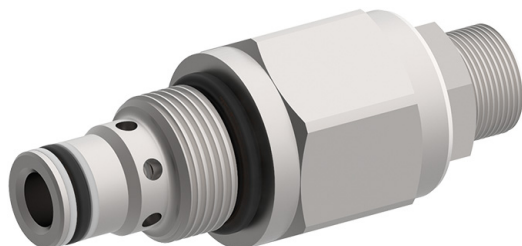


# Pressure-Relief Cartridge Valve, Size SAE 08 / NG 5

$Q_{\max} = 6.0 \text{ gpm [22 l/min]}$ ,  $p_{\max} = 5000 \text{ psi [350 bar]}$   
direct acting, poppet type, adjustable  
Series RVDI-08...



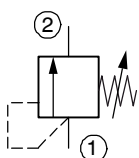
- Screw-in cartridge according to ISO 17209 – Common Cavity
- Compact construction
- For common cavities:  
C0820 or BH/C0820 – 3/4-16 UNF
- 3 pressure ranges available
- Adjustment screw can not be backed out of valve
- A unibody cage construction provides very low hysteresis, dependable and reliable 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 RVDI-08... pressure-relief cartridges are size SAE 08 / NG 5, high performance screw-in cartridges with a 3/4-16 UNF mounting thread. This unit is a direct acting relief valve, cartridge type, poppet type, low leakage, screw in type, adjustable, pressure control valve. This valve blocks flow from port 1 to port 2 until sufficient pressure is present at port 1

to force the poppet from its seat thus opening the valve. This cartridge relief valve offers a smooth transition in response to a load change in a hydraulic circuit. 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	direct acting, 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	0.33 lbs [0.15 kg]
Mounting attitude	unrestricted
Ambient temperature range	-40 °F ... +248 °F [-40 °C ... +120 °C]

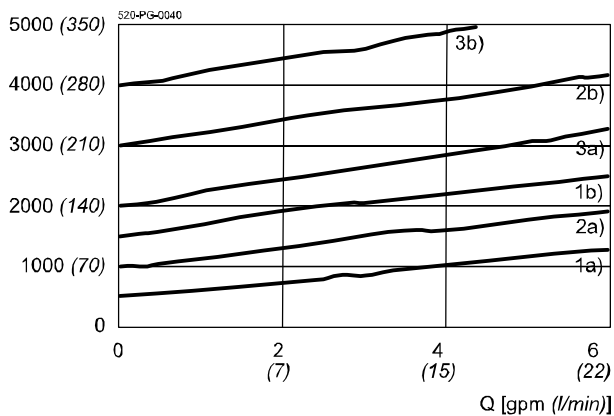
Hydraulic characteristics	Description, value, unit
Maximum operating pressure - ports 1, 2	5000 psi [350 bar]
Maximum flow rate	6 gpm [22 l/min]
Nominal pressure ranges	1500, 3000, 5000 psi [105, 210, 350 bar] For further pressure ranges, please contact BUCHER
Flow direction	1 → 2 pressure relieving
Definition of opening	visible at 0.06 gpm [0,25 l/min]
Internal leakage	15 drops/min (0.75 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 <sup>2</sup> /s (cSt), recommended 15...250 mm <sup>2</sup> /s (cSt)
Minimum fluid cleanliness Cleanliness class to ISO 4406 : 1999	class 18/16/13

## 4 Performance graphs

measured with oil viscosity 33 mm<sup>2</sup>/s (cSt)

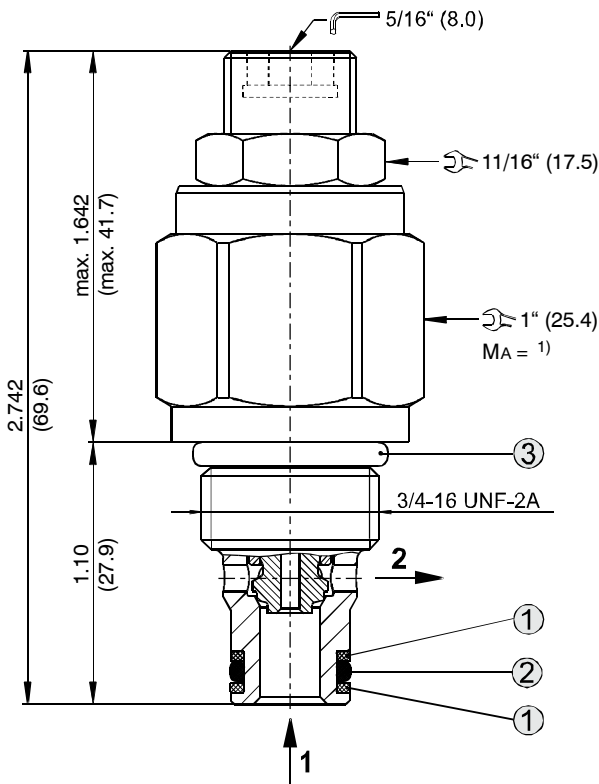
$p = f(Q)$  Pressure - Flow rate characteristic [ $p_N = 5000$  psi]

$p$  [psi (bar)]



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

## 5 Dimensions & sectional view



Tightening torque  $M_A$  <sup>1)</sup>

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 <sup>2)</sup>

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	∅ 0,644 x 0,087 FKM	Inch



### IMPORTANT!

<sup>2)</sup> Seal kit with FKM (Viton) seals, no. SKV-0822

### 7 Ordering code

Ex. RVDI - 08 - N - S - 0 - 30 - \_

- RVDI = pressure-relief valve
- 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 adjustment screw
- 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) on request

### 8 Related data sheets

Reference	(Old no.)	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: 430.300.305.310.330