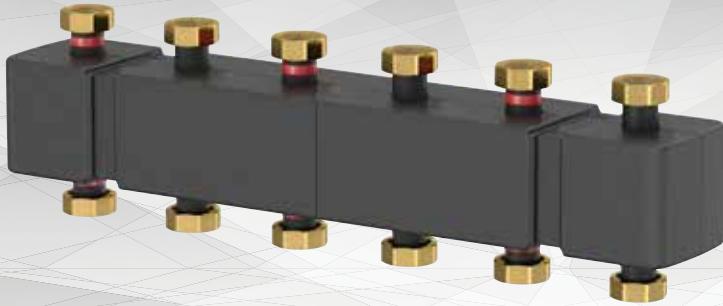




MeiFlow Top S - Manifold



ENG Installation and operating instruction

Table of Content

1. Basic information	9
1.1 Safety instructions	9
1.2 Intended use	11
1.2.1 Intended use	11
1.2.2 Improper use	11
1.3 Device designation	11
1.4 Residual hazards	12
1.5 What to do in the event of breakdown or leaks	12
1.6 Spare and wear parts	12
1.7 Requirements on trained engineers	13
2. Description and functions	14
2.1 Technical data	14
2.2 Dimensions, using the example of 3-way manifold	16
2.3 Functions, using the example of 3-way manifold	17
3. Installation and operation	18
3.1 Installation	18
3.1.1 General installation instructions:	18
3.1.2 Configuration and scope of delivery of wall bracket	18
3.1.3 Adjustable wall clearance for wall bracket	19
3.1.4 Installation of heating circuit manifold on the wall	19
3.1.5 Installation of pump groups on the heating circuit manifold	21
4. Commissioning and servicing	22
Contact	23

1. Basic information

Please follow these safety instructions carefully to eliminate hazards, personal injury and material damage. The installation, commissioning, inspection, maintenance and servicing may only be performed by an approved, specialist company. Please familiarise yourself with all the parts and their handling before starting work. Observe all applicable safety regulations, environmental regulations and legislation for the assembly, installation and operation of the system. In addition, observe the applicable safety provisions of the DIN, EN, DVGW, VDI and VDE and all relevant country-specific standards, laws and guidelines. When working on the system: Disconnect the system from the mains and monitor it to ensure that no voltage is being supplied (e.g. at the separate cut-out or a main switch). Secure the system against being restarted. Repairs to safety components are not permitted, these must be replaced. The installation location must be dry and frost proof. Be aware of surround equipment and the local environment in relation to the safe operation of this equipment. Free access to the equipment is required.

Please also refer to the separately enclosed instructions from other manufacturers for additional information (e.g. pumps, servomotors, controllers)..

1.1 Safety instructions

Please follow these safety instructions carefully to prevent accidents and injury to persons and property.

These operating instructions are primarily designed for the safe use and installation of the device and make no claims to completeness.

These operating instructions describe the functionality of the device and are intended to provide information about the required safety instructions and to draw attention to possible hazards.

These operating instructions are valid only for the described device and are not subject to the manufacturer's revision service. The sketches and drawings they contain are not to scale.

- Keep the operating instructions within easy reach of all employees instructed to carry out work on the device so that they can refer to them as required.
- Keep the operating instructions in a clean, complete and legible condition throughout the entire period of use.
- Read the operating instructions before working on the device for the first time and consult them whenever uncertainties or doubts arise as to how the device should be handled.
- Should you come across any discrepancies when reading these operating instructions or should anything remain unclear, please contact the manufacturer.

Target group

These instructions are intended exclusively for authorised trained experts.

Only trained experts or installers authorised by the respective competent utility companies are permitted to work on heating systems and domestic water, gas and electric circuits.

Regulations

When carrying out work, you must comply with:

- The statutory accident prevention regulations
- The statutory environmental protection regulations
- The German Employer's Liability Insurance Association regulations
- The pertinent safety requirements of DIN, EN, DVGW, TRGI, TRF and VDE, ÖNORM, EN, ÖVGW-TR Gas, ÖVGW-TRF and ÖVE, SEV, SUVA, SVGW, SVTI, SWKI and VKF
- and all region- or country-specific regulations and standards

Instructions for working on the system

- Disconnect the system from the mains and monitor it to ensure that no voltage is being supplied (e.g. at the separate cut-out or a main switch).
- Secure the system against being restarted.
- WARNING! Risk of scalding at media temperature: > 60 °

Permissible mains supply und operating parameters

- heating side / primary side:
 - max. permissible operating pressure: 6 bar
- permissible operating temperature: 16-110°C (depending on pump)
- permissible ambient temperature: 5-50 °C (non-condensing)
- permissible media: heating water (in accordance with VDI 2035, non-corrosive)
- The devices must be installed in enclosed, frost-free spaces
- Any noise emissions or radiant heat from the station must be taken into account in the choice of installation site
- Observe the safety areas in accordance with EN 60529 when designing and installing the system
- Prevent oxygen from entering the medium

1.2 Intended use

1.2. Intended use

All instructions in the operating instructions must be followed and the maintenance plan adhered to.

Any deviation from the intended use may cause hazards and is fundamentally not permitted.

The components listed in the following instructions are intended for use in heating systems according to DIN EN 12828. The manifold is an optional system component that simplifies the installation of a heat distribution system with several pump groups. Heating circuit groups (each with the supply line on the right-hand side) are usually positioned on the top of the manifold. The pipes of a heat generator are usually connected to the open lower connections. Additional lower connections may be used as required, e.g. for additional heat generators, additional heating circuits, buffer tank, safety devices, etc.

1.2.2 Improper use

Improper use of the device of any kind may result in deviations from the specified performance data.

In particular, the following are not allowed:

- The use of liquids other than water with the described properties
- The use of the device without prior knowledge of the operating instructions
- The use of the device without legible warning and information signs
- The use of the device in a faulty condition

1.3 Device designation

Designation:	MeiFlow Top S
Function:	Manifold bar up to 70 kW
Type Manufacturer:	MF
Manufacturer	Meibes System-Technik GmbH



1.4 Residual hazards

The safety and warning information draws attention to residual hazards that cannot be avoided due to the design and construction of the device. Please always observe the measures shown for avoiding these hazards.

The device has been built according to the state of the art and in accordance with recognised safety regulations.

The following residual hazards may occur during installation, commissioning, maintenance and disassembly:



Warning: Risk of scalding from high media temperature

- Work particularly carefully.
- Use safety clothing (e.g. heat-resistant protective gloves).
- If necessary, surfaces must be thermally cleared before commencing work.
- Use stipulated tools.



Hazard: Risk of injury from electrical voltage

- Only instructed, qualified electricians are permitted to work on electrical equipment.
- Electrical installation spaces must always be kept locked

1.5 What to do in the event of breakdown or leaks

- Close media lines using the appropriate valve.
- Contact a suitable trained expert or customer service of the manufacturer.

The device will only be released for operation again when the trained engineer has remedied the fault and restored the device to its intended condition.

1.6 Spare and wear parts

All spare and wear parts used must correspond to the technical requirements defined by Meibes System-Technik GmbH. This is guaranteed only with genuine spare parts. The manufacturer is not liable for damage caused by the use of unapproved spare and wear parts or ancillary materials.

1.7 Requirements on trained engineers

A trained expert has undergone advanced technical training and has sufficient experience to independently perform complicated tasks or work associated with residual hazards. Such experience will in each instance refer to a specific specialism, e.g. maintenance, working on electrical systems, systems mechanic for sanitary, heating and air conditioning technology. In preparation for impending work, a trained expert must be able to correctly estimate the feasibility, risks and hazards as well as the equipment required. A trained expert is expected to be able to understand complex, minimally prepared plans and descriptions, and to obtain missing and required detailed information by suitable means.

The trained expert must be able to restore and check the intended condition of a system. A worker can be a trained expert in several fields.

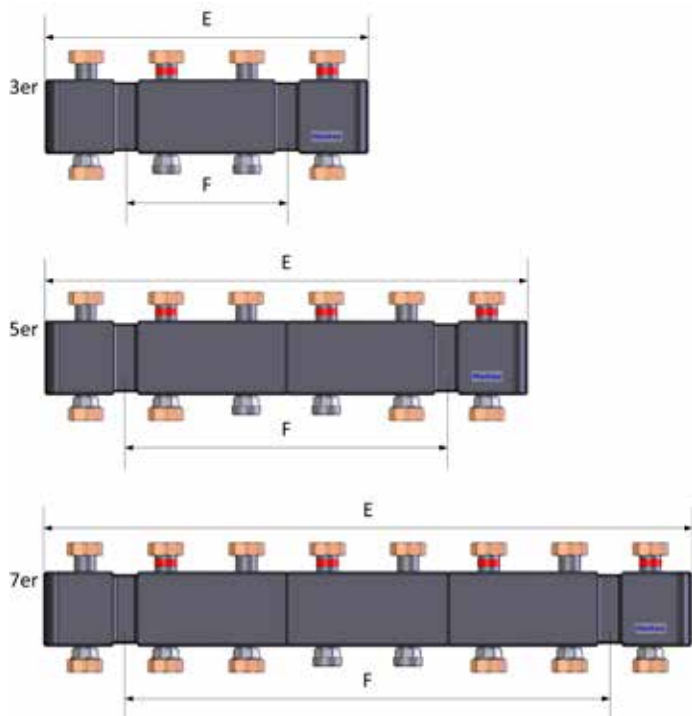
For work on the electrical equipment, only electrically skilled persons according to DGUV regulation 3 may be used.

2. Description and functions

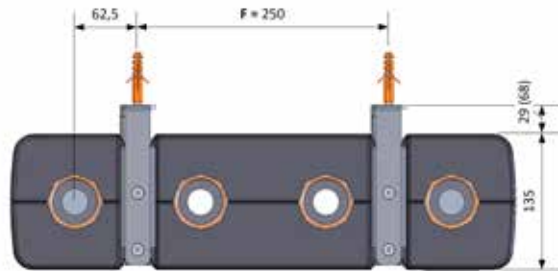
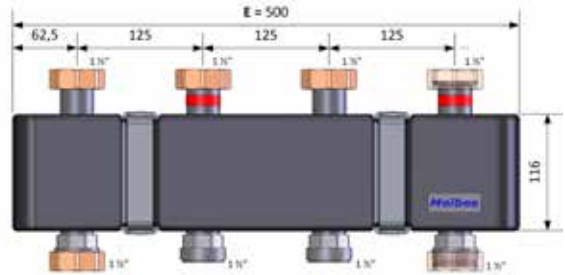
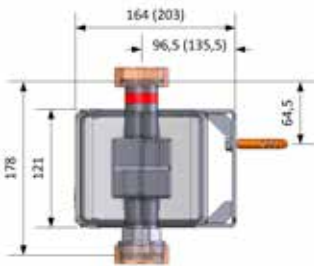
2.1 Technical data

Heating circuit manifold including wall brackets, either hydraulically separated or with low differential pressure

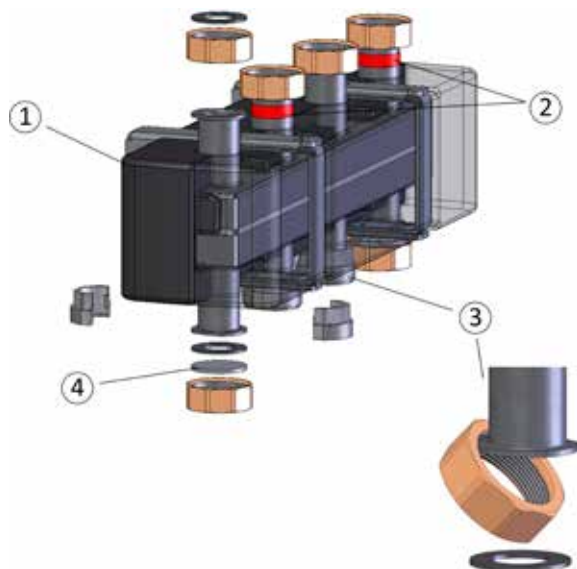
for max. number of heating circuits	3	5	7
Connection pairs at top	2	3	4
Connection pairs at bottom	2	3	4
Total width (E)	500 mm	750 mm	1000 mm
Clearance of bracket (F)	250 mm	500 mm	750 mm
Upper connections (heating circuit)	1 1/2" FT (union nut)		
Lower connections (heat generator / boiler guard, heating circuit)	choice between 1 1/2" MT or FT (flat sealing, half-shell technology 2x open, remainder closed with caps)		
Clearance between supply and return line	125 mm		
Material - manifold	Steel (interior untreated, exterior primed: black or orange)		
Material for removable insulation	EPP		
max. temperature of heat transfer medium	110°C		
permissible positive operating pressure:	6 bar		
Kvs value	approx. 15 (-> 0.04 bar primary at 3 m ³ /h)		
Nominal flow rate / power	3 m ³ /h / 70 kW (at 20K spread)		



2.2 Dimensions, using the example of 3-way manifold



2.3 Functions, using the example of 3-way manifold



Pos.	Designation	Description
(1)	thermal insulation	Robust insulation shells with locking mechanism minimise the heat losses. Wall installation brackets (included in delivery) surround the insulation. The bracket is thermally separated and acoustically insulated.
(2)	Identification of the hydraulically connected areas	The connections which are hydraulically connected to one another inside are colour coded.
(3)	Choice of male or female thread	The lower connections are fitted with removable half-shells with 1 1/2" male thread. A union nut (female thread) can also be used on the flanged connections in place of the half-shells.
(4)	Blind caps	Two of the lower connections are only fitted with the half-shells described under (3). The remaining 2, 4 or 6 lower connections are also capped with a union nut including a suitable metal washer. The connections that are capped for delivery can be used as a connection with a 1 1/2" male or female thread as required.

Depending on the connection configuration, it is possible to change the position of the supply and return flow accordingly.

Note on low differential pressure variant: **(primed in orange)**)

Service use includes heat generators with built-in pump.

In this case, the flow and return lines are hydraulically connected to one another by two internal openings.

Connections, dimensions and outputs as with the hydraulically separated manifold bar **(primed in black)**.

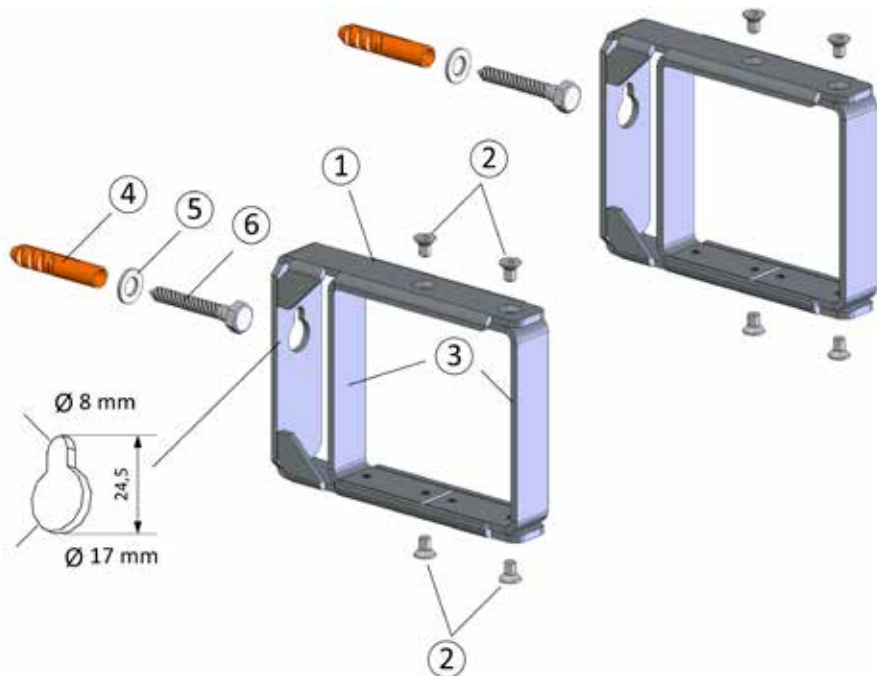
3. Installation and operation

3.1 Installation

3.1.1 General installation instructions:

- Sufficient space for installation, maintenance and service
- Tighten all screw fittings if necessary during a pressure test or following the initial heating

3.1.2 Configuration and scope of delivery of wall bracket



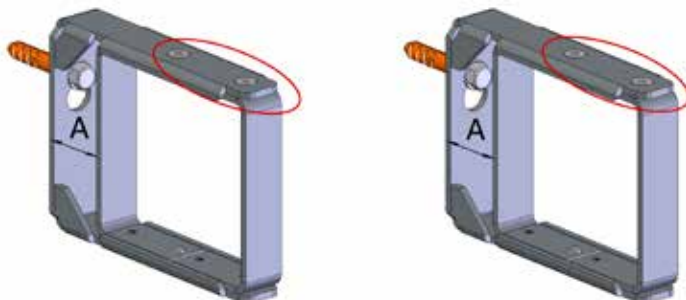
Legend:

- | | | |
|-----|---|---------------------------|
| (1) | Wall bracket for heating circuit manifold bar | up to 70 kW |
| (2) | Countersunk Allen bolt M6x10 | ISO10642, 10N |
| (3) | adjustable internal brackets | U-profiles |
| (4) | Rawlplugs | 10x50 |
| (5) | Washer 8.4x16x1.6 | DIN 125, galvanised steel |
| (6) | Hex. bolt 8x50 | DIN 571, galvanised steel |

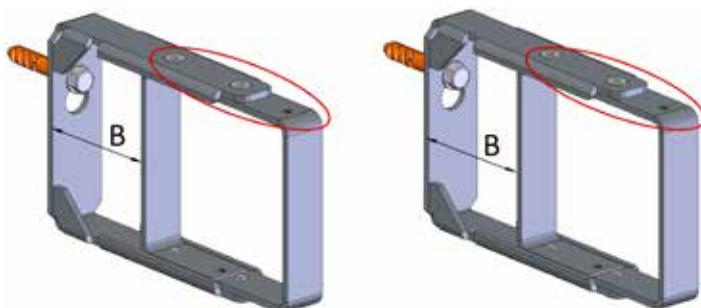
3.1.3 Adjustable wall clearance for wall bracket

Two-stage Pos. A or B

Pos. A) For wall clearance of thermal insulation 29 mm and axial distance from the wall: 96.5 mm



Pos. B) For wall clearance of thermal insulation 68 mm and axial distance from the wall: 135.5 mm



For other dimensions: see chapter 2.2

3.1.4 Installation of heating circuit manifold on the wall

We recommend first securing the manifold with the corresponding wall brackets (included with delivery) and screwing on the pump groups without additional fixings.

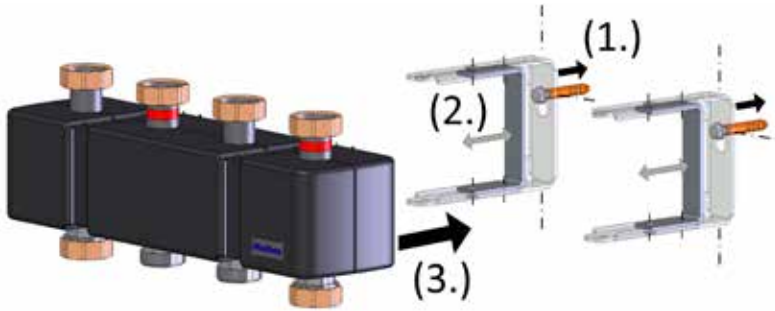
Securing the pipes also secures the system against tilting.

Alternatively, the manifold can be secured to the fastened pump groups without needing its own wall bracket. The pump groups and pipework must be fastened appropriately to ensure they are capable of taking the weight and other loads.

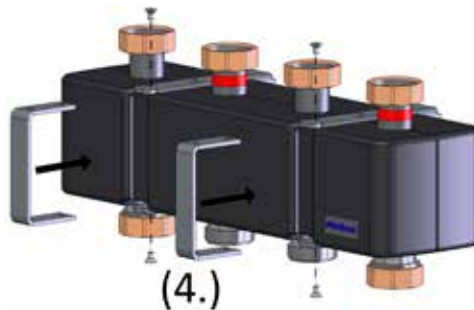
Note: With greater manifold wall clearances, later (de)installation of the rear insulation shells of the Meibes pump groups is correspondingly easier.

Installation steps, using the example of 3-way manifold:

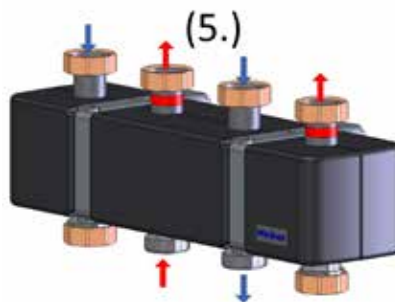
- 1.) Attach wall brackets to the wall, taking dimensions in Chap. 2 into account
- 2.) Set the clearance to the wall by adjusting the internal brackets (see also Chap. 3.1.2)
- 3.) Insert the manifold bar with insulation into the mounting



- 4.) Fix manifold bar in place by tightening the remaining internal brackets



- 5.) Connect the hydraulics, observing the correct assignment of FL/RL connecting pieces



3.1.5 Installation of pump groups on the heating circuit manifold

The pump group is installed on the flat sealing screw fittings of the heating circuit manifold. Secure the manifold appropriately to ensure it is capable of taking the weight of the pump groups.

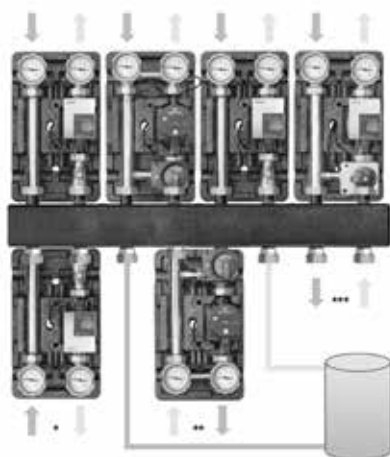
Caution: This is only possible if the lower insulation shell can be attached afterwards from the rear. The combination with our heating circuit manifold provides sufficient distance from the wall.

Installation steps:

- 1.) Remove the supply and return line from the rear insulation shell - extend with additional accessories as required (e.g. screw fittings, heat flow meter)
- 2.) Screw the pump group with flat gaskets to the installed manifold
- 3.) Fit the piping to the connections
- 4.) Attach the lower insulation shell from the rear
- 5.) Lock the central insulation shell in place on the lower shell and attach the front insulation with cover

Hydraulic connection with application example

View of possible use:



In most cases, heating circuit pump groups with the supply line on the right-hand side are used. In specific circumstances, heating circuit pump groups with the supply line on the left-hand side simplify installation. The choice is achieved by assigning the connections below (see hydraulically connected areas). The supply and return lines must be connected to the correspondingly identified connectors on the manifold

- * Radiator heating circuit with FL on left-hand side
- ** Return riser (wood boiler) & corresponding buffer tank
- *** Conventional heating boiler

4. Commissioning and servicing

1. Check the leak tightness of the system
2. Flush, fill and bleed the pipework (with filling water in accordance with VDI 2035)

Operation:

Please note the application limits:

- see Chap. 1

Maintenance:

We recommend performing regular leak-tightness tests.

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