



Description

- Designed for use on small rooms or extensions, provides temperature controlled mixed water to underfloor heating systems with a heat output of up to 3kW, satisfying underfloor heating areas up to 40 sqm.
 - UFH control pack for providing temperature controlled mixed water in single room applications to an underfloor heating system with a heat output up to 3kW.
 - The pump is pre-wired in conjunction with a flow temperature thermostat and mains connection cable and has provision to connect a room stat.
 - The unit has integral ball valves for connecting/isolating the primary heating system, an adjustable thermostatic blending valve and an 'A' rated 6 meter circulating pump all secured to a fixing bracket with anti-vibration mountings for silent operation.
 - G'2" tapping are provided for use with any adaptors to connect the unit to the underfloor heating loop or manifolds.
- Compact bolt on unit providing quick and simple installation
 - Provides mixed temperature water to underfloor heating systems with a heat output up to 3kW
 - Easy set up with adjustable temperature range
 - Controls flow temperatures to $\pm 2^{\circ}\text{C}$ even with fluctuating temperature and flow from the boiler

Installation

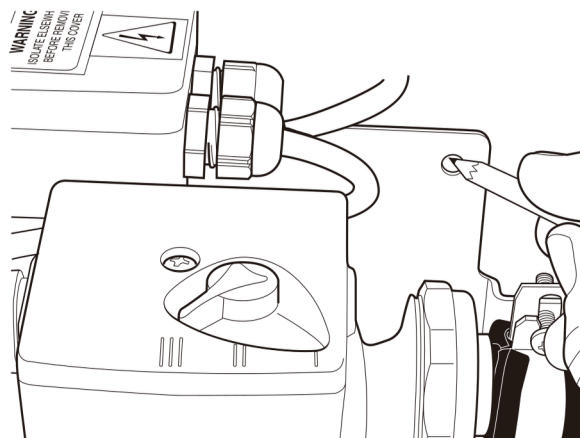
Installation Guidance – Single Room UFH Control Pack

The Single room UFH control pack is designed for wall fixing and ideally should be mounted in a horizontal position with the electrical connection box uppermost. However, it can also be mounted vertical to pump up or down if desired.

Provision should be made to vent air to protect pump from cavitation. The unit must not be floor mounted or in any position that inclines the pump shaft vertical. Refer to the pump installation leaflet enclosed.

Choose the location for the unit ensuring adequate clearance and accessibility for pipe work and any subsequent maintenance. This is particularly important if enclosed within a cupboard space for example.

Locate the unit on the wall and mark the hole fixing positions through the bracket. Take care to protect any electrical equipment and cables during handling.



Remove the unit and drill (8mm masonry drill) and plug the holes. Align and secure the unit to the wall with the screws provided. The unit is now ready for connecting to the primary heating supply and underfloor heating loops. If appropriate the unit can be connected to the underfloor heating loop(s), filled and pressurised via the integral ball valves and then locked off for floor screeding before making the boiler connection.

Maintenance

The performance of the Heatguard UFH blending valve should be checked on an annual basis and verified against the original installation performance. If the water or installation conditions are more severe this check should be carried out more frequently.

If water conditions or installation conditions are severe and the valve is sluggish in operation, it is possible that there is a build up of scale or debris within the valve, it can then be stripped down and cleaned very easily:

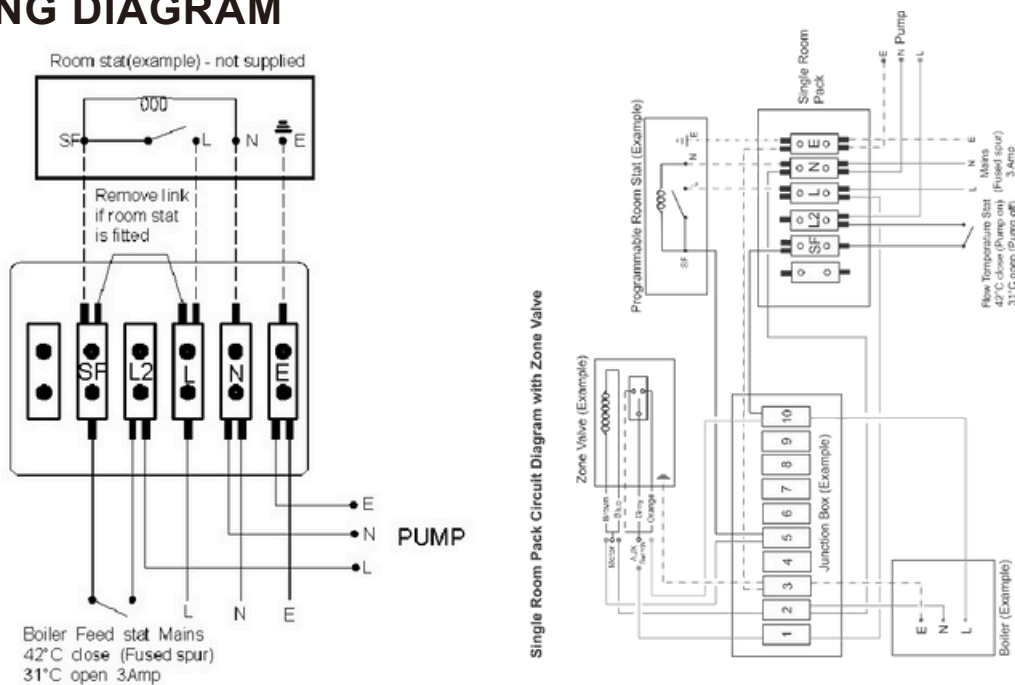
1. Isolate the hot flow and cold return supplies and remove the valve from the installation. Make note of the orientation of the parts as they are removed so that they can be re-assembled in the correct manner.
2. To clean the internals of the main valve body, first remove the cap using an allen key, then remove the plastic locking ring, then finally carefully remove the valve headwork by unscrewing the large hex nut.
3. Slide the piston and thermostat assembly out of the valve body and clean all internal surfaces and 'O' rings with clean running water.
4. Using a WRAS approved silicone based waterproof grease, lightly lubricate the 'O'-ring in the body and the external surface of the piston.
5. After cleaning, re-assemble the Heatguard UFH blending valve. Reset and test the valve.

Connection layout

Wiring Instructions

- All wiring should be undertaken by a qualified installer and conform to IEE regulations.
- To comply with IEE regulations the pump on the unit is provided with an earth connection via the connection box.
- A fused spur should be provided adjacent to the unit.
- The mains cable should be connected to the spur and fused at 3 amps.
- If fitting a room thermostat, fix in a position on the wall as recommended in the manufacturer's instructions.
- If a room thermostat is fitted, remove the link between the terminals as indicated on the wiring diagram.

WIRING DIAGRAM



Temperature Settings

Thermostatic Blending Valve – Temperature Settings

The thermostatic blending valve has a temperature setting range between 35°C & 60°C as indicated on the temperature adjustment cap.

Initial setting of the thermostatic blending valve (after the heat up/screed drying period) should provide the following flow temperatures:

- Screeded floors: 40–45°C
- Timber floors: 55–60°C

These initial settings can then be adjusted to provide comfort.

⚠ A maximum floor surface temperature of 29°C should not be exceeded (bar wet areas such as bathrooms, 35°C) as this will lead to feelings of discomfort.

⚠ With timber floor finishes including strip laminate products, the maximum floor temperature of 27°C should not be exceeded as this may result in excessive material shrinkage.

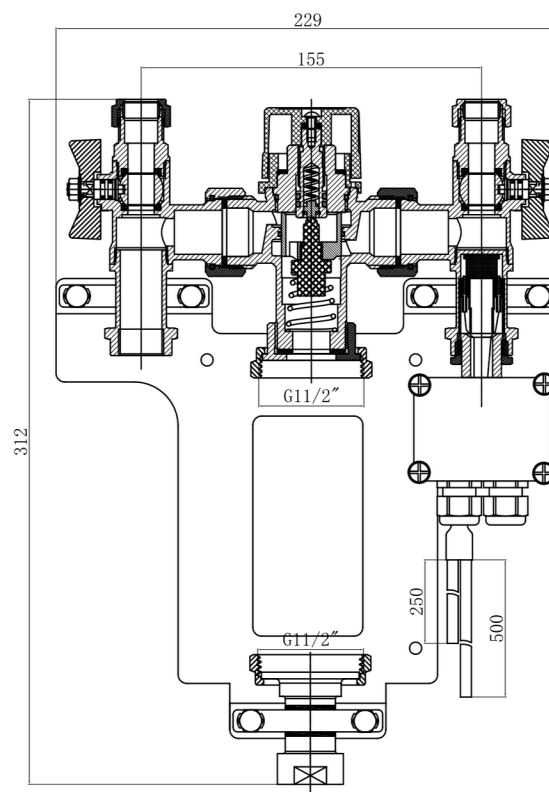
Adjusting the Temperature

Please ensure that the commissioning of the valve is done under normal operating conditions.

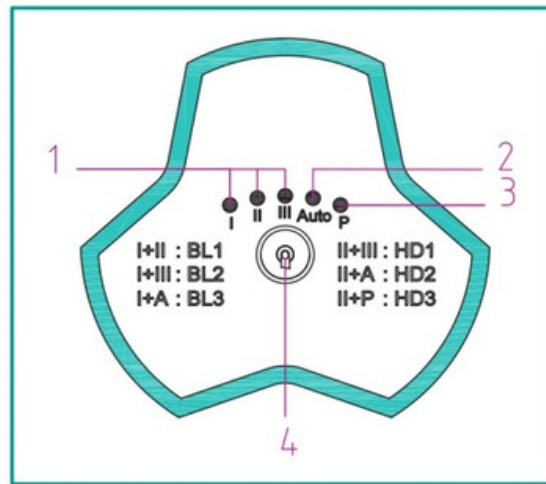
The Heatguard UFH blending valve is supplied factory set at 43°C. To alter this setting between 35–60°C proceed as follows:

1. Remove the screw which secures the cap by using the allen key provided then lift the cap off.
2. With both the hot and cold supplies turned fully on and the terminal fitting open, adjust the temperature to the required setting, by using the cap to turn the adjustment spindle.
3. Turn the cap clockwise to decrease or anti-clockwise to increase the temperature.
4. A digital hand-held thermometer should be used to measure the outlet temperature correctly.
5. Once the correct temperature has been set re-fit the cap, ensuring it is secured through the slots on the locking ring so that the valve cannot be adjusted by the end user.

■ Dimensions



Pump control modes and functions

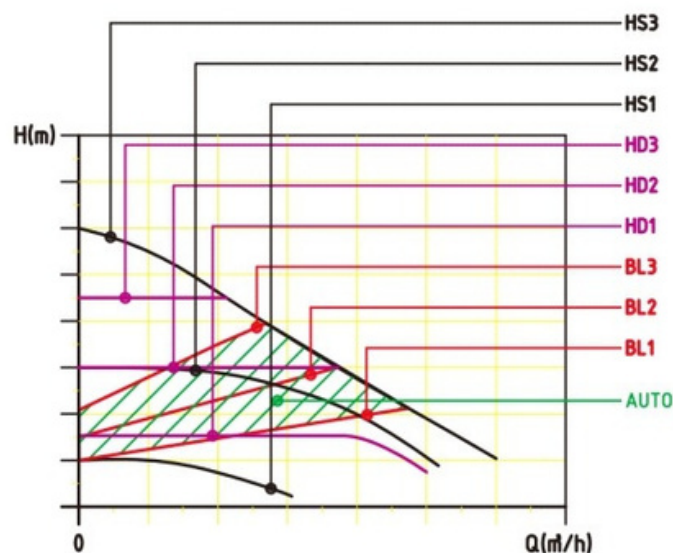


NO.	Explanation
1	The pump I,II,III gear display
2	The pump automatic gearshift display (AUTO)
3 4	The pump PWM gear display
	The pump gear shifting button

Special Note:

- 1.If I and II display at the same time, means BL1.If I and III display at the same time, means BL2. If I and Auto display at the same time, means BL3.
- 2.If II and III display at the same time, means HD1. If II and Auto display at the same time, means HD2. If II and P display at the same time means HD3.

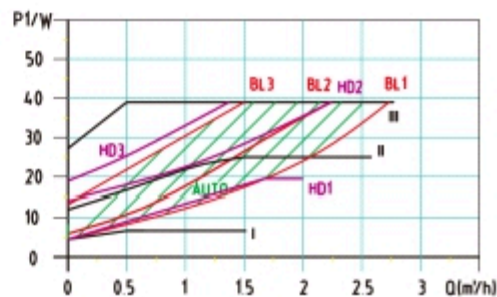
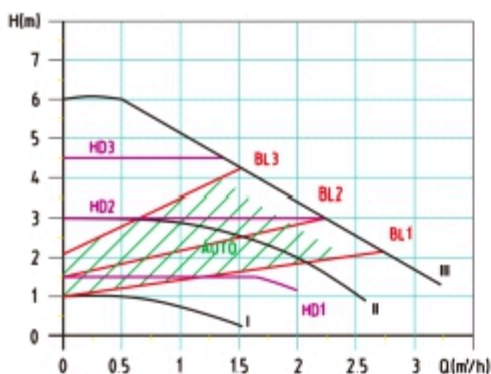
Relationship between pump settings and its performance



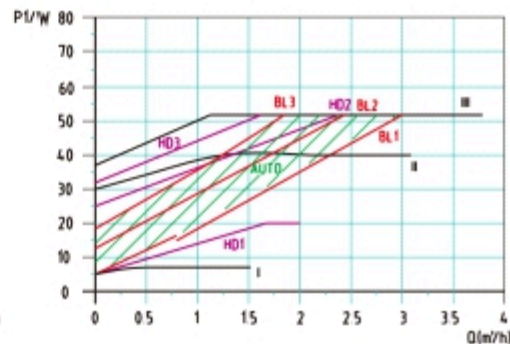
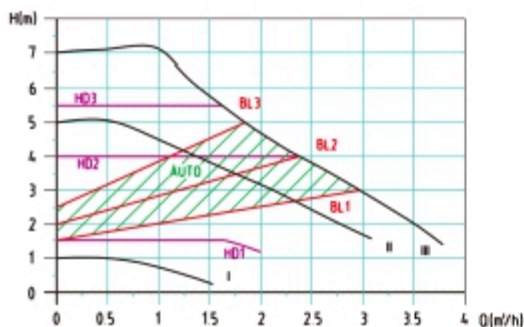
Setting	Pump Characteristics Curve	Functions
AUTO (factory settings)	Highest to Lowest Proportional Pressure Curve	"Auto adaptation"function will automatically control the pump performance within the specified range. Adjust the performance of the pump according to the size of system;Adjust the performance of the pump according to the load change of a period of time. In the "Auto adaptation" mode, the pump is set to proportional pressure control mode.
BL (1 - 3)	Proportional Pressure Curve	The pump working point will move up and down on the proportional pressure curve according to the flow needs of system, when the flow demand reduces, the pump pressure supply will drop while when the flow demand increase sit will rise.
HD(1-3)	Constant Pressure Curve	The pump working point will move back and forth on the constant pressure curve according to the flow needs of system.The pressure supply of pump remains constant, having nothing to do with the flow demand.
HS (1 - 3)	Constant speed curve	Run on the constant curve at a constant speed. In speed HS (1-3) mode, the pump is set to run on the maximum curve under all working conditions.Set the pump to HS3 mode in a short time, then gas in the pump will be vented quickly.

■ ZL-3002 Performance Curve

ZL-3002-25/6



ZL-3002-25/7.5



■ Technical data

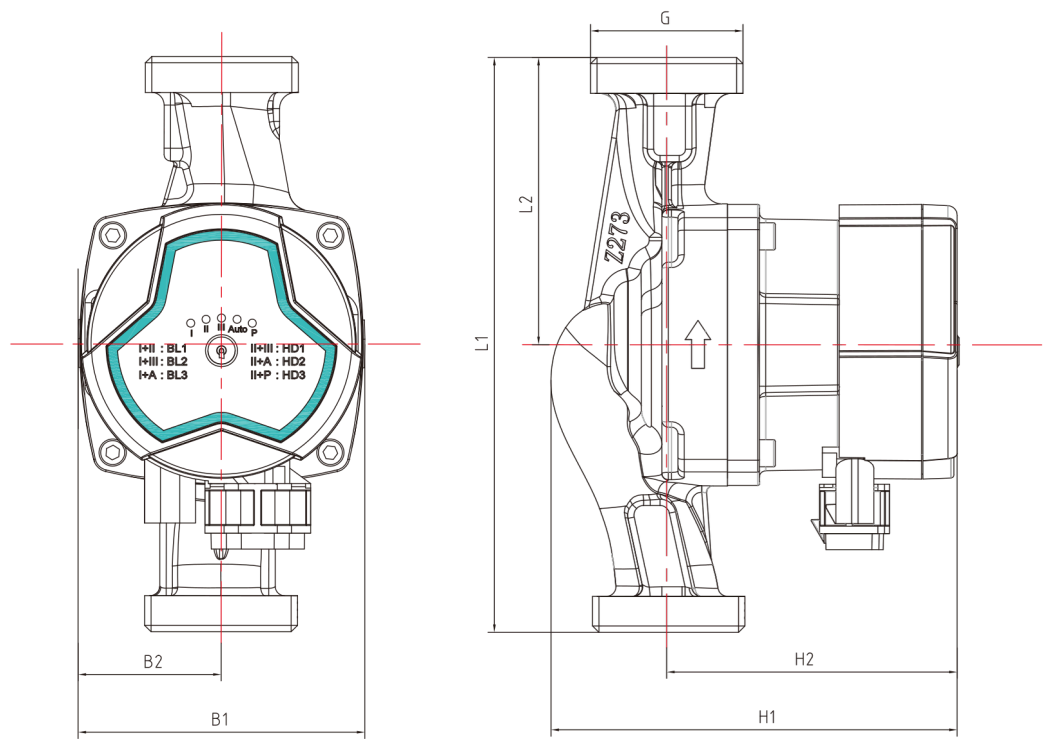
Supply Voltage	220~240V,50/60Hz	
Motor Protection	Pump does not need external protection	
Protection Leve	IP44	
Insulation Class	H	
Relative Humidity (RH)	Max95%	
System Load Bearing	1.0 MPa	
Suction Inlet Pressure	Liquid Temperature	Minimum Inlet Pressure
	≤+75°C	0.005 Mpa
	≤+90°C	0.028 Mpa
	≤+110°C	0.100 MPa
EMC Standard	EN61000-6-1and EN61000-6-3	
Sound Pressure level	The sound pressure level of pump is lower than 42dB(A)	
Ambient Temperature	0~+70°C	
Temperature Grade	TF110	
Surface Temperature	Maximum surface temperature should not exceed +125°C	
Liquid Temperature	+2~+110°C	

To prevent the control box and stator from appearing condensate water the temperature of pump conveying liquid must be always higher than the ambient temperature

Ambient Temperature (°C)	Liquid Temperature	
	Min. (°C)	Max. (°C)
0	2	110
10	10	110
20	20	110
30	30	110
35	35	90
40	40	70

in domestic hot water, it is recommended to keep the temperature of waterbelow 65°C so as to reduce scaling

Installation Dimensions



Power (W)	Model	Max Flow	Max Head	Amps (A)	V/Hz 220-240V 50/60Hz	Material of pump body				Dimension(mm)						
		(m ³ /h)	(m)			Cast Iron	Plastic	Copper	Stainless Steel	L1	L2	B1	B2	H1	H2	G
39	ZL-3002-25/6	3.2	6	0.35	•	•				65	130	45	90	90	127	11/2"
					•	•		•	•	90	180	45	90	90	127	
60	ZL-3002-25/7.5	3.4	7.5	0.5	•	•				65	130	45	90	90	127	11/2"
					•	•		•	•	90	180	45	90	90	127	