



DBK...type Cartridge Pilot Relief Valve



DB20K...1XJ...type

Size 20
Max. Working Pressure: 315 bar
Max. Flow: 300 L/min

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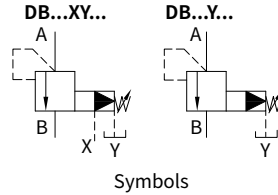
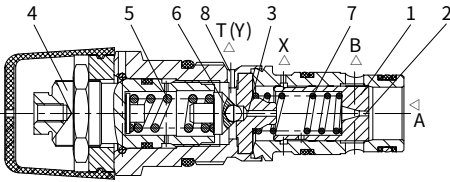
Features

- Cartridge valve
- 4 pressure ratings
- 4 adjustment elements:
 - Rotary knob
 - Adjustable bolt with protective cap
 - Lockable rotary knob with scale
 - Rotary knob with scale

Function and configuration

DB...K...type pressure valve is pilot operated pressure relief valves for installation in manifolds. It is used to limit the pressure in a hydraulic system. The system pressure is set via adjustment element (4). At static position, the valves are closed. Pressure in port A acts on the spool (1). Pressure fluid is passed through orifice (2) to the spring loaded side of the spool (1) and through orifice (3) to the pilot poppet (6). If the pressure in port A rises beyond the value setting at spring (5), then the pilot poppet (6) opens. Fluid can flow from the spring loaded side of spool (1), through the orifice (3) and channel (8) into port T(Y). The pressure drop moves spool (1) to open the connection from A to B, while the setting pressure at spring (5) is maintained. Pilot oil returns from the two spring chambers via port T(Y) externally.

DB20K2-1XJ/...XY



Specification

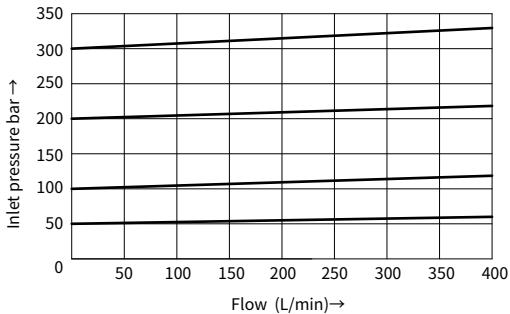
	DB	20	K	1XJ			*
Pressure relief valve =DB	Further details in clear text						
Nominal size 20 =20	No code = NBR seals V = FKM seals						
Cartridge =K	Y = Pilot oil supply internal and drain external XY = Pilot oil supply and drain external						
Rotary knob =1	50 = Pressure adjustable up to 50bar 100 = Pressure adjustable up to 100bar 200 = Pressure adjustable up to 200bar 315 = Pressure adjustable up to 315bar						
Adjustable bolt with protective cap =2							
Lockable rotary knob with scale =3							
Rotary knob with scale =7							
Series 10J to 19J (10J to 19J : unchanged installation and connection dimensions) =1XJ							

Technical data

Fluid	Mineral oil suitable for NBR and FKM seal Phosphate ester for FKM seal		
Fluid temperature range	°C	-30 to +80 (NBR seal) -20 to +80 (FKM seal)	
Viscosity range	mm ² /s	10 to 800	
Degree of contamination	Maximum permissible degree of fluid contamination: Class 9. NAS 1638 or 20/18/15, ISO4406		
Max. operating pressure	bar	315	
Max. back pressure	Port Y	bar	250
Max. adjustable pressure	bar	50;100;200;315	
Max. flow-rate	L/min	To 400	
Weight	kg	Approx.0.35	

Characteristic curves (Measured at t=40°C ±5°C , using HLP46)

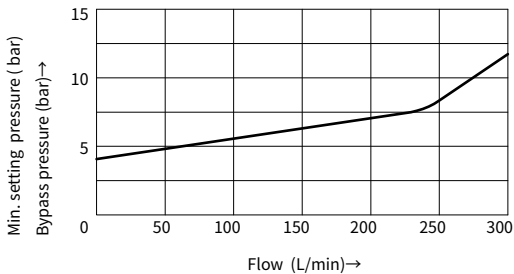
Inlet pressure in relation to the flow-rate



The curves are measured with external pilot oil drain at zero pressure.

With internal pilot oil drain the inlet pressure will increase with pressure at port B.

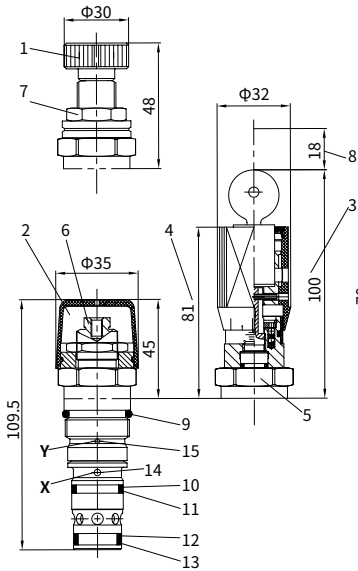
Min. setting pressure and bypass pressure in relation to the flow-rate



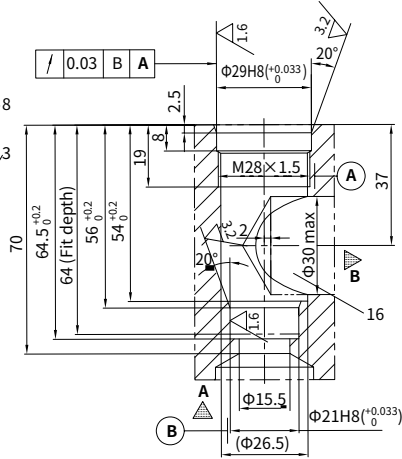
The curves are valid for outlet pressure PB=0

Unit dimensions

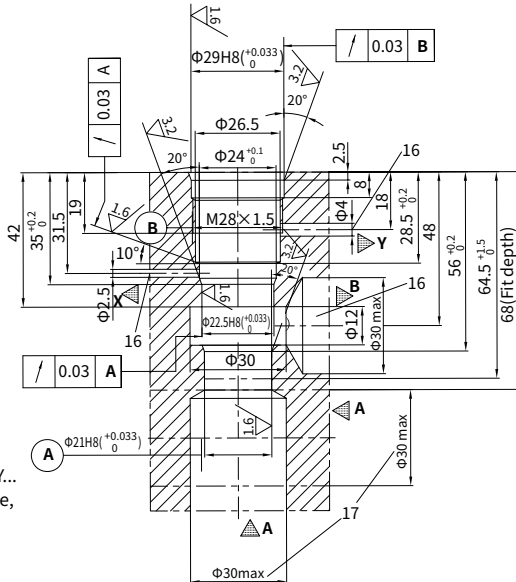
(Dimensions in mm)



Fixing holes for cartridge Y
(pilot oil supply internal and drain external)



Fixing holes for cartridge XY
(pilot oil supply external and drain external)



- 1 Adjustment element "1"
- 2 Adjustment element "2"
- 3 Adjustment element "3"
- 4 Adjustment element "7"
- 5 Nut for locking S=22
- 6 Internal hexagon screw S=10
- 7 External hexagon S=30
Tightening torque $M_A = 50\text{Nm}$
- 8 Space required to remove the key
- 9 O-ring 25 x 2.65
- 10 O-ring 17 x 1.8
- 11 Back-ring 22.5 x 19.7 x 1.1
- 12 2 Back-ring 21 x 16.2 x 1.1
- 13 O-ring 18 x 1.8
- 14 Port X used only for
DB20K...1XJ/XY...
- 15 Port Y used for
DB20K...1XJ/XY...and
DB20K...1XJ/Y...
- 16 Port X, T and B arranged around
circumference used for DB20K...1XJ/XY...
Port B arranged around circumference,
used for DB20K...1XJ/Y...
- 17 Hole A, optional