

Springloaded Pressure Regulator

Model – GRT20S-16

Description

The GRT20S-16 springloaded pressure regulator reduces the supply pressure on the inlet side to a controlled pressure on the outlet side.

Specifications

| | |
|----------------|-----------------------------|
| Inlet pressure | 16 bar |
| Adjustable | 0-3 bar - 2 pressure ranges |
| Connections | 3/4" NPT or BSPP |
| Seat diameter | 9,5 mm |
| Cv / Kv | Cv 1.8 / Kv 1.5 |

Fluids

This pressure regulator is suitable for gases only.



Materials

The regulator is made out of barstock stainless steel material.

| | |
|---------------------|------------------|
| Body | ss 316L |
| Springhousing | ss 316L |
| Valve | ss 316L |
| Seat | NBR, FKM or EPDM |
| Valve spring | ss 316 |
| Setspring | ss 302 |
| O-rings / diaphragm | NBR, FKM or EPDM |


Other materials available on request.

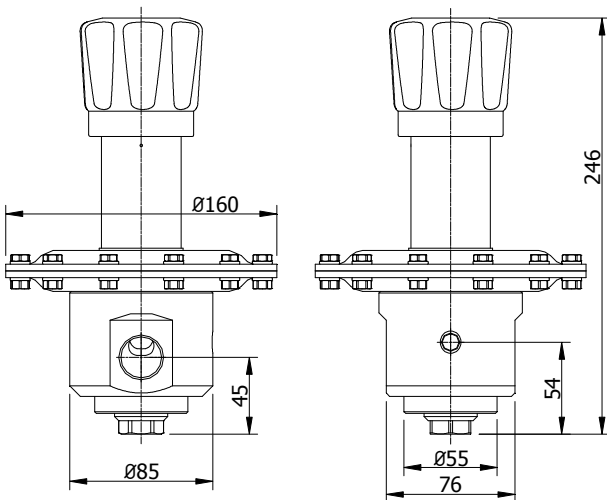
All metal parts are marked with a traceable batch number. Material certificates are available on request.

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 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.

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.

Spare parts

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

Dependency

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

Dependency ratios are listed below.

- range 0-1 bar - 1:3000
- range 0-3 bar - 1:3000

The large diaphragm and balanced valve have a positive effect towards dependency.

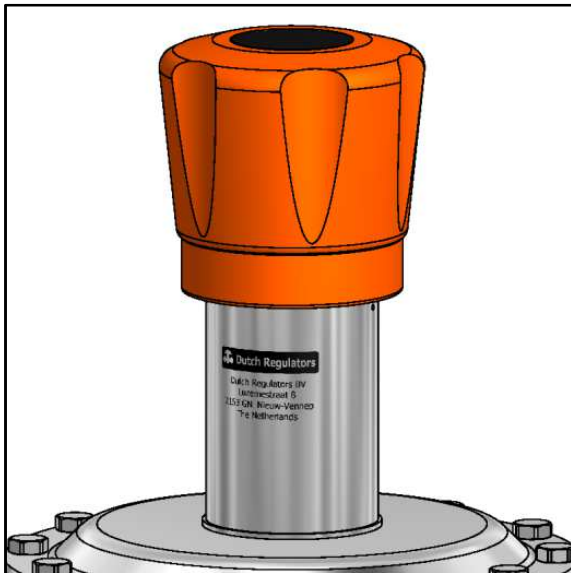
Flow

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 knob. The threadpiece below the knob is designed for frequent adjustment.

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.

Diaphragm sensing

The model has a large diaphragm to handle pressures below 3 bar accurately.

Rubber seated

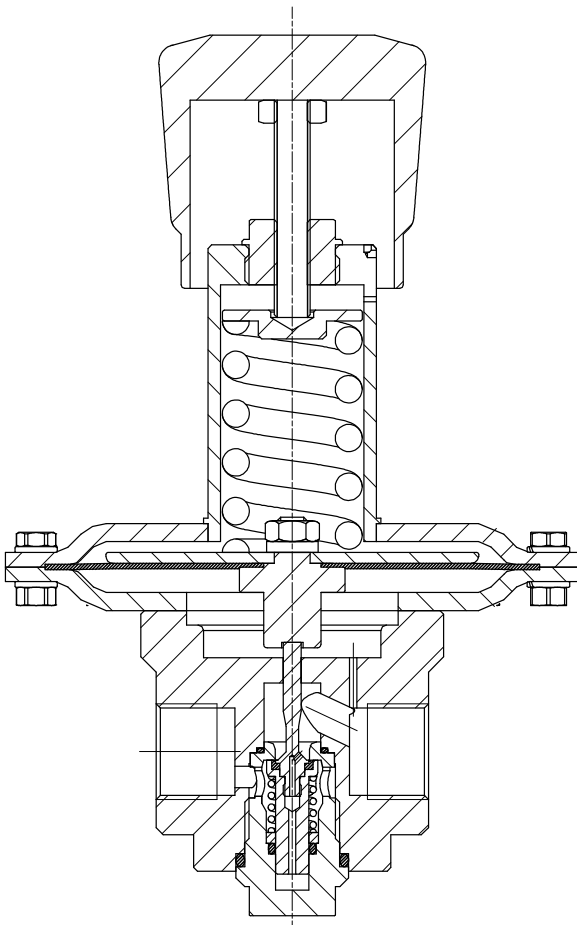
A rubber seat is less sensitive to dirt.

Valvespring and setspring

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.

Section view



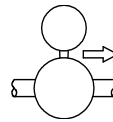
Section view of:
GRT20S-16N3-SSNN

Gaugeports

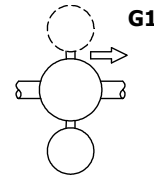
The regulator has standard one 1/4" NPT gaugeport to measure the controlled setpressure.

Additional 1/4" NPT gaugeports are available, see option G1 and G2 below.

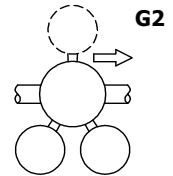
On request other gaugeport options available.



Standard
Outlet gaugeport



Additional
Outlet gaugeport



Additional
Inlet and Outlet
gaugeport

Gauges

Regulators can be supplied with gauges.

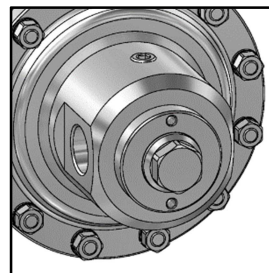
Below ranges are available:

0-1 bar / 0-4 bar / 0-10 bar / 0-25 bar

- case diameter 63 mm
- internals ss 316
- bottom connection 1/4" NPT

Mounting

The regulator can be mounted in every position (horizontal / vertical).



The bottom of the regulator has two mounting holes M6 with 8 mm thread and a C-C distance of 45 mm.

For regulators installed outdoors, make sure that rain cannot enter the springhousing or mount it drainable.

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Connections

The regulator has threaded connections, designed for compression fittings.

Line connections

NPT threads according to ANSI B1.20.1

BSPP threads according to ISO 228-1

BSPP ports according to ISO 1179-1

Design pressure

The design pressure applies for inlet and outletside.

Temperature

The general temperature range of the regulator is -50 / 200 °C, but is often limited due to the used sealing materials.

| | | |
|------|--------------|---------------|
| NBR | seat / seals | - 35 / 130 °C |
| FKM | seat / seals | - 20 / 200 °C |
| EPDM | seat / seals | - 50 / 120 °C |

Typenumber explanation

Example : GRT20S - 16N3 - SSNN

| model | design pressure | connections | adjustable | material | seat | seals | options |
|--------|-----------------|---------------|-------------|------------|---------|---------|-----------------------------|
| GRT20S | 16 : 16 bar | N : 3/4" NPT | 1 : 0-1 bar | SS SS 316L | N NBR | N NBR | G1 one extra gaugeport |
| | | B : 3/4" BSPP | 3 : 0-3 bar | | nitrite | nitrite | |
| | | | | | V FKM | V FKM | G2 two extra gaugeports |
| | | viton | viton | | | | |
| E EPDM | E EPDM | L locking cap | | | | | |
| | | | | | | | xx 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.