

Pressure-Reducing Cartridge, Size 5

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

Seated design, direct acting, with manual adjustment

Series DDRA-5...



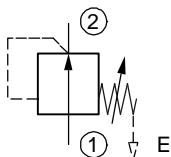
- Compact construction for cavity type AL – 3/4-16 UNF to Bucher standard
- 4 pressure ranges available
- Excellent stability over the whole pressure and flow range
- Responsive pressure adjustment
- Available with hand-knob or tamper-proof cap
- All exposed parts with zinc-nickel plating
- Can be fitted in a line-mounting body

1 Description

Series DDRA-5... screw-in cartridges are direct acting, seated pilot pressure-reducing valves. They are available in sizes 5 and have a 3/4-16 UNF mounting thread. The straightforward design delivers an outstanding price/performance ratio and good pressure/flow ratings. 4 pressure ranges are available in order to obtain precise pressure settings over the whole of the required pressure range. These

pressure-reducing cartridges are predominantly used in mobile and industrial applications for reducing a system pressure. All external parts of the cartridge are zinc-nickel plated according to DIN EN ISO 19 598 and are thus suitable for use in the harshest operating environments. For self-assembly, please refer to the section related data sheets.

2 Symbol



3 Technical data

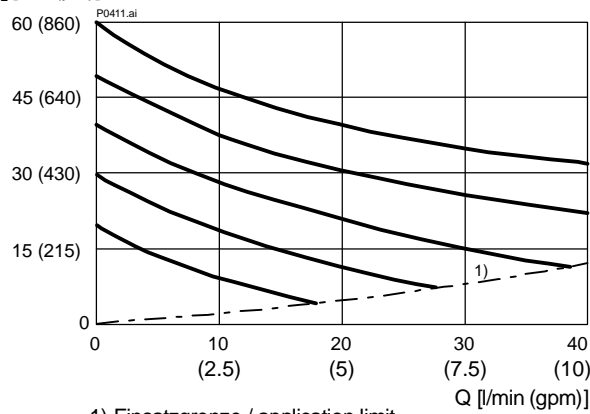
General characteristics	Description, value, unit
Designation	pressure-reducing cartridge
Design	seated design, direct acting, with manual adjustment
Mounting method	screw-in cartridge 3/4-16 UNF
Tightening torque	50 Nm \pm 10 %
Size	nominal size 5, cavity type AL
Weight	0.20 kg
Mounting attitude	unrestricted
Ambient temperature range	-25 °C ... +80 °C
MTTF _D values	150 years, see data sheet 400-P-010101-en

Hydraulic characteristics		Description, value, unit
Maximum operating pressure	port 2 port 1	250 bar 315 bar
Maximum flow rate		40 l/min
Nominal pressure ranges		60 bar, 100 bar, 160 bar, 250 bar
Pressure adjustment range	- 250 bar - 160 bar - 100 bar - 60 bar	50 ... 250 bar (1 turn \cong 40 bar) 40 ... 160 bar (1 turn \cong 30 bar) 25 ... 100 bar (1 turn \cong 20 bar) 20 ... 60 bar (1 turn \cong 15 bar)
Leakage flow rate		< 0,2 cm ³ /min (max. 5 drops/min) with oil viscosity 33 mm ² /s (cSt)
Flow direction		1 \rightarrow 2, see symbol
Hydraulic fluid		HL and HLP mineral oil to DIN 51 524; for other fluids, please contact BUCHER
Hydraulic fluid temperature range		-25 °C ... +80 °C
Viscosity range		10...650 mm ² /s (cSt), recommended 15...250 mm ² /s (cSt)
Minimum fluid cleanliness Cleanliness class to ISO 4406 : 1999		class 20/18/15

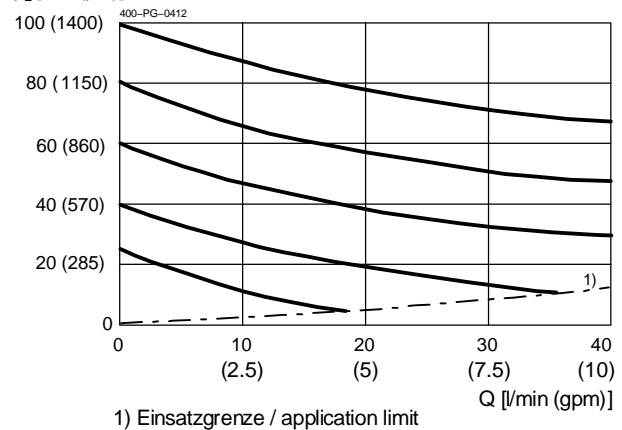
4 Performance graphs

measured with oil viscosity 33 mm²/s (cSt)

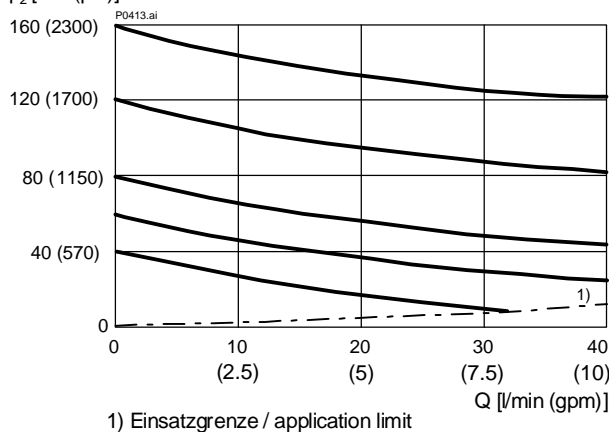
$p = f(Q)$ Pressure - Flow rate characteristic [$p_N = 60$ bar]
 p_2 [bar (psi)]



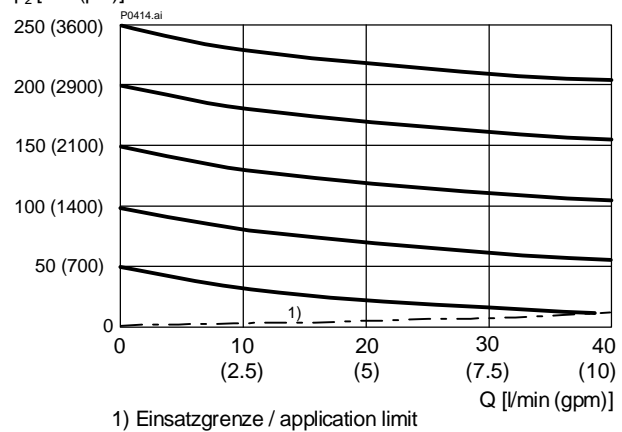
$p = f(Q)$ Pressure - Flow rate characteristic [$p_N = 100$ bar]
 p_2 [bar (psi)]



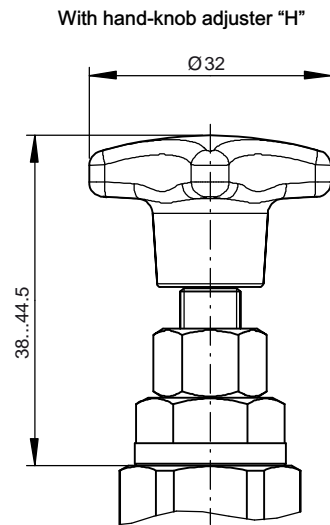
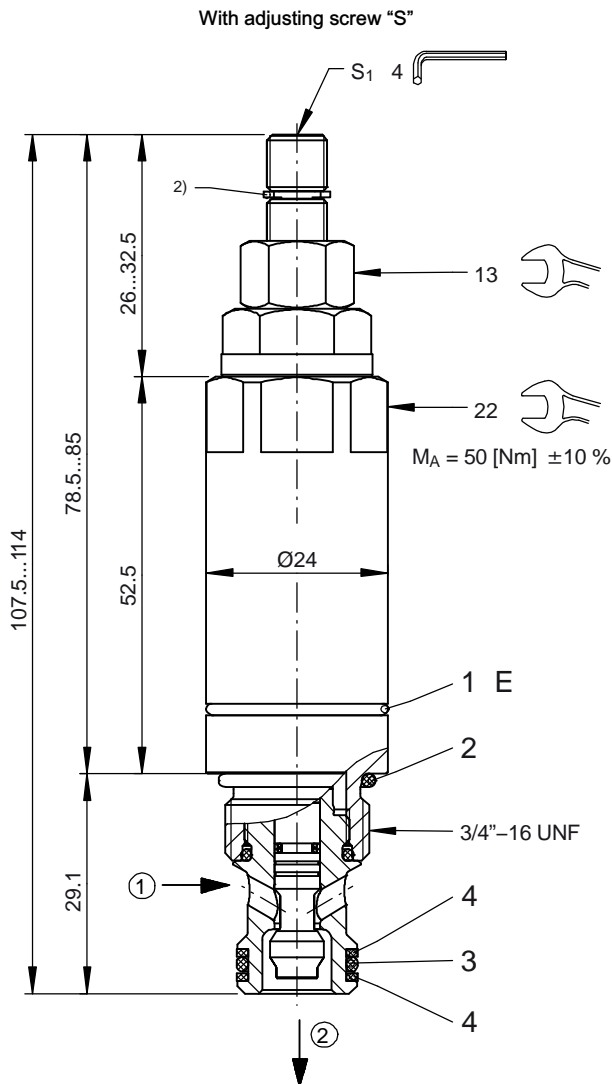
$p = f(Q)$ Pressure - Flow rate characteristic [$p_N = 160$ bar]
 p_2 [bar (psi)]



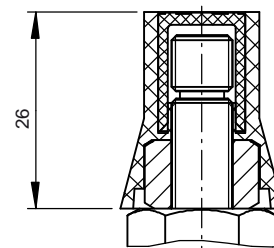
$p = f(Q)$ Pressure - Flow rate characteristic [$p_N = 250$ bar]
 p_2 [bar (psi)]



5 Dimensions & sectional view



Adjusting screw with tamper-proof cap
(order separately in plain language)



Seal kit NBR no. DS-450-N ¹⁾

Item	Qty.	Description
1	1	O-ring Ø 20,0 x 1,5 V83
2	1	O-ring no. 017 Ø 17,17 x 1,78 N90
3	1	O-ring no. 014 Ø 12,42 x 1,78 N90
4	2	Backup ring Ø 10,70 x 1,45 x 1,0 FI0751



IMPORTANT!

¹⁾ Seal kit with FKM (Viton) seals, no. DS-450-V



IMPORTANT!

Pos. E:

Venting the spring chamber to the atmosphere.

Due to the atmospheric venting, an external leakage cannot be ruled out. Depending on the application, external influences and duration of use, this oil volume might vary. To collect the oil in the spring chamber, a vertical installation orientation is recommended.

6 Installation information



IMPORTANT!

When fitting the cartridges, use the specified tightening torque. Set the required pressure with the adjusting screw (s₁). After you have set the valve, lock the adjusting screw with the lock nut.



IMPORTANT!

Valve settings can be sealed by fitting the tamper-proof cap. To fit the cap, the snap ring ²⁾ has to be removed. Subsequent adjustment is only possible by destroying the tamper-proof cap.



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.

7 Ordering code

Ex.

D	DR	A	-	5	L	-	5	-	25	-	S	-	1
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- D = pressure-control valve
- DR = direct acting pressure reducing cartridge
- A ... Q = standard model - see relevant data sheets
- Z ... R = special features - please consult BUCHER
- 5 = pressure function 5
- L = cavity type AL
- 5 = nominal size 5
- 25 = pressure range ...250 bar
- 16 = pressure range ...160 bar
- 10 = pressure range ...100 bar
- 06 = pressure range ... 60 bar
- S = screw adjuster (standard)
- H = hand-knob adjuster
- (blank) = NBR (Nitrile) seals (standard)
- V = FKM (Viton) seals
(special seals - please contact BUCHER)
- 1 ... 9 = design stage (omit when ordering new units)

8 Related data sheets

Reference	(Old no.)	Description
400-P-040011	(i-32)	The form-tool hire programme
400-P-040171	(i-33.10)	Cavity type AL
400-P-720101	(G-4.10)	Line-mounting body, type GALA (G 3/8")
400-P-010101		MTTF _D values for hydraulic valves

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