



PROFACTOR®
DER DEUTSCHE QUALITÄTSSTANDARD

EN

TECHNICAL DATA SHEET AND USER MANUAL

PRODUCT CODE

PF RVT 380
PF RVT 381
PF RVT 382
PF RVT 383
PF RVT 380UR
PF RVT 381UR
PF RVT 382UR
PF RVT 383UR

PF RVT 985
PF RVT 986
PF RVT 985UR
PF RVT 986UR



**RADIATOR
THERMOSTATIC VALVE**

1. PURPOSE AND SCOPE

PROFACTOR® radiator thermostatic valves are designed for connecting heating devices and for the smooth regulation of room temperature by adjusting the flow rate of the heat transfer medium in heating systems. Thermostatic valves are installed on the supply pipeline to the radiator and are suitable for use in both single-pipe and two-pipe heating systems.

The use of thermostatic valves allows for reduced heat energy consumption and improved efficiency of the heating system.

2. TECHNICAL SPECIFICATIONS

Nominal size: DN15, DN20

Connection to pipeline: 1/2" or 3/4" internal cylindrical pipe thread (G)

Connection to radiator: 1/2" or 3/4" external cylindrical pipe thread (G) with O-ring seal, or tapered pipe thread (R)

Connection for thermostatic head: M30×1.5

Maximum operating pressure: 10 bar

Maximum differential pressure: 1 bar

Maximum operating medium temperature: 120°C

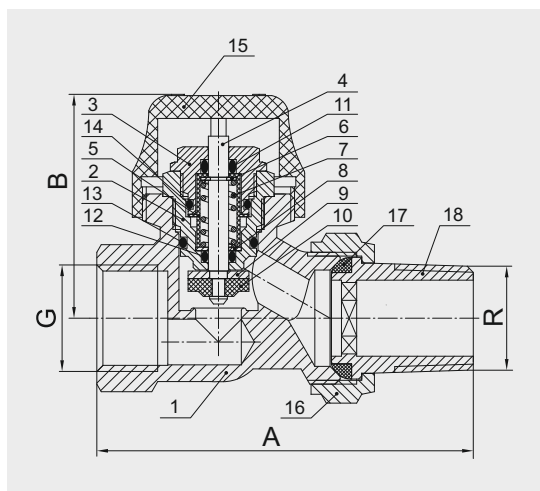
3. DESIGN

All PROFACTOR® radiator thermostatic valves are in accordance with the requirements of DIN EN 215. All PROFACTOR® thermostatic valves feature an internal cylindrical pipe thread for connection to the pipeline.

Models PF RVT 380, PF RVT 381, PF RVT 382, PF RVT 383, PF RVT 985, and PF RVT 986 have an external tapered pipe thread on the union (18) for connection to the radiator. Models PF RVT 380UR, PF RVT 381UR, PF RVT 382UR, PF RVT 383UR, PF RVT 985UR, and PF RVT 986UR feature an external cylindrical pipe thread with an O-ring seal, which does not require additional sealing.

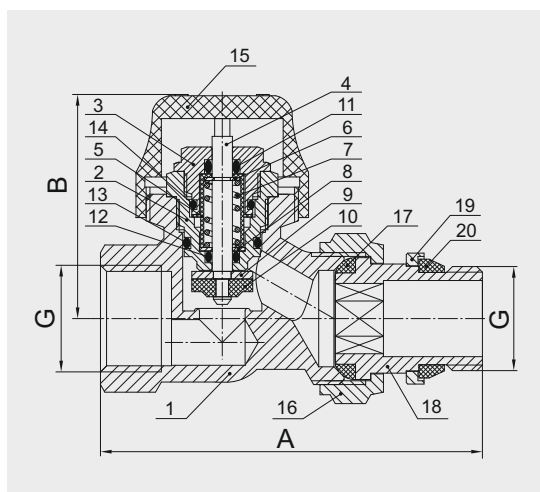
All cylindrical pipe threads are in an accordance with DIN 259 (ISO 228-1), and all tapered pipe threads are in an accordance with DIN EN 10226-1 (ISO 7-1). The thread for connecting the thermostatic head is in an accordance with DIN ISO 261.

Straight radiator thermostatic valve, PF RVT 380, PF RVT 381:



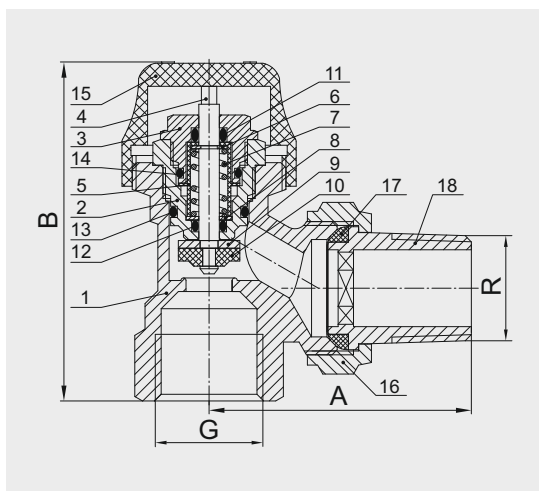
- 1 – Body
- 2 – Valve insert body
- 3 – Valve insert sleeve
- 4 – Stem
- 5 – Cap
- 6 – Split locking washer
- 7 – Spring
- 8 – Washer
- 9 – Valve disc
- 10 – Valve seal
- 11, 12, 13, 14, 17 – O-rings
- 15 – Manual adjustment cap
- 16 – Union nut
- 18 – Union

Straight radiator thermostatic valve with union O-ring, PF RVT 380UR, PF RVT 381UR:



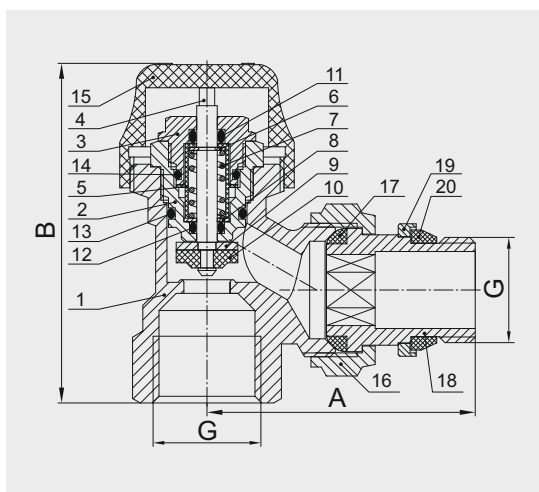
- 1 – Body
- 2 – Valve insert body
- 3 – Valve insert sleeve
- 4 – Stem
- 5 – Cap
- 6 – Split locking washer
- 7 – Spring
- 8 – Washer
- 9 – Valve disc
- 10 – Valve seal
- 11, 12, 13, 14, 17, 20 – O-rings
- 15 – Manual adjustment cap
- 16 – Union nut
- 18 – Union
- 19 – Retaining ring

Angled radiator thermostatic valve, PF RVT 382, PF RVT 383:



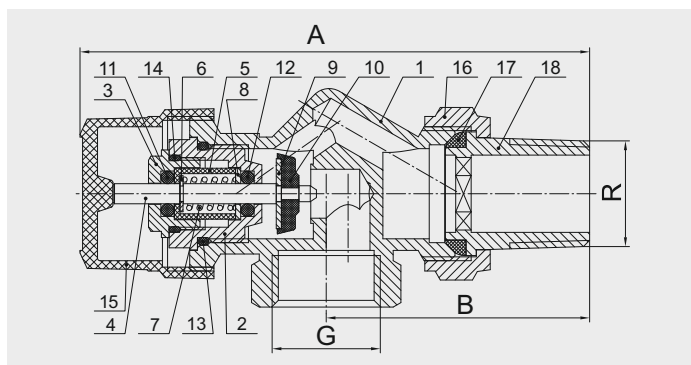
- 1 – Body
- 2 – Valve insert body
- 3 – Valve insert sleeve
- 4 – Stem
- 5 – Cap
- 6 – Split locking washer
- 7 – Spring
- 8 – Washer
- 9 – Valve disc
- 10 – Valve seal
- 11, 12, 13, 14, 17 – O-rings
- 15 – Manual adjustment cap
- 16 – Union nut
- 18 – Union

Angled radiator thermostatic valve with union O-ring, PF RVT 382UR, PF RVT 383UR:



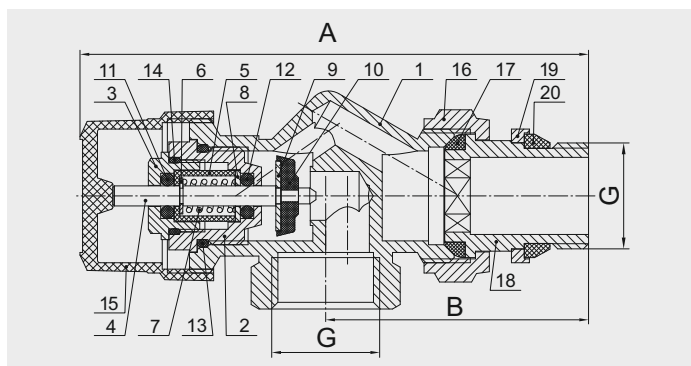
- 1 – Body
- 2 – Valve insert body
- 3 – Valve insert sleeve
- 4 – Stem
- 5 – Cap
- 6 – Split locking washer
- 7 – Spring
- 8 – Washer
- 9 – Valve disc
- 10 – Valve seal
- 11, 12, 13, 14, 17, 20 – O-rings
- 15 – Manual adjustment cap
- 16 – Union nut
- 18 – Union
- 19 – Retaining ring

Axial radiator thermostatic valve, PF RVT 985, PF RVT 986:



- | | |
|--------------------------|------------------------------|
| 1 – Body | 8 – Washer |
| 2 – Valve insert body | 9 – Valve disc |
| 3 – Valve insert sleeve | 10 – Valve seal |
| 4 – Stem | 11, 12, 13, 14, 17 – O-rings |
| 5 – Cap | 15 – Manual adjustment cap |
| 6 – Split locking washer | 16 – Union nut |
| 7 – Spring | 18 – Union |

Axial radiator thermostatic valve with union O-ring,
PF RVT 985UR, PF RVT 986UR:



- | | |
|--------------------------|----------------------------------|
| 1 – Body | 9 – Valve disc |
| 2 – Valve insert body | 10 – Valve seal |
| 3 – Valve insert sleeve | 11, 12, 13, 14, 17, 20 – O-rings |
| 4 – Stem | 15 – Manual adjustment cap |
| 5 – Cap | 16 – Union nut |
| 6 – Split locking washer | 18 – Union |
| 7 – Spring | 19 – Retaining ring |
| 8 – Washer | |

4. MATERIALS

Parts 1, 16, 18 — Brass CW617N (DIN EN 12165-2011) with nickel-plated surfaces
 Retaining ring 19 — Brass CW614N (DIN EN 12165-2011) with nickel-plated surfaces
 Parts 2, 3, 9 — Brass CW614N (DIN EN 12165-2011)
 Parts 4, 6, 7, 8 — Stainless steel AISI 304 (DIN EN 10088-2005)
 Cap 5 — Polyoxymethylene (POM)
 Manual adjustment cap 15 — ABS plastic
 All sealing components — EPDM

5. OPERATING PRINCIPLE

The spring (7) keeps the valve in the open position, holding the stem (4) in its uppermost state. When the manual adjustment cap (15) is turned clockwise, it presses on the upper end of the stem, pushing it downward together with the valve disc (9), thereby reducing the passage area for the heat carrier. When the cap (15) is turned counterclockwise, the passage for the heat carrier increases, allowing a higher flow rate.

This adjustment process can be automated by installing a thermostatic head on the valve in place of the manual adjustment cap (15), which will control the valve stem movement automatically depending on the ambient temperature.

6. NOMENCLATURE AND DIMENSIONS

Straight radiator thermostatic valve:

Product code	DN	A, mm	B, mm	G	R	Weight, g
PF RVT 380	15	74	44,5	G 1/2"	R 1/2"	230
PF RVT 381	20	81,5	47,5	G 3/4"	R 3/4"	303

Straight radiator thermostatic valve with union O-ring:

Product code	DN	A, mm	B, mm	G	Weight, g
PF RVT 380UR	15	74	44,5	G 1/2"	235
PF RVT 381UR	20	81,5	47,5	G 3/4"	308

Angled radiator thermostatic valve:

Product code	DN	A, mm	B, mm	G	R	Weight, g
PF RVT 382	15	51	66,5	G 1/2"	R 1/2"	220
PF RVT 383	20	58	71	G 3/4"	R 3/4"	286

Angled radiator thermostatic valve with union O-ring:

Product code	DN	A, mm	B, mm	G	Weight, g
PF RVT 382UR	15	51	66,5	G 1/2"	225
PF RVT 383UR	20	58	71	G 3/4"	296

Axial radiator thermostatic valve:

Product code	DN	A, mm	B, mm	G	R	Weight, g
PF RVT 985	15	97	51	G 1/2"	R 1/2"	230
PF RVT 986	20	102	55	G 3/4"	R 3/4"	310

Axial radiator thermostatic valve with union O-ring:

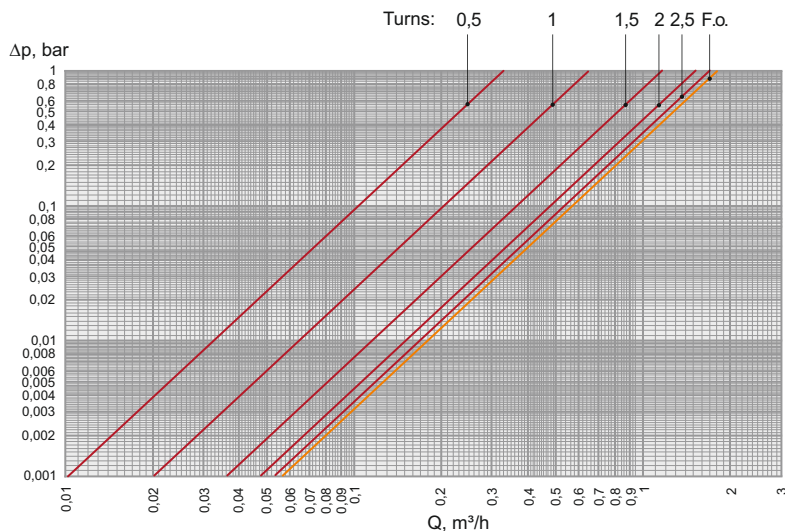
Product code	DN	A, mm	B, mm	G	Weight, g
PF RVT 985UR	15	97	51	G 1/2"	240
PF RVT 986UR	20	102	55	G 3/4"	310

7. HYDRAULIC CHARACTERISTICS

Thermostatic radiator valves — straight and angled types, models PF RVT 380, PF RVT 381, PF RVT 380UR, PF RVT 381UR, PF RVT 382, PF RVT 383, PF RVT 382UR, PF RVT 383UR:

Number of turns	0,5	1	1,5	2	2,5	F.o.
Kvs, m³/h	0,33	0,66	1,14	1,50	1,68	1,80

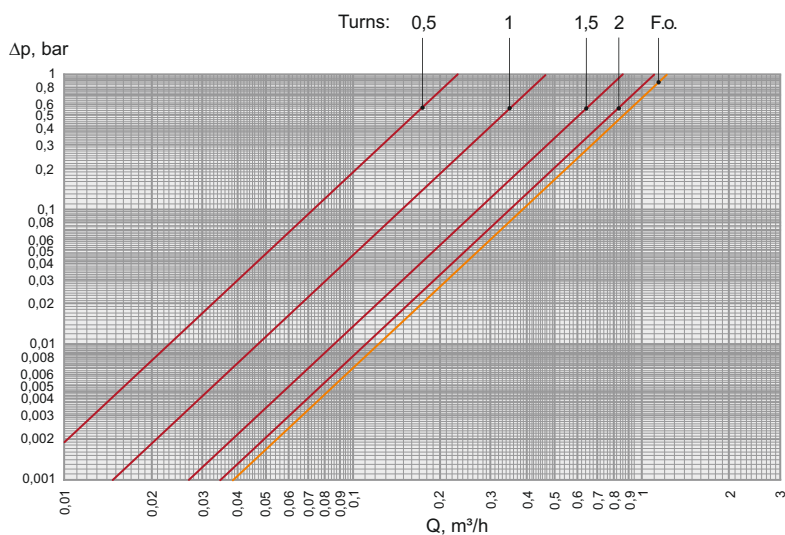
Flow rate and pressure drop chart:



Thermostatic radiator valves with axial control, models PF RVT 985, PF RVT 986, PF RVT 985UR, PF RVT 986UR:

Number of turns	0,5	1	1,5	2	F.o.
Kvs, m³/h	0,23	0,47	0,86	1,09	1,21

Flow rate and pressure drop chart:



8. INSTALLATION INSTRUCTIONS

Before installing the valve, the pipeline must be cleaned of rust, dirt, scale, sand, and any foreign particles that may affect the product's performance. Heating, heat supply, domestic cold and hot water systems, and boiler pipelines must be flushed with water after installation until the water runs clear and contains no suspended solids.

The valve must not be subjected to mechanical loads from the pipeline, such as bending, compression, tension, torsion, misalignment, vibration, or uneven tightening of fasteners. If necessary, supports or compensators must be installed to reduce loads from the pipeline on the valve. Misalignment of connected pipelines must not exceed 3 mm per 1 meter of length, plus 1 mm for each additional meter.

The valve may be installed in any position, but the arrow on the valve body must match the flow direction of the working medium.

During installation, first connect the union (18) with the union nut (16). Check the integrity of the union's O-ring before tightening. After hand-tightening the union nut, tighten it with a wrench by no more than ½ turn.

The valve must be securely fixed to the pipeline; leakage of the working fluid through the threaded joint is not allowed. Threaded connections should be made using PTFE-tape (polytetrafluoroethylene sealing material), polyamide thread with silicone, or flax fiber. Care must be taken to ensure that excess sealing material does not enter the valve seat, as this may lead to loss of tightness.

Check the correctness of installation. After mounting, perform a pressure test of system tightness to ensure system safety and prevent leaks or related damage.

When using the valve in systems where the medium contains a high concentration of mechanical impurities, install a mechanical filter before the valve, since particles may impair the shut-off and regulating functions of the valve and compromise its sealing integrity.

9. OPERATING AND MAINTENANCE

PROFACTOR® thermostatic valves must be operated without exceeding the pressure and temperature limits specified in Section 2.

Installation, removal, and any repair operations must be performed only when the system is depressurized. Allow the equipment to cool down to ambient temperature before performing maintenance.

10. WARRANTY OBLIGATIONS

The warranty period is 24 months from the date of sale to the end user. During the entire warranty period, the manufacturer guarantees the proper operation of the product and its compliance with safety requirements, provided that the user adheres to the rules for storage, transportation, installation, operation, and maintenance of the product.

The warranty covers all defects resulting from 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 product materials;
- Signs of mechanical damage;
- Damage caused by fire, natural disasters, or other force majeure circumstances;
- Damage resulting from improper actions by the user;
- Evidence of unauthorized interference with the product's design.

The product described in this technical manual is a technically complex device that must be installed by a specialist with the appropriate qualifications and experience in 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 design modifications to the device 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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