Springloaded Pressure Regulator

Model – GRT20S

Description

The GRT20S springloaded pressure regulator reduces the supply pressure on the inletside to a controlled pressure on the outletside.

Specifications

Inlet pressure	50, 280 or 420 bar
Adjustable	0-420 bar
Connections	3/4" NPT or BSPP
Seatdiameter	9.5 mm
Cv / Kv	Cv 1.8 / Kv 1.5

Fluids

This pressure regulator is suitable for gases and liquids.

Materials

The regulator is made out of barstock stainless steel material.

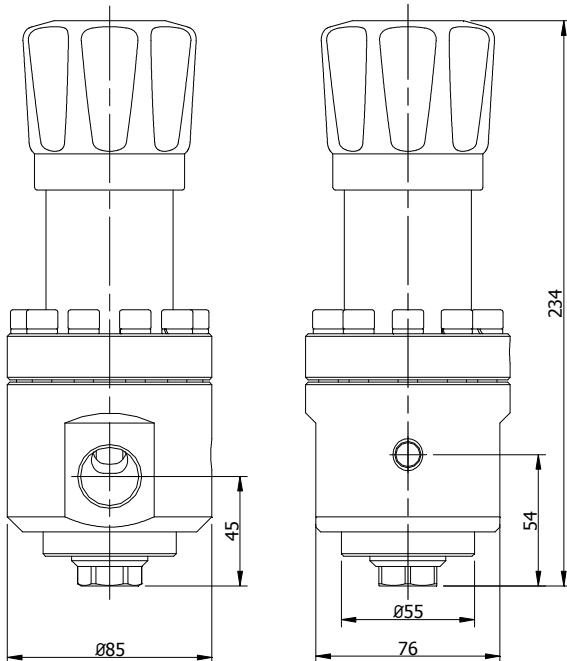|	
Body	ss 316L
Springhousing	ss 316L
Valve	ss 316L
Seat	KEL-F, PEEK or rubber
Valve spring	ss 316
Setspring	ss 302
O-rings / diaphragm	NBR, FKM or EPDM

Other materials available on request.

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

Temperature

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

KEL-F seat	-15 / 60 °C
PEEK seat	-50 / 200 °C
NBR seals	-35 / 130 °C
FKM seals	-20 / 200 °C
EPDM seals	-50 / 120 °C

Springloaded Pressure Regulator

Model – GRT20S

Technical details

- all regulators tested before delivery
- leak-tight seat design
- all parts cleaned and degreased
- PED classification SEP
- ATEX classification EXII 3GD

Although this regulator has a leak-tight seat, the regulator should not be used as a shutt-off valve.

Spare parts kits are available for the regulator.

Dependency

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

- range 0-3 bar   -   1:350
- range 0-8 bar   -   1:350
- range 0-20 bar   -   1:350
- range 0-50 bar   -   1:110
- range 0-100 bar   -   1:55
- range 0-280 bar   -   1:20
- range 0-420 bar   -   1:14

Options

Dutch Regulators supplies the regulators to your needs. When you have the need for special features or options, Dutch Regulators is the right address.

Standard options

- gauge ports
- locking cap or an adjustment knob

Special options

- other seal materials on request
- other body materials on request
- material according to NACE MR0175

Flow

The regulator has good flow performance over the complete range of inlet and outlet pressures. Always ask Dutch Regulators for advice, if this regulator is the best choice for your application.

Adjusting the regulator

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

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

Springloaded Pressure Regulator

Model – GRT20S

Section view

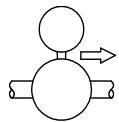The section views of two different models give an idea of the internals of the regulator.

- diaphragm sensing below 20 bar outletpressure
- piston sensing above 50 bar outletpressure
- rubber seated for design pressure below 50 bar
- plastic seated for design pressure above 50 bar

Gaugeports

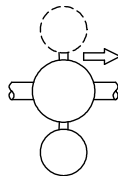The regulator has standard one 1/4" NPT gaugeport to measure the controlled setpressure.
Option G1 and G2 are optional 1/4" NPT gaugeports, see for the position the pictures below.

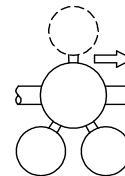On request it is possible to have other gaugeports.
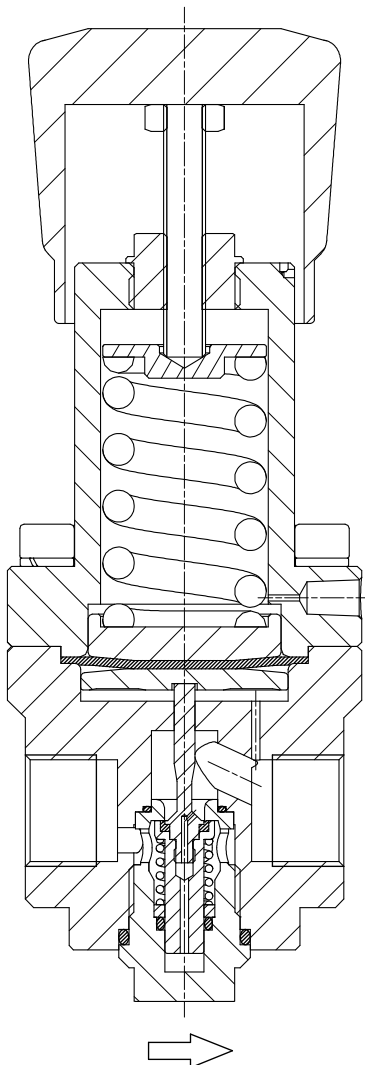
Standard

Outlet gaugeport

Option G1
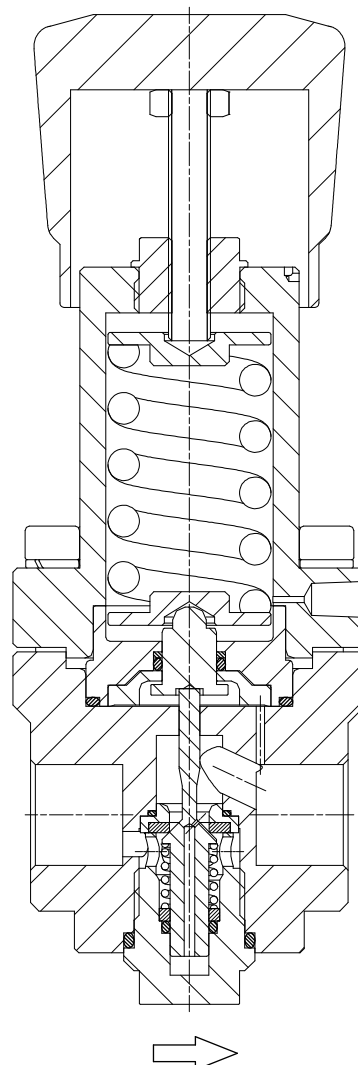
Extra
Outlet gaugeport

Option G2

Extra
Inlet gaugeport
and
Outlet gaugeport

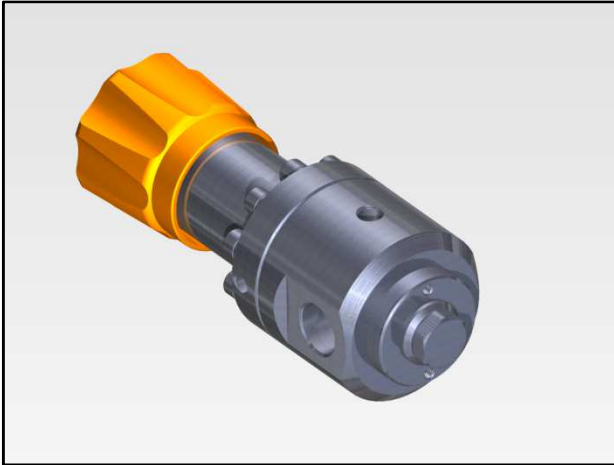Section view of:
GRT20S-50B8-SSNN

Section view of:
GRT20S-420B280-SSNN

Springloaded Pressure Regulator
Model – GRT20S

Mounting holes

The bottom of the regulator has two mounting holes M6 with 8 mm thread and a C-C distance of 45 mm.

Design pressures

The regulator range consists of 3 design pressure ranges, where the design pressure applies for the inlet and outletside.

The design pressure comes standard together with specific seat materials.

- 50 bar   - NBR, FKM or EPDM
- 280 bar   - Kel-f
- 420 bar   - PEEK

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

Typenumber explanation

Example : GRT20S - 280N100 – SSKN

model	design pressure	connections	adjustable	material	seat	seals	options
GRT20S	**50** : 50 bar	**N** : 3/4" NPT	**3** : 0-3 bar	**SS** SS 316L	**N** nitrile NBR	**N** nitrile NBR	**G1** one extra gaugeport
	280 : 280 bar	**B** : 3/4" BSPP	**8** : 0-8 bar		**V** viton FKM	**V** viton FKM	**G2** two extra gaugeports
	420 : 420 bar		**20** : 0-20 bar		**E** EPDM	**E** EPDM	**L** locking cap
			50 : 0-50 bar		**K** kel-f (pctfe)		
			100 : 0-100 bar				**xxx** codes for special option
			280 : 0-280 bar		**P** Peek		
			420 : 0-420 bar				

All regulators are marked with a unique ID number, the exact configuration of the regulator is stored in this ID number. Always mention the ID number in case you need spare parts.