



PROFACTOR®
DER DEUTSCHE QUALITÄTSSTANDARD

EN

TECHNICAL DATA SHEET AND USER MANUAL



PRODUCT
CODE

PF MB 851.25
PF MB 852.25

**BALL VALVE WITH UNION
AND THERMOMETER
FOR MANIFOLD GROUPS**

1. PURPOSE AND SCOPE

The ball valve is used as a shut-off device in pipelines for potable, domestic, and industrial systems, including hot water supply, heating, compressed air, liquid hydrocarbons, and other technological pipelines carrying liquids non-aggressive to the valve materials.

The ball valve with union and thermometer for manifold groups allows the creation of easily detachable pipeline assemblies in plumbing systems while also providing temperature monitoring of the working medium. The O-ring seal of the union fitting ensures a leak-tight connection to the pipeline.

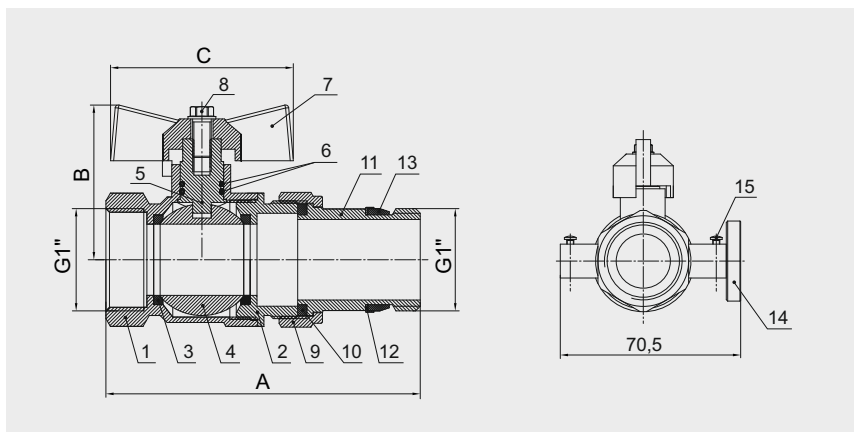
These valves are most commonly used in heating systems, particularly in autonomous circulation systems with pump-mixing units and manifold groups, where control of the heat carrier temperature is required. The product is supplied as a set of two valves — one with a red handle and one with a blue handle.

2. TECHNICAL SPECIFICATIONS

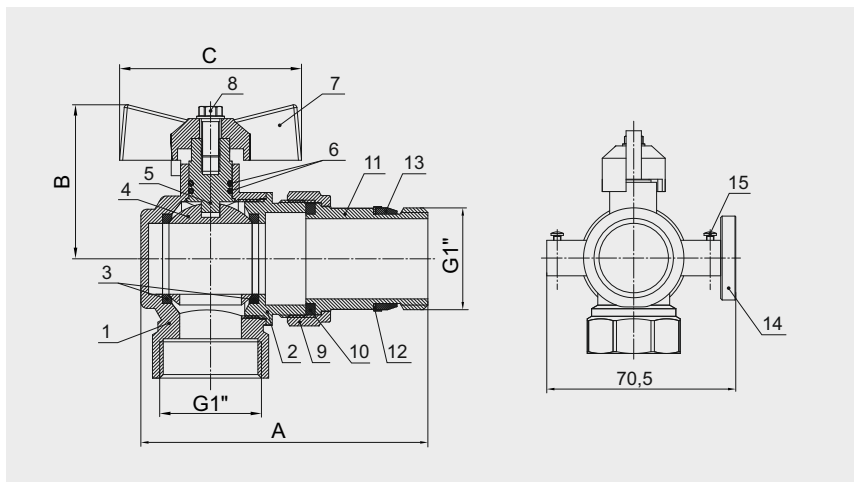
Product Code	PF MB	851.25	852.25
Valve type	—	straight	angled
Nominal size	DN	25	
	G	1"	
Nominal pressure, PN	bar	25	
Operating medium temperature	°C	-20 °C to +120 °C	
Thermometer scale range	°C	-0 °C to +80 °C	
Valve tightness class	—	"A"	
A	mm	100,5	69
B	mm	51	51
C	mm	59	60
Weight	g	500	530
Average operating life	cycles	30 000	
Average service life	years	30	

3. DESIGN

Straight ball valve with union and thermometer (PF MB 851.25):



Angled ball valve with union and thermometer (PF MB 852.25):



1 – Body

2 – Body bushing

3 – Ball seat rings

4 – Ball

5 – Stem

6 – Stem sealing rings

7 – Butterfly handle

8 – Fixing screw

9 – Union nut

10 – Nipple gasket

11 – Union

12 – Seal support ring

13 – Sealing ring (O-ring)

14 – Thermometer

15 – Thermometer retainer

The body (1) has an internal cylindrical connection thread and an internal metric thread for screwing in the body bushing (2). On the top, the body includes a side outlet for the valve stem (5). The connection between the body (1) and the bushing (2) is secured using a polymer anaerobic adhesive that is WRAS-approved (certified for use in potable water systems).

The nickel-plated brass union (11) is connected to the body bushing by means of a nickel-plated brass union nut (9). The gasket (10) ensures tightness of the joint. The seal support ring (12) and O-ring (13) provide sealing between the valve union and the pipeline. This connection does not require additional sealing materials. A valve of this design forms an easily detachable assembly, making it highly convenient for installation and maintenance.

The valve body (1) is equipped with side openings on both sides for the installation of a thermometer (14). The thermometer (14) is installed directly into its socket and can be easily removed or replaced without interrupting the system operation.

The body (1), body bushing (2), union nut (9), and union (11) are made of brass CW617N (in accordance with DIN EN 12165:2011), with nickel-plated surfaces.

The valve's shut-off mechanism consists of a chrome-plated brass ball (4) operated by a vertical brass stem (5) and sealed with PTFE ball seats (3). The ball seats (3) are made of high-temperature-resistant fluoroplastic (PTFE – polytetrafluoroethylene). The stem sealing is achieved by two O-rings (6). The non-blowout stem is inserted from inside the valve body (1) and has a retaining flange.

The ball (4), stem (5), seal support ring (12), and thermometer socket are made of brass CW614N (DIN EN 12165:2011). The ball has chrome-plated surfaces, while the support ring is nickel-plated.

A butterfly handle (7) made of aluminum with a painted coating (DIN EN 1676:2010) is attached to the stem by a fixing screw (8) made of structural steel S235JR (DIN EN 10025-2005).

The sealing components (6, 10, 13, 16, 17) are made of ethylene propylene rubber (EPDM).

All cylindrical pipe threads are in an accordance with ISO 228-1:2000, DIN 259, and all metric threads are in an accordance with ISO 261:1998.

4. OPERATING PRINCIPLE

Flow shut-off is achieved by turning the handle 90° clockwise.

5. INSTALLATION INSTRUCTIONS

The valve can be installed in any mounting position. The valve must not be subjected to loads from the pipeline, such as bending, compression, tension, torsion, misalignment, vibration, or uneven tightening of fasteners. If necessary, supports or compensators must be provided to reduce the load transmitted from the pipeline to the valve.

The misalignment of connected pipelines must not exceed 3 mm per meter of length, plus 1 mm for each additional meter.

For threaded joints sealing, use PTFE-tape, polyamide thread with silicone, flax with special pastes, or other approved sealing materials that ensure tightness at the design temperature and working pressure of the medium.

After installation, plumbing system assemblies must be tested for tightness. They should undergo testing using hydrostatic (hydraulic) or bubble (pneumatic) methods.

6. OPERATING AND MAINTENANCE

The valve must be operated without exceeding the pressure and temperature limits specified in the Technical Specifications table. Operation with a loosened handle fixing screw is not permitted, as this may damage the stem end.

The use of the valve in media containing abrasive particles is not recommended, as this may reduce its service life. Therefore, when the valve is used in systems transporting media with a high content of mechanical impurities, an additional filter must be installed upstream of the valve.

To ensure reliable operation over time, it is recommended to open and close the valve once per month as preventive maintenance.

7. 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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