FETCO® User's Guide and Operator Instructions

CBS-2231 & CBS-2232 Next Generation Brewing System

FETCO Next Generation-*NG*® Commercial Beverage Equipment

CBS-2231
(*Dispensers not included*)

CBS-2232
(*Plastic brew baskets are standard, brewers avalible with optional stainless steel brew baskets*)

$C\epsilon$ c UL us NSF

COFFEE BREWER CBS-2230*NG* Series
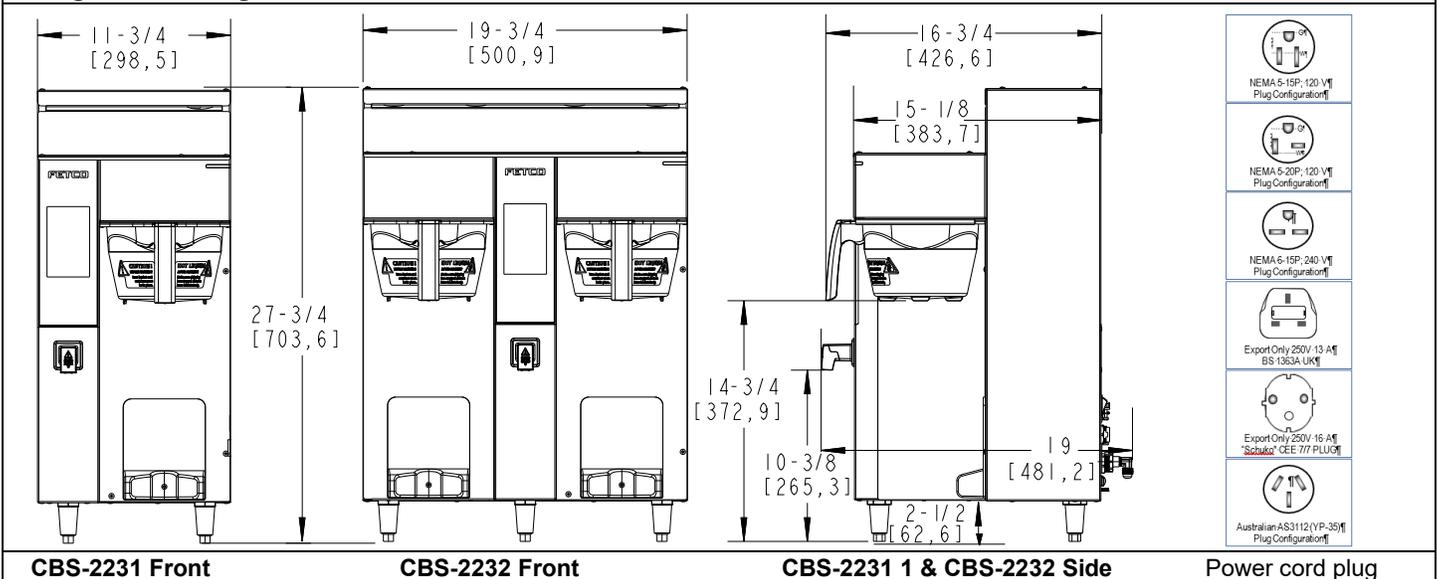
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Specifications and Requirements

FETCO CBS-2230 Brewers have unique construction only available for these models.

Water Requirements:	Coffee Filter Size:
CBS-2230 20-75 psig, (138-517kPa) 1½ gpm/(5.7 lpm)	13" X 5 or FETCO# F002"
Optimal water hardness between 125-250 TDS (6-13 grain) Important! Please use a water filter for all beverage equipment	Temperature, as set by factory: 200°F (93°C) inside water tank (at sea level)
Water inlet fitting: 3/8 inch male flare. Brewer supplied with inlet valve adaptor for BSP to SAE	Electrical: See electrical configuration chart Pg 3.

Brew Volume: Full Batch 3.8 L/1.0 gal brew

Brew Capacity (approximate)	CBS-2231 4-8 brews per hour CBS-2232 5-16 brews per hour	Output is controlled by heater power and water temperature

Total Brew Cycle: Factory setting: 6 minutes consisting of 4 min. brew time and 2.0 min. drip delay
Individual menu brew-process parameters are user controllable for:
Basic user controls for brew volume, brew time, units of measure, recipe name
Advanced user controls for pulse count, prewet percent and prewet delay, drip delay, programmable energy saving
See pages 4-5 for how to adjust controls for temperature, brew volume, units - and all other settings

Weights and Capacities

Model	Height	Width	Depth	Water tank capacity	Empty Weight	Filled Weight	Shipping Weight	Shipping Dimensions
CBS-2231 Brewer	27 3/4 in 700 mm	11 3/4 in 300 mm	20 3/8 in 520 mm	3.3 gallon 12.4 L	29 lbs 13.2 kg	55 lbs 25.0 kg	41 lbs 18.6 kg	30" x 17" x 22" 76.2 x 43.2 x 55.9 cm
CBS-2232 Brewer	27 3/4 in 700 mm	19 ¾ in 500 mm	20 3/8 in 520 mm	6.0 gallon 22.4 L	47 lbs 21.3 kg	92 lbs 41.7 kg	55 lbs 25.0 kg	30" x 23" x 25" 76.2 x 58.4 x 63.5 cm

Calibrated for 3.8 L/1.0 gal brew	Brew Basket 13" X 5"	Coffee Filter 13" X 5 or FETCO# F002"	1" legs standard 2.5" legs optional

Rough-In Drawings

CBS-2231 Front	CBS-2232 Front	CBS-2231 1 & CBS-2232 Side	Power cord plug

SKU NUMBER IDENTIFICATION KEY

EXAMPLE: SKU E2231US-1X117-PM001

Product Line	Level	Family	Region ID	Phase	Voltage Range	# Heaters	Individual Heater Wattage	Brew Basket	Hot Water Faucet	Bypass	Brew Basket Locks	Power Cord
E	2 2	3 1	U S	1	A	1	1 5	P	M	0	0	1
E=extractor			US =United States	1	A = 100-120	1	1.5	P=plastic	M=manual	1=Yes	1=Yes	0=Terminal Block
	12=PLUS Series	31= single side	IN = International	2	B = 200-240	2	1.7	M=metal	A=automatic	0=No	0=No	1= NEMA 5-15P
22=Next Generation		32= dual side	CE = IEC	3	C = 380-415	3	2.3	C=metal with clips	N=None			2=NEMA 5-20P
			NM = NOM	U = 1 or 3	D = 440-480	6	3.0					3=NEMA 6-15P
							4.0					4=NEMA 6-30P
					X=120 or 240 Dual Voltage		5.0					5=CEE 7/7 Schuko
												6=UK1-13P
												7= AUSTRALIAN AS3112 (YP-35)

Electrical and Output Specifications

CBS-2231_Next Gen_ **Single 3.0-4.0 Liter Coffee Brewers**   Field configurable Domestic
Electrical and Output Specifications   Brewer has factory installed cord and plug & terminal block 50Hz or 60Hz

SKU	Voltage	Heater Configuration	Wires	KW	Electrical Connection	Phase	Amp Draw	Brew-Volume per hour
E2231US-1X117-PA011	120	1 X 1.7 kW	2+G	1.7	NEMA 15-5P	1	14.7	3.9 gal/14.8 L
Domestic-Dual Voltage	208-240	2 X 1.7 kW	2+G	2.6-3.4	Terminal Block	1	12.8-14.7	5.8 gal/22 L

Electrical Specifications, Domestic Single brewer-single voltage 120 volt cord and plug single phase 50Hz or 60Hz

CBS-2231_Next Gen_ **Single 3.0-4.0 Liter Coffee Brewers**   Domestic models
Electrical and Output Specifications   All brewers have factory installed cord and plug 50Hz or 60Hz

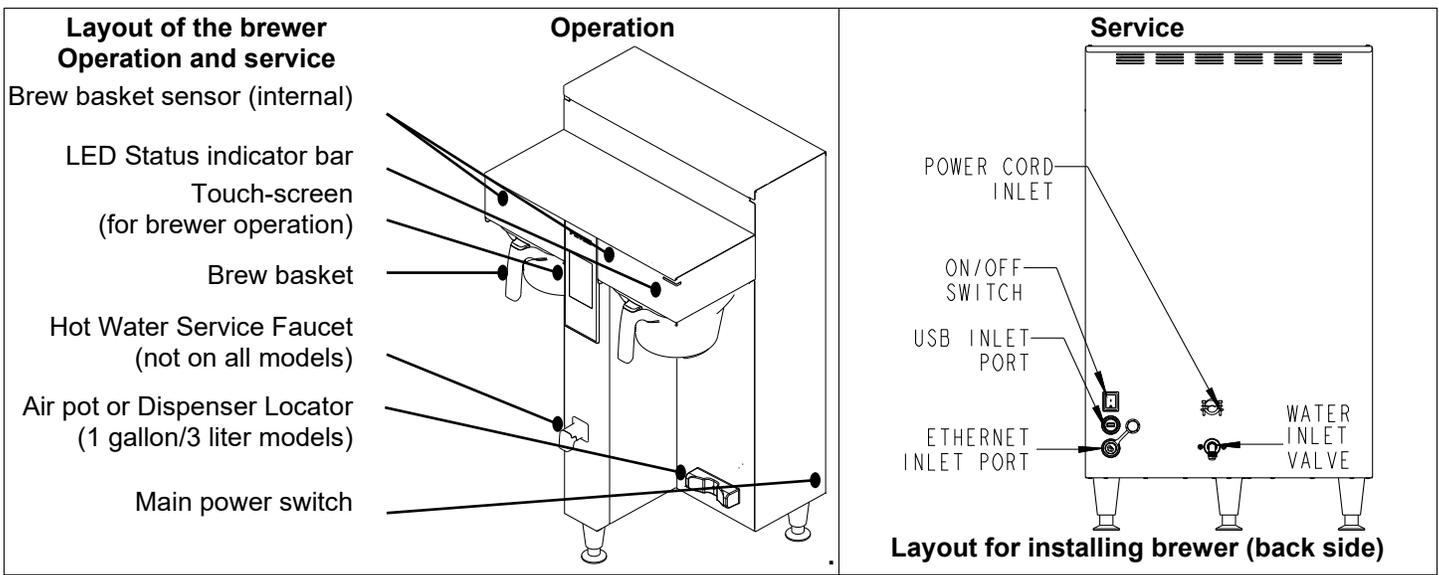| SKU	Voltage	Heater Configuration	Wires	KW	Electrical Connection	Phase	Amp Draw	Brew-Volume per hour
E2231US-1A115-PA011	120	1 X 1.5 kW	2+G	1.5	NEMA 15-5P	1	13.0	4.0 gal/15.1 L
E2231US-1A123-PA012	120	1 X 2.3 kW	2+G	2.3	NEMA 5-20P	1	19.7	5.8 gal/22 L

CBS-2231_Next Gen_ **Single 3.0-4.0 Liter Coffee Brewers**   Field configurable NOM (Mexico) In Spanish
Electrical and Output Specifications   Brewer has factory installed cord and plug & terminal block 50Hz or 60Hz

SKU	Voltage	Heater Configuration	Wires	KW	Electrical Connection	Phase	Amp Draw	Brew-Volume per hour
E2231NM-1X123-PA012	120	1 X 2.3 kW	2+G	2.3	NEMA 5-20P	1	19.7	6.1 gal/23.2 L
Dual Voltage	208-240	2 X 2.3 kW	2+G	4.6	Terminal Block	1	17.1-19.7	7.6 gal/30 L

NM in SKU suffix (above) denotes equipment with NOM certification, Spanish labeling for Mexico and Spanish language user guide

CBS-2231_Next Gen_ **Single 3.0-4.0 Liter Coffee Brewers**   International models
Electrical and Output Specifications   All brewers have terminal block electrical utility connection 50Hz or 60Hz

SKU	Voltage	Heater Configuration	Wires	KW	Electrical Connection	Phase	Amp Draw	Brew-Volume per hour
E2231NM-1A123-PA012	120	1 X 2.3 kW	2+G	2.3	NEMA 5-20P	1	19.7	5.8 gal/22 L
E2231NM-1A123-PA012	208-240	1 X 3.0 kW	2+G	2.3-3.0	NEMA 6-15P	1	11.3-13.0	7.9 gal/30.0 L

NM in SKU suffix (above) denotes equipment with NOM certification, Spanish labeling for Mexico and Spanish language user guide

E2231IN-1B123-PA010	200-240	1 X 2.3 kW	2+G	1.6-2.3	Terminal Block	1	8.5-10.1	5.8 gal/22 L
E2231IN-1B130-PA010	200-240	1 X 3.0 kW	2+G	2.1-3.0	Terminal Block	1	10.9-13.0	7.7 gal/29.1 L

CBS-2232_Next Gen_ **Dual 3.0-4.0 Liter Coffee Brewers**   Domestic models
Electrical and Output Specifications   All brewers have terminal block electrical utility connection 50Hz or 60Hz

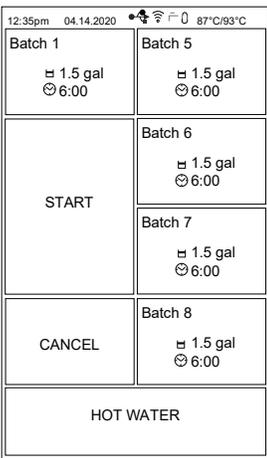| SKU	Voltage	Heater Configuration	Wires	KW	Electrical Connection	Phase	Amp Draw	Brew-Volume per hour
E2232US-1B223-PA010	208-240	2 X 2.3 kW	2+G	3.5-4.6	Terminal Block	1	17.1-19.7	11.0 gal/42.0 L
E2232US-1B223-MA110	208-240	2 X 2.3 kW	2+G	3.5-4.6	Terminal Block	1	17.1-19.7	11.0 gal/42.0 L
E2232US-1B230-PA010	208-240	2 X 3.0 kW	2+G	4.5-6.0	Terminal Block	1	22.2-25.5	14.3 gal/54 L
E2232US-1B230-PA110	208-240	2 X 3.0 kW	2+G	4.5-6.0	Terminal Block	1	22.2-25.5	14.3 gal/54 L
E2232US-1B230-MA110	208-240	2 X 3.0 kW	2+G	4.5-6.0	Terminal Block	1	22.2-25.5	14.3 gal/54 L

CBS-2232_Next Gen_ **Dual 3.0-4.0 Liter Coffee Brewers**   International models
Electrical and Output Specifications   All brewers have terminal block electrical utility connection 50Hz or 60Hz

SKU	Voltage	Heater Configuration	Wires	KW	Electrical Connection	Phase	Amp Draw	Brew-Volume per hour
E2232IN-1B223-PA010	200-240	2 X 2.3 kW	2+G	3.2-4.6	Terminal Block	1	16.5-19.7	12.2 gal/46.3L
E2232IN-1B230-PA010	200-240	2 X 3.0 kW	2+G	4.2-6.0	Terminal Block	1	21.3-25.5	15.8 gal/60 L
E2232IN-1B230-MA110	200-240	2 X 3.0 kW	2+G	4.2-6.0	Terminal Block	1	21.3-25.5	15.8 gal/60 L
E2232NM-1B230-PA010	208-240	2 X 3.0 kW	2+G	4.5-6.0	Terminal Block	1	22.2-25.5	15.8 gal/60 L

NM in SKU suffix (above) denotes equipment with NOM certification, Spanish labeling for Mexico and Spanish language user guide

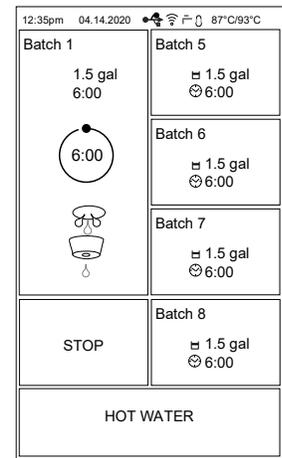| Customer options	BREW BASKET TYPE (P, M)	HOT WATER FAUCET (M, A OR N)	BYPASS (1 OR 0)	Brew Basket Lock (1 OR 0)
* is factory standard feature Add all the following numbers after all SKU numbers	***P=Plastic** M=Gourmet Metal	***M=Standard manual** A=Automatic electronic N=No hot water faucet	***1=With** 0=None	***1=With** 0=None

Layout of the brewer Operation and service

Operation

Service

Brew basket sensor (internal)

LED Status indicator bar

Touch-screen
(for brewer operation)

Brew basket

Hot Water Service Faucet
(not on all models)

Air pot or Dispenser Locator
(1 gallon/3 liter models)

Main power switch

POWER CORD INLET

ON/OFF SWITCH

USB INLET PORT

ETHERNET INLET PORT

WATER INLET VALVE

Layout for installing brewer (back side)

Fast Start brewing

Starting The Brew

12:35pm 04.14.2020 87°C/93°C	
Batch 1 ⊔ 1.5 gal ⏱ 6:00	Batch 5 ⊔ 1.5 gal ⏱ 6:00
START	Batch 6 ⊔ 1.5 gal ⏱ 6:00
	Batch 7 ⊔ 1.5 gal ⏱ 6:00
CANCEL	Batch 8 ⊔ 1.5 gal ⏱ 6:00
HOT WATER	

1. Turn the power switch "ON". (Twin Shown)
2. Prepare a brew basket with the correct size filter and appropriate amount of coffee. (4-8 ounces or 113-227 grams for 1 gal/3.8 liters)
3. Slide the brew basket completely into the rails.
4. Place a clean, empty, preheated dispenser under the brew basket.
5. Select a batch & touch the corresponding BREW icon (Batch #1 selected in illustration), then press "START"
6. -STOP icon will illuminate,
   -Countdown time will display, with proportional graphic circle icon
   -LED indicator will pulse.
   -All other BREW icons for that brew head will be hidden.
   ....-Opposite side BREW icons on dual brewer remain active
7. When the brew cycle is finished,
   -Spray icon will extinguish and the BREW circular icon will remain.
This indicates that coffee may still be dripping from the brew basket
For safety- do not remove brew basket until drip-out is complete.

12:35pm 04.14.2020 87°C/93°C	
Batch 1 1.5 gal 6:00 ◯ 6:00	Batch 5 ⊔ 1.5 gal ⏱ 6:00
	Batch 6 ⊔ 1.5 gal ⏱ 6:00
	Batch 7 ⊔ 1.5 gal ⏱ 6:00
STOP	Batch 8 ⊔ 1.5 gal ⏱ 6:00
HOT WATER	

Twin Brewer ready to brew.
Batch one-top left brew position selected

Brewing in process
Batch one selected

Programming

To enter programming

1.
Turn the power switch "OFF", then "ON": Bootup will begin
.
Touch the cen of the screen (shown on right➔)

FETCO
CBS-2252

UI ver: 0.0.02t2020-0616a
UI Date: Jun 16 2020 09:12:53

IO ver: 0.0.0.2t2020-0610
IO Date: June 10 2020 10:26:27

Soft. Ver. 09:12:53

Bootloader ver. 0.23

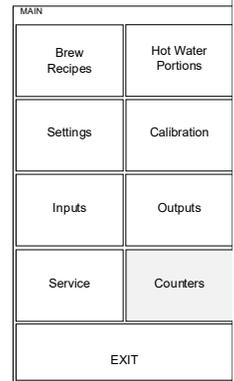Hardware ver. 1.01

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Bootup screen

2.
(shown right➔)
Operator password is 1,2,3,4: Note: For general use

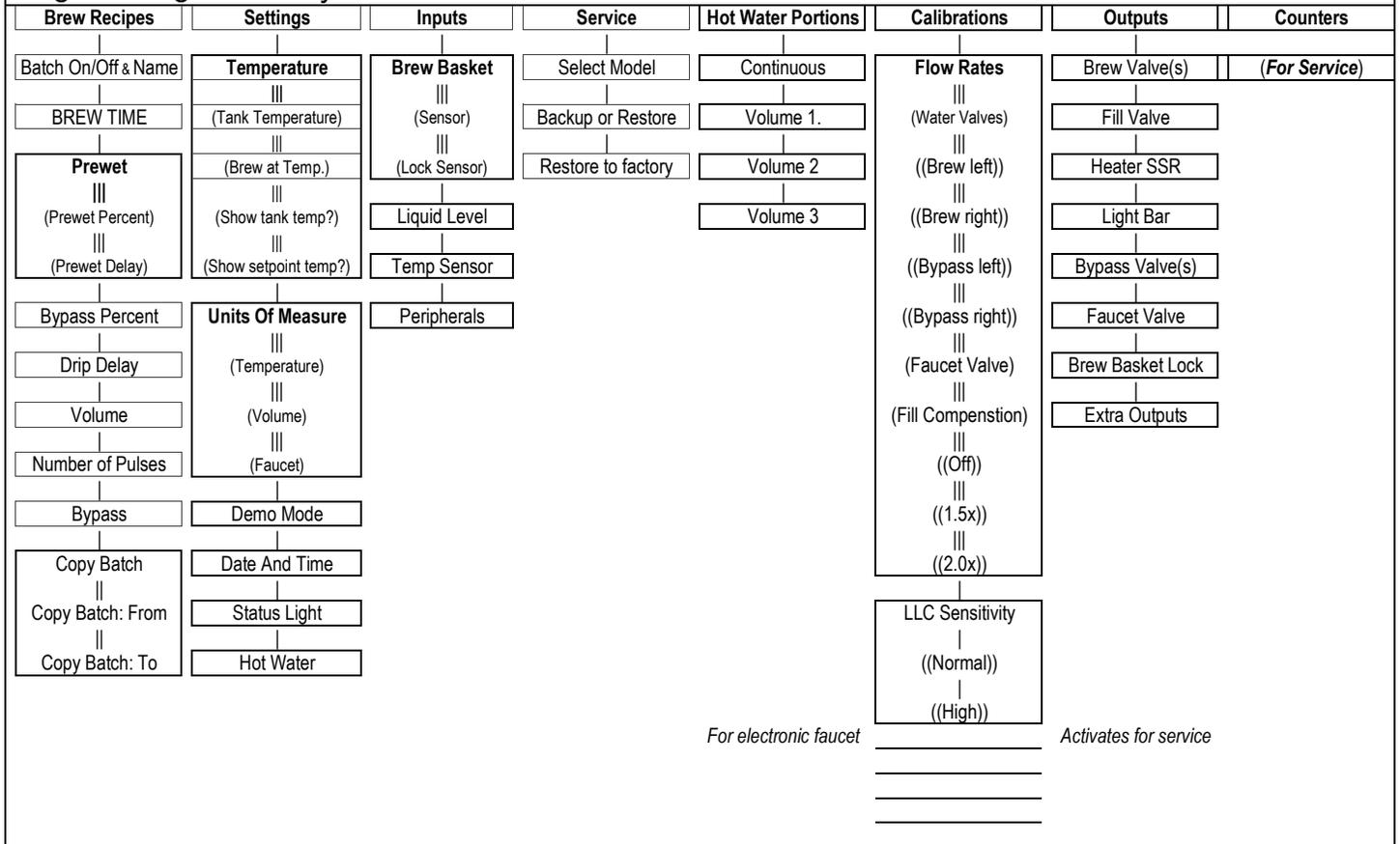Service password is 9,8,7,6 Note: Do not distribute this number

FETCO
Enter Password
_ _ _ _

1	2	3
4	5	6
7	8	9
	0	

CANCEL
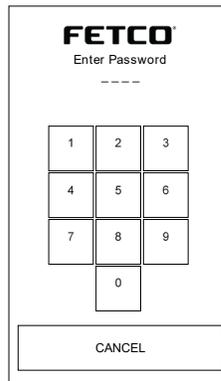
Password Screen

3.
Make changes and adjustments from the Programming Menu screen
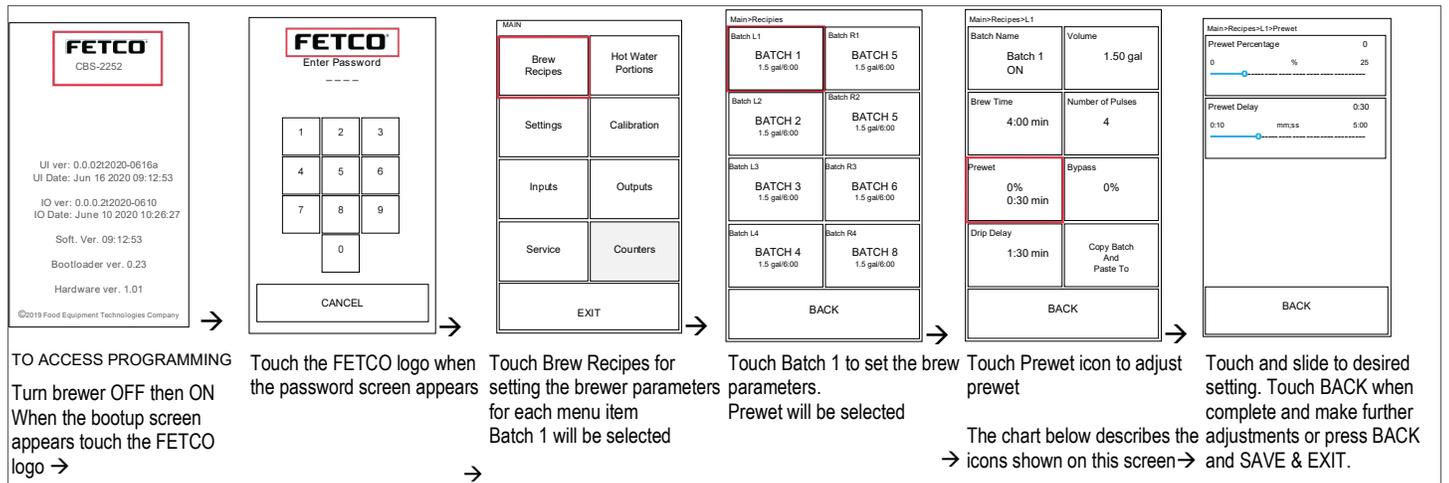
(Shown right➔)

See progamming menu layout next page

MAIN

Brew Recipes	Hot Water Portions
Settings	Calibration
Inputs	Outputs
Service	Counters
EXIT	

Programming access

Programming Menu Layout

Brew Recipes	Settings	Inputs	Service	Hot Water Portions	Calibrations	Outputs	Counters
Batch On/Off & Name	**Temperature** ‖‖ (Tank Temperature) ‖‖ (Brew at Temp.) ‖‖ (Show tank temp?) ‖‖ (Show setpoint temp?)	**Brew Basket** ‖‖ (Sensor) ‖‖ (Lock Sensor)	Select Model	Continuous	**Flow Rates** ‖‖ (Water Valves) ‖‖ ((Brew left)) ‖‖ ((Brew right)) ‖‖ ((Bypass left)) ‖‖ ((Bypass right)) ‖‖ (Faucet Valve) ‖‖ (Fill Compenstion) ‖‖ ((Off)) ‖‖ ((1.5x)) ‖‖ ((2.0x))	Brew Valve(s)	(*For Service*)
BREW TIME		Liquid Level	Backup or Restore	Volume 1.		Fill Valve	
Prewet ‖‖ (Prewet Percent) ‖‖ (Prewet Delay)		Temp Sensor	Restore to factory	Volume 2		Heater SSR	
Bypass Percent	**Units Of Measure** ‖‖ (Temperature) ‖‖ (Volume) ‖‖ (Faucet)	Peripherals		Volume 3		Light Bar	
Drip Delay						Bypass Valve(s)	
Volume	Demo Mode					Faucet Valve	
Number of Pulses	Date And Time				LLC Sensitivity ‖ ((Normal)) ‖ ((High))	Brew Basket Lock	
Bypass	Status Light					Extra Outputs	
Copy Batch ‖ Copy Batch: From ‖ Copy Batch: To	Hot Water						

For electronic faucet _____   *Activates for service*

TO ACCESS PROGRAMMING Turn brewer OFF then ON When the bootup screen appears touch the FETCO logo →	Touch the FETCO logo when the password screen appears	Touch Brew Recipes for setting the brewer parameters for each menu item Batch 1 will be selected →	Touch Batch 1 to set the brew parameters. Prewet will be selected	Touch Prewet icon to adjust prewet The chart below describes the icons shown on this screen→	Touch and slide to desired setting. Touch BACK when complete and make further adjustments or press BACK and SAVE & EXIT.

Brew Recipes	Program Items	Factory set Default	Programming Range	Notes
Batch Name	Batch On/Off	All "ON"	On/Off	Only top batch(s) are always enabled
Batch Name	Customize Name	Batch (1-4 L) (5-8 R)	Complete keypad	Scroll and tap three virtual keypads
Brew Time	Time of brew	4:00 minutes	2:00-12:00 mins/secs	Add to prewetting and drip delay times
Prewet	Prewet percentage	0	0-25% brew volume	Initial wetting to stabilize very fresh coffee
Prewet	Prewet delay time	1:00 sec.	0:10 sec to 5:00 min	Pause after coffee bed is prewetted
Drip Delay	Pause after brew	2:00 min:sec.	00.30 to 6:00	Time that brew basket remains locked during drip-out. This is a safety feature.
Brew Volume	Total volume	1 gallon/3.8 liters	0.5-1.25 gal./0.95-4.75 liters	Factory set for 1 gallon dispenser
Number of Pulses	Start/stop in brew	8	4-20	Algorithm evenly divides brew time cycle
Bypass Percentage	Diverts brew water	0	0-40% of brew volume	Affects flavor, strength and mouth-feel
Copy & Paste Menu	Current recipe		Paste into all other recipes	Will paste selected into the other

Settings	Program Items	Factory set Default	Programming Range	Notes
Temperature	Tank Temperature	200°F/92°C	170-208°F/77-98°C	Hot water tank, brewing water temp.
Temperature	Brew at Temperature*	ON	OFF/ON	See note below
Temperature	Show Tank Temp.	ON	OFF/ON	Shows 1st at top right screen
Temperature	Show Setpoint Temp.	ON	OFF/ON	Shows 2nd at top right screen
Units of Measure	Temperature / Volume / Hot water Faucet	F° - Fahrenheit / Gal-Gallons / ml - Milliliters	NO or YES	Main>Settings>UNITS Temperature °F °C Volume gal L Faucet oz ml
ECO Mode	ON/OFF / Eco idle time (to start) / Eco Tank temperature	OFF (default) / (if activated) / 1 hour 169°F	Turn on or off / 1-6 hours / 158°F to 176°F	Screen will display Eco Mode when activated-will take time to reheat to set brew water temperature
Water Filter	Water filer installed / Rated filtering volume	NO / 2625 gallons	NO or YES / 250 gallons to 3950 gallons	
Demo Mode	Brewer ON Disables valves & heaters	OFF	OFF/ON	For training and user familiarization
Hot Water	Digital H. Wtr Faucet	Auto	ON/OFF/Automatic	Automatic activates portion control
Status Light	READY LED color	White	White/Blue/Green	Color when brewer is ready to brew
Screen Saver	Covers recipe screen	OFF	ON/OFF & Timeout setting	"OFF" leaves recipe screen
Date and Time	Set unit date and time	12 hour format	12/24 hour format & date	Store in real time clock

NOTES: Brew at Temperature*

Brew At Temp: "ON"
(Default: factory programmed into brewer)
"BREW START" will not be accessible until tank temperature is at set point.
"BREW START" becomes accessible when hot water tank is at the selected temperature.
Menu screen will be dimmed if tank temperature is low

Brew At Temp: "OFF"   USER SELECTABLE   (Not recommended)
Allows brewing at any temperature above 170°F/77°C.
May not apply for two sided brewer if one side is in brew cycle

Altitude Correction Chart

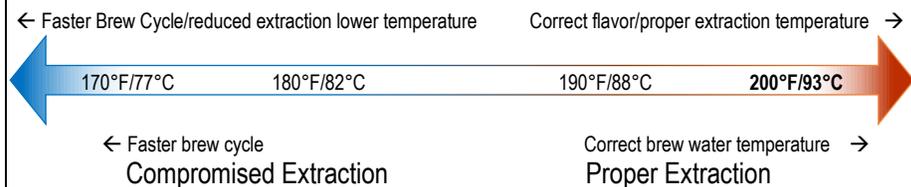| Chart to correct for altitude for boiling point in tank water temperature.					
[ft]	[m]	Suggested Setting[°F]	Boiling point[°F]	Suggested Setting[°C]	Boiling point [°C]
0	0	205	212.0	96	100.0
500	152	205	211.0	96	99.5
1000	305	200	210.1	93	98.9
2000	610	200	208.1	93	97.8
2500	762	200	207.2	93	97.3
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

Brew At Temperature
Ideal brew water temperature is 200°F/93°C. After brewing, brewers can take time to recover the hot water tank temperature and signal READY to brew. This is called "recovery time". The lag in recovery time is caused rapid brewing cycles in a rush, low power heating elements, cold water supply temperature even the barometric pressure.

Operators will adjust the "Brew At" temperature to allow the brewing at lower temperatures. This will allow a *slightly* faster recovery time and give a small increase in brew cycles per hour.

Reduced brew temperature will always compromise the quality of the finished brew and lower the temperature of the customers coffee.

← Faster Brew Cycle/reduced extraction lower temperature   Correct flavor/proper extraction temperature →

170°F/77°C   180°F/82°C   190°F/88°C   **200°F/93°C**

← Faster brew cycle   Correct brew water temperature →
Compromised Extraction   Proper Extraction

Inputs	Program Items	Factory set Default	Programming Range	Notes
Brew Basket	Sensor	Displays activity	Brew basket in place?	LEFT o RIGHT o (green=on;red=off)
Brew Basket	Lock Sensor	Displays activity	Brew basket locked?	LEFT o RIGHT o (green=on;red=off)
Liquid Level	LOW	Not used	Not used	Not used
Liquid Level	HIGH	Hot water tank fill	Filled/Not Filled & signal	Green=Filled/Red=Not Filled
Temp. Sensors	Sensor 1	Hot water tank temp.	Actual temperature & signal	
Temp. Sensors	Sensor 2	Not used	Not used	Not used
Peripherals	USB1	Digital input/output	Displays activity	(green=active;red=off)
Peripherals	USB2	Not used	Not used	Not used
Peripherals	RS-232	Digital input/output	Displays activity	(green=active;red=off)

Service	Program Items	Factory set Default	Programming Range	Notes
Select Model	Set brewer model	CBS-2232	MODEL (single side) 1 (dual side) 2 223x ◎ ◎ 224x ◎ ◎ 225x ◎ ● 226x ◎ ◎	To select: touch icon for brewer, touch "BACK" and got to EXIT & SAVE
Enable Options			Options Electric HW faucet OFF ON Bypass Valve(s) OFF ON Brew Basket Lock(s) OFF ON Expansion Board OFF ON	
Overrides			Override Safety Features Left Right Brew Basket Sensor OFF ON OFF ON Brew Basket Lock OFF ON OFF ON Br. Basket Lock Sensor OFF ON OFF ON HW Press and hold OFF ON OFF ON	
Backup or Restore	Backup current configuration	Will save all programmed settings	Requires USB thumb drive	Insert USB thumb drive and touch "BACKUP" & follow instructions
Backup or Restore	Installs saved settings	USB thumb drive with one file-	One file, must be titled: backup.txt	Insert USB thumb drive and touch "RESTORE" & follow instructions
HW/SW/BL Version			Software UI 0.2.221011a IO 0.3.20221119a Bootloader UI Bootloader IO Compilation Time UI Oct 11 2022 13:28:09 IO Nov 29 2022 15:12: 20 Hardware Main Board rev IO Board rev	
Restore Defaults	Return factory sets		Will overwrite all settings	Touch and hold icon 5 seconds
Error Codes			Error Log Error Code→ Code & definition Date/time stamp Export Log To USB Follow prompts to export Error Statistics Error code frequency Error Statistics Follow prompts to delete	
Reset Passcodes	Overrides default		Operator Code Follow prompts to change Service Code Follow prompts to change	
Languages	Reserved for future use			

Hot Water Portions	Program Items	Factory set Default	Programming Range	Notes
This setting is only for brewers with an electronic hot water faucet. In the <u>SETTINGS</u> menu, the "Automatic" feature must be enabled				
Hot Water Portions	Enabled	"ON"		OFF/ON
Hot Water Portions	Name	Continuous	Rename on keypad	Scroll and tap three virtual keypads
	Safety Timeout	0:25	0:10　　min　　0:60 -------O------------------ Scroll and go to EXIT&SAVE	Sets limit for touch and dispense
Hot Water Portions	**Volume 1**	6 oz.		
	Enabled	ON	Turns "ON" or "OFF"	OFF/ON
	Name	Volume 1	Rename on keypad	Scroll and tap three virtual keypads
	Volume dispensed	6 oz	Volume　　　　　6 　2　　　　oz　　　30 -------O------------------ Scroll and go to EXIT&SAVE	Sets limit for #1 touch and dispense
Hot Water Portions	**Volume 2**	8 oz		
	Enabled	ON	Turns "ON" or "OFF"	OFF/ON
	Name	Volume 2	Rename on keypad	Scroll and tap three virtual keypads
	Volume dispensed	8 oz	Volume　　　　　8 　2　　　　oz　　　30 ----------O---------------- Scroll and go to EXIT&SAVE	Sets limit for #2 touch and dispense
Hot Water Portions	**Volume 3**	8 oz		
	Enabled	ON	Turns "ON" or "OFF"	OFF/ON
	Name	Volume 3	Rename on keypad	Scroll and tap three virtual keypads
	Volume dispensed	12 oz	Volume　　　　　12 　2　　　　oz　　　30 --------------O----------- Scroll and go to EXIT&SAVE	Sets limit for #3 touch and dispense

　　　　　　　P215 REV000　　　February 2023

Calibration	Program Items	Factory set Default	Programming Range	Notes
Flow Rates Water Valves	Brew left	1800 ml/min	Brew Left 1800 (ml) 1450 ml/min 2100 ------O ----------------------- Scroll and go to EXIT&SAVE	Use to attenuate and compensate for variations in brew valve output
Flow Rates Water Valves	Brew right	1800 ml/min	Brew Right 1800 (ml) 1450 ml/min 2100 ------O ----------------------- Scroll and go to EXIT&SAVE	Use to attenuate and compensate for variations in brew valve output
Flow Rates Water Valves	Bypass left	1350 ml/min	Bypass left 1350 (ml) 1050 ml/min 1600 ------O --------------------- Scroll and go to EXIT&SAVE	Use to attenuate and compensate for variations in bypass valve output
Flow Rates Water Valves	Bypass right	1350 ml/min	Bypass right 1350 (ml) 1050 ml/min 1600 ------O --------------------- Scroll and go to EXIT&SAVE	Use to attenuate and compensate for variations in bypass valve output
Flow Rates Faucet Valve	For automatic hot water faucet	1500 ml/min	Faucet 1500 500 ml/min 5000 -----------O --------------- Scroll and go to EXIT&SAVE	To compensate variations in timed dispense from automatic hot water faucet
Fill Compensation	Slow Flow Compensation	OFF	o Off o .. 1.5x o 2.5x Scroll and go to EXIT&SAVE	Use for FloJet bottled water supply or for reduced water supply from mains.
Display			Display % Contrast 70 10 ---------O ------------ 100 Brightness % 70 20 ---------O ------------ 100	
LLC		NORMAL	o Normal o .. High Scroll and go to EXIT&SAVE	Liquid level control sensitivity. Normal for most water. High is for reverse osmosis water or very pure water.

How to calibrate the flow rate

Set the flow rates of the brewer valves to adjust 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
The control software uses the new flow rate entered in the CALIBRATION screen to adjust and correct the amount of water delivered by the valve

Increasing the flow rate value DECREASES the volume of brew water dispensed
Decreasing the flow rate value INCREASES the volume of brew water dispensed

Flow rate adjustment will control all batches made by the valve. All batches on the side of the valve will be adjusted, (left or right)

-Obtain the <u>VOLUME DISPENSED</u> of water only, by brewing a batch without coffee or filter paper.
-Obtain the <u>PROGRAMMED VALUE</u> of the same brew. This is displayed on the home screen in the batch box
-Obtain the <u>CURRENT SETTING</u> for the flow rate from the brewer. Do this by entering PROGRAMMING and
Tap to "CALIBRATION" then, tap "Flow Rates" and then "Water Valves". The valves flow rate is in the top right corner.

Using the values obtained above to obtain the new flow rate setting to correct the volume dispensed:
Divide the <u>volume dispensed</u> by the <u>programmed volume</u> and then multiply by the <u>current setting</u>

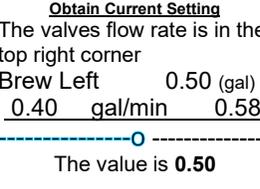$$\frac{VOLUME\ DISPENSED}{PROGRAMMED\ VALUE} \times CURRENT\ SETTING = NEW\ FLOW\ RATE\ SETTING$$

-Enter programming mode, tap to "CALIBRATION"
-Tap back to "Flow Rates" and then to "Water Valves"
-Enter the new flow rate into the calibration slider for the valve tested

Note: values for brewers set in gallons are in decimal format. Place all quantities in ounces and divide by 128 (*One gallon =128 ounces*)
to obtain decimal format → 3 quarts delivered=96oz,   96oz÷128=**0.75 gal**.

Example below shows shortpotting of 16oz over 0.08 gal. batch corrected by recalibration using the formula above

Obtain Volume Dispensed	Obtain Programmed Value	Obtain Current Setting	Use the formula above	Enter the New Flow Rate
Example: A CBS-2232 delivered 3qts or 6oz over the 0.8 gallon (102oz) setting for Batch 2-Left Side (96oz÷128=0.75) The value is 0.75	The Programmed value for batch 2 -left side of the CBS-2232 is on the home screen in the batch box. The value is **0.8 gallon**	The valves flow rate is in the top right corner Brew Left 0.50 (gal) 0.40 gal/min 0.58 ------------O -------------- The value is **0.50**	$\frac{0.75}{0.8} \times 0.50 = \mathbf{0.47}$ The new flow rate is **0.47**	Brew Left 0.47 (gal) 0.40 gal/min 0.58 ------------O -------------- Enter new setting on the slider as shown and EXIT to save. Retesting recommended

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

Outputs	Program Items	Factory set Default	Programming Range	Notes
These settings are used to activate individual controls for testing verifications and servicing operations				
Brew Valve(s)	Momentarily operate Left or Right Brew valves		Brew　　Left　　Right	Have dispenser under spray head! Touch to activate flow
Fill Valve	Momentarily operate fill valve		Fill	Have dispenser under spray heads! Touch to activate flow
Heater SSR	Turns on all heaters		Heater 3 sec max	Activates SSRs to turn on heaters
Light Bar	Momentarily operate light bar(s)		Status Light	
Bypass Valve(s)	Momentarily operates Left or Right Bypass valves		Bypass　　Left　　Right	Have dispenser under bypass port! Touch to activate flow
Faucet Valve	Momentarily operate faucet valve	For brewers with automatic hot water faucet	Faucet	Have dispenser under faucet! Touch to activate flow
Brew Basket Lock	Operates brew basket locks, toggling them on and off		**BBL lock**　Left　Right **BBL Unlock**　Left　Right **BBL Sensor**　Left ⊙　Right ⊙	Will toggle brew basket locks to be engaged then OFF.
Extra Outputs	For future use	Not used	Not used	Not used

Counters	Program Items	Factory set Default	Programming Range	Notes
This setting shows usage of the brewers functions				
Lifetime Counters				
	Service Counters		 **Lifetime Counters** (units in hours and liters) Unit Uptime 0 Fill Valve Volume 0 Activation 0 Heater Time On 0 Activation 0 Hot Water Dispense Count 0 Hot Water Valve Volume 0 Activation 0 Brewer Volume 0 **Left** **Right** Brew Count 0 0 Brew Valve Volume 0 0 Activation 0 0 Bypass Valve Volume 0 0 Activation 0 0 Locks Activation 0 0	
	Hot Water Counters		 **Lifetime Counters** (units in liters) **Volume** **Activation** Continues 0 0 1 0 0 2 0 0 3 0 0	
	Brew Counters		 **Lifetime Counters** (units in liters) **Recipe Number** **Volume** **Activation** 1 0 0 2 0 0 3 0 0 4 0 0 5 0 0 6 0 0 7 0 0 8 0 0	
	Data Counters	Reserved for future		
Water Filter	Water Filer Life Time			

Brewer Setup

NOTE-Assemble legs after unpacking the brewer and before connection to utilities

## 1) attach legs for 3 Liter/ 1 Gallon dispensing

1" legs -
Attach this length for
3 Liter air pot configuration
3 required for CBS-2232
4 required for CBS-2231

2-1/2" legs -
Attach this length for
1 Gallon dispenser or 3 liter air pot.
Part number 1073.00016.00
3 required for CBS-2232
4 required for CBS-2231

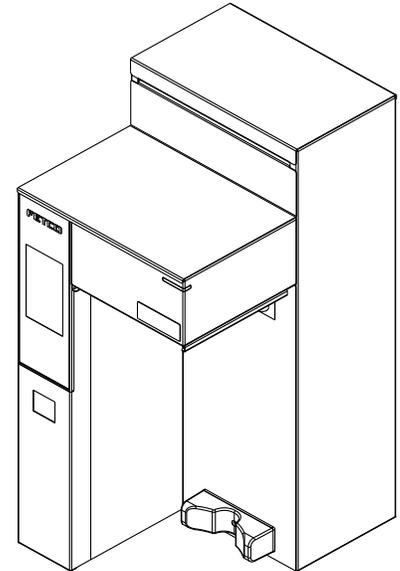Legs are sent from factory inside brew basket. Attach legs before installing

2) Adjust dispenser locator for either 3 Liter / 1 Gallon dispensing
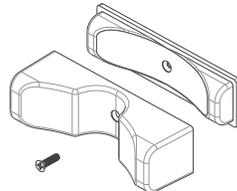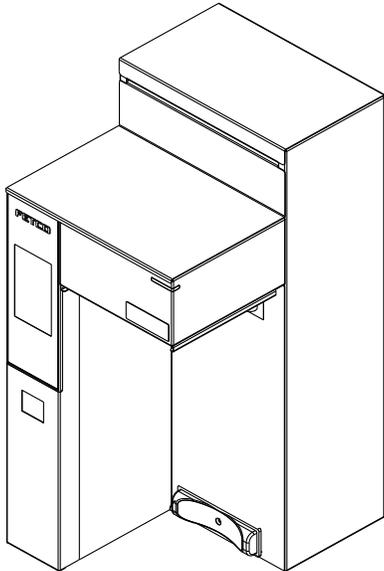
Set Dispenser Locator

← Shown with **1 gallon dispenser** locator
-(User option)

Shown with **3 liter air pot** Locator →
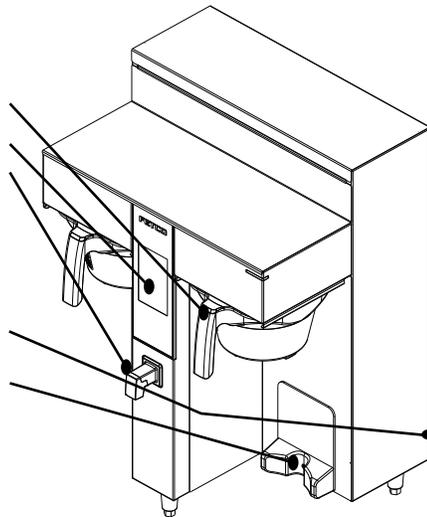**-(Factory installed)**
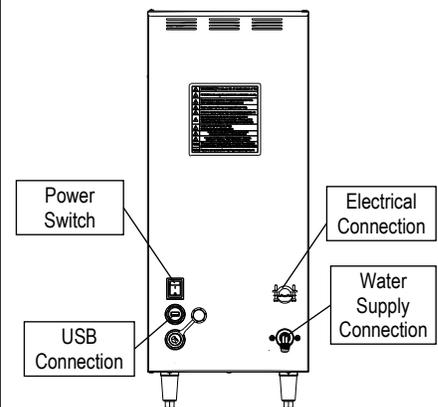
Layout of the brewer

Operation and service

Brew basket
Keypad for brewer operation
Hot Water Faucet

ON/OFF Switch
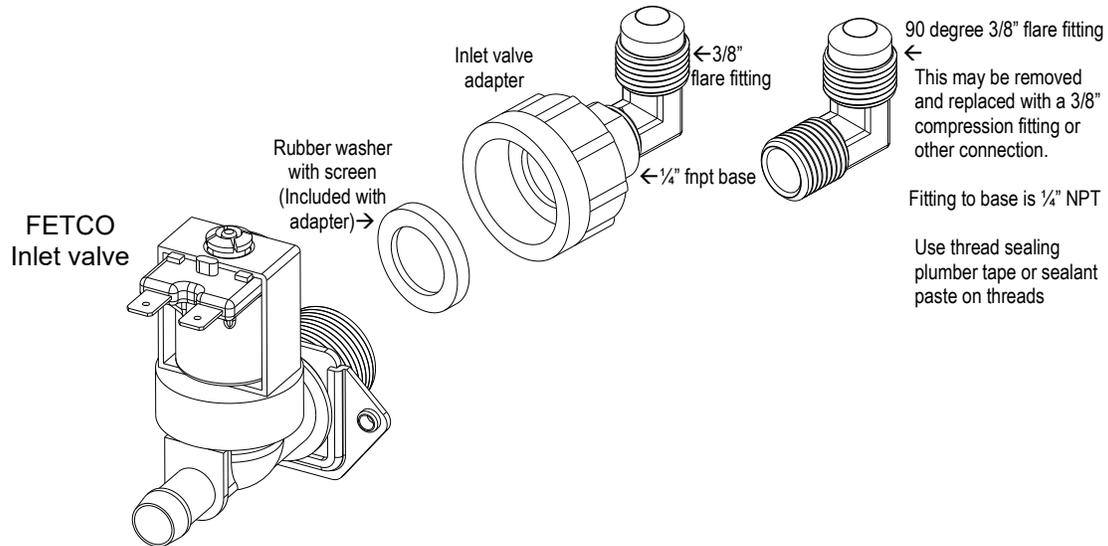Air pot or Dispenser Locator
(Two for twin side)

For installing brewer

Power Switch

Electrical Connection

Water Supply Connection

USB Connection

Brewer Setup

Attach water inlet adapter
Place rubber washer with screen in adapter. Hand tighten only-and 1/4 turn with wrench

Inlet valve adapter

90 degree 3/8" flare fitting ←
This may be removed and replaced with a 3/8" compression fitting or other connection.

←3/8" flare fitting

Rubber washer with screen (Included with adapter)→

FETCO Inlet valve

←¼" fnpt base

Fitting to base is ¼" NPT

Use thread sealing plumber tape or sealant paste on threads

Install the adapter on inlet valve first before attaching water line.   Adapter is shipped in the brew basket
The valve threads are 3/4" BSP MALE THREAD and are not 3/4 garden hose fittings.
Use of any other connector to valve will damage the valve
DO NOT use USA dishwasher water adapter or USA washing machine adapter for this connection.
The threads on these USA adapters are unusable for the valve

TO PREVENT DAMAGE AND INSURE PROPER EQUIPMENT OPERATION
The inlet valve thread is 3/4 INCH BSP (British Standard Pipe).
 This valve is not a standard USA washing machine or dishwasher thread (¾" GHT)

-Use only the plumbing adaptor kit included with this equipment. Use the gasket included in adaptor kit
-Plumber's tape is not recommended for the adapter to valve connection
-Hand tighten adapter on valve with gasket, then very lightly wrench 1/4 turn to set

-DO NOT SUBSTITUTE FITTINGS FOR CONNECTING TO WATER SUPPLY
Damage to inlet valve from improper installation will void the warranty

NOTE: DO NOT TANK PLUMB DRAIN. DRAIN IS FOR SERVICE AND MAINTENANCE.

Installation Guide

(For Qualified Service Technicians Only)

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

Electrical:
All FETCO brewers require **an electrical ground wire**. Installation without grounding is dangerous.
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.)
Verify voltages, polarity, circuits, and circuit breaker access before attaching equipment.
Brewers in this series wire differently in regards to a neutral wire. Review the wire diagrams.
The electrical diagram is located in the User's Guide and online at www.fetco.com.
Make sure of the tight grounding of the equipment and use the external ground bolt.
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:
North America: All installations must comply with applicable federal, state, or local plumbing codes.
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).
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.
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.
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.
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
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

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

Brewer	Hot Water Tank Capacity	OPEN Leave open for use PINCH SHUT To drain tank & service brewer	
CBS-1231 Single	3.3 gal 12.3 liter		
CBS-1232 Twin	6.0 gal 22.4 liter		

Review the operating procedures with whoever will be using the brewer.
Pay particular attention to the following areas:
Always pre-heat the dispensers before the first use of each day by filling them halfway with hot water and letting them stand for at least 5 minutes.

Do not remove the brew basket from a coffee brewer until it has stopped dripping.

Make sure the dispenser is empty before brewing into it.

Show how to attach covers, close, and or secure the dispensers for transporting.

Show the location and operation of the water shut off valve as well as the circuit breaker for the brewer.

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.

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:
Dispose of grounds and rinse brew basket.

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
Rinse dispensers before reuse.

Every Day:
Wash brew basket with hot sudsy water.

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.

Clean dispensers with hot suds water and a brush, rinse and air dry.

Use only a soft cloth and hot suds on the outside to avoid scratches. Never use abrasives that will scratch surface.

Weekly
Use a commercial coffee dispenser cleaner such as URNEX™, TABZ™, DIP-IT™ or Squeak 'n Clean™.

Carefully Follow the instructions supplied with the cleaning product

Never use spray cleaners, solvent, solvent based cleaner or petroleum based polish anywhere on dispensers

Warning

Turn off power before any cleaning procedure, including wiping the exterior for appearance reasons.

Dry the exterior, especially the face panel, before turning on power.

Do not apply any type of spray cleaner on the face panel of this equipment.

Never use solvent or solvent-based cleaner or petroleum based polish anywhere on this equipment.

Dry the face of the touch pad before turning on power

Do not electrically energize this equipment or attempt operation without all covers in place and all screws fastened.

Unplug machine before disassembly or servicing.

Safety Notes

Professional installation is required. This appliance is manufactured only for commercial use

Operational requirements and maintenance for commercial cooking appliances differ from household appliances.

Operators must be trained for this equipment and must understand the use, maintenance and hazards.

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.

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

Commercial coffee brewers provide very hot water from the spray head, brew basket and faucet when it is pulled.

Coffee 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.

For safety, the brewer control locks the brew basket for 6.0 minutes after starting the brew.

Never attempt to defeat the factory set (default) time that the brew basket is locked for safety from start of brew.

Keep these instructions for training and future reference.
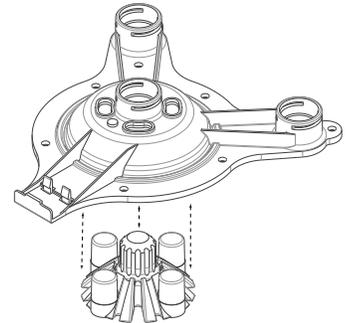
Warning

Turn off power before any cleaning procedure, including wiping the exterior for appearance reasons.

Dry the exterior, especially the face panel, before turning on power.

Do not apply any type of spray cleaner on the face panel of this equipment.

Never use solvent or solvent-based cleaner or petroleum based polish anywhere on this equipment.

Dry the face of the touch pad before turning on power

Do not electrically energize this equipment or attempt operation without all covers in place and all screws fastened.

Unplug machine before disassembly or servicing.

Installation safety and hygiene directions-For International and CE equipment

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.

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.

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.

Children should be supervised to ensure that they do not play hot beverage equipment.

This unit must be installed and serviced by qualified personnel only.

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.

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.

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).

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.

Brewers will need a sturdy supported surface for operation. Do not move brewers when filled.

Do not tilt appliance more than 10° to insure safe operation.

Unit is for protected indoor use only. Do not steam clean or use excessive water on unit.

This unit is not "jet-proof" construction. Do not pressure wash or use jet spray to clean this unit.

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.

WARNING

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
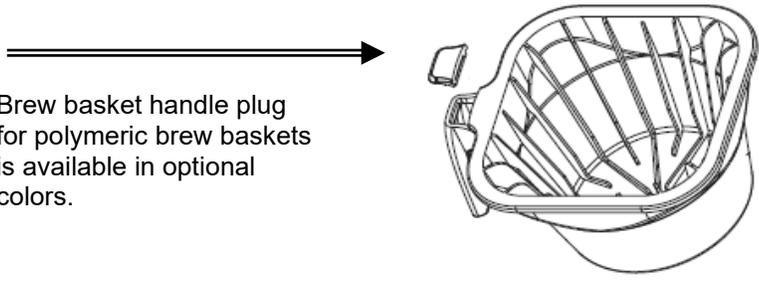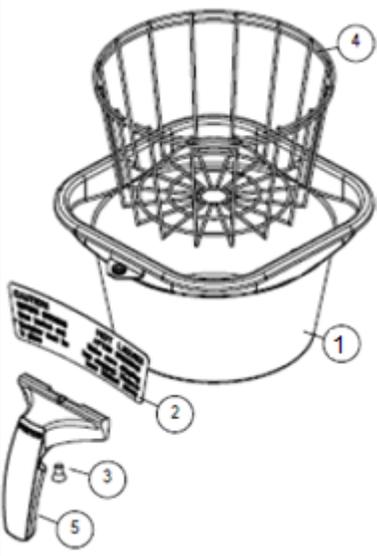

⚠	**WARNING** To reduce risk of electric shock or fire.
⚠	FETCO® Hot Beverage Equipment is for commercial use only.
⚠	Do not remove or open cover. No user serviceable parts inside. Refer installation and service to qualified personnel.
⚠	Caution, disconnect from power supply before servicing.
⚠	GROUND: 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 APPLIANCE 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 backflow protection device to comply with federal, state or local municipality codes.
Notice	Read the user guide before installing and operating this unit.

Labels and warnings for hot beverage equipment Label for BACK PANEL of equipment

(1046.00035.00)

Brew Baskets

Plastic Brew Basket For CBS-2241 & CBS-2242		
Part Number B014218BN2BK – Complete Plastic Brew Basket 13" X 5", .218 DIA HOLE		
Brew basket handle plug for polymeric brew baskets is available in optional colors.	**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

Stainless Steel Brew Basket For CBS-2241 & CBS-2242				
Part Number B003218B1 – Complete Stainless Steel Brew Basket 13" X 5", .218 DIA HOLE				
	Ref#	Qty	Part Number	Description
	1	1	1112.00128.00	BB WLDMNT 13" X 5", .218 DIA HOLE
	2	1	1046.00025.00	BREW BASKET WARNING LABEL
	3	1	1082.00040.00	SCREW, 1/4-20 X .5, FL HD, PH., W/NYLN
	4	1	1009.00006.00	WIRE BASKET
	5	1	1102.00064.00	HANDLE W/MAGNET ASY, BLACK
	Optional colored handle		1102.00065.00	HANDLE W/MAGNET ASY, RED
	Optional colored handle		1102.00066.00	HANDLE W/MAGNET ASY, GREEN
	Optional colored handle		1102.00067.00	HANDLE W/MAGNET ASY, ORANGE

Specialty Brew Baskets for Iced Tea/Tea and Specialty Coffee Brewing.
These brew baskets have reduced orifice sizes and may require PROGRAMMING changes to increase brewing time and pulses to enhance extraction and prevent basket overflow during steeping. SEE Page 5- Brew Recipes

Stainless Steel			
Part Number	Orifice Size	Handle Color	Filter Paper Size
B003218B1 (from above)	0.218-Sandard	Black	13" X 5" or FETCO# F002
B003158B1	0.158	Black	13" X 5" or FETCO# F002
B003110G1	0.110	Green	13" X 5" or FETCO# F002
B003110B1	0.110	Black	13" X 5" or FETCO# F002
B003079B1	0.079	Black	13" X 5" or FETCO# F002

| Plastic			
Part Number	Orifice Size	Plug Color	Filter Paper Size
B014218BN2BK (from above)	0.218-Sandard	Black	13" X 5" or FETCO# F002
B014140G2BK	0.140	Green	13" X 5" or FETCO# F002

CBS-2232 NG
Drawing 1101.00563

#24 part number
1084.00011.00
J-Nut
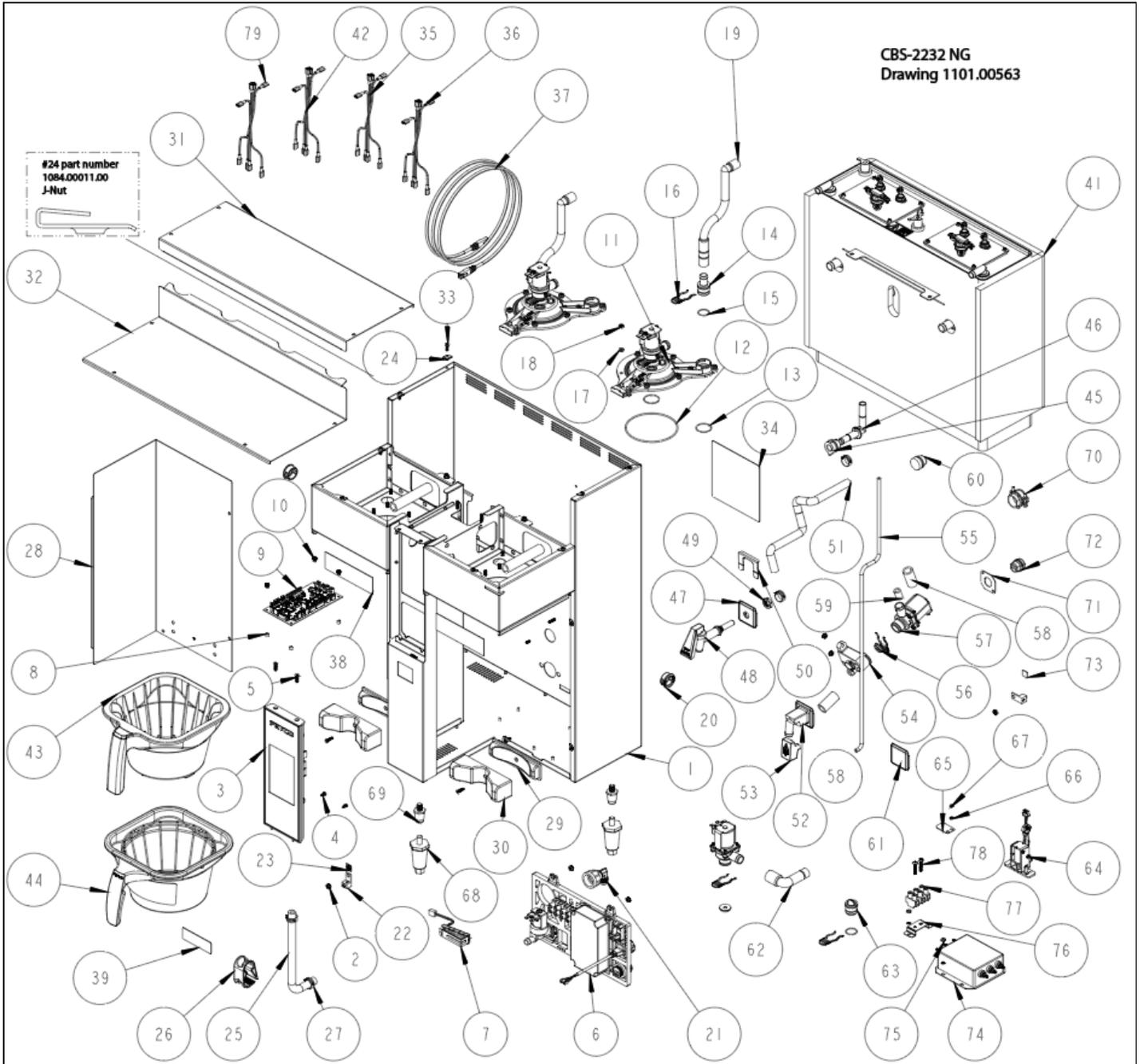
Ref	Qty	PartNumber	Description Drawing 1101.00563.00 CBS-2232
1	1	1111.00101.00	WELDMENT BODY, CBS-2232
2	8	1084.00051.00.	NUT, HEX LOCKWASHER, #8-32, 18-8 ST. STL
3	1	1102.00448.00	FRONT PANEL ASSEMBLY, CBS-2200 SERIES
4	2	1082.00029.00	SCREW, #6 X 3/8 LG, TRUSS HD PHIL, SHEET MTL
5	4	1082.00058.00	SCREW, # 8-32 X 5/8, FLAT HD, PH, 18-8 SS
6	**1**	**See Drawing**	**ELECTRICAL COMPONENT LATTICE, CBS-2200**
7	1	1102.00444.00	VISUAL COMMUNICATION RGB LED BAR, ASSY
8	4	1081.00006.00	SPACER, 6MM OD x 3.2MM ID x 5MM LG, Z/P
9	1	1051.00046.00	CBS-2200 SERIES, I/O BOARD, 24V
10	4	1029.00006.00	NUT, FINGER KNURLED, #4-40
11	**2**	**See Drawing**	**SPRAYHEAD ASSY,CBS-30/40'S, QUICK CONNECT**
12	2	1024.00063.00	O-RING, 3 15/16" x 3/32" CS, DASH # 154, BUNA-N, DURO-A50
13	4	1024.00107.00	O-RING, 1 3/16" OD X 1 1/16" ID X 1/16" TH, BYPASS SEAL
14	2	1023.00343.00	VENT INSERT, QUICK CONNECT
15	3	1024.00106.00	O-RING, 13/16"OD X 11/16"ID X 1/16" TH, FOR QUICK CONNECT
16	5	1023.00342.00	QUICK CONNECT CLIP
17	18	1083.00010.00	WASHER, #12 SCREW W/NEOPRENE-BONDED SEAL
		Parts list continues next page	

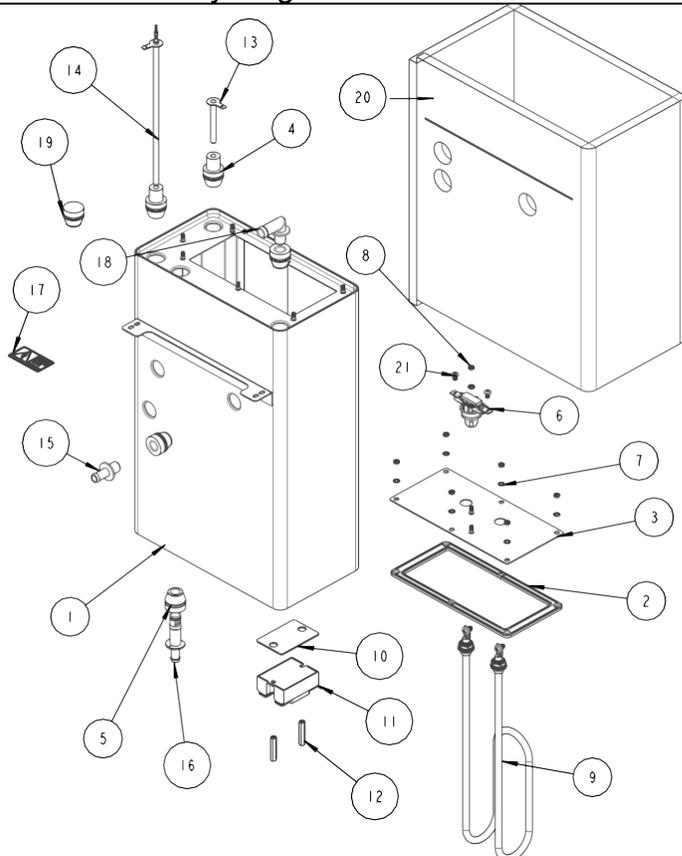| Ref	Qty	PartNumber	Description
18	18	1084.00006.00	NUT, 8-32 18-8 HEX MACHINE SCREW
19	2	1024.00098.00	VENT TUBE, CBS- EXTRACTOR SERIES
20	2	1086.00004.00	BUSHING, SNAP, 1" MOUNTING HOLE
21	1	1102.00243.00	ADAPTER ASSY, 3/4" BSP x 1/4" NPT x 3/8" TUBE
22	2	1065.00009.00	GROUND LUG CONNECTOR, 14-2 AWG, ALUMINUM
23	1	1044.00012.00	LABEL GROUND, CE
24	11	1084.00011.00	NUT, CLIP ON (J-NUT), #6-32, 22-20 GA., BLK-PH FINISH
25	1	1025.00058.00	TUBE, 9/16"OD X 5/16"ID X 25.00"LG
26	1	1086.00009.00	CLAMP, 3/4" MAX TUBE OD FLOW CONTROL
27	5	1086.00003.00	UNICLAMP, 15.9 HOSE OD CLAMP
28	1	1112.00530.00	WELDMENT, RIGHT COVER, CBS-2230
29	2	1023.00354.00	LOCATOR, DISPENSER, CBS-2230
30	2	1023.00355.00	LOCATOR, AIRPOT ADAPTER, CBS-2230
31	1	1001.00408.00	COVER TOP, CBS-2232/42
32	1	1001.00409.00	COVER, UPPER BASE, CBS-2232/42
33	11	1082.00017.00	SCREW, TRUSS HD. PHIL. MACHINE, # 6-32 X 1/2 LG.
34	1	1046.00035.00	LABEL, WARNING "TO REDUCE RISK OF ELECTRIC SHOCK OR FIRE"
35	1	1402.00106.00	HARNESS, CBS-2240/50-NG, LOW AMP, UNIVERSAL
36	1	1402.00107.00	HARNESS ADDITION, CBS-2242/52-NG, LOW AMP, UNIVERSAL
37	1	1063.00042.00	ETHERNET CABLE, CAT-7, 5FT LENGTH
38	2	1046.00003.00	LABEL, CSD WARNING, 1.5" X 5.0"
39	1	1041.00032.00	BLACK EXTRACTOR NG LABEL, LASER ENGRAVED
40	2	1025.00142.00	TUBE, SILICONE, 3/4" OD X 1/2" ID X 3.75" LG, BREW
41	**1**	**See Drawing**	**TANK ASSEMBLY, CBS-2231**
42	1	1402.00037.10	HARNESS HIGH AMP, CBS-2232/42/51, UL
43	1	B014218BN2BK	BREW BASKET ASSY, BLACK, 13" X 5", 0.218" DIA HOLE, BROWN PLUG
44	1	B003218B1	BREW BASKET ASSY, 13" X 5", .218 DIA HOLE, BLACK
45	1	1024.00111.00	GROMMET, SILICONE, W/ POSITION TABS
46	1	1023.00362.00	FITTING VENT, ELBOW, .375" X .375", SELF POSITIONING
47	1	1023.00348.00	HOT WATER INSERT, MANUAL FAUCET
48	1	1071.00055.00	FAUCET, HOT WATER, PSC-BR-8, WITH FLAT AND STEM
49	1	1084.00048.00	JAM NUT, 1/2-20 UNF, NICKEL PLATED BRASS
50	1	1003.00370.00	HOT WATER INSERT LOCK
51	1	1025.00120.00	TUBE, 9/16"OD X 5/16"ID X 13.00"LG
52	1	1023.00346.00	HOT WATER INSERT, AUTO FAUCET
53	1	1029.00041.00	COVER, AUTO HOT WATER FAUCET, SILICONE
54	1	1023.00347.00	VALVE MOUNT, HOT WATER DISPENSER
55	1	1025.00026.00	TUBE, 1/4"OD X 1/8"ID X 30"LG, VENT, HOT WATER VAPOR
56	2	1023.00369.00	ORIFICE INSERT, QUICK CONNECT, 3/16" HOLE
57	2	1057.00076.00	VALVE ASSEMBLY, COMPLETE, NG, DELTROL
58	2	1025.00138.00	TUBE, SILICONE, 3/4" OD X 1/2" ID X 1-1/2" LG, HOT WATER
59	1	1025.00135.00	TUBE, 1/2"OD X 1/4"ID X .75" LG, RESTRICTOR
60	1	1024.00051.00	GROMMET, SILICONE, BLANK
61	1	1023.00349.00	HOT WATER INSERT, NO FAUCET
62	1	1029.00042.00	BYPASS L-TUBE, SILICONE, 2200 SINGLE SERIES
63	1	1023.00344.00	PLUG INSERT, QUICK CONNECT
64	1	1102.00445.00	ASSY, BREW BASKET LOCKER W/FEEDBACK
65	1	1003.00259.00	BRACKET, BREW BASKET LOCK COVER
66	3	1083.00009.00	WASHER, #6 SCREW , INTL TOOTH LOCKWASHER
67	1	1084.00010.00	NUT, HEX, #6-32, UNDERSIZED, ZINC PLATED
68	3	1073.00016.00	LEG, THERMOPLASTIC, 2.50"(63mm)
69	3	1073.00019.00	LEG, 3/8-16 THREAD x 1" LG., GRAY
70	1	1086.00008.00	CONNECTOR, CLAMP, NON-METALLIC CABLE, 3/4"
71	1	1003.00348.00	ADAPTER PLATE, CBS-1130-XV+, STRAIN RELIEF, CE
72	1	1086.00029.00	BUSHING, STRAIN RELIEF, .360"-.430" DIA CABLE
73	1	1044.00013.00	LABEL EQUIPOTENTIALITY, CE
74	1	1052.00027.00	EMI FILTER, THREE LINE 30A, 250/440VAC
75	2	1084.00012.00	NUT, HEX, #6-32 MACHINE SCREW
76	1	1112.00246.00	WELDMENT BRACKET TERMINAL BLOCK, 3 POLE
77	1	1052.00022.00	EUROSTRIP HE10 TERM. BLOCK, 3 POLE, 50AMP, 18-8 AWG
78	2	1082.00082.00	SCREW, PHILLIP HD., 8-32 THREAD
79	1	1402.00121.10	WIRE HARNESS ADDITION, HIGH AMP, EMI FILTER, 2-POLE, CE

#24 part number
1084.00011.00
J-Nut
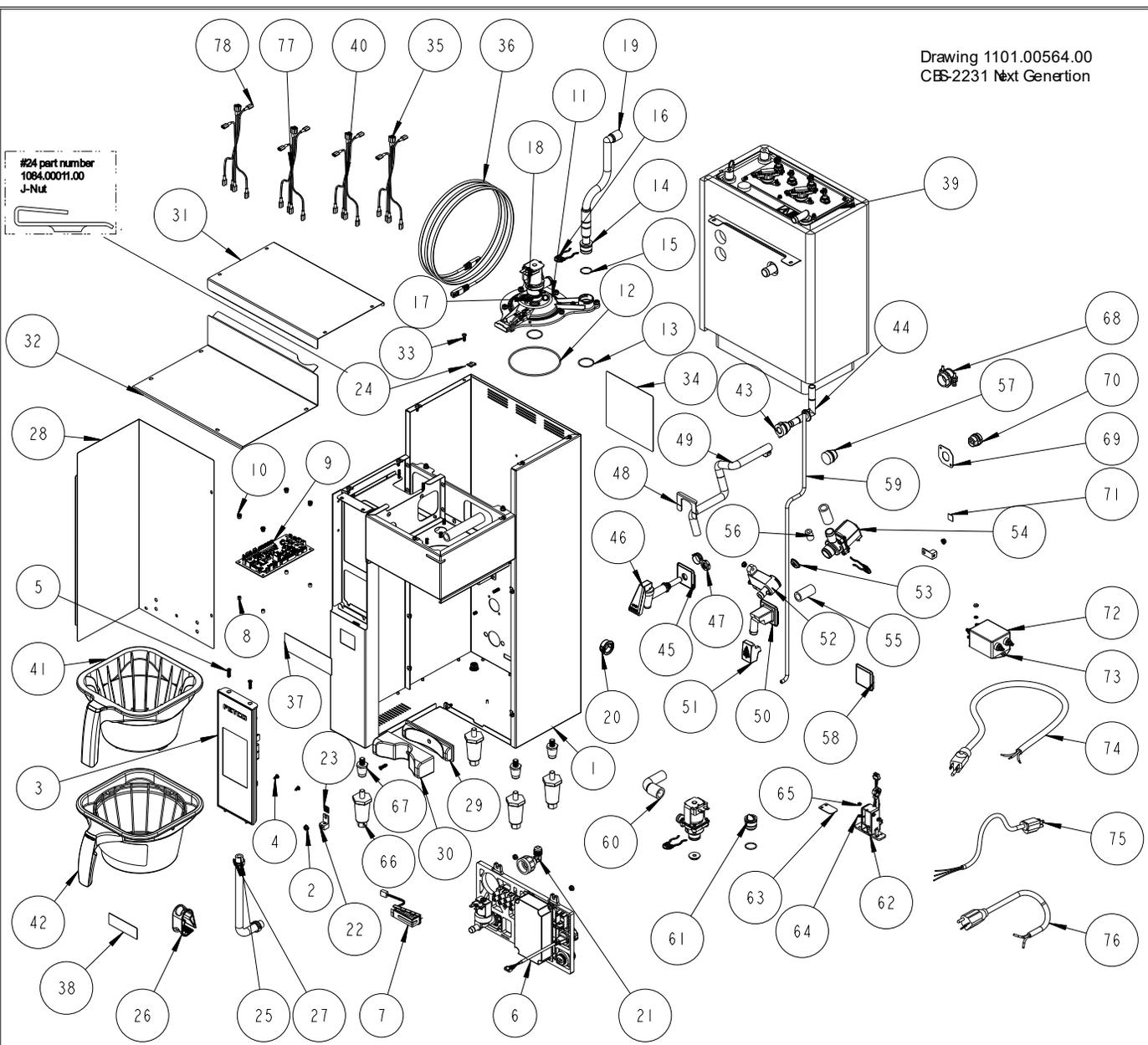
Ref	Qty	Part Number	Description Drawing 1101.00564.00 CBS-2231NG
1	1	1111.00102.00	WELDMENT BODY, CBS-2231
2	8	1084.00051.00	NUT, HEX LOCKWASHER, #8-32, 18-8 ST. STL.
3	1	1102.00448.00	FRONT PANEL ASSEMBLY, CBS-2200 SERIES
4	2	1082.00029.00	SCREW, #6 X 3/8 LG, TRUSS HD PHIL, SHEET MTL
5	3	1082.00058.00	SCREW, # 8-32 X 5/8, FLAT HD, PH, 18-8 SS
6	**1**	**See Drawing**	**ELECTRICAL COMPONENT LATTICE, CBS-2200**
7	1	1102.00444.00	VISUAL COMMUNICATION RGB LED BAR, ASSY
8	4	1081.00006.00	SPACER, 6MM OD x 3.2MM ID x 5MM LG, Z/P
9	1	1051.00046.00	CBS-2200 SERIES, I/O BOARD, 24V
10	4	1029.00006.00	NUT, FINGER KNURLED, #4-40
11	**1**	**See Drawing**	**QUICK CONNECT SRAYHEAD ASSEMBLY,30/40'S, BASIC**
12	1	1024.00063.00	O-RING, 3 15/16" x 3/32" CS, DASH # 154, BUNA-N, DURO-A50
13	2	1024.00107.00	O-RING, 1 3/16" OD X 1 1/16" ID X 1/16" TH, BYPASS SEAL
14	1	1023.00343.00	VENT INSERT, QUICK CONNECT
15	2	1024.00106.00	O-RING, 13/16"OD X 11/16"ID X 1/16" TH, FOR QUICK CONNECT
16	3	1023.00342.00	QUICK CONNECT CLIP
17	9	1083.00010.00	WASHER, #12 SCREW W/NEOPRENE-BONDED SEAL
18	9	1084.00006.00	NUT, 8-32 18-8 HEX MACHINE SCREW
19	1	1024.00098.00	VENT TUBE, CBS- EXTRACTOR SERIES
		Parts list continues next page	

Ref	Qty	PartNumber	Description
20	1	1086.00004.00	BUSHING, SNAP, 1" MOUNTING HOLE
21	1	1102.00243.00	ADAPTER ASSY, 3/4" BSP x 1/4" NPT x 3/8" TUBE
22	2	1065.00009.00	GROUND LUG CONNECTOR, 14-2 AWG, ALUMINUM
23	1	1044.00012.00	LABEL GROUND, CE
24	11	1084.00011.00	NUT, CLIP ON (J-NUT), #6-32, 22-20 GA., BLK-PH FINISH
25	1	1025.00058.00	TUBE, 9/16"OD X 5/16"ID X 25.00"LG
26	1	1086.00009.00	CLAMP, 3/4" MAX TUBE OD FLOW CONTROL
27	4	1086.00003.00	UNICLAMP, 15.9 HOSE OD CLAMP
28	1	1112.00530.00	WELDMENT, RIGHT COVER, CBS-2230
29	1	1023.00354.00	LOCATOR, DISPENSER, CBS-2230
30	1	1023.00355.00	LOCATOR, AIRPOT ADAPTER, CBS-2230
31	1	1001.00413.00	COVER TOP, CBS-2231/41
32	1	1001.00414.00	COVER, UPPER BASE, CBS-2231/41
33	11	1082.00017.00	SCREW, TRUSS HD. PHIL. MACHINE, # 6-32 X 1/2 LG.
34	1	1046.00035.00	LABEL, WARNING "TO REDUCE RISK OF ELECTRIC SHOCK OR FIRE"
35	1	1402.00106.00	HARNESS, CBS-2240/50-NG, LOW AMP, UNIVERSAL
36	1	1063.00042.00	ETHERNET CABLE, CAT-7, 5FT LENGTH
37	1	1046.00003.00	LABEL, CSD WARNING, 1.5" X 5.0"
38	1	1041.00032.00	BLACK EXTRACTOR NG LABEL, LASER ENGRAVED
39	**1**	**See Drawing**	**TANK ASSEMBLY, CBS-2231**
40	1	1402.00039.10	HARNESS HIGH AMP, CBS-2231/41/51, UL
41	1	B014218BN2BK	BREW BASKET ASSY, BLACK, 13" X 5", 0.218" DIA HOLE, BROWN PLUG
42	1	B003218B1	BREW BASKET ASSY, 13" X 5", .218 DIA HOLE, BLACK
43	1	1024.00111.00	GROMMET, SILICONE, W/ POSITION TABS
44	1	1023.00362.00	FITTING VENT, ELBOW, .375" X .375", SELF POSITIONING
45	1	1023.00348.00	HOT WATER INSERT, MANUAL FAUCET
46	1	1071.00055.00	FAUCET, HOT WATER, PSC-BR-8, WITH FLAT AND STEM
47	1	1084.00048.00	JAM NUT, 1/2-20 UNF, NICKEL PLATED BRASS
48	1	1003.00370.00	HOT WATER INSERT LOCK
49	1	1025.00120.00	TUBE, 9/16"OD X 5/16"ID X 13.00"LG
50	1	1023.00346.00	HOT WATER INSERT, AUTO FAUCET
51	1	1029.00041.00	COVER, AUTO HOT WATER FAUCET, SILICONE
52	1	1023.00347.00	VALVE MOUNT, HOT WATER DISPENSER
53	2	1023.00369.00	ORIFICE INSERT, QUICK CONNECT, 3/16" HOLE
54	2	1057.00076.00	VALVE ASSEMBLY, COMPLETE, NG, DELTROL
55	2	1025.00138.00	TUBE, SILICONE, 3/4" OD X 1/2" ID X 1-1/2" LG, HOT WATER
56	1	1025.00135.00	TUBE, 1/2"OD X 1/4"ID X .75" LG, RESTRICTOR
57	1	1024.00051.00	GROMMET, SILICONE, BLANK
58	1	1023.00349.00	HOT WATER INSERT, NO FAUCET
59	1	1025.00026.00	TUBE, 1/4"OD X 1/8"ID X 30"LG, VENT, HOT WATER VAPOR
60	1	1029.00042.00	BYPASS L-TUBE, SILICONE, 2200 SINGLE SERIES
61	1	1023.00344.00	PLUG INSERT, QUICK CONNECT
62	1	1102.00445.00	ASSY, BREW BASKET LOCKER W/FEEDBACK
63	1	1003.00259.00	BRACKET, BREW BASKET LOCK COVER
64	4	1083.00009.00	WASHER, #6 SCREW , INTL TOOTH LOCKWASHER
65	2	1084.00010.00	NUT, HEX, #6-32, UNDERSIZED, ZINC PLATED
66	4	1073.00016.00	LEG, THERMOPLASTIC, 2.50"(63mm)
67	4	1073.00019.00	LEG, 3/8-16 THREAD x 1" LG., GRAY
68	1	1086.00008.00	CONNECTOR, CLAMP, NON-METALLIC CABLE, 3/4"
69	1	1003.00348.00	ADAPTER PLATE, CBS-1130-XV+, STRAIN RELIEF, CE
70	1	1086.00029.00	BUSHING, STRAIN RELIEF, .360"-.430" DIA CABLE
71	1	1044.00013.00	LABEL EQUIPOTENTIALITY, CE
72	1	1052.00029.00	EMI FILTER, TWO LINE 20A, 120/250VAC
73	2	1084.00012.00	NUT, HEX, #6-32 MACHINE SCREW
74	1	1063.00016.00	POWER CORD, 120VAC W/NEMA 5-15P PLUG
75	1	1063.00015.00	CORD, 120 VAC, 12/3 AWG ,20 AMP , W/5-20P NEMA PLUG
76	1	1063.00032.00	CORD, POWER, NEMA 6-15P, 15A/250V, W/O TERMINALS
77	1	1402.00039.11	HARNESS ADDITION, HIGH AMP, CBS-2231/41/51, UL
78	1	1402.00121.10	WIRE HARNESS ADDITION, HIGH AMP, EMI FILTER, 2-POLE, CE
79	1	1025.00142.00	TUBE, SILICONE, 3/4" OD X 1/2" ID X 3.75" LG, BREW

CBS-2231 Tank Assembly-single heater
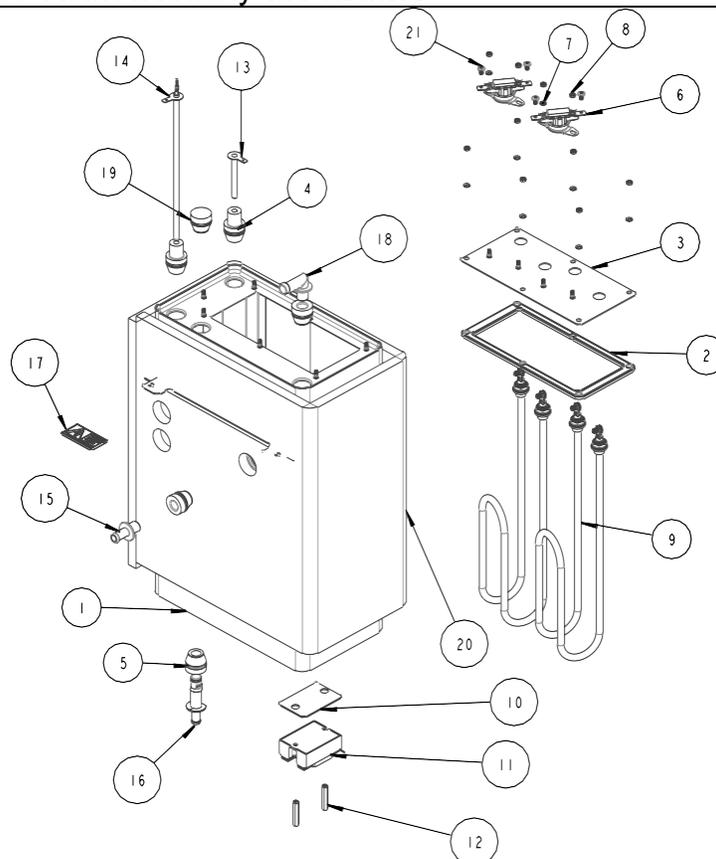

TANK ASSY, CBS-2231 Single Heater
Drawing number 1104.000169.00, 1104.000170.00, 1104.000172.00, 1104.000174.00, 1104.000175.00

REF	QTY	Part number	Description
1	1	1114.00168.001	WELDMENT, TANK, CBS-2231
2	1	1024.00114.00	TANK GASKET - NG HEATER PLATE, TWO ELEMENT
3	1	1114.00184.00	WELDMENT TANK HEATER BRACKET, NG-2231, SINGLE
4	2	1024.00053.00	LEVEL AND TEMP PROBE GROMMET
5	3	1024.00050.00	GROMMET, SILICONE, 11.4mm ID
6	1	1053.00052.00	THERMOSTAT, SINGLE SHOT, SCREW CONNECTIONS, 240V/25A
7	8	1083.00009.00	WASHER, #6 SCREW , INTL TOOTH LOCKWASHER
8	8	1084.00010.00	NUT, HEX, #6-32, UNDERSIZED, ZINC PLATED
9	1	1107.00021.00	HEATER ASSEMBLY, IMMERSION 1500W/120VAC
9	1	1107.00020.00	HEATER ASSEMBLY, IMMERSION 2300W/240VAC
9	1	1107.00019.00	HEATER ASSEMBLY, IMMERSION 2300W/120VAC
9	1	1107.00018.00	HEATER ASSEMBLY, IMMERSION 3000W/240VAC
10	1	1003.00140.00	ALUMINUM BRACKET FOR SSR
11	1	1052.00033.00	RELAY, SOLID STATE, 50A/480VAC, W/BUILD IN VARISTOR
12	2	1081.00042.00	STANDOFF, 1/4" HEX
13	1	1112.00002.00	PROBE WELDMENT, WATER LEVEL 2.25" LG
14	1	1102.00161.00	PROBE ASSEMBLY, TEMP. AND LLC, 8" LONG
15	1	1023.00168.00	FITTING, STRAIGHT, GROMMET, .400"
16	1	1023.00166.00	FITTING, COLD WATER INLET, GROMMET DESIGN
17	1	1044.00004.00	LABEL, DANGER, HIGH VOLTAGE
18	1	1023.00212.00	FITTING, ELBOW, GROMMET, .500"
19	1	1024.00051.00	GROMMET, SILICONE, BLANK
20	1	1022.00114.00	TANK INSULATION, CBS-2231
21	2	1082.00136.00	BRASS SCREW, #8-32 X 1/4", PHILLIPS PAN HEAD

Table of authorities for CBS-2231NG replacement hot water tank module-tank is sold complete with insulation

| SKU Number. See page 3 for list	Description	Tank Part Number
E2231US-1A115-PA011	TANK , CBS-2231, 1 X 1.5KW/120VAC	1104.00169.00
E2231US-1A123-PA012	TANK , CBS-2231, 1 X 2.3KW/120VAC	1104.00172.00
E2231CE-1B123-PA015	TANK , CBS-2231, 1 X 2.3KW/240VAC	1104.00174.00
E2231NM-1B130-PA013; E2231CE-1B130-PA015	TANK , CBS-2231, 1 X 3.0KW/240VAC	1104.00175.00

TANK ASSY, CBS-2231 Two Heater   Drawing number 1104.000171.00, 1104.000173.00

REF	QTY	Part number	Description
1	1	1114.00168.00	WELDMENT, TANK, CBS-2231
2	1	1024.00114.00	TANK GASKET - NG HEATER PLATE, TWO ELEMENT
3	1	1114.00176.00	WELDMENT TANK HEATER BRACKET, NG-2231
4	2	1024.00053.00	LEVEL AND TEMP PROBE GROMMET
5	3	1024.00050.00	GROMMET, SILICONE, 11.4mm ID
6	2	1053.00052.00	THERMOSTAT, SINGLE SHOT, SCREW CONNECTIONS, 240V/25A
7	10	1083.00009.00	WASHER, #6 SCREW , INTL TOOTH LOCKWASHER
8	10	1084.00010.00	NUT, HEX, #6-32, UNDERSIZED, ZINC PLATED
9	**2**	1107.00022.00	HEATER ASSEMBLY, IMMERSION 1700W/120VAC
9	**2**	1107.00019.00	HEATER ASSEMBLY, IMMERSION 2300W/120VAC
10	2	1003.00140.00	ALUMINUM BRACKET FOR SSR
11	2	1052.00033.00	RELAY, SOLID STATE, 50A/480VAC, W/BUILD IN VARISTOR
12	4	1081.00042.00	STANDOFF, 1/4" HEX
13	1	1112.00002.00	PROBE WELDMENT, WATER LEVEL 2.25" LG
14	1	1102.00161.00	PROBE ASSEMBLY, TEMP. AND LLC, 8" LONG
15	1	1023.00168.00	FITTING, STRAIGHT, GROMMET, .400"
16	1	1023.00166.00	FITTING, COLD WATER INLET, GROMMET DESIGN
17	1	1044.00004.00	LABEL, DANGER, HIGH VOLTAGE
18	1	1023.00212.00	FITTING, ELBOW, GROMMET, .500"
19	1	1024.00051.00	GROMMET, SILICONE, BLANK
20	1	1022.00114.00	TANK INSULATION, CBS-2231
21	4	1082.00136.00	BRASS SCREW, #8-32 X 1/4", PHILLIPS PAN HEAD

Table of authorities for CBS-2231NG replacement hot water tank module-tank is sold complete with insulation

| SKU Number. See page 3 for list	Description	Part Number
E2231NM-1X123-PA012, E2231NM-1A123-PA012	TANK CBS-2231, 2 X 2.3KW/120VAC	1104.00173.00
E2231US-1X117-PA011	TANK CBS-2231, 2 X 1.7KW/120VAC	1104.00171.00

CBS-2232 Tank Assembly
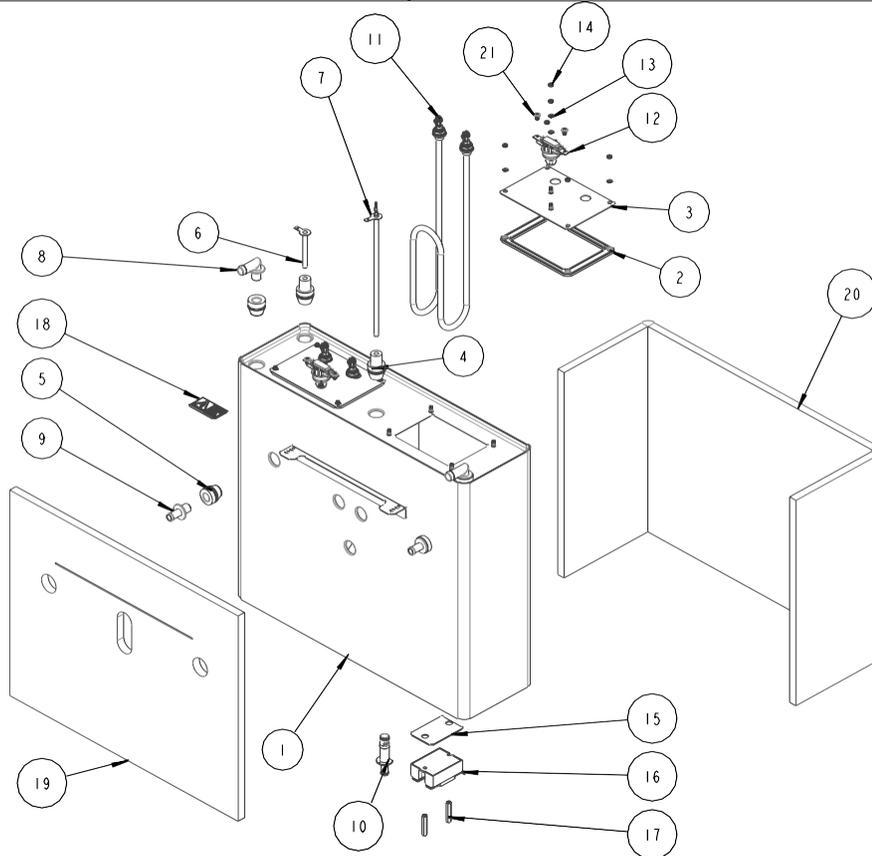
CBS-2232   Hot Water Tank   Drawing 1104.00176.01

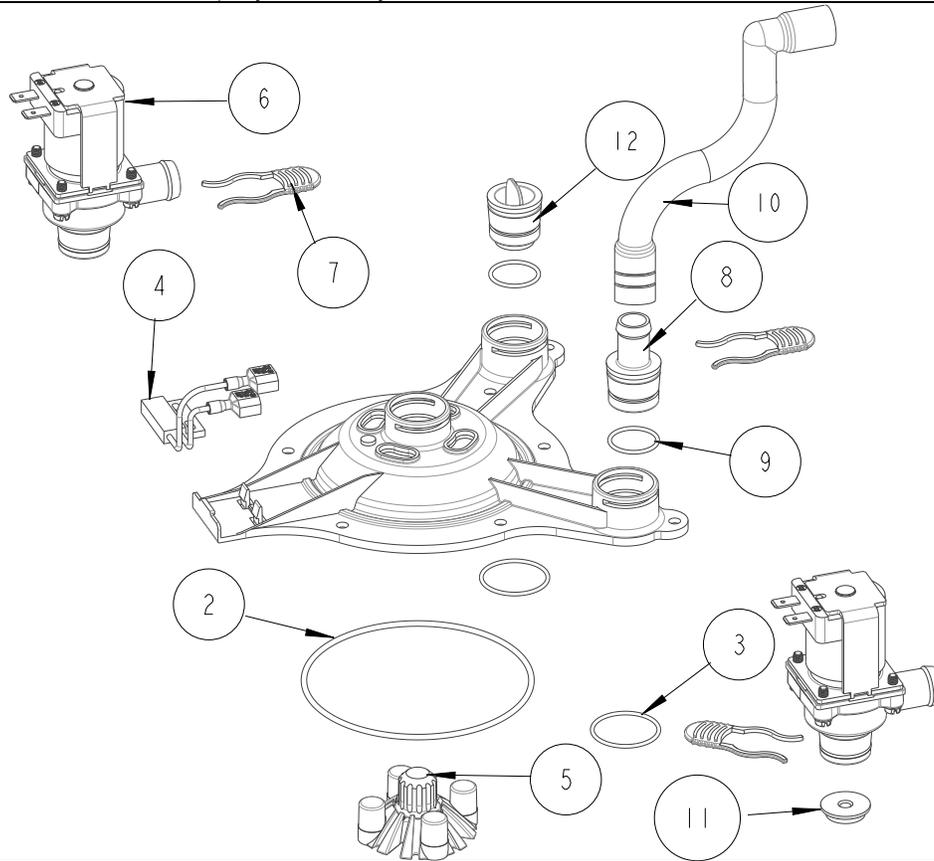| Ref#	Qty	Part number	Description
1	1	1114.00169.00	WELDMENT TANK CBS-2232, GROMMET DESIGN
2	2	1024.00115.00	TANK GASKET - NG HEATER PLATE, ONE ELEMENT
3	2	1114.00181.00	WELDMENT TANK HEATER BRACKET, NG-2232
4	2	1024.00053.00	LEVEL AND TEMP PROBE GROMMET
5	5	1024.00050.00	GROMMET, SILICONE, 11.4mm ID
6	1	1112.00002.00	PROBE WELDMENT, WATER LEVEL 2.25" LG
7	1	1102.00161.00	PROBE ASSEMBLY, TEMP. AND LLC, 8" LONG
8	2	1023.00212.00	FITTING, ELBOW, GROMMET, .500"
9	2	1023.00168.00	FITTING, STRAIGHT, GROMMET, .400"
10	1	1023.00166.00	FITTING, COLD WATER INLET, GROMMET DESIGN
11	**2**	**1107.00019.00**	HEATER ASSEMBLY, IMMERSION 2300W/120VAC
11	**2**	**1107.00018.00**	HEATER ASSEMBLY, IMMERSION 3kW/240VAC
11	**2**	**1107.00040.00**	HEATER ASSEMBLY, IMMERSION 4kW/240VAC
12	2	1053.00052.00	THERMOSTAT, SINGLE SHOT, SCREW CONNECTIONS, 240V/25A,
13	12	1083.00009.00	WASHER, #6 SCREW , INTL TOOTH LOCKWASHER
14	12	1084.00010.00	NUT, HEX, #6-32, UNDERSIZED, ZINC PLATED
15	2	1003.00140.00	ALUMINUM BRACKET FOR SSR
16	2	1052.00033.00	RELAY, SOLID STATE, 50A/480VAC, W/BUILD IN VARISTOR
17	4	1081.00042.00	STANDOFF, 1/4" HEX
18	1	1044.00004.00	LABEL, DANGER, HIGH VOLTAGE
19	1	1022.00113.00	TANK INSULATION, CBS-2232 FRONT
20	1	1022.00116.00	TANK INSULATION, CBS-2232 BACK
21	4	1082.00136.00	BRASS SCREW, #8-32 X 1/4", PHILLIPS PAN HEAD

Table of authorities for CBS-2232NG replacement hot water tank module-tank is sold complete with insulation

| SKU Number. See page 3 for list	Description	Tank Part Number
E2232US-1B223-PA010, E2232US-1B223-MA110, E2232IN-1B223-PA010, E2232CE-1B223-PA010	TANK CBS-2232, 2 X 2.3KW/240VAC	1104.00176.00
E2232US-1B230-MA110, E2232US-1B230-PA010, E2232US-1B230-PA110, E2232IN-1B230-PA010, E2232IN-1B230-MA110, E2232NM-1B230-PA010 E2232CE-1B230-PA010	TANK CBS-2232, 2 X 3.0KW/240VAC	1104.00177.00

#6 Part Number1102.00449.00
ELECTRICAL COMPONENT LATTICE
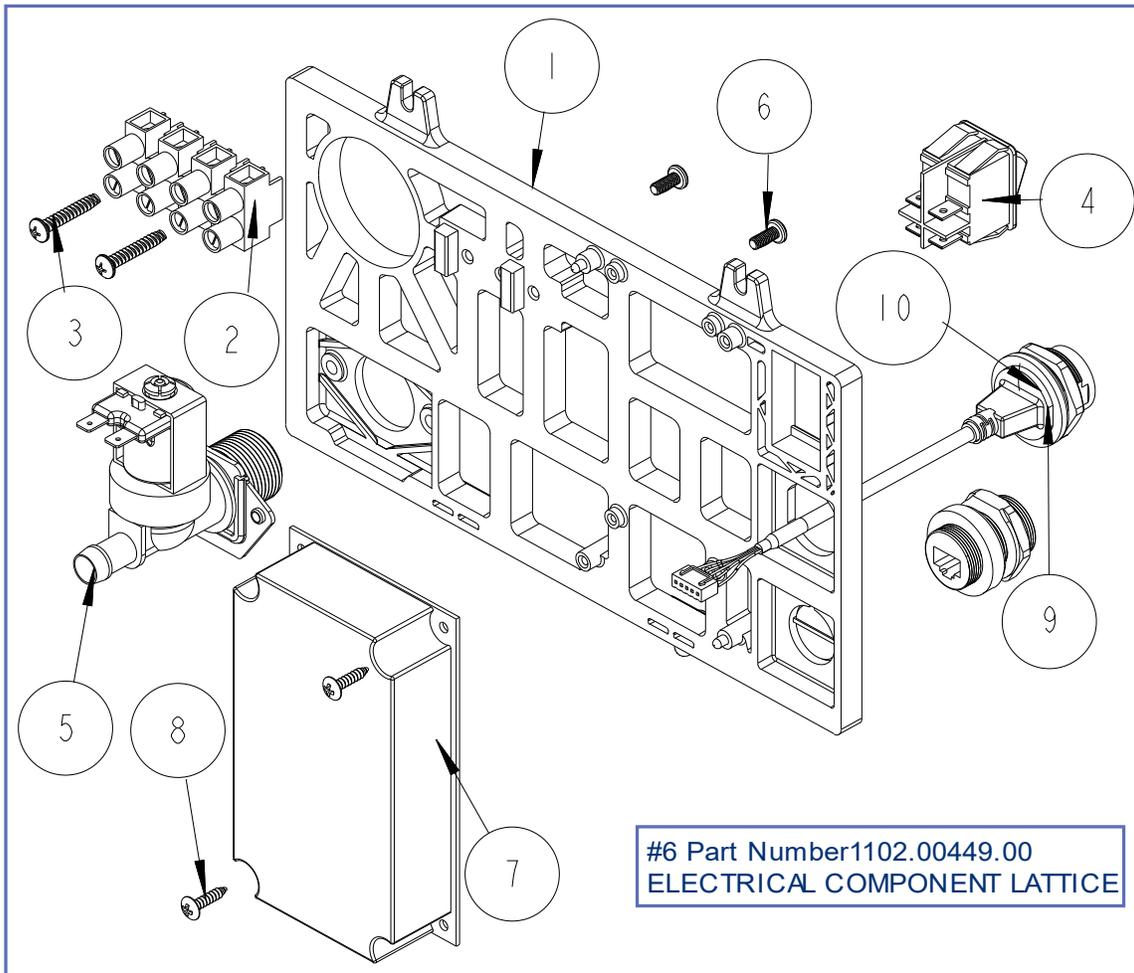
Ref	Qty	PartNumber	Description	Electrical component lattice, CBS-2200 Part#1102.00449.00
		1102.00449.00	COMPLETE ELECTRICAL COMPONENT LATTICE, CBS-2200	
1	1	1023.00350.00	ELECTRICAL MOUNTING LATTICE, COMMON	
2	1	1052.00023.00	EUROSTRIP HE16 TERM. BLOCK, 4 POLE, 63 AMP, 18-8 AWG	
3	2	1082.00056.00	SCREW, #8-11 X 1" PAN HD PHIL, THREAD FORMING	
4	1	1058.00024.00	SWITCH, POWER, DOUBLE POLE, 16A, 125/250 VAC	
5	1	1057.00043.00	SOLENOID VALVE, 5.5L/min, 180 DEG, 24VDC	
6	2	1082.00010.00	SCREW, PAN HD. PHIL. MACH., M4x10 ZINC-PLATED	
7	1	1052.00059.00	POWER SUPPLY, 90-264VAC/24VDC, 2.25A	
8	2	1082.00020.00	SCREW, #6 X 5/8, TRUSS HD PHIL, SHEET MTL	
9	1	1058.00055.00	USB CONNECTOR	
10	1	1058.00162.00	ETHERNET PLUG IN CONNECTOR, W/COVER	

Part number 1102.00451.00   Small Spray Assembly Parts-Quick connect version

Ref#	Qty	Part number	Description
1	1	1000.00143.00	SPRAY HEAD BASE (KIT), QUICK CONNECT, 30/40'S
2	1	1024.00063.00	O-RING, 3 15/16" x 3/32" CS, DASH # 154, BUNA-N, DURO-A50
3	2	1024.00107.00	O-RING, 1 3/16" OD X 1 1/16" ID X 1/16" TH, BYPASS SEAL
4	1	1102.00113.00	SWITCH, REED, ASSEMBLY
5	1	1102.00479.00	ASSEMBLY, CASCADE SPRAY DOME, NEXT GEN, ORANGE
6	2	1057.00076.00	VALVE ASSEMBLY, COMPLETE, NG, DELTROL (interchangeable with 1057.00078.00)
6	2	1057.00078.00	VALVE ASSEMBLY, COMPLETE, NG, RPE (interchangeable with 1057.00076.00)
7	3	1023.00342.00	QUICK CONNECT CLIP
8	1	1023.00343.00	VENT INSERT, QUICK CONNECT
9	2	1024.00106.00	O-RING, 13/16"OD X 11/16"ID X 1/16" TH, FOR QUICK CONNECT
10	1	1024.00098.00	VENT TUBE, CBS- EXTRACTOR SERIES
11	1	1023.00369.00	ORIFICE INSERT, QUICK CONNECT, 3/16" HOLE
12	1	1023.00344.00	PLUG INSERT, QUICK CONNECT

Wiring Diagrams
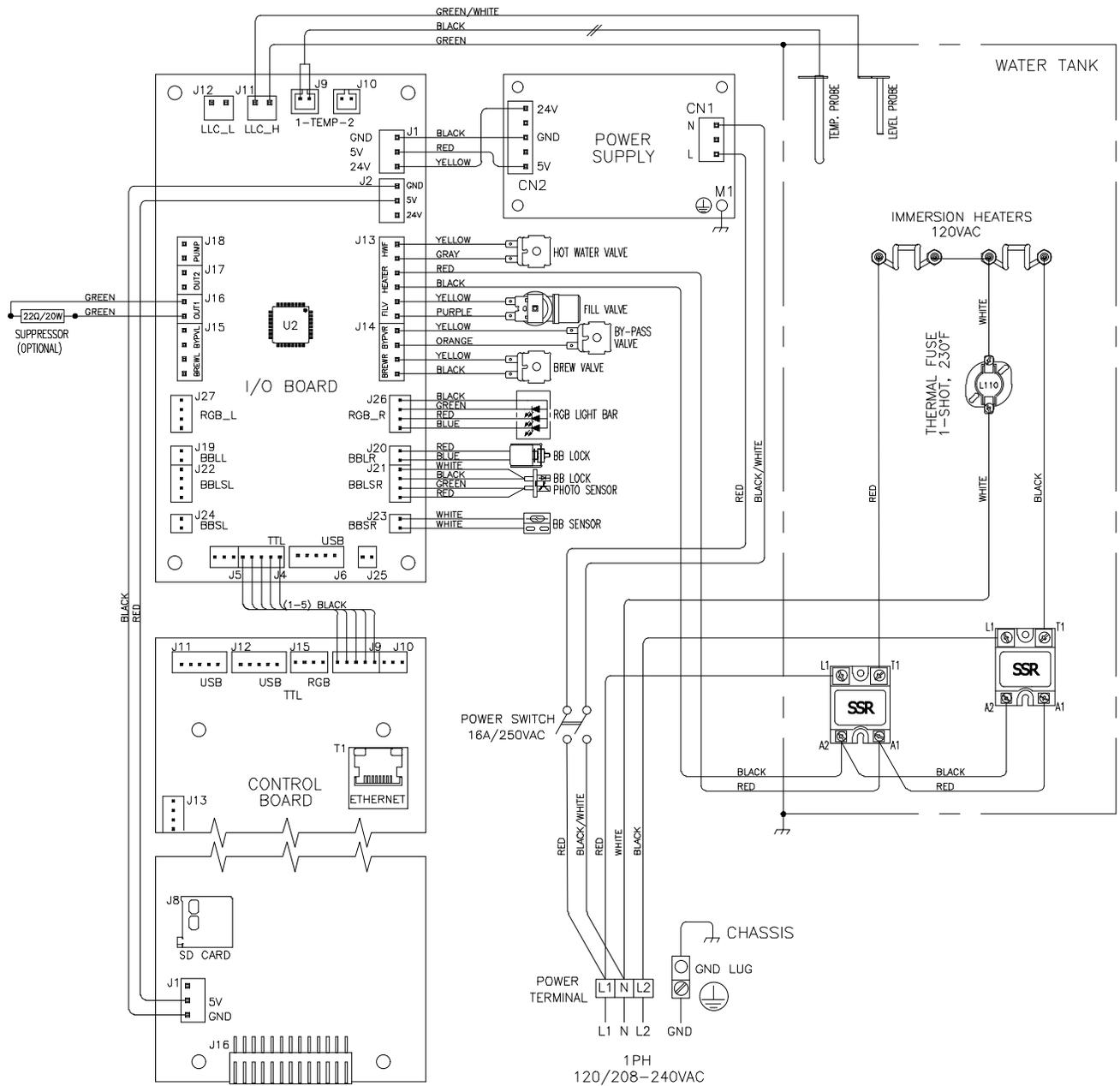
Wiring diagram 1401.00178.10 for the following SKU numbers-see page 3

SKU	Description	Specifications
E2231US-1X117-PA011	DUAL VOLT,	1Ph, 2+G/3+G, 2x1.7xW/120VAC, 120/208-240VAC,
E2231US-1A115-PA011	SINGLE VOLT	1Ph, 2+G, 1.5xW/120VAC
E2231US-1A123-PA012	SINGLE VOLT	1Ph, 2+G, 2.3xW/120VAC
E2231NM-1X123-PA012,NOM,DUAL VOLT,		1Ph, 2+G/3+G, 2x2.3xW/120VAC, 120/208-240VAC,
E2231NM-1A123-PA012,NOM, SINGLE VOLT		1Ph, 2+G, 2.3xW/120VAC
E2231NM-1B130-PA013, NOM, SINGLE VOLT		1Ph, 2+G, 3.0xW/240VAC
E2231IN-1B123-PA010	INTL, SINGLE VOLT	1Ph, 2+G, 2.3xW/240VAC
E2231IN-1B130-PA010	INTL, SINGLE VOLT	1Ph, 2+G, 3.0xW/240VAC
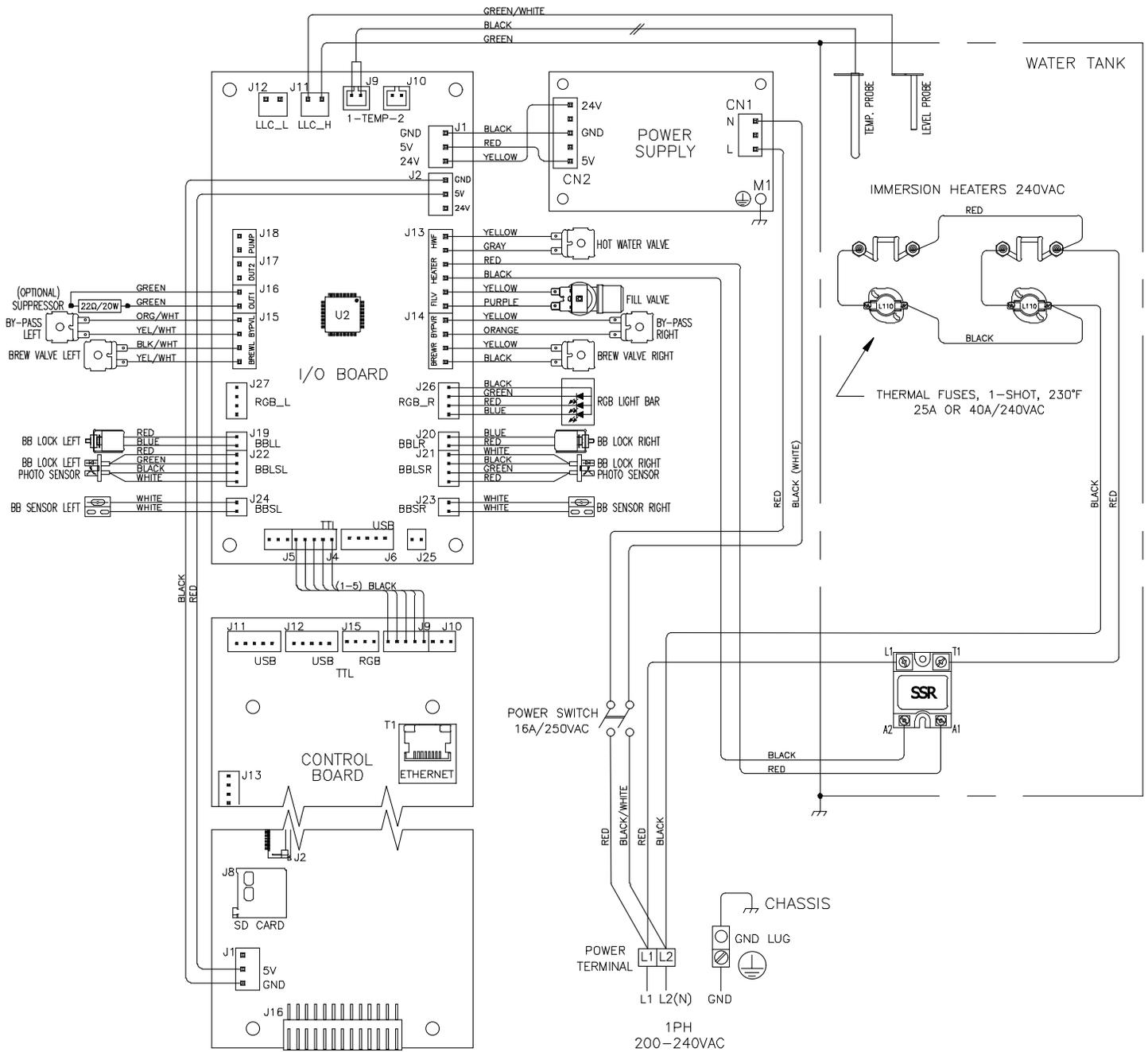
Wiring diagram for the following SKU numbers-see page 3

E2232US-1B223-PA010	CBS-2232, 1Ph, 2+G, 2x2.3kW/240VAC	Terminal Block
E2232US-1B230-MA110	CBS-2232, 1Ph, 2+G, 2x3kW/240VAC,	Terminal Block
E2232US-1B230-PA010	CBS-2232, 1Ph, 2+G, 2x3kW/240VAC,	Terminal Block
E2232US-1B230-PA110	CBS-2232, 1Ph, 2+G, 2x3kW/240VAC,	Terminal Block
E2232US-1B223-MA110	CBS-2232, 1Ph, 2+G, 2x2.3kW/240VAC,	Terminal Block
E2232IN-1B223-PA010	CBS-2232, INTL, 1Ph, 2+G, 2x2.3kW/240VAC,	Terminal Block
E2232IN-1B230-PA010	CBS-2232, INTL, 1Ph, 2+G, 2x3kW/240VAC,	Terminal Block
E2232IN-1B230-MA110	CBS-2232, INTL 1Ph, 2+G, 2x3kW/240VAC,	Terminal Block
E2232NM-1B230-PA010	CBS-2232, NOM, 1Ph, 2+G, 2x3kW/240VAC, ,	Terminal Block