



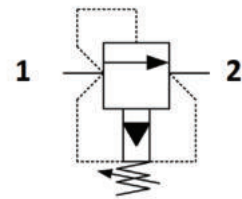
## DB.R0.116 Valve Series

### Hybrid SAE Cartridge - 420 Bar

### Direct acting - Poppet type

#### Description & Operation

A screw-in, cartridge style, pilot operated (2-stage), poppet type, normally closed, hydraulic relief valve. When the pressure at the Inlet (1) reaches the valve setting, the pilot poppet starts to open from its seat and determines the shifting of the main stage poppet that throttles oil flow to tank (2). The cartridge offers smooth transition in response to load changes in demanding hydraulic circuits. Smooth response, reduced pressure rise and limited hysteresis.

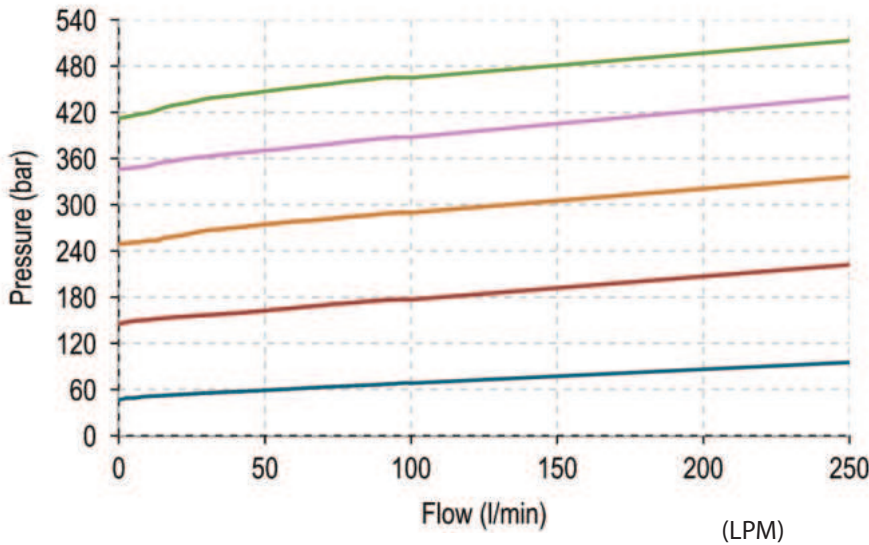


Hydraulic Symbol

#### Technical Data

Maximum operating pressure	420 Bar
Maximum flow	250 LPM
Maximum internal leakage	2 cm <sup>3</sup> /min to @30 bar (pressure setting 210bar)
External component treatment	Zn/Fe - standard (96h) Zn/Ni (720h)
O-ring Temperature	-30° C to 110° C (standard sealing NBR - BUNA-N)
Oil Temperature Range	-30° C to 110° C
Pressure settings established	@ 5.00 LPM
Reseat pressure	90% of cracking pressure
Fluids	Mineral - based or synthetics with lubricating properties
Viscosities	7.4 to 420 cSt
Filtration	20/18/15 ISO 4406 (maximum filtration admitted)
Orientation	No restrictions
Installation torque	90-100 Nm Hex. 32
Tightening torque nut	15-20 Nm Hex. 13
Oil testing condition	ISO VG 46 cSt
Seal kit code	SLKT.100
Weight	0.260 kg

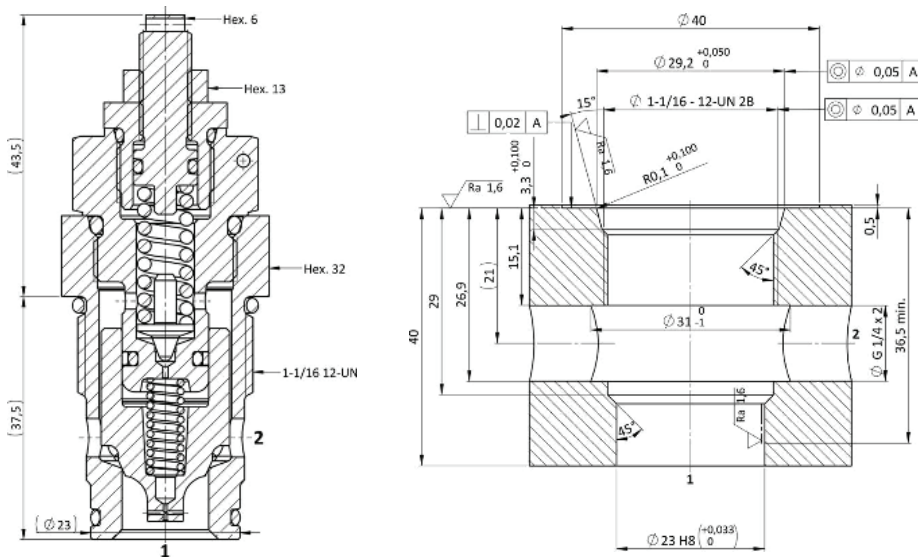
**Performance Curve**



**Note:**  
The performance chart illustrates flow handling capacity at various settings. p/Q curves are recorded at TOil = 40°C and 46 cSt. p/Q curves are recorded up to 200 l/min. These are theoretical from 200 l/min onward.

**Dimensional Drawing**

**Cross Section and Cavity Details**



**Ordering Code**

**D B • R 0 • 1 1 6 • 0 \* • \* \* \***

valve basic code

**Cavity**  
116 = 1-1/16 12-UN2A with Ø 23 nose size

**Marking**  
0 = standard factory marking. Customized marking can be done upon request

**Total Spring range**  
(50-420 bar)

pressure setting in (bar)  
000 = no specific setting required

Spring Model Code	Setting Pressure range (Bar)	Pressure Increment per Turn (Bar)
N	50-420	134

RELIEF VALVES