Instructions to access the Programming Menu
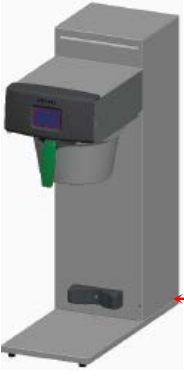
To access programming
Power-off then power-on the equipment…
← 1) Switch CBS-2111 power **"OFF"**
and then
2)Turn main power switch to **"ON"**
(switch is located on the lower back)
The touch screen will illuminate.
Immediately
Touch and hold finger to enter programming →
In 5-8 seconds "PROGRAM" screen will
appear. "PROGRAM" in first column below

FETCO
XTS ™
EXTRACTOR
TOUCHSCREEN
TBS_2111
©2016 all rights reserved

☑
🌡️ 📁
TOUCH and HOLD
90°C

.
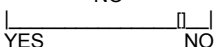Programming-category screens: Menu Tree Menu Features: Batch Parameters

XTS Main Menu   **Menu Chart**

| ▲ < Program > ▼ < Batch 1 > | ▲ <GENERAL> ▼ <Ready Temp> | ▲ <INPUTS> ▼ <Display Inputs> | ▲ <OUTPUTS> ▼ <Brew Valve> | ▲ <OTHER> ▼ <Error Codes> |
| « » | « » | « » | « » | « » |

PROGRAM	**GENERAL**	**INPUTS**	**OUTPUTS**	**OTHER**
Batch 1 <Batch Summary>	Ready Temp. <+/- 2 °C>	Display Inputs <Inputs Summary>	Brew Valve <Calibrate/Test>	Error Codes <Display Errors>
Batch 2 <Batch ON/OFF>	Brew at Temp <AUTO>	Calibrate Touch Screen	Bypass Valve <Calibrate/Test>	Copy Program <From SD to B.>
Batch 3 <Batch ON/OFF>	Units of Measure ForTemperature & Volume		Fill Valve <Test>	Upload LOGO
Batch 4 <Batch ON/OFF>	LOGO Timeout <1:00 mm:ss>		Heater <Test>	Reset to Factory <Restore to Default>
Batch 5 <Batch Summary>			Buzzer <Test>	Counters <Display Total Counter>
Batch 6 <Batch ON/OFF>			Screen <Screen Contrast>	Firmware <Firmware Version>
Batch 7 <Batch ON/OFF>				DEMO Mode
Batch 8 <Batch ON/OFF>				
Batch Copy <Copy From B.>				

PROGRAM	Programming Items	Factory set Default	Programming Range	Notes
Batch 1 *	• Batch Summary	Display Summary	**Batch1 Summary** ➡➡ Batch Name 1 Brew Temp. 90°C Brew Volume 4.00 Liter Brew Time 6:00 Bypass Vol. 2.00 Liter Total Time 9:30	**Summary-continued** Bypass Delay 1:00 Number of Pulses 4 Prewet Percent 0% Prewet Delay 0:00 Drip Delay 1:30 Alarm At End NO
	• Batch Temp	90 °C	90 °C |____[]____| 80 97	This sets the brew temperature for batch-1
	• Brew Volume	4.00 liter [0.50-4:00]	4.00 liter |____[]____| 0.50 6:00	Volume of Coffee (tea to hot water bypass [2:1])
	• Bypass Volume	2.00 liter	2.00 liter |___[]___| 0:00 5.50	Volume of HOT water to add to hot brew
	• Bypass Delay	1:00 mm:ss	1:00 mm:ss |_[]_____| 0:00 12:00	Allows for hot water tank recovery
	• Prewet Percent	0%	0 % |_[]_____| 0 15	Prewetting helps stabilize ground coffee
Pause after prewet spray completes	• Prewet Delay.	0:00 mm:ss	0:00 mm:ss |_[]_____| 0 1	This feature appears ONLY if Prewet >0:00
	• Brew Time	6:00 mm:ss	6:00 mm:ss |_____[]_____| 1:00 12:00	
	• Nr Of Pulses	4	4 |_____[]_____| 1 30	
This is a Safety Feature	• Drip Delay	1:30 mm:ss	1:30 mm:ss |____[]____| 0:30 10:00	NEVER remove brewbasket during drip-out
	• Alarm at End	NO	NO |_____[]__| YES .... NO	
Notice→		*Batches 1 & 5 are mandatory and are always permanently selected Batch 2,3,4,6,7&8 may each be selectively hidden with the **Batch ON/OFF** selector screen		
Batch 2	• Batch ON/OFF	ON	ON |_[]_____| ON OFF	
	• Batch Summary	Display Summary		[See BATCH 1]
	• Batch Temp	90 °C	90 °C |_____[]__| 80 97	This sets the brew temperature for batch-1
	• Brew Volume	4.00 liter [0.50-4:00]	4.00 liter |____[]____| 0.50 6:00	Volume of Coffee (tea to hot water bypass [2:1])
	• Bypass Volume	2.00 liter	2.00 liter |___[]___| 0:00 5.50	Volume of HOT water to add to hot brew
	• Bypass Delay	1:00 mm:ss	1:00 mm:ss |_[]_____| 0:00 12:00	Allows for hot water tank recovery
	• Prewet Percent	0%	0 % |_[]_____| 0 15	Prewetting helps stabilize ground coffee
Pause after prewet spray completes	• Prewet Delay.	0:00 mm:ss	0:00 mm:ss |_[]_____| 0 1	This feature appears ONLY if Prewet >0:00
	• Brew Time	6:00 mm:ss	6:00 mm:ss |____[]_____| 1:00 12:00	
	• Nr Of Pulses	4	4 |____[]_____| 1 30	
This is a Safety Feature	• Drip Delay	1:30 mm:ss	1:30 mm:ss |____[]____| 0:30 10:00	NEVER remove brewbasket during drip-out
	• Alarm at End	NO	NO |_____[]__| YES .... NO	

PROGRAM Continued	Programming Items	Factory set Default	Programming Range	Notes
Batch 3	*(See Batch 2)*			
Batch 4	*(See Batch 2)*			
Batch 5	**(See Batch 1)**			
Batch 6	*(See Batch 2)*			
Batch 7	*(See Batch 2)*			
Batch 8	*(See Batch 2)*			
Batch Copy	Copy From Batch	COPY from B.(1-8)?		
	Copy To Batch	COPY to B.(1-8)?		
	Copy?	B1→B2? (example)	NO |_____⫿__| YES NO	
*Batch 1& 5 are mandatory and cannot be disabled.   Other batches can be disabled ["hidden"], and removed from display

Programming Batch Temperature

Individual temperature settings can be programmed for all eight recipes. This accommodates many different brew temperature requirements of the coffee product used. The hot water tank temperature automatically sets to the lowest programmed recipe setting. If a brew is started for a higher temperature setting, the brewer will pause and quickly heat the hot water tank to the temperature setting of the recipe before starting the brew. This is rapid: taking only minutes.

Tank temperature is too low for brew setup

1) If the tank temperature is LOWER than the temperature setting—the brewer will display the "Not Ready" icon: ☐
The hot water tank will quickly reheat and the "Ready" icon will display when heated to the set temperature: ☑

Tank temperature is too high for brew setup

2) If the tank temperature is HIGHER than the temperature setting—the brewer will flash the "PURGE" icon: ☼
"PURGE" to cool feature

Purge is drawing a small amount of hot water from the hot water tank—the temperature of the tank is automatically reduced by cool, fresh refill water from the mains. When the "PURGE" icon is activated for 5 seconds approximently ≈150ml/4 fl.oz hot water is relesed as bypass water and the tank temperature is reduced.
a) The hot water tank temperature can be quickly lowered by touching the "PURGE" icon for five seconds.
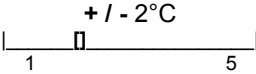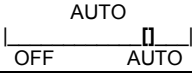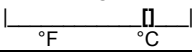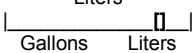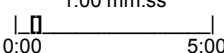The single purge is adequate for most adjustments.
Note: the purged water increases the contents of the dispenser. The 150ml released is a negligible addition for most brews—but should be noted for dispensers without headspace or for multiple purges

b)Water may be drawn from the hot water service faucet to lower hot water tank temperature.
The "PURGE" function is preferred as it offers better control.

c) Tank temperature override
The brew can be started at the high temperature by touching and holding the "START" icon to override the icon.
The brew may be exposed to some brewing water that is higher than temperature setpoint.

Recipe temperature setting table				Purge to lower brew water temperature	
GENERAL Factory Set Temperature Summary		SETTINGS BY USER Temperature Summary as Set By User Fill this in and save for future reference		Recipes show the temperature setting. These can be set by user from 80-97°.	
1	90°C	5	90°C	**1**		**5**		**PURGE Icon→** Touch the purge icon for 5 sec. This will lower hot water tank temperature 3-4 degrees	
2	90°C	6	90°C	**2**		**6**		
3	90°C	7	90°C	**3**		**7**		
4	90°C	8	90°C	**4**		**8**		

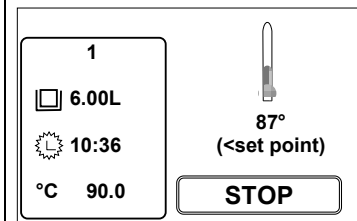| GENERAL	Programming Items	Factory set Default	Programming Range (display)	Notes
Ready Temp		+ / - 2°C	+ / - 2°C |___[]_____|__| 1 5	Range when "READY" icon will show
Brew at Temp.	"OFF" allows brewing at any temperature.	AUTO	AUTO |_____[]__| OFF AUTO	SEE NOTE! (Below)
Units of Meas. <Toggle Temp-Vol.>	• Temperature	°C	°C |_____[]__| °F °C	
<Toggle Temp-Vol.>	• Volume	Liters	Liters |_____[]__| Gallons Liters	
Logo Timeout		1:00 mm:ss	1:00 mm:ss |_[]_____| 0:00 5:00	

NOTE: FOR BREW AT TEMPERATURE DEFINITONS

BREW AT TEMP: <u>AUTO</u>
(DEFAULT: FACTORY PROGRAMMED INTO BREWER)
This allows the "BREW START" to active.
If the hot water tank is at the selected temperature—the brew will start.
If the temperature is too low—*not at the selected temperature*, the brewer will wait until the proper temperature is reached and then wil automatically begin brewing.
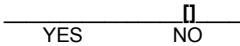 A thermometer icon screen will display showing the tank temperature. (example: right)
<div align="center">IMPORTANT:</div>
ALWAYS have dispenser(s) under the brew baskets when in the BREW AT TEMP mode.
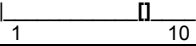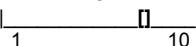
```
   ┌──────────────┐        ┃
   │      1       │        ┃
   │              │        ┃
   │ ▭ 6.00L      │        ┃
   │              │       87°
   │ ⚙ 10:36      │   (<set point)
   │              │    ┌─────────┐
   │ °C   90.0    │    │  STOP   │
   └──────────────┘    └─────────┘
```

BREW AT TEMP: <u>OFF</u>   <u>USER SELECTABLE</u>
 Allows brewing at any temperature. (Not recommended-it is possible to start brew with brew water at incorrect temperature.)

INPUTS	Programming Items	Factory set Default	Programming Range (display)	Notes
Display Inputs	• Input Summary		Brew Basket Sensor ☐ Liquid Level Sensor ■ Temperature Probe ■ SD Card ☐	
Cal. Touch Scr		Calibrate	Calibrate _____[]___ YES NO	If <u>Yes</u>: Follow directions on the touch screen

OUTPUTS	Programming Items	Factory set Default	Programming Range (display)	Notes
Brew Valve Calibrate/Test	• Brew Valve	(Press to test)	▲ < OUTPUTS > < Brew Valve > < Calibrate/Test> CAL Cal Test Press To Cal/Test TEST BASKET IN PLACE TEMP READY	Runs valve to verify flow. Have container under brew basket!
Brew Valve- CALIBRATE	• Brew Valve		< OUTPUTS > < Brew Valve > CAL < Calibrate/Test> Cal Test TEST Press To Cal/Test BASKET IN PLACE TEMP READY	See pages 10-12 for detailed calibration procedure and screens
BYPASS Valve- CALIBRATE	• BYPASS Valve		▲ < OUTPUTS > < Brew Valve > CAL < Calibrate/Test> Cal Time Cal . TEST Rem. To Stop press Cal. 1:00 CAL IN PROGRESS	See pages 10-12 for detailed calibration procedure and screens
Fill Valve	• Fill Valve Test	(Press to test)	TEST Press To Test TEST	Operates fill valve. Have container under both brew baskets!
Heater	• Heater Test	(Press to test)	TEST Press To Test TEST	Energizes Heater(s) Use for servicing.
Buzzer	• Buzzer Test	(Press to test)	TEST Press To Test TEST	Confirms "BEEP" Use for servicing.
Screen	• Screen Contrast	Contrast	8 |_____[]____| 1 10	
	• S. Brightness	Brightness	8 |_____[]____| 1 10	

How to calibrate the flow rate for the brew valve or bypass valve
### Set the flow rates of brew valve to adjust for taste profile and for batch size.
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 to activate brew or bypass function for one minute—and to measure the output

1) <u>MEASURE THE FLOW RATE:</u>

▲	<	OUTPUTS	>	CAL
	<	Brew Valve	>	
	<	Calibrate/Test	>	
		Cal Test		
		Press to Cal/Test		TEST
«		BASKET: IN PLACE		
		TEMP: READY		

-Enter programming mode, scroll left to "OUTPUTS"
-Scroll down to "Brew Valve Calibrate/Test"
(or)
"Bypass Valve Calibrate/Test"
-Next: scroll down to "Calibrate   Test"
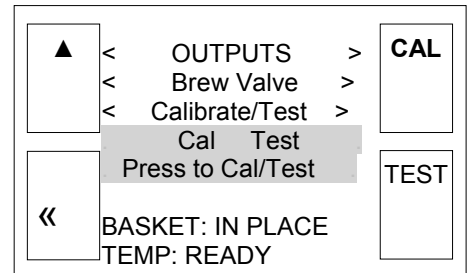
-Place 3 liter/1 gal measuring container under empty brew basket.
The water dispensed may be accurately measured or weighed. Use a scale for at least 3 kg/8lb
-Press The CAL button. **→! The valve will open for one minute**
 It is very important for this test to measure the flow for the entire minute.

Measure the results of the flow in the measuring container and hold the number.
2) **AUTOMATIC** Built-in <u>CALIBRATE THE FLOW RATE</u>
-Enter this number, in milliliters, into the calibration slider for the Valve tested in the OUTPUT MENU.
-**Enter in 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

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

From calibrate-test screen, brewer automatically dispenses for 60 seconds. The <u>calibration test flow</u> is carefully measured in milliliters.

A 3 liter/1 gal measuring container is recommended.

▲	<	OUTPUTS	>	
	<	Brew Valve	>	
	<	Flow Rate	>	
		1218 mlpm		
−		500 2000		+
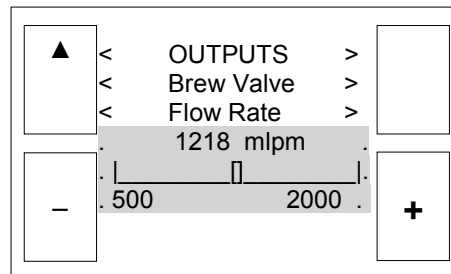
Scroll from the calibrate-test screen into the FLOW RATE screen. Enter the <u>calibration test flow</u> on the slider using the + and - icons.
EXIT and SAVE as prompted.

Built in software will automatically calibrate the BREW valve.

Calibration must be repeated for the BYPASS valve

EXAMPLE: Calibrate BREW VALVE.

1) Enter PROGRAMMING menu
(See page 5: INSTRUCTIONS TO ACCESS PROGRAMMING MENUS)

Scroll to "**OUTPUTS**" in PROGRAMMING

Scroll down to **BREW VALVE**

```
┌─────┐ ┌─────────────────────┐ ┌─────┐
│  ▲  │ │ <    OUTPUTS      > │ │  ▼  │
│     │ │ <   Brew Valve    > │ │     │
│     │ │ <  Calibrate/Test > │ │     │
├─────┤ └─────────────────────┤ ├─────┤
│     │ │                     │ │     │
│  «  │ │                     │ │  »  │
│     │ │                     │ │     │
└─────┘ └─────────────────────┘ └─────┘
```

(*The following areas may be accessed in this PROGRAMMING position:
BREW VALVE, BYPASS VALVE, Fill Valve, Heater, Buzzer, Screen. To access
these: with the 2nd level highlighted as shown—scroll through the positions with the
right/left arrows. Only the Brew and Bypass valves can be calibrated*)

Scroll down to "**Calibrate/Test**"

```
┌─────┐ ┌─────────────────────┐ ┌─────┐
│  ▲  │ │ <    OUTPUTS      > │ │  ▼  │
│     │ │ <   Brew Valve    > │ │     │
│     │ │ <  Calibrate/Test > │ │     │
├─────┤ │      Cal    Test    │ ├─────┤
│     │ │                     │ │     │
│ <<  │ │                     │ │  »  │
│     │ │                     │ │     │
└─────┘ └─────────────────────┘ └─────┘
```
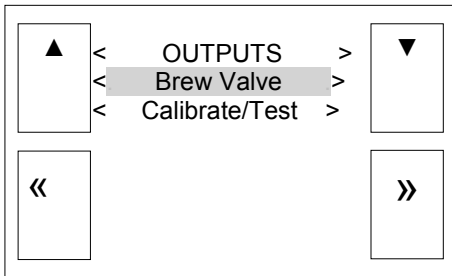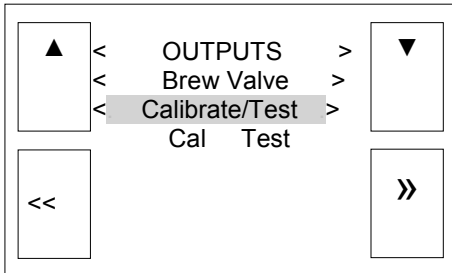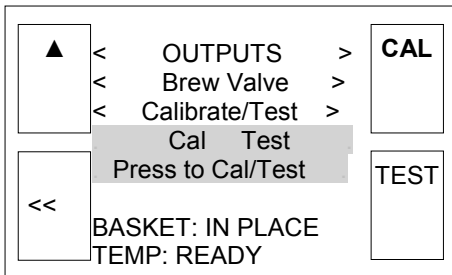
(*The following areas may be accessed in this PROGRAMMING position:
Calibrate/Test and Flow Rate. To access these: with the 3rd level highlighted as
shown—scroll through the positions with the right/left arrows. CBS-2111
automatically calibrates based on the flow entered. The highlighted FLOW RATE is
used to enter the flow rate and for Service and to fine tune the flow.*)
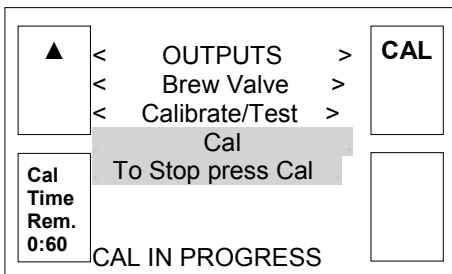
Scroll down to "**Cal   Test**"

```
┌─────┐ ┌─────────────────────┐ ┌─────┐
│  ▲  │ │ <    OUTPUTS      > │ │ CAL │
│     │ │ <   Brew Valve    > │ │     │
│     │ │ <  Calibrate/Test > │ │     │
├─────┤ │      Cal    Test    │ ├─────┤
│     │ │   Press to Cal/Test │ │     │
│ <<  │ │                     │ │TEST │
│     │ │ BASKET: IN PLACE    │ │     │
│     │ │ TEMP: READY         │ │     │
└─────┘ └─────────────────────┘ └─────┘
```

Have 3 Liter/1Gallon measuring container under brew basket

In "Cal   Test

PRESS CAL and remove finger—do not hold

The CBS-2111 will dispense for exactly one minute and automatically stop.

```
┌─────┐ ┌─────────────────────┐ ┌─────┐
│  ▲  │ │ <    OUTPUTS      > │ │ CAL │
│     │ │ <   Brew Valve    > │ │     │
│     │ │ <  Calibrate/Test > │ │     │
├─────┤ │         Cal         │ ├─────┤
│ Cal │ │   To Stop press Cal │ │     │
│ Time│ │                     │ │     │
│ Rem.│ │                     │ │     │
│ 0:60│ │ CAL IN PROGRESS     │ │     │
└─────┘ └─────────────────────┘ └─────┘
```

Carefully measure the amount of water, in milliliters, that was dispensed
This is the calibration test flow
The calibration results are enetered into the slider that automacially displays

ENTER THE CALIBRATION TEST FLOW RESULTS
The calibration is adjusted by the CBS-2111XTS software by entering the
amount of water into the slilider that was dispensed in 60 seconds.
The slider shows 1218 mlpm (milliters per minute)-enter your results.
Using the + and – icons, enter the amount of water dispensed on the slider.
Enter in milliliters (multiply fluid ounces by 29.6 to obtain milliliters)

```
┌─────┐ ┌─────────────────────┐ ┌─────┐
│  ▲  │ │ <    OUTPUTS      > │ │     │
│     │ │ <   Brew Valve    > │ │     │
│     │ │ <   Flow Rate     > │ │     │
├─────┤ │      1218  mlpm     │ ├─────┤
│     │ │  |_____[]_____|   │ │     │
│  –  │ │    500       2000   │ │  +  │
│     │ │                     │ │     │
└─────┘ └─────────────────────┘ └─────┘
```

Scroll UP and OUT and save calibration as directed by screen prompts.

Brew valve is automatically calibrated on saving the test flow entered.
EXIT TO COMPLETE CALIBRATION

EXAMPLE: Calibrate BYPASS VALVE.

```
┌──────────────────────────────────────┐
│ ┌───┐  <   OUTPUTS    >  ┌───┐        │
│ │ ▲ │  <  Bypass Valve  > │ ▼ │        │
│ └───┘  <  Calibrate/Test > └───┘       │
│ ┌───┐                      ┌───┐       │
│ │ « │                      │ » │       │
│ └───┘                      └───┘       │
└──────────────────────────────────────┘
```

1) Enter PROGRAMMING menu
(See page 5: INSTRUCTIONS TO ACCESS PROGRAMMING MENUS)

Scroll to "**OUTPUTS**" in PROGRAMMING

Scroll down to **BYPASS VALVE**

(*The following areas may be accessed in this PROGRAMMING position: BREW VALVE, BYPASS VALVE, Fill Valve, Heater, Buzzer, Screen. To access these: with the 2nd level highlighted as shown—scroll through the positions with the right/left arrows. Only the Brew and Bypass valves can be calibrated*)

```
┌──────────────────────────────────────┐
│ ┌───┐  <   OUTPUTS    >  ┌───┐        │
│ │ ▲ │  <  Bypass Valve  > │ ▼ │        │
│ └───┘  <  Calibrate/Test > └───┘       │
│ ┌───┐      Cal    Test    ┌───┐       │
│ │ « │                      │ » │       │
│ └───┘                      └───┘       │
└──────────────────────────────────────┘
```

Scroll down to "**Calibrate/Test**"

(*The following areas may be accessed in this PROGRAMMING position: Calibrate/Test and Flow Rate. To access these: with the 3rd level highlighted as shown—scroll through the positions with the right/left arrows. CBS-2111 automatically calibrates based on the flow volume entered. The highlighted FLOW RATE is used to enter the flow rate and for Service and to fine tune the flow.*)

```
┌──────────────────────────────────────┐
│ ┌───┐  <   OUTPUTS    >  ┌─────┐      │
│ │ ▲ │  <  Bypass Valve  > │ CAL │      │
│ └───┘  <  Calibrate/Test > └─────┘     │
│ ┌───┐      Cal    Test               │
│ │ « │    Press to Cal/Test  ┌──────┐  │
│ └───┘                        │ TEST │  │
│       BASKET: IN PLACE       └──────┘  │
│       TEMP: READY                      │
└──────────────────────────────────────┘
```

Scroll down to "**Cal   Test**"

Have 3 Liter/1Gallon measuring container under bypass basket

In "Cal   Test

PRESS CAL and remove finger—do not hold

```
┌──────────────────────────────────────┐
│ ┌───┐  <   OUTPUTS    >  ┌─────┐      │
│ │ ▲ │  <  Bypass Valve  > │ CAL │      │
│ └───┘  <  Calibrate/Test > └─────┘     │
│           Cal                         │
│       To Stop press Cal                │
│ Cal                                    │
│ Time                                   │
│ Rem.                                   │
│ 0:60  CAL IN PROGRESS                  │
└──────────────────────────────────────┘
```
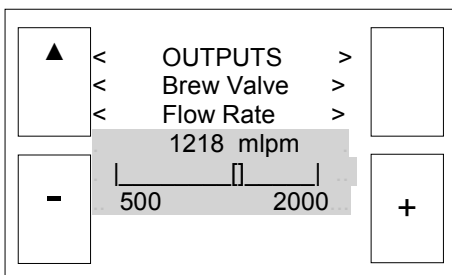
The CBS-2111 will dispense for exactly one minute and automatically stop.

Carefully measure the amount of water, in milliliters, that was dispensed
This is the calibration test flow
The calibration results are enetered into the slider that automacially displays
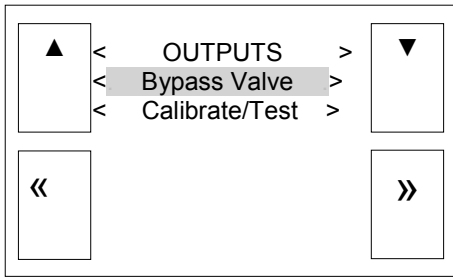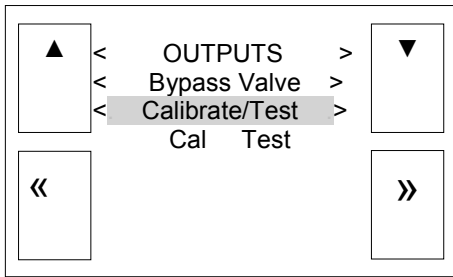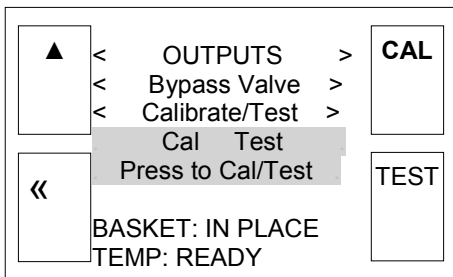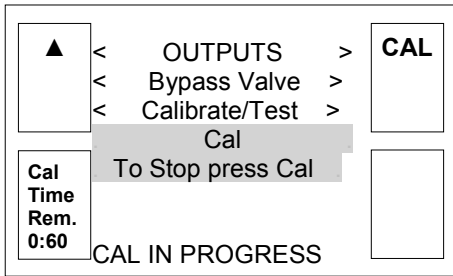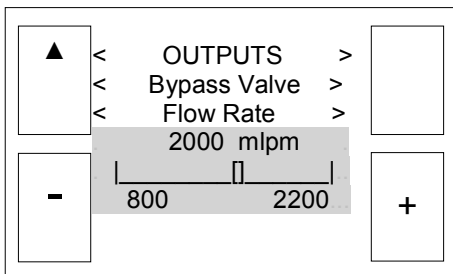
ENTER THE CALIBRATION TEST FLOW RESULTS
The calibration is adjusted by the CBS-2111XTS software by entering the amount of water into the sllider that was dispensed in 60 seconds.
The slider shows 1218 mlpm (milliters per minute)-enter your results.
Using the + and – icons, enter the amount of water dispensed on the slider.
Enter in milliliters (multiply fluid ounces by 29.6 to obtain milliliters)

```
┌──────────────────────────────────────┐
│ ┌───┐  <   OUTPUTS    >             │
│ │ ▲ │  <  Bypass Valve  >            │
│ └───┘  <  Flow Rate    >             │
│ ┌───┐      2000  mlpm               │
│ │ − │   |_____[]_____|   ┌───┐    │
│ └───┘    800       2200    │ + │    │
│                             └───┘    │
└──────────────────────────────────────┘
```

Scroll UP and OUT and save calibration as directed by screen prompts.

Bypass valve is automatically calibrated on saving the test flow entered.

OTHER	Programming Items	Factory set Default	Programming Range (display)	Notes
Error Codes	• Display Errors	(Codes)	1: 2: 3:	Chart on next page
	• Reset Errors	(Reset)	Reset |_____⬜____| YES　　　　NO	**!!Clear only with guidance from factory or service !!**
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		Reset to default	Reset to Default Are you sure |_____⬜____| YES　　　　NO	Completely overwrites all user setup, including user logo.
Counters	• Display Counters -**OR**- • Reset Counters	Counters Display Total Counters	**TOTAL COUNTER** Brews　　　　　　　　0 Brews activated　　　0 Brew [liters]　　　　0 Bypass Activated　　0 Bypass. L [liters]　　0 Fill valve Activated　0 Fill Valve [liters]　　0 Heater Activated　　0 Heater "on" time　　0	Resetting will restart counters from zero when selected
	• Reset Counters	Reset All Counters	Reset All Counters Are you sure |_____⬜____| YES　　　　NO	
Firmware	• Firmware Version -Software type	Firmware Version	Display Versions TBS_2111 SW ver. 1.05 HW ver. BL ver. 1.1.4 QP ver. 4.5.03	Displays firmware version
	• Update Firmware	UPDATE	UPDATE |_____⬜____| YES　　　　NO	Firmware upload Please insert SD card with the firmware file!
DEMO Mode [Not on all units]	DEMO ON/OFF	**May not be included**	OFF |_____⬜____| ON　　　　OFF	Demonstrates the controls for training. Disables all components in demo mode.

Some software versions will not have "DEMO- MODE"