

## BREWER PROGRAMMING AND CONTROL FEATURES

### Introduction

This brewer incorporates our TVT controller technology. At the heart of the system is a LCD display with digital readout and icons indicating brewer functions. The end user need only set 3 brew criteria for each of the 3 brew profiles. Simply tell the brewer how hot (Temperature), how much (Volume), and how long (brew Time) for each brew profile. If hot or cold bypass is desired it may be programmed as well. An additional programming mode allows control of additional features such as sentry timer, visa-brew time, calibration for flow rate, and display of temperature and volume units. All can be set from the front control panel using a digital display for precise control. The following pages will explain the control features and the process required to program your unit.

### Power Up Modes

Once the brewer has been connected to a water supply, you are ready to plug unit in. When plugging brewer in and turning on the brewers power switch, the unit will go into one of three power up modes. These modes are; Factory Settings Access, Default Settings Load, and Normal Mode. Normal mode will be discussed first.

Normal Power Up Mode – This is the mode used for setting up a new piece of equipment from the factory. This mode will be automatically selected by powering up the brewer without holding in any of the controllers buttons.

This brewer features a liquid level control board and a tank probe to regulate the water level in the tank. When the brewer is initially plugged in the liquid level board will check for water in the tank and will turn on the fill valve if necessary to fill up the tank. The brewer will not heat until the fill cycle has been completed. Water will be replenished when used for brewing or through faucet use.

Once the unit has been filled, it will enter its idle mode. The brewer is considered idle when it is powered up but is not yet brewing and no settings are being adjusted. If the heater is on, the display will show the thermometer icon. If the unit is at least 1 degree away from set point temperature the happy face icon will turn on and the thermometer will pulse in synchrony with the heater as it maintains proper temperature. If the tank temperature is above set point, both the thermometer icon and tank heater will remain off. See “User Program Mode” to set brew profile information.

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Access to Factory Settings – This mode allows control of additional features such as sentry timer, visa-brew time, calibration for flow rates, and display of temperature and volume units. This mode may be selected by holding center button for 2 seconds when first plugging unit in. The current software revision will scroll across the screen and “Pro” will then briefly display to indicate you are in program mode. Increment values up and down using right and left buttons when appropriate parameter is displayed. The following are the parameters that may be set in this mode and the icon that displays for each.

- a) En2 – This is an option for future use. It currently has no effect. Leave set on En2.



- b) Temperature Display - (Thermometer icon flashes) Temperature may be displayed using either °F or °C. Selected unit is shown in main display area as well as to the right in a smaller font.



- c) Volume Display - (Pot icon flashes) Volume may be displayed using either units of ounces or liters, Oz or L. Selected unit is shown in main display area as well as to the right in a smaller font. Liters will be displayed in increments of .05. (.05L = 1.69oz).



- d) Sentry Timer – (Pot & Clock icons flash) Will countdown after each brew (0:30min – 19:59 hours). After any brew, the sentry timer will activate & the CLOCK icon will turn on. The CLOCK icon will flash when the sentry timer expires to indicate the brewed beverage is no longer “fresh” (unless a new brew is started before the timer is allowed to expire).



- e) Visa Time – (Clock & Brew Basket icons flash) This time will always be added to the end of the brew cycles to allow for the coffee to finish draining from the brew basket. Timer display aids in preventing premature removal of both the brew basket and the dispenser. Each brew cycle Visa brew time setting is controlled independently and may be set between 30 seconds and 19 minutes and 59 seconds. Brew 1,2, and 3 are displayed sequentially.



- f) Brew Concentrate Calibration Countdown – (Pot icon steady) Will dispense water for 1 minute if either left or right button is pressed. Used with next step to teach brewer control the flow rate for brewing concentrate. Place appropriate container in place below brewbasket prior to starting.






- g) Brew Concentrate Calibration Value – (Pot icon flashes) 1 min. flow rate setting. The volume of water dispensed for 1 minute must be entered for volume calibration purposes. Calibration is necessary if the brew volume dispensed does not match the programmed brew volume.



- h) Hot Water Bypass Calibration Countdown – (Brew Basket and Thermometer icons steady). Will dispense water for 1 minute if either left or right button is pressed. Used with next step to teach brewer control the flow rate for hot water bypass. Place appropriate container in place below brewbasket prior to starting.

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-  i) Hot Water Bypass Calibration Value – (Brew Basket and Thermometer icons flash). 1 minute flow rate setting. The volume of water dispensed for 1 minute must be entered for volume calibration purposes. Calibration is necessary if the programmed brew volume is not being dispensed.
-  j) Cold Water Dilution Calibration Countdown – (Brew Basket steady). Will dispense water for 1 minute if either left or right button is pressed. Used with next step to teach brewer control the flow rate for cold water dilution. Place appropriate container in place below brewbasket prior to starting.
-  k) Cold Water Dilution Calibration Value – (Brew Basket flashes). 1 minute flow rate setting. The volume of water dispensed for 1 minute must be entered for volume calibration purposes. Calibration is necessary if the programmed brew volume is not being dispensed.

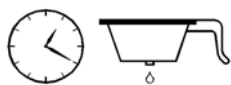
When “End” is displayed the user may press either the right/left buttons to exit the factory settings menus. The machine will then continue to operate in idle mode as described under Normal Power Up Mode.

Load Default Settings – Loads default settings for all three brew profiles and factory settings. Note: Default settings are not necessarily the same as factory settings which have been customized for brewer. This mode may be selected by holding in the 2 outer buttons for 2 seconds while plugging unit in.

## Other Modes

User Program Mode - By holding the center button continuously for 10 seconds, the machine will enter its user program mode. The heater will be disabled in this mode. The controller will scroll through the settings shown below for each of 3 brew profiles if the center button is pressed repeatedly. Pr1, Pr2, Pr3 will display briefly prior to each brew profiles settings. The left and right buttons will either adjust displayed value up or down or will toggle a value. The available settings are:

-  a) Brew Temperature – (Thermometer icon flashes) The minimum temperature at which a brew will start. Temperature may be set between 170-212. This may also be set at off to disable a brew profile and its corresponding button.
-  b) Total Brew Volume - (Pot icon flashes) The combined total volume of concentrate and dilution to be dispensed. Brew volume may be set for volumes between 30 and 704 ounces (5-1/2 gallons). Coffee can only be set for 300 ounce max. See “Delay Or Brewtime” below.
-  c) Concentrate Brew Volume – (Pot and basket icons alternate flashing if concentrate volume matches total volume, otherwise basket flashes). Volume of concentrate or water to be dispensed over the product in the basket.
- d) Concentrate Brew Time – This is the time hot water will dispense through the sprayhead over the coffee grounds in the basket. When volume settings are changed this will revert to the minimum permissible programmable time. Time may be increased to increase pulse brew in order to meet various taste profiles.



- e) Delay Time – If total brew volume and concentrate volume are not equal, you will be able to set a delay time for the dilution (tea) or bypass (coffee) dispense cycle. If no delay is desired, 0:00 may be entered. In this situation, the dilution/bypass will be delivered throughout the brew cycle interspersed in the pauses of the fill valve. Any remaining dilution not fit into these pauses will be dispensed at the end of the concentrate delivery. To have all the dilution delivered immediately at the end of the hot water delivery, as may be desired when brewing iced tea, simply set delay at 1 second (:01).



- f) Bypass/Dilution Selection – Displays only if total volume and concentrate volume are not equal. To select hot water bypass select “Hot”. To select cold water bypass select “Cld”.

The brewer will continue to cycle through profiles until you choose to exit. To exit user program mode press center button until “End” is displayed and select by depressing either left or right button.

Brew Mode - One of three brew profiles may be requested by a simple press and release of any of the three buttons. If the heater is on, the brewer will enter auto arm mode (basket & clock icon flashing). Otherwise, a brew will start. If the time programmed for the brew exceeds the minimum time required, the excess time will be distributed throughout as “pauses” in the brew cycle. A brew may be cancelled by pressing any button.

Auto Arm Mode - Under AUTO ARM mode, the machine will display the TOP sensor temperature reading until it is ready to brew. Auto arm mode may be cancelled by pressing any button.

Temperature Monitor Mode - By holding down the center button while the LEFT button is pressed, the display will show the temperature readout for the TOP thermistor in the tank. Pressing any button at this point will clear the display. By holding down the center button while the RIGHT button is pressed, the display will show the temperature readout for the BOTTOM thermistor in the tank. Again, pressing any button at this point will clear the display.

Error Modes - To reset an error condition simply power the machine off and back on. If the error continues, check the condition of all sensors, hardware & wiring.

ER1 – Top thermistor shorted

ER2 – Top thermistor open

ER3 – Bottom thermistor shorted

ER4 – Bottom thermistor open

ER5 – Heater has exceeded the maximum continuous run time.

**NOTE: DO NOT REPLACE THIS CONTROL WITH AN OLDER CONTROL.  
PLEASE SPECIFY 784801 OR COMPATIBLE TVT CONTROL.**