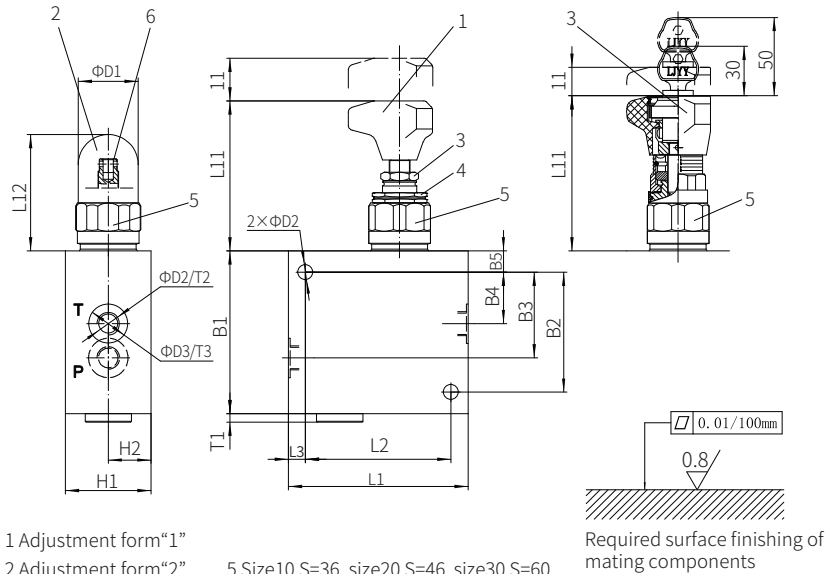


## Component size

Size unit: mm

Model DC...G...-1XJ/..., threaded connection



- 1 Adjustment form "1"  
 2 Adjustment form "2"  
 3 Adjustment form "3"  
 4 Locknut S=30
- 5 Size10 S=36, size20 S=46 size30 S=60  
 6 Internal hexagon adjusting screw S6 (NG6 to NG20)  
 External hexagon adjusting screw S13 (NG25 to NG30)

Size	L1	L2	L3	L11	L12	B1	B2	B3	B4	B5
6	105	85	10	83	72	95	70	50.5	28.5	12.5
10				79	68					
15	140	110	15	77	65	135	85	63	29	25
20										
25	180	150	15	-	83	175	125	82	35	25
30										

Size	H1	H2	D1	D2	D3	D	T1	T2	T3
6	50	25	34	9	25	M14×1.5 (G1/4")	4	16	1
10			38		38	M22×1.5 (G1/2")		15	
15	60	30	48	14	45	M27×2 (G3/4")	7	18	1
20					52	M33×2 (G1")		20	
25	80	40	63	18	63	M42×2 (G1 1/4")	8	23	1
30					65	M48×2 (G1 1/2")			

## Cartridge Pilot Pressure Relief Valve

Model: DB...K...XJ



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

## Contents

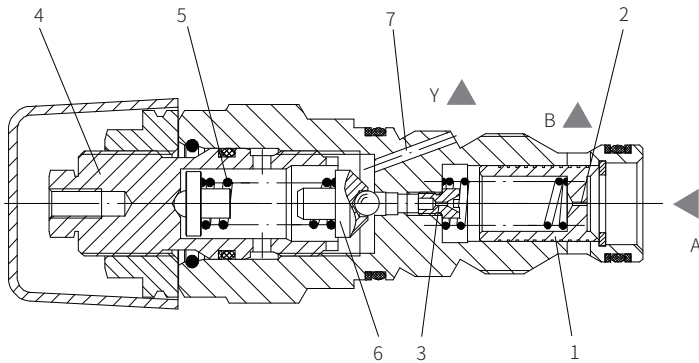
Function description, sectional drawing	02
Models and specifications	03
Technical parameters	03
Characteristic curve	04
Component size	05-07

## 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

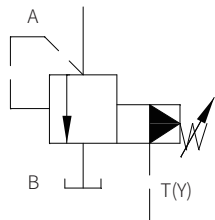
Function description, sectional drawing

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).

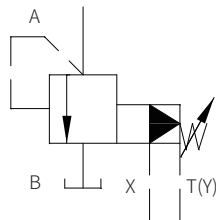


Functional symbols

Model DB...Y...



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



Models and specifications

DB	K	-	J	*
----	---	---	---	---

pilot relief valve=DB  
 size 6 =6  
 size 10 =10  
 size 20 =20

cartridge connection =K  
 rotary knob=1 =1  
 internal hexagon adjusting screw =2  
 with protective cap  
 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)

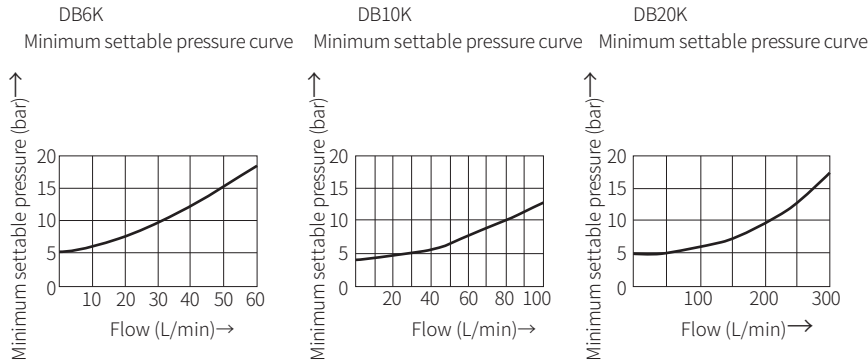
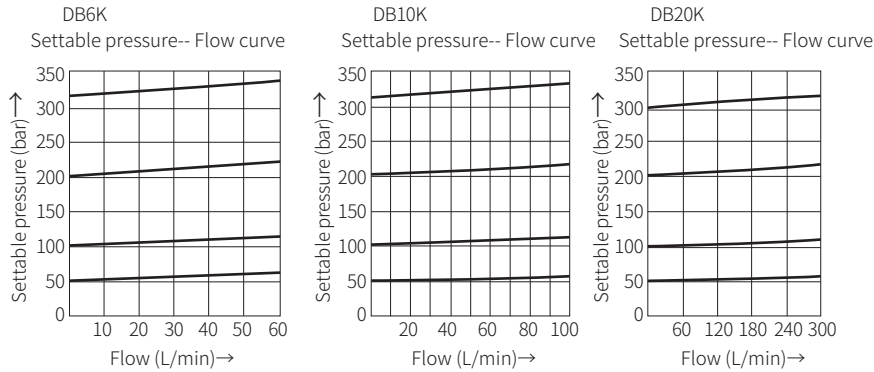
more information in text  
 sealing material  
 No code = NBR seals  
 V= FKM seals  
 (consult for other seals)  
 Y= pilot oil supply internal and drain external  
 XY= pilot oil supply and drain external(only for DB20K)  
 50= pressure setting up to 50bar  
 100= pressure setting up to 100bar  
 200= pressure setting up to 200bar  
 315= pressure setting up to 315bar  
 J= Rekith

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 <sup>2</sup> /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,  $\vartheta_{oil} = 40^{\circ}\text{C} \pm 5^{\circ}\text{C}$ )

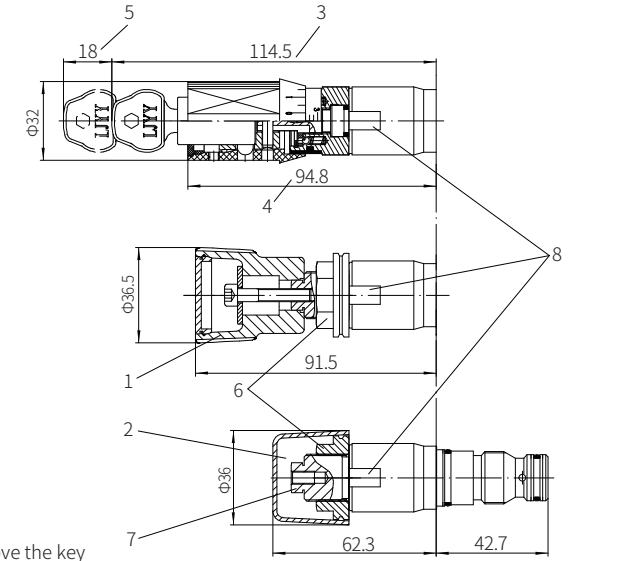


The above curves are measured without back pressure.

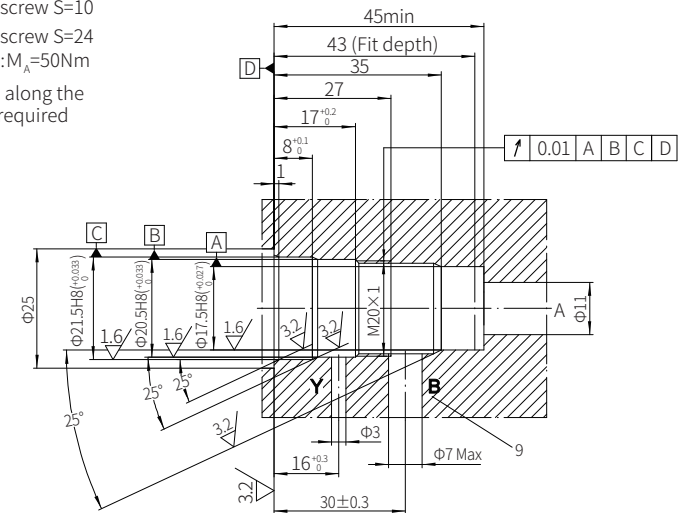
**Component size**

Size unit: mm

Model DB6K...4XJ/...



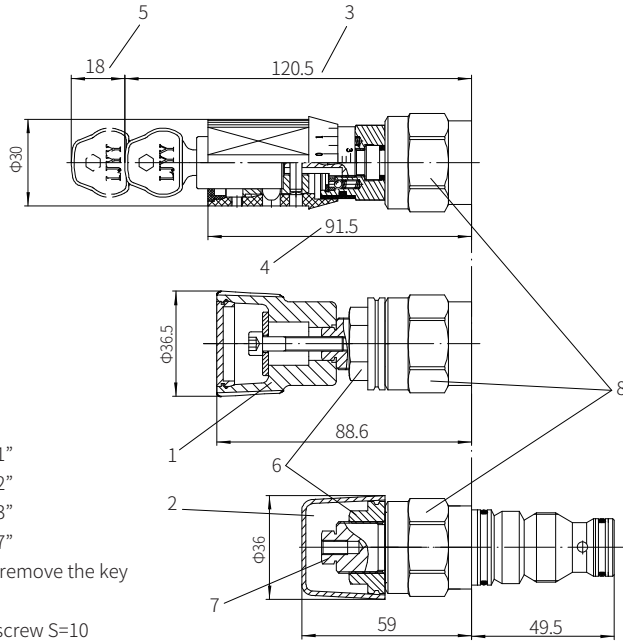
- 1 Adjustment form "1"
  - 2 Adjustment form "2"
  - 3 Adjustment form "3"
  - 4 Adjustment form "7"
  - 5 Space required to remove the key
  - 6 Lock nut S=24
  - 7 External hexagon screw S=10
  - 8 External hexagon screw S=24
- Tightening torque:  $M_A = 50\text{Nm}$
- 9 Port B is arranged along the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



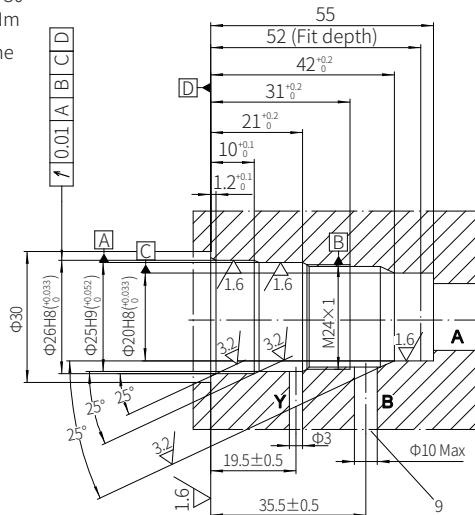
Component size

Size unit: mm

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:  $M_A=50\text{Nm}$
- 9 Port B is arranged along the circumference as required

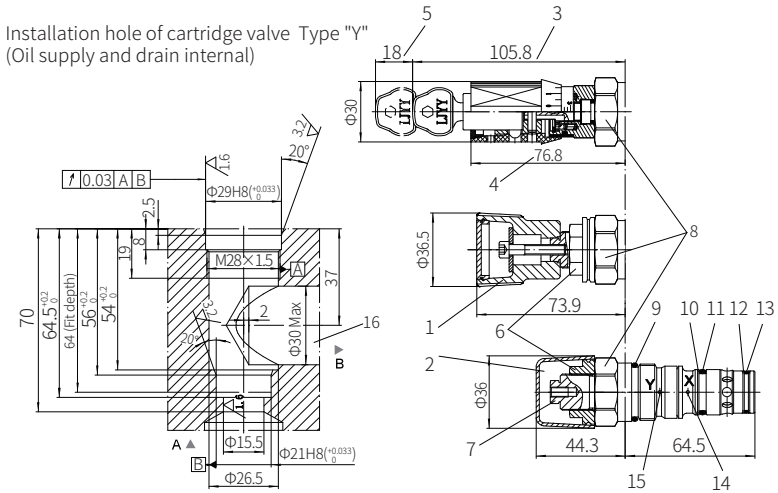


Component size

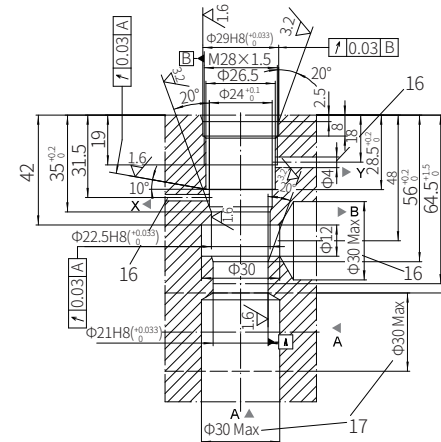
Size unit: mm

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:  $M_A=50\text{Nm}$
- 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