

Stainless steel manifold "Multidis SF" 1" for surface heating and cooling with flow measuring and regulating devices 0 - 2 GPM in the supply (2 to 12 heating circuit connections)

Installation and operating instructions for the specialised installer

Read installation and operating instructions carefully before installing the stainless steel manifold "Multidis SF"!

The installation and operating instructions as well as all other valid documents have to remain with the user of the system!

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## 1. General information

### 1.1. Information regarding installation and operating instructions

These installation and operating instructions serve the installer to install the stainless steel manifold "Multidis SF" professionally and to set it into operation.

Other valid documents:

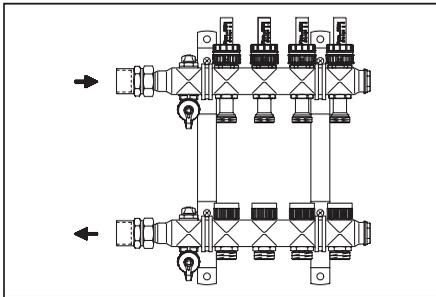
Manuals of all system components.

### 1.2. Keeping of documents

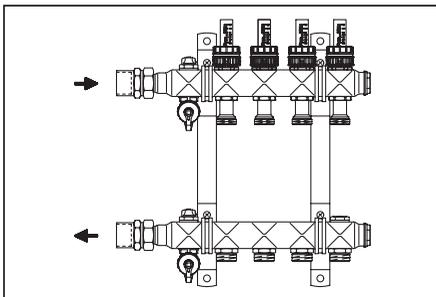
These installation and operating instructions should be kept by the user of the system.

### 1.3. Symbol explanation

Safety guidelines are displayed by symbols. These guidelines are to be observed to prevent accidents, damage to property and malfunctions.



Stainless steel manifold "Multidis SF" with valves



Stainless steel manifold "Multidis SF" valveless

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Subject to technical modification without notice.  
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 **DANGER!**  
 Imminent danger to life and limb!

 **ATTENTION!**  
 Potential dangerous situation for product, system and environment!

 **NOTE!**  
 Useful information and notes!

### 1.4. Copyright

The installation and operating instructions are copyrighted.

## 2. Safety notes

### 2.1. Correct use

Operating safety is only guaranteed if the stainless steel manifold "Multidis SF" is used correctly.

The stainless steel manifold "Multidis SF" is used in hot water central heating and/or cooling systems for individual room temperature control.

Any use of the product outside the above circumstances will be considered as non-compliant and misuse.

Claims of any kind against the manufacturer and/or its authorised representatives due to damages caused by incorrect use cannot be accepted.

The observance of the operating and installation instructions is part of the compliance terms.

### 2.2. Possible danger at the installation location

 **DANGER! Hot surfaces**  
**The stainless steel manifold "Multidis SF" can get very hot during operation. Do not touch without safety gloves.**

## 3. Transport, packaging and storage

### 3.1. Transport inspection

Upon receipt, check delivery for any damages caused during transit.

Any damages must be reported immediately upon receipt.

### 3.2. Storage

The stainless steel manifold "Multidis SF" must only be stored under the following conditions:

- Do not store in open air, keep dry and free from dust.
- Do not expose to aggressive fluids or heat sources.
- Protect from direct sunlight and mechanical agitation.
- Storage temperature: -4°F up to +131°F, max. relative humidity of air: 95 %

#### ! ATTENTION:

- Please protect against external forces (e.g. impacts, vibrations etc.)
- External components such as handwheels, pressure test points and actuators should not be used as lever points during installation.
- Suitable means of transport and fitting devices have to be used.

## 4. Technical data

### 4.1. Performance data

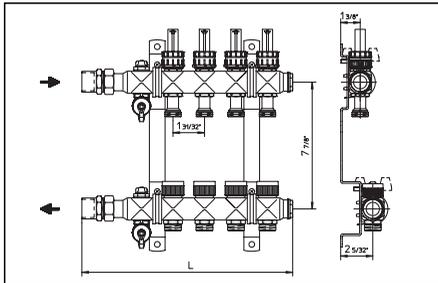
Max. working pressure:	90 psi
Max. differential pressure:	14 psi
Max. working temperature:	176°F
Measuring range:	0 - 2 GPM



#### DANGER!

Suitable measures (e.g. safety valves) have to be taken so that the maximum working pressure and the maximum and minimum temperatures are not exceeded or undercut.

### 4.2. Dimensions / Connection dimensions



**Illustr. 4.1:** Dimensions stainless steel manifold "Multidis SF"

Item no.	Outlets	Length (L)	Length (L) (Inches)
168 41/42 72	2	237 mm	9 5/16
168 41/42 73	3	287 mm	11 5/16
168 41/42 74	4	337 mm	13 1/4
168 41/42 75	5	387 mm	15 1/4
168 41/42 76	6	437 mm	17 3/16
168 41/42 77	7	487 mm	19 3/16
168 41/42 78	8	537 mm	21 1/8
168 41/42 79	9	587 mm	23 1/8
168 41/42 80	10	637 mm	25 1/16
168 41/42 81	11	687 mm	27 1/16
168 41/42 82	12	737 mm	29

**Illustr. 4.2:** Lengths for stainless steel manifold "Multidis SF"

## 5. Construction and function

### 5.1. Summary / Functional description

The stainless steel manifold "Multidis SF" are designed for use in surface heating and cooling systems with circulation pump.

The risers can be connected to the manifold from either the left or right hand side.

The brackets allow the fixing of the manifold in the cabinet or directly on the wall. The flat sealing solder tailpieces are directly connected to the collar nuts (G 1 female thread) of the manifolds.

The heating/cooling circuit connections have a G3/4 male thread according to DIN V 3838 (cone "Euro").

Printed tags for marking the heating/cooling circuit connections are supplied with the manifolds.

For filling and flushing the heating/cooling circuit, the distributor/collector is equipped with fill and drain valves with a connection for a DN 15 hose.

The installation can be bled during the filling process and when the heating/cooling system is in operation via the vent plug.

### 5.2. Application

The stainless steel manifolds "Multidis SF" allow a central distribution of the heating/cooling water to the different circuits of each living zone. Together with the electrothermal actuators and room thermostats which are available as accessories, the valve inserts M 30 x 1.5 in the return collector (Item no 168 41 72 - 82) for subsequent conversion to thermostatic operation can be used for individual room temperature control. Hydronic balance is carried out using the flow measuring and regulating devices integrated in the flow distributor.

## 6. Installation

### 6.1. Extent of supply

Upon receipt, check the delivery for completeness and any transport damages.

### 6.2. Installation

The flow distributor and return collector are preassembled and leak tested at works. Mount flow distributor (top) and return collector (bottom) in the sound-absorbing brackets (illustr. 4.1).

#### ! ATTENTION!

The flow supply is always located in the bracket at the top and the return in the bracket at the bottom.

The solder tailpieces are mounted with the help of the collar nuts (G1 female thread with flat seals). The risers are connected to the female threaded port of the ball valves.

The pipes have to be insulated against heat loss and for soundproofing according to the valid rules, standards and regulations.

The surface heating/cooling circuits are connected to the G3/4 compression connections at the flow supply and return.

### 6.3. Floor construction

Regarding thermal and sound insulation, the floor construction must comply with local codes.

### 6.4. Filling, bleeding, leak testing

The installation is filled up to the stainless steel manifold "Multidis SF" at the open ball valves via the risers. The vent plugs can be used for bleeding the system even when the system is in operation.

The surface heating/cooling circuits are filled via the fill and drain valves in front of the first heating/cooling circuit connection of the manifold with the ball valves being closed. The G 3/4 - 11.5 NH connection is suitable for standard DN 15 hoses. The surface heating/cooling circuits are flushed separately, so that the pipework is completely filled with water.

### 6.5. Incremental heating test

Start incremental heating at the earliest:

- 21 days after having laid the concrete screed
  - 7 days after having laid the anhydrite screed
- Heat up slowly!

- 3 days with a flow temperature of about 77°F, then
- 4 days with a flow temperature of about 131°F.

Flow temperature regulation only via the boiler control.

Open valve inserts of the stainless steel manifold "Multidis SF" with the help of the protection caps.

Before setting the system into operation, the valve inserts of the return collector have to be equipped with automatic controls for individual room temperature control (Item no 168 41 72 - 82).



#### NOTE!

Other instructions of screed manufacturers have to be observed!

### 6.6. Initial operation



#### ATTENTION!

The flow temperature must be co-ordinated with the surface heating/cooling system.

Near the heating pipes, the maximum permissible screed temperatures according to code must not be exceeded. In cooling systems, the temperature near the cooling pipes must not reach the dew point. The general instructions of the manufacturers must be observed.

## 7. Operation

### 7.1. Regulation

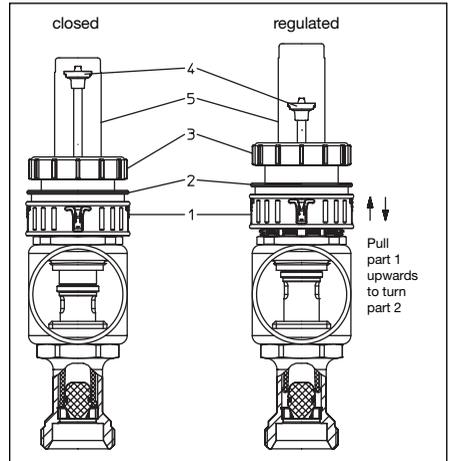
Hydronic balance of the heating/cooling system has to be carried out between the various risers.

Regulation of the surface heating/cooling circuits is carried out at the stainless steel manifold "Multidis SF".

### 7.2. Setting of the flow measuring and regulating devices (illustr. 7.1)

Setting is carried out whilst the pump is in operation.

- Open all valves of the heating/cooling system completely.
- Lift the locking ring (1) until it clicks into position.
- Wind up locking cap (2).
- Set calculated flow rate by turning the handwheel (3) of the first flow measuring and regulating device.
- The set value can be read off at the red indicator ring (4) inside the viewing glass (5). The scale shows values between 0 and 2 GPM.
- Carry out setting of all heating/cooling circuits.
- The first values are checked and readjusted if required.
- With the setting being completed, close locking cap (2) until stop.
- Protect setting of the flow measuring and regulating devices by pushing the locking ring (1) down.



Illustr. 7.1: Setting of flow measuring and regulating devices

### 7.3. Isolation and opening (illustr. 7.2)

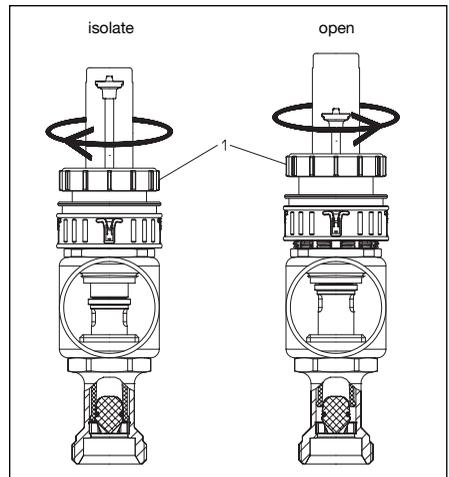
Each heating/cooling circuit can be isolated without modification of the set flow rate which means that the set flow rate is restored after reopening an isolated heating/cooling circuit. The functions "setting" and "isolation" are thus autonomous.

Isolation:

The heating/cooling circuit is closed by turning the handwheel (1) clockwise.

Opening:

Turn handwheel (1) anticlockwise until stop. The flow measuring and regulating device is opened and the set flow rate is restored.



Illustr. 7.2: Isolation and opening of the flow measuring and regulating devices

## 8. Warranty

Overtrops warranty conditions valid at the time of supply are applicable.