



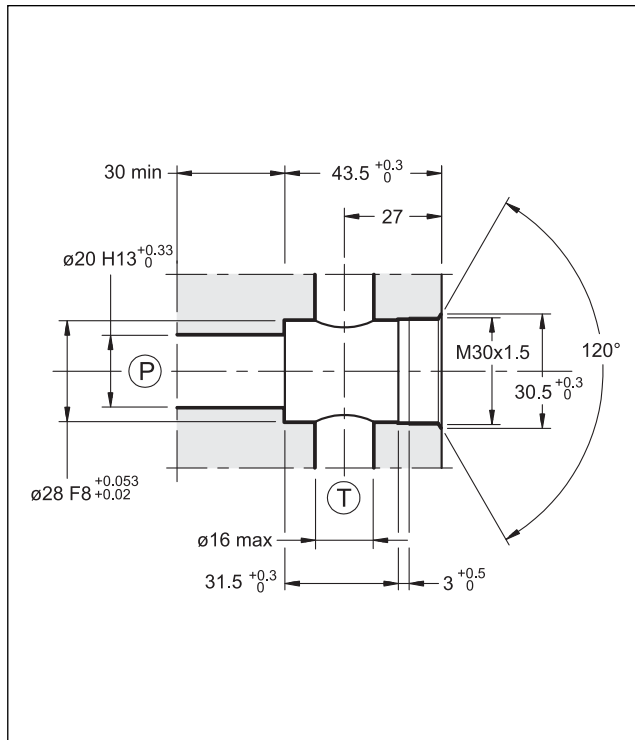
DBV

DIRECT OPERATED PRESSURE CONTROL VALVE SERIES 10

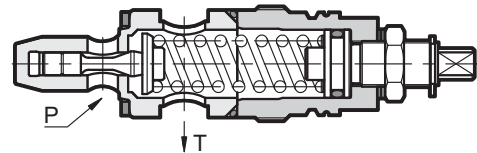
CARTRIDGE TYPE

p max 380 bar
Q max 120 l/min

SEAT DIMENSIONS: D-10E



OPERATING PRINCIPLE



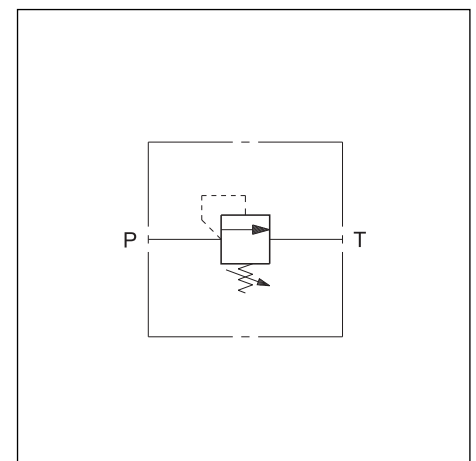
- The DBV valve is a direct operated pressure control valve cartridge type that can be used in blocks or panels with seat.
- It is normally used to control the maximum pressure in the hydraulic circuits or as a limiting device for pressure peaks generated during hydraulic actuator movement variation.
- It is available in different pressure control ranges up to 300 bar.
- The circuit pressure acts on the shutter which is directly loaded by a spring on the opposite side. Once the set pressure is reached, the shutter opens, and discharges the excess flow in port T connected directly to the reservoir.
- The pressure can be adjusted by a screw, equipped with locking nut and maximum adjustment limiter.

PERFORMANCES

(measured with mineral oil of viscosity 36 cSt at 50°C)

| | | |
|---|---|-----------|
| Max working pressure | bar | 380 |
| Minimum controlled pressure and pressure drop | see diagram | |
| Maximum flow rate | l/min | 120 |
| Ambient temperature range | °C | -20 / +60 |
| Fluid temperature range | °C | -20 / +80 |
| Fluid viscosity range | cSt | 10 ÷ 400 |
| Fluid contamination degree | According to ISO 4406:1999 class 20/18/15 | |
| Recommended viscosity | cSt | 25 |
| Mass | kg | 0,25 |
| Surface treatment: electrolytic zinc covering | Fe/Zn 8/B ISO 2081 | |

HYDRAULIC SYMBOL



1 - IDENTIFICATION CODE

| | | | | | | | |
|----------|----------|----------|----------|----------|-----------|----------|--|
| D | B | V | - | / | 10 | / | |
|----------|----------|----------|----------|----------|-----------|----------|--|

Direct operated pressure control valve
Cartridge type

Pressure adjustment range:

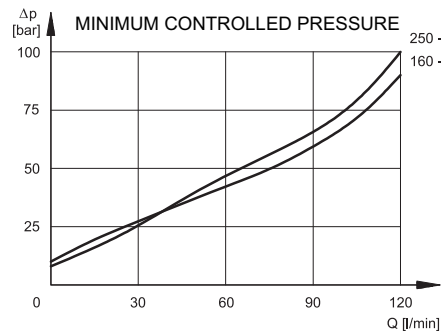
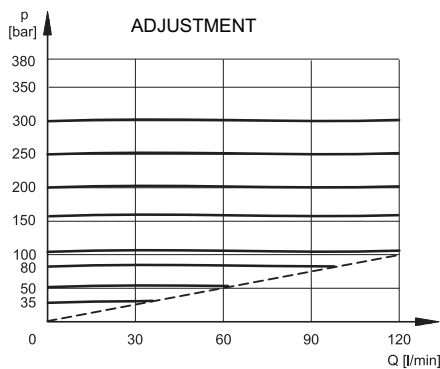
| | |
|----------------------------|----------------------------|
| 035 = up to 35 bar | 160 = up to 160 bar |
| 050 = up to 50 bar | 200 = up to 200 bar |
| 080 = up to 80 bar | 250 = up to 250 bar |
| 100 = up to 100 bar | 300 = up to 300 bar |

K = Adjustment knob
(omit for adjustment with hex screw - **standard**)

Seals:
N = NBR seals for mineral oils (**standard**)
V = FPM seals for special fluids

Series No. (the overall and mounting dimensions remain unchanged from 10 to 19)

2 - CHARACTERISTIC CURVES (values obtained with viscosity of 36 cSt at 50°C)



P-T pressure drops with screw set at minimum pressure control

3 - HYDRAULIC FLUIDS

Use mineral oil-based hydraulic fluids HL or HM type, according to ISO 6743-4. For these fluids, use NBR seals (code N). For fluids HFDR type (phosphate esters) use FPM seals (code V). For the use of other kinds of fluid such as HFA, HFB, HFC, please consult our technical department. Using fluids at temperatures higher than 80 °C causes a faster degradation of the fluid and of the seals characteristics.

The fluid must be preserved in its physical and chemical characteristics.

4 - OVERALL AND MOUNTING DIMENSIONS

dimensions in mm

| | |
|---|---|
| 1 | Socket hex adjustment screw: spanner 8 (standard) Clockwise rotation to increase pressure |
| 2 | Locking nut: spanner 17 |
| 3 | Hexagonal spanner 24 Tightening torque 70 ÷ 100 Nm |
| 4 | OR type 130 (22.22x2.62) 90 Shore |
| 5 | Maximum screw stroke |
| 6 | Adjustment knob: K |