

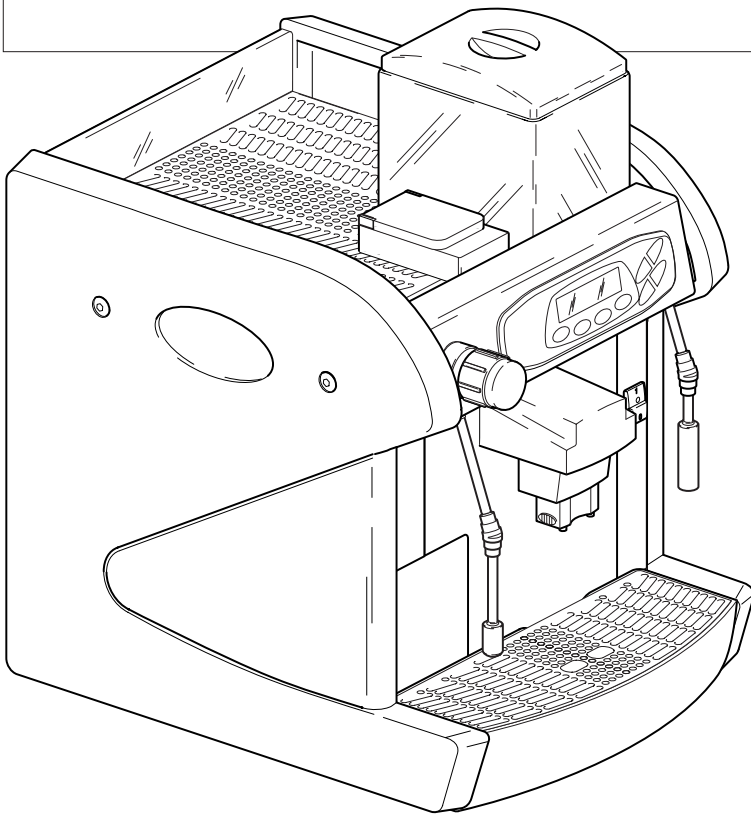


Automatic espresso coffee machine

Model

Modular LUXE Modular COFFEE

Type: CAP001/A



INSTRUCTION AND MAINTENANCE MANUAL

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MAIN PARTS

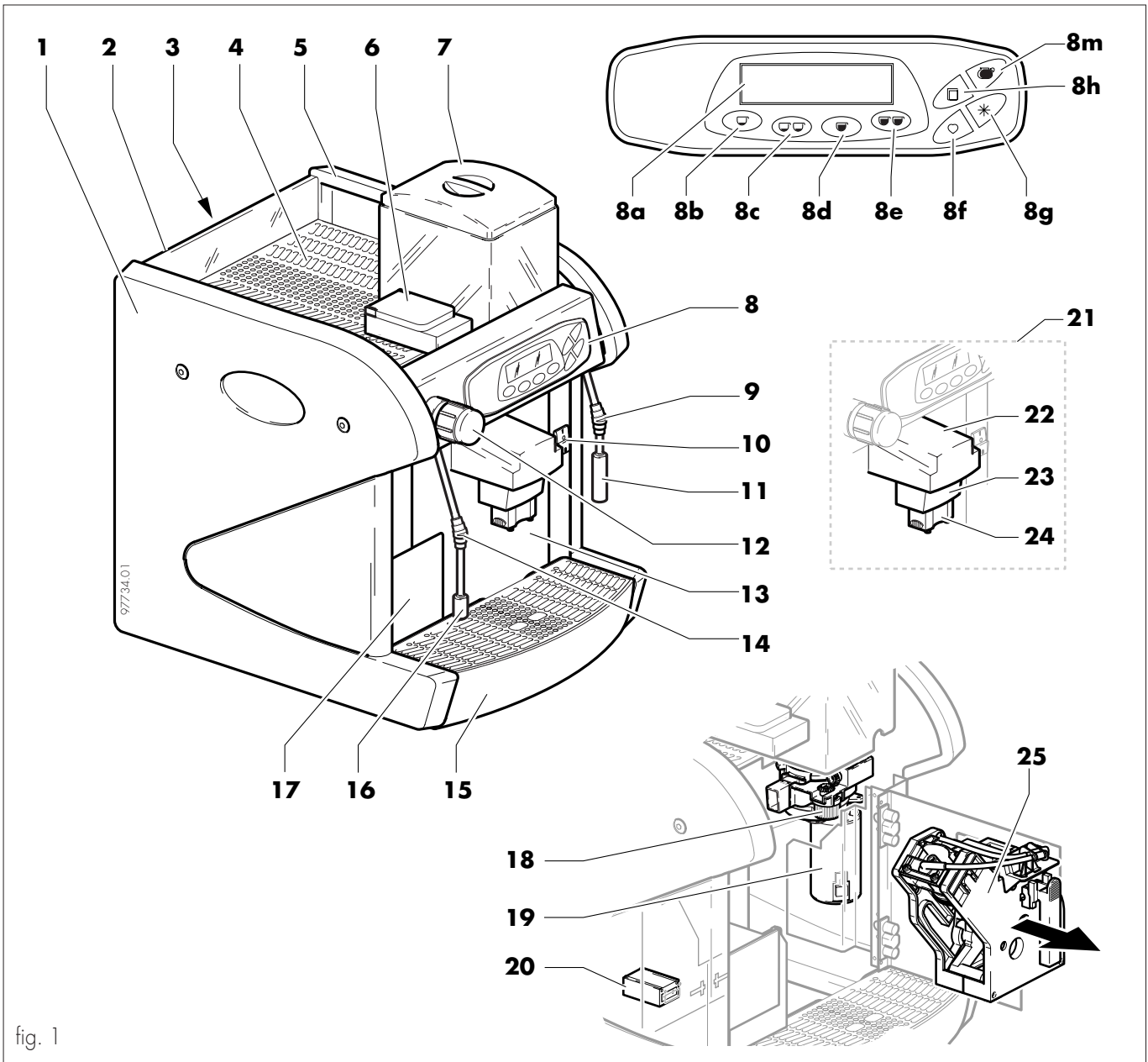


fig. 1

- | | | | |
|-----------|---------------------------------|-----------|-------------------------------------|
| 1 | Left hand side panel | 9 | Rubber protector |
| 2 | Glass | 10 | Main switch |
| 3 | Back cover panel | 11 | Hot water spout (LUXE version) |
| 4 | Cup heating plate | 12 | Steam selection knob (LUXE version) |
| 5 | Right hand side panel | 13 | Front door |
| 6 | Pre-ground coffee slot | 14 | Rubber protector |
| 7 | Coffee beans hopper | 15 | Drip tray |
| 8 | Control panel | 16 | Steam spout (LUXE version) |
| 8a | Display | 17 | Grounds tray |
| 8b | 1 small cup key | 18 | Grinding adjustment knob |
| 8c | 2 small cups key | 19 | Coffee grinding unit |
| 8d | 1 large cup key | 20 | Mechanical pulse counter |
| 8e | 2 large cups key | 21 | Coffee dispensing unit |
| 8f | Decaffeinated pre-selection key | 22 | Dispensing unit cover |
| 8g | Options Key | 23 | Mobile dispenser |
| 8h | Hot water Key (LUXE version) | 24 | Telescopic dispenser |
| 8m | Jug Key | 25 | Brewing unit |

1 - INTRODUCTION TO MANUAL

1.1 Foreword

Important

This manual is an integral part of the machine and must be carefully studied. It contains information relative to the correct use of the machine and to its maintenance (strictly concerning user operations).

The document refers to the MODULAR machine in both the LUXE and COFFEE versions. The COFFEE version differs from the LUXE model in that it isn't fitted with the devices providing hot water and steam. Concerning all other functions the versions are the same, so when a topic pertaining to a single version is dealt with in the manual, in each instance this will be specified.

Manufacturer: **Cosmec S.p.A.**

Via Panigali, 39 - 40041 GAGGIO MONTANO (Bo)

This manual should be carefully kept and must accompany the machine throughout its operative life, including the possible change of ownership.

In case of loss or damage to the document, a copy should be immediately requested from an AUTHORISED MAINTENANCE CENTRE.

1.2 Symbols used

This manual uses different types of warnings for the purpose of emphasising various levels of danger or the specific concern. Alongside the graphic symbol, a message will define the procedures to be applied and all useful information will be detailed:



Danger

It highlights dangerous situations for the machine operators and for the machine itself.



Maintenance Technician

It is used to suggest operations that can only be carried out by personnel specialised in performing maintenance interventions.

Important

It indicates operations that, when carried out, safeguard proper machine operation

2 - MACHINE INFORMATION

2.1 Notes for the user

- The machine is programmable with regard to the dosage for each type of dispensing.
- The machine must be installed in a properly lit, sheltered and dry place and on a working surface able to withstand its weight.
- The following points have to be taken into account in order to guarantee the correct operation of the machine and to retain its characteristics during the course of its working life:
 - Ambient temperature: 10° C to 40° C
 - Maximum humidity: 90%
- For possible requirements always refer to the Distributor or Importer for each Country. If the specific Country has no Importer reference should be made directly to the Manufacturer.
- In case of damages to the power cable, it must be replaced by the Manufacturer or by its Technical Assistance Service, or by a person with similar qualifications in order to prevent any risk.
- The AUTHORISED SERVICE CENTRES are available for any type of explanation and information pertaining to machine operation and to satisfy requests for the supply of spare parts or technical assistance.
- The Manufacturer reserves the right to introduce further improvements to the machine without notice.
- All rights of reproduction of the present manual are reserved by the Manufacturer.

2.2 Intended use of the machine

The machine can be programmed and automatically supplies the following products:

- hot drinks based on instantly-ground coffee beans;
- hot drinks based on pre-ground coffee;
- hot water and steam (LUXE version) for the preparation and heating of drinks.

Important

In case of improper use each form of warranty will be void and the Manufacturer declines any responsibility for damages to objects or harm to people.

The following instances fall under the definition of improper use:

- any use other than that foreseen and/or by way of techniques differing from those indicated by this publication;
- any intervention on the machine contrasting with the indications referred to in this publication;
- any use after tampering with components and/or after modifications to the safety devices;
- installation of the machine outdoors.

2.3 Residual risks

The operator cannot be protected from direct steam or hot water jets (LUXE version).

2.4 Machine identification

The machine is identified by the model name and serial number to be found on the ID plate (fig. 2).

The plate carries the following specifications:

- Name of Manufacturer
- CE marking
- Machine model
- Serial number
- Year of manufacture
- Several manufacturing details:
 - Mains voltage (V)
 - Voltage frequency (Hz)
 - Rated power (W)
 - Number of mains phases (PH)
 - Water network allowable pressure (MPa)

Important

For any request to **AUTHORISED SERVICE CENTRES**, always refer to the ID plate, by reporting the specific machine data recorded thereon.

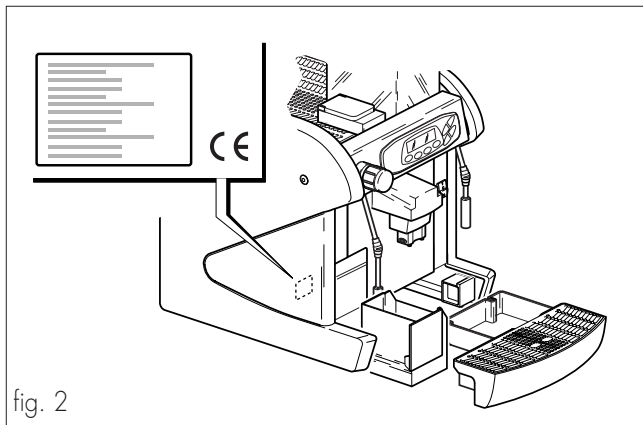


fig. 2

2.5 Technical data

Dimensions (fig. 3)

	Luxe Coffee	
L	mm	370
P	mm	525
h	mm	595
Weight	kg	37
Rated power	W	3250 1750
Mains voltage	V	230V~/400V 2N~
Power cord length	mm	1500
Water network allowable pressure	MPa	0,1÷ 0,8 (1÷8 bar)

Capacity

Coffee beans hopper	g	1100
Grounds tray	no.~	30

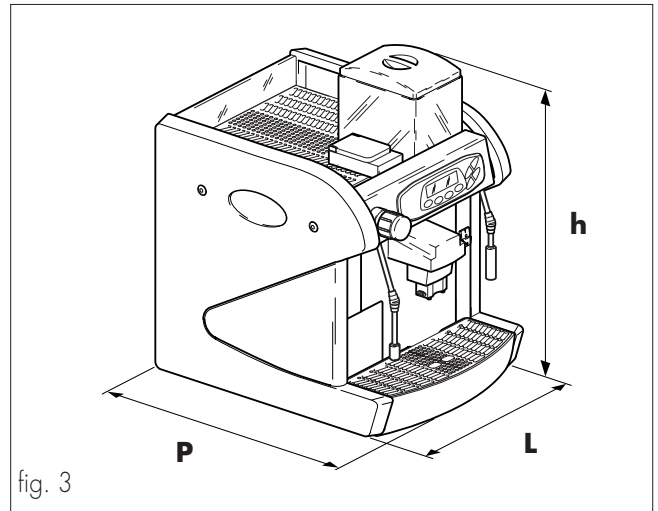


fig. 3

3 - SAFETY

3.1 General safety rules

- Carefully read this publication before utilising the machine.
- It is absolutely forbidden to deactivate the safety measures installed on the machine.
- Cleaning operation must be carried out with main switch (ref. 10, fig. 1) and all-pole switch in position "O" or by disconnecting the mains plug.
- Do not modify any part of the machine; by disregarding these specifications the Manufacturer is released from all responsibilities.
- Do not turn water sprays towards the machine.

3.2 Operators' requisites

With safety in mind, two separate persons with different qualifications are distinguished:

Maintenance technician

Person responsible for the operations of installation, adjustment, setting up and, in more general terms, for the machine's maintenance.

User

Person actually managing and operating the machine. The user is permitted to start the machine, adjust the working parameters, load the unit with coffee beans, empty the grounds and drip trays and see to the outer cleaning of the machine.

If the user experiences machine malfunctions he must request the intervention of the maintenance technician.



Danger

It is forbidden for the user to carry out operations that are indicated in this publication as being the responsibility of the maintenance technician.

3.3 Safety devices installed

- Three safety valves protect the machine from over-pressures in the network meant for producing hot water for coffee, for hot drinks and for steam.
- Each boiler unit is protected against over-heating by way of a thermostat.
- Three microswitches control the position of the drip tray (ref. **15**, fig. 1), the grounds tray (ref. **17**, fig. 1) and the front door (ref. **13**, fig. 1). If one of the components is not correctly positioned, the relevant microswitch locks the machine and the display will indicate the component out of position.
- Two pulse counters (one electronic, the other mechanical) count the number of dispensing instances and allow the programming of routine maintenance interventions by the maintenance technician.
- The greater part of electrical components is fed with a voltage of 24 V dc.

4 - COMMANDS & INSTRUMENTS DESCRIPTION

4.1 Foreword

Important

The terms "small cup" and "large cup" on the key descriptions are used to indicate the two different amounts of drinks that can be dispensed.

The machine is delivered with the dispensing keys already programmed for standard values.

4.2 Commands

The following commands are present on the machine (see fig. 1):



Main switch (ref. **10**, fig. 1).

In position "I" it switches the machine on (electrical functions enabled).

The warning light present on the key will go on.

In position "O" it switches the machine off (electrical functions disabled).

The warning light "I" present on the key will go off.



Key 1 Small cup (ref. **8b**, fig. 1).

(See "6.5 Coffee dispensing").

Re-programmable (See "6.11 Programming of dispensing keys").



Key 2 Small cups (ref. **8c**, fig. 1).

(See "6.5 Coffee dispensing").

Re-programmable (See "6.11 Programming of dispensing keys").



Key 1 Large cup (ref. **8d**, fig. 1).

(See "6.5 Coffee dispensing").

Re-programmable (See "6.11 Programming of dispensing keys").



Key 2 Large cups (ref. **8e**, fig. 1).

(See "6.5 Coffee dispensing").

Re-programmable (See "6.11 Programming of dispensing keys").



Pre-ground pre-selection key (ref. **8f**, fig. 1).



Pre-sets the machine for the dispensing of pre-ground coffee (See "6.6 Pre-ground coffee dispensing".)

Light coffee pre-selection key (ref. **8f**, fig. 1).

If pressed twice it pre-sets the machine to dispense light coffee (See "6.7 Light coffee dispensing").



Option key (ref. **8g**, fig. 1).

It temporarily switches machine on when it is on "STANDBY" and confirms the selection of keys  and .



Hot water key (LUXE version) (ref. **8h**, fig. 1).

(See "6.9 Hot water dispenser").

Re-programmable (See "6.11 Programming of dispensing keys").



Jug key (ref. **8m**, fig. 1).

(See "6.8 Dispensing coffee in jug").

Re-programmable (See "6.11 Programming of dispensing keys").



Steam knob (LUXE version) (ref. **12**, fig. 1).

If rotated anti-clockwise, it opens the steam jet.

If rotated clockwise it shuts it off.

(See "6.10 Steam dispenser").



Mechanical pulse counter (ref. **20**, fig. 1).

Displays the number of dispensing instances performed by the machine.

Control panel display (ref. **8a**, fig. 1).

Displays the various control and operation messages of the machine.

(See "6.13 Display messages").

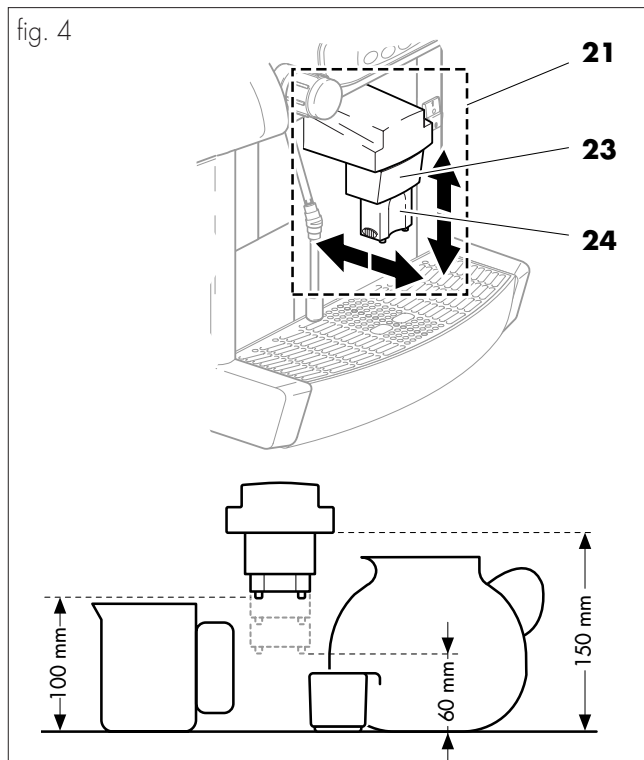
4.3 Coffee dispenser unit

The position of this unit (ref. **21**, fig. 4) can be modified according to the height of the container used.

In fact it is possible to move the mobile dispenser backwards (ref. **23**, fig. 4) and the telescopic dispenser upwards or downwards (ref. **24**, fig. 4).

This allows different heights to be obtained. (see fig. 4).

N.B.: If a container taller than 90 mm is always and exclusively used, the telescopic dispenser can be removed altogether (ref. **23**, fig. 4), by drawing it downwards.



4.4 Steam/hot water spout (LUXE version)

The steam (ref. **16**, fig. 1) and hot water spouts (ref. **11**, fig. 1) are equipped with suitable rubber protectors (ref. **14** and **9**, fig. 1) so that they can be easily gripped and moved even when overheated.

5 - INSTALLATION



Danger

Operation falling within the competence of the Maintenance technician.

5.1 Connections

Warning

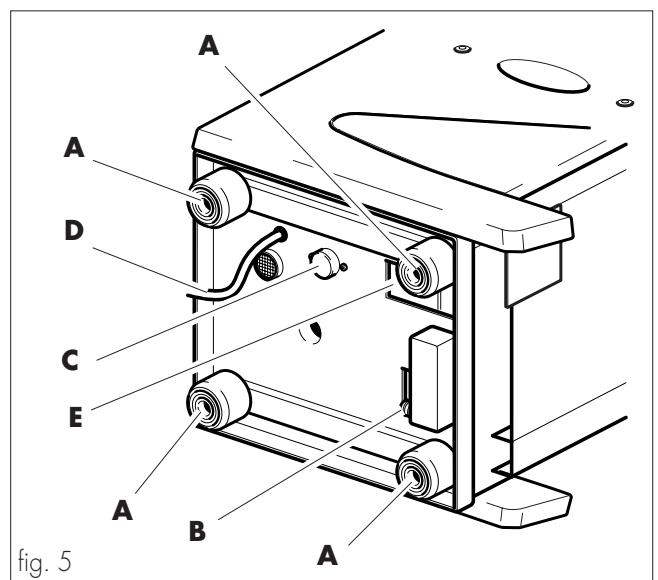
The connection will have to be implemented by observing the national safety rules

Carry out connections as follows:

- Check that the surface upon which the machine is placed is firm and able to withstand the weight.
- Drill the relevant holes in the surface top (ref. **C'** and **D'** or **F'**, fig. 6), and possibly also the other holes (ref. **B'**, fig. 6 e ref. **E'**, fig. 6 - see **N.B.**), as indicated in the drawing.
- Install the machine on the surface and level it by adjusting the feet made available for this operation (ref. **A**, fig. 5).
- Connect machine to the drinking water system by way of the special fitting (ref. **C**, fig. 5).
WATER AND WASTE CONNECTIONS SHALL COMPLY WITH APPLICABLE FEDERAL STATES, OR LOCAL CODES.
(Only for USA and CDN models)
- Connect to the power mains by way of the relevant cord (ref. **D**, fig. 5).

N.B.: It is possible to connect the drip tray (ref. **15**, fig. 1) directly to an outlet by proceeding as follows:

- drill the surface top as indicated (ref. **B'**, fig. 6);
- break the removable diaphragm which seals the drip tray outlet (ref. **15**, fig. 1);
- join a drain tube to the fitting (ref. **B**, fig. 5), by way of a suitable hose clamp.

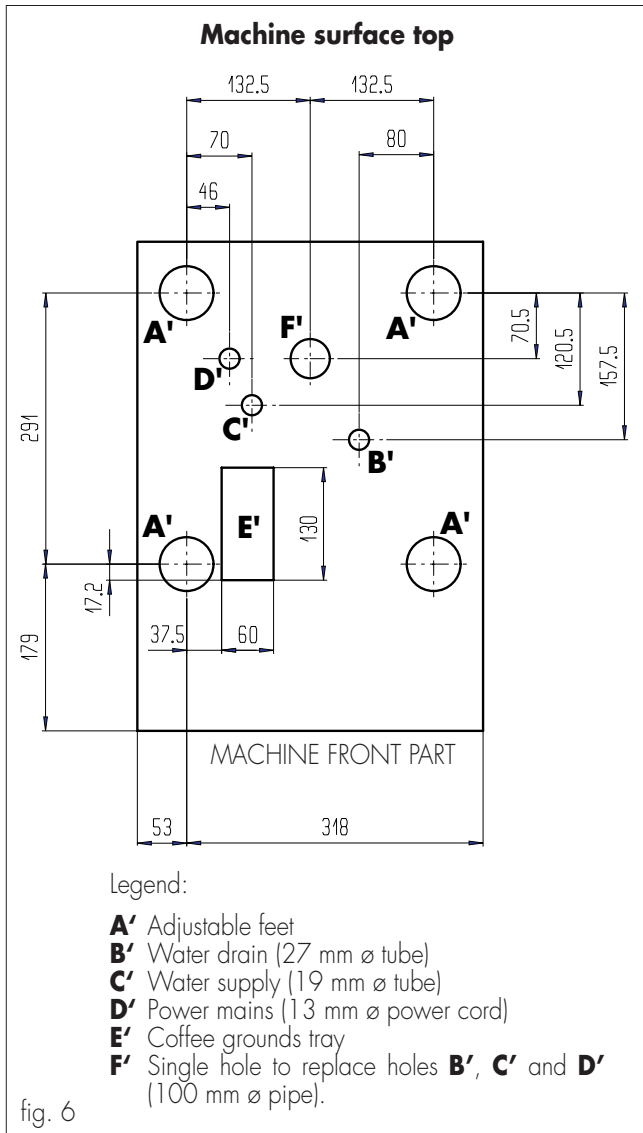


Furthermore it is possible to dispose of the coffee grounds directly into a container to be placed below the machine surface top, as follows:

- drill the surface top as indicated (ref. **E'**, fig. 6);
- break the pre-marked diaphragm (ref. **E**, fig. 6) on the bottom of the grounds tray (ref. **17**, fig. 1).

Important

In order to make connection operations easier, the diameter of the holes to be drilled in the surface top will have to be greater than that of the pipes and cables indicated in the legend of fig. 6.



Danger

According to the norms ruling in the Country where the machine is installed, the cord for the connection to the mains must be equipped either by an all-pole switch (with a minimum contacts' opening clearance of 3 mm), or with a plug conforming to the norms.

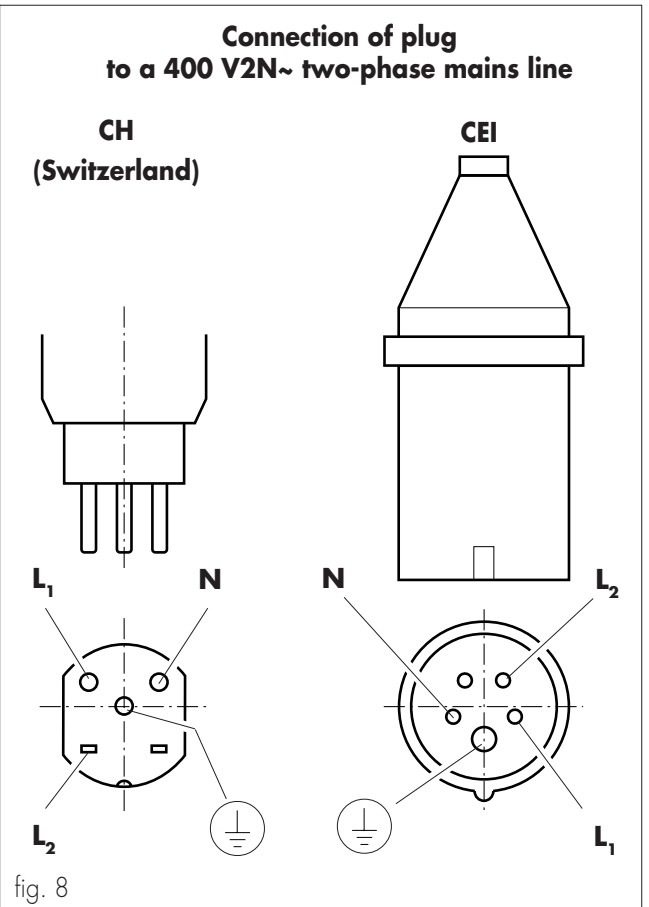
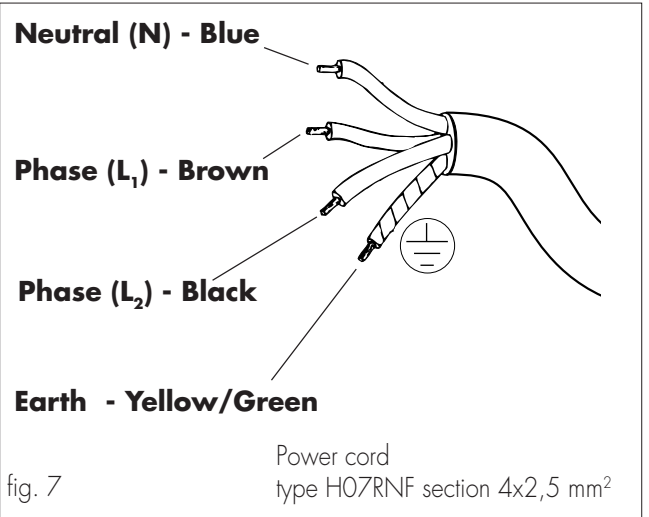
The all-pole switch must be suitable for the power drawn by the machine and able to detect all voltage polarities.

Check that the electrical cables of the installation are cor-

rectly proportioned to the power drawn by the machine.

The connection point (electrical socket or all-pole switch) must be placed in a position easily reachable by the user, in order to be able to disconnect the machine from the mains, should this be necessary.

In case of installations with 400 V two-phase current, utilise the phases in such a way as to supply the machine with 230 V single-phase current (fig. 7).



NB: For the 230V~ single-phase connection it is necessary to use the special kit (code 1020.R05) and to follow the instructions contained therein.

Only for EUROPEAN models

Important

It is strongly suggested that the machine be supplied with water treated through a descaling device, especially in cases of water with a high content of calcium and magnesium salts (hard water).

5.2 Insertion of Nation key



Danger

Operation falling within the competence of the Maintenance technician.

The "nation key" contains the following data:

- Language shown on display.
- Setting of software according to the Country where the machine is utilised.

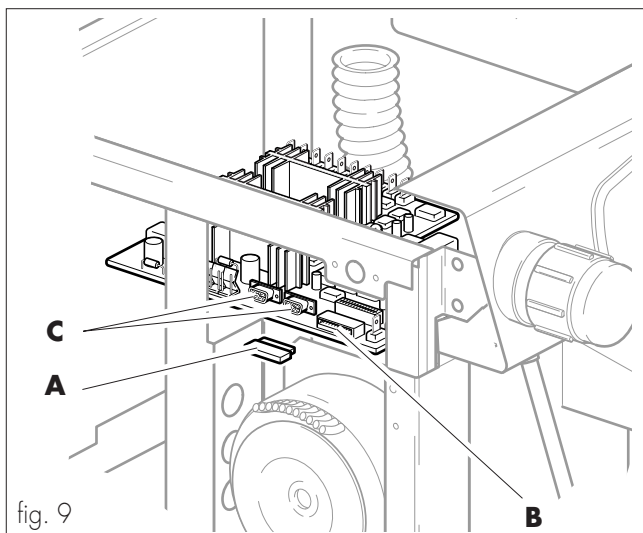
Important

The machine WILL NOT operate without the "nation key", so it is important to see to this operation.

The machine will only accept a single insertion of the "nation key".

To insert the nation key it is necessary that the following operations be performed:

- Disconnect electrical power.
- Dismantle the left-hand side panel (ref. **1**, fig. 1) and the glass (ref. **2**, fig. 1).
- Insert the key (ref. **A**, fig. 9) into the connector (ref. **B**, fig. 9) of the electronic board.
- Re-assemble the glass and the side panel.



5.3 First switching on

- Fill the coffee hopper (ref. **7**, fig. 1) with the selected coffee bean blend.

Important

Make sure that the coffee beans don't contain foreign bodies (pebbles, metallic elements or whatever) which could damage the grinders.

- Make sure that the all machine's removable components (ref. **15** and **17**, fig. 1) are in place and that the front door is closed (ref. **13**, fig. 1).
On the contrary, when the machine switches on, the display (ref. **8a**, fig. 1) will show which of the components is at fault.
- Connect the machine to the mains (either by setting the all-pole switch to "I" or by plugging).
- Switch machine on by way of the main switch (ref. **10**, fig. 1);
The display will show message "HEATING WAIT".
- When the display shows "READY FOR USE", it will be necessary to:
 - Position the dispenser (ref. **23** and **24**, fig. 1) so as to obtain a height suitable for the containers in use (see "4.3 Coffee dispenser unit").
 - Position one or two containers under the dispenser.
- Press the key corresponding to the type of drink selected.

Important

Even though initially all keys are programmed with standard values, it is necessary to check that the drink dispensed corresponds with the desired characteristics. If this is not the case, set again the dispensing keys (see "6.11 Programming of dispensing keys").

5.4 Serial port connection



Danger

Operation falling within the competence of the Maintenance technician.

Beside the "nation key" connector the RS 232 serial port (ref. **C**, fig. 9) is found.

Through this serial port it is possible to connect the machine to the devices and equipment deployed by the AUTHORISED SERVICE CENTRES for tests and programming operations.

6 - USING THE MACHINE

Important

Before operating the machine it is necessary to have read this publication carefully and to have gained a good general knowledge of the machine.

After a period of inactivity of the machine it is advisable to read again chapter "5.3 before re-utilising the machine.

6.1 Machine statuses

Concerning the electricity mains, the machine can be found in one of the following statuses:

Machine off and cut out

- Main switch (ref. **10**, fig. 1) and all-pole switch in position "0" or plug disconnected.
- Only the stored data memory is active.

Machine on

- Main switch (ref. **10**, fig. 1) and all-pole switch in position "I" or plug connected.
- All functions are active and display (ref. **8a**, fig. 1) is on.

Standby mode (machine off but not cut out)

- Main switch (ref. **10**, fig. 1) in position "I".
- Functions "AUTOMATIC OPERATION", "ANTIFREEZING", are active if selected, and "CLOCK", as well as the display and stored data memory.
- Display backlighting is off.

6.2 Manual switching on

This type of starting up is required when the machine is in the "machine off and cut out" status (see 6.1 Machine statuses). It is necessary to proceed as described in "5.3 First switching on" by disconnecting the dispensed drink command, if possible.

6.3 Programmed automatic switching on

It is possible when the machine is in "STANDBY" mode and the function "AUTOMATIC OPERATION" is active

The machine will switch on at the preset time.

6.4 Temporary switching on from standby





It is a manual and voluntary start, controlled by the User with the machine in "STANDBY" mode.

It is obtained by pressing key  for 3 seconds.

The machine will revert automatically to the "STANDBY" mode 60 minutes after the last operation performed.

6.5 Coffee dispensing

Briefly press (less than 1 sec.):

- key  to obtain a single small cup, the display will show "1 SMALL CUP";
- or
- key  to obtain two small cups (a double dose of coffee is used), the display will show "2 SMALL CUPS";
- or
- key  to obtain a single large cup, the display will show "1 LARGE CUP";
- or
- key  to obtain two large cups (a double dose of coffee is used), the display will show "2 LARGE CUPS".




All these types of dispensing are obtained from coffee that is instantly ground by the machine.

During the dispensing, the display will show "PREINFUSION", if enabled by menu (see "6.14 Menu-programmable functions"); beside the message, an icon with a cup being filled will be displayed.

When the dispensing is over the display will show "READY FOR USE".

6.6 Pre-ground coffee dispensing




Use pre-ground coffee instantly loaded into the machine for pre-ground coffee dispensing.

- Briefly press (less than 1 sec.) key  once. The display will show "PRE-GROUND".
 - Use the specific measuring spoon to introduce one dose of pre-ground coffee through the pre-ground coffee slot (ref. **6**, fig. 1).
 - Press key  or .
- The machine will behave as for a normal dispensing, utilising the dose of pre-ground coffee manually introduced.

N.B.: Dispensing with pre-ground coffee is programmable only for one dose.

6.7 Light coffee dispensing


This type of dispensing is performed by utilising doses of pre-ground coffee manually introduced into the machine through the pre-ground coffee slot (ref. **6**, fig. 1). To the quantity thus provided manually the machine autonomously adds a small dose of ground coffee; this procedure compensates for the lesser quantity of ground coffee present in the pre-packaged bags and improves the organoleptic qualities of the drink dispensed.



- Briefly press (less than 1 sec.), the key  twice and consecutively, the display will show “LIGHT COFFEE”;
- introduce through the pre-ground coffee slot (ref. **6**, fig. 1), the contents of one dose of pre-ground coffee;
- press key  or .


N.B.: Dispensing with pre-ground coffee is programmable only for one dose.

6.8 Dispensing coffee in jug

This function allows the dispensing of more coffees (programmable) in a single container (such as a jug).

By pressing key  1 to 8 times, as many consecutive dispensing instances as requested, up to a maximum of 2,5 litres of coffee.

- Position the jug under the dispenser (ref. **21**, fig. 1).
- Briefly press (less than 1 sec.) key  for as many times as the number of instances to be dispensed. The display will show “JUG X ...” with the number of programmed dispensing instances;
- press key  to confirm and start the cycle;
- the machine will supply the dispensing instances programmed and the display will show the icon of a jug being filled with the number of instances already dispensed.
- having completed the dispensing, the display will show again “READY FOR USE”;
- if the cycle has to be stopped before the preset time it will be sufficient to either press the jug key or any coffee keys.

N.B.: Once the desired quantity has been set, it must be confirmed by pressing the  button within 10 seconds, otherwise data are not saved.


N.B.: The electronic control of the machine automatically manages the double coffee dispensing cycle to reduce to the minimum the time taken.



Example: by programming 5 dispensing instances, the electronic control will set up dispensing for 2 double coffees plus a single one.


N.B.: Warning: after 1 jug dispensing at full dosage (approx. 2 litres) it is necessary to pause for 2 minutes to allow the machine standard conditions restoration.


6.9 Hot water dispenser (LUXE version)

This function allows multiple (programmable) dispensing of hot water in a single container.

By pressing 1 to 8 times key  as many consecutive and continuous dispensing instances will be obtained, up to a maximum of 1 litre of hot water in the same container.

- Position the container under spout (ref. **11**, fig. 1).
- Briefly press (less than 1 sec.), multiple times, key  according to the number of desired dispensing instances. The display will show “HOT WATER X ...” with the number of programmed dispensing instances;
- press key  to confirm and start the cycle;
- the machine will supply the dispensing instances programmed and the display will show the icon of a container being filled with the number of instances already dispensed.
- having completed the dispensing, the display will show again “READY FOR USE”;

N.B.: Once the desired quantity has been set, it must be confirmed by pressing the  button within 10 seconds, otherwise data are not saved.

N.B.: It is possible to dispense a programmed dose of hot water only when function “HOT WATER PROGRAMM.” is in “ON” mode (see “6.14 Menu-programmable functions”); If instead the function is “OFF”, the dispensing must be stopped by pressing again key .



Danger of burns

*Never direct the hot water jet towards body parts. Direct the pipe only by moving it through the special rubber heat protector (ref. **9**, fig. 1).*

It is furthermore advisable to keep the spout submerged within the container.

6.10 Steam dispenser (LUXE version)

Submerge the spout (ref. **16**, fig. 1) within the liquid to be warmed up and rotate the knob (ref. **12**, fig. 1) anti-clockwise.

After having reached the desired temperature close the knob again by rotating it clockwise.



Danger of burns

*Never aim the steam jet towards body parts. Direct the pipe only by moving it through its rubber heat protector (ref. **14**, fig. 1).*

It is advisable to keep the spout submerged within the container.

Important

After each usage always clean the traces of the heated drink from the spout with a moist cloth.

6.11 Programming of dispensing keys

All the dispensing keys , , , , , ,  and  are equipped with a self-learning memory.

Once they are programmed, they supply the same drink quantity at every subsequent command.


Their programming is obtained as follows:


- machine on and ready for use;
- container positioned under the dispenser;
- press and hold down the key to be programmed (or re-programmed) until the drink reaches the desired level;
- the display will show “PROGRAMMING”;

N.B.: The message displaying is accompanied by the sound of an intermittent buzzer.

- release the key to automatically set the dosage dispensed;
- a subsequent short pressing of the key (less than 1 sec.) allows the dispensing of the programmed dose.

The programming of the keys implies at least one dispensing instance for each machine key.

N.B.: The programming of key  is obtained through function “HOT WATER PROGRAMM.” in “ON” mode (see “6.14 Menu-programmable functions”).

N.B.: The  button can be programmed by pressing the jug button first and then by pressing (and keeping pressed) the * button till the beverage reaches the desired level.

Important

Even if the machine is cut out, it keeps the programmed data in memory.

6.12 Grinder adjustment

Grinding adjustment changes according to the Country in which the machine is utilised and according to the coffee blend utilised. It is a most important operation to obtain the correct density and cream quantity in the drink dispensed.

The grinding has been set during the testing phase according to standard values, but adjustment modification is possible in any case.

- Open the front door (ref. **13**, fig. 1-10), rotate the knob (ref. **18**, fig. 10) anti-clockwise to obtain finer grinding (the index moves towards a lower value), or clockwise to turn to a coarser solution (the index moves to a higher value).

Important

Depending on the coffee blend utilised, fine grinding (index on low values) increases the density and creaminess of the drink and the connected dispensing time; vice versa a coarser grinding (index on high values) decreases density, creaminess and dispensing time.

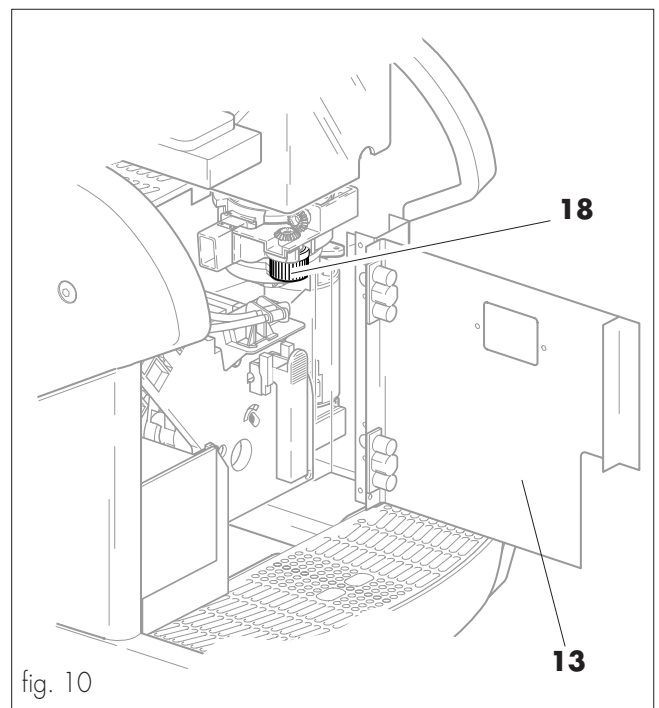
Danger

Do not rotate the knob (ref. **18**, fig. 10) anticlockwise to the limit stop; this operation causes the jamming of the grinders and the machine blockage.

Important

Should the grinders jam due to the presence of foreign bodies in the bean blend, the machine locks showing message “GRINDER ERROR” on display.

It will then be necessary to place a call with the AUTHORISED SERVICE CENTRE (see “7.3 Jamming of the coffee grinder unit”).



6.13 Display messages

A series of messages in addition to those already found in the previous paragraphs, can be shown on the machine's display (ref. **8a**, fig. 1).


STANDBY: it appears when the machine is off (with main switch in position "I") with the function of automatic switching on / switching off enabled (see "6.14 Menu-programmable functions").

ANTIFREEZING: it is displayed when the machine is off (with main switch in position "I") and the program preserving the icing up of boilers is activated (see "6.14 Menu-programmable functions").

RINSING PROGRAMMED: it is displayed when the machine automatically washes the coffee dispenser (see "6.14 Menu-programmable functions").

ADD COFFEE: it is displayed when during a grinding phase the machine detects no coffee beans inside the hopper (ref. **7**, fig. 1).

LOAD THE CIRCUIT: it appears when the machine, during the dispensing of any drink, detects that water is missing from the boilers.

After having checked the direct water supply, press button  (^ for the COFFEE version) until the water flows regularly from the water dispensing tube (ref.11, fig.1) and the coffee dispenser (ref.24, fig.1). In the COFFEE version water only flows from the coffee dispensing unit.

PROGRAMMING: it is displayed when machine programming is accessed (see "6.14 Menu-programmable functions").

EMPTY GROUNDS: it is displayed when the grounds tray (ref. **17**, fig. 1) is almost full (the machine has completed the programmed number of dispensing instances). Other further dispensing instances can be carried out.

OUT OF SERVICE - EMPTY GROUNDS: it is displayed when the grounds tray (ref. **17**, fig. 1) is completely full (the machine has supplied the programmed number of dispensing instances). The machine is locked and no further dispensing is possible until the grounds tray has been emptied.

CLOSE SERVICE DOOR: displayed when the front door (ref. **13**, fig. 1) is not properly closed.

INSERT GROUNDS DRAW.: it is shown when the grounds tray (ref. **17**, fig. 1) is not correctly positioned.

INSERT DRIP TRAY: displayed when the drip tray (ref. **15**, fig. 1) is not correctly positioned.

INSERT BREWING UNIT: displayed when the brewing unit (ref. **25**, fig. 1) is not correctly positioned.

BREWING UNIT ERROR: displayed when the brewing unit (ref. **25**, fig. 1) incorrectly performs its working cycle; switch machine off and call the AUTHORISED SERVICE CENTRE.

SENSOR ERROR 01: displayed when a temperature sensor is out of order. Switch machine off and call the AUTHORISED SERVICE CENTRE.

TEMPER. ERROR 01: displayed when one of the boiler heating elements is out of order. Switch machine off and call the AUTHORISED SERVICE CENTRE.

DESCALING: it is displayed when the machine requires this type of intervention, having carried out the programmed number of dispensing instances. Switch machine off and call the AUTHORISED SERVICE CENTRE.

The descaling interventions depend on the machines' work cycles programmable by the maintenance technician.

MAINTENANCE: it is displayed when the machine requires maintenance having performed the programmed number of dispensing instances. Switch machine off and call the AUTHORISED SERVICE CENTRE.





Maintenance interventions are based on the machine's working cycles, programmable by the maintenance technician.

6.14 Menu-programmable functions

The machine can be set by programming the menu; these modifications match the product dispensed to User requirements.

Important

During the programming phase several keys assume a different function from that applicable during normal use and permit:

-  (access to programming) access to the programming menu by keeping the key pressed for 5 secs. (the display will show "PROGRAMMING");
-  (Enter) passing from a menu level to the next; preparing a datum to be modified; confirming a datum or a function;
- * (Escape) cancelling unconfirmed modifications; stepping back to the previous menu level until quitting.
-  (Down) passing to the next item within the same programming level; increasing the value of a datum to be modified.
-  (Up) switching to the previous item within the same programming level; reducing the value of the datum to be modified.

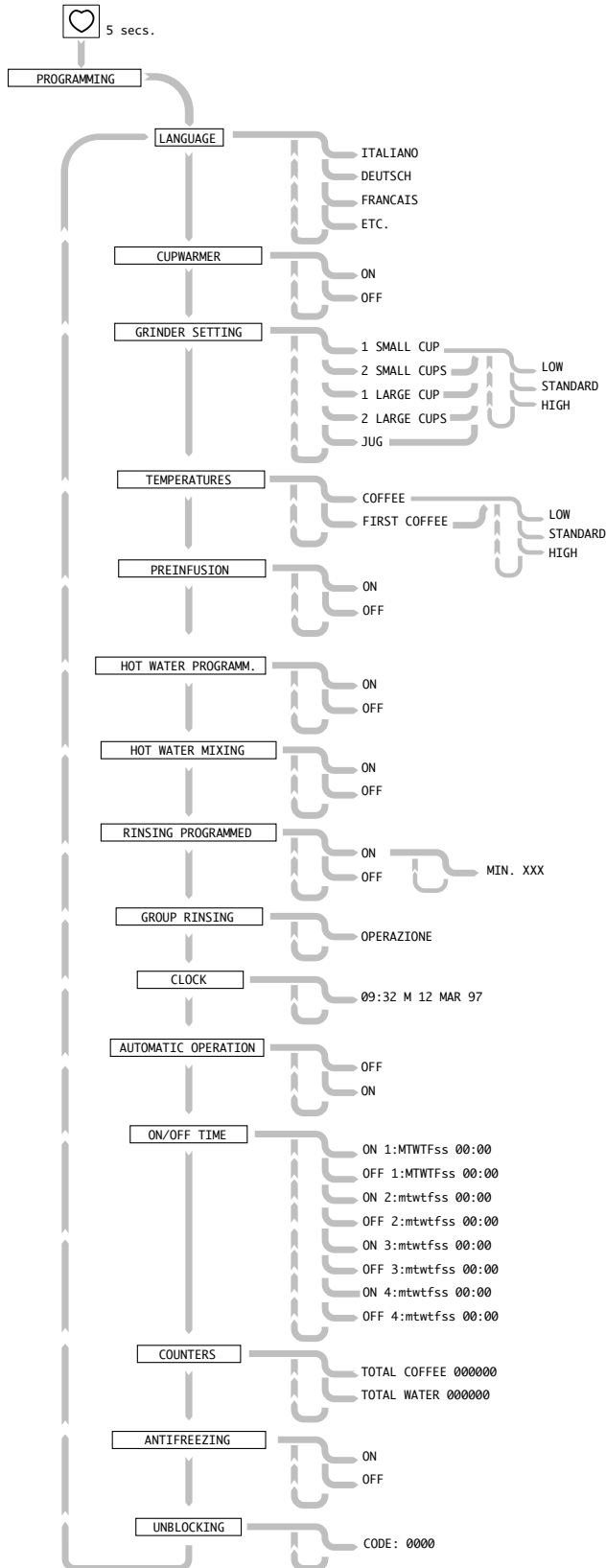
Several functions also foresee the programming of one or more data (already programmed for standard values).

In order to operate on the data values to be re-programmed it is necessary to:

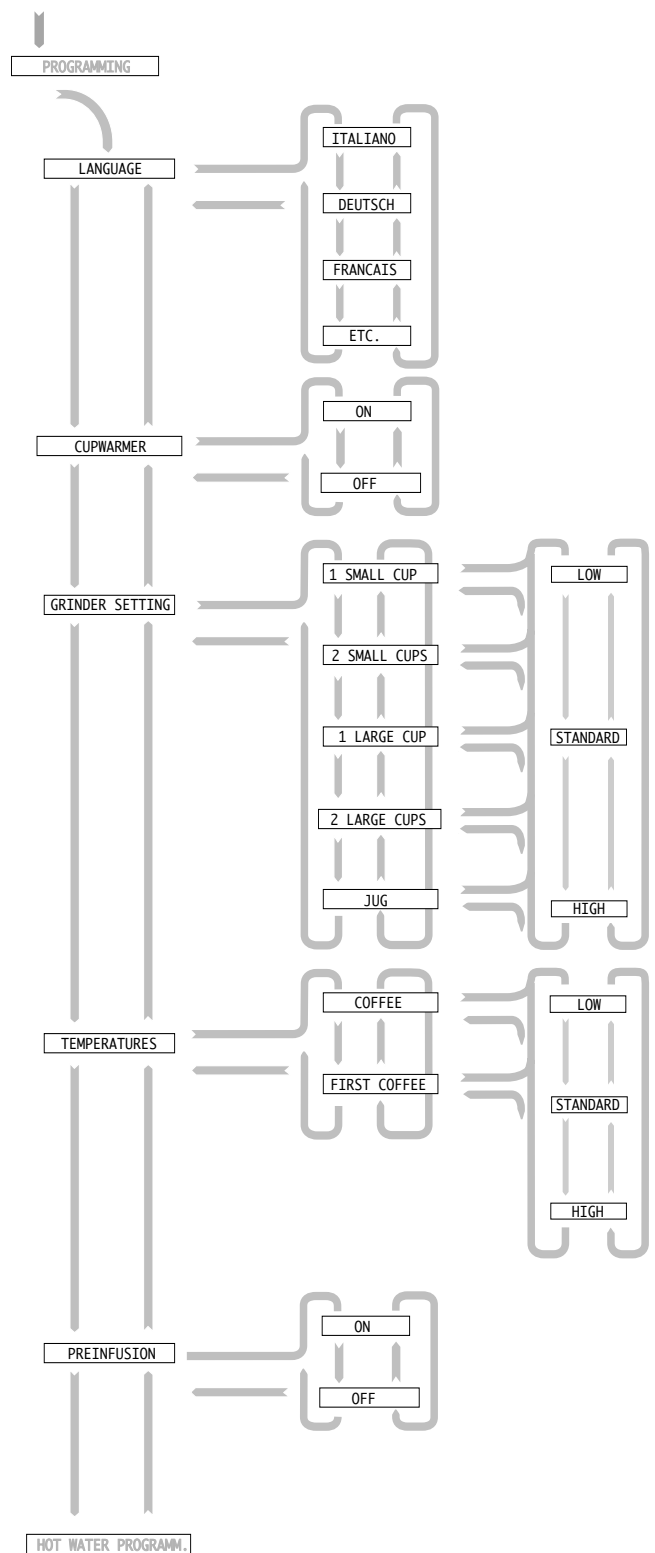
- **Select function.**
- **Confirm function with key  (Enter).**

- The blinking cursor is positioned under the value to be modified.
- Press keys (Up) or (Down) to modify the value.
- Confirm the datum modified with key .

6.14.1 Summary of menu programmable functions





6.14.2 Functions description



the outlining of functions continues on following page

LANGUAGE

- If the "nation key" foresees the use of more than one language on display, by using  from the "LANGUAGE" menu, access can be gained to their selection.
- If the "nation key" foresees a single language, by pressing  no other selection is accessed.

CUPWARMER

- By confirming "ON", the cup heating plate is switched on at the same time as the machine.
- By confirming "OFF", the cup heating plate always remains switched off.

GRINDER SETTING

For each of the dispensing instances offered by the machine it is possible to modify the quantity of ground coffee utilised for dispensing, programmed during installation phase.

- By confirming "LOW" or "HIGH", this dose is respectively reduced by 1 gram or increased by about 1 gram.
- By confirming "STANDARD", the dose utilised for dispensing remains that programmed by the Maintenance Technician.

TEMPERATURES

For each of the coffee dispensing instances offered by the machines it is possible to modify the temperature of the water used for dispensing, programmed during the installation phase.

- Confirming "LOW" reduce the temperature by 3° C respectively.
- By confirming "HIGH", the temperature is increased by 3° C respectively.
- By confirming "STANDARD" the temperature remains that programmed by the Maintenance Technician.

N.B.: The "FIRST COFFEE" temperature is utilised for the first dispensing at machine switching on.



PREINFUSION

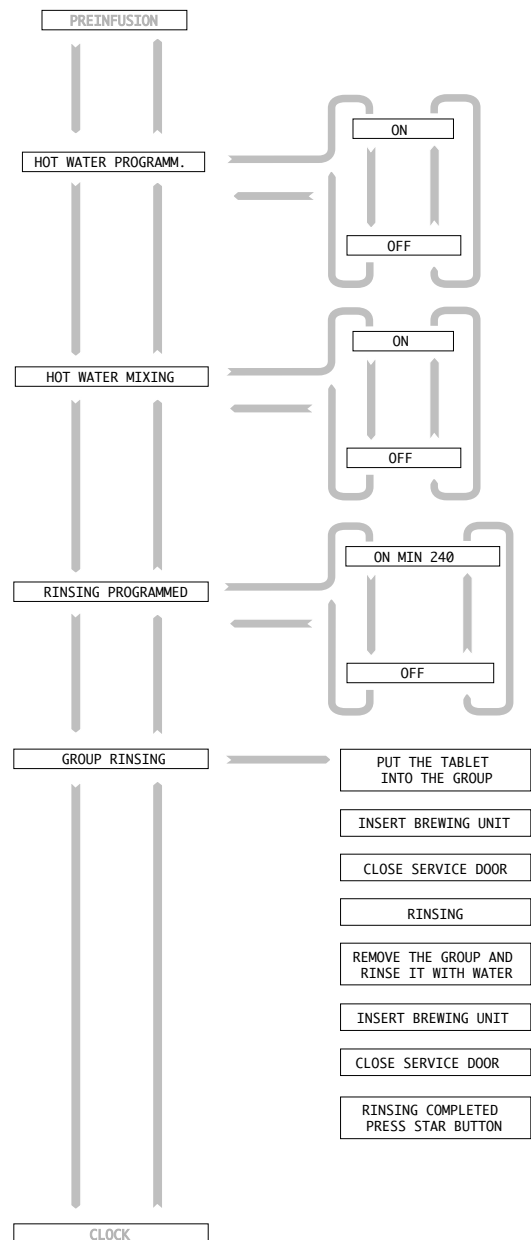
It is a function that allows a brief pause during the first dispensing phase. This can improve the quality of the coffee that during the pause has the time to "infuse" with the first part of the water received.

- By confirming "ON", "preinfusion" is obtained.
- By confirming "OFF", no pre-infusion is taking place.

HOT WATER PROGRAMM.

By way of this function it is possible to enable the programming of the quantity of hot water for dispensing.

- By confirming "ON", it is possible to program key , as already described (see "6.11 Programming of dispensing keys").
- By selecting "OFF", key  will not accept programming of the dose which will have to be managed manually.



the outlining of functions continues on following page

HOT WATER MIXING

During the dispensing of the various drinks, the machine adds a certain quantity of hot water, according to the programming carried out by the Technician.

- By confirming "ON", the current mixing takes place
- By confirming "OFF", NO hot water is added with the dispensing.

N.B.: When the function is de-activated, the values programmed by the Technician will remain unchanged so that they can be utilised again at function re-activation.

RINSING PROGRAMMED


This function allows the dispensing of a minimum quantity of hot water (abt 5 cc) by the machine to prevent sediments in the coffee dispenser from forming; this wash is automatically carried out after a programmed time lapse (20 to 240 minutes) from the last dispensing of coffee.

- By confirming “ON”, the modification cursor is set on the last digit to the right and its value can be modified through steps of 10 min. at a time; always confirm possible modifications.
- By confirming “OFF”, the machine doesn’t perform any wash.

N.B.: During the wash the machine displays “RINSING PROGRAMMED”; the wash can also be manually carried out by pressing key * for three seconds.

GROUP RINSING

This function allows the washing of the brewing unit (ref. 25, fig. 1), by using the specific tablets (for information on the tablets refer to the authorised service centre), and has been set up so that the user is guided through the various operation phases.

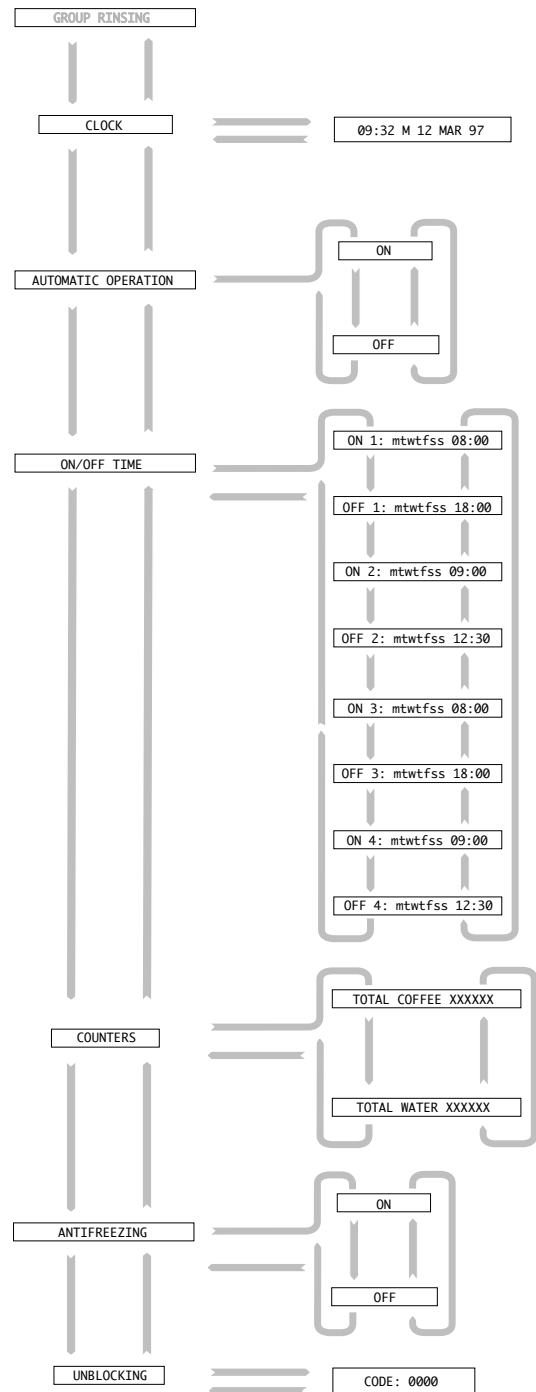
- The process starts from point “GROUP RINSING”.
- Press key ; the display visualises “PUT THE TABLET INTO THE GROUP”.
- Draw the brewing unit out; the display visualises “INSERT BREWING UNIT”.
- Insert tablet in the brewing unit and return the unit in position; the display shows “CLOSE SERVICE DOOR”.
- Close the door; the display shows “RINSING”. The machine starts the actual wash cycle at the end of which the display will show “REMOVE THE GROUP AND RINSE IT WITH WATER”.
- Remove the brewing unit; the display shows “INSERT BREWING UNIT”.
- Proceed to wash the brewing unit in running water.
- Re-insert the brewing unit; the display shows “CLOSE SERVICE DOOR”.
- Close the door; the display shows “RINSING COMPLETED PRESS STAR BUTTON”.

Press again key * to finally quit the menu and to make the machine ready for use.

CLOCK

This function allows the setting of the machine’s clock and date device.

- By confirming “CLOCK”, the cursor is positioned on top of the hours that can then be modified.
- After confirming the set time, the cursor moves to the next element to be modified (the minutes, followed by the day of the week, day, month and lastly the year).



AUTOMATIC OPERATION

This function allows to program the automatic switching on and off of the machine, in two different time slots, for each day of the week.

- By confirming “ON”, the machine is pre-set for this function.
- By confirming “OFF”, the machine can only be switched on and off manually through the main switch (ref. 10, fig. 1). Automatic switch-on and switch-off that have possibly been already programmed will be memorised in any case.
- For the programming of time slots and days, see the next function “ON/OFF TIME”.

N.B.: Automatic machine switching on is only possible with the main switch (ref. 10, fig. 1) in position “I”.

ON/OFF TIME

This function allows the programming of the machine's automatic switch-on/off times for the whole of a weekly time span.

- By confirming "ON/OFF TIME", the cursor will be positioned on the day to be modified.
- Program the day with key ♥ (down), thus shifting the letter from upper to lower case.
- Remove the day from program, with key □ (up), shifting letter from upper to lower case.
- Confirm the modification.

To modify the timetable follow the same procedure used for the setting of the clock.

Example: The functions flow chart details a program whereby the machine is started at 08:00 and stopped at 18:00 Monday to Friday; from 09:00 to 12:30 on Saturday and a complete pause on Sunday.

COUNTERS

These are two functions that represent respectively the total number of coffee dispensing cycles and the total number of hot water dispensing cycles.

When the automatic hot water dosing is disabled (see function "HOT WATER PROGRAMM."), a cycle will be counted for each command to the solenoid valve.

N.B.: Both functions are read-only and they cannot be reset.

ANTIFREEZING

The anti-freeze function protects the machine from possible damage caused by exposure to low temperatures, in "STANDBY" status, causing the formation of ice in the boilers. This function maintains the boiler temperature at a minimum value that avoids freezing.

- By confirming "ON", the function is enabled.
- By confirming "OFF", it is disabled.

N.B.: the function is activated only if function "AUTOMATIC OPERATION" is also activated and at the same time the machine is in "STANDBY". When the function is activated the display shows "ANTIFREEZING".

UNBLOCKING

This function allows the temporary release of the machine, when it has reached the number of programmed cycles for maintenance or descaling. To obtain the releasing code, the user must contact the firm that was responsible for installation or was appointed to supply maintenance service. Having obtained the code, it must be inserted in the function:

- Confirm function "UNBLOCKING", the cursor is positioned under the first digit to be modified;
- insert the value and confirm;
- after each confirmation the cursor is positioned under the next digit and so on, until the whole code is complete.

6.15 Machine switching off

Automatic programmed switching off

It is possible when the function "AUTOMATIC OPERATION" (see "6.14.2 Functions description") is active and the programming of "ON/OFF TIME" (see 6.14.2 Functions description) has also been carried out.

At the programmed time the machine is set on "STANDBY".

Manual switching off

This type of switching off is necessary when function "AUTOMATIC OPERATION" (see "6.14.2 Functions description") is not activated.

It is obtained by setting both the main switch (ref. **10**, fig. 1) and the multi-pole switch to position "●" or disconnecting the plug.

6.16 Disassembling/assembling the cover panels



"CAUTION: To Reduce the Risk of Electric shock or Mechanical Injury, Do Not Remove This Cover. No User Serviceable Parts Inside. Repair and Cleaning Should Be Done By Authorised Service Personnel Only (Only for USA and CDN models)."

The side panels (ref. **1** and **5**, fig. 11) and the back panel (ref. **3**, fig. 11) can be dismantled for servicing or for customization that may suit room furniture or wall painting.



Danger

Operation falling within the competence of the Maintenance technician.

Disconnect the machine from mains by way of main switch (ref. **10**, fig. 1) and all-pole switch, or disconnecting the plug.



Danger of burns

Wait for the machine to cool off sufficiently, before servicing it.

For parts removal, do the following:

- Pull out the drip tray (ref. **15**, fig. 11).
- Manually rotate the studs (ref. **A**, fig. 11) by 1/4 of a turn with a 4 mm hexagonal spanner and slide side panels (ref. **1** and **5**, fig. 11) upwards.
- Slide glass out (ref. **2**, fig. 11).
- Dismantle the cup heating plate (ref. **4**, fig. 11) by disconnecting it from the electronic board, from the earth cable and from the drain tube (ref. **B**, fig. 11).
- Unscrew the back panel retaining nuts (ref. **3**, fig. 11) and dismantle it.

To re-assemble one must:

- Assemble the back panel (ref. **3**, fig. 11) and secure it with the relative nuts.

- Assemble the cup heating plate (ref. **4**, fig. 11) by inserting the electrical connector into the electronic board properly, the fitting into the drain tube (ref. **B**, fig. 11), and by connecting the earth cable.
- Manually rotate the studs (ref. **A**, fig. 11) so as to place the milling horizontally.
- Assemble one of the side panels (or ref. **1**, fig. 11 or ref. **5**, fig. 11).

Important

Firstly slide in the bottom pins in their frame slots, then press directly on the studs until hearing the locking springs snap.

- Position the glass (ref. **2**, fig. 11) in the slot of the lateral panel already assembled.
- Assemble the other side panel.
- Insert the drip tray into place (ref. **15**, fig. 11).
- Switch machine on.

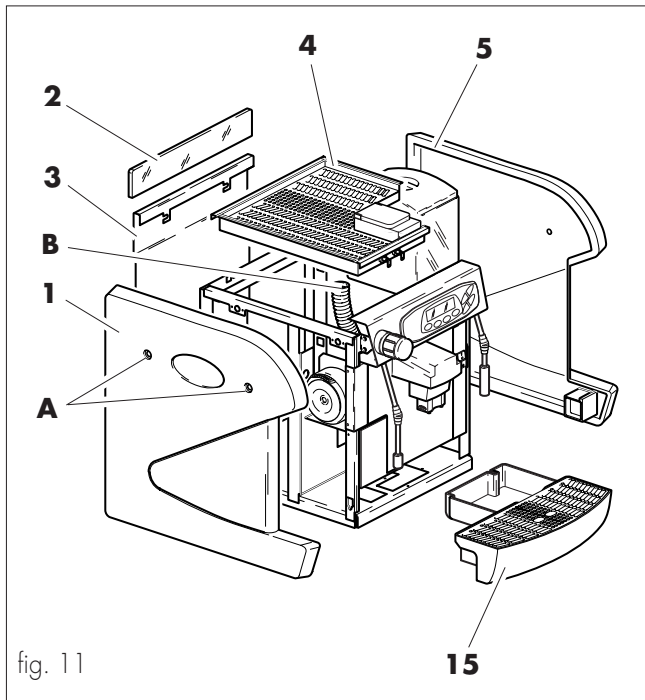


fig. 11

6.17 Setting out of operations



Danger

Operation falling within the competence of the Maintenance technician.

When the machine is put out of operation, disconnect both water and electrical mains; empty all trays, boilers and pipes and clean the whole machine properly (see "7.2 Machine cleaning").

In case of scrapping, the various materials used in manufacturing will have to be separated and individually disposed of, according to each Country regulations in force.

7 - MAINTENANCE

7.1 Foreword

Danger

Before any servicing and/or cleaning, disconnect the machine by way of main switch (ref. **10**, fig. 1) and multi-pole switch (or disconnect the plug) and await machine cooling.

- The components that cannot be dismantled and the machine itself, have to be cleaned, unless differently specified, with cold or lukewarm water only, using non abrasive sponges and damp cloths.
- Do not use direct water sprays.
- All parts to be cleaned are easily accessible and do not require the use of tools.
- Regular maintenance and cleaning will preserve the machine and maintain its efficiency for a longer period as well as conforming to health and hygiene norms.
- The machine automatically signals when the maintenance and/or descaling interventions are due; the exact number of dispensing instances is visible by the mechanical counter or on the machine display. No intervention of the Maintenance technician may result in machine locking.

Danger

In case of operation troubles, normally signalled on display, immediately switch the machine off, disconnect the power through a multi-pole switch or by disconnecting the plug and contact the nearest SERVICE CENTRE.

7.2 Cleaning of machine

Danger

Never clean the machine when it is in "STANDBY" status.

Cleaning must be carried out daily and before any long dead time, in order to avoid the formation of deposits in containers, trays and dispensers.

All removable machine components that have to be cleaned can be washed and rinsed in running water.

Clean machine covers, panels and commands with soft and dry cloths, or slightly dampened by cold or lukewarm water.

Important

Never wash machine components in the dishwasher.

7.2.1 Coffee dispenser

The following can be dismantled:

- The top cover (ref. **A**, fig. 12), of the fixed dispenser (ref. **F**, fig. 12), by pulling it upwards;
- The rubber gasket (ref. **H**, fig. 12);
- The mobile dispenser (ref. **G**, fig. 12) by pulling it downwards;
- The telescopic dispenser (ref. **E**, fig. 12), sliding it from the main dispenser (ref. **G**, fig. 12), after having pressed on the hooks (ref. **C**, fig. 12) of the internal element (ref. **B**, fig. 12).

The metal conveyor (ref. **D**, fig. 12) has to be cleaned with a damp cloth without disconnecting it from the fixed dispenser (ref. **F**, fig. 12).



Danger of burns

The conveyor (ref. **D**, fig. 12) is heated by an internal heating element; before cleaning, wait until it has completely cooled.

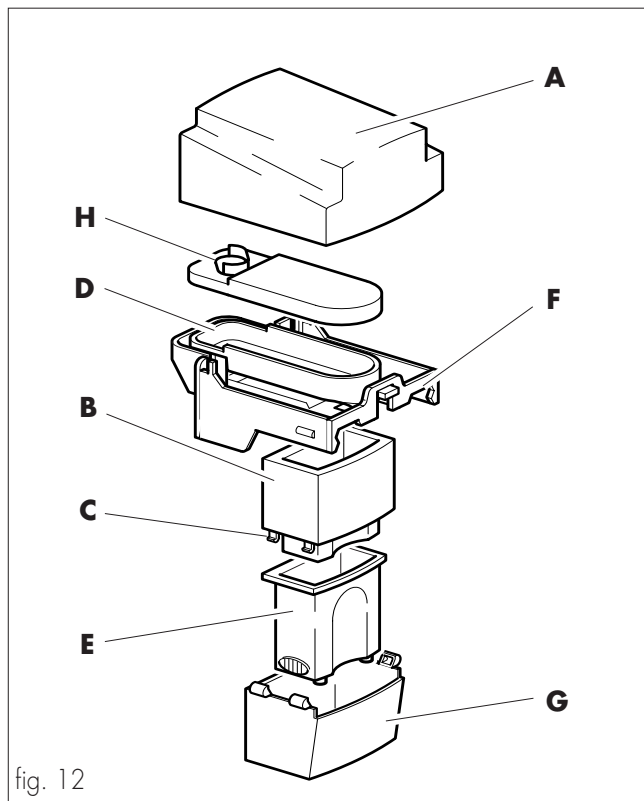


fig. 12

7.2.2 Brewing unit

The unit must be periodically cleaned by using the proper tablets (see "6.14.2 Functions descriptions – GROUP RINSING").

- Extract the brewing unit (ref. **6**, fig. 13) from machine through the handle provided (ref. **A**, fig. 13) and pressing the key marked with "PRESS".
- Carefully wash in plenty of warm water. Do not use detergents.

Important

Never wash the brewing unit in the dishwasher.

- Lightly scratch the top filter (ref. **B**, fig. 13) with a plastic spoon or a small spatula.

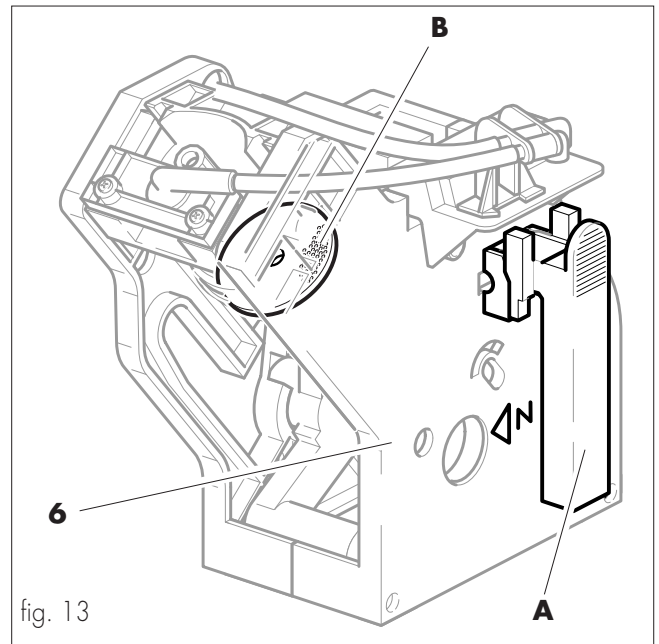


fig. 13

7.2.3 Drip tray and relative grid

Slide the drip tray (ref. **15**, fig. 1) out of the machine and wash in running water with particular attention for the grid.

7.2.4 Grounds tray

Wash the machine grounds tray (ref. **17**, fig. 1) in running water after having removed the drip tray (ref. **15**, fig. 1) and having removed it from its seat.

7.2.5 Steam/hot water spouts (LUXE version)

Clean the spouts (ref. **16-11**, fig. 1) with a soft damp cloth. In case of clogging of jets, the end part of the dispensers can be unscrewed and the jets can be opened again with the help of a needle.

7.2.6 Cup heating plate

Clean the cup heating plate (ref. **4**, fig. 1) with a soft damp cloth.

7.2.7 Coffee hopper

Wash the coffee hopper (ref. **7**, fig. 1) with water, using a soft damp cloth.

Important

It is advisable to use up all coffee beans before cleaning.

7.3 Jamming of the coffee grinder unit



Danger

Operation falling within the competence of the Maintenance technician.

In case of jamming of the grinders, due to the presence of foreign bodies among the coffee beans, the machine will lock issuing the message "GRINDER ERROR" on display.

It will then be necessary to open the coffee grinder unit (ref. 19, fig. 1) and remove the cause of the jamming.

Danger

Disconnect the machine from the mains by way of the all-pole switch or disconnecting the plug, and wait for machine to be completely cooled off.

7.3.1 Coffee grinder dismantling/assembly



In order to dismantle the coffee grinder the following steps must be followed:

- Dismantle both side panels and the cup heating plate (see "6.16 . Dismantling/assembly of panels").

Danger of burns

Avoid contact with machine parts that might still be hot.

- Close the stop slide (ref. A, fig. 14) of the coffee bean hopper (ref. 7, fig. 14).
- Remove the screws (ref. B, fig. 15) from the hopper (ref. 7, fig. 15), and then slide this out of the machine by rotating it slightly upwards from the back.

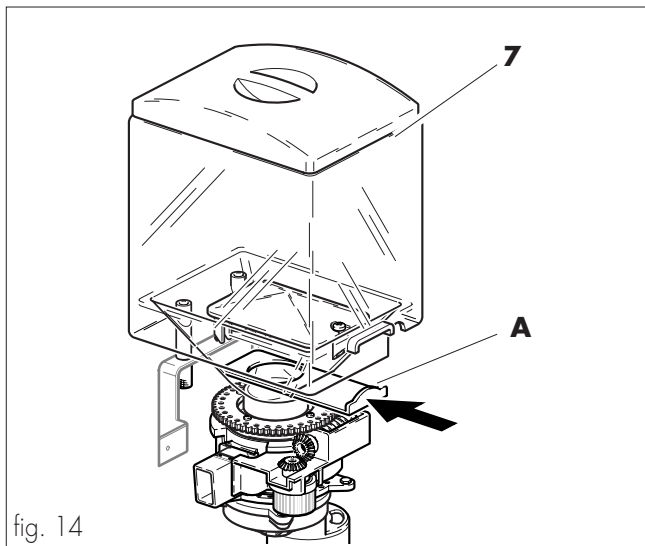


fig. 14

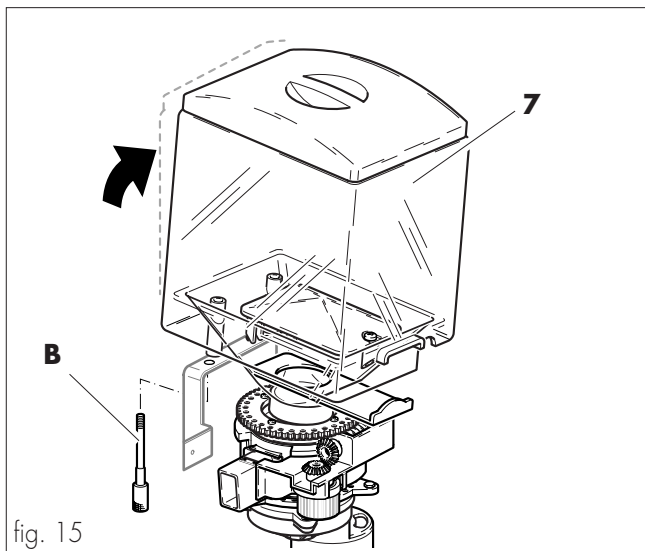


fig. 15

- With the help of a vacuum cleaner remove the beans from the grinder's inlet (fig. 16).

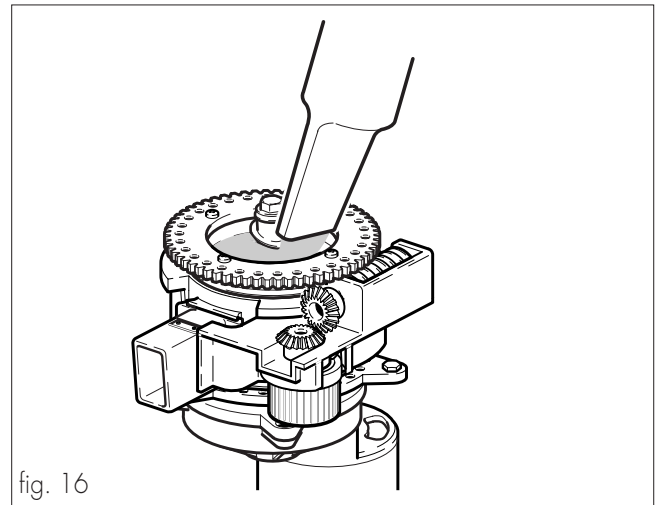


fig. 16

- Firstly remove the four screws (ref. C, fig. 17), then the geared wheel (ref. D, fig. 17).

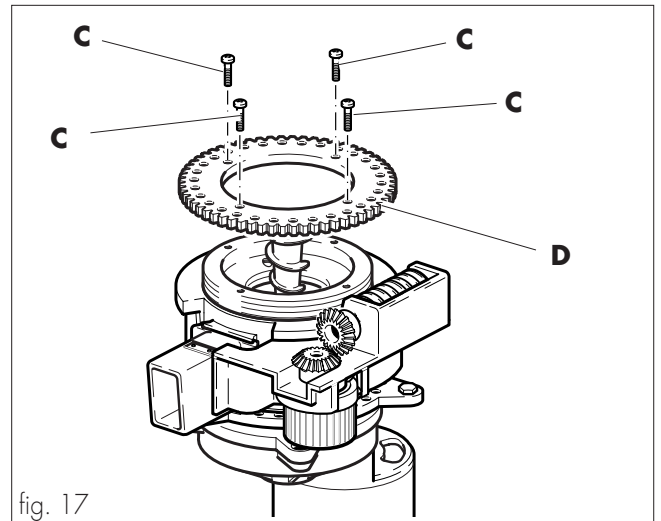


fig. 17

- Completely unscrew the adjustment ring nut (ref. E, fig. 18) and clean both the grinders using a vacuum cleaner and a brush.

Important

Verify furthermore the wear of the grinders as well as any damage they might have suffered and, if necessary, replace them.

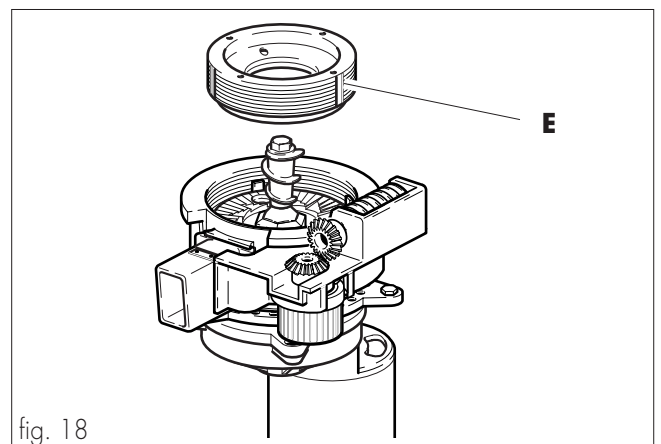


fig. 18

To assemble the coffee grinder it is necessary to:

- Completely screw the adjustment ring nut (ref. **E**, fig. 19), then unscrew it by half a turn.

Important

This last operation is necessary both to avoid the jamming and to prevent damaging the grinders.

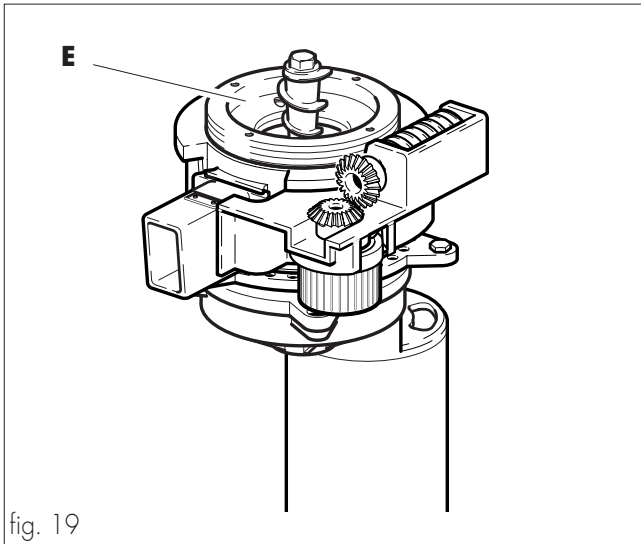


fig. 19

- Re-position the geared wheel (ref. **D**, fig. 20) and lock it by tightening the screws (ref. **C**, fig. 20).

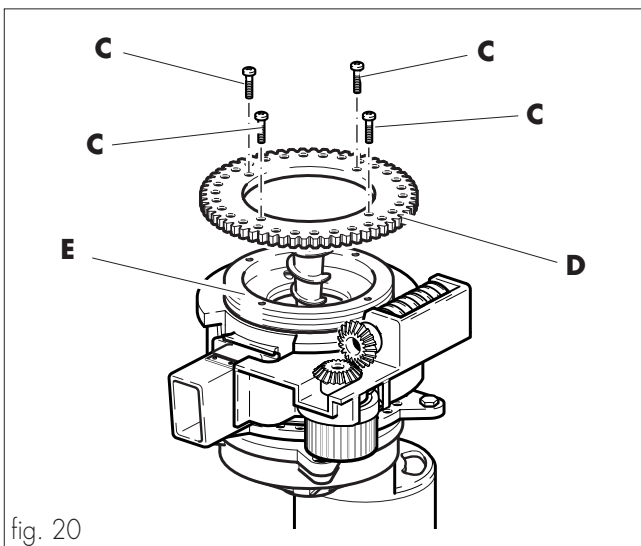


fig. 20

- Re-position the coffee hopper (ref. **1**, fig. 21) by first hooking the front part and then rotating it downwards.

Important

*Attention should be paid to the positioning of the gasket (ref. **F**, fig. 21) which must fit properly in the geared wheel (ref. **D**, fig. 21) and the ring nut (ref. **E**, fig. 21).*

- Secure the hopper (ref. **7**, fig. 21) by hand-tightening the screws (ref. **B**, fig. 21).

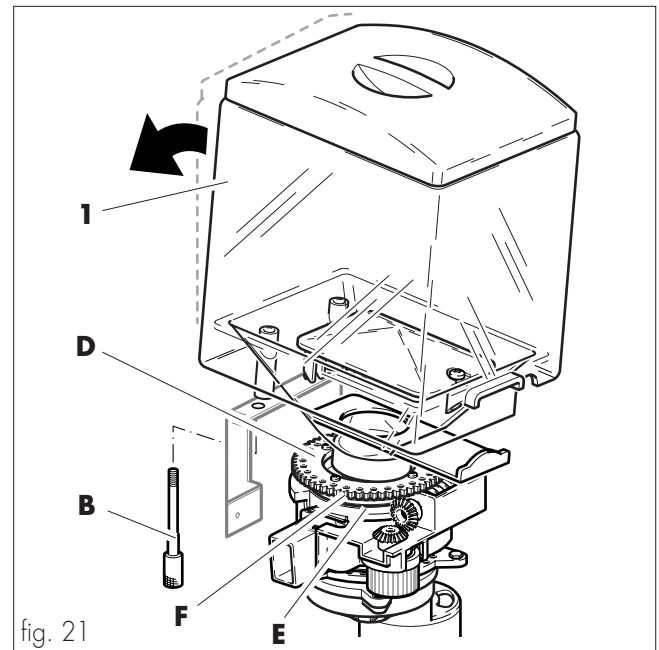


fig. 21

- Open the stop slide (ref. **A**, fig. 22).
- Assemble the cup heating plate, by re-connecting it to the water outlet pipe (ref. **B**, fig. 111), and the side panels (see "6.16 Disassembling/assembling the cover panels")

Important

To resume normal machine operations it is necessary to verify the correct adjustment of the grinding.

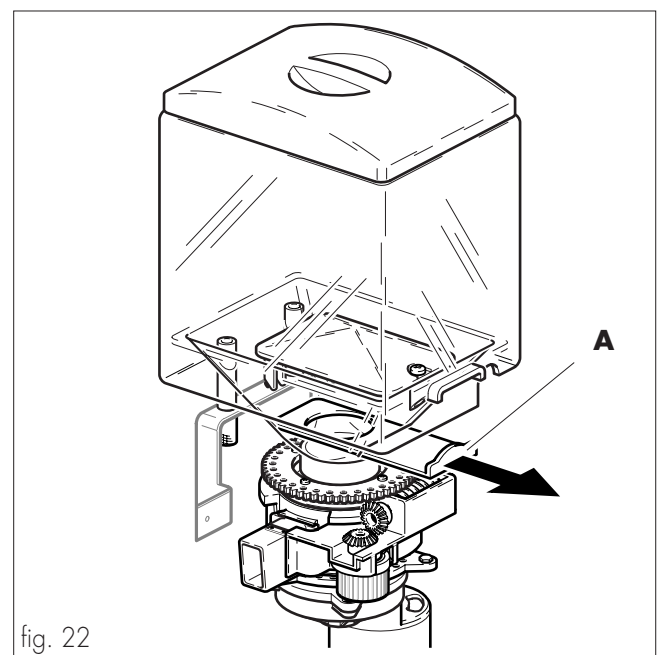






fig. 22

8 - TROUBLESHOOTING - CAUSES AND REMEDIES

The following table lists a number of troubles that may occur during the working life of the machine.

When the symbol  appears in the "remedy" column it means that the intervention must be carried out by the Maintenance technician.

TROUBLE	CAUSE	REMEDY
The machine does not switch on	The machine is not powered up	Check that the plug is connected
		Check that the multi-pole switch (if present) is on
		Check the electrical circuit fuses
		Check electrical connections 
Display shows message "EMPTY GROUNDS"	The grounds tray is full	Empty the grounds tray and refit it correctly
Grinding error	The coffee grinder is jammed	Clean the coffee grinder (see "7.3 Jamming of coffee grinder") 
Instead of coffee only water is dispensed	The pre-ground coffee selection key has been pressed but no powder coffee was inserted in the relevant slot	Insert the dose in the slot and repeat the cycle
No water or steam are dispensed	The hole of the steam/hot water spout is clogged up	Clean with a fine needle
The coffee is dispensed too quickly	Grinding is too coarse	Adjust it on finer grinding
The coffee is dispensed too slowly	Grinding is too fine	Adjust it on coarser grinding
The coffee isn't hot enough	The cup is not pre-heated	Pre-heat the cup on the heating plate
	The machine has not reached yet the correct temperature	Wait for correct temperature to be reached
The coffee is not creamy enough	The blend is not suitable, the coffee is not freshly roasted, and the ground coffee is either too fine or too coarse	Change coffee blend or check the grinding (if pre-ground)
Machine takes too long to heat up, the water delivery is very limited	The machine circuit is clogged up by lime-stone	Descalc machine 
The dispensing unit cannot be removed	The coffee dispenser unit is not in its proper base position (N)	Switch machine off and on through the main switch
The dispensing unit cannot be inserted	The coffee dispenser unit is not in its proper base position (N)	Manually rotate the unit until the basic position (N) is reached. Make the mark on the shaft coincide with arrow N (see fig. 12)

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