

**Assembly and maintenance instructions
for pressure relief valves/overflow valves
series RV02, RV03, RV05, RV12, RV17, RV20, RV21, RV22, RV26, RV27**



Abb. a) and b)

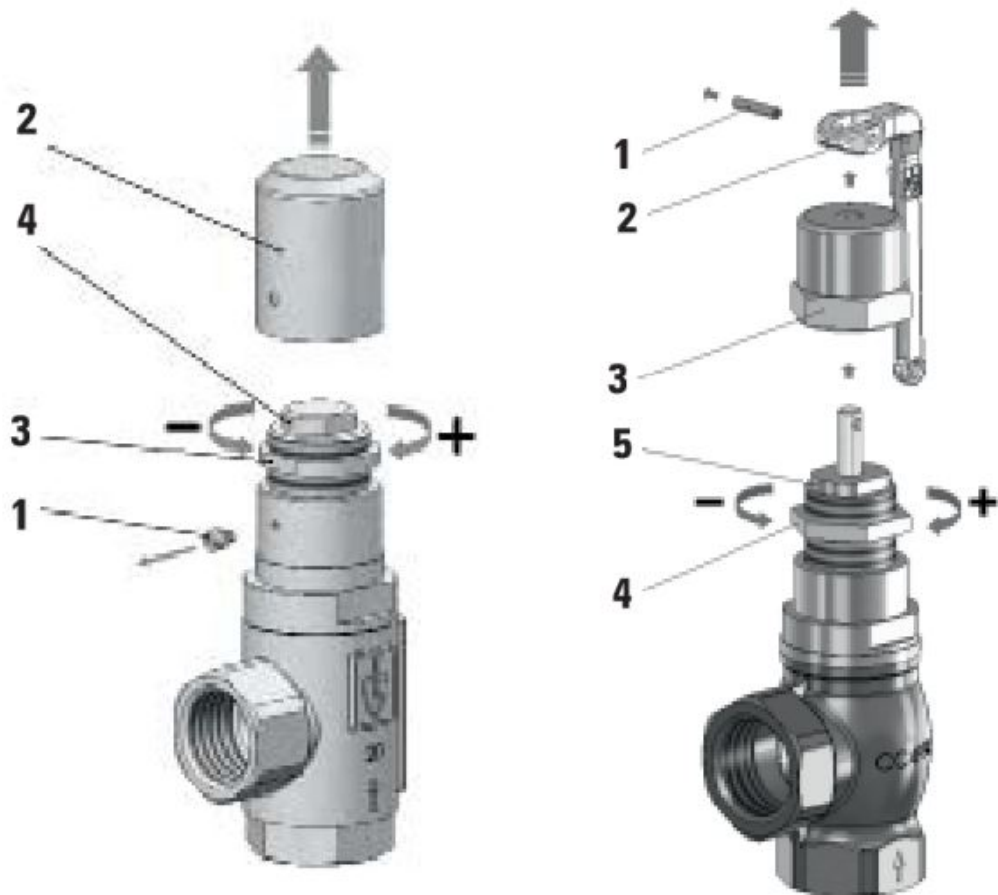


Abb. c) and d)



Abb. e) and f)

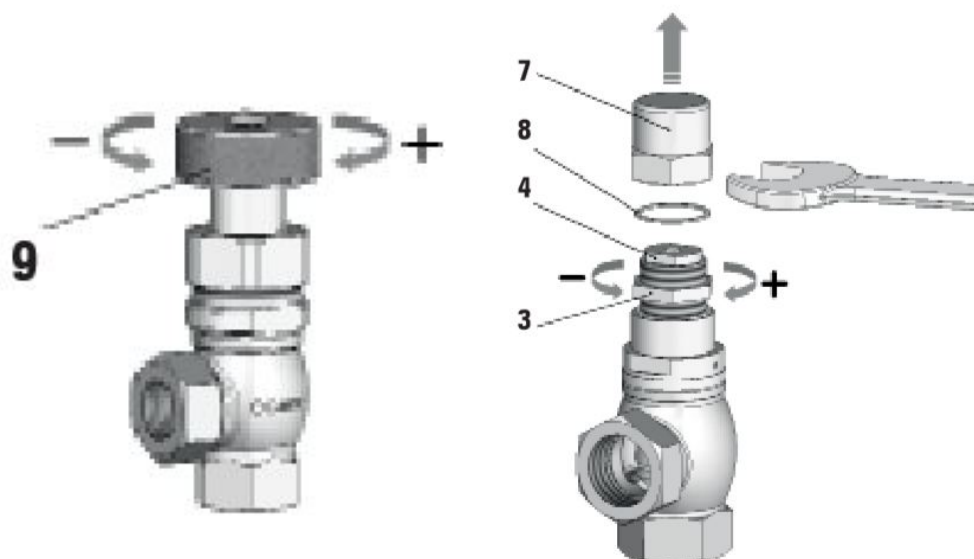


Abb. g) and h)

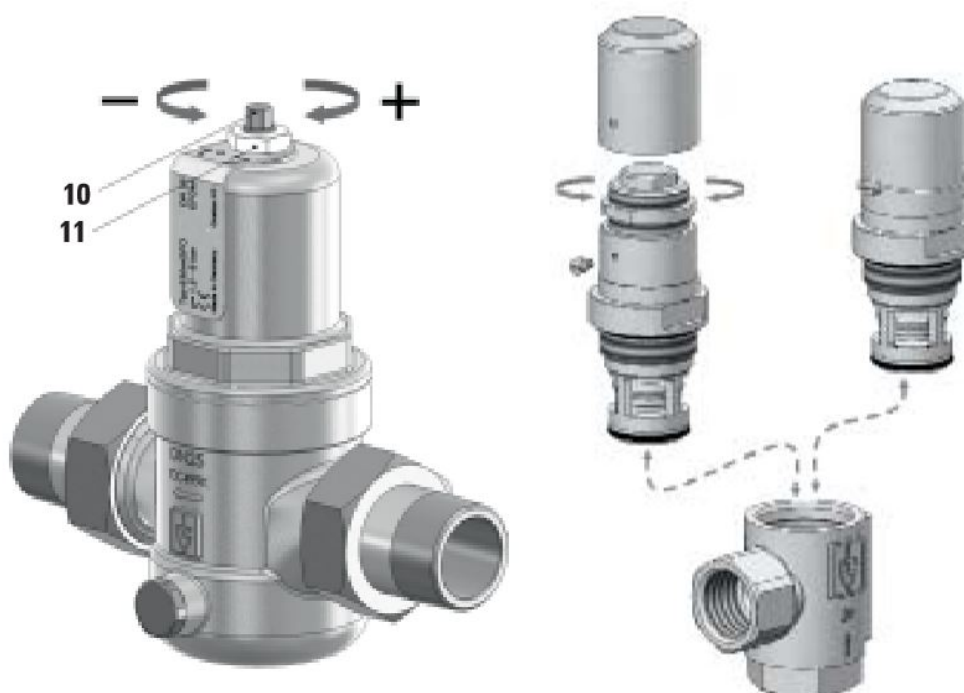


Abb. i)



1 General Notes of Safety

- 1.1 Only use the valve:
 - for the intended purpose
 - in satisfactory condition
 - with respect for safety and potential hazards
 - 1.2 Always observe the installation instructions.
 - 1.3 Faults that may impair safety must be addressed immediately.
 - 1.4 The valves are exclusively intended for the application area stated in these installation instructions. Any other or further use is not valid as the intended use.
 - 1.5 The manufacturers warranty for the setting of the valve shall be null and void if the sealed cover is removed.
 - 1.6 All assembly work is to be carried out by authorized specialist staff.
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2 general information

Overflow valves and pressure limiting valves are high-quality fittings which require a particularly careful handling. The sealing surfaces are precision-machined at the seat and cone to attain the required tightness. Always avoid the penetration of foreign particles into the valve during assembly and during the operation. The tightness of a pressure limiting / overflow valve can be impaired when using hemp, Teflon tape, as well as through welding beads, among other things. Also rough handling of the finished valve during storage, transport and assembly can result in a valve leaking. If the valves are painted, make sure that the sliding parts do not come into contact with the paint.

3 application

According to valve version: As pressure limiting valve (proportional safety valve) for non-adhesive liquids, gas, steam for protection against excess pressure in pressure tanks or steam boilers as well as pressure-holding equipment parts for pressure devices in compliance with the EC pressure equipment directive. As overflow valve (only the gastight versions RV02, RV05, RV12, RV17, RV20, RV21, RV22, RV27) for non-adhesive liquids, gas and steam for pressure limitation and/or regulation, for protection of pumps and as bypass valve. Overflow valves can also be used if there is counterpressure. For details on the range of application of the individual versions please refer to the datasheets of the manufacturer.

4 Installation and Assembly

To ensure a satisfactory operation of the valves they must be assembled in such a way that the safety valve is not exposed to any impermissible static, dynamic or thermal loads. The installation has to be flushed before installing the valve. If an installation is not sufficiently cleaned or the valve is installed improperly, the valve may leak even the first time it responds. Appropriate safety measures must be taken at the place of installation of the valves if the medium that discharges upon actuation of the valve can lead to direct or indirect hazards to people or the environment

- 4.1 Pressure limiting valves are to be installed vertically, if possible, and with the bonnet pointing upward. A different installation position must be clarified with the manufacturer
 - 4.2 Overflow valves (RV02, RV05, RV12, RV17, RV20, RV21, RV22, RV27) can be installed in any position. The function of the valves is guaranteed in every position.
 - 4.3 During assembly always make sure not to apply any force when fastening the connecting thread and not to screw it in too far, as this could otherwise damage the seat of the valve. Do not allow sealing material such as hemp or Teflon to penetrate into the valve.
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5 adjustment

The valves can be delivered with a set pressure and sealed by the factory or without set pressure with the desired range of adjustment. Valves which have been set and sealed by the factory are marked with the set pressure. Before changing the set pressure the seal has to be removed. If valves are unsealed, the desired pressure can be set within the pressure range of the spring. In the case of ATEX versions for categories 1 and 2 and unset gastight valve versions (t.....) the valves must be tested after setting in order to guarantee their gastightness.

5.1 Fig. a): type RV12:

1. Unscrew capstan headed screw (1) and remove cap (2).
2. Release locknut (3).
3. Turn pressure screw (4). (In type RV12 medium does not discharge via the spring chamber even under operating conditions or with available counterpressure.). Turn in clockwise direction to increase pressure, turn in counterclockwise direction to reduce pressure.
4. Tighten locknut (3).
5. Mount cap (2) and fasten capstan headed screw (1).

5.2 Fig. b): type RV02 - with lifting lever:

1. Remove locking pin (1) and take off lever (2).
2. Unscrew cap nut (3).
3. Disengage bushing (4).
4. Loosen locking nut (7).
5. Turn pressure screw (6): Clockwise = increases pressure, Anticlockwise = decreases pressure.
6. Tighten locking nut (7).
7. Engage bushing 4 in spindle (5).
8. Refit and tighten cap nut (3).
9. Fit locking pin in lever (2) and bushing (4).

5.3 Fig. c), d), e): type RV05, RV27, RV17, RV21, RV20:

1. Release counter-nut (11). (type RV20/RV21)
2. Carry out pressure adjustment at handwheel (9, 12) or with hexagonal wrench key. Turning clockwise increases pressure, turning anticlockwise decreases pressure. The valves can be set when backpressure prevails or when medium is flowing through the valve. The setting can be secured by means of a seal.
3. Tighten counter-nut (11). (type RV21)

5.4 Fig. f): type RV02:

1. Unscrew cap nut (7) and remove copper gasket (8).
2. Release locknut (3).
3. Turn pressure screw (4): Turn in clockwise direction to increase pressure, turn in counterclockwise direction to reduce pressure.
4. Tighten locknut (3) again and mount copper gasket (8).
5. Screw on cap nut (7) and tighten.

5.5 Fig. g): type RV27, RV22:

1. Remove plastic protective cap; loosen counter-nut (11).
 2. Adjust pressure at adjusting spindle (10). Turn in clockwise direction to increase pressure, turn in counterclockwise direction to reduce pressure. By connecting a pressure gauge (available as accessory) the set pressure can be conveniently read from the pressure gauge.
 3. Tighten counter-nut (11).
- The setting can be secured by means of a seal.

6 Operating and Maintenance

The operating pressure of the plant is to be at least 5 % lower than the closing pressure of the valve if it is used as a pressure limiting valve. In this way, the valve can satisfactorily close again after blowing off. In the event of minor leaks, the valves can be made to respond by lifting the lever for version RV02 (the lever is not used for adjusting the valve!), or by applying overpressure for the remaining model series. If this does not remove the leak the valve has to be overhauled. After long periods of non-use the function of the valve must be tested. For the valves of the types RV12 (fig. a) and RV03/RV26 RV22 (fig. b) there is a replacement cartridge which can be changed when the installation is pressureless. For the type RV12 the cartridge can be delivered as a replacement part which was preset and sealed at the factory.

6.1 Fig. h), i): Typ RV27, RV22:

1. Remove plastic protective cap; loosen counter-nut.
 2. De-tension the spring by turning the setting spindle clockwise.
 3. Unscrew spring housing or remove screws.
 4. Remove spring housing, spring plate, setting spindle, and spring.
 5. Re-fit two screws on opposite sides of the body. These are required as supports for the levering tools (only required for sizes DN65 and DN80). By means of two screwdrivers (levering tools) remove the complete valve insert (fig. b) and replace with a new one.
 6. Installation is carried-out in reverse order. In the case of sizes DN65 - DN100 tighten the screws equally with a maximum torque of 25 Nm, this value must not to be exceeded!
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7 Warranty

Every valve is tested prior to leaving the factory. We grant a warranty for our products which entails the repair, free of charge, of any parts that are returned and verified as being prematurely unsuitable for use due to defective material or manufacturing. We shall not assume liability for any damage or other such obligations. If the factory seal is damaged (in the case of pressure limiting valves), in the event of any incorrect handling or installation, contamination or normal wear, warranty claims shall be null and void.

8 Marking

Valves adjusted at the factory have the set pressure marked in a permanent manner on the nameplate (type RV12, RV27, RV22, RV21) or on a brass label that is attached to the valve. For valves that are not adjusted at the factory the range of adjustment for the installed spring is specified on it.

The latest instructions can be found under www.stasto.eu in our STASTO Store.

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