

# Springloaded Pressure Regulator

Model – GRF40S

## Description

The GRF40S springloaded pressure regulator reduces the supply pressure on the inlet side to a controlled pressure on the outlet side.

## Specifications

Inlet pressure	50 or 250 bar
Adjustable	0-250 bar
Connections	DN40 flanges EN 1092-1 or 1 1/2" flanges ASME B16.5
Seat diameter	22,5 mm
Cv / Kv	Cv 10 / Kv 8.8

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

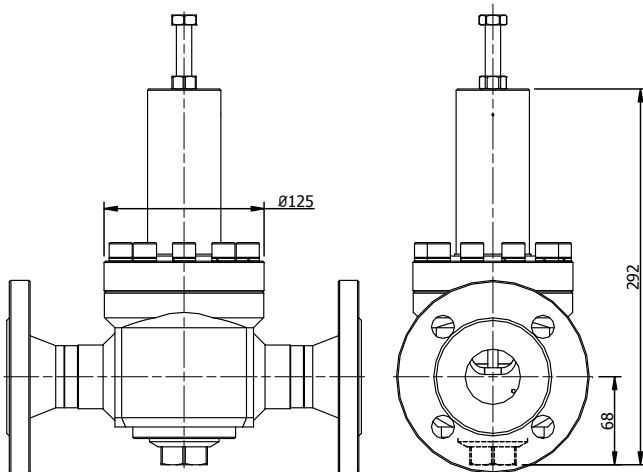
Other materials available on request.

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



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## Technical details

- all regulators tested before delivery
- leak-tight seat design
- all parts cleaned and degreased
- PED classification CAT I or II
- 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.

## 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

- locking cap

### Special options

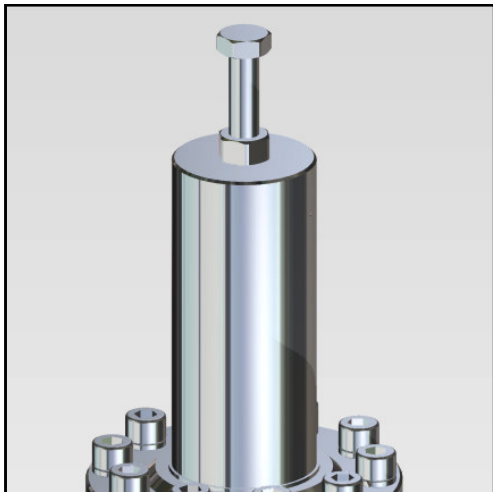
- other seal materials on request
- other body materials on request
- material according to NACE MR0175

## 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 setscrew.



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

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## Section view

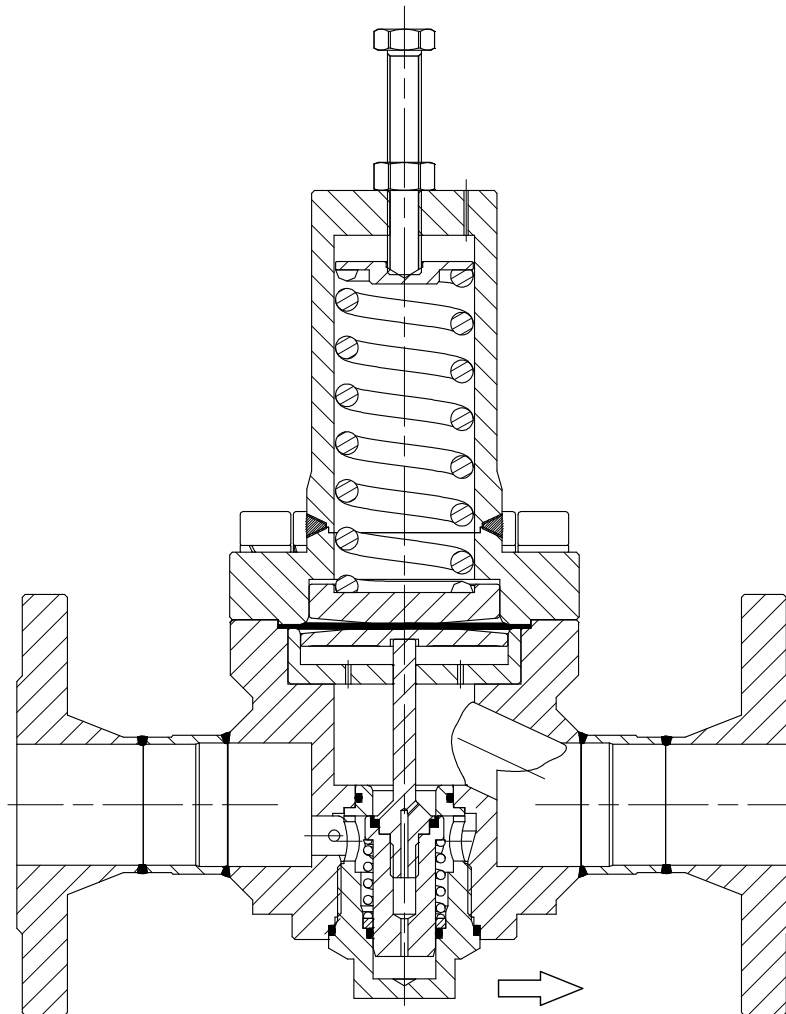
The section view gives an idea of the internals of the regulator.

- diaphragm sensing below 8 bar outletpressure
- piston sensing above 20 bar outletpressure
- rubber seated for design pressure below 50 bar
- plastic seated for design pressure above 50 bar

## Gaugeports

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

On request it is possible to have other gaugeports.



Section view of:  
GRF40S-40D8-SSNN

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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

DN40 PN40      40 bar              design pressure

#### ASME – flanges according to ASME B16.5

1 1/2" 150#      20 bar              design pressure  
 1 1/2" 300#      50 bar              design pressure  
 1 1/2" 600#      100 bar             design pressure  
 1 1/2" 1500#     250 bar             design pressure

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

### Design pressures

The regulator range consists of 2 design pressure ranges, where the design pressure applies for the inlet and outleside.

The design pressure could be limited to the maximum pressure of the flanges.

The design pressure comes standard together with specific seat materials.

- 50 bar      - NBR, FKM or EPDM
- 250 bar     - Kel-f or PEEK

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



## Typenumber explanation

Example : GRF40S – 40D8 – SSNN

model	design pressure	connections	adjustable	material	seat	seals	options
<b>GRF40S</b>	<b>20</b> : 20 bar	<b>D</b> : DIN	<b>3</b> : 0-3 bar	<b>SS</b> SS 316L	<b>N</b> nitrile	<b>N</b> nitrile	<b>L</b> locking cap
	<b>40</b> : 40 bar	EN 1092-1	<b>8</b> : 0-8 bar		NBR	NBR	
	<b>50</b> : 50 bar	<b>A</b> : ASME	<b>20</b> : 0-20 bar		<b>V</b> viton	<b>V</b> viton	
	<b>100</b> : 100 bar	ASME B16.5	<b>50</b> : 0-50 bar		FKM	FKM	
<b>250</b> : 250 bar		<b>100</b> : 0-100 bar	<b>100</b> : 0-100 bar	<b>E</b> EPDM	<b>E</b> EPDM		
		<b>S</b> : weld stubs	<b>250</b> : 0-250 bar		<b>K</b> kel-f (pctfe)		<b>xxx</b> codes for special option
					<b>P</b> Peek		

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.