

# USER'S GUIDE



## **Models:**

- . CBS-2031e / CBS-2031s
- CBS-2032e / CBS-2032s







NOTICE TO INSTALLER: Please leave this book with the machine.

#### Driven To Pioneer Innovation™

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### **Contact Information**

**FETCO®** 

Food Equipment Technologies Company

600 Rose Road

Lake Zurich • IL • 60047-0429 • USA

Internet: www.fetco.com

Phone: (800) 338-2699 (US & Canada)

(847) 719-3000 **Fax:** (847) 719-3001

Email: sales@fetco.com

techsupport@fetco.com

## **Description & Features**

The CBS-2030e and CBS-2030s series feature patented intermittent spray over technology, which works like this:

The following variables are programmed for each batch size:

Brew volume

Prewet percent (Percentage of the brew volume)

Brew time

Prewet delay (The time between prewetting and the brew cycle.)

 Bypass percent (CBS-2031s & 2032s only) (Percentage of the brew volume)  Drip delay (The time between the end of the brew cycle and the unlocking of the brew basket.)

Using these variables, the software calculates how much water to use for prewetting and brewing. The total brew time is divided into several 30 second cycles. Within these cycles, the software calculates how long to spray water over the coffee grounds, and how long to pause before the next cycle begins.

### **Features**

#### All Models:

- Two fully programmable batch sizes per side
- Adjustable prewetting cycle
- Electronically controlled hot water service
- Brew temperature protection

#### CBS-2031s & CBS-2032s Only:

- Magnetic brew basket sensor
- Brew basket safety locks
- Adjustable bypass

## **Specifications**

### Requirements

Water Requirements:

CBS-2031e/2031s: 20-75 psig, ¼ gpm CBS-2032e/2032s: 20-75 psig, ½ gpm

Electrical: See electrical configuration chart.

❖ Coffee Filters: 13" X 5 " FETCO Product # F002

### **Weights and Capacities**

Brewer Model	Weight (empty)		r tank & Weight.	Weight (filled)	Dispenser Weight, ea.	Dispenser Filled, ea	Total Weight Brewer & Dispensers, Filled
CBS-2031e CBS-2031s	35 lbs.	3.0 gal.	25 lbs.	60 lbs.	4.4 lbs.	11 lbs.	71 lbs.
CBS-2032e CBS-2032s	53 lbs.	5.4 gal.	45 lbs.	98 lbs.	4.4 lbs.	11 lbs.	120 lbs.

### **Electrical Configuration and Brewing Efficiency**

### US & Canada

### CBS-2031e / CBS-2031s

### 3.0 liters per batch

Electrical	Heater	Voltage				Maximum	Batches per H	our* (max 11)
Config. Code	Configuration	(AC)	Phase	Wires	KW	Amp draw	Cold Water	Hot Water
E31045	1 X 1.5 KW	120	single	2 + ground	1.6	13.0	4.9	11.0
Can be connected	2 X 1.5 KW	120/208	single	3 + ground	2.4	11.3	7.3	11.0
to 120 VAC or		120/220			2.6	12.0	8.2	11.0
120/208-240 VAC		120/240			3.1	13.0	9.7	11.0
E31035	1 X 1.7 KW	120	single	2 + ground	1.8	14.7	5.5	11.0
Can be connected	2 X 1.7 KW	120/208	single	3 + ground	2.7	12.8	8.3	11.0
to 120 VAC or		120/220		_	3.0	13.5	9.2	11.0
120/208-240 VAC		120/240			3.5	14.7	11.0	11.0
E31015	1 X 2.3 KW	120	single	2 + ground	2.4	19.7	7.4	11.0
Can be connected	2 X 2.3 KW	120/208	single	3 + ground	3.6	17.1	11.0	11.0
to 120 VAC or		120/220			4.1	18.1	11.0	11.0
120/208-240 VAC		120/240			4.7	19.7	11.0	11.0

### CBS-2032e / CBS-2032s

### 3.0 liters per batch

Electrical	Heater	Voltage				Maximum	Batches per H	our* (max 22)
Config. Code	Configuration	(AC)	Phase	Wires	KW	Amp draw	Cold Water	Hot Water
E32015	2 X 3 KW	120/208	single	3 + ground	4.6	22.4	14.6	22.0
		120/220			5.1	23.7	16.3	22.0
		120/240			6.1	25.8	19.4	22.0

<sup>\*</sup> Based on standard factory settings: 4.0 minute brew time; 0% prewet; 200 F water.

## **Export**

### CBS-2031e / CBS-2031s

#### 3.0 liters per batch

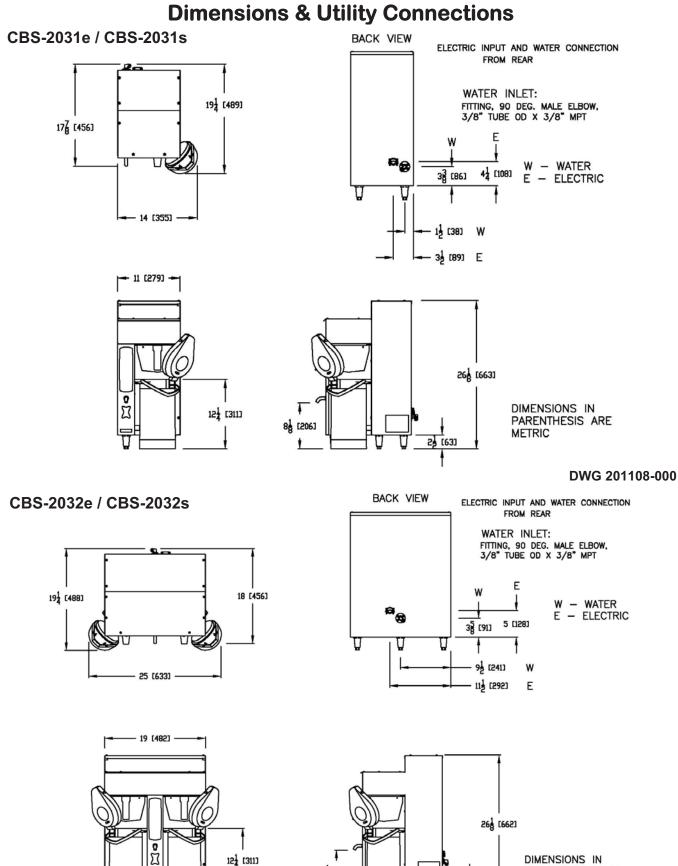
Electrical	Heater	Voltage				Maximum	Batches per H	our* (max 11)
Config. Code	Configuration	(AC)	Phase	Wires	KW	Amp draw	Cold Water	Hot Water
E31025	1 X 3 KW	220	single	2 + ground	2.6	12.0	8.2	11.0
		240			3.1	13.0	9.7	11.0

### CBS-2032e / CBS-2032s

### 3.0 liters per batch

Electrical	Heater	Voltage				Maximum	Batches per H	our* (max 22)
Config. Code	Configuration	(AC)	Phase	Wires	KW	Amp draw	Cold Water	Hot Water
E32025	2 X 3 KW	220	single	2 + ground	5.1	23.7	16.3	22.0
		240			6.1	25.8	19.4	22.0

<sup>\*</sup> Based on standard factory settings: 4.0 minute brew time; 0% prewet; 200 F water.



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DIMENSIONS IN

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### Installation

(For Qualified Service Technicians Only)

### **Keys To A Successful Installation**

If not installed correctly by qualified personnel, the brewer will not operate properly and damage may result. Damages resulting from improper installation are not covered by the warranty. Here are the key points to consider before installation:

#### Electrical:

- ❖ All FETCO brewers require **NEUTRAL**. Ground is not an acceptable substitute. Installation without neutral may cause damage to the electronic components.
- ❖ The electrical diagram is located on the inside of the lower cover.
- The installation must comply with applicable federal, state, and local codes having jurisdiction at your location. Check with your local inspectors to determine what codes will apply.

#### Plumbing:

- This equipment is to be installed to comply with the applicable federal, state, or local plumbing codes.
- The water line must be flushed thoroughly prior to connecting it to the brewer to prevent debris from contaminating the machine.
- ❖ Verify that the water line will provide at least ¼ gallon per minute for the CBS-2031, and ½ gallons per minute for the CBS-2032 before connecting it to the brewer.

#### General:

Utilize only qualified beverage equipment service technicians for installation. A Service Company Directory may be found on our web site, http://www.fetco.com.

#### Installation Instructions

#### **Brewer Setup**

- 1. Review the Dimensions for the unit you are installing. Verify that the brewer will fit in the space intended for it, and that the counter or table will support the total weight of the brewer and dispensers when filled.
- 2. The brewer's legs are shipped inside the brew baskets. Remove the brew basket(s) and the coffee dispenser(s). Place the brewer on its back and screw in the legs.
- 3. Place the brewer on the counter or stand.
- 4. When the brewer is in position, level it front to back as well as side to side by adjusting the legs.



Warning: Legs are to be adjusted for leveling the brewer only. Do not use for height adjustment or extend them higher than necessary.

5. Remove the lower cover to access the water and electrical connections. Knock-outs are provided in the back and base of the brewer body for the connections.

#### **Water Connection**

- 1. Water inlet is a 3/8 inch male flare fitting.
- 2. The brewer can be connected to a cold or hot water line. Cold water is preferred for best coffee flavor, but hot water will allow for faster recovery times.
- 3. Install a water shut off valve near the brewer to facilitate service. If an in-line water filter is used, it should be installed after the water shut off valve and in a position to facilitate filter replacement.
- 4. Flush the water supply line and filter **before** connecting it to the brewer.
- 5. Verify that the water line will provide at least ¼ gallon per minute for the CBS-2031, and ½ gallon per minute for the CBS-2032, and that the water pressure is between 20 and 75 psig.

#### Electrical Connection – US & Canada

CBS-2031e / CBS-2031s

**Factory Configuration** 

120 VAC, 3 wires

**GROUND** 

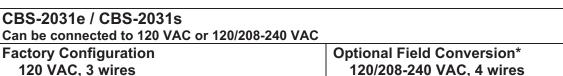
- 1. Verify that the actual voltage at the electrical service connection is compatible with the specifications on the brewer's serial number label. Make sure the electrical service includes neutral.
- 2. The temperature and water tank fill level are pre-set at the factory. There is no need to turn off the heaters during the installation process. The heaters are disabled by the control board until the tank is full of water. The heating process will start automatically when the tank has filled.
- 3. The CBS-2031 is factory equipped with a 120 V cord and plug. The CBS-2032 has only a terminal block for connecting the incoming power wires. Consult local codes to determine if a cord and plug can be installed, or if the unit must be hard wired.
- 4. A fused disconnect switch or circuit breaker on the incoming power line must be conveniently located near the brewer, and its location and markings known to the operators.
- 5. The body of the brewer must be grounded to a suitable building ground. A ground lug is provided in the brewer next to the power terminal block. Use only 10 gauge copper wire for grounding.
- 6. Electrical connections must be secured in-place within the unit to meet national and local standards.

**L2 - NOT USED** 

**CORD WITH** 

**NEMA 5-20P PLUG** 

7. Finally, connect the incoming power wires to the terminal block as shown in accordance with applicable codes.



Step 1: Remove the factory provided 120 V cord & plug from the terminal block.

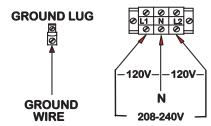
Warning: To prevent

electrical shock, this

grounded.

unit must be properly

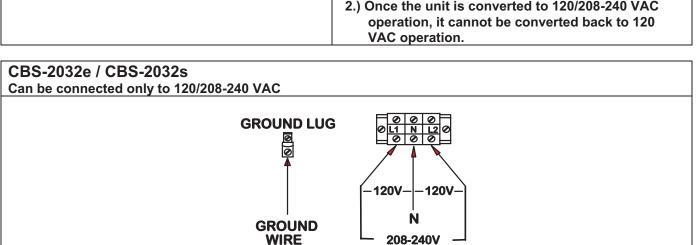
Step 2: Connect the incoming wires to the terminal block in accordance with applicable codes.



\*This procedure must be performed only by a qualified service technician or electrician.

Notice: In order for this product to comply with the requirements of the Underwriters Laboratories listing, the following conditions apply:

- 1.) This unit must be hard wired for 120/208-240 VAC.
- 2.) Once the unit is converted to 120/208-240 VAC



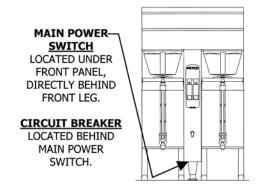
#### **Final Setup**

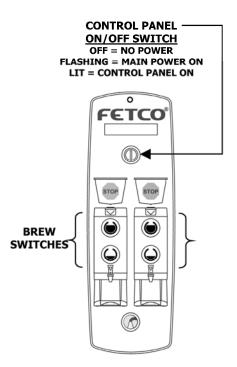
- 1. Turn on the incoming water supply line and inspect both inside and outside of the brewer for leaks in all fittings and tubes
- 2. Turn on the incoming power.
- 3. Press the brewer's main power switch, which is hidden behind the front leg of the brewer. The control panel on/off switch will begin flashing. Press this switch.
- 4. Within 6 seconds, the hot water tank will begin filling until the water is sensed by the probe at the top of the tank. The display will read "FIL". The heaters will be disabled by the control board until the tank is full.
- 5. While the water is heating, the display will read "LO" and the actual water temperature will be displayed. After the water has reached the set temperature, the display will be blank. There is no "ready" light.
- 6. Review the Operating Instructions. Brew one full batch (water only) on each side to confirm proper fill levels. The brewer is factory set with water only (no coffee) to dispense the correct amount of water. If the actual volume is slightly different from the programmed volume, fine tuning the brewer may be necessary. See #60 61 in the Advanced Settings & Diagnostics section.
- 7. Re-attach the covers after one final inspection for leaks. Look closely in the top of the brewer at the dispense fittings during this inspection.

#### **Operator Training**

Review the operating procedures with whoever will be using the brewer. Pay particular attention to the following areas:

- Always pre-heat the dispensers before the first use of each day by filling them half way with hot water, and letting them stand for at least 15 minutes.
- 2. Don't remove the brew basket until it has stopped dripping.
- 3. Make sure the dispenser is empty before brewing into it.
- 4. Show how to attach covers, close, and or secure the thermal dispensers for transporting.
- 5. Show the location and operation of the water shut off valve as well as the circuit breaker for the brewer.
- 6. Steam from the tank will form condensation in the vent tubes. This condensation will drip into and then out of the brew baskets. 1/4 cup discharging overnight is possible. Place an appropriate container under each brew basket when not in use.
- 7. We recommend leaving the power to the brewer on overnight. The water tank is well insulated and will use very little electricity to keep the tank hot. Leaving the brewer in the on position will also avoid delays at the beginning of shifts for the brewer to reach operating temperature.





## **Operating Instructions**

#### **Control Panel Functions**

Only switches that are active are illuminated. Switches that are inactive or disabled are invisible.

#### Main Power Switch

□ Controls all power to brewer □ Indicator lamp at top of panel.

### 2 Control Panel On/Off Switch

- □ Affects only control panel. Does not disconnect main power.
- □ Flashing = Off
- □ Lit = On
- □ Invisible = Main Power Off

### **3** Display

- □ "FILL" = Water tank is filling.
- □ "LO XXX" = Unit is heating, not ready to brew. (XXX = actual temperature.)
- □ Blank = Ready to brew.
- □ Also displays error messages.

### Stop Switches

- □ Stops brew cycle
- □ Lit = Brew cycle in progress
- □ Invisible = Not brewing, or dripping in progress

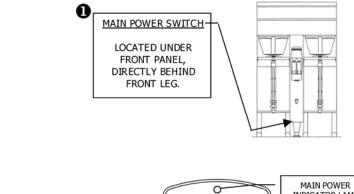
### **5** Brew Switches

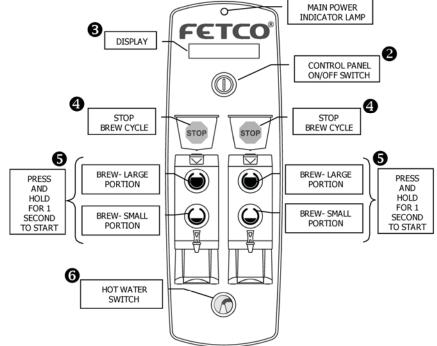
- □ Starts brew cycle
- ☐ Must be held in for 1 second
- □ Flashing = Brew cycle in progress
- □ Lit = Ready to brew
- □ Invisible Not ready to brew, or batch disabled (See Programming Section)

### 6 Hot Water Switch

□ Dispenses hot water from faucet

□ Hold in to dispense





#### **Brewing**

- 1. Turn the main power switch and control panel switch on.
- 2. Prepare a brew basket with the correct size filter and appropriate amount of coffee.
- Slide the brew basket completely into the rails.
- 4. Place a clean, empty, preheated dispenser under the brew basket.
- 5. Select a batch from the available choices, and hold the corresponding BREW button in for 1 second to start the brew cycle.
- 6. The STOP button will illuminate, and the selected BREW button will flash, indicating that brewing is in progress. All other BREW buttons will extinguish.

- 7. When the brew cycle is finished, the STOP button will extinguish and the BREW button will continue flashing, indicating that coffee may still be dripping from the bottom of the brew basket.
- 8. Before removing the brew basket or dispenser, visually verify that dripping has stopped.

#### Notes:

 Preheat dispenser by filling at least ½ full with water at brewing temperature. Allow it to sit for at least 15 minutes before draining.

## **Programming**

### **Batch Settings**

#### **Display**

- Turn the brewer off by pressing the main power switch.
- Press the main power switch again to turn the unit on.
   The last 2 digits of the model number will display briefly, then S t b.

32 S t b

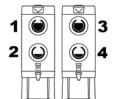
Quickly hold the STOP button for 3 seconds.

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The display will show the software version. Example:

0.0 3.2

- Press STOP to continue.
- ❖ Batches are numbered 1 2 (single brewers) or 1 4 (dual brewers)





Example: Left Side - Large Batch - Volume 2.49 Liters.

Next, the first batch parameter is displayed – batch 1, brew volume Use the SCROLL UP and SCROLL DOWN buttons to adjust. Press the STOP button to go to the next parameter – brew time. 1.1 2.49

1.2 4.00

Continue this way until all parameters are programmed for batch #1.
 (See the chart below for an explanation of each parameter.)

2.0 OFF

Next, batch #2 programming begins.
Batches 2 and 4 may be disabled by leaving them set to "OFF".
Change to "ON" to enable. Batches 1 and 3 cannot be disabled.

7 200

• After all batches are programmed, go to temperature settings.

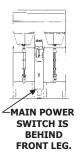
1 200

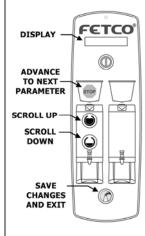
(See next page)

Important! After programming, you must press the HOT WATER button to save the settings and exit programming mode, or changes will be lost. You may exit programming at any time.

#### **Batch Parameters**

X=Bato	ch Number (1 - 4)				
Parameter	Name	Range	Increment	Default Setting	Comment
X.0	Batch Enabled or Disabled	On/Off		Batch 1 & 3 = ON Batch 2 & 4 = OFF	Batch 1 & 3 cannot be disabled.
X.1	Brew Volume (Liters)	0.94 – 4.72	0.03 or 0.04	2.49 liters	To display gallons, see # 59 in Advanced Settings section.
X.2	Brew Time (Min:Sec)	2:00 - 24:00	0:30	4:00 minutes	
X.3	Bypass Percent (CBS-2031s / 2032s only)	0.00 - 40.0%	1%	0 %	Percentage of total brew volume
X.4	Prewet Percent	0.00 – 15.0%	1%	0 %	Percentage of total brew volume
X.5	Prewet Delay (Min:Sec)	0:10 – 5:00	0:10	1:00 minute	The time between prewetting and start of brew cycle.
X.6	Drip Delay (Min:Sec)	0:30 – 6:00 Minutes	0:10	1:00 minute	The time between end of brew cycle and when brew switch stops blinking.





**Temperature Settings** 

Parameter	Name	Range	Default Setting	Comment
7	Water Temp. (°F)	180°F - 208°F	200°F	Inside tank. Will be slightly lower at
				spray head. To display in ° Celsius,
				see # 58 in Advanced Settings.
8	Hot Water Service	A (auto) / On / Off	A (auto)	A= Faucet will dispense only when not
				brewing.
				On=Faucet always enabled.
				Off=Faucet always disabled.
9	Brew at Set	0 - 1	1	0=Will brew at any temperature.
	Temperature			1=Will brew only at set temperature.
				Note: Changes will not take effect until
				the next brew cycle is completed.

Parameter	Name	Range	Default Setting	Comment
10	Enter Advanced	0 - 1	0	0 = Skip Advanced Settings &
	Settings &			Diagnostics. Loop back to start of
	Diagnostics			batch programming cycle.
				1 = Enter Advanced Settings &
				Diagnostics.
				-
				Press STOP to continue



Important! To save your changes, press not exit programming mode and return to operating mode.

**Advanced Settings and Diagnostics** 

Address	Description	Range	Default	Comment
50	Water Level	0 - 1		Tests if water is touching probe.
	in Tank			0 = Tank is less than full
				1 = Tank is full
52	Brew Basket	0 - 1		CBS-2031s / CBS-2032s Only
	Sensor State			To test, slide the brew basket in and out. Display
	(left / right)			should toggle between 0 and 1.
				0 = Brew basket out. 1 = Brew Basket in.
55	Tank Temperature	180°F - 208°F		Displays current tank temperature. If temperature
				is below 175°F, displays "LO".
56	Brewer Model	31 - 52		Must be set for the correct model number of the
	Number			brewer: 31 for CBS-2031e or 2031s, 32 for CBS-
				2032e or 2032s.
57	Reload Defaults	0 - 1	0	Changes all settings to default factory settings.
				0 = Do not reload defaults
				1 = Reload all default settings
				If 1 is selected, you must advance to the next
				address for this change to take effect.
				Does not change address 56 – model number.
58	Temperature Scale	F or C	F	F = Displays temp in degrees Fahrenheit
				C = Displays temp in degrees Celsius
59	Water Volume	LTR or GAL	LTR	LTR = Displays volume in liters
	Scale			GAL = Displays volume in gallons

Address	Description	Range	Default	Comment
60	Left Brew Valve	0.35 - 2.24	1.30	Use this to compensate for minor discrepancies in
and	Flow Rate	If #59 is LTR		actual volume versus programmed volume. Set
61	Right Brew Valve			lower to increase volume, higher to decrease
	Flow Rate	or		volume. The following formula can be used to
				determine the correct setting:
		0.09 - 0.59	0.39	
		If #59 is GAL		ACTUAL VOLUME X CURRENT = NEW
				PROGRAMMED VOLUME A SETTING SETTING
64	Keypad Test	0 - 1	0	Tests function of control panel switches.  0 - Skip keypad test  1 - Keypad test active Starting at the top, press each button. Display will read the name of the switch being pressed. Brew switches are named S1, S2, S3, etc. The hot water switch must be pressed last, as this
				will exit the test.
65	Relay Test	0 - 1	0	0 - Skip relay test. Loop back to #50
				1 – Relay test active.
				Press <b>STOP</b> to continue

Press to save the settings and exit Diagnostic mode.

Press again to exit Programming mode and return to Operating mode.

### **Relay Test**

Tests the individual relays which control various components. Use either batch button to actuate the relays.



Warning: During these tests, hot water may be dispensed from the valve being tested.

To begin, you must first press the blinking Control Panel Power Switch.

Address	Description	Comment
90	Left or Single Brew Valve	
91	Right Brew Valve	
92	Left or Single Bypass Valve	CBS-2031s / CBS-2032s Only
93	Right Bypass Valve	CBS-2031s / CBS-2032s Only
94	Hot Water Faucet	
95	Fill Valve	
96	Heater	To protect the heaters, this test will work only if the tank is full.

Press to exit Relay Test.

Press again to exit Diagnostic mode.

Press again to exit Programming mode and return to Operating mode.

## **Error Codes**

Code	Description	Possible Cause	Corrective Action	How to Clear Error Codes
001	Internal Error System had to reload default settings.	Control board failure.	Clear error. Re-program the brewer to the desired specifications. If error occurs again, replace control board.	Turn main power switch off and on.
050	Shorted temperature probe.	Probe failure.	Replace probe.	Turn main power switch off and on.
051	Open temperature probe.	Bad probe connection, or probe failure.	Check all connections. Replace probe if necessary.	Turn main power switch off and on.
075 or NO BAS	CBS-2031e / 2032e Brew Basket Sensor	These models do not have brew basket sensors or locks. This error indicates a bad connection on the brown jumper wire on the Molex connector connected to the top of the control board.	Press both ends of the jumper wire into the connector to make better contact.	
075	CBS-2031s / 2032s Brew basket lock or sensor failure.	Brew basket sensor or lock has failed. If the brew basket can be pulled out during the brew cycle, the brew basket lock has failed. Magnet in brew basket	Repair or replace brew basket sensor or lock.  Remove brew basket handle.	Press the flashing control panel power switch to resume operation.
		handle is missing or loose.	Place magnet in correct position.	
100	Initial Fill Error Initial fill time was more than 15 minutes.	Water supply flow rate is too low.	Watch for short potting during brew cycle. Investigate cause of low flow rate. (Clogged water filter, etc.)	Press the control panel power switch.
101	Error on refill Tank did not refill within 3 minutes.	Water supply flow rate is too low.	Watch for short potting during brew cycle. Investigate cause of low flow rate. (Clogged water filter, etc.)	Error message is cleared automatically at end of brew cycle.
102	Unwanted Fill When brewer is idle, the fill valve was activated for more than 30 seconds during a 1 hour period.	Possible leak in tank, fitting, or valve.  Output on control board has failed, causing a dispense valve to open.	Check inside of machine for leaks.  Replace control board.	Turn main power switch off and on.
200	Flat Line Temperature (Water is boiling) System is calling for heat, but the temperature does not rise at least 2°F within 10 minutes.	Triac is stuck closed, bad output on control board, or temperature is set too high for altitude.	Check triacs, check control board output, or adjust temperature for altitude.	Turn main power switch off and on.
201	Heater Open System is calling for heat, but the temperature does not rise at least 2°F within 10 minutes. This error is disabled during brewing and while using the hot water faucet.	Heating element failure.	Check and replace heating elements if necessary.	Turn main power switch off and on.
202	Heater Short System is not calling for heat, but temperature rises more than 5°F.	Possible triac stuck closed, or bad output on control board.	Check triac and control board.	Enter programming mode, then exit programming mode.
255	Keypad Error A switch was pressed for more than 45 seconds.	Switch was held in too long, or switch is stuck closed.	Clear error and try again. If error occurs without switch being pressed, replace input board.	Turn main power switch off and on.

## **Service and Support**

For service and support information, contact the Technical Support department. Our hours are 7:00 AM to 6:00 PM Central Time, Monday through Friday.

Phone: (800) 338-2699 or (847) 719-3000

Email: techsupport@fetco.com

Utilize only qualified beverage equipment service technicians for service. A Service Company Directory may be found on our web site, http://www.fetco.com.

## **Cleaning & Maintenance**

Daily: Wipe the area above the brew basket to remove coffee residue.

#### Daily or Weekly:

#### **CSD Versions:**

Clean the Cascading Spray Dome (CSD) with a soft brush and detergent. It may also be cleaned in a dishwasher – top rack only.

The CSD is held in place by four magnets. To remove it, grasp the bottom and pull down.

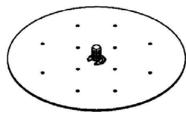


#### CSD

#### Spray Plate Versions:

The spray plate should be removed and cleaned to remove hard water deposits. In areas with extremely hard water, it may be necessary to do this daily. Weekly cleaning may be sufficient in some areas.

When cleaning the spray plate, make sure that each hole is completely free of mineral deposits. Use a toothpick to clean out each hole. Never use metal objects or abrasives on the spray plate's Teflon coating.



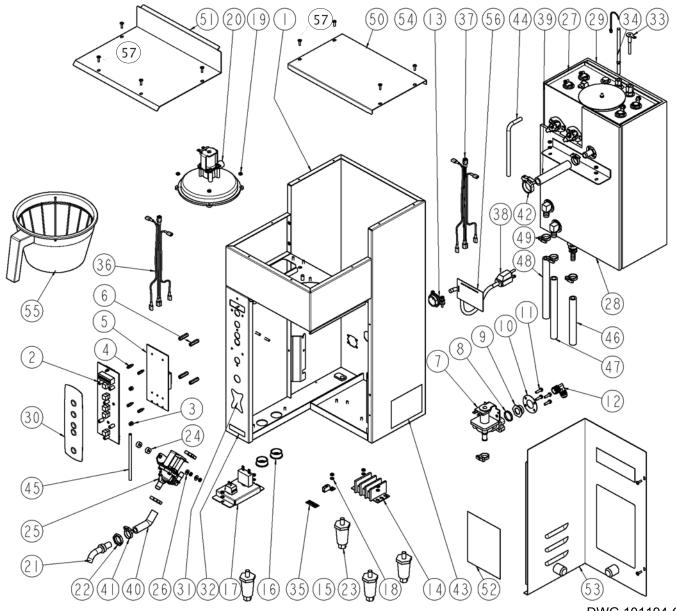
SPRAY PLATE

#### Quarterly:

- Check water temperature, adjust if necessary.
- Check brew levels, adjust if necessary.
- Inspect all fittings and hoses for leaks.
- Inspect inside of tank for lime deposits. De-lime tank and probes if necessary. This procedure should be done by a qualified service technician.

### **Parts**

Figure 1 - CBS-2031e / CBS-2031s Main Assembly



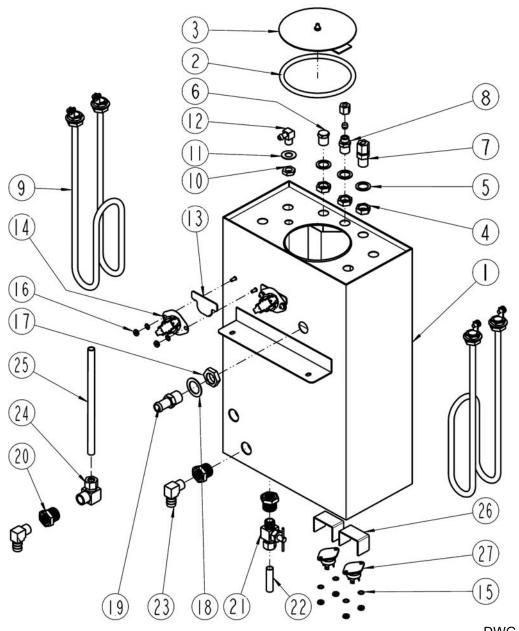
DWG 101194-C Old part ITEM# QTY PART# **DESCRIPTION** number 001051 WELDMENT CBS-2031e (For Illustration only, not sold as a commercial part) SWITCHING/CONTROL BOARD, 5 KEYS, S2P (CBS-2031e ONLY) 108001 2 SWITCHING/CONTROL BOARD, 5 KEYS, S2P (CBS-2031s ONLY) 108037 2 1 3 29007 1029.00006.00 2 NUT, #4-40 KNURLED THUMB 4 4 1084.00023.00 STANDOFF, MALE-FEMALE, THREADED HEX 4-40-1/2" 15007 1051.00011.00 5 51042 BOARD, POWER SUPPLY-120VAC EXPORT ONLY 5 1 51055 BOARD, POWER SUPPLY-220VAC EXPORT ONLY 6 4 29019 1029.00012.00 SPACER, .25" HEX X 1" LG, FEM #4-40 THREAD FILL VALVE, S-53 120VAC 57006 EXPORT ONLY 7 1 57017 FILL VALVE, S-53 220VAC 24012 1024.00020.00 GASKET, S-53 FILL VALVE 8 FITTING, S-53 FILL VALVE INLET BRACKET, S-53 INLET VALVE 9 31078 1031.00004.00 10 1 03074 1003.00019.00 4 SCREW, S-53 FILL VALVE 11 82020 1082.00019.00 12 31031 1031.00005.00 FITTING, 90° MALE ELBOW, 3/8 TUBE OD X 3/8 MPT

13	1	86040	1086.00008.00	CONNECTOR, CABLE CLAMP, 3/4" TRADE SIZE	
14	1		52050	TERMINAL BLOCK	
15	1	65002	1065.00002.00	CONNECTOR, COPPER LUG	
16	2	86032	1086.00004.00	BUSHING, SNAP, 1" MOUNTING HOLE DIA	
17	1	102189	1102.00106.00	ASSEMBLY, POWER BRACKET, CBS-2000e	
17	1	52026	1052.00007.00	BREAKER, 5A CIRCUIT (Not sold individually, is sold as part of 1102.00106.00–above)	
17	1	58054	1058.00014.00	0 SWITCH, PUSH BUTTON (Not sold individually, is sold as part of 1102.00106.00-above)	
18	7	83026	1083.00011.00	WASHER, #8 SCREW SIZE, INTERNAL TOOTH LOCK	
19	13	84002	1084.00006.00	NUT, HEX, #8-32 MACHINE SCREW	
20	1		SEE FIG.5A/5B	ASSEMBLY, SMALL SPRAY HEAD	
21	1	002065	1112.00093.00	WELDMENT, HOT WATER FAUCET	
22	1	33007	1013.00030.00	LOCKNUT, 7/16 STRAIGHT PIPE THREAD	
23	4		73029	LEG, THERMOPLASTIC, 2.50"(63mm)	
24	2		29021	SPACER, #8 SCREW SIZE, ½ OD X ¼ LG, ROUND UNTH.	
25	1	102192	1102.00108.00	ASSEMBLY, HOT WATER VALVE, 120VAC	
25	1	102193	1102.00130.00		EXPORT
	'			ASSY. HOT WATER VALVE , 220VAC (ELBOW FITTING	ONLY
25		57073	1057.00014.00	VALVE REBUILD KIT, DSV11	_
26	2	83051	1083.00016.00	WASHER, #8 SCREW SIZE, FLAT	
27	1		104028	ASSEMBLY TANK CBS-2031e (SEE FIG 2)	
28	1		22062	INSULATION TANK FRONT CBS-2031e	
29	1		22063	INSULATION TANK BACK CBS-2031e	
30	1		45077	OVERLAY CBS-2031e	
31	1	41016	1041.00004.00	,	
32	1	46029	1046.00019.00	LABEL, POWER SWITCH	
33	1		102139		
34	1	102190	1102.00011.00	ASSY, DIGITAL TEMP. PROBE, 5.0" LG (ORDER AS K061)	
35	1	44004	1044.00003.00	LABEL, GROUND	
36	1		402025	HARNESS, LOW AMP, ELECTRICAL, CBS-2031e, TWO HEATERS	
37	1		402035	HARNESS, HIGH AMP, ELEC. 2 HEATER WIRE SET CBS-2031e	
38	1		63019	CORD, 120 VAC, 12/3 AWG ,20 AMP , W/5-20P NEMA PLUG	
38	1		63018	CORD, 120 VAC, 12/3 AWG ,15 AMP , W/5-15P NEMA PLUG	
39	1		25056	TUBE, 3/4"OD X 1/2"ID X 4"LG, BREW	
40	1		25058	TUBE 5/8"OD X 3/8"ID X 2.5"LG, HOT WATER FAUCET	
41	3	86038	1086.00002.00	CLAMP, HOSE, 0.665-0.783" DIA RANGE	
42	1		86020	CLAMP, HOSE, .875"750" DIA RANGE	
44	1		25059	TUBE, 5/16"OD X 3/16"ID X 9 1/4"LG VENT	
45	1		25102	TUBE, 1/4"OD X 1/8"ID X 20" LG VENT HOT WATER VALVE	
46	1		25055	TUBE, 5/8"OD X 3/8"ID X 12"LG DRAIN	
47	1		25057	TUBE, 5/8"OD X 3/8"ID X 14 1/2"LG, COLD WATER	
48	1		25064	TUBE, 5/8"OD X 3/8"ID X 6.5"LG. HOT WATER	
49	5	86007	1086.00001.00	CLAMP, HOSE, .590"673" DIA RANGE	
50	1		01506	COVER TOP CBS-2031 & 41	
51	1		01507	COVER BASE UPPER CBS-2031	
52	1		401217	WIRING DIAGRAM, CBS-2031e, L1, L2, N, + GR	
53	1		102191	ASSEMBLY, RIGHT COVER CBS-2030's	
54	10		82053		
55	1		101171	BREW BASKET ASSY., 13 X 5, DIA HOLE 0.218" (SEE FIG. 6)	
57	1 (4 ea)			(4) MACHINE SCREW, # 6-32 X 1/2" TRUSS HD PHIL.	
57	1 (4 ea)			(4) "J" Nut for Machine Screw, # 6-32 X 1/2" Truss Hd Phil	
	· (+ ca)		1001.00011.00	1 (1) 5 THE IS. MICHINIO COLON, II COLON, II COLON III	

ADDITIONAL PARTS FOR CBS-2031s, NOT SHOWN ON DRAWING

, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	DETITION ALL 17 MATO I ON ODO 20010, MOT OTTOTAL ON DIGHTMA								
	1	102207	1102.00113.00	ASSEMBLY, REED SWITCH					
	1	101160	1102.00047.00	ASSEMBLY, BREW BASKET LOCK					
	1	101174	1102.00135.00	brew basket lock assy., 220 VAC. EXPORT	EXPORT ONLY				
	1	57044	1057.00020.00	VALVE, BYPASS LEFT 120 VAC					
	1	57077	1057.00029.00	VALVE, BY-PASS, LEFT, 220VAC	EXPORT ONLY				
		57073	1057.00014.00	VALVE REBUILD KIT, DSV11					
	1	101175	B003280B1	ASSEMBLY, BREW BASKET CBS-2040'S					

Figure 2 - CBS-2031e / CBS-2031s Tank Assembly, PART # 104028

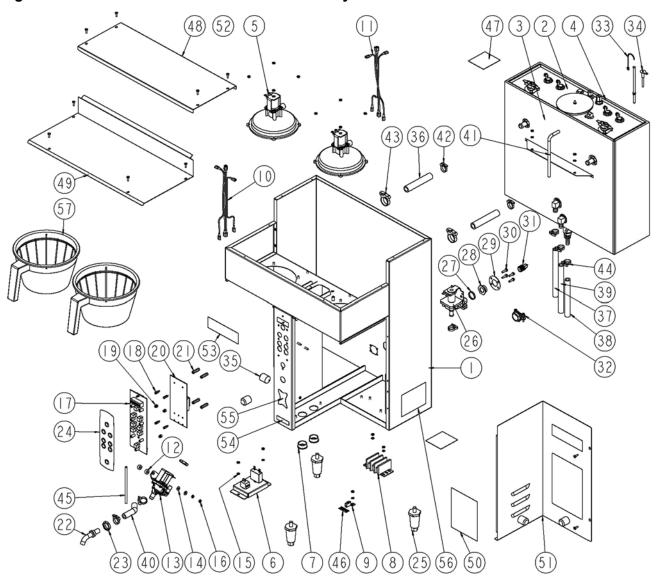


DWG 104028-A

ITEM#	QTY	Old part number	PART#	# DESCRIPTION	
1	1		004042	WELDMENT TANK CBS-2031e	
2	1	24002	1024.00007.00	O-RING, TANK COVER	
3	1	102013	1102.00007.00	ASSEMBLY, TANK COVER	
4	3	31117	1031.00007.00	LOCKNUT, 1/4 STRAIGHT PIPE THREAD	
5	3	83042	1083.00006.00	WASHER, .875"OD X .562"ID, FLAT	
6	1		31081	PLUG, HEX HEAD 1/4" MPT	
7	1	25098	1025.00001.00	FITTING, COMPRESSION TUBE	
8	1		31036	FITTING COMPR. MALE CONNECTOR 1/4 TUBE OD X 1/4 MPT	
9	2		107025	HEATER ASSY., 1500W/120VAC	
9	2		107019	HEATER ASSY., 1700W/120VAC	
9	2		107020	HEATER ASSY., 2300W/120VAC	
9	2		107021	HEATER ASSY., 3000W/240VAC	EXPOR' ONLY
10	1	31116	1031.00020.00	LOCKNUT, 1/8 STRAIGHT PIPE THREAD	
11	1	83041	1083.00014.00	WASHER, .812"OD X .412"ID, FLAT	

12	1	31005	1031.00032.00	FITTING, 90 DEG. ELBOW, 1/4 HOSE ID X 1/8 MPT	
13	2	03332	1003.00005.00	BRACKET 2, ONE SHOT THERMOSTAT	
14	2	53071	1053.00004.00	THERMOSTAT, SINGLE SHOT, 25 AMP	
15	8	83011	1083.00009.00	WASHER, #6 SCREW SIZE, INTERNAL	
16	8	84001	1084.00010.00	NUT, HEX, #6-32, UNDERSIZED, ZINC PLATED	
17	1	31118	1031.00033.00	LOCKNUT, 3/8 STRAIGHT PIPE THREAD	
18	1		83044	WASHER, 1.125"OD X 0.750"ID, FLA	
19	1		31071	FITTING, 1/2 HOSE ID X 3/8" MPT	
20	3	31021	1031.00029.00	BUSHING, 3/4-16 X 1/4 NPSM, HEX HEAD	
21	1		25110	VALVE, DRAIN (REQUIRES # 25111 TUBE)	
22	1		25111	TUBE, DRAIN VALVE	
23	2	31128	1031.00031.00	FITTING, 90° ELBOW, 3/8 HOSE ID X 1/4 MPT	
24	1	31027	1031.00030.00	FITTING, COMPR 90° MALE ELBOW, 3/8 TUBE OD X 1/4 MPT	
25	1	13072	1013.00045.00	OUTLET, INSIDE TANK HOT WATER	
26	2	03297	1003.00006.00	SINK, HEAT FOR 40A TRIAC	
27	2	59008	1059.00001.00	TRIAC 40A, 600V	
28	1	84007	1084.00022.00	NUT, 3/4-16 HEX JAM (TANK DRAIN, INLET TUBE)	

Figure 3 - CBS-2032e / CBS-2032s Main Assembly



DWG 101196-D

ITEM #	QT Y	Old part number	PART#	DESCRIPTION		
1	1		001050	WELDMENT, CBS-2032e (For Illustration only, not sold as a commercial part)		
2	1		104027	ASSEMBLY, TANK CBS-2032e (SEE FIG. 4)		
3	1		22041	INSULATION TANK FRONT CBS-2032e		
4	1		22042	INSULATION TANK BACK CBS-2032e		
5	2		SEE FIG.5A/5B	ASSEMBLY, SMALL SPRAY HEAD		
6	1	102189	1102.00106.00	ASSEMBLY, POWER BRACKET, CBS-2000e		
6	1	52026	1052.00007.00	BREAKER, 5A CIRCUIT (Not sold individually, is sold as part of 1102.00106.00–above)		
6	1	58054	1058.00014.00	SWITCH, PUSH BUTTON (Not sold individually, is sold as part of 1102.00106.00–above)		
7	2	86032	1086.00004.00	BUSHING, SNAP, 1" MOUNTING HOLE DIA		
8	1		52050	TERMINAL BLOCK		
9	1	65002	1065.00002.00	CONNECTOR, COPPER LUG		
10	1		402023	HARNESS, LOW AMP, ELECTRICAL, CBS-2032e, TWO HEATERS		
11	1		402032	HARNESS, HIGH AMP, TWO HEATER WIRE SET CBS-2032e		
12	2		29021	SPACER, #8 SCREW SIZE		
13	1	102192	1102.00108.00	HOT WATER VALVE ASSEMBLY, 120VAC		

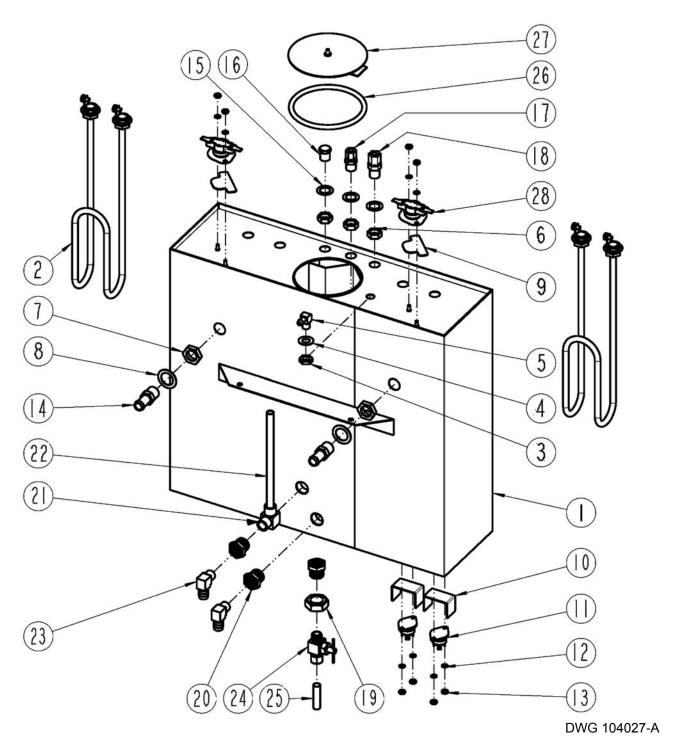
13	1	102193	1102.00130.00	HOT WATER VALVE ASSEMBLY, 220VAC	
13		57073	1057.00014.00	ALVE REBUILD KIT, DSV11	
14	2	83051	1083.00016.00	WASHER, #8 SCREW SIZE, FLAT	
15	7	83026	1083.00011.00	WASHER, #8 SCREW SIZE, INTERNAL TOOTH LOCK	
16	17	84002	1084.00006.00	NUT, HEX, #8-32 MACHINE SCREW	
17	1		108002	SWITCHING/CONTROL BOARD, 8 KEYS, D2P (CBS-2032e ONLY)	
17	1		108038	SWITCHING/CONTROL BOARD, 8 KEYS, D2P (CBS-2032s ONLY)	
18	4	15007	1084.00023.00	STANDOFF, MALE-FEMALE, THREADED HEX 4-40-1/2"	
19	3	29007	1029.00006.00	NUT, #4-40 KNURLED THUMB	
20	1	51042	1051.00011.00	BOARD, POWER SUPPLY-120VAC	
20	1		51055	BOARD, POWER SUPPLY-220VAC	EXPORT ONLY
21	4	29019	1029.00012.00	SPACER, .25" HEX X 1" LG, FEM #4-40 THREAD	
22	1	002065	1112.00093.00	WELDMENT, HOT WATER FAUCET	
23	1	33007	1013.00030.00	LOCKNUT, 7/16 STRAIGHT PIPE THREAD	
24	1		45078	OVERLAY CBS-2032e	
25	3		73029	LEG, THERMOPLASTIC, 2.50"(63mm)	
26	1		57006	FILL VALVE, S-53 120VAC	
26	1		57017	FILL VALVE, S-53 220VAC	EXPORT ONLY
27	1	24012	1024.00020.00	GASKET, S-53 FILL VALVE	ONET
28	1	31078	1031.00004.00	FITTING, S-53 FILL VALVE INLET	
29	1	03074	1003.00019.00	BRACKET, S-53 INLET VALVE	
30	4	82020	1082.00019.00	SCREW, S-53 FILL VALVE	
31	1	31031	1031.00005.00	FITTING, 90° MALE ELBOW, 3/8 TUBE OD X 3/8 MPT	
32	1	86040	1086.00008.00	CONNECTOR, CABLE CLAMP, 3/4" TRADE SIZE	
33	1	102190	1000.00061.00	ASSY, DIGITAL TEMP. PROBE, 5.0" LG	
34	1	102139	1000.00028.00	ASSEMBLY, WATER LEVEL PROBE, CBS-2030'S	
35	2		102195	ASSEMBLY, BUMPER, 2030e	
36	2		25056	TUBE, 3/4"OD X 1/2"ID X 4"LG, BREW	
37	1		25064	TUBE, 5/8"OD X 3/8"ID X 6.5"LG. HOT WATER	
38	1		25055	TUBE, 5/8"OD X 3/8"ID X 12"LG DRAIN	
39	1		25057	TUBE, 5/8"OD X 3/8"ID X 14 1/2"LG, COLD WATER	
40	1		25058	TUBE 5/8"OD X 3/8"ID X 2.5"LG, HOT WATER FAUCET	
41	1		25059	TUBE, 5/16"OD X 3/16"ID X 9 1/4"LG VENT	
42	4	86038	1086.00002.00	CLAMP, HOSE, 0.665-0.783" DIA RANGE	
43	2		86020	CLAMP, HOSE, .875"750" DIA RANGE	
44	5	86007	1086.00001.00	CLAMP, HOSE, .590"673" DIA RANGE	
45	1	25102	25102	TUBE, 1/4"OD X 1/8"ID X 20" LG VENT HOT WATER VALVE	
46	1	44004	1044.00003.00	LABEL, GROUND	
47	2	44024	1044.00004.00	LABEL, WARNING-HIGH VOLTAGE	
48	1		01479	COVER, TOP CBS-2032 & 42	
49	1		01463	COVER, UPPER BASE CBS-2032e	
50	1		401219	WIRING DIAGRAM, CBS-2032e, 1PH, 3 WIRE + GR, 2 HEATERS	
51	1		102191	ASSEMBLY, RIGHT COVER CBS-2030's	
52	10	82053	1082.00017.00	SCREW, # 6-32 X 1/2" TRUSS HD PHIL., MACHINE	
53	1		46027	LABEL, SPRAY HOUSING	
54	1	46029	1046.00019.00	LABEL, POWER SWITCH	
55	1	41016	1041.00004.00	LABEL, EXTRACTOR	
57	2	101171	B007218B1	BREW BASKET ASSY. 13" X 5", W/ 0.218" HOLE, 0.19" FLANGE (SEE FIG. 6)	
			B006218B1	BREW BASKET ASSY. 13" X 5", W/ 0.218" HOLE, 0.25" FLANGE (SEE FIG. 6)	

ADDITIONAL PARTS FOR CBS-2032s, NOT SHOWN ON DRAWING

70			011 000 20020, 110	CHOTH ON DIVANING	
	2	101160	1102.00047.00	ASSEMBLY, BREW BASKET LOCK	
	2	101174	1102.00135.00	brew basket lock assy., 230 VAC. EXPORT	EXPORT ONLY
	2	102207	1102.00113.00	ASSEMBLY, REED SWITCH	
	1	57043	1002.00109.00	VALVE, BYPASS RIGHT 120 VAC	
	1	57076	1002.00132.00	VALVE, BY-PASS, RIGHT, 230VAC	EXPORT ONLY
	1		1002.00134.00	VALVE, BY-PASS, RIGHT, 200VAC	JAPAN
		57073	1057.00014.00	VALVE REBUILD KIT. DSV11	

ſ	6	83051	1083.00016.00	WASHER, #8 SCREW SIZE, FLAT	
ſ	4	84030	1084.00015.00	LOCKNUT, #8-32 SCREW SIZE, HEX THIN NYLON INSERT	
ſ	1	57044	1102.00110.00	VALVE, BYPASS LEFT 120 VAC	
	1	57077	1102.00131.00	VALVE, BY-PASS, LEFT, 230VAC	EXPORT ONLY
ĺ	1		1002.00133.00	VALVE, BY-PASS, RIGHT, 200VAC	JAPAN
ſ	1	101175	B003280B1	ASSEMBLY BREW BASKET CBS-2040'S (SEE FIG. 7)	

Figure 4 – CBS-2032e / CBS-2032s TANK ASSEMBLY Part Number #104027



ITEM#	QTY	Old part number	PART#	DESCRIPTION
1	1		004043	WELDMENT TANK CBS-2032e
2	2		107021	HEATER ASSY., 3000W/240VAC
3	1	31116	1031.00020.00	LOCKNUT, 1/8 STRAIGHT PIPE THREAD
4	1	83041	1083.00014.00	WASHER, .812"OD X .412"ID, FLAT
5	1	31005	1031.00032.00	FITTING, 90 DEG. ELBOW, 1/4 HOSE ID X 1/8 MPT
6	3	31117	1031.00007.00	LOCKNUT, 1/4 STRAIGHT PIPE THREAD
7	2	31118	1031.00033.00	LOCKNUT, 3/8 STRAIGHT PIPE THREAD
8	2		83044	WASHER, 1.125"OD X 0.750"ID, FLA
9	2	003332	1003.00005.00	BRACKET 2, ONE SHOT THERMOSTAT
10	2	003297	1003.00006.00	SINK, HEAT FOR 40A TRIAC
11	2	59008	1059.00001.00	TRIAC 40A, 600V
12	8	83011	1083.00009.00	WASHER, #6 SCREW SIZE, INTERNAL
13	8	84001	1084.00010.00	NUT, HEX, #6-32, UNDERSIZED, ZINC PLATED
14	2		31071	FITTING, 1/2 HOSE ID X 3/8" MPT
15	3	83042	1083.00006.00	WASHER, .875"OD X .562"ID, FLAT
16	1		31081	PLUG, HEX HEAD 1/4" MPT
17	1		31036	FITTING COMPR. MALE CONNECTOR 1/4 TUBE OD X 1/4 MPT
18	1	25098	1025.00001.00	FITTING, COMPRESSION TUBE
19	1	84007	1084.00022.00	NUT, 3/4-16 HEX JAM (TANK DRAIN, INLET TUBE)
20	3	31021	1031.00029.00	BUSHING, 3/4-16 X 1/4 NPSM, HEX HEAD
21	1	31027	1031.00030.00	FITTING, COMPR 90° MALE ELBOW, 3/8 TUBE OD X 1/4 MPT
22	1	13072	1013.00045.00	OUTLET, INSIDE TANK HOT WATER
23	2	31128	1031.00031.00	FITTING, 90° ELBOW, 3/8 HOSE ID X 1/4 MPT
24	1		25110	VALVE, DRAIN (REQUIRES # 25111 TUBE)
25	1		25111	TUBE, DRAIN VALVE
26	1	24002	1024.00007.00	O-RING, TANK COVER
27	1	102013	1102.00007.00	ASSEMBLY, TANK COVER
28	2	53071	1053.00004.00	THERMOSTAT, SINGLE SHOT, 25 AMP

Figure 5a - CSD VERSIONS:

ASSY, CSD SMALL SPRAY HEAD, 120VAC, PART # 102395 ASSY, CSD SMALL SPRAY HEAD, 220VAC, PART # 102396 (EXPORT ONLY)

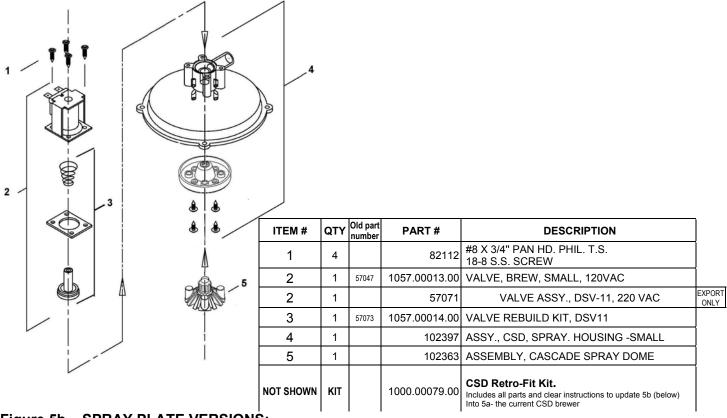
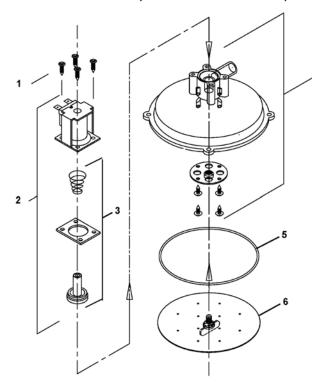


Figure 5b - SPRAY PLATE VERSIONS:

ASSY, SMALL SPRAY HEAD, 120VAC, PART # 102080 ASSY, SMALL SPRAY HEAD, 220VAC, PART # 102158 (EXPORT ONLY)



ITEM#	QTY	Old part number	PART#	DESCRIPTION	
1	4		82112	#8 X 3/4" PAN HD. PHIL. T.S. 18-8 S.S. SCREW	
2	1	57047	1057.00013.00	VALVE, BREW, SMALL, 120VAC	
2	2 1		57071	VALVE ASSY., DSV-11, 220 VAC	EXP(
3	1	57073	1057.00014.00	VALVE REBUILD KIT, DSV11	
4	1		102082	SPRAY HOUSING ASSY.	
5	1	24054	1024.00029.00	O-RING 4.237 ID, 0.103 IN CS	
6	6 1 102081		102081	SPRAY PLATE ASSY., 4 7/8" DIA.	
NOT SHOWN	KIT		1000.00079.00	CSD Retro-Fit Kit. Includes all parts and clear instructions to update 5b Into 5a- the current CSD brewer (above)	

NOTE: The round and square brew baskets pictured below are not interchangeable. Use only the type of brew basket that originally came with the brewer.

Figure 6 - Brew Basket Assembly, 13" X 5", Part # B006218B1 (ROUND)

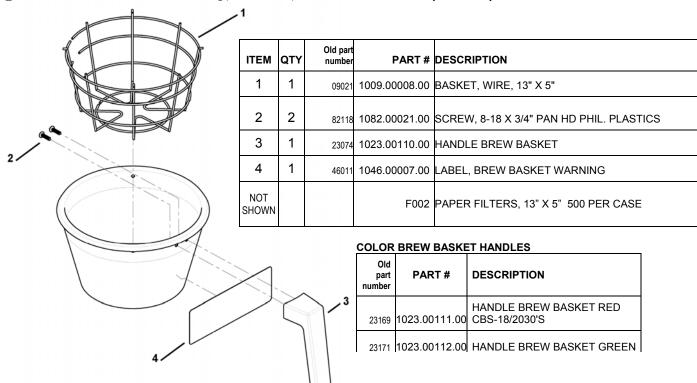


Figure 7 - Brew Basket Assembly, 13" X 5", Part # B003280B1 (SQUARE)

	Ū				•				
ITEM	QTY	Old part number	PAR	Т#	ı	DESCRIPTION			
1	1	09022	1009.0	0.006.0	BASKET WIRE CBS-2040'S				
2	1	23117	1023.0	0089.0	HANDLE, BREW BASKET (INC	CLUDES #8 – MAGNET)			
3	1	1 46011 1046.00007.0		0007.0 0	LABEL, BREW BASKET WARN	EL, BREW BASKET WARNING			
5	5 1 82096 1082.00040.0		0040.0 0	SCREW, 1/4-20 X .5, FLT HD,	PHILLIPS,18-8 SS, W/ PLASTIC PATCH				
NOT SH	OWN	101171	B003	280B1	Brew Basket, 13" X 5", W/0.218	3" Hole, 0.19" Flange (Usedbefore 9/2007)			
NOT SH	NOT SHOWN		F002	PAPER FILTERS, 13" X 5"500	PAPER FILTERS, 13" X 5"500 RER CASE 8 5				
	COLOR	BREW	BASKE	T HAI	NDLES				
	Old part PART#			DESCRIPTION		8			
	23106 1023.00087.0		0087.00	Brew	Basket Handle - Green	) \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			
	23107 1023.00088.00 Brew		Brew	Basket Handle - Orange					
	23148	1023.00	0090.00	Brew	Basket Handle - Red				