

# FETCO® USER'S GUIDE & OPERATOR INSTRUCTIONS

## FETCO COFFEE BREWER: CBS-1150 EXTRACTOR® V+™



CBS-1151-XV+



CBS-1152-XV+

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 P167

NOVEMBER 2017

## Specifications and Requirements

### Water Requirements:

CBS-1150 XV+ 20-75 psig, (138-517kPa) 1½gpm/(5.7lpm)  
 Water supplied to hot beverage equipment should be filtered  
 Water supplied Hardness >100 TDS (5.5 grain)

**Water inlet fitting:** 3/8 inch male flare.

**Brew Volume: Full Batch** 1 ½ gallon/ 6 liters Up to 2 gallon/7.7 liters per brew

**Total Brew Cycle:** Factory setting: 5.5 minutes consisting of 4 minute brew time + 1.5 minute drip delay

Brew-Process parameters are controllable :for: Brew Volume, Brew Time, Prewet Percent and Delay, Drip Delay

### Coffee Filter Size:

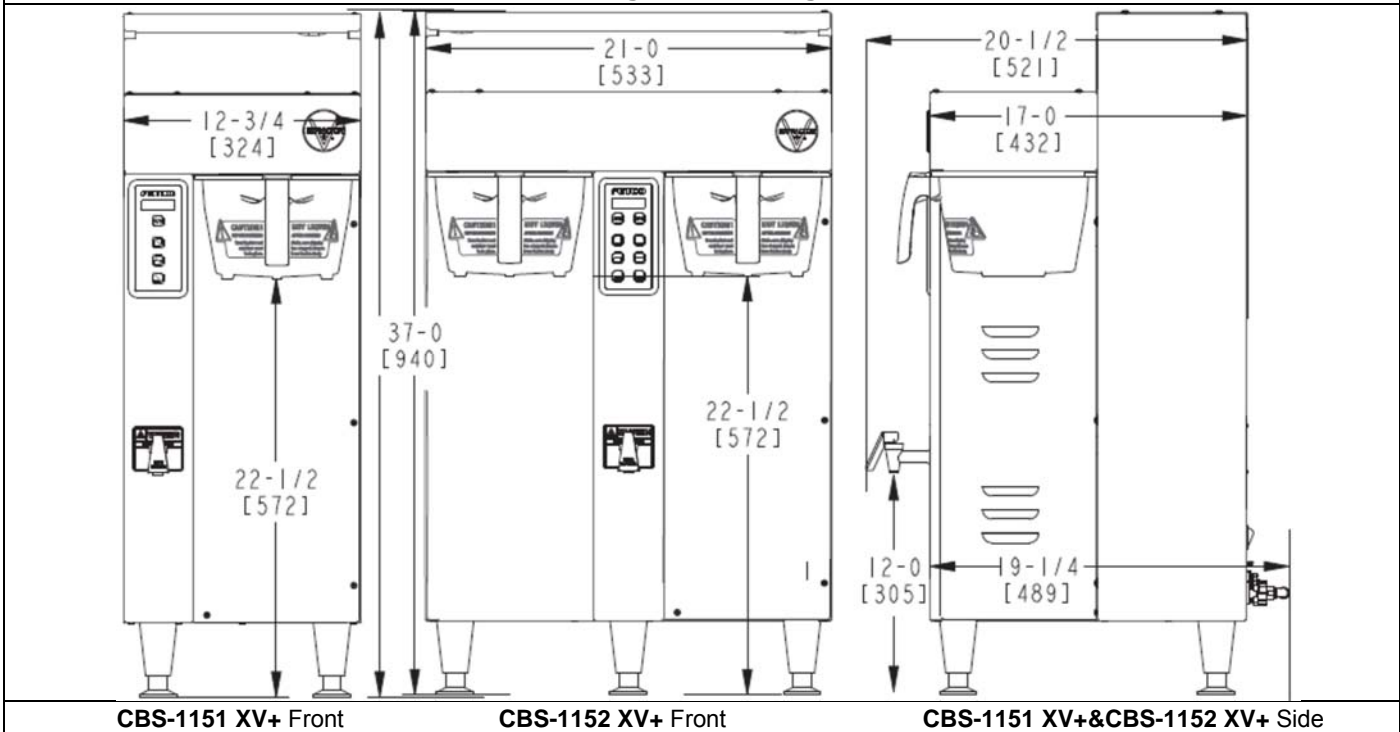
15" X 5 ½"— standard FETCO # F001

### Temperature, as set by factory:

200°F (93°C) inside water tank (at sea level)

**Electrical:** See electrical configuration chart.

### Rough-In Drawings



CBS-1151 XV+ Front

CBS-1152 XV+ Front

CBS-1151 XV+ & CBS-1152 XV+ Side

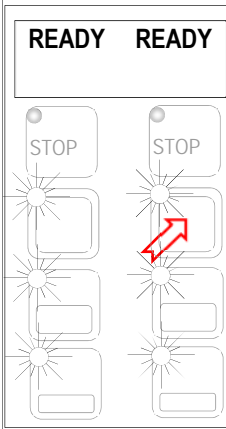
WIRING METHODS: REFERENCE ONLY: SEE THE WIRING DIAGRAMS AT BACK OF THIS GUIDE

CBS-1151 XV+	CBS-1152 XV+ factory configuration 208-240 volt <u>single phase</u>	CBS-1152 XV+ *Field installed configuration 208-240 volt <u>three phase</u> connection
<b>CBS 1151 XV+</b>	<b>Single phase—2 HEATER</b>	<b>Three phase—3 HEATER</b>
Field conversion is to be made only by licensed electrician. Disconnect equipment from power supply before service. Remove jumper between L2 and L3, and apply power to L3		

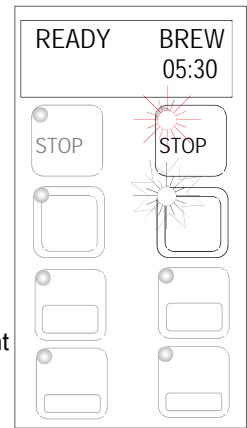
<b>Electrical and Output Specifications for CBS-1151 XV+ Single 1½ Gallon-6 Liter Coffee Brewers</b>								
USA and Canada CBS-1151 XV+ Standard-Voltage With cUL/UL and NSF-4 certification								
Configuration Codes	Heater Configuration	Voltage	Phase	Wires	Electrical Connection	KW	Maximum Amp Draw	Brew-Volume/Hour (1½ gallon per batch)
E115151	2 X 3.0 kW	208-240	1	2+G	Hardwired	4.6-6.1	22.4-25.8	15.3 gal/58 liters
North America & International Versions CBS-1151 XV+ With cUL/UL and NSF-4 Certification								
E115190	1 X 4.0 kW	200-240	1	2+G	Hardwired	4.1	14.2-17.1	9.3 gal/35 liters
E115191	1 X 5.0 kW	200-240	1	2+G	Hardwired	5.1	17.7-21.3	12.7 gal/48 liters
E115192	2 X 3.0 kW	200-240	1	2+G	Hardwired	6.1	21.3-25.5	15.3 gal/58 liters
E115193	2 X 2.3 kW	200-240	1	2+G	Hardwired	4.7-6.1	22.1-25.5	14.0 gal/53 liters
Export/Japan XV+ With cUL/UL and NSF-4 Certification								
E115180	1 X 5.0 kW	200-240	1	2+G	Hardwired	3.6	17.7	11.6 gal/44liters
CE EXPORT/Japan CBS-1151 XV+ With CE and NSF-4 certification. Internal EMI filter. Not cUL and UL listed								
(CE) E115162	2 X 2.3 kW	230/400	2	2L,N,	Hardwired	5.6	12.4	14.0 gal/53 liters
(CE) E115161	2 X 3.0 kW	230/400	2	2L,N,	Hardwired	6.1	21.3-25.5	15.3 gal/58 liters

<b>Specifications:-Electrical and Output for CBS-1152 XV+ Twin 1½ Gallon-6 Liter coffee brewers</b>								
USA and Canada CBS-1152 XV+ Field Select Electctical With cUL/UL and NSF-4 certification								
Configuration Codes	Heater Configuration	Voltage	Phase	Wires	Electrical Connection	KW	Maximum Amp Draw	Brew-Volume/Hour (1½ gallon per batch)
E115251 Selectable Sold as1 phase	2 X 3.0 kW	208-240	1	2+G	Hardwired	4.6-6.1	22.4-25.8	15.3 gal/58 liters
	3 X 3.0 kW	208-240	3	3+G	Hardwired	6.9-9.1	19.5-22.5	22.5 gal/85 liters
E115252 Selectable Sold as1 phase	2 X 5.0 kW	208-240	1	2+G	Hardwired	7.6-10.1	36.9-42.5	25.3 gal/97 liters
	3 X 5.0 kW	208-240	3	3+G	Hardwired	11.4-15.1	32.0-36.9	38.3 gal/145 liters
North America & International Versions CBS-1152 XV+ Standard-Voltage With cUL/UL and NSF-4								
E115292	2 X 3.0 kW	208-240	1	2+G	Hardwired	4.6-6.1	22.4-25.8	15.3 gal/58 liters
E115294	2 X 5.0 kW	208-240	1	2+G	Hardwired	7.6-10.1	36.9-42.5	25.3 gal/97 liters
E115296	3 X 4.0 kW	240/415	3	4+G	Hardwired	12.2	15.7-17.1	29.5 gal/112liters
E115290	3 X 3.0 kW	220/380 or 240/415	3	4+G	Hardwired	9.1	11.8-12.9	22.5 gal/85 liters
E115291	3 X 5.0 kW	220/380 or 240/415	3	4+G	Hardwired	15.1	19.5-21.4	38.3 gal/145 liters
Export/Japan CBS-1152 XV+ With cUL/UL and NSF-4 certification								
E115280	3 X 3.0 kW	200	3	3+G	Hardwired	6.5	18.6	17 gal/64 liters
CE EXPORT/Japan CBS-1152 XV+ With CE and NSF-4 certification. Internal EMI filter. Not cUL and UL listed								
(CE) E115261	3 X 3.0 kW	230/400	3	3L,N,PE	Hardwired	8.6	12.4	22.5 gal/85 liters
(CE) E115262	3 X 5.0 kW	230/400	3	3L,N,PE	Hardwired	14.1	20.4	38.3 gal/145 liters

## Starting The Brew



1. Turn the power switch "ON".
2. Prepare a brew basket with the correct size filter and appropriate amount of coffee.
3. Slide the brew basket completely into the rails.
4. Place a clean, empty, preheated dispenser under the brew basket.
5. Select a batch & hold the corresponding BREW button in for 1 second to start
6. -STOP button will illuminate,  
-Countdown time will display,  
-Selected BREW button will flash to indicate brew is in progress.  
-All other BREW buttons for that brew head will extinguish.



7. When the brew cycle is finished,  
STOP button will extinguish and the BREW button will continue to flash for the amount of time programmed into the DRIP DELAY setting.  
This indicates that coffee may still be dripping from the brew basket  
For safety- do not remove brew basket until drip-out is complete.

Twin Brewer ready to brew. Pressing top right brew position

Brewing-see #6 above

## Enter Programming

Screens shown are for twin brewer. Single brewer will not have menu A4-A6.

There are five menu groups-A-E . See the following pages for the batch parameter definitions and all settings for the brewer

### TO ENTER PROGRAMMING

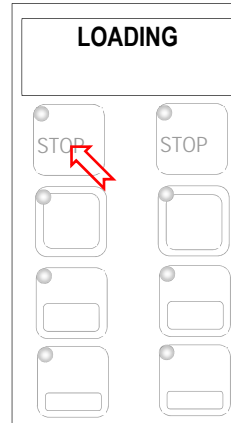
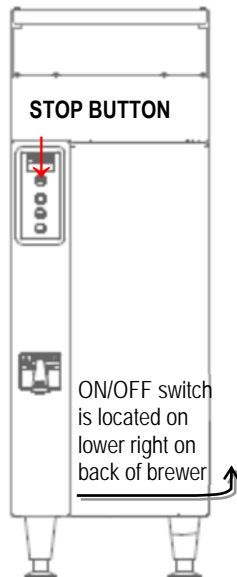
- 1-Turn brewer "OFF" from power switch
  - 2-Turn power switch to "ON"
- ...Screen will initialize and then display digital process notifications
- 3-After initialization-Red "STOP" Lamp turns on
  - 4-Quickly hold down "STOP" button for 5 seconds

When brewer is In PROGRAMMING MODE  
-the screen will display:

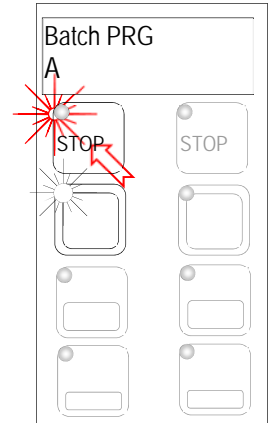
**IBATCH PRG**  
**A (or B-E)**

-Illuminated LED indicates active keypad positions

See the following pages for batch parameter definitions and all settings for the brewer

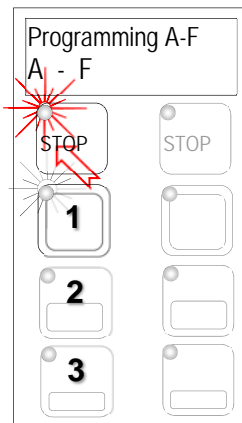


Turn power OFF  
Turn power ON  
Wait for red LED  
And quickly hold down  
STOP button on front  
touch panel for 5 sec.

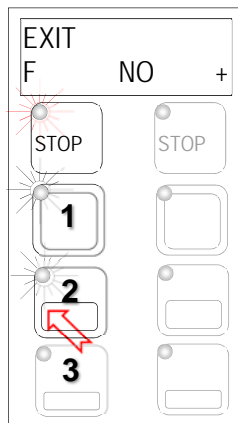


First screen will display  
for PROGRAMMING-A  
Scroll through main menu  
topics by pressing  
"STOP" button.

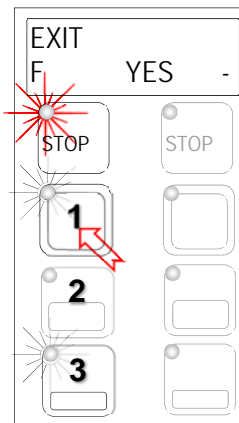
## Exit Programming & Save Control Setting Changes



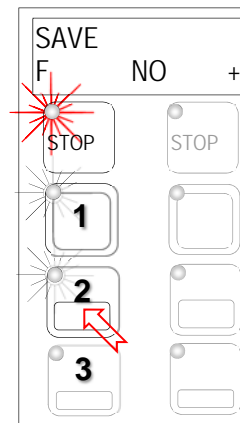
From any screen-  
Press STOP button  
until the EXIT ("F")  
screen appears



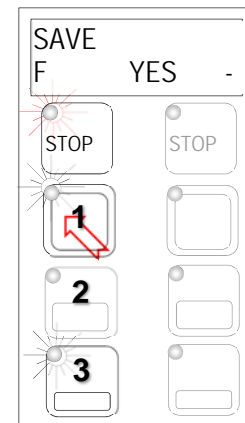
From the "F" screen  
Press button **2** to  
toggle to the EXIT-  
**YES** screen



From EXIT screen  
Press button **1** to  
toggle to the SAVE  
screen

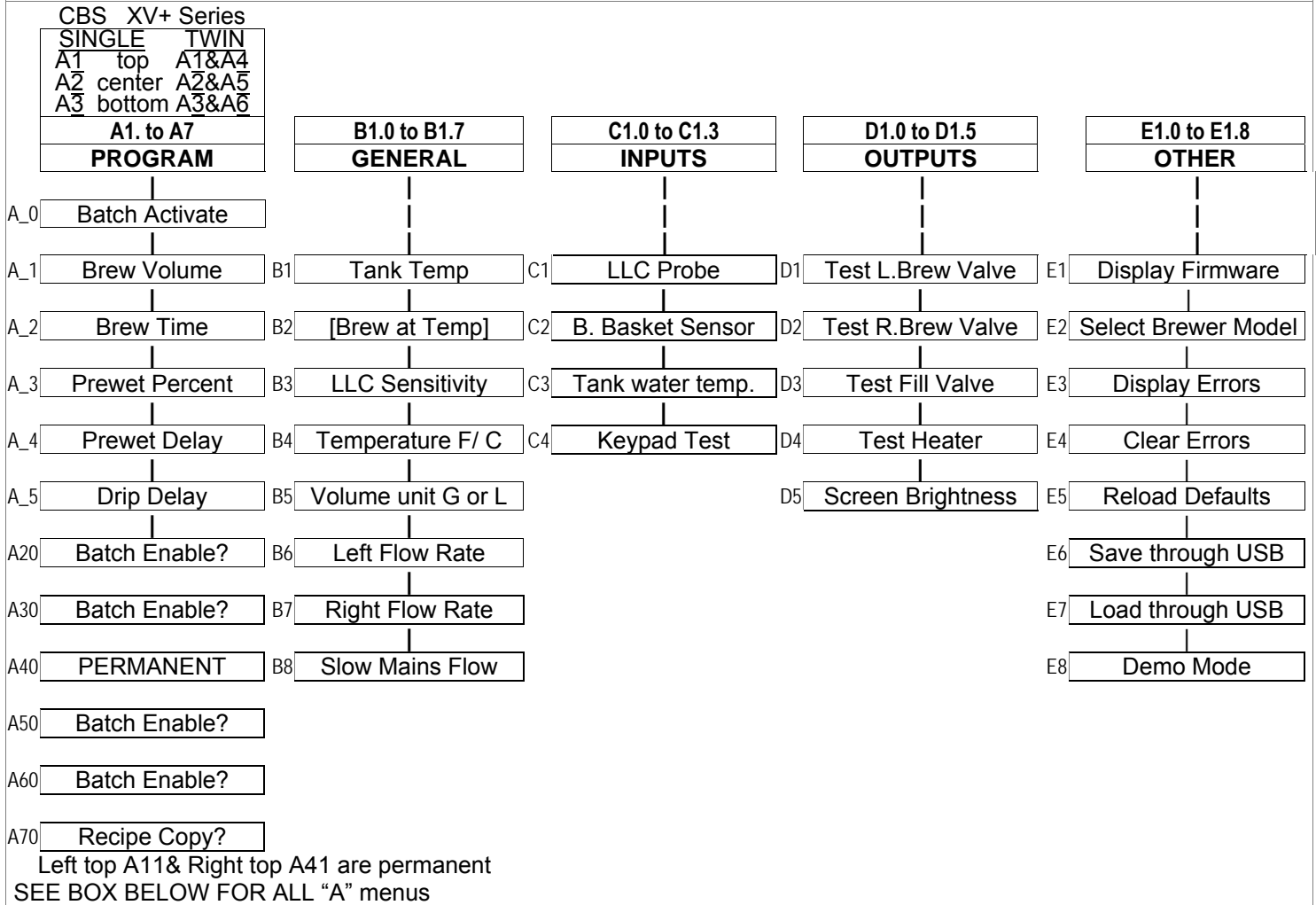


From SAVE screen  
Press button **2** to  
toggle to the SAVE-  
**YES** screen



To SAVE and EXIT  
Press button **1** to  
SAVE your changes  
and EXIT

# PROGRAMMING MENU LAYOUT



## The A [1-3 or 1-6] menus correspond to the [3 or 6] batch buttons on the touch panel

Access the A menus to PROGRAM & make changes to individual menu recipes. Menu settings can be copied  
 Menu positions A1 and A4 [top position] are permanent. Menus A2, A3, A5, A6 can be removed by operator if desired

<p><b>BATCH PRG</b> A1</p>	<p><b>BREW VOLUME</b> A11 3.00L ±</p>	<p><b>BREW ACT</b> A20 YES --</p>	<p><b>BREW ACT</b> A60 YES ±</p>	<p>(Twin model shown) Batches A1-to A6</p>
<p>From A PRG screen Press button 1 to go to the A menu access screen</p>	<p>From A11 screen Press <b>STOP</b> to scroll to A20. (A1&amp;A4 are permanent)</p>	<p>From A20 screen Press STOP to scroll through the remaining (3 or 6) "A" menus. Make any changes as required</p>	<p>From A60 screen Scroll out to remaining A10-to A70 programming keys. See SAVE &amp; EXIT in previous table</p>	<p>For single and twin Position of batch buttons</p>

## A PROGRAM Menu Features: Batch Parameters

The settings below are shown for the top batch on a single brewer top left button on a twin brewer.  
See how to access all A menus on the previous page. Below are the brew settings for default A1 & A2 batches

POSITION	Program Items	Factory set Default	Programming Range	Increments	Notes
A11	Batch Volume	1.5 gal 5.65 liters	0.50 to 2.00 gal 1.90 to 7.60L	0.01G 0.05L	Unit software is in liters; converts to gallon
A12	Brew Time	4:00 minutes	2:00 – 12:00	0.30	Default total brew time is 5:30 minutes
A13	Prewet Perc.	0%	0.00 – 15.0%	1%	Percentage of total brew volume
A14	Prewet Delay <small>(Pause after prewet completes)</small>	0% [1:00 Min]	[0:10 – 5:00]	1:00 min	The time between prewetting and start of brew cycle. <b>This feature appears ONLY if Prewet &gt;0:00</b>
A15  <b>This is a Safety Feature</b>	Drip Delay	1:30 mm:ss	0:30 – 6:00 Min.		Time that brew basket remains locked during final drip-out →Drip delay remains “ON” for 1:30 minutes if STOP is pressed during brew †
A20	BATCH ACT A20 YES - NO +	YES (Active)	Middle and Bottom batches A2,3,5,6	Batch on or off	Batches may be individually enabled, rewritten or deactivated
A21	Batch Volume	1.5 gal 5.65 liters	0.50 to 2.00 gal 1.90 to 7.60L	0.01G 0.05L	Unit software is in liters; converts to gallon
A22	Brew Time	4:00 minutes	2:00 – 12:00	0.30	Default total brew time is 5:30 minutes
A23	Prewet Perc.	0%	0.00 – 15.0%	1%	Percentage of total brew volume
A24	Prewet Delay <small>(Pause after prewet completes)</small>	0% [1:00 Min]	[0:10 – 5:00]	1:00 min	The time between prewetting and start of brew cycle. <b>This feature appears ONLY if Prewet &gt;0:00</b>
A25  <b>This is a Safety Feature</b>	Drip Delay	1:30 mm:ss	0:30 – 6:00 Min.		Time that brew basket remains locked during final drip-out →Drip delay remains “ON” for 1:30 minutes if STOP is pressed during brew †
<b>Batch Copy</b>	Copy From Batch	A71	A71 1 (1-6)		
	Copy To Batch?	A72	A72.1 (1-6)		

\*Topmost Batch cannot be disabled. \*Topmost Batch LEFT & RIGHT Side cannot be disabled.

\*\*Middle and bottom batches may be disabled for single and twin brewer (CBS-1151 XV+ and CBS-1152 XV+)

† DRIP DELAY will not activate when STOP is pressed within 5 seconds of starting a brew time

**RECIPE Location map**

Viewing and changing settings for the brew recipes is from the “A” screens with the controls in PROGRAMMING.

The uppermost button positions are permanent and will not display programming step A\_0. The table above shows in position A20 that a button position can be made active or inactive. Position A1 does not display this step

Single Side Models  
CBS-1151 V+

←DISPLAY→

←STOP→

←BATCH A1→  
(permanent)

←BATCH A2→

←BATCH A3→

Twin Models  
CBS-1152 V+

←DISPLAY

←BATCH A4  
(permanent)

←BATCH A5

←BATCH A6

<b>B GENERAL Brewer Operation Control Settings, Adjust Brew Flow Rate</b>					
POSITION	Program Items	Factory set Default	Programming Range	Increments	Notes
B1	Tank Temp.	93° C -or- 200°F NOTE: Equipment is metric by default	70° to 96°C 157°F to 205°F	0.5°C 1.0°F	See below for chart to correct for high altitude
B2	Brew at Temp.	“YES”	ON/OFF	YES/NO	<b>SEE NOTE BELOW</b>
B3	LLC Sensitivity	LOW	LOW is “normal” for most water “HIGH” for R.O.	LOW or HIGH	Liquid level control sensitivity. High is for reverse osmosis water or very pure water.
B4	Temperature Scale	°C Degrees Celsius	Equipment is metric by default	<b>C/F</b>	[Switchable Units]
B5	Volume Scale	Liters [Gallons]	Equipment is metric by default	L/Gal	[Switchable Units]
B6	LEFT brew valve Flow Rate:	CBS-1152 3.40L/0.9G	2.9-3.9Liter 0.73-1.01Gallon	0.50L 0.01Gal	Adjusts flow rate
B7	RIGHT brew valve Flow Rate:	CBS-1151&1152 3.40L/0.9G	2.9-3.9Liter 0.73-1.01Gallon	0.50L 0.01Gal	Adjusts flow rate
B8	Low flow rate from mains	NO	OFF/ON	Toggle +/- YES or NO	Trims fill system for low supply

### BREW AT TEMPERATURE DEFINITONS

#### DEFAULT: BREW AT TEMP: “ON”

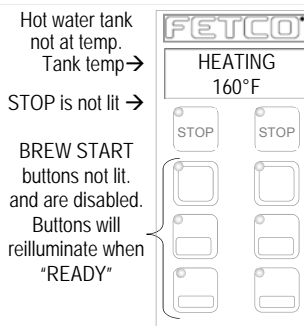
#### (FACTORY DEFAULT FOR BREWER)

“BREW at TEMP:

-Batch will not start if tank temperature is below set point.

-Display will show “HEATING” and hot water tank temperature

The “BREW START” entry buttons will not illuminate until the hot water tank reaches the selected temperature.



Control will allow both sides of dual brewer to operate if one side has an ongoing brew started and the second side brew is selected.

Notifications shown on screen:

TEXT: **HEATING**→Tank above 87°C/189°F-will allow brew at low temperature. Coffee flavor may be affected

TEXT: **L. HEAT**→Tank above 76°C/169°F-will allow brew at low temperature. Coffee flavor will be noticeably affected

#### USER SELECTABLE OPTION: BREW AT TEMP: OFF

#### (Not recommended)

Allows brewing at any temperature above 77°C/170°F

Below 70°C/170°F The red colored ready lights switch turn off-unit will operate at cold

Chart to correct for altitude for boiling point in tank water temperature.

[ft]	[m]	Suggested Setting[°F]	Boiling point[°F]	Suggested Setting[°C]	Boiling point [°C]
0	0	205	212.0	96	100.0
500	152	205	211.0	96	99.5
1000	305	200	210.1	93	98.9
2000	610	200	208.1	93	97.8
2500	762	200	207.2	93	97.3
3000	914	200	206.2	93	96.8
3500	1067	197	205.3	92	96.3
4000	1219	195	204.3	91	95.7
4500	1372	194	203.4	90	95.2
5000	1524	194	202.4	90	94.7
5500	1676	193	201.5	89	94.2
6000	1829	192	200.6	89	93.6
6500	1981	191	199.6	88	93.1
7000	2134	190	198.7	87	92.6
7500	2286	188	197.8	86	92.1
8000	2438	187	196.9	86	91.6
8500	2591	185	196.0	85	91.1

Use this formula to compensate for minor discrepancies in actual volume versus programmed volume.

$$\frac{\text{ACTUAL VOLUME}}{\text{PROGRAMMED VOLUME}} \times \text{CURRENT SETTING} = \text{NEW SETTING}$$


#### Default Brew Valve Flow Rate—All CBS-1150 V+ Brewers

CBS-1151 & CBS-1152	<u>ml/min</u>	<u>Range</u>
Left and Right Brew Valve FR	3400 ml	+2903 to 3900ml

Use the formula above to determine the correct setting Set lower to increase volume, higher to decrease volume. See “PROGRAM” B5 and B6 For valve settings and calibration. Factory set brew valve flow rates are in liter/min

<b>C INPUTS</b>					
<b>Brewer Sensors and Keypad</b>					
POSITION	Program Items	Factory set Default	Programming Range	Increments	Notes
C1	LLC Probe Continuity	Direct read	Reading of tank water resistivity in TDS	≈850- LOW ≈1600-HIGH	Nominal values
C2	Brew Basket Sensor	Direct read	YES or NO		
C3	Tank Temperature	Direct read	Hot water tank temperature		Actual values
C4	Keyboard Test	Calibrate	Checks buttons under membrane cover	YES/NO	Follow directions on the touch screen

<b>D OUTPUTS</b>					
<b>Test Valves and Heaters-Set screen brightness</b>					
POSITION	Program Items	Factory set Default	Programming Range	Increments	Notes
D1	Left Valve Test	(Press To Test)	TEST	Toggle +/- OFF or ON	Runs valve to verify flow. NOTE!-Have container under brew-basket!
<b>RIGHT Valve display is only for CBS-1152 XV+ twin side brewer. Single series displays LEFT side only</b>					
D2	Right Valve Test	(Press To Test)	TEST	Toggle +/- OFF or ON	Press To Test
D3	Fill Valve Test	(Press To Test)	TEST	Toggle +/- OFF or ON	Press To Test
D4	Heater Test	(Press To Test)	Activates heaters 3 seconds	Toggle +/- OFF or ON	Energizes Heater(s) WARNING! Service use only.
D5	LCD Brightness	Brightness=8	0-15	1	Very dim to bright illumination

<b>E OTHER</b>					
<b>Software &amp; Code View and Settings</b>					
POSITION	Program Items	Factory set Default	Programming Range	Increments	Notes
E1	Display Firmware	0.1a			Displays current version
E2	Select Model	CBS-1152 XV+	Scroll to brewer model Save&Exit	CBS-1151; CBS-1152	Will need reboot
E3	Display Errors	Lists up to six codes, in order	1: ; 2: ;3:;4: ;5: ;6:	Newest=Last	See Error Code Chart for references
E4	Reset Errors	NO +		Toggle +/- YES or NO	Factory and Service use only. Do Not Reset
<b>Resetting error codes should be after completing the service and factory diagnostics and correcting any brewer faults</b> <b>NOTE</b> ☞ Clear error codes by cycling the brewer "OFF" then "ON". See Page 9.					
E5	(Reload) DEFAULTS	Reset to default of base model	Will need reboot	Toggle +/- YES or NO	<b>COMPLETELY OVERWRITES ALL USER SETTINGS.</b>
E5	USB Data Save	Save data to USB			
E6	USB Data Load	Load Data from USB	Will need reboot		
E7	Load From USB	Plug in USB flash-drive device.	Will need reboot		
E8	DEMO Mode	DEMO ON/OFF	Will need reboot		Demonstrates the controls for training. Disables all components in demo mode



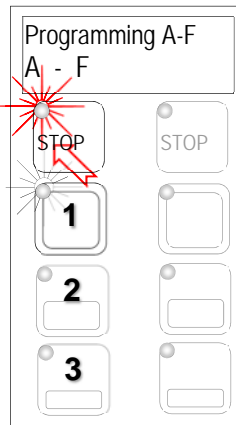
## F SAVE & EXIT

## Saving changes and exiting PROGRAMMING

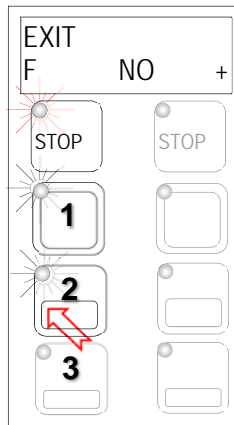
The brewer will save changes only from the "F" menu. Do not reboot brewer or toggle ON/OFF-exit as below.

### TO EXIT PROGRAMMING & HOW TO SAVE CONTROL SETTING CHANGES

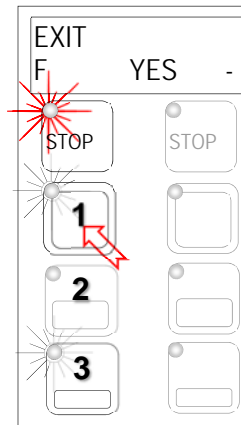
The brewer is in PROGRAMMING mode, how to save changes and EXIT.



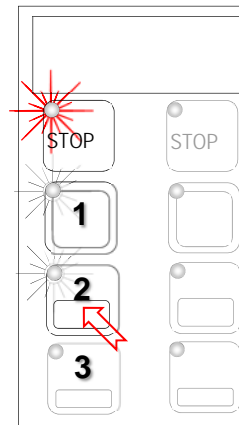
**From any screen-**  
Press STOP button until the EXIT ("F") screen appears



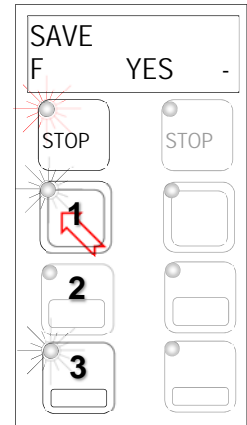
**From the "F" screen**  
Press button **2** to toggle to the EXIT-YES screen



**From EXIT screen**  
Press button **1** to toggle to the SAVE screen



**From SAVE screen**  
Press button **2**, to toggle to the SAVE-YES screen



**To SAVE and EXIT**  
Press button **1** to SAVE your changes and EXIT

**NOTE: User Settings will be erased and overwritten to factory default settings by the following five programming changes**

When setting or changing units of display for the tank temperature (F Fahrenheit or C Celsius). **(SETTING B4)**

When setting or changing units of display for the volume (G gallons, L liters). **(SETTING B5)**

When setting brewer model →The software sets equipment to brewer defaults **(SETTING E2)**


When resetting (Reloading) DEFAULTS **(SETTING E5)**

When loading from USB (Reloads to defaults ) **(SETTING E7)**

### Error Codes

DO NOT CLEAR ERROR CODES UNTIL ERROR IS IDENTIFIED AND CORRECTED

→Contact specialized personnel for error codes

Code	Description	Possible Cause	Corrective Action
001	Software error-error on start up or corrupted software	Improper start-up or shutdown	Restart , if still fault: reload software
050	Short-circuit in temperature probe	Probe failure.	Replace probe.
051	Open temperature probe.	Bad probe connection, or probe failure.	Check all connections. Replace probe if necessary.
100	Initial Fill Error. Initial fill time was more than 11 minutes after power up.	Water supply flow rate is too low.	Watch for short potting during brew cycle. Investigate cause of low flow rate. (Clogged water filter...)
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...)
201	Heater open, high limit thermostat, or Solid State Relay (SSR) fault	Failure of: heating element, SSR, high Limit or low voltage	Check and replace heating elements if necessary.
255	Touch pad error	Usually from longer than 2 min contact. Or faulty reassembly after service	Restart , if still fault: reload software. If mechanical: reassemble correctly
NO BSKT <b>Insert Brew Basket</b>		Brew basket must be in place <b>This is a SAFETY FEATURE</b>	Insert brew basket into brewer rails to enable brewer

## Operator Training

Review the operating procedures with whoever will be using the brewer.

### Pay particular attention to the following areas:

1. 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 5 minutes. Drain, and begin first brew
2. Make sure the dispenser is empty before brewing into it..
3. Show how to attach covers, close, and or secure the dispensers for transporting.
4. Do not remove the brew basket from a coffee brewer until it has stopped dripping.
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. Up to 1/4 cup/118cc 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 very little electricity is used 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.

## Cleaning & Maintenance

### After Each Brew:

1. Dispose of used coffee filter and grinds and rinse brew basket.
2. Never strike a brew basket or hit it against a hard surface.  
This will damage the brew cone, and may damage the brew basket support rails
3. Rinse dispensers before reuse.

### Every Day:

1. Wash brew basket with hot sudsy water.
2. Pull CSD from the spray head, it is magnetically attached. Use gloves or a heavy towel. → Wash off any film and reattach. Use vinegar if limescale filming is present.
3. Clean dispensers with hot suds water and a brush, rinse and air dry.
4. Use only a soft cloth and hot suds on the outside to avoid scratches. Never use abrasives that will scratch surface.

### Weekly

1. Use a commercial coffee dispenser cleaner such as URNEX™, TABZ™, DIP-IT™ or Squeak 'n Clean™.
2. Carefully Follow the instructions supplied with the cleaning product
3. Never use spray cleaners, solvent, solvent based cleaner or petroleum based polish anywhere on dispensers

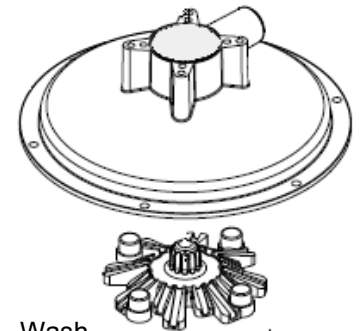
### Warning

1. Turn off power before any cleaning procedure, including wiping the exterior for appearance reasons.
2. Dry the exterior, especially the face panel, before turning on power.
3. Do not apply any type of spray cleaner on the face panel of this equipment.
4. Never use solvent or solvent-based cleaner or petroleum based polish anywhere on this equipment.
5. Dry the face of the touch pad before turning on power
6. Do not electrically energize this equipment or attempt operation without all covers in place and all screws fastened.
7. Unplug machine before disassembly or servicing.

### Safety Notes

1. Professional installation is required. This appliance is manufactured only for commercial use
2. Operational requirements and maintenance for commercial cooking appliances differ from household appliances.
3. Operators must be trained for this equipment and must understand the use, maintenance and hazards.
4. Access to the service area is restricted to persons having safety/hygiene knowledge and practical experience of the coffee brewer. This appliance must be installed in locations where it can be overseen by adult trained personnel.
5. Do not attempt to move hot beverage equipment once it is filled. Drain equipment before moving.
6. FETCO commercial coffee brewers prepare large amounts of coffee or tea in a single batch using very hot water
7. Commercial coffee brewers provides very hot water from the sprayhead, brew basket and faucet when it is pulled.
8. Brewers may continue to dispense very hot water from the mechanically operated faucet after the electronic touchpad is completely disabled by turning off the power switch on the lower back of the unit, or unplugging the unit.
9. For safety, do not remove brew basket during the brew.

**Keep these instructions for training and future reference.**



# Installation Guide

(For Qualified Service Technicians Only)

## General:

1. If not installed correctly by qualified personnel, the brewer will not operate properly and damage may result.
2. Utilize only qualified beverage equipment service technicians for service and installation.
3. Always have an empty dispenser under sprayhead of all coffee brewing equipment-including when at idle
4. Damages resulting from improper installation are not covered by the warranty, and will void the warranty.

## Electrical:

1. All FETCO brewers require **an electrical ground wire**. Installation without grounding is dangerous.
2. Note Equipotentiality Terminal, if present, (To identify the terminals which, when connected together, bring the various parts of equipment or of a system to the same potential, not necessarily being the earth (ground) potential, e.g. for local bonding.)
3. Verify voltages, polarity, circuits, and circuit breaker access before attaching equipment.
4. Brewers in this series wire differently in regards to a neutral wire. Review the wire diagrams.
5. The electrical diagram is located in the Users Guide and online at [www.fetco.com](http://www.fetco.com).
6. Make sure of the tight grounding of the equipment and use the external ground bolt.
7. 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.

→See wiring diagrams for connections

## Plumbing:

1. North America: All installations must comply with applicable federal, state, or local plumbing codes.
2. All Others: The water and waste piping and connections shall comply with the International Plumbing Code 2003, International Code Council (ICC), or to the Uniform Plumbing Code 2003 (IAPMO).
3. Use an inline water filter for all beverage equipment.
4. Install the filter unit after a water shutoff valve and in a position to facilitate filter replacement.
5. The water line and newly installed filter cartage must be flushed thoroughly prior to connecting it to the brewer to prevent debris from contaminating the machine.
6. Verify that the water line will provide a flow rate of at least 1½gpm/(5.7lpm) per minute and the water pressure is between 20-75 psig (138-517kPa) before making any connections.
7. Use a wrench on the factory fitting when connecting the incoming water line. This will reduce stress on the internal connections and reduce the possibility of leaks developing after the install has been completed
8. Install a backflow prevention device. Most municipalities require a recognized backflow preventer. Usable on all hot beverage and cold beverage equipment is a WATTS® SD-2 or SD-3.



WATTS spring loaded double check valve models are accepted by most zoning authorities.

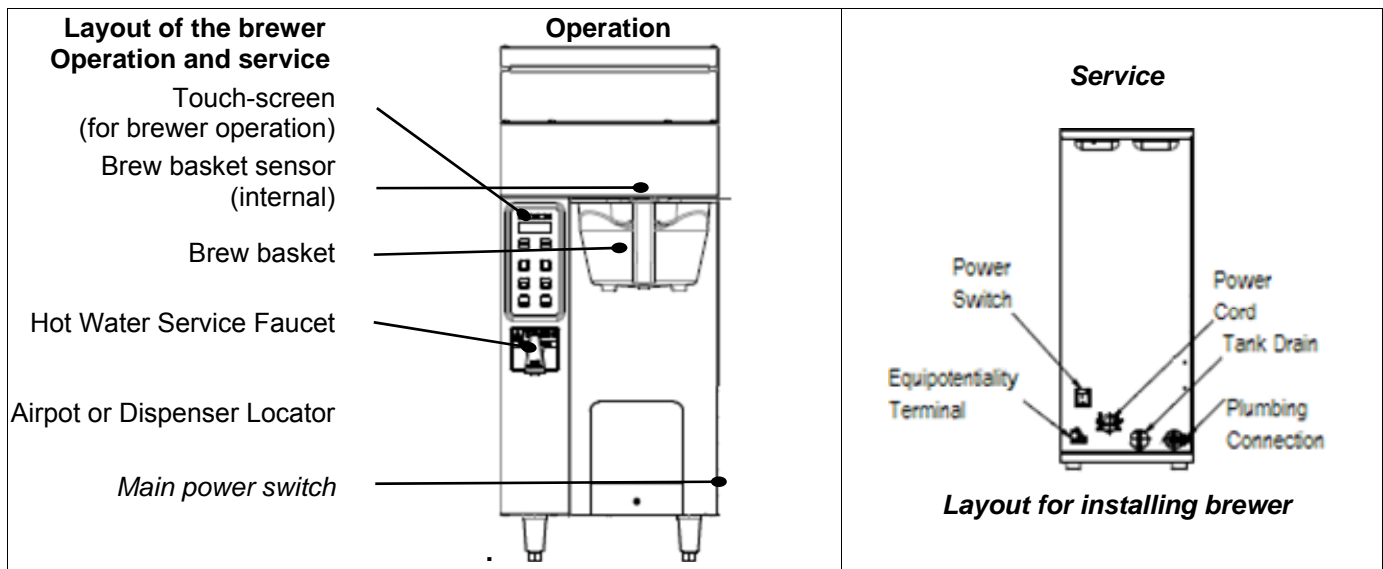
→The check valve should be as close to the water supply inlet of the beverage equipment as possible.

## Tank Drain

The water tank must be drained before maintenance procedures, and when the unit is to be relocated or shipped

1. Disconnect power and water to unit. DANGER: Insure that all utility connections to the brewer are broken.
2. Move the unit near a sink or obtain a container large enough to hold four gallons of water.  
→Note: the hot water tank may hold more than four gallons.
3. Remove the front panel and tank cover and allow the tank to cool to a safe temperature
4. The tank drain line and clamp are located inside-under the hot water tank. Pinch the drain line clamp to close
5. Locate the fill valve against the back wall, using pliers, loosen the hose clamp and move it back over the tube.  
→Note Do not losen the hose clamp to the bottom of the hot water tank
6. Crimp the tube an inch or two away from the drain plug to prevent water from flowing and pull it off the valve.
7. Pull the tube end out of the brewer and position over sink or bucket.
8. Release the crimped tube and hose clamp and allow the water to flow into the sink or container.
9. Multiple buckets may be needed during the draining, see tank volumes below.

Brewer	Hot Water Tank Capacity	OPEN Leave open for use	
CBS-1151 XV+ Single	6.3 gal 24 liter		
CBS-1152 XV+ Twin	11.5 gal 44 liter	PINCH SHUT To drain tank & service brewer	

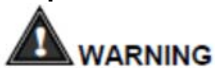


### Installation safety and hygiene directions-For International and CE equipment

1. Access to the service area is restricted to persons having safety/hygiene knowledge and practical experience of the coffee brewer. This appliance must be installed in locations where it can be overseen by trained personnel.
2. For proper operation, this appliance must be installed indoors where the temperature is between 10°C/50°F to 35°C/95°F. Drain and remove all liquid from equipment and lines if exposed to freezing temperatures.
3. All commercial cooking equipment, including this unit, is not intended for use by children or persons with reduced physical, sensory, or mental capabilities. Ensure proper supervision of children and keep them away from the unit.
4. Children should be supervised to ensure that they do not play hot beverage equipment.
5. This unit must be installed and serviced by qualified personnel only.
6. Installation must conform to all local electrical and plumbing codes. Installation by unqualified personnel will void the unit warranty and may lead to electric shock or burn, as well as damage to unit and/or its surroundings.
7. If the power cord requires repair or replacement-it must be performed by the manufacturer or authorized service personnel with the specified cord only from the manufacturer in order to avoid a hazard.
8. Review the dimensions for the unit and verify that it will fit properly in the space intended for it. Verify that the counter or table will support the total weight of the brewer and dispensers when filled (See: Technical Data).
9. Place the brewer on the counter or stand. When the brewer is in position, level it front to back as well as side-to-side by adjusting the legs.
10. Brewers will need a sturdy supported surface for operation. Do not move brewers when filled.
11. Do not tilt appliance more than 10° to insure safe operation.
12. Unit is for protected indoor use only. Do not steam clean or use excessive water on unit.
13. This unit is not "jet-proof" construction. Do not pressure wash or use jet spray to clean this unit.
14. The unit is not waterproof-do not submerge or saturate with water.

**Equipment exposed to flood and contaminated must not be used due to electrical and food safety.**

**Do not operate if unit has been submerged or saturated with water.**



All electrical connections must be in accordance with local electrical codes and any other applicable codes. If the supply cord is damaged, it must be replaced by the manufacturer, its service agent, or similarly qualified persons in order to avoid a hazard.

To prevent an electric shock hazard this device must be bonded to equipment in close proximity with an equipotential bonding conductor. This device is equipped with a bonding lug for this purpose and is marked with the following symbol



	<b>WARNING</b>	To reduce risk of electric shock or fire.
		FETCO® Hot Beverage Equipment is for commercial use only.
		Do not remove or open cover. No user serviceable parts inside. Refer installation and service to qualified personnel.
		Caution, disconnect from power supply before servicing.
		GROUND: National Electrical Code requires separate grounding wire.
		Use dedicated circuit with capacity rated by local code or National Electrical Code for the current draw of this equipment. Check serial number plate on right side for power requirements.
		Locate unit away from source of heat. Do not install or use near combustibles.
		<b>THIS APPLIANCE IS ENERGIZED WHENEVER IT IS CONNECTED TO A POWER SOURCE</b>
		<b>FAILURE TO COMPLY RISKS EQUIPMENT DAMAGE, PROPERTY DAMAGE, FIRE, OR SHOCK HAZARD</b>
	<b>Notice</b>	This equipment must be installed with a backflow protection device to comply with federal, state or local municipality codes.
	<b>Notice</b>	Read the user guide before installing and operating this unit.

1102.00223.01		Large Spray Assembly Parts		CBS-1151 & CBS-1152 XV+	
	Ref	QTY	PART NO	DESCRIPTION	
	1	1	1102.00116.00	LARGESPRAY HOUSING ASSEMBLY	
	2	1	1102.00222.00	VALVE, BREW, ASSEMBLY, 24 VDC	
	3	4	1082.00056.00	SCREW, #8-11 X 1" THRD FORM, P/H PHIL	
	4	1	1102.00043.00	CASCADE SPRAY DOME ASSY, CBS-1150'S	
			1000.00108.00	<b><u>Brew valve rebuild kit</u></b>	
			<b>CONTAINS:</b> <b>PLUNGER</b> <b>SPRING</b> <b>LARGE BREW VALVE DIAPHRAGM</b>		

**Brew Baskets**

**Complete Brew basket      Part Number B015280BN2      CBS-1151 & CBS-1152 XV+**

<p><i>Brown colored insert is standard</i></p> <p>→</p> <p>Brew basket handle plug for polymeric brew baskets is available in optional colors.</p>		Part Number	Plug Insert color
		1023.00195.00	BROWN PLUG, BB HANDLE
		1023.00194.00	BLACK PLUG, BB HANDLE
		1023.00190.00	RED PLUG, BB HANDLE
		1023.00191.00	GREEN PLUG, BB HANDLE
		1023.00192.00	ORANGE PLUG, BB HANDLE
		1023.00180.00	BLUE PLUG, BB HANDLE

OPTIONAL Stainless Steel Brew Basket			
Ref#	Qty	Part Number	Description
←		B001280B1	COMPLETE STAINLESS STEEL BREW BASKET
1	1	1112.00058.00	BREW BASKET WELDMENT (CONE ONLY)
2	1	1046.00025.00	BREW BASKET WARNING LABEL
3	1	1082.00040.00	SCREW, 1/4-20X.5, FL-HD, PH., W/NYLON PATCH
4	1	1009.00005.00	WIRE BASKET
5	1	1102.00064.00	HANDLE W/MAGNET ASSEMBLY, BLACK
Optional colored handle		1102.00065.00	HANDLE W/MAGNET ASSEMBLY, RED
Optional colored handle		1102.00066.00	HANDLE W/MAGNET ASSEMBLY, GREEN
Optional colored handle		1102.00067.00	HANDLE W/MAGNET ASSEMBLY, ORANGE

## Parts Diagrams CBS-1151V+

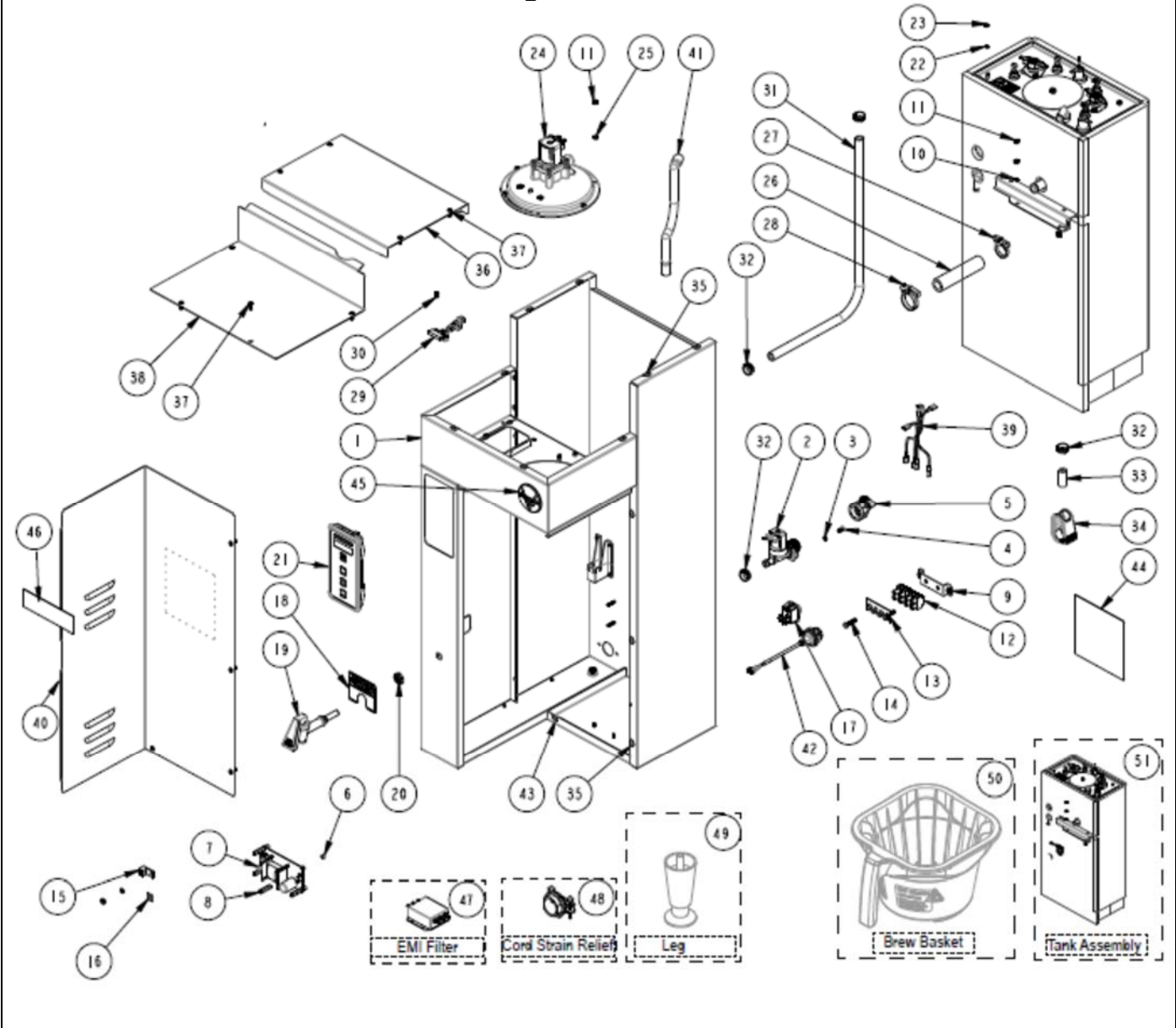


Table of authorities for CBS-1151XV+ models			
SKU No.	TANK ASSY	WIRING DIAG.	CONN. CLAMP
E115151	1104.00061.01	1401.00147.00	1086.00008.00
E115161	1104.00061.01	1401.00159.00	1086.00031.00
E115162	1104.00096.01	1401.00159.00	1086.00031.00
E115180	1104.00095.01	1401.00152.00	1086.00008.00
E115190	1104.00097.01	1401.00153.00	1086.00008.00
E115191	1104.00095.01	1401.00153.00	1086.00008.00
E115192	1104.00061.01	1401.00154.00	1086.00008.00
E115193	1104.00096.01	1401.00154.00	1086.00008.00

Ref	Qty	Part Number	Description	Drawing 1101.00342.00 ASSEMBLY, CBS-1151 XV+
1	1	1111.00088.00	WELDMENT, COMPLETE, CBS-1151 XXV+	
2	1	1057.00043.00	SOLENOID VALVE, 5.5L/min, 180 DEG, 24VDC	
3	2	1083.00005.00	WASHER, M4 18-8 INTERNAL TOOTH LOCKWASHER	
4	2	082.00010.00	SCREW, M4x10 ZINC-PLATED PAN HD. PHILLIPS MACH.	
5	1	1102.00243.00	ADAPTER ASSY, 3/4" BSP x 1/4" NPT x 3/8" TUBE	
6	8	1081.00006.00	SPACER, 6MM OD x 3.2MM ID x 5MM LG, Z/P	
7	1	1052.00001.00	POWER SUPPLY, 90-264VAC/24VDC, 1.8A	
8	4	1029.00012.00	SPACER, .25" HEX X 1" LG, FEM #4-40 THREAD	
9	1	1112.00268.00	WELDMENT, BRACKET TERMINAL BLOCK, 4 POLE	
10	5	1083.00011.00	WASHER, #8 SCREW SIZE, INTERNAL TOOTH LOCK	
11	13	1084.00006.00	NUT, 8-32 18-8 HEX MACHINE SCREW	
12	1	1052.00023.00	EUROSTRIP HE16 TERMINAL BLOCK, 4 POLE, 63 AMP, 18-8 AWG	
13	1	1052.00025.00	PLATE, MARKING #BS1016E	
14	2	1082.00082.00	SCREW, PHILLIP HD., 8-32 THREAD	
15	1	1065.00009.00	GROUND LUG CONNECTOR, 14-2 AWG, ALUMINUM	
16	1	1044.00012.00	LABEL GROUND, CE	
17	1	1058.00024.00	SWITCH, POWER, DOUBLE POLE, 16A, 125/250 VAC	
18	1	1046.00051.00	LABEL, "WARNING, EXTREMELY HOT WATER"	
19	1	1071.00055.00	FAUCET, HOT WATER, PSC-BR-8, WITH FLAT AND STEM	
20	1	1084.00048.00	JAM NUT, 1/2-20 UNF, NICKEL PLATED BRASS	
21	1	1102.00375.00	ASSEMBLY, FRONT PANEL, CBS-1100 SINGLE	
22	1	1083.00009.00	WASHER, #6 SCREW , INTL TOOTH LOCKWASHER	
23	1	1084.00010.00	NUT, HEX, #6-32, UNDERSIZED, ZINC PLATED	
24	1	1102.00223.01	SPRAY HOUSING, LARGE, 24 VDC, STRONGER COIL	
25	6	1083.00010.00	WASHER, #10 SCREW W/NEOPRENE-BONDED SEAL	
26	1	1025.00021.00	TUBE, 31/32"OD X 5/8"ID X 4 1/4"LG, BREW	
27	1	1086.00018.00	HEYCO HOSE CLAMP DIA. .875-1.00	
28	1	1086.00017.00	HEYCO HOSE CLAMP DIA . 1.031-1.187	
29	1	1102.00113.00	SWITCH, REED, ASSEMBLY	
30	1	1029.00006.00	NUT, FINGER, #4-40 NYLON	
31	1	1025.00082.00	TUBE, 5/8"OD X 3/8"ID X 19.00"LG.	
32	4	1086.00003.00	UNICLAMP, 15.9 HOSE OD CLAMP	
33	1	1025.00058.00	TUBE, 9/16"OD X 5/16"ID X 25.00"LG	
34	1	1086.00009.00	CLAMP, 3/4" MAX TUBE OD FLOW CONTROL	
35	11	1084.00011.00	NUT, CLIP ON (J-NUT), #6-32, 22-20 GA., BLK-PH FINISH	
36	1	1001.00362.00	COVER, TOP, CBS-1151 EXTRACTOR XV+	
37	12	1082.00017.00	SCREW, TRUSS HD. PHIL. MACHINE, # 6-32 X 1/2 LG.	
38	1	1001.00363.00	COVER, UPPER BASE, CBS-1151 EXTRACTOR XV+	
39	1	1402.00097.01	HARNESS, <b>LOW AMP, CBS-1151-XXV+, UL</b>	
39	1	1402.00061.01	HARNESS <b>HIGH AMP</b>	
39	1	1402.00050.01	HARNESS <b>HIGH AMP CE</b>	
40	1	1112.00470.00	WELDMENT, RIGHT COVER, CBS-1150 XXV+	
41	1	1024.00098.00	VENT TUBE, XTS AND 11XX	
42	1	1058.00055.00	USB CONNECTOR	
43	1	1084.00024.00	NUT, CLIP ON (J-NUT), #6-32, 1050 SPR. STL	
44	1	1046.00035.00	LABEL, WARNING "TO REDUCE RISK OF ELECTRIC SHOCK OR FIRE"	
45	1	1041.00031.00	LABEL, EXTRACTOR XV+ LOGO	
46	1	1046.00003.00	LABEL, CSD WARNING, 1.5" X 5.0"	
47	1	1052.00036.00	EMI FILTER, THREE LINE 20A	
48	1	1086.00008.00	Cord Strain Relief-UL Models	
48	1	1086.00031.00	Cord Strain Relief CE Models	
49	4	1073.00007.00	Leg-Flange foot	
50	1	B015280BN2	Brew Basket-Plastic	
50	1	B001280B1	Brew Basket-stainless steel- *Optional accessory	
51	1	1104.00061.01	TANK ASSEMBLY, CBS1151 XXV+ 2 x 3kW/240VAC	
51	1	1104.00095.01	TANK ASSEMBLY, CBS1151 XXV+ 5kW/240VAC	
51	1	1104.00096.01	TANK ASSEMBLY, CBS1151 XXV+ 2 x 2.3kW/240VAC	
51	1	1104.00097.01	TANK ASSEMBLY, CBS1151XXV+ 4kW/240VAC	

## Parts Diagrams CBS-1152V+

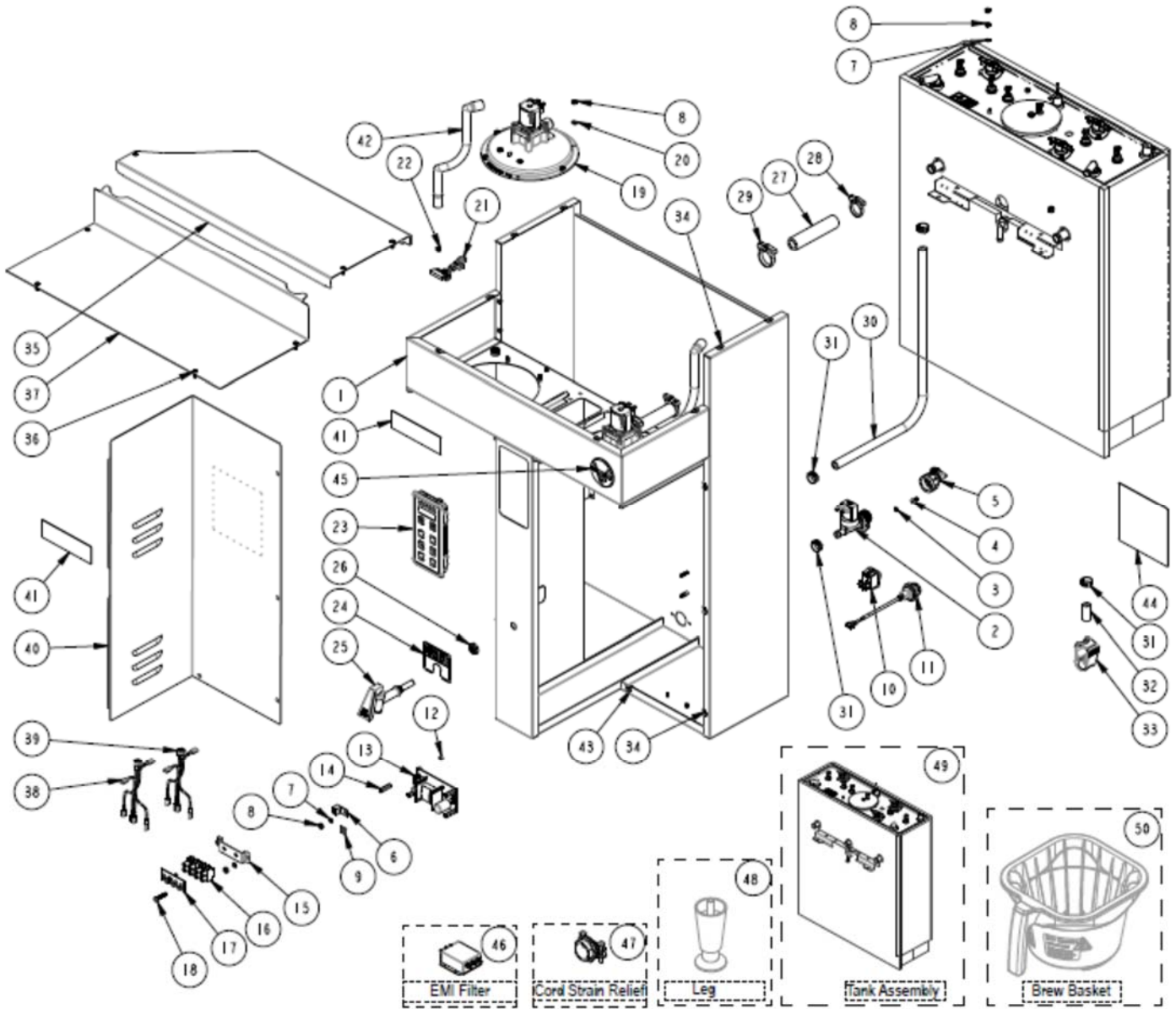
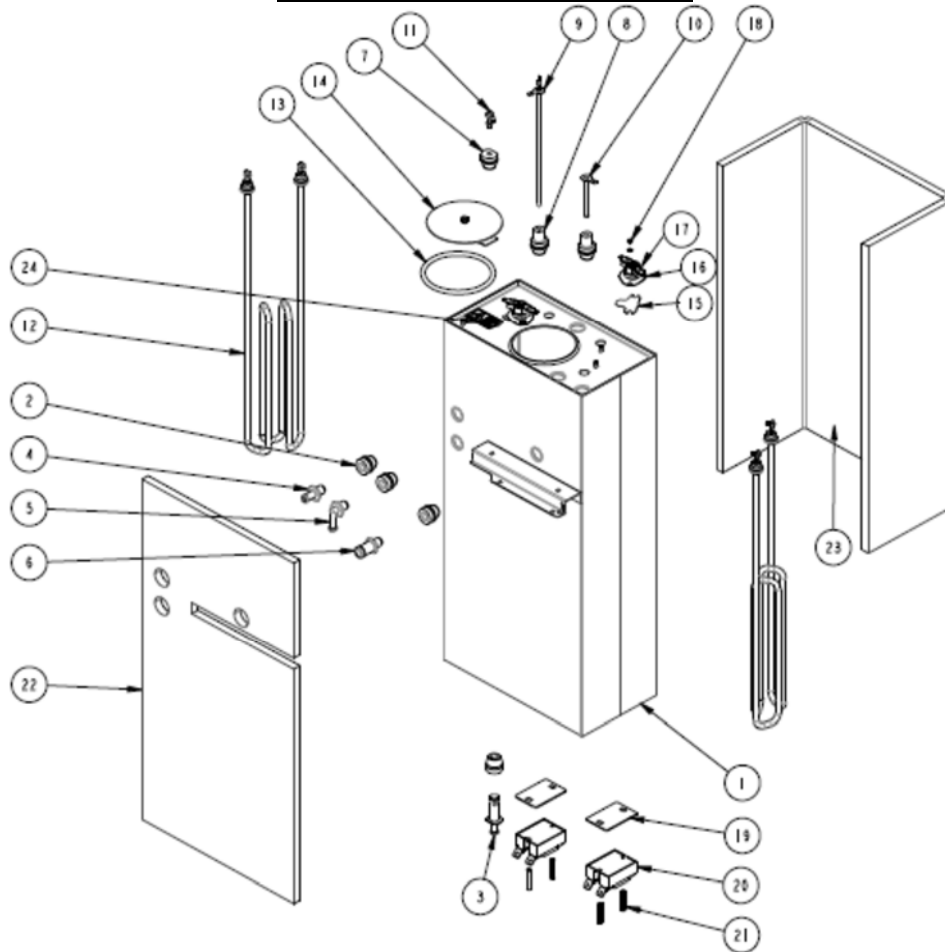


Table of authorities for CBS-1152XV+ models				
SKU No.	ASSY NO.	TANK ASSY	WIRING DIAG.	CONN. CLAMP
E115251	1101.00339.00	1104.00062.01	1401.00148.00	1086.00008.00
E115252	1101.00339.00	1104.00074.01	1401.00148.00	1086.00008.00
E115261	1101.00339.00	1104.00062.01	1401.00160.00	1086.00031.00
E115262	1101.00339.00	1104.00074.01	1401.00160.00	1086.00031.00
E115280	1101.00339.00	1104.00062.01	1401.00148.00	1086.00008.00
E115290	1101.00339.00	1104.00062.01	1401.00156.00	1086.00008.00
E115291	1101.00339.00	1104.00074.01	1401.00156.00	1086.00008.00
E115292	1101.00339.00	1104.00080.01	1401.00155.00	1086.00008.00
E115294	1101.00339.00	1104.00081.01	1401.00155.00	1086.00008.00
E115296	1101.00339.00	1104.00075.01	1401.00156.00	1086.00008.00



Ref	Qty	Part Number	Description	Drawing 1101.00339.00 CBS-1152 XV+
1	1	1111.00086.00	WELDMENT BODY COMPLETE, CBS-1152 XXV+	
2	1	1057.00043.00	SOLENOID VALVE, 5.5L/min, 180 DEG, 24VDC	
3	2	1083.00005.00	WASHER, M4 18-8 INTERNAL TOOTH LOCKWASHER	
4	2	1082.00010.00	SCREW, M4x10 ZINC-PLATED PAN HD. PHILLIPS MACH.	
5	1	1102.00243.00	ADAPTER ASSY, 3/4" BSP x 1/4" NPT x 3/8" TUBE	
6	1	1065.00009.00	GROUND LUG CONNECTOR, 14-2 AWG, ALUMINUM	
7	5	1083.00011.00	WASHER, #8 SCREW SIZE, INTERNAL TOOTH LOCK	
8	19	1084.00006.00	NUT, 8-32 18-8 HEX MACHINE SCREW	
9	1	1044.00012.00	LABEL GROUND, CE	
10	1	1058.00024.00	SWITCH, POWER, DOUBLE POLE, 16A, 125/250 VAC	
11	1	1058.00055.00	USB CONNECTOR	
12	8	1081.00006.00	SPACER, 6MM OD x 3.2MM ID x 5MM LG, Z/P	
13	1	1052.00001.00	POWER SUPPLY, 90-264VAC/24VDC, 1.8A	
14	4	1029.00012.00	SPACER, .25" HEX X 1" LG, FEM #4-40 THREAD	
15	1	1112.00268.00	WELDMENT, BRACKET TERMINAL BLOCK, 4 POLE	
16	1	1102.00284.00	ASSEMBLY, TERMINAL BRACKET International version SKU E115291	
16	1	1052.00023.00	EUROSTRIP HE16 TERMINAL BLOCK, 4 POLE, 63 AMP, 18-8 AWG	
17	1	1052.00025.00	PLATE, MARKING #BS1016E	
18	2	1082.00082.00	SCREW, PHILLIP HD., 8-32 THREAD	
19	2	1102.00223.01	SPRAY HOUSING, LARGE, 24 VDC, STRONGER COIL	
20	12	1083.00010.00	WASHER, #10 SCREW W/NEOPRENE-BONDED SEAL	
21	2	1102.00113.00	SWITCH, REED, ASSEMBLY	
22	4	1029.00006.00	NUT, FINGER, #4-40 NYLON	
23	1	1102.00372.00	ASSEMBLY, FRONT PANEL, CBS-1100 TWIN	
24	1	1046.00051.00"	LABEL, "WARNING, EXTREMELY HOT WATER	
25	1	1071.00055.00	FAUCET, HOT WATER, PSC-BR-8, WITH FLAT AND STEM	
26	1	1084.00048.00	JAM NUT, 1/2-20 UNF, NICKEL PLATED BRASS	
27	2	1025.00021.00	TUBE, 31/32"OD X 5/8"ID X 4 1/4"LG, BREW	
28	2	1086.00018.00	HEYCO HOSE CLAMP DIA. .875-1.00	
29	2	1086.00017.00	HEYCO HOSE CLAMP DIA .1.031-1.187	
30	1	1025.00082.00	TUBE, 5/8"OD X 3/8"ID X 19.00"LG.	
31	4	1086.00003.00	UNICLAMP, 15.9 HOSE OD CLAMP	
32	1	1025.00058.00	TUBE, 9/16"OD X 5/16"ID X 25.00"LG	
33	1	1086.00009.00	CLAMP, 3/4" MAX TUBE OD FLOW CONTROL	
34	11	1084.00011.00	NUT, CLIP ON (J-NUT), #6-32, 22-20 GA., BLK-PH FINISH	
35	1	1001.00372.00	COVER, TOP, CBS-1152 EXTRACTOR XV+	
36	12	1082.00017.00	SCREW, TRUSS HD. PHIL. MACHINE, # 6-32 X 1/2 LG.	
37	1	1001.00352.00	COVER, UPPER BASE, CBS-1152 EXTRACTOR XV+	
38	1	1402.00053.01	HARNESS, HIGH AMP, CBS-1151-XXV+, UL	
38	1	1402.00052.01	HARNESS, HIGH AMP, CBS-1151-XXV+, UL CE Only	
38	1	1402.00097.01	HARNESS, LOW AMP, CBS-1151-XXV+, UL	
39	1	1402.00097.02	HARNESS ADDITION, LOW AMP, CBS-1152-XXV+, UL	
40	1	1112.00470.00	WELDMENT, RIGHT COVER, CBS-1150 XXV+	
41	2	1046.00003.00	LABEL, CSD WARNING, 1.5" X 5.0"	
42	2	1024.00098.00	VENT TUBE, XTS AND 11XX	
43	1	1084.00024.00.	NUT, CLIP ON (J-NUT), #6-32, 1050 SPR. STL	
44	1	1046.00035.00	LABEL, WARNING "TO REDUCE RISK OF ELECTRIC SHOCK OR FIRE"	
45	1	1041.00031.00	LABEL, EXTRACTOR XV+ LOGO	
46	1	1052.00036.00	EMI FILTER, 3-LINE, 230/400VAC 2Ph, 2L,N,PE CE (SKUs E115161& E115162 only)	
47	1	1086.00008.00	Cord Strain Relief-UL Models	
47	1	1086.00031.00	Cord Strain Relief CE Models	
48	3	1073.00007.00	Leg-Flange foot	
49	1	1104.00062.02	Hot Water Tank 3X3kW/240VAC	
49	1	1104.00074.02	Hot Water Tank 3X5kW/240VAC	
49	1	1104.00075.02	Hot Water Tank 3X4kW/240VAC	
49	1	1104.00080.02	Hot Water Tank 2x3kW/240VAC	
49	1	1104.00081.02	Hot Water Tank 2X5kW/240VAC	
50	2	B015280BN2	Brew Basket-Plastic	
50	2	B001280B1	Brew Basket-stainless steel- *Optional accessory	

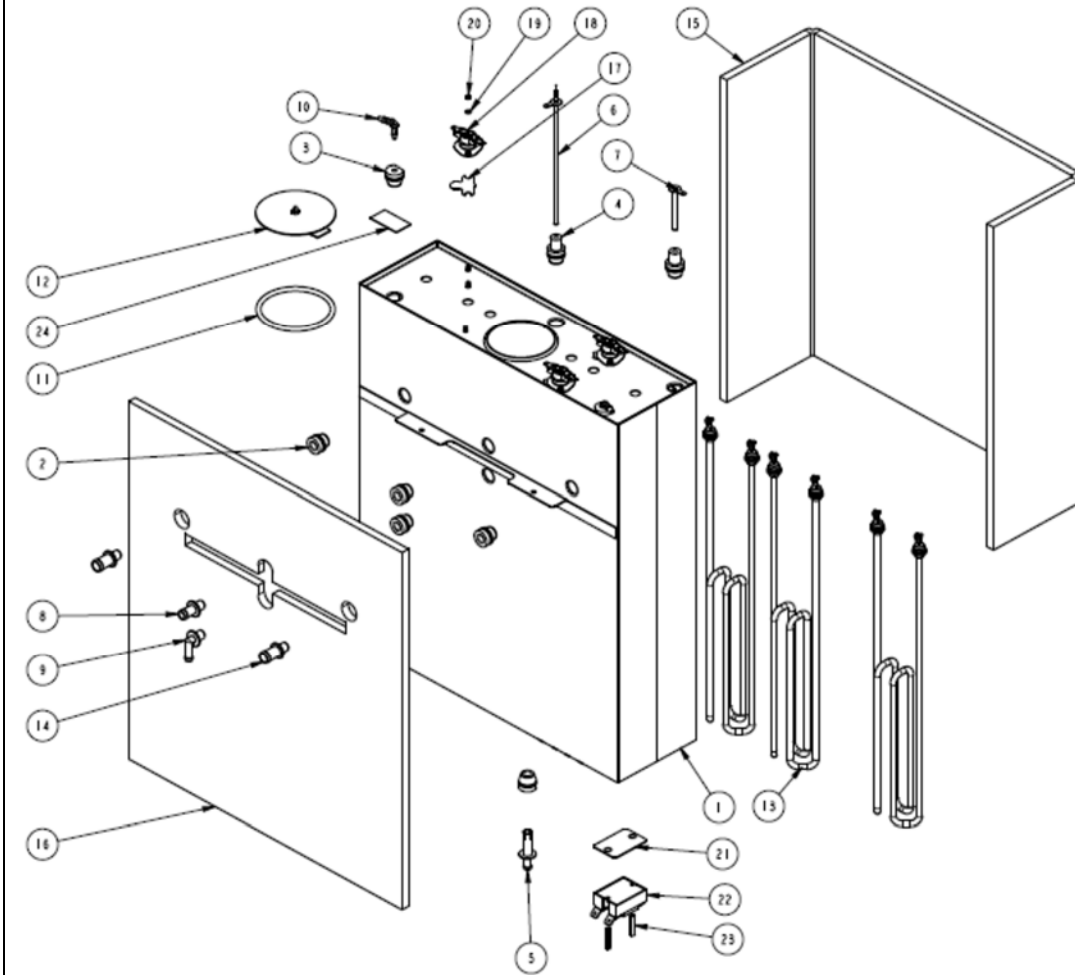
### CBS-1151V+ Tank Assembly



Complete CBS-1151 XV+ HOT WATER TANK ASSY, Part number 1104.00061.00

#	Qty	PART NO	DESCRIPTION
1	1	1114.00087.00	WELDMENT, TANK, CBS-2151XV+
2	4	1024.00050.00	GROMMET, SILICONE, 11.4mm ID
2	4	1024.00051.00	PLUG SILICONE, 11.4mm ID
3	1	1023.00166.00	FITTING, COLD WATER INLET, GROMMET DESIGN
4	2	1023.00168.00	FITTING, HOT WATER, GROMMET DESIGN
5	1	1023.00183.00	FITTING, DILUTION, TBS-2121
6	1	1023.00203.00	FITTING, BREW, GROMMET DESIGN
7	1	1024.00054.00	GROMMET, SILICONE PLUG
8	2	1024.00053.00	LEVEL AND TEMP PROBE GROMMET
9	1	1102.00161.00	PROBE ASSEMBLY, TEMP. AND LLC, 8" LONG
10	1	1112.00019.00	PROBE WELDMENT, WATER LEVEL 2.600" LG
11	1	1023.00171.00	FITTING, SINGLE BARBED ELBOW,
12	2	1107.00037.00	HEATER ASSEMBLY, IMMERSION 2300W/240VAC
12	2	1107.00005.00	HEATER ASSEMBLY, IMMERSION 3000W/240VAC
12	2	1107.00010.00	HEATER ASSEMBLY, IMMERSION 4000W/240VAC
12	2	1107.00032.00	HEATER ASSEMBLY, IMMERSION 5000W/240VAC
13	1	1024.00007.00	O-RING, DASH #344, TANK COVER
14	1	1102.00007.00	TANK COVER ASSEMBLY
15	2	1003.00005.00	BRACKET, ONE SHOT THERMOSTAT
16	2	1053.00003.00	THERMOSTAT, SINGLE SHOT, 240V/40A
17	4	1083.00009.00	WASHER, #6 SCREW , INTL TOOTH LOCKWASHER
18	4	1084.00010.00	NUT, HEX, #6-32, UNDERSIZED, ZINC PLATED
19	2	1003.00140.00	ALUMINUM BRACKET FOR SSR
20	2	1052.00033.00	RELAY, SOLID STATE, 50A/480VAC, W/BUILD IN VARISTOR
21	4	1081.00042.00	STANDOFF, 1/4" HEX
22	1	1022.00068.00	INSULATION, TANK FRONT, CBS-2151
23	1	1022.00069.00	INSULATION, TANK BACK, CBS-2151
24	1	1044.00004.00	LABEL, DANGER, HIGH VOLTAGE

## CBS-1152V+ Tank Assembly

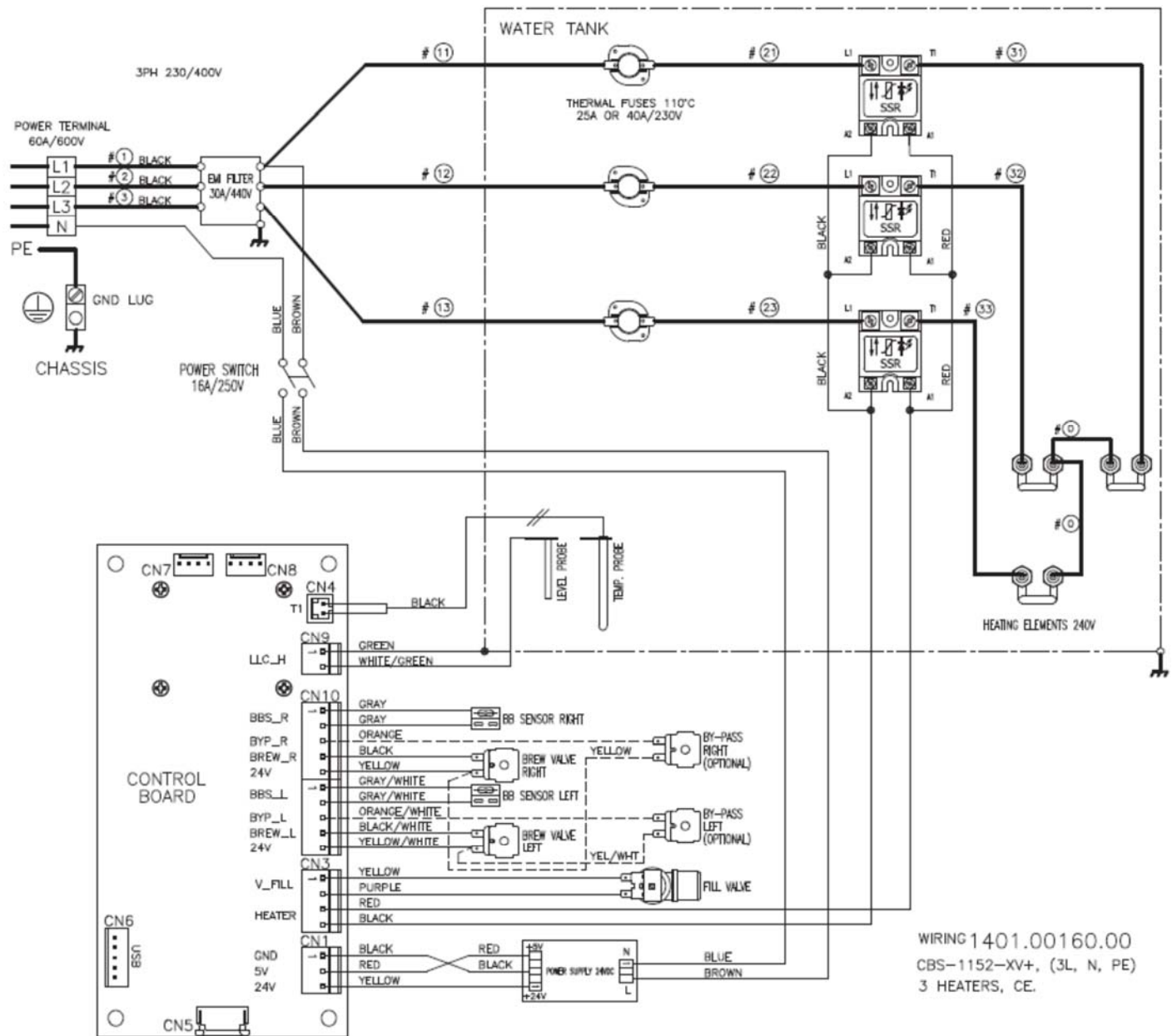


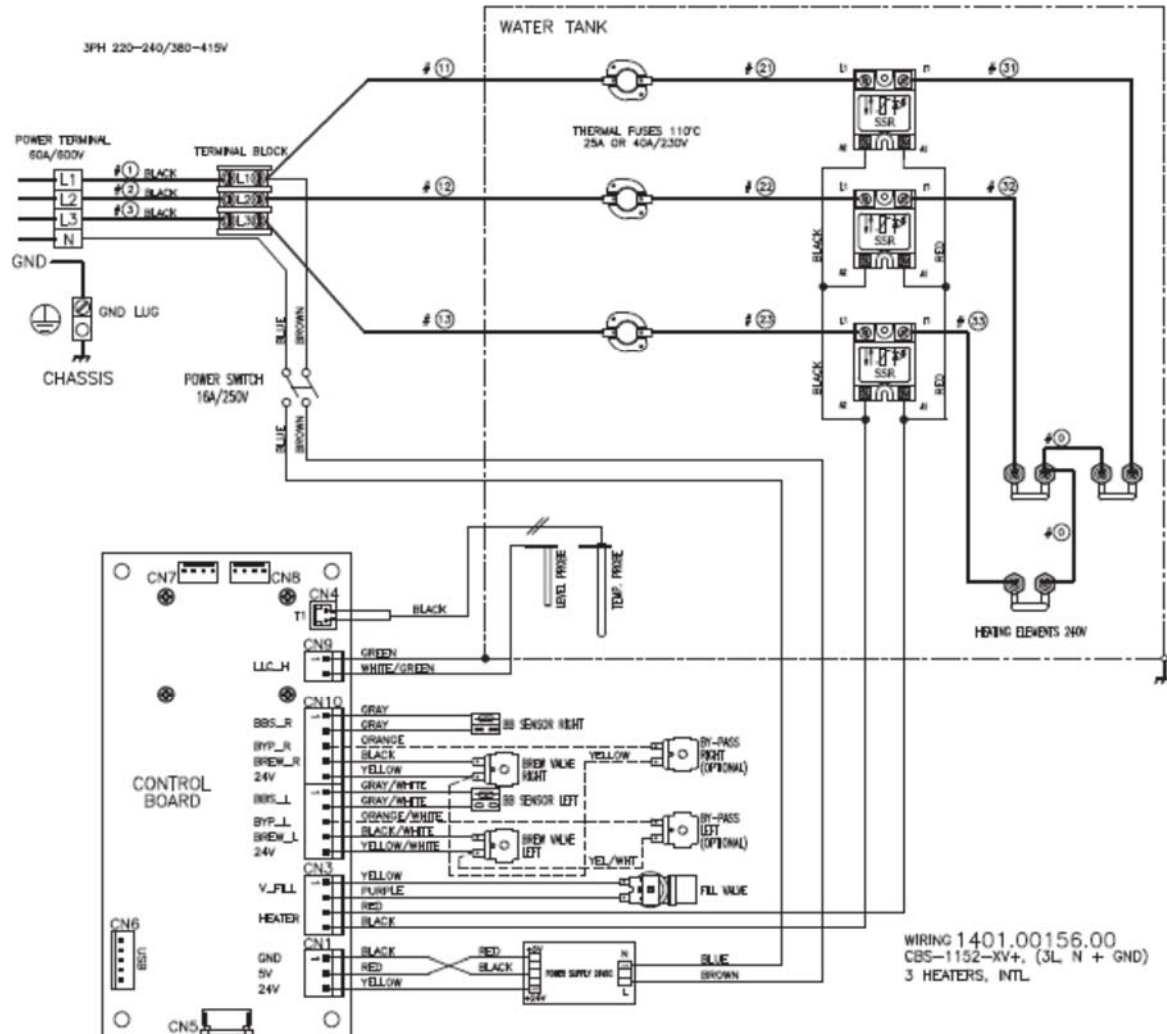
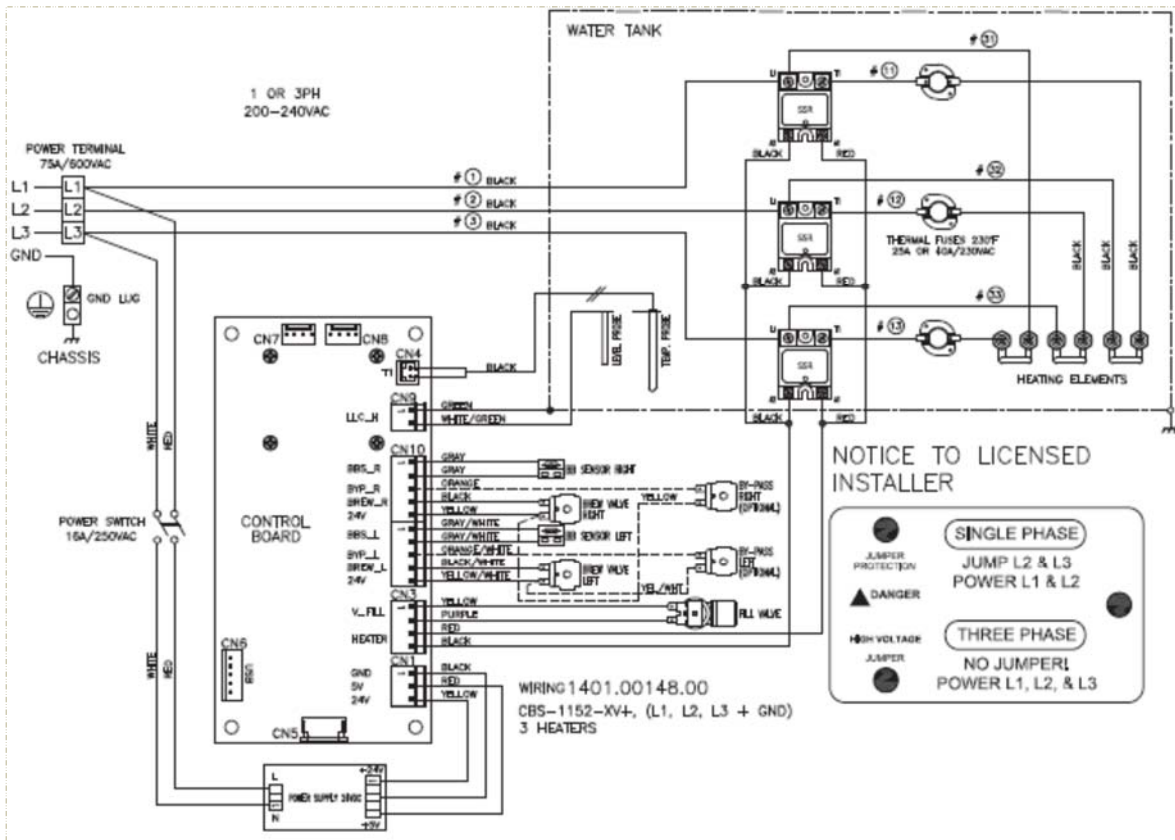
Complete CBS-1152 XV+ HOT WATER TANK ASSY Part Number 1104.00062.00

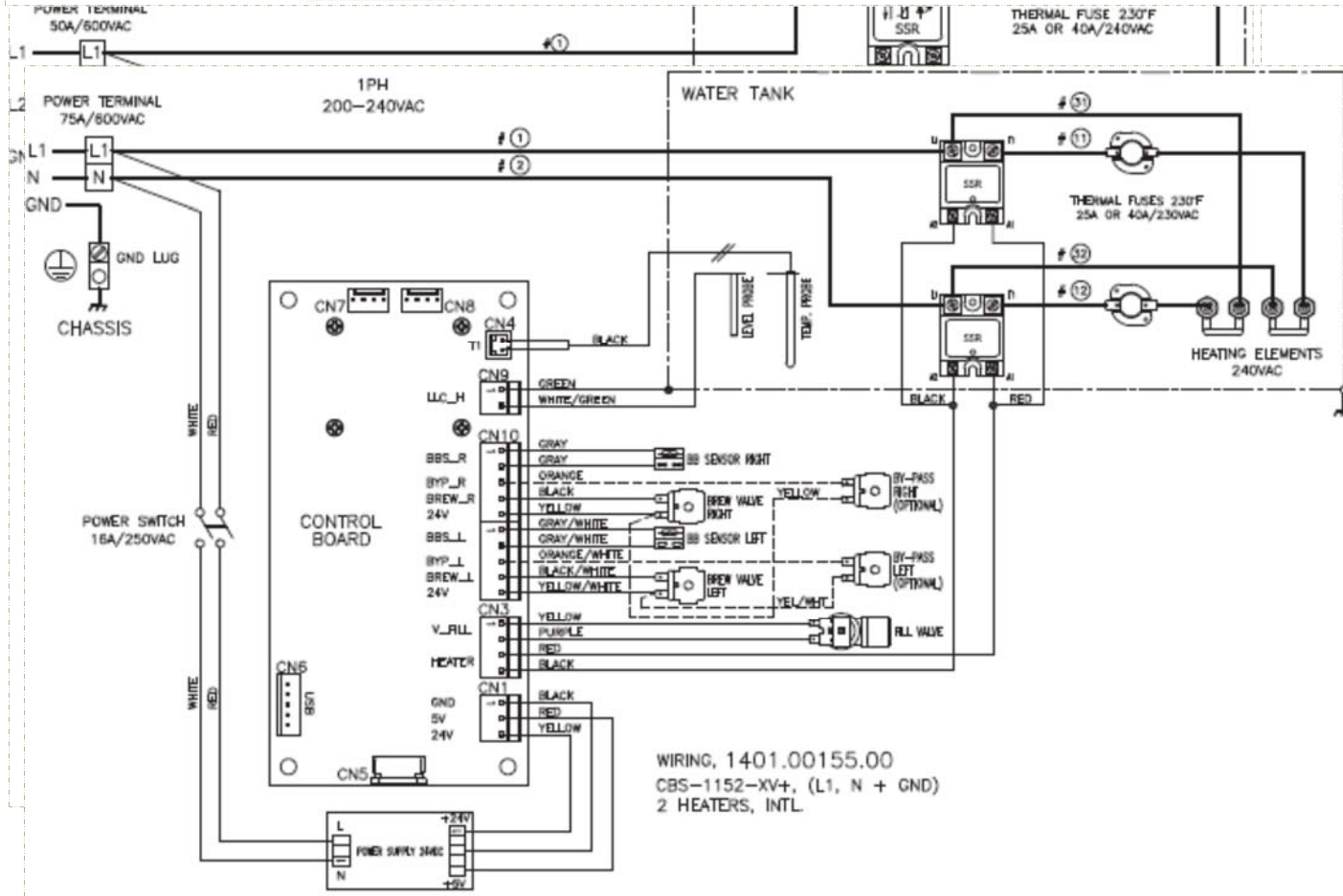
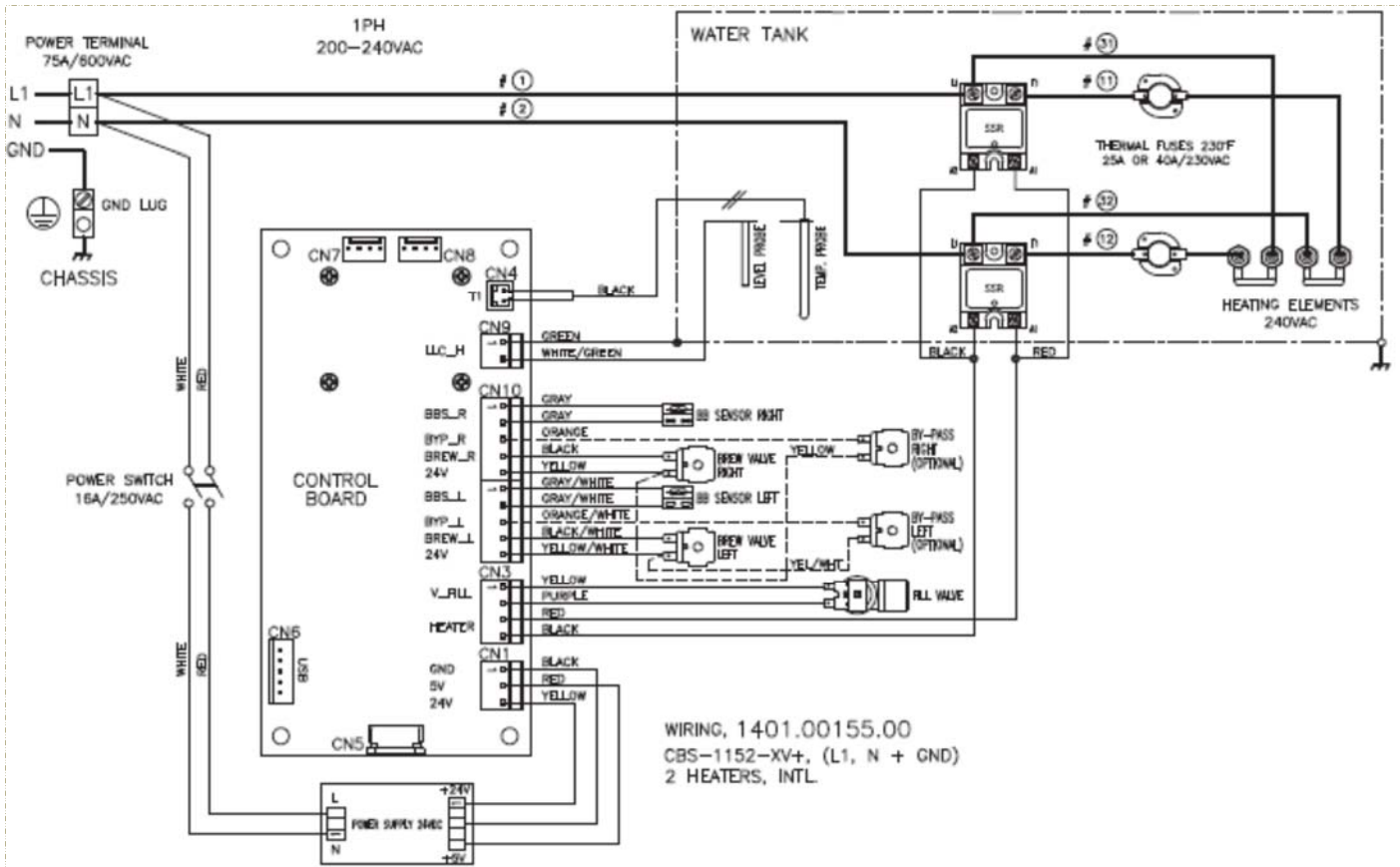
#	Qty	PART NO	DESCRIPTION
1	1	1114.00091.00	WELDMENT, TANK CBS-2152
2	5	1024.00050.00	GROMMET, SILICONE, 11.4mm ID
3	1	1024.00050.00	GROMMET, SHORT, SILICONE, LEVEL AND TEMP PROBE
4	2	1024.00053.00	LEVEL AND TEMP PROBE GROMMET
5	1	1023.00166.00	FITTING, COLD WATER INLET, GROMMET DESIGN
6	1	1102.00161.00	PROBE ASSEMBLY, TEMP. AND LLC, 8" LONG
7	1	1112.00019.00	PROBE WELDMENT, WATER LEVEL 2.600" LG
8	1	1024.00051.00	GROMMET, SILICONE, BLANK
9	1	1023.00183.00	FITTING, DILUTION, TBS-2121
10	2	1023.00171.00	(2X)FITTING, SINGLE BARBED ELBOW
11	1	1024.00007.00	O-RING, DASH #344, TANK COVER
12	1	1102.00007.00	TANK COVER ASSEMBLY
13	3	1107.00005.00	HEATER ASSEMBLY, IMMERSION 3kW/240VAC
13	3	1107.00010.00	HEATER ASSEMBLY, IMMERSION 4kW/240VAC
13	3	1107.00032.00	HEATER ASSEMBLY, IMMERSION 5kW/240VAC
14	2	1023.00203.00	FITTING, BREW, GROMMET DESIGN
15	1	1022.00071.00	INSULATION, TANK BACK, CBS-2152
16	1	1022.00070.00	INSULATION, TANK FRONT, CBS-2152
17	3	1003.00005.00	BRACKET, ONE SHOT THERMOSTAT
18	3	1053.00003.00	THERMOSTAT, SINGLE SHOT, 240V/40A
19	7	1083.00009.00	WASHER, #6 SCREW, INTL TOOTH LOCKWASHER
20	6	1084.00010.00	NUT, HEX, #6-32, UNDERSIZED, ZINC PLATED
21	3	1003.00140.00	ALUMINUM BRACKET FOR SSR
22	3	1052.00033.00	RELAY, SOLID STATE, 50A/480VAC, W/BUILD IN VARISTOR
23	6	1081.00042.00	STANDOFF, 1/4" HEX
24	1	1044.00004.00	LABEL, DANGER, HIGH VOLTAGE

## Wiring diagrams

	SKU DESCRIPTION:	KW	Amps	Wiring Schematic	Heaters
E115251	CBS-1152-XV+, 1 or 3Ph, 2 or 3+G, 3 X 3kW/240VAC, 208-240VAC	7.0 - 9.1	19.4 - 22.4	1401.00086.00	3 X 3 KW
E115252	CBS-1152-XV+, 1 or 3Ph, 2 or 3+G, 3 X 5kW/240VAC, 208-240VAC	11.5 15.1	32.0 - 36.9	1401.00086.00	3 X 5 KW
E115261	CBS-1152-XV+, 3Ph, 3L,N,PE, 3 X 3.0kW/240VAC, 230/400VAC, CE	8.6	12.4	1401.00080.00	
E115262	CBS-1152-XV+, 3Ph, 3L,N,PE, 3 X 5.0kW/240VAC, 230/400VAC, CE	1.41	20.4	1401.00080.00	
E115271	CBS-1152-XV+, 1or3Ph, 3or4+G, 3 X 3kW/240VAC, 120/208-240VAC				
E115280	CBS-1152-XV+, 3Ph, 3+G, 3 X 3.0kW/240VAC, 200VAC, J Int	6.5	18.6	1401.00101.00	3 X 3.0 KW
E115290	CBS-1152-XV+, 3Ph, 4+G, 3 X 3.0kW/240VAC, 220/380-240/415VAC, INTL	9.1	11.8 - 12.9	1401.00112.00	3 X 3.0 KW
E115291	CBS-1152-XV+, 3Ph, 4+G, 3 X 5.0kW/240VAC, 220/380-240/415VAC, INTL	15.1	19.5 - 21.4	1401.00112.00	3 X 5.0 KW
E115292	CBS-1152-XV+, 1Ph, 2+G, 2 X 3.0kW/240VAC, 200-240VAC, INTL	4.6 - 6.1	22.4 - 25.8	1401.00110.00	2 X 3.0 KW
E115294	CBS-1152-XV+, 1Ph, 2+G, 2 X 5.0kW/240VAC, 200-240VAC, INTL	6.9 - 10.0	35.2 - 42.1	1401.00110.00	2 X 5.0 KW
E115296	CBS-1152-XV+, 3Ph, 4+G, 3 X 4.0kW/240VAC, 240/415VAC, INTL			1401.00112.00	







SKU	SKU DESCRIPTION:	KW	Amps	Wiring Schematic	Heaters
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E115151	CBS-1151-XV+, 1Ph, 2+G, 2 X 3kW/240VAC, 208-240VAC	4.6-6.1	22.4 - 25.8	1401.00084.00	2 X 3 KW
E115161	CBS-1151-XV+, 2Ph, 2L,N,PE, 2 X 3kW/240VAC, 230/400VAC, CE	5.6	12.4	1401.00076.00	
E115162	CBS-1151-XV+, 1Ph, L,N,PE, 2 X 2.3kW/240VAC, 230VAC, CE			1401.00076.00	
E115180	CBS-1151-XV+, 1Ph, 2+G, 5.0kW/240VAC, 200VAC, J Int	3.6	17.7	1401.00096.00	1 X 5.0 KW
E115190	CBS-1151-XV+, 1Ph, 2+G, 4.0kW/240VAC, 200-240VAC, INTL	4.1	14.2 - 17.1	1401.00099.00	1 X 4.0 KW
E115191	CBS-1151-XV+, 1Ph, 2+G, 5.0kW/240VAC, 200-240VAC, INTL	5.1	17.7 - 21.3	1401.00099.00	1 X 5.0 KW
E115192	CBS-1151-XV+, 1Ph, 2+G, 2 X 3.0kW/240VAC, 200-240VAC, INTL	6.1	21.2 - 25.4	1401.00100.00	2 X 3.0 KW
E115193	CBS-1151-XV+, 1Ph, 2+G, 2 X 2.3kW/240VAC, 200-240VAC, INTL	4.7	16.3 - 19.6	1401.00100.00	2 X 2.3 KW

