



# DB...K...type Cartridge Pilot Relief Valve



## DB...K...4XJ...type

Sizes 6, 10  
Max. Working Pressure: 315 bar  
Max. Flow: 60 L/min (size6)  
100 L/min (size10)

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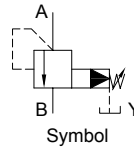
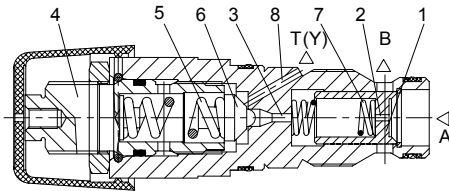
### Features

- 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 valve is a 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 flows 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), the pilot poppet (6) opens. Fluid can flow from the spring loaded side of spool (1), 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.

Type DB10K2-4XJ/Y..



## Specification

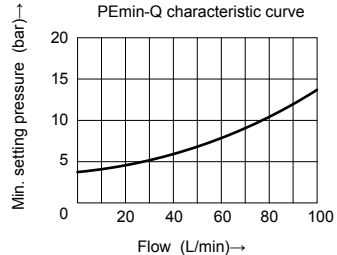
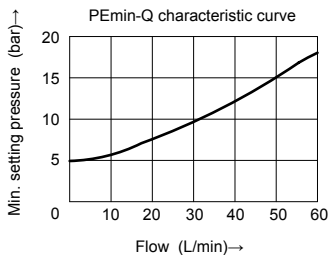
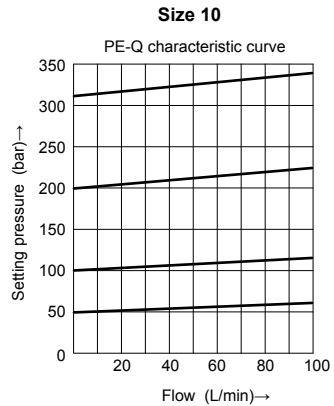
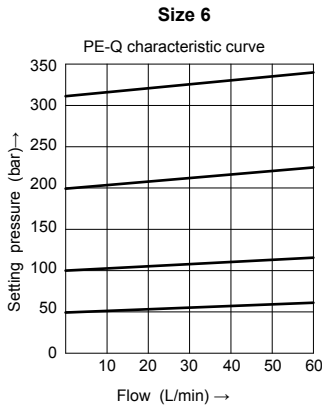
|  | DB  | K  | - 4XJ / | Y | *  |
|--|-----|----|---------|---|--|
| Pressure relief valve                  | =DB |    |         |   | Further details in clear text  |
| Nominal size 6                         | = 6 |    |         |   | No code = NBR seals  |
| Nominal size 10                        | =10 |    |         |   | V = FKM seals  |
| Cartridge                              | =K  |    |         |   | Y = Pilot oil supply internal and drain external                                   |
| Rotary knob                            |     | =1 |         |   | 50= Pressure adjustable up to 50bar  |
| Sleeve with hexagon and protective cap |     | =2 |         |   | 100= Pressure adjustable up to 100bar  |
| Lockable rotary knob with scale        |     | =3 |         |   | 200= Pressure adjustable up to 200bar  |
| Rotary knob with scale                 |     | =7 |         |   | 315= Pressure adjustable up to 315bar  |
|  |     |    | 4XJ     |   | = Series 40J to 49J (40J to 49J: unchanged installation and connection dimensions) |

## Technical data

|                         |                    |  |             |
|-------------------------|--------------------|--|-------------|
| Size                    |                    | 6  | 10          |
| Fluid                   |                    | Mineral oil suitable for NBR and FKM seal<br>Phosphate ester for FKM seal                    |             |
| Fluid temperature range | °C                 | -30 to +80 (NBR seal)<br>-20 to +80 (FKM seal)   |             |
| Viscosity range         | mm <sup>2</sup> /s | 10 to 800  |             |
| Degree of contamination |                    | Maximum permissible degree of fluid contamination:<br>Class 9. NAS 1638 or 20/18/15, ISO4406 |             |
| Max. operating pressure | bar                | 315  |             |
| Max. setting pressure   | bar                | 50; 100; 200; 315  |             |
| Max. flow-rate          | L/min              | to 60  | to 100      |
| Weight                  | kg                 | Approx. 0.22   | Approx. 0.3 |

03

## Characteristic curves ( Measured at $t=40^{\circ}\text{C} \pm 5^{\circ}\text{C}$ , using HLP46)

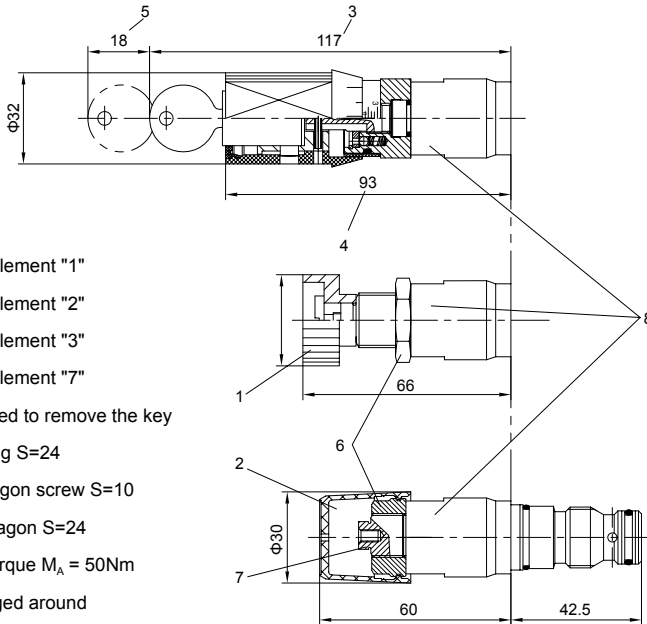


The curves are measured at zero back pressure.

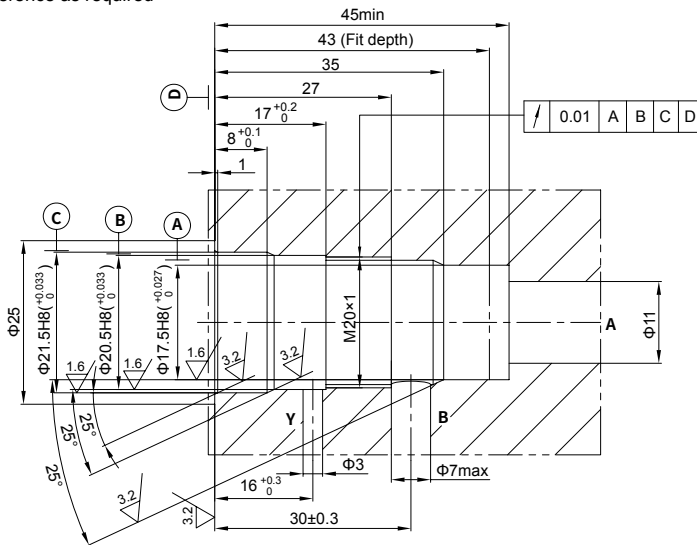
# Unit dimensions

(Dimensions in mm)

• Type DB6K...-4XJ/...



- 1 Adjustment element "1"
  - 2 Adjustment element "2"
  - 3 Adjustment element "3"
  - 4 Adjustment element "7"
  - 5 Space required to remove the key
  - 6 Nut for locking S=24
  - 7 Internal hexagon S=10
  - 8 External hexagon S=24
- Tightening torque  $M_A = 50\text{Nm}$
- 9 Port B arranged around circumference as required



# Unit dimensions

(Dimensions in mm)

·Type DB10K..-4XJ/...

