Springloaded Pressure Regulator

Model – GRF25S

Description

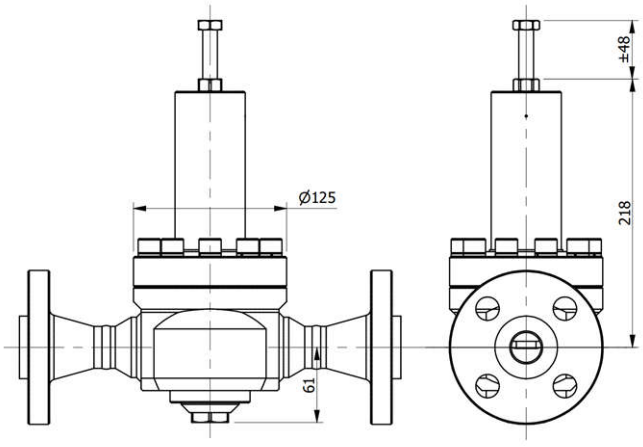
The GRF25S springloaded pressure regulator reduces the supply pressure on the inletside to a controlled pressure on the outletside.

Specifications

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

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, 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 - Ex 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
Compounds for higher or lower temperatures are available.

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

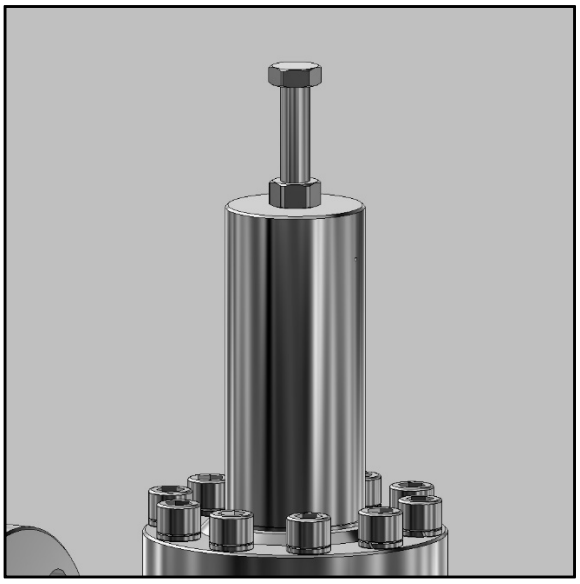
Dependency ratios are available on request.

The balanced valve has a positive effect towards dependency.

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

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

Adjusting the regulator
The regulator comes standard with a setscrew.



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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

Rubber or plastic seated
Rubber seats for design pressure up to 100 bar.
A rubber seat is less sensitive to dirt.

Plastic seats for design pressure 250 bar.
PCTFE recommended and seals easy.
PEEK recommended for liquid and high temperatures.

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

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

Gaugeports

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

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.

DIN – flanges according to EN 1092-1

DN25 PN40	40 bar	design pressure
DN25 PN100	100 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.

The model with a 420 bar design pressure has a design pressure on the outletside of 280 bar.

Seat materials

The seat materials are related to the design pressure.

NBR, FKM or EPDM	design pressure	up to 50 bar
PCTFE or PEEK	design pressure	above 50 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 : GRF25S – 40D8 – SSNN

model	design pressure	connections	adjustable	material	seat	seals	options
GRF25S	**20** : 20 bar	**D** : DIN EN 1092-1	**3** : 0-3 bar	**SS** SS 316L	**N** nitrile NBR	**N** nitrile NBR	**xxx** codes for special option
	40 : 40 bar		**8** : 0-8 bar				
	50 : 50 bar	**A** : ASME B16.5	**20** : 0-20 bar		**V** viton FKM	**V** viton FKM	
	100 : 100 bar		**50** : 0-50 bar				
	250 : 250 bar		**100** : 0-100 bar		**E** EPDM	**E** EPDM	
		S : weld stubs			**K** kel-f (pctfe)		
					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.