

# Springloaded Back-Pressure Regulator

Model – GBT15S-50

## Description

The GBT15S 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	50 bar
Adjustable	0-50 bar - 4 pressure ranges
Connections	1/2" NPT or BSPP
Seat diameter	7 mm
Cv / Kv	Cv 1.0 / Kv 0.85

## 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	NBR, FKM or EPDM
Setspring	ss 302
O-rings / diaphragm	NBR, FKM or EPDM


Other materials available on request.

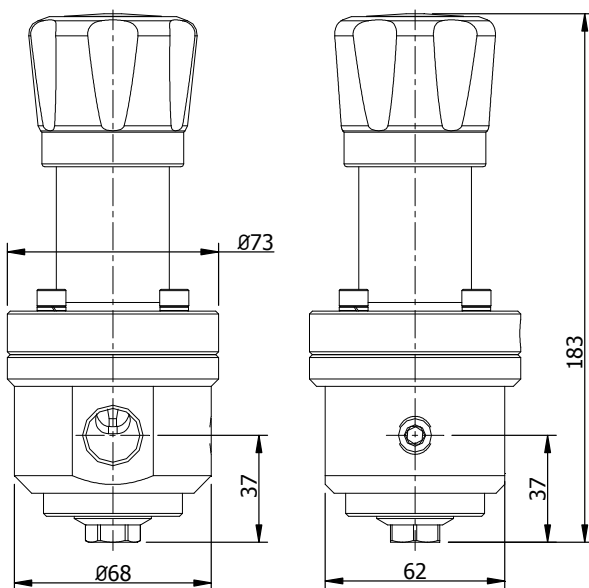
All metal parts are marked with a traceable batch number. Material certificates are available on request.

## 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 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 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 0-3 bar - 1:30
- range 0-8 bar - 1:30
- range 0-20 bar - 1:30
- range 0-50 bar - 1:10

## Flow

The regulator has good flow performance over the complete range. 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.

### Diaphragm or piston sensing

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

Piston sensed for pressure range  
0-50 bar

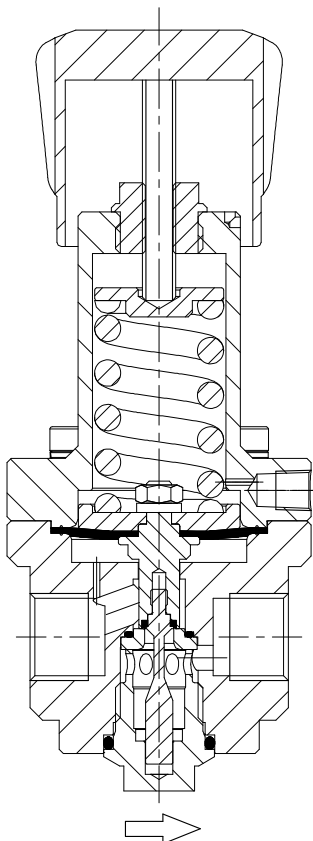
### Rubber seated

A rubber seat is less sensitive to dirt.

### Setspring

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

## Section view



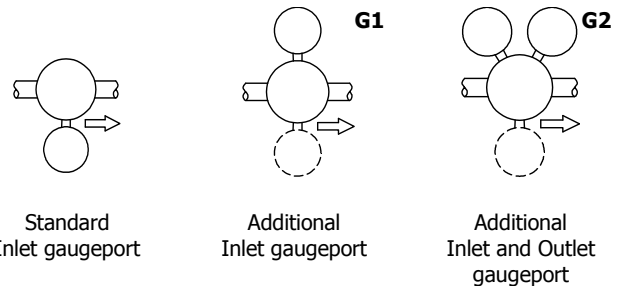
Section view of:  
GBT15S-50N8-SSNN

## Gaugeports

The regulator has standard one 1/4" NPT gaugeport to measure the controlled setpressure.

Additional 1/4" NPT gaugeports are available, see option G1 and G2 below.

On request other gaugeport options available.



## Gauges

Regulators can be supplied with gauges.

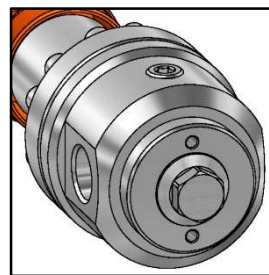
Below ranges are available:

0-4 bar / 0-10 bar / 0-25 bar / 0-60 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 8 mm thread and a C-C distance of 35 mm.

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

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## Connections

The regulator has threaded connections, designed for compression fittings.

### Line connections

NPT threads according to ANSI B1.20.1

BSPP threads according to ISO 228-1

BSPP ports according to ISO 1179-1

### Springhousing connection

The springhousing has a 1/8" NPT connection.

This connection functions as breathing hole or could be used to pipe away hazardous fluids. Do not plug the connection.

## Design pressures

The design pressure applies for inlet and outletside.

## Temperature

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

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

## Typenumber explanation

Example : GBT15S - 50N8 - SSNN

model	design pressure	connections	adjustable	material	seat	seals	options
GBT15S	50 : 50 bar	N : 1/2" NPT B : 1/2" BSPP	3 : 0-3 bar	SS SS 316L	N NBR	N NBR	G1 one extra gaugeport
			8 : 0-8 bar		nitrite	nitrite	
			20 : 0-20 bar		V FKM	V FKM	G2 two extra gaugeports
			50 : 0-50 bar		viton	viton	
				E EPDM	E EPDM	L locking cap	
							xx codes for special option

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.