

Heat King

COMMISSIONING HEATKING *BWarm* AIR SOURCE HEAT PUMPS

IMPORTANT
READ THIS INFORMATION BEFORE COMMISSIONING THE UNIT

The controller, mounted on the right hand end of the *BWarm* heat pumps, controls all internal operations for the unit. An external control is required to provide time clock control and a signal for heating.

The controller is factory set to provide space heating with a supply water temperature between 50°C and 55°C to a radiator wet system, controlling on a return water temperature of 45°C.

Where an alternative supply water temperature is required adjust the return water set point to a setting 5°C below the required supply water temperature; e.g. for a supply water temperature of 40°C, set the return water set point to 35°C. (See Page 2 for details.)

Note: If a lower water temperature is set for underfloor heating, the same temperature will be applied to the domestic hot water system. If domestic hot water is being fed from the heat pump the normal return water setting of 45°C should be maintained and a mixing valve used to reduce the supply water temperature to the underfloor system.

****WARNING****
Avoid changing safety and de-frost settings, this will affect correct functioning of the heat pump.

The commissioning sheet provided on pages 3 and 4 should be filled in at the time of commissioning the unit and kept for future reference.

STANDARD CONTROL SETTINGS

Control display

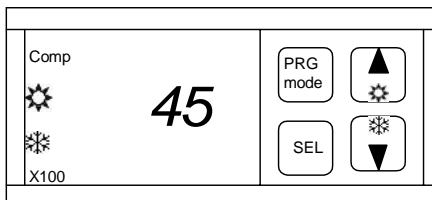


Fig. 1

The display will show return water temperature when heating is enabled and the heat pump is running normally.

Alarm condition

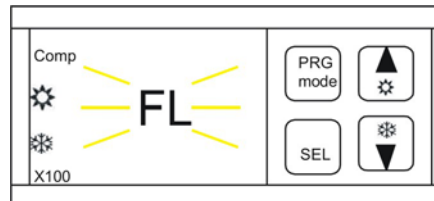


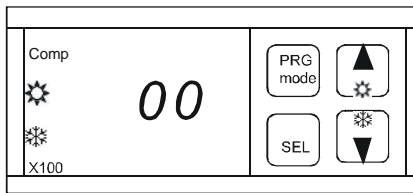
Fig. 2

When an alarm condition is present the display will flash up the alarm code and return water temperature alternately. Some alarms are critical and will switch off the unit, others are for indication only to advise of the a status of the unit. See Table 1.

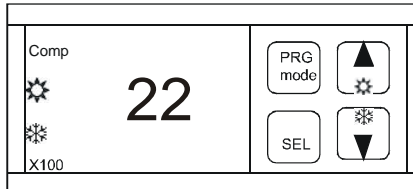
Alarm	Fault	Alarm	Fault
HP1	Refrigerant high pressure. Check there is adequate water flow (min 15l/s)	E4	Ambient/Weather Compensation probe failure Check plug into back of controller Replace probe.
LP1	Refrigerant low pressure. Check if the outside heat exchanger is blocked. Check the fan operates	EHS	High supply voltage
FL	Low water pressure. Raise the pressure above 1.8bar or fit link provided if mains pressure is too low.	ELS	Low supply voltage
E1	Water return temperature probe failure Replace probe.	d1	Defrost in progress
E2	Water flow temperature probe failure Replace probe.	DF1	Defrost terminated on time not temperature
E3	Defrost sensor probe failure Replace probe.	EU	Low supply voltage

ADJUSTING THE CONTROL PARAMETERS

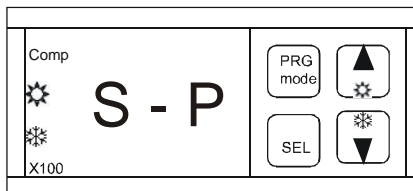
RETURN WATER TEMPERATURE SET POINT



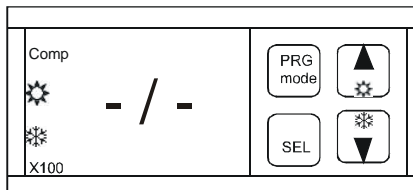
Press and hold **PRG** and **SEL** until the display shows **00**



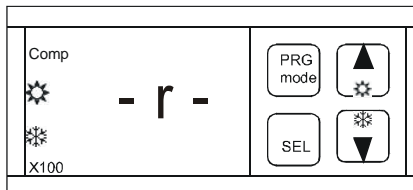
Press the **UP** button until the display shows **22** and press **SEL** to show **S - P**



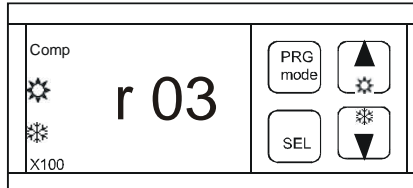
Press **SEL** again so the display shows **- / -**



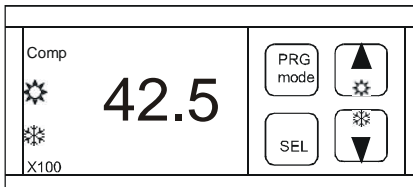
Press the **UP** arrow until the display shows **- r -**



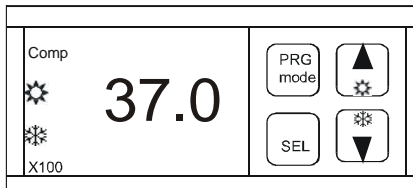
Press **SEL** until the display shows **r 03**



Press **SEL** so the display shows the return water temperature e.g. **42.5**



Press the **UP** or **DOWN** arrows until you reach your required temperature then press **SEL** (**see note 1**)



Press **PRG** 3 times to return to the normal display screen (this displays the actual water temperature, **37.0** is only an example)

NOTE 1

On 6/8/12000 units return water must not exceed **45°C**

On 9000i and 13000i return water must not exceed **55°C**

Commissioning sheet

Engineer: _____ Date: _____ Company: _____

Model: _____ Serial No. _____ Site address: _____

Please refer to the unit Installation Instructions for additional information

Pre-commissioning check list			
Item	✓	X	Comment
All wiring connections are secure			
Wet system is leak free			
Pipe work is correctly insulated			
Wet system has been thoroughly flushed			
Check the heat pump and any copper pipe work are bonded to earth.			
Commissioning			
<i>Open all radiators or underfloor zone valves</i>			
Put in the require amount of additive (Anti-freeze + Inhibitor)			
Top up the system to 2 bar pressure			
Fit pressure bypass link if necessary			
Vent and refill as necessary			
Check the Isolator is on			
Check the power supply to the heat pump is correct (230V 1ph or 400V 3ph)			
Check the 2 MCB's in the heat pump electric box are on.			
<i>Replace the top panel on the heat pump</i>			
<i>Enable the time clock and turn the thermostat to high</i>			
Check the water pump is running			
Check the fan is running			
Check the compressor is running			
Remove pressure bypass link if fitted			
Is return water temperature rising?			

Once the water temperature has risen above 30°C, radiators should be balanced to ensure even distribution. Measure inlet and outlet temperatures at each radiator adjusting the flow using the lock shield valves to obtain equal temperature loss across the radiators.

Radiator/Zone location	Inlet temperature	Outlet temperature	Comment
Living room 1			
Living room 2			
Dining room			
Hall			
Cloakroom			
Kitchen			
Bedroom 1			
Bedroom 2			
Bedroom 3			
Bedroom 4			
Bathroom 1			
Bathroom 2			
Additional radiator 1			
Additional radiator 2			
Additional radiator 3			
Additional radiator 4			
ITEM	✓	X	COMMENT
Thermostat working correctly			
Unit display working correctly			
Unit achieves return water set point			
All panels correctly fitted to the unit			
Necessary information passed to customer			

Signature: _____ Date: _____