ГИДРООТВЕТ
доступная гидравлика

Cartridge Pilot Pressure Relief Valve

Model: DB...K...X

- Size 6/10/20
- Maximum working pressure 315bar
- Maximum working flow 300 L/min

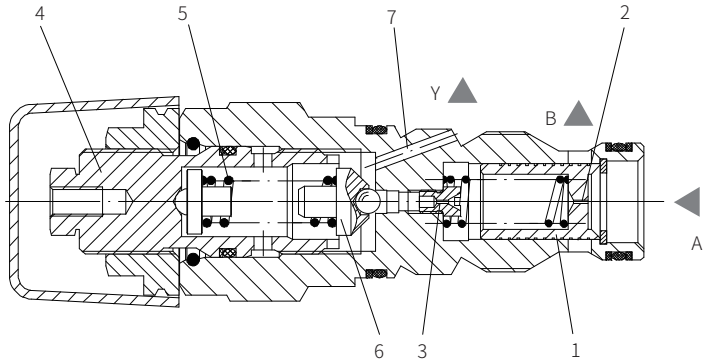
Contents

Features

- Cartridge connection
- 4 pressure range
- 4 adjustment form
  - -Rotary knob
  - -Internal hexagon adjusting screw with -protective cap
  - -Lockable rotary knob with scale
  - -Rotary knob with scale

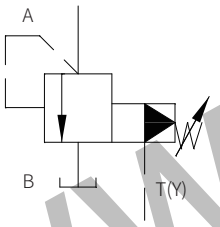
Function description, sectional drawing

The DB...K...valve is cartridge pilot pressure relief valve. It's used to limit the pressure in hydraulic system, the system pressure is set by adjustment element (4).
At rest, the valves is closed. The pressure in the port A acts on valve spool (1). At the same time, the pressure is passed through orifice (2) of the spool (1) onto the spring chamber. and through orifice (3) to act on the pilot poppet (6).
If the pressure in port A rises above the setting value of the spring (5), then the pilot poppet (6) opens, The pressure fluid can flow to the spring chamber of valve spool (1), and to port T(Y) through orifice (3) and channel (8), the resulting pressure drop moves valve spool (1) to open the connection from port A to port B. The control oil from 2 spring chambers is drain to the tank through port T (Y).

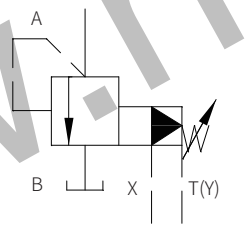


Functional symbols

Model DB...Y...



Model DB...XY...(Only for DB20K)



Models and specifications

DB | | K | | | | | | *

pilot relief valve=DB

size 6 =6
size 10 =10
size 20 =20

cartridge connection =K

rotary knob=1 =1
internal hexagon adjusting screw with protective cap =2
lockable rotary knob with scale =3
rotary knob with scale =7

40 to 49 series(for size 6 and size 10) =4X
(40 to 49 series: installation and connection size unchanged)
10 to 19 series(for size 20) =1X
(10 to 19 series: installation and connection size unchanged)

50= pressure setting up to 50bar
100= pressure setting up to 100bar
200= pressure setting up to 200bar
315= pressure setting up to 315bar

Y= pilot oil supply internal and drain external
XY= pilot oil supply and drain external(only for DB20K)

No code = NBR seals
V= FKM seals
(consult for other seals)

more information in text

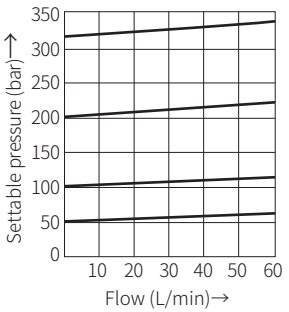
Technical parameters

Size	6	10	20
Oil fluid	Mineral hydraulic oil or phosphate hydraulic oil		
Oil temperature range °C	-30 to +80 (NBR seal) -20 to +80 (FKM seal)		
Viscosity range mm^2/s	100 to 800		
Cleanliness of oil	The maximum allowable pollution level of oil is ISO4406 Class 20/18/15		
Maximum working pressure bar	to 315		
Settable pressure bar	to 50, to 100, to 200, to 315		
Maximum flow L/min	to 60	to 100	to 300
Weight kg	about 0.15	about 0.2	about 0.35

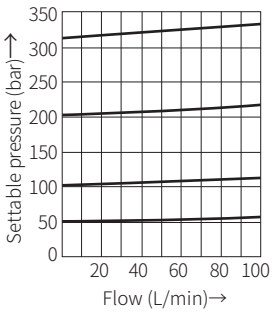
Characteristic curve

(Measured when using HLP 46, ϑ_{oil}= 40°C ± 5°C)

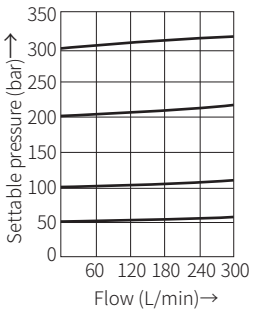
DB6K
Settable pressure-- Flow curve



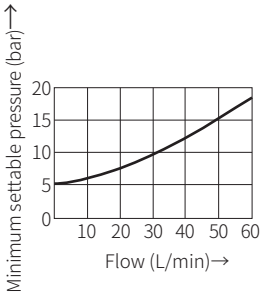
DB10K
Settable pressure-- Flow curve



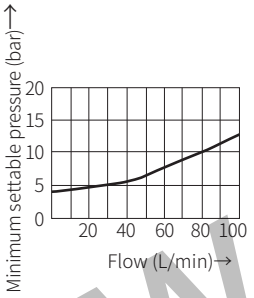
DB20K
Settable pressure-- Flow curve



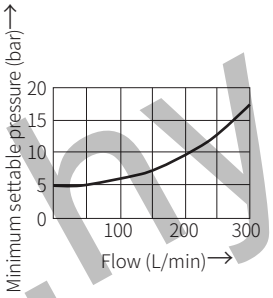
DB6K
Minimum settable pressure curve



DB10K
Minimum settable pressure curve



DB20K
Minimum settable pressure curve

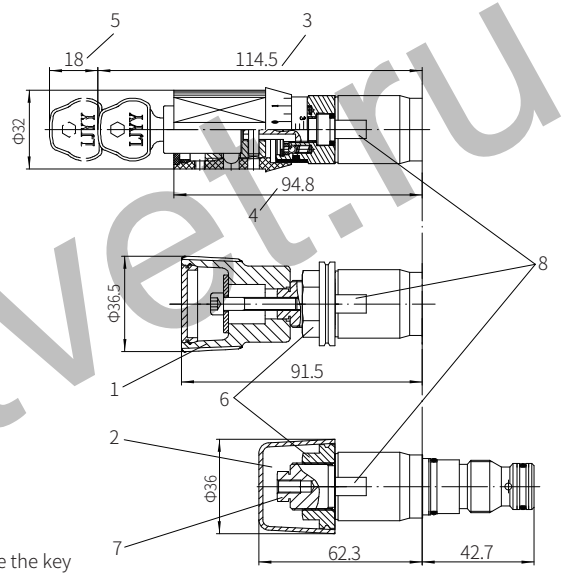


The above curves are measured without back pressure.

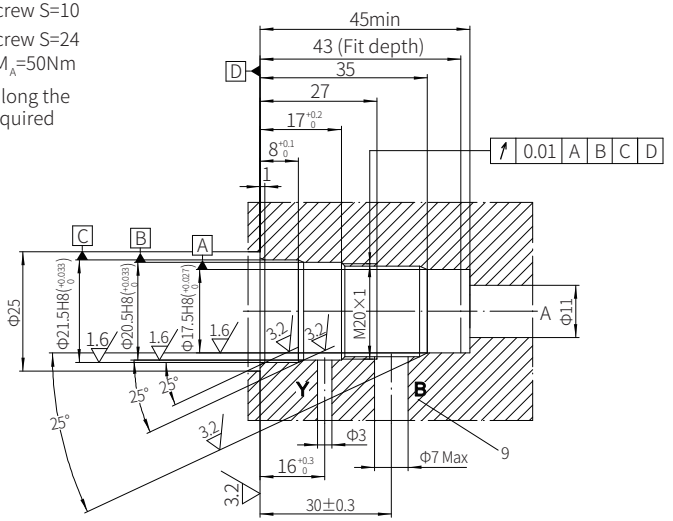
Component size

Size unit: mm

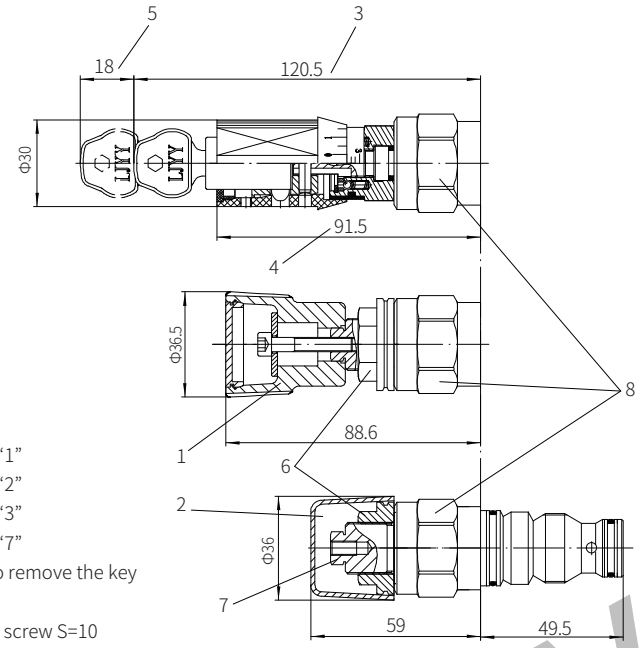
Model DB6K...4XJ/...



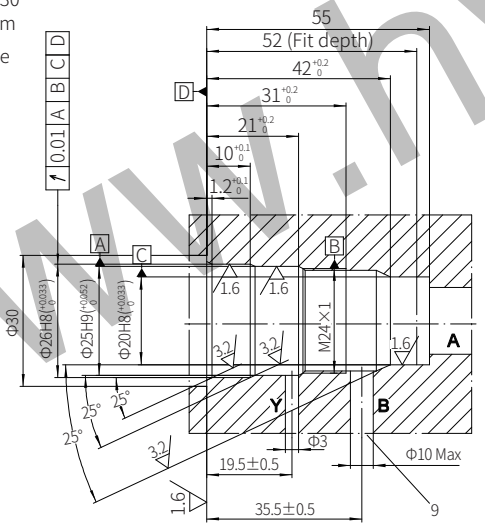
1 Adjustment form“1”
2 Adjustment form“2”
3 Adjustment form“3”
4 Adjustment form“7”
5 Space required to remove the key
6 Lock nut S=24
7 External hexagon screw S=10
8 External hexagon screw S=24
Tightening torque: M_A=50Nm
9 Port B is arranged along the circumference as required



Model DB10K...-4XJ/...

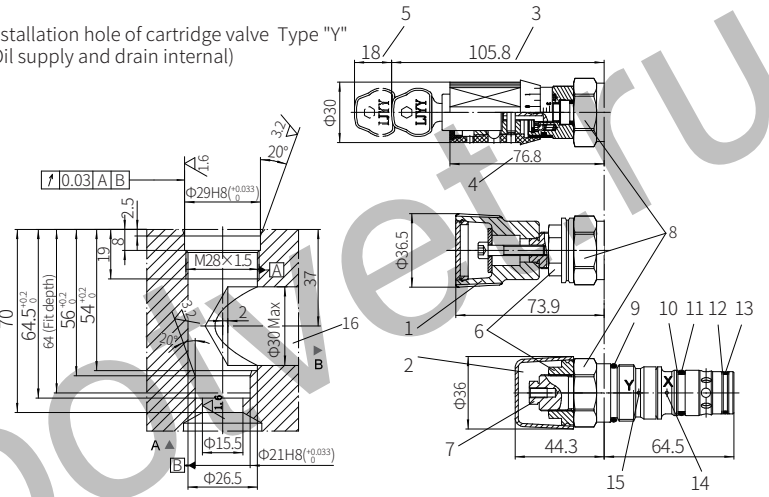


1 Adjustment form“1”
2 Adjustment form“2”
3 Adjustment form“3”
4 Adjustment form“7”
5 Space required to remove the key
6 Lock nut S=24
7 External hexagon screw S=10
8 External hexagon screw S=30
Tightening torque:M_A=50Nm
9 Port B is arranged along the circumference as required

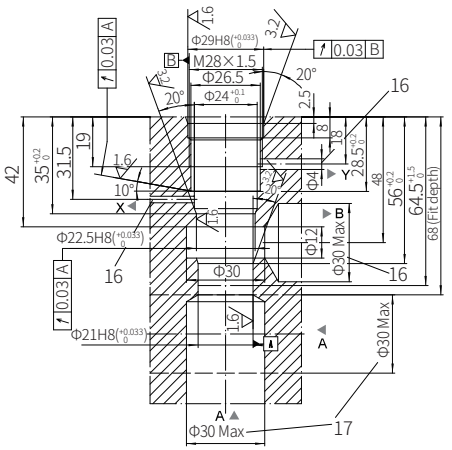


Model DB20K...-1XJ/...

Installation hole of cartridge valve Type "Y"
(Oil supply and drain internal)



Installation hole of cartridge valve Type "XY"
(Oil supply and drain external)



1 Adjustment form“1”
2 Adjustment form“2”
3 Adjustment form“3”
4 Adjustment form“7”
5 Space required to remove the key
6 Lock nut S=24
7 External hexagon screw S=10
8 External hexagon screw S=30
Tightening torque:M_A=50Nm
9 O ring 23.47x2.62
10 Retainer ring 18.4x22.6x0.6
11 O ring 17.12x2.62
12 Retainer ring 21.1x18.2x0.6
13 O ring 17.17x1.78
14 Port "Y" used for type DB20K...1XJ/XY
15 Port "Y" used for type DB20K...1XJ/XY...and DB20K...1XJ/Y..
16 Port X, Y and B are arranged along the circumference
17 Port A, optional