

Rheem Under Bench Filtered Boiling and Chilled Water Unit

| RHEEM UNDER BENCH FILTERED BOILING AND CHILLED WATER UNIT | | | | |
|---|-----|-----|------|------|
| MODEL | TB3 | TB5 | CH3 | CH6 |
| CAPACITY (L) | 3 | 5 | 3 | 6 |
| CUPS INITIAL | 24 | 31 | 15 | 30 |
| CUPS PER HOUR | 145 | 170 | 125 | 175 |
| INPUT KW | 1.5 | 1.8 | 0.28 | 0.38 |



Rheem under bench range

Rheem has introduced a range of under bench boiling water units and accessories. The range comprises of:

- Under Bench Boiling unit ("TB") – This model includes a boiling water unit designed for installation under the bench. It has a filter inbuilt, and outlets for both boiling water (pumped) and cold water outlet. There are two models – 3 litre and 5 litre.
- Under bench chiller – These are a slave unit. They can only operate with the "TB" boiling water units. They are mains pressure and there are two models, a 3 and 6 litre.
- Accessories – two accessories are available:
 - o a sink free kit with a tap height extension
 - o a discreet ventilation kit (provided with the chiller units)

Features

Modular design – the modular design of the Rheem range provides clear installation advantages over the major competitors, providing flexibility in installation.
 Energy saving – all models have energy saving features, including a timer to turn the unit off and a sleep mode which powers down the unit when it's not in use.
 Stylish tap – developed in close consultation with interior designers, architects, plumbers and consultants.



Tap operation and features

The boiling unit Tap is used to dispense boiling water and cold/chilled/filtered water. The Tap contains two lever switches (hot and cold), a child safety lock button and two LED's (Orange, Green). When operating the tap, the boiling or cold water will stop after 20 seconds. This is to prevent the tap being turned on permanently.

Tap levers

The Tap houses two levers. The hot lever has a red insert, the cold has a blue insert.

To operate the levers you can either:

- a) Pull the lever up to allow for hands free filling, or
- b) Push and hold the lever down for quick cup fills.



Safety lock button

To activate and/or de-activate press and hold the safety button down for 5 seconds. When the safety lock is activated, the word SAFETY will light up in Red. To operate the boiling water tap when the safety lock is on, press and hold the safety button whilst also activating the boiling water lever.



Tap LED's

The Tap contains two LED's on the top (where the safety lock button is positioned).

The Green LED (Ready) indicates the status of the boiling water unit temperature. If the Green LED is flashing, the boiling unit is below the set operating temperature. Wait until the green LED stops flashing, or you may get a cup of boiling water below the optimum temperature.

The Orange LED (Filter) if flashing, indicates the water filter should be replaced.

Timer display

The display indicates the current time, day and date as well as the mode the unit is currently in. The display can be set to display the boiling water temperature.

The panel has four user interface buttons. These are:

- 1. Prog** – pressing this button opens the menu. The menu contains the following options:
 - **Clock** – sets the 24 hour clock time.
 - **Timer STD/Auto** – provides the option of having the timer function on.
 - **Set ON/OFF Times** – menu to change the default timer settings.
 - **Sleep Delay Time** – sets when and if the Sleep mode activates.
 - **Filter Life** – access to check remaining filter life, reset the filter life counter, adjust the length of the filter life counter.
 - **Service Menu** – service information including error codes
- 2. Accept** – pressing this button acknowledges and accepts the display on the screen.
- 3. Cancel** – cancels the request and returns user to the display screen.
- 4. UP** – allows the user to scroll through the menu or alter the values of settings.

For full details of the using the user interface, see the installation instructions

Energy Savings

Tests have been conducted to determine the amount of energy saved by using the timer. For a 5 litre model, the energy used to keep the water hot and at the ready 24 hours a day, 7 days a week is 11.69 kWh. With the timer set to turn on at 7:00 am and off at 6:00 pm Monday to Friday and off on the weekends, the energy consumption is 7.09 kWh.

This is an impressive 40% reduction in energy consumption, and can save up to 241 kWh per year. That's nearly 1/4 Tonne of CO2 saved, or the equivalent of running a 40 watt light globe continuously for 8 months! For offices where several units are used, these savings can add up.

Automatic Boiling Point Calibration

An auto boiling point calibration function. At first start up, the boiling water unit will determine the boiling point and automatically calibrate to keep the boiling water at, or near boiling point.

The boiling point of water is 100°C at sea level and reduces in temperature, depending on the altitude above sea level. As follows:

200 - 600 metres = 97°C 600 - 1200 metres = 96°C 1200 meters and over = 95°C

As the set point during normal operation is approached, the power to the element is reduced proportionally to the temperature rise to a minimum of 20% of power to prevent overshoot, which means more accurate control.



Notes:

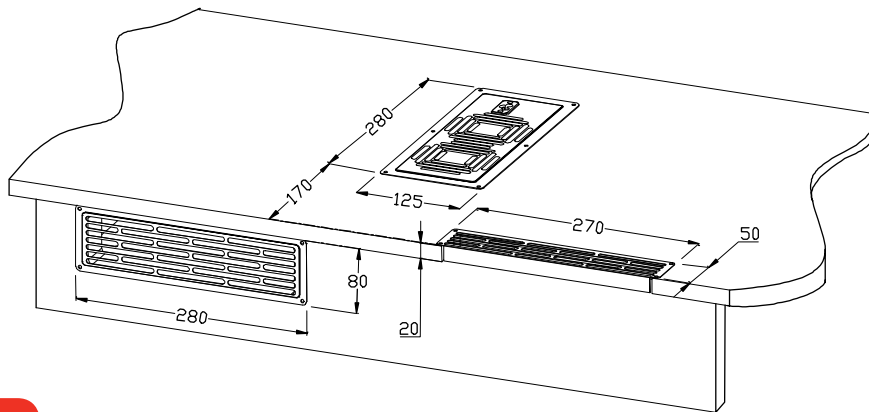
- During initial calibration, steam may be visible at the vent at the Rheem tap for a short time. A removable label is provided to advise the installer of this.
- The calibration process can take up to 12 minutes or more to perform, depending on the model. During this time, the normal filling/heating function is disabled. Upon completion of the calibration process, normal filling and heating will resume.

Slave Chiller

The Rheem chiller (CH3 and CH6) is only suitable to be used with the Rheem "TB" units. The chillers are slave only and control of the compressor, fan and temperature are all managed by the electronic control board in the Rheem "TB", therefore all electrical power and connections are all supplied from the boiling water unit. The chillers are mains pressure models with water flow controlled by a solenoid within the Rheem "TB" unit.

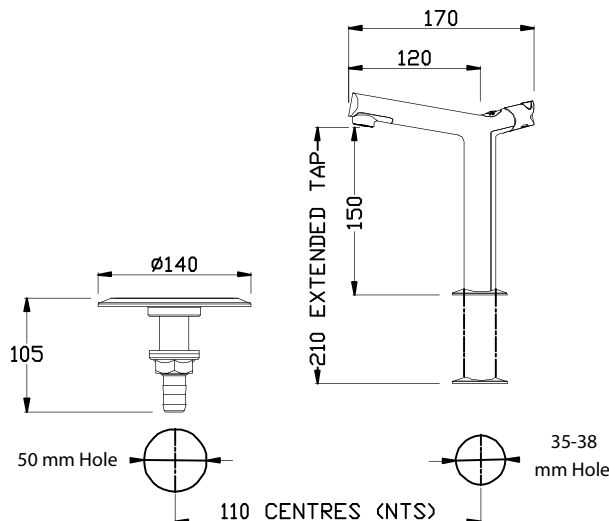
Discreet ventilation kit

With all refrigeration systems air circulation is required. With under bench chillers this is usually completed with large grills in the door of the cupboard. These are unsightly and detract from the look and lines of the kitchen cabinetry. The Rheem Ventilation kit places a fan in the cupboard and a discreet grill in the kick board. The fan operates when the chiller fan is running and will continue on for a period after the chiller fan switches off. It will then operate for 5 mins every hour to ventilate the cupboard.



Sink free kit

In some applications like boardrooms or breakout rooms where a boiling water unit is required to be installed over a bench without a kitchen sink. The sink free extension with tundish is the solution. The sink free kits contain a drainage grate and a 60 mm height extension,



Technical specifications

| Rheem on-tap series | | TB | | Chiller | | |
|----------------------------|--|-----------------------------------|-----------|------------------------|--------|-----|
| | | Filtered Boiling & Drinking Water | | Filtered Chilled Water | | |
| Specifications | Model | TB3 | TB5 | CH3 | CH6 | |
| Specification Code | | 740003 | 740005 | 290250 | 290251 | |
| Capacity | Litres (L) | 3 | 5 | 3 | 6 | |
| Cups Initial | Cups ¹ | 24 | 31 | 15 | 30 | |
| Litres Initial | Litres (L) | 4 | 5 | 3 | 6 | |
| Cups One Hour | Cups ¹ | 145 | 170 | 125 | 175 | |
| Approx Weight Empty | Kg | 12 | 12 | 13 | 16 | |
| Approx Weight Full | Kg | 18 | 18 | 16 | 22 | |
| Min. Water Supply Pressure | kPa | 100 | 100 | - | - | |
| Max Water Supply Pressure | kPa | 1000 | 1000 | - | - | |
| Input | kW | 1.5 | 1.8 | 0.28 | 0.38 | |
| Electrical Connections | Supplied with 10 Amp 3 Pin Plug and Flex | | | Powered by TB and TBH | | |
| Plumbing Connections | Cold Water | 1/2" BSPF | 1/2" BSPF | 1/4" John Guest | | |
| Dimensions | | | | | | |
| | A Width | mm | 175 | 175 | 280 | 300 |
| | B Depth | mm | 450 | 450 | 410 | 450 |
| | C Height | mm | 405 | 405 | 320 | 405 |

¹Cup size for boiling water 170 ml. Cup size for chilled water 200 ml.

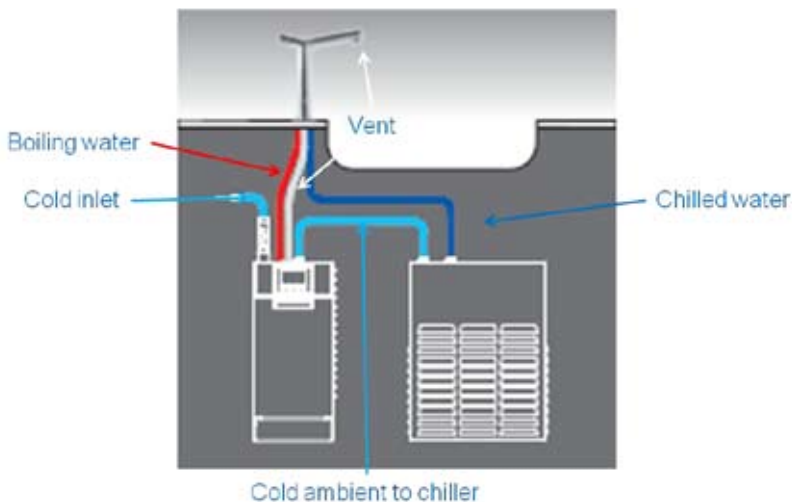
Materials and specifications are subject to change without notice due to ongoing product improvements.

Installation

Tap: Installation of the tap is simple. It requires a 35 to 40 mm hole and then mounted and tightened with the supplied washer and nut. The design is suitable for all standard bench types and thicknesses.

Rheem "TB" boiling water unit: the boiling water unit requires a single cold water connection. The unit comes with silicone tubing for the both the boiling water and vent connection to the Rheem tap. The cold water uses 1/4" John Guest fittings and tube.

Chiller: - both 3 & 6 litre units have 1/4" John Guest inlet and outlet connections



Plumbing Connections - 1/2" cold water supply.

Electrical Connections – both the 3 litre and 5 litre units are supplied with a plug and lead. The 3 litre model has a 1.5 kW heating element and the 5 litre has a 1.8 kW.

Design – State of the art technology to maintain boiling water at the ready and contains the following main components:

Internal tank is made of copper and is fully sealed, with venting cleverly concealed in the Rheem "TB" Tap. A single tank design is utilised, which reduces the surface area to volume ratio, thereby reducing heat loss.

Electronic Control Box provides the logic to monitor and co-ordinates the functions of the:

- Boiling water - from its staged filling and maintaining fine temperature whilst on standby
- Chilled water temperature
- Boiling activation and flow
- Chilled water activation and flow
- All timer and sleep modes functions
- Filter monitoring and change indication
- Service functions

The heating element and thermistors maintain water at near boiling. Fine changes in temperature cause the heating element to energize, thereby providing more boiling water when it is needed most.

The water level probe is a stainless steel probe monitoring:

- Low water level to ensure the heating unit cannot operate unless it is covered by water.
- High water level to ensure the maximum water level is not exceeded.

Built in safe tray – the unit has a built in safe tray with leak detection equipment that automatically shuts the unit down if water is detected.

Safety solenoid valve controls the flow of water into the unit. Should a leak be detected the safety solenoid valve shuts off all the water into the unit.

An inbuilt filter is factory fitted to all Rheem "TB" models both 3 and 5 litre. This 5 micron filter will require replacement every 4000 litres of use. The filter is installed to remove chlorine, taste and odours for a perfect drink of water or cup of tea. Fine dirt and sediment particles are also removed and a phosphate compound reduces costly lime-scale build up.

Servicing

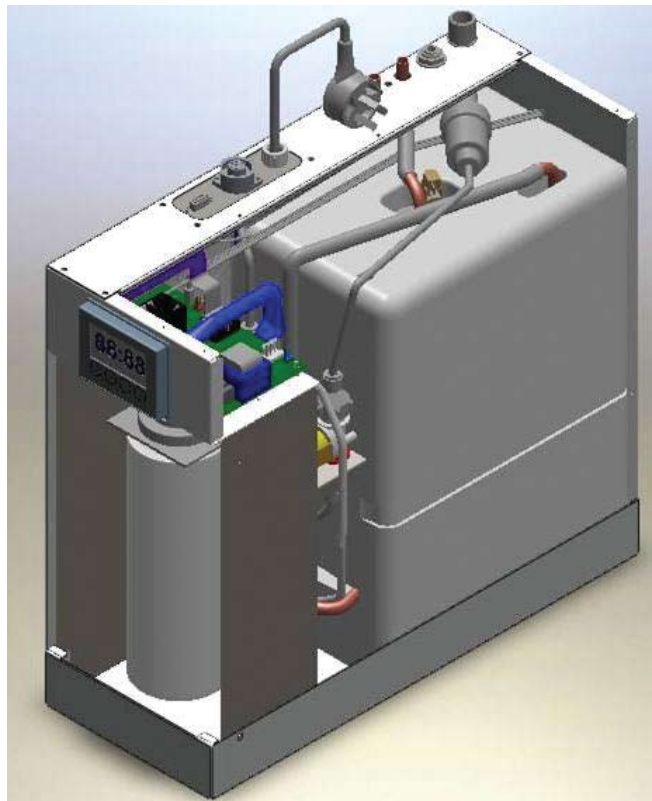
The boiling water unit has diagnostics inbuilt. The Service Menu, provides access to the fault codes for the service technicians, this helps diagnose problems should they occur within the boiling water unit.

Model Numbers - Model numbers have changed to identify models in the new range: see below for explanation.

– [digits 1- 3] boiling water is denoted by the prefix 7 then the Series No. 40

- "TB" series Model No. reference guide - 740 series 003 = 3 Litre NZ-5 = NZ Model, 5 micron filter fitted

- Model No. 740003NZ-5 740 003 NZ-5
- Model No. 740005NZ-5 740 005 NZ-5



Frequently Asked Questions

The following questions may be asked by your customers:

Q1. What happens to the memory when power has been disconnected?

A1. A “Super Cap” (super capacitor) to retain internal memory for a period up to 2 hours. During this time, all internal memory remains intact. If power has been disconnected for more than 2 hours the unit reverts back to the following factory settings:

- Clock time will default to 0:0 and will need to be reset
- STD/Auto Mode reverts to “STD”
- Sleep mode reverts to “Off”
- However, the Timer on/off times and the filter count do not change as they are written into the flash memory.

Q2. What is the operating temperature in Sleep mode?

A2. The water will drop to 55° Celsius and be maintained at that temperature +/- 2°. It will take the 3 litre model approx 6 minutes and the 5 litre model approximately 8 minutes to recover to boiling water from the time a button is pressed to de-activate Sleep mode.

Q3. Will the unit automatically recalibrate if power has been lost for more than 2 hrs?

A3. No. Once the unit has been calibrated there is no need for the calibration to activate again. In the portable building market, where it is conceivable that the unit may be located at a different altitude, the calibration function can be manually activated by accessing the Service Menu.

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