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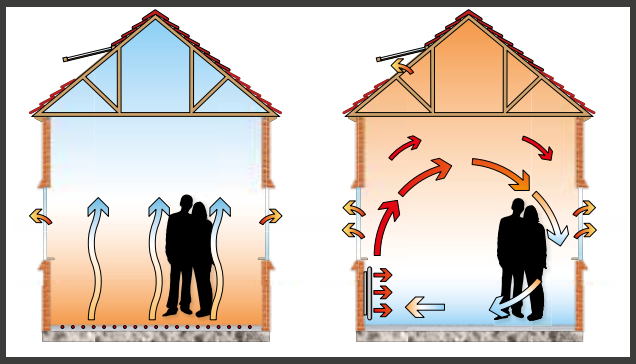
Homeowners Guide

Hayfield Green, Stanton Harcourt

WMS
UNDERFLOOR HEATING

WELCOME HOME

By choosing a house with WMS Underfloor Heating installed you will be enjoying a warm and cosy home for years to come. Your underfloor heating pipe comes with a 75 year warranty, giving you full peace of mind and confidence in your system for the future.



Underfloor Heating **Radiators**

HOW UNDERFLOOR HEATING WORKS

Underfloor heating works by circulating warm water through a series of continuous loops that are fitted underneath your floor creating a large radiant surface that heats your room from the floor upwards. This radiant form of heating is much more comfortable than the convected heat provided by radiators which draws cold air across the floor before heating it and then convects the warm air upwards towards the ceiling.

UNDERFLOOR HEATING 'RESPONSE TIMES'

Whatever the type of underfloor heating system that you have in your property, you will notice that the heating response time is different to a standard radiator heating system.

Particularly for screeded systems, response time is slower, so controls need to be set up to take this into account. This is normally done using a programmable or 'set-back' thermostat, which rather than turning the heating off completely, sets it back to a lower temperature on 'off' periods – this has the following advantages:

- Improved energy efficiency – the system only has to be 'topped-up' to meet the required temperature
- Improved response time
- Protects system from frost
- Keeps temperatures consistent

Using a programmable thermostat means you can set your desired temperature for any time of day or night and the heating will automatically adjust in line with your instructions to the thermostat.

For example, it will take 2-3 hours to heat up from a setback of 17 degrees to a room temp of 21 degrees.

UNDERFLOOR HEATING BENEFITS

UFH is more popular and more accessible than ever before. This growing market trend is a direct result of the following benefits.

Life Expectancy: UFH is expected to outlive the life of the building with a 75 year warranty on the pipework.

Running costs: UFH is proved to be between 15 - 40 % cheaper to run (v radiators) as it covers a greater surface area, it can therefore run at lower temperatures (50*C rather than 80*C), which makes it efficient.

Maintenance: UFH requires very little maintenance. It does not need to be checked for air in the system or bled.

Interior Design: With UFH being concealed there is freedom of design to configure furniture.

Safety: There are no hot surfaces or hard edges with UFH, providing a safe environment for young children and the vulnerable.

Health Benefits and Cleaner Homes: In the UK each day on average 1 in 8 people in the UK are currently being treated for asthma. Underfloor heating is one of the many ways helping to reduce these figures. UFH uses radiant heat, unlike radiators or AirCon (convection heat), this reduces the movement of dust (and dust mites!) making it a far more comfortable environment for asthma suffers. Less dust movement also leads to cleaner homes!

Sale of Dwelling: UFH has become more expected in homes worth over £300k and is considered a valuable feature, thus estate agents will normally list it on the highlights of the particulars.

Floor Finishes: Tiles and stone can get very cold. Radiators only heat upwards from where they are installed so the floor is cold and uncomfortable. With underfloor heating the whole floor essentially becomes one big radiator meaning the floor finish can get warm. The Carpet Foundation carried out research with the Underfloor Heating Manufacturers Association and proved conclusively that carpet can be used over underfloor heating without impairing the performance of the system. This showed that a carpet/underlay with a combined thermal resistance of less than 2.5 togs allows underfloor systems to operate efficiently.

TOP TIPS FOR GENERAL MAINTENANCE

We recommend turning your system on once during the summer months so it is not dormant for long periods. Just 10 minutes will be fine.

Be conversant with your thermostats and how your system is controlled. Setting up your comfort settings correctly will maximise efficiencies.

Check the water in the system is clean. You will be able to observe the colour of the water in the flow meters on the top of the manifold – if this has discoloured to the extent that the red meter is no longer visible, we recommend you contact your plumber to clean the water in the system.

Rugs and similar temporary floor coverings are not recommended, they will trap heat beneath them and make the system work harder to heat the room. Any temporary coverings are especially NOT recommended over sensitive floors (ie. Timber) for risk of overheat and damage.

The system can take quite a long time to heat up from cold. This operation should only happen once or twice a year when moving from summer to winter, however this length of time is to be expected. This will not affect on-going use unless the system is turned off to go cold before reheating.

Check the system is holding pressure. This can be seen from the pressure gauge on the boiler or the manifold. If the pressure has dropped below 1 bar, top up the system. If it is repeatedly dropping then contact your plumber to discuss this further.

WHICH FLOOR COVERINGS SHOULD I USE?

A commonly asked question is 'What floor covering can I put on top?'. The short answer is that most finishes can be used with UFH, but a few consideration need to be taken into account in order to ensure that your chosen floor covering does not adversely affect the output of your UFH system.

In general terms, harder surfaces such as stone and ceramic are best for use with UFH as they have the lowest thermal resistance, providing the best heat output; in contrast to coverings like deep-pile carpets and rugs which have the opposite effect. All floor coverings have a 'tog' rating, a measure of resistance – which should not ideally exceed 2.5 tog (including any underlays) when used in conjunction with UFH.

CERAMICS AND NATURAL STONE

These are the best kind of floor covering for use with UFH – due to the density of the material, the thermal resistance is low, allowing the heat from the pipework to travel quickly through and heat the space above. All stone products can be fitted above UFH including natural products such as slate and limestone.

WOOD FLOORING

Care must be taken when using wood flooring over UFH, because it is a natural product and therefore can react to changes in the environment in which it is laid. It is essential to check with the flooring manufacturer whether their products are subject to a temperature limit; if this is the case, a floor probe is supplied to limit the heating output to this level.
Typically speaking engineered wood floor is the most robust and least likely to react adversely to the
heat. Solid wood floors contain a higher content of natural product, and therefore will tend to be more sensitive to heat changes.

CARPETS

There is a common misconception that carpet cannot be used with UFH, which is not true, although it is one of the highest-resistance floor coverings, so this must be taken into account. We recommend not exceeding a combined resistance of 2.5 tog for the carpet and underlay, using an underlay specifically designed for UFH is best, to keep the thermal resistance down as low as possible.

LAMINATES AND VINYL

Most laminate and vinyl flooring is fine for use with UFH as the coverings are typically thin and high-density, so have a relatively low thermal resistance. We would always recommend checking with the given flooring manufacturer first that the product is suitable for UFH.

RUGS

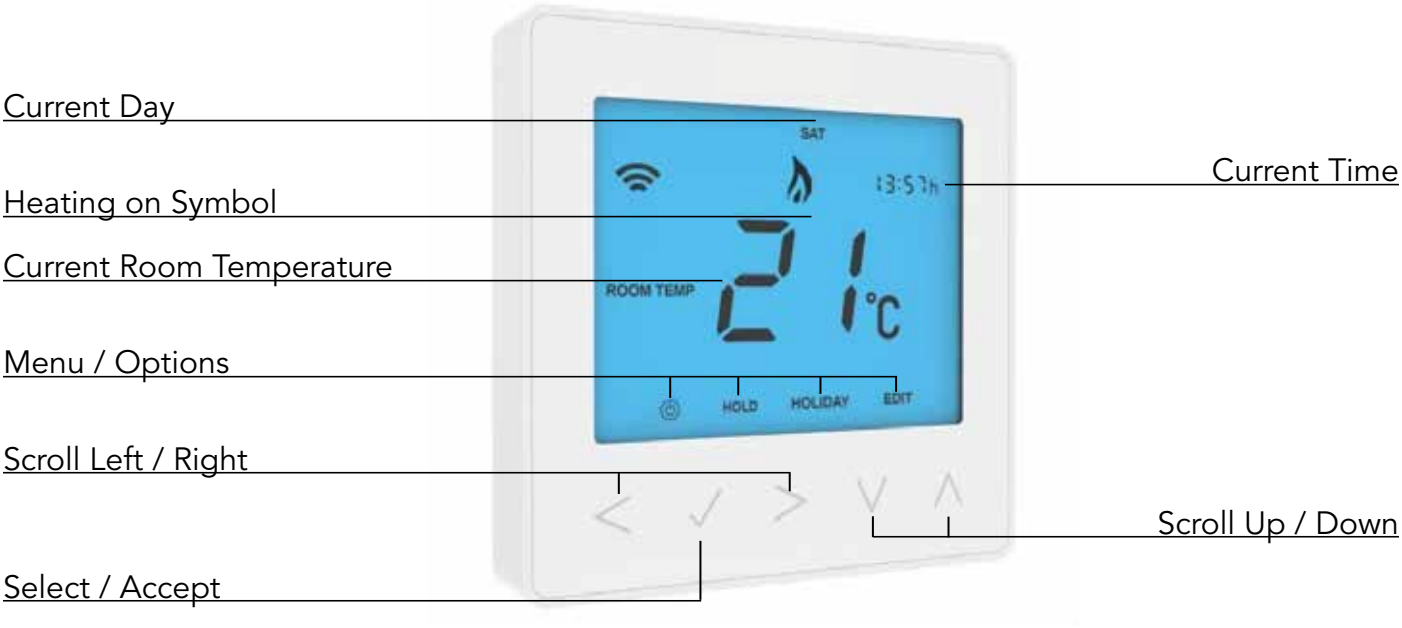
In general terms, rugs are not recommended for use with UFH, not only do they act as an additional resistance for the heat to get through, but heat can also gather beneath the rug, causing potential temperature build-up to a level which could damage the floor covering beneath them.

RECOMMENDED TOG VALUES

Tog value	Suitability
0 - 1.0	Excellent
1.1 - 1.6	Good
1.7 - 2.5	OK
Above 2.5	Not recommended

PROGRAMMABLE THERMOSTATS - NEOSTAT

By far the most popular choice now for underfloor heating is to control with a digital programmable thermostat – not only does this allow the system to operate more efficiently, but it also offers you more flexibility and means that the heating can be programmed around your lifestyle.



What is a programmable room thermostat?

A programmer allows you to set "On" and "Off" periods to suit your own lifestyle. A room thermostat works by sensing the air temperature, switching on the heating when the air temperature falls below the thermostat setting, and switching it off once this set temperature has been reached.

So, a programmable room thermostat is both in one and lets you choose what times you want the heating to be on, and what temperature it should reach while it is on. It will allow you to select different temperatures in your home at different times of the day (and days of the week) to meet your particular needs. Turning a programmable room thermostat to a higher setting will not make the room heat up any faster; neither does the setting affect how quickly the room cools down. The way to set and use your programmable room thermostat is to find the lowest temperature settings that you are comfortable with at the different times you have chosen, and then leave it to do its job. The NEO part of this programmable thermostat means it is compatible with your portable smart device (e.g. IPhone or Android) and links through a network to give you full control on the go, even from the other side of the globe.

Setting the Clock

To set the clock, follow the steps below:
Press the < > keys to select the POWER button.
Press ✓ to confirm.
Press the < > keys to select 'CLOCK'.
Press ✓ to confirm.
You are now able to set the hour using the ^ v keys (24 hour format).
Press ✓ to confirm.
You are now able to set the minutes using the ^ v keys.
Press ✓ to confirm.
You are now able to set the day using the ^ v keys.
Press ✓ to confirm and return to the main display.

Setting your temperature comfort levels

The Thermostat provides individual day programming for each day of the week. To program your set temperature periods:

Press the < > keys to select 'EDIT'. Press ✓ to confirm. A day or section of the week will display flashing.
Using the < > keys select the day or section of the week you wish to edit. Press ✓ to confirm. 'WAKE' will now flash and the current time and temperature setting for this part of the day will be shown. Press ✓ to change the 'WAKE' settings.
Use the < > keys to set the hours. Press ✓ to confirm.
Use the < > keys to set the minutes. Press ✓ to confirm.
Use the < > keys to set the temperature desired. Press ✓ to confirm the settings.
Press the > key. 'LEAVE' will now flash and the current settings displayed. Press ✓ to change the 'LEAVE' settings.
Repeat the steps above to set the hours, minutes and temperature desired and for the 'RETURN' and 'SLEEP' settings.
Once all the changes have been made, use the < > keys to select 'DONE'.
Press ✓ to confirm and return to the main display.

Note: Any times that are not required can be set as "--:--". The thermostat will ignore these time settings.

Set-back: For 'LEAVE' and 'SLEEP' times we recommend setting the temperature no more than 3 – 4 degrees lower than the 'WAKE' and 'RETURN' periods so the heating will turn off (saving fuel) but you will not lose too much heat from the building by the time it next comes on, allowing satisfactory warm-up response times.

Temperature Adjustments (Manual Override)

The override facility allows you to adjust the desired temperature in your home without the need to fully re-program the thermostat. Using the ^ v arrow keys allows you to adjust (override) the set temperature. When you press either of these keys, you will see the word SET and the desired temperature. Press up or down to reach required temperature. Press ✓ to confirm and return to the main display. This new set temperature will be maintained until the next programmed setting.

Temperature Hold

For one off occasions when you require to override the set temperature for a number of hours

Press the < > keys to select 'HOLD'. Press ✓ to confirm.
Press the ^ v keys to set the desired hold period. Press ✓ to confirm.
Press the ^ v keys to set the desired hold temperature. Press ✓ to confirm.

You will see the 'HOLD LEFT' indication is displayed which will countdown the hold duration. To cancel, follow the above steps and reduce the Hold time to 00:00 hours. After the hold period, the thermostat will revert back to the normal program setting.

Holiday Mode

The Thermostat has a holiday function. This allows you to enter a holiday period during which time the thermostat will maintain the frost set temperature at 12°C saving fuel and energy whilst protecting your house from frost and damp. At the end of your holiday, the thermostat will revert back to the programmed setting ensuring that your home is warm on your return.

Press the < > keys to select 'HOLIDAY'. Press ✓ to confirm.
Press the ^ v keys to set the number of days you are to be on holiday. Press ✓ to confirm.
The Thermostat will show 'HOLIDAY LEFT' and count down the number of days left of the holiday.
To cancel, repeat the above steps reducing the Holiday duration to 00 days.

Frost Protect Mode

Press the < > keys to select the power symbol. Press ✓ to toggle the frost setting ON/OFF.
In this mode, the thermostat will display the frost icon and will only turn the heating on should the room temperature drop below 12°C. To cancel the frost protect mode, press the power button onc.

Locking the thermostat (Tamper-proof)

The thermostat has a key-lock facility. To enable follow these steps:
Press the < > keys to select 'HOLD'. Press ✓ key for 10 seconds.
The display will show 00:00 and you need to enter a 4 digit pin number.
Press the ^ v keys to set the first two digits. Press ✓ to confirm.
Press the ^ v keys to set the second two digits. Press ✓ to confirm.
The display will return to the main screen and show the locked keypad symbol.
To unlock the thermostat follow these steps: Press ✓ key once and the display will show 00:00 and you will need to enter the 4 digit pin number you set previously.
Press the ^ v keys to set the first two digits. Press ✓ to confirm.
Press the ^ v keys to set the second two digits. Press ✓ to confirm.
The thermostat will unlock and return to the main screen.

NIGHT SETBACK EXPLAINED

What is night setback?

A thermostat with the night setback function will follow the temperature set by the dial during the period that it is programmed to be on, and then automatically reduce the temperature by 4°C when the thermostat is set to be off.

How is this different from standard thermostats?

Standard thermostats without night setback are either on or off according to the time clock controlling the system.

How does this affect my room temperatures?

Night setback should be thought of as an up/down control as opposed to on/off.

The thermostat program heats up to a set temperature and then allows the room to cool off to a lower temperature or heats up to a warmer temperature as programmed.

When setting the program to a lower temperature a maximum of 3 or 4 degrees of set back is recommended. Longer than this the system takes disproportionately longer and energy saving is not increased.

Why is night setback needed?

Night setback protects underfloor heating systems from frost and helps to keep temperatures consistent, although these are not its principal duties.

The main advantages are that it helps to improve the energy efficiency of the heating system and improves the response time, which is the time taken to heat the area.

The response time of underfloor heating systems is dependent on the amount of heat energy stored in the floor. For that reason, if the room is kept at 3-4°C below the normal set temperature, the time taken to heat up to the set temperature is reduced substantially.

FAQs

How do I increase / decrease the floor sensor?

Floor sensors are used for two reasons: a) to protect sensitive floor finishes from overheat, and b) to control the floor temperature in wet rooms where the thermostat is installed outside of the room. Where used to protect sensitive floor finishes, we strongly recommend you do not adjust this yourself – please contact the supplier to ensure this is carried out correctly. When used in wet rooms, the thermostat will need to be configured to read the floor sensor as the primary form of temperature control, then simply increase / decrease the temperature set point to achieve your comfort settings.

How do I ensure the flow temperature is correct, that enough heat is being provided by the boiler?

Before checking this, ensure a thermostat has been calling for heat for at least 30mins. If the boiler is functioning correctly, hot water will be supplied to the manifold and the manifold bar will be warm (possibly hot) to touch. If there is no heat at the manifold, the boiler is not providing hot water. Please consult your plumbing engineer.

My UFH isn't working?

There is a misconception that the floor finish should be very warm to touch when the UFH is operating – please be aware that this is not the case. Due to the size of the surface area of the floor, the floor temperature will only be slightly warmer than the air temperature to be able to achieve your comfort settings. If in doubt, please check your thermostat settings are correctly set up. As a physical test, turn up a thermostat so that it is calling for heat, within 30mins you will be able observe water flowing through the manifold flow meters (on the top of the manifold) and feel warmth coming through from the boiler. If neither of these happen within 1hr, please call us on the number below to carry out some simple checks over the phone.

Pumpset codes, what different codes and lights mean?

When the pump is running, LED 1 is green. The four yellow LEDs indicate the current power consumption (1 = low, 2 = medium low, 3 = medium high, 4 = high). When LED 1 is flashing green the pump is on standby. If LED 1 is red, the pump has detected an alarm. Please contact us on the below number to identify the issue.

Do you offer a maintenance agreement?

Due to the nature of underfloor heating being a concealed product, not prone to corrosion and with minimal moving parts, maintenance contracts are not normally necessary. In the first instance we suggest you call us if you have a question and we will be glad to help. Most issues can be simply resolved over the phone.

What are your warranty / defeat periods?

Warranty Periods	
Pipe	75 years
Manifold (flow/return bars)	50 years
Pumpset | blending valve	2 years
Controls	2 years

WMS Underfloor Heating Ltd
Heritage House
Woodside Lane
Brookmans Park
Hertfordshire
AL9 6DE

01707 64 99 22

sales@wms-uk.com

wms-uk.com

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