

## 6- Right handed installations

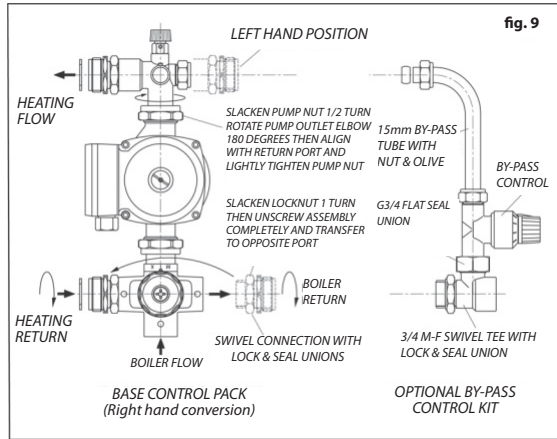
The Underfloor thermostatic mixing control can easily be installed in a right handed orientation. The text and diagram (fig.9) below illustrates how:

Slacken the locknut on the manifold return swivel connection assembly one turn and then unscrew completely from the valve body. Move the swivel connection assembly to the opposite valve return port and screw in the male thread until the O-ring contacts the valve face with light resistance. Tighten the lock nut firmly to seal and lock (32mm A/F spanner).

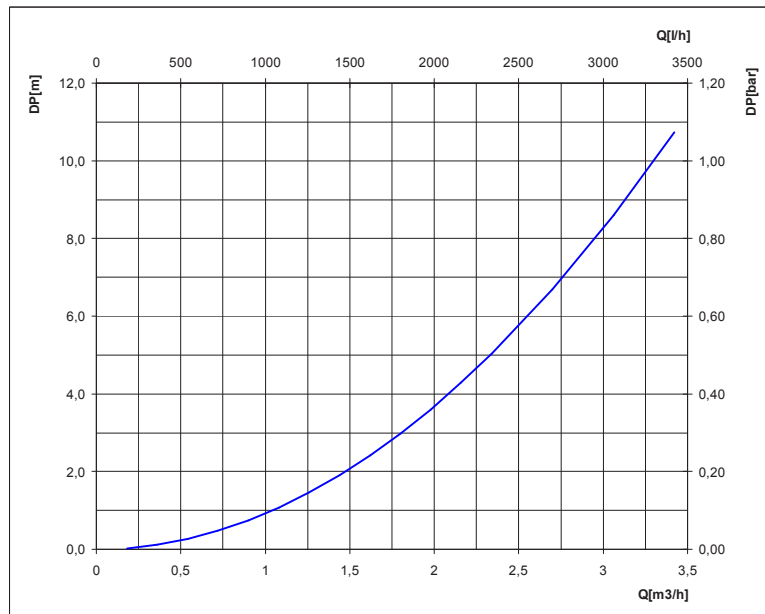
Do not over tighten.

Slacken the G1 pump outlet union nut approx 1/2 turn anti-clockwise then rotate the pump outlet assembly 180 degrees to align visually with the repositioned swivel assembly on the return port. Lightly tighten the G1 union nut to retain alignment. The control pack is now ready for right hand assembly to the manifold.

Follow the installation procedure in (section 1) but in RH context. Tighten the G1 pump outlet union nut last with pump pliers to give firm connection. If the bypass control is to be fitted, follow the installation procedure in (section 3) but in RH context.

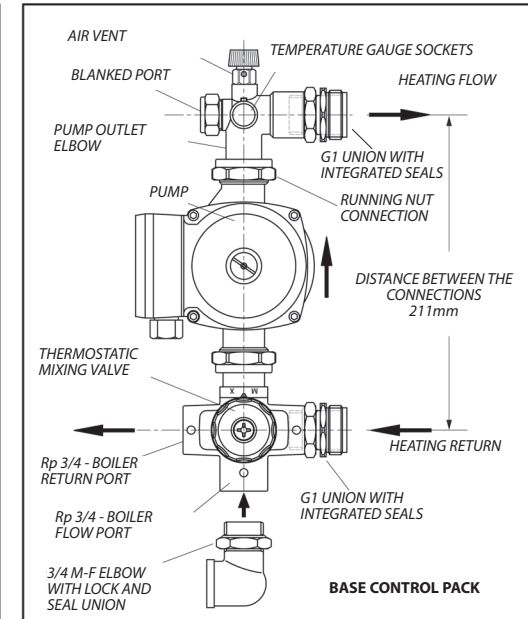
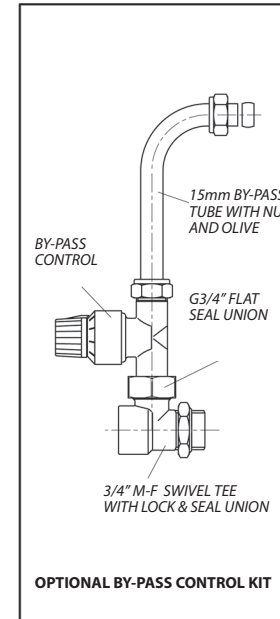


## Pressure drop diagram



## Installation guide of

## Underfloor thermostatic mixing control



Suitable for up to 15 kW heating load, this compact lightweight underfloor thermostatic mixing control complete with pump has been designed for direct connection to heating manifolds with 210-212mm centre dimension and is supplied fully assembled in Left Hand format with G1 male swivel flat seal unions as standard.

Its versatile design and seal connection system provides for simple and quick conversion on site to Right Hand format if required. The options are illustrated in (section 6).

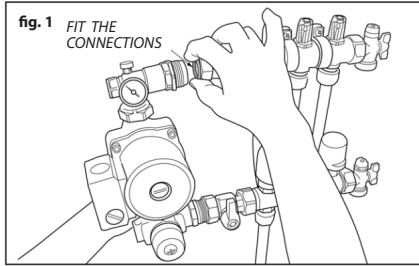
Installing the control pack to the manifold is simple and quick, requires no additional supporting bracket and so eliminates the need for time consuming drilling and fixing.

Accessories available include a pump bypass control kit, temperature gauge (D 32mm), air vent.

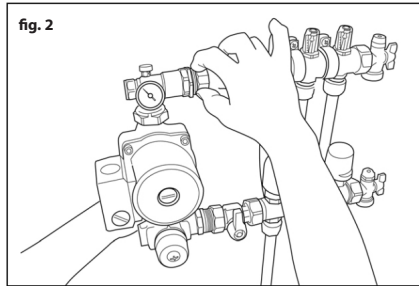
### Note:

If the primary circuit serving the underfloor heating is not fitted with an automatic bypass valve it is recommended that one is installed across the flow and return pipes upstream of the mixing control to protect the boiler and improve system efficiency.

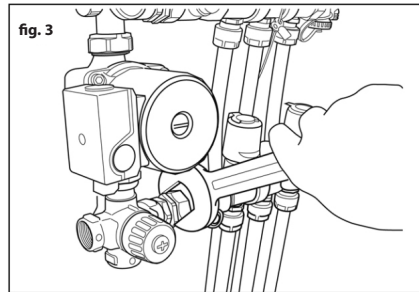
## 1- Installation of Base Control Pack



Assemble the kit on the manifolds (fig.1).



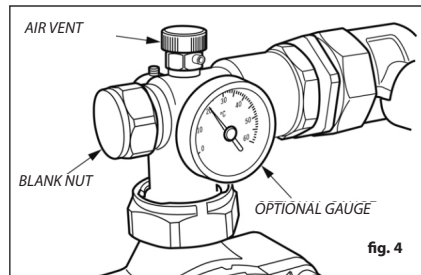
Screw top and bottom union swivel nuts alternatively a few turns at a time (fig.2) until fully engaged.



Tighten union swivel nuts (fig.3) with a 36mm A/F spanner so that the tightness O-ring completely rests on the manifolds seat.

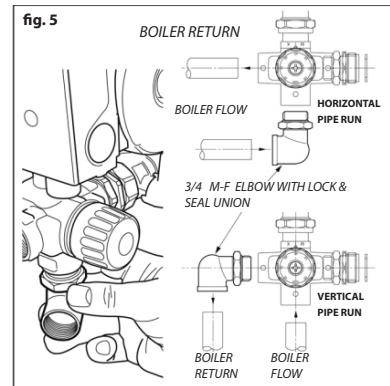
## Pump Outlet Elbow

The pump outlet elbow (fig.4) is fitted with air vent, a blanked port for the optional bypass kit connection and two temperature gauge sockets. A temperature gauge (optional) can be fitted to either socket so allowing for Left Hand (as supplied) or Right Hand (rotate on site) manifold connection.



## Boiler connections

The 3/4 M-F elbow supplied provides for the option of vertical or horizontal connection of primary pipe work with the boiler:



For vertical pipe runs connect elbow to the control valve return port and for horizontal pipe runs connect elbow to the control valve flow port (fig.5).

Screw in the male thread until the O-ring contacts the valve port face then continue to turn clockwise within 1 turn until aligned suitably for the connecting pipe run. Tighten locknut to secure and seal (32mm A/F spanner). Do not over-tighten.

### Note:

If a Bypass kit is to be installed refer to (section 3) before connecting the elbow.

The control is now ready for making the boiler pipe work connection to the flow and return ports of the control valve which are Rp 3/4 female:

## 3- Bypass Control Kit option

The bypass control provides dead-head protection for the pump and so allows for all heating circuits to be thermostatically controlled and eliminates the need for a dummy circuit.

### Note:

The bypass control is pre-set and locked to match the pump supplied and no further adjustment is necessary.

### TIP!

Note the dial setting at commissioning stage so that if it is inadvertently changed it can be reset. The valve is locked discreetly via a grub screw between the knob and skirt.

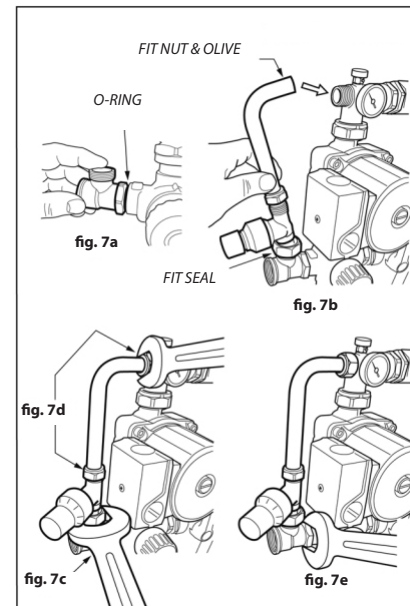
### The kit comprises

One 3/4 swivel tee with O-ring and locknut, one bypass valve, one bypass tube and connection set. The kit is unassembled to allow for Left or Right hand assembly on site.

## Installation

Screw the male thread of the swivel tee into the boiler return port of the control valve until the O-ring contacts the valve port face then continue to screw clockwise within 1 turn until the fl at connection face axis is approximately in line with the pump outlet elbow bypass connection (fig.7a).

Remove the blank cap from the pump outlet elbow bypass connection and discard. Place the flat fibre seal on the connection face of the swivel tee then locate the bypass valve union nut over the seal and engage the thread one turn. Tilt the bypass valve away from the control and insert the long end of the bypass tube into the 15mm compression socket of the bypass valve. Assemble 15mm nut and olive to the short end of the tube and swing the assembly to engage free end of the tube fully into pump elbow bypass connection (fig.7b) then tighten the compression nut to pinch the olive. Align the bypass valve to a convenient user position and tighten 3/4 union nut firmly with 32mm A/F spanner (fig.7c). Complete the assembly by tightening the 15mm compression nuts approximately 3/4 to 1 turn after the olive is pinched (fig.7d).



Do not over-tighten. Finally tighten the swivel tee locknut firmly (36mm A/F spanner) to secure and seal (fig.7e). Do not over-tighten.

## 4- Electrical connection

Connect the Pump.

## 5. Commissioning

To protect and prevent damage to the mixing control and other devices in the heating circuits, it is recommended that the pipe work connecting the boiler be flushed thoroughly of flux and debris before final connection, filling and venting the heating control and system. Check that the pipe is filled and check all joints for leaks.

## Mixing Control Adjustment

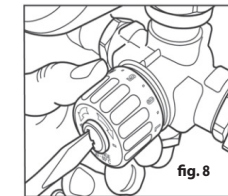
The thermostatic mixing control is factory set to provide 45°C mixed water to the heating manifold. The mixed water flow temperature can be adjusted and locked very simply to suit the design flow temperature within the range of 30-60°C.

### TIP!

For commissioning with concrete screed the valve can be set at minimum and in conjunction with the boiler ON time, provide increasing temperature steps in accordance with the screed manufacturers recommendations.

With the boiler on and the heating circuits balanced the mixed flow temperature is easily adjusted by the unique set-and-lock clutch mechanism (fig.8):

1. Unscrew the central screw approximately 1/2 turn anticlockwise to release the clutch locking mechanism.
2. Turn the knob clockwise to decrease and anticlockwise to increase temperature.
3. The numbers on the control knob indicate the approximate mixed flow temperature when aligned with the indicator rib on the valve body. (refer to Table 1)
4. Select and dial to the number required as shown in Table 1 then wait briefly for the valve to stabilise by observing the temperature gauge on the pump outlet elbow. If required, adjust the control knob accordingly until the desired flow temperature is reached and stable.
5. Tighten the central screw approximately 1/2 turn clockwise until hand tight to engage clutch mechanism and lock the temperature setting.



Min	=	30 °C
1	=	34 °C
2	=	38 °C
3	=	41 °C
4	=	43 °C
5	=	45 °C
6	=	47 °C
7	=	50 °C
8	=	54 °C
Max	=	60 °C

table 1