

OPERATION MANUAL FOR ASTRA SUPER AUTOMATIC MACHINES



ASTRA SUPER MEGA I

ASTRA 2000

Astra®
Espresso & Cappuccino

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I. INTRODUCTION TO YOUR ASTRA ESPRESSO MACHINE

Congratulations on choosing ASTRA as your espresso machine! Before we begin making espresso drinks, it is important to first understand what espresso is. Espresso is the “flavor oils” extracted from roasted Arabic coffee beans. The extraction is done by grinding the coffee beans and exposing them to hot water. When hot water hits the finely-ground, dark roasted Arabic beans at 135 PSI, the exposed oils boil and turn into a reddish-gold liquid called “crema”. A properly-made espresso will not taste bitter or burnt but, instead, will exhibit a strong, sweet coffee taste that does not offend the palette. Properly made espresso is smooth and allows you to enjoy the blend of the roasted beans you have chosen. As you read the ASTRA manual, closely follow the instructions so that you may enjoy a superb espresso or cappuccino drink. If you need any help or have any questions, please call your local ASTRA representative.

II. UTILITY CONNECTIONS

Water

The water connection is located under the front tray of the ASTRA machine (See Figure 1). In order to connect water directly to the ASTRA machine, the user will need a 1/4" female flare beverage tubing.

The water that is connected to the ASTRA machine, must be treated and filtered.

A water regulator is required if the water pressure exceeds 50 psi.

Power

The ASTRA Super Automatic Machine requires a 220 volt, single phase, 3 wire connection (2 Hot & 1 Ground). A separate grounded circuit must be provided.

Large boiler machines (7.0 liter) require a 30 amp breaker. Smaller boiler machines (4.5 liter) require a 20 amp breaker. Electrical plugs are not provided with the pigtail and must be matched with the receptacle at the site (unless specified otherwise before shipment).

Drain

A six foot flexible hose with a 1" outside diameter is provided. This hose must be connected to the "T" located underneath the machine. The other side of the hose must be routed, with a proper slope, to a floor drain.

Please note that all ASTRA equipment must be installed in accordance with all applicable Federal, State and/or local electrical and plumbing codes.

III. CONNECTING A WATER SOFTENER

- 1- Connect the incoming water line to top valve "A" (See Figure 11).
- 2- Put vinyl tubes "E" and "F" into the bucket or a floor drain (See Figure 11).
- 3- Turn the handles of incoming valve "A" and outgoing valve "B" to the left and allow the water to discharge for a few minutes. Once the water is clear, turn both handles "A" and "B" to the vertical position.
- 4- Connect the machine to outgoing valve "B" (See Figure 11).
- 5- Turn both valve handles "A" and "B" to the left.

IV. INITIAL SET-UP

The following is the factory recommended procedure for the initial set-up of the ASTRA machine.

Refrigerator

The compressor refrigerator is similar to household refrigerators. The temperature for the refrigerator is factory set at 38 degrees Fahrenheit. The temperature may be adjusted as follows:

1. Locate the temperature adjustment knob at the rear of the refrigerator. This knob is accessible from the back of the ASTRA Super Mega 1 machine (See Figure 8).
2. Set the knob to the desired temperature.
3. Once you have set the temperature, you do not need to readjust it. As long as the machine is on, the refrigerator operates and maintains the desired temperature.

Please note that all ASTRA equipment must be installed in accordance with all applicable Federal, State and/or local electrical and plumbing codes.

Grinders

1. Install the hoppers for the regular and decaffeinated beans. The hopper for the regular beans is the larger hopper and must be installed closest to the front of the machine.
2. Fill each hopper with the respective whole espresso beans. Never put ground coffee into the hoppers. Use of ground coffee will damage the machine.
3. Insure that the gates on the bottom of the hoppers are open. The gates can be opened by pulling out the lever at the bottom of the hoppers (See Figure 2).

CAUTION: Never put any fingers or foreign objects into the grinder without first unplugging the machine.

ACTIVATING THE MACHINE

1. Open the front of the machine and pull the "Door Safety Switch" out slightly (See Figure 3).
2. Turn the "On/Off" switch to the On position (See Figure 3). At this time the machine will turn on and both the green and amber lights will become lit. Once this occurs, the boiler will begin heating and the machine will be ready to produce the perfect espresso drink in approximately 30 minutes.
3. To release any trapped air in the machine, press and hold the "Extra Froth" button located on the touch pad display for 10 seconds (See Figure 2).
4. Press the "Espresso" button on the touch pad display to bring the machine into equilibrium.
5. To initialize the automatic foamer, simultaneously press and hold the "Extra Froth" button while turning the foamer air adjustment screw counterclockwise (See Figure 4). Once the foamer begins to splatter milk, turn the screw clockwise until the foamer begins producing smooth foam.

V. PROGRAMMING

All ASTRA machines allow the user to alter the factory set programming, allowing the user to self select the perfect espresso drink. All machines are pre-set by the factory to create a 2-ounce espresso drink and a 10-ounce cappuccino/latte drink. The user may change these settings as follows:

To enter the programming mode, press and hold the small, black programming switch located next to the main power switch for 5 seconds. (See Figure 3). Once pressed, the LCD will display "PASSWORD". Press Button Number 1/Espresso on the push pad four times until the display reads "Detail program". Press "+" Button repeatedly to go up to the desired section of the program (See Table 1 below). The ASTRA machine allows the user to alter five categories of programming as set forth in Table 1 below. Once the desired section is reached, press the "Program" or "P" button to enter into the submenu (see additional discussion below). Changes to the submenu can be made by pressing the "+" or "-" buttons. To record a desired programming change, press the "Program" button. If at any time you wish to reset without recording any changes or return to the previous menu, press the "Stop/Reset" button.

Table 1

LCD Display	Parameter Determination
A. Program Selection	Setting each button to desired selection
B. Coin	Coin-operation mode
C. Prices	Pricing level in coin-operation mode
D. MNG Capability	Management Capabilities
E. Set-up	Main parameter setup

Each of the programming parameters are discussed below in more detail.

For adjusting the amount of drink extraction refer to section F below.

A — PROGRAM SELECTION SUBMENU

Each ASTRA machine allows its user to alter the programming of each key on the touch pad to provide the desired drink.

Each drink selection has seven parameters that can be altered by the user to match the user's drink preferences. The seven parameters are set forth in Table 2. The drink parameters can be changed by pressing the "Program" button to navigate through the seven parameters. At each submenu, the user can change the preset parameter by pressing "+" or "-" for Yes or No, respectively. To record a change, press the "Program" button on the touch pad. To exit, press the "Stop/Reset" button.

Table 2

LCD Display	Parameter Determination (each button)
Espresso	Dispense espresso
Milk/Tea	Dispense milk
Americano	Add hot water to espresso
Double	Produce 2 drinks consecutively
Espresso	Dispense espresso first
Reg. Grinder	Grinding time for caffeinated grinder
Decaf. Grinder	Grinding time for decaffeinated grinder

B — COIN SUBMENU (optional feature)

Each ASTRA machine can be programmed to be coin or token operated. In order to activate this feature, please contact Astra Manufacturing.

LCD Display	Parameter Determination
Coin free	Non coin-operation mode
Token	Token
6 way coin-opt	Coin operated
12 way coin-opt	Coin operated

C — PRICING SUBMENU (optional feature)

Each ASTRA machine can be programmed so that each drink selection can be purchased at a different price. The price of each drink can be increased or decreased in increments of \$0.25. In order to activate this feature, please contact Astra Manufacturing.

D — MANAGEMENT (MNG) CAPABILITY

Each ASTRA machine permits the user to obtain drink production reports directly from the machine. In order to activate this feature, please contact Astra Manufacturing.

E – Set-Up

Below are the factory pre-set programming parameters. Each of these parameters can be altered by the user through the programming mode as set forth above.

LCD Display	Parameter Determination	Factory Pre-set
Language	LCD Language -Preset for English	1
Espresso Temp	Brewing temperature of espresso	125 C
Boiler Temp	Boiler water temperature	125 C
Doser Gate	Not used in Astra Super Mega or Astra 2000	1
Infusion Time	Amount of time for pre-infusion	0.4 sec
Infusion Delay	Delay period prior to disposal of used grounds	4.0 sec
Piston Cleaning	Time interval between piston cleaning	1.00 hr
Volume of Water	Amount of water used to sanitize brew mech.	100 cc
Revolution 1 cc	Number of flowmeter revolutions per 1 cc	1
Waste Coffee	Waste box capacity for used coffee grounds	0
Water Softener	Time interval between regeneration	250
G.E.U. Start	Not Used	0
G.E.U. Extra	Not Used	0
Single Dosimeter	Not Used	0
Second Boiler	Not Used	No
Sound On/Off	Audio reminder that selection is finished	Yes
Pre Ground Doser	Not Used	No
Repeated Drinks	Number of repetitions for selected drink	No
Extra Doser	Not Used	No
Time and Dose	Not Used	No
G.E.U. System	Not Used	No
Switch 2 Grinder	Not Used	No
Tanica	Not Used	No

F — SELECTED DRINK EXTRACTION ADJUSTMENT

1. To enter the programming mode, press and hold the small, black programming switch located next to the main power switch for 5 seconds (See Figure 3).
2. The LCD will display "PASSWORD".
3. Press Button Number 1 (Espresso) four times until the display reads "Detail Program".
4. Press the "Program" button once and the display will read "Push Drink Key".
5. Select the desired drink to be programmed and the grinder will automatically start grinding beans based on the grinder settings in the Program Selection Submenu (see Section A above). The machine will then begin to extract the desired drink.
6. Once the desired extraction is reached, press the "Memory" button to record and save the desired settings.
7. For drinks that require both espresso and milk or hot water (e.g. latte), the machine will first dispense milk or hot water. Select the desired amount of foamed milk or hot water and press the "Memory" button to save this setting. Once this is done, the machine will automatically begin extracting and dispensing the coffee portion of the drink. Once the desired coffee extract is reached, press the "Memory" button to save this setting. Pressing the "Memory" button a second time will cause the machine to record and save the settings for both portions of the drink.
8. Once the programming is complete, press the "Stop/Reset" button twice to exit the programming mode.

Programming the Steam Wand for the Astra 2000

1- Setting the desired steam temperature

- Press the "Set" button on the display
- Display will read "Set"
- Press "Set" button again
- Display will read "150"
- If you would like to change the pre-set temperature, press the up arrow to raise the temperature. Press the down arrow to lower the temperature.
- Once you have selected the desired temperature, press the "Set" button.
- The display will show the sensor's current temperature.

2- Setting the accuracy parameters

- Press and hold the "Set" button
- Display will read "Cor"
- Press "Set" button again
- Adjust the temperature between 0-20 degrees Fahrenheit using the up or down arrows (default is set for 0 degrees Fahrenheit)
- Once you have selected the desired temperature, press the "Set" button.

3- Setting the differential temperature

- Press and hold the "Set" button
- Display will read "Dif"
- Press "Set" again
- Adjust the temperature between 2-40 degrees Fahrenheit using the up or down arrows
- Once you have selected the desired temperature, press the "Set" button.
- The display will read " St.2"
- Press "Set" button again
- Display will show the selected temperature from step 1
- Press "Set" button to record the change

4- Setting the upper limit parameters

- Press and hold the "Set" button
- Display will read "St.H" (setting the highest temperature)
- Press "Set" button again
- Adjust the temperature between 0-950 degrees Fahrenheit using the up or down arrows (suggested temp. is 250 degrees Fahrenheit)
- Once you have selected the desired temperature, press the "Set" button to record the change.

5- Setting the lower limit parameters

- Press and hold the "Set" button
- Display will read "St.L" (setting the lowest temperature)
- Press "Set"
- Adjust the temperature between 0-150 degrees Fahrenheit using the up or down arrows (suggested temp. is 100 degrees Fahrenheit).
- Once you have selected the desired temperature, press the "Set" button.
- The display will show the room temperature and programming is finished.

Operating the Steam Wand for the Astra 2000

1- Using the automatic steaming option

- Move the switch located underneath the display to the "manual" position.
- Let the steam blow out for a few seconds.
- Move the switch to the "automatic" position, this will turn the steam wand off.
- Insert the steam wand into the desired amount of milk.
- Press "Start"
- Once the milk has reached the proper temperature, the steam wand will automatically stop
- To stop the automatic steaming manually, press the "Stop" Button
- Remove the steam wand from the milk.
- Press the "manual" button for a few seconds. This will clear the steam wand. Move the switch to the "automatic" position to turn the steam wand off.

2- Using the manual steaming option

- Move the switch located underneath the display to the "manual" position.
- Let the steam blow out for a few seconds
- Move the switch to the "automatic" position; this will turn the steam wand off.
- Place a desired amount of milk under the steam wand.
- Move the switch to the "manual" position.
- Once the milk has reached the proper temperature, move the switch to the "automatic" position.
- Remove the steam wand from the milk.
- Press the "manual" button for a few seconds, this will clear the steam wand. Move the switch to the "automatic" position to turn the steam wand off.

VI. CLEANING AND MAINTENANCE

DAILY CLEANING

The following procedure should be followed on a **daily** basis to ensure proper cleaning and functioning of the ASTRA machine:

1. Remove the milk from the refrigerated section and store it properly.
2. Dilute one portion of the blue ASTRA cleaning solution with water into a 10 ounce cup (See Figure 9).
3. Remove the loose end of the milk tube from the machine and place it into the diluted blue cleaning solution.
4. Press and hold the "Extra Froth" button (See Figure 2) until all of the blue cleaning solution has been consumed.
5. Remove the milk tube from the cleaning solution cup and place into a 10 ounce cup filled with clean water.
6. Press and hold the "Extra Froth" button (See Figure 2) until all of the water has been consumed.
7. Put the tube into the milk container and place the milk inside the refrigerator.

Milk Valve

Milk Tube

Diluted Cleaner



Fig. 9

MONTHLY CLEANING

In order to ensure proper cleaning and functioning of the machine, Astra recommends the following process to be completed every two months:

1. Turn off the machine.
2. Remove the foamer from the machine.
3. Break down the foamer into 5 pieces as shown in Figure 10.
4. Soak each foamer piece in the blue concentrated ASTRA cleaner for approximately 2 Hours.
5. Brush each piece of the foamer with the brushes provided by Astra. Rinse each piece with clean water.
6. Reassemble the foamer (please make sure that you don't cross thread).
7. Re-install the foamer.

Astra also recommends that the water softener be **regenerated** on a monthly basis to ensure a quality drink and prevent unnecessary repairs. To regenerate the water softener, please follow the process set forth below (See Figure 11 for pictorial demonstration):

1. Turn off the machine.
2. Put vinyl tubes E and F into a bucket or drain.
3. Turn Incoming and Outgoing Valves A and B to the right to relieve the pressure in the container.
4. Remove the cap and pour two pounds of rock salt into the water softener container.
5. Replace container cap into its original position.
6. Turn incoming valve A to the left. This will cause the salt to become dissolved and regenerate the resin inside the container. The water softener will then automatically discharge the salt out of the vinyl tube F.
7. In 25 minutes, taste the water discharge from the vinyl tube F. **When the water no longer tastes salty**, turn outgoing valve B to the left. Cleaning is complete.

YEARLY MAINTENANCE

To ensure proper functioning of the machine, Astra recommends the following to be completed each year:

1. Each ASTRA machine has an upper and lower piston "O" ring. The upper "O" rings can come in 3 different colors, red, black or gray. Replace the upper (S10081) and lower (S10110) piston "O" rings.
2. Replace the quick disconnects on top of the piston and group electrovalve. (S10150)
3. Replace the teflon tube on top of the piston. (S10155)
4. Replace the sweeper. (S10083)
5. Replace the pressurestat. (A10170)
6. Lubricate the piston and sweeper guide rail.
7. Run the clean cycle to insure that there is no blockage.
8. Replace the grinding stone and adjust properly. (S10082)
9. Replace group electrovalve. (A10111)
10. Make sure that the water softener has been regenerated and there is no sign of calcium build up in the machine.
11. Insure that the group heating element is working properly. (A10189)
12. Inspect the heating element gasket (A10189) for any leaks.
13. Replace the steam (S10361-L) and milk valves (S10361), along with tubing (S10018).
14. Clean/replace the automatic foamer. (S10030)
15. Visually check the wiring and all other components to insure the safety of the machine.

*For any additional information please call Astra Manufacturing at 877.340.1800

VII. SCHEMATIC DRAWINGS

WATER & DRAIN CONNECTIONS



Fig. 1

SUPER MEGA 1 FRONT VIEW

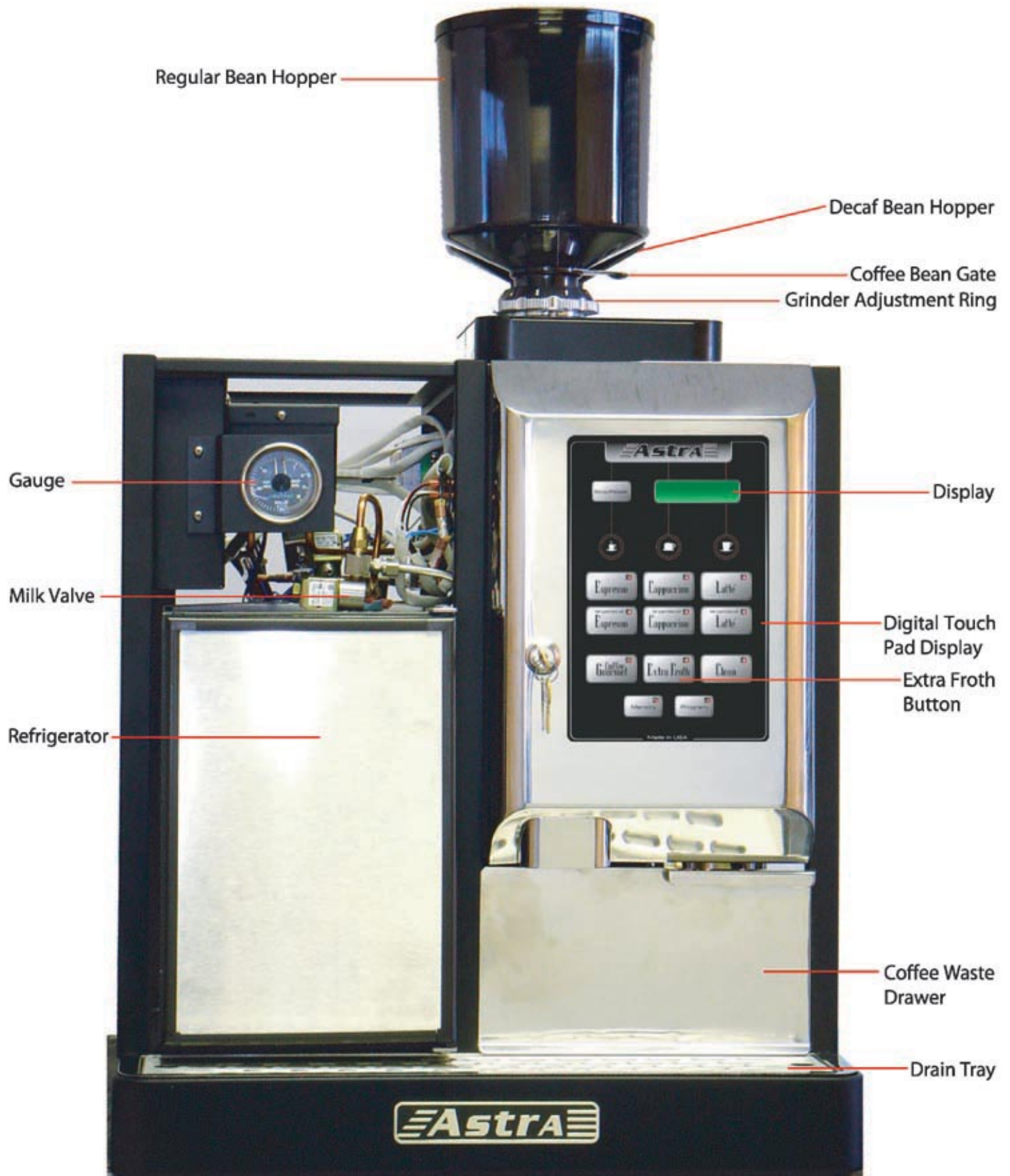


Fig. 2

PROGRAMMING SWITCHES

Door Safety Switch

Pull out the control
tab to operate the machine
with the door open
(for service only)

On/Off Switch

Programming Switch



Foamer/Piston Cleaner
(when applicable)

Fig. 3

FOAMER (SUPER MEGA I)

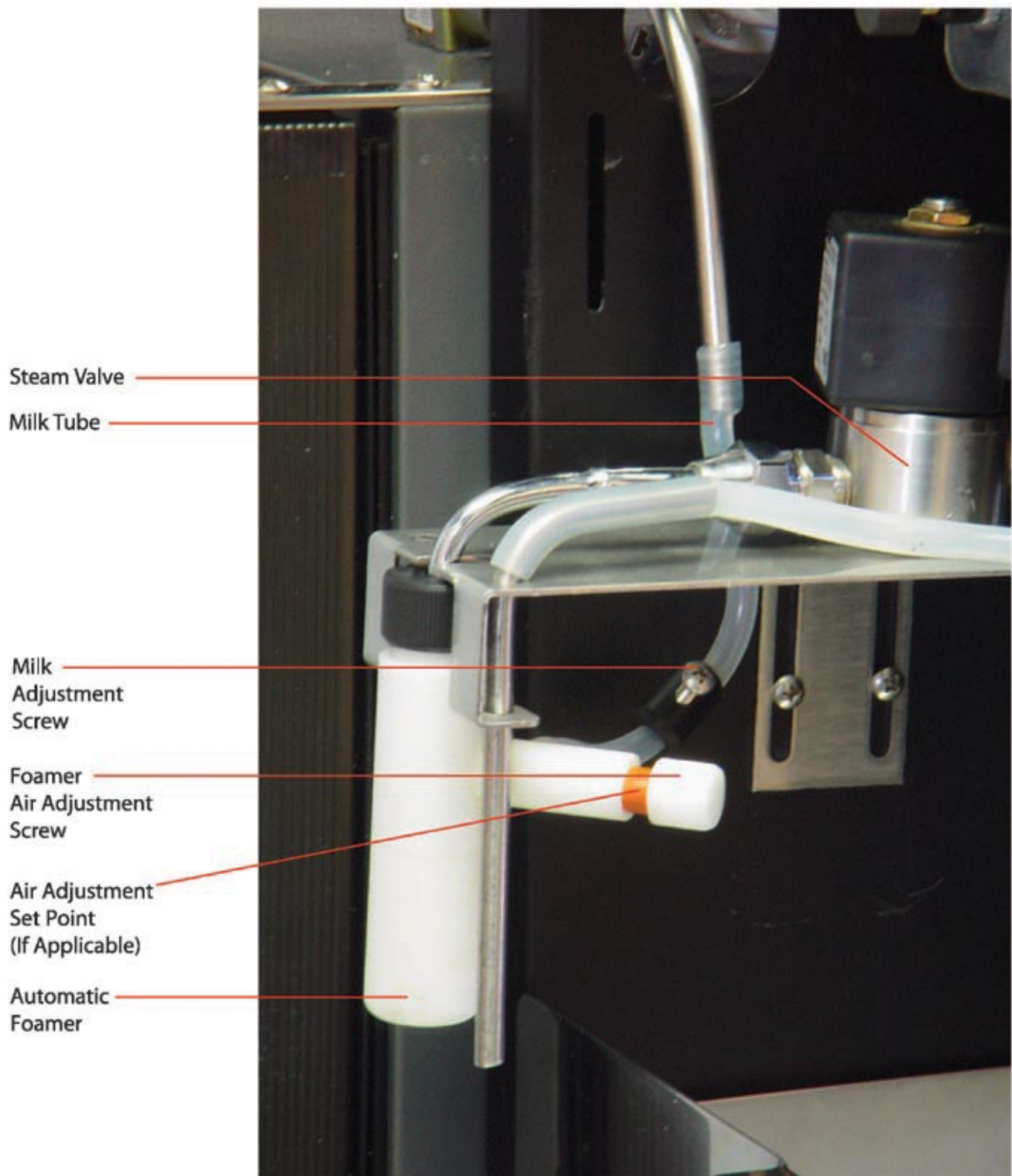


Fig. 4

**ASTRA 2000
FRONT VIEW**



Fig. 5

SUPER MEGA I & ASTRA 2000 RIGHT SIDE VIEW

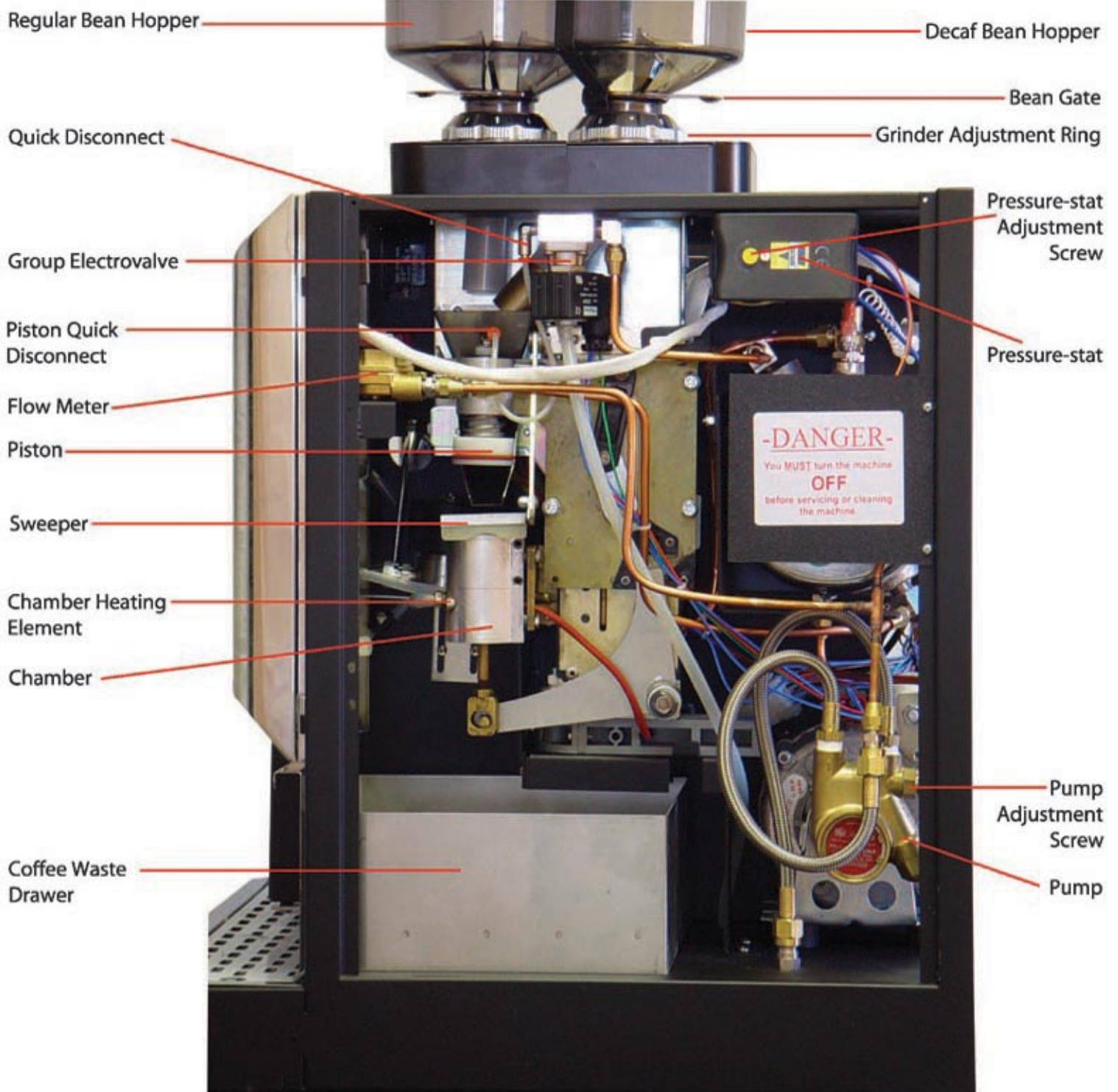


Fig. 6

**SUPER MEGA I
LEFT SIDE VIEW**

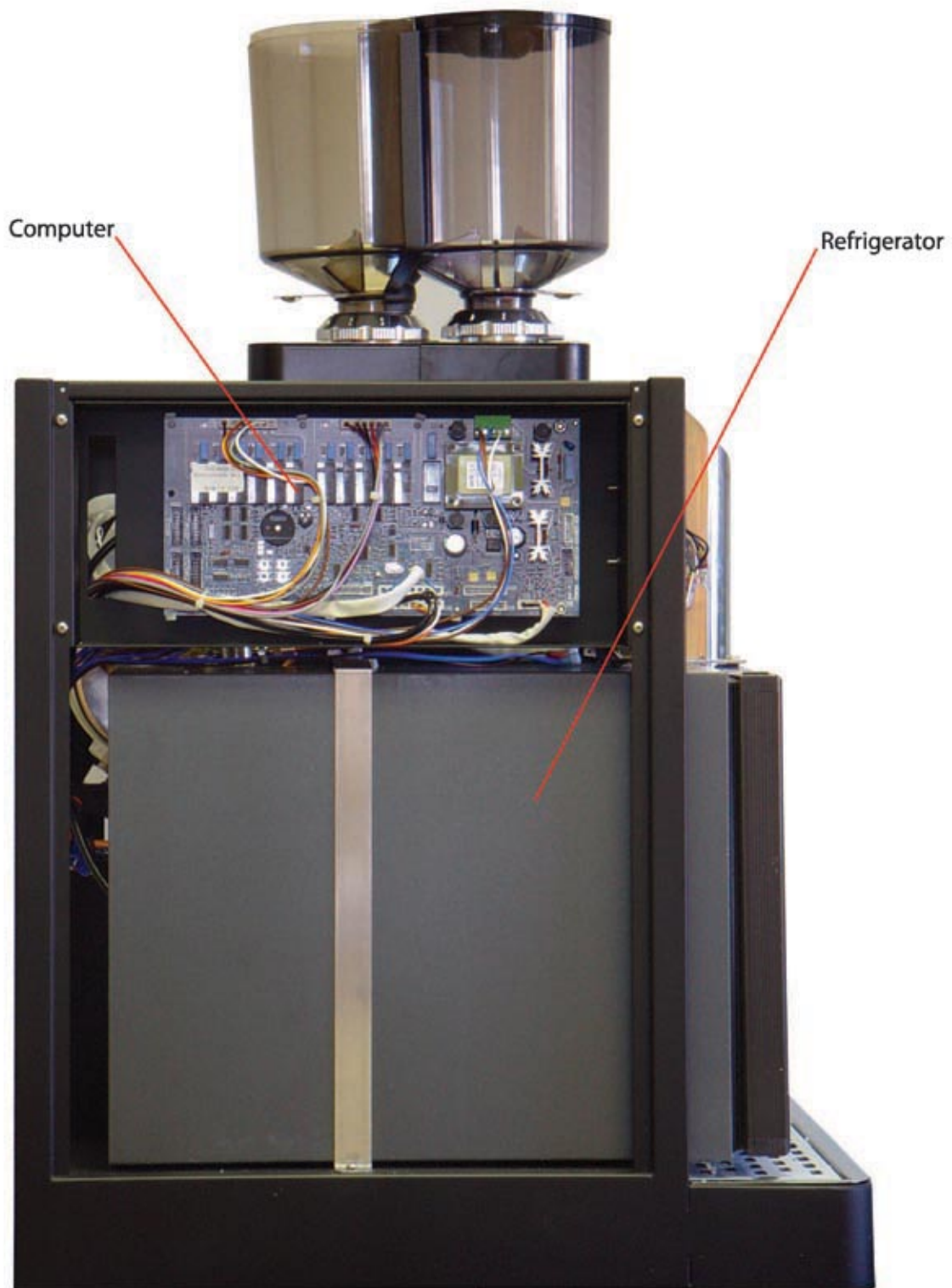


Fig.7

SUPER MEGA I REAR VIEW

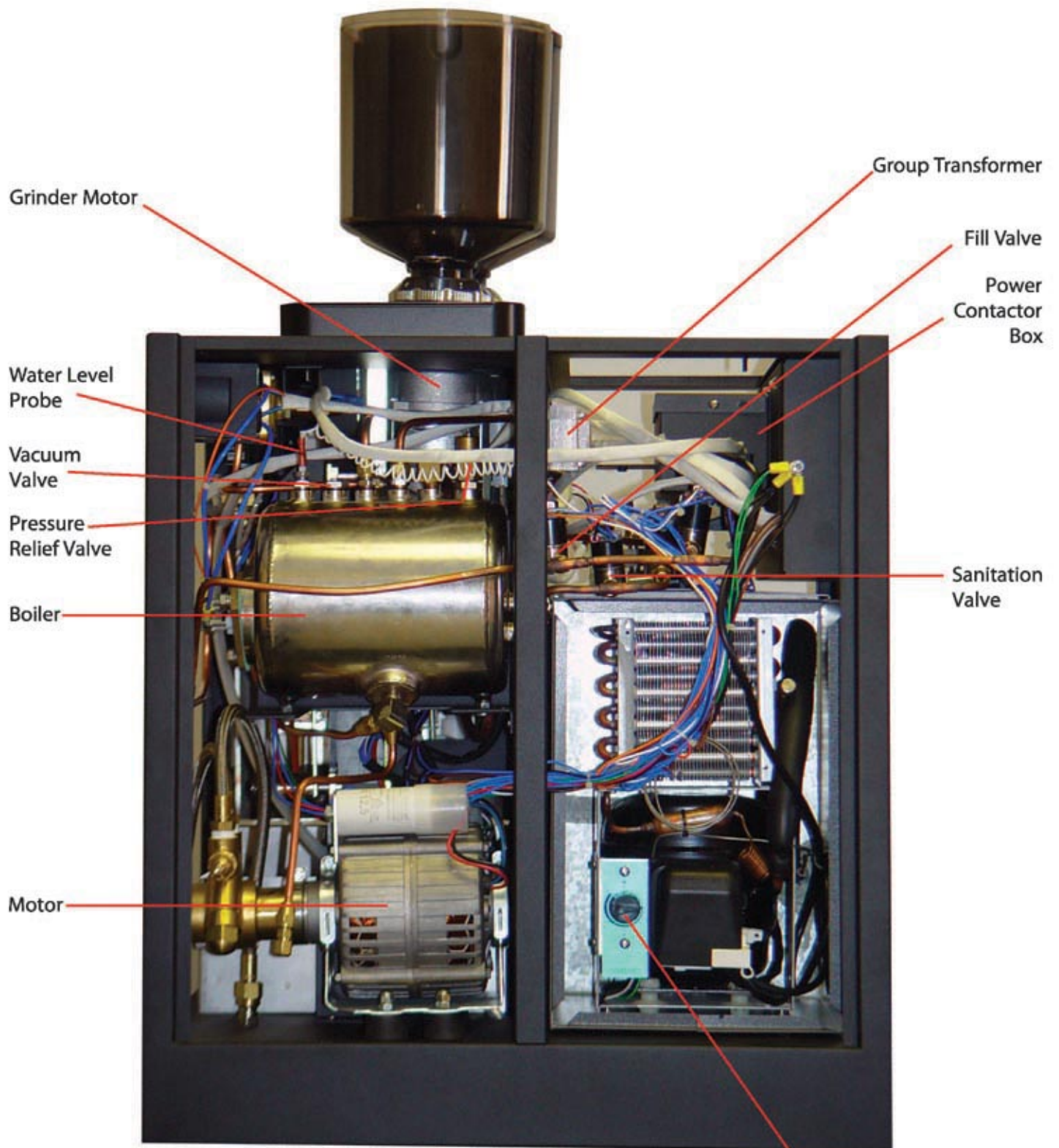


Fig. 8

MILK FOAMER

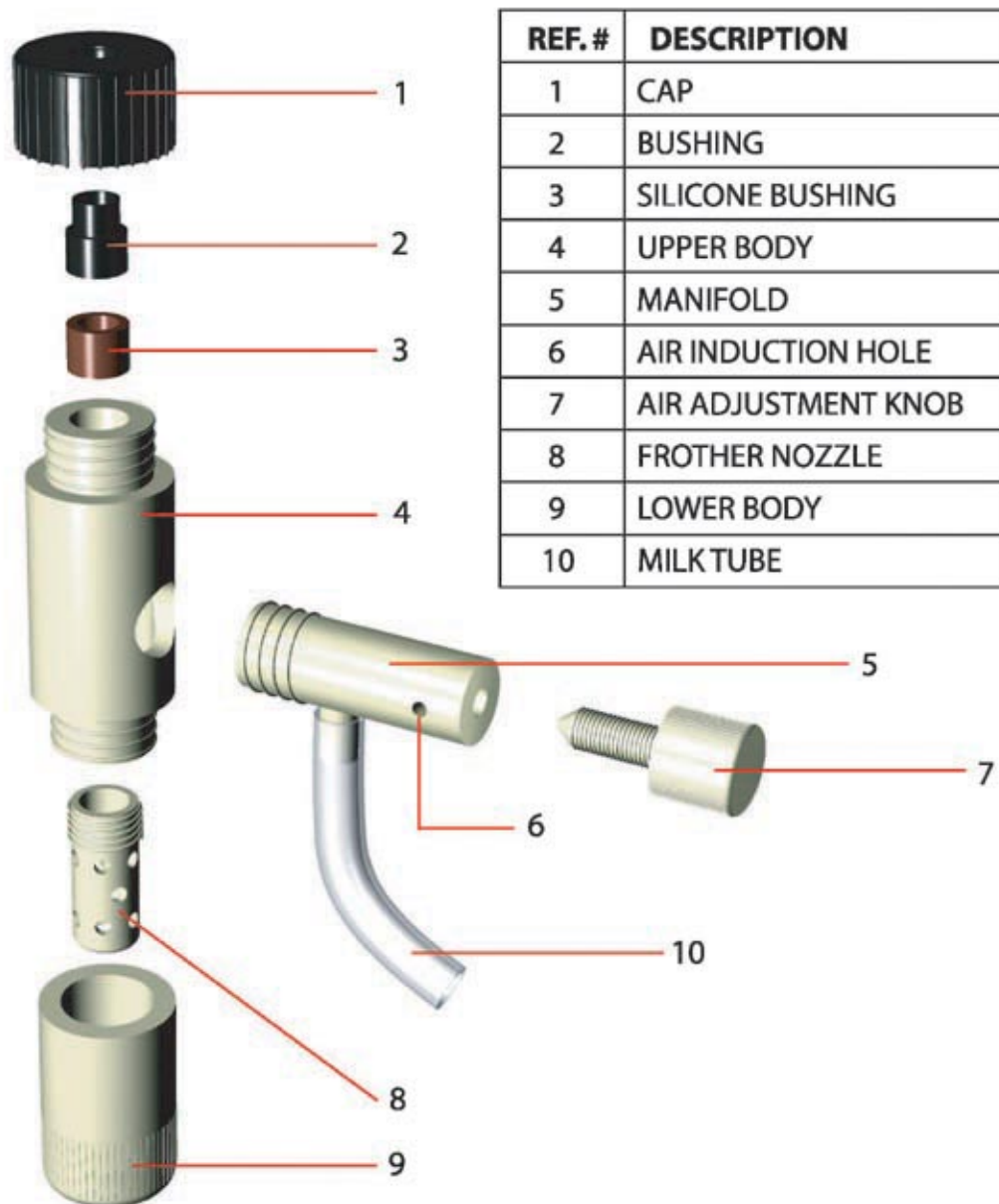


Fig. 10

MONTHLY MAINTENANCE

Your water softener needs to be recharged monthly. Please follow the diagrams below for instructions.

TURN OFF ESPRESSO MACHINE BEFORE YOU START PROCESS BELOW

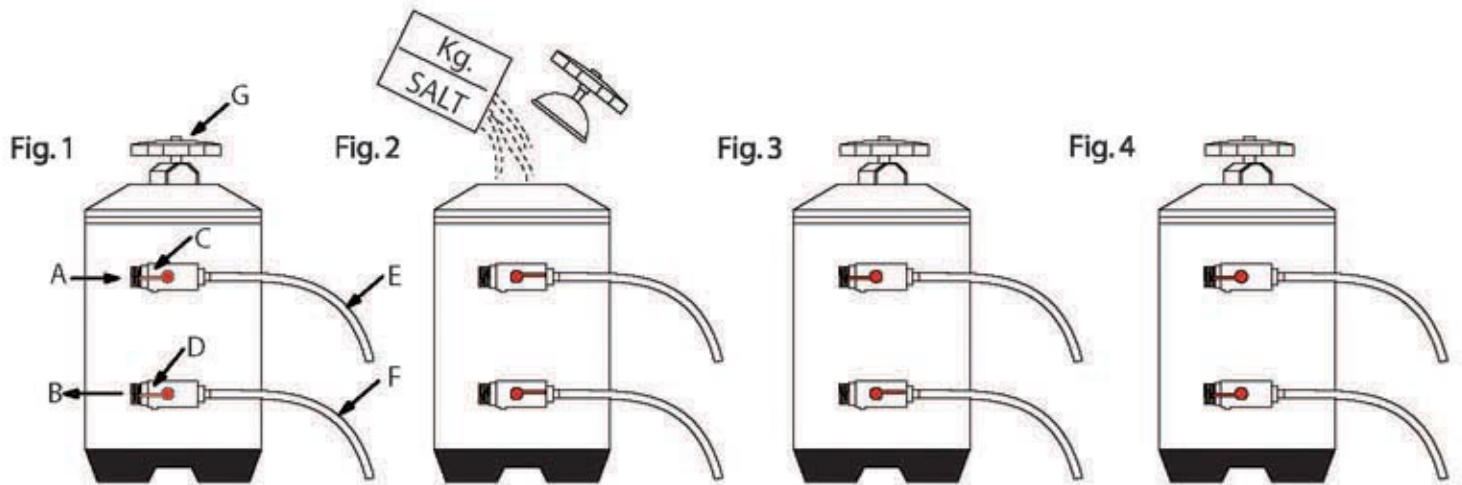


Fig. 11

Put vinyl tubes E and F in a bucket or a drain.
(A) Incoming Valve
(B) Outgoing Valve
(C) Valve Handle
(D) Valve Handle
(E) Pressure Relief Tube
(F) Discharge

Turn valves to the right relieving pressure in the container. Remove cap and pour two lbs. of rock salt in container. Replace container.

Turn Valve A to the left. Salt will dissolve and discharge through tube F.

In 25 minutes, taste water for saltiness. When water no longer tastes salty turn valve B to the left.

Recharge in complete.

**ASTRA 2000
LEFT SIDE VIEW**

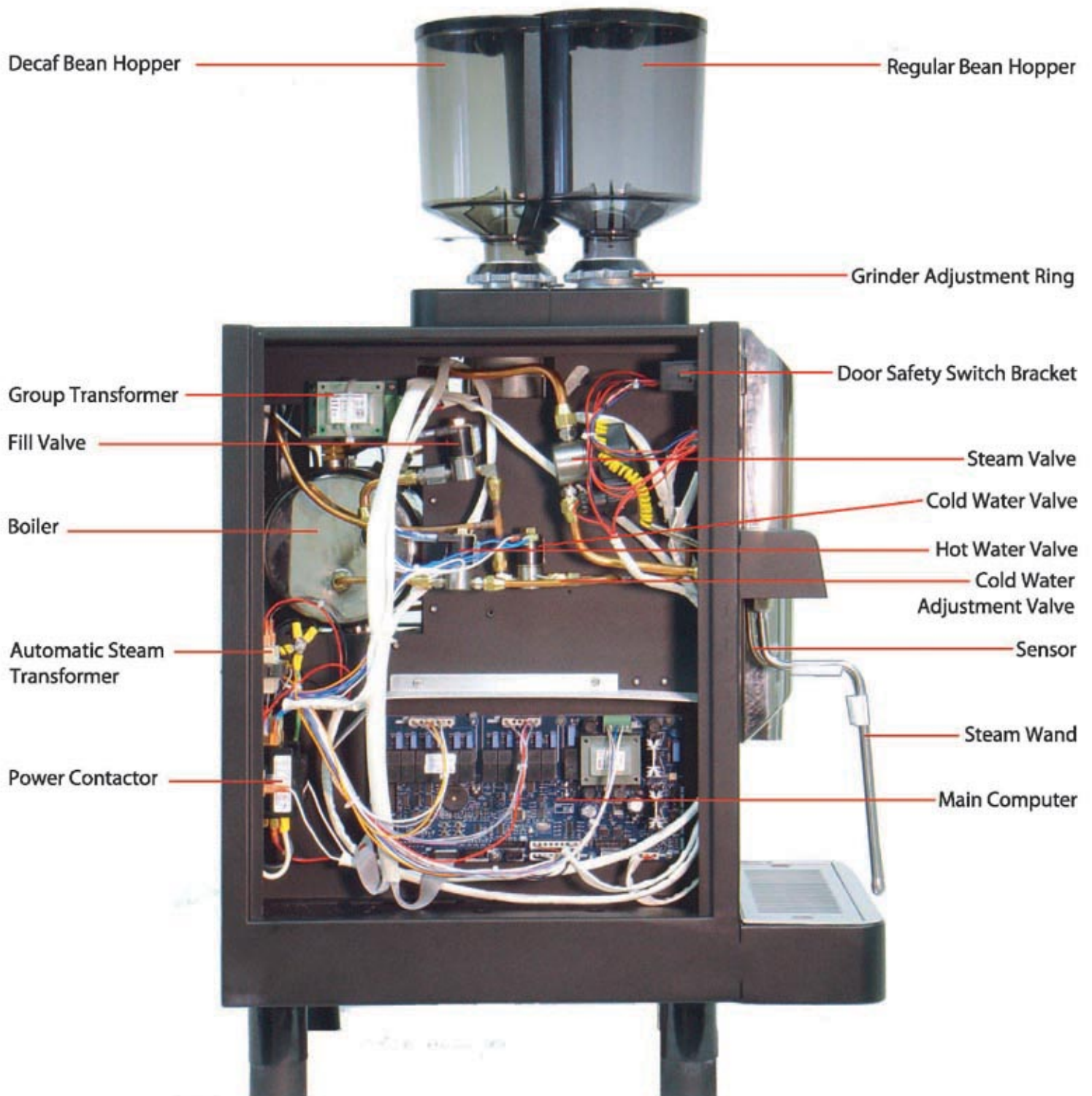


Fig. 12

BOILER (SMALL)

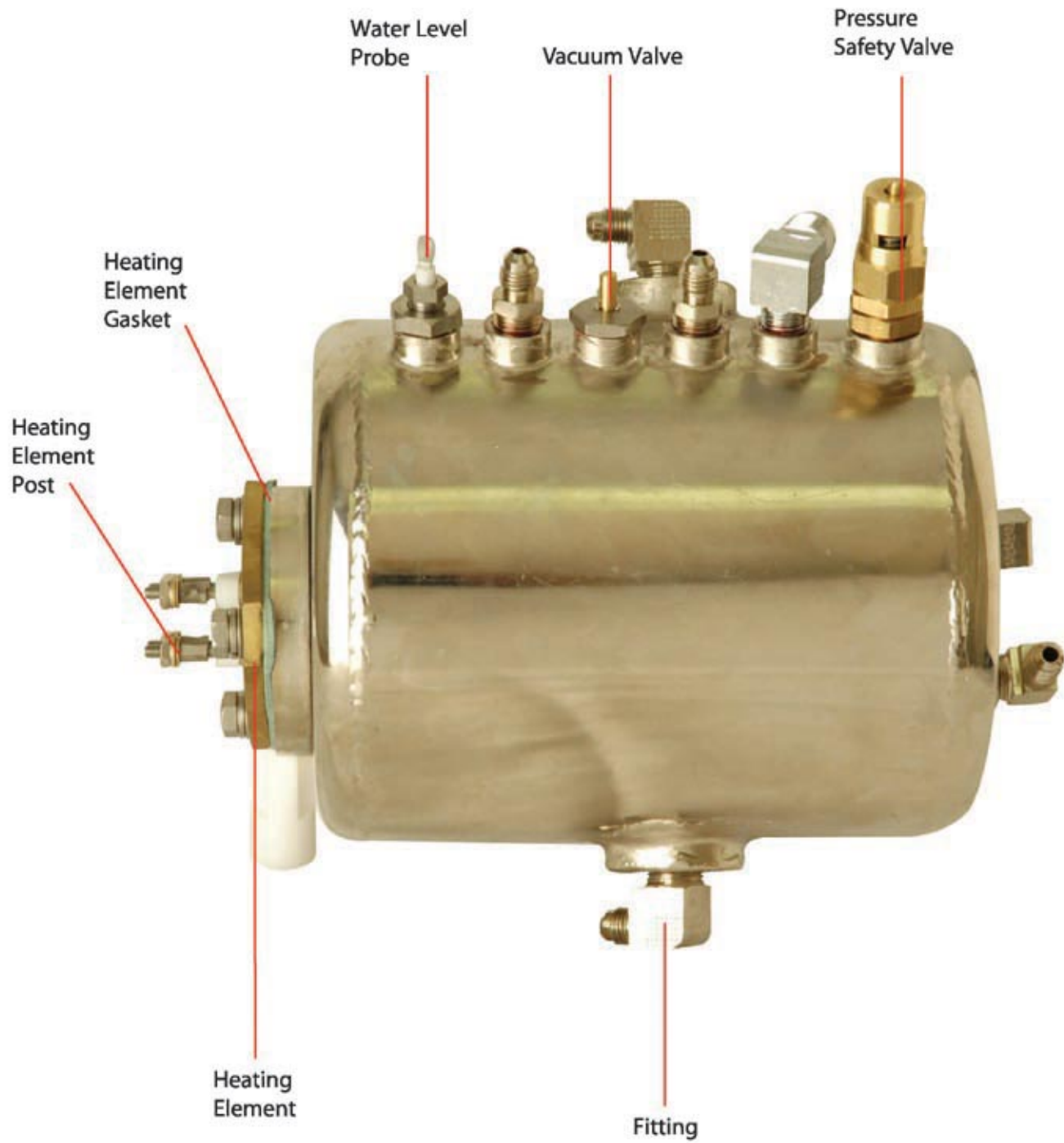


Fig. 13

BREWING MECHANISM

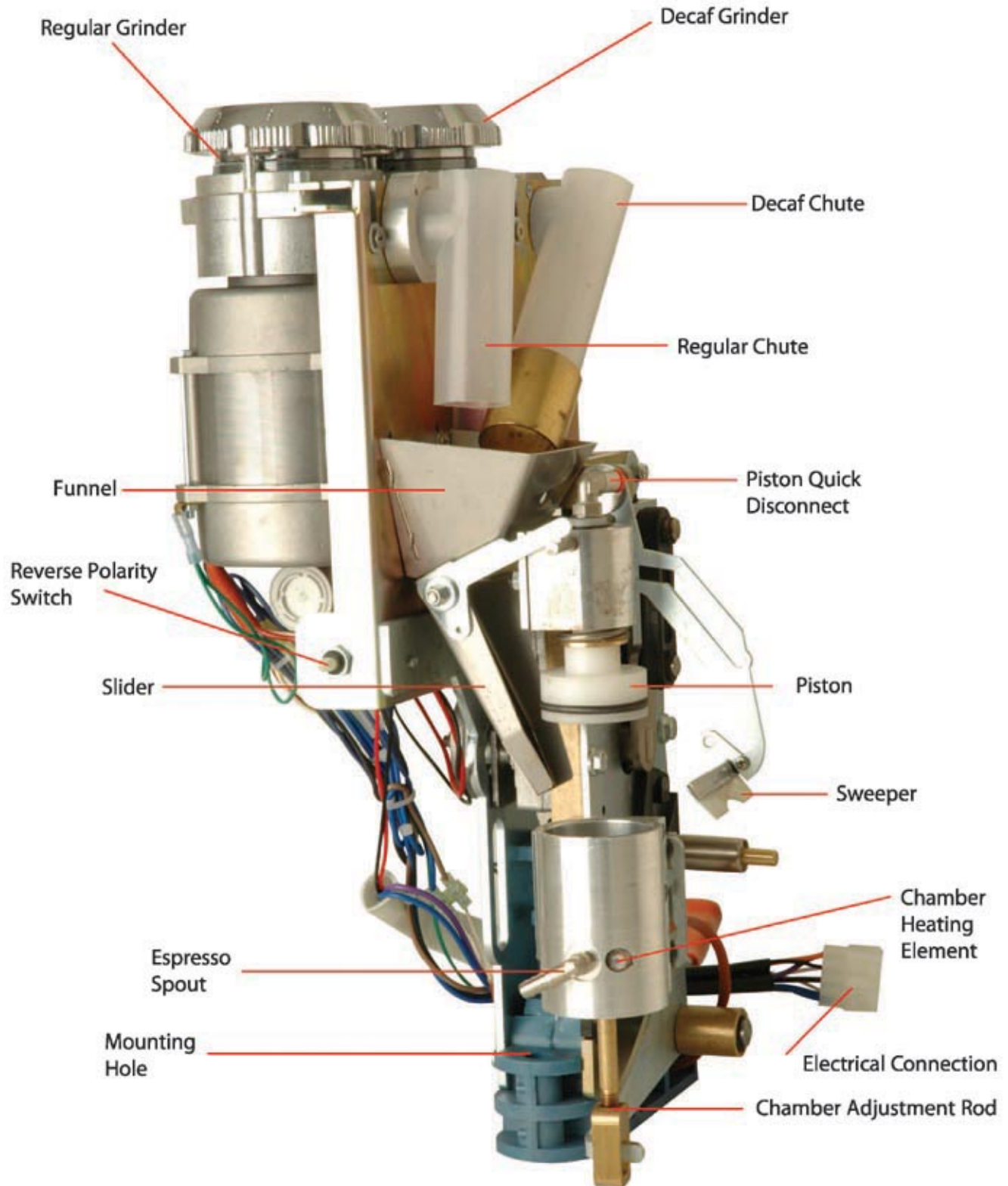


Fig. 14

VIII. WARRANTY

Astra offers its Customers a limited 2 year warranty from the date of shipment of the Product by Astra. ASTRA Grinders will only be guaranteed for a period of thirty (30) days from delivery. Astra warrants that ASTRA Products will perform the functions described in the operating manual provided by Astra when used as intendence and in accordance with Astra's operating instructions.

Astra will replace or repair, at Astra's option, all major components of the Product if that component is defective when shipped from Astra. Normal wear-and-tear of parts is not covered including wear-and-tear of gaskets, O-rings, plastic knobs, handles, filters, electro-valves and pumps.

The Customer and/or any user shall be solely responsible for the selection, installation, use, efficiency, and suitability of the Product and Astra bears no liability therefore.

If the Product is damaged by faulty electrical connections, or damaged by dirty water, scale build-up or if the Product is used differently than set forth in Astra's operating instructions or from its intended use, then this warranty shall be null and void. If the Product does not bear an authorized Astra serial number or is in possession of companies or persons other than the original registrant, the warranty shall be null and void.

The warranty card must be received within ten (10) days of the installation date to be effective. Astra must be contacted prior to return of any warranty covered part for Astra's warranty authorization. All parts shall be sent to Astra by prepaid shipping and all warranty replacement parts will be sent to the Customer collect.

In no event shall Astra be liable to Customer or end user for any damages and/or injuries resulting from or relating to any use, operation or failure of the Product. In no event shall Astra be liable to Customer, end User or third Party for any indirect, special or consequential damages or loss of profits arising from or related to the performance, use or lack of performance of the Product. Astra's liability to the Customer, end User or third Party, if any, shall in no event exceed the total amount paid to Astra by Customer for the Product.



Telephone: 818 340 1800
Facsimile: 818 340 5830
Toll Free: 877 340 1800

sales@astramfr.com
www.astramfr.com

21520 Blythe Street
Canoga Park, CA 91304