

CBS-3000P Series Coffee Brewers

Pour-Over Models:

- ▶ CBS-31P
- ▶ CBS-31Pap



Driven To Pioneer Innovation™

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Product Description/Features

CBS-31P Coffee Brewing System
 Used with 2.5 liter thermal gravity pots

CBS-31Pap Coffee Brewing System
 Used with various size airpots*

- Pour-over, requires no plumbing
- Compact design
- All stainless steel brewer body construction
- Electronic temperature control
- “Ready to brew” indicator lamp
- Non clog sprayhead
- Heater protection control

Optional Features:

- Iced tea brewing capability
- Color stainless steel finish
- Custom and export voltage

Note: Throughout this manual, all references to the CBS-31 brewer apply to both the “P” and “Pap” versions, unless otherwise indicated.

Technical Data

Brewing Specifications

	CBS-31P	CBS-31Pap
Brew Volume:	2.5 liters	2.2 liters / 3.0 liters
Brew Time:	3½ - 4 min	3-3½ min. / 4-4½ min.
	<i>(Allow an extra 1-3 minutes for coffee to finish dripping)</i>	

Temperature:

203°F inside water tank (at sea level)
 195°F ± 5° at sprayhead

Coffee Filters: Plastic Brew Basket: 9¾” X 4½” FETCO # F003
 Stainless Steel Brew Basket: 13” X 5” FETCO # F002

*FETCO currently supplies 2.2 and 3.0 liter airpots. Pap brewers can also utilize the other available sizes, 1.9 and 2.5 liters.

Weights and Capacities

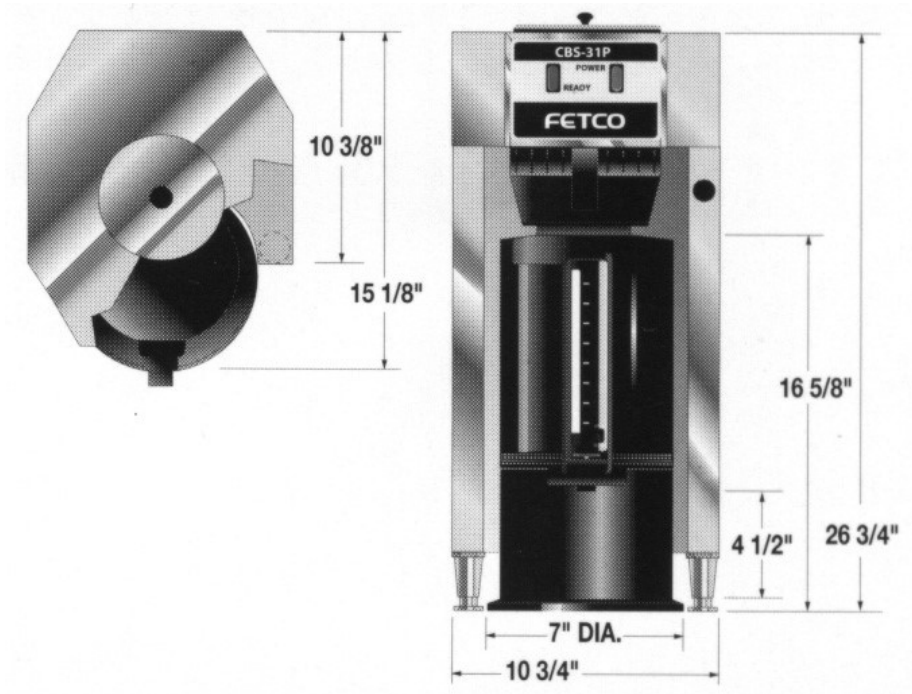
Brewer Model	Weight (empty)	Water tank Capacity & Weight		Weight (filled)	Dispenser Weight, ea.	Dispenser Filled, ea.	Total Weight Brewer & Dispensers, filled
CBS-31P/Pap	30 lbs.	1.7 gal.	14.2 lbs.	44.2 lbs.	4 lbs.	10.3 lbs.	55 lbs.

Electrical Configuration and Brewing Efficiency

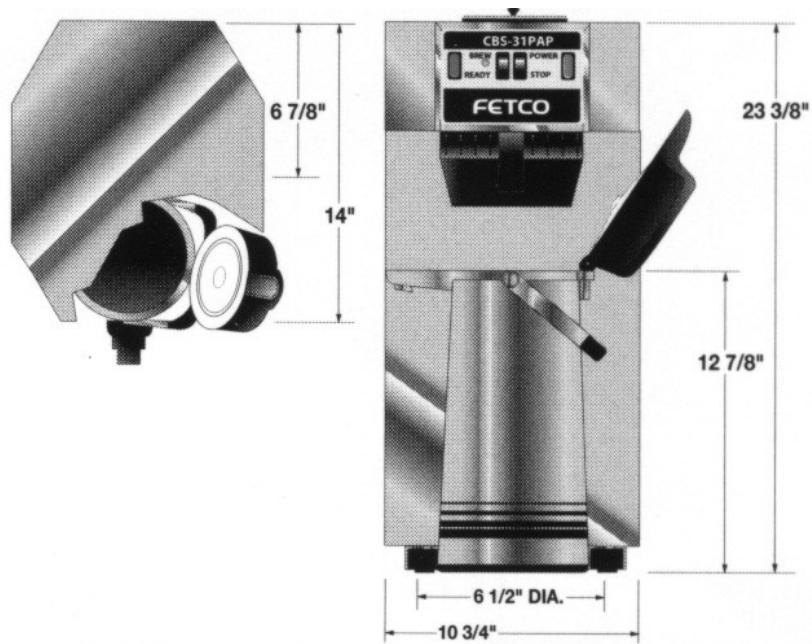
Model	Heater Configuration	Voltage Connection	Phase	Wires	KW	Max. Amp draw	Brews per Hour (cold or hot water)					
							2.2 lit. (max 13)		2.5 lit. (max 12)		3.0 lit. (max 11)	
							cold	hot	cold	hot	cold	hot
CBS-31P/Pap (-1)	1 X 1300 w	120	1 ph.	2 + grnd	1.3	11.2	5.5	12.8	4.9	11.3	4.1	9.4
CBS-31P/Pap (-2)	1 X 1800 w	120	1 ph.	2 + grnd	1.8	15.3	7.7	13.0	6.8	12.0	5.6	11.0

Dimensional Drawings & Utilities

CBS-31P



CBS-31Pap



Installation

(For Qualified Service Technicians Only)

Keys Points

Electrical:

- The electronic controls require at least 105 volts. Less than 105 volts will cause erratic behavior from the brewer.
- The electrical drawing for the brewer is located on the inside of the upper cover.

General:

- Do not adjust the thermostat setting unless absolutely necessary. It is set at the factory for optimum performance.

Installation Instructions

1. Review the Dimensional Drawings and the Operating Procedures for the unit you are installing. Verify that the brewer will fit in the space intended for it. Verify that the counter or table will support 55 lbs., the weight of the brewer and dispensers when filled.
2. The thermostat is pre-set at the factory. There is no need to turn off the heater during the installation process. The heater is disabled by the liquid level control board until water is sensed. The heating process will start automatically when the tank has filled with water.
3. When the brewer is in position for use, level the brewer front to back as well as side to side by adjusting the feet.
4. Plug the power cord into a proper receptacle
5. Turn the power switch to the "on" position.
 - The "ready" light will go on briefly, then go off.
 - The heaters will be disabled by the L.L.C. board until water is sensed by the water level probe.
6. Fill the water tank as follows:
 - Remove the pour-over tank cover.
 - Place a container under the brew basket.
 - Slowly pour approximately 1½ gallons of water into the top of the brewer. This will almost completely fill the brewer's main tank.
 - Pour additional water into the top until water begins flowing out of the brew basket into the container.
 - The brewer's tank is now completely full and the water will begin heating.
 - Due to the expansion of the water as the temperature rises, water will drip from the brew basket during the heating process. Therefore, the brew basket and container should be kept in place until the water has reached operating temperature.

The brewer will be ready for operation as soon as the ready light comes on to indicate that the water tank is up to brewing temperature. The time required to reach brewing temperature will vary according to the electrical configuration and the temperature of the cold water.

Depending on the cost of electricity in your area, very little savings may be had by turning the brewer off between shifts. The water tank is well insulated and may actually use less electricity to keep the tank hot, than re-heating the tank from a cold condition. Leaving the brewer in the on position will also avoid delays at the beginning of shifts for the brewer to reach operating temperature.

7. Review the entire operating procedures with whomever will be using the brewer. Pay particular attention to the following areas.
 - Don't remove the brew basket until it has stopped dripping.
 - Make sure the dispenser is empty before brewing into it.
 - Show how to close and/or secure the dispensers for transporting.

Operating Procedures

1. Turn the power switch (A) to the on position

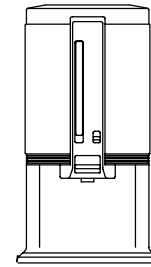
- The power switch will illuminate to indicate that the brewer has power.
- When the **ready light (B)** illuminates, the brewer is fully up to brewing temperature. The amount of time required to gain full operating temperature will vary depending on the electrical configuration that was ordered, and the temperature of the cold water.

2. Prepare the brew basket (C).

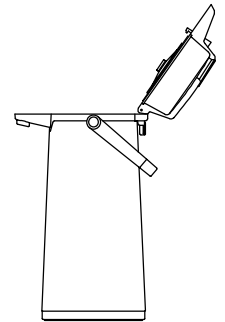
- Place a paper filter in each basket to be used. Pour the appropriate amount of pre-measured, ground coffee into the filter. The amount of coffee used will depend on your personal tastes and the recommendation of your roaster.
- Slide the brew basket back into the rails on the brewer.

3. Prepare the dispenser.

- Ensure that the dispenser is empty. If you are using an airpot, open the cover and remove the pump stem before brewing.
- Place the dispenser in position under the brew basket.



Gravity pot



Airpot

4. Remove the tank cover (D), and pour the appropriate amount of water into the top of the brewer.

- It is normal for the ready light to go out after the start of the brew cycle.
- The electrical configuration and the electrical power connected to the brewer will determine how long before the ready light comes back on for the next brew.

5. You now have a dispenser of freshly brewed coffee, ready to serve, that will taste fresh and stay hot. ONLY a non-heated dispenser can do that.

- If you are using an airpot, insert the pump stem before closing the cover.

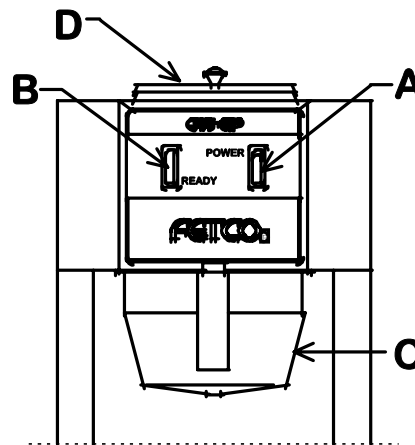


CAUTION:

Do not remove the brew basket immediately after the brew cycle has finished. Wait until dripping from the bottom of the brew basket has stopped. Carefully remove the brew basket while inspecting the inside of the basket for hot coffee that has not finished draining.

Legend:

- A-Power switch
- B-Ready light
- C-Brew basket
- D-Pour-over tank cover



Service

Warranty

All FETCO brewers come with a limited warranty. All warranty service must be authorized by calling FETCO Technical Support at (800) 338-2699.

Adjustments

Thermostat Adjustment:

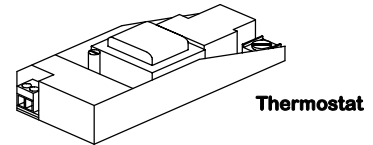
For equipment manufactured before April 1, 2004

The brewer's water tank temperature is factory set at 205°F (slightly lower for high altitudes, to prevent boiling). This setting will deliver water at 195°F ± 5° to the coffee grounds.

Measure the temperature by holding a thermometer in the stream of water flowing out of the brew basket, 1/3 of the way through the brew cycle. The temperature should be 195°F ± 5°.

If an adjustment is necessary:

- Turn the power switch off.
- Remove the four screws on the upper cover. The upper water tank is attached to the cover.
- Lift the cover and tank just enough to reach the thermostat, which is located on the right side, under the tank.
- Turn the adjustment stem slightly counter-clockwise to increase the temperature, and clockwise to decrease the temperature.
- Place the tank and cover in their normal positions and turn the power switch on.
- If you decreased the temperature setting, place a container under the brew basket and pour water into the top of the brewer until the "ready" light goes out
- Wait for the "ready" light to come on, and measure the temperature again.



Repeat until the desired temperature is obtained.

Effective December, 2004:

A new digital thermostat and temperature probe were introduced as a direct replacement for the old style thermostat and probe.

During normal operation, the digital readout displays the last two digits of the actual water temperature. When the adjustment tool is turned, the readout begins flashing to indicate the set point, not the actual temperature. After the tool is released, the readout stops flashing and displays the actual temperature again.

A red LED lights when the power to the thermostat is on. A yellow LED lights when the thermostat is calling for heat.

To adjust, turn the adjustment tool. If no adjustment tool is present, a small flat-head screwdriver may be used. The display will flash, indicating that the display is showing the set point, not the actual temperature.

The dots below the numbers indicate the temp range.

- 0 dots – less than 100° F
- 1 dot – between 100° and 200° F
- 2 dots – over 200° F

Examples:

= 75°F

= 187°F

= 203°F

Troubleshooting

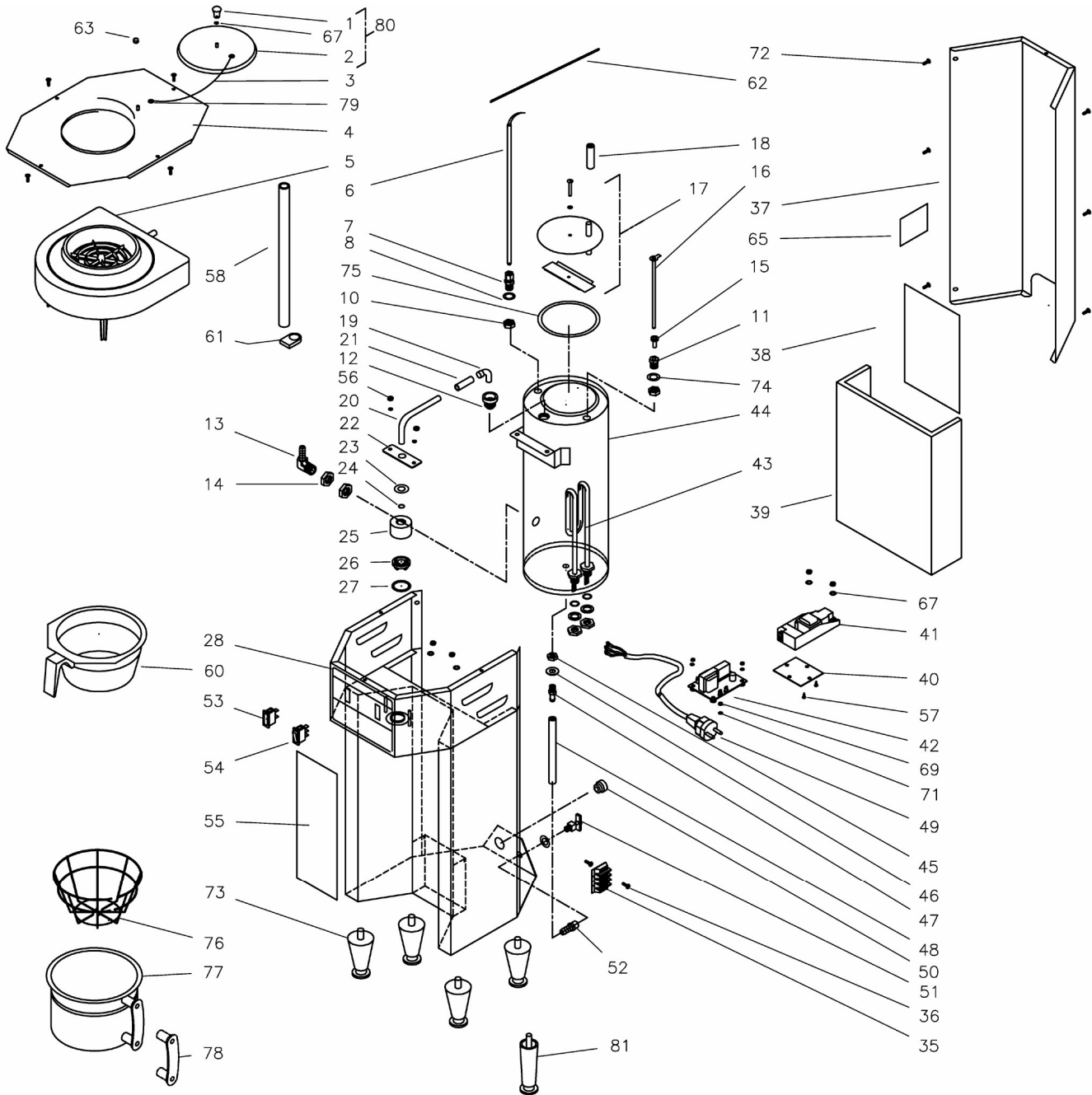
Brewing Problem	Possible Cause	Solution
Short brew levels	Incorrect amount of water poured in top of brewer.	Use correct amount of water for the size of the dispenser being used.
High brew levels	Incorrect amount of water poured into top of brewer.	Use correct amount of water for the size of the dispenser being used.
	Dispenser not empty	-Empty the dispenser completely and try again
Brew basket or filter overflows		-Call FETCO Service Dept. to discuss. (800) 338-2699
Grounds not saturated	Half batch used incorrectly	-Use smaller brew basket
	Water Softener in use	-Obtain water from a non-softened source.
	Degassing - extremely fresh coffee	-Call FETCO Service Dept. to discuss. (800) 338-2699
Weak Coffee	Improper dose	-Measure and confirm correct dose
	Too many filter papers	-Make sure only one paper is used
	Low brew temperature (Temperature inside the water tank should be set to 203° F.)	-Adjust thermostat so the water stream measured at the bottom of the brew basket, 1/3 of the way through the brew cycle, equals 195 degrees + or - 5 degrees
Spray head / brew basket drips	Condensation around the sprayhead area	-Wipe sprayhead area after brewing; place an empty container under brew cone when not in use.
	Condensation from water tank dripping through dispense tube	-Insert an empty brew basket and server under brew heads when not in use
Coffee tastes too strong	Incorrect dosage	-Measure and confirm the correct amount of coffee required
	Short brew levels	-See "Short brew levels", above.

Temperature Problem (brewer only)	Possible Cause	Solution
Brew water is cold / not hot enough, ready light is OFF.	No power to brewer.	-Make sure power switch is on -Make sure brewer is plugged in. -Check the wall circuit breaker / reset
	Water tank is not full. (If the brewer has not been used for an extended period, the water level may drop below the probe tip, disabling the thermostat.)	-Refill the tank by pouring water into the top of the brewer until it begins flowing out of the sprayhead.
	Defective liquid level control board. (No power to thermostat).	-With power on, and water tank full, disconnect the green wire connected to the water level probe. Touching this wire to the tank should cause the relay on the control board to click. If not, replace the board.
	Bad heating element.	-Check amperage draw on heater wires. 0 amps = bad heater.
Brew water is cold / not hot enough, ready light is ON.	Bad Thermostat (The thermostat believes that it is at set temperature)	-Replace the thermostat and or thermal probe. It's not possible to trouble shoot the probe.
	Low brew temperature (Temperature inside the water tank should be set to 203° F.)	-Adjust thermostat so the water stream measured at the bottom of the brew basket, 1/3 of the way through the brew cycle, equals 195 degrees + or - 5 degrees
Slow to recover temperature (Ready light takes a long time to come back on after brewing.)	Hot water tank limed up	-Remove access cover to the hot water tank and inspect for lime. Remove the brewer for shop de-liming if build up is thick.
Boiling and Steams	Thermostat set too high for altitude (Denver etc.)	-Reduce temperature setting to 3 degrees below boiling at your altitude
	Defective thermostat	-Replace the thermostat and or thermal probe. It's not possible to trouble shoot the probe.

Dispenser Problem	Possible Cause	Solution
Coffee not hot enough	Attempting to hold coffee too long.	-Review discard times
	Using 1/2 batch on regular basis	-Encourage full batch use except at end of day or shift. Explore the need for smaller dispensers
Parts related problems		-Contact dispenser manufacturer: Zojirushi - (800) 733-6270 Techni-Brew - (800) 545-4077

Parts

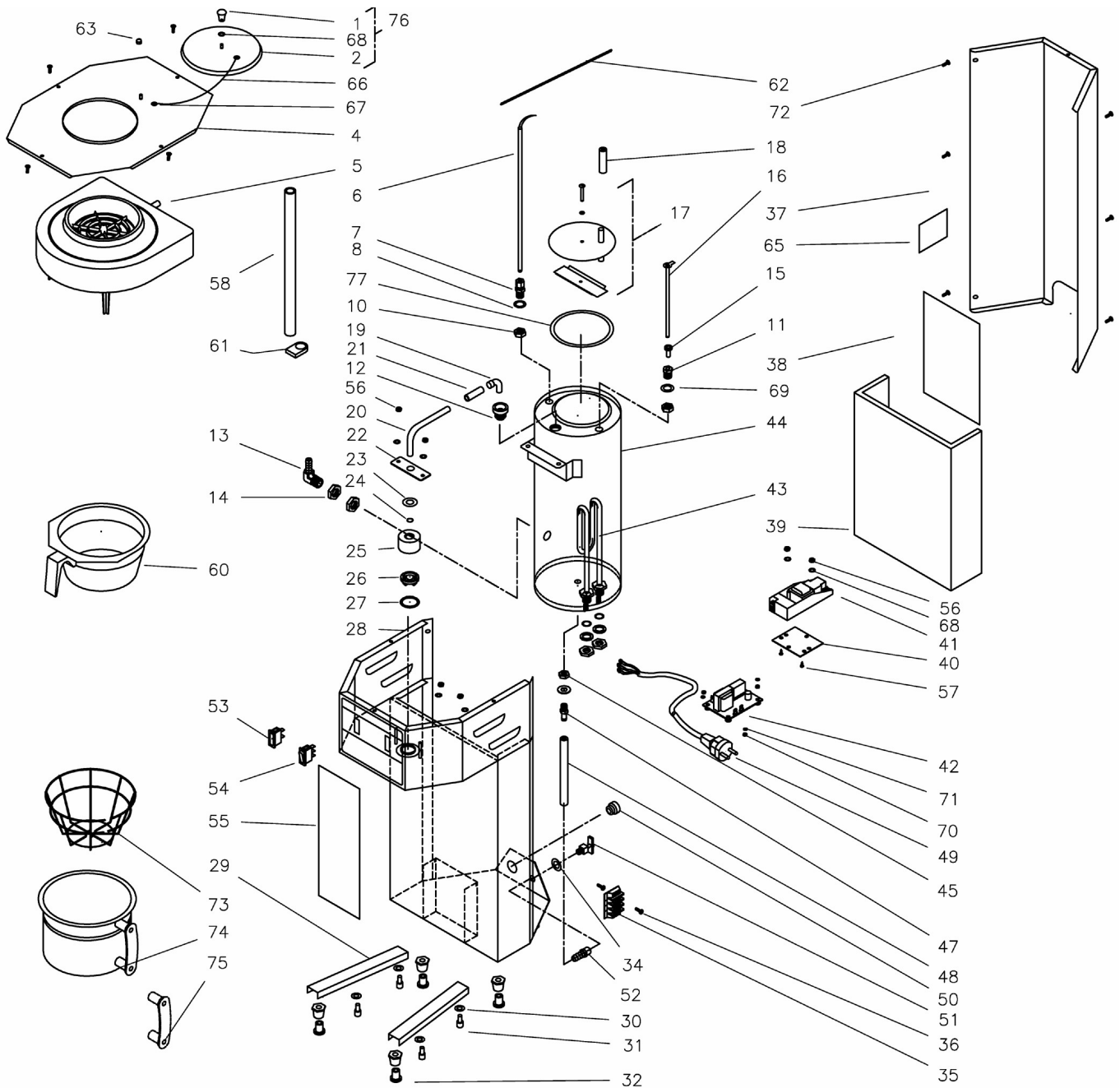
CBS-31P



ITEM	QTY	PART NO.	DESCRIPTION
1	1	72006	KNOB, WATER INLET COVER
2	1	01180	WATER INLET LID
3	1	82041	CHAIN, #10, ROUND BEAD
4	1	01160	COVER TOP
5a	1	23174	LID, UPPER TANK
5b	1	23200	BODY, UPPER TANK
6	1	53015	thermostat temp probe 14" (use with K045 digital thermostat or 53012 thermostat)
6	1	102198	Digital temp probe assy., 14" (use with K045 digital thermostat only)
7	1	31036	FITTING, COMPR., MALE CONNECT., 1/4 TUBE OD. X 1/4 MPT
8	1	83064	WASHER, .812" OD X .563"ID, FLAT
10	2	31117	LOCKNUT, 1/4 STRAIGHT PIPE THREAD
11	1	12030	WATER LEVEL PROBE FITTING
12	1	21069	BREW HOUSING

13	1	31101	FITTING, BARB, 90 ELBOW, 1/2 HOSE ID X 3/8 MPT
14	2	31118	LOCKNUT, 3/8 STRAIGHT PIPE THREAD
15	1	21038	HOUSING, ELECTRODE
16	1	002034	WELDMENT, WATER LEVEL PROBE
17	1	102047	TANK COVER ASSY
18	1	25094	VENT,SILICONE TUBE,
19	1	32047	TUBE, FITTING, TANK
20	1	32045	TUBE, FITTING, BREW
21	1	25095	TUBE, SILICONE
22	1	03098	BRACKET, SPRAY HEAD HOLDING
23	1	83065	WASHER, 1.0"OD X .412"ID, FLAT
24	1	24036	O'RING, .562" OD X .375" ID
25	1	21061	FLOW DISC, DISENSE
26	1	23104	SPRAY CUTTER, CLEAR, 6 + 1 HOLE
27	1	24010	O'RING SPRAY CUTTER
35	1	52023	TERMINAL BLOCK
36	2	82054	#6-32 X .625 S.S., PHIL, MS.
37	1	01152	BACK COVER
38	1	401044	WIRING DIAGRAM
39	1	22048	INSULATION
40	1	03076	BRACKET, THERMOSTAT
41	1	K045	DIGITAL THERMOSTAT, 100-120VAC
41	1	K046	DIGITAL THERMOSTAT, 200-240VAC (EXPORT ONLY)
42	1	108055	Liquid Level Control Brd. 100-120VAC, digital
42	1	108056	Liquid Level Control Brd. 200-240VAC, digital (EXPORT ONLY)
43	1	107006	1300W, 120VAC HEATER KIT
43	1	107007	1800W, 120VAC HEATER KIT
43	1	107001	2300W, 240VAC HEATER KIT (EXPORT ONLY)
44	1	004008	TANK WELDMENT
45	1	31116	1/8 LOCKNUT SPT
46	1	83041	.812 X .412 FLAT WASHER
47	1	31076	FITTING BARB, 1/8 MPT X 5/16
48	1	25024	TUBE, SILICONE, DRAIN
49	1	102032	CORD, 120VAC, 15AMPS W/5-15P NEMA PLUG ASSY.
49	1	102033	CORD, 120VAC, 20AMP W/5-20P NEMA PLUG ASSY
49	1	102035	CORD, 16AMP W/EUROPEAN PLUG ASSY
49	1	102050	CORD 15AMP W/AUSTRALIAN PLUG ASSY
49	1	102049	CORD, 15AMP W/BRITISH PLUG ASSY
50	1	86012	BUSHING, HEYCO STRAIN RELIEF
51	1	31086	VALVE, DRAIN
52	1	31087	FITTING, DRAIN VALVE CONNECT
53	1	58064	LAMP "READY" INDICATOR GREEN, 120VAC
54	1	58063	SWITCH, POWER ROCKET, RED, 240VAC
55	1	46009	LABEL, INFO. SET CBS-30'S
56	6	84002	NUT, HEX #8-32 S.S., MS
57	2	82049	SCREW, ROUND HD, PHIL, MS.#6-32 X 1/4
58	1	25011	TUBE,SILICONE,
60	1	23036	BREW BASKET,BROWN PLASTIC (9-3/4 X 4-1/2 FILTER)
60	1	23035	BREW BASKET, BLACK PLASTIC (9-3/4 X 4-1/2 FILTER) TEA
61	1	86038	CLAMP, HEYCO HOSE
62	1	25004	TUBE, 1/4OD X 1/8ID TEMP.PROBE COVER
63	1	84006	NUT, CAP, #8-32
67	5	83026	WASHER, #8 INTER. TOOTH LOCK
69	3	84001	NUT, #6-32, MS, S.S.
70	2	84002	NUT HEX, #8-32 S.S. MS.
71	3	83011	WASHER, #6, INTERN. TOOTH LOCK
72	10	82053	SCREW,S.S. #6-32 X 1/2, TRUSS HD,PHIL MS
73	4	73007	LEG, 2.5" HIGH, ADJUSTABLE
74	1	83063	WASHER,FLAT, .536 X .875 X .060TH
75	1	24002	TANK COVER GASKET
76	1	09010	BASKET, WIRE, 13 X 5, GOURMET
77	1	101098	ASSY, BREW BASKET, 13 X 5 (OPTIONAL)
78	1	102072	HANDLE ASSY WITH SCREWS & INSERTS
79	2	82042	FITTING, BEAD CHAIN
80	1	102046	WATER POUR OVER LID COVER ASSY
81	4	73002	LEG, 4.0" ADJUSTABLE, FLANGED FOOT

CBS-31Pap



ITEM	QTY	PART NO.	DESCRIPTION
1	1	72006	KNOB, WATER INLET COVER
2	1	01180	WATER INLET LID
4	1	01160	COVER TOP
5	1	23047	UPPER TANK
6	1	53015	thermostat temp probe 14" (use with K045 digital thermostat or 53012 thermostat)
6	1	102198	Digital temp probe assy., 14" (use with K045 digital thermostat only)
7	1	31036	FITTING, COMPR., MALE CONNECT., 1/4 TUBE OD. X 1/4 MPT
8	1	83064	WASHER, .812" OD X .563"ID, FLAT
10	2	31117	LOCKNUT, 1/4 STRAIGHT PIPE THREAD
11	1	12030	WATER LEVEL PROBE FITTING
12	1	21069	BREW HOUSING
13	1	31101	FITTING, BARB, 90 ELBOW, 1/2 HOSE ID X 3/8 MPT
14	2	31118	LOCKNUT, 3/8 STRAIGHT PIPE THREAD
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19	1	32047	TUBE, FITTING, TANK
20	1	32045	TUBE, FITTING, BREW
21	1	25095	TUBE, SILICONE
22	1	03098	BRACKET, SPRAY HEAD HOLDING
23	1	83065	WASHER, 1.0"OD X .412"ID, FLAT
24	1	24036	O'RING, .562" OD X .375" ID
25	1	21061	FLOW DISC, DISPENSE
26	1	23104	SPRAY CUTTER, CLEAR, 6 + 1 HOLE
27	1	24010	O'RING SPRAY CUTTER
29	2	01490	LEG CHANNEL
30	4	83027	WASHER, 1/4" SCREW SIZE, INTERNAL TOOTH LOCK
31	4	82073	SCREW, SOCKED HD, CAP, 1/4-20 X 1/2LG
32	4	73016	LEG, 1.0" HIGH
34	1	83041	WASHER, .812"OD X .412"ID FLAT
35	1	52023	TERMINAL BLOCK
36	2	82054	#6-32 X .625 S.S, PHIL, MS.
37	1	01152	BACK COVER
38	1	401044	WIRING DIAGRAM
39	1	22048	INSULATION
40	1	03076	THERMOSTAT BRACKET
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43	1	107001	2300W,240VAC HEATER KIT (EXPORT ONLY)
43	1	107007	1800W 120VAC HEATER KIT
44	1	004008	TANK WELDMENT
45	1	31116	1/8 LOCKNUT SPT
47	1	31076	FITTING, BARB, 1/8 MPT X 5/16
48	1	25024	TUBE SILICONE, DRAIN
49	1	102033	CORD, 120VAC, 20AMP W/5-20P NEMA PLUG ASSY
49	1	102035	CORD, 16AMP W/EUROPEAN PLUG ASSY
49	1	102050	CORD 15AMP W/AUSTRALIAN PLUG ASSY
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60	1	23036	BREW BASKET, BROWN, PLASTIC (9-3/4 X 4-1/2 FILTER)
61	1	86038	CLAMP, HEYCO HOSE
62	1	25004	TUBE 1/4 OD 1/8 ID TEMP. PROBE COVER
63	1	84006	NUT, CAP, #8-32
66	1	82041	CHAIN, #10 ROUND BEAD
67	1	82042	FITTING, BEAD CHAIN
68	7	83026	WASHER, #8 INTER. TOOTH
69	1	83063	WASHER,FLAT, .536 X .875 X .060TH
70	3	84001	NUT, #6-32, S.S.
71	3	83011	WASHER, #6, INTERN. TOOTH
72	10	82053	SCREW,S.S. #6-32 X 1/2, TRUSS HD, PHIL, MS.
73	1	09010	BASKET, WIRE, 13 X 5, GOURMET
74	1	101098	ASSY, BREW BASKET, 13 X 5 (OPTION)
75	1	102072	HANDLE ASSY WITH SCREWS & INSERTS
76	1	102046	WATER POUR OVER INLET LID ASSY
77	1	24002	COVER GASKET

