9.3 Regulations

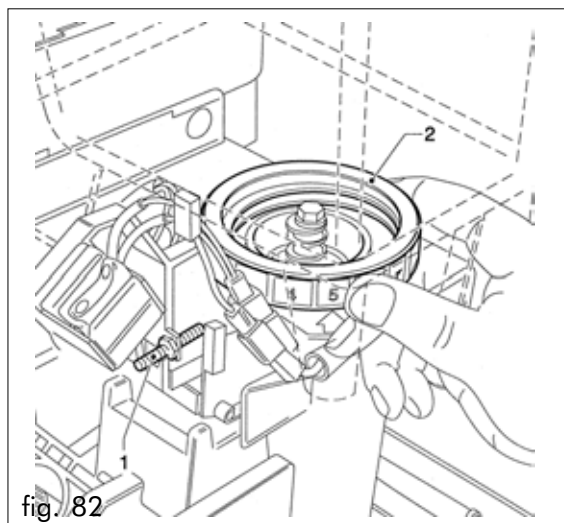
9.3.1 Dosage and grinding regulations

The distributor is supplied already regulated with standard values, i.e.:

- temperature of the coffee in the cup of about 78°C for 38 cc of dispensed product
- temperature of instant products in the cup of about 73°C
- grams of coffee powder, about 7.2 grams
- grams of instant powder products according to what is indicated on specific tables

In order to obtain the best results with the product used we advise you to check:

- grams of ground coffee. Vary the quantity by turning the screw on the doser (ref.1, fig.82)



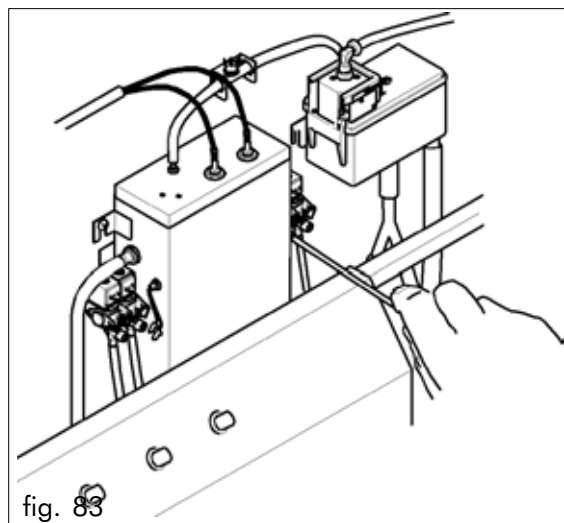
- each complete turn corresponds to a variation of 0.15g.
- regulation of the grinding degree. Turn the screw (ref.2, fig.82) so as to obtain the desired results.

After each regulation three selections are necessary before obtaining the new granulometry.

9.3.2 Instant electric valve capacity regulation (only for double boiler models)

It is possible to reduce the delivery capacity of instant electric valves in order to limit the formation of limestone.

- To rinse the cups properly, operate on the capacity screw (fig.83)



9.4 Resin regeneration (where the water softener is provided)

The regeneration of resins must be performed according to the water mains to which the distributor is connected.

The table indicated here below can be used as a reference:

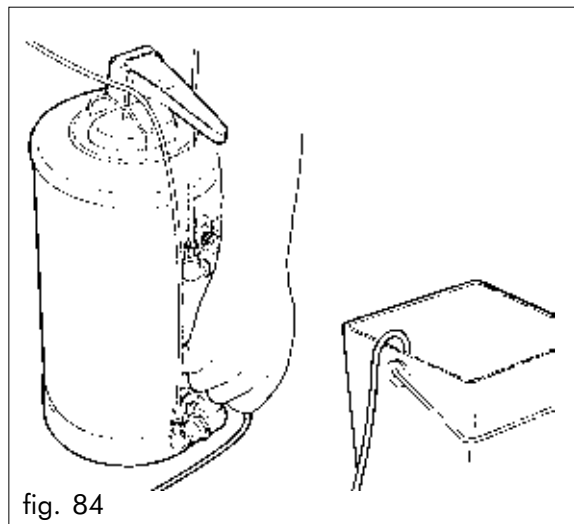
WATER HARDNESS	NUMBER OF SELECTIONS	
	60cc	130cc
°French		
10	25000	12500
20	12500	6000
30	9500	4500
40	6500	3000
50	5000	2500

To verify the degree of water hardness and consequently the time and type of interventions, specific kits available on the market can be used.

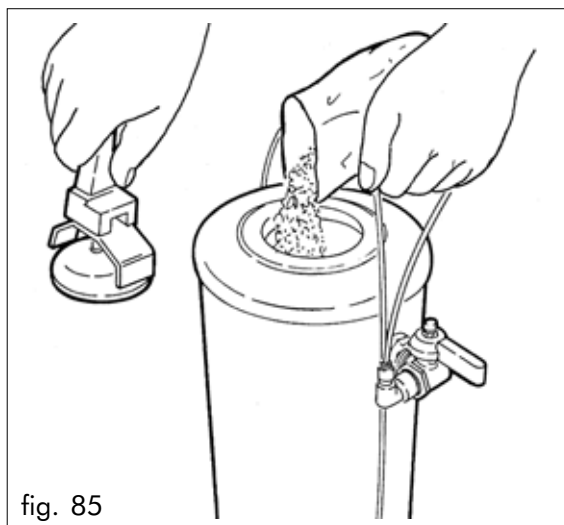
The operation can be performed on the distributor as follows:

switch off the machine

- turn the lower faucet paying attention to put the relative hose in a bucket or better in a drain (fig. 84)

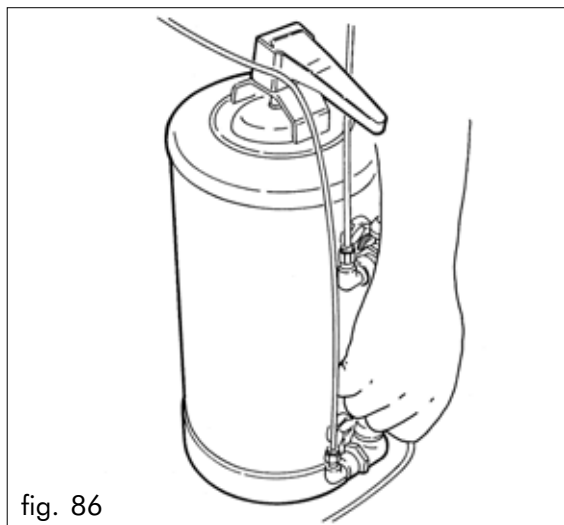


- remove the cover and introduce 1.5 kg of normal cooking salt (fig.85)



- replace the cover
- switch on the machine and let the water pour out until it is no longer salty switch off the machine and close the faucet (fig.86)

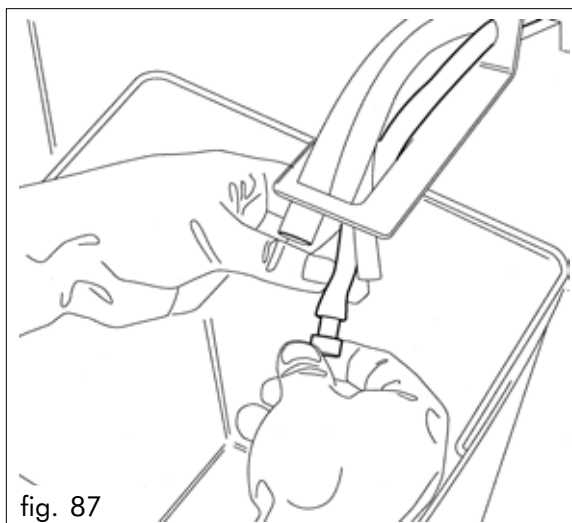
The time necessary for this operation is about 30/45 minutes.



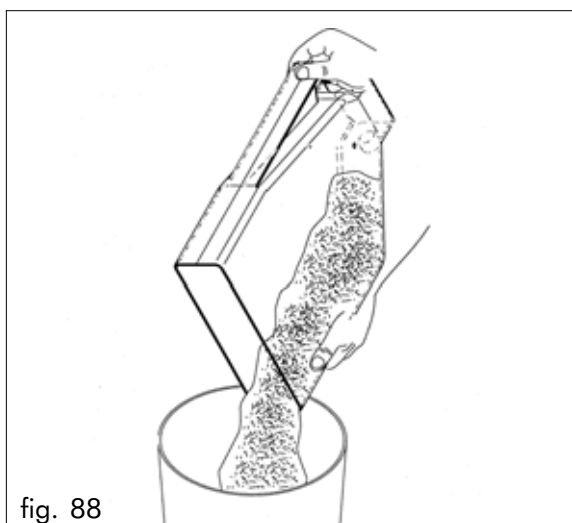
9.5 Inactivity

If the automatic vending machine remains inactive for a long time it is necessary to perform some prevention operations:

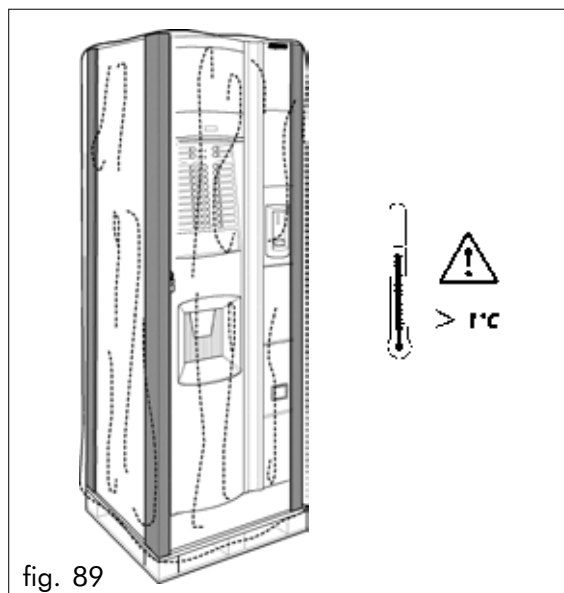
- disconnect the machine electrically and hydraulically
- empty completely the floater reservoir removing the plug located on the hose along the drain chute
- replace the plug once the draining has been done (fig.87)



- unload all products from containers (fig.88)



- clean all the parts in contact with foodstuff according to procedures already described
- empty the liquid waste bin carefully
- eliminate the coffee grounds bag
- clean with a cloth all the internal and external surfaces of the machine
- protect the outside of the machine with a plastic film or bag (fig.89)



- stock in dry and protected places with temperatures not below 1°C.

10 - DISMANTLING

Start emptying products and water as described in the previous paragraph. For the dismantling we advise you to disassemble the machine dividing the parts according to their composition (plastic, metal etc).

Afterwards, deliver the subdivided parts to specialised companies. In case of cooling unit, deliver it without disassembling to companies entitled for the disposal.

11 - TROUBLESHOOTING GUIDE FOR THE MOST COMMON FAILURES OR ERRORS




In the SERVICE function, the failures, when present are immediately displayed in the follow manner:

Display message	Probable cause
E01 - CUP	<ul style="list-style-type: none"> - Lack of cups - Cups microswitch failure
E02 - GRINDER	<ul style="list-style-type: none"> - Lack of coffee - Grinder jammed
E03 - GROUP	<ul style="list-style-type: none"> - Group motor jam - Motor position microswitch failure
E04 - ESPRESSO PUMP	<ul style="list-style-type: none"> - Pump failure - Coffee electric valve - Volume meter
E05 - INSTANT PUMP	<ul style="list-style-type: none"> - Pump failure - Coffee/instant solenoid valve
E07 - SCALING	<ul style="list-style-type: none"> - Error in scaling factor setting (standard money) in the coin box
E08 - NO WATER	<ul style="list-style-type: none"> - Lack of water - Liquid waste bin full - Reservoir microswitch failure
E09 - EEPROM	<ul style="list-style-type: none"> - EPROM failure
E11 - NTC PROBE	<ul style="list-style-type: none"> - Coffee group probe in short circuit or interrupted
E12 - TCAF<70C°	<ul style="list-style-type: none"> - Non-heating of coffee boiler
E13 - TSOL<70C°	<ul style="list-style-type: none"> - Non-heating of instant boiler
E15 - CLOCK ERROR	<ul style="list-style-type: none"> - Clock board malfunction - Programming error
E16 - CAPACITY	<ul style="list-style-type: none"> - Reduced water delivery capacity
E17 - NOZZLES MOTOR	<ul style="list-style-type: none"> - Nozzles motor failure - Motor position microswitch failure
NO SERIAL CONNECTION	<ul style="list-style-type: none"> - Waiting for/no connection with serial coin box

The alarm E16- CAPACITY is a mere signal, that does not cause a block, but indicates progressive reduction of the water flow in the pump-electric valve circuit or inefficiency of the volume meter; this signal pre-announces an imminent failure E04-PUMP.

Other signals that do not block are foreseen and have the objective of advising the user that the regeneration of descaler resins or of grindstones or filters is necessary.

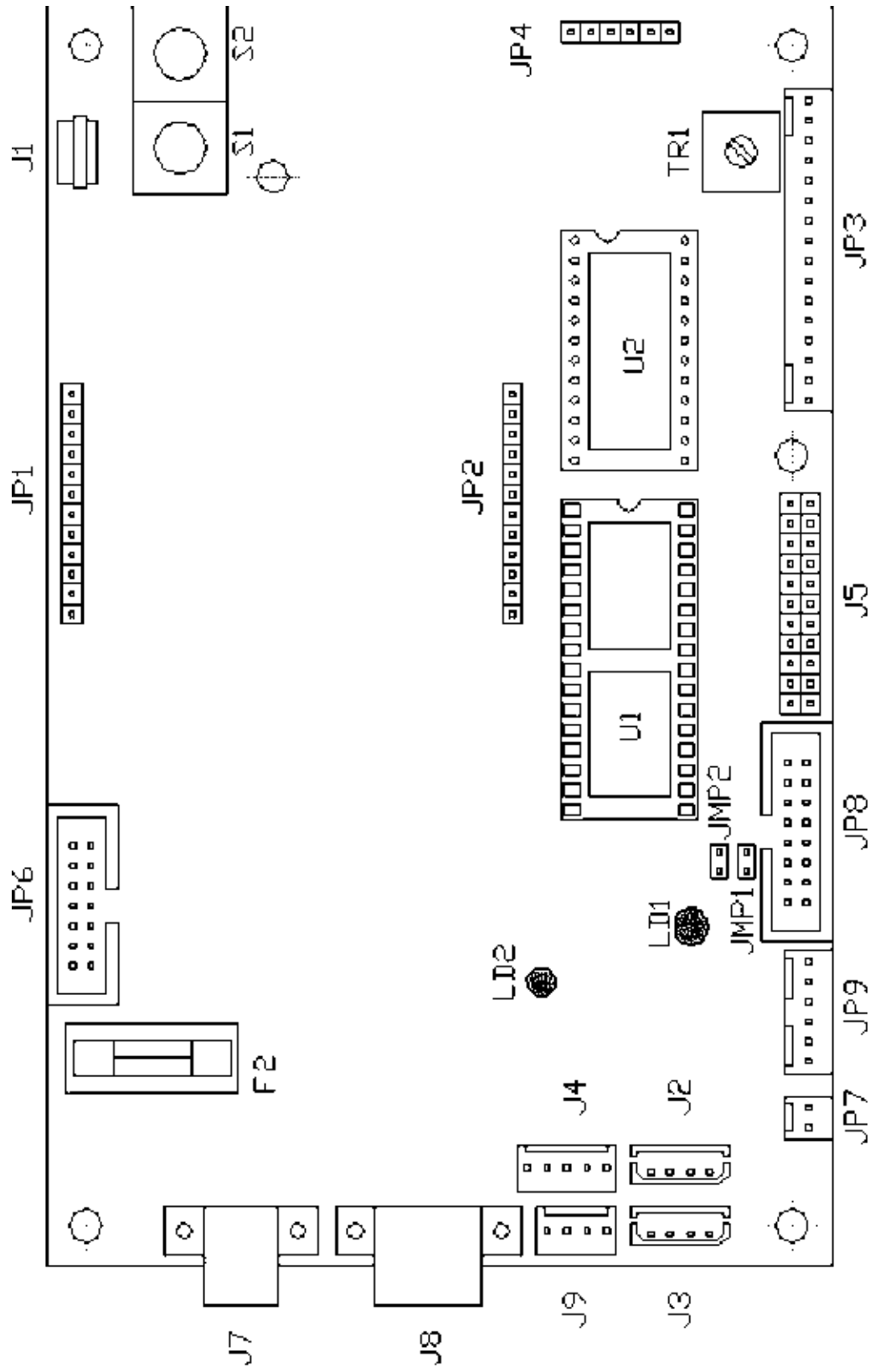
The number of vends beyond which the regeneration is deemed necessary is set in the OPTIONS menu; the display messages foreseen are:

- * to indicate the error E16 VOLUME
-  to indicate the resin regeneration
- & to indicate the filter substitution
- \$ to indicate the grindstone substitution
- # to indicate the substitution of filters and grindstones
- % to indicate resin regeneration and grindstone substitution
-  to indicate resin regeneration and filter substitution
-  to indicate resin regeneration and filter and grindstone substitution

If one of the above mentioned symbols are displayed, going into the SERVICE mode, the message ALARM will appear followed by the signal for which the maintenance is necessary.

The machine is equipped with the "group present" safety microswitch (fitted on the boiler group support); if the coffee group is not present, the machine indicates to SELECT DRINKS WITHOUT ESPRESSO COFFEE.

JP1/JP2	= EXPANSION BOARD CONNECTION
JP3	= DISPLAY CONNECTOR
JP4	= KEYS EXPANSION
JP6	= POWER BOARD CONNECTOR
JP7	= COUNTER
JP8	= 24V VALIDATOR CONNECTOR
JP9	= OBLITERATOR CONNECTOR
J1	= PC PROGRAMMING CONNECTOR
J2	= INFRARED INTERFACE
J3	= P3000 INTERFACE
J4	= EXECUTIVE CONNECTOR (MASTER)
J5	= PUSHBUTTON PANEL CONNECTOR
J7	= 24V INPUT CONNECTOR
J8	= MDB CONNECTOR
J9	= EXECUTIVE CONNECTOR (SLAVE)
F2	= 4A FUSE
S1	= PROGRAMMING KEY
S2	= SERVICE KEY
LD1	= EXECUTIVE SERIAL CONNECTION LED
LD2	= SUPPLY LED
JMP1	= JUMPER FOR SELECTION 7
JMP2	= JUMPER FOR SELECTION 8
TR1	= DISPLAY CONTRAST REGULATION
U1	= EPROM BASE
U2	= SUPPLEMENTARY MEMORY BASE



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Cod. 0871.956