



PROFACTOR®
DER DEUTSCHE QUALITÄTSSTANDARD

EN

TECHNICAL DATA SHEET AND USER MANUAL



PRODUCT
CODE

PF PU 1054

HYDRAULIC SEPARATOR

1. PURPOSE AND SCOPE

The PROFACTOR® PF PU 1054 hydraulic separator is used in water heating/cooling systems. Prevents pumps from interfering with each other. Allows for the operation of systems with several circuits, increases the efficiency of the boiler, and protects cast iron boilers from temperature differences.

The hydraulic separator is a multifunctional device for maintenance and cleaning of heating systems, which includes a combined air/gas separator with a sludge trap and a hydraulic separation function for the boiler circuits and heat consumers.

The heating system must be closed (without open access of atmospheric air to the coolant). The heat medium can be a liquid which is non-corrosive towards the materials of the product: water, solutions based on glycol. Maximum glycol content: 40%.

2. TECHNICAL SPECIFICATIONS

Reference dimensions: DN25

The connection of piping from the boiler: 1½"F

Connection to the distribution manifold: 1½"F

Maximum working pressure: 6 bar

Maximum heat medium temperature: 110°C

Maximum heat medium consumption: 2 m³/hour

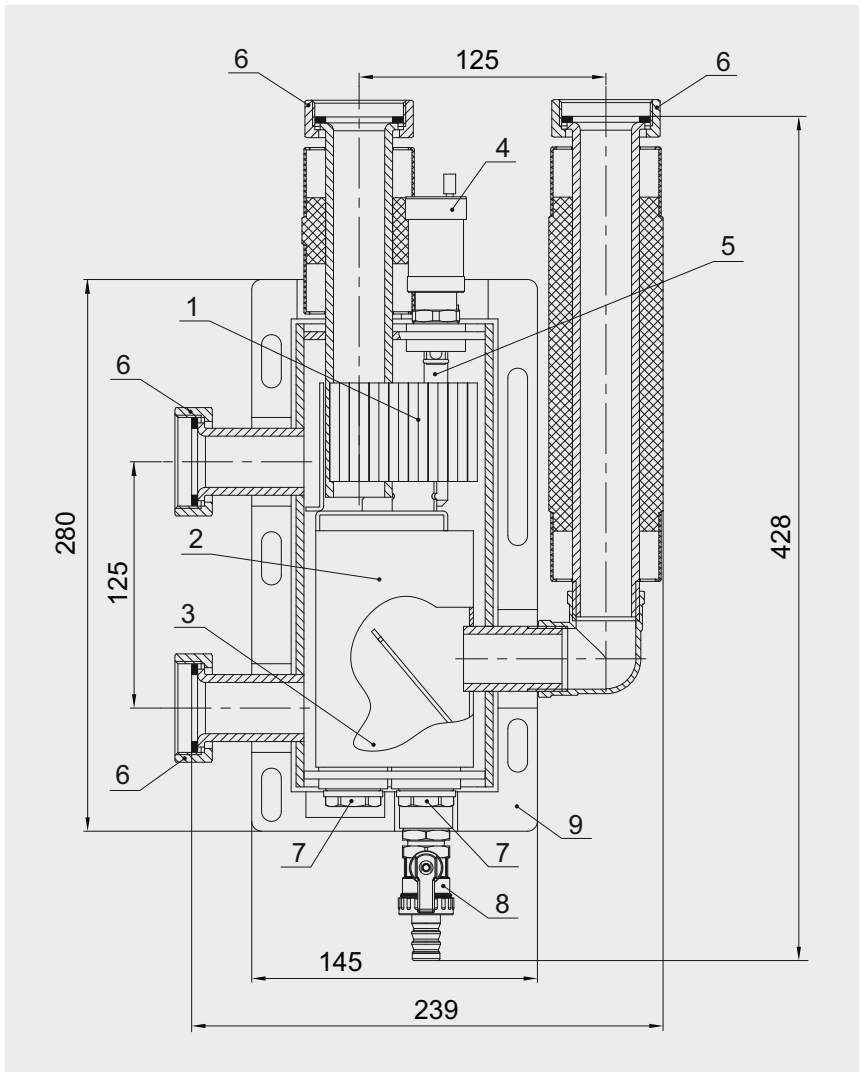
Maximum heat capacity $Q_{\max}$ at $\Delta T=20^{\circ}\text{C}$: 50 kW

Wall thickness: 3 mm

Dimensions in the insulation casing (W x H x D): 255 x 440 x 145 mm

Weight: 6420 g

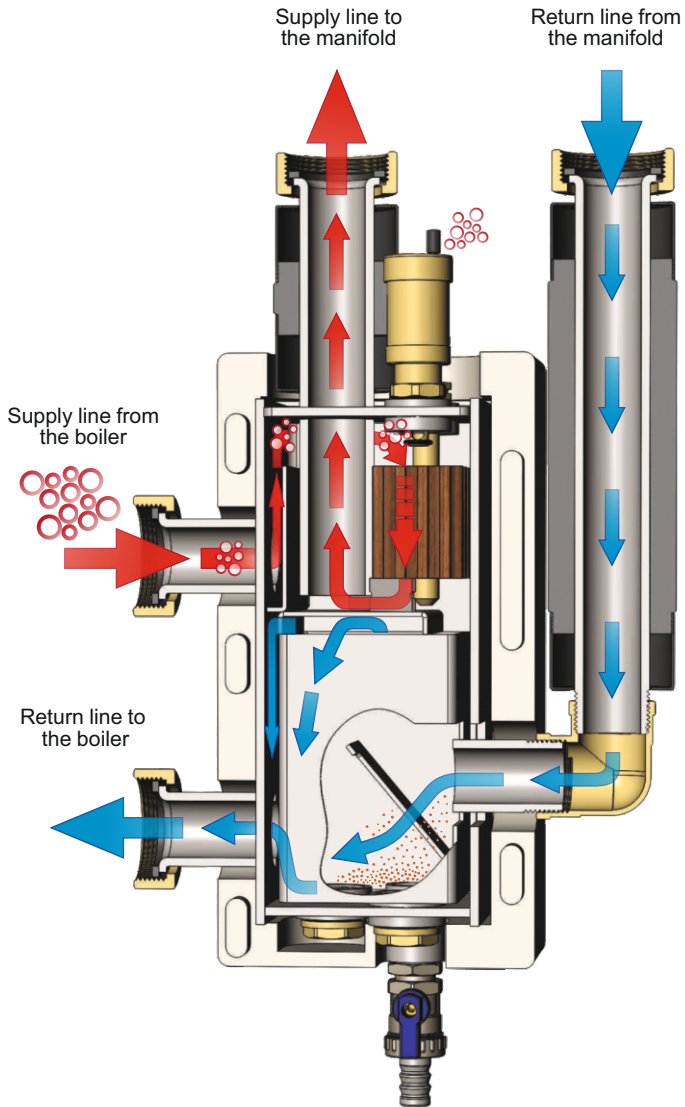
3. DESIGN



- 1 – Zone of air/gas separation from the heat medium
- 2 – Zone of compact stabilization of the coolant flows
- 3 – Sludge extractor
- 4 – Automatic air vent with a shut-off valve
- 5 – Sleeve for immersion temperature sensor

- 6 – Union nut 1½" with a flat O-ring
- 7 – The place for magnetic traps installation
(closed with a plug)
- 8 – Drain ball valve
- 9 – Heat insulation cover

The case of the device is a rectangle of welded steel, with welded pipes with split flanges at the ends for connection to the manifold and the pipeline from the boiler.



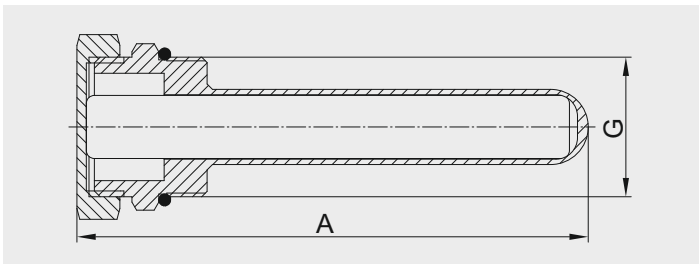
The area of air separation includes a module dividing the whole space into many channels, which improves the separation of air, and the air is then removed from the system via the automatic air vent. The shut-off valve connects the air vent to the body of the hydraulic separator and makes it possible to install and remove the air vent without emptying the system.

The diameter of the submersible temperature sensor which is placed in sleeve (5) must not exceed 9.8 mm, and its length must not be more than 90 mm.

The speed of the heat medium flowing back from consumers decreases in the expanded case of the hydraulic separator, and major impurities are deposited in the catcher as a result. After that, they can easily be removed from the system through the ball drain valve.

The case of the PF PU 1054 hydraulic separator has two positions for the installation of magnetic separators PF PU 1055 with 3/4" connecting thread. They are closed with plugs. Magnetic separators PF PU 1055 are not included in the supplied set and must be purchased separately. They are used to remove metal debris from the system.

Magnetic separator PF PU 1055:



Length A: 97 mm
 Connection G: 3/4"
 Weight: 170 g

All the straight pipe threads conform to ISO 228-1:2000, DIN 259.

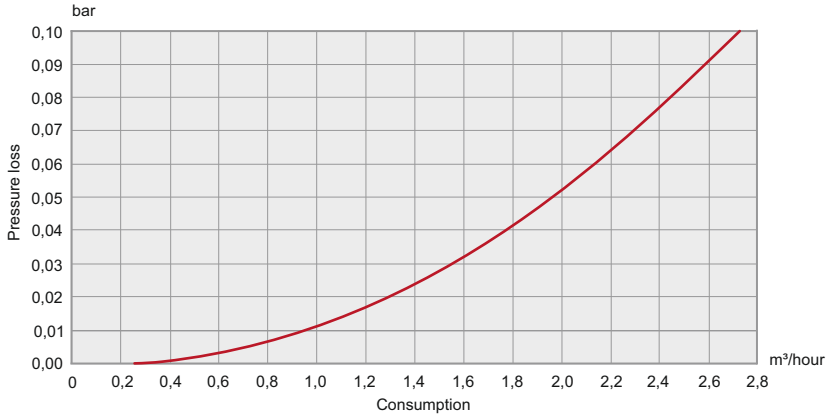
4. MATERIALS

The housing of the hydraulic separator and the branching pipes are made of anti-rust plated carbon steel with black color enamel coating.

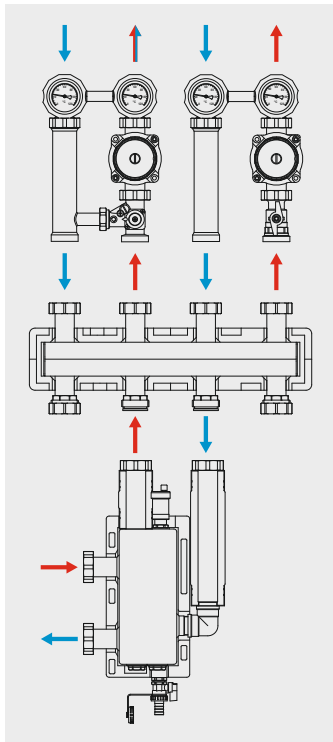
The union nuts, the casings of the air vent and the drain valve, the plugs, the corner: brass CW614N (DIN EN 12165-2011).

All the sealing elements are EPDM.

5. HYDRAULIC CHARACTERISTICS



6. INSTALLATION INSTRUCTIONS



PROFACTOR® PF PU 1054 hydraulic separator can only be installed in premises with a temperature above 0°C!

Installation and commissioning may only be performed by a specialized installation company.

The hydraulic separator must be placed absolutely vertically! The mounting on the manifold is performed with the use of union nuts with flat O-rings.

Avoid mechanical damage to the hydraulic separator and its pollution with construction mixtures. The device must not be exposed to loads from the piping line (bending, compression, tension, torsion, misalignment, vibration, misalignment of the nozzles, uneven tightening of the fasteners).

If necessary, supports or compensators must be provided in order to reduce the load on the product pipe.

Misalignment of the connected pipework must not exceed 3 mm for the length of up to 1 m, plus 1 mm for each subsequent metre.

After installation, it is necessary to conduct a pressure test of the airtightness of the system. This test provides an opportunity to protect the system from leaks and the related damage. Before the test, it is necessary to ensure that all the union nuts are tight.

7. OPERATING AND MAINTENANCE

PROFACTOR® PF PU 1054 hydraulic separator must not be exposed to pressure or temperature exceeding the values provided in item 2 of this data sheet. Installation and removal of the product, as well as any repairs, must be performed when the system is under no pressure. Allow the equipment to cool down to ambient temperature.

Installation of magnetic separators PF PU 1055:

Magnetic separators PF PU 1055 are not included in the supplied set and must be ordered separately.

1. Cut off the hydraulic separator from the system.
2. Open the drain ball valve and drain the heat medium from the hydraulic separator.
3. Unscrew the plug from the socket for the magnetic trap (7) and screw the brass sleeve into its socket.
4. Insert the magnetic trap device in brass sleeve.
5. Open the switch valves and fill the system up with the heat medium. We recommend you to install magnetic traps before filling the system with the heat medium in order to avoid draining the heat medium from the hydraulic separator.

To drain sludge from the system:

1. Before draining, turn off all pumps and stop the operation of the boiler.
2. Allow the equipment to cool down to ambient temperature.
3. Put the hose on the fitting of the drain valve.
4. Cut off the hydraulic separator from the system for its maintenance.
5. If magnetic traps are installed, unscrew them and slowly remove them from the sockets. The particles of the magnetic material follow the magnet and are deposited in the drainage area.
6. Open the ball drain valve.
7. When draining the heat medium, monitor its purity. When the desired level of the heat medium is achieved, close the ball valve.
8. Open the switch valves and fill the system up with the heat medium.



8. 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



Profactor Armaturen GmbH

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