TANTI STILI...UNA PASSIONE

espresso coffee machines

INSTALLATION INSTRUCTION MANUAL

S40 Classic
S40 Suprema

LSI 024 - Rev. 01 - Ed. 10/2016

WEEE

Disposal of the equipment by the users within the European Community (WEEE) in compliance with the article 13 of the legislative decree issued on 25 July 2005, nr 151 ”Implementation of the directives 2002/95/CE, 2002/96/CE e 2003/108/CE, concerning the decrease in the usage of dangerous substances in the electrical and electronic equipment and the disposal of waste”.

The symbol of the crossed waste bin indicated on the equipment or on the packaging means that the product at the end of its lifetime must be disposed of separately from all the other waste.
The separate collection of this equipment coming at the end of its lifetime is organized and run by the importer/distributor. The user who should have to dispose of such equipment should get in touch with the importer/ distributor and follow the procedure they have adopted for the separate disposal of the equipment coming at the end of its lifetime. The proper separate disposal of disused equipment so that it can be recycled and treated according what is environmentally compatible contributes to avoid possible negative effects on the Environment and on Health and allows the reutilization and/or the recycling of the materials the equipment is composed.
The improper disposal by the user causes the enforcement of the administrative sanctions according to current regulations.

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1. GENERAL DESCRIPTION OF THE MACHINE

The **S40** coffee machine is designed and manufactured by **LA SPAZIALE S.p.A.** to increase the profitability of the buffet bar service by reducing operating costs to the minimum.

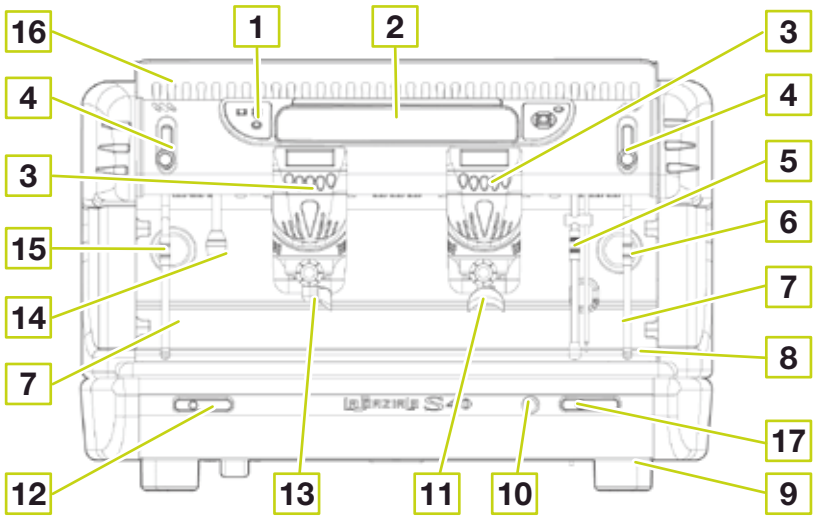


Fig. 1

LEGEND

1. Programming button
2. Control panel
3. Coffee dispensing button + 4 digit display
4. Steam dispensing tap
5. Steam wand with incorporated temperature sensor (M.A.T.) (optional)
6. Boiler pressure gauge
7. Steam wand
8. Water collection basin + grill
9. Adjustable foot
10. Main on/off switch
11. Two-cup filter holder
12. Water supply touchpad for infusions
13. One-cup filter holder
14. Water supply wand for infusions
15. Water system pressure gauge/motor pump
16. Upper level cup tray
17. M.A.T. delivering system touchpad (optional)

1.1 CONTROL PANEL DESCRIPTION

Fig. 2

LEGEND

1. Programming keyboard
   - **P** = Programming keyboard
   - **+** = Value increase button
   - **-** = Value decrease button
   - = Cup heater button

2. Control panel warning light
   - LOW TEMP = Temperature alarm warning light boiler temperature not reached
   - HIGH TEMP = Temperature alarm warning light boiler temperature high
   - = Faulty temperature sensor warning light
   - **120** = Boiler temperature indication
   - °C = Thermal regulation status warning light
   - = Machine ON warning light
   - BOILER = Boiler warning light
   - = Technical assistance status warning light
   - EGS = Electronic Ground System function status warning light
   - MAT = M.A.T. function status warning light
   - = Automatic water level status warning light

1.2 COFFEE DISPENSING TOUCHPAD

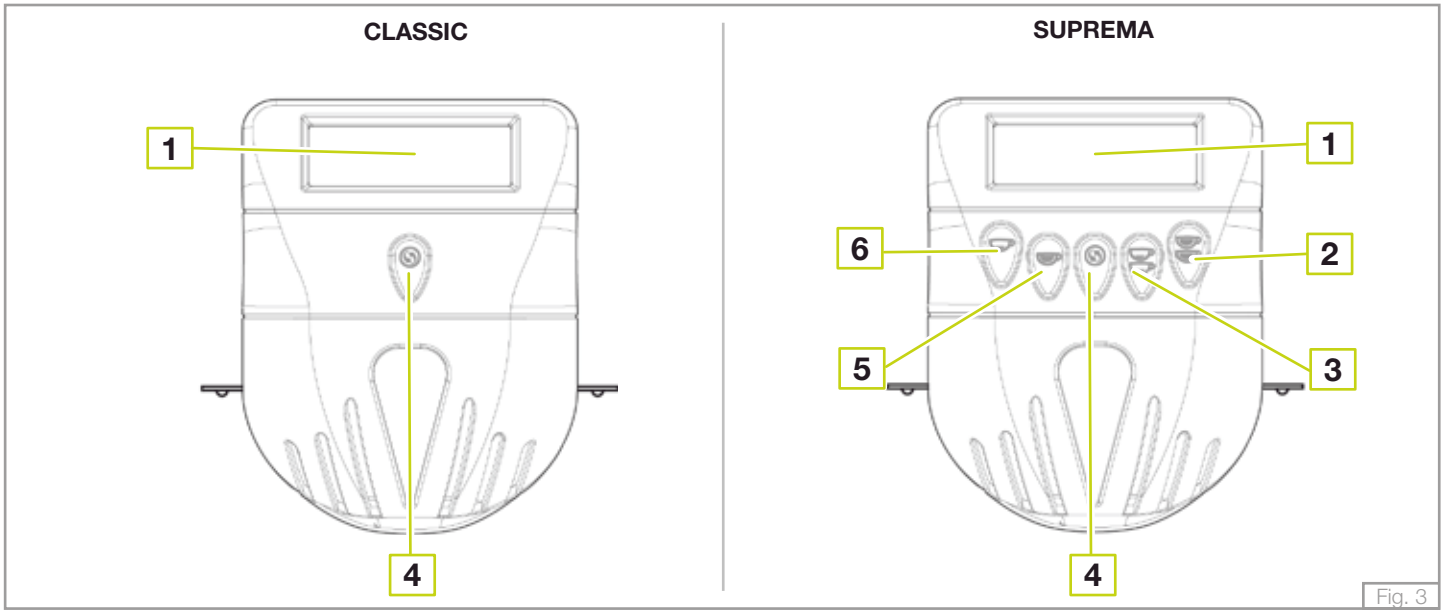


Fig. 3

LEGEND

1. Display
2. 2 long coffees key
3. 2 short coffees key
4. Continuous delivery key
5. 1 long coffee key
6. 1 short coffee key

2. GENERAL WARNINGS

Read carefully the instructions and warnings contained in this manual and in the "**INSTRUCTION MANUAL FOR THE INSTALLER**", since they provide important indications concerning the installation of the appliance.

Attention!

This appliance may only be used for its intended purpose.
Any other use is therefore considered as improper and unreasonable.
The manufacturer cannot be held liable for any damage caused by improper, incorrect or unreasonable use.

Attention!

Make sure that the customer has previously installed the systems according to the instructions indicated in the "USE AND MAINTENANCE MANUAL" provided with the appliance.

Attention!

Make sure that the power rating of the system arranged by the customer corresponds to the highest rating indicated on the rating plate of the equipment.

Danger!

The appliance is supplied without a plug. It is supposed to be directly connected to the electric mains and therefore, it is necessary to fit a single-pole switch with contact opening of 3mm or more beforehand, according to the regulations in force.

Danger!

If it becomes necessary to replace the machine's power supply cable, utilise only these types: CET ELECTRIC H07RN-F 5 x 2.5mm (400V) for 2/3 group versions, 5 x 4mm (400V) for 4 group versions - CET ELECTRIC SINGLE PHASE 3 x 2.5mm (220V) 2 group versions, 3 x 4mm (220V) for 3/4 group versions. Replacing the cable must be carried out by qualified personnel.
The electrical safety of the appliance is fully achieved only after it has been correctly connected to an earthing system as required by the laws in force.

Danger!

The appliance must be supplied exclusively with cold drinking water. Maximum mains pressure (static pressure) must not be higher than 0.6 MPa.

Danger!

If in doubt, concerning the above mentioned requirements (about the system previously installed by the customer), please have them checked by qualified staff.

Danger!

The electrical safety of the appliance is fully achieved only after it has been correctly connected to an earthing system as required by the laws in force.

Attention!

Installation must be carried out by qualified personnel according to current laws and to the manufacturer's instructions.
Incorrect installation may cause damage to people, animals or property for which the manufacturer cannot be held liable.

Attention!

The appliance must be installed on a flat bearing surface, the stability of which needs to be checked.

Attention!

The appliance must be installed where use and maintenance are restricted to trained staff.
The electrical power system, water supply system and drainage system must prearranged by the customer in an ideal position to permit the correct installation. The installer cannot modify existing systems that have been arranged by the customer.
Refer to the chapter “Pre-installation arrangements organised by the customer” in the “USER AND MAINTENANCE MANUAL” attached to each machine.

3. REMOVING THE PACKAGING

After unpacking the machine, please check its integrity; in case of doubt, do not use it and consult the manufacturer.
Packaging materials must not be left within children's reach since they are potentially dangerous.

Attention!

The appliance weight is more than 30 kg and therefore, it cannot be moved by a single person alone.

Take note!

Dispose of the packaging as per the norms in force of the country in which the machine is used.

3.1 STANDARD OUTFIT OF THE MACHINE

LEGEND

A. 1 set of filter holders with relative spouts
B. 1 complete set of hoses for connection to water mains
C. A set of filters
D. 1 set of shower heads
E. 1 wrench for shower head removal
F. 1 brush
G. 1 motor-driven pump (unless already built in)
H. 1 manual coffee tamper

3.2 OPTIONAL ACCESSORIES
(Supplied only on request of the customer)

LEGEND

I. Water softener
L. Water line impurity filter
M. Pressure reducer
N. Detergent

4. INSTALLATION

Place the machine on the support surface, lifting it up only from underneath.
Adjust the feet so that the machine fits perfectly in a horizontal position and tilting slightly backwards.
Before connecting the machine to the supply systems, ensure that the data on the nameplates correspond with the ratings where the machine is installed.

4.1 ELECTRIC INSTALLATION DIAGRAM

Take note of all warnings and advice in this manual when carrying out the electrical connection.
Furthermore, the power supply cable must be completely uncoiled to avoid dangerous overheating.
Check the voltage in the place of installation of the machine and then connect the power supply cable as shown in the figure below.
The cables of the machine are marked in the following way:
A - Power supply cable of the machine;
B - Motor pump cable (when not incorporated in the machine).

a) Connect cable (**A**) directly to the single pole switch (**1**).
b) Connect cable (**B**) directly to the motor pump (**2**).

Versions of the machine with the motor pump incorporated do not have the cable (**B**).

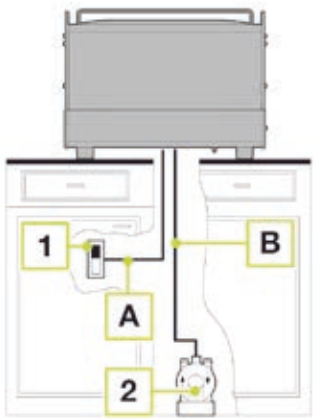


Fig. 4

Legend:

1 Main switch (prepared by the customer);
2 Motor pump (if not built in).

Attention!

Connect the yellow/green conductor lead of cable (**B**) to the earth terminal on the motor pump (when the motor pump is not incorporated in the machine).

Danger!

The light blue conductor lead of cable (**A**) is connected to the neutral phase of the electrical system.

HEATING ELEMENT CONNECTION	V400/3Ph BLACK RED BROWN	V230/3Ph BLACK RED BROWN	V230/1Ph BLACK RED BROWN
POWER CABLE CONNECTION	V400/3Ph A B C D E L1 L2 L3 N PHASES NEUTRAL GROUND	V230/3Ph A B C D E L1 L2 L3 PHASES GROUND	V230/1Ph A B C D E 1 N PHASE NEUTRAL GROUND	WIRES OF POWER CABLE A = GREY B = BLACK C = BROWN D = LIGHT BLUE E = YELLOW GREEN

Take note!

230 V single-phase connections are only possible with rating plate data refer a power less than 6300 W.

4.2 WATER MAINS INSTALLATION DIAGRAM

Attention!

The machine is supplied without water in the boiler to avoid exposure to temperatures less than 0°C that could cause irreparable damage.

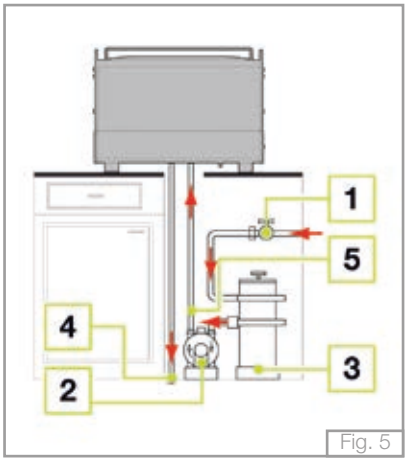


Fig. 5

Legend:

1 Water tap (previously installed by the customer).
2 Motor pump (provided with the machine - when not built in).
3 Water softener (optional).
4 Drain siphon (previously installed by the customer).
5 High-pressure (supplied).

Carry out the connections as shown in **Fig. 5** and taking into account the following instructions:

- Always use the hoses supplied with the machine to make water mains connections; never use any other hose or pipes already fitted.
- Make sure that hoses are not kinked, squashed or twisted.
- Fasten the ring nuts of the hoses firmly but without exerting too much pressure.

Danger!

INSTALLATION OF THE WATER SOFTENER IS RECOMMENDED TO PROLONG THE LIFE OF THE MACHINE.
Before installing the machine, check the hardness of the water and fit a softener based on the instructions of the manufacturer and to standards and regulations in force.
Proceed to programme the automatic and/or volumetric softeners according to the manufacturer's instructions.

Danger!

If a water softener is not a part of the water system, it is necessary to apply a filter to the inlet hose of the motor pump to avoid the entry of impurities that could damage the motor pump or the machine.

Attention!

The motor pump must be installed at a distance to avoid drips or spurts of water and also to avoid salt from dropping onto the motor pump when filling the water softener with salt.
Before connecting the hose coming from the motor pump or from the water-softener, in case of appliances with built-in pumps, place it in a bucket and turn on the water tap (**1- Fig. 5**) for a couple of minutes in order to eliminate possible residues from the new hoses and in any case, until the water flows clear.

4.3 DRAINAGE SYSTEM

Assemble the push-fit drainage hose in the appropriate rubber holder of the collection basin of the machine and place the other end of the hose directly into the drainage u-pipe of the prearranged drainage system.
Check that the hose is not blocked or crushed along its length and it also has a sufficient incline to be able to drain without difficulty.

Danger!

Do not place the drainage hose in basins or buckets underneath the counter to avoid the possibility of creating receptacles of dirt with the consequent proliferation of bacteria.

5. ELECTRICAL SWITCH ON OF THE APPLIANCE

1. Move the appliance switch under the bottom panel, to “**I**”.

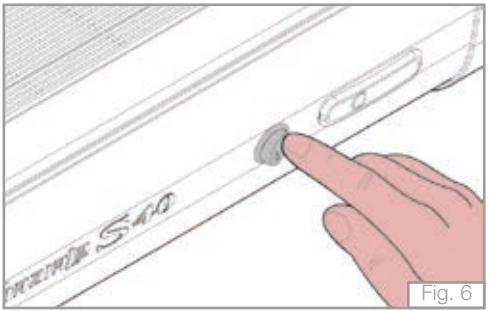


Fig. 6

Filling with water:
After 3 seconds from switching on for the first time, the appliance will automatically fill the boiler with water.

At the end of filling, the filling indicator will switch off.

Fig. 7

For coffee preparation instructions, or for pouring hot water or dispensing steam for hot beverages, see the USE AND MAINTENANCE MANUAL.

Fig. 8

6. PROGRAMMING

The programming menu can be used to programme the boiler temperature, coffee doses, hot water pouring and the temperature of the M.A.T. system (optional).
Press and hold down the "**P**" key for 3 seconds, the boiler temperature and the key for continued pouring from the 1st group on the right will flash to show that the programming stage has commenced.

6.1 PROGRAMMING THE BOILER TEMPERATURE

Press the "**+**" key to increase the boiler temperature.
Press the "**-**" key to reduce the boiler temperature.
Temperature range 105-125°C.

6.2 PROGRAMMING DOSES

Hook the portafilter with coffee in the 1st group on the right and press the key for 1 short coffee to begin pouring.
Once the cup contains the right amount of coffee, press the 1 short coffee key to finish pouring and to store this amount for all groups.
Repeat this process for the other three coffee doses.

To programme the 2nd - 3rd - 4th group to be different from the others, press the continued delivery key for the required group and follow the procedure illustrated above.

6.3 PROGRAMMING HOT WATER

Press the “hot water delivery” key to commence delivery of the water. The main display will show the pouring time.
Once the required amount of water is in the jug, press the same key to stop the ongoing delivery and save it to memory.

6.3.1 Hot water mix adjustment

As well as the possibility to programme the amount of hot water poured from the wand, it is possible to adjust the temperature of the water using a flow regulator that mixes cold water with the hot water from the tank.
To adjust the water temperature, use a screwdriver on the screw alongside the water nozzle.
Turn the screw anticlockwise to increase the amount of cold water and as a result, to lower the temperature of the water being poured.
Turn the screw clockwise to reduce the amount of cold water and as a result, to increase the temperature of the water being poured.

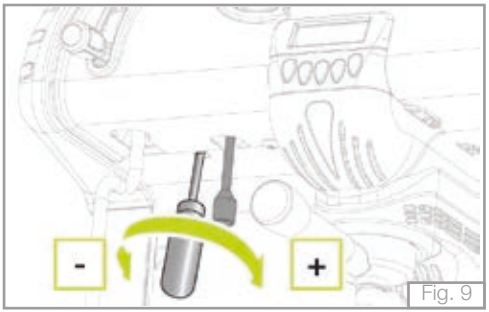


Fig. 9

6.4 PROGRAMMING THE M.A.T. SYSTEM TEMPERATURE

Press the **M.A.T.** steam dispensing key and the display will show the temperature set by the M.A.T. probe; press **“+”** to increase it or **“-”** to reduce it.
Temperature range from 45 to 85°C.

To quit the programming stage, press “**P**”.

6.5 PROGRAMMING ACCESS BLOCK

To quit programming, press and hold down the **“cup warmer”** for 5 seconds; in this mode it is possible to enable the *PROGRAMMING ACCESS BLOCK function.*
With this function enabled, enter the programming mode with the **“P”** code then immediately press the “**cupwarmer**” key and hold it down for 5 seconds to enter the programming menu.
Otherwise the display will read “bc” for 2 seconds and then the machine will return to the working mode.

6.6 TECHNICAL MENU

The technical menu can be used to enable or disable the E.G.S. (Electronic Ground System) and calibrate the temperature probe.

6.7 E.G.S.

This function, which is enabled by default, makes it possible to keep the used coffee pod moist inside the portafilter in the case it is not used for over 30 minutes.

To disable this function open the technical menu:
Press and hold down the **“+”** and **“-”** together for 15 seconds; the E.G.S. light is on.
Press the **“cupwarmer” key** to disable the E.G.S. function and the light will switch off. To reactivate the function, press the “**cupwarmer**” button and the relevant light will switch on.
To exit the technical menu, press and hold down the **“+”** and **“-”** keys together for 3 seconds.

Fig. 10

6.8 TEMPERATURE PROBE CALIBRATION

Once inside the technical menu, the boiler temperature will automatically set to 120°C.
It is possible to check the condition of the electrical heating element via the "°C" symbol; if it is fixed, the heating element is off and if it is flashing, it is operating and the machine is heating.
Press the **"+"** and **"-"** keys to calibrate the temperature probe.
Each time that the **"-"** key is pressed, the temperature probe setting changes by 0.5°C, and the main display will read: -05, -10, -15, -20 etc..
Each time that the **"+"** key is pressed, the temperature probe setting changes by 0.5°C, and the main display will read: 05, 10, 15, 20 etc..
To exit the technical menu, press and hold down the **"+"** and **"-"** keys together for 3 seconds.

Fig. 11

Take note!

The calibration of the temperature probe is performed in the factory during testing of the appliance.
Carry out this operation when the temperature probe and/or electronic control unit is replaced.

6.9 COUNTER MENU

With the machine switched on, press and hold down the "**cupwarmer**" key for 15 seconds, starting from the 1st group on the right, the display shows the total number of coffees poured by the machine.
It only counts deliveries above 7 seconds.

For example, the image alongside has poured 22225 cups of coffee.

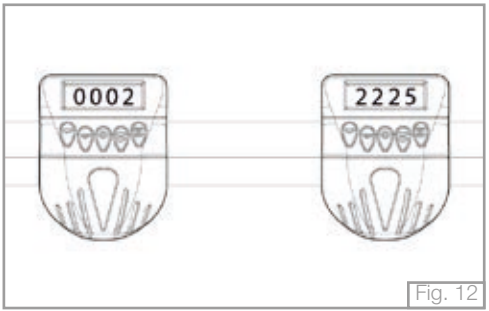


Fig. 12

6.10 WASHING THE BOILER

With the machine on, press and hold down the “hot water delivery” key for 3 seconds. The machine dispenses water from the wand for about 2 minutes, then restore the correct water level in the boiler.

6.11 GROUP WASHING

With the machine on, press and hold down any one of the pouring keys for 15 sec; the group display will show -5”, the press the continuous delivery key for one of the dispensing groups to enable the GROUP WASHING function. This consists of a 5-second delivery alternated with a 5-second pause.
Press the continuous delivery key for the group in question in order to terminate the group washing function.
To quite the GROUP WASHING function, press and hold down the continuous delivery key for one of the groups for 5 seconds.

6.12 ITC

This system offers the possibility to set a different temperature for water or coffee infusion for each delivery group.
To change the water temperature leaving a group, use the corresponding screw alongside the group.
Turn the adjustment screw anticlockwise to reduce the temperature.
Turn the adjustment screw clockwise to increase the temperature.
Each full turn of the adjustment screw is equivalent to a temperature change of around 2°C.
Temperature changes must only be made for the purpose of adapting the pouring group unit to the mix of coffee in each delivery group to suit the blend of coffee being used in order to get the best result in the cup.

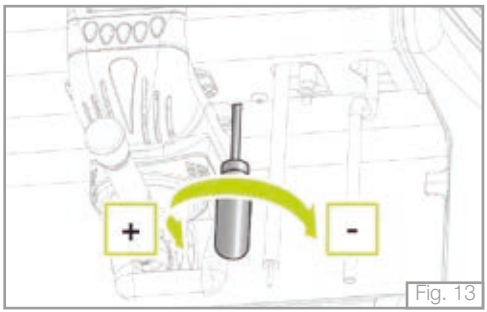


Fig. 13

7 TECHNICAL ASSISTANCE PROGRAM – G.A. - (optional)

The scheduled technical assistance program makes it possible to keep some appliance parameters under control, making it possible to set a minimum threshold after which an alarm signal is given.
The program makes it possible to organise regular routine maintenance for the delivery groups (enabling the **SERVICE** menu) and/or the replacement of the filter cartridge or resin regeneration for the softener (enabling the **FILTER** menu).

Take note!

To enable these controls it is necessary to have the technical assistance display (**Fig. 14**).

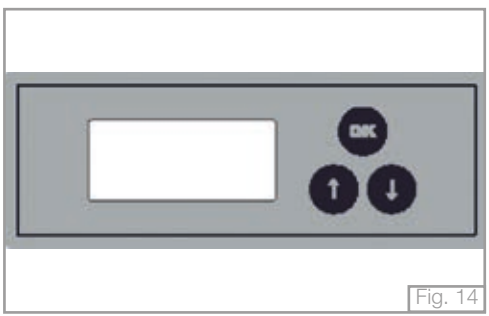


Fig. 14

Once the display has been connected to the machine, all of the group displays will read “AT” and the technical assistance display will show the display software version. After the above cycle, the display will read:

Fig. 15

To indicate that the technical assistance is deactivated.
To enable one or both available controls, proceed as follows: hold down the button OK for about **3 seconds**, this opens the **SERVICE** menu and the display will read:

Fig. 16

Where "**Y**" (Yes) will be flashing. To select "**N**" (No) press one of the 2 arrow keys ↑↓, "**N**" will start to flash. If you press the button OK the control of delivery cycles will remain deactivated, passing directly to the softener **FILTER** settings.

Fig. 17

If you confirm with "**Y**", pressing the button OK, you enable the control and move to the setting of the number of solenoid valve insertion cycles, a number which decreases at every delivery operation. The display now shows:

Where the first "0" on the right is flashing; when the button ↑ pressed, this increases the number (0 - 9), while pressing the button ↓ moves onto the most important digit on the left (the selected digit flashes to indicate that it can be changed). Once the required delivery cycle value has been set, confirm the setting by pressing the button OK.

Take note!

The set number is not a count of the number of cups of coffee delivered by the appliance, it is just a control over the solenoid valve insertion cycles for the groups and therefore, for example, 100 solenoid valve cycles do not correspond to 100 delivered cups of coffee.

Confirming the setting makes it possible to enter a minimum number of cycles which, when reached, will cause the appliance to display an alarm on the control panel by switching on the relevant control light (**b**). The display will read:

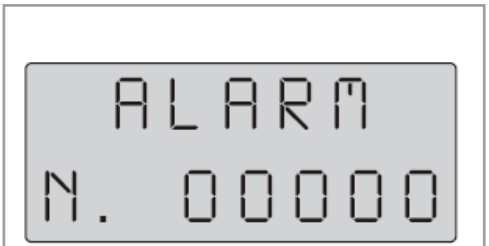


Fig. 18

Where the first “0” on the right is flashing. When the button ↑ is pressed, this increases the number (0 -9), while pressing the button ↓ moves onto the most important digit on the left (the selected digit flashes to indicate that it can be changed).

Once the delivery cycle alarm value has been set, confirm the setting by pressing the button OK.

Take note!

The number cannot be greater than or equal to the maximum number of solenoid valve cycles set previously.

After confirming the setting, the program passes onto the settings for the softener FILTER menu.
The display will show:

Fig. 19

Where “**Y**” (Yes) will be flashing. To select “**N**” (No) press one of the 2 arrow keys , “**N**” will start to flash. If you press the button the control of the softener filter remains deactivated, quitting the programming function and returning to the initial screen.

If you confirm with “**Y**”, pressing the button , enables the control and allows the setting of the number of softener litres, after which it is necessary to replace the filter. The number decreases at every delivery operation. The display must read:

Fig. 20

Where the first “0” on the right is flashing. When the button is pressed, this increases the number (0 - 9), while pressing the button moves onto the most important digit on the left (the selected digit flashes to indicate that it can be changed).

Once the litre value has been set, confirm the setting by pressing the button . At this point it is possible to enter a minimum number of litres, after which the appliance will display an alarm on the control panel (**6**) by switching on the relevant control light. The display will read:

Fig. 21

Where the first “0” on the right is flashing. Pressing the button ↑ will increase the number (0 - 9), while pressing the button ↓ moves to the most important digit on the left (the selected digit will flash to show that it can be changed). Once the litres value has been set, confirm the setting by pressing the button OK, and it is possible to quit the programming function.

Take note!

The number cannot be greater than or equal to the maximum number of solenoid valve cycles set previously.

With the controls enabled and the display connected, the display will show the remaining number of cycles before it is necessary to proceed with maintenance.

Fig. 22

Or the number of litres remaining before the softener **FILTER** cartridge needs to be replaced:

Fig. 23

Take note!

The visualization is alternatively shown on the display only if both controls have been enabled, otherwise, only the enabled control is displayed.
The number of cycles is decreased after every 50 solenoid valve activations.
The number of litres for the filter is reduced after every 10 litres of water consumed.

Fig. 24

Setting the softener filter parameters.
To access the menu to set softener filter parameters, press and hold down all three keys OK ↑ ↓ for 3 seconds.
The display will read:

Fig. 25

Where "**0.54 ml**" is the correspondence between a flow meter pulse and the amount of water delivered by the group given in millilitres. Pressing the buttons ↑ ↓ decreases or increases the setting (**0.30 ml – 0.90 ml**).

Pressing the button OK confirms the setting and the display will read:

Fig. 26

Where “**1750 ml**” is the correspondence between 1 minute of operation of the automatic boiler refill system and the amount of water introduced, given in millilitres. Pressing the buttons  increases/decreases the setting (**1000 ml – 2000 ml**).

Pressing the button  confirms the setting and returns to the initial display menu.

7.1 SERIES S40 ALARMS MANAGER

This series of symbols informs of any machine operation anomalies. In case of machine lock alarm, the main display and the delivery group displays show the only central lines switched on.

SYMBOL	ALARM TYPE	PROBLEM	POSSIBLE SOLUTION
Selected button LED flashing:	Volumetric system failure.	Grinding too fine. No pulse detected from the volumetric counter for the dispensing group.	Check grinding fineness. Check the machine's volumetric system.
	Automatic levelling system failure.	Automatic boiler filling is still enabled for 3 more minutes (8 minutes to first switch on). TOTAL GRIND BLOCK.	Check the machine's automatic levelling system.
HIGH TEMP	High boiler temperature.	When the temperature detected by the probe is above 135°C (total machine lock).	Check the machine's heat regulation system.
LOW TEMP	Boiler temperature not reached.	When the temperature detected by the probe, 20 minutes after switching on, is below 60°C (total machine lock).	Check the machine's heat regulation system.
	Boiler temperature probe failure.	Temperature probe short circuit or interruption (total machine lock).	Check the machine's heat regulation system.

SYMBOL	ALARM TYPE	PROBLEM	POSSIBLE SOLUTION
MAT	M.A.T. system temperature probe failure.	M.A.T. temperature probe short circuit or interrupted.	Check the machine's M.A.T. system. ***Take note!*** When this alarm is triggered, it is in any case possible to automatically emulsify the milk by holding down the M.A.T. delivery button, until the required temperature is reached. Releasing the button will interrupt delivery.

TECHNICAL ASSISTANCE ACCESS SYMBOL on and FIXED (only if the SERVICE manager is enabled from the technical assistance):
When the preloaded number of solenoid intervention cycles reaches the set alarm threshold.

TECHNICAL ASSISTANCE ACCESS SYMBOL on and FLASHING (only if the FILTER manager is enabled from the technical assistance):
When the preloaded number of softener intervention cycles reaches the set alarm threshold.

PROGRAMMING ACCESS BLOCKED.
The main display reads "bc".

7.2 NOTES FOR THE SERVICE ENGINEER

SETTING THE ELECTRONIC CONTROL BOARD

The electronic control board can be set to manage two different water level controls (probe or float) and to control the two different group delivery versions: automatic (Suprema) or semiautomatic (Classic).
The electronic control board is equipped with a selector to configure the board.

WATER LEVEL CHECK

Based on the type of boiler water level control, it is necessary to set the electronic board as follows:

- Move the selector to “S” if the PROBE water level control is used (conduction probe).
- Move the selector to “R” if the FLOAT water level control is used (magnetic reed).

GROUP DELIVERY CONTROL

Based on the type of group delivery control, it is necessary to set the electronic board as follows:

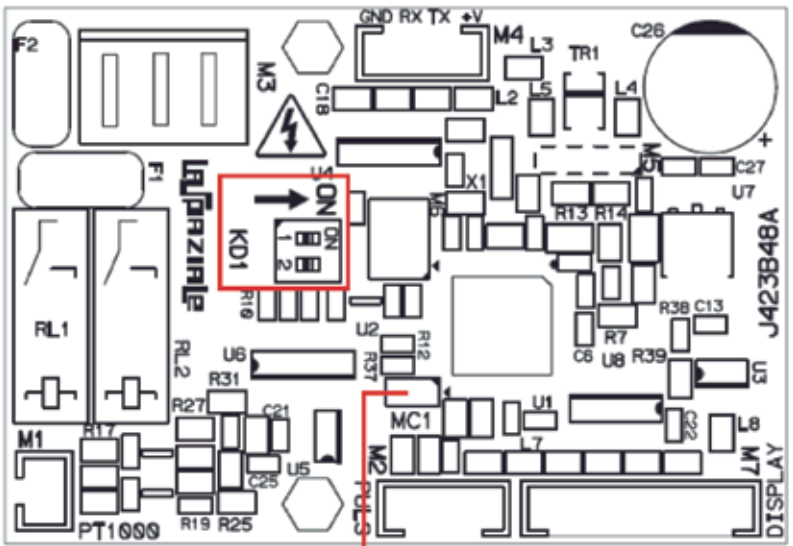
- Move the selector to “EK” if the 5-key button pad with programmable doses (Suprema automatic version) is used.
- Move the selector to “EP” if the 1-key button pad (Classic semiautomatic version) is used.

Take note!

These settings are factory set during inspection.
Only after replacing the electronic board, make sure that the new board has been set to work with the water level and type of delivery control used on the appliance.

7.3 ELECTRONIC EXPANSION BOARD

When replacing the electronic expansion boars, always make sure that the MC1 contact is open before switching on the machine.
With the machine in standard configuration, the dip 2 of KD1 must be set to OFF.
When the machine is suitable to operate with the M.A.T. system (optional) the dip 2 of KD1 must be set to ON.



7.3.1 Check/Calibration of pump motor pressure

Below are the operations to be performed when checking and/or calibrating the pressure of the pump motor inside the machine.

1. Remove the drip tray and grating.

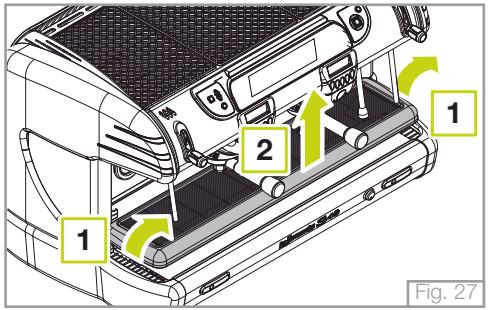


Fig. 27

2. Remove the 2 bottom protective caps and the 2 Allen screws that fasten the bottom drain cover and then remove the drain cover and remove it.

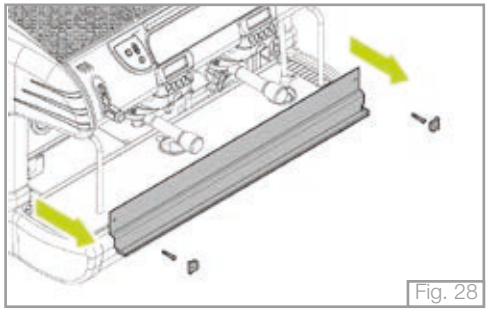


Fig. 28

3. The pump motor is visible on the right side. Adjust the pressure using the adjustment screw (**A**) on the pump motor, after loosening the support nut (**B**).
To **increase** the pressure, turn the screw **clockwise** (**A**); to **reduce** the pressure, turn it **anticlockwise** then tighten the support nut (**B**).

4. Refit the previously removed parts, following the order in reverse.

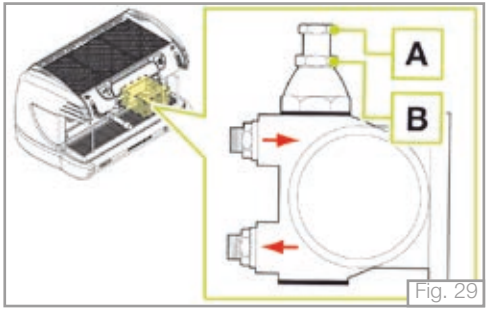


Fig. 29

7.3.2 Checking/Calibrating the opening pressure for the expansion valve

The following section lists the checks/calibration operations needed for the expansion valve.
With the machine on and at the right temperature, press the delivery buttons of all groups and after about 5 seconds, connect a portafilter with incorporated pressure gauge to one of the groups and switch off the delivery of the other groups.
Wait for the water to come out of the portafilter and then tighten it perfectly to the delivery group.
The pressure gauge on the portafilter will first of all show the pressure of the pump motor.
The pressure will them increase until it stabilises and the pressure gauge will show the opening pressure of the expansion valve.
When the expansion valve opens, a series of drops of cold water will come out of the valve.
To change the opening pressure for the expansion valve, proceed as follows:

1. Remove the drip tray and grating.

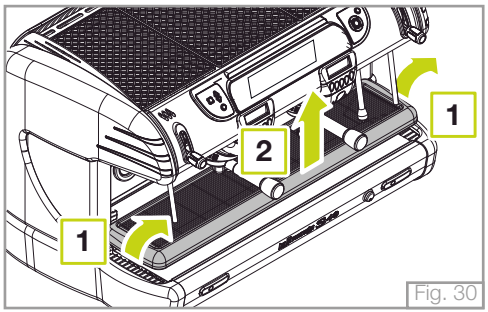


Fig. 30

2. Remove the 2 bottom protective caps and the 2 Allen screws that fasten the bottom drain cover and then remove the drain cover and remove it.

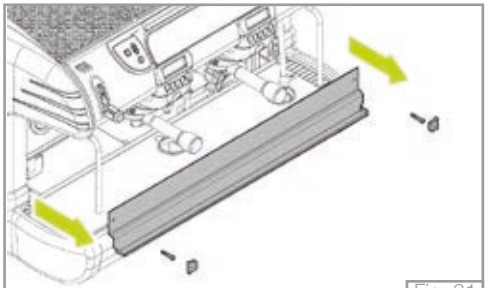


Fig. 31

3. Remove the plate covering the system by loosening the two fastening screws.

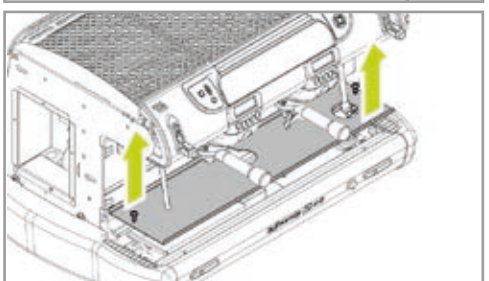


Fig. 32

To increase the expansion pressure, turn the expansion valve adjustment device anticlockwise.
To reduce the expansion pressure, turn the expansion valve adjustment device clockwise.

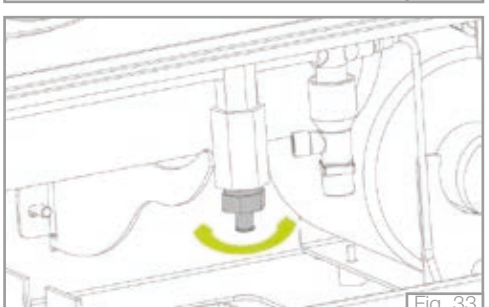


Fig. 33

8 DISASSEMBLY OF THE MACHINE

8.1 DISASSEMBLY OF THE SIDE PANELS

1. Remove the glass side panels by lifting them as shown in the figure.

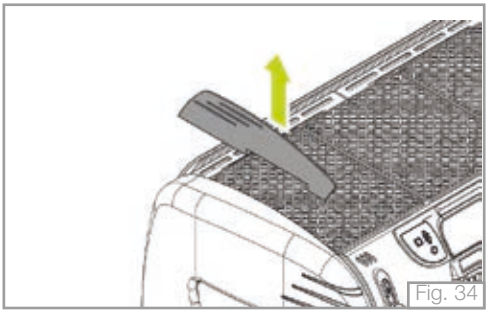


Fig. 34

2. Using a screwdriver, slacken the upper fixing screws of the side panels as shown in the figure.

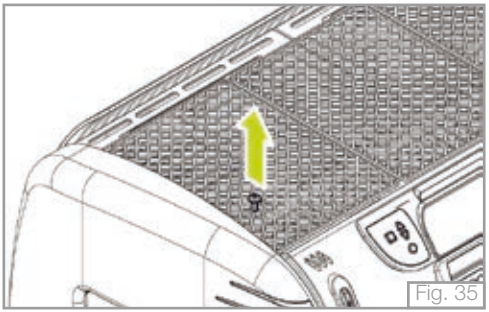


Fig. 35

3. Slide the side panels towards the rear of the machine until they stop.

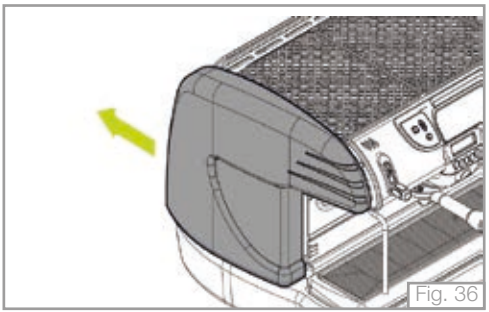


Fig. 36

4. Pull the side panel away from the machine and remove it as shown in the figure.

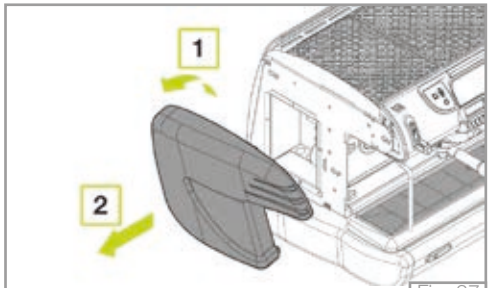


Fig. 37

5. Proceed in the same way for the other side panel.

6. Reposition the elements previously removed in reverse order.

8.2 DISASSEMBLY OF THE UPPER FRONT PANEL

1. Remove the side glass panels by lifting them as shown in the figure.

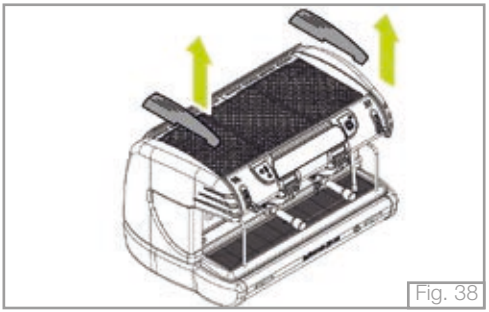


Fig. 38

2. Unscrew and remove the steam dispensation control lever knobs as shown in the figure.

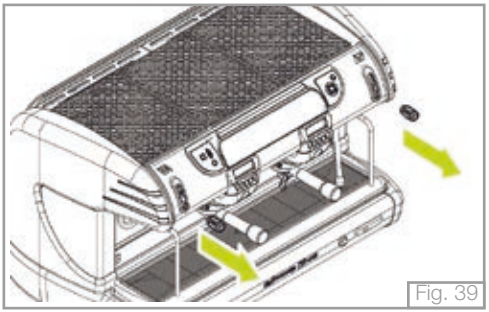


Fig. 39

3. Using a screwdriver, slacken the upper fixing screw of the front panel as shown in the figure.

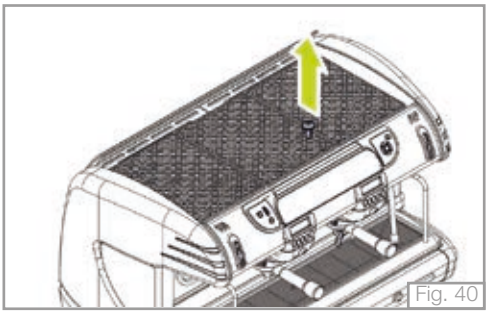


Fig. 40

3. Using a screwdriver, slacken the lower fixing screw of the front panel as shown in the figure.

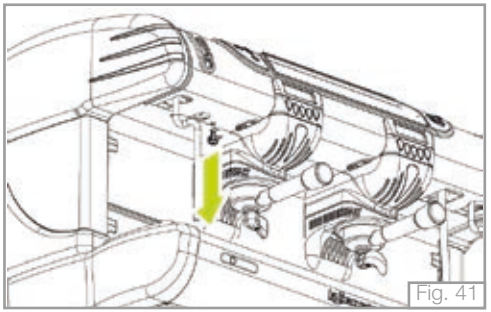


Fig. 41

4. Slide the front panel forwards until it stops.

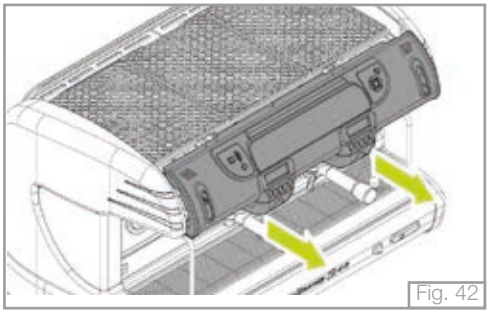


Fig. 42

5. Rotate the front panel as shown in the figure.

6. Reposition the elements previously removed in reverse order.

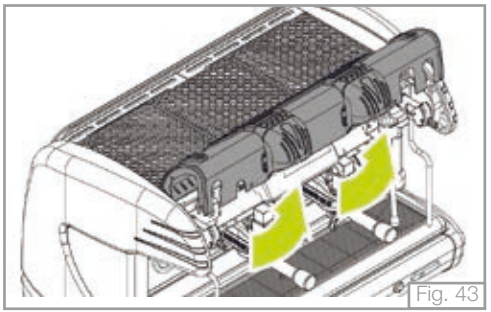


Fig. 43

8.2.1 Disassembly of the control panel

1. Proceed to disassemble the upper front panel as previously described
2. Using a screwdriver slacken the fixing screws of the control panel as shown in the figure and disconnect the cables between the panel and the front CPU.

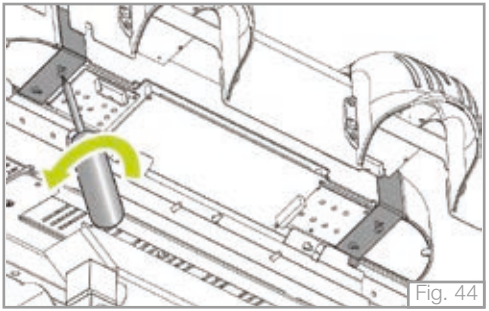


Fig. 44

3. Press the two fixing brackets of the control panel as shown in the figure.

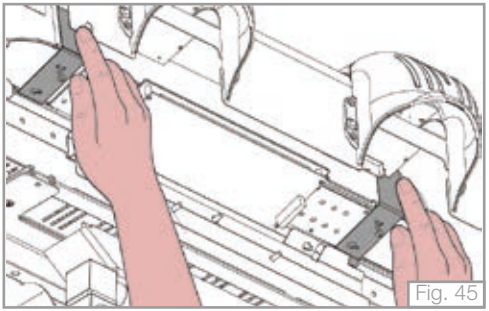


Fig. 45

4. Extract the control panel upwards as shown in the figure.

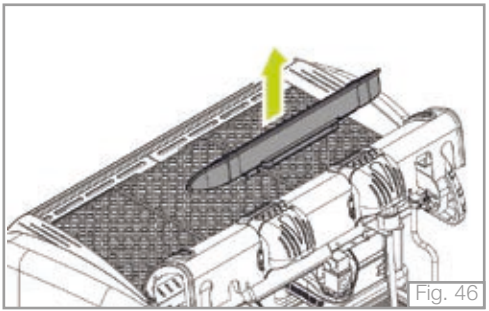


Fig. 46

5. Reposition the elements previously removed in reverse order.

8.3 DISASSEMBLY OF THE DRAINAGE COVER PANEL

1. Remove the water collection basin and the relative grill.

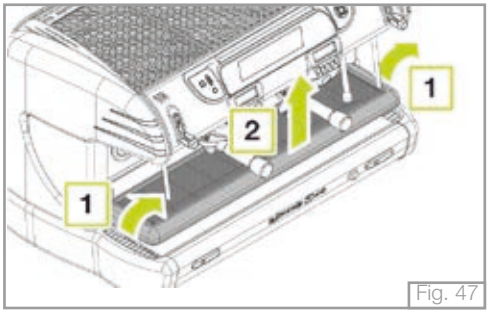


Fig. 47

2. Remove the 2 lower protection caps and the 2 Allen screws relative to the fixing of the lower drainage cover panel and remove it.

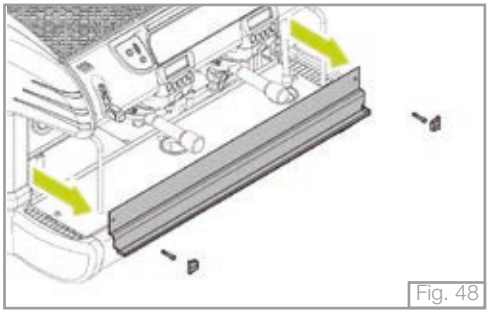


Fig. 48

4. Remove the 2 protection caps and the 2 Allen screws relative to the fixing of the upper drainage cover panel.
Remove the drainage cover panel by rotating the lower part forwards and simultaneously move it downwards.
Slide out the front of the machine as shown in the figure.

5. Reposition the elements previously removed in reverse order.

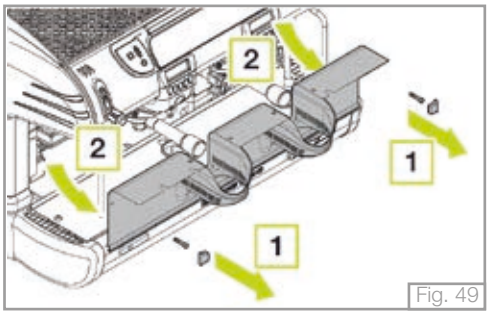


Fig. 49

8.3.1 Disassembly of the coffee dispensing group

1. Remove the filter holders from the machine.

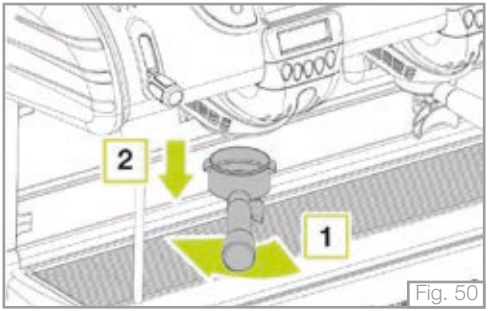


Fig. 50

2. Using a screwdriver, rotate the two screws a quarter of a turn that are positioned to the side of the coffee dispensing group cover.

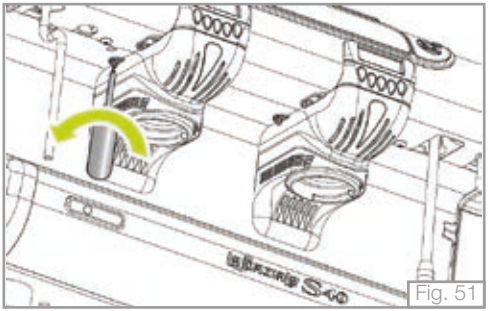


Fig. 51

3. Remove the coffee dispensing group cover by sliding it downwards.

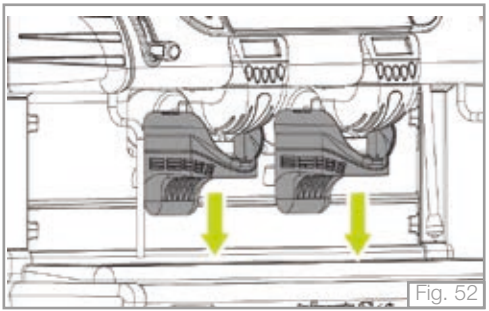


Fig. 52

4. Using a screwdriver, remove the 4 screws at the side of the coffee dispensing group.

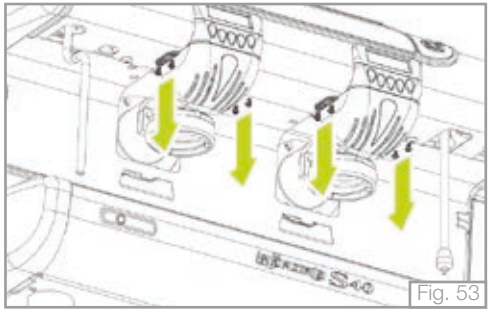


Fig. 53

5. Disconnect the cables and pull the coffee dispensing group downwards.

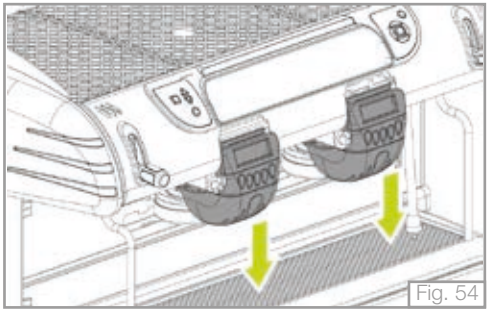


Fig. 54

6. Reposition the elements previously removed in reverse order.

8.4 DISASSEMBLY OF THE UPPER COVER

1. Remove the glass side panels by lifting them as shown in the figure.

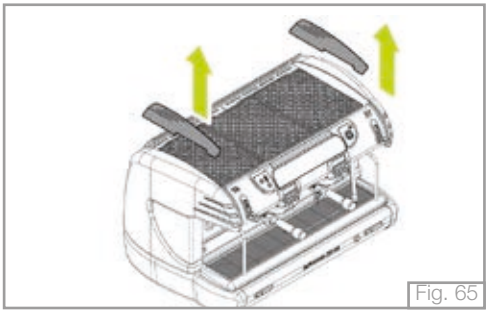


Fig. 65

2. Remove the grills of the cup warmer plate by lifting them as shown in the figure.

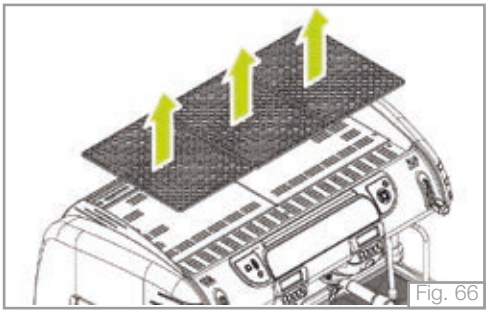


Fig. 66

3. Using a screwdriver, remove the fixing screws of the front plate of the cup warmer plate as shown in the figure.

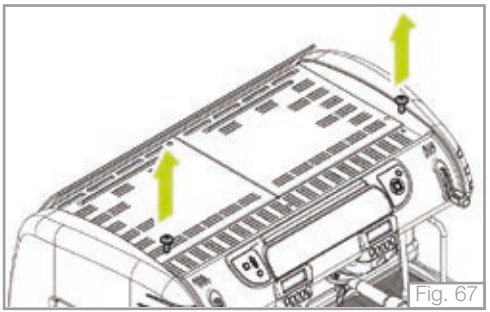


Fig. 67

4. Remove the front plate of the cup warmer plate as shown in the figure.

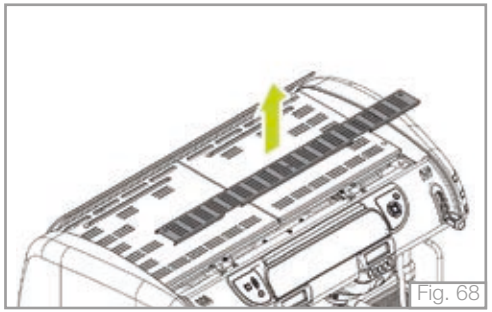


Fig. 68

5. Using the rear part as the fulcrum, pull up the rear plates of the cup warmer plate and remove them as shown in the figure.

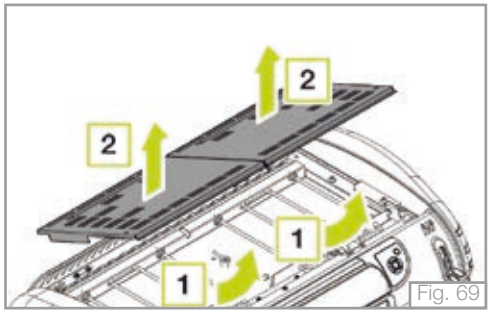


Fig. 69

6. Using a screwdriver, remove the fixing screws of the upper panel as shown in the figure.

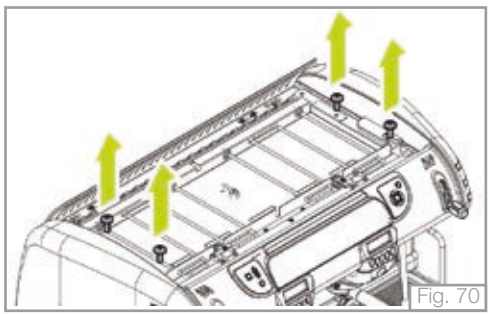


Fig. 70

7. Remove the upper cover as shown in the figure.

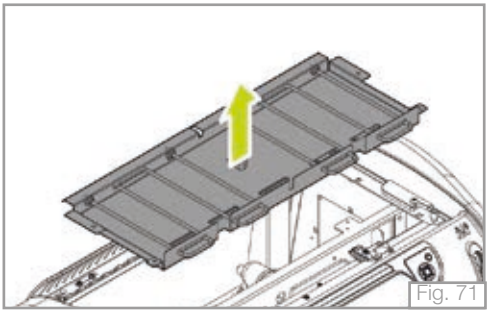


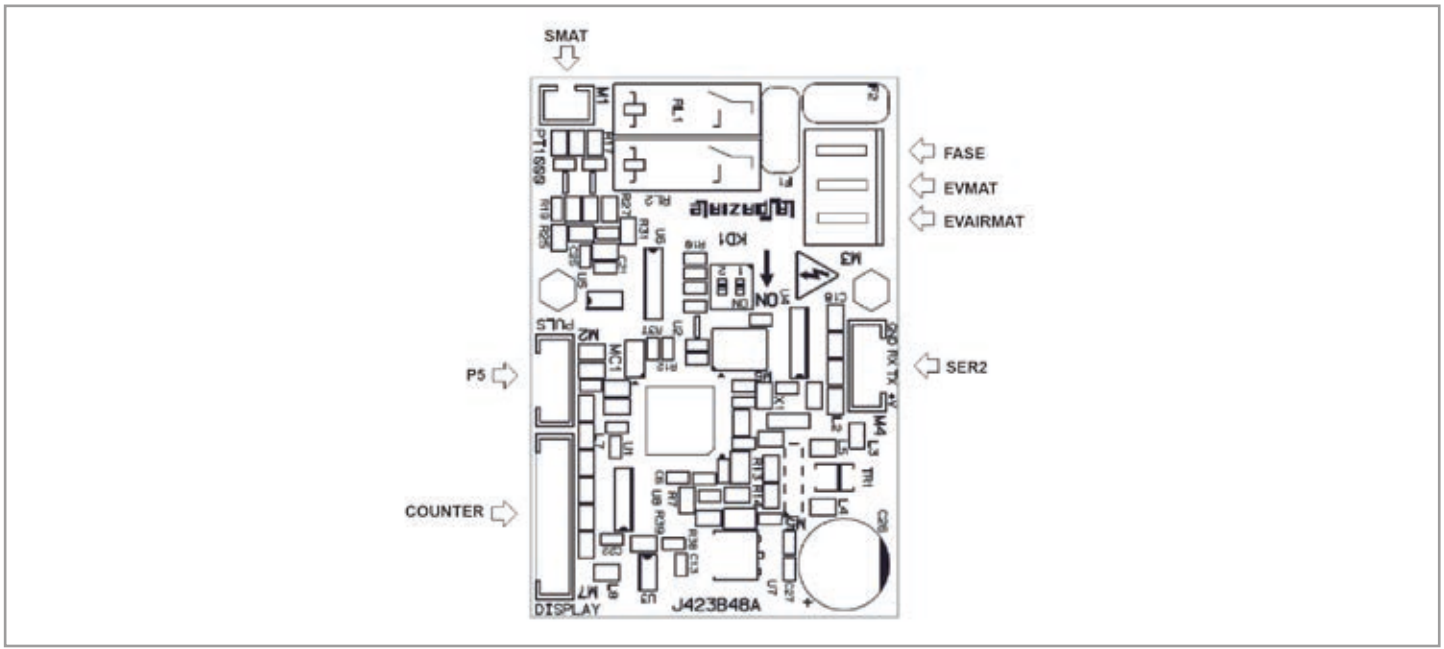
Fig. 71

8. Reposition the elements previously removed in reverse order.

DIAGRAMS

9. DIAGRAMS FOR ELECTRONIC BOARD CONNECTIONS

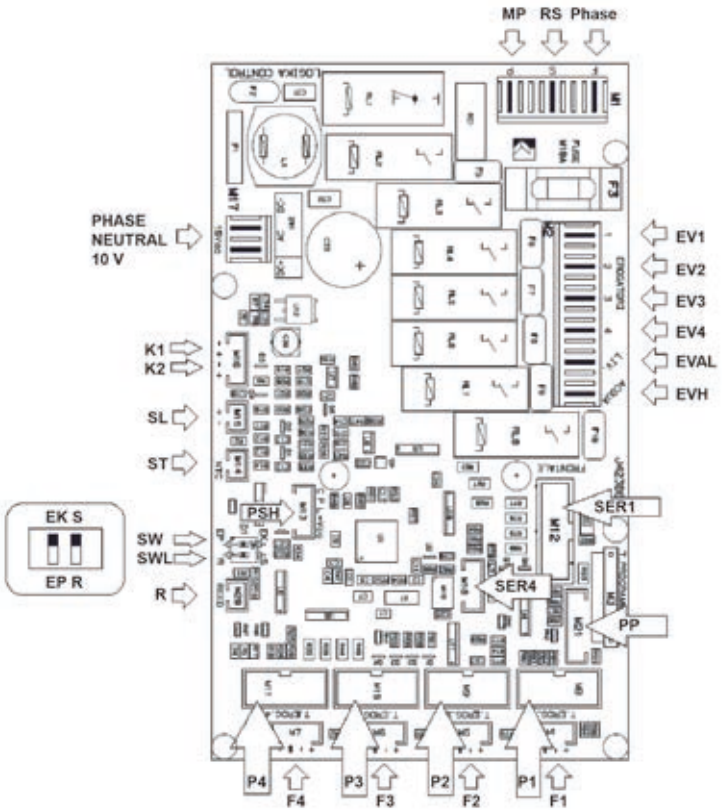
9.1 EXPANSION BOARD



Key:

SMAT	M.A.T. system temperature probe (optional).	**COUNTER**	Display connection for 1st group from the right.	**EV AIR MAT**	connection for AIR M.A.T. solenoid valve (optional).
P5	M.A.T. system button connection (optional).	**EV MAT**	connection for M.A.T. solenoid valve (optional).	**SER2**	Serial RS232.

9.2 CLASSIC/ SUPREMA CPU



Key:

MP Connection for pump motor.
RS Connection for static relay.
PHASE NEUTRAL 10 V Transformer outlet connection.
K1 K2 Connection for static relays.
SL Level probe connection.
ST Boiler temperature probe connection.
SW DIP Configuration of the electronic board for machine in semiautomatic (Classic) or automatic (Suprema) version.
SWL Electronic board configuration to manage the level of the water in the boiler using probe (S) or float (R).
P1 Button pad to deliver coffee from 1st group from the right.
P2 Button pad to deliver coffee from 2nd group from the right.
P3 Button pad to deliver coffee from 3rd group from the right.
P4 Button pad to deliver coffee from 4th group from the right.
F1 Volumetric counter for 1st group from the right.
F2 Volumetric counter for 2nd group from the right.
F3 Volumetric counter for 3rd group from the right.
F4 Volumetric counter for 4th group from the right.
PP Connection for programming button pad.
SER1 Connection for front LED display.
Ev1 Connection for solenoid valve of 1st coffee delivery group from the right.
Ev2 Connection for solenoid valve of 2nd coffee delivery group from the right.
Ev3 Connection for solenoid valve of 3rd coffee delivery group from the right.
Ev4 Connection for solenoid valve of 4th coffee delivery group from the right.
EVAL Connection for automatic level solenoid valve.
EVH Connection for hot water delivery solenoid valve.
SER4 Connection for expansion board.
PSH Connection for hot water delivery pushbutton.

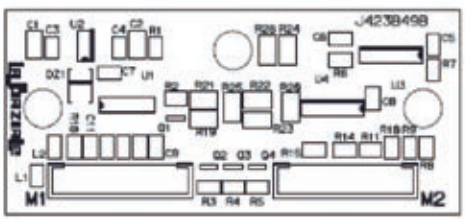
9.3 FRONT LED DISPLAY

Key:

M Connection for LED and programming button pad for the control panel.

SER1 Connection for Classic/Suprema CPU.

9.4 GROUP LED DISPLAY

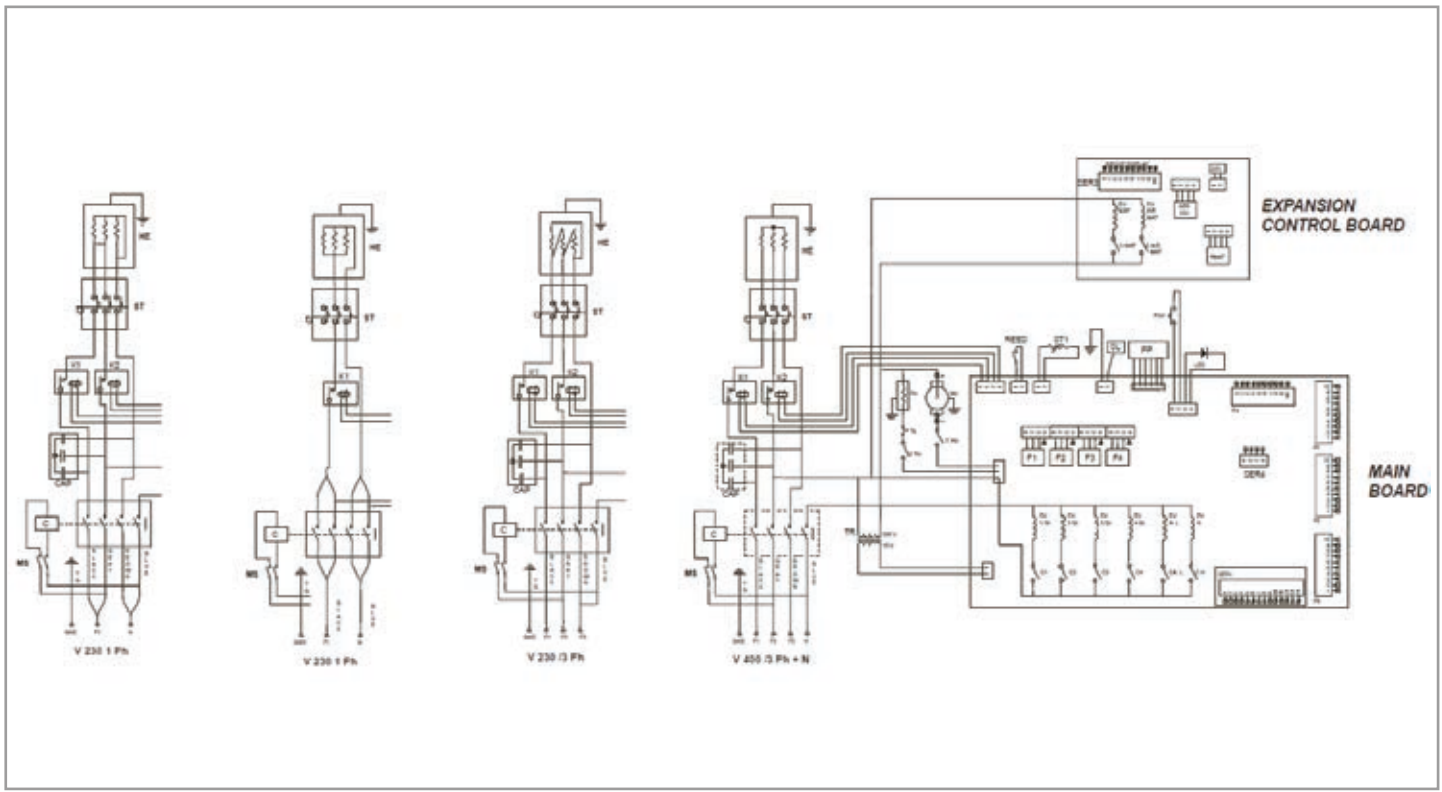


Key:

COUNTER IN Expansion control board connection.

COUNTER OUT Group display connection.

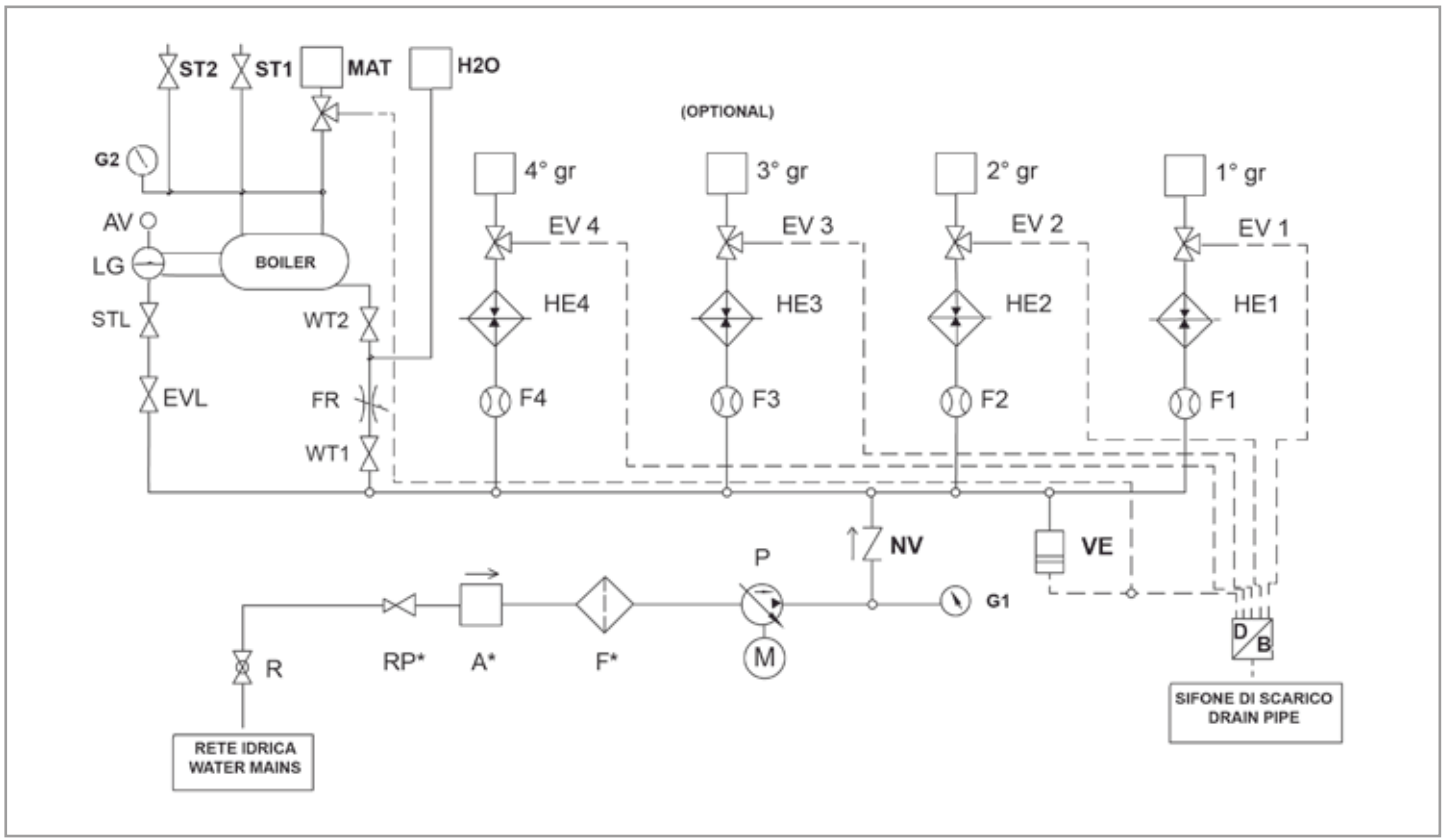
9.5 WIRING DIAGRAM



Key:

MP Motor pump.
RS Cup warmer heating element.
HE Boiler heating element.
EVAL Automatic water filling solenoid valve.
EV1 Solenoid valve for 1st group from the right.
EV2 Solenoid valve for 2nd group from the right.
EV3 Solenoid valve for 3rd group from the right.
EV4 Solenoid valve for 4th group from the right.
EVH Timed water solenoid valve.
PSH Timed water key.
PP Programming button pad.
P1 Button pad for 1st group from the right.
P2 Button pad for 2nd group from the right.
P3 Button pad for 3rd group from the right.
P4 Button pad for 4th group from the right.
ST1 Boiler temperature probe.
F1 Volumetric counter for 1st group from the right.
F2 Volumetric counter for 2nd group from the right.
F3 Volumetric counter for 3rd group from the right.
F4 Volumetric counter for 4th group from the right.
CAP Filter.
TR Board transformer.
MS Main breaker.
K1&K2 Static relays.
C Contactor.
SL Boiler water level check using probe.
REED Boiler water level check using float.
ST Safety thermostat with manual reset.
CRS Cup warmer heating element control board relay.
CMP Motor pump control board relay.
C1 Solenoid valve control board relay for 1st group from the right.
C2 Solenoid valve control board relay for 2nd group from the right.
C3 Solenoid valve control board relay for 3rd group from the right.
C4 Solenoid valve control board relay for 4th group from the right.
CAL Control board relay for automatic water level solenoid valve.
CH Control board relay for timed water level solenoid valve.
SER1 Main display connection.
PMAT Key - M.A.T.
ST2 Probe - M.A.T.
EVMAT Solenoid valve - M.A.T.
CMAT M.A.T. solenoid valve control relay.
EV AIR MAT AIR M.A.T. solenoid valve.
AIR MAT AIR M.A.T. solenoid valve control relay.
SER2 Technical assistance display connection - G.A. -CRONO-COUNTER.
SER4 Expansion control unit connection.
SER 3 Group display connection.
SER 232 RS232 serial connector.

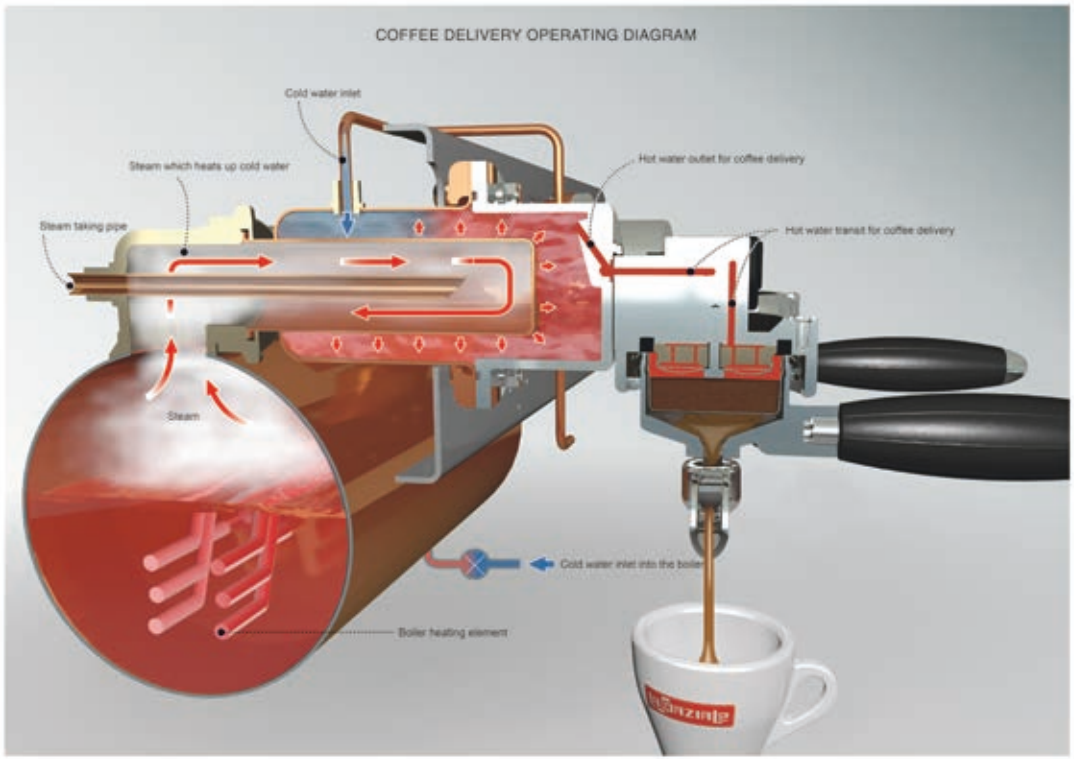
9.6 HYDRAULIC DIAGRAM



Key:

R	Water cock (put in place by end customer).
RP	Pressure reducer (optional).
A	Softener (optional).
F	Impurity filter (optional).
P	Motorised pump.
G1	Water mains and motorised pump pressure gauge.
NV	Check valve.
VE	Expansion valve.
F1	Volumetric counter for 1st group from the right.
F2	Volumetric counter for 2nd group from the right.
F3	Volumetric counter for 3rd group from the right.
F4	Volumetric counter for 4th group from the right.
DB	Drainage tray.
HE1	Heat exchanger 1st group from the right.
HE2	Heat exchanger 2nd group from the right.
HE3	Heat exchanger 3rd group from the right.
HE4	Heat exchanger 4th group from the right.
EV1	Coffee delivery solenoid for 1st group from the right.
EV2	Coffee delivery solenoid for 2nd group from the right.
EV3	Coffee delivery solenoid for 3rd group from the right.
EV4	Coffee delivery solenoid for 4th group from the right.
WT1	Cold water solenoid valve.
WT2	Cold water solenoid valve.
FR	Cold water flow regulator.
EVL	Automatic level solenoid valve.
LG	Sight glass.
AV	Anti-vacuum valve.
G2	Boiler pressure gauge.
ST1	LH steam cock.
ST2	RH steam cock.
STL	Automatic level solenoid cock.
H2O	Hot water wand.

All LA SPAZIALE espresso machines are made with a heat exchanger system between the boiler and the coffee delivery group.
A special patented system, the only one in the world, for heat adjustment of the delivery group, based on the circulation of steam instead of water.



http://www.laspaziale.com/index.php/it/video

10 TECHNICAL DATA

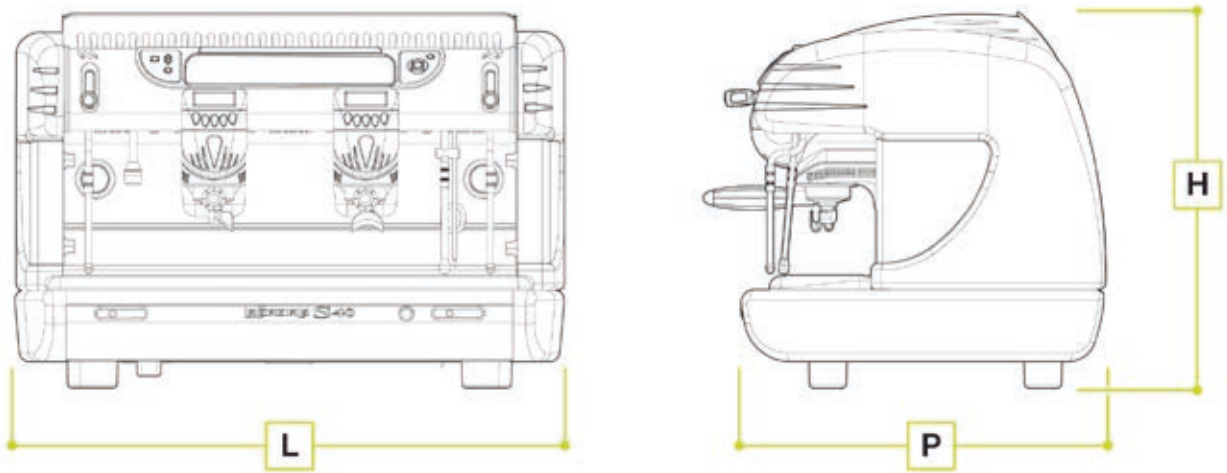


Fig. 72

DIMENSIONS AND WEIGHT			
S40	2 GR	3 GR	4 GR
L	850	1080	1320
H	600	600	600
P	560	560	560
WEIGHT KG	85	100	115

POWER SUPPLY RATING AND ABSORPTION			
S40	2 GR	3 GR	4 GR
VOLT	220/240/400	220/240/400	220/240/400
Hz	50/60	50/60	50/60
W	3800	5100	6300

espresso coffee machines

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