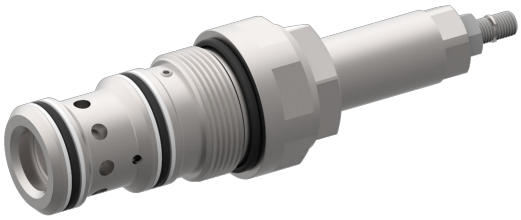
Pressure valve
Reducing function

Q_{max} = 66 gpm, p_{max} = 5000 psi
pilot operated, spool type, mechanically adjustable
Type series: DRPB-5-16-...

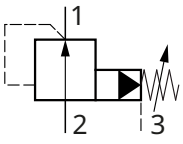


- Screw-in cartridge valve
- For cavity EB
- All external parts with zinc-nickel plating according to DIN EN ISO 19598
- Installation in threaded port body type GEBAA
- 2-way with external oil drain
- High flow rates
- Excellent stability over the whole pressure and flow range
- Sensitive adjustment
- Also available as stack valve
- Seated pilot stage

Description

The 2-way pressure-reducing valves, series DRP-5-..., are size 16, screw-in valves with a seated pilot stage and an M42×2 mounting thread. They are designed on the proven sliding-spool principle. When the pilot stage is active (pressure reduction function), pilot oil flows through an external oil drain port. In this condition, the secondary pressure in port 1 will be maintained at the set level, as long as the primary pressure in port 2 does not fall below that value. To obtain a reliable pressure setting over the entire pressure range, the overall pressure range is divided into different pressure stages. Each pressure range corresponds to a particular spring that allows a certain maximum operating pressure to be set. The pressure is set by means of an adjusting spindle. All external parts of the screw-in valves are zinc-nickel plated and are thus suitable for use in the harshest operating environments. These valves are mainly used in certain mobile and industrial applications to limit the system pressure. The oil drain takes place via external port. For self-assembly, please refer to the section related data sheets.

Symbol



Technical data

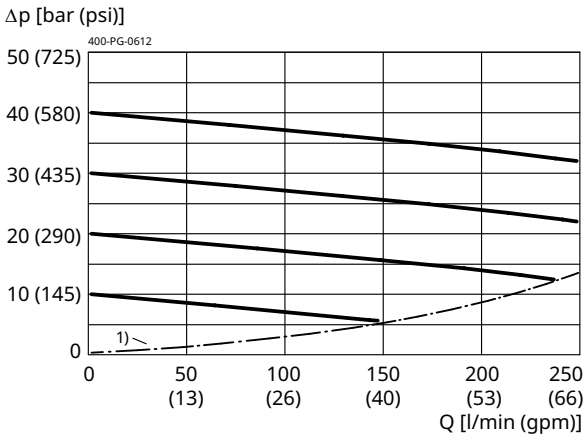
General characteristics	Description, value, unit
Function group	Pressure valve
Function	Reducing function
Design	Screw-in cartridge valve
Controls	mechanically adjustable
Characteristic	pilot operated, spool type
Construction size	NG 16
Thread size	M42×2
Mounting attitude	unrestricted
Weight	2.09 lb
Cavity size acc. ISO	fits into ISO 7789: 42-06-0-07
Cavity acc. factory standard	For cavity EB
Tightening torque steel	147.5 ft·lb
Tightening torque aluminium	147.5 ft·lb
Tightening torque tolerance	± 10 %
Minimum ambient temperature	- 22 °F
Maximum ambient temperature	+ 176 °F
Surface protection	All external parts with zinc-nickel plating according to DIN EN ISO 19598
Sealing material	see ordering code
Seal kit order number	NBR: DS-344-N / FKM: DS-344-V

Hydraulic characteristics	Description, value, unit
Maximum operating pressure	5000 psi
Restriction of the operating pressure	port 3: max. 3600 psi
Maximum flow rate	66 gpm
Flow direction	see symbol
Hydraulic fluid	HL and HLP mineral oil according to DIN 51 524; other fluids on request!
Minimum fluid temperature	- 22 °F
Maximum fluid temperature	+ 176 °F
Viscosity range	10 ... 650 mm^2/s (cSt)
Recommended viscosity range	15 ... 250 mm^2/s (cSt)
Minimum fluid cleanliness (cleanlineless class according to ISO 4406:1999)	class 20/18/15
Pilot-oil consumption	0.10...0.24 gpm
Minimum set pressure	145 psi
Maximum set pressure	5000 psi
Pressure adjustment range	pressure range 04: 1 turn = ca. 115 psi pressure range 10: 1 turn = ca. 300 psi pressure range 16: 1 turn = ca. 465 psi pressure range 25: 1 turn = ca. 740 psi pressure range 35: 1 turn = ca. 1000 psi

Performance graphs

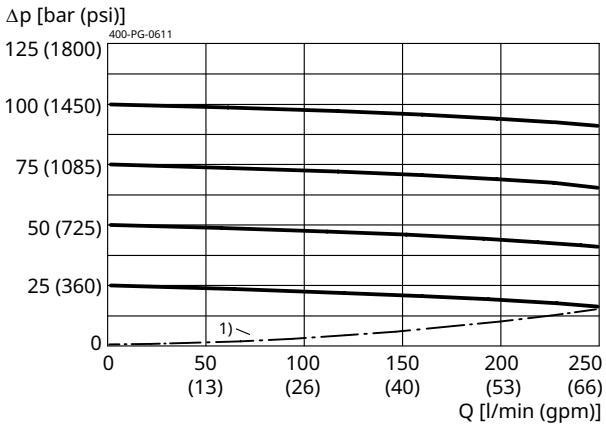
measured with oil viscosity 33.0 mm²/s (cSt)

p = f (Q) Pressure-flow rate



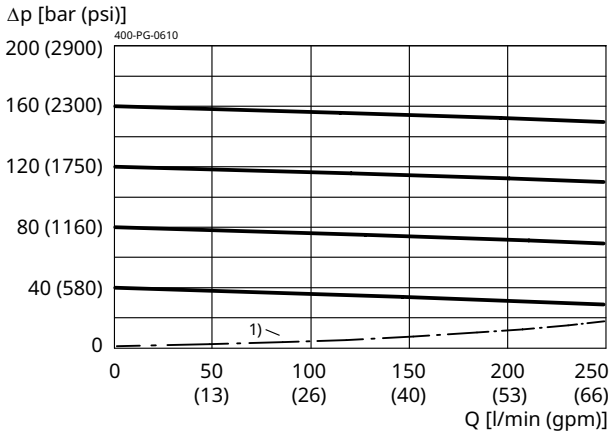
p_N = 40 bar (580 psi)
1) Einsatzgrenze / Application limit

p = f (Q) Pressure-flow rate



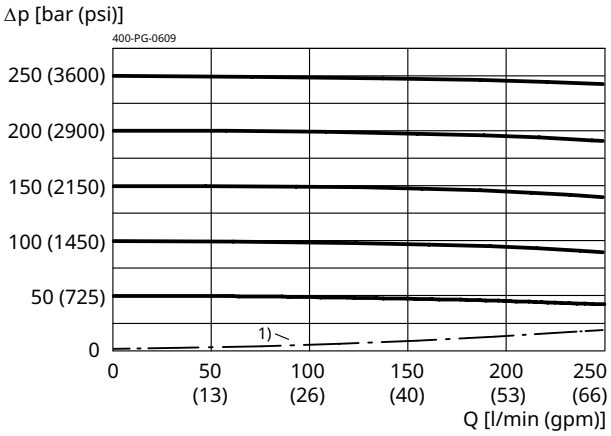
p_N = 100 bar (1450 psi)
1) Einsatzgrenze / Application limit

p = f (Q) Pressure-flow rate



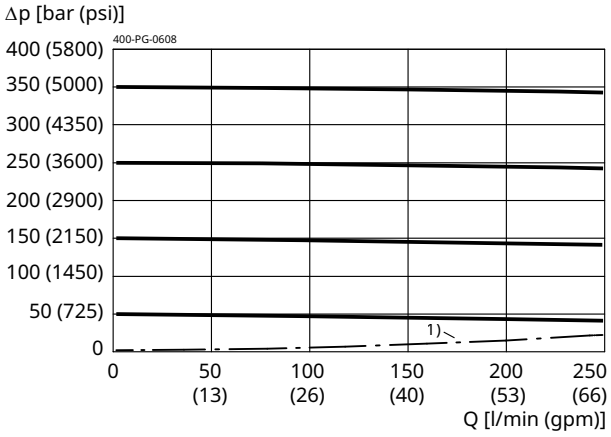
p_N = 160 bar (2300 psi)
1) Einsatzgrenze / Application limit

p = f (Q) Pressure-flow rate



p_N = 250 bar (3600 psi)
1) Einsatzgrenze / Application limit

p = f (Q) Pressure-flow rate



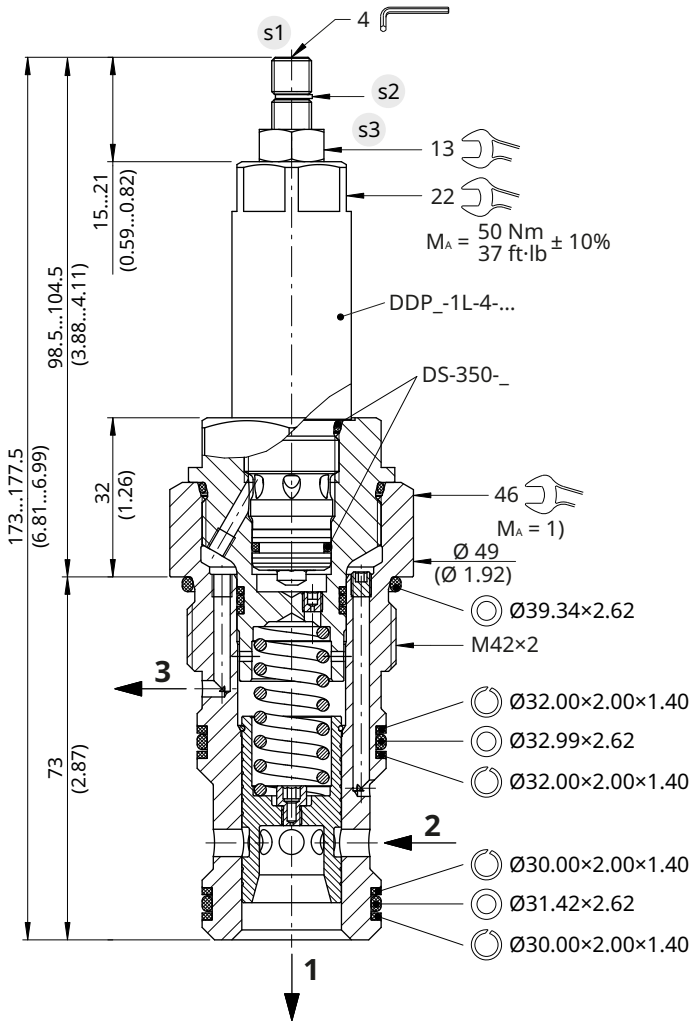
p_N = 350 bar (5000 psi)
1) Einsatzgrenze / Application limit

Dimensions and sectional view

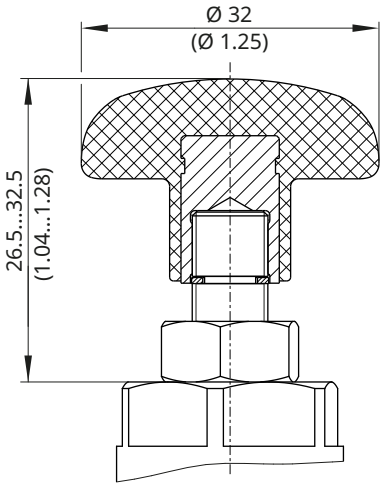
Beispiel für die Masseinheit:
Example for the dimensional units:

0.79 = 0.79 mm millimeter
(.031) = 0.031" inch

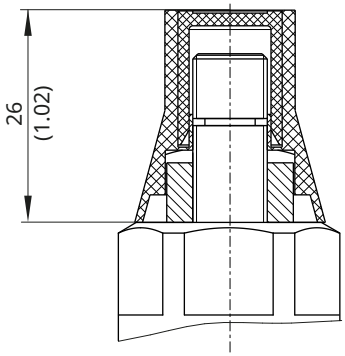
Version "S": Einstellschraube *(Standard)*
Version "S": adjustment screw (standard)



Version "H": Einstellschraube mit Handrad
Version "H": adjustment screw with handknob



Einstellschraube mit Sicherungskappe
adjustment screw with tamper-proof cap



Installation information

ATTENTION!
Only qualified personnel with mechanical skills may carry out any maintenance work. Generally, the only work that should ever be undertaken is to check, and possibly replace, the seals. When changing seals, oil or grease the new seals thoroughly before fitting them.

NOTE!
Set the required pressure with the adjusting screw s1 . After you have set the valve, lock the adjusting screw s1 with the lock nut.

NOTE!
1) When fitting the screw-in cartridge valve, use the specified tightening torque. The value can be found in the chapter "Technical data".

NOTE!
Valve settings can be sealed by fitting the tamper-proof cap. To fit the cap, the snap ring s2 has to be removed. Subsequent adjustment is only possible by destroying the tamper-proof cap.

NOTE!
The seals are not available individually. The seal kit order number can be found in the chapter "Technical data".

Ordering code

Ex. D R P B - 5 - 16 - 04 - S _ - 1

D	=	pressure valve
R	=	reducing-function
P	=	cartridge design
A ... Q	=	standard model according to valid data sheet
Z ... R	=	special model (on request)
5	=	pressure-reducing with external spring space relief
16	=	nominal size 16
04	=	pressure range 10 ... 40 bar / 145...580 psi
10	=	pressure range 25...100 bar / 360...1450 psi
16	=	pressure range 40...160 bar / 580...2300 psi
25	=	pressure range 50...250 bar / 725...3600 psi
35	=	pressure range 50...350 bar / 725...5000 psi
S	=	adjustment screw with internal hexagon **(standard)**
H	=	adjustment screw with hand knob
(blank)	=	NBR (nitril-butadien-rubber / BUNA) seals **(standard)**
V	=	FKM (fluorocarbon rubber / VITON) seals (special seals on request)
1...9	=	technical design no. (omit by ordering)

NOTE!
When required the tamper-proof cap (seal) for the adjustment screw must be ordered separately in plain language.

Related data sheets

Reference	Description
400-P-040011	Form tools
400-P-080111	Cavity EB
400-P-750115	Threaded port body GEBAA

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