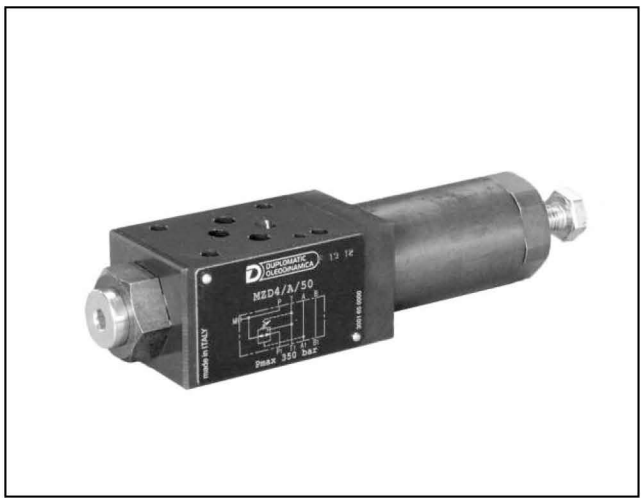


MZD

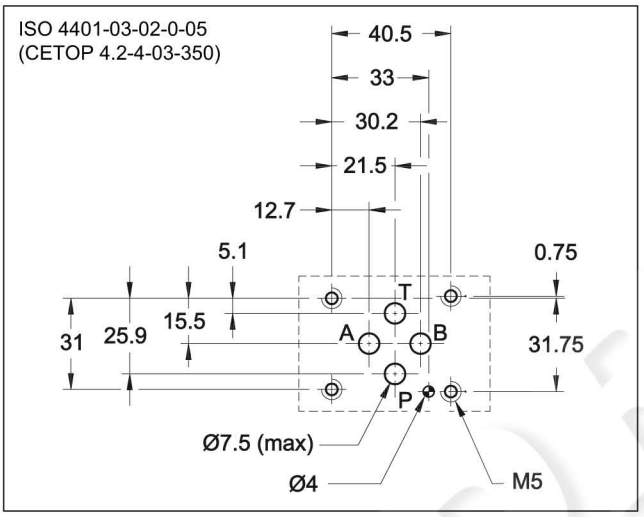
DIRECT OPERATED THREE-WAY PRESSURE REDUCING VALVE WITH FIXED OR VARIABLE ADJUSTMENT

MODULAR VERSION ISO 4401-03

p max **350** bar
Q max (see table of performances)

MOUNTING INTERFACE

ISO 4401-03-02-0-05
(CETOP 4.2-4-03-350)



CONFIGURATIONS (see hydraulic symbols at par.1)

— MZD*: pressure reduction on line P, drainage connected with line T.

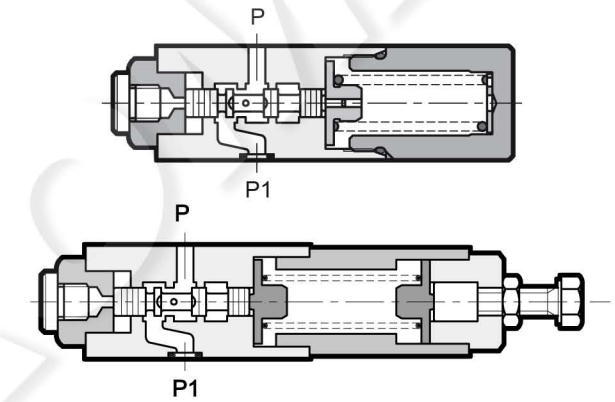
— MZD*/A and MZD*/RA: pressure reduction on line A toward the actuator and maximum pressure in line B, drainage connected with line T.

— MZD*/B and MZD*/RB: pressure reduction on line B toward the actuator and maximum pressure in line A, drainage connected with line T.

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

Maximum operating pressure Maximum pressure on port T	bar	350 10
Maximum flow rate in the controlled lines Maximum flow rate in the free lines Drainage flow rate	l/min	50 75 ≤ 0,08
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	1,4

OPERATING PRINCIPLE



— The MZD valve is a three-way spool type direct operated pressure reducing valve. It is normally open in the rest position and the hydraulic fluid passes freely from the P1 line to the P line.

The spool is subjected to the line P pressure on one side, and on the other side by the adjustment spring. When the pressure in line P exceeds the value set by the spring, the valve closes until the pressure in P (reduced) equals the calibrated value.

— The valve construction provides good adjustment sensitivity with reduced drainage flow. The drainage is connected to line T inside the valve.

— The three-way design provides protection of the secondary circuit from pressure surges since it allows a reverse flow from the actuator to the T discharge line.

— It is made as a modular version with ports according to the ISO 4401 standards and can be assembled quickly, without use of pipes, under the ISO 4401-03 solenoid valves.

— The variable adjustment version is supplied with a hexagonal head adjustment screw. Upon request, it can be equipped with a SICBLOC adjustment knob.

— The fixed adjustment version is available set at value 20, 25 or 30 bar pressure.

1 - IDENTIFICATION CODE OF MZD VARIABLE ADJUSTMENT VERSION

M	Z	D		/		/		/		/	

Size: ISO 4401-03 modular version

Direct operated pressure reducing valve

Pressure adjustment range:
2 = 3 ÷ 35 bar **4** = 30 ÷ 140 bar
3 = 10 ÷ 70 bar **5** = 50 ÷ 280 bar

Configurations
(omit for MZD with pressure reduction on line P and regulation unit on side B)

A: pressure reduction on line A and full pressure on line B with regulation unit on side B

B: pressure reduction on line B and full pressure on line A with regulation unit on side B

RP: pressure reduction on line P with regulation unit on side A

RA: pressure reduction on line A and full pressure on line B with regulation unit on side A

RB: pressure reduction on line B and full pressure on line A with regulation unit on side A

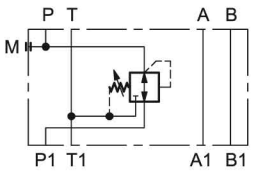
M = Adjustment with SICBLOC knob
(omit for adjustment with hexagonal head screw)

Series No.:
50 - for MZD*, MZD*/RP, MZD*/A, MZD*/RA, MZD*/B valves
51 - for MZD*/RB valves
(the overall and mounting dimensions remain unchanged from 50 to 59)

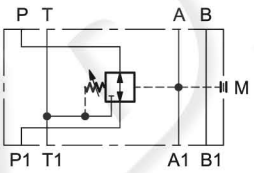
Seals:
omit for mineral oils
V = viton for special fluids

Hydraulic symbols

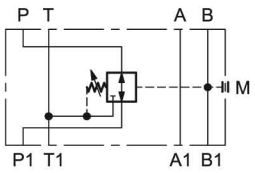
MZD*
MZD*/RP



MZD*/A
MZD*/RA



MZD*/B
MZD*/RB

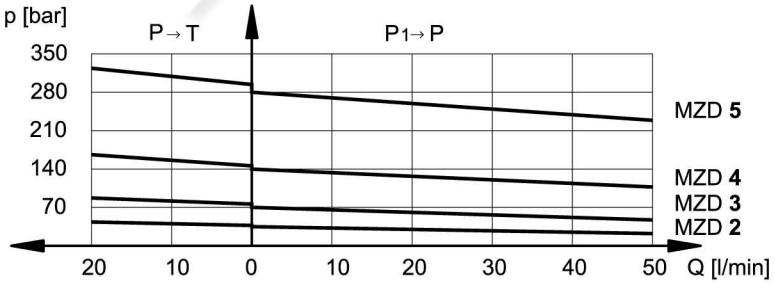


NOTE: the versions RP, RA and RB have been realised with regulation unit on side A, so as to be interchangeable with valves produced by other companies.
The standard version is equipped with regulation unit on side B.

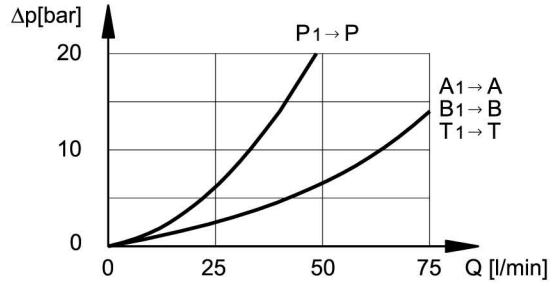
2 - MZD VARIABLE ADJUSTMENT VERSION CHARACTERISTIC CURVES

(values obtained with viscosity of 36 cSt at 50°C)

ADJUSTMENT



PRESSURE DROPS Δp - Q



3 - IDENTIFICATION CODE OF MZD FIXED ADJUSTMENT VERSION

M	Z	D	-		/		/	50	/	

Size: ISO 4401-03 modular version

Direct operated pressure reducing valve

Adjustment:
020 = 20 bar **030** = 30 bar
025 = 25 bar

Configurations
(omit for MZD with pressure reduction on line P and regulation unit on side B)

A: pressure reduction on line A and full pressure on line B with regulation unit on side B

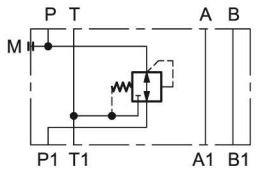
B: pressure reduction on line B and full pressure on line A with regulation unit on side B

Series No.:
(the overall and mounting dimensions remain unchanged from 50 to 59)

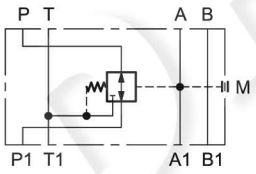
Seals:
omit for mineral oils
V = viton for special fluids

Hydraulic symbols

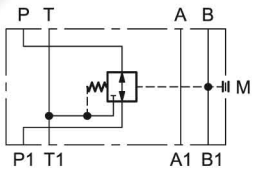
MZD-*



MZD-*/A



MZD-*/B



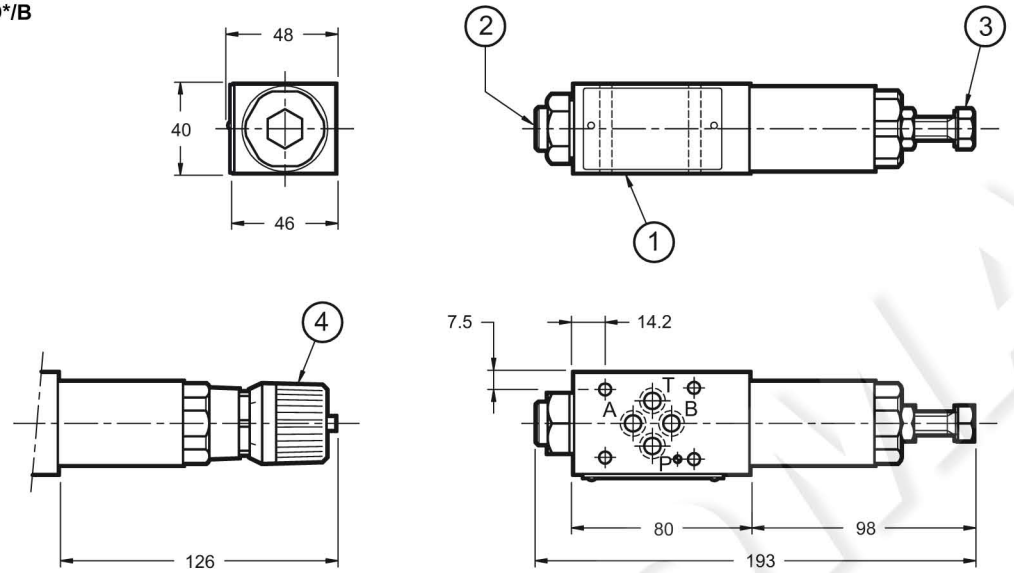
4 - HYDRAULIC FLUIDS

Use mineral oil-based hydraulic fluids HL or HM type, according to ISO 6743-4. For these fluids, use NBR seals. 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.

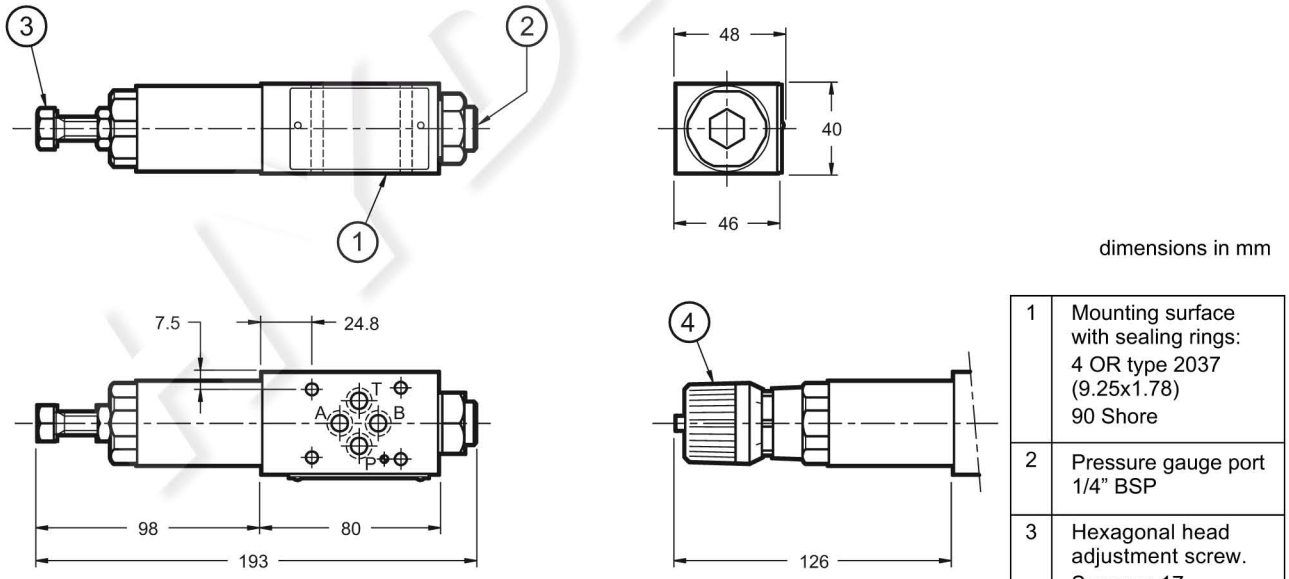
Using fluids at temperatures higher than 80 °C causes a faster degradation of the fluid and of the seals characteristics.The fluid must be preserved in its physical and chemical characteristics.

5 - OVERALL AND MOUNTING DIMENSIONS VARIABLE ADJUSTMENT VERSION

MZD*
MZD*/A
MZD*/B



MZD*/RP
MZD*/RA
MZD*/RB

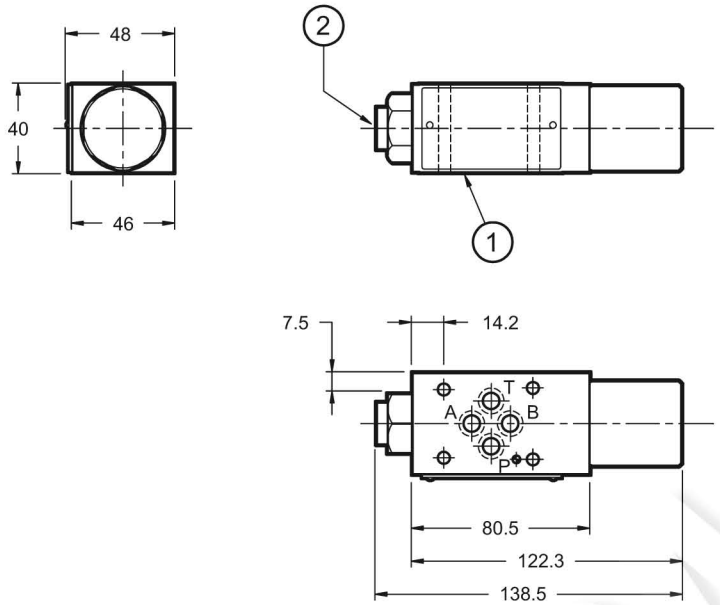


dimensions in mm

1	Mounting surface with sealing rings: 4 OR type 2037 (9.25x1.78) 90 Shore
2	Pressure gauge port 1/4" BSP
3	Hexagonal head adjustment screw. Spanner 17. Rotate clockwise to increase pressure
4	SICBLOC knob. To operate, push and rotate at the same time.

6 - OVERALL AND MOUNTING DIMENSIONS FIXED ADJUSTMENT VERSION

MZD-*
MZD*/A
MZD*/B



dimensions in mm

1	Mounting surface with sealing rings: N. 4 OR type 2037 (9.25x1.78) 90 Shore
2	Pressure gauge port: 1/4” BSP