

FETCO Models: CBS-2141XTS



CBS-2142XTS



Fetco CBS-2141XTS & CBS-2142XTS Extractor Touch Screen models shown with optional LUXUS® L3D dispensers

1 gallon Hot Beverage Brewers—Standard Electrical Configuration

Commercial Hot Beverage Equipment

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

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Description & Features

CBS-2140XTS Series coffee brewers feature universal spray over technology from the Cascading Spray Dome™.

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)
- ❖ Adjustable number of pulses
- ❖ Bypass-infinitely variable for strength adjustment
- ❖ Drip delay (The time between the end of the brew cycle and end of the brewing cycle...to empty the brewbasket)

Operating Principles

Using these variables, the software calculates how much water to use for prewetting and brewing. The total brew time digitally divides into several 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. If desired, pulse count and length, brew-volume may be adjusted without changing brew time and brew-time may be adjusted without changing volume brewed.

Factory settings

The following are the factory set defaults—all variables in the brew menu are adjustable:

Brew Volume and coffee filter size:

CBS-2140 single and Twin: 1 gallon/3.8 liters per brew Coffee Filters: 13" X 5" FETCO Product #F002

Brew Time, all models: Factory set at 5.5 minutes=[4 minute brew time + 1.5 minute drip delay]

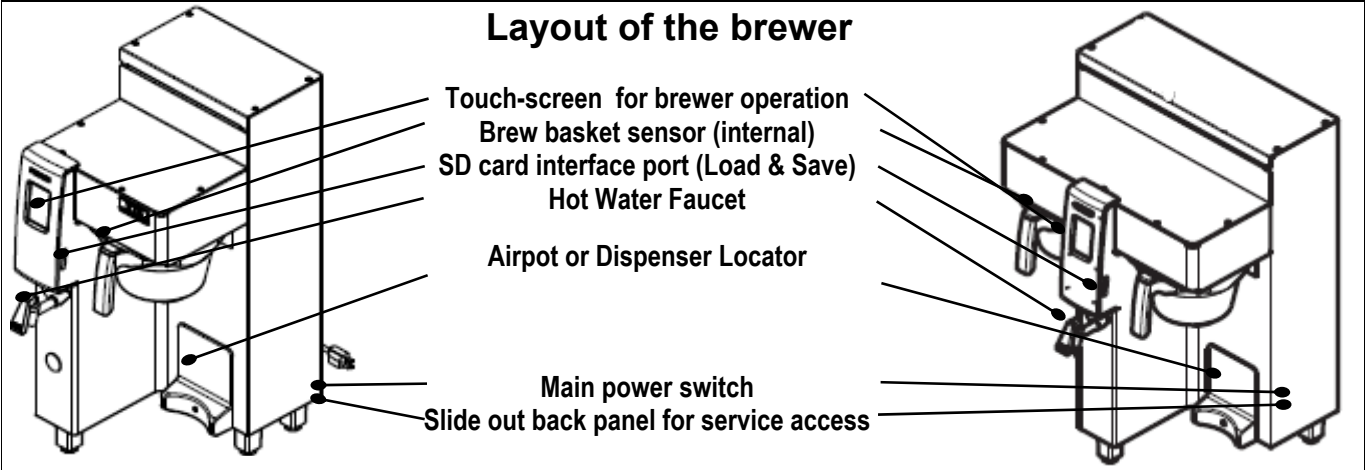
Temperature Control: Water temperature is factory set at —93°C/200°F

Features

- ❖ Touchscreen Operation [**XTS: EX**tractor **T**ouch **S**creen]
- ❖ Cascading Spray Dome-No clog sprayhead
- ❖ Brew mechanism is digitally adjustable
- ❖ Intuitive Control Settings for Batch sizing
- ❖ Infinitely variable bypass for strength adjustment
- ❖ Four fully programmable batch sizes per side
- ❖ User programs save-to and load-from SD cards
- ❖ Recipe copy to SD card
- ❖ Customizable batch name
- ❖ Screen logo customizable by user from SD card
- ❖ SD card firmware program and upgrade installation
- ❖ Dedicated Electrical Connection-not user selectable
- ❖ Brew water low temperature lockout
- ❖ ECO mode for tank heater energy savings
- ❖ Dispenser locator under brew basket
- ❖ Magnetic flux brew basket sensor
- ❖ Brewbasket locks (configurable)
- ❖ Totalizing counters for brewer functions
- ❖ Optional gourmet stainless steel brewbasket
- ❖ Demonstration Mode for review & training
- ❖ Heavier gauge stainless steel cabinet
- ❖ Configurable for FLOWJET® pump module
- ❖ SD card Backup for menu items
- ❖ Excellent value for gourmet coffee service

Accessing equipment and control screens

Layout of the brewer



Accessing batch and programming menu screens

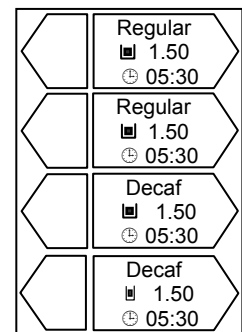


CBS-2100 home screen shown

← CBS_2100XTS brewer HOME SCREEN:
Tap to enter batch selection screen.

←Tap left or right side batches→
...AND...

Select and hold down a batch selector pennant to begin brew.

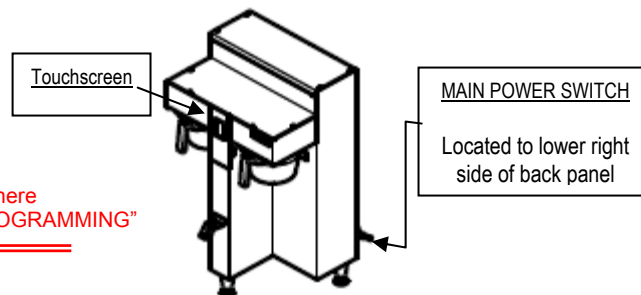


Batch selection screen

Accessing the menu screens for programming



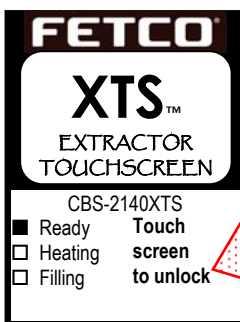
CBS-2100 home screen shown



Touch/Hold here to enter "PROGRAMMING"

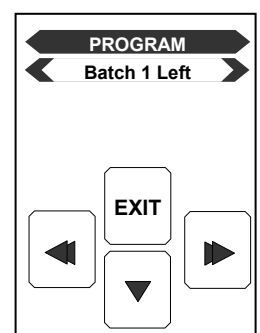


CBS-2100 home screen shown
Shown in optional "ECO" Mode



CBS-2100 home screen shown

→From power "OFF"
→Touch screen will briefly illuminate
→Turn main power switch to "ON"
(Switch located lower right side of back panel)
-When Complete: the HOME SCREEN will display
-Immediately touch and hold finger to enter programming
-Lower portion of the screen will highlight as shown
-In 5-8 seconds "PROGRAMMING" screen will appear→



→Quick brewer setup

NOTES

Install plumbing and electrical utilities	-See Installation Section in this guide
Turn rear power switch "ON"	-Located on back, lower right side
<i>Brewer hot water tank will fill in 4-8 minutes</i>	-Ready screen will display "■FILLING"
Heater(s) activate when tank is full	-Ready screen will display "■HEATING"
<i>Initial heating will be 15-30 minutes</i>	-Place dispenser under brewbasket(s) to collect any overflow and condensate
<i>Tank displays "■READY" when filled & 200°F/93°C is reached</i>	
Brewer is ready to brew when "■READY" is displayed	-Best results if brewer remains "ON"

Operating Instructions

→To brew a single coffee batch, using default recipe

NOTES

All CBS-2140xts series brewers are factory calibrated and preloaded with recipes and are ready to brew.

Place paper filter in brew basket

Add ground coffee

Insert loaded brewbasket into brewer rails

Have empty dispenser under brewbasket

Tap "■ READY" screen to enter the batch selection menu

Touch a top batch key for "REGULAR 1"

Brewer will brew and display the icon for the function step it is in

For dual side brewer, touch other side to access and activate the second side batches for brewing

Batch will complete brewing in 5 ½ minutes

-Use any quality pleated filter paper
CBS-2140XTS Coffee Filters: 13" X 5 ½ "

-Brewbasket(s) must be in place

-Use the convenient locator guide

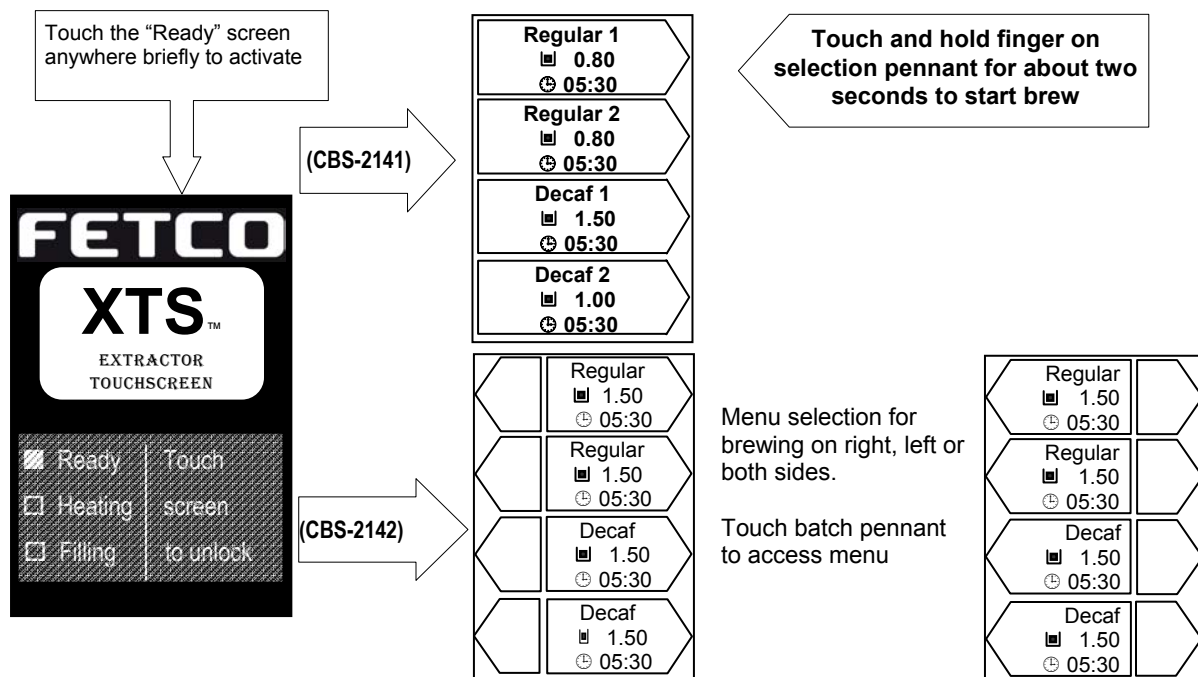
-A long duration "TAP" with fingertip

-Touch batch pennant with fingertip

-Icon may be toggled for information

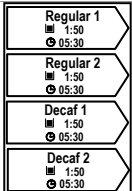
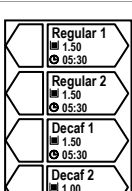
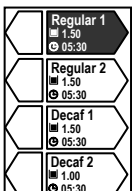
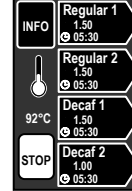
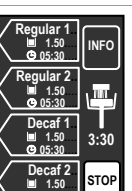
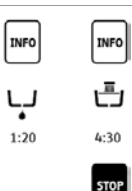
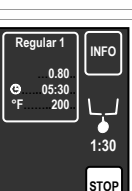
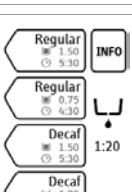
-Right to left side switching by touch

-Brew time: 4 minutes+1½ min. drip out



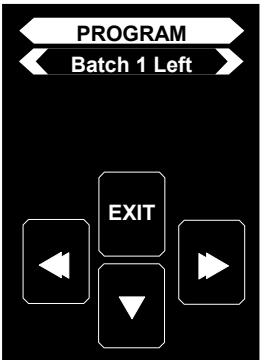
Example shown is CBS-2142 XTS Dual

Brewing-shown by touchscreen

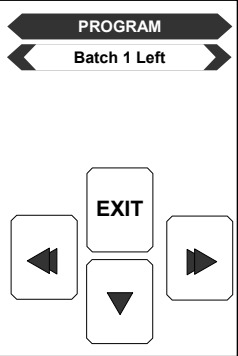
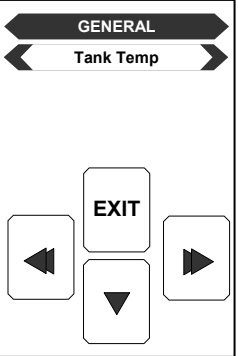
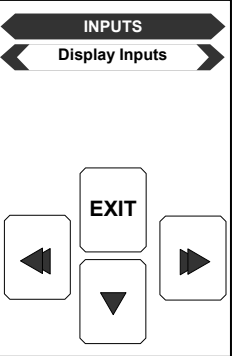
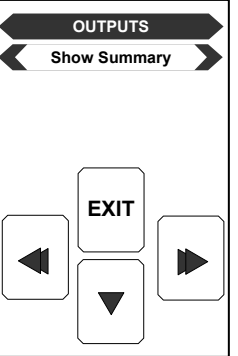
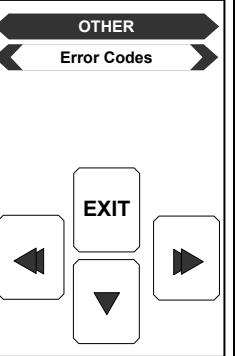
Brewer screens displayed for brewing		NOTES	
CBS-2141XTS SINGLE SIDE 	CBS-2142XTS TWIN SIDE 	Note: There are three “BREW AT TEMPERATURE DEFINITONS”. The “Brew At Temperature ”—“ON” default routine is used for the illustration below..	
	Unit displays four preprogrammed batch buttons per side. CBS-2142XTS has right and left ←CBS-2141XTS single side CBS-2142XTS dual side→		Brew at tempertaure “ON” enabled: if this feature is enabled:brew start will be enabled when tank temperature reaches the temperature set point 
	Select and hold one button for 2 seconds		If pressed in ON: Brew activation screen “locks out” until tank is at set temp.  If pressed in “AUTO” Brew At Temperature Setting, a WAIT screen with temperature icon appears . Brew will start when tank is at set temperature 
	Brewing ←CBS-2141XTS single side CBS-2142XTS dual side→		Both sides of a dual side CBS-2142XTS brewing simultaneously, brewer sides will also operate indepentently or alone 
	Brew completed (in drip delay) ←CBS-2141XTS single side CBS-2142XTS dual side→		Both sides of a dual side CBS-2142XTS brewing simultaneously. Left side completing drip delay 
Brew basket sensor enabled. Unit is brewable only when brebasket is in place. (option may be disabled by user)		CBS-2142XTS dual side right side completing drip delay, left side ready for next brew	

Programming- operator access programming

- The FETCO CBS-2140XTS brewers have four brew batch menus per side.
- Menus are preprogrammed by the factory with basic settings that will operate the equipment as purchased.
- There are two batches each marked "Regular" and two marked "Decaf"
- Most operators prefer a full batch and half batch setting for regular and decaf or specialty coffees.
- The half batch setting will need to be programmed by the operator to match the dispenser.
- Settings are adjustable and the name of the menu can be changed. -Batch 1 & 4 cannot be disabled.

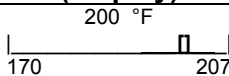
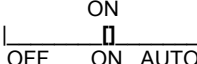
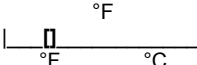
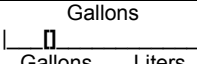
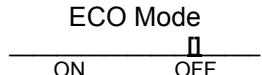
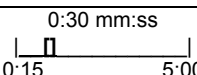
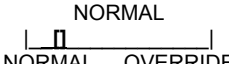
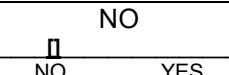
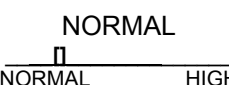
Menu screen displayed	Accessing Programming	Menu screen displayed	Accessing Programming menu screens
 (Brewer "HOME" screen)	Turn unit "OFF" After 10 second delay: Turn unit "ON" ← "HOME" Screen on left will appear Immediately place finger on screen and "HOLD" Screen on right will appear →	 (Programming menu screen)	← Top line is programming category ← Second line displays items for programming Right and left hand arrows will scroll to the screens that display "Program, General, Inputs, Outputs and Other" The down arrow enters the individual programming items shown below

Programming-category screens: Menu Tree

Programming category screens				
To enter: Turn unit "OFF", After 10 second delay, turn unit "ON", (Home Screen will appear), Immediately place finger on screen and "HOLD"—" PROGRAM " Screen (first below) will appear. Use right/left and down arrows to travel through programming. "EXIT" saves settings				
				
Programming Category	Programming Category	Programming Category	Programming Category	Programming Category
PROGRAM	GENERAL	INPUTS	OUTPUTS	OTHER
Items for Programming	Items for Programming	Items for Programming	Items for Programming	Items for Programming
Batch 1 Left*	Tank Temp	Display Inputs	Show Summary	Error Codes
Batch 2 Left**	Brew At Temp	Calib Touch Scr	Left Valve	Copy Program
Batch 3 Left **	Units of Meas.		L. Bypass Valve	Upload Logo
Batch 4 Left **	ECO Mode		Right Valve	Res to Factory
Batch 1 RIGHT*	Logo Timeout		R. Bypass Valve	Counters
Batch 2 Right **	Brew B.Sensor		Fill Valve	Firmware
Batch 3 Right **	Use Flojet		Left Basket Lk	DEMO Mode
Batch 4 Right **	LLC Sensitivity		Right Basket Lk	
Batch Copy			Heater	
			Screen	

Menu Features: Batch Parameters

PROGRAM	Programming Items	Factory set Default	Programming Range	Notes
Batch 1 LEFT*	• Batch Summary	Display Summary		
	• Batch Name	Regular 1(-16)	Choose from list: Regular1	(Regular 1-16) -OR- Write: any name
	• Batch Volume	1.50 gal [0.50-2.00]	1.00 gal ----- 0.25 1.2	
	• Brew Time	4:00 mm:ss [2:00-10.00]	4:00 mm:ss ----- 2:00 10:00	
	• Nr Of Pulses	8	8 ----- 1 30	
	• Prewet Perc.	0%	0 % ----- 0 15	
	• Bypass Perc.	0%	0 % ----- 0 40	
	• Drip Delay	1:30 mm:ss	1:30 mm:ss ----- 0:30 5:00	
Batch 2 Left**	**Batch 2-4—Right and Batch2-4—Left may be individually selected-or-entirely deleted			
	• Batch ON/OFF	ON	ON ----- ON OFF	
	• Batch Summary	Display Summary		
	• Batch Name	Regular 1	Regular 1-16;Write own name	
	• Batch Volume	1.50 gal [0.50-2.00]	1.00 gal ----- 0.50 2.00	
	• Brew Time	4:00 mm:ss [2:00-10.00]	4:00 mm:ss ----- 2:00 10:00	
	• Nr Of Pulses	8	8 ----- 1 30	
	• Prewet Perc.	0%	0 % ----- 0 15	
	• Bypass Perc.	0%	0 % ----- 0 40	
	• Drip Delay	1:30 mm:ss	1:30 mm:ss ----- 0:30 5:00	
Batch 3 Left **	<i>(See Batch 2-Left)</i>			
Batch 4 Left **	<i>(See Batch 2-Left)</i>			
Batch 1 Right *	<i>(See Batch 1-Left)</i>			
Batch 2 Right **	<i>(See Batch 2-Left)</i>			
Batch 3 Right **	<i>(See Batch 2-Left)</i>			
Batch 4 Right **	<i>(See Batch 2-Left)</i>			
Batch Copy	Copy From Batch	L1	L1-L4;R1-R4	
	Copy To Batch	L1	L1-L4;R1-R4	
	Copy?	L1→L2? (example)	NO ----- YES NO	
*Batch 1&4 cannot be disabled. (CBS-2142XTS); *Batch 1 cannot be disabled. (CBS-2141XTS) **Batch can be disabled, and removed from display				

GENERAL	Programming Items	Factory set Default	Programming Range (display)	Notes
Tank Temp.		200°F		Correction for high altitude below
Brew at Temp.	“OFF” allows brewing at any temperature.	“ON”		SEE NOTE BELOW!
Units of Meas.	• Temperature	°C or °F		[Switchable Units]
	• Volume	Gallons [Liters]		[Switchable Units]
ECO Mode	Energy Saving Mode	OFF		If Selected: Lowers hot water tank temperature to 170°F after 1 hour of inactivity
Logo Timeout		0:30 mm:ss		
Brew B. Sensor		NORMAL		Factory or service use for servicing. “NORMAL” is recommended for safety.
Use Flowjet		NO		Trims water handling system for Flowjet
LLC Sensitivity	Normal for most water “HIGH” for R.O.	NORMAL		Sets sensitivity for liquid level control. High is for reverse osmosis water or other very pure water.

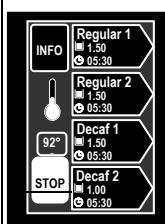
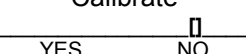
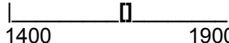
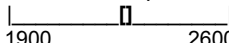
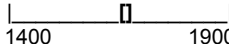
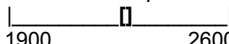
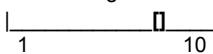
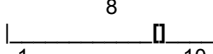
BREW AT TEMPERATURE DEFINITIONS	
BREW AT TEMP: “ON” (DEFAULT: FACTORY PROGRAMMED INTO BREWER) “BREW START” Batch Section Buttons will not be accessible until tank temperature is at set point. The “BREW START” screens with the Batch Section Buttons become accessible when hot water tank is at the selected temperature. The screen at right displays when the “BREW AT TEMP” is selected.	
BREW AT TEMP: AUTO USER SELECTABLE This allows the “BREW START” to activate if the hot water tank is at the selected temperature—then brew will start. If the temperature is too low, the brewer will wait until the proper temperature is reached. A screen (example to the right) will display showing a thermometer icon and the tank temperature. IMPORTANT: ALWAYS have dispenser(s) under the brew baskets when in the BREW AT TEMP mode.	
BREW AT TEMP: OFF USER SELECTABLE (Not recommended) Allows brewing at any temperature above 179°F/82°C. May NOT apply for two sided brewer if one side is in brew cycle	

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	200	212.0	93	100.0
500	152	200	211.0	93	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

INPUTS	Programming Items	Factory set Default	Programming Range (display)	Notes
Display Inputs	• Input Summary		R. Brew Basket Sens. [single/dual] ☐ L. Brew Basket Sens. ☒ H. Liquid Level probe ☒ H. Tank Temperature Probe ☒ L. Tank Temperature Probe ☒ SD Card Recognized ☐ Tank Temp. 200	
Cal. Touch Scr		Calibrate	Calibrate 	If Yes: Follow directions on the touch screen

OUTPUTS	Programming Items	Factory set Default	Programming Range (display)	Notes
Show Summary	• Output Summary		Left Brew FR 1540 Left Bypass FR 2150 Right Brew FR 1540 Right Bypass FR 2150 Screen Contrast 8 Screen Brightness 8 Touch To Return	FR=Flow Rate ml/min
Left Valve Test OR Calibrate	• Left Valve Test	(Press to test)	TEST Press To Test 	Runs valve to verify flow. Have container under brewbasket!
” ” ” ”	• L. Valve Calib	Calibrate *Flow Rate	1540 ml p m 	Factory or service use for flow rate
L. Bypass Valve Test OR Calibrate Not on CBS 2130XTS	• Left Bypass Valve Test	(Press to test)	TEST Press To Test 	Runs valve to verify flow. Have container under brewbasket!
” ” ” ”	• L. Bypass Valve Calib	Calibrate *Flow Rate	2150 ml p m 	Factory or service use for flow rate
<i>Left Valve display is only for CBS-2142xtx Series- dual station brewer. CBS-2141xts Single series displays RIGHT SIDE only</i>				
Right Valve Test OR Calibrate	• Right Valve Test	(Press to test)	TEST Press To Test 	Runs Valve to verify flow. Have container under brewbasket!
” ” ” ”	• R. Valve Calib	Calibrate *Flow Rate	1540 ml p m 	Factory or service use for flow rate
R. Bypass Valve Test OR Calibrate Not on CBS 2130XTS	• Right Bypass Valve Test	(Press to test)	TEST Press To Test 	Runs valve to verify flow. Have container under brewbasket!
” ” ” ”	• R. Bypass Valve Calib	Calibrate *Flow Rate	2150 ml p m 	Factory or service use for flow rate
Fill Valve	• Fill Valve Test	(Press to test)	TEST Press To Test 	Operates fill valve. Have container under both brewbaskets!
Left Basket Lk. Not on CBS 2130XTS	• Left brew basket lock test	(Press to test)	TEST Press To Test 	Energizes brew basket lock. For factory or service use
Right Basket Lk. Not on CBS 2130XTS	• Right brew basket lock test	(Press to test)	TEST Press To Test 	Energizes brew basket lock. For factory or service use
Heater	• Heater Test	(Press to test)	TEST Press To Test 	Energizes Heater(s) Use for servicing.
Screen Brightness OR Contrast	• Screen Contrast	Contrast	8 	
	• S. Brightness	Brightness	8 	

How to calibrate the flow rate

Set the flow rates of components to adjust for taste profile and for over or under potting.

Built-in algorithms in Brewer controller software corrects brew parameter to customer preferences or to trim variations in flow control components

NOTICE: This operation requires operator hold finger on keypad position for one minute—without lifting it.

1) MEASURE THE FLOW RATE:

- Enter programming mode, scroll left to “OUTPUTS”
- Scroll down to “Left(or)Right Valve Test”
- Place 5 liter/2gal measuring container under empty brewbasket.
One good way to measure is to weigh the test water. Use a scale for at least 5 kg/12lb
- Press To Test the Brew Valve. **→! Keep finger on touchpad for one minute! !!DO NOT STOP!!**
It is very important for this test to keep finger in place for the entire minute.

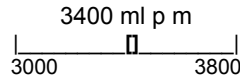
Measure the results of the flow in the 5-liter measuring container and hold the number.

2) **AUTOMATIC** Built-in CALIBRATE THE FLOW RATE

- Enter this number, in milliliters, into the calibration slider for the Valve tested in the OUTPUT MENU.
- Use milliliters.** If measured in fluid ounces (fl.oz) multiply by 29.57 to convert to milliliters
- After entering the measured volume, exit PROGRAMMING and return to the normal screens

3) **MANUAL METHOD** Operator input: CALIBRATE THE FLOW RATE

Use the amount measured, in milliliters, divided by programmed value and multiply by the current setting



3400 ml p m
3000 3800

← Example of
CBS-2150 brew
valve slider

$$\frac{\text{Actual Volume}}{\text{Programmed Volume}} \times \text{CURRENT SETTING} = \text{NEW SETTING}$$

Enter new setting on
the slider shown and
EXIT to save

Obtain programmed volume from “PROGRAM” Menu under “Batch Summary”.

Note—match correct batch number to correct side, if two sided.

By entering the new flow rate number into the brewer, the software automatically corrects the valve flow discrepancy

Hot water convenience tap

1. The XTS_Series coffee brewers include a hot water convenience tap for single cup beverage purposes.
2. Single use delivery volume should not exceed maximum 16fl.oz/473cc.

OTHER	Programming Items	Factory set Default	Programming Range (display)	Notes
Error Codes	• Display Errors	(Codes)	1: 2: 3:	See Error Code Chart for references
	• Reset Errors	(Reset)	Reset YES NO	!!Errors must be corrected and cleared!!
Copy Program	• From SD to B.	SD → Brewer	SD → Brewer YES NO	Setup upload Please insert SD card with the setup data!
	• From B to SD	Brewer → SD	Brewer → SD YES NO	Setup download Please insert SD card with sufficient space (≥2GB)
Upload Logo		Upload Logo	UPLOAD LOGO Are you sure YES NO	Please insert SD card with logo file!
Res to Factory & Select Brewer Type	See next line: “Select Brewer Configuration”	Reset to default	Reset to Default Are you sure YES NO	Completely overwrites all user setup, incl. user logo.
Select Brewer Configuration	CBS_2131 3L; CBS_2131 1G CBS_2132 3L; CBS_2132 1G CBS_2141; CBS_2142 CBS_2151; CBS_2152	Screen appears after pressing “Res to Factory” [Above]	Select Model CBS [2131-2152]Series YES NO	Scroll to your brewer and tap ENTER tab
Counters	• Display Counters -OR- • Display Resettable Counters	Counters Display Total Counters	Total Counters Left Brews 0 Left Brew activated 0 Left Brew [gal] 0 Left Bypass activated 0 Left Bypass [gal] 0 Right Brews 0 Right Brew activated 0 Right Brew [gal] 0 Right Bypass activated 0 Right Bypass [gal] 0 Fill valve Activated 0 Fill Valve [gal] 0 Heater Activated 0 Heater “ON” time 0:00 Touch To Return	Identical screen for Resettable Counters Will display when selected. See next line to reset to zero NOTE: “Total Counters” is not user resettable
Reset Counters	• Resets Counters	Reset All Counters	Reset All Counters Are you sure YES NO	Resetting will restart counter from zero
Firmware	• Firmware Version -Software type	Display Firmware Version	CBS_2142 [or model type] SW ver 2.1.0Z HW ver 1.1.3 QP ver. 4.5.01	Displays firmware version
	• Update Firmware	UPDATE	UPDATE YES NO	Firmware upload Please insert SD card with the firmware file!
DEMO Mode	DEMO ON/OFF		OFF ON OFF	Demonstrates the controls for training. Disables all components in demo mode.

ERROR CODES	Error code 001: Software error-error on start up or corrupted software Error code 50: Shorted temperature probe Error code 51: Open temperature probe Error code 100: Initial Fill Error. Initial fill time was more than 4 minutes after power up. Error code 101: Error on refill Error code 102: Unwanted fill; possible leak Error code 103: Liquid level probe fault Error code 201: Heater open, high limit thermostat, or Solid State Relay (SSR) fault Error code 255: Touch pad error, usually from longer than 2 min touch contact
-------------	--

Insert Brewbasket!



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.
2. Do not remove the brew basket from a coffee brewer 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 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. 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 grounds and rinse brew basket.
2. Never strike a brewbasket or hit it against a hard surface.
This will damage the brew cone, and may damage the brewbasket 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

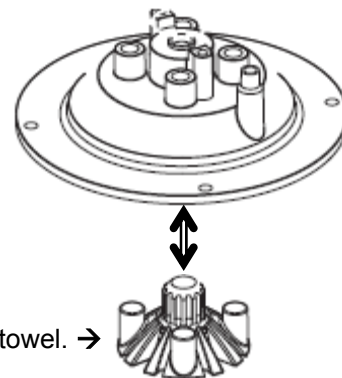
1. Use a commercial coffee dispenser cleaner such as URNEX™, TABZ™, DIP-IT™ or Squeak 'n Clean™.
2. Carefully Follow the instructions supplied with the cleaning product
3. Never use spray cleaners, solvent, solvent based cleaner or petroleum based polish anywhere on dispensers

Safety notes

1. Professional installation is required. This appliance is manufactured only for commercial use.
2. Operation 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.
FETCO commercial coffee brewers prepare large amounts of coffee or tea in a single batch using very hot water. For safety, the brewer control locks the brew basket for 5.5 minutes after starting the brew. Do not attempt to defeat the factory set (default) time that the brew basket locked for safety from start of brew.

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.



Service Guide to a Successful Installation

(For Qualified Service Technicians Only)

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, and will void the warranty. Here are the key points to consider before installation:

Electrical:

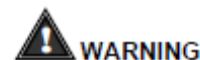
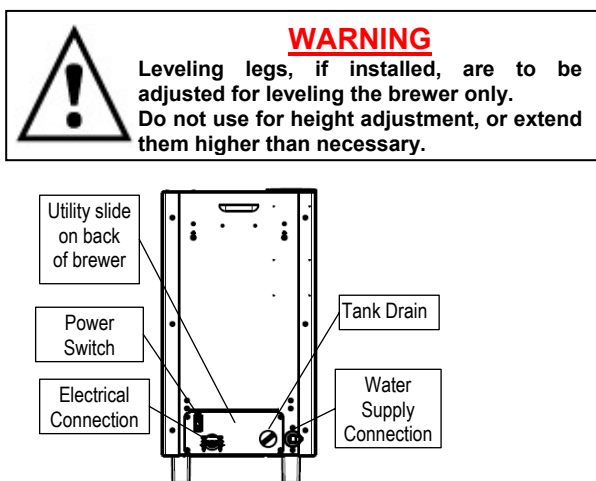
1. All CBS_Series brewers require **an electrical ground wire**. Installation without grounding is dangerous.
2. Note Equipotential Terminal, if present, (To identify the terminals which, when connected together, bring the various parts of an equipment or of a system to the same potential, not necessarily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

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 (UPC).
3. Use an inline water filter for all beverage equipment.
Install the filter unit after a water shutoff valve and in a position to facilitate filter replacement.
4. 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.
5. 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.
6. Install a backflow prevention device. Most municipalities require a recognized backflow preventer.
7. Usable on all hot beverage and cold beverage equipment is a WATTS® SD-2 or SD-3.
8. WATTS spring loaded double check valve models are accepted by most zoning authorities.
9. →The check valve should be as close to the water supply inlet of the beverage equipment as possible.

General:

- ❖ Utilize only qualified beverage equipment service technicians for service and installation.
- ❖ Always have an empty dispenser under sprayhead of all coffee brewing equipment-including when at idle



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 grounding lug for this purpose and is marked with the following symbol



Installation Directions

-For professional installation only

Brewer Setup

1. 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 (specifics-page 23).
2. Place the brewer on the counter or stand
3. For terminal block electrical connected units: remove the lower utility slide out at the back of the equipment to access the electrical connections. The utility slide must remain close to the unit.
Note: Utility slide out panel cannot be completely detached from the brewer.
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 trained personnel
5. 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
6. 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.
7. 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
8. This unit must be installed and serviced by qualified personnel only.
9. 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.
10. 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).
11. 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.
12. Do not tilt appliance more than 10° to insure safe operation.
13. Unit is for protected indoor use only. Do not steam clean or use excessive water on unit.
14. This unit is not "jet-proof" construction. Do not pressure wash or use jet spray to clean this unit.
15. The unit is not waterproof-do not submerge or saturate with water.
Do not operate if unit has been submerged or saturated with water.

Equipment exposed to flood and contaminated must never be used due to electrical and food safety.

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>.

Water Connection

1. This equipment is to be installed to comply with the applicable federal, state, or local plumbing codes.
2. Water supply inlet is a 3/8 inch male flare fitting
3. The brewer can be connected to a cold or hot water line.
(Cold water is preferred for best beverage flavor, but hot water will allow for greater output.)
4. Install a shut off water valve near the brewer to facilitate service.
5. An in-line water filter should be used. Install filter unit after the water shut off valve and in a position to facilitate filter replacement.
6. Flush the water supply line and filter **before** connecting it to the brewer.
7. Verify that the water line will deliver at least 1½gpm/(5.7lpm) per minute and a flow rate of at least 1½gpm/(5.7lpm) per minute and water pressure is between 20-75 psig (138-517kPa) before making any connections.
8. 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

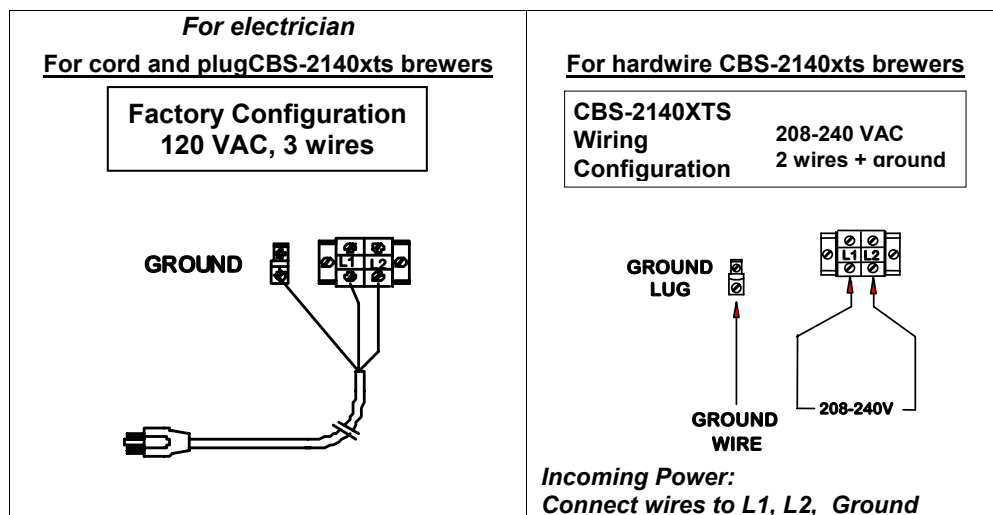
Electrical-General

1. All FETCO brewers require Ground. Installation without ground may cause a hazard.
2. The electrical diagram with universal wiring instructions is located on the inside of the lower cover.
3. 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

Electrical Connection

1. The CBS-2100XTS series models requires hardwire to the terminal block to a, grounded service
2. 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 match the current draw of the equipment.
3. All CBS-2150XTS have a terminal block for connecting the incoming power wires. Consult local codes to determine if a cord and plug can be installed on factory supplied terminal block equipment, or if the unit must be hard wired.
4. Access the terminal block for electrical connection by removing the pullout service module on the lower back.
5. 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.
6. 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.
7. The body of the brewer must be grounded to a suitable building ground.
8. If Cord Connected: Do not use multiple taps for the plug. Consult local codes to determine if a single circuit is required for the cord and plug installed. Do not use extension cords for commercial food equipment.
9. All covers, removable panels and electrical connections must be secured in-place within the unit to meet national and local standards.

See wiring diagrams in back of user guide for connections



	WARNING	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.	
	THIS APPLAANCE IS ENERGIZED WHENEVER IT IS CONNECTED TO A POWER SOURCE	
	FAILURE TO COMPLY RISKS EQUIPMENT DAMAGE, PROPERTY DAMAGE, FIRE, OR SHOCK HAZARD	
Notice	This equipment must be installed with a backckflow protection device to comply with federal, state or local municipality codes.	
Notice	Read the user guide before installing and operating this unit.	

CBS_2141XTS—Single 1 gallon version Electrical Configurations

Configuration Code		Heater Configuration	Voltage	Phase	Wires	Electrical Connection	KW	Amp Draw	Gallon/Hour (1 gallon per batch)
Plastic Brewbasket	Stainless Steel Brewbasket								
E214154	E214154M	1 X 1.7 kW	100 - 120	1	2+G	NEMA 5-15P	1.3 – 1.8	12.3 - 14.7	4.4 gal/16.7 liter
E214151	E214151M	1 X 2.3 kW	100 - 120	1	2+G	NEMA 5-20P	1.7 – 2.4	16.5 - 19.7	5.8 gal/22 liter

Configuration Code		Heater Configuration	Voltage	Phase	Wires	Electrical Connection	KW	Amp Draw	Gallon/Hour (1 gallon per batch)
Plastic Brewbasket	Stainless Steel Brewbasket								
E214192	E214192M	1 X 1.7 kW	100 - 120	1	2+G	NEMA 5-15P	1.3 – 1.8	12.3 - 14.7	4.4 gal/16.7 liter
E214193	E214193M	1 X 2.3 kW	100 - 120	1	2+G	NEMA 5-20P	1.7 – 2.4	16.5 - 19.7	5.8 gal/22 liter
E214190	E214190M	1 X 3.0 kW	200-240	1	2+G	Hardwired	4.7	10.8 - 12.9	7.7 gal/29.1 liter
E214191	E214191M	1 X 4.0 kW	200-240	1	2+G	Hardwired	6.1	14.2 - 17.1	9.3 gal/35 liters

Configuration Codes		Heater Configuration	Voltage	Phase	Wires	Electrical Connection	KW	Maximum Amp Draw	Brew-Volume/Hour (1½ gallon per batch)
Plastic Brewbasket	Stainless Steel Brewbasket								
E214180	E214180M	1 X 3.0 kW	200	1	2+G	Hardwired	2.2	10.8	7.0 gal/26.5 liter
E214181	E214181M	1 X 4.0 kW	200	1	2+G	Hardwired	2.9	14.2	8.6 gal/32.5 liters

Configuration Code		Heater Configuration	Voltage	Phase	Wires	Electrical Connection	KW	Amp Draw	Gallon/Hour (1 gallon per batch)
Plastic Brewbasket	Stainless Steel Brewbasket								
(CE) E214161	(CE) E214161M	1 X 3.0 kW	230	1	L,N,PE	Hardwired	2.8	12.4	9.7 gal/36.7 liter
Has CE and NSF-4 certification. Internal EMI filter. Not cUL and UL listed									

CBS_2142XTS—Twin 1 gallon version Electrical Configurations

Configuration Code		Heater Configuration	Voltage	Phase	Wires	Electrical Connection	KW	Amp Draw	Gallon/Hour (1 gallon per batch)
Plastic Brewbasket	Stainless Steel Brewbasket								
E214251	E214251M	2 X 3.0 kW	200-240	1	2+G	Hardwired	4.2 – 6.1	21.3—25.5	14.0 gal/53 liter

Configuration Code		Heater Configuration	Voltage	Phase	Wires	Electrical Connection	KW	Amp Draw	Gallon/Hour (1 gallon per batch)
Plastic Brewbasket	Stainless Steel Brewbasket								
E214290	E214290M	2 X 2.3 kW	200-240	1	2+G	Hardwired	4.7	16.5 - 19.7	11.5 gal/43.5 liter
E214291	E214291M	2 X 3.0 kW	200-240	1	2+G	Hardwired	6.1	21.2 - 25.4	14.0 gal/53 liter
Has cUL & UL and NSF-4 certification. Not certified CE									

Configuration Codes		Heater Configuration	Voltage	Phase	Wires	Electrical Connection	KW	Maximum Amp Draw	Brew-Volume/Hour (1½ gallon per batch)
Plastic Brewbasket	Stainless Steel Brewbasket								
E214280	E214280M	2 X 3.0 kW	200	1	2+G	Hardwired	4.3	21.2	14.0 gal/53 liter
E214281	E214281M	2 X 4.0 kW	200	1	2+G	Hardwired	5.7	28.5	17.1 gal/65 liters

Configuration Code		Heater Configuration	Voltage	Phase	Wires	Electrical Connection	KW	Amp Draw	Gallon/Hour (1 gallon per batch)
Plastic Brewbasket	Stainless Steel Brewbasket								
(CE) E214261	(CE) E214261M	2 X 3.0 kW	230/400	2	2L,N,PE	Hardwired	5.6	12.4	14.0 gal/53 liter
Has CE and NSF-4 certification. Internal EMI filter. Not cUL and UL listed									

Designs, materials, specifications, physical dimensions, firmware and software protocol for equipment or replacement parts are subject to review and change by FETCO without notice

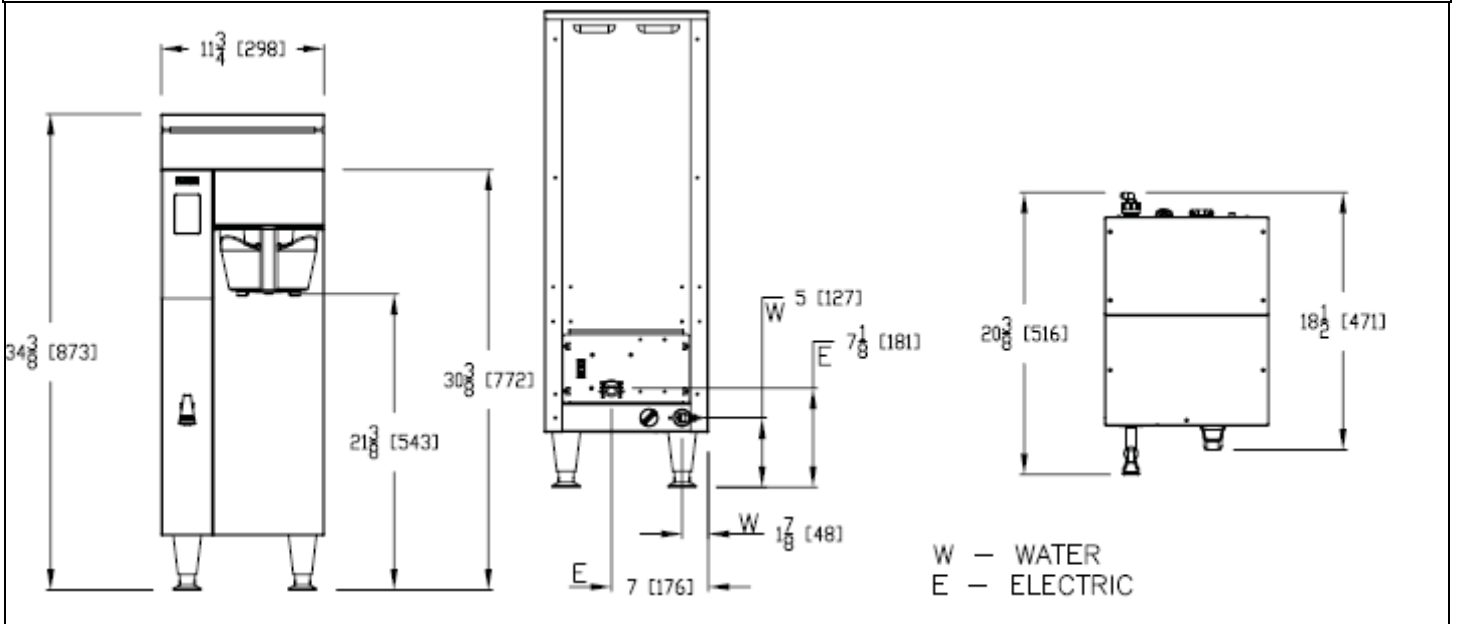
Technical Data—CBS-2140XTS 1½ gallon single and dual brewers

Capacities & Measurements for single and dual brewers

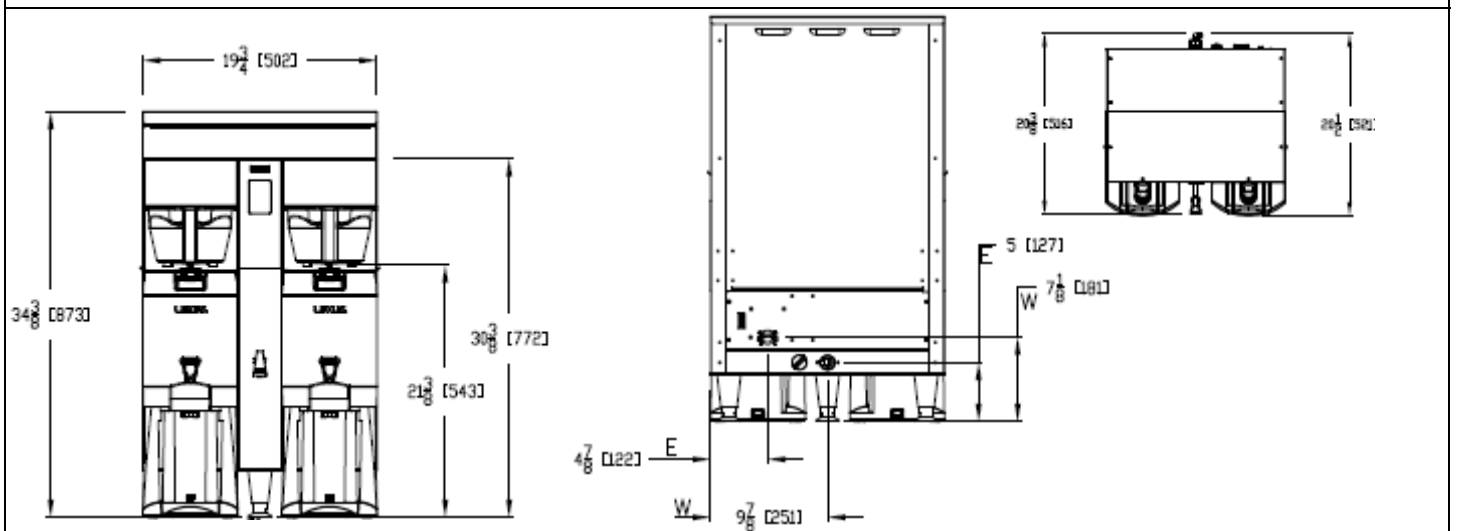
CBS-2140XTS Dimensions & Utility Connections

CBS-2140XTS Rough-in Drawings

Brewer	Height	Width	Depth	Empty Weight	Filled Weight	Total Weight- Brewer & Full Dispenser	Hot Water Tank Capacity	Shipping Weight	Shipping Dimensions
CBS-2141XTS Single-1 gallon	34 ¾" [873mm]	11 ¾" [298mm]	20 ¾" [518mm]	29lb [13.2kg]	55 lb [25 kg]	66.2lb [34.6 kg]	3.3 gal [12.4 l]	41 lb [18.6 kg]	16" x 23" x 29" [406 x584x737mm]
CBS-2142XTS Dual-1 gallon	34 ¾" [873mm]	19 ¾" [502mm]	20 ¾" [518mm]	47lb [21.3kg]	92lb [41.7kg]	114.4lb [51.9 kg]	5.8 gal [22.1 l]	58lb [26.3kg]	23"x 25" x 29" [584x635x737mm]



Rough-in CBS-2141XTS —Single station version

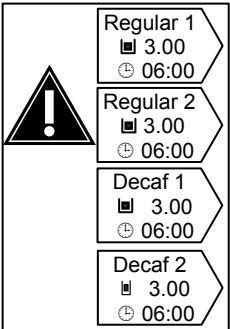


Rough-in CBS-2142XTS —Dual station version

CBS-2140XTS Utility Requirements

- ❖ **Water Requirements:**
20-75 psig (138-517kPa) 1½gpm/(5.7lpm)
- ❖ **Water inlet fitting** is a 3/8 inch male flare.
- ❖ **Brew Volume:**
CBS-2140XTS —Full Batch=4liter/1 gal
- ❖ **Inlet Water Temperature:** Cold supply
- ❖ **Coffee Filter Size:**→CBS-2140XTS 13"X5"
- ❖ **Electrical:** See electrical configuration chart.
- ❖ **Temperature:**
200°F (93°C) inside water tank (at sea level)
195°F (91°C) ± 5° at sprayhead

Error Codes

→Contact specialized personnel for error codes				
Code	Description	Possible Cause	Corrective Action	How to Clear Error Codes
001	Software error-error on start up or corrupted software	Improper start-up or shutdown	Restart , if still fault: reload software	TO CLEAR FAULT, Make repairs as required Below is the only way to clear error codes 1) Enter “PROGRAMMING” 2)Scroll left to “OTHER” 3)Scroll down to “ERROR CODES” 4)Scroll down to “Display Errors” 5)Scroll left to “Reset Errors” 6)Scroll down to “Reset” 7)Follow directions shown on screen. Merely toggling ON/OFF switch <u>will not</u> clear error codes. Error codes must be cleared by entering PROGRAMMING and using the menus!
050	Shorted 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...)	
102	Unwanted fill; Occurs between brews when the fill valve operates.	Possible leak in tank, fitting, or valve	Check for internal leaks	
107	Lower liquid level probe Fault	-Tank not filling -Orange wire to temperature probe disconnected -Very pure water	Occurs after prefill -Low probe is uncovered -Wires are reversed -Set LLC sensitivity to HIGH see MENU—GENERAL-LLC	
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	
 INSERT BREW BASKET			Brewbasket must be in place	Insert brewbasket

! → Never attempt to defeat or override a brew basket-locking feature

Final Setup for Startup

Final Setup

1. Turn on incoming water supply line and carefully inspect both inside and outside of the brewer for leaks in all fittings and tubes
2. Turn on power.
3. Press the brewer's main power switch (located on the lower right of the back of the equipment)

SCREENS SHOWN TO THE RIGHT WILL APPEAR

4. The water tank will begin filling. FETCO Home Screen #1 will read "FILLING".
 5. When the water level rises and is sensed by the probe at the top of the tank the heaters will activate
 6. Heaters are automatically disabled until the tank is full.
7. While the water is heating Screen #2 "HEATING" will display and the actual water temperature will be displayed.

P

8. After the water has reached the set temperature Screen #3 will display "READY"
9. 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 Calibrate Valves in the OUTPUT section in the PROGRAMMING section.
10. Re-attach the covers after one final inspection for leaks. Look closely in the top of the brewer section at the dispense fittings during this inspection.

FETCO Home Screen #1 "FILLING"



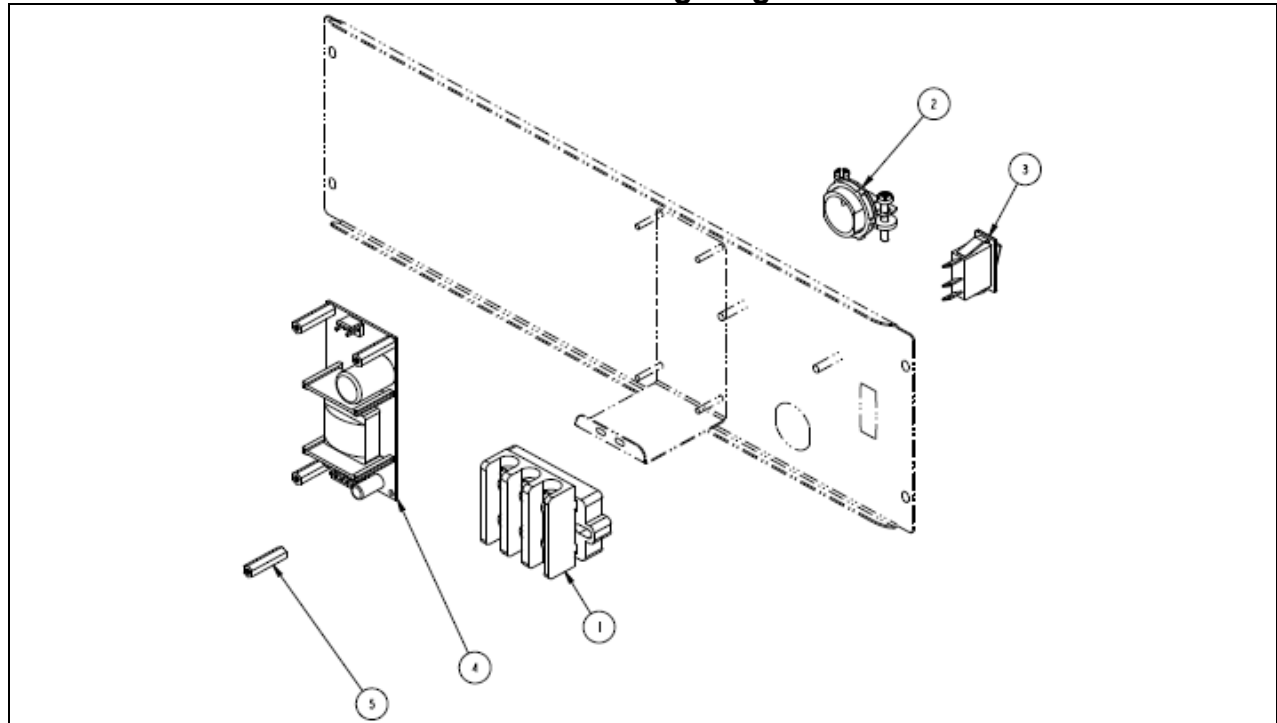
Home Screen #2 "HEATING"



FETCO Home Screen #3 "READY"

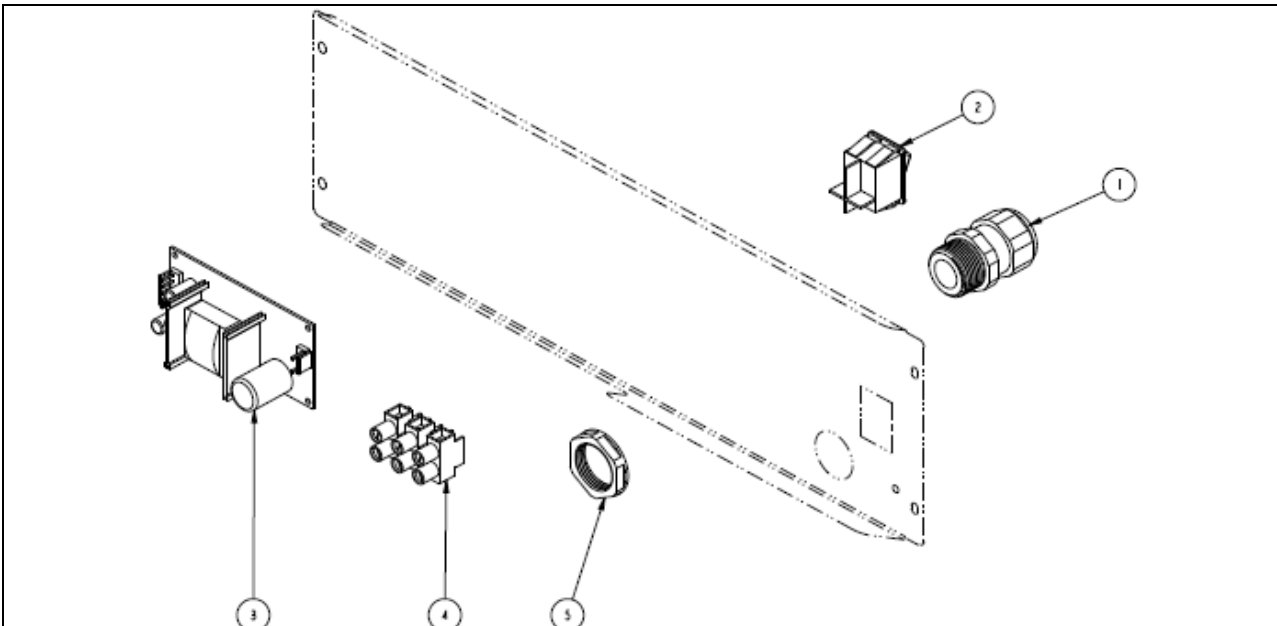


Parts and Wiring Diagrams



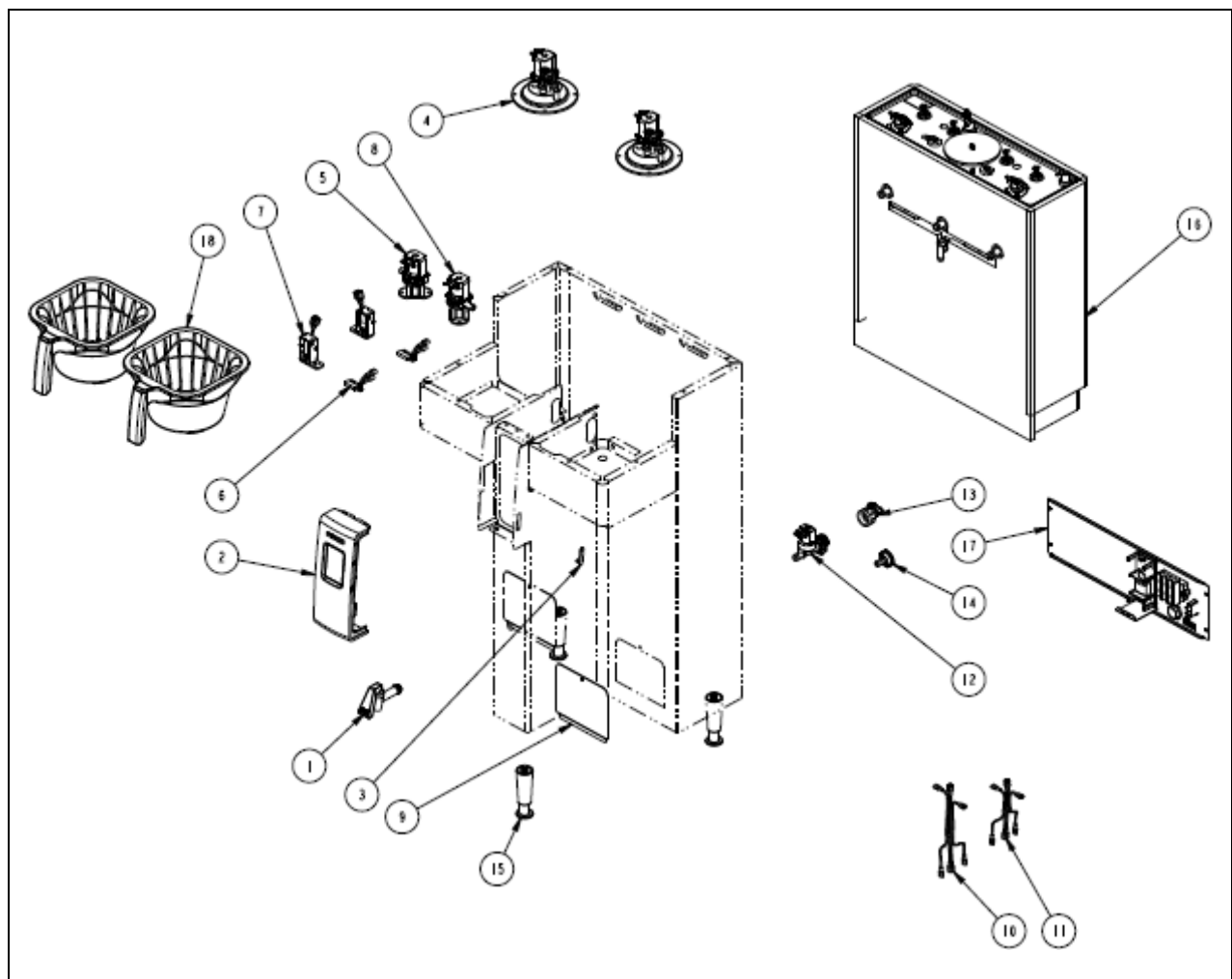
CBS-2142, XTS Back Panel UL Drawings 1109.00087.00 SERVICE PARTS

ITEM NO	PART NO	DESCRIPTION	QTY
1	1052.00002.00	TERMINAL BLOCK, 3 POLE, W/ MARKING STRIP	1
2	1086.00008.00	CONNECTOR, CABLE CLAMP, 3/4"	1
3	1058.00020.00	SWITCH, PWR ROCKER RED, ILLUM. 250VAC	1
4	1052.00001.00	POWER SUPPLY, 90-264VAC/24VDC, 1.8A	1
5	1029.00012.00	SPACER, .25" HEX X 1" LG, FEM #4-40 THREAD	4



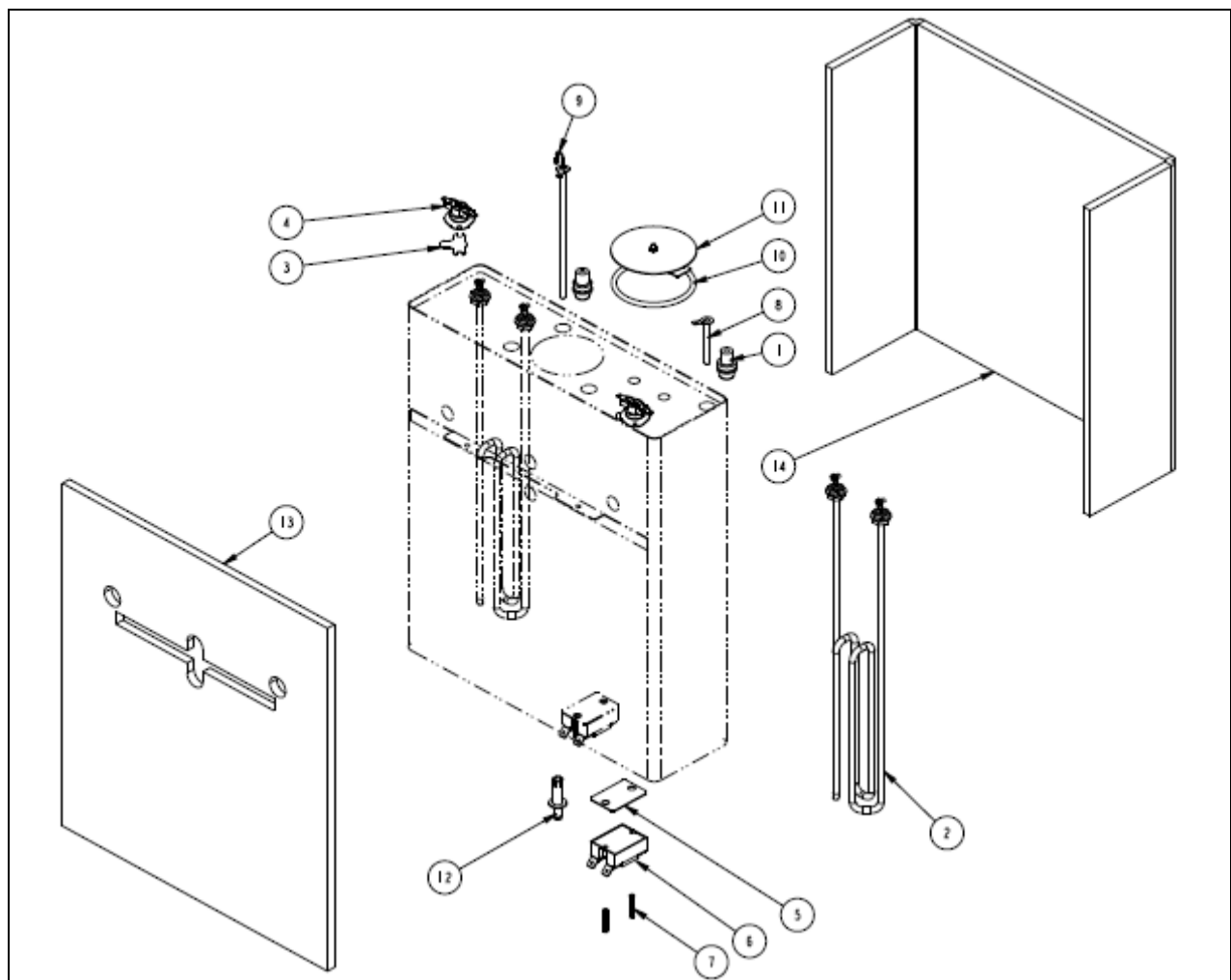
CBS-2142, XTS Back Panel CE Drawings 1109.00047.00 SERVICE PARTS

ITEM NO	PART NO	DESCRIPTION	QTY
1	1086.00031.0	BUSHING, STRAIN RELIEF, BLACK, .354"-.630"	1
2	1058.00024.0	SWITCH, POWER, DOUBLE POLE, 16A, 125/250 VAC	1
3	1052.00001.0	POWER SUPPLY, 90-264VAC/24VDC, 1.8A	1
4	1052.00022.0	EUROSTRIP HE6 TERM. BLK., 3 POLE, 40AMP, 10-20 TERM.	1
5	1086.00032.0	LOCKNUT, HEX BLACK, FOR SKINTOP RELIEF	1



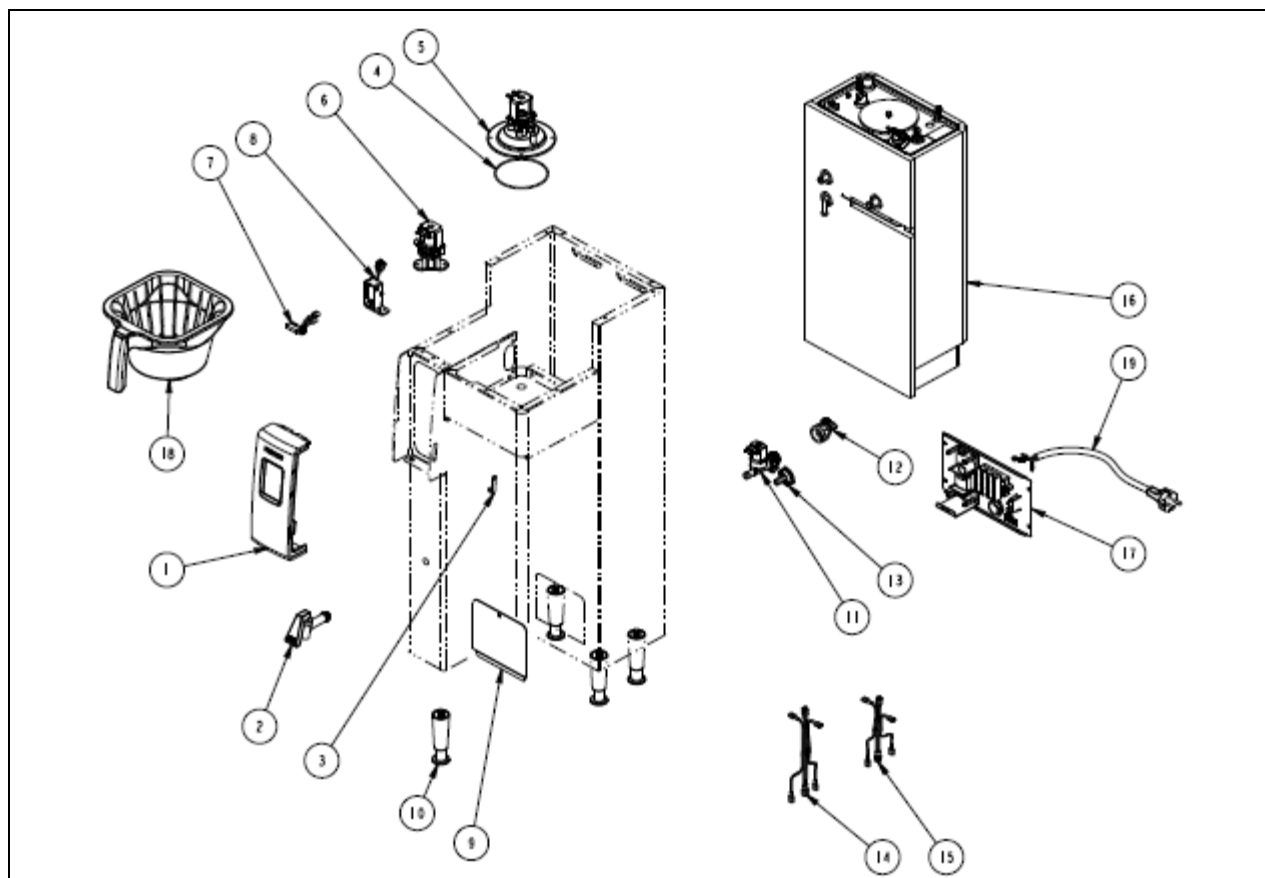
CBS-2142, XTS Drawings 1109.00060.00 SERVICE PARTS

ITEM NO	PART NO	DESCRIPTION	QTY
1	1071.00010.00	FAUCET HPSC-BR-8 REGULAR HANDLE	1
2	1102.00210.00	ASSEMBLY FRONT PANEL, CBS-2130, GRAVITY VERSION	1
3	1024.00040.00	CARD PLUG, HWD-2100	1
4	1102.00203.00	ASSEMBLY, SPRAY HOUSING, DSV P11 DESIGN	2
5	1102.00220.00	ASSEMBLY, BYPASS VALVE, RIGHT	1
6	1102.00113.00	SWITCH, REED, ASSEMBLY	2
7	1102.00219.00	ASSEMBLY, BB LOCKER, 24VDC	2
8	1102.00221.00	ASSEMBLY, BYPASS VALVE, LEFT	1
9	1001.00181.00	COVER FRONT, CBS-2100 XTS	2
10	1402.00051.00	HARNESS LOW AMP, CBS-2142/52 XTS, CE/UL	1
11	1402.00060.00	HARNESS, HIGH AMP, CBS-2142 XTS, UL	1
12	1057.00043.00	SOLENOID VALVE, SINGLE, 180 DEG, 24VDC	1
13	1102.00243.00	ADAPTER ASSY, 3/4" BSP x 1/4" NPT x 3/8" TUBE	1
14	1023.00147.00	PLUG, TANK SERVICE DRAIN FOR 18GA AND UP BODY	1
15	1073.00002.00	LEG, FLANGE FOOT, 4.0" HIGH	3
16	1104.00060.00	TANK ASSY, 2 X 3.0KW/240V, CBS-2142 XTS	1
17	1102.00208.00	ASSEMBLY BACK PANEL, CBS-2132 AND 2142	1
18	B014218BN2	BB ASSY, 13" X 5", in .218" HOLE, BRN PLUG	2
18	B003218B1	BREW BASKET ASSY, 13" X 5", .218 DIA HOLE, BLACK	2



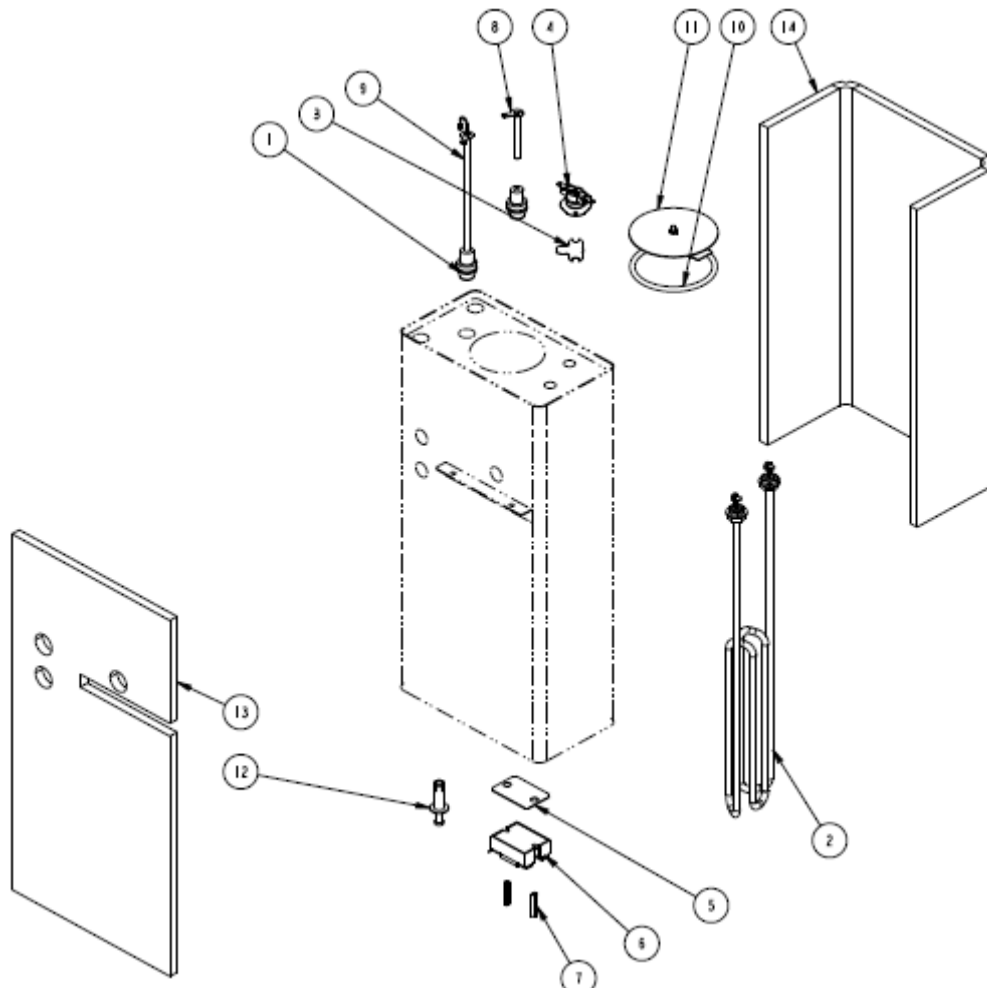
CBS-2142,XTS Drawings TANK 1109.00077.00 SERVICE PARTS

ITEM NO	PART NO	DESCRIPTION	QTY
1	1024.00053.00	LEVEL AND TEMP PROBE GROMMET	2
2	1107.00005.00	ASSEMBLY,IMMERSION HEATER, 3000W, 240VAC	2
3	1003.00005.00	BRACKET, ONE SHOT THERMOSTAT	2
4	1053.00003.00	THERMOSTAT, SINGLE SHOT, 240V/40A	2
5	1003.00140.00	ALUMINUM BRACKET FOR SSR	2
6	1052.00033.00	RELAY, SOLID STATE, 50A/480VAC, W/BUILD IN VARISTOR	2
7	1081.00042.00	STANDOFF, 1/4" HEX	4
8	1112.00019.00	PROBE WELDMENT, WATER LEVEL 2.600" LG	1
9	1102.00161.00	PROBE ASSEMBLY, TEMP. AND LLC, HWD-2100	1
10	1024.00007.00	O-RING, DASH #344, TANK COVER	1
11	1102.00007.00	TANK COVER ASSEMBLY	1
12	1023.00166.00	FITTING, COLD WATER INLET, GROMMET DESIGN	1
13	1022.00066.00	TANK INSULATION FRONT, CBS-2142	1
14	1022.00067.00	TANK INSULATION BACK, CBS-2142	1



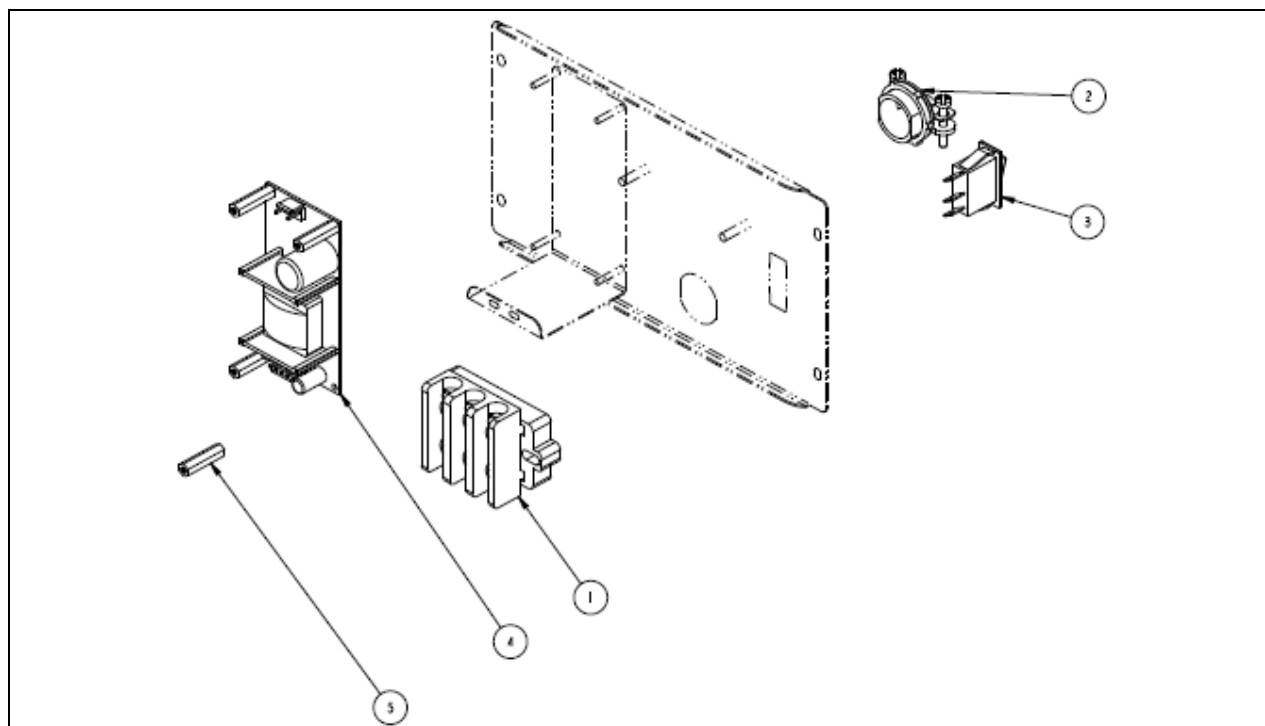
CBS-2141,XTS Drawings 1109.00059, 55.00 SERVICE PARTS

ITEM NO	PART NO	DESCRIPTION	QTY
1	1102.00210.00	ASSEMBLY FRONT PANEL, CBS-2130, GRAVITY VERSION	1
2	1071.00010.00	FAUCET HPSC-BR-8 REGULAR HANDLE	1
3	1024.00040.00	CARD PLUG, HWD-2100	1
4	1024.00063.00	O-RING, 3 15/16" x 3/32" CS, DASH # 154, BUNA-N, DURO-A50	1
5	1102.00203.00	ASSEMBLY, SPRAY HOUSING, DSV11 DESIGN	1
6	1102.00220.00	ASSEMBLY, BYPASS VALVE, RIGHT	1
7	1102.00113.00	SWITCH, REED, ASSEMBLY	1
8	1102.00219.00	ASSEMBLY, BB LOCKER, 24VDC	1
9	1001.00181.00	COVER FRONT, CBS-2100 XTS	1
10	1073.00002.00	LEG, FLANGE FOOT, 4.0" HIGH	4
11	1057.00043.00	SOLENOID VALVE, SINGLE, 180 DEG, 24VDC	1
12	1102.00243.00	ADAPTER ASSY, 3/4" BSP x 1/4" NPT x 3/8" TUBE	1
13	1023.00147.00	PLUG, TANK SERVICE DRAIN FOR 18GA AND UP BODY	1
14	1402.00045.00	HARNESS LOW AMP, CBS-2141/51 XTS, CE/UL	1
15	1402.00062.00	HARNESS, HIGH AMP, CBS-2131/41 XTS, UL	1
16	1104.00059.00	TANK ASSY, 3.0kW/240V, CBS-2141 XTS	1
16	1104.00065.00	TANK ASSY, 2.3kW/120VAC, CBS-2141 XTS	1
17	1102.00209.00	ASSEMBLY BACK PANEL, CBS-2141	1
18	B014218BN2	BB ASSY, 13" X 5", in .218" HOLE, BRN PLUG	2
18	B003218B1	BREW BASKET ASSY, 13" X 5", .218 DIA HOLE, BLACK	2
19	1102.00240.00	ASSEMBLY POWER CORD, 20A/120VAC, 5-20P NEMA PLUG	1
19	1102.00238.00	ASSEMBLY POWER CORD, 16A/250VAC, EU1-16P PLUG	1



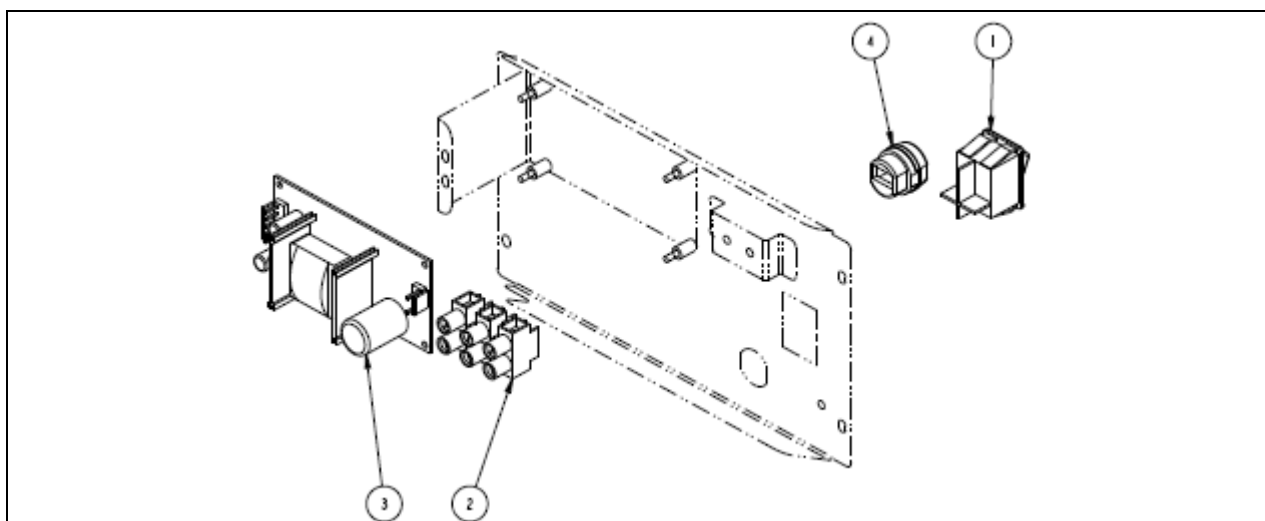
CBS-2141,XTS Drawings TANK 1109.00078, 72.00 SERVICE PARTS

ITEM NO	PART NO	DESCRIPTION	QTY
1	1024.00053.00	LEVEL AND TEMP PROBE GROMMET	2
2	1107.00005.00	ASSEMBLY,IMMERSION HEATER, 3000W, 240VAC	1
2	1107.00029.00	HEATER ASSEMBLY, IMMERSION 2300W/120VAC	1
2	1107.00030.00	HEATER ASSEMBLY, IMMERSION 1500W/120VAC	1
2	1107.00031.00	HEATER ASSEMBLY, IMMERSION 1700W/120VAC	1
3	1003.00005.00	BRACKET, ONE SHOT THERMOSTAT	2
4	1053.00003.00	THERMOSTAT, SINGLE SHOT, 240V/40A	2
5	1003.00140.00	ALUMINUM BRACKET FOR SSR	2
6	1052.00033.00	RELAY, SOLID STATE, 50A/480VAC, W/BUILD IN VARISTOR	2
7	1081.00042.00	STANDOFF, 1/4" HEX	4
8	1112.00019.00	PROBE WELDMENT, WATER LEVEL 2.600" LG	1
9	1102.00161.00	PROBE ASSEMBLY, TEMP. AND LLC, HWD-2100	1
10	1024.00007.00	O-RING, DASH #344, TANK COVER	1
11	1102.00007.00	TANK COVER ASSEMBLY	1
12	1023.00166.00	FITTING, COLD WATER INLET, GROMMET DESIGN	1
13	1022.00065.00	TANK INSULATION, FRONT, CBS-2141e, GROMMET DESIGN	1
14	1022.00074.00	TANK INSULATION, BACK, CBS-2141e, GROMMET DESIGN	1



CBS-2141, XTS Back Panel UL Drawings 1109.00088.00 SERVICE PARTS

ITEM NO	PART NO	DESCRIPTION	QTY
1	1052.00002.00	TERMINAL BLOCK, 3 POLE, W/ MARKING STRIP	1
2	1086.00008.00	CONNECTOR, CABLE CLAMP, 3/4"	1
3	1058.00020.00	SWITCH, PWR ROCKER RED, ILLUM. 250VAC	1
4	1052.00001.00	POWER SUPPLY, 90-264VAC/24VDC, 1.8A	1
5	1029.00012.00	SPACER, .25" HEX X 1" LG, FEM #4-40 THREAD	4



CBS-2141, XTS Back Panel CE Drawings 1109.00046.00 SERVICE PARTS

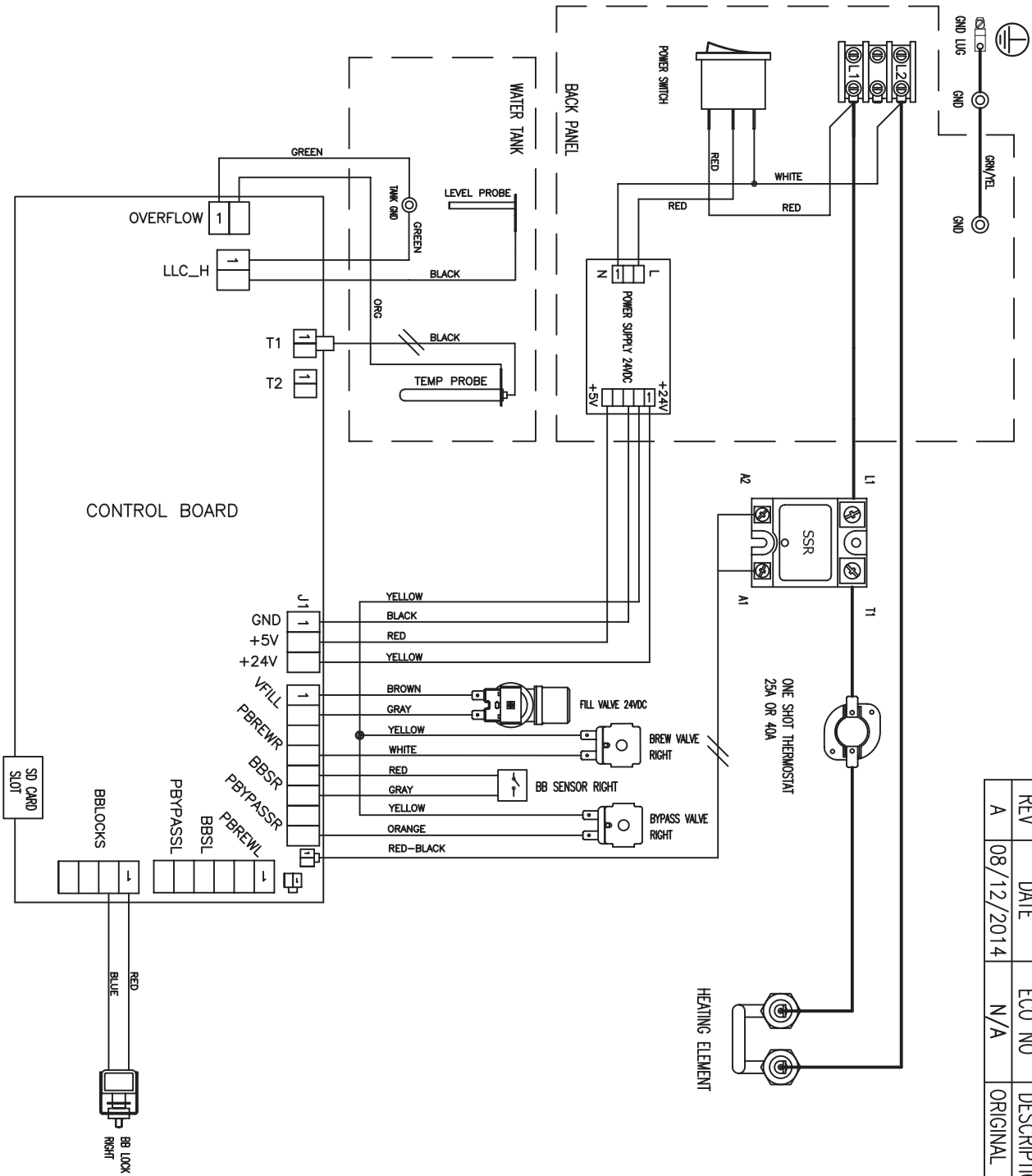
ITEM NO	PART NO	DESCRIPTION	QTY
1	1058.00024.0	SWITCH, POWER, DOUBLE POLE, 16A, 125/250 VAC	1
2	1052.00022.0	EUROSTRIP HE6 TERM. BLK., 3 POLE, 40AMP, 10-20 TERM.	1
3	1052.00001.0	POWER SUPPLY, 90-264VAC/24VDC, 1.8A	1
4	1086.00029.0	BUSHING, STRAIN RELIEF, .360"-.430" DIA CABLE	1

The diagram illustrates the wiring for the Brewfather 2.0 control board. It shows the connection of various components to the control board's pins. Key components include: Power Supply (240V AC input, 24V and 5V DC outputs), SSR (Solid State Relay, 25A), Thermostat (25A or 40A), Heating Element, Water Tank (with Level and Temperature probes), Fill Valve (24VDC), Brew Valve Right, Bypass Valve Right, BB Sensor Right, and various sensors (T1, T2, LLC_H, OVERFLOW). The control board has pins for GND, +5V, +24V, V_FILL, PBREWR, BBSR, PBYPASSR, PBREWL, BBSL, PBYPASSL, and BBLOCKS. The diagram also shows the connection of the SD CARD and the power switch.

REV	DATE	ECO NO
A	08/12/2014	N/A

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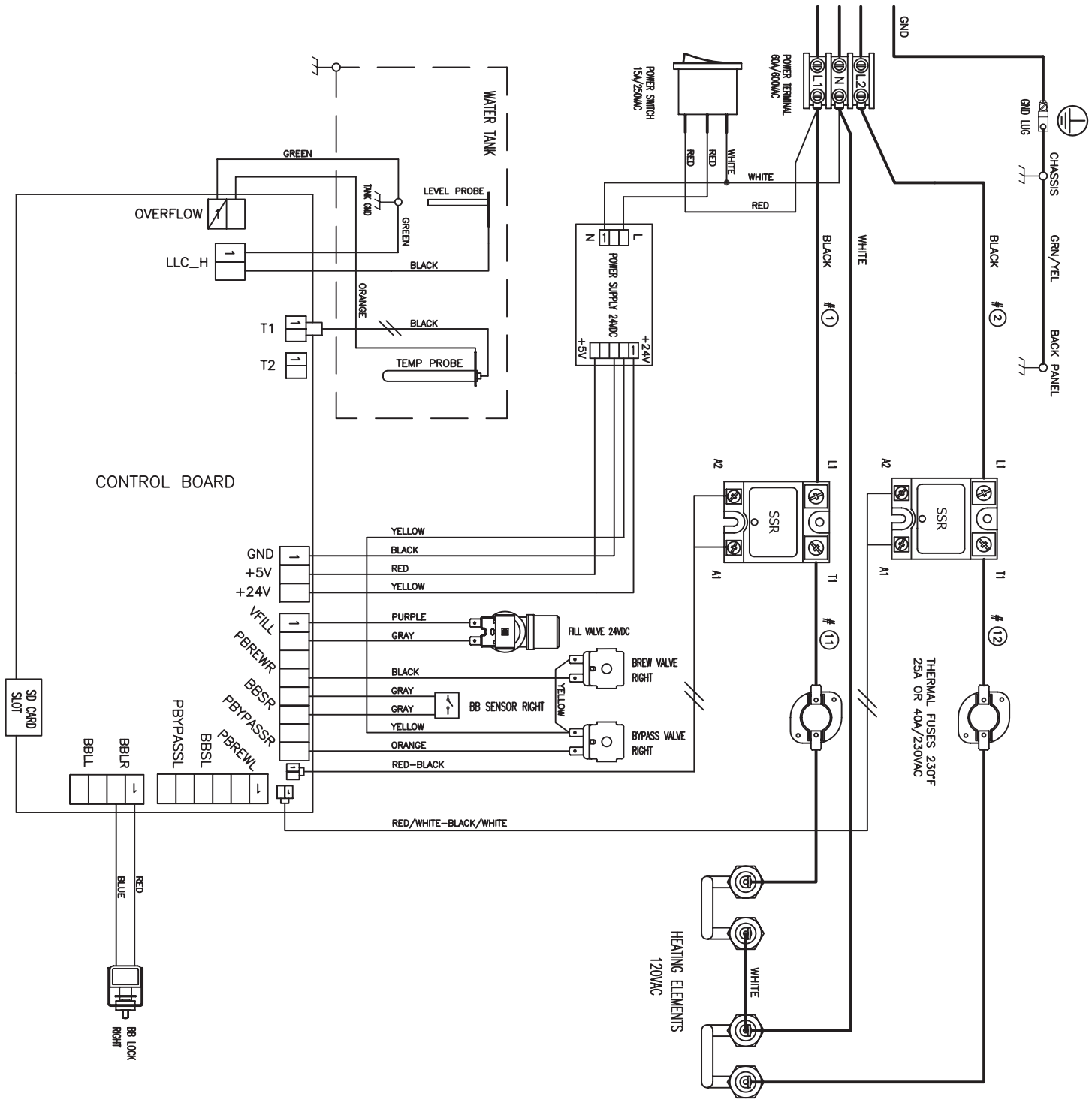
REVISIONS					BY:	A
REV	DATE	ECO NO	DESCRIPTION			
A	08/12/2014	N/A	ORIGINAL		AG	



PETCO
 FOOD EQUIPMENT TECHNOLOGY COMPANY
 600 ROSE RD.
 LAKE ZURICH, IL 60047
 PHONE: 847-719-3000 FAX: 847-719-3001
 WWW.PETCO.COM

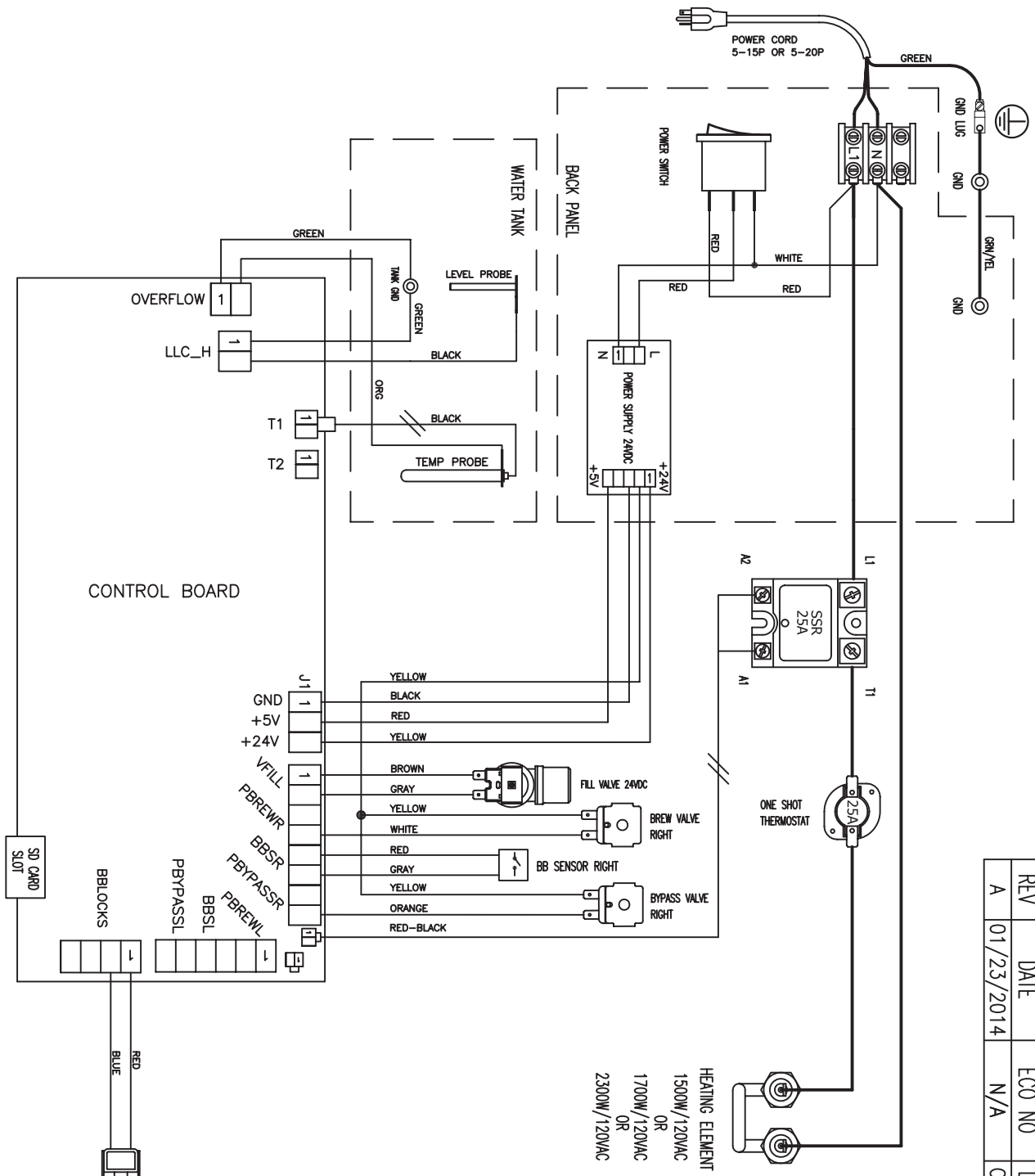
TOLERANCES		REVISIONS		DWG. NAME:		DRAWING NO.	
EXCEPT AS NOTED	NO.	DATE	BY	WIRING, CBS-2141/51-XTS, L1, L2+GND,		1401.00096.00	
DECIMAL	A	08/12/2014	AG	1 HEATER, JAPAN			
FRACTIONAL	B			DRAWN BY AG		SCALE N/A	
+/- 1/64"	C			CHK'D		SIZE A	
ANGULAR	D			APP'D		DATE 08-12-2014	
+/- 1/2 DEG	E			LW			

REVISIONS					A
REV	DATE	ECO NO	DESCRIPTION	BY:	
A	04/10/14	N/A	ORIGINAL	AG	



TOLERANCES		REVISIONS			FETCO® FOOD EQUIPMENT TECHNOLOGY COMPANY 600 ROSE RD. LAKE ZURICH, IL 60047 PHONE: 847-719-3000, FAX: 847-719-3001 WWW.FETCO.COM		
EXCEPT AS NOTED		NO.	DATE	BY			
DECIMAL		A	04-10-14	AG	DWG. NAME: WIRING, CBS-2141 XTS, L1, L2, N+GND, 2 HEATERS OR L1, N+GND, 1 HEATER		
+/- .005		B					
FRACTIONAL		C			DRAWN BY	AG	SCALE
+/- 1/64"		D			CHK'D	L.W	SIZE
ANGULAR		E			APP'D	L.W	DATE
+/- 1/2 DEG							04-10-2014
					MATERIAL		
					N/A		
					DRAWING NO.		
					1401.00090.00		

REVISIONS					BY:	A
REV	DATE	ECO NO	DESCRIPTION			
A	01/23/2014	N/A	ORIGINAL		AG	



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A	01/23/2014	N/A	ORIGINAL	AG	

TOLERANCES

EXCEPT AS NOTED	NO.	DATE	BY
DECIMAL	A	01-23-14	AG
FRACTIONAL	B		
ANGULAR	C		
	D		
	E		

REVISIONS

NO.	DATE	BY
A	01-23-14	AG
B		
C		
D		
E		

WIRING, CBS-2141-XTS, L1, N+GND, 1 HEATER

DWG. NAME:

DRAWN BY: AG

CHK'D: SZ

APP'D: LW

DATE: 01-23-2014

FETCO

FOOD EQUIPMENT TECHNOLOGY COMPANY

600 ROSE RD.

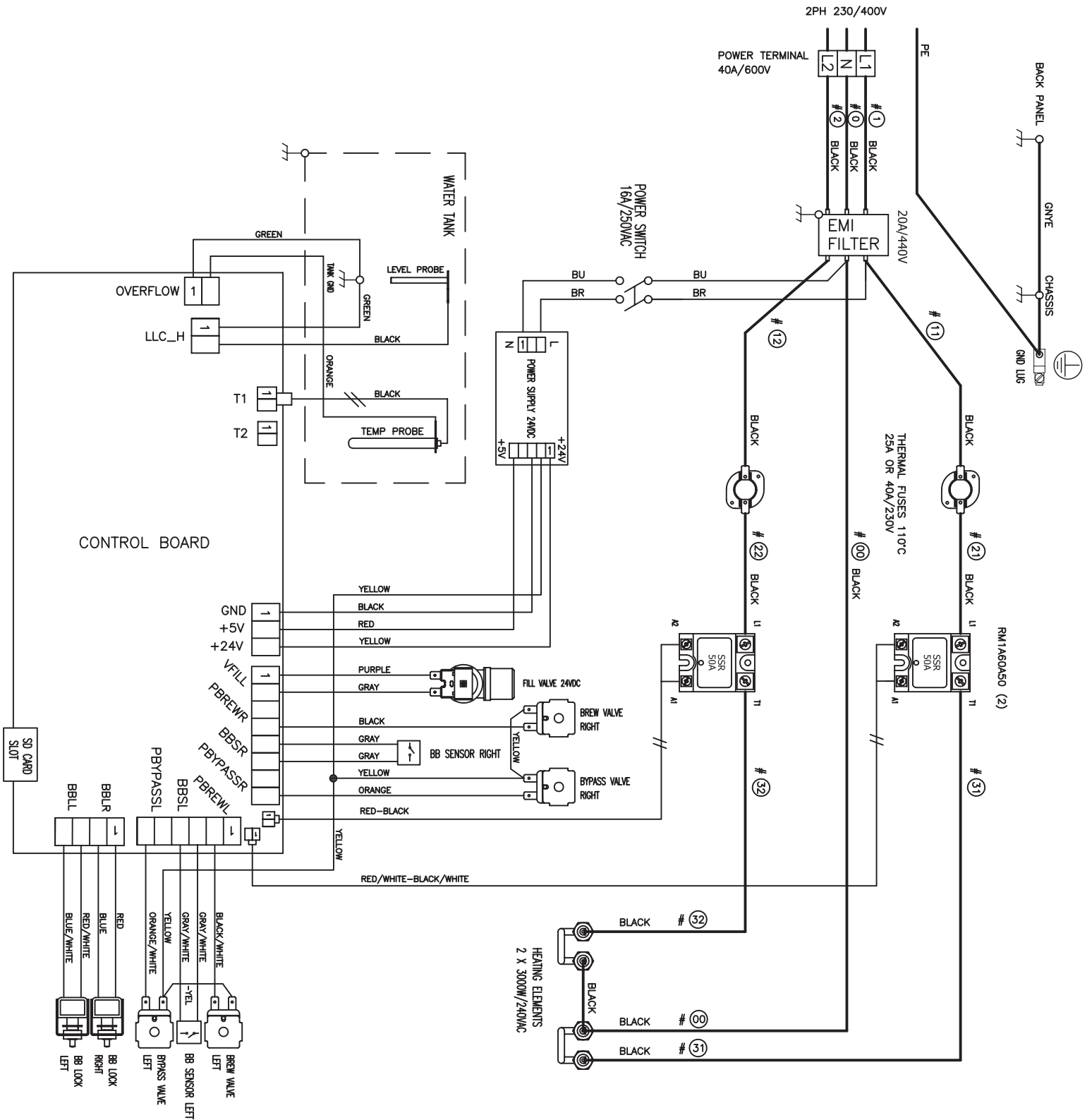
LAKE ZURICH, IL 60047

TEL: 847-719-3000 FAX: 847-719-3001

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DRAWING NO. 1401.00082.00

REVISIONS					A
REV	DATE	ECO NO	DESCRIPTION	BY:	
A	12/10/2013	N/A	ORIGINAL	AG	



CBS-2142 XTS

HEATER CONFIGURATION	VOLTAGE	PH	WIRES	KW	MAX AMP DRAW
2x3.0kW/240V	230/400	2	2L, N, PE	5.6	12.4

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EXCEPT AS NOTED	NO.	DATE	BY						
DECIMAL	A	12-10-13	AG	DWG. NAME: WIRING, CBS-2142 XTS, 2PH, CE					
+/- .005	B								
FRACTIONAL	C			DRAWN BY	AG	SCALE	N/A	MATERIAL	N/A
+/- 1/64"	D			CHK'D	LW	SIZE	A	DRAWING NO.	1401.00077.00
ANGULAR	E			APP'D	LW	DATE	12-10-2013		
+/- 1/2 DEG									

Wiring diagram for the Brew System Control Board. The diagram shows the electrical connections between the Control Board, Water Tank, and various components.

Power and Safety: The system is powered by a POWER CORD CEE 7-16A connected to a POWER TERMINAL 40A/600V. A GND LUG is connected to the CHASSIS, GNYE, and BACK PANEL. A 20A/250V CM FILTER is connected to the power line. A THERMAL FUSE 110°C 25A OR 40A/230V is connected to the power line. A POWER SWITCH 16A/250VAC is connected to the power line.

Water Tank: The WATER TANK contains a LEVEL PROBE, TEMP PROBE, and an OVERFLOW. The tank is grounded (TANK GND). The level probe is connected to the control board via GREEN and BLACK wires. The temp probe is connected to the control board via ORANGE and BLACK wires. The overflow is connected to the control board via GREEN and BLACK wires. The LLC_H is connected to the control board via GREEN and BLACK wires.

Control Board: The CONTROL BOARD features a J1 connector with pins for GND, +5V, +24V, VFILL, PBREW, BBBSR, PBPASSR, BBBSL, PBPASSL, and BBLOCK. The board also has a SD CARD SLOT and a BB LOCK RIGHT.

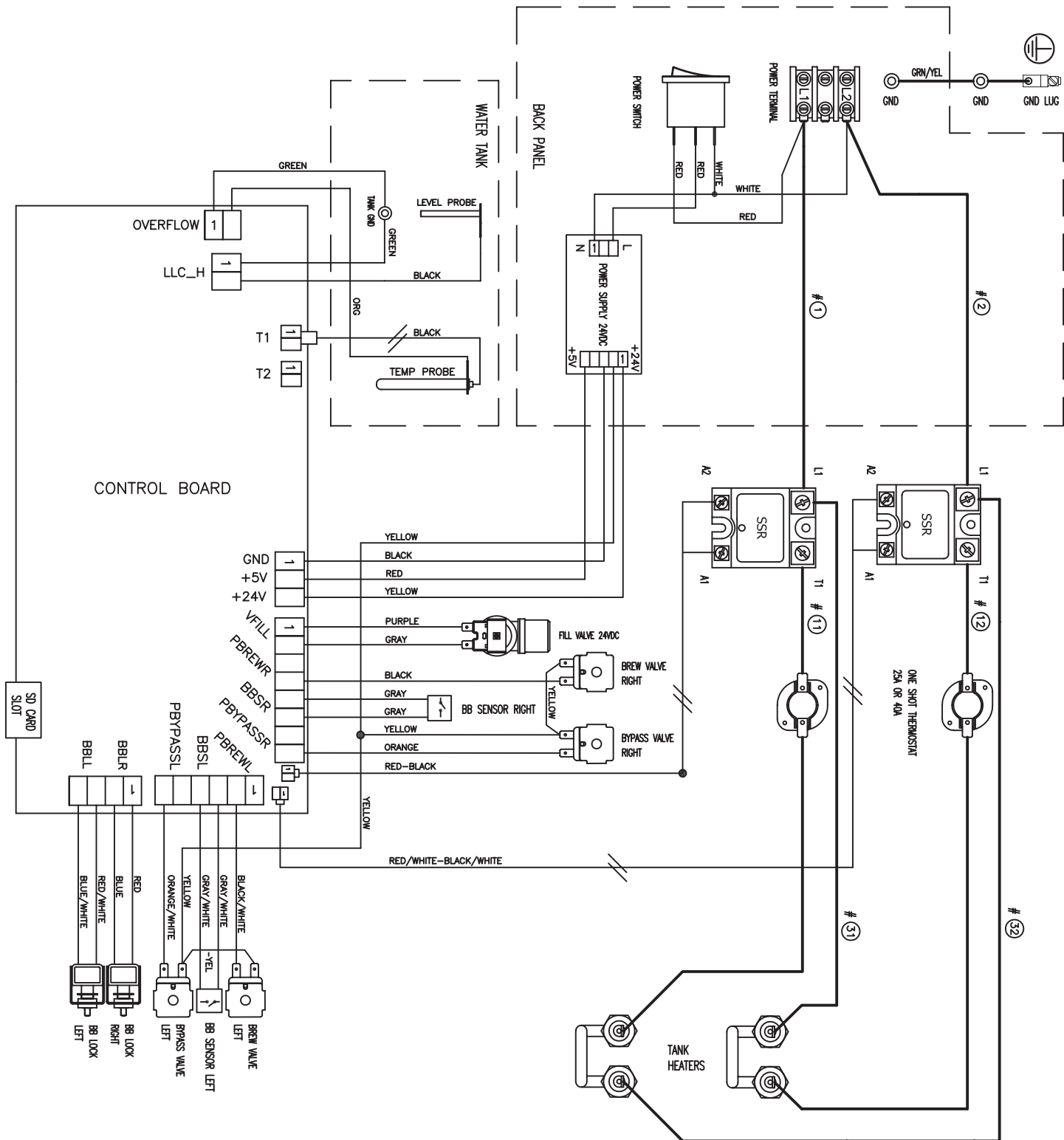
Valves and Sensors: The system includes a FILL VALVE 24VDC, a BREW VALVE RIGHT, a BB SENSOR RIGHT, and a BYPASS VALVE RIGHT. The fill valve is connected to the control board via BROWN, GRAY, and WHITE wires. The brew valve is connected to the control board via GRAY, GRAY, and YELLOW wires. The BB sensor is connected to the control board via ORANGE and RED-BLACK wires. The bypass valve is connected to the control board via RED-BLACK and RED-BLACK wires.

Heating Element: The HEATING ELEMENT (1 x 3000W/240VAC) is connected to the power line via a 31 BLACK wire.

Wiring Legend:

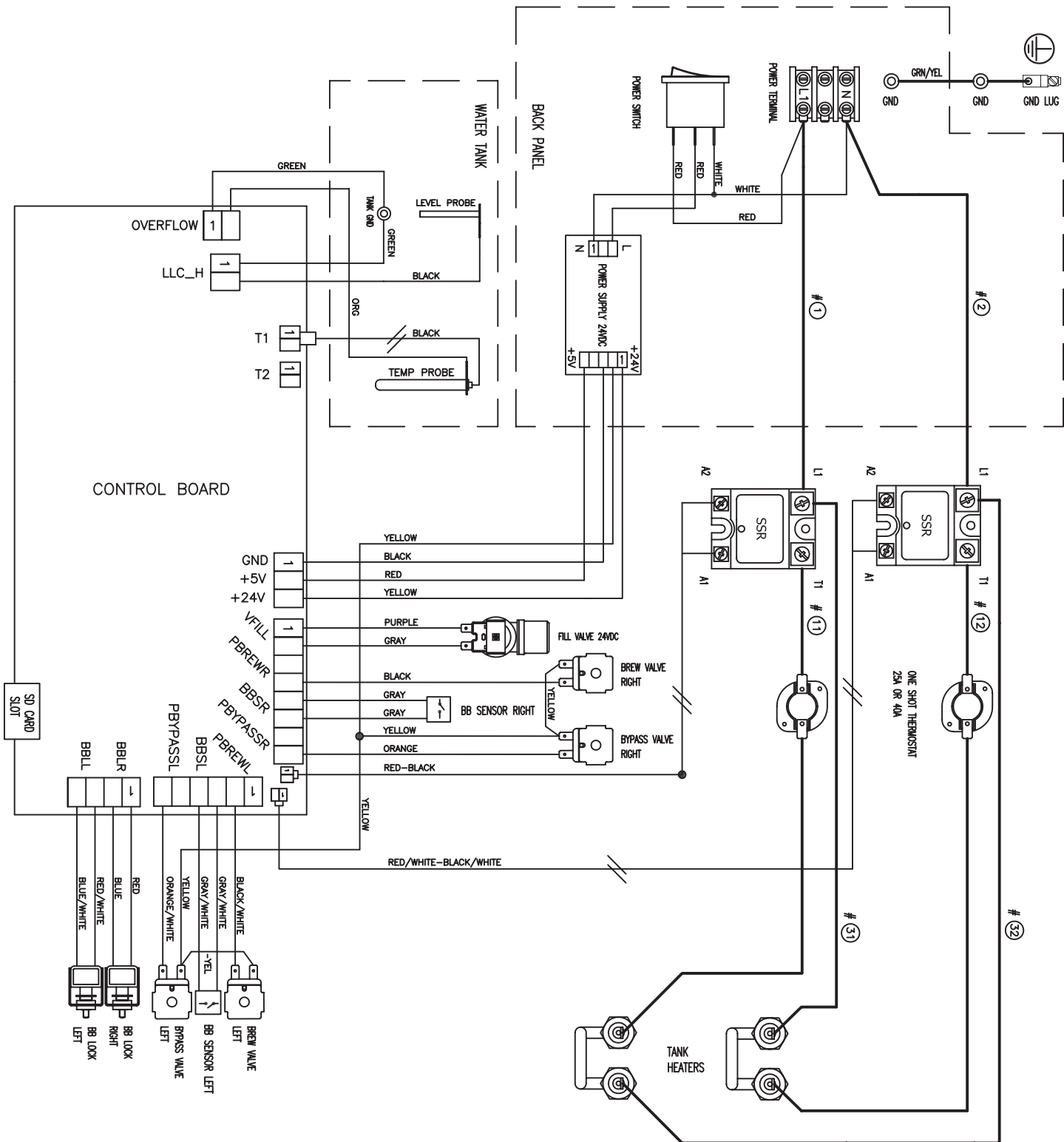
- GREEN: Overflow, LLC_H, Level Probe
- BLACK: Tank GND, Level Probe, Temp Probe, Overflow, LLC_H, J1 GND, J1 +5V, J1 +24V, VFILL, PBREW, BBBSR, PBPASSR, BBBSL, PBPASSL, BBLOCK
- ORANGE: Temp Probe, J1 VFILL
- BROWN: Fill Valve
- GRAY: Fill Valve, Brew Valve, BB Sensor
- WHITE: Fill Valve
- YELLOW: Fill Valve, Brew Valve, BB Sensor
- ORANGE: BB Sensor
- RED-BLACK: Bypass Valve
- RED: Bypass Valve
- BLUE: BB Lock Right

REVISIONS					B
REV	DATE	ECO NO	DESCRIPTION	BY:	
A	08/15/13	N/A	ORIGINAL	AG	
B	03/31/14	N/A	REVISED SCHEMATIC	AG	



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EXCEPT AS NOTED	NO.	DATE	BY						
DECIMAL	A	08-15-13	AG	DWG. NAME: WIRING, CBS-2142-XTS, L1, L2, GND, 2 HEATERS					
+/- .005	B	03-31-14	AG						
FRACTIONAL	C			DRAWN BY	AG	SCALE	N/A	MATERIAL	N/A
+/- 1/64"	D			CHK'D	LW	SIZE	A	DRAWING NO.	1401.00055.00
ANGULAR	E			APP'D	LW	DATE	08-15-2013		
+/- 1/2 DEG									

REVISIONS					A
REV	DATE	ECO NO	DESCRIPTION	BY:	
A	08/12/14	N/A	ORIGINAL	AG	



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EXCEPT AS NOTED	NO.	DATE	BY						
DECIMAL	A	08-12-14	AG	DWG. NAME: WIRING, CBS-2142-XTS, L1, N+GND, 2 HEATERS, EXPORT					
+/- .005	B								
FRACTIONAL	C			DRAWN BY	AG	SCALE	N/A	MATERIAL	N/A
+/- 1/64"	D			CHK'D	LW	SIZE	A	DRAWING NO.	1401.00098.00
ANGULAR	E			APP'D	LW	DATE	08-12-2014		
+/- 1/2 DEG									