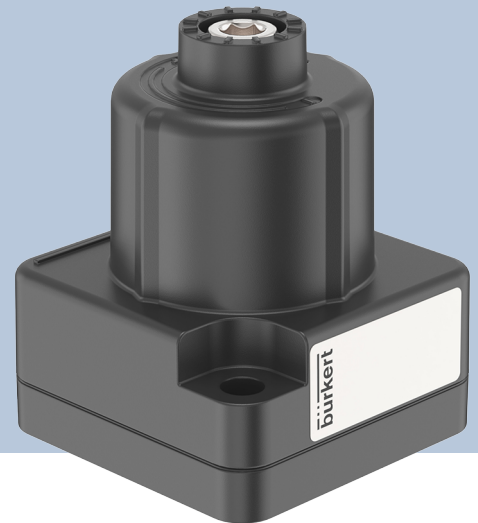


Type 5550

Pressure-relief valve with media separation



Operating Instructions

We reserve the right to make technical changes without notice.

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Technical documentation 2512/00_GBen_00815492_922538635_18014399432057739 / Original DE

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1 About this document

The document is an important part of the product and guides the user to safe installation and operation. The information and instructions in this document are binding for the use of the product.

- ▶ Before using the product for the first time, read and observe the whole safety chapter.
- ▶ Before starting any work on the product, read and observe the respective sections of the document.
- ▶ Keep the document available for reference and give it to the next user.
- ▶ Contact the Bürkert sales office for any questions.



Further information concerning the product at [Products](#).

- ▶ Enter the article number from the type label in the search bar.

The illustrations in these instructions may vary depending on the product variant.

1.1 Symbols



DANGER!

Warns of a danger that leads to death or serious injuries.



WARNING!

Warns of a danger that can lead to death or serious injuries.



CAUTION!

Warns of a danger that can lead to minor injuries.

NOTICE!

Warns of property damage on the product or the installation.



Indicates important additional information, tips and recommendations.



Refers to information in this document or in other documents.

▶ Indicates a step to be carried out.

✓ Indicates a result.

Menu Indicates a software user-interface text.

1.2 Manufacturer

Bürkert Fluid Control Systems
Christian-Bürkert-Str. 13-17
74653 Ingelfingen
GERMANY

The contact addresses are available at [Contact](#).



Need more information or additional products?

► Explore the full range of products on our [eShop](#).

1.3 Terms and abbreviations

The terms and abbreviations are used in this document to refer to following definitions.

Device	Type 5550 pressure-relief valve with media separation
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2 Safety

2.1 Intended use

The device is designed for overpressure control. The permitted media are listed in chapter [Technical data](#) [▶ 11].

Prerequisites for safe and trouble-free operation are proper transport, storage, installation, commissioning, operation and maintenance.

The instructions are part of the device. The device is intended exclusively for use within the scope of these instructions. Uses of the device that are not described in these instructions, the contractual documents or the type label can lead to severe personal injury or death, damage to the device or property and dangers for the surrounding area or the environment.

- ▶ Only trained and qualified personnel may install, operate and maintain the device. See qualification of persons in [Safety instructions](#) [▶ 6]
- ▶ Do not mechanically load the device.
- ▶ Do not use the device outdoors.

2.2 Safety instructions

Qualification of personnel working with the device

Improper use of the device can lead to serious personal injury or death. To avoid accidents when working with the device, the following minimum requirements must be met:

- ▶ Carry out work on the device within the scope of these instructions in a safety-compliant manner.
- ▶ Detect and avoid dangers when working on the device.
- ▶ Understand the instructions and implement the information contained therein accordingly.

Responsibility of the operator

The operator is responsible for observing the location-specific safety regulations, also in relation to personnel.

- ▶ Observe the general rules of technology.
- ▶ Install the device according to the regulations applicable in the respective country.
- ▶ The operator must make hazards arising from the location of the device avoidable by providing appropriate operating instructions.

Medium under pressure

Medium under pressure can seriously injure people. In the event of overpressure or pressure surges, the device or lines can burst. Pneumatic lines that are defective or not securely fastened can come loose and swing around.

- ▶ Before working on the device or system, switch off the pressure. Vent or empty the lines.
- ▶ Adhere to the permitted pressure ranges of the medium.
- ▶ Comply with the permitted temperature ranges of the medium.

Changes and other modifications, spare parts and accessories

Changes to the device, incorrect installation or use of non-approved devices or components create hazards that can lead to accidents and injuries.

- ▶ Do not make any changes to the device.
- ▶ Do not mechanically load the device.
- ▶ Observe the operating instructions of the device or component used.
- ▶ Only use the devices in conjunction with devices and components recommended or approved by Bürkert.

Spare parts and accessories that do not meet Bürkert's requirements may impair the operational safety of the device and cause accidents.

- ▶ To ensure operational safety, only use original parts from Bürkert.

Operation only after proper transport, storage, installation, start-up or maintenance.

Improper transport, storage, installation, start-up or maintenance endanger the operational safety of the device and can cause accidents. This can lead to serious personal injury or death.

- ▶ Only carry out works which are described in these instructions.
- ▶ Only carry out works using suitable tools.
- ▶ Have all other works carried out by Bürkert only.

3 Product description

The device is designed for overpressure control. If a certain pressure value is exceeded in the system, the valve opens automatically and discharges part of the filling medium until normal pressure is restored. The spring then closes automatically.

3.1 Product overview

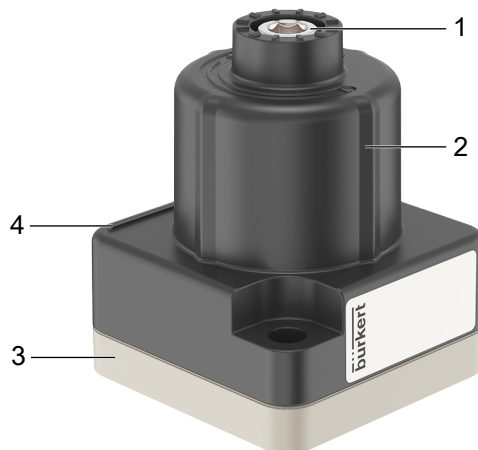


Fig. 1: Pressure-relief valve Type 5550

1 Screw for adjusting the opening pressure	2 Cover
3 Valve body	4 Arrow indicating flow direction

3.2 Product identification

3.2.1 Type label

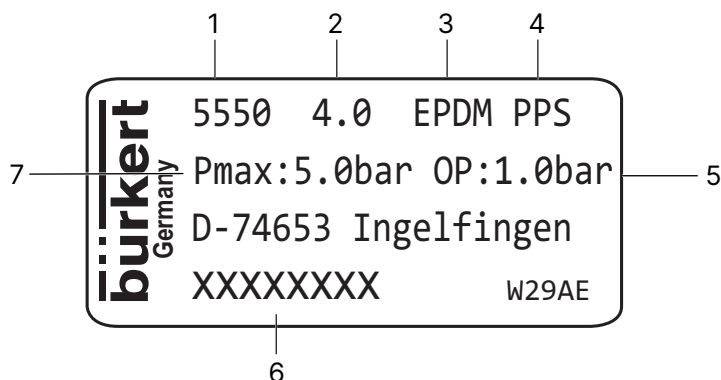


Fig. 2: Type 5550 type label (example)

1 Type	2 Nominal diameter
3 Seal material	4 Body material
5 Opening pressure	6 Order number
7 Max. pressure range	

3.2.2 Symbols and labelling on the device



Fig. 3: Symbols on the device

1 Flow direction	2 Direction of rotation to increase (+) or reduce (-) the pressure
------------------	--

3.2.3 Principle of operation

Type 5550 is a media-separated pressure-relief valve for various tasks, namely overpressure control or backpressure damping, as required in laboratory and medical applications. The set-point value can be adjusted for high flexibility. Aggressive or sensitive media are often required in these applications. One benefit of Type 5550 is that it is offered in a wide range of different materials and can therefore be optimally adapted to the application. A major advantage is that the overpressure is returned to the system and not to the environment. Type 5550 is easy to integrate as the flange interface allows compact installation in a system or distribution system.

Overpressure function

- Prevents pressure peaks and surges
- Protection of pressure-sensitive components

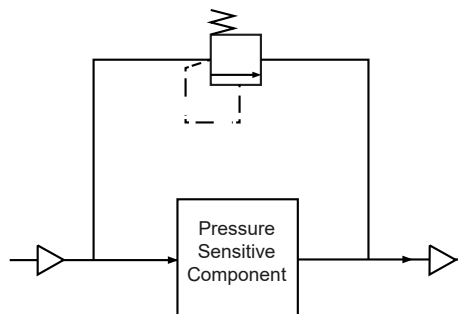


Fig. 4: Overpressure function, diagram

Back pressure function

- Can be used to generate back pressure in a circulation system
- Suitable for dosing applications when exact pressures are not required

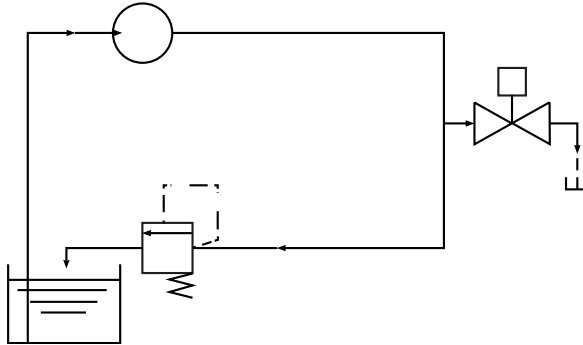


Fig. 5: Back pressure function, diagram

Pressure control function

- Creates a controlled pressure range instead of a specified flow rate
- Suitable for volumetric pumps such as diaphragm and gear pumps

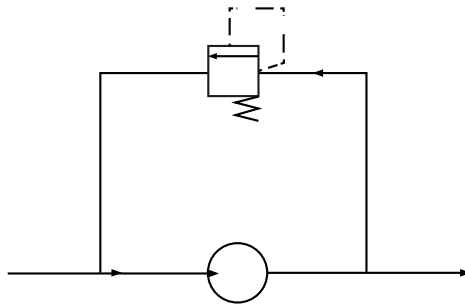


Fig. 6: Pressure control function, diagram

4 Technical data

4.1 Standards and directives

In the conformity assessment procedure, it was determined that the device does not fall under any EU directive/regulation requiring labelling and is therefore not labelled with a CE marking.

4.2 Operating conditions

Ambient temperature	See data sheet
Storage temperature	-40...+70 °C
Medium temperature	See data sheet
Medium	Neutral and aggressive gases and liquids. Further information on testing the chemical resistance of wetted materials can be found in the Bürkert resistApp
Operating pressure	max. 5 bar

4.3 Mechanical data

Dimensions	Refer to data sheet
Seal material	EPDM, FFKM, FKM (on request)
Body	PPS, PEEK
Installation position	Any, preferably actuator face up

5 Installation



Risk of injury or material damage when working on the device or system.

- ▶ Read and observe the chapter **Safety** [▶ 6] before working on the device or system.

5.1 Create the fluidic connections to the device

- ▶ Clean any dirt from the pipes and flange connections.
- ▶ Install strainer (recommended mesh size 100 µm) in the direction of flow upstream of the pressure-relief valve.



WARNING!

Risk of injury due to escaping medium

- ▶ Ensure that the seals provided fit the valve properly.
- ▶ Ensure that the manifold is level.
- ▶ Ensure sufficient surface quality of the manifold.

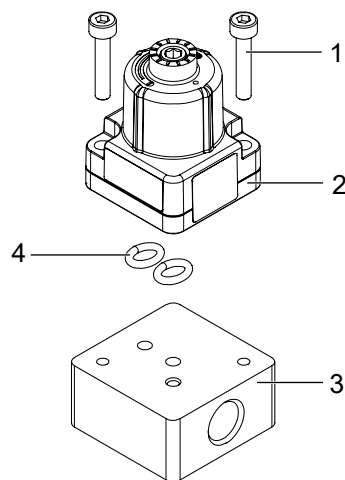


Fig. 7: Mount the pressure-relief valve on the manifold

1 Fastening screws	2 Pressure-relief valve
3 Manifold (not included in the scope of delivery)	4 Seal

- ▶ Insert the seals into the pressure-relief valve.
- ▶ Correctly assign the fluid pin assignment on the pressure-relief valve and on the manifold.
- ▶ Screw the pressure-relief valve onto the manifold.
- ▶ Check the pressure-relief valve for tightness.



The tightening torque for metric screws in metal threads is 0.8 Nm (the tightening torque may differ for other materials).

5.2 Setting the set pressure on non-pre-calibrated devices

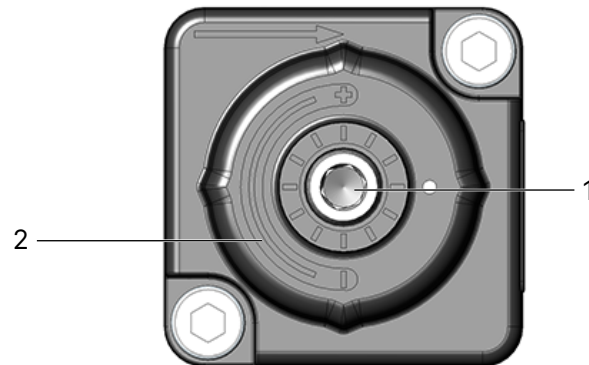


Fig. 8: Setting the set pressure

1 Adjustment screw for setting the opening pressure

2 Direction of rotation to increase (+) or reduce (-) the pressure

Recommended adjustment procedure:

- ▶ Turn the screw fully clockwise (+) as far as it will go.
- ▶ Then slowly turn the pressure-relief valve anticlockwise (-) until it opens at the required pressure.
- ▶ If the opening point is exceeded, fully tighten the screw again and then slowly back it off once more.

6 Uninstallation



Risk of injury or material damage when working on the device or system.

- ▶ Read and observe the chapter **Safety** [▶ 6] before working on the device or system.
-

6.1 Disassembling the device

- ▶ Shut off the pressure and vent the lines.

For devices with flange connection:

- ▶ Remove the device from the manifold.

7 Maintenance



Risk of injury or material damage when working on the device or system.

- ▶ Read and observe the chapter [Safety \[▶ 6\]](#) before working on the device or system.
-

7.1 Maintenance and frequency

The device must be washed or cleaned according to the type and frequency of use.

8 Faults



Risk of injury or material damage when working on the device or system.

▶ Read and observe the chapter **Safety** [▶ 6] before working on the device or system.

If faults occur, check whether

- the device has been installed according to regulations
- the connection has been properly made
- the device has been damaged
- all screws have been tightened
- voltage and pressure have been applied
- the pipes are clean

If the valve still does not switch, contact Bürkert Service.

9 Logistics

9.1 Transport and storage

- ▶ Protect the device against moisture and dirt in the original packaging during transportation and storage.
- ▶ Avoid UV radiation and direct sunlight.
- ▶ Protect connections from damage with protective caps.
- ▶ Observe permitted storage temperature.

9.2 Return



No work or tests will be carried out on the device until a valid Contamination Declaration has been received.

- ▶ To return a used device to Bürkert, contact the Bürkert sales office. A return number is required.

9.3 Disposal

Environmentally friendly disposal



- ▶ Follow national regulations regarding disposal and the environment.
- ▶ Collect electrical and electronic devices separately and dispose of them as special waste.

Further information at country.burkert.com