Pressure valve
Reducing function

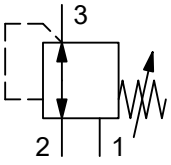
Q_{max} = 5.25 gpm, p_{max} = 3600 psi
direct acting, spool type, mechanically adjustable
Type series: DDRB-7M-4-...

- Screw-in cartridge valve
- For cavity AM
- All external parts with zinc-nickel plating according to DIN EN ISO 19598
- Installation in threaded port body type GAMA
- Excellent stability over the whole pressure and flow range
- Full-flow secondary pressure relief

Description

The 3-way pressure-reducing valves, series DDR_-7M-..., are size 4, direct acting, screw-in cartridge valves with a 3/4-16 UNF mounting thread. They are designed on the proven sliding-spool principle. The straightforward design delivers an outstanding price/performance ratio and good pressure/flow ratings. The valves control the required secondary pressure in port 3 to the value set with the pressure adjustment, and independently of the inlet pressure in port 2. In control mode, the connection 2 to 3 opens until the pressure in port 3 reaches the preset level. If the pressure rises above the preset level, the control spool opens the 3 to 1 connection until balance is restored. To obtain a reliable pressure setting over the entire pressure range, the overall pressure range is divided into different pressure levels. 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 3-way design functions as full-flow pressure protection of the secondary circuit, (as soon as the reduced pressure rises above the valve pressure setting). For self-assembly, please refer to the section related data sheets.

Symbol



Technical data

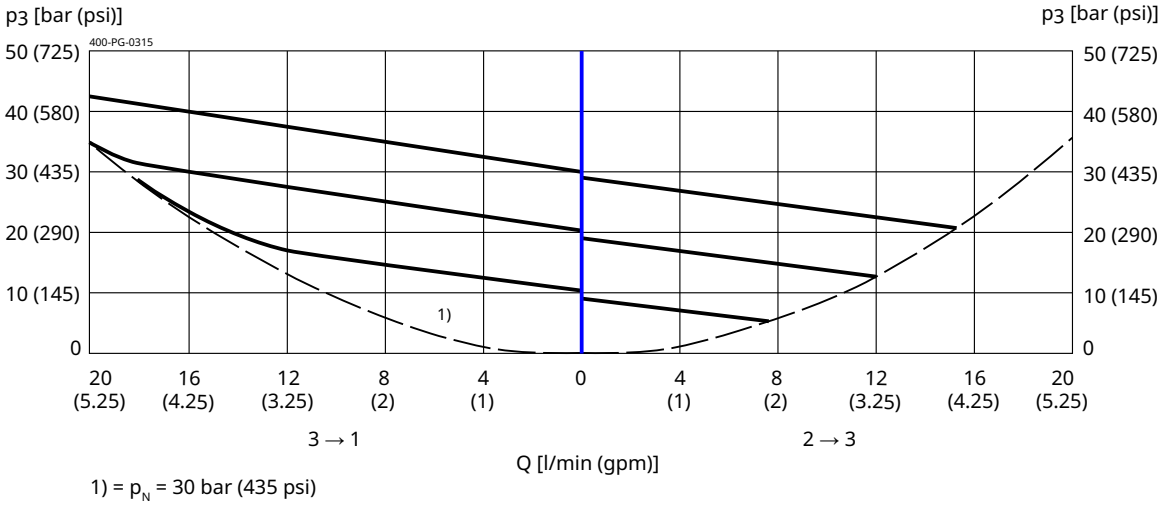
General characteristics	Description, value, unit
Function group	Pressure valve
Function	Reducing function
Design	Screw-in cartridge valve
Controls	mechanically adjustable
Characteristic	direct acting, spool type
Construction size	NG 4
Thread size	3/4-16 UNF-2A
Mounting attitude	unrestricted
Weight	0.44 lb
Cavity acc. factory standard	For cavity AM
Tightening torque steel	37 ft·lb
Tightening torque aluminium	37 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-249-N / FKM: DS-249-V

Hydraulic characteristics	Description, value, unit
Maximum operating pressure	3600 psi
Maximum flow rate	5.25 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
Opening pressure	435 / 870 / 1450 psi
Pressure adjustment range	pressure range 03: 1 turn = ca. 70 psi pressure range 06: 1 turn = ca. 190 psi pressure range 10: 1 turn = ca. 275 psi
Internal leakage flow rate	< 40 cm^3/min (with p2 3600 psi) with oil viscosity 33 mm^2/s (cSt)

Performance graphs

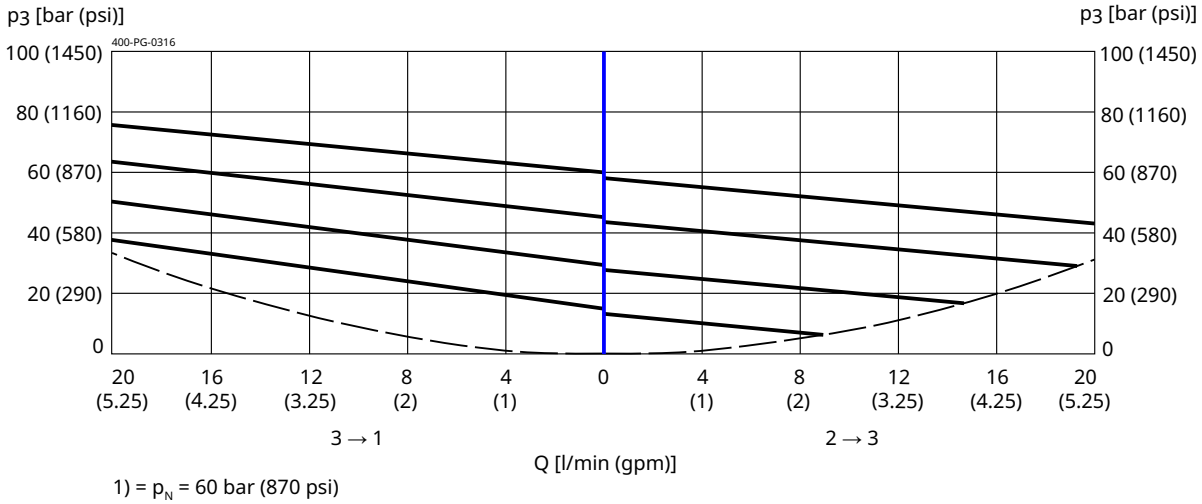
measured with oil viscosity 33.0 mm²/s (cSt)

p = f (Q) Pressure-flow rate



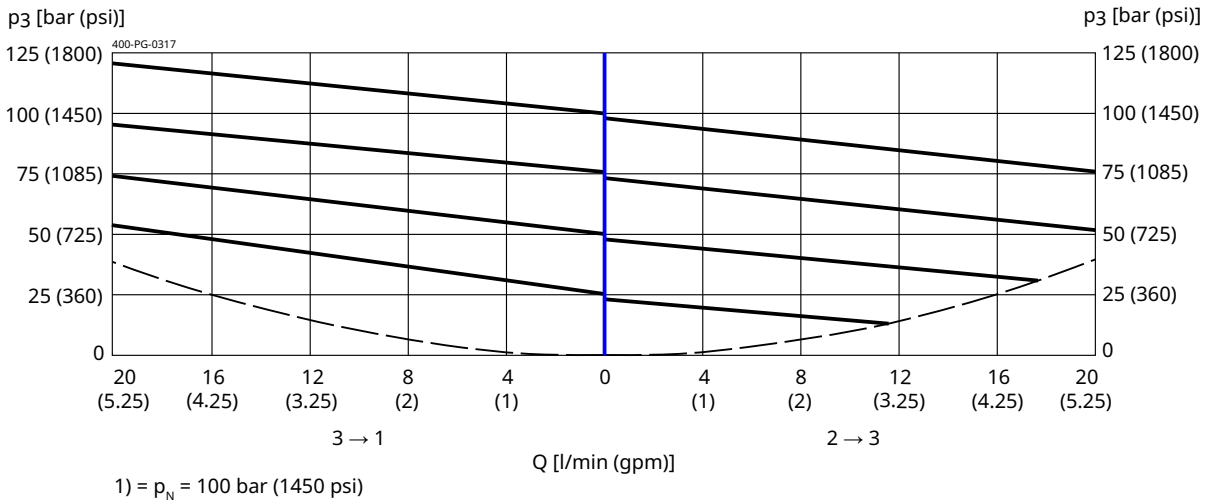
1) = p_N = 30 bar (435 psi)

p = f (Q) Pressure-flow rate



1) = p_N = 60 bar (870 psi)

p = f (Q) Pressure-flow rate



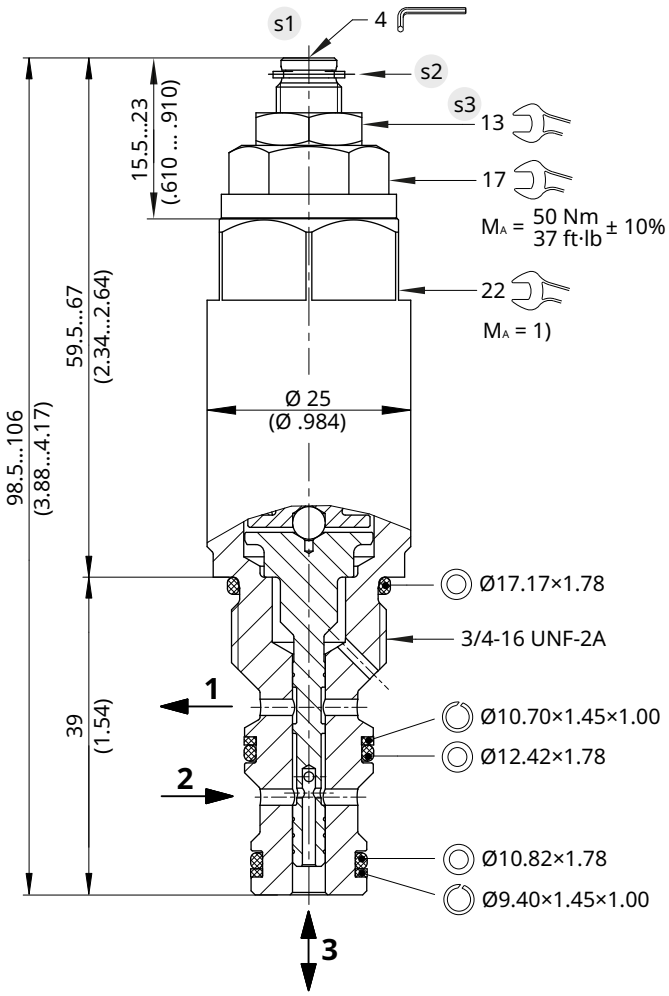
1) = p_N = 100 bar (1450 psi)

Dimensions and sectional view

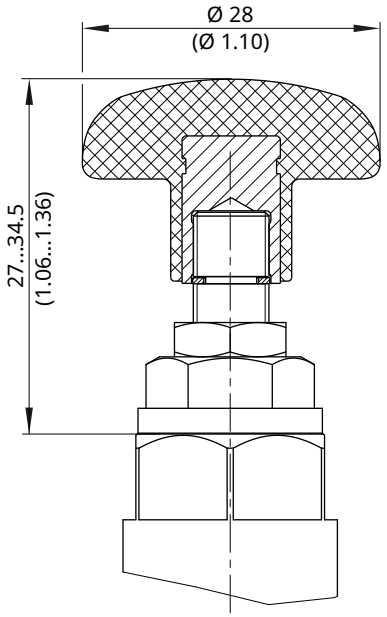
Beispiel für die Masseinheit:
Example for the dimensional units:

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



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.

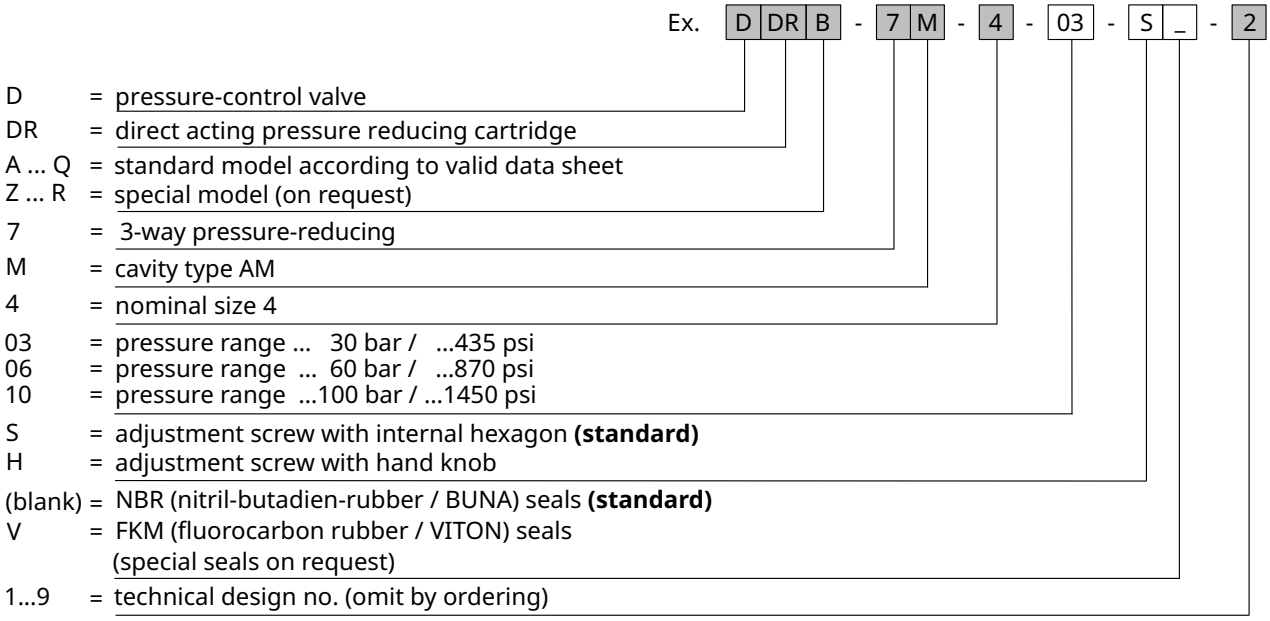
NOTE!
Set the required pressure with the adjusting screw s1 . After you have set the valve, lock the adjusting screw s1 with the lock nut.

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!
To ensure proper function, the valve should be air-bled before commissioning. Refer to chapter "Air-bleeding before commissioning"

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

Ordering code



Related data sheets

Reference	Description
400-P-040011	Form tools
400-P-040181	Cavity AM
400-P-720111	Threaded port body GAMA

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