



GRINDMASTER®

Operator Manual

Venezia II Espresso Machine ESP1-110V, ESP1-220V, ESP2-220V, ESP3-220V

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Model ESP2-220V



Table of Contents

Safety Information.....	2	Cleaning.....	7
Specifications.....	3	Adjustments	9
Overview.....	4	Draining.....	10
Installation.....	5	Troubleshooting.....	10
Programming	6	Parts Diagram.....	11
Operation	7	Wiring Diagram.....	20

Thank you for purchasing this quality espresso machine. For your safety and the safety of others, read all warnings and the operator manual before installing or using the product. Properly instruct all operators. Keep training records. For future reference, record serial number here:

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Grindmaster-Cecilware

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Grindmaster Cecilware

Safety Information

Important Safety Information



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

For your safety and the safety of others, read all warnings and the operator manual before installing or using the product.

DANGER: This term warns the user of imminent hazard that will result in serious injury or death.

WARNING: This term refers to a potential hazard or unsafe practice, which could result in serious injury or death.

CAUTION: This term refers to a potential hazard or unsafe practice, which could result in minor or moderate injury.

NOTICE: This term refers to information that needs special attention or must be fully understood.

WARNING

To reduce risk of electrical shock, do not remove or open cover. No user-serviceable parts inside. Repair should be done by authorized service personnel only.

The appliance is not intended for outdoor use. Do not expose to rain or direct sunlight.

Do not clean with pressurized water or use in an area where pressurized water may be used.

Cleaning and maintenance shall be made only by properly trained persons with supervision.

This appliance is not intended for use by persons with reduced physical, sensory, or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

Children should be supervised to ensure that they do not play with the appliance.

Do not alter or deform the power cord or plug in any way! Altering or deforming the plug may cause electrical shock, damage unit, and will void warranty.

To reduce risk of explosion or fire, do not use near combustibles.

CAUTION

For safe and proper operation the appliance must be placed in a stable, vertical position.

To reduce risk of serious burns or scalding, do not place hand or other body parts under dispenser while product is brewing.

Always unplug unit from power supply before servicing.

Surfaces are hot and can cause burns. Use caution especially in the areas of the steam wand, hot water wand, and brewing group.

Packaging material, including plastic bag and Styrofoam, can be dangerous and should be kept out of reach of children.

To reduce risk of electrical shock, do not touch machine with wet hands or feet.

NOTICE

Observe machine voltage configuration. Do not apply improper voltage to machine or damage to machine may occur. For use on individual dedicated branch circuit only. Do not use extension cord.

Follow national and local electrical codes.

Do not use the machine and turn off the power during water outage.

This equipment must be installed in compliance with applicable Federal, State, and/or Local plumbing codes having jurisdiction. This product requires an approved back flow prevention water device, such as a double check valve, to be installed between the machine and the water supply.

Please follow maintenance and cleaning instructions specified in this manual to ensure the best operation efficiency of machine.

Specifications

Identification Label (Nameplate)

Every machine has an identification label (Nameplate) placed on the front of the machine as illustrated below. The label includes information of model number, voltage, serial number, wattage, and its certificate. Do not remove this label.

Rough-In Drawing

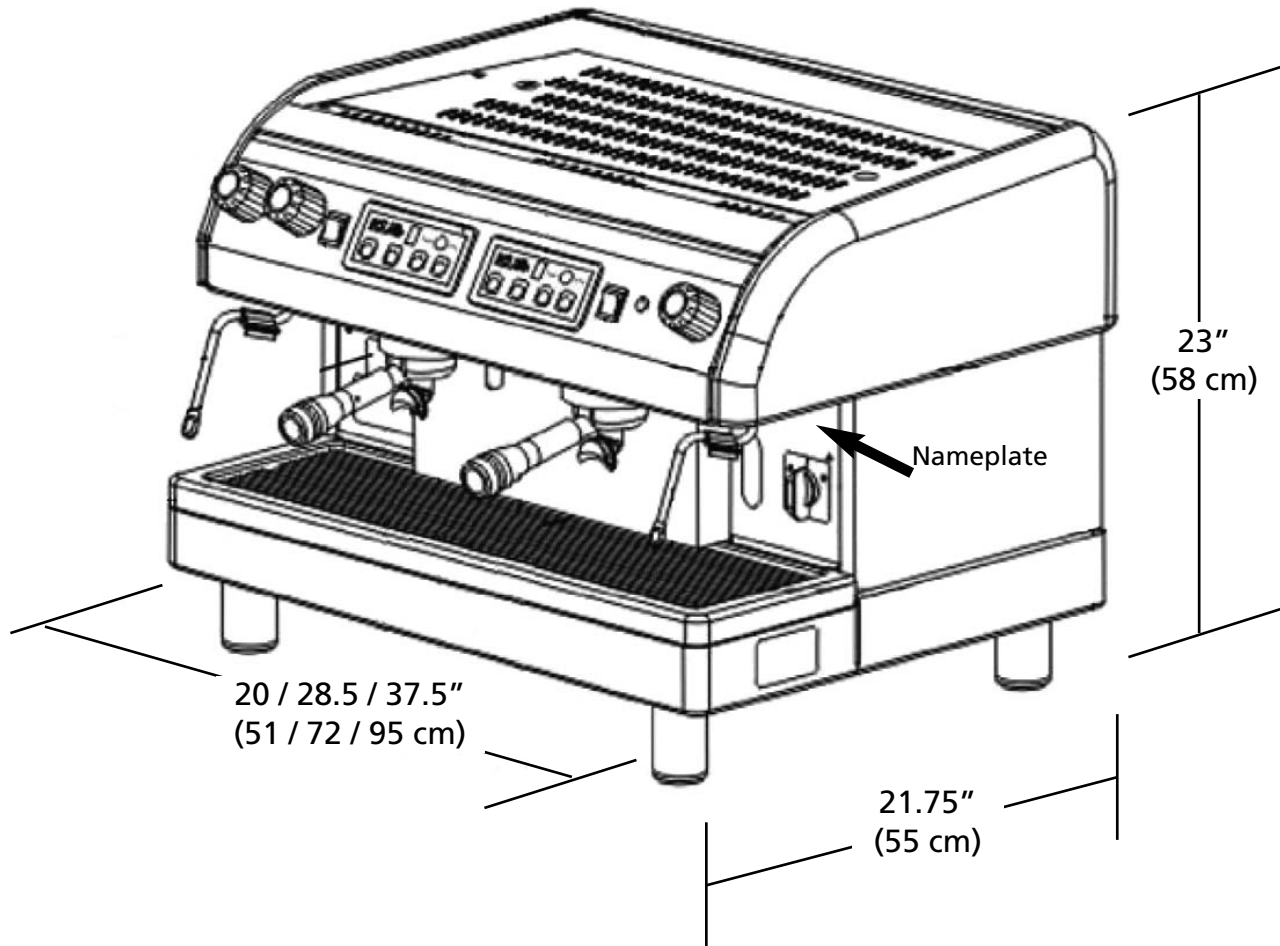


Figure A

Specifications (continued)

Specification Table

Model	Number of Heads	Boiler Capacity	Electrical
ESP1-110V	1 Group	6 quarts / 6 L	110/120V / 1Ph / 50/60 Hz / 18 A / 2 kW
ESP1-220V	1 Group	6 quarts / 6 L	220/240V / 1Ph / 50/60 Hz / 10 A / 2.5 W
ESP2-220V	2 Groups	13 quarts / 12 L	220/240V / 1Ph / 50/60 Hz / 20 A / 4.7 W
ESP3-220V	3 Groups	19 quarts / 18 L	220/240V / 1Ph / 50/60 Hz / 27 A / 6.5 W
Side Clearance required - 4" (10.2 cm)			
Rear Clearance required - 4" (10.2 cm) for water and electrical connections			
Water connection size - 3/4" GHT, 1/2" water line required			
Water pressure between 20 PSI and 120 PSI (138 kPa - 827 kPa). Use regulator if higher pressure.			

Overview

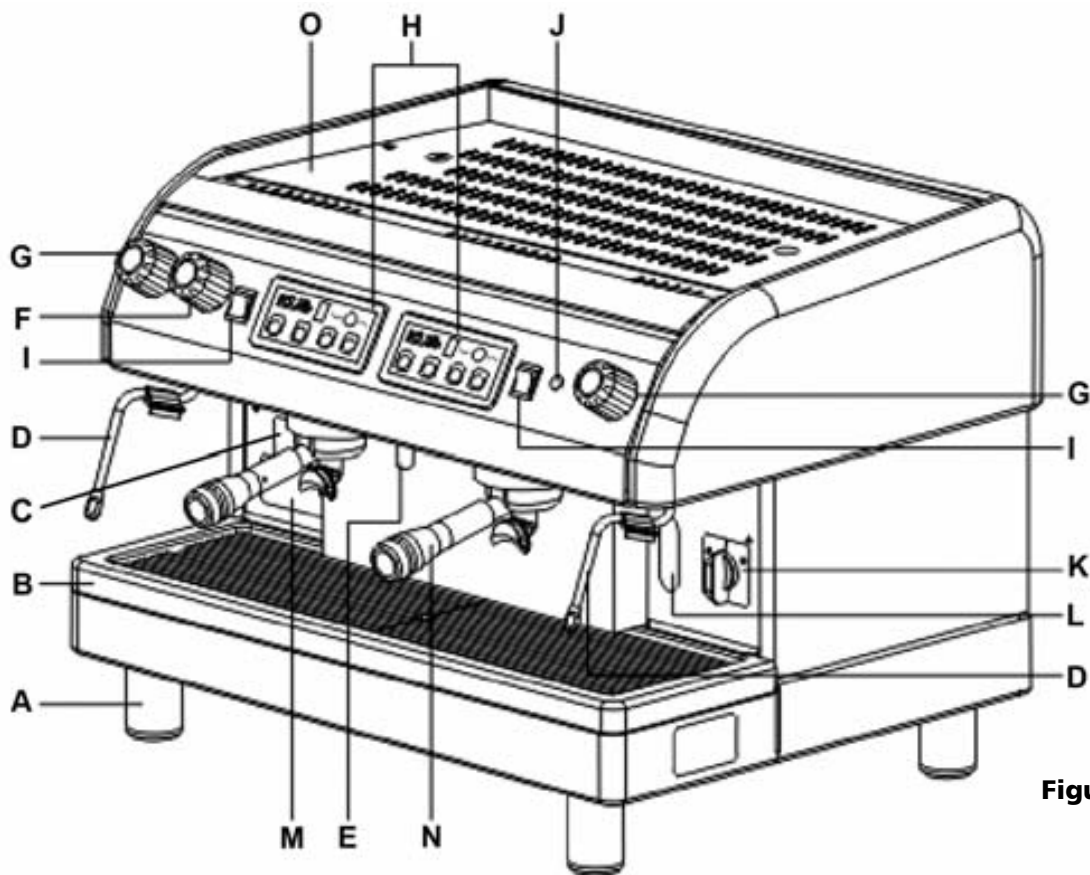


Figure B

A	Leg	I	Manual water outlet controller
B	Drain tray	J	Power indicator
C	Steam boiler pressure gauge	K	Power switch
D	Steam wand	L	Sight glass (Boiler level check window)
E	Hot water wand	M	Identification plate
F	Hot water knob	N	Filter basket handle
G	Steam control wand	O	Cup warming tray holder
H	Control panel		

Installation

▲ WARNING: ELECTRIC SHOCK HAZARD!

Installation of this appliance should be performed by qualified service personnel only. Improper installation could result in electrocution.

Unpacking Instructions

Carefully unpack the machine and inspect immediately for shipping damage. The packaging may contain unattached parts. Your machine was shipped in a carton designed to give it maximum protection in normal handling. It was thoroughly inspected before leaving the factory. In case of damage, contact the shipper, not Grindmaster-Cecilware.

NOTICE: This equipment must be installed in compliance with applicable Federal, State, and/or Local plumbing codes having jurisdiction. This product requires an approved back flow prevention water device, such as a double check valve, to be installed between the appliance and the water supply. If a check valve type backflow preventer is used for water supply protection, a screen of at least 100 mesh (100 strands per 1.0 in [25 mm]) shall be installed immediately upstream. The screen shall be accessible and removable for cleaning or replacement. (Required for NSF approved water hook-up.)

Incoming pressure should be greater than 20 psi and not more than 90 psi.

- A filtering system is recommended to remove odors and inhibit lime and scale build up in the unit.
- In areas with extremely hard water, a water softener must be installed in order to prevent a malfunctioning of the equipment and in order not to void the warranty. Unsoftened water will decompose dissolvable minerals and turn to limescale after boiling. The limescale will reduce the machine's thermal efficiency and machine's lifetime.

NOTICE: Do not use extension cords. Make sure that the outlet the unit plugs into is grounded. Check rating marking on nameplate to be sure electric lines match voltage, phase, and amperage requirements of appliance.

Connections

1. When operating the machine for the first time or replacing water softener and filtration system, remove the water inlet tube and allow it to drain for about one minute in order to get rid of impurities from the water.
2. Connect a 1/2" diameter water line to the water supply connection.
3. Open the water shut-off valve and check connections for leaks. DO NOT over-tighten. Verify water supply.
4. Connect 18mm diameter drain line to bottom, center of machine.
5. Water pressure:
 - a.) If filtered water source pressure exceeds 2 bar and the amount of hot water needed is small, turn the water inlet motor switch (2) to the OFF (up) position to permit water inflow without internal pump assistance (see **Figure C**).
 - b.) In areas of low source water pressure, turn the water inlet motor switch (2) to the ON (down) position to activate the internal pump and draw water into the boiler mechanically.

NOTICE: When source water pressure is low & the water inlet motor switch (2) in **Figure C** is turned to the OFF (up) position, there is the risk of drawing hot water away from the boiler and damaging the pump and water intake solenoid.

6. Attach appropriate plug to cord. Power source corresponds to the electrical rating shown on the serial tag on unit. Plug the Espresso machine into a dedicated power supply outlet.
7.
 - a.) Check and confirm that water source is in normal working order.
 - b.) Turn the power switch to position I to initiate automatic system check. **If boiler water level is not in the green zone, wait until the automatic water replenishment process is complete before proceeding to the next step.**
8. Heating will stop when boiler pressure reaches approximately 1.2 bars (factory default setting). Do not operate machine until steam pressure gauge reading is in the green zone.

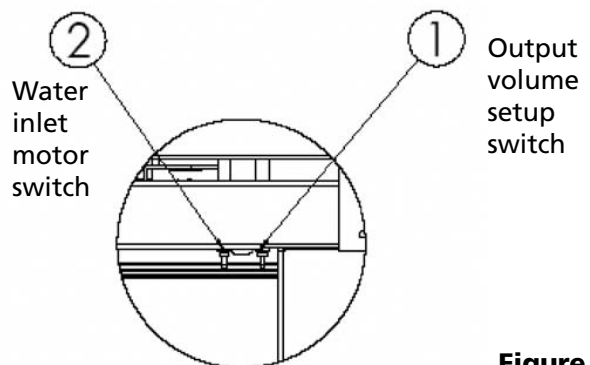
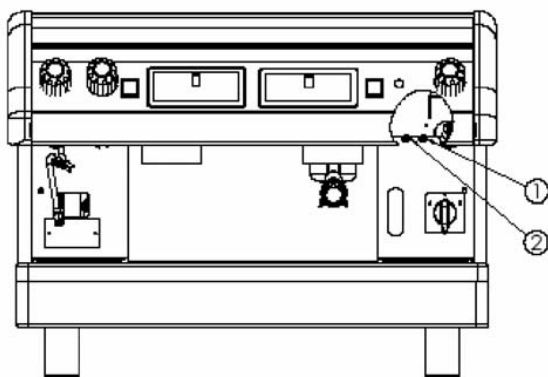


Figure C

Programming

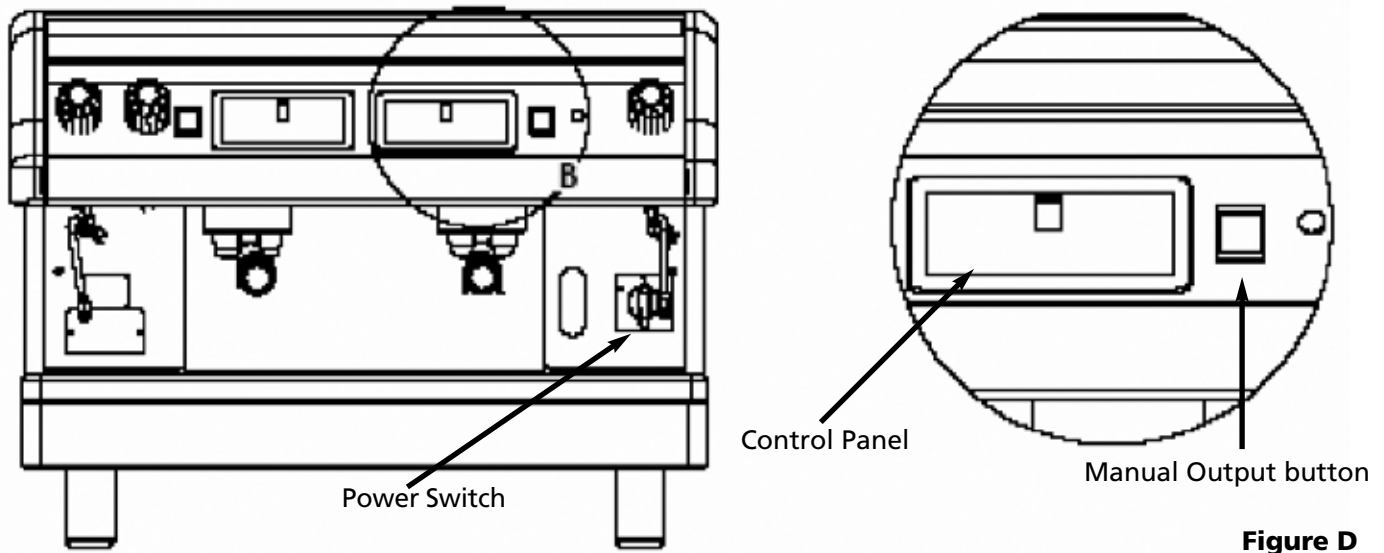


Figure D

Control Panel

There are two identical control panels on two-cup models and three identical control panels on 3-cup models. No default coffee output setting is provided. Settings must be made manually during set-up. If you are using a multi-cup machine, settings made on the farthest right hand side control panel will serve as the default for the others. **Therefore, to set different values for different cup compartments, begin set up from the right and work your way to the left, to prevent the previous setting from being overwritten.**

1. Turn on the programming switch (1), which is located above Power Switch. (see **Figure E**)
2. Press the PROG (setup) button. (see **Figure F**)
3. The LED of Output Keys buttons on the control panel will be lit, indicating the machine is in setup mode. (see **Figure F**)
4. Place measuring cup under the brewing group.
5. To configure key 1, press the key 1 button, which should light LED 1 and switch off all other LEDs. Water will flow from the brewing group. Once desired amount has dispensed, press PROG (setup) button to confirm and exit key 1 setup.
6. Continue programming other buttons. Turn programming switch to OFF when completed. Each time the programming switch is turned ON, it will reset the buttons.

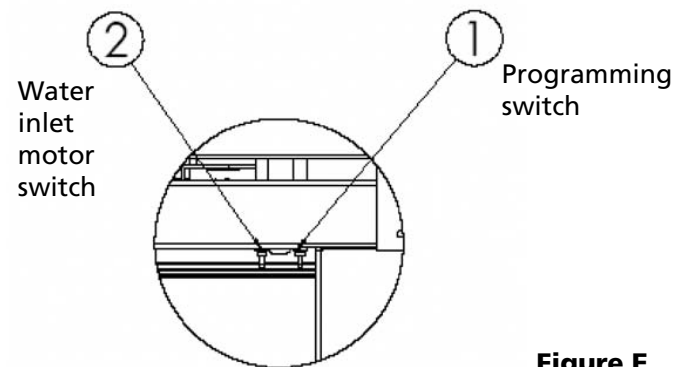


Figure E

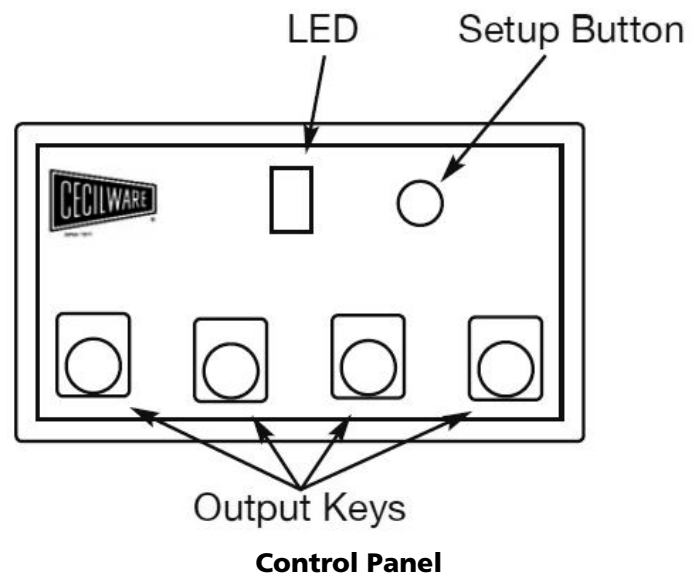


Figure F

Operation

▲ CAUTION: BURN HAZARD

Steam wand, hot water wand, and brewing unit are very hot. Use caution when operating unit to prevent burns.

NOTICE: To avoid overheating, electric wires should be kept untangled and free of obstructions. Don't block air intake or outlet vents on the machine. Never cover or otherwise prevent the free flow of air across the cup warmer.

NOTICE: Do not use cleansers, bleach liquids, powders or any other substance containing chlorine. These products promote corrosion and will pit the stainless steel. USE OF THESE PRODUCTS WILL VOID THE WARRANTY.

1. Place an appropriate quantity of ground coffee in the Porta Filter and tamp the ground coffee firmly. Clean all residual coffee from the rim and sides of the filter. This is to ensure a good seal and full pressure when brewing coffee, and prolong the lifetime of the gasket. Attach the Porta Filter to the machine by rotating until it locks in place.
2. Place cup(s) or glass(es) under spout(s).
3. Either press desired portion button (output key) or press and hold the manual output button until desired portion is dispensed. To stop flow at any time, press and release manual output button. (See **Figure G**)

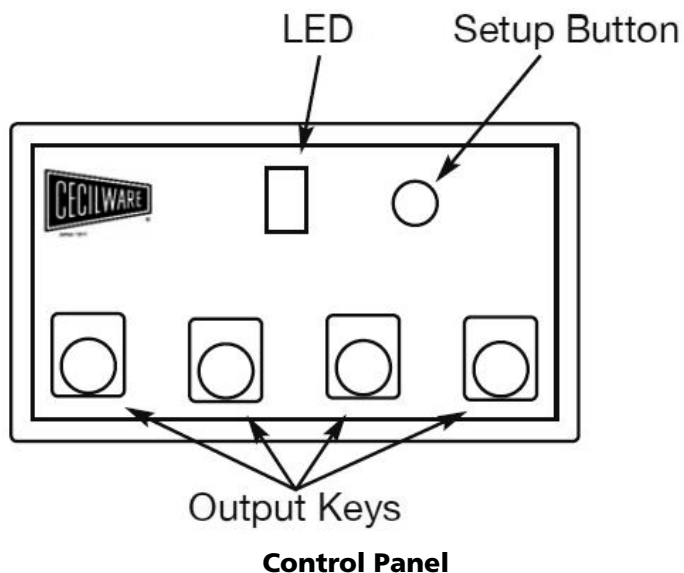


Figure G

4. Move cup(s) or glass(es) to side and remove Porta Filter. Dump grinds. Carefully hold Porta Filter near group head and rinse using the manual output button water. Use extreme caution to avoid burns. Then, fit empty Porta Filter to the brewing group to store and keep warm. (Important: Do not force handle or fix it into the seat too tightly).

Steam Wand:

This can be used by turning the knob counterclockwise, which allows for a varied amount of steam or by pulling out the handle which will dispense the maximum amount of steam.

1. To drain condensate, ensure steam wand is pointed toward the drain grid and pull handle out briefly to dispense a small amount of steam.
2. Pour cold milk in a pitcher and place steam arm into pitcher. Hold pitcher with one hand and turn on steam, either by twisting to add a controlled amount or pulling knob out to add steam at full pressure.
3. Remove pitcher.
4. Wipe arm and nipple clean with soft cloth moistened with sanitizer solution after each use. After wiping, pull steam knob to release a steam burst through the tube to remove any residual milk remaining in the nozzle.

NOTICE: Remove the pitcher from the steam tube after foaming milk. Failure to do so may draw liquid from the pitcher into the steam tube, risking machine component contamination.

Hot Water

1. Turn the hot water knob counterclockwise to obtain hot water through hot water wand. Hot water output will increase the further the hot water knob is turned. Turn the knob clockwise to reduce/stop hot water output.
2. You can also pull the knob straight out in order to obtain hot water.

Stopping

1. After cleaning the machine, remove all liquids and solid matter from the water tray.
2. Turn off the power (turn power switch to position 0).
3. Open steam knob to release steam flow. Do not place any liquid under the steam tube during this process in to avoid system contamination.

Cleaning

▲ CAUTION: BURN HAZARD

Steam wand, hot water wand, and brewing unit are very hot. Use caution when cleaning unit to prevent burns.

NOTICE: All sanitizing agents in the food zone must comply with 21 CFR 178.1010. Sanitize all food dispensing units periodically. All parts to be sanitized must be cleaned first. Cleaning and sanitizing frequency must follow state and local health department regulations.

NOTICE: Wipe the accessories with a soft cloth or specific detergent powder. Don't use scrub sponge or wire brushes.

Cleaning (continued)

After each brewing

1. Carefully hold Porta Filter near group head and rinse Porta Filter using the manual output button water. Water is hot - use extreme caution.
2. Wipe arm and nipple clean with soft cloth moistened with sanitizer solution after each use. After wiping, pull steam knob to release a steam burst through the tube to remove any residual milk remaining in the nozzle.

Daily

Exterior:

Wipe the machine exterior with soft, slight dampened cloth daily before starting operations. If necessary, a mild, non-corrosive cleaning agent may be applied to the cloth.

NOTICE: Do not spray cleaning fluid directly on the espresso machine to avoid corrosion or possible electrical damage.

Back flushing:

1. Remove screw (E), shower screen (D), and plate (C) from the group head (be careful, metal components may be hot). (see **Figure H**)

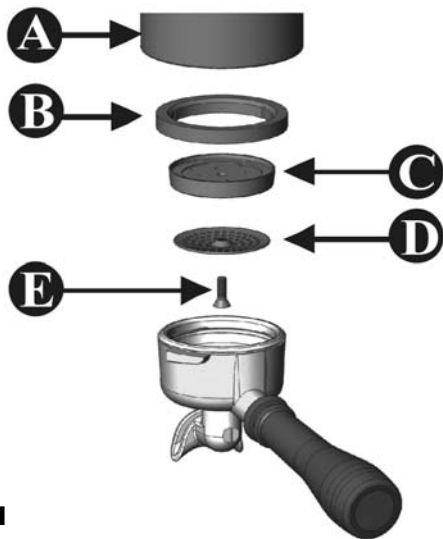


Figure H

2. Place the rubber disc in Porta Filter (see **Figure I**), and apply about 2-3 grams of espresso machine detergent/sanitizer on top of rubber disc. Attach the Porta Filter to the group head and check for tightness.
3. Press the manual output button (see **Figure J**) for approximately 4 seconds and release. Repeat this process several times until water in the filter cup is clear and the detergent/sanitizer has been completely dissolved. Press the manual output button and shake the handle to clean the gasket and the inside of the brewer.
4. Rinse Porta Filter and rubber disc with water from the manual output button until water in Porta Filter appears clean.

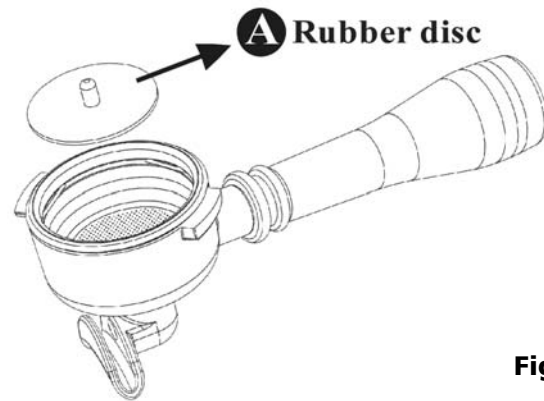


Figure I

5. Replace rubber disc on Porta Filter, then place Porta Filter on the group head and turn the manual output button on and off several times to back flush system. (see **Figure J**) Repeat until the detergent/sanitizer has been completely dissolved.

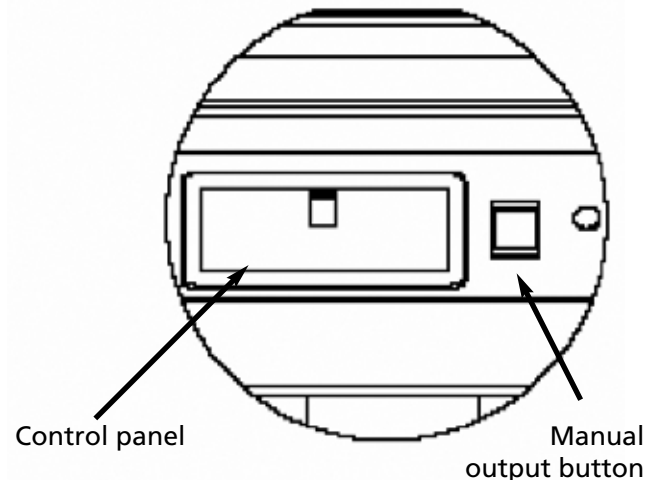


Figure J

6. Screw (E), shower screen (D), and plate (C) should be cleaned and sanitized with the Porta Filter, steam wand nipple and hot water wand sprayer.

Cleaning and sanitizing portafilter:

Notice: To avoid damage, do not immerse espresso Porta Filter handle in water. Do not put group gasket (item B from **Figure H** in water or any liquid detergent.

1. Disassemble Porta Filter. (see **Figure K**, next page)
2. Remove sprayer from hot water wand.
3. Remove nipple from steam arm.
4. Add loose group head parts [screw (E), shower screen (D), and plate (C) from **Figure H**].
5. Use brush to clean and wash parts in detergent or espresso urn cleaner/sanitiser. DO NOT immerse Porta Filter handle. (see **Figure L**, next page)
6. Rinse parts.
7. Prepare a sanitizing solution in accordance with local health department regulations. You may also refer to the US Food and Drug Administration

Cleaning (continued)

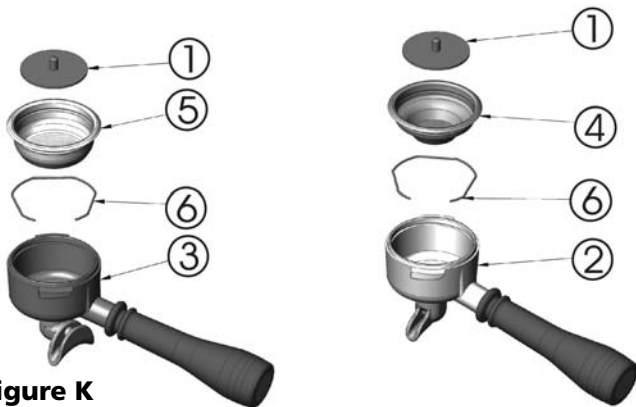


Figure K

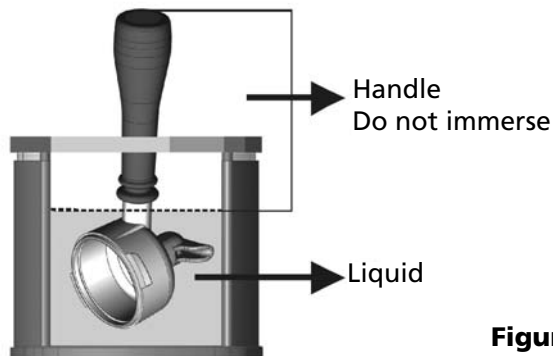


Figure L

regulation 21 CFR 178.1010 "Sanitizing Solutions" and US Environmental Protection Agency 40 CFR 18.940 "Tolerance exemptions for active and inert ingredients for use in antimicrobial formulations (Food-contact surface sanitizing solutions)".

8. Follow the instructions provided with the sanitizing agent.
9. Let all sanitized parts drain and dry naturally. **DO NOT WIPE THEM DRY.**
10. Reassemble parts.

Drain Tray and Discharge Trough:

1. Remove and wash the drain tray after stopping use. (see **Figure M**)

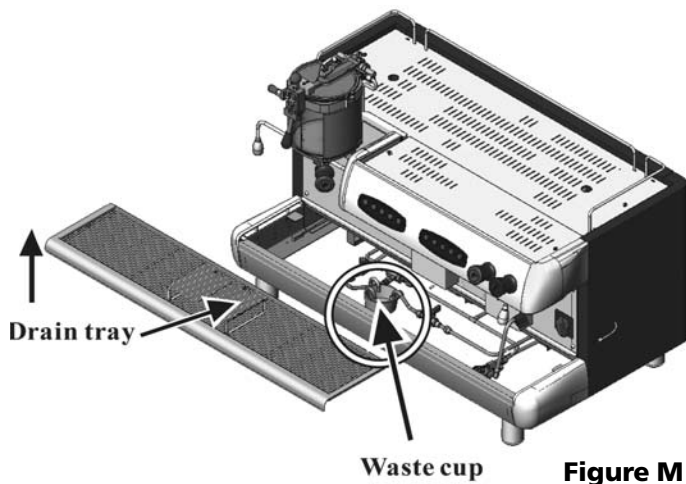


Figure M

2. Wipe and remove sediments in the discharge trough with a wet cloth and wash with hot water to clear the discharge tube.
3. If water does not discharge properly, place a teaspoon of detergent into the discharge trough and flush with hot water to dissolve residual oils in the tube.
4. Reassemble after the water tray has dried.

Adjustments

▲ CAUTION: BURN HAZARD

Steam wand, hot water wand, and brewing unit are very hot. Use caution when adjusting unit to prevent burns.

NOTICE: Please contact your authorized service representative to undertake these procedures.

The rest of this manual contains information to aid the service technician who is maintaining this equipment. This section has information on performing common service tasks.

Pump Pressure Adjustment

The pump pressure has been factory adjusted to 9 bar (the recommended pressure). After machine starts up and water refills, press manual output button and read pressure on pressure gauge if the indicator is on green zone (8-10 bar). (see page 4, **Figure B**, part C) If the pressure is not in the green zone, adjust pressure as shown below:

1. Remove left side panel
2. Attach Porta Filter into the brewing group with filled ground coffee.
3. Press continuous flow button. Turn screw clockwise as shown in **Figure N** to increase pressure; turn counterclockwise to reduce pressure.

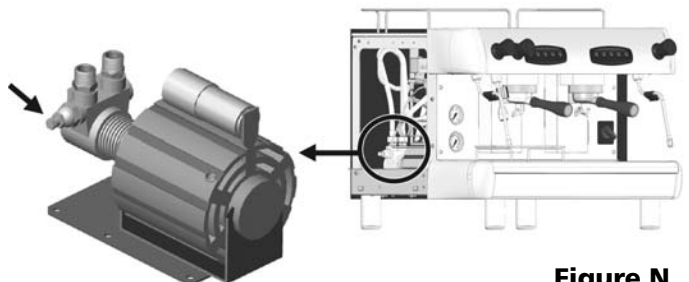


Figure N

Steam Boiler Pressure Calibration

▲ WARNING: SHOCK HAZARD

Disconnect power before adjusting steam boiler pressure.

Steam boiler pressure is controlled by pressure switch. The pressure inside the boiler continues to rise as the water is heated by the heating elements. Reducing pressure will reduce temperature, while increasing

Adjustments (continued)

pressure will increase temperature. The steam boiler has been factory adjusted to 1.2bar, (the recommended pressure). Please check if your pressure on the pressure switch is 1.2bar or in the green zone (1-1.4bar). (see page 4, **Figure B**, part C) If so, you don't need to adjust the pressure. In case there is a need to calibrate the pressure, please follow below procedure for calibration:
NOTE: Please turn off the machine before undertaking this operation.

1. Turn off machine.
2. Remove top cover of machine, and locate the pressure switch on the upper right size.
3. Remove the black case from the pressure switch. Use screw to adjust the pressure as shown in **Figure O**. Turn screw clockwise to decrease pressure, or counterclockwise to increase pressure. A complete screw turn results in 0.1 bar variation.

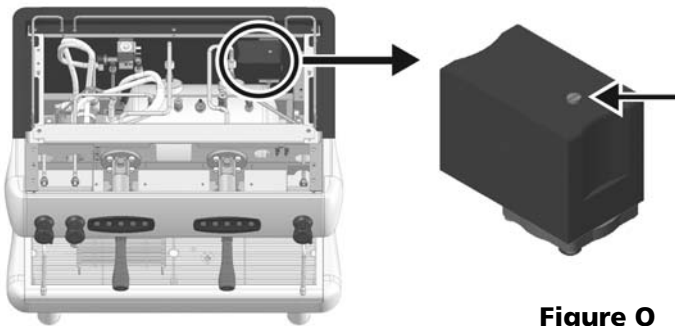


Figure O

Draining

▲ CAUTION: BURN HAZARD

Dispenser surfaces and water inside dispenser are very hot. Use caution when draining unit to prevent burns.

▲ CAUTION: BURN HAZARD

Never turn on drain valve when there is pressure in the boiler.

If espresso machine will not be used for an extended period, will be stored, or transported, drain tank to prolong life and prevent damage from freezing.

1. Turn off the machine, and release all the pressure from boiler by turning on the steam knob(s).
 2. After the steam is completely released and the pressure on steam boiler pressure gauge reads "0", remove drain tray and locate drain valve under drain tray. Turn on drain valve to drain water out of boiler. Drain valve is on when it is parallel to pipe.
- NOTE: Please DO NOT turn off the steam knob after the steam is released for storage. Keep the steam knob on. When you re-start the machine, do not turn off the steam knob until you see water drop from the steam wand. This is to balance the boiler pressure.
3. Turn off drain valve when water stops flowing into waste cup. Drain valve is off when it is perpendicular to pipe.

Troubleshooting

▲ WARNING: To reduce the risk of electrical shock, unplug the dispenser power cord before repairing or replacing any internal components of the unit. Before any attempt to replace a component, be sure to check all electrical connections for proper contact. Only a qualified service technician should perform electrical and mechanical adjustments or repairs.

Before you call for help, please read the following:

INDICATION	PROBABLE CAUSE	SOLUTION
All lights on control panel turn on	<ul style="list-style-type: none"> • Water level probe not functioning properly. • Water intake solenoid is out of order. • Input water flow has been interrupted. 	<ul style="list-style-type: none"> • Make sure that the water valve is turned on and there is water flowing into machine. • Turn off machine. Restart after 3 seconds. • Turn water supply on.
All lights on ONE control panel flash	<ul style="list-style-type: none"> • Coffee grounds are too fine. • Water intake solenoid is out of order. • Flow meter is out of order. 	<ul style="list-style-type: none"> • Adjust fineness of coffee grinds. • Turn off machine. Restart after 3 seconds. • Press any key to eliminate

Troubleshooting (continued)

INDICATION	PROBABLE CAUSE	SOLUTION
		the breakdown signal, and notify qualified service technician.

Note: Wait at least 3 seconds to restart the machine after turning it off to ensure previous error stored in memory is cleared.

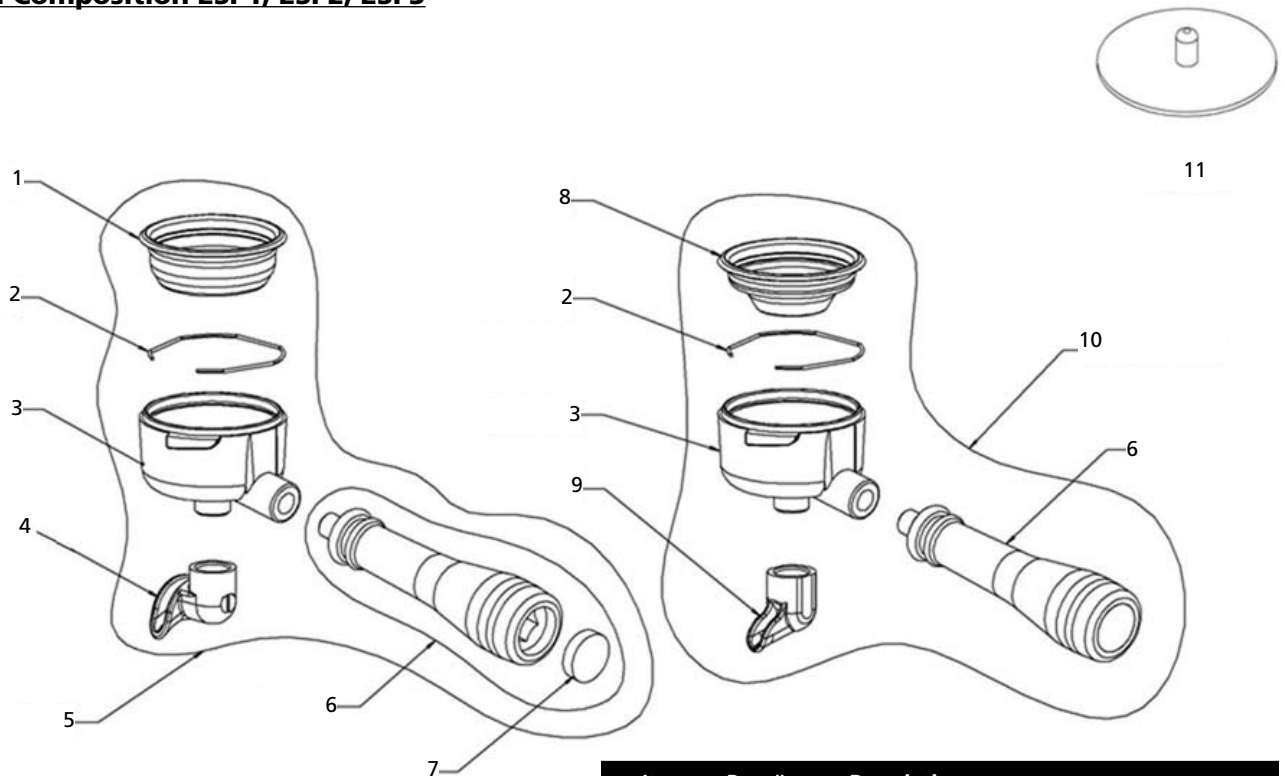
If you need help, call Grindmaster-Cecilware Technical Service Department, (502) 425-4776 or (800) 695-4500 (USA & Canada only) (Monday through Friday 8 AM - 6 PM EST). Please have the model and serial number ready so that accurate information can be given.

Prior authorization must be obtained from Grindmaster-Cecilware for all warranty claims.

Grindmaster-Cecilware provides the industry's BEST warranty. Visit our website at gmcw.com for warranty terms and conditions.

Parts Diagram

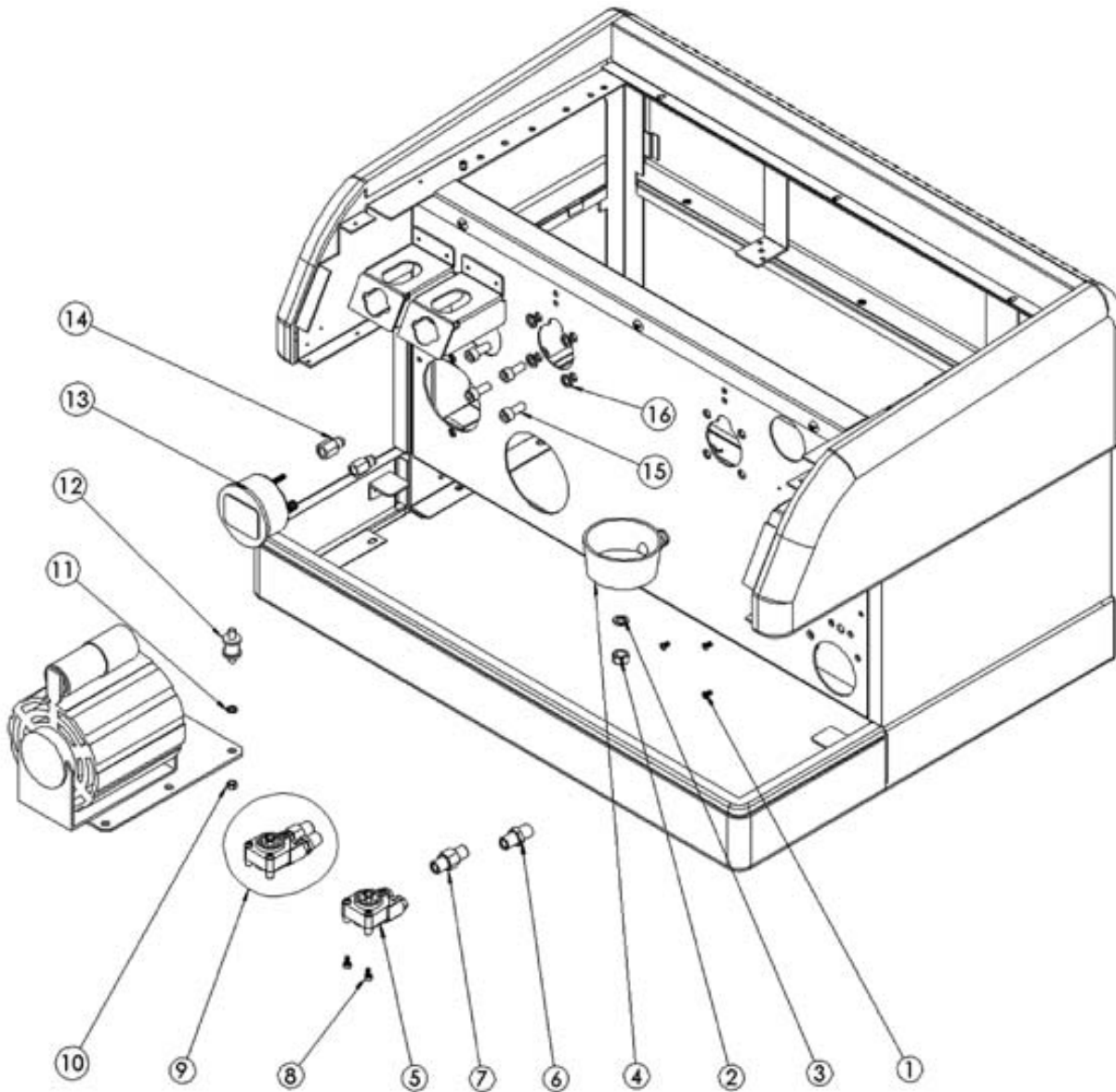
Overall Composition ESP1, ESP2, ESP3



Item	Part #	Description
1	01356	2 CUP STAINLESS STEEL FILTER
2	01352	FILTER CLAMP SPRING D1.4
3	01350	FILTER SUPPORT
4	01358	2 CUP BRASS SPOUT
5	01355	2 CUP PORTA FILTER ASSEMBLY
6	01346	FILTER HOLDER KNOB CAP
7	01354	FILTER HOLDER BACK LID
8	01348	1 CUP STAINLESS STEEL FILTER
9	01351	1 CUP BRASS SPOUT
10	01347	1 CUP PORTA FILTER ASSEMBLY
11	01346	SILICA GEL WASHER

Parts Diagram (continued)

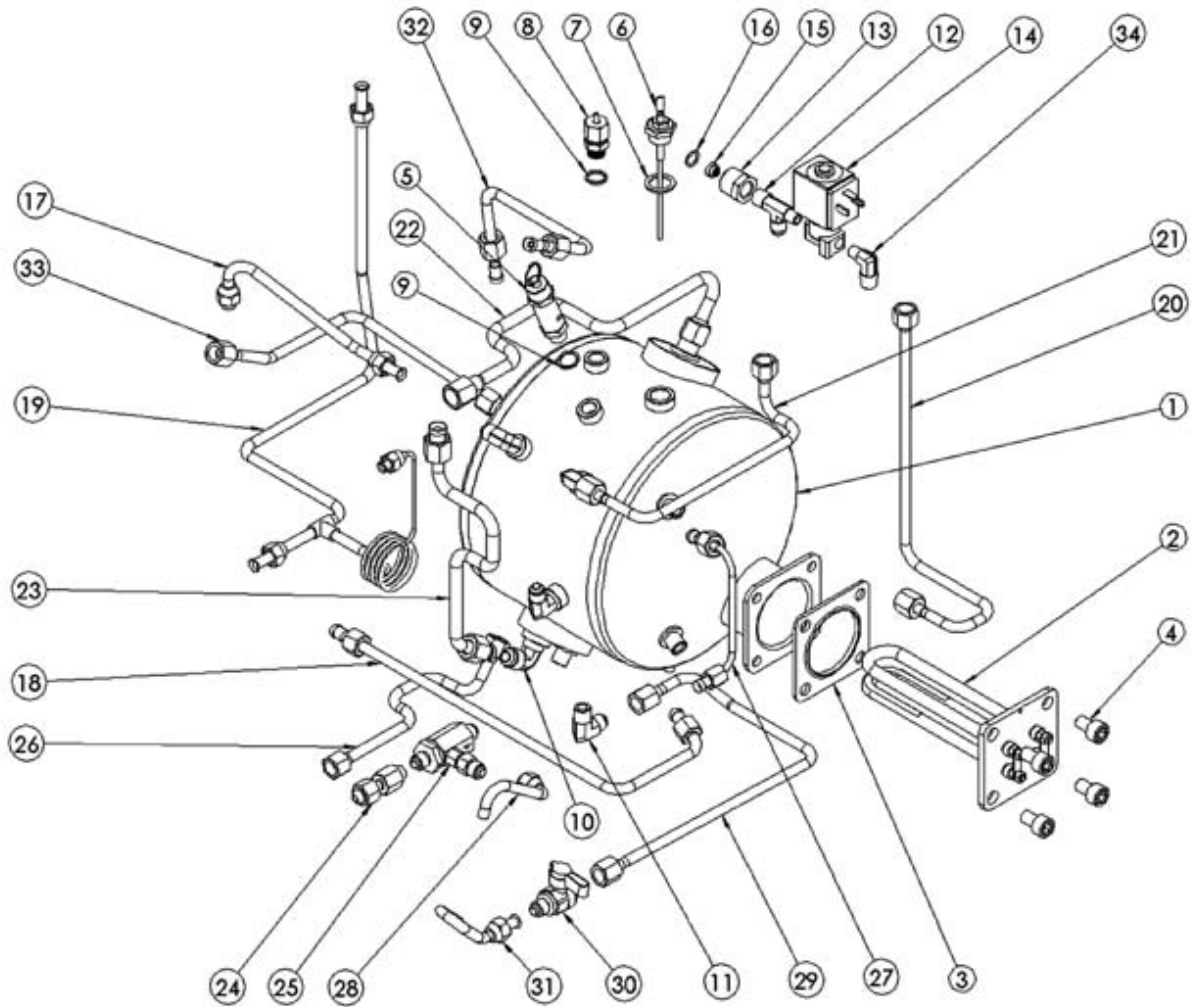
Overall Composition ESP1, ESP2, ESP3



Item	Part #	Description	Item	Part #	Description
1		SCREW M4*8	9		FLOWMETER DOSER ASSY
2		NUT M10	10		NUT M6
3		SPRING WASHER M10	11		SPRING WASHER M6
4		DRAIN BASIN	12		ANTI FOOT VIBRATION
5	01325L	FLOWMETER DOSER	13	01331L	PRESSURE GAUGE FOR ESP 220V
6		BRASS FITTING PS/1/4*PS1/4*L33.5	14		PRESSURE GAUGE
7		BRASS FITTING PS/1/4*PS1/4*L42	15		SCREW M8*20
8		SCREW M4*6	16		SPRING WASHER M8

Parts Diagram (continued)

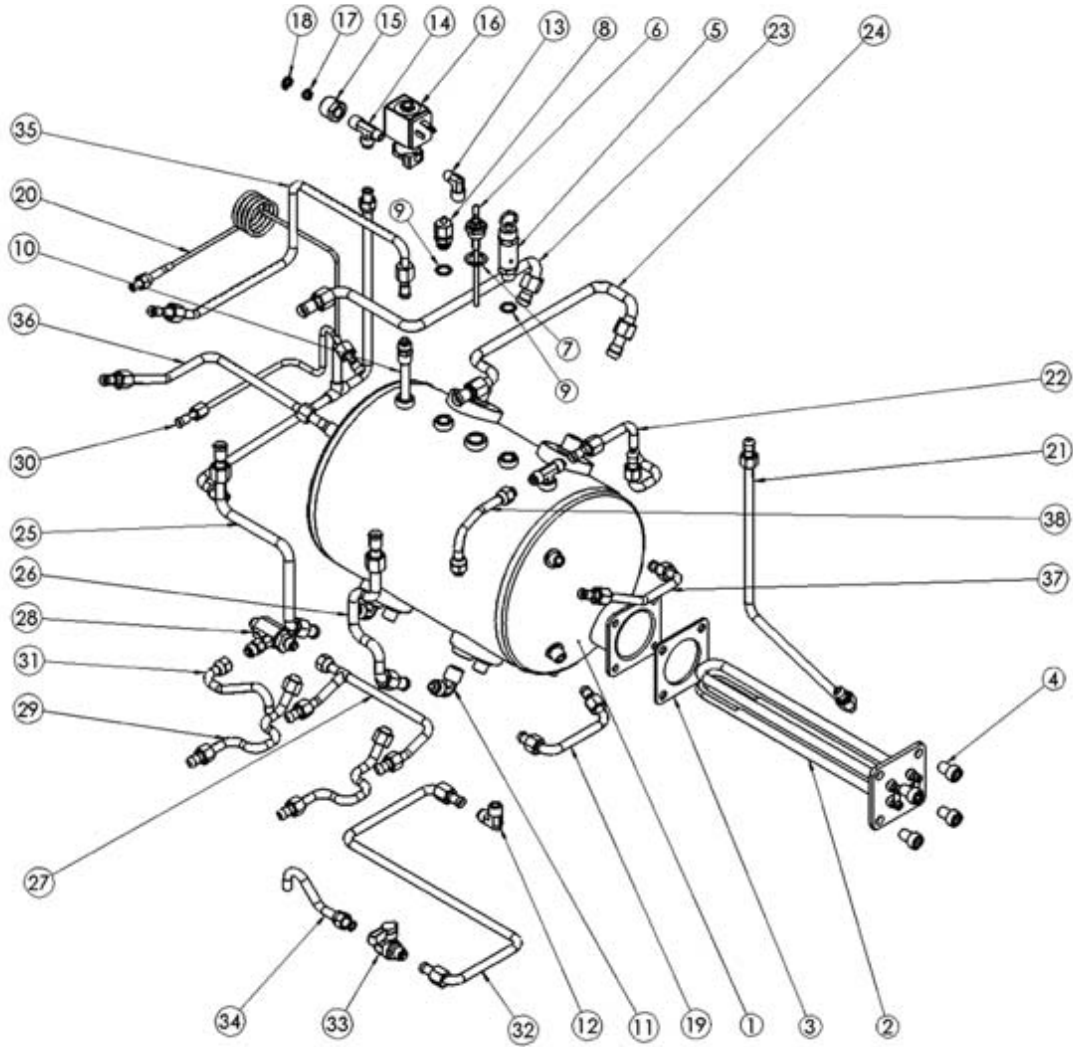
Boiler ESP1 Hydraulic Circuit



Item	Part #	Description	Item	Part #	Description
1	410-00385	BOILER	17		WATER LEVEL UPPER TUBE 110V
2		HEATING ELEMENT 1500W 110V FOR ESP1	18	410-00442	WATER LEVEL LOWER TUBE
2	01343L	HEATING ELEMENT 2000W 220V FOR ESP1	19	01361L	AUT. WATER REFILL TUBE
3	01316L	SI-GASKET ELEMENT	20	01364L	AUT. WATER REFILL TUBE REAR
4	01318L	HEX SCREW (M10*16)	21		PRESSURE GAUGE COPPER TUBE
5		SAFETY VALVE	22		HEAT EXCHANGER OUTLET TUBE
6	01371L	LEVEL PROBE ASSY	23		HEAT EXCHANGER RETURN TUBE
7	01320L	VALVE GASKET BRASS	24		FLOWMETER INLET TUBE
8	01321L	ANTI-EDDY VALVE V.A.R.	25	410-00358	S.C.N.R.DOSER VALVE 1/2*1/2*1/2
9	01319L	VALVE GASKET BRASS	26		HEAT EXCHANGER INLET TUBE
10	01322L	ELBOW BRASS PT1/4*3/8	27		STEAM PRESSURE GAUGE TUBE
11		ELBOW BRASS CONNECTOR 3/8*PT3/8	28		EXPANSION DRAIN TUBE
12		BRASS CONN PT 1/4*1/2-20UNF*1/2-20UNF	29		BOILER DRAIN TUBE REAR
13		BRASS CONNECTOR	30		PRESSURE RELEASE TAP PS1/4xPS1/4
14	01340L	SOL. VALVE WATER REFILL ASS. 110V	31		BOILER DRAIN TUBE FRONT
14	01324L	SOL. VALVE WATER REFILL ASS. 208V 240V	32		HOT WATER OUTLET TUBE REAR
15		SPHERICAL BRONZE CONICAL FILTER	33		STEAM OUTLET TUBE FRONT 110V
16	01323L	NBR O RING FOR ESP 220V	33		STEAM OUTLET TUBE FRONT 220V
17		WATER LEVEL UPPER TUBE 220V	34	01365L	ELBOW BRASS CONN. PT1/8 * PT1/4

Parts Diagram (continued)

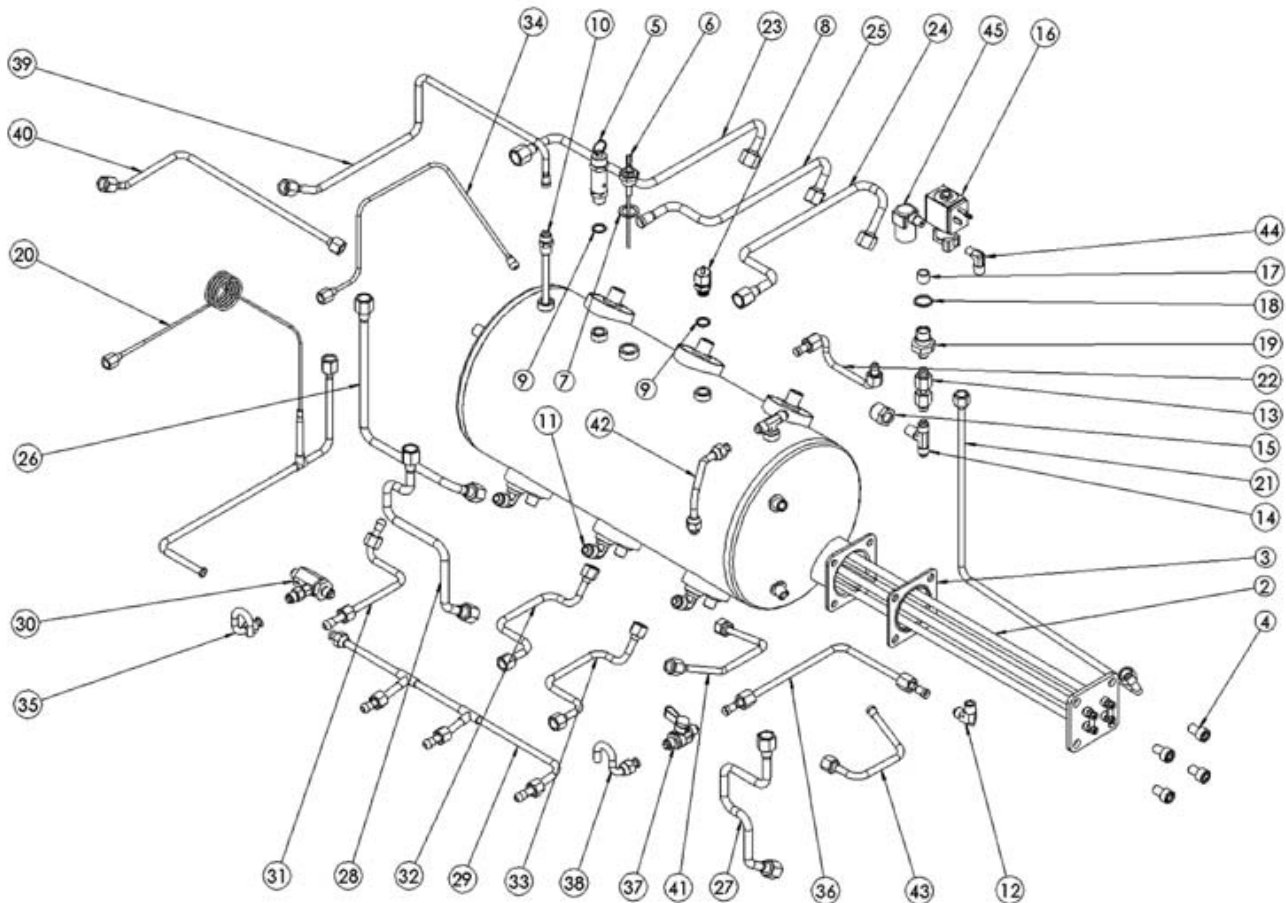
Boiler ESP2 Hydraulic Circuit



Item	Part #	Description	Item	Part #	Description
1	01362L	BOILER	20		AUT. WATER REFILL TUBE
2	01315L	HEATING ELEMENT 4000W 220V FOR ESP2	21	01364L	AUT. WATER REFILL TUBE REAR
3	01318L	SI-GASKET ELEMENT	22		PRESSURE GAUGE COPPER TUBE
4		HEX SCREW (M10*16)	23		HEAT EXCHANGER OUTLET TUBE LEFT
5	01371L	SAFETY VALVE	24		HEAT EXCHANGER OUTLET TUBE RIGHT
6	01320L	LEVEL PROBE ASSY	25		HEAT EXCHANGER RETURN TUBE LEFT
7	01321L	VALVE GASKET BRASS	26		HEAT EXCHANGER RETURN TUBE RIGHT
8	01319L	ANTI-EDDY VALVE V.A.R.	27		FLOWMETER INLET TUBE
9	01322L	VALVE GASKET BRASS	28	410-00358	S.C.N.R.DOSER VALVE 1/2*1/2*1/2
10		HOT WATER CONDUCT TUBE IN BOILER	29		HEAT EXCHANGER INLET TUBE
11		ELBOW BRASS PT1/4*3/8	30		STEAM PRESSURE GAUGE TUBE
12		ELBOW BRASS CONNECTOR 3/8*PT3/8	31		EXPANSION DRAIN TUBE
13	01365L	ELBOW BRASS CONNECTOR PT 1/8*PT1/4	32		BOILER DRAIN TUBE REAR
14		BRASS CONN PT 1/4*1/2-20UNF*1/2-20UNF	33		PRESSURE RELEASE TAP PS1/4xPS1/4
15		BRASS CONNECTOR	34		BOILER DRAIN TUBE FRONT
16	01324L	SOL. VALVE WATER REFILL ASS. 208V 240V	35		HOT WATER OUTLET TUBE REAR
17		SPHERICAL BRONZE CONICAL FILTER	36	01384L	STEAM OUTLET TUBE FRONT LEFT
18	01323L	NBR O RING FOR ESP 220V	37		STEAM OUTLET TUBE FRONT RIGHT
19		WATER LEVEL LOWER TUBE	38		WATER LEVEL UPPER TUBE

Parts Diagram (continued)

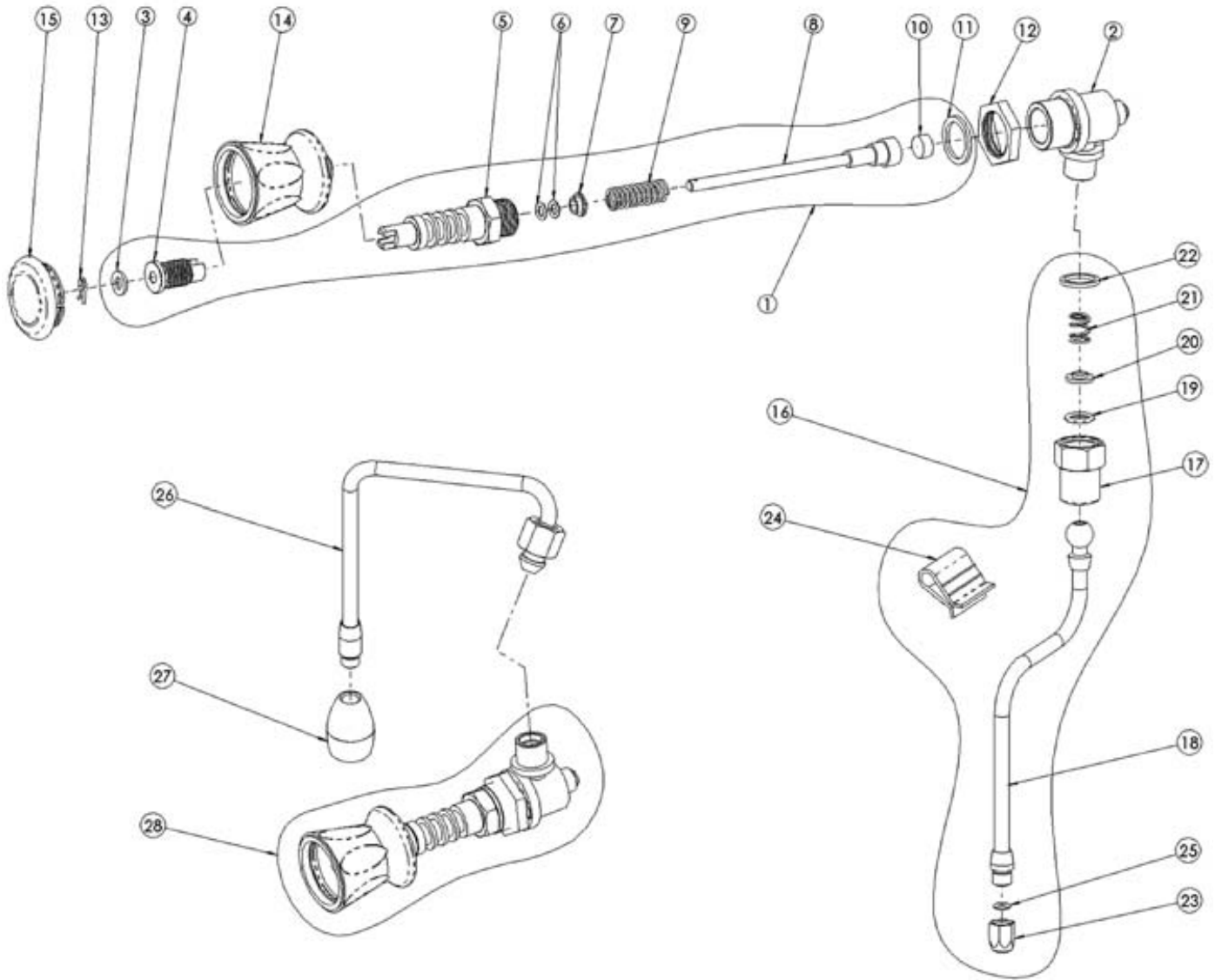
Boiler ESP3 Hydraulic Circuit



Item	Part #	Description	Item	Part #	Description
1		BOILER	24		HEAT EXCHANGER OUTLET TUBE RIGHT
2	01317L	HEATING ELEMENT 6000W 220V FOR ESP3	25		HEAT EXCHANGER OUTLET TUBE MIDDLE
3	01318L	SI-GASKET ELEMENT	26		HEAT EXCHANGER RETURN TUBE LEFT
4		HEX SCREW (M10*16)	27		HEAT EXCHANGER RETURN TUBE RIGHT
5	01371L	SAFETY VALVE	28		HEAT EXCHANGER RETURN TUBE MIDDLE
6	01320L	LEVEL PROBE ASSY	29		FLOWMETER INLET TUBE
7	01321L	VALVE GASKET BRASS	30	410-00358	S.C.N.R.DOSER VALVE 1/2*1/2*1/2
8	01319L	ANTI-EDDY VALVE V.A.R.	31		HEAT EXCHANGER INLET TUBE LEFT
9	01322L	VALVE GASKET BRASS	32		HEAT EXCHANGER INLET TUBE MIDDLE
10		HOT WATER CONDUCT TUBE IN BOILER	33		HEAT EXCHANGER INLET TUBE RIGHT
11		ELBOW BRASS PT1/4*3/8	34		STEAM PRESSURE GAUGE TUBE
12		ELBOW BRASS CONNECTOR 3/8*PT3/8	35		EXPANSION DRAIN TUBE
13		AUT. WATER REFILL TUBE UPPER	36		BOILER DRAIN TUBE REAR
14		BRASS CONN PT 1/4*1/2-20UNF*1/2-20UNF	37		PRESSURE RELEASE TAP PS1/4xPS1/4
15		BRASS CONNECTOR	38		BOILER DRAIN TUBE FRONT
16	01324L	SOL. VALVE WATER REFILL ASS. 208V 240V	39		HOT WATER OUTLET TUBE REAR
17		GROUP FILTER ST. STEEL D13.8*d10.5*11.5	40		STEAM OUTLET TUBE FRONT LEFT
18	01323L	NBR O RING FOR ESP 220V	41		STEAM OUTLET TUBE FRONT RIGHT
19		AUT. WATER REFILL REDUCTION	42		WATER LEVEL UPPER TUBE
20		AUT. WATER REFILL TUBE MIDDLE	43		WATER LEVEL LOWER TUBE
21	01364L	AUT. WATER REFILL TUBE REAR	44	01365L	ELBOW BRASS CONNECTOR PT1/8 * PT1/4
22		PRESSURE GAUGE COPPER TUBE	45		ELBOW BRASS CONNECTOR PF3/8 * PT1/8
23		HEAT EXCHANGER OUTLET TUBE LEFT			

Parts Diagram (continued)

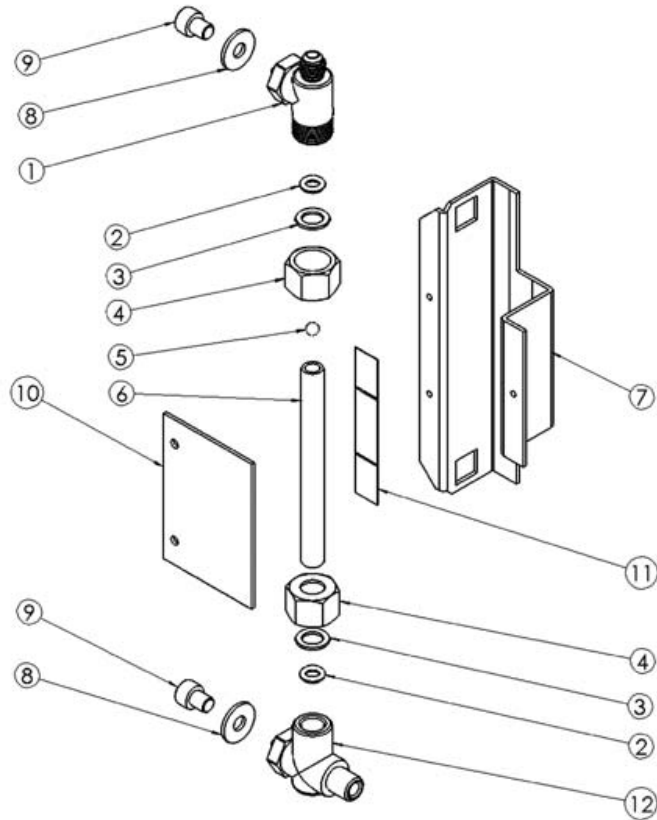
Water and Steam Assembly



Item	Part #	Description	Item	Part #	Description
1		WATER/STEAM TAP UNIT	15	01332L	HOT WATER KNOB CAP
2		TAP BODY	16		KIT STEAM TUBE
3	01366L	SEAL	17		NUT PIPE STEAM FOR SPRING
4	01335L	CHROMED TAP SHAFT	18	01378L	KIT STEAM TUBE
5		TAP CONNECTOR	19	01313L	O-RING FOR ESP 220
6	01309L	O-RING	20	01379L	STEAM TAP WASHER
7		TIGHTENING GASKET	21	01380L	STEAM TAP SPRING
8		STEAM HOT WATER VALVE SHAFT	22	01312L	PIPE GASKET TEFLON
9		STEAM TAP SPRING	23	01383L	STEAM SPRAYER
10	01308L	GASKET	24		ANTI SCORCHING CLIPS
11	01310L	COPPER SEAL	25	01314L	O-RING
12		BRASS NUT	26		HOT WATER TUBE
13	01311L	R STEEL CIRCLIP	27	410-00362	EXTERNAL SPRAYER
14	01336L	TAP KNOB	28	01337L	WATER STEAM TAPS ASSY
15	01333L	STEAM KNOB CAP			

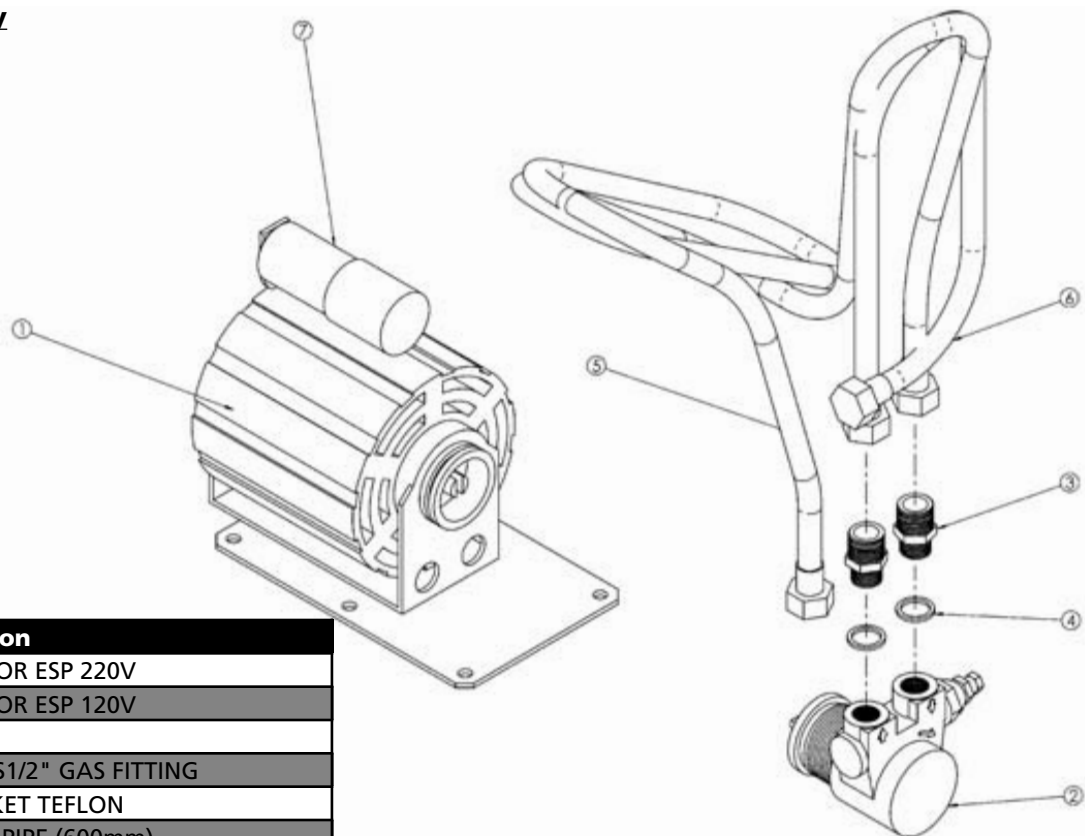
Parts Diagram (continued)

Water Level Assembly



Item	Part #	Description
1	01370L	LEVEL CONNECTOR (UPPER)
2	01305L	SI-O-RING (7.5*2.5)
3	01306L	COPPER SEAL
4	01372L	BRASS NUT
5	01373L	LEVEL-INDICATING BALL
6	01307L	SIGHT GLASS
7		SIGHT GLASS REAR COVER
8	01374L	WASHER (M8*3t)
9	01375L	HEX SCREW (M8*10)
10		PC PANEL
11		LEVEL LABEL
12	01376L	LEVEL CONNECTOR (LOWER)

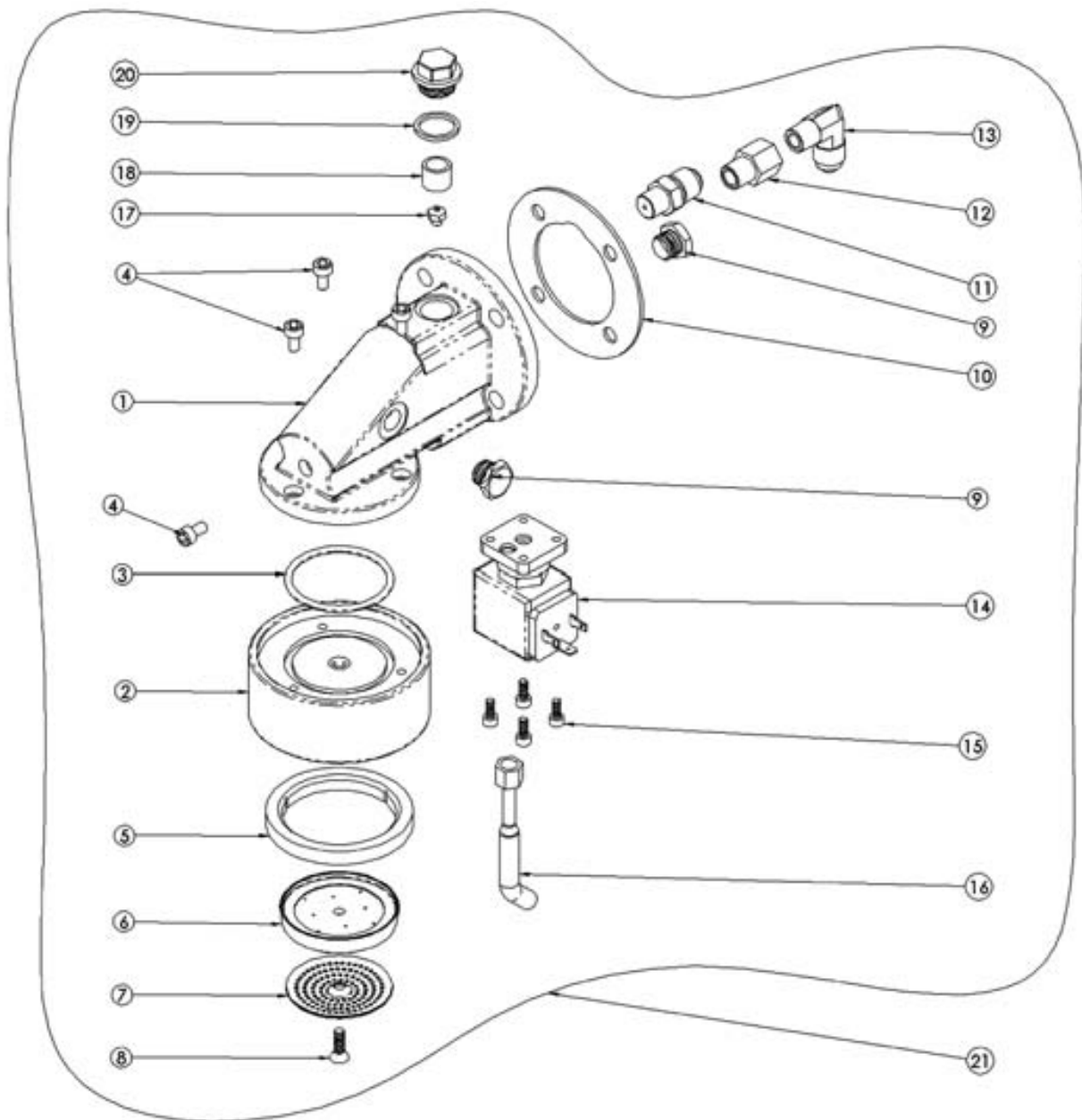
Motor Pump Assembly



Item	Part #	Description
1	01329L	MOTOR FOR ESP 220V
2		MOTOR FOR ESP 120V
3	01330L	PUMP
4		PS 3/8" * PS 1/2" GAS FITTING
5	01312L	PIPE GASKET TEFLON
6	410-00444	S.T. STEEL PIPE (600mm)
7		S.T. STEEL PIPE (2400mm)
8		CAPACITOR

Parts Diagram (continued)

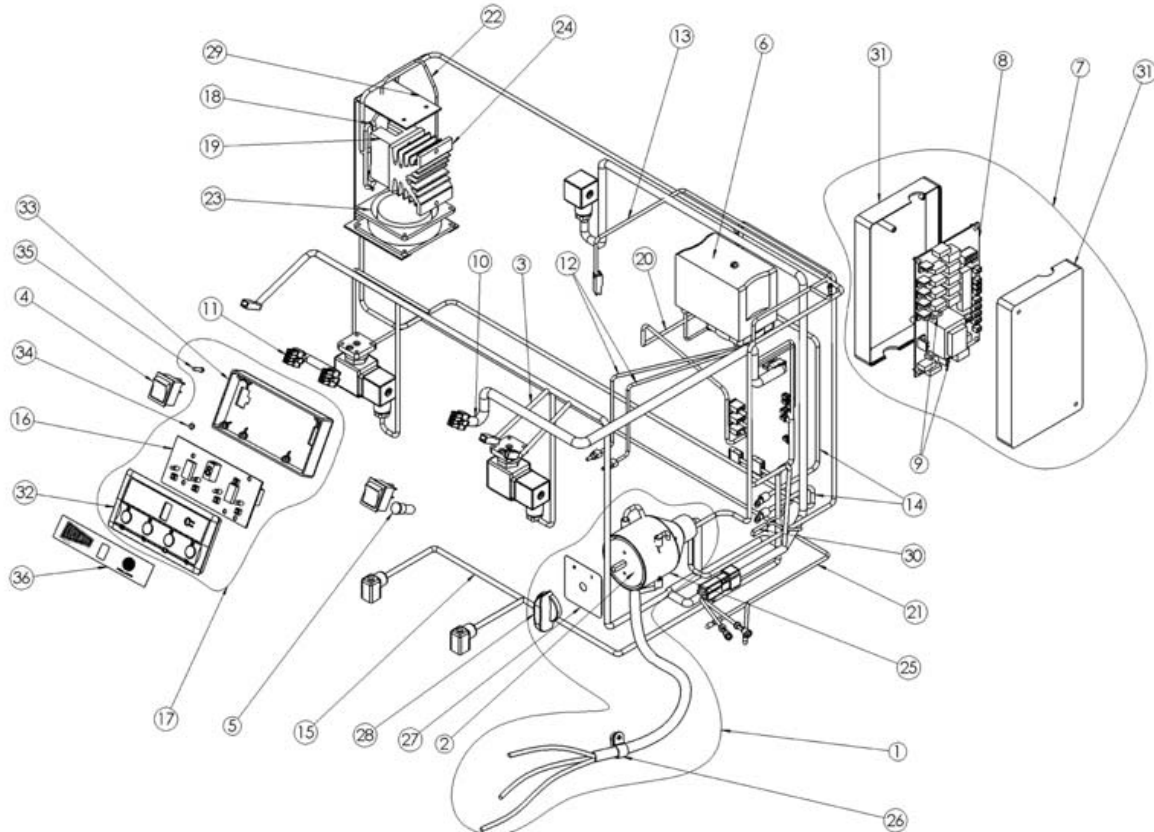
Distribution Group Assembly



Item	Part #	Description	Item	Part #	Description
1		DISTRIBUTION GROUP BODY	12		WATER RECYCLE CONNECTOR
2		CHROMED CLAMPING RING	13		PT1/4x5/8-18UNF L FITTING
3	01304L	O-RING d47*3.5t	14	01339L	GROUP SOLENOID VALVE COIL 120V
4		STAINLESS STEEL SCREW M5*10	14	01303L	GROUP SOLENOID VALVE COIL 208-240V
5	01300L	FILTER SUPPORT RUBBER	15		HEX SCREW M4*12
6		WATER SPOUT UNIT SUPPORT	16		PRESSURE RELEASE DRAIN TUBE 120V
7		GROUP SHOWER PLATE 120V	16		PRESSURE RELEASE DRAIN TUBE 208-240V
7	01301L	GROUP SHOWER PLATE 220V	17	01381L	GROUP JET D0.8
8	01302L	SS FLATHEAD SCREW M5*15	18	01382L	GROUP FILTER ST.STEEL D13.8*d10.5*11.5
9		BRASS PLUG	19		TEFLON GASKET D22*d18*2.0
10		GROUP WASHER	20		DISTRIBUTION GROUP CAP
11		WATER INLET CONNECTOR	21		DISTRIBUTION GROUP ASSY

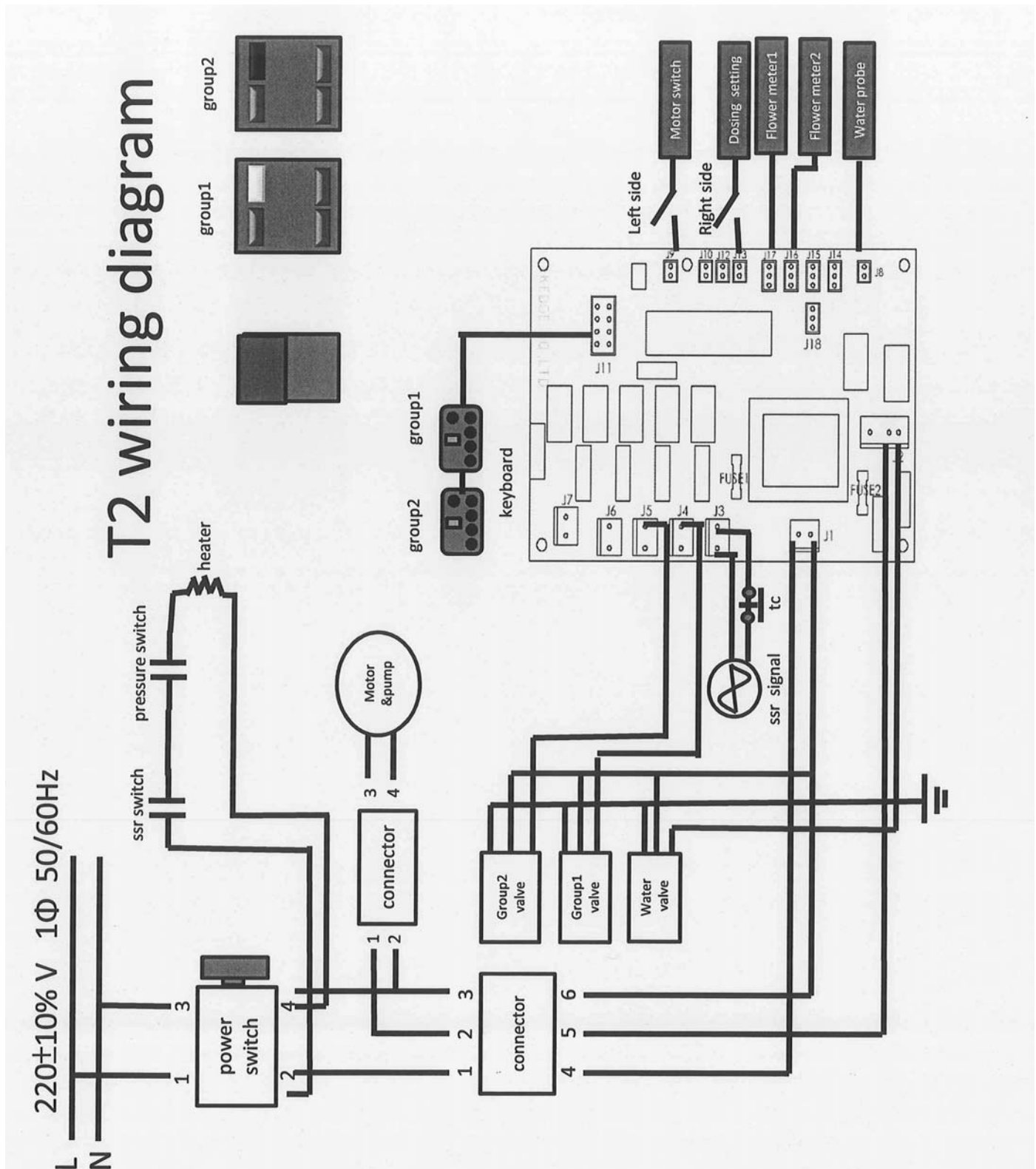
Parts Diagram (continued)

Electrical Assembly



Item	Part #	Description	Item	Part #	Description
1		MAIN SWITCH ASSY ESP1	18		SINGLE CABLE SSR-2-4
1		MAIN SWITCH ASSY ESP2	19	01359L	SOLID STATE RELAY 25A ESP1
1		MAIN SWITCH ASSY ESP3	19	01360L	SOLID STATE RELAY 50A ESP2, ESP3
2	01377L	MAIN SWITCH ESP1,2	20		SINGLE CABLE PRESSURE SWITCH<->PCB
2		MAIN SWITCH ESP3	21		MOTOR POWER ESP1, 120V
3		CABLE UNIT ESP1	21		MOTOR POWER ESP1, 220V
3		CABLE UNIT ESP2	21		MOTOR POWER ESP2
3		CABLE UNIT ESP3	21		MOTOR POWER ESP3
4		LUMINOUS BLACK BIPOLAR	22		SSR-PRESSURE SWITCH CABLE
5	410-00359	GREEN INDICATOR LAMP	23	410-00391	FAN FOR SSR
6	01326L	SI 501 CE PRESS. SWITCH 110-240V 20A	24		RADIATOR
7		CONTROL BOX WITH IC BOARD	25		MAIN SWITCH COVER
8	01342L	CONTROL PC-MAIN BOARD 110V	26		BAND
8	01328L	CONTROL PC-MAIN BOARD 220V	27		MAIN SWITCH HAND GRIP LABEL PLATE
9		FUSE 1.5A	28		MAIN SWITCH HAND GRIP
9		FUSE 4A (MOTOR)	29		SSR HOLDER
10		SERIES CABLE PCB PANEL	30	01338L	TEMP. PROTECTION FUSE
11		SERIES CABLE PANEL	31		CONTROL BOX W/O IC BOARD (UP & DOWN
12		SELECT SWITCH	32		AS MANIPULATION FACEPLATE UP COVER
13		LEVEL PROBE CABLE	33		MANIPULATION BOX
14		HEATING ELEMENT POWER CABLE	34		SCREW M3*6 ESP 220V
15		FLOWMETER GAUGE CABLE ESP1	35		SCREW M3*15 ESP 220V
15		FLOW METER GAUGE CABLE ESP2	36		OPERATION LABEL
15		FLOW METER GAUGE CABLE ESP3	37		FLOWMETER GAUGE JOINT (NOT SHOWN) 120V
16		CONTROL PC-MAIN BOARD	38		ELECTROMAGNETIC JOINT (NOT SHOWN) 120V
17	01327L	AS OPERATE FACEPLATE			

Wiring Diagram



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