Profactor Armaturen GmbH

EN

PROFACTOR®
DER DEUTSCHE QUALITÄTSSTANDARD

TECHNICAL DATA SHEET AND USER MANUAL

PRODUCT CODE

PF FBV 300M10
PF FBV 301M10
PF FBV 302M10

BALL VALVE "STANDARD" WITH CONNECTION FOR TEMPERATURE SENSOR

1. PURPOSE AND SCOPE

The ball valve is used as a shut-off device in pipelines of drinking, domestic, and industrial water systems, hot water supply, heating, compressed air, liquid hydrocarbons, as well as in process pipelines transporting liquids that are non-aggressive to the valve materials.

The ball valve with connection for temperature sensor allows for monitoring the temperature of the medium flowing through it by means of an immersion temperature sensor connected to the central threaded outlet. Such valves are typically used in apartment heat metering units and integrated heating system mixing assemblies.

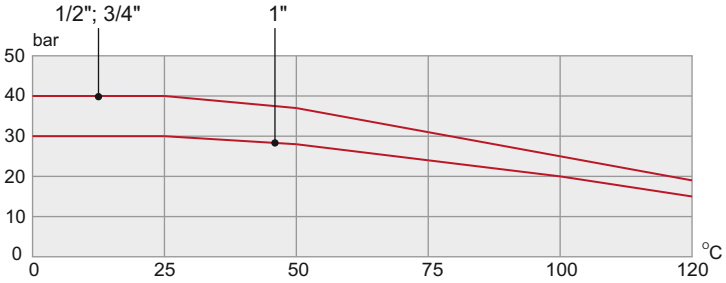
2. TECHNICAL SPECIFICATIONS

Table 1

Parameter	Value	Standard
Nominal bore (nominal size) DN, mm	DN15 – DN25	ISO 6708
Connection thread G	1/2" – 1"	ISO 228/1, DIN 259
Nominal (rated) pressure PN, bar	40 (see Table 3)	—
Working medium temperature, °C	–20°C to +120°C (see chart)	—
Shut-off tightness class	“A”	—
Ratio of the effective valve bore diameter to the inlet pipe diameter, %	>95 full-bore valve	—
Average service life, cycles	30 000	—
Maintainability	serviceable	IEC 60050 (191):1990-12, NEQ
Average service life, years	30	—

The valves are in an accordance with DIN EN 13828.

Chart of the dependence of maximum working pressure on temperature:



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3. DESIGN

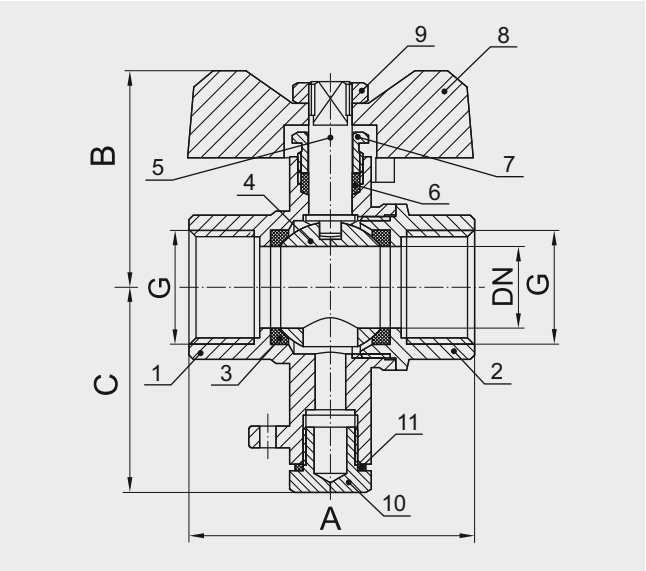

Table 2

Pos.	Name	Material	Standard
1	Body	Brass CW617N	DIN EN 12165
2	Body bushing	Brass CW617N	DIN EN 12165
3	Ball sealing rings	PTFE	FDA21 CFR177.1550
4	Ball	Brass CW614N	DIN EN 12165
5	Stem	Brass CW614N	DIN EN 12165
6	Stem packing	PTFE	FDA21 CFR177.1550
7	Packing bushing	Brass CW614N	DIN EN 12165
8	Handle – butterfly type	Aluminum Al	DIN EN 1676
9	Handle fixing nut	Steel S235JR	DIN EN 10025
10	Plug	Brass CW617N	DIN EN 12165
11	Plug sealing ring	PTFE	FDA21 CFR177.1550

The valve body is made of two nickel-plated brass parts (1) and (2), joined by a threaded connection and fixed with a polymer anaerobic adhesive that has a WRAS approval (authorized for use in contact with drinking water).

The shut-off mechanism of the valve consists of a chrome-plated brass ball (4), operated by a vertical brass stem (5). Teflon seat rings (3) are used as the ball seals. A Teflon stem packing (6), secured by a brass threaded packing bushing (7), ensures the stem's tightness.

The valve's stem is non-blowout type, as it is inserted from inside the body (1) and features a retaining collar. On the protruding end of the stem, an aluminum butterfly handle (8) with a paint coating is fixed using a nut (9). The handle has a special hole for sealing.

The outlet for the temperature sensor has a metric thread M10×1 for connecting an immersion temperature sensor, as well as a special sealing hole. It is closed with a plug (10) fitted with a Teflon sealing ring (11).It is permissible to install an immersion temperature sensor with a diameter of up to 5 mm and a length of up to 29 mm.

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

4. NOMENCLATURE AND DIMENSIONS

Table 3

Product Code	DN	G	PN, bar	A, mm	B, mm	C, mm	Weight, g
PF FBV 300M10	15	1/2"	40	52,5	40	38	195
PF FBV 301M10	20	3/4"	40	60,5	43,5	35,5	270
PF FBV 302M10	25	1"	30	69,5	54,5	38	420

5. INSTALLATION INSTRUCTIONS

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

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

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Sealing of threaded connections must be performed using PTFE-tape (fluoropolymer sealing material – polytetrafluoroethylene), polyamide thread with silicone, flax with special pastes, or other sealing materials that ensure joint tightness at the design temperature and pressure of the working medium, and which are approved for use according to established procedures.

After installation, sanitary system assemblies must be tested for leaks. They must be subjected to hydrostatic (hydraulic) or bubble (pneumatic) testing.

6. OPERATING AND MAINTENANCE

The valve must be operated without exceeding the pressure and temperature limits specified in p. 2. It is not permitted to operate the valve with a loose handle fixing nut, as this may damage the stem tail.

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 fluids with a high content of mechanical impurities, a filter should be installed at the inlet.

For long-term reliable operation, it is recommended to open and close the valve once a month as preventive maintenance. If a minor leak occurs around the stem under the handle during operation, remove the handle and tighten the packing bushing of the stem seal until the leakage stops.

7. WARRANTY OBLIGATIONS

The warranty period is 84 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.

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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 detailes:
- 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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