

WHS-M-S3-MIX

Overview

The warmup WHS-M-S3-MIX is required where the flow temperature from the heat source does or could exceed the design water temperature of the floor heating system, this also includes all heat sources which intermittently 'over heat' due to sterilisation cycle or uncontrolled heating.

The mixing unit has full 3-way mixing control; heated water from the primary heating circuit, water from the secondary floor circuits via the manifold or a combination of the two. There is an adjustable primary bypass enabling the minimum flow rate requirement of any heat source, such as heat pumps, to be achieved at all times. If required it also allows easy commissioning of primary circuits, even before the UFH is operational. It also incorporates adjustable primary and secondary bypasses.

The Grundfos UPM3 25-70 130 is the circulator used in the WHS-M-S3-MIX, it is extremely efficient exceeding the Ecodesign requirements. It comprises neodymium

permanent magnet and 3 phase ECM stator with 6 windings. When used in Constant Pressure Mode, the circulator provides constant flow rate through each individual circuit regardless of how many circuits are active.

A circulator isolation valve is also integral to the mixing unit which prevents water from bypassing circuits during the manifold filling process. It also minimises water lost if circulator replacement is required. An added benefit is no added flow resistance of noise, unlike with check valves.

Temperature of the underfloor heating system is controlled via a capillary actuator which has an adjustable set point of between 20°C and 60°C. Which complies with the EN1264:4 requirements for 25°C screed commissioning. The adjustable head of the actuator is also tamper resistant, allowing the temperature adjustment to be limited or locked in position.



MIXING UNIT

| | |
|---------------------------------|-----------------------------------|
| 1 Capillary Thermostat - Sensor | 5 Capillary Thermostat - Actuator |
| 2 Thermometer - Secondary Flow | 6 Primary by-pass |
| 3 Circulator Isolation Valve | 7 Flow adaptor |
| 4 Grundfos UPM3 25/70 - 130 | 8 Return adaptor |



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Measurements

| Manifold Type | Height | Depth | Width/No. of Ports | | | | | | | | | | |
|-----------------------|--------|-------|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Excluding Mixing Unit | 340 | 95 | 190 | 240 | 290 | 340 | 390 | 440 | 490 | 540 | 590 | 640 | 690 |
| Including Mixing Unit | 450 | 128 | 490 | 540 | 590 | 640 | 690 | 740 | 790 | 840 | 890 | 940 | 990 |
| Bracket Spacing (A) | | | 165 | 215 | 265 | 315 | 365 | 415 | 465 | 515 | 565 | 615 | 665 |

Features

Mixing Units

- Full control mixing valve with adjustable bypasses enables renewable heat sources to be used with no loss in efficiency
- Gundfoss UPM3 25/70 circulator provides constant pressure regulation, for stable circuit flow rates
- Anti-tampering device fitted within Capillary Thermostat deters unwanted adjustments

Technical Specifications

| Grundfos UPM3 25-70 130 - TECHNICAL SPECIFICATIONS | |
|---|--|
| OPERATING VOLTAGE | 230 V ac 50Hz |
| CONNECTIONS | G1 1/2 |
| WEIGHT | 1.9 (kg) |
| SYSTEM PRESSURE | Max. 1.0 MPa (10 bar) |
| MINIMUM INLET PRESSURE | 0.05 MPa (0.50 bar) at 95°C liquid temperature |
| LIQUID TEMPERATURE | +2°C to +110°C (TF110) |
| ENCLOSURE CLASS | IP44 (non-condensing) K: IPx4D (condensing) |
| MOTOR PROTECTION | No external protection needed |
| APPROVAL AND MARKING | VDE, CE |