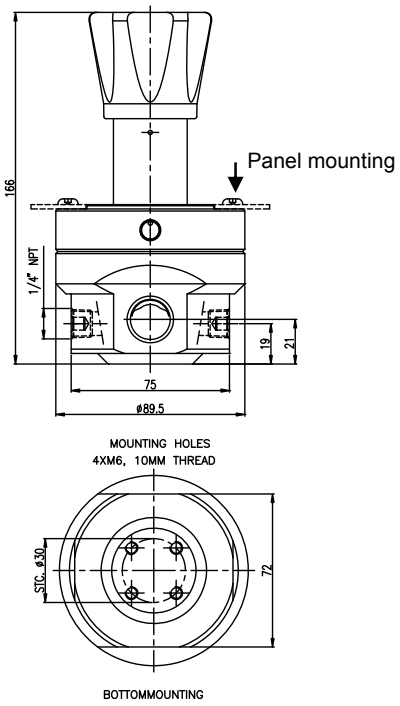
SPRINGLOADED PRESSURE REGULATOR LRS(H)4

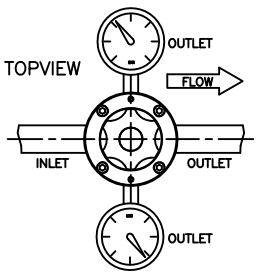
HIGH ACCURACY • ANALYZER APPLICATIONS

MAIN FEATURES

- **various valve arrangements**
- **ss 316L throughout**
- **diaphragm sensing**
- **bubble tight shut-off**
- **3 outlet ranges**
- **bottom mounting**
- **shell design according to EN 12516**
- **delivery according to PED**
- **many options**



PORTING STYLE



CHARACTERISTICS

Inlet pressure	: 35 bar (6.0 mm seat)
	: 400 bar (2.2 mm seat)
Outlet range	: 0 - 20 bar
• Cv (Kv) 6,0 mm	: 0.73 (0.62)
• Cv (Kv) 2,2 mm	: 0.1 (0.09)
Materials:	
• Body & Trim	: ss 316L
• Spring housing	: ss 316L
• Seat insert	: LRS4: elastomer
	: LRSH4: pctfe
• Diaphragm	: ptfe/butyl, ss 316L
• Seals	: viton
Connections:	
• Line	: ½" npt
• Vent	: ⅛" npt
• Outlet gauges	: 2x ¼" npt
Weight	: 2,6 kg
Temperature range	: -20 to +80°C ∗

CLEANING

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

∗ 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.**

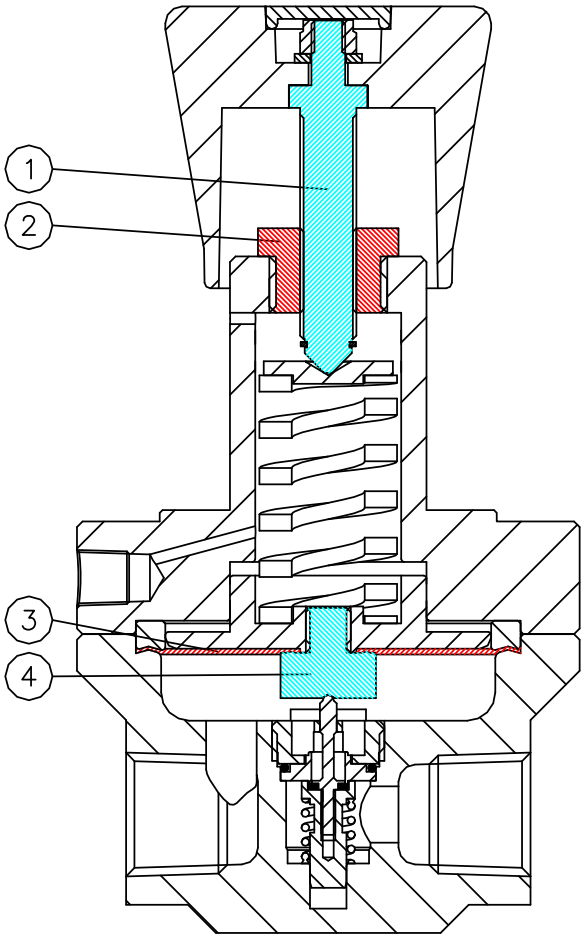
RHPS Series

WHY BUY THE LRS(H)4?

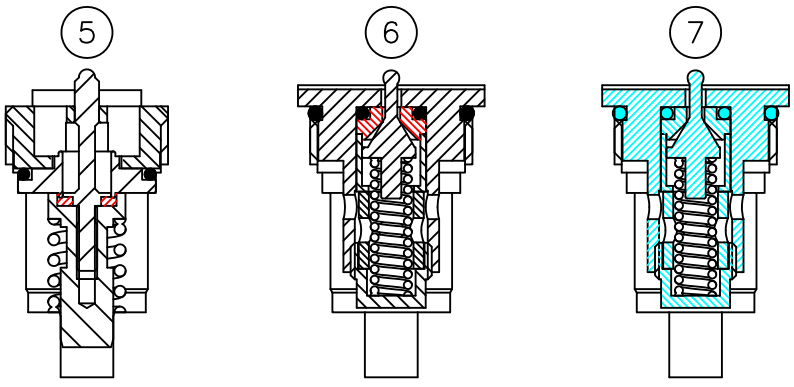
Both types offer a variety of features, which make it very attractive regulators.
Due to the large effective sensing area they are very accurate.
The LRSH4 is capable of handling 400 bar inlet pressure.

STANDARD FEATURES

1. Low torque no-wear stem
2. Removable hardened cap
3. Large ptfe/butyl diaphragm
   for higher accuracy
4. Non-venting
5. Viton seat in LRS4
   less chance of leakage
6. Pctfe seat in LRSH4
7. Cartridge valve assembly in LRSH4
   easy and fast in-field servicing



VALVE ARRANGEMENTS



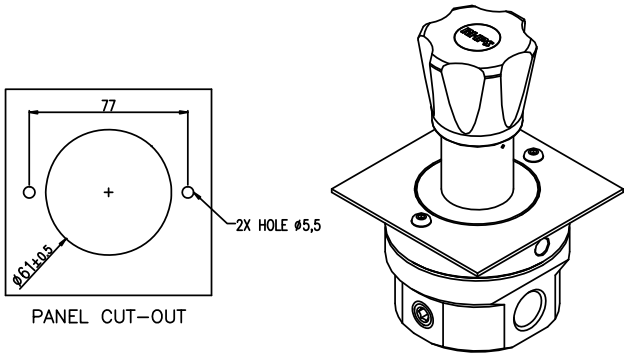
rubber seat
standard in LRS4

pctfe seat
standard in LRSH4

cartridge
standard in LRSH4

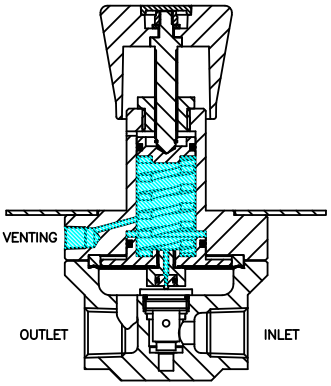
PANELMOUNTING

No disassembly required placing the LRS4 regulator in a panel.

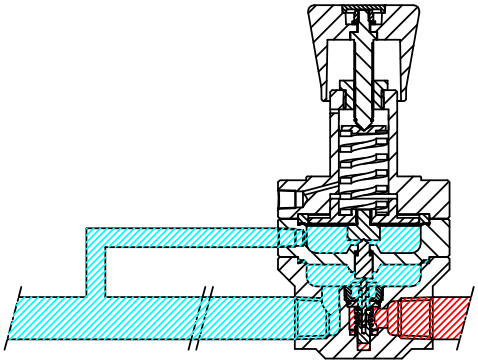


OPTIONS

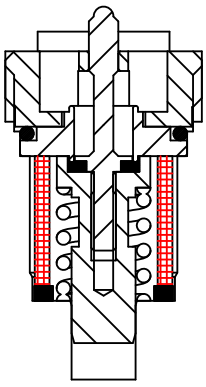
- Self venting
  Captured venting below the panel standard in self-venting version.



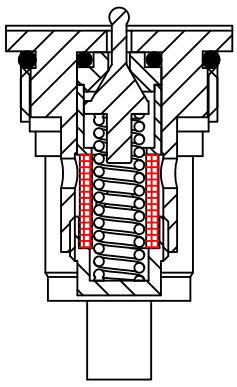
- External feedback
  Compensates for pressure loss (droop).



- 25 – 30 µm filter
  Less chance of seat damage, but reduces the flow.

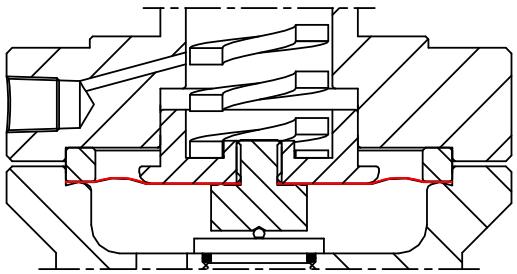


LRS4

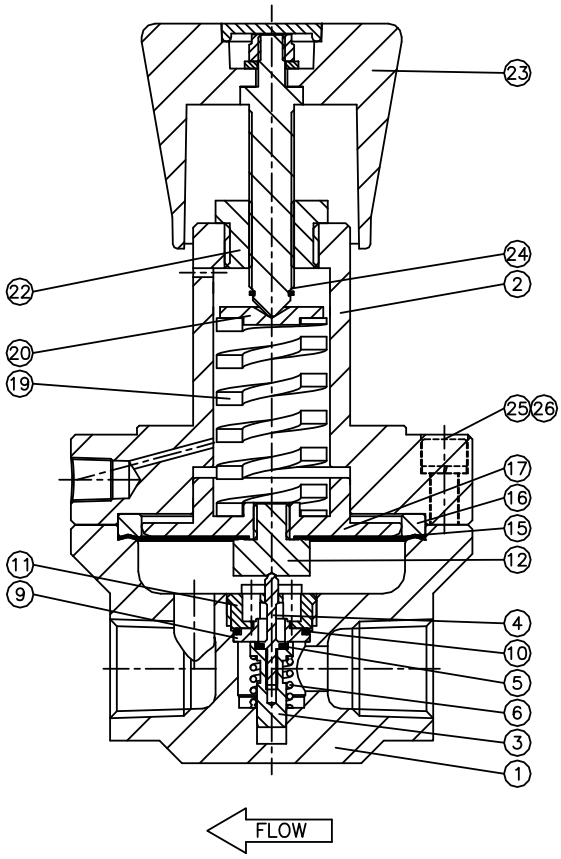


LRSH4

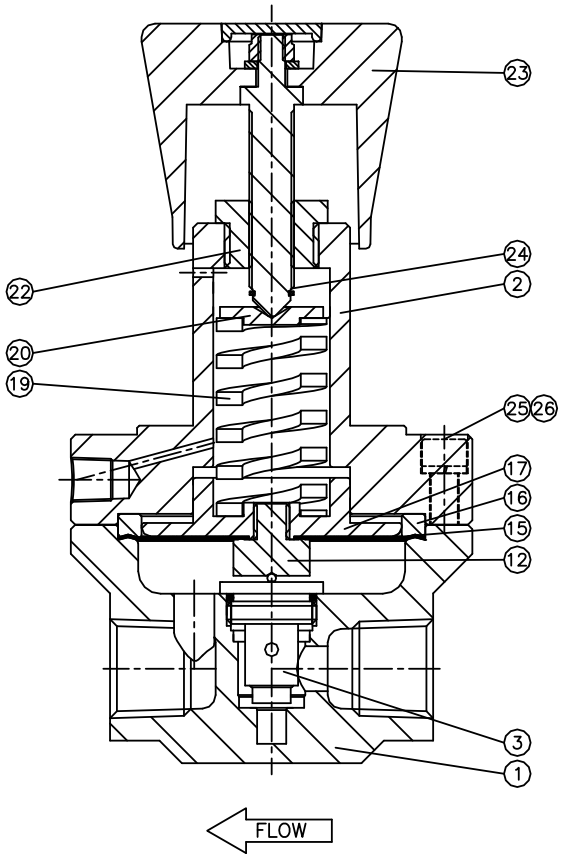
- ss 316L diaphragm
  For media incompatible with a standard diaphragm. P2: 9 bar max



LRS4



LRSH4



ORDERING INFORMATION

example: **LRSN4-02-2-VTV-S**

LRS	N4	- 02	- 2	- V	T	V	- S
series / inlet	**port**	**body material**	**outlet range**	**o-rings**	**diaphragm**	**seat**	**options**
LRS = 35 bar **LRSH** = 400 bar* *Down stream side 35 bar design pressure.	**N4** = ½" npt	**02** = ss316L	**1** = 0 – 3 bar **2** = 0 – 9 bar **3** = 0 – 20 bar	**V** = viton *Options:* **F** = ffkm **E** = epdm	**T** = ptfe *Options:* **M** = ss316L* * Only for 0-3 or 0-9 bar	**V** = viton *Options:* **F** = ffkm **E** = epdm *LRSH:* **K** = pctfe	**S** = self venting **F** = filter **EF** = external feedback **N** = nace Self venting and external feedback cannot be used at the same time!

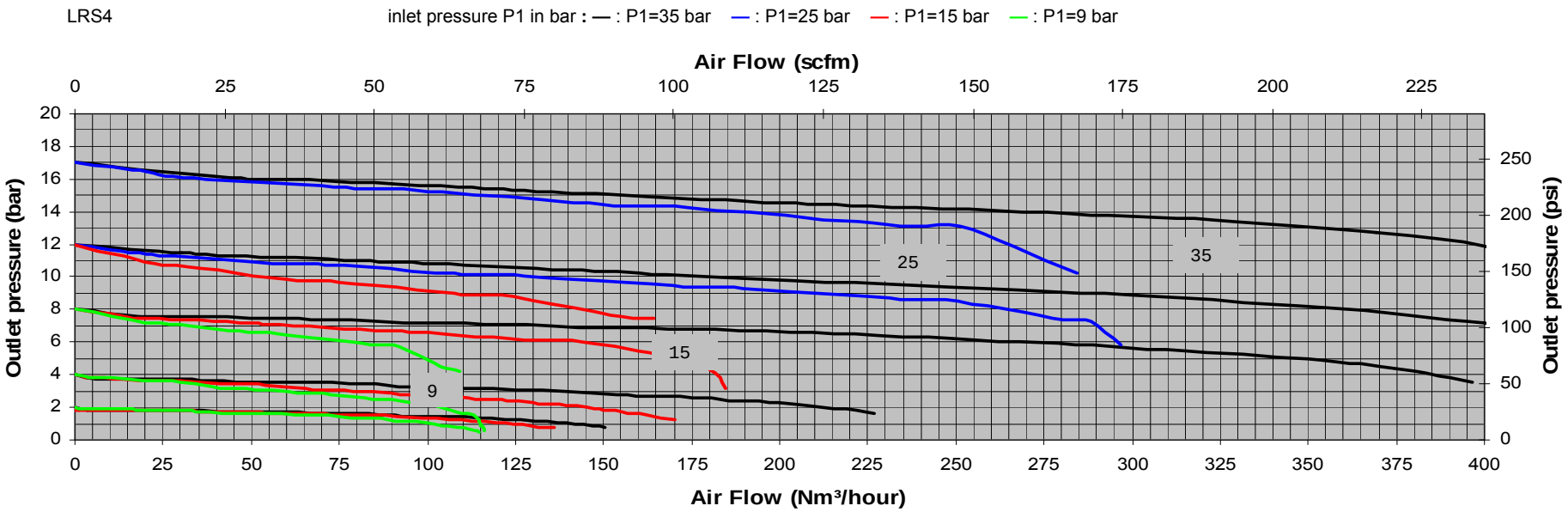
Red text identifies an example ordering number.

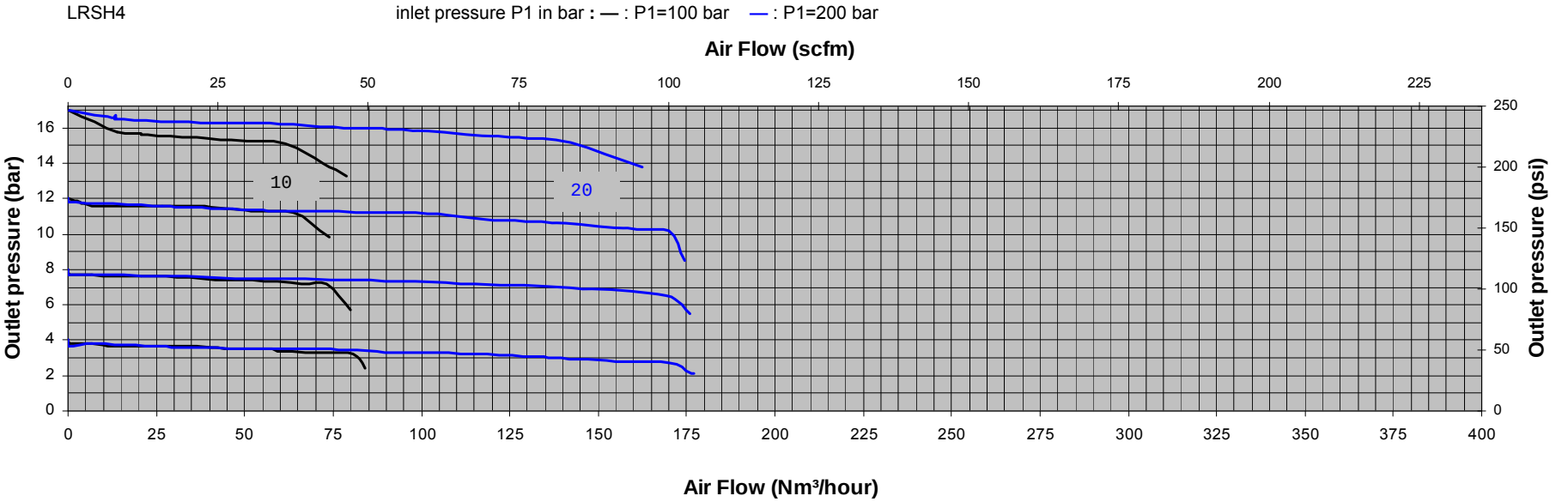
Safe Product Selection
When selecting a product, the total system design must be considered to ensure safe, trouble-free performance. Function, material compatibility, adequate ratings, proper installation, operation, and maintenance are the responsibilities of the system designer and user.

RHPS, Swagelok—TM Swagelok Company

Printed in U.S.A., OM
June 2010, R0
MS-02-376-E

FLOWCURVES

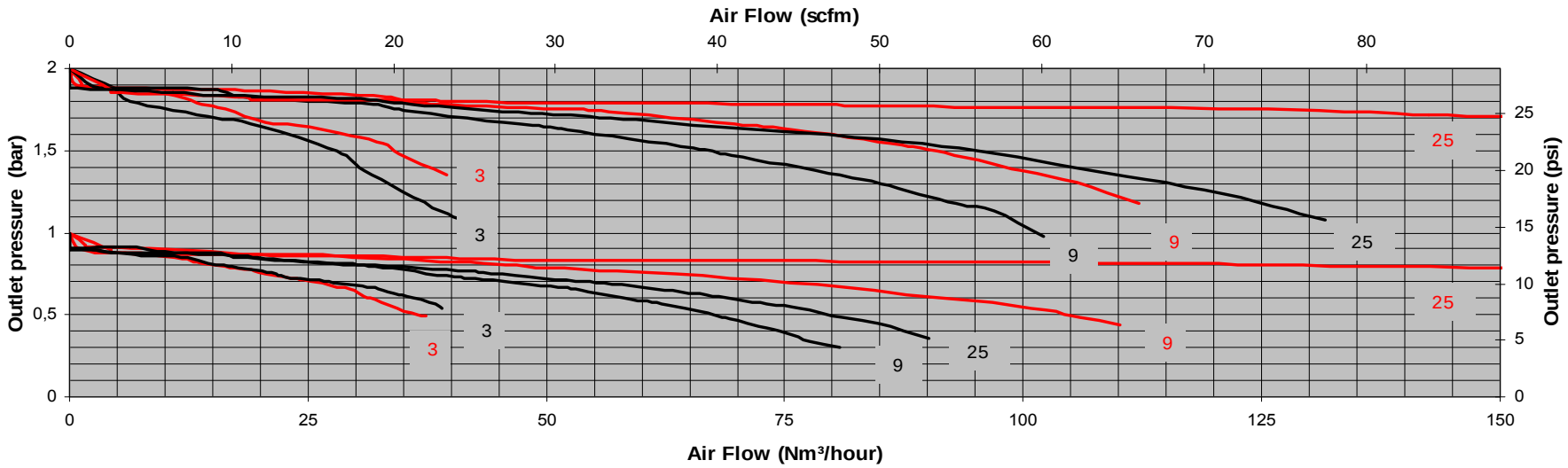

LRS4
inlet pressure P1 in bar : — : P1=35 bar — : P1=25 bar — : P1=15 bar — : P1=9 bar
Air Flow (scfm)
0 25 50 75 100 125 150 175 200 225
Outlet pressure (bar)
0 2 4 6 8 10 12 14 16 18 20
Outlet pressure (psi)
0 50 100 150 200 250
25
35
15
9
0 25 50 75 100 125 150 175 200 225 250 275 300 325 350 375 400
Air Flow (Nm³/hour)


LRSH4
inlet pressure P1 in bar : — : P1=100 bar — : P1=200 bar
Air Flow (scfm)
0 25 50 75 100 125 150 175 200 225
Outlet pressure (bar)
0 2 4 6 8 10 12 14 16
Outlet pressure (psi)
0 50 100 150 200 250
10
20
0 25 50 75 100 125 150 175 200 225 250 275 300 325 350 375 400
Air Flow (Nm³/hour)

FLOWCURVES BASED ON TESTS

Comparative flow curves LRS4 external feedback (EF) versus standard

Figures at end of curve indicate P1 in bar: — : External Feedback — : Standard



Comparative flow curves LRS4 ss 316L diaphragm (M) versus standard

Figures at end of curve indicate P1 in bar: — : ss 316L diaphragm — : Standard