

Pressure valve Reducing function

$Q_{\max} = 40 \text{ l/min}$, $p_{\max} = 315 \text{ bar}$

direct acting, poppet type, mechanically adjustable

Type series: DRSD5-8A-...A



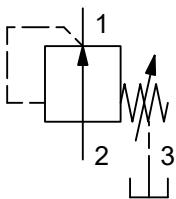
- Screw-in cartridge valve
- For cavity OA/C1025
- All external parts with zinc-nickel plating according to DIN EN ISO 19598
- Installation in threaded port body type GOA-12
- Excellent stability over the whole pressure and flow range
- Sensitive adjustment
- With external spring space relief

Description

These two-stage pressure valves, series DRSD5-8A-..., are size 8 / SAE 10, screw-in cartridge valves with a seated pilot stage and an 7/8-14 UNF-2A mounting thread. They are designed on the poppet/seat principle, and they are therefore virtually leak-free of flow. The spring chamber is externally drained via port 3. Back pressure applied to port 2 does not influence the valve relief setting. 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 reduce the system pressure. Thanks to the external oil drain, the actuator port can be pressurized without affecting the 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, poppet type
MTTFd value	150 years
Construction size	NG 8 / SAE 10
Thread size	7/8-14 UNF-2A
Mounting attitude	unrestricted
Weight	0.27 kg
Cavity acc. factory standard	For cavity OA/C1025
Tightening torque steel	50 Nm
Tightening torque aluminium	50 Nm
Tightening torque tolerance	± 10 %
Minimum ambient temperature	- 30 °C
Maximum ambient temperature	+ 80 °C
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-547-N / FKM: DS-547-V

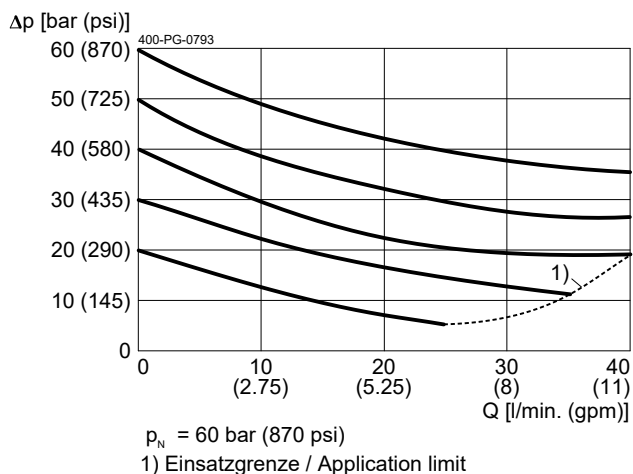
Hydraulic characteristics	Description, value, unit
Maximum operating pressure	315 bar
Maximum flow rate	40 l/min
Flow direction	see symbol
Hydraulic fluid	HL and HLP mineral oil according to DIN 51 524; other fluids on request!
Minimum fluid temperature	- 30 °C
Maximum fluid temperature	+ 80 °C
Viscosity range	10 ... 500 mm ² /s (cSt)
Recommended viscosity range	15 ... 250 mm ² /s (cSt)
Minimum fluid cleanliness (cleanliness class according to ISO 4406:1999)	class 20/18/15
Nominal pressure range	60 bar 100 bar 160 bar 250 bar
Pressure adjustment range	pressure range 20...60 bar: 1 turn = ca. 16 bar pressure range 30...100 bar: 1 turn = ca. 24 bar pressure range 40...160 bar: 1 turn = ca. 32 bar pressure range 50...250 bar: 1 turn = ca. 39 bar

Performance graphs

measured with oil viscosity 33.0 mm²/s (cSt)

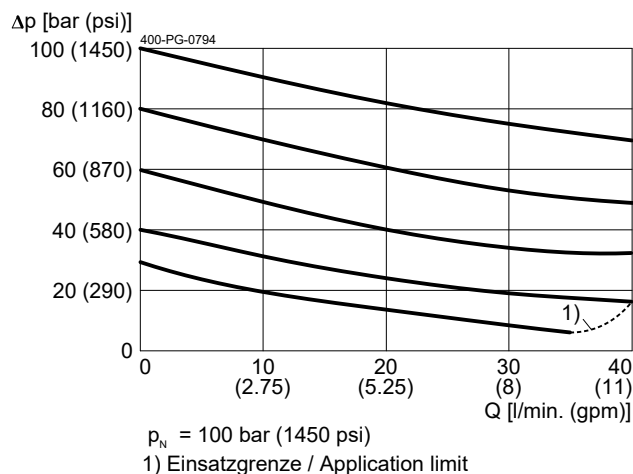
$p = f(Q)$ Pressure-flow rate

Pressure range 20...60 bar



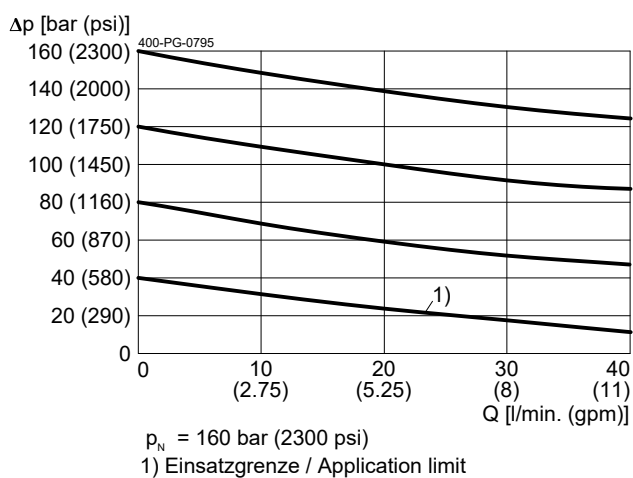
$p = f(Q)$ Pressure-flow rate

Pressure range 30...100 bar



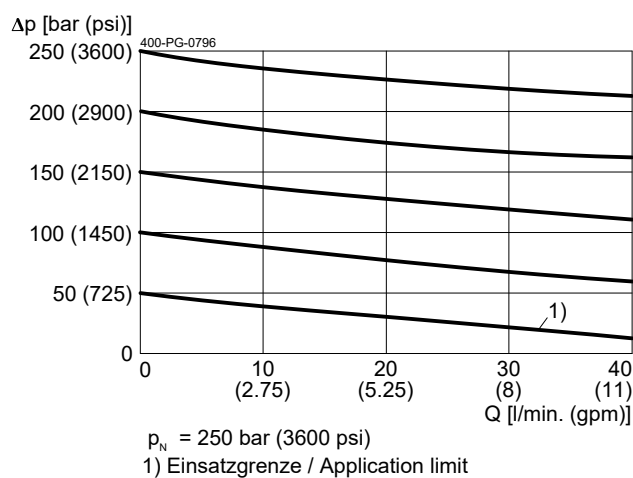
$p = f(Q)$ Pressure-flow rate

Pressure range 40...160 bar



$p = f(Q)$ Pressure-flow rate

Pressure range 50...250 bar

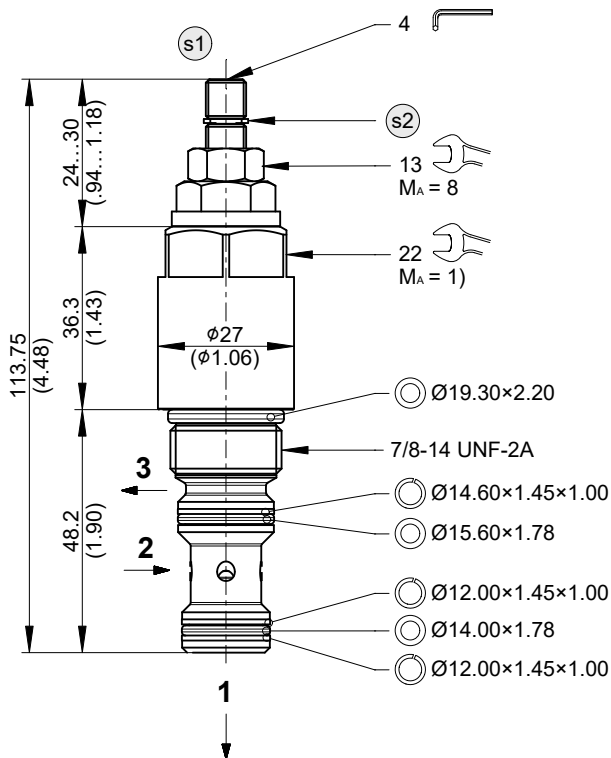


Dimensions and sectional view

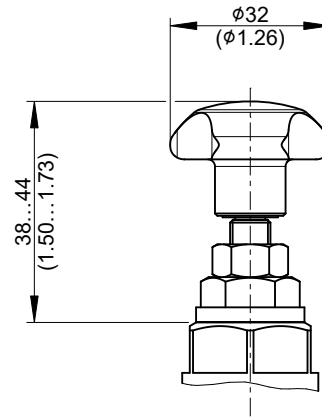
Beispiel für die Masseinheit: Example for the dimensional units:

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

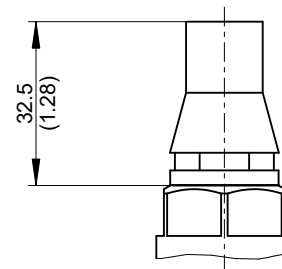
Version "S": Einstellschraube mit Innensechskant (Standard)
Version "S": adjustment screw with internal hexagon (standard)



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.



ATTENTION!

To prevent any pressure surges, port 3 must be routed to tank with the least possible back-pressure. Any tank pressure acting at port 3 is additive to the pressure setting at the main port 1.



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	S	D	5	-	8	A	-	060	-	S	-	N	A	-
D	=	pressure-control valve															
R	=	pressure-reducing valve															
S	=	seat valve															
D	=	direct acting															
5	=	pressure-reducing with external spring space relief															
8	=	nominal size 8 / SAE 10															
A	=	cavity type OA/C1025															
060	=	pressure range 20...60 bar / 290...870 psi															
100	=	pressure range 30...100 bar / 435...1450 psi															
160	=	pressure range 40...160 bar / 580...2300 psi															
250	=	pressure range 50...250 bar / 725...3600 psi															
S	=	adjustment screw with internal hexagon (standard)															
H	=	adjustment screw with hand knob															
N	=	NBR (nitril-butadien-rubber / BUNA) seals (standard)															
V	=	FKM (fluorocarbon rubber / VITON) seals (special seals on request)															
A ... Q	=	standard model according to valid data sheet															
Z ... R	=	special model (on request)															
1 ... 9	=	technical design no. (omit by ordering)															



IMPORTANT!

When required, the tamper-proof cap (the adjustment seal) must be ordered separately in plain language.

Related data sheets

Reference	Description
400-P-040011	Form tools
400-P-010101	MTTFd Values for Hydraulic Valves
400-P-040281	Cavity OA/C1025
400-P-738111	Threaded port body GOA-12...

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