

# Operation of your underfloor system

In the vast majority of installs the heat source (either boiler or heat pump) requires very little interaction from you as the end user once commissioned by the installer, other than perhaps rarely topping up the system and adjusting the temperature dial.

## Principal of operation

Basically your heating system contains hot water produced by the boiler, a pump(s) are used to circulate this hot water around the underfloor heating loops buried in the concrete, thus heating your rooms from the floor up. All this is controlled by the boiler/heatpump thermostat or controller and in most cases individual room or zone thermostats.

Underfloor heating works best when maintaining heat 24-7. It is not designed to heat up fully and cool down daily, so the key is timing and setback. For the periods when heat is most required the floor area should be set to a (comfort) output requirement. When least required the control should take the temperature back to a (setback) temperature, this is usually during the early hours of the night. The setback should be between 3 degrees up to a maximum of 5 degrees back from the comfort setting for the zone. (If the heat source is a heat pump Max 4 Deg).

In the next sections you may also have to refer to your individual boiler and thermostat instructions that were left by your installer, if you don't have them, ask for them or download them from our PDF library at [www.heatiq.co.nz](http://www.heatiq.co.nz)

## Boiler/Heat Pump Thermostat or controller:-

This could either be a simple dial or a setting that has to be made in a menu on the boiler or heat pump it-self. This temperature sets the maximum output temperature to your underfloor system. Generally we recommend setting a flow temperature of 40 – 45 degrees to an underfloor heating manifold. Once installed and commissioned by your installer you should not change any settings on the manifold, this will effect the performance of the whole system.

## Room or zone Thermostats:-

There are many different controls with an array of features (you will need to refer to the individual control instructions). **Your familiarity and interaction with The Room Thermostat/Programmer is essential, it will vastly improve the efficiency of your heating system.**

## **An example in a primary living area**

6am to 10am (comfort at **20**) - 10am to 3.30pm (setback at **18**) - 3.30 to 10pm (comfort at **20**) - 10pm to 6am (setback at **18**).

### Or for a bedroom

5.30am to 8.30am (comfort at **18**) - 8.30am to 4pm (setback at **16**) - 4pm to 10pm (comfort at **18**)  
- 10pm to 5.30am (setback at **16**).

The above are based on the room air temperature readings at the controller but please note, sometimes the controller position may require temperature settings to be adjusted for the best overall house temperature.

When passive solar gain through glazing is an issue or in bathrooms where warmth under foot is required regardless of room temperature, then (where installed) switching the thermostat or zone control to use the floor sensor will allow control of the floor temperature. The same principles of setback will apply but the given temperatures required will be different (Typically set 5-7 degrees higher). You will need to experiment to achieve the set point to suit your comfort. ***We recommend always installing UFH controls with both air and floor sensing.***

### Passive solar gain and effects, explained

In some instances low winter sun through glazing may allow room temperatures to climb much higher than the comfort setting during the day. This will result in the floor loops being off for an extended period and cool off considerably.

This can result in a situation where the system has to work extra hard to recover but does not get to temperature by the time you need it most. By setting control on floor sensing probes you should be able to counter this by setting the floor temperature rather than the room air temperature.

### Just a few handy tips:-

Most controllers provide options to permanently lock them in comfort mode or setback mode, override them temporarily or permanently, place them in off mode with the settings memorised. You should familiarise yourself with these features to get better efficiency

- **If you are away for extended periods of a week or longer, put your system in override to setback.**
- **Leave rooms not in use in the lower setback status or even set to off.**
- **Keep your tiled bathroom floors warm to foot even in the summer.**