uponor

HEATING AND COOLING SOLUTIONS

Uponor UNIset MINI, MIDI and MAXI

Installation Instructions

Section 1

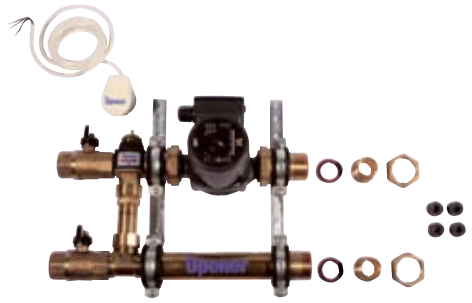
Introduction

1.1 The pre-assembled UNIset is designed for control of both water temperature and flow rates in secondary underfloor heating circuits. All sets are robust and engineered for use in new and old, domestic and commercial applications. The range of three set sizes gives the UNIset flexibility to match individual project duties without compromising performance.

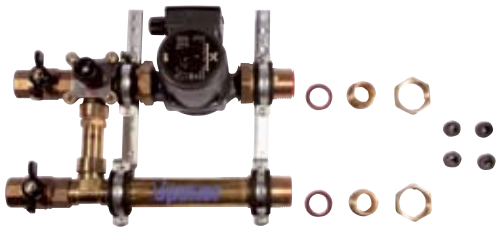
1.2 Standard UNIsets are supplied for left-hand primary connections. The MINI set can be handed by removing the brackets and rotating the pump through 180°. Right-hand MIDI and MAXI sets are available subject to special order.

1.3 Please read these instructions completely before commencing installation, this will reduce both initial setup and commissioning time.

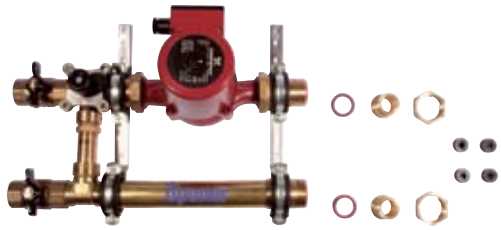
UNIset MINI



UNIset MIDI



UNIset MAXI



Section 2

UNIset Contents

- Circulation Pump
- Telescopic return pipe for variable manifold centres
- 1″ Ball valves with butterfly handles
- Brass interconnecting piping
- Mounting brackets
- Rubber lined pipe clips
- 1″ Brass manifold ball valve connection set
- Manifold bracket spacer set
- DUOmix TMV with electro-thermal actuator (MINI set only)
- 3-port rotary shoe valve (MIDI and MAXI sets only)

Note: Water Temperature Controller and valve actuator for the MIDI and MAXI sets are sold separately.

Section 3

UNIset Installation

3.1 For future reference record the UNIset name and batch number found on the box label.

UNIset Product Name:

.....

UNIset Batch Number:

.....

3.2 In a majority of cases and as recommended, these instructions have been written assuming the underfloor heating manifold has been installed prior to the UNIset and a directly coupled manifold and UNIset arrangement is required.

3.3 All fittings, except the pump unions, telescopic compression nut, brackets and manifold connectors, are supplied sealed with liquid thread sealing compound.

3.4 When tightening fittings to the UNIset always ensure the liquid sealed components are sufficiently restrained to prevent rotation and breaking of thread seals.

3.5 Identify all components and ensure adequate space for mounting the UNIset is provided.

3.6 For directly coupled manifold and UNIset arrangements insert the anti-vibration rubber spacers (4 off) between the manifold brackets and the wall, see figure 1 and 2.

Fig 1

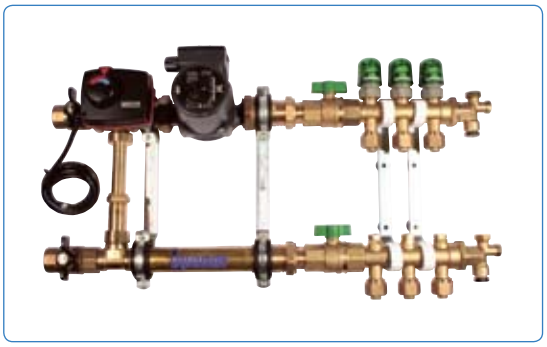
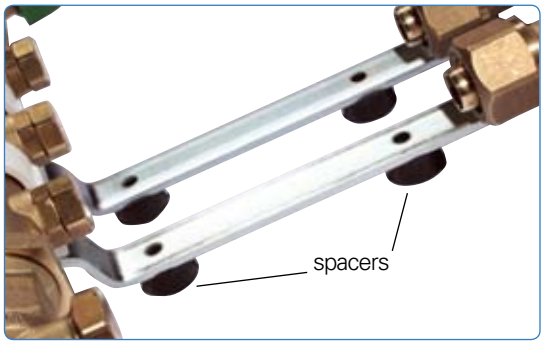


Fig 2



3.7 The UNIset is supplied ready for installation with a manifold header vertical pitch of 145mm. To adjust the UNIset vertical header pitch, to either 200mm or 225mm prior to mounting follow the procedure below:-

i) Ensure the telescopic compression nut is loose.
ii) Unscrew the top bracket fixings adjacent to the pump.
iii) Slide the pump assembly away from the bottom header to the desired position and reinstate the bracket screws.
iv) Leave the telescopic compression nut loose until the UNIset is fixed in its final wall position.

3.8 Apply thread sealant to the 1" BSPM end of the manifold connection sets and fit to the manifold ball valves.

3.9 Remove the plastic dust caps from the manifold connections of the UNIset and offer the UNIset assembly up to the manifold and mark the bracket fixing locations.

3.10 Lay the UNIset aside and prepare the wall fixings, not supplied, then fix the UNIset to the wall.

3.11 Insert the fibre washers between the manifold connection set flanges and the UNIset and tighten the swivel nuts and telescopic compression nut.

3.12 Ensure the pump shaft is horizontal by loosening and re-tightening the pump unions. See pump installation instructions for further details.

Section 4

UNIset MINI, DUOmix Actuator Installation

4.1 Prior to fitting the valve actuator, the temperature setting of the TMV requires adjusting using a 10mm spanner.

4.2 The fully down/clockwise rotated position corresponds to the minimum temperature setting of 35°C, and the fully up/anti-clockwise rotated position corresponds to the maximum setting of 60°C.

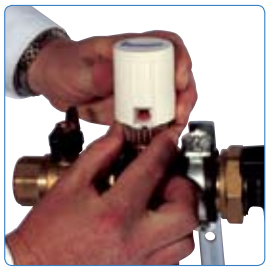
4.3 For intermediate temperature settings rotate the nut anti-clockwise from the fully down position through an angle of 60° (one nut flat) for approximately every 4°C temperature rise required, see table below.

Temperature setting of the Thermostatic Valve

Rotation from fully closed (60° is one nut flat)						
0°	60°	120°	180°	240°	300°	360°
35	39	43	48	52	56	60
Approx. mixed flow temp. °C						

4.4 Typically the maximum water temperature setting for solid floors is 45°C and 60°C for timber suspended and floating floors.

4.5 To install the actuator, position the actuator over the valve head and apply a downward pressure to compress the pin and hand tighten the actuator swivel nut. The primary hot port is now in the closed position until the actuator is energised, as shown by the actuator indicator.



Section 5

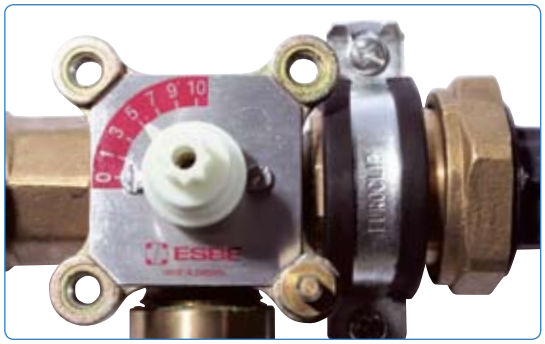
UNIset MIDI and MAXI, Motorized Valve Actuator Installation

5.1 The MIDI and MAXI sets are designed for use with the UP36 Water Temperature Controller (product code UP36) and 66M valve actuator (product code Z66M00); both are ordered and supplied separately.

5.2 Set the valve shaft in the mid-position of the scale plate, number 5, and remove the handle without changing the position of the valve spindle.

5.3 Place the white sleeve on the spindle.

5.4 Screw either of the actuator anti-rotation studs in the lower right hand corner of the valve cover plate.



5.5 Install the actuator to the valve in the horizontal position with the red indicator upper most, and secure with the central screw.

5.6 Fit the scale sticker to the knob with the larger blue indicator to the right-hand side. For special order right-hand feed UNIsets the larger blue indicator should be fitted to the left-hand side. Finally press the cover plate on the knob.

5.7 Should manual operation of the valve be required simply press and twist the knob in the desired direction.

Section 6

Primary Pipe sizes

6.1 Primary flow and return pipes should be sized correctly based on the design primary flow and return temperatures, flow rate, pressure loss and available pump head. The actual pipe size selected will be influenced by the underfloor heating flow and return temperatures and the systems output. Due care and attention at the primary design stage will ensure the system is sized correctly to achieve satisfactory operation.

6.2 In accordance with good and standard practise, Uponor recommends an adjustable primary by-pass is always installed prior to the UNIset for balancing purposes, and boiler and primary pump protection.

Section 7

UNIset and Manifold Interconnecting Pipe Sizes

7.1 The UNIset can be used for supplying mixed water to a remote manifold(s).

7.2 Like the primary system, the correctly sized interconnecting pipe size between the UNIset and manifold(s) is essential for satisfactory operation of the underfloor heating system.

7.3 The area served by a UNIset, as given in the Set Selection Guide, will be reduced when remotely coupling the mixing set and manifold(s), as some of the pump head will be used to overcome the interconnecting pipe pressure loss.

7.4 For further advice on remote coupling and interconnecting pipe sizes please refer to the Uponor Technical Department.

Section 8

Filling the UFH System

8.1 The filling and testing procedure for the manifold supplied should be followed.

8.2 Generally the following filling sequence is adopted for each directly coupled UNIset and manifold:-

a) Close all underfloor heating flow and return valves on the manifold.
b) Close the UNIset and manifold ball valves.
c) Ensure the manifold fill point valves are closed.
d) Attach a hose to the mains water and the lower manifold fill point.
e) Attach a hose to the upper manifold fill point and run the hose to a suitable local drain.
f) Fully open the manifold fill point valves.
g) Each loop is then purged of all air in turn by opening one lower manifold loop valve followed by the corresponding upper manifold valve. When all air is purged and a continuous stream of water comes through, shut the loop valves. Repeat the process to all loops.
h) With all loop valves closed, open the manifold ball valves and purge the remaining air in the UNIset, manifold and pump. When purged, first close the upper manifold fill valve and then the lower manifold fill point valve.

8.3 If the UFH is being installed during the winter months, anti-freeze should be added to protect against freezing. All anti-freeze should be fully flushed from the underfloor heating system prior to running and commissioning the system.

Section 9

Testing the UFH System

9.1 Prior to laying the floor finish all loops must be subject to a pressure test.

a) Close the manifold flow and return ball valves.
b) Ensure all loop flow and return valves are open.
c) Fit a pressure gauge to one of the manifold fill points.
d) Connect a pressure pump to the other manifold fill points. A 5 litre hydraulic test pump is available, order product code 470262040.
e) Pump up the pressure in the manifold and loops to a minimum of 3 bar and maximum of 6 bar.
f) After an initial slight drop as the pipes expand the pressure will stabilise if the system is leak free. Check for evidence of leaks.
g) Leave the system under test for a minimum of 2 hours and then reduce the pressure to the system working pressure, normally between 1.5 and 2.5 bar for a sealed system, and atmospheric pressure for a vented system.

9.2 Uponor recommends that the pressure test is maintained while laying the floor finish/screed. This will enable the identification and repair of any damage caused during this process.

THESE INSTRUCTIONS SHOULD BE HANDED TO THE END USER FOR FUTURE REFERENCE.

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