

Springloaded Pressure Regulator

Model – GRT8S

Description

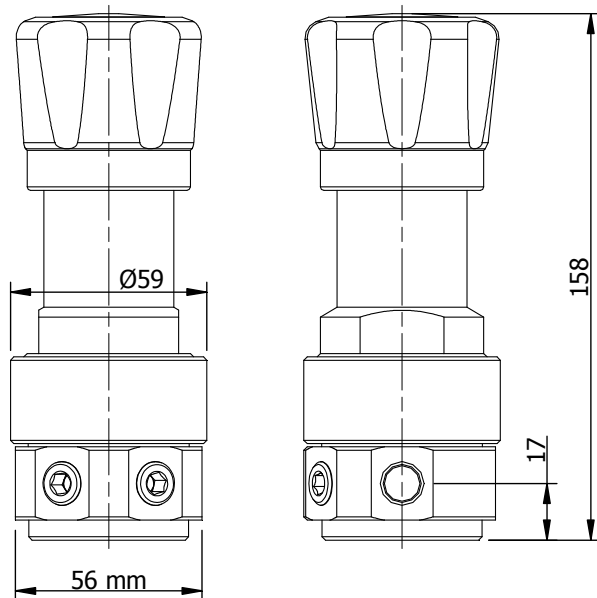
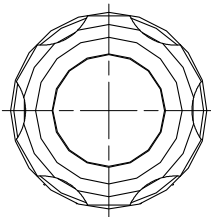
The GRT8S springloaded pressure regulator reduces the supply pressure on the inlet side to a controlled pressure on the outlet side.

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 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.

Captured vent

The thread of the knob-spindel is standard not sealed. The spindle is sealed with the captured vent option. Fluids can be piped away to the vent connection.

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

Character of the regulator is "dependency". The set-pressure will increase, when you have a decreasing inletpressure.

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.

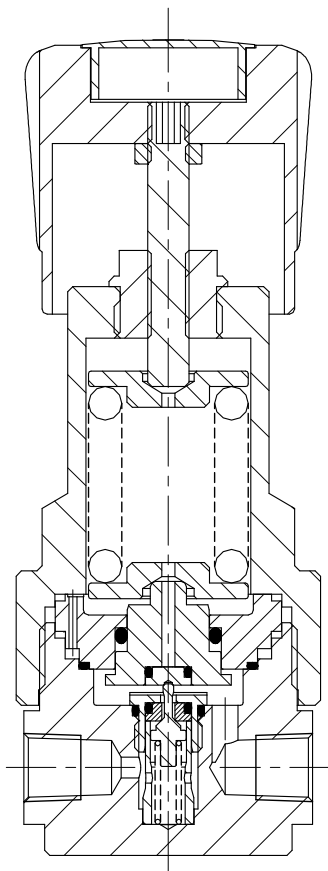
Valvespring

The valvespring gives high spring force to ensure seat-tightness.

Filter

The regulator can be supplied with an internal filter element to reduce the chances of seat leakage.

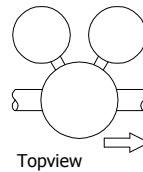
Section view



Section view of:
GRT8S-420N100-SSKN

Gaugeports

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



Additional gaugeports not available for model GRT8S.

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

Self-venting

The self-venting option provides the possibility to relieve the outlet pressure when a decreased set pressure is required.
See captured vent option for a sealed knob-spindel.

Self-venting cannot be used as safety valve.

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

Vent connection

The body of GRT8S has a 1/8" NPT vent connection. Do not plug the connection.

For self-venting and captured vent, the vent connection can be used to pipe away the fluid.

Design pressures

The design pressure applies for inlet and outletside.

Seat materials

The seat materials are related to the design pressure ranges.

PCTFE or PEEK	design pressure	420 bar
PEEK	design pressure	700 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 : GRT8S - 420N280 - SSKN - S - F

model	design pressure	connections	adjustable	material	seat	seals	options		
GRT8S	420 : 420 bar	N : 1/4" NPT	20 : 0-20 bar	SS SS 316L	K PCTFE	N NBR	S self-venting		
	700 : 700 bar		40 : 0-40 bar					kel-f	nitrile
			100 : 0-100 bar		P PEEK	V FKM	CV captured vent		
			280 : 0-280 bar					viton	L locking cap
			420 : 0-420 bar					E EPDM	
	700 : 0-700 bar				xx code 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.