



PROFACTOR®
DER DEUTSCHE QUALITÄTSSTANDARD

EN

TECHNICAL DATA SHEET AND USER MANUAL



**PRODUCT
CODE**

**PF MB 808.2 –
PF MB 808.12**

**STAINLESS STEEL
MANIFOLD GROUP**

1. PURPOSE AND SCOPE

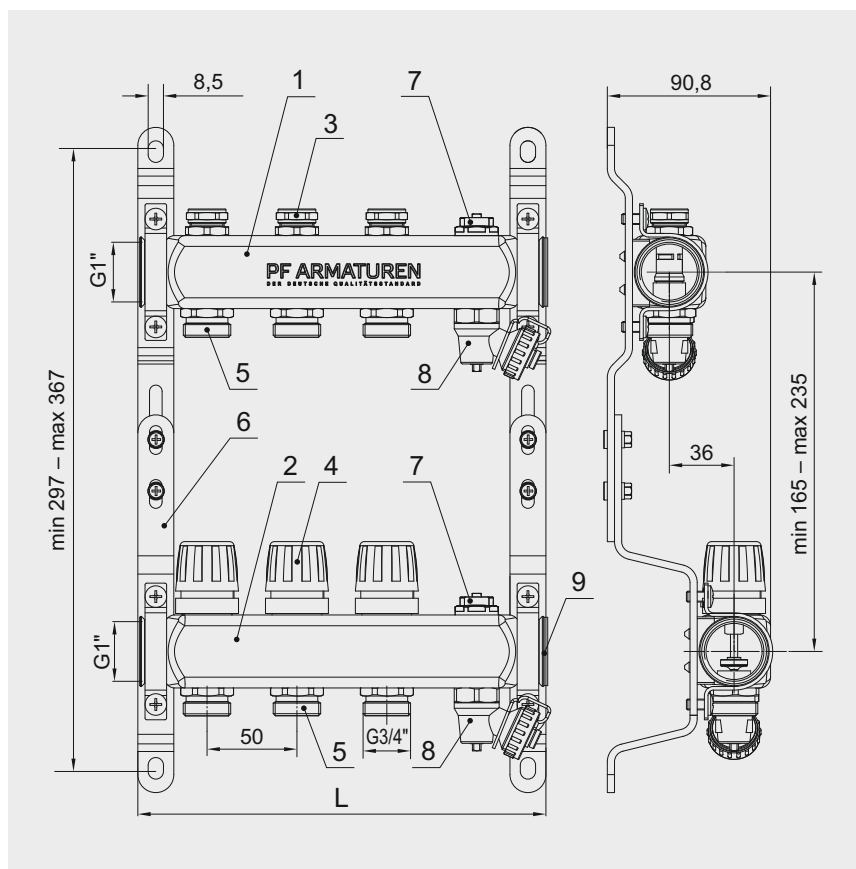
Stainless steel manifold groups are used in water supply, radiator heating, or underfloor heating systems to distribute and regulate the working medium within the system. Each pipe in a water supply or heating system (radiator or underfloor) is connected to the manifold, allowing for individual adjustment and control of the heat carrier flow in each circulation circuit.

The manifold group can be used in pipelines transporting liquid media that are non-aggressive to the product materials (such as water or ethylene glycol-based antifreeze). The maximum ethylene glycol content in the antifreeze must not exceed 30%. Antifreeze should be used when system characteristics imply that the heat carrier temperature may fall below 0°C.

2. TECHNICAL SPECIFICATIONS

Product Code	PF MB	808.2 – 808.12
Nominal size	DN	25
	G	1"
Maximum working pressure	bar	10
Maximum differential pressure	bar	1
Maximum allowable head at the supply manifold outlets	m³/h	1,6
Maximum allowable head at the supply manifold outlets	m³/h	1,6
Operating medium temperature	°C	–20°C to +100°C
Maximum ambient temperature	°C	60°C

3. DESIGN



- 1 – Supply manifold
- 2 – Return manifold
- 3 – Regulating valve
- 4 – Thermostatic valve
- 5 – Eurocone adapter nipple 3/4"

- 6 – Adjustable bracket
- 7 – Air vent valve (manual)
- 8 – Drain valve
- 9 – End cap

PF MB	808.2	808.3	808.4	808.5	808.6	808.7	808.8	808.9	808.10	808.11	808.12
L, mm	175	225	275	325	375	425	475	525	575	625	675
Weight, g	1796	2217	2638	3059	3480	3901	4322	4743	5164	5585	6006

All pipe threads are in an accordance with ISO 228-1, DIN 259, and all metric threads are in an accordance with ISO 261.

The supply (1) and return (2) manifolds are made of stainless steel AISI 304 (1.4301 according to DIN EN 10088). Each manifold has internal cylindrical threads 1" at both ends for pipeline connection and from 2 to 12 side outlets with internal cylindrical threads 1/2" for connecting valves on one side and adapter nipples on the other.

The supply manifold is equipped with manual regulating valves (3), allowing individual circuit shut-off for each heating loop.

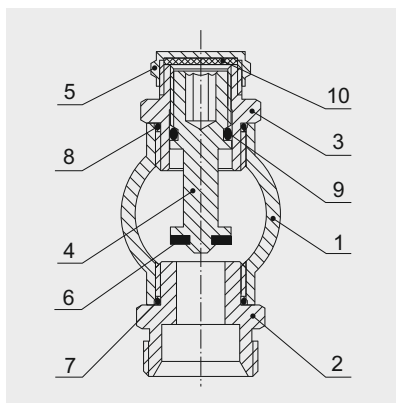
The return manifold is fitted with thermostatic valves (4) for smooth flow control. These valves can be automated using electrothermal actuators with a connection thread M30×1.5.

The connection of circulation loops is made to the adapter nipples (5) via 3/4" Eurocone fittings. The adapter nipples are made of brass CW617N (DIN EN 12165), with nickel-plated surfaces.

The PF MB 808 manifold groups are supplied complete with two air vents (7), two drain valves (8), and two end caps (9). All joints between the manifold group components are sealed using EPDM (ethylene-propylene rubber) O-rings and adhesive bonding, which eliminates the need for additional sealing or packing materials.

The adjustable brackets (6) are made of structural steel S235JR (DIN EN 10025).

3.1. DESIGN OF THE MANUAL REGULATING VALVE



- 1 – Manifold
- 2 – Adapter nipple
- 3 – Body
- 4 – Stem
- 5 – Protective cap
- 6 – Valve seal
- 7 – Nipple O-ring
- 8 – Body O-ring
- 9 – Stem O-ring
- 10 – Cap gasket

Materials:

Part 1 — Stainless steel AISI 304

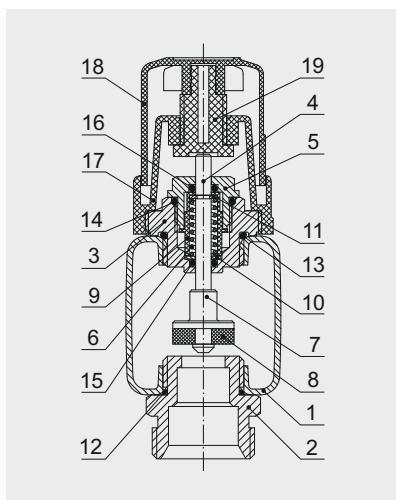
Parts 2, 3, 5 — Brass CW617N (DIN EN 12165-2011) with nickel-plated surfaces

Stem (4) — Brass CW617N (DIN EN 12165-2011)

Sealing elements (6, 7, 8, 9) — EPDM

Cap gasket (10) — Fibre grade 3110 (DIN 7737)

3.2. DESIGN OF THE THERMOSTATIC VALVE



- 1 – Return manifold
- 2 – Eurocone adapter nipple 3/4"
- 3 – Body
- 4 – Stem
- 5 – Bushing
- 6 – Spring
- 7 – Valve plug
- 8 – Valve seal
- 9 – Spring mechanism chamber
- 10 – Washer
- 11 – Spring clip
- 12 – Nipple O-ring
- 13 – Body O-ring
- 14 – Bushing O-ring
- 15, 16 – Stem O-rings
- 17 – Handle base
- 18 – Control knob
- 19 – Knob screw stem

Materials:

Part 1 — Stainless steel AISI 304

Part 2 — Brass CW617N (DIN EN 12165-2011) with nickel-plated surfaces

Parts 3, 5, 7 — Brass CW617N (DIN EN 12165-2011)

Stem (4) and Spring (6) — Stainless steel AISI 304 (DIN EN 10088-2005)

Sealing components (8, 9, 10, 11, 12, 13) — EPDM

Parts 14, 15, 16 — ABS plastic

The thermostatic valve is installed in the side outlets of the return manifold (1). The valve body (3) has an external 1/2" thread for connection to the manifold and an external metric thread M30×1.5 for screwing on a manual control knob or electrothermal actuator.

4. PRINCIPLE OF OPERATION

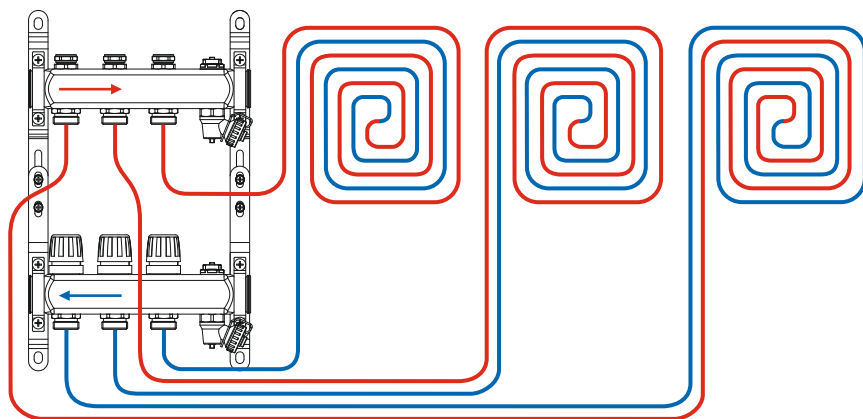
Each circulation loop of the system is connected to a separate pair of supply and return manifold outlets, allowing regulation of the heat carrier flow rate, and consequently, the thermal output of each circuit individually. The working fluid enters the supply manifold and is distributed across the circuits through manual regulating valves. Adjustment is carried out using a hex key — turning clockwise decreases the flow rate to the circuit — turning counterclockwise increases it.

Further regulation of the flow through individual circulation circuits is performed using the thermostatic valves of the return manifold. When the control knob is turned clockwise, the screw stem moves downward, pressing the valve stem, compressing the spring, and pushing the valve plug onto the seat, thus closing the valve.

When the control knob is turned counterclockwise, the screw stem moves upward, and the spring raises the valve stem with the plug, thereby opening the valve. For automatic control, an electrothermal actuator must be connected, which closes the corresponding manifold outlet in response to a signal from the room thermostat.

Manifold group connection diagram:

Underfloor heating pipe layout — “Snail” pattern



5. HYDRAULIC CHARACTERISTICS

Flow capacity of the regulating valve:

Number of knob turns	1	1,5	2	2,5	Fully open
Kv, m³/h	0,04	0,28	0,88	1,3	1,6

Flow capacity of the thermostatic valve:

Number of knob turns	Fully open
Kv, m³/h	1,6

6. INSTALLATION INSTRUCTIONS

Before installing the manifold group, the pipeline must be cleaned of scale and rust. Upon completion of installation, heating, heat supply, and internal cold and hot water supply systems, as well as boiler pipelines, must be flushed with water until it runs clear of mechanical impurities.

The manifold block must be installed horizontally, connecting to the pipeline via cylindrical pipe threads. Manifolds with regulating valves must be connected to the supply pipeline, while manifolds with thermostatic valves must be connected to the return pipeline.

Using the mounting brackets, the manifold group is secured inside a manifold cabinet or directly on the wall. Ensure that the system air vent valve is positioned strictly vertically at the highest point of the system. The manifold cabinet dimensions vary depending on the number of manifold outlets.

The manifold group must not be subjected to pipeline stresses (bending, compression, tension, twisting, misalignment, vibration, or uneven tightening). If necessary, supports or expansion compensators should be used to relieve loads transmitted from the pipeline.

The misalignment of the connected pipelines must not exceed 3 mm per meter of length, plus 1 mm for each additional meter. It is recommended to install manual shut-off ball valves at the inlet of the supply manifold and the outlet of the return manifold. The manifold group must be securely fastened to the pipeline, and no leakage of the working fluid through the threaded connections is permitted.

Threaded connections should be sealed using PTFE-tape (polytetrafluoroethylene), polyamide thread with silicone, or flax fiber with sealing paste. Ensure that no excess sealing material enters the seat of the nearest valve, as this may result in loss of tightness. Verify the correctness of the installation.

During system filling, all air vent valves must be closed. After installation, the system must undergo a pressure (manometric) leak test. This test ensures system integrity and prevents leakage-related damage.

When using the manifold in systems where the transported medium contains high levels of mechanical impurities, a mechanical filter must be installed upstream of the manifold. Hydraulic testing must not be carried out when air vent valves are installed or when shut-off valves before them are open.

7. INSTRUCTIONS FOR ADJUSTMENT, OPERATION, AND MAINTENANCE

The stainless-steel manifold group must be operated without exceeding the pressure and temperature values specified in the technical specifications table.

Before operation, it is necessary to balance each individual system circuit. To do this, set the required flow rate of the working medium on the supply manifold regulating valve in accordance with the hydraulic characteristics table.

Further adjustment of each individual system circuit to maintain the desired local temperature is performed using the thermostatic valves on the return manifold, by means of the control knob or thermal actuator.

Installation, disassembly, and any repair or adjustment work must be performed only when the system is depressurized. Allow the equipment to cool to ambient temperature before starting work.

8. WARRANTY OBLIGATIONS

The warranty period is 24 months from the date of sale to the end consumer. Throughout the entire warranty period, the manufacturer guarantees the proper functioning of the product and its compliance with safety requirements, provided that the consumer follows the rules for storage, transportation, installation, operation, and maintenance of the product. The warranty covers all defects arising through the manufacturer's fault.

The warranty does not cover defects resulting from:

- Violation of storage, transportation, installation, operation, or maintenance conditions;
- Exposure to substances aggressive to the materials of the product;
- Signs of mechanical damage;
- Damage caused by fire, natural disasters, or other force majeure circumstances;
- Damage caused by improper actions of the user;
- Evidence of unauthorized interference with the product design.

The product described in this technical manual is a technically complex device that must be installed by a qualified specialist with appropriate experience working with this type of equipment.

Installation and commissioning must be carried out by an authorized and certified company.

Profactor Armaturen GmbH reserves the right to make changes to the product design that do not affect its technical characteristics or functional features.



INTERNATIONAL WARRANTY CARD

NAME OF THE PRODUCT

PRODUCT CODE, SIZE

QUANTITY

SELLER NAME AND ADDRESS

DATE OF PURCHASE

SELLER STAMP

SELLER SIGNATURE

For the warranty term refer to the Warranty obligation clause in the technical manual

FOLD LINE

FOLD LINE

In case of any claims to the product quality the following documents should be submitted:

1. Application with customer and product details:

- Name of the customer, actual address and phone number
- Article of the product
- Reason for the claim and photo
- Plumbing system where installed (name, address, phone number)

2. Invoice copy and receipt

3. Warranty card

RETURN/EXCHANGE COMMENTS

DATE

SIGNATURE



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