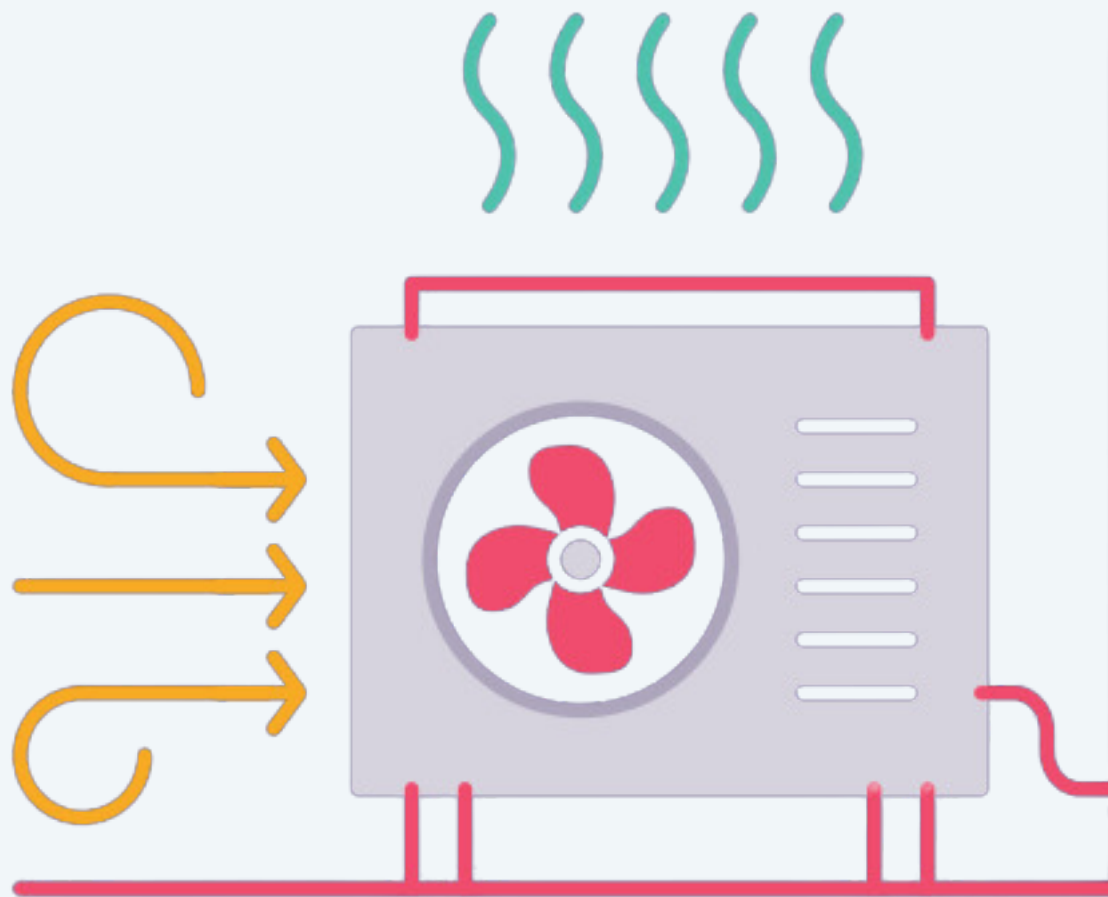


Heat Pump Guide for Residents

How to use your Heat Pump



Introduction

As Ireland transitions towards a more sustainable and energy-efficient future, heat pumps play a vital role in reducing household energy consumption and carbon footprints. Heat pumps are highly efficient, providing more heat output for less energy input compared to traditional fossil fuel heating systems.

This guide will cover three different types of Heat Pumps;

- **Air to Water Heat Pump**
- **Modulair Exhaust Air Heat Pump**
- **Victorum Exhaust Air Heat Pump**

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What is a Heat Pump?

Air to water heat pumps extract heat from the outside environment into your home, harnessing energy from free renewable sources outside the building, heating your home and producing hot water. Exhaust air heat pumps harness energy from the warm, humid air from areas within the property such as kitchens and bathrooms. Air to Water and Exhaust Air Heat pumps are the most common heat pump systems installed in Ireland and can achieve very significant efficiencies in heating your home.

Do Heat Pumps use a lot of electricity?

While heat pumps will increase your electricity usage, they eliminate the need for other heating fuels (gas, oil etc.).

Are Heat Pumps a good idea?

Yes, heat pumps are incredibly energy-efficient when compared to traditional heating systems such as gas or oil. Heat pumps run mainly on renewable energy, so they are a highly sustainable way to heat both houses and apartments, reducing carbon footprint and eliminating fossil fuels. Heat pumps also have the advantage of being carbon monoxide-free when compared to fossil fuel burning appliances such as gas or oil.

Are Heat Pumps noisy?

Heat pumps have similar noise levels to fossil fuel boilers. The noise level typically ranges from 40 to 60 decibels, depending on the type of heat pump and its installation.

Is it better to keep Heat Pumps at a constant temperature?

Yes, heat pumps operate more efficiently when maintained at a steady temperature. Turning the heat pump down or off when you're away or asleep is not recommended and may result in more energy being used to reach the set temperature again. Similar to any heating system, raising the temperature by one degree can increase the heating costs by about 10%.

How do I maintain a heat pump?

Tuath Housing will arrange for an annual inspection and perform regular maintenance. You can do several things to maintain your heat pump including:

- Do not cover the radiators or the outside heat pump unit. Check on the outside unit during winter. Remove any snow or ice from the outside of the unit immediately.
- Clean the outside of the heat pump unit often. Remove any dirt, mud or leaves from the outdoor section with a soft-bristled brush or your garden hose.
- Cut back foliage. Prune any shrubs, trees or bushes at least 18 inches back from the outdoor heat pump. This allows air to flow around the unit, which is needed for the heat pump to work well.

Air to Water Heat Pumps

- An air to water heat pump provides heating and hot water to your home without the need for gas or oil. If you previously had separate electricity and heating bills, you will now have only one electricity bill.
- The system works by using heat extracted from the air to heat your home's radiators and provide hot water to your tank. There are some key aspects to the system to be aware of to ensure it remains as efficient as intended.



Heating Controls

The thermostat controls the temperature of your home. The radiators will provide heat when necessary to maintain this temperature 24 hours a day, 7 days a week. Keeping the system on 24 hours a day, 7 days a week may be a change to how your old system worked, however, leaving the system as it has been set up will ensure it is running at its most cost effective. Radiators do not get as hot to touch as the traditional radiators you may be used to.

If you feel your home is too hot or too cold, you can increase or decrease the temperature by 1 degree at a time on the thermostat however, it may take up to 24 hours to feel the impact of this adjustment. Otherwise changing the setup (such as turning some radiators off) is not recommended as this may cause inefficiency in the system and result in increased running costs.

It is ok to open windows for periods of time.



Summer Months

The heat pump does not need to be turned off during the summer months. Turning the thermostat down to a lower set point in the summer such as 18°C ensures the heat pump will not operate unless the air temperature in your home drops below this point. Don't set this too low as doing so will mean the heat pump will use lots of energy to bring your home back up to temperature when needed.

Similarly, if leaving your home for an extended period or holiday, it is advised to lower the thermostat rather than turning the heat pump system off.



Winter Months

Heat pumps continue to work in the winter and are extremely popular in countries much colder than Ireland. Air source heat pumps may experience icing in cold temperatures however, there is an automatic defrosting cycle built in to the system to deal with this. You may notice a puff of condensation come from the outdoor unit regularly during a cold spell of weather. It is very important not to turn off your heat pump as this will result in the automatic heat pump defrosting cycle not coming on.



Hot Water

If you don't have solar thermal panels, the heat pump will also independently provide hot water to a preset temperature (48°C). The system works to ensure there is a constant supply of hot water. However, if a large amount of hot water has been used, you may notice that the system will prioritise topping up the hot water over the radiators for a time.

Once a week the system automatically runs a legionella protection cycle which heats the water to 60°C at night-time. You may notice the water is hotter than usual after this cycle has run.

Air to Water Heat Pump Top Tips



• DO's •

- ✓ Set your thermostat to between **18-21 degrees**
- ✓ Leave the system as it had been set up
- ✓ Allow a **full 24 hours** to feel the impact of your thermostat temperature going up or down.
- ✓ Shop around for the lowest electricity price at least once a year.



• DON'Ts •

- ✗ Turn off the heat pump.
- ✗ Change the Heat Pump controller settings
- ✗ Turn off the radiators.
- ✗ Cover radiators with clothes, furniture or radiator covers as this reduces the efficiency of the system.
- ✗ Block, cover or box in the outdoor unit as this will reduce efficiency and possibly damage the outdoor unit.

System Components

Heat Pump Unit



Hot Water Storage Tank



Thermostat



System Components

Radiator



Heat pump controller



Don't change the settings on your heat pump controller

Modulair Exhaust Air Heat Pumps

- Exhaust Air Heat Pumps (EAHPs) are an efficient, environmentally friendly heating and ventilation solution used to regulate the temperature, hot water and air quality in your home. This guide will help you understand how your exhaust air heat pump works, how to use it effectively, and how to ensure optimal performance.
- Please refer to the manufacturer's user manuals for further information. These can be found on our 'Manage Your Home' section of Tuath's website.

How does it work?

An Exhaust Air Heat Pump (Figure 1) continuously removes stale, humid or polluted air from areas of your home where moisture is most likely to accumulate, such as kitchens, bathrooms, and laundry rooms. The system extracts air from these spaces via ceiling vents and ductwork (Figure 4), directing it to the heat pump unit, typically located in the utility room.

Inside the heat pump, energy is captured from the extracted air and transferred to your heating system (radiators) and hot water supply (Figure 3). At the same time, fresh air is supplied to your living areas—such as the living room and bedrooms—through wall vents, ceiling vents or trickle vents incorporated into the window frame.

The heat pump transfers the generated heat to the central heating circuit. The radiators on this system do not reach the same temperatures as conventional heating systems and will only reach a temperature of 45 °C maximum.

The Importance of Balance

This balanced process of extracting stale air and introducing fresh air not only improves indoor air quality but also uses the energy from the exhaust air to provide heating and hot water.

While it may seem tempting to turn off the system, doing so can disrupt this balance. It's important to note that leaving the heat pump on does not mean that heating or hot water is constantly running. The heat pump only activates these functions when needed. Once your home reaches the desired temperature or your hot water needs are met, the system will stop heating and focus only on ventilation.

Leaving the system running continuously ensures that it operates efficiently and consistently. Turning it off and on repeatedly can force the system to work harder when restarting, which increases energy consumption. By keeping the heat pump on, you allow it to maintain a steady, energy-efficient operation.

Opening windows

Similarly, the way you manage your windows can impact how effectively the system operates.

The EAHP works best when windows are kept closed during its operation. This helps the system maintain a controlled environment where stale air is extracted and fresh air is supplied in a balanced manner.

While it's generally recommended to keep windows closed when the system is in use, there may be times when you want to open a window. In these cases, you can open the windows for short periods of time. However, keep in mind that opening windows too frequently or for long periods can reduce the EAHP's efficiency, as it will have to compensate for the unconditioned air entering the home, potentially leading to higher energy use.

Ventilation Boost Function

If the living areas are feeling humid or stuffy, (for example after a shower or cooking), there is a boost function available on the heat pump display screen (Figure 2) which will extract the air at a faster rate for a short period of time. Should you wish to avail of it, the Boost Function is available by selecting the 'ventilation' option followed by 'Boost On' option on the heat pump display screen.

Heating Control Panel

The control panel (Figure 6) is usually found on a wall in the living area or hallway. From here, you can adjust the temperature of the heating.

Heating Controls

The thermostat is used to set your desired living area temperature. The recommended range for comfort and efficiency is 18-22°C which you can set on the control panel when in manual mode. It is recommended to leave the thermostat in manual mode rather than in schedule (timer) mode for optimum efficiency.

If you feel your home is too hot or too cold, you can increase or decrease the temperature by 1 degree at a time on the thermostat, however it may take up to 24 hours to feel the impact of this adjustment.



Hot Water

If you don't have solar thermal panels, the heat pump will provide hot water to a preset temperature. There are 3 preset setpoints available, with the highest setpoint using the most energy to supply hot water. You can find these on the heat pump display panel (Figure 7).

- Eco+ 45 °C
- Eco 55 °C
- Comfort 65 °C

The system works to ensure there is a constant supply of hot water. However, if a large amount of hot water has been used, you may notice that the system will prioritise topping up the hot water instead of the radiators for a time. The hot water tank is well insulated so keeps the water warm for at least 24 hours.

Once a week, the system automatically runs a legionella protection cycle which heats the water to 60°C at night time. You may notice, the water is hotter than usual after this cycle has run.



Summer Months

The heat pump does not need to be turned off during the summer months. Turning the thermostat down to a lower set point in the summer such as 18°C ensures the heat pump will not operate unless the air temperature in your home drops below this point. Don't set this too low as doing so will mean the heat pump will use lots of energy to bring your home back up to temperature when needed.

Similarly, if leaving your home for an extended period or holiday, the advice would be to lower the thermostat rather than turning the heat pump system off.



Winter Months

Allowing the system to operate directly from the room thermostat rather than a timed function ensures the system operates at maximum efficiency while also increasing comfort levels for occupants. Maintaining a constant temperature in your home will result in optimal performance of the Exhaust Air Heat Pump.

If leaving your home for an extended period or holiday, the advice would be to lower the thermostat rather than turning the heat pump system off.

Modulair Exhaust Air Heat Pump Top Tips



• DO's •

- ✓ Set your thermostat to between **18-22 degrees**
- ✓ Leave your thermostat in manual mode (not schedule mode)
- ✓ Leave ceiling & wall vents as they have been set up.
- ✓ Dust around the vent if necessary.
- ✓ Boost ventilation using the heat pump display unit if required.
- ✓ Leave the heat pump and radiators as they have been set up.
- ✓ Shop around for the lowest electricity price at least once a year.
- ✓ Allow a **full 24 hours** to feel the impact of any temperature adjustments.



• DON'Ts •

- ✗ Turn off the heat pump.
- ✗ Adjust or block up the ceiling or wall vents
- ✗ Turn off the radiators.
- ✗ Cover radiators with clothes, furniture or radiator covers as this reduces the efficiency of the system.
- ✗ Leave the windows open for long periods.

System Components

Modulair Heat Pump Unit



Figure: 1

Ventilation Boost Function



Figure: 2

Modulair Hot Water Storage Tank



Figure: 3

Extraction Ceiling Vents



Figure: 4

System Components

Central Heating Control Panel

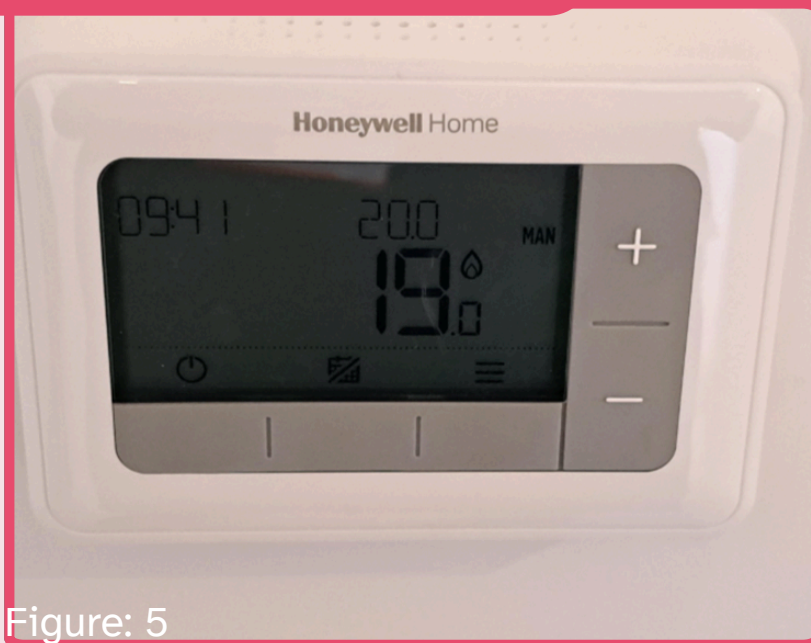


Figure: 5

Heat Pump Display Panel showing Hot Water options



Figure: 6

Victorum Exhaust Air Heat Pumps

- Exhaust Air Heat Pumps (EAHPs) are an efficient, environmentally friendly heating and ventilation solution used to regulate the temperature, hot water and air quality in your home. This guide will help you understand how your exhaust air heat pump works, how to use it effectively, and how to ensure optimal performance.
- Please refer to the manufacturer's user manuals for further information. These can be found on our 'Manage Your Home' section of Tuath's website.

How does it work?

An Exhaust Air Heat Pump (Figure 1) continuously removes stale, humid or polluted air from areas of your home where moisture is most likely to accumulate, such as kitchens, bathrooms, and laundry rooms. The system extracts air from these spaces via ceiling vents and ductwork (Figure 2), directing it to the heat pump unit, typically located in the utility room.

Inside the heat pump, energy is captured from the extracted air and transferred to your heating system (radiators) and hot water supply (Figure 3). At the same time, fresh air is supplied to your living areas—such as the living room and bedrooms—through wall vents, ceiling vents or trickle vents incorporated into the window frame.

How does it work?

This balanced process of extracting stale air and introducing fresh air not only improves indoor air quality but also uses the energy from the exhaust air to provide heating and hot water.

While it may seem tempting to turn off the system, doing so can disrupt this balance. It's important to note that leaving the heat pump on does not mean that heating or hot water is constantly running. The heat pump only activates these functions when needed. Once your home reaches the desired temperature or your hot water needs are met, the system will stop heating and focus only on ventilation.

Leaving the heat pump on, ensures that it operates efficiently and consistently. Turning it off and on repeatedly can force the system to work harder when restarting, which increases energy consumption. By keeping the heat pump on, you allow it to maintain a steady, energy-efficient operation.

Opening windows

Similarly, the way you manage your windows can impact how effectively the system operates.

The EAHP works best when windows are kept closed during its operation. This helps the system maintain a controlled environment where stale air is extracted and fresh, filtered air is supplied in a balanced manner.

While it's generally recommended to keep windows closed when the system is in use, there may be times when you want to open a window. In these cases, you can open the windows for short periods of time. However, keep in mind that opening windows too frequently or for long periods can reduce the EAHP's efficiency, as it will have to compensate for the unconditioned air entering the home, potentially leading to higher energy use.

Ventilation Boost Function

If the living areas are feeling humid or stuffy, for example after a shower or cooking, there is a boost ventilation function available on the control panel home screen (Figure 4) which will extract the air at a faster rate for a short period of time should you wish to avail of it.

Heating Control Panel

The control panel (Figure 4) is usually found on a wall in the living area or hallway. From here, you can adjust the temperature of the heating and hot water as well as boosting ventilation or hot water if required.

Heating Controls

The recommended temperature range for comfort and efficiency is 18-22°C which you can set on the control panel. To select the central heating controls, press the Home Key (on top left-hand corner of the control panel home screen, (Figure 4)). It is recommended to leave the function 'on' (Figure 4A and 4B) which allows the system to operate directly from indoor air temperature.

If you feel your home is too hot or too cold, you can increase or decrease the temperature by 1 degree at a time on the thermostat, however it may take up to 24 hours to feel the impact of this adjustment.



Hot Water

If you don't have solar thermal panels, the heat pump will provide hot water to a preset temperature (48°C). The system works to ensure there is a constant supply of hot water. However, if a large amount of hot water has been used, you may notice that the system will prioritise topping up the hot water instead of the radiators for a time. The hot water storage tank (Figure 3) is well insulated so keeps the water warm for at least 24 hours. As with the heating, it is recommended to leave the hot water function set to 'on' (Figures 4C and 4D). Please be aware, if you select a higher temperature than the preset temperature of 48°C, this will increase energy usage.

Hot Water Boost Function

The hot water boost button is available at the bottom of the controller panel when in the domestic hot water menu (Figure 4D). However, please note that using the immersion may increase the running costs.

Once a week, the system automatically runs a legionella protection cycle which heats the water to 60°C at nighttime. You may notice, the water is hotter than usual after this cycle has run.



Summer Months

The heat pump does not need to be turned off during the summer months. Turning the thermostat down to a lower set point in the summer such as 18°C ensures the heat pump will not operate unless the air temperature in your home drops below this point. Don't set this too low as doing so will mean the heat pump will use lots of energy to bring your home back up to temperature when needed.

Similarly, if leaving your home for an extended period or holiday, the advice would be to lower the thermostat rather than turning the heat pump system off.



Winter Months

Allowing the system to operate directly from the room thermostat rather than a timed function ensures the system operates at maximum efficiency while also increasing comfort levels for occupants. Maintaining a constant temperature in your home will result in optimal performance of the Exhaust Air Heat Pump.

If leaving your home for an extended period or holiday, the advice would be to lower the thermostat rather than turning the heat pump system off.

Victorum Exhaust Air Heat Pump Top Tips



• DO's •

- ✓ Set your thermostat to between **18-22 degrees**
- ✓ Leave your thermostat in manual mode (not timer mode).
- ✓ Leave ceiling & wall vents as they have been set up.
- ✓ Dust around the vent if necessary.
- ✓ Boost hot water and ventilation if required.
- ✓ Leave the heat pump and radiators as they have been set up.
- ✓ Shop around for the lowest electricity price at least once a year.
- ✓ Allow a full 24 hours to feel the impact of any temperature adjustments.



• DON'Ts •

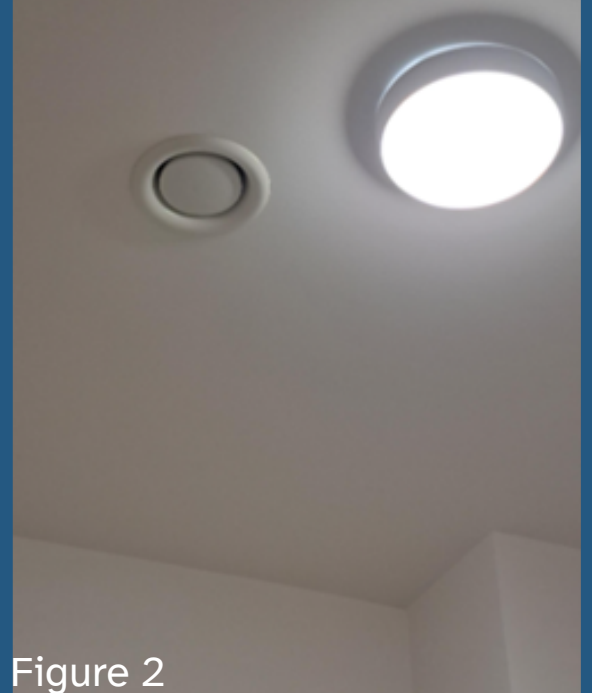
- ✗ Turn off the heat pump.
- ✗ Adjust or block up the ceiling or wall vents
- ✗ Turn off the radiators.
- ✗ Cover radiators with clothes, furniture or radiator covers as this reduces the efficiency of the system.
- ✗ Leave the windows open for long periods.

System Components

Victorium Heat Pump Unit



Extraction Vent



Victorium Hot Water Storage Tank



Victorium Control Panel



Central Heating Controls



Figure 4

Home Button: access the central heating controls.

Cylinder button: access the domestic hot water controls.

Fan button: to boost ventilation.

In this example, the thermostat setpoint is 19°C and the actual current temperature is 21.4°C. You can adjust the set point temperature using the + or - buttons.



Figure 4A

When you have selected the home button on the home screen you will see the central heating control screen above with a radiator and a timer button

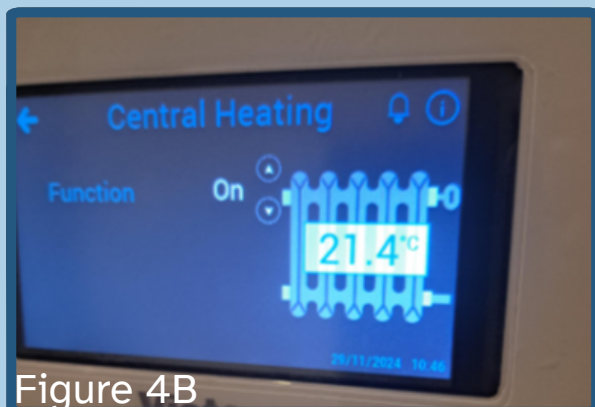


Figure 4B

If you select the radiator button, the above screen is displayed. There are three function options: On, Off and Timer. As explained in the guide, it is recommended to leave the function set to 'On'.

Hot Water Controls



Figure 4C

When you have selected the cylinder button on the controller home screen you will see the hot water control screen above with two icons: a cylinder and a clock



Figure 4D

If you select the cylinder button, the above screen is displayed. There are three function options: On, Off and Timer. As explained in the guide above, it is recommended to leave the function set to 'On'.

The setpoint temperature can be adjusted by pressing the + or - buttons but it is recommended to leave it as it was setup. To boost the hot water, press the boost button but note this will use the immersion and therefore more energy.

Contact Us

If there is a problem with your heating or hot water, get in touch with our team:



Telephone - 1800 852 751



Log a repair on our website - <https://tuathhousing.ie>

Maintenance: Tuath Housing will arrange for annual heat pump inspection and maintenance.

If a heat pump has been installed in your home in the last 3 months as part of the energy upgrade works, please contact energyupgrade@tuathhousing.ie. If the heat pump is installed 3 months or over log a repair on our website.

For complete loss of heating out-of-office hours in an emergency contact the helpline by phoning your local Tuath office and dial Option 1.

Disclaimer: Tuath is not responsible for any damage, loss or injury resulting from the use of the heat pump. Users are advised to follow all safety instructions and guidelines provided in the full manual. Use of the product is at the user's own risk.



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