

ESP Espresso Machines

Instruction Manual



Models: ESP1, ESP2 and ESP3

Operation Manual

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Standard Features

- **Fully Automatic** – Dispense single or double espresso, 1 or 2 cups at a time, or choose manual continuous flow.
- **Dual Pressure Gauge** – Readouts for the dispensing water pressure & boiler steam pressure.
- **User Friendly Microprocessor Technology** - features touch pad controls & LED display.
- **Heavy Duty Design** – Built-in 260W motor & 200-300 qt/hr pump.
- **Sight Glass** – For instant & easy monitoring of the water tank level.
- **Auto Cleaning Function** – Flushes the line to the brew head.
- **Stainless Steel Dual Boiler.**
- **Hot Water Dispensing Valve.**
- **In low water pressure locations, an internal pump will draw water into the boiler.**

Model	# of Heads	Boiler Size	Cups / Hr.*	Dimensions W x D x H	Electrical	Ship Weight
ESP1-110V	1 Group	6 qts.	240	20 ⁵ / ₁₆ " x 21 ⁹ / ₁₆ " x 21 ¹ / ₂ "	120V, 1.5KW, 18A	106 lbs.
ESP1-220V	1 Group	6 qts.	240	20 ⁵ / ₁₆ " x 21 ⁹ / ₁₆ " x 21 ¹ / ₂ "	240V, 2.5KW, 10A	106 lbs.
ESP2-220V	2 Group	13 qts.	480	28 ³ / ₈ " x 21 ⁹ / ₁₆ " x 21 ¹ / ₂ "	240V, 4.7KW, 20A	147 lbs.
ESP3-220V	3 Group	19 qts.	720	37 ⁷ / ₈ " x 21 ⁹ / ₁₆ " x 21 ¹ / ₂ "	240V, 6.5KW, 27A	185 lbs.

Plumbing: ½" water line required

Accessories: Two & one cup filter holder assemblies and hoses are included with all espresso machines.

Note: in-line water filter must be installed for warranty to be in effect

Specifications subject to change without notice.



1 General

- 1-1 This operations manual includes instructions for using and maintaining your espresso machine, please keep this manual readily available.
- 1-2 After unpacking, please check to ensure your machine has not been damaged during shipping and includes all parts/components. Please notify your service representative regarding any questions or concerns before installing. Please note that machine packaging material can be dangerous and should be kept out of reach of children.
- 1-3 Please confirm that your electricity supply conforms to the espresso machine power requirements. A qualified technician should install the machine in accordance with manufacturer instructions. The manufacturer assumes no responsibility for injury or damage resulting from improper installation.
- 1-4 Please use an independent and suitable power source for your machine.
- 1-5 Please use an independent, fuseless breaker appropriate to machine safety requirements. Do not plug your machine into an extension cord.
- 1-6 Be sure to use a grounded power source to prevent electric shock and ensure operating safety.
- 1-7 Use the automatic espresso machine for its intended purpose only. Any other usage is inappropriate and may be dangerous. The manufacturer assumes no responsibility for injury, loss or damage resulting from improper machine use.
- 1-8 Do Not:
 - a. touch machine with wet hands or feet.
 - b. touch machine with bare feet.
 - c. pull on the cord to disconnect machine from power outlet.
 - d. expose the espresso machine to rain or direct sunlight.
 - e. permit children or persons not normally qualified to operate basic machinery to use this machine.
- 1-9 Turn off the power source first before maintaining or servicing your espresso machine.
- 1-10 Take care when touching machine parts; subject to high temperature heating to avoid injury.
- 1-11 Clean machine according to instructions provided in this manual to ensure proper operations.
- 1-12 Turn power off if machine functions abnormally and notify qualified service personnel for repairs. Do not permit non-qualified service personnel to attempt repairs. Continuing to use a damaged or otherwise irregularly functioning machine will nullify the manufacturer warranty.

- 1-13 Use softened water to make coffee or tea. Well / municipal water should be softened to prevent scaling in the boiler, which will shorten the serviceable life of your machine. If a hard water source is used, the filter should be replaced every two weeks -- although long-life filters may remain serviceable up to eight weeks. Actual filter replacement scheduling will vary based on volume and quality of water used.
- 1-14 The machine refills water automatically (see Section 4-2 for initializing). An error code will appear if water flow into the machine exceeds two minutes (see Troubleshooting Section in this manual), and power will be cut off automatically to protect the system. To resume normal functions, restart the system after three or more seconds.
- 1-15 The heating element will not operate when water in the machine is less than the minimum required level. When starting the machine without any water in the tank, heating will be delayed for about 60 seconds.
- 1-16 Please ensure the water inside the piping will not be frozen while using the machine. The water temperature must maintain over the freezing point even during the power off period. The warranty does not cover any damages on piping and boiler cost by frozen water.
- 1-17 When turning off the machine for long-term, please be sure to evacuate the water inside the piping completely. For this may freeze the water and lead to damaging the machine. To ensure the safety of your machine, please notify your service representative regarding any needs on operations in frigid zone or prepare to shut down the machine for long-term for complete water evacuation.

2. Operating Precautions



Do not use the machine and turn off the power when water intake has ceased.



When operating the machine for the first time or replacing the filter, remove the water inlet tube and allow it to drain for about one minute in order to discharge impurities from the water.



Please check and confirm normal water supply before turning on power.



Please check and confirm water level registers within the green zone. Operating the machine outside the green zone may cause the electric heating element to overheat and burn out.



After installing the machine, please check to make sure that, during water intake, the steam pressure gauge indicator is within the green zone (1~1.4bar) and the water pressure gauge indicator is also within the green zone (8~10bar). Please adjust the system to the water supply pressure conditions in your area.



The water and steam taps are used to make coffee or tea. The nozzle at the hot water outlet and the steam outlet are very hot -- please do not touch.



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



Please clean machine components with a soft cloth only. Do not use plastic or wire brushes.



Turn the power off and release all boiler pressure if the machine is to remain idle for an extended period of time.



Place an appropriate quantity of ground coffee in the filter cup and tamper carefully. Clean all residual coffee from the rim and sides of the filter to ensure a good seal and full pressure for steaming and to maximize service life.



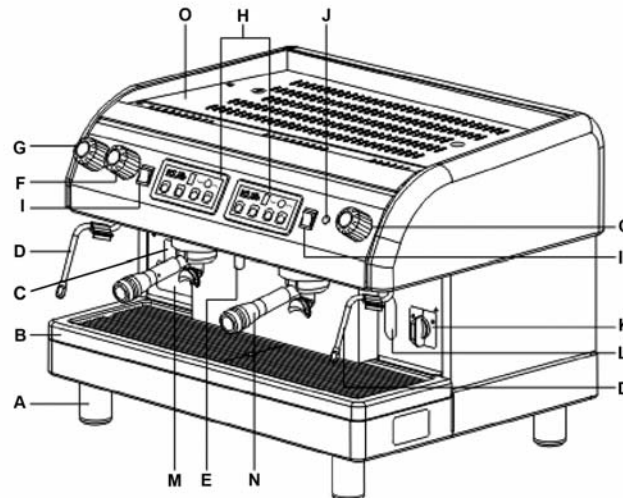
The filter basket must be connected firmly to the filter support during steaming to avoid disengagement of the handle or overflow.



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



After machine power has been switched off, always let the machine set for at least 3 seconds before restarting.



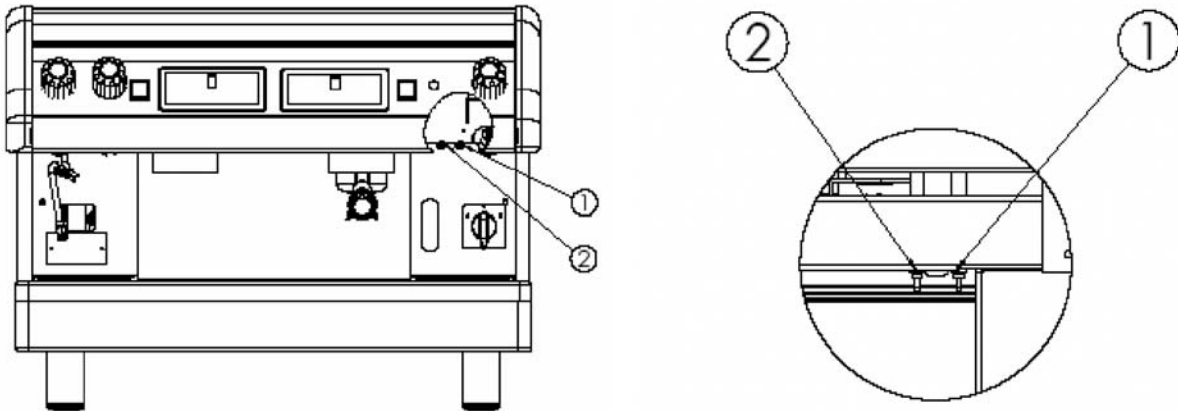
3. Machine Overview

- | | |
|--|-----------------------------------|
| A. Foot | I. Manual water outlet controller |
| B. Water tray | J. Power indicator |
| C. Pressure gauge (water/steam pressure) | K. Power switch |
| D. Steam tube | L. Water level viewing window |
| E. Hot water outlet nozzle | M. Manufacturer plate |
| F. Hot water control knob | N. Filter basket handle |
| G. Steam control knob | O. Cup warming tray holder |
| H. Control Panel | |

4. Operations

4-1 Activating / Deactivating the Water Inlet Motor

- a. If filtered water source pressure exceeds 2 bar and the amount of hot water needed is small, turn the water inlet motor (2) to the OFF (up) position to permit water inflow without internal pump assistance.



- b. In areas of low source water pressure, turn the water inlet motor (2) to the ON (down) position to activate the internal pump and draw water into the boiler mechanically.

Caution: When source water pressure is low & turn the water inlet motor (2) to the OFF (up) position may risks drawing hot water away from the boiler and damaging the pump and water intake solenoid.

4-2 Starting the Automatic Machine

- a. Check and confirm that water source is in normal working order.
- b. Turn the power switch to position 1 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.
- c. 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.

4-3 Using the Various Machine Functions

a. Steam Output

Turn steam knob counterclockwise to draw steam through the steam tube. Steam output will increase the further the steam knob is turned. Turn the knob clockwise to reduce/stop steam output. Pull out the steam knob when needing a good deal of steam for a short period of time.

b. Hot Water Output

Turn the hot water knob counterclockwise to obtain hot water through the hot water tube. Hot water output will increase the further the hot water knob is turned. Turn the knob clockwise to reduce/stop steam output. Pull out the hot water knob for hot water supply for a short period of time.

c. **Coffee / Tea Output Presets**

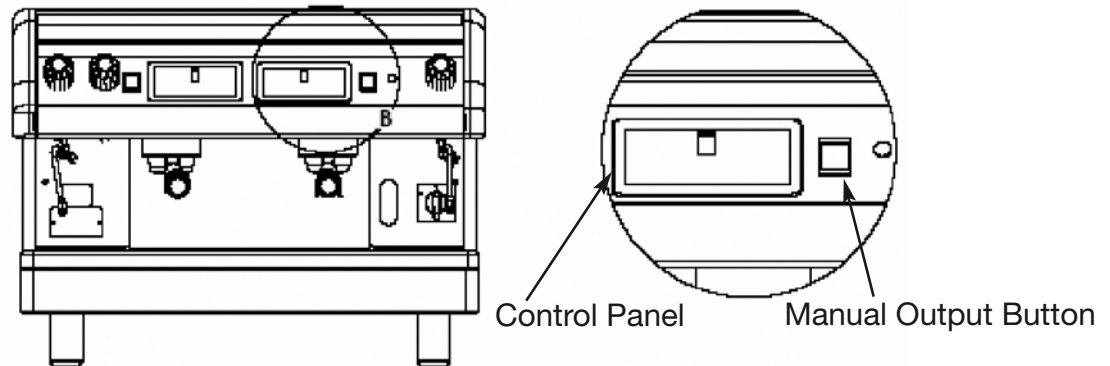
Place an appropriate quantity of ground coffee or tea in the filter basket and fix it into the handle seat. Choose desired water output by selecting coffee or tea output values 1 through 4. Coffee or tea flow will stop automatically.

d. **Continuous Output & Stop**

Place an appropriate quantity of ground coffee or tea into the filter basket, and fix it into the handle seat. Press the manual output button to start coffee or tea flow. Press once again to stop.

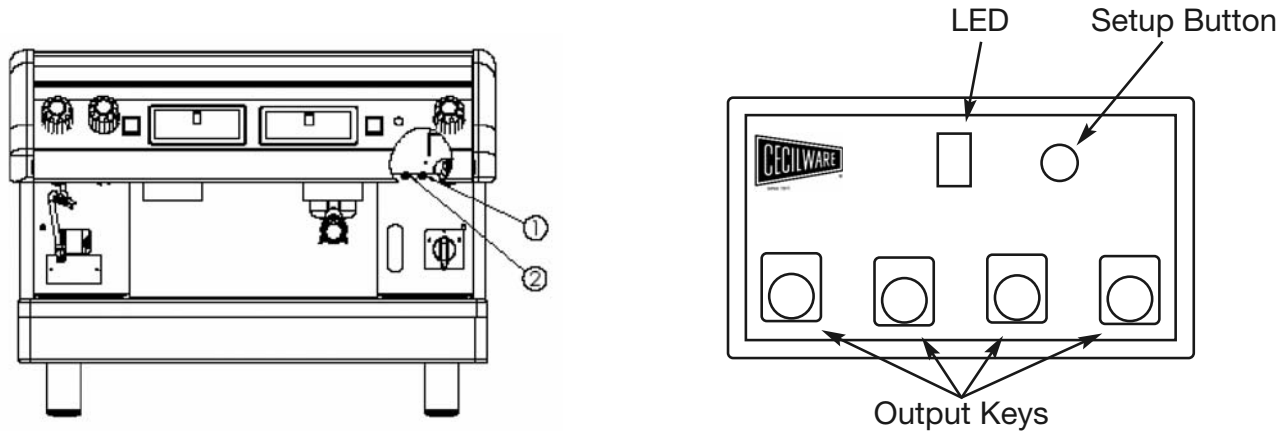
4-4 **Output Volume, Estimated steep time, and Frequency Setup**

There are two identical button suites on two-cup models and three identical button suites on 3-cup models. No default coffee / tea 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 button suite 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 been covered.



Output Volume Setup

- a. Turn the output volume setup switch ON (1) and press the PROG (setup) button.



- b. The output LEDs should be lit, indicating the machine is in setup mode.
- c. To configure key 1, press the key 1 button, which should light LED 1 and switch off all other LEDs. Once desired setup parameters have been set, press key 1 again to confirm and exit key 1 setup.
- d. At this point, LED 1 should be off and LED's 2, 3 and 4 should be lit.
- e. Repeat steps (b) through (d) to set up keys 2, 3 and 4, respectively.
- f. The left set(s) of keys will mirror the value settings in the set of keys to its immediate right. Repeat steps (b) through (e) if different output volumes are desired for different cup compartments.
- g. After completing setup, turn the output volume setup switch OFF (1) to return the machine to normal operational mode.

4-5 Automatic Reverse Flushing

- a. Press any key simultaneously to start automatic reverse flushing. Keys 2-4 in the control panel will start flashing and start automatic reverse flushing from the right output system to the left.
- b. The default is 10 cleaning cycles.
- c. Flush the second output system after flushing the first output system. Or press the 3rd key to skip to the next output system, System will stop automatically after finish all the reverse flushing.

4-6 Stopping the Machine

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

5. Cleaning and Maintenance

5-1 Cleaning the Machine Body

Wipe machine exterior with soft, slightly dampened cloth daily before starting operations.

If necessary, a mild, non-corrosive cleaning agent may be applied to the cloth. Do not spray cleaning agents directly on the machine body to avoid corrosion and possible damage to circuits.

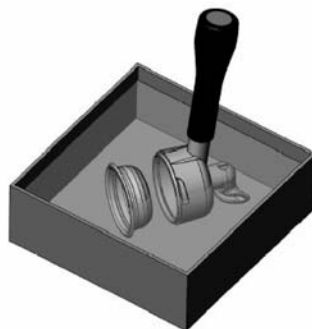
5-2 Brewing System

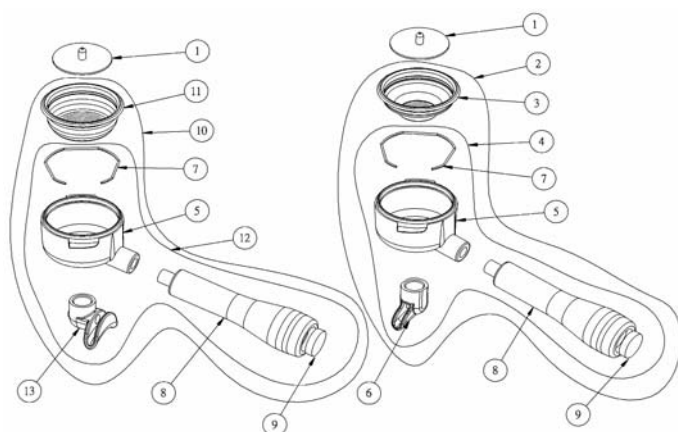
After each brewing cycle, remove the handle and press the manual water output button to remove all residual ground coffee from the filter element. Then, fix the handle to the seat again (Important: Do not force handle or fix it into the seat too tightly). Press the manual water output button, shake the handle to clean the handle seat gasket and remove residual coffee grounds from the along the inside.

- A Flush the steam outlet in REVERSE daily before shutting off the machine. Remove the copper plate and filter element from the water outlet (be careful, metal components may be hot).
- B Place a reverse flushing silica plate in the filter cup, and apply about 2-3 grams of detergent. Fix the handle into the seat and check for tightness.
- C To dissolve residual detergent in the machine, press the manual water output button for approximately 4 seconds and release. Repeat this process several times. Press the manual water output button and shake the handle to clean the gasket and the inside of the brewer. Continue the process until water in the filter cup is clear and clean.
- D After cleaning, remove the handle. Press the manual water output button to allow residual cleaning solution in the brewing system to flow out. Turn water off after flushing for about one minute.
 - a. During reverse flushing, remove and wash the copper plate and filter element with clean tap water. Wipe with soft cloth.
 - b. If process is unable to sufficiently clean the plate and filter element, immerse the components overnight in a mild cleaning solution of 3 tsp detergent in 1 pint hot water. Rinse and reassemble components before restarting the espresso machine.

5-3 Filter Basket and Basket Handle

- a. Rinse the handle with hot water after each brewing cycle to dissolve residual oils in the filter basket and outlet nozzle and prevent oils from affecting the quality of coffee.
- b. Disassemble filter basket handle and filter basket. Immerse both in cleaning solution (3tsp of detergent in 1 pint hot water) for 24 hours to dissolve residual coffee oils. Important: Do not immerse the plastic portion of the handle in the cleaning solution to avoid deterioration.
- C. Rinse all components with clean water. Wipe with a soft, clean cloth only.





Dia. #	Part #	Description	List Price
1	01346	SILICA GEL WASHER	\$ 2.10
2	01347	1 CUP FILTER HOLDER ASSY	156.40
3	01348	1 CUP STAINLESS STEEL FILTER ..	24.60
4	01349	1 CUP FILTER HOLDER WITHOUT FILTER	121.20
5	01350	FILTER SUPPORT	83.70
6	01351	BRASS SPOUT 1 LONG CUP	23.40
7	01352	FILTER CLAMP SPRING D1.4	1.00
8	01353	FILTER HOLDER KNOB CAP	14.00
9	01354	FILTER HOLDER BACK LID	1.50
10	01355	2 CUPS FILTER HOLDER ASSY	163.00
11	01356	2 CUPS STAINLESS STEEL FILTER .	24.60
12	01357	2 CUPS FILTER HOLDER WITHOUT FILTER	127.90
13	01358	2 CUPS BRASS SPOUT	30.00

5-4 Steam Tube

- After making steamed milk, use a slightly moistened soft cloth to wipe steam tube. After wiping, release a steam burst through the tube to remove any residual milk remaining in the nozzle.
- If hardened milk residuals remain in the steam tube, disassemble and immerse tube in hot water for about 20 minutes to soften. Reassemble and repeat step (a).

5-5 Boiler

To extend your boiler's serviceable life, when the machine is expected to sit idle for a period of one or more days, turn power to the machine OFF and open the steam output to discharge pressure in the boiler. Continue until the pressure gauge reading falls to zero and steam discharge ends. Once complete, empty and clean the water tray and discharge trough. (Important: Leave the steam output setting open following steam discharge. Steam output should remain open until after the machine is turned back on and hot water begins dripping from the steam tube.

5-6 Water Tray

Remove and wash the water tray after stopping your automatic machine. Reassemble after the water tray has dried.

5-7 Discharge Trough

- After removing the water tray, wipe and remove sediments in the discharge trough with a wet cloth or napkin and wash with hot water to clear the discharge tube.
- 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.

5-8 Filter

- The manufacturer recommends replacing the filter element on the resin exchange filter after processing 53 gallons of water (about 3,000 – 4,000 cups of coffee). This schedule can be expected to vary based on the quality of water used in your machine.

6 Trouble Shooting

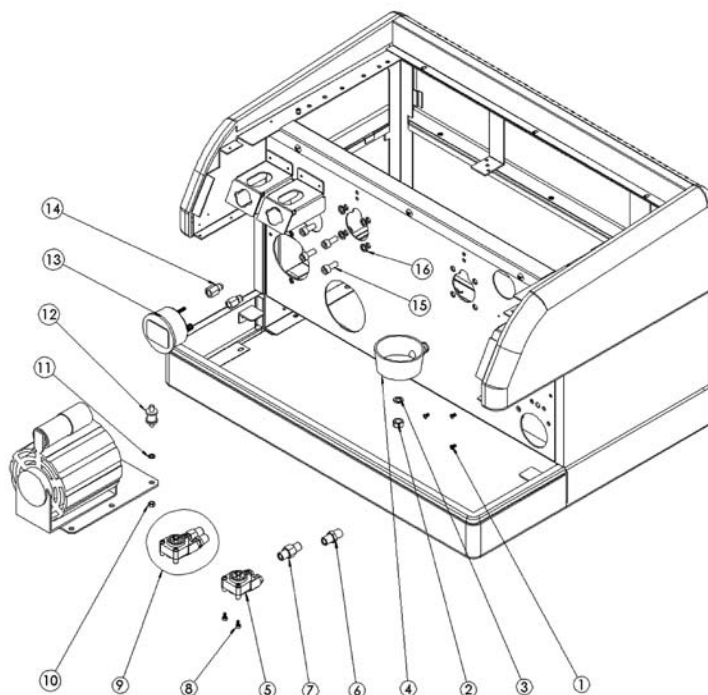
Indication	Status	Possible Cause	Corrective Actions
L	After two minutes of water input, indicator still does not show a rise in machine water level. It will take more than two minutes to replenish water when the machine is used for the first time.	1. Water level indicator not functioning properly. 2. Water intake solenoid is out of order. Input water flow has been interrupted.	1. Make sure that the water input switch is ON and that water is flowing into the machine. 2. Turn off the machine. Restart after 3 seconds. 3. Notify local dealer.
E	1. No water output from the brewer. 2. Machine does not reach preset parameters.	1. Coffee grounds are too fine. 2. No water input 3. Water intake solenoid is out of order.	1. Adjust coffee ground fineness. 2. Ensure water input is normal. 3. Notify local dealer.
.	Boiler is in automatic water input mode.	Boiler water level is too low, automatic water input system is working.	Indication of an action for reference.
A or B	IC board does not function properly.	Software or hardware error.	1. Turn machine off.Restart after 3 seconds. 2. Notify local dealer.

Wait at least 3 seconds to restart the automatic espresso machine after turning it off to ensure previous data stored in machine memory is erased. Turning the machine on too quickly may cause the machine to function improperly.

7. Replacement Parts (For Reference Only)

Item	Particular	Serviceable Life
1	Brewer gasket	3 - 6 months, depending of volume of coffee brewed
2	Upper gasket for steam tube	1 year
3	Lower gasket for steam tube	1 year
4	Leak-stop gasket for steam/hot water valve	1 year
5	Upper gasket for steam/hot water valve	1 year
6	Pressure relief valve	2 years
7	Safety valve	2 years
8	Filter pad	1 – 3 months, depending on water quality
9	Filter element (active carbon)	1 – 3 months, depending on water quality
10	Filter element (soft water resin)	1 – 3 months, depending on water quality

Overall Composition Chart ESP1, ESP2, ESP3

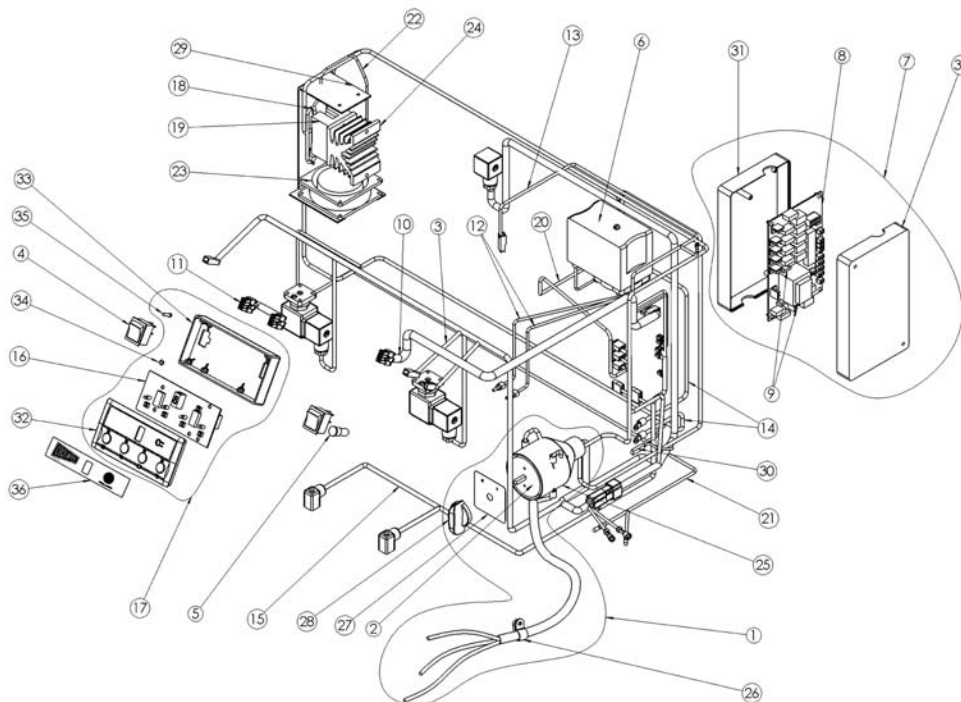


Dia. #	Part #	Description	List Price
1	xxx	SCREW M4*8	
2	xxx	NUT M10	
3	xxx	SPRING WASHER M10	
4	xxx	DRAIN BASIN	
5	01325	FLOWMETER DOSER	\$161.50
6	xxx	BRASS FITTING PS/1/4*PS1/4*L33.5	
7	xxx	BRASS FITTING PS/1/4*PS1/4*L42 .	
8	xxx	SCREW M4*6	

Dia. #	Part #	Description	List Price
9	xxx	FLOWMETER DOSER ASSY	
10	xxx	NUT M6	
11	xxx	SPRING WASHER M6	
12	xxx	ANTI FOOT VIBRATION	
13	01331	PRESSURE GAUGE FOR ESP 220V .	\$188.20
14	xxx	PRESSURE GAUGE	
15	xxx	SCREW M8*20	
16	xxx	SPRING WASHER M8	

xxx special order contact Cecilware for more information

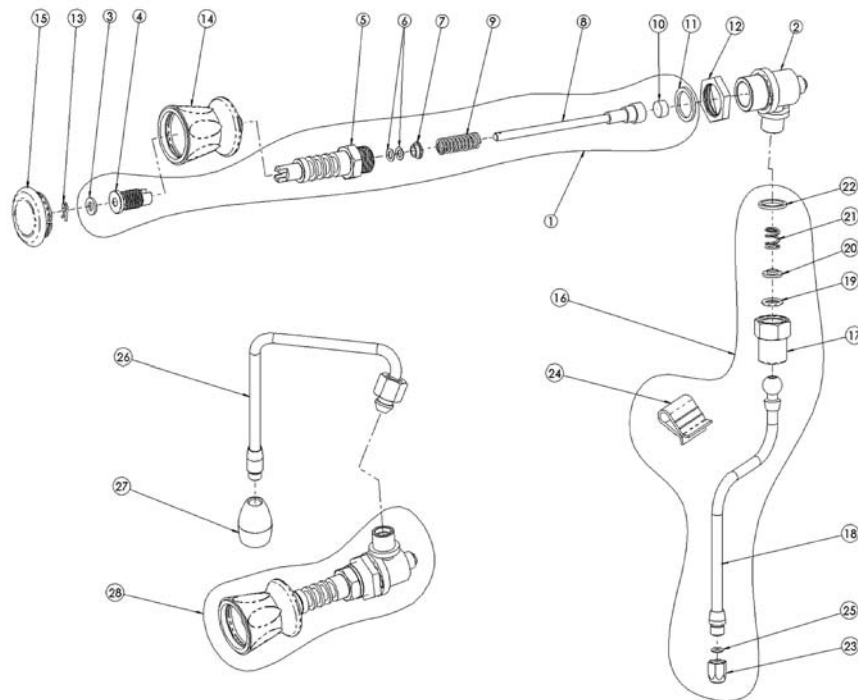
Electrical Assembly



Dia. Part		Description	List Price	Dia. Part		Description	List Price
#	#			#	#		
1	xxx	MAIN SWITCH ASSY ESP1			xxx	SOLID STATE RELAY 50A	
	xxx	MAIN SWITCH ASSY ESP2			xxx	GN84137021 ESP2, ESP3	
	xxx	MAIN SWITCH ASSY ESP3			20	SINGLE CABLE	
2	xxx	MAIN SWITCH ESP1, 2				PRESSURE SWITCH<->PCB	
	xxx	MAIN SWITCH ESP3		21	xxx	MOTOR POWER ESP1,120V	
3	xxx	CABLE UNIT ESP1			xxx	MOTOR POWER ESP1, 220V	
	xxx	CABLE UNIT ESP2			xxx	MOTOR POWER ESP2	
	xxx	CABLE UNIT ESP3			xxx	MOTOR POWER ESP3	
4	xxx	LUMINOUS BLACK BIPOLAR		22	xxx	SSR-PRESSURE SWITCH CABLE ...	
5	xxx	GREEN INDICATOR LAMP		23	xxx	FAN FOR SSR	
6	01326	SI 501 CE PRESSURE SWITCH		24	xxx	RADIATOR	
		110V / 240V AC 20A	\$ 319.50	25	xxx	MAIN SWITCH COVER	
7	xxx	CONTROL BOX WITH IC BOARD		26	xxx	BAND	
8	01328	CONTROL PC-MAIN BOARD	\$ 400.40	27	xxx	MAIN SWITCH HAND GRIP LABEL PLATE	
9	xxx	FUSE 1.5A		28	xxx	MAIN SWITCH HAND GRIP	
	xxx	FUSE 4A (MOTOR)		29	xxx	SSR HOLDER	
10	xxx	SERIES CABLE PCB PANEL		30	01338	TEMP. PROTECTION FUSE	\$ 8.60
11	xxx	SERIES CABLE PANEL		31	xxx	CONTROL BOX WITHOUT IC	
12	xxx	SELECT SWITCH			xxx	BOARD (UP & DOWN COVER)	
13	xxx	LEVEL PROBE CABLE		32	xxx	AS MANIPULATION FACEPLATE UP COVER	
14	xxx	HEATING ELEMENT POWER CABLE .		33	xxx	MANIPULATION BOX	
15	xxx	FLOWMETER GAUGE CABLE ESP1 .		34	xxx	SCREW M3*6 ESP 220V	
	xxx	FLOW METER GAUGE CABLE ESP2 .		35	xxx	SCREW M3*15 ESP 220V	
	xxx	FLOW METER GAUGE CABLE ESP3 .		36	xxx	OPERATION LABEL	
16	xxx	CONTROL PC-MAIN BOARD		37	xxx	FLOWMETER GAUGE JOINT)	
17	01327	AS OPERATE FACEPLATE	\$129.30			(NOT SHOWN) ESP1 120V	
19	xxx	SOLID STATE RELAY 25A		38	xxx	ELECTROMAGNETIC JOINT	
		GN84131011 ESP1				(NOT SHOWN) ESP120V	
18	xxx	SINGLE CABLE SSR-2-4					

xxx special order contact Cecilware for more information; unless indicated, parts are universal to all models

Water & Steam Assembly ESP1

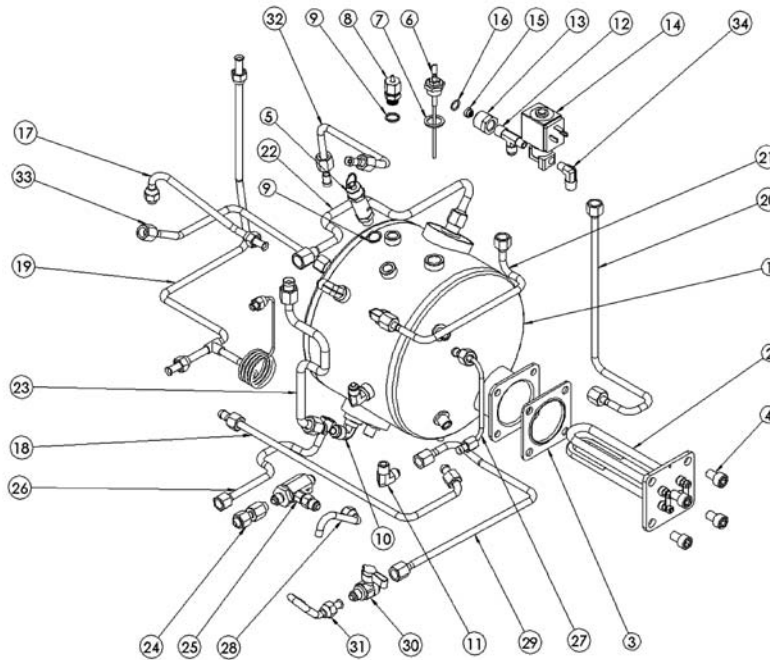


Dia. #	Part Number	Description	List Price
1	xxx	WATER/STEAM TAP UNIT	
2	xxx	TAP BODY	
3	01334	SEAL	\$.20
4	01335	CHROMED TAP SHAFT	\$ 6.90
5	xxx	TAP CONNECTOR	
6	01309	O-RING	\$ 1.50
7	xxx	TIGHTENING GASKET	
8	xxx	STEAM HOT WATER A VALVE SHAFT	
9	xxx	STEAM TAP SPRING	
10	01308	GASKET	\$ 1.60
11	01310	COPPER SEAL	\$ 3.80
12	xxx	BRASS NUT	
13	01311	"R" STEEL CIRCLIP	\$.50
14	01336	TAP KNOB	\$19.50
15	01333	STEAM KNOB CAP	\$ 4.70

Dia. #	Part Number	Description	List Price
15	01332	HOT WATER KNOB CAP	\$ 4.70
16	xxx	KIT STEAM TUBE	
17	xxx	NUT PIPE STEAM FOR SPRING	
18	xxx	KIT STEAM TUBE	
19	01313	O-RING FOR ESP 220V	\$ 2.30
20	xxx	STEAM TAP WASHER	
21	xxx	STEAM TAP SPRING	
22	01312	PIPE GASKET TEFLON	\$ 2.90
23	xxx	STEAM SPRAYER	
24	xxx	ANTI SCORCHING CLIPS	
25	01314	O-RING	\$ 2.90
26	xxx	HOT WATER TUBE	
27	xxx	EXTERNAL SPRAYER	
28	01337	WATER STEAM TAPS ASSY	\$ 133.90

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Boiler ESP 1 Hydraulic Circuit

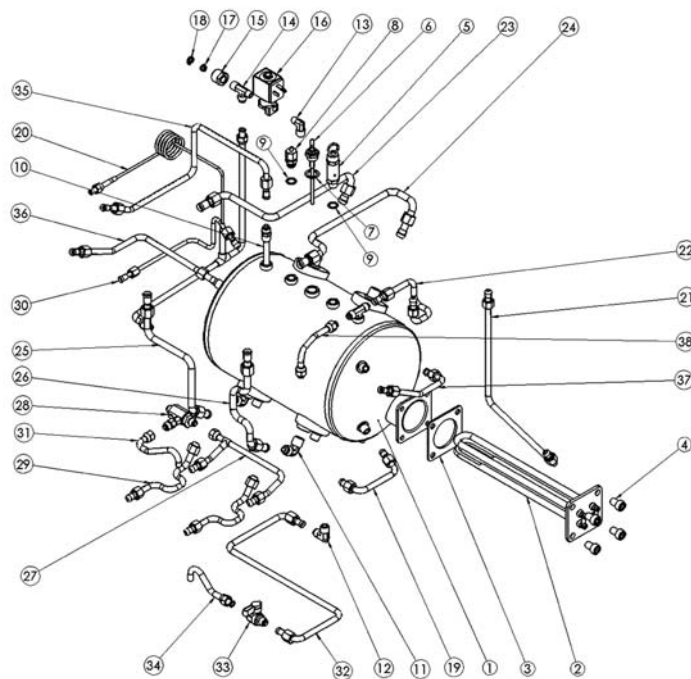


Dia. Part		Description	List Price
#	#		
1	xxx	BOILER	
2		HEATING ELEMENT	
	xxx	1500W 110V FOR ESP1	
	01316	2000W 220V FOR ESP	\$97.40
3	xxx	SI-GASKET ELEMENT	
4	xxx	HEX SCREW (M10*16)	
5	xxx	SAFETY VALVE	
6	xxx	LEVEL PROBE ASSY	
7	xxx	VALVE GASKET BRASS	
8	xxx	ANTI-EDDY VALVE V.A.R.	
9	xxx	VALVE GASKET BRASS	
10	xxx	ELBOW BRASS PT1/4*3/8	
11	xxx	ELBOW BRASS	
		CONNECTOR 3/8*PT3/8	
12	xxx	BRASS CONNECTOR PT	
		1/4*1/2-20UNF*1/2-20UNF	
13	xxx	BRASS CONNECTOR	
14		SOL. VALVE WATER REFILL ASS.	
	xxx	110V 60 HZ FOR ESP 110V	
	01324	208-240V 60Hz FOR ESP 220V	\$216.90
15	xxx	SPHERICAL BRONZE CONICAL FILTER	
16	01323	NBR O RING FOR ESP 220V	\$.30

Dia. Part		Description	List Price
#	#		
17	xxx	WATER LEVEL UPPER TUBE 220V MODELS	
	xxx	WATER LEVEL UPPER TUBE 110V MODELS	
18	xxx	WATER LEVEL LOWER TUBE	
19	xxx	AUT. WATER REFILL TUBE	
20	xxx	AUT. WATER REFILL TUBE REAR	
21	xxx	PRESSURE GAUGE COPPER TUBE	
22	xxx	HEAT EXCHANGER OUTLET TUBE	
23	xxx	HEAT EXCHANGER RETURN TUBE	
24	xxx	FLOWMETER INLET TUBE	
25	xxx	S.C.N.R.DOSER VALVE 1/2*1/2*1/2	
26	xxx	HEAT EXCHANGER INLET TUBE	
27	xxx	STEAM PRESSURE GAUGE TUBE	
28	xxx	EXPANSION DRAIN TUBE	
29	xxx	BOILER DRAIN TUBE REAR	
30	xxx	PRESSURE RELEASE TAP BULK UNIT	
		PS1/4xPS1/4	
31	xxx	BOILER DRAIN TUBE FRONT	
32	xxx	HOT WATER OUTLET TUBE REAR	
33		STEAM OUTLET TUBE FRONT	
	xxx	220V MODELS	
	xxx	120V MODELS	
34	xxx	ELBOW BRASS CONNECTOR	
		PT1/8 * PT1/4	

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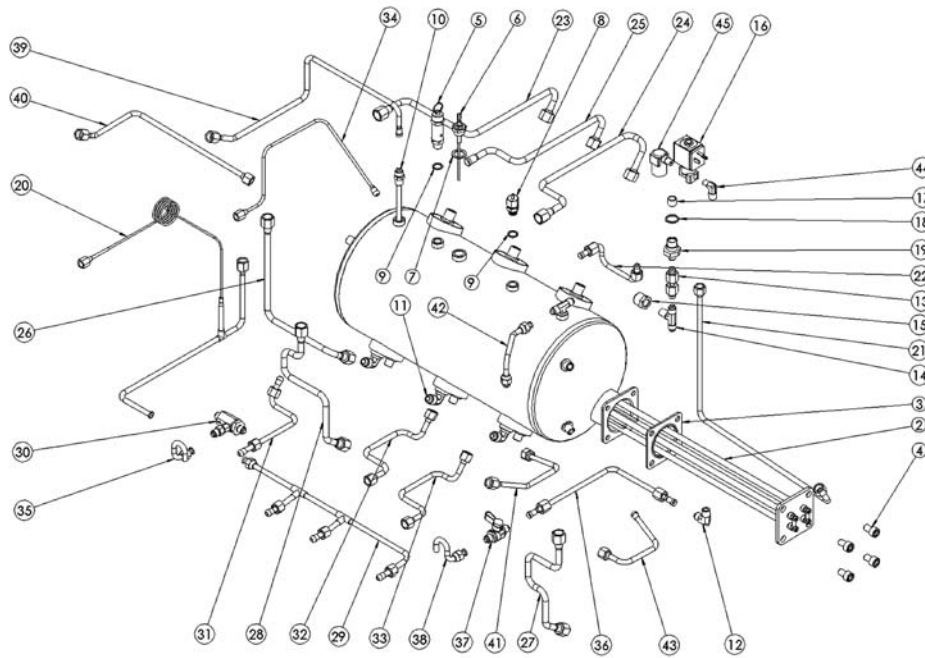
Boiler ESP 2 Hydraulic Circuit



Dia. Part			List Price	Dia. Part			List Price
#	#	Description		#	#	Description	
1	xxx	BOILER	118.80	18	xxx	NBR O RING	
2	01315	HEATING ELEMENT 220V, 4000W		19	xxx	WATER LEVEL LOWER TUBE	
3	xxx	SI-GASKET ELEMENT		20	xxx	AUT. WATER REFILL TUBE	
4	xxx	HEX SCREW (M10*16)		21	xxx	AUT. WATER REFILL TUBE REAR	
5	xxx	SAFETY VALVE		22	xxx	PRESSURE GAUGE COPPER TUBE	
6	xxx	LEVEL PROBE ASSY		23	xxx	HEAT EXCHANGER OUTLET TUBE LEFT	
7	xxx	VALVE GASKET BRASS		24	xxx	HEAT EXCHANGER OUTLET TUBE RIGHT	
8	xxx	ANTI-EDDY VALVE V.A.R.		25	xxx	HEAT EXCHANGER RETURN TUBE LEFT	
9	xxx	VALVE GASKET BRASS		26	xxx	HEAT EXCHANGER RETURN TUBE RIGHT	
10	xxx	HOT WATER CONDUCT TUBE IN BOILER		27	xxx	FLOWMETER INLET TUBE	
11	xxx	ELBOW BRASS PT1/4*3/8		28	xxx	S.C.N.R.DOSER VALVE 1/2*1/2*1/2	
12	xxx	ELBOW BRASS CONNECTOR 3/8 * PT 3/8		29	xxx	HEAT EXCHANGER INLET TUBE	
13	xxx	ELBOW BRASS CONNECTOR PT 1/8 * PT1/4		30	xxx	STEAM PRESSURE GAUGE TUBE	
14	xxx	BRASS CONNECTOR PT 1/4*1/2-20UNF*1/2-20UNF		31	xxx	EXPANSION DRAIN TUBE	
15	xxx	BRASS CONNECTOR		32	xxx	BOILER DRAIN TUBE REAR	
16	xxx	SOL. VALVE WATER REFILL ASSY 208-240V 60Hz		33	xxx	PRESSURE RELEASE TAP BULK UNIT PS1/4xPS1/4	
17	xxx	SPHERICAL BRONZE CONICAL FILTER		34	xxx	BOILER DRAIN TUBE FRONT	
				35	xxx	HOT WATER OUTLET TUBE REAR	
				36	xxx	STEAM OUTLET TUBE FRONT LEFT	
				37	xxx	STEAM OUTLET TUBE FRONT RIGHT	
				38	xxx	WATER LEVEL UPPER TUBE	

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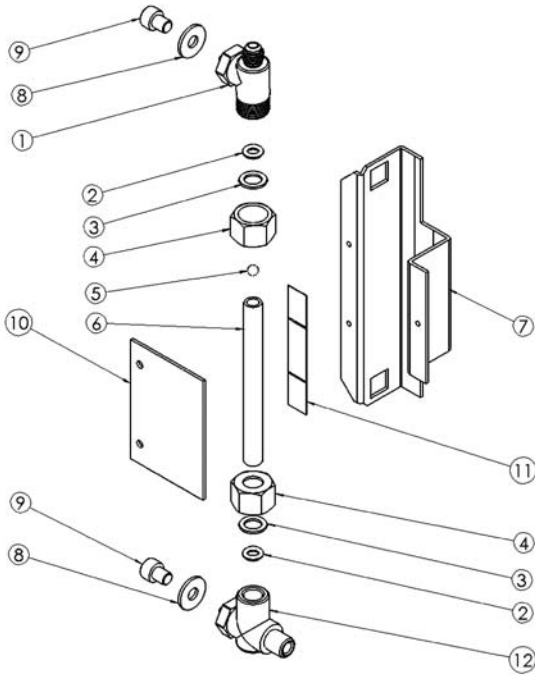
Boiler ESP 3 Hydraulic Circuit



Dia. Part			List	Dia. Part			List
#	#	Description	Price	#	#	Description	Price
1	xxx	BOILER		21	xxx	AUT.WATER REFILL TUBE REAR	
2	01317	HEATING ELEMENT 6000W 220V	\$ 249.40	22	xxx	PRESSURE GAUGE COPPER TUBE	
3	01318	SI-GASKET ELEMENT FOR 220V	\$ 16.00	23	xxx	HEAT EXCHANGER OUTLET TUBE LEFT ..	
4	xxx	HEX SCREW (M10*16)		24	xxx	HEAT EXCHANGER OUTLET TUBE RIGHT .	
5	xxx	SAFETY VALVE		25	xxx	HEAT EXCHANGER OUTLET TUBE MIDDLE	
6	01320	LEVEL PROBE ASSY		26	xxx	HEAT EXCHANGER RETURN TUBE LEFT ..	
		FOR ESP 220V	\$ 15.20	27	xxx	HEAT EXCHANGER RETURN TUBE RIGHT .	
7	01321	VALVE GASKET BRASS		28	xxx	HEAT EXCHANGER RETURN TUBE MIDDLE	
		FOR ESP 220V	\$ 4.30	29	xxx	FLOW METER INLET TUBE	
8	01319	ANTI-EDDY VALVE V.A.R.		30	xxx	S.C.N.R.DOSER VALVE 1/2*1/2*1/2	
		FOR ESP 220V	\$ 19.50	31	xxx	HEAT EXCHANGER INLET TUBE LEFT	
9	01322	VALVE GASKET BRASS		32	xxx	HEAT EXCHANGER INLET TUBE MIDDLE ..	
		FOR ESP 220V	\$ 3.40	33	xxx	HEAT EXCHANGER INLET TUBE RIGHT ...	
10	xxx	HOT WATER CONDUCT TUBE IN BOILER .		34	xxx	STEAM PRESSURE GAUGE TUBE	
11	xxx	ELBOW BRASS PT1/4*3/8		35	xxx	EXPANSION DRAIN TUBE	
12	xxx	ELBOW BRASS CONNECTOR 3/8*PT3/8 ..		36	xxx	BOILER DRAIN TUBE REAR	
13	xxx	AUT. WATER REFILL TUBE UPPER		37	xxx	PRESSURE RELEASE TAP	
14	xxx	BRASS CONNECTOR				BULK UNIT PS1/4xPS1/4	
		PT1/4*1/2-20UNF*1/2-20UNF		38	xxx	BOILER DRAIN TUBE FRONT	
15	xxx	BRASS CONNECTOR		39	xxx	HOT WATER OUTLET TUBE REAR	
16	xxx	SOL. VALVE WATER REFILL		40	xxx	STEAM OUTLET TUBE FRONT LEFT	
		ASSY 208-240V 60Hz		41	xxx	STEAM OUTLET TUBE FRONT RIGHT	
17	xxx	GROUP FILTER ST.STEEL D13.8*d10.5*11.5		42	xxx	WATER LEVEL UPPER TUBE	
18	xxx	NBR O RING		43	xxx	WATER LEVEL LOWER TUBE	
19	xxx	AUT. WATER REFILL REDUCTION		44	xxx	ELBOW BRASS CONNECTOR PT1/8 * PT1/4	
20	xxx	AUT. WATER REFILL TUBE MIDDLE		45	xxx	ELBOW BRASS CONNECTOR PF3/8 * PT1/8	

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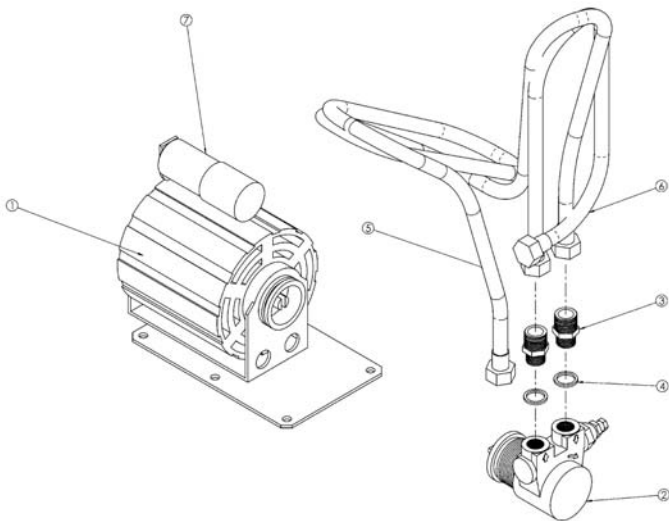
Water Level Assembly ESP1



Dia. #	Part #	Description	List Price
1	xxx	LEVEL CONNECTOR (UPPER)	
2	xxx	RUBBER GASKET (16*10*8) 110V MODEL .	
	xxx	SI-O-RING (7.5*2.5) 220V MODELS . .	
3	01306	COPPER SEAL	\$ 1.50
4	xxx	BRASS NUT	
5	xxx	LEVEL-INDICATING BALL	
6	01307	SIGHT GLASS FOR	\$ 9.20
7	xxx	SIGHT GLASS REAR COVER	
8	xxx	WASHER (M8*3t)	
9	xxx	HEX SCREW (M8*10)	
10	xxx	PC PANEL	
11	xxx	LEVEL LABEL	
12	xxx	LEVEL CONNECTOR (LOWER)	

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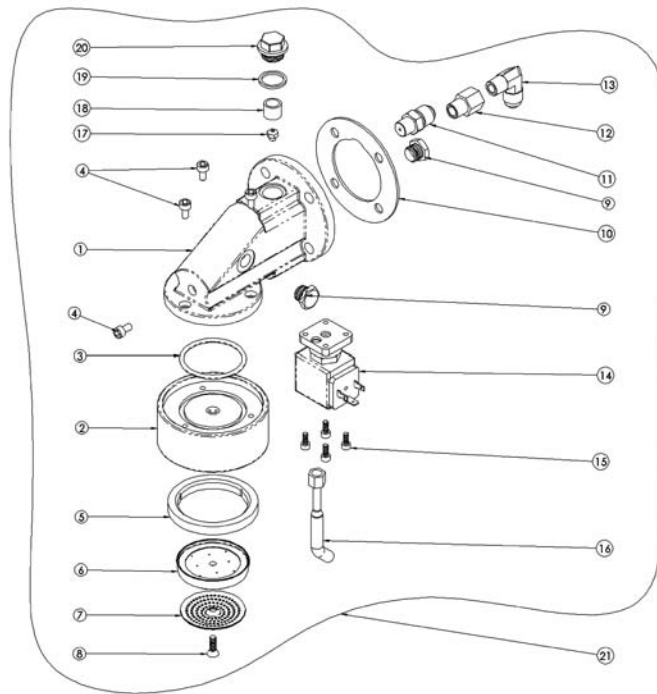
Motor Pump Assembly ESP1, 2, 3



Dia. #	Part #	Description	List Price
1	01329	MOTOR FOR ESP 220V.	\$ 508.90
	xxx	MOTOR FOR ESP 120V.	
2	01330	PUMP	\$ 444.00
3	xxx	PS 3/8"*PS1/2" GAS FITTING	
4	xxx	PIPE GASKET TEFLON	
5	xxx	S.T. STEEL WIRE PIPE (60mm) . .	
6	xxx	S.T. STEEL WIRE PIPE (2400mm) .	
7	xxx	CAPACITOR.	

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Distribution Group Assembly ESP 1, 2, 3



Dia. #	Part #	Description	List Price
1	xxx	DISTRIBUTION GROUP BODY	
2	xxx	CHROMED CLAMPING RING	
3	01304	O-RING d47*3.5t	\$ 4.00
4	xxx	STAINLESS STEEL SCREW M5*10	
5	01300	FILTER SUPPORT RUBBER	\$ 6.90
6	xxx	WATER SPOUT UNIT SUPPORT	
7	xxx	GROUP SHOWER PLATE FOR ESP 120V	
	01301	GROUP SHOWER PLATE FOR ESP 220V	\$ 21.60
8	01302	STAINLESS STEEL FLATHEAD SCREW M5*15	\$.40
9	xxx	BRASS PLUG	
10	xxx	GROUP ASBESTOS WASHER	
11	xxx	WATER MLET CONNECTOR	
12	xxx	WATER RECYCLE CONNECTOR	
13	xxx	PT1/4x5/8-18UNF L FITTING	
14		PAEKER GROUP SOLENOID VALVE COIL	
	xxx	120V FOR ESP 120V	
	01303	208~240V 60Hz FOR ESP 220V	\$ 183.60
15	xxx	HEX SCREW M4*12	
16	xxx	PRESSURE RELEASE DRAIN TUBE FOR ESP 120V	
	xxx	PRESSURE RELEASE DRAIN TUBE FOR ESP 220V	
17	xxx	GROUP JET D0.8	
18	xxx	GROUP FILTER ST.STEEL D13.8*d10.5*11.5	
19	xxx	TEFLON GASKET D22*d18*2.0	
20	xxx	DISTRIBUTION GROUP CAP	
21	xxx	DISTRIBUTION GROUP ASSY	

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NOTES

This image shows a single sheet of white paper with horizontal blue ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.