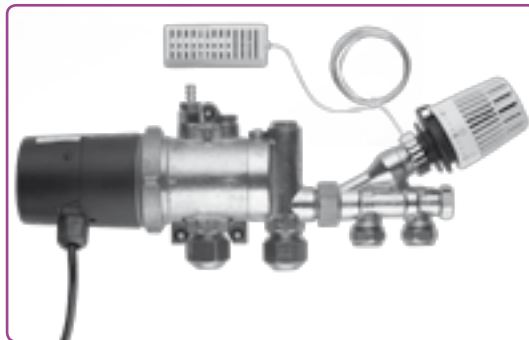


Water Temperature Control for Underfloor Heating in one room



The Uponor Push 12 has been specially developed for small areas of underfloor heating in one room. It is designed to connect directly to the existing radiator system pipe work and supply one underfloor heating loop.

The Uponor Push 12 is designed to ensure that both the room temperature and the flow water temperature are maintained at a set level. A thermostatic valve (TRV) controls the water temperature in the underfloor heating system to suit the requirements of the room. An additional thermostatic valve is built into the pump housing to limit the temperature of the flow water in the underfloor heating loop. This special design ensures that both the room temperature and the flow water temperature are maintained at a set level.

For a solid screed floor construction the design heat output is maximum 100 W/m². The underfloor heating pipes are normally installed at 300mm centres, and so one 60m loop of Uponor PEX 20 x 2mm underfloor heating pipe will cover a floor area of approximately 15m².

The Push 12 is designed to be fitted directly to an existing radiator circuit. The water temperature in the underfloor heating loop must be lower than the water temperature in the radiator system. In order to obtain the required heat output, the flow in the underfloor heating loop must be greater than that in the radiator circuit. The Uponor Push 12 increases the water flow and controls the water temperature in the underfloor heating loop.

Installation

The Uponor Push 12 has been specially developed for use in conjunction with an existing radiator heating system, connecting directly to the existing pipework. It is supplied factory set for a two pipe system, but can easily be adapted to a single pipe system (see Figs. 1 and 2 overleaf), and the setting on the thermostatic valve adjusted accordingly.

The air temperature sensor is supplied with a 2m capillary tube. The sensor should be fitted to the nearest available wall, preferably an inner wall. The thermostatic valve to which the sensor is connected (via the capillary tube), will automatically control the flow from the radiator circuit to ensure that the correct water temperature is supplied to the underfloor heating loops, achieving the desired room temperature.

The adjustable thermostatic valve has a temperature setting range of between 6°C and 27°C. To achieve a room temperature of approximately 20°C, the thermostatic valve should be set to number 3. An additional thermostatic valve is built into the pump housing in order to limit the water temperature in the underfloor heating loops. The balancing valve on the pump housing is used to set the pressure and flow in the underfloor heating loops.

If required, the thermostatic head and air sensor can be replaced with a 230 volt thermal actuator, which can then be controlled via a room or programmable thermostat.

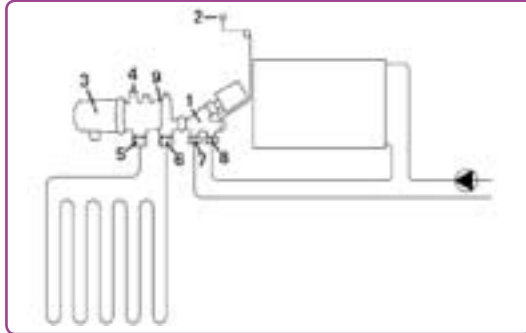
In order to minimise any noise in the Uponor Push 12, the maximum recommended pressure drop in the valve should not exceed 30 kPa. Uponor recommend that, if the underfloor heating loop is to be installed in a bedroom or a bathroom, then the Push 12 should be fitted outside the room itself.

Maintenance

The Uponor Push 12 generally requires no maintenance. However, as a precaution it should be regularly inspected for leaks, and checked to ensure that the pump is not making any unusual noise. Excessive noise may be caused by air getting into the heating system. This can usually be resolved by turning the pump off, allowing the system to settle and then purging it of air through the air bleed valve (numbered 4 in Figs. 1 and 2), before re-starting it. Should the pump be inoperative for any length of time, check that the impeller on the pump is able to rotate freely by starting and stopping the pump several times. During the summer months, the pump should be inspected and run at least once a week, in order to ensure that it remains in good working order.

Underfloor heating in individual rooms made easy

Fig 1. Basic diagram for a single pipe system



- 1 Thermostatic valve
- 2 Air temperature sensor with capillary tube
- 3 Circulation pump for underfloor heating loop
- 4 Air bleed valve

The Uponor Push 12 is designed primarily to provide underfloor heating in a single room and room temperature control is provided only in the room in which the air temperature sensor is mounted. The Uponor Push 12 is further influenced by any central air temperature thermostat or programmer fitted to the radiator circuit which directly controls the operation of the boiler or heat source. The underfloor heating will only be "ON" when the radiator system is "ON". The thermostat or programmer may need to be adjusted to suit the underfloor heating system.

Product Code

Item	Code
Push 12	080386
230V Thermal Actuator	803865

Fig 3. Pump diagram

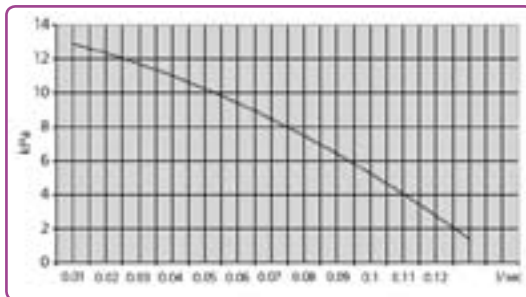
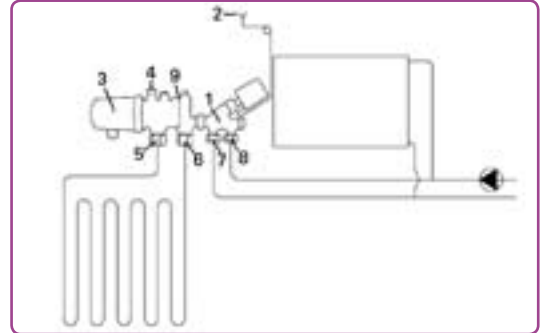


Fig 2. Basic diagram for a two pipe system



- 5 Flow connection to underfloor heating loop
- 6 Return connection from underfloor heating loop
- 7 Return to radiator heating system
- 8 Flow from radiator heating system
- 9 Balancing valve for regulation of pressure drop in underfloor heating system

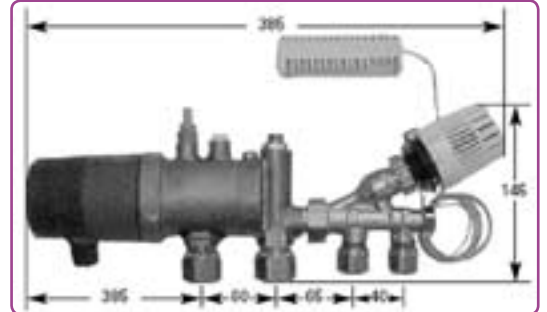


Fig 4 . Distance from wall to centre pipe 43 mm. Total build depth 78mm. Radiator circuit connection Ø 15 mm. Underfloor heating loops Uponor-PEX 20 x 2 mm pipe as standard.



Fig 5. Electrical connection 1 x 230 V AC, 50 Hz, 0.11 A.



Fig 6 . The LED indicates that the pump is connected to the electrical supply.

Uponor Housing Solutions Ltd

Snapethorpe House
Rugby Road
Lutterworth
Leicestershire
LE17 4HN

T 01455 550355
F 01455 550366
E hsenquiries@uponor.co.uk
W www.uponorhousingolutions.co.uk

Uponor Housing Solutions Ltd - Ireland.

Unit 13, Seatown Business Campus
Seatown Road
Swords
Co. Dublin
Ireland

T 00 353 (0)1 8957430
F 00 353 (0)1 8957434
E hsenquiries@uponor.co.uk
W www.uponorhousingolutions.ie