SPRINGLOADED PRESSURE REDUCING REGULATOR TBRS16

THE MILLIBAR REGULATOR

MAIN FEATURES

- **ss 316L body**
- **ptfe diaphragm**
- **balanced valve**
- **adjustable from zero pressure**
- **external feedback**
- **atex Ex II 2 GD**
- **shell design according to EN 12516**

CHARACTERISTICS

Inlet pressure	: 1 - 16 bar
	: 16 bar design pressure
Outlet ranges	: 5 – 200 mbar
	: 700 mbar design pressure
Seat diameter	: 19 mm
Seat leakage	: EN12266, rate a, p12 ANSI Class VI
Dependency ratio	: 1: 5000
Materials:	
• Body & Trim	: ss 316L
• Springhousing	: ss 316L
• Stem guide	: ptfe
• O-rings	: viton
• Seals & Diaphragm	: ptfe
Connections:	
• Line	: flanges ansi 2" 150# rf flanges din DN50 PN40
• Gauge ports	: ¼" npt
• External feedback	: ½" npt
Weight	: 25 kg
Temperature range	: -20°C to + 140 °C *

* Actual range depends on choice of seat- and seal material.

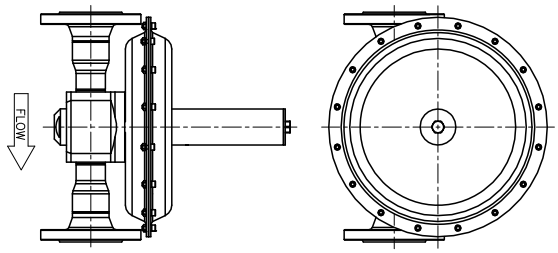
⚠ **Swagelok regulators are not “Safety Accessories” as defined in the Pressure Equipment Directive 97/23/EC:**

⚠ **Do not use the regulator as a shut off device.**

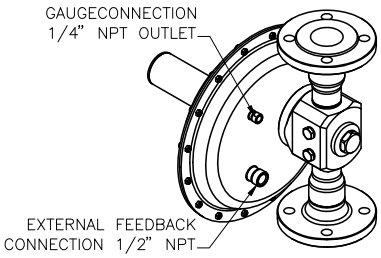
O-RINGS
Viton o-rings are standard.

CLEANING
This regulator is ultrasonically cleaned and degreased.
Cleaning based on
ASTM-G93 Level C / CGA 4.1 is optional.

INSTALLATION
Preferably in a vertical mode.
From a control point of view there is little or no difference between horizontal or vertical mounting.
The external feedback must be used.

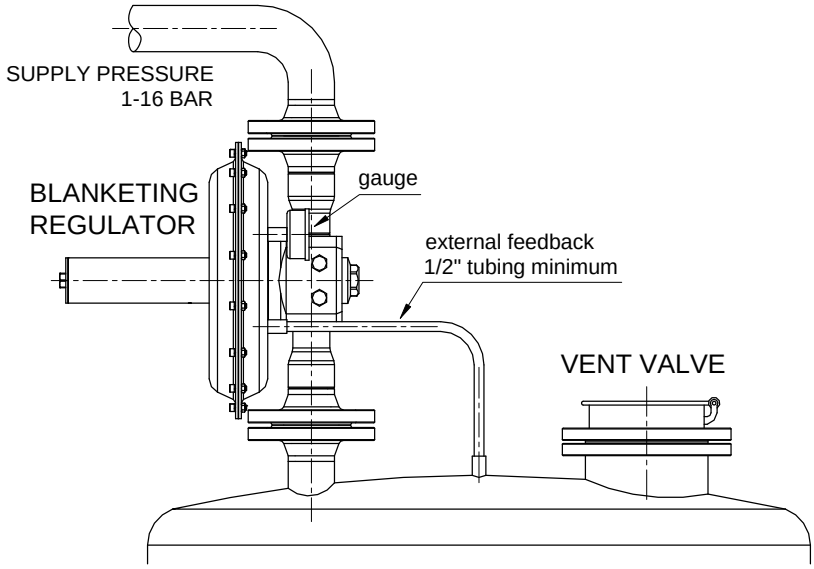


mounting mode (preferably)



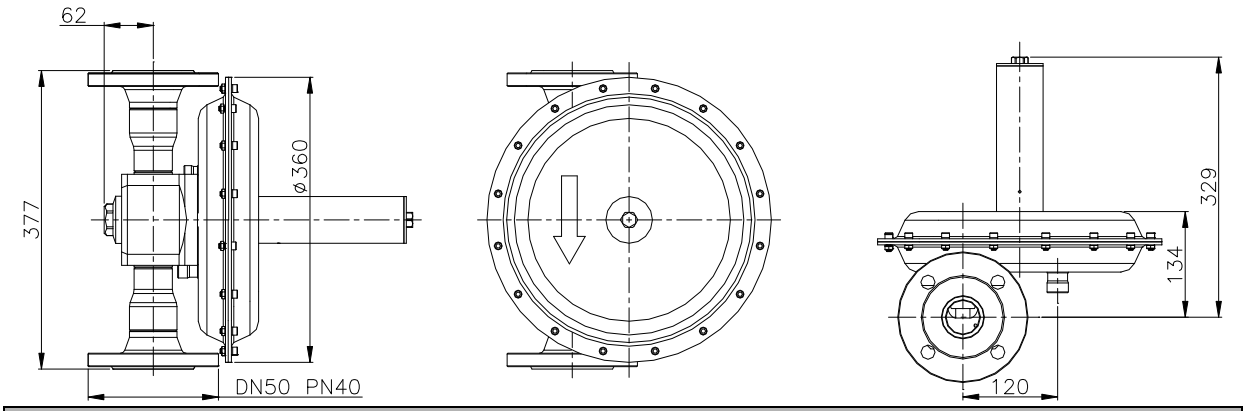
feedback and gauge connections

ADVANTAGE
TBR16 can handle 16 bar inlet pressure. Most blanketing regulators can only handle 6 bar.
Result: …….TBR16 passes much more flow.

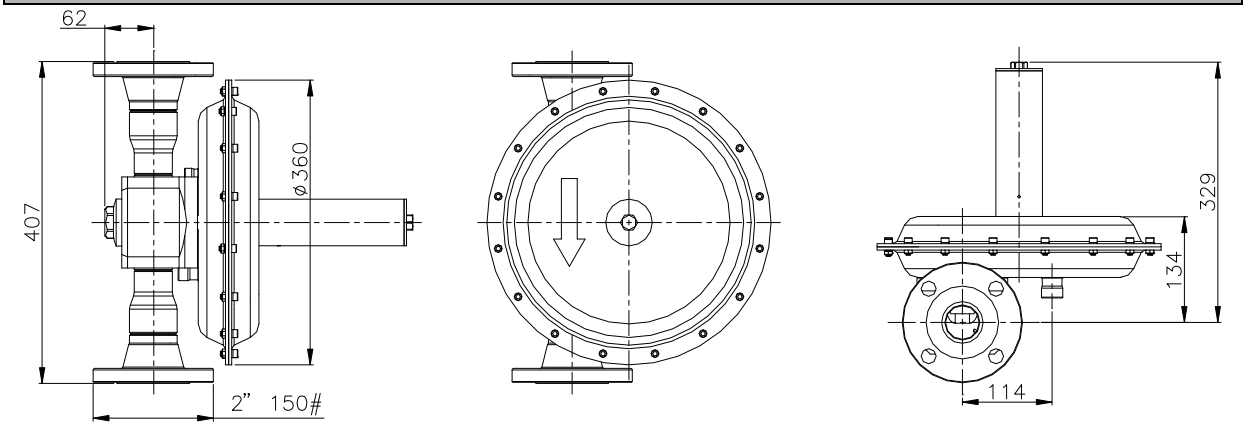


GENERAL INFORMATION
- Setpoint is the point where the regulator closes bubble tight.
- A tankblanketing regulator is not a substitute for a vacuum relief device.
- Failure of the tank blanketing regulator must be taken into account when considering possible causes of over-pressure in a tank.
- Dependency ratio 1: 5000 means that a change in inletpressure of 5 bar (5000 mbar) will result in a change in outletpressure of 1 mbar.

DIMENSIONS



DN50 PN40 – EN 1092-1 / type 11 / B1



2" 150# - ANSI B16.5 / Raised Face / Ra 3.2 – 6.3

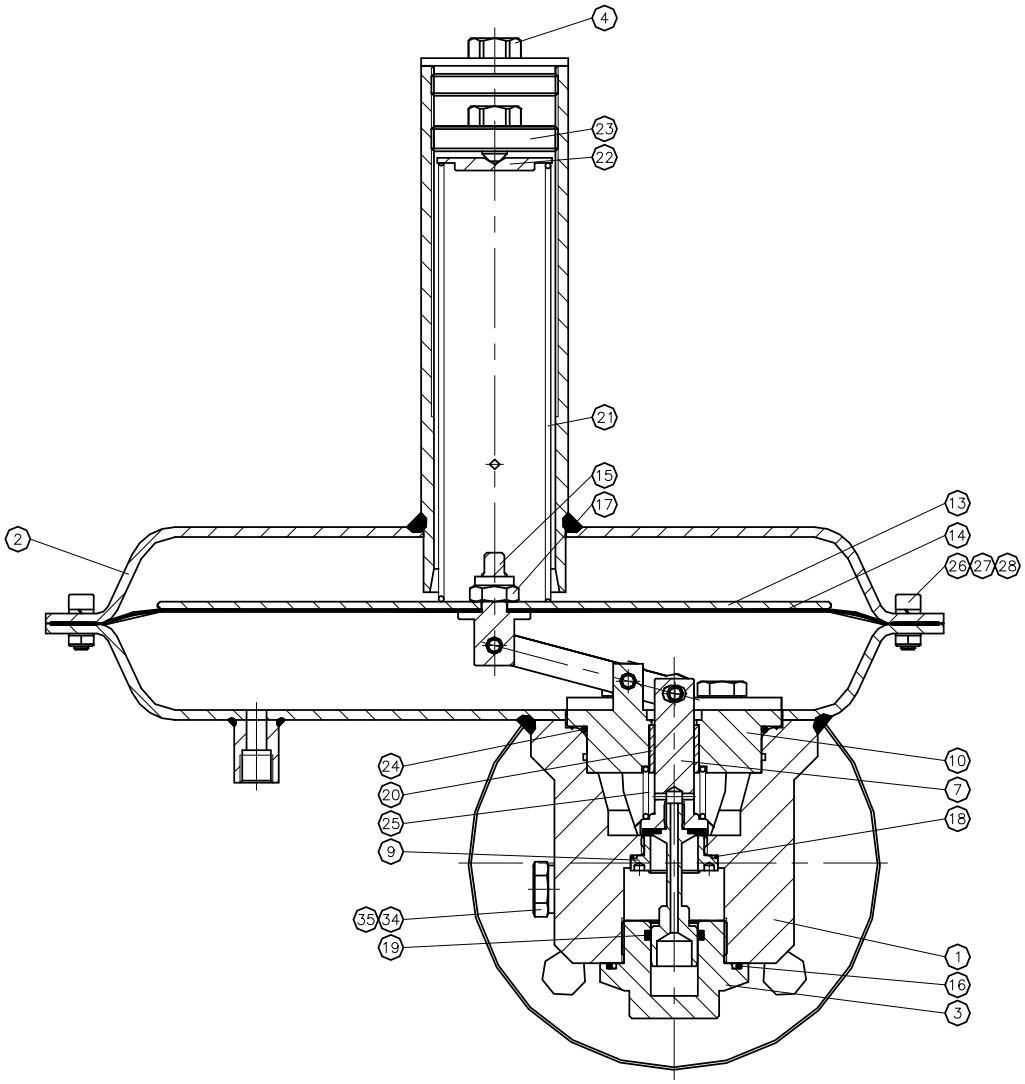
All dimensions are in millimeters.

FLOWTABLE

Airflow (Nm^3/hr)												
Outlet pressure range (mbar)	Inlet pressure (bar)											
	1	2	3	4	5	6	7	8	10	12	14	16
5 – 10 10 – 50 20 – 200	90	180	270	360	450	540	630	720	900	1080	1260	1440

Note:
As one can see the P1 determines the maximum flow.

Reason:
P2 is less than half of the P1. In this situation the gas flows through the seat at sonic velocity, cannot go any faster. We have critical or choked flow.
So, even if P2 becomes 1 mbar, the flow will not increase.



ORDERING INFORMATION
example: **TBRSFA16A1-02-3-VTV-FS**

TBRS	FA16A	1	- 02	- 3	- V	T	V	- FS
series / inlet	connection	flange facing*	material	outlet range	o-rings	diaphragm	seat	options
TBRS = 1-16 bar	**FA16A** = 2" Class 150 **FD16N** = DN50 PN40	*if flanges are ordered **1** = raised face smooth	**02** = ss316L	**1** = 5 – 10 mbar **2** = 10 – 50 mbar **3** = 20 – 200 mbar	**V** = viton *Options:* **E** = epdm F = ffkm	**T** = ptfe	**V** = viton *Options:* **E** = epdm F = ffkm	**FS** = factory set & locked

Red text identifies an example ordering number

Safe Product Selection

When selecting a product, the total system design must be considered to ensure safe, trouble-free performance. Function, material compatibility, adequate ratings, proper installation, operation, and maintenance are the responsibilities of the system designer and user.

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