

Pressure-Reducing Cartridge Valve, Size 16

$Q_{\max} = 250 \text{ l/min}$, $p_{\max} = 350 \text{ bar}$

Seated pilot, spool-type main stage, with mechanical adjustment

Series DRPB-5...



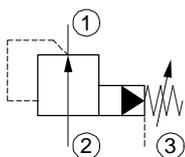
- High flow rates
- Excellent stability over the whole pressure and flow range
- 5 pressure ranges available
- With external pilot drain to port 3
- Responsive pressure adjustment
- Available with hand-knob or tamper-proof cap
- All exposed parts with zinc-nickel plating
- Can be fitted in a line-mounting body
- Can be fitted in sandwich bodies

1 Description

Series DRPB-5... cartridges are two-stage pressure-reducing valves with a seated pilot stage and a spool-type main stage. When the pilot stage is active (main stage reducing), pilot oil is drained externally to port 3. In this state, the secondary pressure in 1 will be maintained at a constant level as long as the primary pressure in 2 does not fall below that level. The straightforward design delivers an outstanding price/performance ratio and good pressure - flow rate characteristics. In order to obtain a good pressure adjustment over the entire pressure range, the total pressure range is

subdivided into 6 pressure stages. The pressure is set by means of an adjusting screw or a hand-knob. To safeguard pressure settings, the adjusting screw can be sealed with a tamper-proof cap. These pressure-reducing cartridges are used to reduce the system pressure in mobile and industrial applications. 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



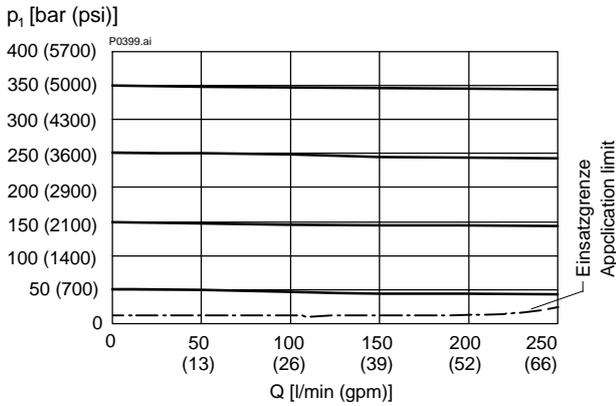
3 Technical data

General characteristics	Description, value, unit
Designation	pressure-reducing cartridge valve
Design	seated pilot, spool-type main stage, with mechanical adjustment, with external pilot oil drain to 3
Mounting method	screw-in cartridge M42 x 2
Tightening torque	200 Nm \pm 10 %
Size	nominal size 16 cavity type EB to ISO 7789-42-06-0-07
Weight	0.95 kg
Mounting attitude	unrestricted
Ambient temperature range	-25 °C ... +80 °C

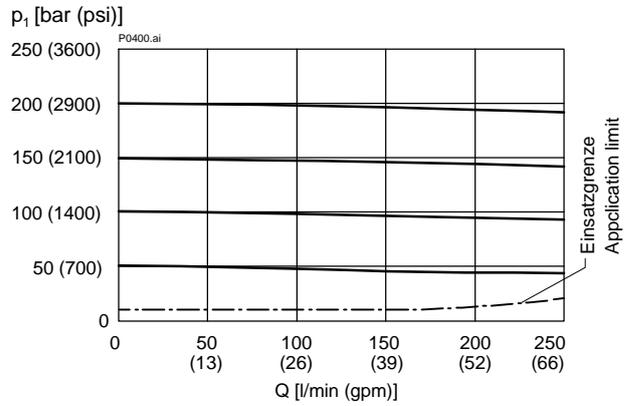
Hydraulic characteristics	Description, value, unit
Maximum operating pressure - in ports 1, 2 - in port 3	350 bar 250 bar
Maximum flow rate	250 l/min
Nominal pressure ranges	10 ... 40 bar 10 ... 100 bar 10 ... 160 bar 10 ... 250 bar 10 ... 350 bar
Pilot-oil consumption	400...900 cm ³ /min
Pressure adjustment range	1 turn \cong 70 bar = pressure range 350 bar 1 turn \cong 51 bar = pressure range 250 bar 1 turn \cong 32 bar = pressure range 160 bar 1 turn \cong 21 bar = pressure range 100 bar 1 turn \cong 8 bar = pressure range 40 bar
Flow direction	2 \rightarrow 1, see symbols
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)

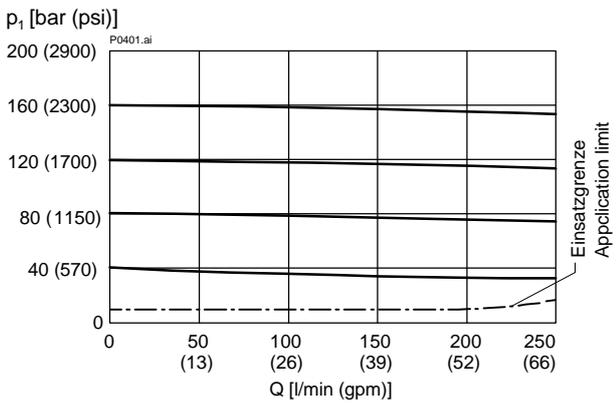
$p = f(Q)$ Pressure - Flow rate characteristic
($p_N = 350$ bar)



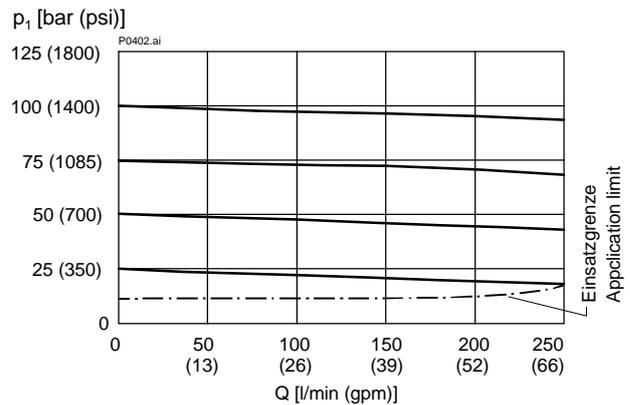
$p = f(Q)$ Pressure - Flow rate characteristic
($p_N = 250$ bar)



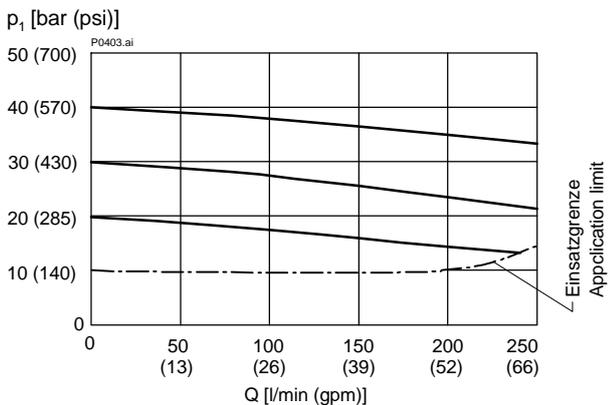
$p = f(Q)$ Pressure - Flow rate characteristic
($p_N = 160$ bar)



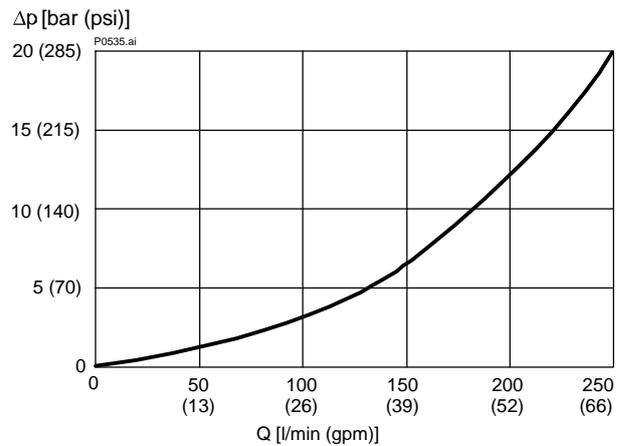
$p = f(Q)$ Pressure - Flow rate characteristic
($p_N = 100$ bar)



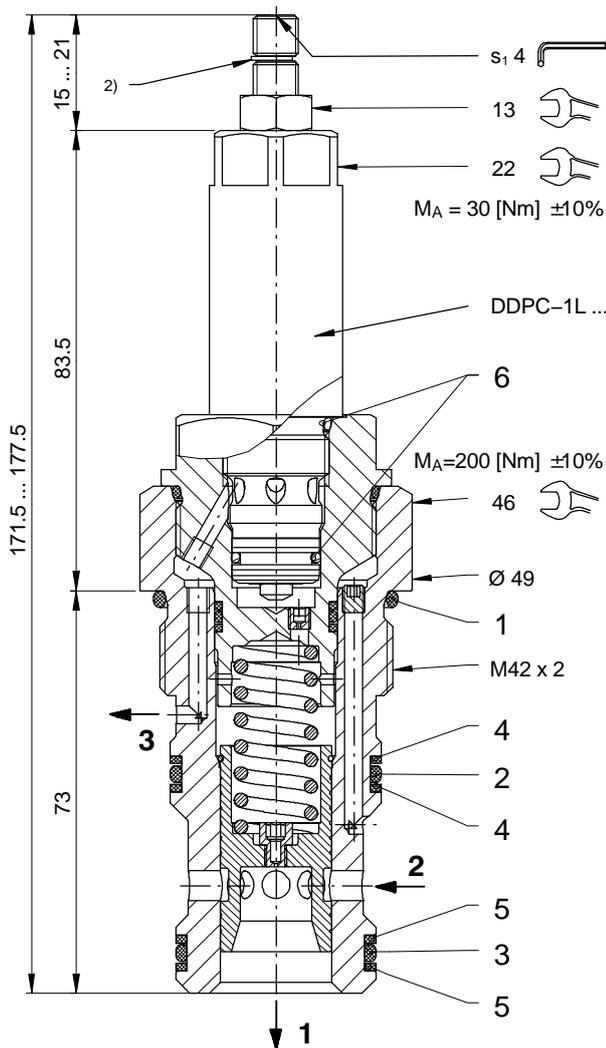
$p = f(Q)$ Pressure - Flow rate characteristic
($p_N = 40$ bar)



$\Delta p = f(Q)$ Pressure-drop - Flow rate characteristic
(all pressure ranges)

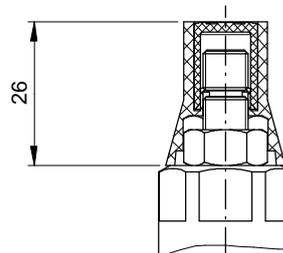
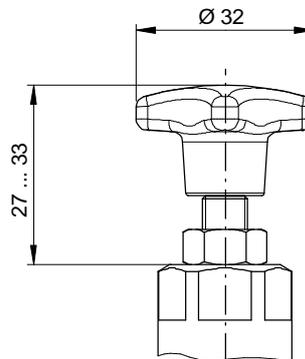


5 Dimensions & sectional view



With adjusting screw "S"

With hand-knob adjuster "H"



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

6 Installation information



IMPORTANT!

When fitting the cartridges, use the specified tightening torque. Set the required pressure with the adjusting screw (s_1). After you have set the valve, lock the adjusting screw with the lock nut.



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.



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.

Seal kit NBR no. DS-344-N ³⁾

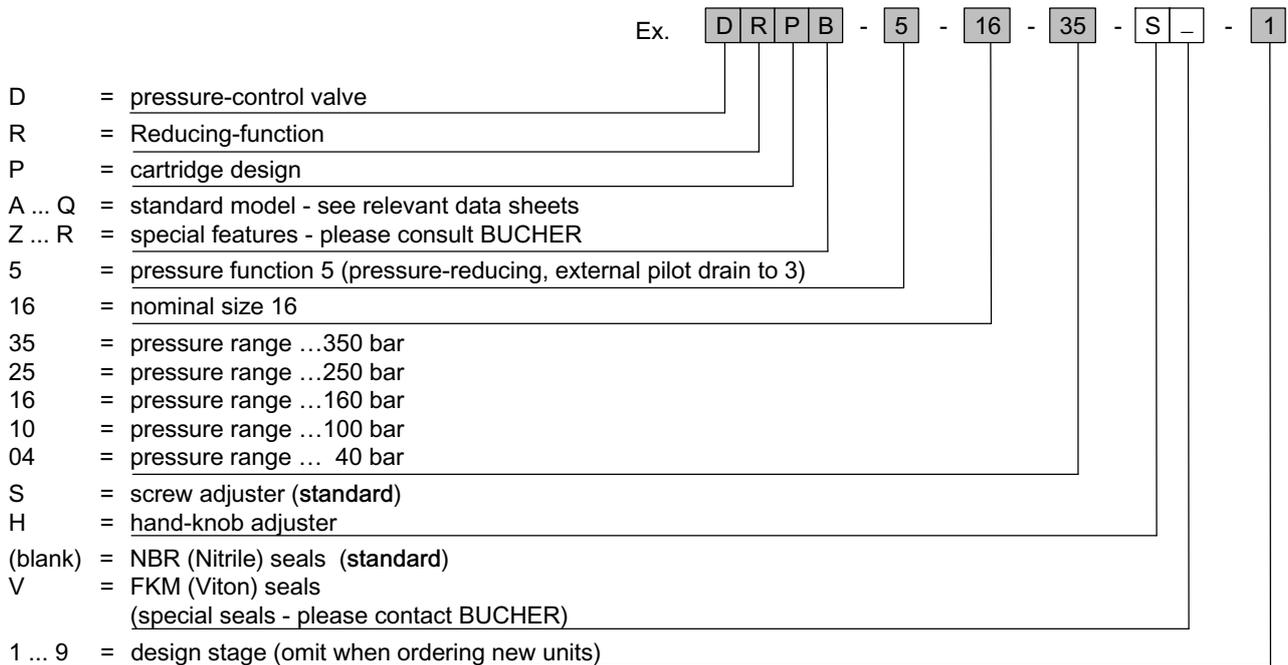
Item	Qty.	Description
1	1	O-ring no. 129 \varnothing 39,34 x 2,62 N90
2	1	O-ring no. 125 \varnothing 32,99 x 2,62 N90
3	1	O-ring no. 124 \varnothing 31,42 x 2,62 N90
4	2	Backup ring \varnothing 32,00 x 2,00 x 1,40 FI0751
5	2	Backup ring \varnothing 30,00 x 2,00 x 1,40 FI0751
6	1	Seal kit NBR no. DS-350-N for pressure-relief cartridge valve DDPC-1L...



IMPORTANT!

³⁾ Seal kit with FKM-seals, no. DS-344-V

7 Ordering code



IMPORTANT!

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

8 Related data sheets

Reference	(Old no.)	Description
400-P-040011	(i-32)	The form-tool hire programme
400-P-080111	(i-55.2)	Cavity type EB to ISO 7789-42-06-0-07
400-P-260111	(D-2.151)	Pilot pressure-relief cartridge valve, size 4, type DDPC-1L...
400-P-308501	(D-15.10)	Sandwich pressure-reducing valve, size 16, type SDRA...
400-P-750115	(G-29.22)	Line-mounting body, type GEBAA (G 1")

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