



# La Spaziale S1 Vivaldi *Double Boiler Espresso Machine* Instruction Manual

Rev. B 10/01/2004

SA VIVAZDI

## TURNING ON AND HEATING UP OF THE MACHINE

1. Insert the plug into the socket of the electric system, the control light (22) starts flashing to show the connection to the electric network (Stand-by).
2. Press the ON / OFF (27) button and keep it pressed for about 3 seconds, the green light (22) from flashing becomes fixed to show the actual turning on of the machine. At the same time the lights from 14 to 21 turn on fixed for about a second (checking of the electronic part).
3. The light corresponding to the set temperature starts flashing to indicate that the group is being heated up and the automatic refill of the boiler starts until the water level foreseen by the manufacturer is reached.
4. Once the filling process is finished, the light of the boiler (13) starts flashing to indicate that the boiler is being heated up; after the first switching on, the boiler doesn't work until the group has reached the set temperature.
5. Fasten the filterholder (11) to the brewing group (10).
6. Wait until the set temperature is reached, by checking that the lights on the control panel (9) gradually turn on as temperature rises. The visualization starts as soon as the temperature reaches 85°C (turning on of light 14 ) and continues until the machine has reached its operating temperature ( light from flashing to fixed ).
7. When the group has reached the set temperature the heating of the boiler starts (light boiler 13 flashing), once it reaches the set the light becomes fixed.
8. Every time the temperature of the group or of the boiler drops under the set, the relative light, indicating the operating temperature, starts flashing (heating phase) until the set temperature is reached.
9. The machine is now ready to be used.

## WARNING !!

To activate and deactivate the boiler mode press the "BOILER" (26) button  
Every time you turn on the machine the boiler is in service.

When the boiler is turned off, it is impossible to use hot water for infusions and steam delivery.

The machine can also operate in the economy mode ( see relative paragraph).

## REGULATION OF THE OPERATING TEMPERATURE OF THE MACHINE

1. When the machine is on, press the button ON//OFF (27) and keep it pressed for 3 seconds, the control light (22) and the one concerning the set temperature start flashing . For example if the set temperature is 105 °C the light (18) starts flashing .

LIGHT N.	13	14	15	16	17	18	19	20	21	22
	●	●	●	●	●	●	●	●	●	●
TEMP.		85	90	95	100	105	110	120	130	°C

2. In order to change the operating temperature, press and release the hot water delivery button (23); to every pressure of the button corresponds an increase of the temperature of 5°C (with the flashing of the corresponding light). When the maximum temperature of 130°C (light 21) is reached, the selection restarts from the minimum temperature of 85°C (light 14) (cyclic mode).

3. Once you choose the desired temperature, in order to confirm the datum, press the ON/OFF (27) button, the machine will then go back to its normal functioning.

The value of the operating temperature of the machine is to be changed only in order to improve the final result in the cup depending on the coffee blend used.

## **COFFEE BREWING**

1. Unfasten the filterholder (11) from the brewing group (10) and insert the filter for one or two cups.
2. Fill it with ground coffee, making sure not to leave coffee powder on the upper edge of the filterholder (11), and press it with the suitable coffee tamper provided.
3. Firmly attach the filterholder (11) to the brewing group (10).
4. Place one or two cups under the filterholder (11).
5. Press the button corresponding to one cup (24) if you want to make one coffee or two cups (25) to start the delivery. Once the desired quantity of coffee programmed is reached, the delivery automatically stops.

## **DOSE SETTING**

1. When the machine is on, press the ON/OFF (27) button and keep it pressed for about 3 seconds; the control light (22) and the one concerning the set temperature start flashing.
2. Fill with ground coffee the filterholder (11) with the one cup filter, making sure not to leave coffee powder on the upper edge of the filterholder, and press it with the suitable coffee tamper provided.
3. Fasten the filterholder (11) to the brewing group (10), placing a cup under the filterholder.
4. By pressing the one cup button (24) the delivery starts and the lights 14-15-16 turn on to show that the dose of one coffee is being programmed.
5. When the coffee inside the cup has reached the desired quantity, press again the button (24) to stop the delivery.
6. You automatically return to the initial visualization.
7. Repeat the same operation with the 2 cup button (25) making sure you change the filter inside the filterholder (11).

## **TAKING HOT WATER FOR INFUSIONS**

**( only possible with the boiler turned on, light 13 turned on)**

1. Place the pitcher below the hot water output (28).
2. Press the hot water delivery push-button (23).
3. The hot water delivery starts (at this stage the pump is working).
4. Once the desired quantity is reached, stop the delivery by pressing the same button (23)

## **STEAM DELIVERY**

**(only possible with the boiler turned on, light 13 turned on)**

1. Insert the steam wand (2) in the pitcher containing the drink to be heated up.
2. Turn the steam knob (6) anticlockwise, regulating the steam flow according to the need
3. At the end of the heating phase of the drink, stop the steam delivery by turning the steam knob (6) clockwise.

4. Remove the pitcher from the steam wand (2) and clean immediately with a humid sponge the steam wand from possible residues of the heated drink.

## **WARNING !!**

Do not turn the steam knob ( 6) before having placed the steam wand (2) inside the pitcher, in order to avoid possible burns.

## **WORKING IN ECONOMY MODE**

This mode of the machine is indicated for less frequent uses of steam and water for infusions, in fact priority is always given to the heating of the group for the delivery of coffee rather than the heating of the boiler .

In order to activate this mode press button boiler (26) and keep it pressed for about 3 seconds, the red light 21 turns on.

## **ALARMS HANDLING**

### **DAMAGED FLOWMETER**

When the flowmeter isn't working properly or when the coffee grinding is too fine this is indicated by the turning on of the lights 14-15-16; if you are making one coffee dose, and the lights 17-18-19 if you are making two coffee doses.

### **DAMAGED TEMPERATURE PROBE OF THE GROUP**

This alarm is a blocking one, and is visualized when the temperature probe of the group is in short circuit (temperature above 145°C ) or is interrupted (temperature inferior to 60°C ). The lights 20-21 turn on.

### **DAMAGED TEMPERATURE PROBE OF THE BOILER ( only with the boiler turned on)**

This is not a blocking alarm and is visualized when the temperature probe of the boiler is in short circuit (temperature above 145°C ) or is interrupted ( temperature inferior to 60°C ). The lights 19-20-21 turn on.

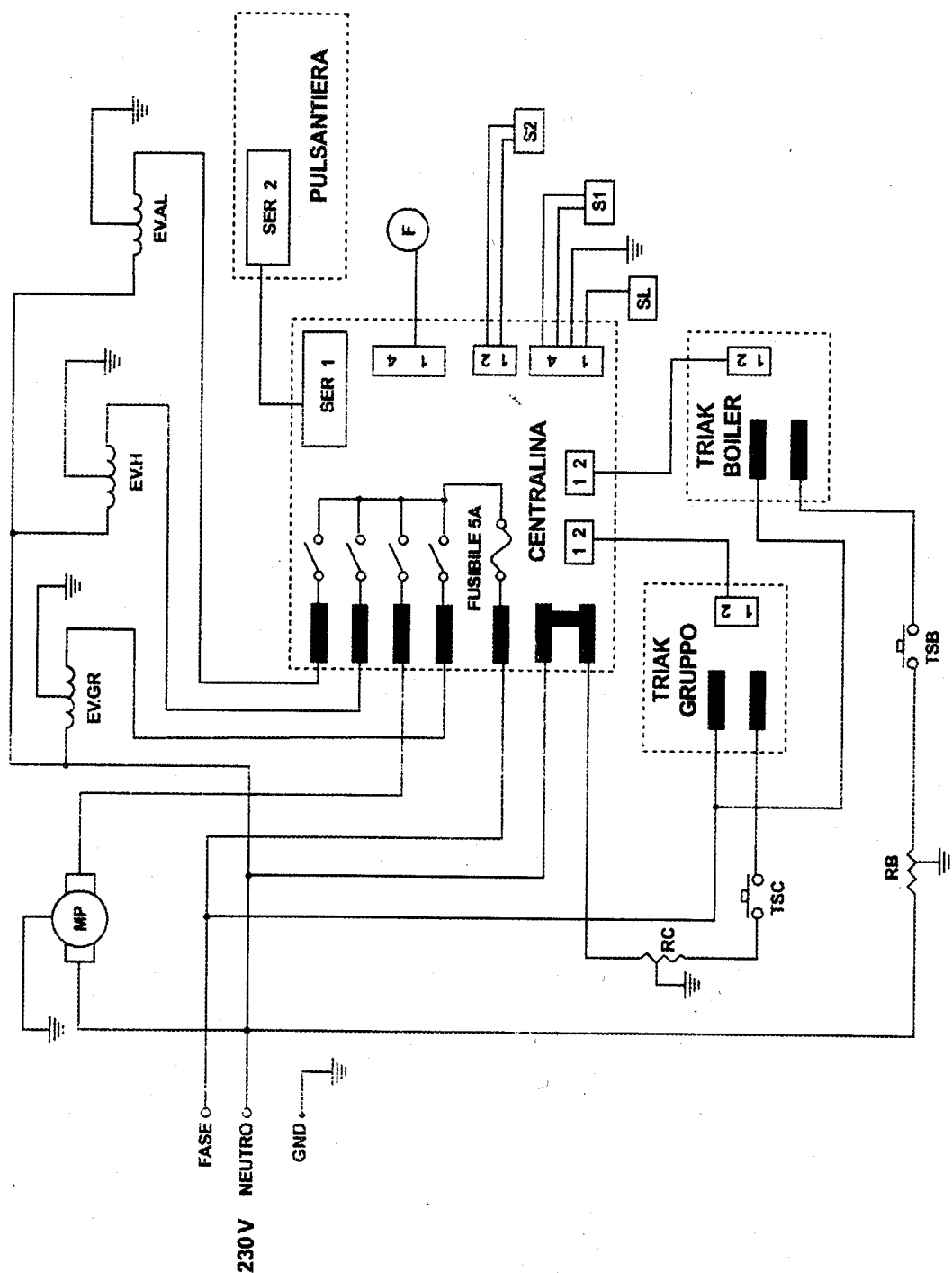
### **DAMAGED HEATING ELEMENT TRIAK OF THE GROUP**

This alarm is a blocking one, and is visualized when the triak always remains in conduction (temperature above 140°C ). The lights 20-21 are flashing.

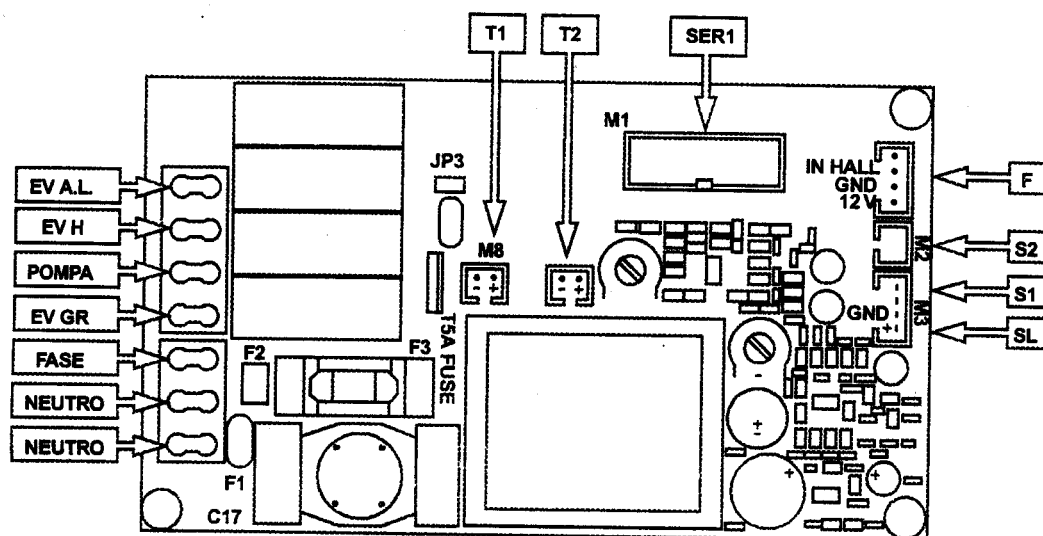
### **DAMAGED HEATING ELEMENT TRIAK OF THE BOILER ( only with the boiler turned on)**

This alarm is a blocking one, and is visualized when the triak always remains in conduction (temperature above 140°C ). The lights 19-20-21 are flashing.

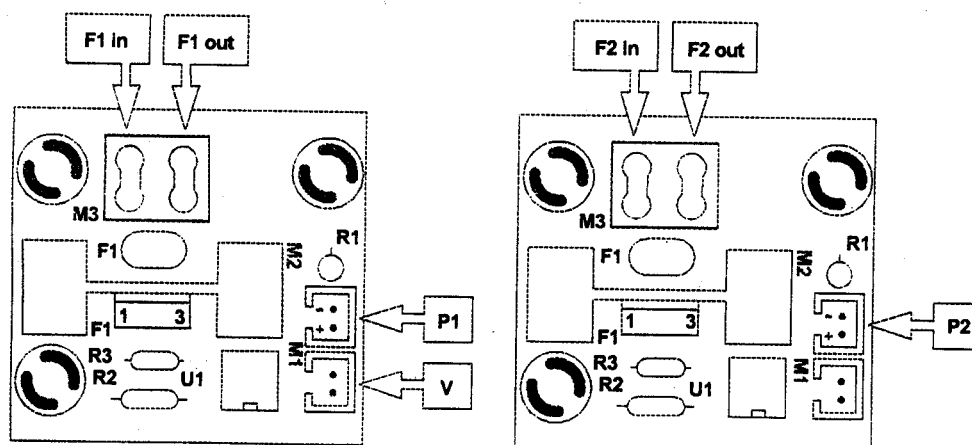
## 4.1 SCHEMA ELETTRICO



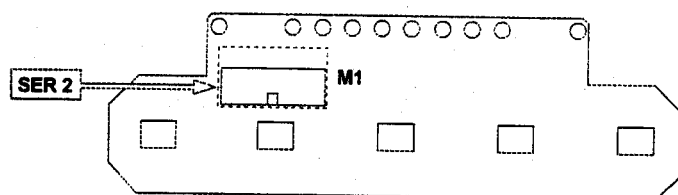
## 4.2 SCHEDA POTENZA



## 4.3 SCHEDA TRIAK



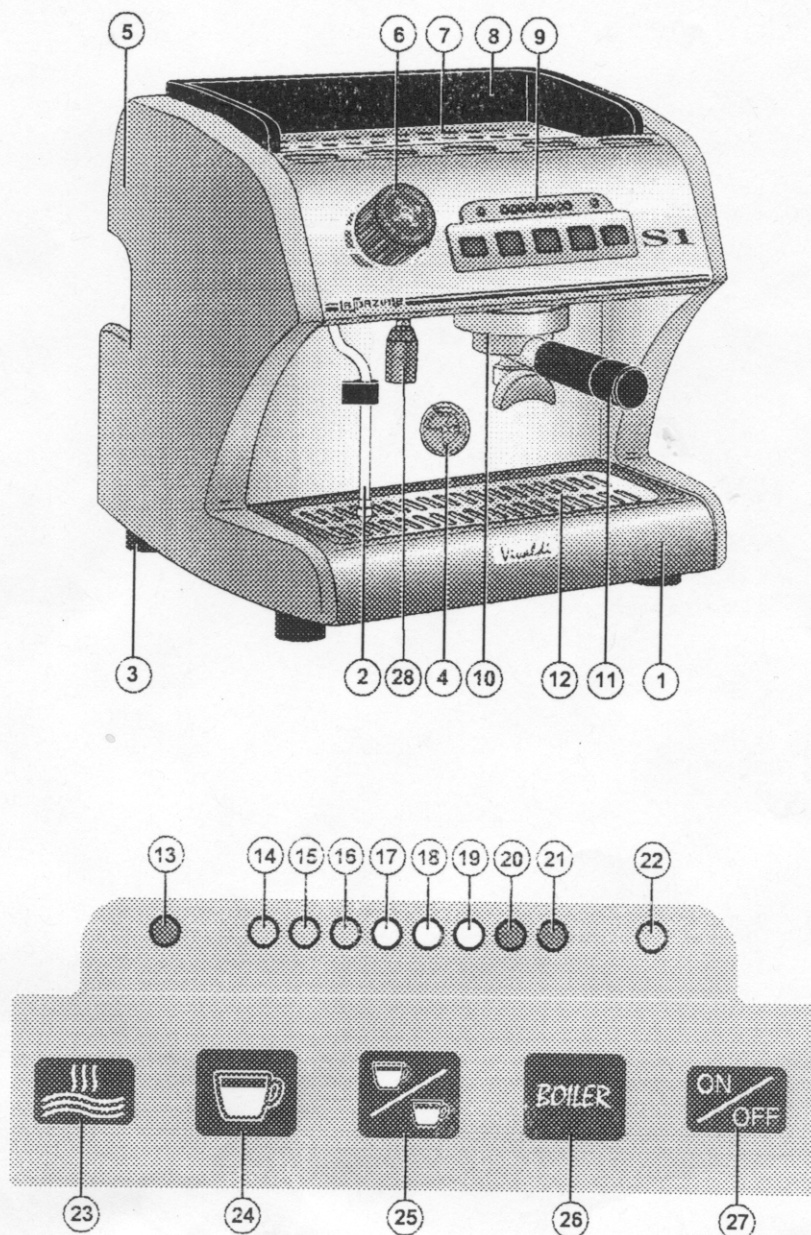
## 4.4 CIRCUITO LED



## WIRING DIAGRAM LIST

EV GR	Coffee brewing group electrovalve
EV H	Hot water delivery electrovalve
EV AL	Automatic refill system electrovalve
T1	Connection on control board of the triak that feeds the boiler heating element
T2	Connection on control board of the triak that feeds the group heating element
P1	Connection of the control board on the triak that feeds the boiler heating element
P2	Connection of the control board on the triak that feeds the group heating element
SER 1	Connection control panel on control board
SER 2	Connection control board on control panel
F	Flowmeter
F1in	Phase inlet into the triak that feeds the boiler heating element
F1out	Phase outlet from the triak that feeds the boiler heating element
F2in	Phase inlet into the triak that feeds the group heating element
F2out	Phase outlet from the triak that feeds the group heating element
S1	Boiler temperature probe
S2	Brewing group temperature probe
SL	Boiler water level control
V	Ventilator connection
MP	Motorpump
RC	Heating element brewing group
TSC	Safety thermostat for brewing group heating element
RB	Boiler heating element
TSB	Safety thermostat for boiler heating element.

## COMPONENTI





# *Addendum 1 to La Spaziale S1 Instruction Manual*

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## **Boiler Button Programming Options**

**BOLD** = Lamps, **Reverse** = Buttons

On the 20Amp models of the La Spaziale S1, the **Boiler** button performs two roles:

1. Turning the Steam boiler on and off
2. Entry and exit of Economy mode

The operations of the **Boiler** button are both incorrectly documented and under documented in the Instruction Manual currently included with the S1.

There are three possible operational modes of the two boilers in the La Spaziale S1 20A model:

1. Both boilers are completely independent, turning on and off according to the needs of each. Both can be on at the same time. This is the default mode.
2. The **Boiler** button can toggle the Boiler on and off. This mode is useful for those that only drink espresso and do not need steam or hot water and want to conserve energy.
3. The **Boiler** button can also be used to switch in and out of Economy mode. In this mode only one boiler can be on at a time. The S1 automatically controls which is on according to demand with preference going to the group boiler. This is useful for those owning the 20A model but lacking a 20A circuit.

### **Turning the Steam/Hot Water Boiler On and Off**

1. The S1 must be in On mode, not Standby for all operations below.
2. Momentarily press the **Boiler** button
3. The **Boiler** lamp is extinguished. No steam or hot water is available.  
Note: if you turn the S1 Off then On again, or if power is removed and restored to the S1, the Boiler returns to the On state.
4. Momentarily press the **Boiler** button again.
5. The **Boiler** lamp is on (or blinking). Steam and hot water are available.

### **Turning Economy Mode On and Off**

1. The S1 must be in On mode, not Standby for all operations below.
2. Press the **Boiler** button for 10 seconds until the **ECON** lamp illuminates. Economy mode is now active.  
Note: if you turn the S1 Off and On again or if power is removed and restored to the S1, Economy mode remains active until you perform step 4, below.
3. While in Economy mode you can momentarily press the **Boiler** button to completely turn off the boiler. Another momentary press returns you to Economy mode.
4. To exit Economy mode, press and hold the **Boiler** button for 10 seconds until the **ECON** lamp is extinguished.

## Addendum 2 to La Spaziale S1 Instruction Manual

Note: Applies only to S1's shipped on or after 2/20/2004 or older units with upgraded PC board

### New Incremental Temperature Control Instructions

The La Spaziale S1 instruction manual describes how to select the temperature in 5°C increments. However, once you set this control to 85°C, 90°C, 95°C, 100°C, 105°C, 110°C, or 120°C as your master temperature, you can enter the fine temperature control mode which allows you to adjust the temperature relative to the master temperature in 1°C increments up or down as far as  $\pm 3^\circ\text{C}$ .

Here are the steps required to successfully program in  $\pm 1^\circ\text{C}$  increments:

(**BOLD** = lamps, **Reverse** = buttons)

1. The S1 must be in Standby mode; i.e. the green **ON/STBY** lamp is blinking. If not already in this mode, momentarily press the **ON/OFF** button.
2. Press and hold the **Two Cup** button in for 3 seconds until both the yellow lamps over **100** and **105** are steadily lit. This condition indicates an offset of 0°C from the master temperature setting. (If any of the green lamps, the other yellow lamp, or the red lamps are lit at this time, a non-zero offset has previously been programmed.)
3. To increase the temperature, press the **BOILER** button. The first press lights the yellow lamp over **110** which indicates +1°C. A 2nd press also lights the red lamp over **120** which indicates +2°C. A 3rd press also lights the red lamp over **ECON** which indicates +3°C. A 4<sup>th</sup> press of the **BOILER** button extinguishes all three lamps indicating that the machine has cycled back to 0°C offset from the master setting.
4. To decrease the temperature, press the **One Cup** button. The first press lights the green lamp over **95** which indicates -1°C. A 2nd press also lights the green lamp over **90** which indicates -2°C. A 3rd press also lights the green lamp over **85** which indicates -3°C. A 4<sup>th</sup> press of the **One Cup** button extinguishes all three green lamps indicating that the machine has cycled back to 0°C offset from the master setting.
5. When finished, press the **Two Cup** button until the lamps extinguish. You will be back in Standby mode with only the **ON/STBY** lamp blinking. At this time, your setting is memorized and will remain until you repeat the above procedure to change it.

If, for example, your master temperature setting before entering the fine temperature control mode is 95°C and you press the **One Cup** button until all three green lamps are lit, the water temperature is programmed to 92°C. When back in normal operational mode with the green 95°C lamp lit steadily, the water temperature will actually be 92°C.

**NOTE:** The master temperature setting and the fine temperature setting are completely independent. If you have set the temperature to 92°C, as in the above example, and later decide you want the temperature to be 100°C, changing the master setting to 100°C will result in 97°C water temperature because the fine temperature setting is still at -3°C.



## Addendum 3 to La Spaziale S1 Instruction Manual

Note: Applies only to S1's shipped before 2/20/2004 and never upgraded

### Original Incremental Temperature Control Instructions

The La Spaziale S1 instruction manual describes how to select the temperature in 5°C increments. However, once you set this control to 85°C, 90°C, 95°C, 100°C, 105°C, 110°C, or 120°C as your master temperature, you can enter the fine temperature control mode which allows you to adjust the temperature relative to the master temperature in 1°C increments up or down as far as  $\pm 3^\circ\text{C}$ .

Here are the steps required to successfully program in  $\pm 1^\circ\text{C}$  increments:

(**BOLD** = lamps, **Reverse** = buttons)

1. The S1 must be in Standby mode; i.e. the green **ON/STBY** lamp is blinking. If not already in this mode, momentarily press the **ON/OFF** button.
2. Press and hold the **Two Cup** button in for 3 seconds until both the yellow lamps over **100** and **105** are steadily lit. This condition indicates an offset of 0°C from the master temperature setting. (If any of the green lamps, the other yellow lamp, or the red lamps are lit at this time, a non-zero offset has previously been programmed.)
3. To increase the temperature, press the **One Cup** button. The first press lights the green lamp over **95** which indicates +1°C. A 2nd press also lights the green lamp over **90** which indicates +2°C. A 3rd press also lights the green lamp over **85** which indicates +3°C. A 4th press of the **One Cup** button extinguishes all three green lamps indicating that the machine has cycled back to 0°C offset from the master setting.
4. To decrease the temperature, press the **BOILER** button. The first press lights the yellow lamp over **110** which indicates -1°C. A 2nd press also lights the red lamp over **120** which indicates -2°C. A 3rd press also lights the red lamp over **ECON** which indicates -3°C. A 4<sup>th</sup> press of the **BOILER** button extinguishes all three lamps indicating that the machine has cycled back to 0°C offset from the master setting.
5. When finished, press the **Two Cup** button until the lamps extinguish. You will be back in Standby mode with only the **ON/STBY** lamp blinking. At this time your setting is memorized and will remain until you repeat the above procedure to change it.

If, for example, your master temperature setting before entering the fine temperature control mode is 95°C and you press the **One Cup** button until all three green lamps are lit, the water temperature is programmed to 98°C. When back in normal operational mode with the green 95°C lamp lit steadily, the water temperature will actually be 98°C.

**NOTE: The master temperature setting and the fine temperature setting are completely independent. If you have set the temperature to 98°C, as in the above example, and later decide you want the temperature to be 100°C, changing the master setting to 100°C will result in 103°C water temperature because the fine temperature setting is still at +3°C.**

