

DOMESTIC HOT WATER CYLINDERS



A hot water cylinder heated by a boiler can be re-heated from cold, usually within 30 to 45 minutes, depending on the type of boiler and size of hot water cylinder.

The cylinder is heated by hot water from the boiler being pumped through a coil usually in the bottom half of a cylinder, or top half if you have a twin coil solar cylinder. There is no mixing between the water going through the boiler and the water in the cylinder. Most New Zealanders will be familiar with this set up which is very similar to a hot water cylinder with a wetback coil.

Boilers have much higher heat outputs than wetbacks, and can reheat a hot water cylinder very quickly. This means you will have virtually unlimited hot water and you can save energy by not leaving the cylinder on all the time.



Example of a twin coil hot water cylinder

TURNING THE HOT WATER ON AND OFF

To save energy you can switch off the hot water cylinder when there is not going to be any immediate demand for hot water, such as when you are at work or during the night when you are asleep. Instead you will have a timer and thermostat to switch on the boiler to heat the hot water when it is needed. There are 2 controls for the hot water cylinder:

1. A thermostat that determines the temperature the cylinder is heated to. It is usual to heat the cylinder to 60C which is hot enough to kill legionella but not so hot that the cylinder loses too much heat through its insulation.
2. A timer connected to the thermostat that says when the hot water is heated. It may be a timer specifically for the hot water (see image on right for example) or may be a timer that controls both heating and hot water.

(If you have a Honeywell Smartfit controller or Baxi boiler controller the hot water temperature and times are set on the main controller. If you have a heat pump it is very likely your hot water will be controlled from the heat pump controller.)

The hot water cylinder will only be heated when the hot water temperature is less than the thermostat temperature and the timer says it is a hot water heating time.



SAVING ENERGY

If you are a household that is out at school and work during the day there is no point in keeping the hot water at 60C all day. All you need to do is switch on the timer for half an hour before you come home and there will be hot water when you get in.

Equally there is no point in reheating your cylinder just before you go to bed and then leave it to cool down overnight. It is common to have the hot water heating on for say one hour in the morning just before you get up and an hour in the evening before you get home. If you find yourself running out of hot water you can extend the heating period.

Even if you are going away just for the weekend you can turn off the hot water knowing that very soon after you get back the cylinder can be hot again.

ADJUSTING THE THERMOSTAT ON A BAXI HOT WATER CYLINDER

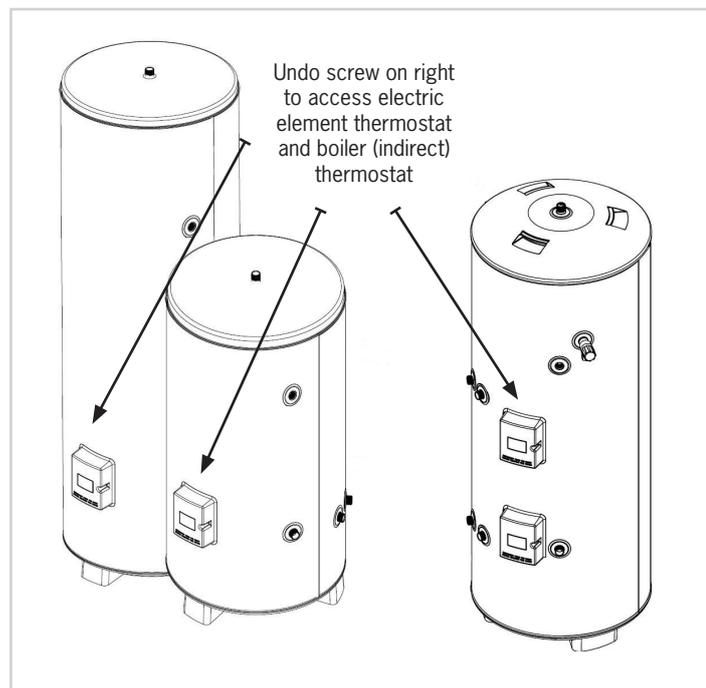
(If you have a Honeywell Smartfit controller or Baxi boiler controller the hot water temperature and times are set on the main controller. If you have a heat pump it is very likely your hot water will be controlled from the heat pump controller.

In both cases you will only need to adjust the electric element thermostat used for back-up heat)

Under the cover on the outside of the Baxi hot water cylinder you will find the thermostats for controlling the boiler and electric element. Depending on the way your system is set up you could find:

- Boiler thermostat
- Boiler high cutout switch (to prevent over heating)
- Electric element thermostat – if you have an electric element
- Electric element high cut-out switch – if you have an electric element

If you have a twin coil – solar cylinder (see right of picture opposite) you will have 2 access covers. The upper one usually has the boiler thermostat inside it.



CAUTION: Switch off power to the hot water cylinder, power to the boiler and heating control system before opening the access cover for the thermostat and electric element.

The picture on the right shows the inside of the access cover where an electric element thermostat, the white cylinder and boiler thermostat, top of picture, as in use.

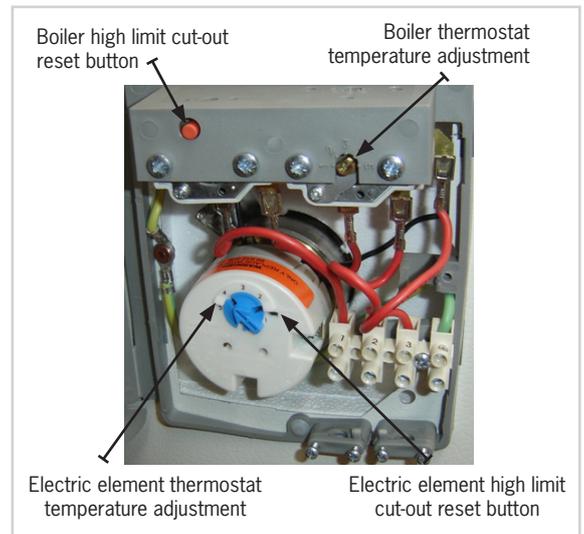
Thermostats

Both thermostats can be adjusted by turning the screw or knob to a higher number for higher temperature or a lower number to lower the temperature.

High limit cut-out switches

The high limit cut-out switches are there as safety back-ups should the boiler thermostat or electric element thermostats fail. If either button is sticking out it can be reset by simply pressing the button and it should click into place.

If these need resetting regularly, or you cannot reset the switch, there is something wrong with your system and the way it is set up and you should contact your service agent.



EMERGENCY BACK-UP HEATER

Almost all cylinders have an electric back-up element which can be used if the boiler runs out of fuel or isn't working for some other reason. There is no point in having this on otherwise.

HOW TO TEST IF YOUR HOT WATER IS BEING HEATED PROPERLY

Turn up the thermostat to a high temperature and put the hot water heating timer on to manual or continuous. This should result in the boiler firing up and the pipes carrying the hot water to the cylinder to get hot and heat the cylinder.

After the test, turn down the thermostat again to its usual setting and put the timer back into its normal mode.