Profactor Armaturen GmbH

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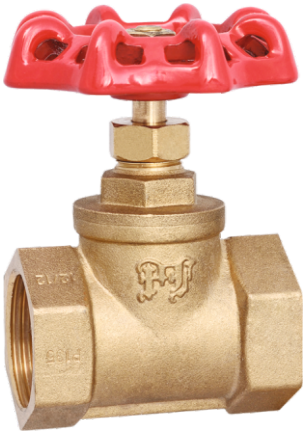
PROFACTOR®
DER DEUTSCHE QUALITÄTSSTANDARD

TECHNICAL DATA SHEET AND USER MANUAL



PRODUCT CODE

PF SVC 365
PF SVC 366
PF SVC 367

SHUT-OFF REGULATING VALVE

1. PURPOSE AND SCOPE

The valve is used as a shut-off and control device in heating systems, as well as in cold and hot water supply systems.

The shut-off and control valve can be used in pipelines that transport media non-aggressive to the materials of the product (such as cold and hot water, saturated steam, compressed air, and liquid hydrocarbons).

2. TECHNICAL SPECIFICATIONS

Product Code	PF SVC	365	366	366
Nominal size	DN	15	20	25
	G	1/2"	3/4"	1"
Nominal (rated) pressure PN	bar	16		
Operating medium temperature	°C	−20°C to +200°C		
Shut-off tightness class	—	«A»		
Installation length A	mm	47	55	64
B	mm	76,5	82,5	98,5
C	mm	58	58	72,5
Weight	g	235	324	480
Average service life	years	30		

3. DESIGN

A key advantage of this valve is its modern design, which eliminates rubber seals in the shut-off mechanism, utilizing a conical plug principle.

This design significantly increases the reliability and service life of the valve. The valve body (1) and bonnet (2) are made of brass grade CW617N (according to European standard DIN EN 12165-2011), with nickel-plated surfaces.

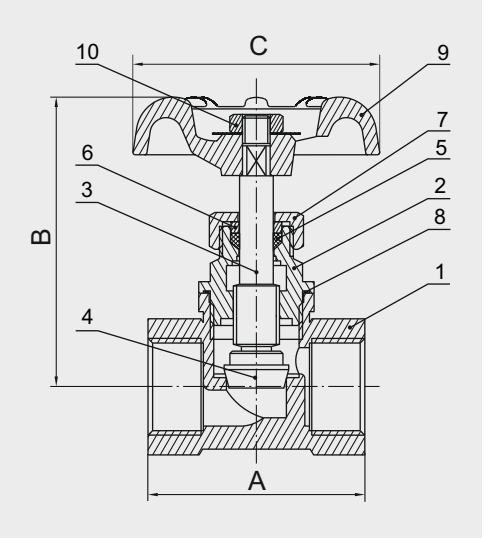
The valve body has two threaded connections with internal threads and a top opening with an internal thread as well, corresponding to ISO 228-1:2000, DIN EN 10226-2005.

The valve bonnet has a threaded bore in which the stem (3) moves. The stem has a conical-type shut-off element (4) attached to its end. Both the stem and the shut-off element are made of brass grade CW617N (according to DIN EN 12165-2011) and feature high-precision machining and polishing.

The stem sealing is ensured by a packing ring seal (5) made of high-temperature-resistant elastic Teflon (polytetrafluoroethylene, PTFE), a thrust ring (6), and a gland nut (7), both made of brass grade CW614N. When the gland nut is tightened, the thrust ring compresses the ring seal into the bonnet, providing maximum tightness of the stem.

The tightness between the body and bonnet is ensured by a gasket (8), also made of high-temperature-resistant elastic Teflon (PTFE). The handwheel of wing type is attached to the outer end of the stem with a nut (10) made of brass grade CW614N. The handwheel itself is made of structural steel S235JR (according to DIN EN 10025-2005).

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



1 – Body

2 – Valve bonnet

3 – Screw stem

4 – Conical-type shut-off element

5 – Stem packing ring seal

6 – Thrust ring

7 – Gland nut

8 – Bonnet gasket

9 – Wing-type handwheel

10 – Handwheel retaining nut

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4. OPERATING PRINCIPLE

The operation of the shut-off and control valve is based on blocking the flow by means of the working pair shut-off element – seat.

A screw stem is positioned perpendicular to the pipeline axis, with the shut-off element fixed on it. The plane of the shut-off element is parallel to the pipeline axis.

The valve bonnet contains an internal thread along which the stem and the shut-off element move from the uppermost position (valve open) to the lowermost position (valve closed). In the fully closed position, the shut-off element fits tightly onto the seat in the valve body, ensuring a hermetic seal.The tight shut-off is achieved through metal-to-metal contact, made possible by the high-precision machining of the conical-type shut-off element.

5. INSTALLATION INSTRUCTIONS

Before installing the valve, the pipeline must be thoroughly cleaned of rust, dirt, scale, sand, and other foreign particles that may affect the valve's performance.

Heating, heat supply, and domestic cold and hot water systems, as well as boiler pipelines, must be flushed with water after installation until the water runs clear and free of mechanical impurities.

The shut-off and control valve may be installed in any position with connection via pipe cylindrical thread. However, the arrow on the valve body must correspond to the direction of the working medium flow.

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 should be provided to reduce pipeline-induced loads on the valve.

The misalignment of connected pipelines should not exceed 3 mm per 1 meter of length, plus 1 mm for each additional meter. The valve must be securely fixed to the pipeline, and leakage of the working medium through threaded connections is not allowed.

Threaded connections should be made using sealing materials such as PTFE-tape (polytetrafluoroethylene), polyamide thread with silicone, or flax fiber. Care must be taken to ensure that excess sealing material does not enter the valve seat area, as this may cause loss of tightness. Finally, check the correctness of installation.

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After installation, a pressure (manometric) test of the system tightness must be carried out. This test ensures the system is protected against leaks and any associated damage.

When the valve is used in systems where the working medium contains a high amount of mechanical impurities, a mechanical filter must be installed upstream of the valve, as solid particles may reduce the valve's shut-off capability and compromise its tightness.

6. OPERATING AND MAINTENANCE

The shut-off and control valve must be operated without exceeding the pressure and temperature limits specified in the Technical Specifications table.

The shut-off and control valve must be operated without exceeding the pressure and temperature limits specified in the Technical Specifications table.

Installation, removal, repair, or adjustment operations must only be performed when there is no pressure in the system. Allow the equipment to cool down to ambient temperature before servicing. The valve design allows it to be used as a control valve, meaning the shut-off element can be set in an intermediate position to regulate the flow rate.

Operation of the valve without the gland nut installed or with a loose handwheel nut is not permitted.If leakage occurs along the stem, the gland nut must be tightened until the leakage stops.

7. WARRANTY OBLIGATIONS

The warranty period is 24 months from the date of sale to the end user.During the warranty period, the manufacturer guarantees proper operation of the product and its compliance with safety requirements, provided that the user complies with the rules for storage, transportation, installation, operation, and maintenance. The warranty covers all defects resulting from the manufacturer's fault.

The warranty does not cover defects that arise under the following conditions:

— Violation of the rules for storage, transportation, installation, operation, or maintenance;
— Evidence of exposure to substances aggressive to the product's materials;
— Presence of mechanical damage or destruction;
— Damage caused by fire, natural disasters, or other force majeure circumstances;
— Damage resulting from improper actions by the user;
— Evidence of unauthorized interference or modifications to the product's design.

The product described in this technical passport is a technically complex device and must be installed by a qualified specialist with the appropriate skills and experience in working with such equipment.

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

Profactor Armaturen GmbH reserves the right to make design modifications that do not affect the technical specifications or functional characteristics of the product.

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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