POURING PERFECTION

# Marco Beverage Systems Ltd.

## INSTRUCTIONS FOR MODELS

## ECOBOILER T20-3
(P/N: 1000662)

## ECOBOILER T30
(P/N: 1000663)

## ECOBOILER T20-6
(P/N: 1000667)

**Water pressure :** 5 - 50 psi (min.-max.)35 - 345 kPa (min.-max.)


| | |
|---|---|
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## SAFETY:

- This appliance must be earthed. If the moulded plug supplied is not used then ensure that the green/yellow cable is connected to a suitable earth.
- Risk of flooding. The hose supplied with this unit is non-toxic food quality tested to 190psi. However, a hose is not a permanent connection. It is, therefore, advisable to switch off boiler and close the stopcock valve when boiler is not in use, e.g. overnight, weekends etc.
- Risk of scalding. Beware of accidentally operating the water drawoff tap or push button especially when cleaning the front of the boiler.
- The utmost care has been taken in the manufacture and testing of this unit. Failure to install, maintain and / or operate this boiler according to the manufacturer's instructions may result in conditions that can cause injury or damage to property. If in any doubt about the serviceability of the boiler always contact the manufacturer or your own supplier for advice.

## INSTALLATION DETAILS:

### Electrical installation:

- Electrical specification:
  - (T20-3) 2.8kW-230V - A moulded 13A plug is factory fitted. A suitable 13A outlet is all that is required.
  - (T20-6, T30) 5.6kW/230V - This needs to be connected to a 30A isolator outlet. A qualified electrician should do this.

### Plumbing installation procedure:

- Mains water pressure required (limits): 5-50psi (35-345kPa)
- Fit a stop Valve on a cold water line and attach a 3/4" BSP male fitting,
- (e.g. 3/4" x 1/2" 311 or washing machine type stop valve).
- Connect straight tailpiece of the hose to the stop valve fitting. Make sure that the pre-attached sealing washer is fitted.
- Turn on the water to flush any impurities, dust etc from the inlet hose and water pipe. Allow several gallons through.
- Connect right-angled tailpiece of the hose to the inlet valve of the boiler (again 3/4" BSP). Make sure the sealing washer is fitted here also.
- Turn on water and check for leaks.

### Operating boiler for the first time:

- Check that all installation procedures have been carried out.
- Ensure water valve is on.
- Switch the machine on by pressing the power button on the front of the machine marked 'Power'. Refer to Figure 1.
- The "power on" light will glow green and the machine will fill to a safe level, above the elements, before heating.
- The "Ready/Status" light will cycle two red flashes while the machine is filling to the safe level.
- After this amount of water has heated to about 96ºC the boiler will draw more water in until the temperature drops by 1 or 2 degrees. The boiler will then heat again. This heat fill cycle continues until the boiler is full.
- Whilst the machine is above the safe level and filling, the "Ready/Status" light will remain blank.
- The "Ready/Status" light will glow green when the machine is both full and up to normal operating temperature.

- The boiler is now ready for use.

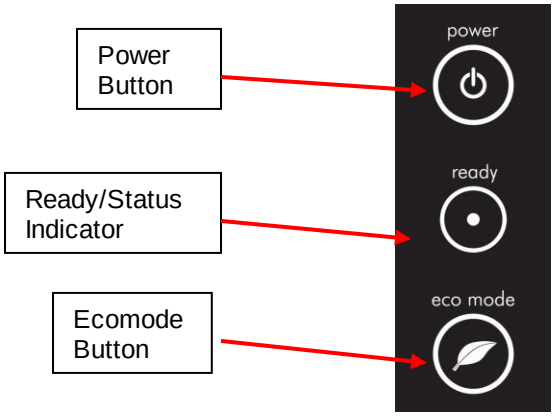


Figure 1: Machine User Interface

**NOTE:**
Because the boiler is electronically controlled no priming is necessary.
The element cannot switch on until a safe level of water is reached.

**ECO Mode Operation:**

- All Ecoboilers use high grade insulation and it is applied to give a significant energy usage improvement over a standard water boiler.
- The 20 & 30L Ecoboiler variants also incoprate a ½ tank 'ECO mode' function.
- To enable the 'ECO Mode' press the button located below the 'Ready' indicator so that the leaf symbol illuminates green.
- This mode saves energy by mimimising the energy wasted during machine down-time.
- NOTE: The ECO mode is most effective in installations where the machine has a regular 'off' period.
- To achieve the most benefit from the energy saving 'ECO Mode' on your Ecoboiler unit, the following method should be employed:
    - Towards the end of the boilers operating period for a given day, switch the machine to ECO Mode. Whilst maintaing water at 96$^{o}$C, the machine tank will slowly drop to half full, where it will remain.
    - At the end of the machines operating period it should the be turned 'off'.
    - During the 'off' period as there is less water in the tank there will be less energy lost to the surrounding environment resulting in an energy saving.
- To disable simply press the 'ECO Mode' button again so that the leaf symbol is not illuminated

## TROUBLESHOOTING:

The Ready/Status light signals various errors or problems. A cycle of red flashes indicates an error. The number of flashes in a cycle corresponds to the symptom in the table below:

**Status/Diagnostic light guide:**

| No of flashes | Symptom | Action required |
|---|---|---|
| 2 | Water level below elements. Normal when machine first fills. | Check water pressure , if this is OK then call service agent. |
| 3 | Temperature sensor failure (o/c) | Call service agent |
| 4 | Water not heating | Call service agent |

| | | |
|---|---|---|
| 5 | Temperature sensor failure (s/c) | Call service agent |
| 6 | Machine not filling | Check water pressure, if OK then call service agent. |

## MAINTENANCE:

This machine has been designed to give many years of trouble free service.
The only regular maintenance required is occasional de-scaling.

### Descaling Procedure:

- Isolate machine from power supply.
- Isolate machine from water supply.
- ALLOW TO COOL COMPLETELY!
- Drain water from machine.
- Remove all lids.
- Remove as much scale as possible by hand, paying particular attention to level probes (White plastic with steel tab). Be very careful not to damage any attachments.
- Use ScaleKleen, Marco part No. 8000270 or similar. Follow instructions carefully.
- Thoroughly clean and flush the machine before re-use.
- Follow installation and first time operation instructions.

## CLEANING:

The exterior of these machines may be cleaned with a damp cloth and a light detergent. Do not use abrasive cloths or creams, as this will spoil the finish of the machine. Do not use a water jet or spray.
**NB:** Beware of accidentally operating the draw off tap or push button when cleaning the front of the machine.

## LIMESCALE:

In common with all water boiler manufacturers, service calls resulting from limescale are not covered by warranty. Fitting a scale reducer is recommended, especially in hard water areas. This can reduce the build-up of scale but may not stop it altogether. The frequency that descaling is required depends on the local water supply; hard water areas need more attention. Descaling of the machine should ideally be carried out by qualified service personnel.

