DUPLOMATIC OLEODINAMICA

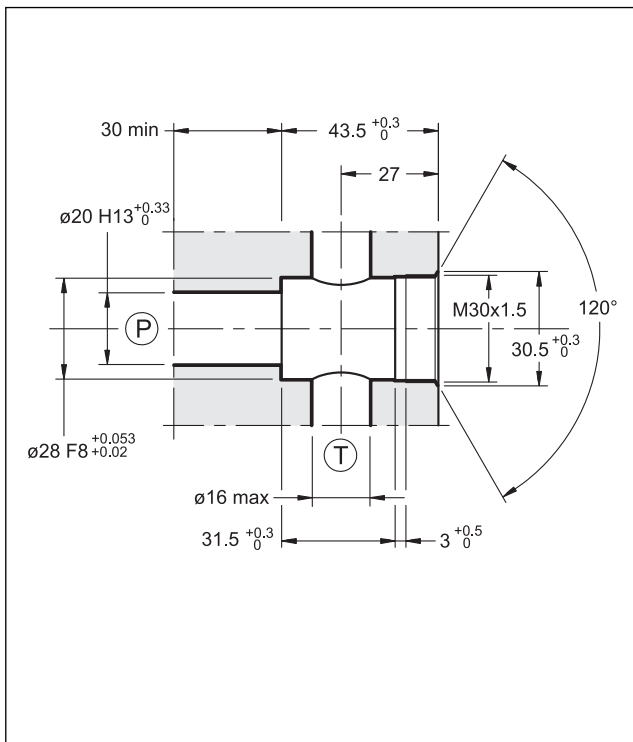# DBV
DIRECT OPERATED
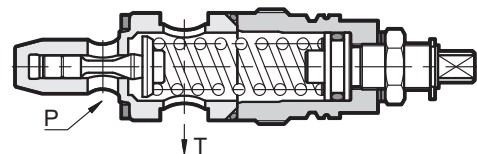## PRESSURE CONTROL VALVE
SERIES 10

CARTRIDGE TYPE

p max **380** bar
Q max **120** l/min
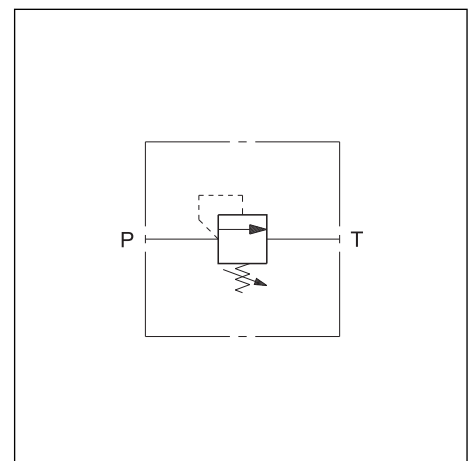
SEAT DIMENSIONS

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 differents pressure control ranges up to 380 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 / +50
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 EN 12329	

HYDRAULIC SYMBOL

1 - IDENTIFICATION CODE

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

Direct operated pressure control valve
Cartridge type

Pressure adjustment range:

35 = up to 35 bar   **200** = up to 200 bar
50 = up to 50 bar   **250** = up to 250 bar
80 = up to 80 bar   **300** = up to 300 bar
100 = up to 100 bar   **350** = up to 350 bar
160 = up to 160 bar   **380** = up to 380 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)

ADJUSTMENT

MINIMUM CONTROLLED PRESSURE

250 - 300
160 - 200
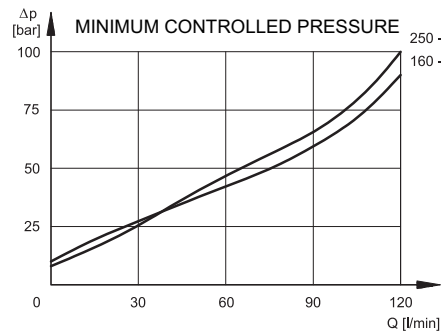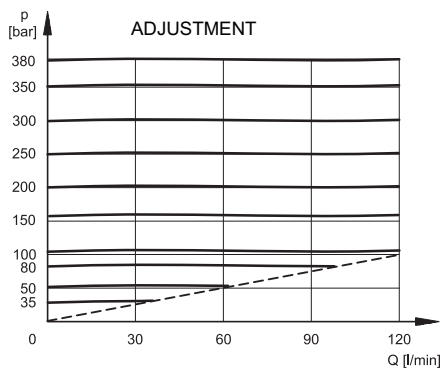
P-T pressure drops
with screw set at
minimum pressure
control

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	Countersunk 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