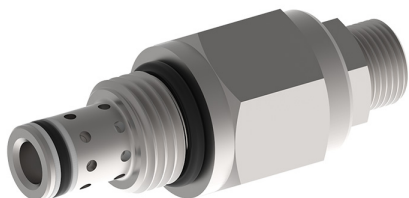


Pressure-Relief Cartridge Valve, Size SAE 08 / NG 5

$Q_{\max} = 10.0 \text{ gpm [37 l/min]}$, $p_{\max} = 5000 \text{ psi [350 bar]}$
bi-directional, poppet type, adjustable
Series RVBD-08...



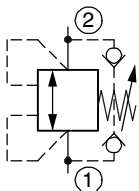
- Screw-in cartridge acc. to ISO 17209 – Common Cavity
- Compact construction
- For common cavities: C0820, BH/C0820 – 3/4-16 UNF
- 3 pressure ranges available
- Adjustment screw can not be backed out of valve
- A unibody cage construction provides very low hysteresis, dependable and reliable operation
- Hardened precision fitted poppet & cage provides reliable long life
- Overset protection, spring can not go solid
- All external parts are zinc-plated for longer life
- All cartridges valves are 100% functionally tested

1 Description

Series RVBD-08... pressure-relief cartridges are size SAE 08 / NG 5, high performance screw-in cartridges with a 3/4-16 UNF mounting thread. This cartridge is a bi-directional pressure valve, is adjustable, has an extremely low leakage and has a conical piston design. Due to the differential range the valve can also be used as a pressure con-

trol valve. This valve relieves from port 1 to port 2 and port 2 to port 1. This valve provides a fast response, rugged, dirt tolerant operation and has a good pressure vs. flow characteristics. All external parts of the cartridge are zinc plated and are thus suitable for use in the harshest operating environments

2 Symbol



3 Technical data

General characteristics	Description, value, unit
Designation	pressure-relief cartridge
Design	bi-directional, poppet type, adjustable
Mounting method	screw-in cartridge 3/4-16 UNF
Tightening torque	see chapter 5, dimensions & sectional view
Size	SAE 08, cavity type C0820 NG 5, cavity type BH/C0820
Weight	0.325 lbs [0.15 kg]
Mounting attitude	unrestricted
Ambient temperature range	-40 °F ... +248 °F [-40 °C ... +120 °C]

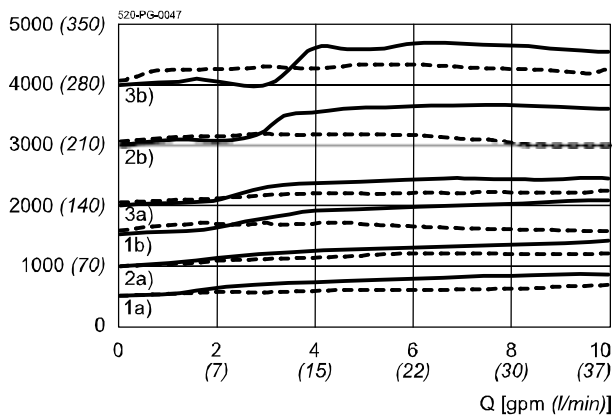
Hydraulic characteristics	Description, value, unit
Maximum operating pressure - ports 1, 2	5000 psi [350 bar]
Maximum flow rate	10 gpm [37 l/min]
Nominal pressure ranges	1500, 3000, 5000 psi [105, 210, 350 bar] For further pressure ranges, please contact BUCHER
Flow direction	1 → 2 pressure relieving 2 → 1 pressure relieving
Definition of opening	visible at 0.06 gpm [0,25 l/min]
Internal leakage	5 cu. in./min (85 cc/min) @ 80% of opening pressure
Hydraulic fluid	HL and HLP mineral oil to DIN 51 524; for other fluids, please contact BUCHER
Hydraulic fluid temperature range	-13 °F ... +158 °F [-25 °C ... +70 °C]
Viscosity range	10...500 mm ² /s (cSt), recommended 15...250 mm ² /s (cSt)
Minimum fluid cleanliness Cleanliness class to ISO 4406 : 1999	class 18/16/13

4 Performance graphs

measured with oil viscosity 33 mm²/s (cSt)

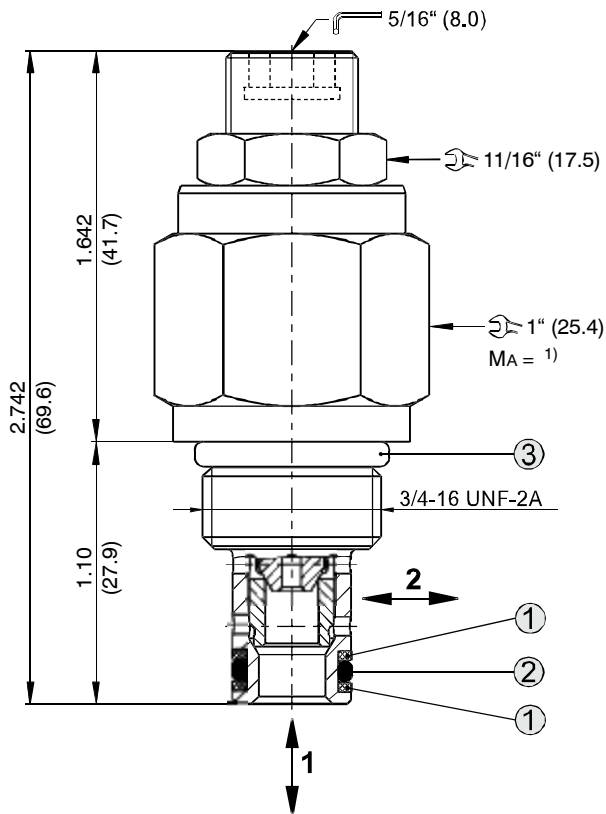
$p = f(Q)$ Pressure - Flow rate characteristic [$p_N = 5000$ psi]

p [psi (bar)]



- 1a) = 1500 PSI - p_N 500 psi (34 bar) — 1→2 - - 2→1
- 1b) = 1500 PSI - p_N 1500 psi (103 bar) — 1→2 - - 2→1
- 2a) = 3000 PSI - p_N 1000 psi (68 bar) — 1→2 - - 2→1
- 2b) = 3000 PSI - p_N 3000 psi (206 bar) — 1→2 - - 2→1
- 3a) = 5000 PSI - p_N 2000 psi (137 bar) — 1→2 - - 2→1
- 3b) = 5000 PSI - p_N 4000 psi (275 bar) — 1→2 - - 2→1

5 Dimensions & sectional view



Tightening torque M_A ¹⁾

Cavity type	C0820 – BH/C0820
When fitted in aluminium	25...30 ft-lbs (34 - 42 [Nm])
When fitted in steel	35...40 ft-lbs (47 - 54 [Nm])

6 Installation information



IMPORTANT!

When fitting the cartridges, use the specified tightening torque. No adjustments are necessary, since the cartridges are set in the factory.



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.

Seal kit NBR no. SKN-0822 ²⁾

Item	Qty.	Description		
1	2	Backup ring	∅ 0,390 x 0,053 x 0,048	Inch
2	1	O-ring 012	∅ 0,364 x 0,070 FKM	Inch
3	1	O-ring 908	∅ 0,664 x 2,087 FKM	Inch



IMPORTANT!

²⁾ Seal kit with FKM (Viton) seals, no. SKV-0822

7 Ordering code

Ex. RVBD - 08 - N - S - 0 - 30 - _

- RVBD = pressure-relief valve, bi-directional
- 08 = nominal size SAE 08 / NG 5
- N = NBR (Nitrile) seals (standard)
- V = FKM (Viton) seals
(special seals - please contact BUCHER)
- S = adjustment screw (standard)
- C = capped adjustment screw
- T = tamperproof
- K = handknob
- M = metal handknob
- 0 = cartridge only
- 06TA = line-mounting body SAE-6 aluminum
- 06TS = line-mounting body SAE-6 steel
- 15 = pressure stage 100 ... 1500 psi
- 30 = pressure stage 750 ... 3000 psi
- 50 = pressure stage 1500 ... 5000 psi
- (blank) = without pressure setting (standard)
- /XX = factory pressure setting in "100 psi" (e.g. "/12" = 1200 PSI)

8 Related data sheets

Reference	Description
520-P-000050	The form-tool loan program
520-P-000110	Cavity type C0820
400-P-040401	Cavity type BH/0820
520-P-000111	Line-mounting body, 8 Series -2-way

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Classification: 430.300.300.305.310.330