

Springloaded Back-Pressure Regulator

Model – GBF25S

Description

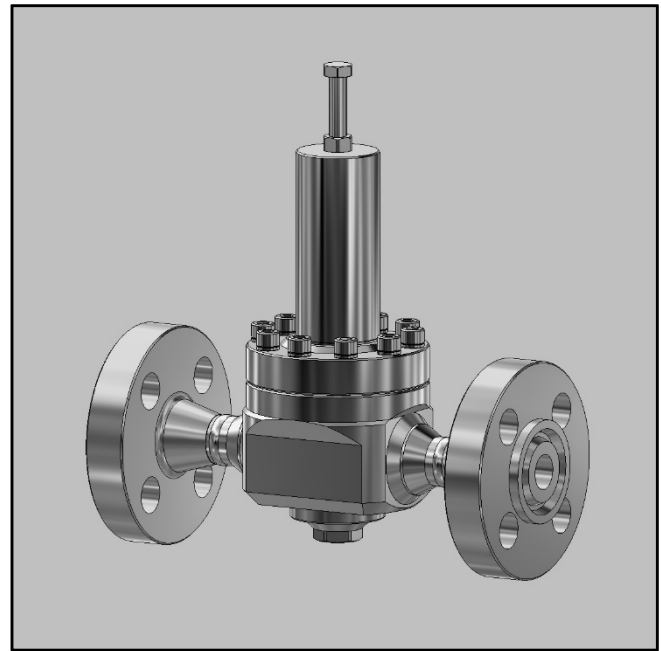
The GBF25S springloaded back-pressure regulator controls the supply pressure on the inlet side. When the supply pressure rises above the set pressure, the fluid starts flowing to the outlet side.

Specifications

Inlet pressure	20, 40, 50, 100 or 250 bar
Adjustable	0-250 bar - 6 pressure ranges
Connections	DN25 flanges according EN 1092-1 or 1" flanges according ASME B16.5
Seat diameter	16,5 mm
Cv / Kv	Cv 5.5 / Kv 4.7

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, PEEK or rubber
Valve spring	ss 316
Setspring	ss 302
O-rings / diaphragm	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 2014/34/EU -  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 setscrew.

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 0-3 bar - 1:180
- range 0-8 bar - 1:180
- range 0-20 bar - 1:100
- range 0-50 bar - 1:60
- range 0-100 bar - 1:25
- range 0-250 bar - 1:20

Flow

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



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Internals

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

Diaphragm or piston sensing

Diaphragm sensed for pressure ranges
0-3 bar / 0-8 bar / 0-20 bar

Piston sensed for pressure ranges
0-50 bar / 0-100 bar / 0-250 bar

Rubber or plastic seated

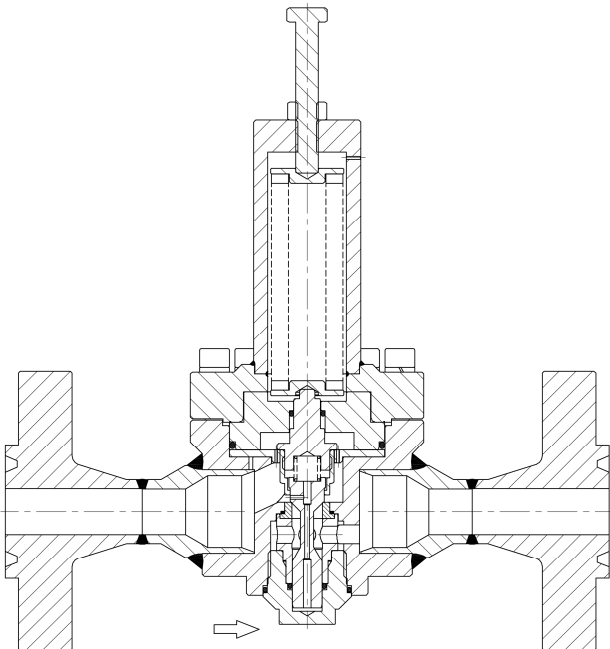
Rubber seats for control ranges up to 20 bar.
A rubber seat is less sensitive to dirt.

Plastic seats for control ranges above 20 bar.
PCTFE recommended and seals easy.
PEEK recommended for liquid and high temperatures.

Setspring

The setspring is produced according to our high quality specifications. The low spring rate ensures good performance at high flow.

Section view



Section view of:
GBF25S-250A250-SSPV

Gaugeports

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

On request it is possible to have additional gaugeports.

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 /
0-250 bar / 0-400 bar

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

Mounting

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

For regulators installed outdoors, make sure that rain cannot enter the springhousing or mount it drainable.

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Connections

The regulator is designed for flanged connections. The flanges are welded to the regulator with butt-welds.

DIN – flanges according to EN 1092-1

DN25 PN40 40 bar design pressure

ASME – flanges according to ASME B16.5

1" 150# 20 bar design pressure

1" 300# 50 bar design pressure

1" 600# 100 bar design pressure

1" 1500# 250 bar design pressure

Other connections like weld-stubs for example are available on request.

Design pressures

The design pressure applies for inlet and outletside.

Seat materials

The seat materials are related to the control ranges.

NBR, FKM or EPDM control range up to 20 bar

PCTFE or PEEK control range above 20 bar

Depending on temperature or special wishes, the seat material could be different as mentioned above.

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	seat / seals	- 35 / 130 °C
FKM	seat / seals	- 20 / 200 °C
EPDM	seat / seals	- 50 / 120 °C

Typenumber explanation

Example : GBF25S – 50A20 – SSPV

model	design pressure	connections	adjustable	material	seat	seals	options
GBF25S	20 : 20 bar	D : EN 1092-1	3 : 0-3 bar	SS SS 316L	N NBR nitrile	N NBR nitrile	xxx codes for special option
	40 : 40 bar	A : ASME B16.5	8 : 0-8 bar				
	50 : 50 bar		20 : 0-20 bar				
	100 : 100 bar		50 : 0-50 bar				
	250 : 250 bar	S : weld stubs	100 : 0-100 bar				
		250 : 0-250 bar	E EPDM viton	E EPDM viton			
			K PCTFE kel-f				
					P PEEK		

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.