

Manual

fracino

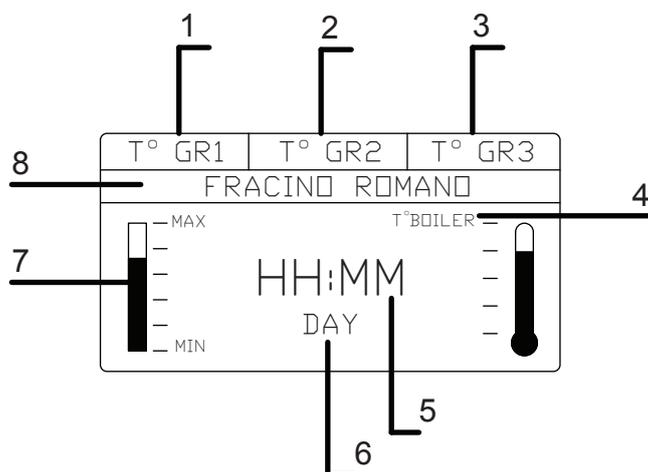
PID



TO BE USED WITH FRACINO USER MANUAL AND INSTALLATION MANUAL

DISPLAY AND KEYPAD OVERVIEW

Display Normal Operation



1. Group 1 Temperature °C
2. Group 2 Temperature °C
3. Group 3 Temperature °C
4. Steam Boiler Temperature °C
5. Time
6. Day
7. Steam boiler water level indicator
8. Scrolling menu bar

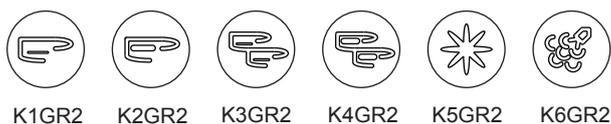
Keypad Group 1



	PRIMARY FUNCTION	SECONDARY FUNCTION
K1GR1	Single Espresso	Scroll up when in program menu or technical menu
K2GR1	Single Cappuccino	Scroll down when in program menu or technical menu
K3GR1	Double Espresso	Select/enter when in program menu or technical menu
K4GR1	Double Cappuccino	
K5GR1	Manual Override	Enter program menu or technical menu
K6GR1	Hot Water Dispense	

DISPLAY AND KEYPAD OVERVIEW

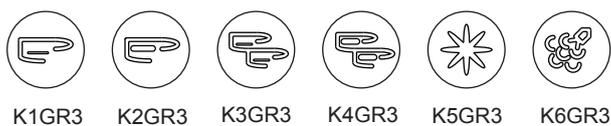
Keypad Group 2



	PRIMARY FUNCTION	SECONDARY FUNCTION
K1GR2	Single Espresso	Scroll up when in program menu
K2GR2	Single Cappuccino	Scroll down when in program menu
K3GR2	Double Espresso	Select/enter when in program menu
K4GR2	Double Cappuccino	
K5GR2	Manual Override	Enter program menu
K6GR2	Steam Dispense*	

*2 Group only, on a 3 group machines this is for hot water

Keypad Group 3

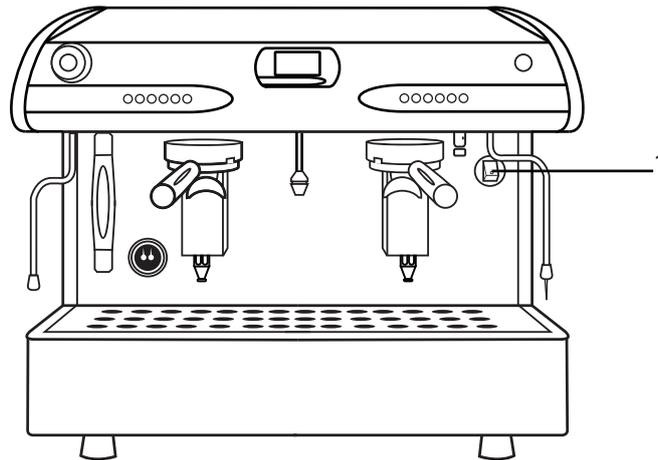


	PRIMARY FUNCTION	SECONDARY FUNCTION
K1GR3	Single Espresso	Scroll up when in program menu
K2GR3	Single Cappuccino	Scroll down when in program menu
K3GR3	Double Espresso	Select/enter when in program menu
K4GR3	Double Cappuccino	
K5GR3	Manual Override	Enter program menu
K6GR3	Steam Dispense	

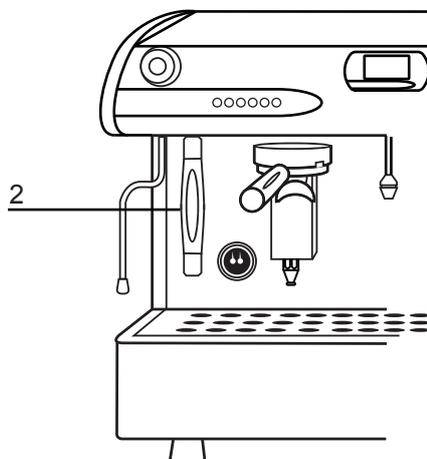
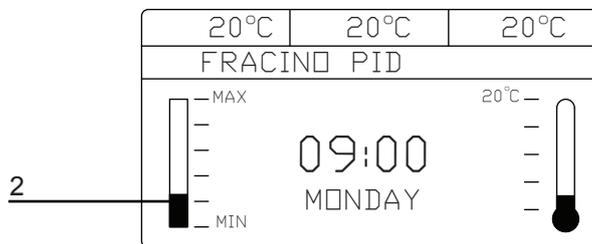
NOTE: For installation instructions, refer to the Installation Manual supplied with the machine

Initial start up

1. On the initial start-up, immediately after installation, turn the machine on using the black rocker switch on the front panel behind the right hand steam tube, the blue light should illuminate indicating the power is on. The display and keypads should illuminate.

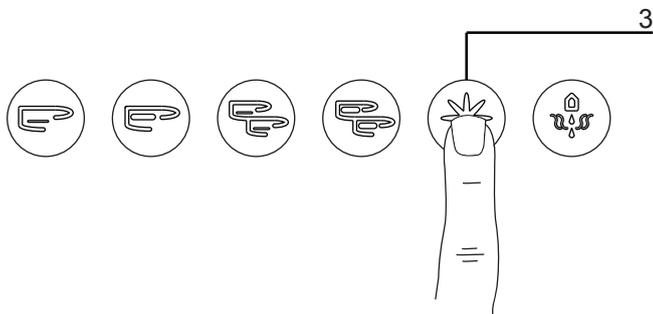


2. After a second or two the boiler will begin to fill, this is indicated on the boiler water level indicator on the display, the water level can also be observed on the sight glass on the left hand side of the machine, it may take several minutes for the boiler to fill.

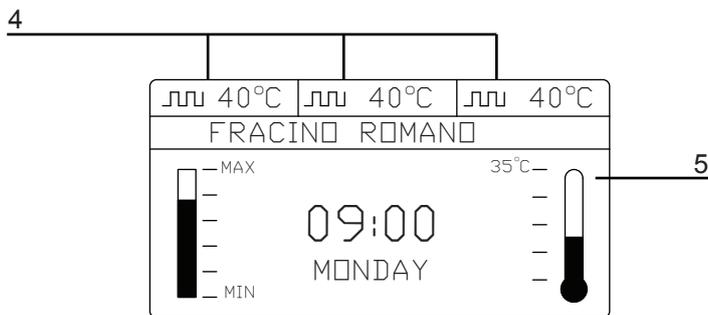


NOTE: The machine may time out during the filling, this will be indicated by a buzzer and a "!" symbol on the display, turn the machine off using the mains on/off rocker switch, wait 5seconds and turn on again - the machine will continue of fill.

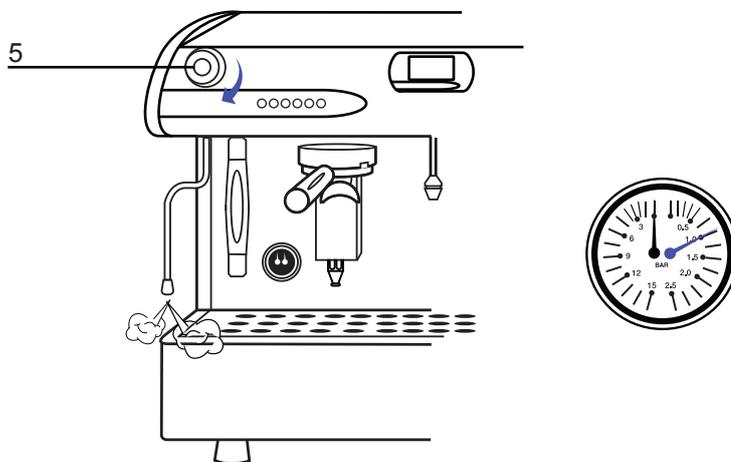
3. Immediately after the boiler has filled press the star button on each group until water appears from the bottom of the groups - this is to ensure the heat exchangers and group boilers are full of water.



4. After filling the boilers will start to heat, this is indicated on the groups by the heating element symbol, which appears on the group temperature readout this symbol will appear when the group heating element is on, as the group approaches its set temperature it will begin to pulse until the set point is reached, it will then pulse to maintain the set point temperature.



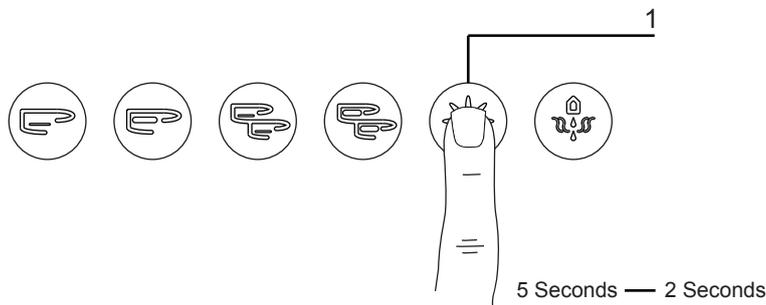
5. The steam boiler temperature is indicated on the right hand side of the display. It is good practice to open the steam valve by turning clockwise when the steam boiler is heating, this can be closed when steam starts to appear from the steam tube. The steam pressure will build until it reaches 1-1.2Bar.



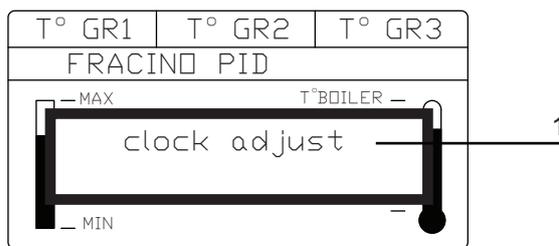
6. It is advisable to leave the machine with the filter holders inserted in the groups for 10-15 minutes to allow the groups to get hot and stabilize their temperature.

CLOCK AND AUTO ON/OFF

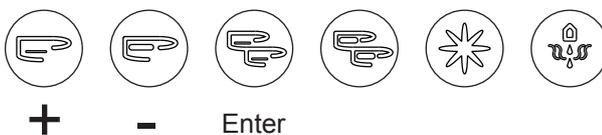
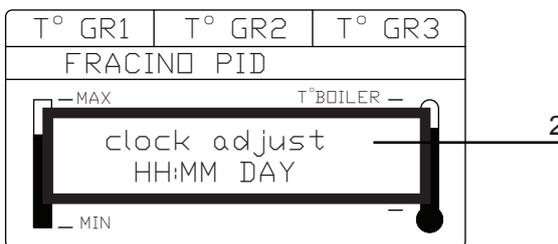
Changing Clock



1. To change the time on the clock, press and hold the star button for 5seconds to enter the programming mode, remove finger from star button then press the star button for a further 2 seconds, to enter the secondary programming mode, the display will show "clock adjust", as shown below



2. Press the double espresso button to edit the time, the time and day should appear with the hour flashing, use the single espresso (+) or single cappuccino (-) to increase/decrease the hour respectively, press the double espresso button to scroll to the minute adjust as required, press the double espresso button to scroll to the day, adjust as required

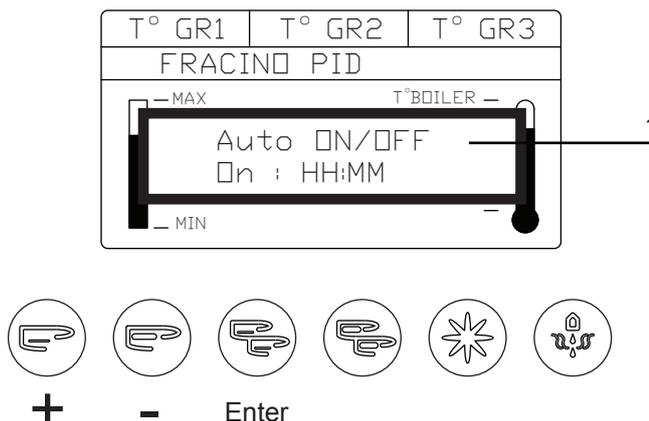


3. Press the double espresso button to move to the Auto ON/OFF setting menu

CLOCK AND AUTO ON/OFF

Auto ON/OFF

1. Press the double espresso button the hour should be flashing, use the espresso (+) and Cappuccino (-) button to change to the require time, press the double espresso button to scroll to the minute and adjust as required.

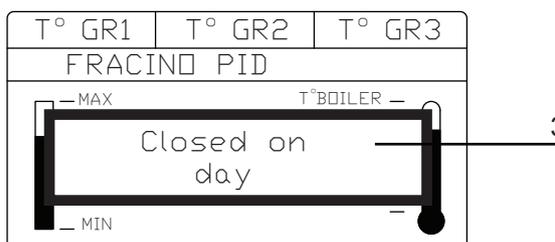


2. Press the double espresso to move to the OFF set time, set time as required using the same procedure as above.



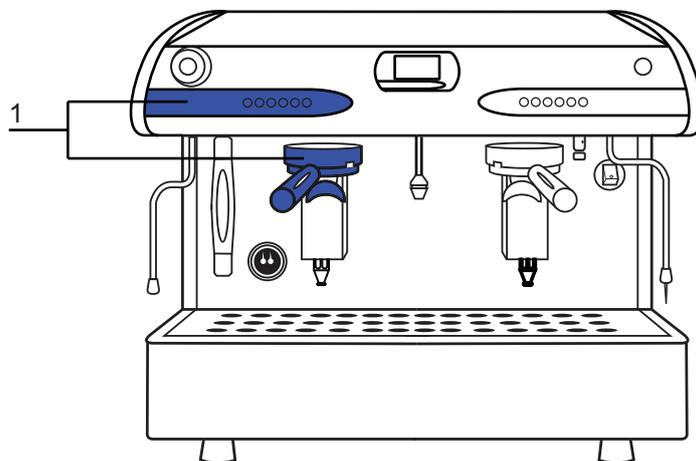
NOTE: When using the Auto on/off the machine will go into stand-by mode and will not isolate power from the machine.

3. The auto on/off can be programmed to skip a day in the week, i.e if Sunday is selected the machine will turn off on Saturday, stay off on Sunday and turn back on Monday. Use the single espresso and single Cappuccino to cycle through the days, "-----" denotes that no day is selected.



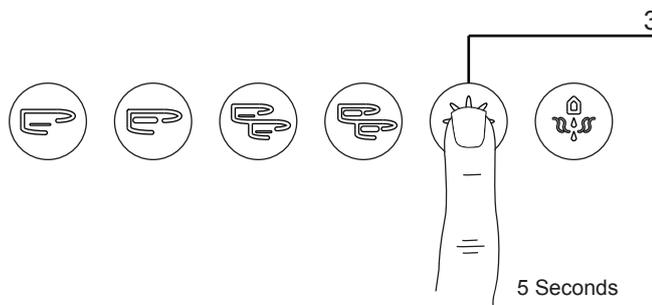
PROGRAMMING COFFEE MEASURES

Programming Coffee Measures

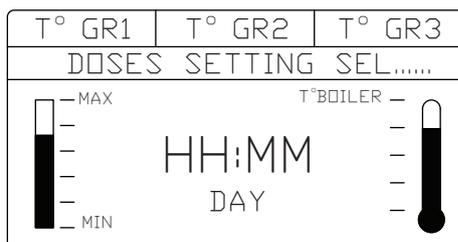


1. The coffee measures are programmed from the left hand keypad, when complete the settings are stored on all groups. If required each group can be programmed individually by using the same procedure using the corresponding group and keypad.

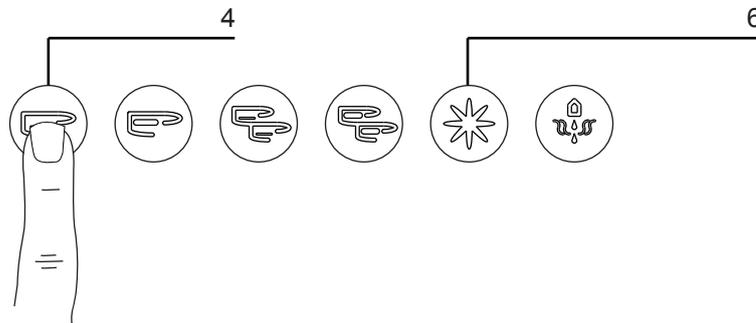
2. Put a single shot of coffee (7-8grams) in to a single filter, insert filter in to the the left hand group and place a shot pot or espresso cup under the group.



3. Press and hold the star button for 5seconds until the scroll menu reads: "doses setting select with in 30sec"



PROGRAMING COFFEE MEASURES



4. Press the single espresso button to start the brewing cycle, when the required volume (approx. 30mL for a single espresso) has been dispensed press the single espresso button to stop the brewing cycle.

5. Repeat the process to program the other buttons, using a single or double filter as required, the programming must be done with in 30sec of each other, otherwise it will timeout, if this happens press and hold the star button for 5 seconds as before and continue from where you left off.

6. To exit the program you can either wait 30sec for the timeout or press and hold the star button for 5seconds then press the star button to scroll through the menu until the main display appears.

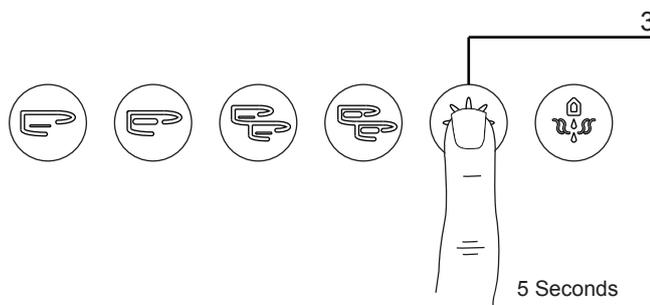
PROGRAMMING HOT WATER MEASURES

Programming Hot Water Measures

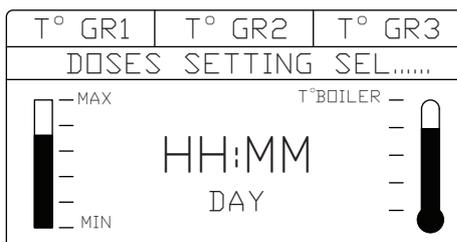


1. The duration of the hot water dispensing can be adjusted using the left hand key pad
2. Place a cup, teapot or measuring jug on the drip tray grid under the hot water nozzle

 **WARNING:** Do not hold the cup, teapot or measuring jug, the water from the hot water nozzle is extremely hot which presents a risk of scalding.

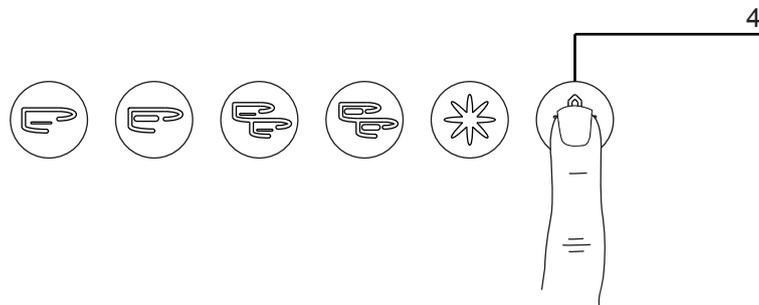


3. Press and hold the star button for 5seconds until the scroll menu reads: "doses setting select with in 30sec"



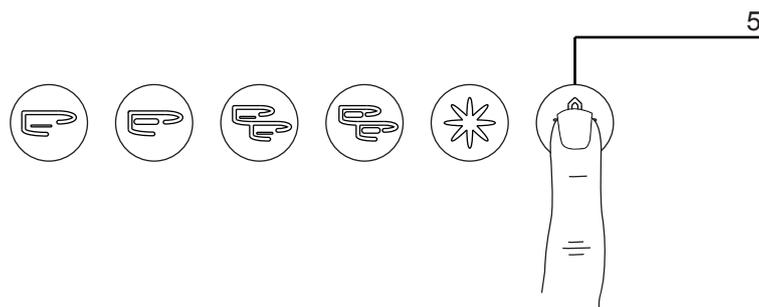
PROGRAMING

HOT WATER MEASURES



4. Press the Hot water button, Hot water will be dispensed from the nozzle

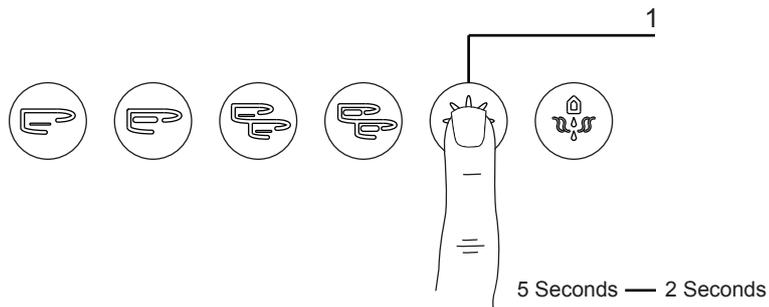
 **WARNING:** Do not hold the cup, teapot or measuring jug, the water from the hot water nozzle is extremely hot which presents a risk of scalding.



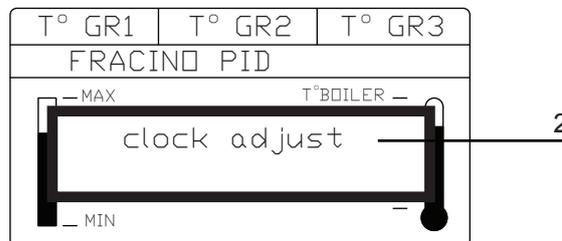
5. When the required amount of water has been dispensed press the hot water button again to stop, the measure is now programmed press and hold the star button for 5seconds then press the star button to cycle through the menu options until you are out of the programing mode, alternitively wait 30seconds.

SECONDARY PROGRAMMING MENU OVERVIEW

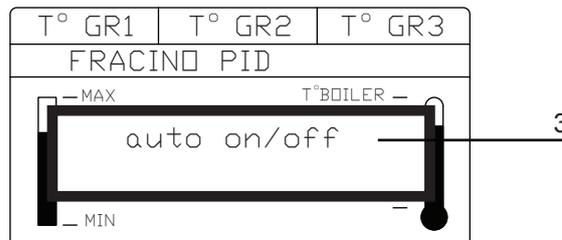
Entering Secondary Program menu



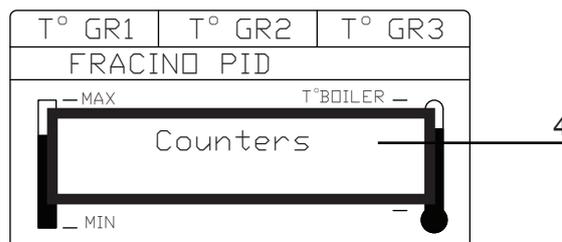
1. To enter the secondary programming mode press and hold the star button on group 1 for 5seconds to enter the programming measures mode, remove finger from star button then press the star button for a further 2 seconds, to enter the secondary programming mode, the display will show “clock adjust”, as shown below, pressing the star button will scroll through the menus, pressing the double espresso will allow you to enter the menu and adjust if available.



2. Clock Adjust, allows the user to adjust the time and day that is shown on the display, see “Clock and Auto on/off” section for more details



3. Auto on/off, the machine can be programmed to go in to stand-by mode and come back on at predetermined times, the times can be adjusted with this menu, see “Clock and Auto on/off” section for more details.



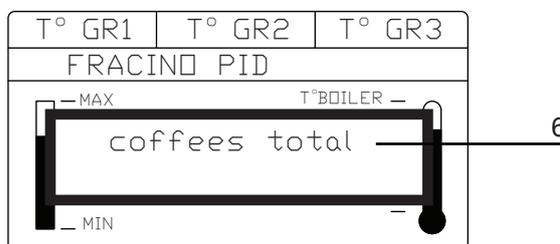
4. Counters, pressing the double espresso button will allow the user to scroll through the various counters, such as the volume of water used, number of espressos dispensed etc... see below for more details.

SECONDARY PROGRAMMING MENU OVERVIEW

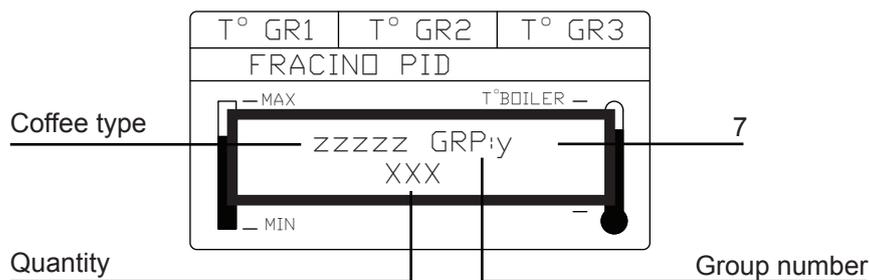
5. Litres, allows the user to see the volume of water that has passed through the machine.



6. Coffees total, allows the user to see the total number of coffees dispensed.



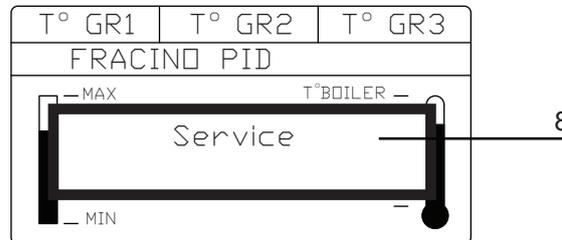
7. Detailed drinks counter, allows the user to view the type and quantity of coffees dispensed from each group, press the double espresso button to cycle through each type and group.



To re-set the counters, see Service Alarm section.

SECONDARY PROGRAMMING MENU OVERVIEW

8. Service, allows the user to see the recommended number of drinks that can be dispensed until the next service.



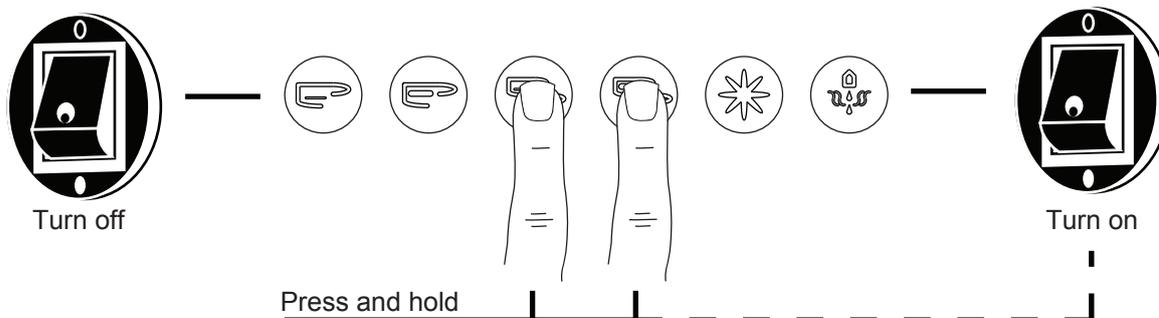
⚠ WARNING: The service counter is only an indication of when the next service is due, services may be required more often depending on usage, water hardness etc. It is also a legal requirement under the HSE PSSR Act of 2002 to have the boiler inspected and tested annually, contact Fracino or authorised service agent for further information or to have your boiler tested, a Written Scheme of Examination is available in the supplied installation manual. THIS SERVICE COUNTER IS NOT AN INDICATION OF WHEN THE BOILER IS DUE FOR INSPECTION OR TESTING

Water Filter Alarm

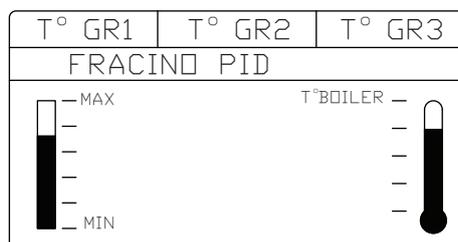


If the spanner symbol appears with the “Change Water Filter” in the Scroll menu the water filter needs to be replaced, contact Fracino or your local service agent to have the filter replaced.

To change the volume of water that can pass through the machine before the water filter alarm comes on, see 36 in the “Technical” section.

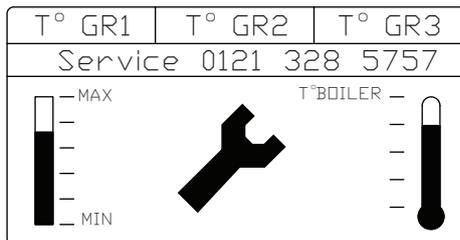


The water filter counter alarm is re-set by turning the machine off using the mains on/off switch pressing and holding the double espresso and double coffee, then turning the machine on again using the mains on/off switch whilst keeping the double espresso and double coffee buttons pressed for 2 seconds - the alarm and counter should be re-set



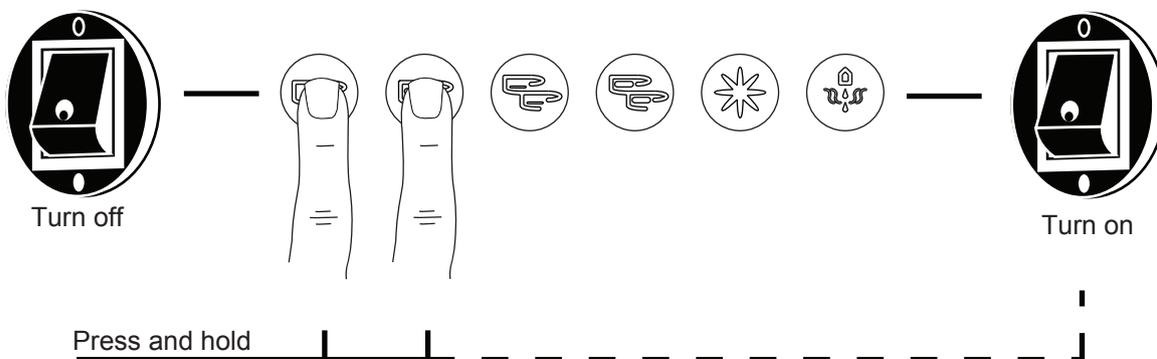
WARNING: The water filter counter should only be re-set when the filter has been replaced and should only be re-set by trained personnel.

Service Alarm



If the spanner symbol appears with the “Service” in the Scroll menu the machine requires a routine service, contact Fracino or a local service agent to have the machine serviced.

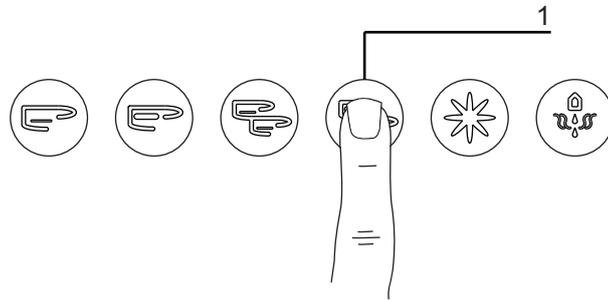
To change the number of cycles required before the service alarm sounds, see section 25 in the Technical section.



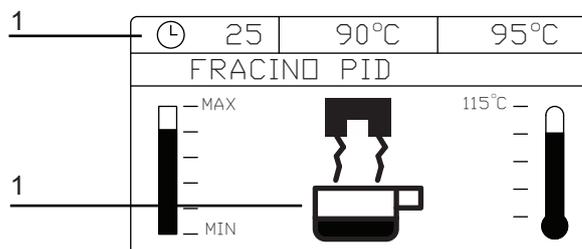
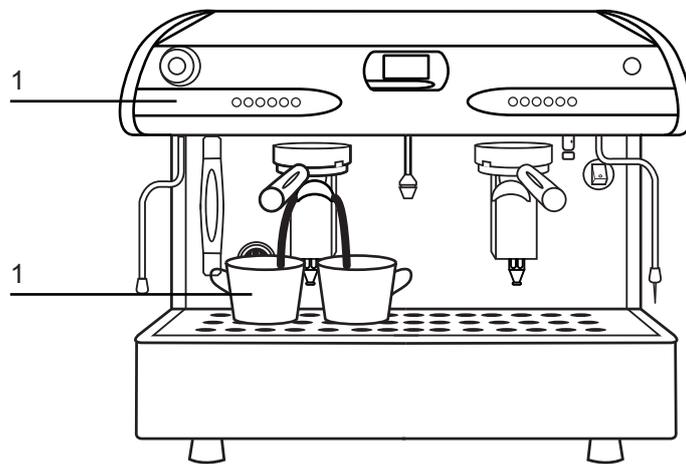
The service counter alarm is re-set by turning the machine off using the mains on/off switch pressing and holding the espresso and coffee buttons, then turning the machine on again using the mains on/off switch whilst keeping the espresso and coffee buttons pressed for 2 seconds - the alarm and counter should be re-set



WARNING: The service counter should only be re-set when the machine has been serviced.



1. When dispensing coffee the group temperature readout will show a shot timer, shown in seconds, and dispensing symbol.



The shot timer can be used as a guide to the coarseness of the grind and tamping pressure, ideally a double shot (60mL) should take between 20-30seconds.

Entering Technical Menu

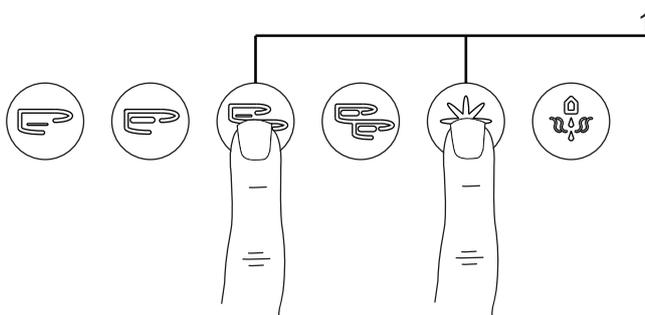


WARNING: Modifying the settings in the Technical Menu can may cause temperature instability in the groups and/or cause the machine to function incorrectly, settings must only be modified by trained persons. Service callouts to reset/reprogram settings maybe fully charge-able.

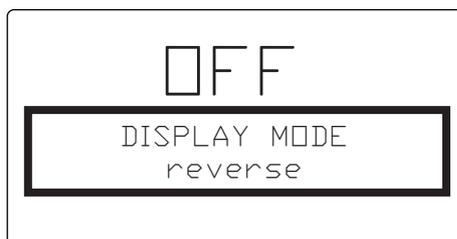
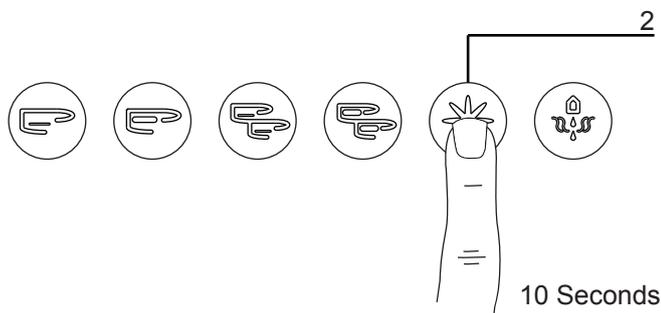
The "USER" symbol in this section denotes the features/settings that can be changed by the user.

USER

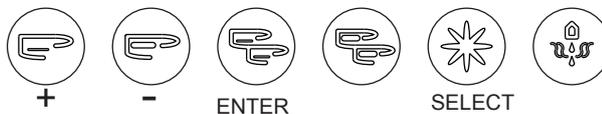
1. To enter the technical menu, first turn the machine to stand-by mode, by pressing the star and double espresso buttons on group 1 simultaneously.



2. Press and hold the star button for 10 seconds until the Technical Menu appears.



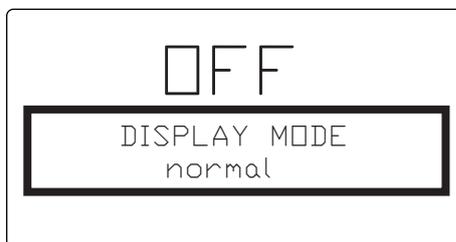
3. When in the Technical Menu the following secondary button functions are used.
- “+” and “-” used to change settings
 - “SELECT” used to save setting and move to the next menu option
 - “ENTER” used to select a value



NOTE: The values shown in this chapter are the recommended values that should be used for optimum performance.

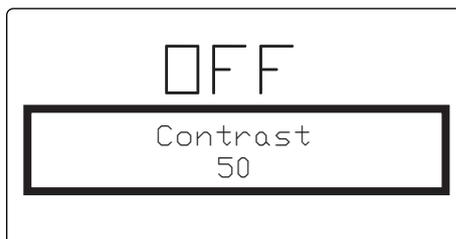
USER

4. DISPLAY MODE: Changes the display from dark lettering on a light background to light lettering on a dark background. Use the + and - to switch between “reverse” and “normal”.



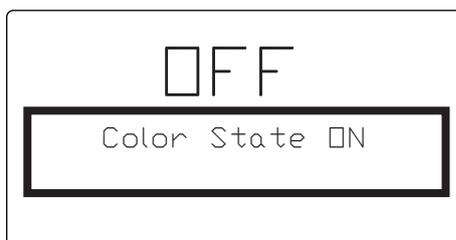
USER

5. CONTRAST: Increases or Decreases the contrast between the lettering and background, use + and - to increase decrease value.



USER

6. COLOUR STATE ON: Changes the colour of the display, use + and - to cycle through options.



7. LANGUAGE: Changes the language of the display and menus, options are English, Italian, German and Spanish, use + and - to cycle through.



USER

8. NAME: Allows the scroll menu on the main display to be customized, use + and - to change character and Enter to select character, press Select to cycle to next menu. Up to 14 Characters can be selected.

BLANK ! " # \$ % & ' () * + , - . / 0 1 2 3 4 5 6 7 8 9 : ; < = > ? @ A B C
D E F G H I J K L M N O P Q R S T U V W X Y Z [] ^ _ ` a b c d e f
g h i j k l m n o p q r s t u v w x y z



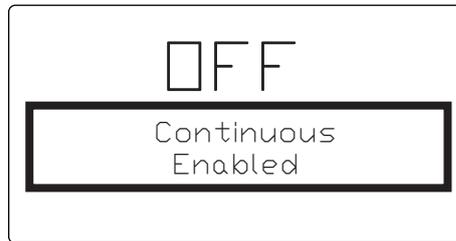
9. SERVICE PHONE: Gives the phone number of Fracino or Fracino Service Agent, use + and - to change numbers and Enter to select number, Press Select to cycle to next menu.



10. KEYBOARD TYPE: Selects the type and layout of the keypad.



11. CONTINUOUS KEY: Allows the Star button to operate as a semi-automatic override, i.e. when the star button is pressed dispensing will start and will continue until it is pressed again.



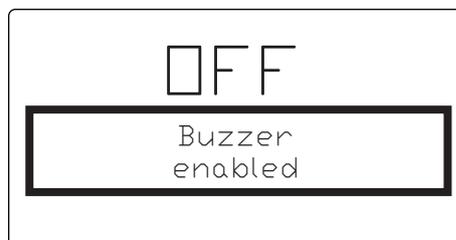
12. FIFTH TEA KEY: Allows the Star button to be used to turn the hot water valve on and off, this MUST be kept "Disabled"



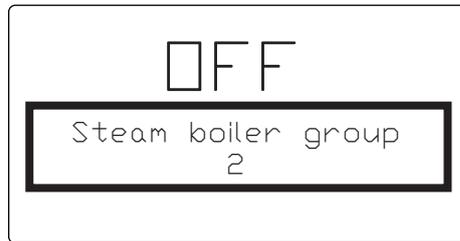
13. MIX TEA WATER: Allows cold water to be pumped in to the hot water system, when dispensing hot water, to reduce the temperature of the water.



14. BUZZER: Enables or disables the buzzer to sound when pressing buttons or when an alarm is detected.



15. STEAM BOILER GROUP: Selects which keypad controls the FAST Steam wand. for a 2 group machine "2" should be selected, for a 3 group "3" should be selected, "0" will disable the system.



USER

16. PRE-BREW: Enables or Disables the Pre-brew system. The Pre-brew will close the group solenoid after a pre-determined amount of time then stay closed for a pre-determined amount of time before commencing with the main programmed measure.



USER

17. PRE-BREW ON: The following will only appear if the pre-brew is selected, see above. Use + and - to increase or decrease the time when the group solenoid will close after starting the brewing process. Each type of coffee can have it's own pre-brew times. Use the Select button to scroll to the next type of coffee, the Pre-brew times will apply to all of the groups.

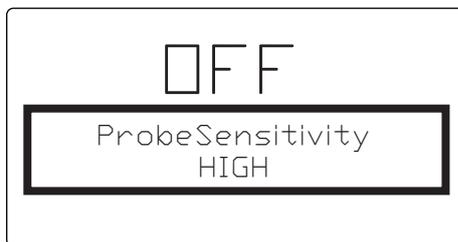


USER

17. PRE-BREW OFF: The following will only appear if the pre-brew is selected, see above. Use + and - to increase or decrease the time when the group solenoid will open. Use the Select button to scroll to the next type of coffee.

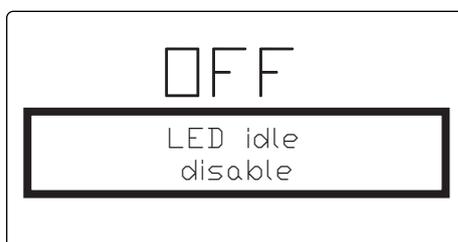


19. PROBE SENSITIVITY: Selects the sensitivity of the level probes use the + and - buttons to select between "LOW", "MED" and "HIGH"



USER

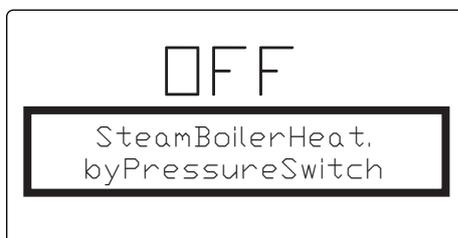
20. LED IDLE: When Enabled the buttons will not be illuminated until selected, when disabled all the buttons will be illuminated until selected, when selected the selected button will flash.



21. NUMBER OF GROUPS: Selects the number of groups are on the machine, selecting "0" will disable all of the groups.



22. STEAM BOILER HEAT.: Selects the method of controlling the steam boiler pressure, selecting "Disabled" will prevent the steam boiler heating, "byPressureSwitch" MUST be selected to function correctly

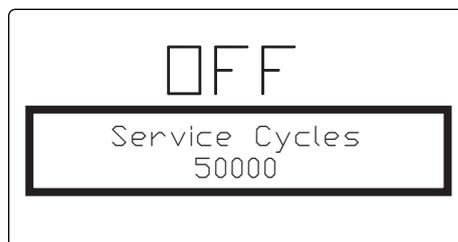


24. SEQUENTIAL HEATING: Must be kept disabled



USER

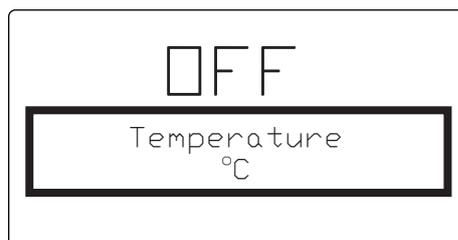
25. SERVICE CYCLES: Selects the number of dispensing cycles before the machine should be serviced.



WARNING: The service counter is only an indication of when the next service is due, services may be required more often depending on usage, water hardness etc. It is also a legal requirement under the HSE PSSR Act of 2002 to have the boiler inspected and tested annually, contact Fracino or authorised service agent for further information or to have your boiler tested, a Written Scheme of Examination is available in the supplied installation manual. THIS SERVICE COUNTER IS NOT AN INDICATION OF WHEN THE BOILER IS DUE FOR INSPECTION OR TESTING

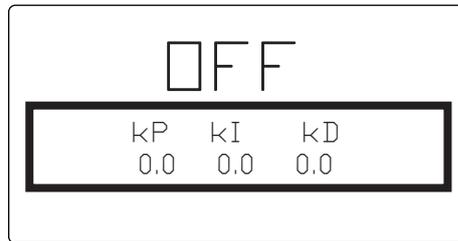
USER

26. TEMPERATURE: Changes the temperature mode to Centigrade of Fahrenheit.

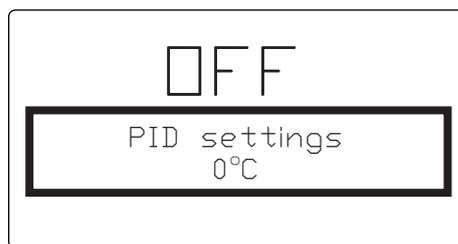


27. BOILER TEMP.: This feature is disabled on the Fracino Romano PID

28. STEAM BOILER PID PARAMETERS: These settings are redundant on the Fracino Romano PID.



29. STEAM BOILER PID SETTING: This setting is redundant on the Romano PID.



30. HEATING GROUP: This is to allow the same temperature to be set on all groups, for example setting to 1 on a 2 group machine will only allow one group temperature to be set.

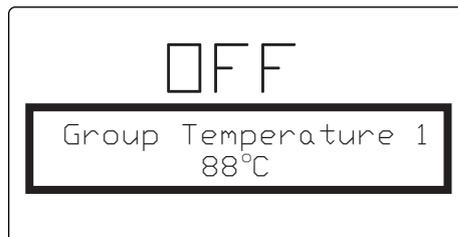


USER

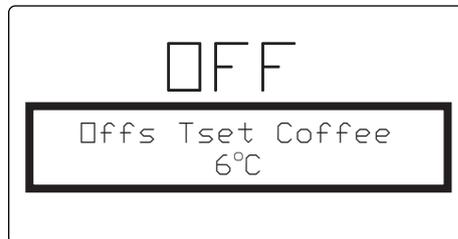
31. GROUP TEMPERATURE: Used to set the set point temperature for each individual group. The temperature range for the set point temperature is 85 - 125°C in steps of 1°C.



WARNING: The maximum set point temperature for the groups must **never** be above 115°C - The Romano PID groups are fitted with high limit safety thermostats(HLS) which can trip if the temperature is set too high, requiring the thermostats to be reset, service callouts to re-set HLS, where the temperature has been set too high, may be fully charge-able.



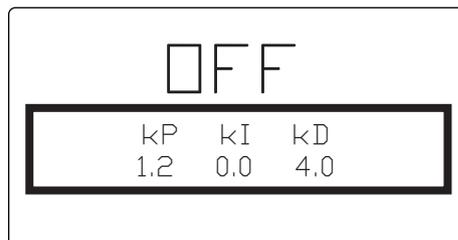
32. OFFSET TEMPERATURE: The group temperature is measured by a temperature probe in the group boiler, this temperature is displayed in the main display and corresponds to the group temperature set point. When dispensing the water flows from the group boiler, through the group solenoid which can reduce the temperature of the coffee in the filter, the Off Set temperature compensates for this cooling effect.



33. GROUP BOILER PID SETTINGS: Changes the kP, kI and kD parameters on the PID system



WARNING: These settings have been optimised for the Fracino PID, changing the values, from the values below may cause temperature instability in the groups



34. PID SETTING: Adjusts the temperature range for the PID system



WARNING: These settings have been optimised for the Fracino PID, changing the values, from the values below may cause temperature instability in the groups



USER

35. FILLING TIME OUT: Sets the time, in minutes, before the time out allarm will sound when the steam boiler is filling, the time out can be set between 10-250 seconds.

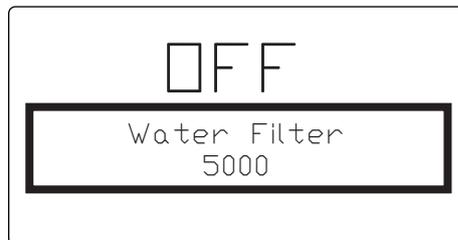


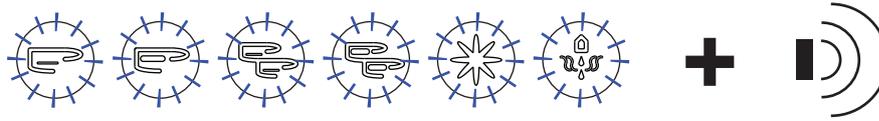
USER

36. WATER FILTER: Sets the volume of water in Litres before the water filter needs replaced, the volume can be set between 0 and 5000 Litres.



WARNING: The hardness of the water supply and usage of the machine will determine frequency of replacing the water filter, failure to replace the water filter at the correct time may void the warranty.





If a fault is detected then all the keypads will flash, the alarm will sound and the display will give an error code in the scrolling menu and an error icon.



WARNING: The alarm will not sound if the buzzer has been disabled in the technical menu, see section 14 of the Technical section

Steam Boiler Filling Time-Out



CAUSE: The water in the steam boiler has not reached the level probe in the set refilling time, after this will occur during initial start up, when the boiler is filling up from empty.

SOLUTION: Turn the machine off using the main on/off switch, wait 2 seconds then turn back on the machine should resume filling.

OTHER POSSIBLE CAUSES: The water supply to the machine has been turned off

SOLUTION: Check the water supply has been turned on.



WARNING: Failure to ensure the water supply is on will damage the high pressure pump and will invalidate the warranty on the pump.

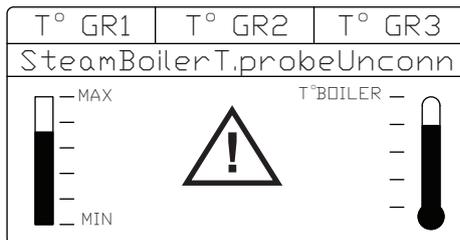
Boiler Over Temperature



CAUSE: The temperature in the steam boiler has reached 140°C, and the heating element has been deactivated. To get to this temperature there is likely to be a fault with the Pressure switch and high limit thermostat.

SOLUTION: Contact Fracino or local service agent.

Steam Boiler Temperature Probe Disconnected



CAUSE: The steam boiler temperature probe has been disconnected or has developed a fault.

SOLUTION: Ensure all connections on the temperature probe wire are correctly connected and the probe is correctly connecting to the control box, if the fault still remains contact Fracino or local service agent.

Flow Meter Alarm



“x” Denotes group number

CAUSE: Blank filter left in filter group handle
SOLUTION: Check filter handles and remove blank filter.

CAUSE: Coffee ground too finely
SOLUTION: Adjust grinder to increase the coarseness of the grinds

CAUSE: Groups blocked or group solenoid not working.
SOLUTION: Remove, inspect and clean group jet if required, inspect and replace group solenoid if required.

CAUSE: Wire off or poor connection to the flowmeter.
SOLUTION: Check connections on the flowmeter, check polarity on flowmeters, check connections on PCB.

Over Temperature on a Group Boiler



CAUSE: The temperature in group “X” has risen above 140° C, possibly caused by a fault in the group temperature probe and/or a fault with the group high limit thermostat.

SOLUTION: Contact Fracino or a local service agent.

Temperature Probe on Group Boiler Disconnected

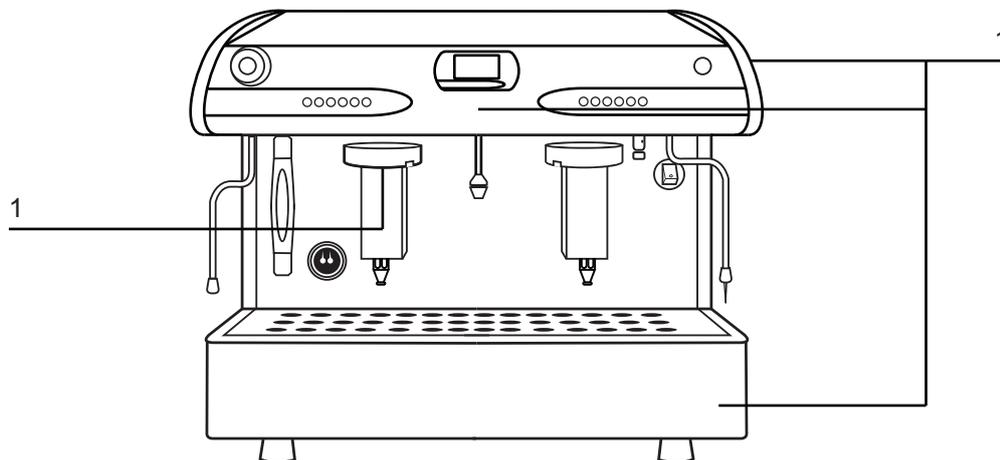


CAUSE: The temperature probe on group “X” has been disconnected or has developed a fault.

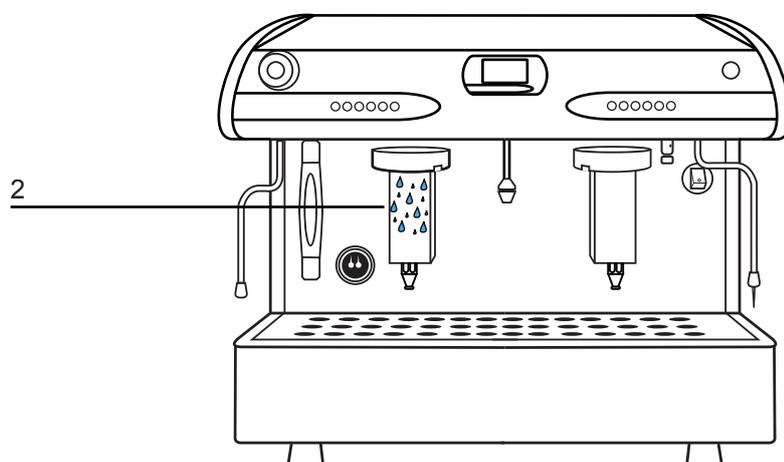
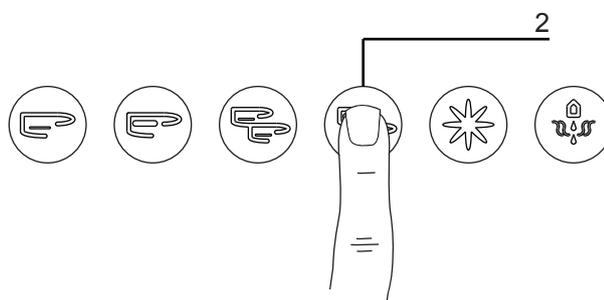
SOLUTION: Ensure all connections on the temperature probe wire are correctly connected and the probe is correctly connecting to the control box, if the fault still remains contact Fracino or local service agent.

Daily Cleaning

1. Wipe the outer case of the machine with a soft damp cloth (do not use a scouring pad). Use a shower plate brush to dislodge dried coffee particles in the group and around the filter holder washer to prevent build up of coffee. Brushes can be obtained from Fracino, part no. FC54.

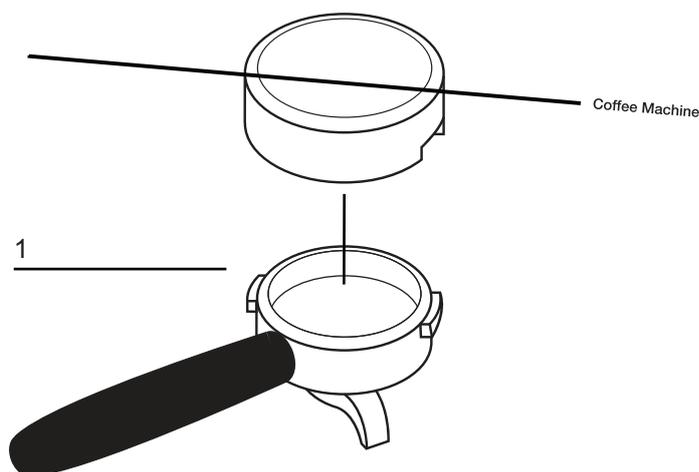


2. Press the star button and allow water to flow from the group for 10seconds, to rinse away any coffee particles, repeat on each group

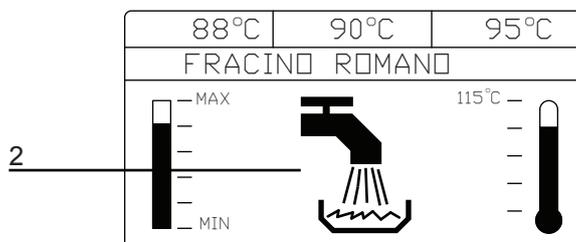
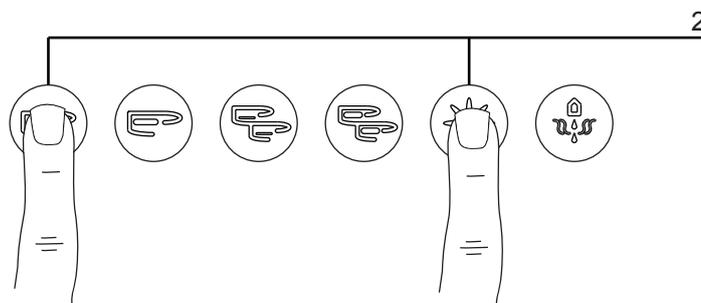


Daily Cleaning Backwashing

1. The group must be backwashed every day to clear the solenoids this is done by doing the following procedure. Insert a blank filter in to the filter and put in to group.



2. Press the single espresso button and the star button simultaneously to start the automatic cleaning cycle. The cleaning cycle will last approximately 60seconds, during which time it will pulse the pump several times after each pulse water will be expelled out the group exhaust. The display will show the cleaning symbol, when this disappears the cleaning cycle is complete and the filter can be removed.



3. Repeat the above in each group

Daily Cleaning Backwashing with liquid quartz

1. Every day the backwashing process must be repeated using Fracino liquid quartz detergent to reduce the build up of coffee in the groups and solenoid valves. Fracino liquid quartz can be purchased through your dealer or from fracino direct, part no. DET/LIQUID.
2. Pour 1/2 a cap full of the liquid quartz in to a blank filter and follow the backwashing procedure as described in the previous section.
3. After the cleaning cycle with the quartz it is vital that the filter is removed from the group and emptied, reinsert the filter and repeat the backwashing procedure without any quartz to rinse the groups and solenoids to prevent blockages and preventing the detergent tainting the taste of the coffee.

NOTE: After performing the backwashing procedures as stated above the water in the filter and the water coming out of the group exhaust should be clear.

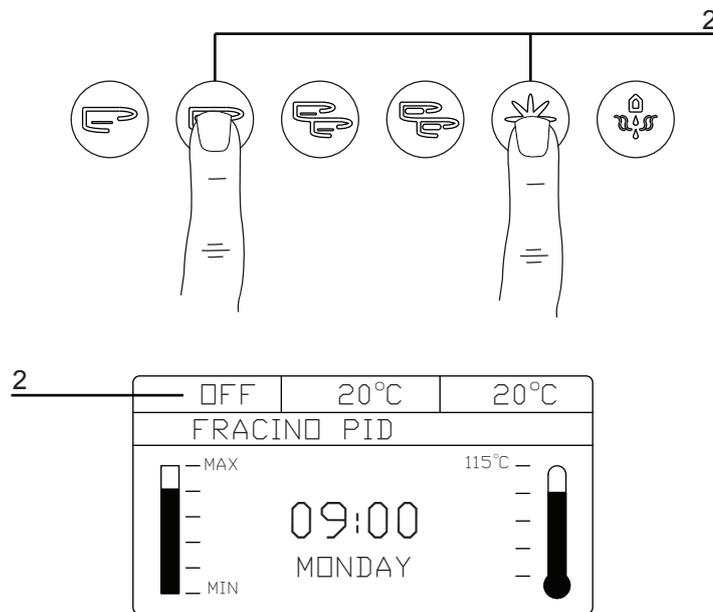
TURNING OFF GROUPS

Turning off individual groups

1. Individual groups can be turned off to save energy and prolong the life of the elements when they are not in use.

Note that the groups will require at least 10minutes to heat up.

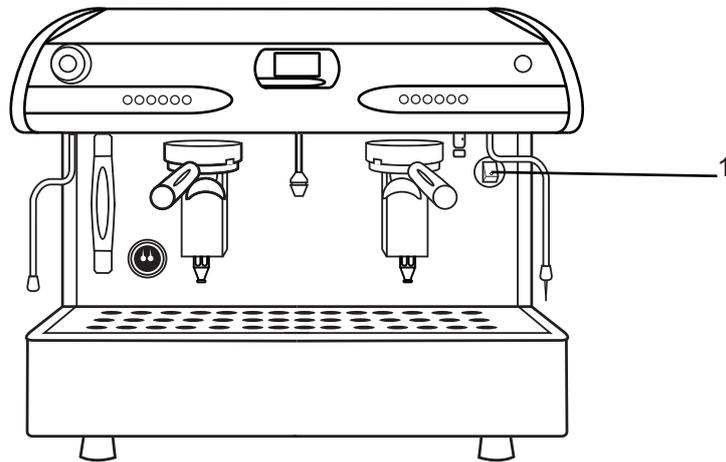
2. To turn the a group off use the corresponding keypad, press the star button and cappuccino button simultaneously. The display will show "OFF" in the group temperature readout.



2. The group can be turned on by pressing the star and double cappuccino single cappuccino button simultaneously, the "OFF" will disappear and show the group temperature.

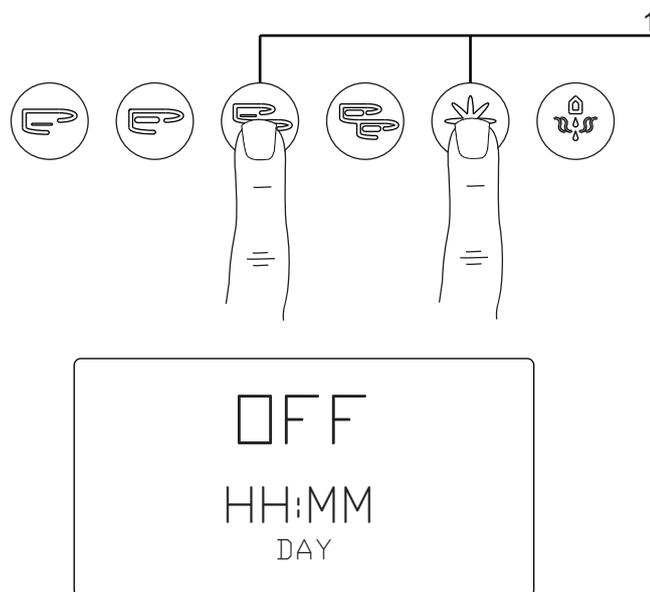
Turning off

1. The machine can be turned off by simply using the black rocker switch on the front panel.



Turning off stand by

1. The machine can be put in to a stand-by mode which will cut power to the heating elements and disable the buttons. To put the machine in stand-by press the star and double espresso buttons on group 1 simultaneously, the display will show "OFF" together with the time and day.



2. To come out of stand-by mode press the double espresso button on group 1

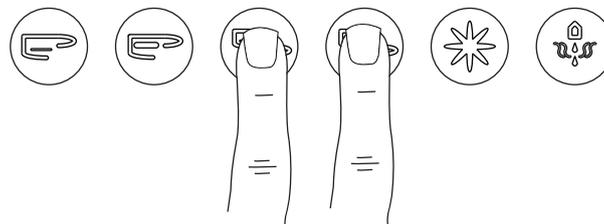


WARNING: The stand-by mode does not fully isolate power from the machine and must not be used for maintenance.

Re-setting Counters

The coffee counter can be re-set if required by performing the following procedures

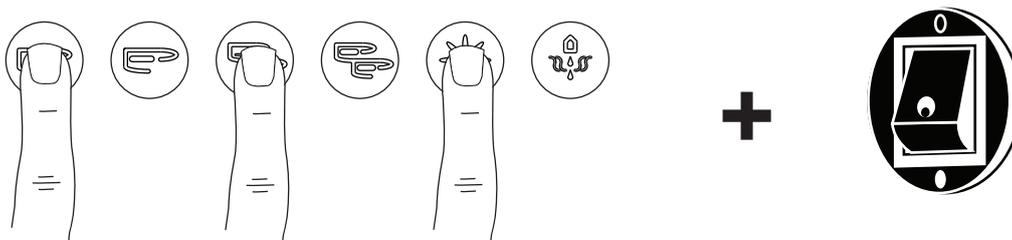
Enter the secondary programming menu as described in section XXx, and cycle through to Coffee Total section



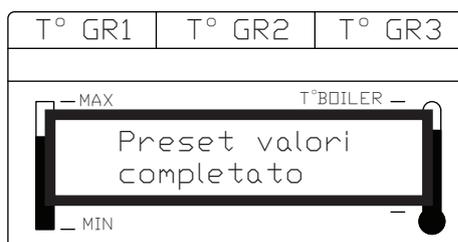
Press and hold the double espresso and cappuccino buttons and hold for 3 seconds, until the display reads:



 **WARNING:** Performing the procedures below will re-set all settings to a default state, in order for the machine to function correctly after the full re-set, all settings will have to be re-entered which should only be performed by trained personel.



Ensure the machine is turned off at the mains power switch press and hold the single espresso, double espresso and star button on the group 1 keypad then turn the power switch on whilst still holding the 3 keypad buttons, keep them pressed for 3 seconds until the display read the following



Turn the mains switch off, wait 3 seconds then turn the machine back on, the machine will start up in its default mode, to function correctly all setting will need to be re-entered.