

Springloaded Back-Pressure Regulator

Model – GBT8S

Description

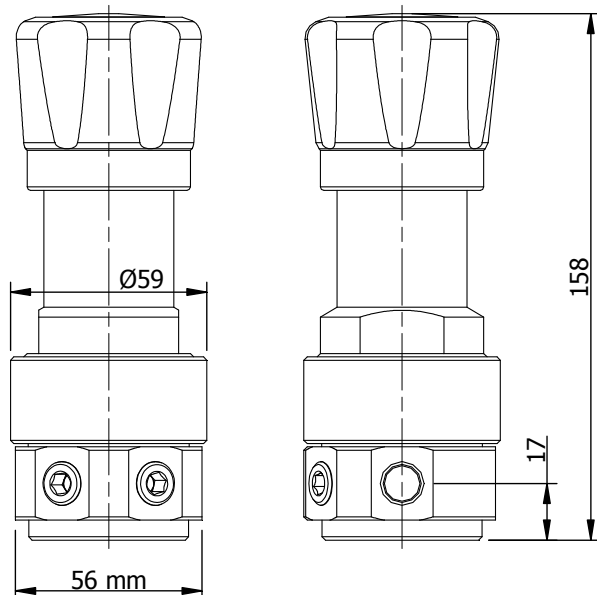
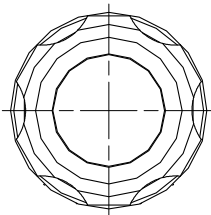
The GBT8S springloaded back-pressure regulator controls the supply pressure on the inlet side. When the supply pressure rises above the set pressure, the fluid starts flowing to the outlet side.

Specifications

| | |
|----------------|-------------------------------|
| Inlet pressure | 420 or 700 bar |
| Adjustable | 0-700 bar - 6 pressure ranges |
| Connections | 1/4" NPT |
| Seat diameter | 2,5 mm |
| Cv / Kv | Cv 0.1 / Kv 0.08 |

Fluids

This back-pressure regulator is suitable for gases and liquids.



Materials

The regulator is made out of barstock stainless steel material.

| | |
|---------------|------------------|
| Body | ss 316L |
| Springhousing | ss 316L |
| Valve | ss 316L |
| Seat | PCTFE or PEEK |
| Valve spring | ss 302 |
| Set spring | ss 302 |
| O-rings | NBR, FKM or EPDM |


Other materials available on request.

All metal parts are marked with a traceable batch number. Material certificates are available on request.

Technical details

- all parts cleaned and degreased
- leak-tight seat design
- all regulators tested before delivery

Standards

- EN 12516 - design
- EN 12266-1 - testing
- PED 2014/68/EU - SEP (article 4, paragraph 3)
- ATEX 94/9/EC -  II 2G

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Options

Many options are available. The most requested options are mentioned below.

Materials

Regulators can be produced in higher graded materials than stainless steel 316L.

Seals

Regulators can be equipped with FFKM + PTFE seals. Other compounds for higher or lower temperatures are available.

NACE - MR 0175

All wetted parts of the regulators can be supplied according to NACE MR 0175, including Inconel X750 valvespring and a NACE report.

Spare parts

Spare parts kits are available for the regulator. Mention the serial number in case you need spare parts for existing regulators.

Adjusting the regulator

The regulator comes standard with a knob. The threadpiece below the knob is designed for frequent adjustment.



Dependency

A character of the regulator is "dependency". The set-pressure will change, when you have a changing outletpressure.

Dependency ratios are listed below.

- range 0-20 bar - 1:100
- range 0-40 bar - 1:100
- range 0-100 bar - 1:40
- range 0-280 bar - 1:14
- range 0-420 bar - 1:10
- range 0-700 bar - 1:6

Flow

The regulator has good flow performance over the complete range of pressures. Ask for advice if this regulator is the best choice for your application.

Regulators that have a fixed setpoint, can be equipped with a locking cap.



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Internals

The internals of the regulator are important for the performance. The different internals are mentioned below.

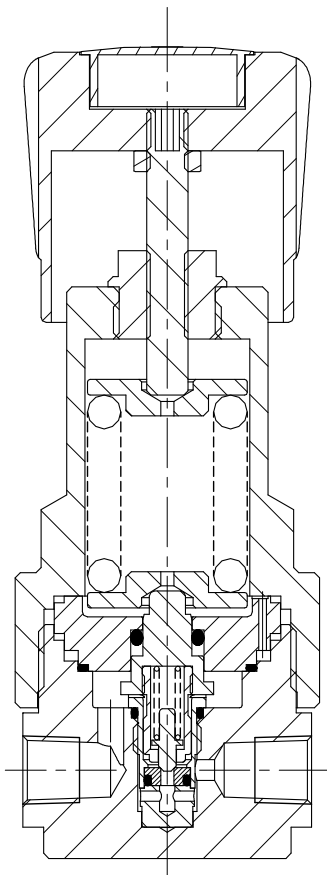
Piston sensing

Piston sensed for all pressure ranges.

Plastic seated

PCTFE is recommended because it seals easy.
PEEK is recommended for liquid applications.

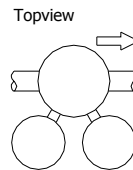
Section view



Section view of:
GBT8S-420N280-SSKN

Gaugeports

The regulator has standard two 1/4" NPT gaugeports to measure the inlet and outlet pressure.



Additional gaugeports not available for model GBT8S.

Gauges

Regulators can be supplied with gauges.

Below ranges are available:

0-4 bar / 0-10 bar / 0-25 bar / 0-60 bar / 0-160 bar /
0-400 bar / 0-600 bar

- case diameter 63 mm
- internals ss 316
- bottom connection 1/4" NPT

Mounting

The regulator can be mounted in every position (horizontal / vertical).

The bottom of the regulator has two mounting holes M5 with 5 mm thread and a C-C distance of 22 mm.

Panel mounting

Panel mount ring available for mounting in a panel.

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Connections

The regulator has threaded connections, designed for compression fittings.

Line connections

NPT threads according to ANSI B1.20.1

Design pressures

The design pressure applies for inlet and outletside.

Seat materials

The seat materials are related to the control ranges.

| | | |
|---------------|---------------|---------------|
| PCTFE or PEEK | control range | up to 420 bar |
| PEEK | control range | above 420 bar |

Temperature

The general temperature range of the regulator is -50 / 200 °C, but is often limited due to the used sealing materials.

| | |
|------------|---------------|
| PCTFE seat | - 50 / 60 °C |
| PEEK seat | - 50 / 200 °C |
| NBR seals | - 35 / 130 °C |
| FKM seals | - 20 / 200 °C |
| EPDM seals | - 50 / 120 °C |

Typenumber explanation

Example : GBT8S - 420N280 - SSKN

| model | design pressure | connections | adjustable | material | seat | seals | options | |
|--------------|------------------------|---------------------|------------------------|-------------------|----------------|--------------|-----------------------------------|---------------|
| GBT8S | 420 : 420 bar | N : 1/4" NPT | 20 : 0-20 bar | SS SS 316L | K PCTFE | N NBR | L locking cap | |
| | 700 : 700 bar | | 40 : 0-40 bar | | | | | kel-f |
| | | | 100 : 0-100 bar | | P PEEK | V FKM | xx code for special option | |
| | | | 280 : 0-280 bar | | | | | viton |
| | | | 420 : 0-420 bar | | | | | E EPDM |
| | 700 : 0-700 bar | | | | | | | |

All regulators are marked with a typenumber, a drawingnumber and a unique serialnumber. Dutch Regulators stores the exact configuration of the regulator in the serialnumber.