



PROFACTOR®
DER DEUTSCHE QUALITÄTSSTANDARD

EN

TECHNICAL DATA SHEET AND USER MANUAL



**PRODUCT
CODE**

PF RVT 855

**STRAIGHT THERMOSTATIC
VALVE WITH SEAL**

1. PURPOSE AND SCOPE

The PF RVT 855 thermostatic valve is designed for use as part of pump-mixing units (PMU's) in water-based underfloor heating systems. The valve ensures automatic regulation of the heat transfer fluid temperature through interaction with a thermostatic head equipped with a remote sensor installed in the supply pipeline. The valve is also intended for operation in single-pipe and two-pipe heating systems, as well as in boiler installations.

The use of water or aqueous glycol solutions (ethylene glycol/propylene glycol) with a concentration not exceeding 40% is permitted as the heat transfer fluid.

2. TECHNICAL SPECIFICATIONS

Nominal Size: DN25

Pipe Connection: 1" internal thread, pipe parallel (G)

Connection to PMU: 1" external thread, pipe parallel (G) with O-ring seal

Thermostatic Head Connection: M30x1.5

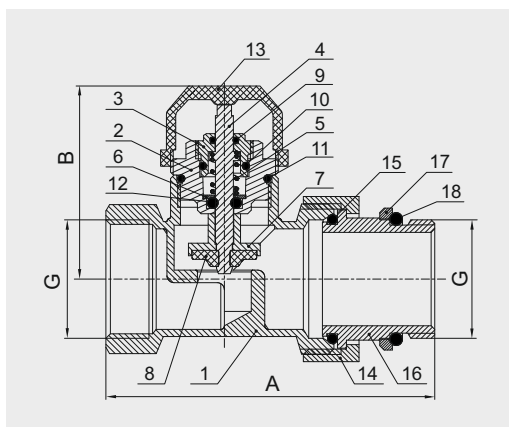
Maximum Working Pressure: 10 bar

Maximum Pressure Differential: 1 bar

Maximum Flow Capacity (Kvs): 3.3 m³/h

Maximum Operating Temperature: 120 °C

3. DESIGN



- 1 – Body
- 2 – Valve box body
- 3 – Valve box bushing
- 4 – Stem
- 5 – Spring
- 6 – Washer
- 7 – Valve disc
- 8 – Valve seal
- 9, 10, 11, 12, 15, 18
– Sealing rings (O-rings)
- 13 – Manual adjustment cap
- 14 – Union nut
- 16 – Connection nipple/stub
- 17 – Retaining ring

Product Code	DN	G	A, mm	B, mm	Weight, g
PF RVT 855	25	1"	85,5	50	430

PROFACTOR® thermostatic valves are in an accordance with DIN EN 215 and feature internal cylindrical pipe threads for connection to the pipeline. All cylindrical pipe threads are in an accordance with DIN 259 (ISO 228-1). The threads for connecting the thermostatic head is in an accordance with DIN ISO 261.

4. MATERIALS

Parts 1, 16, 14 — Nickel-plated brass CW617N (DIN EN 12165-2011)
 Retaining ring 17 — Nickel-plated brass CW614N (DIN EN 12165-2011)
 Parts 2, 3, 4, 7 — Brass CW614N (DIN EN 12165-2011)
 Parts 5, 6 — Stainless steel AISI 304 (DIN EN 10088-2005)
 Manual adjustment cap 13 — ABS plastic
 All sealing parts — EPDM

5. OPERATING PRINCIPLE

The spring (5) holds the valve in the open position by keeping the stem (4) in its upper position. When the manual adjustment cap (13) is screwed clockwise, it presses on the top end of the stem, lowering it together with the valve disc (7), thereby reducing the flow passage for the heat transfer fluid.

Rotating the cap (13) counterclockwise increases the flow passage for the heat transfer fluid. The regulation process can be automated by installing a thermostatic head on the valve in place of the manual adjustment cap (13).

6. HYDRAULIC CHARACTERISTICS

Flow Rate (l/h)	Kv = 2,0 (2K) (bar)	Kv = 2,8 (4K) (bar)	Kv = 3,3 (MAX) (bar)
100	0,0025	0,0013	0,0009
200	0,0100	0,0051	0,0037
300	0,0225	0,0114	0,0083
400	0,0400	0,0204	0,0147
500	0,0625	0,0316	0,0230
600	0,0900	0,0450	0,0330
800	0,1600	0,0804	0,0588
1000	0,2500	0,1265	0,0920

7. INSTALLATION INSTRUCTIONS

Before installing the valve, the pipeline must be cleaned of rust, dirt, scale, sand, and other foreign particles that could affect the product's performance. Heating systems, heat supply systems, internal cold and hot water supply systems, and boiler pipelines must be flushed with water upon completion of installation until the effluent is clear of mechanical suspensions.

The valve must not be subjected to loads from the pipeline (bending, compression, tension, torsion, misalignment, vibration, pipe misalignment, uneven tightening of fasteners). If necessary, supports or compensators must be provided to reduce the load on the product from the pipeline. The misalignment of the connected pipelines must not exceed 3 mm for lengths up to 1 m, plus 1 mm for each subsequent meter.

The valve may be installed in any orientation, but the arrow on the body must align with the direction of flow of the working medium. During installation, the connection nipple (16) with the union nut (14) should be attached first. It is necessary to check the integrity of the nipple's rubber O-ring. After hand-tightening, the union nut (14) should be turned with a wrench no more than ½ turn further.

The valve must be securely fastened to the pipeline; leakage of the working fluid along the threaded connection is not permitted. Threaded connections must be made using PTFE-tape (polytetrafluoroethylene), polyamide thread with silicone, or flax as sealing thread compound. Care must be taken to ensure that excess material does not enter the valve seat, as this may compromise its sealing ability.

Verify the installation is correct. After installation, a pressure test for system leak tightness must be performed. This test helps to protect the system from leaks and associated damage.

If the product is used in systems conveying media with a high content of mechanical impurities, a strainer must be installed upstream of the valve, as mechanical particles can limit the valve's shut-off and regulating ability and impair its sealing.

8. OPERATION AND MAINTENANCE

PROFACTOR® thermostatic valves must be operated without exceeding the pressure and temperature specified in p.2. Installation, removal, and any repair operations must be performed when the system is depressurized. Allow the equipment to cool down to ambient temperature.

9. WARRANTY OBLIGATIONS

The warranty period is 12 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



Profactor Armaturen GmbH

Ruffinallee 9, c/o Kanzlei Antegra, 82166 Gräfelfing, Germany;
Tel.: +49 89 21546092; info@pf-armaturen.de; www.profactor.de