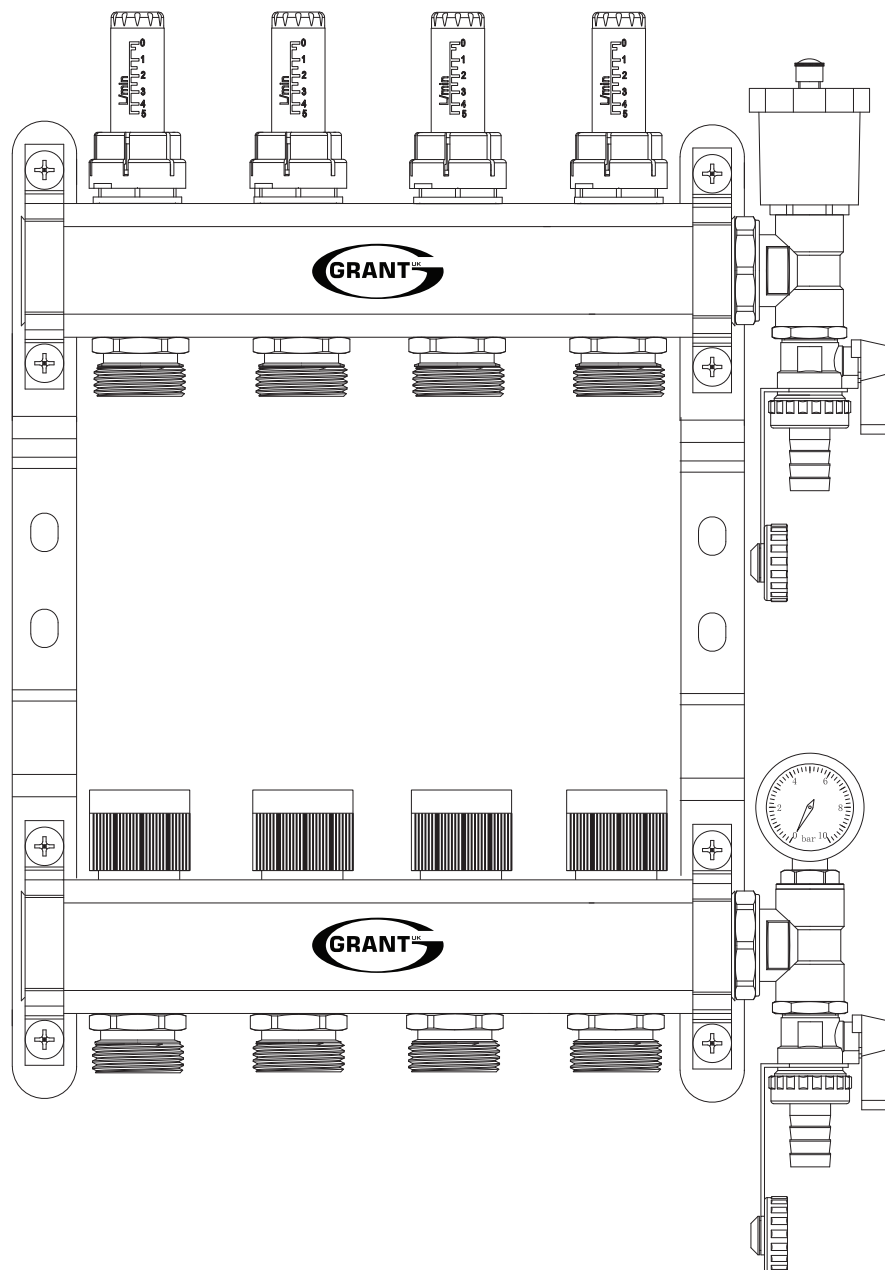


# Grant UFLEX

## Underfloor Heating Manifold

### Installation & Operating Instructions



## IMPORTANT NOTE FOR INSTALLERS

These instructions are intended to guide installers on the installation and commissioning of the Grant Uflex Underfloor Heating manifold intended for use with Grant Uflex Underfloor heating range. After installing the unit, leave these instructions with the user.

## SPECIAL TEXT FORMATS

The following special text formats are used in these instructions for the purposes listed below:

### ! WARNING !

**Warning of possible human injury as a consequence of not following this instruction.**

### ! CAUTION !

**Caution concerning likely damage to equipment or tools as a consequence of not following this instruction.**

### ! NOTE !

**Used for emphasis or information not directly concerned with the surrounding text but of importance to the reader.**

## PRODUCT CODES COVERED

These instructions cover the following product codes:

Product code	Product name
UFLEX75X	2 Loop manifold set
UFLEX76X	3 Loop manifold set
UFLEX77X	4 Loop manifold set
UFLEX78X	5 Loop manifold set
UFLEX79X	6 Loop manifold set
UFLEX80X	7 Loop manifold set
UFLEX81X	8 Loop manifold set
UFLEX82X	9 Loop manifold set
UFLEX83X	10 Loop manifold set
UFLEX84X	11 Loop manifold set
UFLEX85X	12 Loop manifold set

## CUSTOMER SUPPORT CENTRE

Grant UK provides an online support centre for Heating Professionals and Homeowners to access post-installation care, advice and maintenance support for Grant products. Follow the QR codes below to access your relevant Customer Support Centre.



SUPPORT HUB

Homeowner



SUPPORT HUB

Professional



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# 1 INTRODUCTION

## 1.1 GENERAL

The Grant Uflex manifold is made from a high quality stainless steel and is for the distribution of hot water in underfloor heating systems.

A flow and return manifold are supplied pre-assembled on the mounting brackets and are available in sets from 2 to 12 loops.

The pipe loops are secured to these manifolds by the compression adapters (supplied separately).

Integrated standard features include:

- Precise adjustments even at high flow rates.
- Premium quality O-ring valve gaskets (EPDM) ensure permanent ease of operation and high durability.
- Low-noise pipe clamps in accordance with DIN 4109.
- Self-sealing connections to minimise leaks.
- Fully reversible for left or right-handed installation with top or side entry connections.

Any use other than the application explicitly permitted in these operating instructions is not permitted and causes hazards.

These instructions must be left with the product for future reference.

**This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.**

## 1.2 KEY COMPONENTS

The main components of the Uflex manifold consist of:

- Flow & return manifolds (Pre-assembled to mounting bracket)
- Combined Air purge/Drain valve (Red)
- Combined Pressure gauge/Drain valve (Blue)
- 2 x ¾" Ball isolation valves (1 Red and 1 Blue)

### 1.2.1 FLOW MANIFOLD WITH FLOW METERS

The flow manifold offers shut off and flow rate control features, via the flow meter on individual loops. This flow meter is designed to provide the setting and visual indication (0-5 l/m) of each loop flow rate, by adjustment of the flow meter.

### 1.2.2 RETURN MANIFOLD

The return manifold offers valves, including blue caps, for manual loop isolation. Caps can be replaced by electric thermal actuators for the provision of automatic room temperature control to individual loops. A suitable Grant control system will be required to drive the thermal actuators. Refer to Section 5 - Heating Controls of this Installation Instructions.

### 1.2.3 COMBINED VALVES

The Grant Uflex manifold is supplied with 2 combined drain valves with coloured valve handles and caps to identify what part of the manifold they should be attached to.

- Combined Drain & Air purge valve - to be attached to the flow manifold (red valve) this will provide air purge and drain functions as required.
- Combined Drain & pressure gauge valve - to be attached to the return manifold (blue valve) this will provide a pressure reading for the underfloor heating system and drain functions as required.

Both combined valve are self-sealing 1" male fittings.

## 1.3 REGULATIONS & STANDARDS

The installation of the Grant Uflex underfloor heating system must be in accordance with the following recommendations, as applicable:

- National Building Regulations, e.g. Approved Documents L & G
- Local Bylaws (Check with the Local Authority for the area)
- Water Supply (Water Fittings) Regulations 1999
- MCS Installers Standards (when required, e.g. for installations for the Boiler Upgrade Scheme).
- BS EN 1264
- BS EN 14336

The installation should also be in accordance with the latest edition of the following standards and codes of practice:

- BS 7671 and Amendments. Requirements for Electrical Installations. IET Wiring Regulations.
- BS EN 12831. Energy performance of buildings. Method for calculation of the design heat load. Space heating load.
- BS 7593. Code of practice for the preparation, commissioning and maintenance of domestic central heating and cooling water systems.

## 1.4 INFORMATION ABOUT DOCUMENTATION

This manual contains important safety related information for both user and installer. The user should read both parts of the manual to familiarise themselves.

Grant UK are not responsible for any damages caused by failure to follow these instructions.

## 1.5 STORAGE OF DOCUMENTATION

These installation and operating instructions, as well as any other applicable documentation, should be stored in a safe place for future reference.

## 1.6 STORAGE AND TRANSPORT

This product may be damaged as a result if improper transport or storage. It should be stored in a clean and dry environment and not be exposed to direct effects of weather, i.e., rain and sunlight.

During transport, the manifold cannot be exposed to vibrations greater than typical for normal road transport.

## 1.7 INSPECTION & MAINTENANCE

The heating system should be inspected monthly by the homeowner and annually by a heating engineer to:

- maintain efficiency
- ensure safe operation
- check for leaks

Grant UK recommend that maintenance be carried out annually on the complete heating system.

## 2 TECHNICAL DATA

### 2.1 TECHNICAL SPECIFICATIONS

**Table 2-1:** Grant Uflex manifold technical data

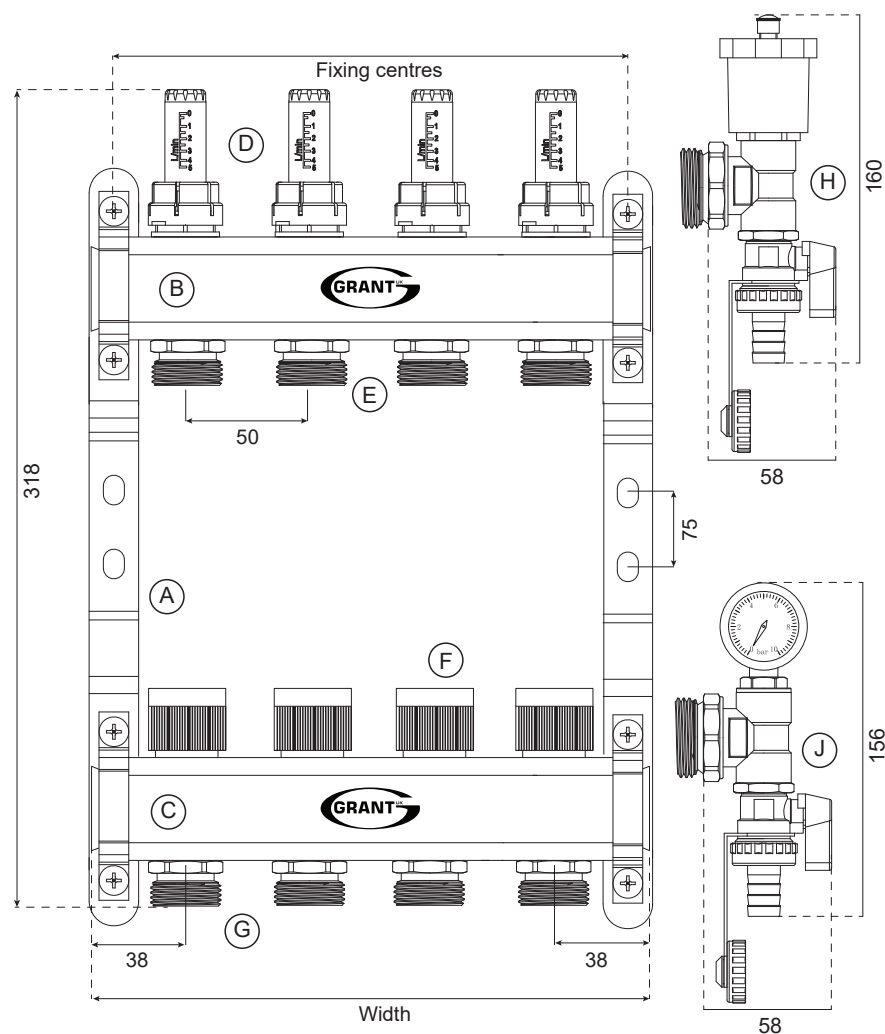
Item	Description
Manifold body	Stainless Steel
Port connections	Brass
Seals	EPDM
Maximum operating temperature	100°C
Maximum operating pressure	8bar
Maximum glycol percentage	≤50% (Ethylene Glycol) ≤50% (Propylene Glycol)
<b>Connections</b>	
Supply & return	G1" Female
Loop connections	G¾" Male
Flow meters	G½" Male
<b>Flow meter</b>	
Indication scale	0 to 5 l/m
Indication tolerance	± 10%

### 2.2 DIMENSIONS

**Table 2-2:** Grant Uflex manifold widths (no attachments)

Number of Loops	Width (mm)	Fixing centres (mm)
2	126	110
3	176	160
4	226	210
5	276	260
6	326	310
7	376	360
8	426	410
9	476	460
10	526	510
11	576	560
12	626	610

Refer to Figure 2-1 for Grant Uflex manifold and additional connectable devices and their dimensions.



**Table 2-3:** Manifold key

Item	Description
A	Mounting bracket
B	Flow manifold
C	Return manifold
D	Adjustable flow meters
E	Loop connections - Flow
F	Loop isolation valves - Return
G	Loop connections - Return
H	Combined air purge & drain valve
J	Combined pressure gauge & drain valve

**Figure 2-1:** Grant UFLEX manifold dimensions

# 3 INSTALLATION

## 3.1 PRE-INSTALLATION

### 3.1.1 SYSTEM PREPARATION

Prior to the installation of the Grant Uflex manifold:

- Plastic pipework used in the central heating system must have a polymeric oxygen barrier, with at least 1 metre of copper or steel pipe connected to the appliance.
- Plastic pipework for the underfloor heating must be properly checked and should not exceed specifications provided by the underfloor heating manufacturer.
- The underfloor heating system flow and resistance must not exceed the hydraulic capacity of the circulation pump.
- Drain cocks should be installed at the systems lowest points.
- Air vents should be installed at the systems highest points.

## ! CAUTION !

**Ensure the flow temperature does not exceed specified limits to avoid damage to the floor covering.**

### 3.1.2 CLEARANCES

A minimum of 300mm clearance should be maintained from the finished floor to the bottom of the lowest part of the system (i.e lower part of the pump set, if used).

It is also recommended to leave 100mm clearance above and on either side of the manifold/pump pack for future maintenance.

### 3.1.3 LOCATION

UFH Manifolds are typically placed in utility rooms, airing cupboards, cloakrooms or under stairs cupboards and should be easily accessible for future maintenance and servicing.

They should also ideally be centrally located within the property to allow for easy pipework layout.

This pump control set is not suitable for installation externally.

## 3.2 INSTALLATION

When fitting the Grant Uflex manifold (including pump control set), the following requirements must be met:

- The walls be structurally capable of supporting the system.
- All electrical cables, ducts or service pipes should be installed and tested before starting any heating work.

The manifold can be adjusted to suit installation requirements, and Grant UK recommend making the change before it is fitted to the Uflex manifold.

If you are using the Grant Uflex pump control set, refer to DOC 0213 for further information on installing and adjusting the orientation of the pump and combined valves.

The wall on which the manifold is mounted must be flat, sound and capable of carrying the weight of the manifold and the pump and mixing valve (if used) without any deflection or risk of detachment from the surface to which it is secured.

### 3.2.1 COMBINED VALVES

With the installation location of the Grant Uflex manifold determined, you will need to consider:

- Will you be using a Uflex pump control set?
- How will your flow and return need to be piped to be suit the installation?

## ! NOTE !

**The Grant UFLEX manifold offers left and right side flow and return connections.**

Once you have established this, connect your combined valves to the manifold in their required locations:

- Combined Air purge and drain valve - Red valve handle (Flow - Top of the manifold).
- Combined Pressure gauge and drain valve - Blue valve handle (Return - Bottom of the manifold).

The connections are self-sealing and the tails allow for convenient positioning of the valves.

### 3.2.2 WALL MOUNTING

The Grant Uflex manifold is factory assembled with mounting brackets. After the suitability of the wall is determined and suitable fixings have been sourced:

1. Lift the manifold and hold in place.
2. Mark the wall using the holes provided in the bracket.
3. Drill the required holes and fix the manifold to the wall, ensuring suitable fixings are used.

## ! NOTE !

**The installer must ensure the surface and fixings are suitable for the installation.**

### 3.2.3 PUMP CONTROL SET

After the manifold has been fitted, attach your Grant Uflex pump control set (if using) Refer to DOC 0213 for further information. Refer to Figure 3-1 for the Grant Uflex manifold with Uflex Pump control set attached.

### 3.2.4 NO PUMP CONTROL SET

If you are not using a pump control/mixing set, you will need to purchase 2 x 1" Isolating valves to allow for flow and return connections to be made to the Uflex manifold. Refer to Figure 3-2. Grant Engineering UK offer a pair of 1" female to 1" male isolation valves (Grant Order code: UFLEX19) compatible with the Uflex manifold. These valves are not self sealing and will require the use of PTFE tape to ensure leak free connections.

### 3.2.5 CONNECTING THE PIPING LOOPS TO THE MANIFOLDS

When laying the UFH loops, the first pipe end should be connected to the manifold before the loop is laid. Push the pipe-end lying on the outer side of the coil through and behind the return manifold and connect as per instructions indicated in following section 3.1.8 of your supplied Grant UFH systems manual - DOC 0211.

If insulating the feed pipes with conduit, we advise sliding this over the UFH pipe prior to connecting onto the manifold.

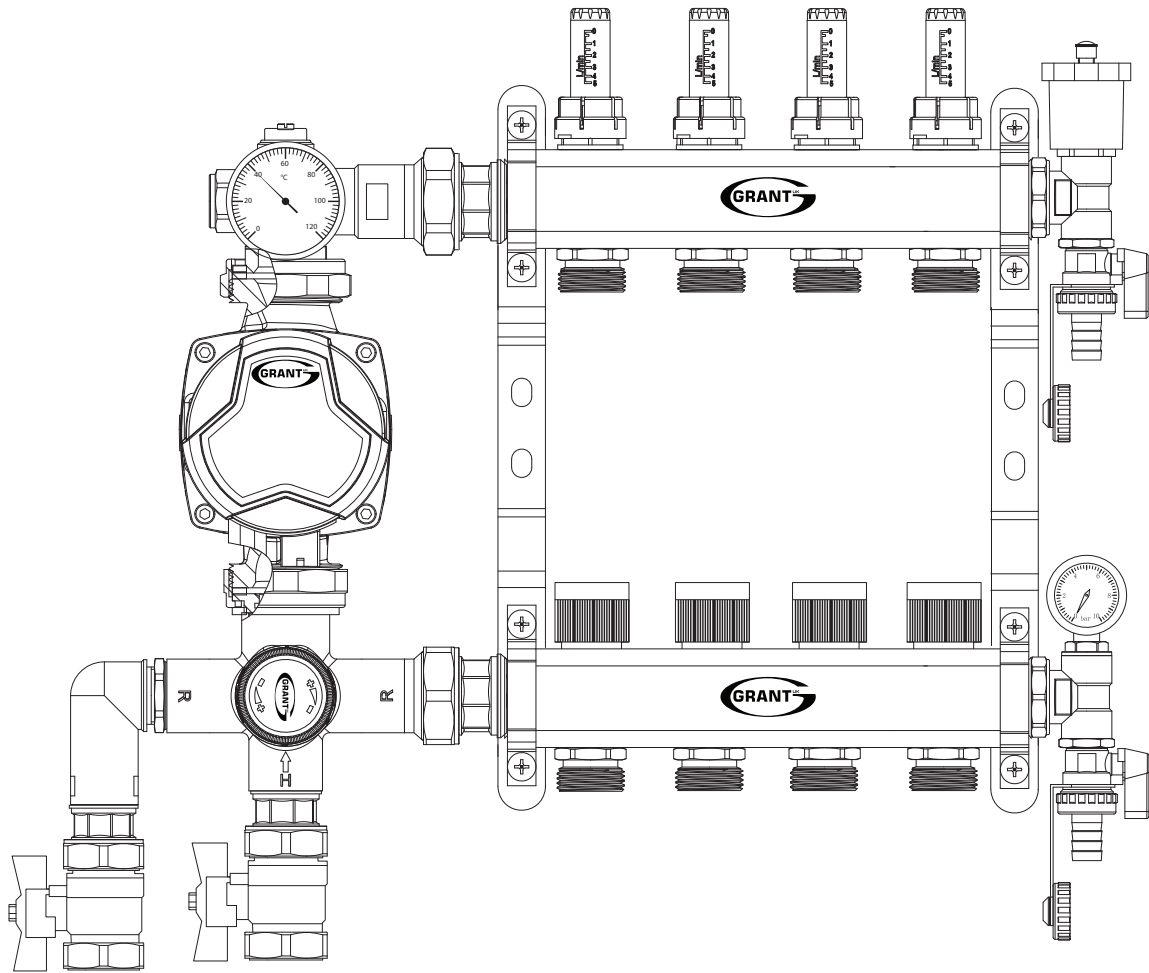


Figure 3-1: Grant Uflex Manifold with pump set

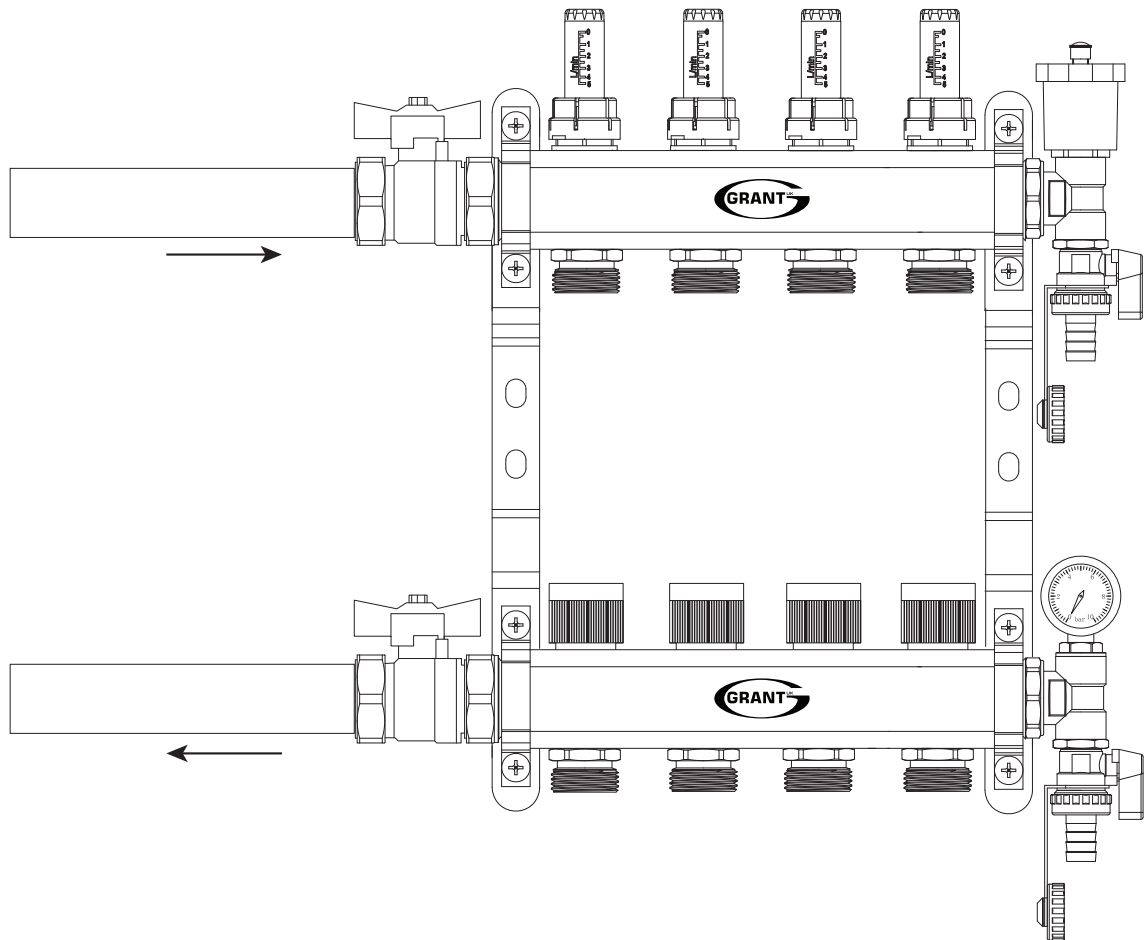


Figure 3-2: Grant Uflex Manifold without pump set

## 4 COMMISSIONING & MAINTENANCE

Prior to commissioning, a tightness test must be performed as per BS EN 14336 (Annex A.2). This test may be independent or can be a combined test for water tightness and pressure verification.

*"For doing the water tightness test, the system shall be filled with filtered water starting from the lowest point (filling valve) up to the highest point and shall be vented. Having filled the system, the vents shall be shut and the system shall be checked for water tightness."*

*In case of doing the water tightness test with inert gas, the safety requirements for each test shall be met and all connections to appliances and joints shall be checked for water tightness with soap water.*

*The heating system is tight if no water is escaping or, in case of testing by inert gas, no bubbles can be seen or heard."*

Complete the supplied combined test report (Refer to Appendix A in DOC 0211 - UFLEX Underfloor systems manual).

### 4.1 COMMISSIONING

After filling and pressure testing the system (as described in DOC 0211), check that:

- all valves are fully open in their normal operative position.
- (if used) a method of operating automatic control valves is available and that these are motored to normal operative conditions.
- all connections and fixings are leak free.

Ensure to complete all related commissioning and inspection forms to leave with the homeowner for future reference.

### 4.2 MAINTENANCE

The homeowner should be advised to periodically perform a visual check of the heating system to verify it is water tight. Any maintenance or repairs must only be performed by qualified and competent persons.

It is recommended for underfloor heating manifolds to be checked annually as part of a routing maintenance schedule.

## 5 HEALTH & SAFETY INFORMATION

### 5.1 GENERAL

Under the Consumer Protection Act 1987 and Section 6 of the Health and Safety at Work Act 1974, we are required to provide information on control of substances hazardous to health (COSHH Regulations 1988).

Adhesives, sealants and paints used in the manufacture of the product are cured and present no known hazards when used in the manner for which they are intended.

### 5.2 INCORRECT APPLICATIONS

The product must never be used in the following cases and for the following purposes:

- Use with drinking water
- Use with adherent, corrosive or flammable fluids
- Operation in systems with temperatures exceeding 100°C (for example, Solar systems)
- Hazardous area (EX)
  - If the product is operated in hazardous areas, sparks may cause a fire or explosion.

### 5.3 QUALIFICATION OF PERSONNEL

Only appropriately trained persons who are familiar with and understand the contents of these operating instructions and other product documentation should install or work on the products in the Grant Uflex range.

These persons must have sufficient technical training, knowledge and experience and be able to foresee and detect potential hazards that may occur when using products in the Grant Uflex range.

All persons working on and with the products in the Grant Uflex range must be fully familiar with all directives, standards and safety regulations that must be observed to carry out such work.

### 5.4 PERSONAL PROTECTIVE EQUIPMENT

Always wear the required personal protective equipment. When carrying out work on or with the product, take into account that hazards may be present at the installation site which do not directly result from the Grant Uflex product itself.

### 5.5 MODIFICATIONS TO THE PRODUCT

Only perform work on and with the product which is explicitly described in these instructions. Do not make any modifications to the product which are not described in these instructions.



## 6 DISPOSAL & RECYCLING

### 6.1 DISPOSAL


1. Switch off the heating system controller.
2. Isolate and drain the Underfloor system.
3. Disconnect the product from mains power supply.
4. Dismount the product from the manifold.
5. Disconnect pump from 4-port blending valve and Combined Pressure/Temperature gauge.
6. Dispose of the product.

Dispose of the product in compliance with all applicable directives, standards and safety regulations.

Electronic components must not be disposed of together with the normal household waste.

# ONLINE RESOURCES

## GRANT UK PRODUCT SUPPORT

QR CODE	Description
	<p>Grant UK product support page.</p> <p>Follow the QR code for a link to the Grant UK product support page.</p> <p>For further information or queries please contact <a href="mailto:into@grantuk.com">into@grantuk.com</a> or your local sales representative.</p>

# NOTES



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