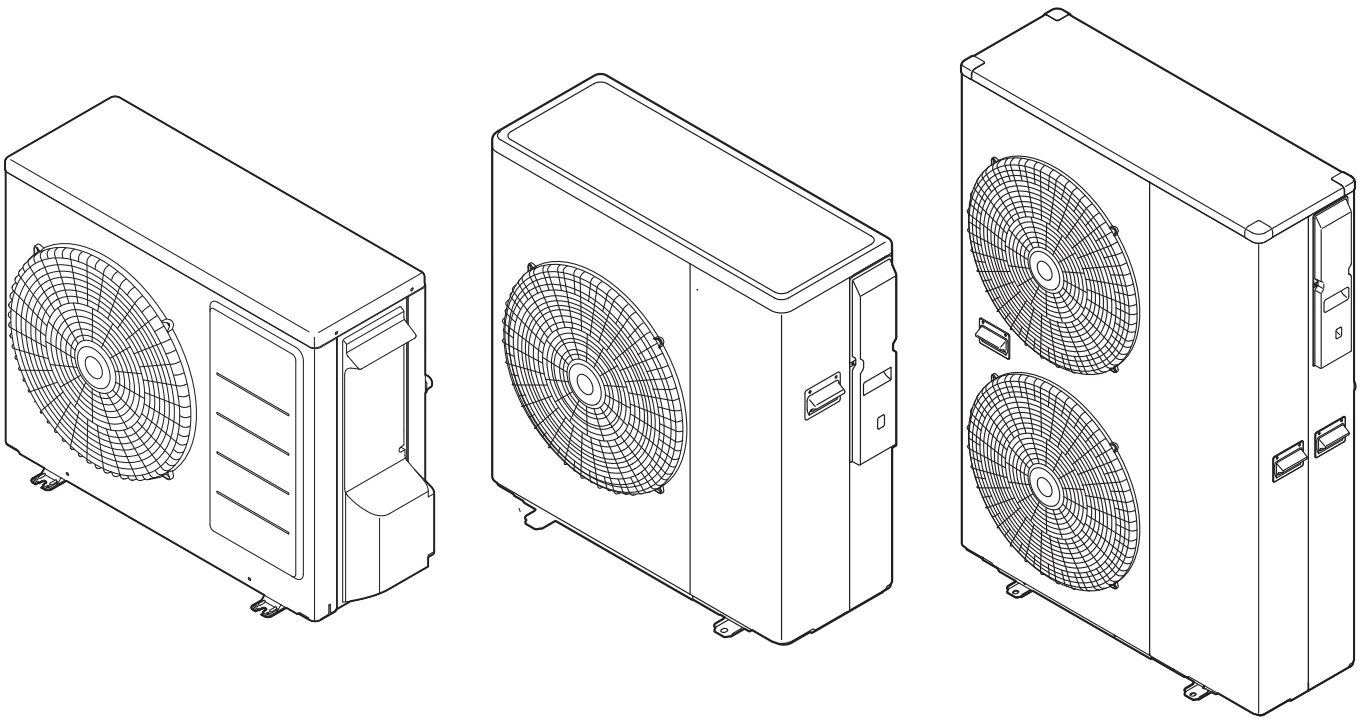
Grant Aerona³

Air to Water High Efficiency Heat Pump Range

User Instructions



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SPECIAL TEXT FORMATS

The following special text formats are used in these instructions for the purposes listed below:

! WARNING !

Warning of possible human injury as a consequence of not following the instructions in the warning.

! CAUTION !

Caution concerning likely damage to equipment or tools as a consequence of not following the instructions in the caution.

! NOTE !

Used for emphasis or information not directly concerned with the surrounding text but of importance to the reader.

PRODUCT CODES COVERED

These instructions cover the following product codes:

Product code
HPID6R32 - 6kW
HPID10R32 - 10kW
HPID13R32 - 13kW
HPID17R32 - 17kW
Output at 7°C air and 35°C flow temperature

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Introduction

These instructions are intended to assist the user with the operation of a Grant Aerona³ air source heat pump. Full details on the Installation, Commissioning and Servicing of the heat pump are contained in the Installation Instructions supplied with the unit.

About your Heat Pump

Your Grant Aerona³ air source heat pump is a highly efficient and fully automatic unit that extracts heat energy from the outside air to heat your home.

The Grant Aerona³ is an 'air to water' heat pump. In operation, the fan (or fans) draws air through the finned coil evaporating the refrigerant in the heat pump. This refrigerant is then compressed to increase its heat energy before it passes through a heat exchanger transferring that heat energy to the water of your heating system.

Heat Pump Remote Controller

Your heat pump will usually be fitted with a remote controller (refer to Figure 1). This will be electrically connected to the heat pump outside, but will be located in a convenient position within your home.

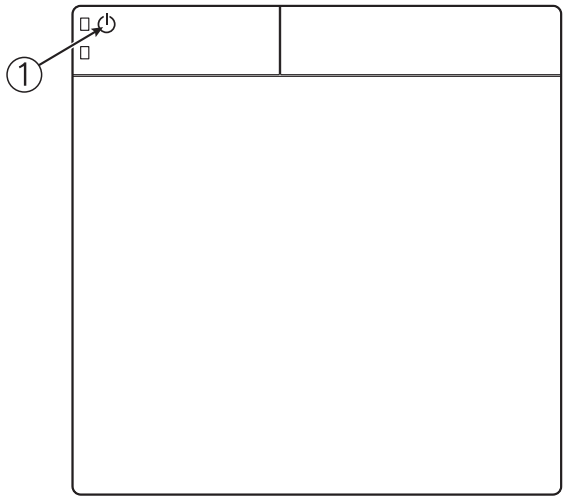

Figure 1: Heat pump remote controller (with door closed)

The remote controller has three principle functions.

- The first is to enable the heat pump operating parameters to be accessed and adjusted as required by the heat pump installer.
- The second is to provide a simple means of switching the heat pump ON or OFF as and when required using the ON/OFF button (1). Refer to the 'Switching the Heat Pump ON or OFF' section in these User Instructions.
- Thirdly, in the event that a fault is detected, a red LED on the ON/OFF switch of the remote controller will flash and a warning icon and error code will be displayed on LCD screen and also on the Terminal PCB display.

The heat pump is supplied with the operating parameters set to the factory default values. However, these parameter settings should have been checked by the installer when the heat pump was commissioned and adjusted where necessary to ensure they are correctly set to suit your particular installation.

These heat pump operating parameters should NOT then be altered other than by either the installer or a Grant Service Engineer if and when necessary.

When switched ON, the remote controller screen will display both the outside air temperature and inside air temperature (for the area where the remote controller is located).

! NOTE !

The heat pump remote controller does NOT control the ON and OFF times or temperatures of your heating system. These are controlled by your heating system controls. Refer to the 'Heating System Controls' section of these User Instructions.

The installer should have set the correct day and time that is also displayed on the remote controller screen. If not, refer to the instructions provided in Section 9.2 of the Installation Instructions supplied with the heat pump.

Heating System Controls

Your Grant Aerona³ heat pump is NOT controlled by the remote controller but will usually be controlled by a normal domestic heating control system.

This control system will typically consist of the following controls:

A heating timer or programmer

This device allows you to set the ON and OFF times for your heating and (if it is a programmer) the ON and OFF times for your hot water heating also.

! NOTE !

With the Grant Aerona³ heat pump, Grant recommends that the hot water heating periods should be set to occur when the heat pump is NOT operating to provide heating, i.e. when the programmer is set to OFF for heating.

A room thermostat

This allows the required air temperature to be set. When the air temperature is below this setting the thermostat will 'call' for the heat pump to operate to provide heating. This is usually located in a downstairs area such as a hallway or living room, but you may have more than one room thermostat if your heating system is 'zoned'.

! NOTE !

For the heat pump to operate to provide heating, the programmer (or timer) must be in an ON period for heating AND the room thermostat must be 'calling'.

A cylinder thermostat

This controls the temperature of the water in your hot water cylinder (if fitted), provided that your hot water cylinder is being heated by the heat pump. When the water temperature in the cylinder is below the thermostat setting it will 'call' for the heat pump to operate to heat the hot water.

! NOTE !

For the heat pump to operate to provide heat the hot water cylinder the programmer must be in an ON period for hot water AND the cylinder thermostat must be 'calling'.

The above is only a general description of the heating and hot water system controls that you may have. You must refer to the manufacturers' operating instructions provided with these controls for full details of their correct setting and operation.

The operation and setting of these system controls should be explained to you by the installer.

7-Day Immersion Programmer (Legionella)

In addition to the programmer and cylinder thermostat, to control the ON and OFF times of the water heating, you may also have a Greenbrook T205-C timer fitted.

This optional control allows the cylinder immersion heater to periodically raise the water temperature in the cylinder to 60°C to prevent Legionella. It incorporates a timer allowing it to be pre-set to automatically operate the immersion heater for the required period on either a daily or weekly basis. Refer to the Installation and User Instructions supplied with the timer for further information.

! NOTE !

The Greenbrook T205-C immersion heater timer incorporates a double pole isolation switch and a 13 Amp fuse into its design.
This switch MUST be switched ON for the timer to automatically operate the immersion heater.

If fitted, the timer should have been set by the installer to suit your installation when your heat pump was commissioned. Refer to Section 5.4 of the Installation Instructions supplied with your Aerona³ heat pump for further details if required.

Once set, this system is fully automatic but can be overridden by the user if required. Also, the user can still switch the immersion element off, via the double pole isolation switch incorporated into the design of the programmer (see Figure 2), irrespective of the programmer or cylinder thermostat setting or whether the heat pump is operating.

! WARNING !

If the Isolation Switch (see Figure 2) is set to OFF, the anti-legionella function will not operate.

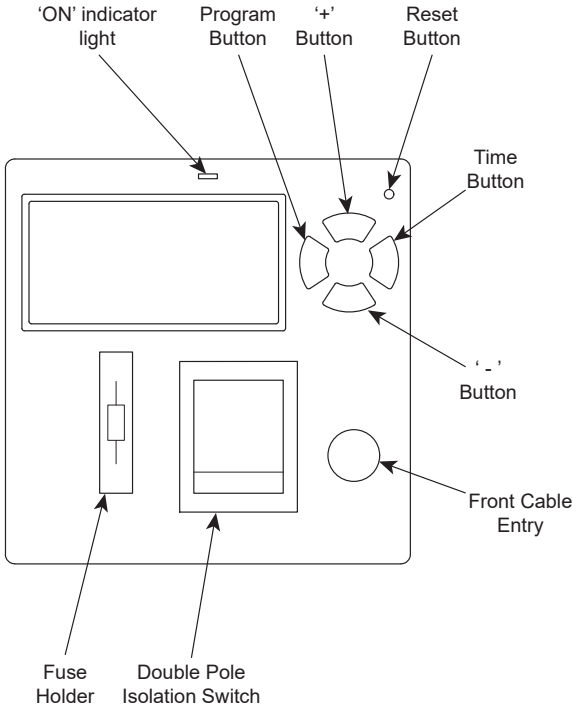

Figure 2: Greenbrook T205-C Fused Timer Spur Switch

To Switch the Heat Pump ON or OFF (via the Remote Controller)

To switch the heat pump ON:

1. First, check the power supply to the heat pump is switch ON at the weatherproof isolator. This is usually located outside next to the heat pump.
2. Press and hold the ON/OFF switch (1) for 3 seconds. Refer to Figure 3.
3. When the Green LED is lit the heat pump is ON.

To switch the heat pump OFF:

1. Press and hold the ON/OFF switch (1) for 3 seconds. Refer to Figure 3.
2. When the Green LED is no longer lit the heat pump is OFF

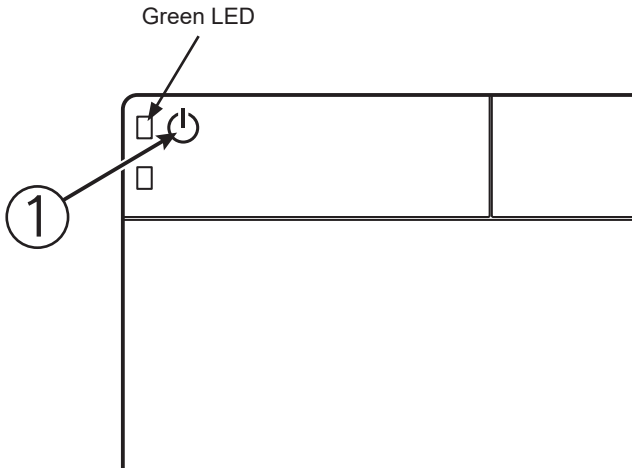

Figure 3: ON button with indicator LED

! NOTE !

Whilst the heat pump is switched ON and ready to operate it may not start!

In order for the heat pump to start (when it is switched ON) there must also be a 'demand' from the heating system controls. Refer to the 'Heating System Controls' section of these User Instructions.

To Switch the Heat Pump ON or OFF (without the Remote Controller)

Your heat pump may have been installed without a remote controller connected.

If this is the case, you can still switch the heat pump off by simply switching the external electrical isolator to OFF. This isolator is usually located on the outside wall of your house next to the heat pump.

! NOTE !

If the electrical supply to the heat pump is switched off at the external isolator, the frost protection function will NOT operate. Refer to the 'Frost Protection' section of these User Instructions.

To switch the heat pump back on: Switch the external electrical isolator back to ON.

! NOTE !

Even when the heat pump is switched ON and ready to operate it may not start!

In order for the heat pump to start (when it is switched ON) there must also be a 'demand' from the heating system controls. Refer to the 'Heating System Controls' section of these User Instructions.

Remote Controller Display Panel

The operation of the heat pump is indicated in the top right hand corner of the remote controller screen using the following symbols:

	This indicates the frost protection is active. Refer to the 'Frost Protection' section of these User Instructions.
	This indicates the defrost cycle is active.
	This indicates a heating demand. If this is displayed on the remote controller screen the programmer and room thermostat are 'calling' If the 'sun' symbol is flashing it indicates that the heat pump is in the heating mode but the heating has stopped due to a hot water heating demand that has priority.
	This indicates a hot water demand. If this is displayed on the remote controller screen the programmer and cylinder thermostat are 'calling'
	This indicates the heat pump fan is running.
	This indicates the circulating pump (in the heat pump) is running.
	This indicates the heat pump compressor is running. If this symbol is flashing it indicates that the operation of the compressor is being delayed by the internal controls of the heat pump. This delay should normally stop after a short period and the compressor (and heat pump) will operate.

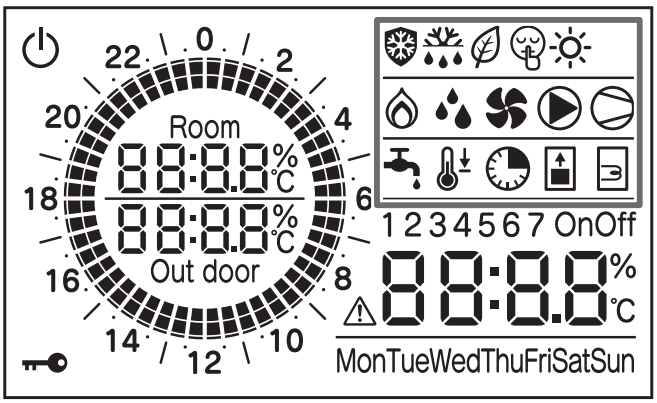

Figure 4: ON button with indicator LED

Weather Compensation

Your Grant Aerona³ heat pump has a built-in 'weather compensation' function that varies the heating system water temperature as the outdoor air temperature changes, i.e. as the outdoor air temperature falls the system flow temperature increases and vice versa . Refer to Section 3.7 of the Installation Instructions supplied with the heat pump.

This function helps to improve the thermal efficiency of your heating system.

The heat pump is supplied with default settings for this weather compensation functions and these should be checked and altered, if required, by the installer during commissioning to suit your heating system.

When the actual outside air temperature is the above the 'maximum outdoor air temperature' setting of the weather compensation function the heat pump will NOT operate for heating, even if there is a demand from the heating system controls.

This is not a fault with the heat pump but the normal operation of the Weather Compensation function automatically preventing operation of the heat pump (and heating system) when the outside air temperature indicates that use of your heating system would be unnecessary and wasteful.

! NOTE !

This does not apply to the hot water heating function of the heat pump. This will still operate even if the outside air temperature is greater than the maximum outdoor air temperature setting of the Weather Compensation function.

Frost Protection

Your Grant Aerona³ heat pump is fitted with automatic frost protection that will operate when either the outside air temperature or the system water temperature falls to a pre-set value (factory default setting 4°C). For further details refer to Section 8.3 of the Installation Instructions supplied with the heat pump.

This frost protection function will operate even when the heat pump is switched OFF at the remote controller. See the 'To Switch the Heat Pump ON and OFF' section of these User Instructions.

As the heat pump frost protection involves the operation of the

! NOTE !

If the electrical supply to the heat pump is switched off, e.g. at the external isolator, the frost protection function will NOT operate.

circulating pump, it is perfectly normal to hear the circulating pump running (when the heat pump is off) during periods of cold weather.

The circulating pump may operate for long periods, e.g. all night, when the conditions dictate but as this pump has a very low power consumption, the cost involved in protecting your heat pump is very small.

Looking after your Heat Pump

Grant Aerona³ Heat Pumps require very little maintenance but it is important that the air inlet grille (at the rear and left hand side of the unit) is kept clear at all times.

Remove any build-up of leaves, snow or any other debris from the air inlet grille.

Also, ensure that the fan outlet is not obstructed at all times.

! CAUTION !

Do not either

- Stack anything (e.g. garden furniture, bicycles, etc.) either on or against your heat pump.
- Do not place any cover over the unit.

To ensure that it continues to operate efficiently your Grant Aerona³ heat pump should be serviced annually, as detailed in Section 10 of the Installation Instructions supplied with the unit. Contact your installer or service engineer to carry out this work.

Troubleshooting

If your heat pump fails to operate:

First check:	Is the power supply is switched ON at the external isolator?
If YES:	Check that the heat pump is switched ON at the remote controller (if fitted). Refer to the 'Heat Pump remote Controller' section of these User Instructions.
If YES:	Check if there is a demand from the heating system controls. Refer to the 'Heating System Controls' section of these User Instructions.
If YES:	Check if the outside air temperature is greater than the 'maximum outside air temperature' setting of the Weather Compensation function, as this would prevent the heat pump from operating to meet a heating demand. Refer to the 'Weather Compensation' section of these User Instructions.
If YES:	Check the display on the remote controller. Is an error code displayed?
If YES:	What is the error code? Refer to Section 11 of the Installation Instructions supplied with the heat pump for a full list of the error codes. Contact your installer or service engineer for assistance.

Radiator temperatures

Your Grant heat pump is designed to work at lower operating temperatures than traditional oil or gas fired boilers. Radiators will therefore feel cooler to the touch, but this should not cause a problem with the heating of your house. The system will have been designed to work at these lower temperatures and the heat pump will be set to ensure the correct comfort levels are maintained.

Underfloor heating systems will require a longer pre-heat period to bring the floor up to operating temperature.

The heat pump has been designed to be as efficient as possible and will operate at a 'set point' temperature depending on conditions inside and outside of your house. Due to this, your radiators will be warmer some days and cooler others. This is normal and the heat pump is working correctly.

Service 1	
	Date
	Engineer
	Company name
	Telephone number
	Comments
	Signature

Service 5	
	Date
	Engineer
	Company name
	Telephone number
	Comments
	Signature

Service 2	
	Date
	Engineer
	Company name
	Telephone number
	Comments
	Signature

Service 6	
	Date
	Engineer
	Company name
	OFTEC Technician number
	Comments
	Signature

Service 3	
	Date
	Engineer
	Company name
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Service 7	
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Service 4	
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Service 14	
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Service 11	
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Service 15	
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Service 12	
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	Company name
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Service 16	
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	Company name
	Telephone number
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NOTES

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