

# Domeloaded Pressure Regulator

Model – GRF40D

## Description

The GRF40D domeloaded 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
Dome	ss 316L
Valve	ss 316L
Seat	KEL-F, PEEK or rubber
Valve spring	ss 316
O-rings / diaphragm	NBR, FKM or EPDM

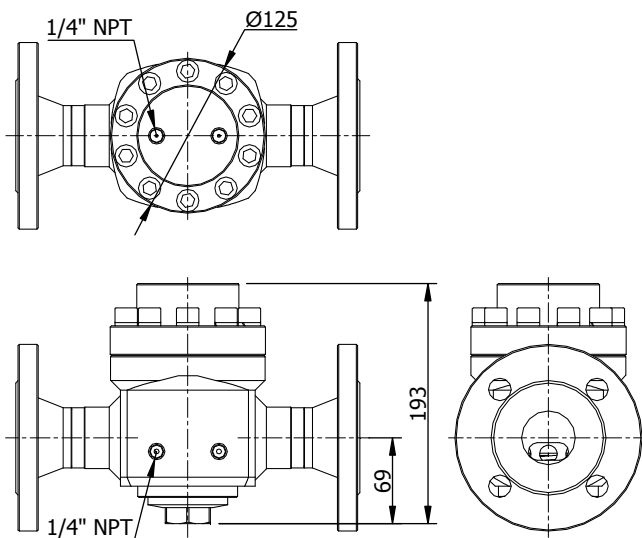
Other materials available on request.

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	-50 / 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 97/23/EC - CAT I (optional CAT II)
- ATEX 94/9/EC -  II 2G

Spare parts kits are available for the regulator. Mention the serial number in case you need spare parts.

## Dependency

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

- all pressure ranges - 1:300

This value only applies for the regulator without a pilot regulator.

## 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

- pilot regulator
- pilot regulator with external feedback

### Special options

- other seal materials on request
- other body materials on request

## 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 two 1/4" NPT dome connections. The setpressure of the regulator equals to the pressure in the dome.



## Pilot regulator

The regulator can be supplied with a mounted pilot regulator. The pilot regulator provides the controlled pressure in dome.

## External feedback

The pilot regulator can be supplied with an external feedback from the outlet of the main regulator, back to the pilot regulator. The external feedback improves the performance of the regulator. The external feedback option is available for design pressures up to 50 bar.

## Gauges

Dutch Regulators has a range of gauges in stock that can be mounted on the regulator. The regulator can be provided with 1/4" NPT gauge connections on the inlet and outlet piping.

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## Section view

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

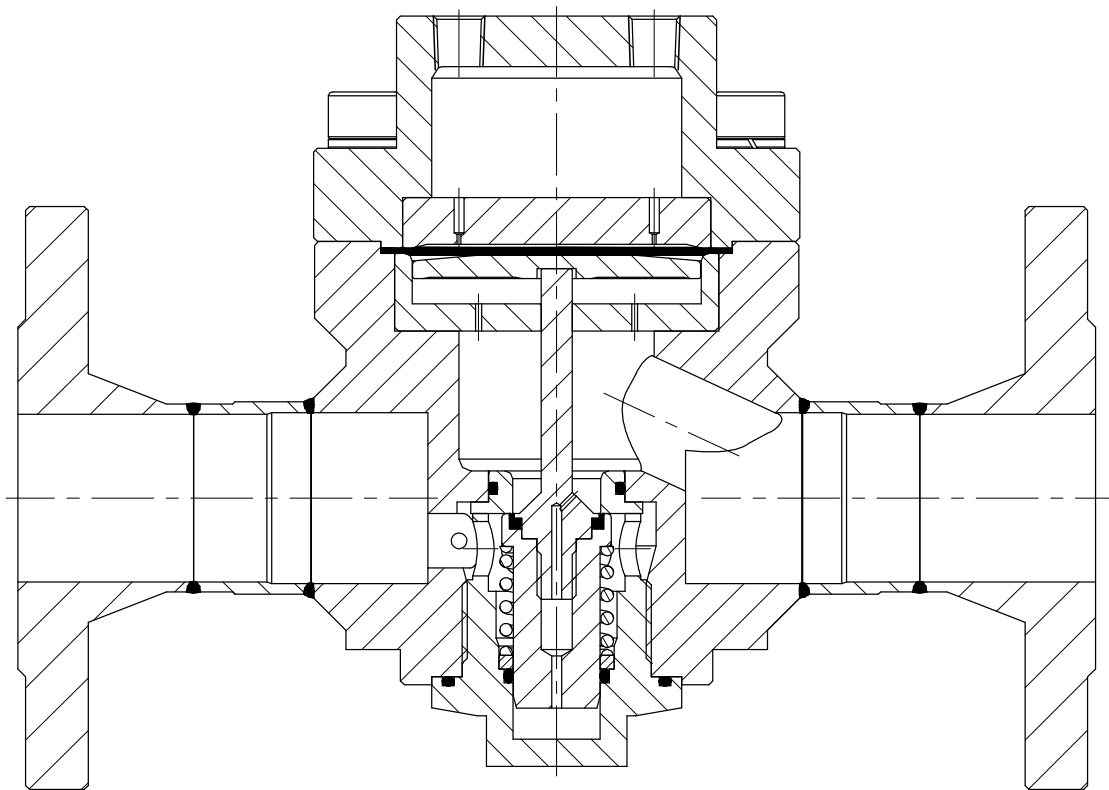
- diaphragm sensing from 0-250 bar outlet pressure
- rubber seated for design pressure below 50 bar
- plastic seated for design pressure above 50 bar

## Gaugeports

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

When the regulator is pilot operated, these gaugeports are used to mount the pilot regulator.

On request it is possible to have other gaugeports.



Section view of:  
GRF40D-40D40-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 : GRF40D – 40D8 – SSNN – PO

model	design pressure	connections	adjustable	material	seat	seals	options
<b>GRF40D</b>	<b>20</b> : 20 bar	<b>D</b> : DIN EN 1092-1	<b>X</b> : 0-X bar range depending on the mounted pilot regulator	<b>SS</b> SS 316L	<b>N</b> nitrile NBR <b>V</b> viton FKM <b>E</b> EPDM <b>K</b> kel-f (pctfe) <b>P</b> Peek	<b>N</b> nitrile NBR <b>V</b> viton FKM <b>E</b> EPDM	<b>PO</b> pilot operated
	<b>40</b> : 40 bar						<b>EF</b> external
	<b>50</b> : 50 bar	<b>A</b> : ASME B16.5					feedback
	<b>100</b> : 100 bar						
<b>250</b> : 250 bar	<b>S</b> : weld stubs		<b>xxx</b> 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.