Domeloaded Pressure Regulator

Model – GRT50D

Description

The GRT50D domeloaded 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	0-280 bar
Connections	2" BSPP
Seatdiameter	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.

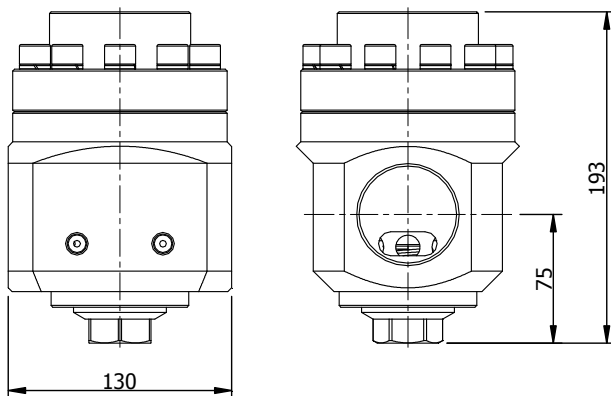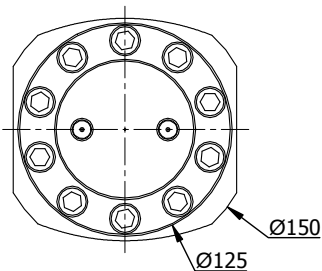|	
Body	ss 316L
Dome	ss 316L
Valve	ss 316L
Seat	KEL-F, PEEK or rubber
Valve spring	ss 316
O-rings / diaphragm	NBR, FKM or EPDM

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	-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.

- all pressure ranges -   1:400

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

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.

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Section view

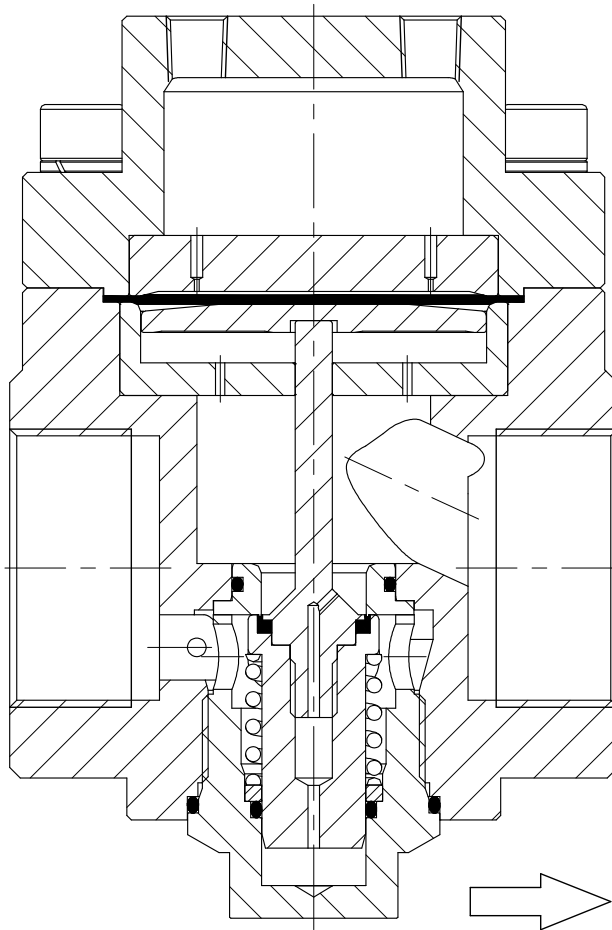The section view gives an idea of the internals of the regulator.

- diaphragm sensing for 0-280 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.

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:
GRT50D-50D50-SSNN

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Connections

The connections of the regulator are designed for the use of compression fittings.

The BSPP threads used for the regulator are according to the standard ISO 228-1.

The port ends of the line connections are according to the standard ISO1179-1.

Design pressures

The design pressures 50 bar and 280 bar, apply for the inletside and outletside of the regulator.

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

The design pressure comes standard together with specific seat materials.
- 50 bar   - NBR, FKM or EPDM
- 280 bar   - Kel-f or PEEK
- 420 bar   - PEEK

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

Typenumber explanation

Example : GRT50D – 50B50 – SSNN – PO

model	design pressure	connections	adjustable	material	seat	seals	options
GRT50D	**50** : 50 bar	**B** : BSPP	**X** : 0-X bar	**SS** SS 316L	**N** nitrile NBR	**N** nitrile NBR	**PO** pilot operated
	280 : 280 bar						
	420 : 420 bar		range		**V** viton FKM	**V** viton FKM	
			depending				
			on the		**E** EPDM	**E** EPDM	
			mounted		**K** kel-f		
			pilot		(pctfe)		**xxx** codes for
			regulator		**P** Peek		special option

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.