

Pressure reducing valve direct operated, sandwich plate type ZDR10D...40B/

Sizes 10 up to 21MPa up to 50 L/min

Features:

- Sandwich plate design
- Pressure reduction in ports A, B or P
- 3 adjustment elements:
 - . Rotary knob
 - . Hex. head screw with protective cap
 - . Lockable rotary knob with scale
- 4 pressure ratings
- Check valve, optional



Functional description, section

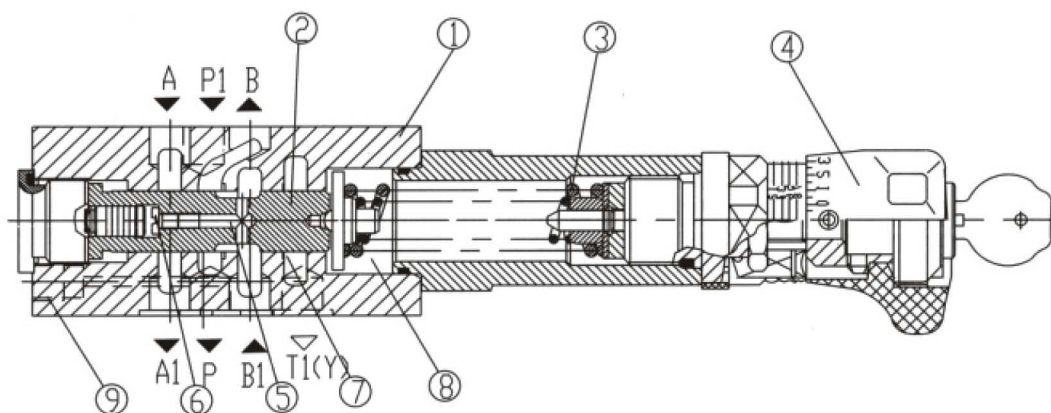
The pressure reducing valve type ZDR 10 D.. is a 3–way direct operated valve of sandwich plate design with a pressure relief function on the secondary side. It is used to reduce the system pressure.

The pressure reducing valve basically consists of the housing (1), the control spool (2), a compression spring (3), and the adjustment (4) as well as an optional check valve.

The secondary pressure is set by the pressure adjustment element (4). Model "DA" At rest, the valve is normally open, and fluid can flow unhindered from port A to port A1. The pressure in port A1 is at the same time via the control line (5) present at the spool area opposite the compression spring (3). When the pressure in port A1 exceeds the pressure level set at the compression spring (3), the control spool (2) moves into the control position against the compression spring (3) and holds the set pressure in port A1 constant. The control pressure and pilot oil are taken from port A1 via control line (5). If the pressure in port A1 rises still further due to external forces, the control spool (2) is moved still further towards the compression spring (3).

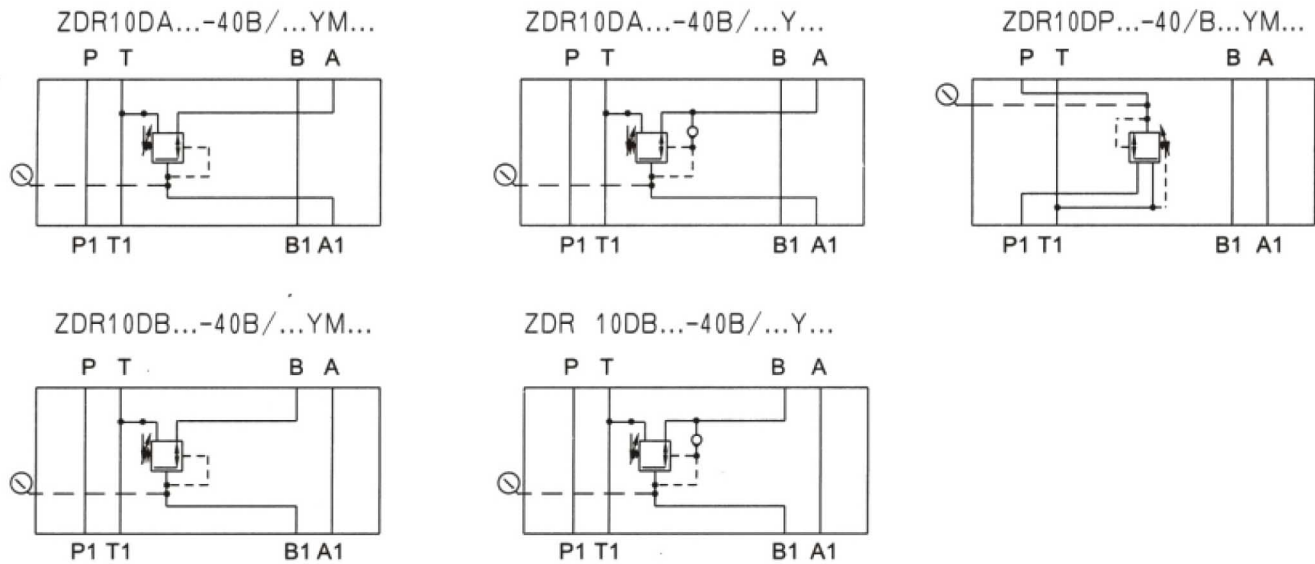
This causes a flow path to be opened at port A1 via control land (6) on the control spool (2) and housing (1) to tank (port TB). Sufficient fluid then flows to tank to prevent any further rise in pressure. The spring chamber (7) is always drained to tank externally via port TA. A pressure gauge connection (8) permits the secondary pressure at the valve to be monitored. It is only possible to fit a check valve for free flow in ports A1 to A in version "DA". Models "DP" and "DB". In model "DP", the pressure is reduced in port P1. The control pressure and the pilot oil is taken internally from port P1. In model "DB", the pressure in port P1 is reduced, and the pilot oil taken from port B. Attention!

When the directional valve is in the switched position P to A, pressure in port B must not exceed the set secondary pressure. Otherwise, pressure in port A will be reduced. If used without a directional valve, TA and TB must be interconnected (e.g. in the cover plate).



Type ZDR10D...40B/...

Symbol



Ordering Codes

Z DR 10 D -40/ Y *

Sandwich plate

=Z

Pressure reducing valve

=DR

Size 10

=10

Direct operated

=D

Pressure reduction in port A

=A

Pressure reduction in port B

=B

Pressure reduction in port P

=P

Adjustment element

Rotary knob

=1

Hex. head screw with and protective cap

=2

Lockable rotary knob with scale

=3

Series 40 to 49 (40 to 49:

unchanged installation and connection dimensions)

=40

Further details in clear text

No code = Mineral oil
V = Phosphate ester

No code = with check valve
(not possible for pressure reduction in port A)
M = without check valve

Y = Pilot oil feed internal
Pilot oil drain external

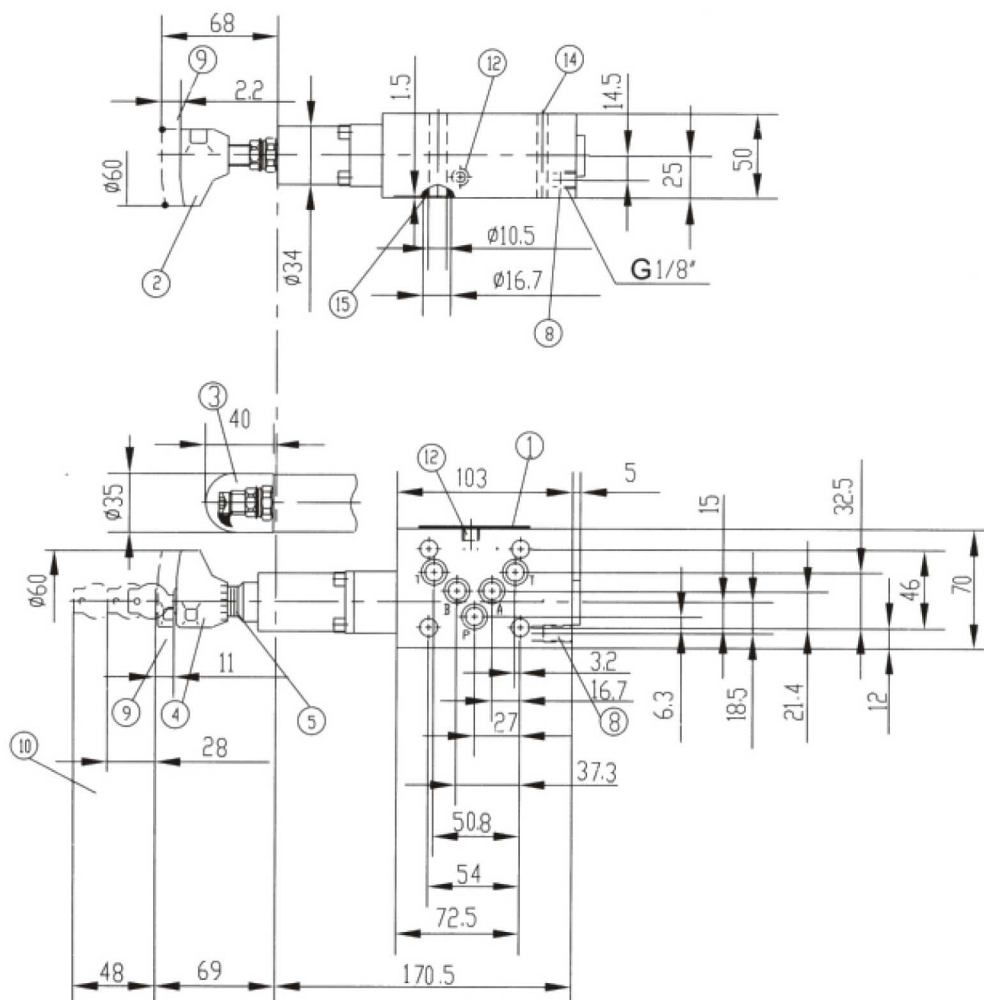
25= Max. secondary pressure 2.5MPa
75= Max. secondary pressure 7.5MPa
150= Max. secondary pressure 15.0MPa
210= Max. secondary pressure 21.0MPa

Technical data

Weight	kg	Approx 2.8
Fluid		Mineral oil or Phosphate ester
Oil temperature range	°C	-20 ~ +80
Viscosity range	mm²/s	10 ~ 800
Degree of fluid contamination	MPa	Max. permissible degree of contamination of the fluid is to NAS 1638, class 9. $\beta_{10} \geq 75$
Max. Operating pressure	MPa	31.5
Secondary pressure	Mpa	to 21
Back pressure port t	L / min	to 15
Max. Flow		50

Unit dimensions: type ZDR10DB

Dimensions in mm



Technical drawing of a mechanical assembly, likely a pump or valve component, showing multiple views and dimensions. The drawing includes a main side view, a top view, and a detail view of a small component (3).

Dimensions and Callouts:

- Top View (Top Left):**
 - Overall width: 70
 - Overall length: 170.5
 - Distance from left edge to center of port A: 100
 - Distance from left edge to center of port B: 54
 - Distance from left edge to center of port P: 50.8
 - Distance from left edge to center of port T: 37.3
 - Distance from left edge to center of port A: 27
 - Distance from left edge to center of port B: 16.7
 - Distance from left edge to center of port P: 18.5
 - Distance from left edge to center of port T: 12
 - Distance from left edge to center of port A: 6.3
 - Distance from left edge to center of port B: 20.7
 - Distance from left edge to center of port P: 21.4
 - Distance from left edge to center of port T: 32.5
 - Distance from left edge to center of port A: 46
 - Distance from left edge to center of port B: 21.4
 - Distance from left edge to center of port P: 20.7
 - Distance from left edge to center of port T: 32.5
 - Distance from left edge to center of port A: 46
 - Distance from left edge to center of port B: 21.4
 - Distance from left edge to center of port P: 20.7
 - Distance from left edge to center of port T: 32.5
- Side View (Bottom Left):**
 - Overall height: 50
 - Distance from top edge to center of port A: 1.3
 - Distance from top edge to center of port B: 1.3
 - Distance from top edge to center of port P: 1.3
 - Distance from top edge to center of port T: 1.3
 - Distance from top edge to center of port A: 1.3
 - Distance from top edge to center of port B: 1.3
 - Distance from top edge to center of port P: 1.3
 - Distance from top edge to center of port T: 1.3
- Detail View (Top Right):**
 - Overall width: 15.5
 - Distance from left edge to center of port A: 11
 - Distance from left edge to center of port B: 11
 - Distance from left edge to center of port P: 11
 - Distance from left edge to center of port T: 11
 - Distance from left edge to center of port A: 11
 - Distance from left edge to center of port B: 11
 - Distance from left edge to center of port P: 11
 - Distance from left edge to center of port T: 11
- Detail View (Bottom Right):**
 - Overall width: 40
 - Distance from left edge to center of port A: 11
 - Distance from left edge to center of port B: 11
 - Distance from left edge to center of port P: 11
 - Distance from left edge to center of port T: 11
 - Distance from left edge to center of port A: 11
 - Distance from left edge to center of port B: 11
 - Distance from left edge to center of port P: 11
 - Distance from left edge to center of port T: 11

Callouts:

- 1: Main body
- 2: Port A
- 3: Small component (detail view)
- 4: Port B
- 5: Port P
- 6: Port T
- 7: Port A
- 8: Port B
- 9: Port P
- 10: Port T
- 11: Port A
- 12: Port B
- 13: Port P
- 14: Port T
- 15: Port A

Other Dimensions:

- 68
- 11
- 60
- 34
- 10.5
- 15.7
- A, B, P, T
- 17
- 23.3
- 24.2
- 16
- 15.5
- 11
- 28
- 48
- 11
- 69
- 40
- 35

- | | |
|--|---|
| 1.Name plate | 10.Optional check valve for ZDR 10DA |
| 2.Adjustment 1 | 11.Optional check valve for ZDR 10DA |
| 3.Adjustment 2 | 12.When Max.secondary pressure is 2.5MPa, |
| 4.Adjustment 3 | 13.It should stem on this hole |
| 5.Repeat adjusting scale | when 7.5MPa, 15MPa and 21MPa, |
| 6.A pressure gauge connection for ZDR 10DA | it can be used as a leakage hole. |
| 7.A pressure gauge connection for ZDR 10DA | This hole can use as chamber "T" |
| 8.A pressure gauge connection for ZDR 10DA | Fixing screw hole |
| 9.Max. distance of adjustment | 14.Space required to remove key |
| | 15.O-ring 12×2, for port A. B. P and T |

Technical drawing of a mechanical part. The part is shown in a cross-section view, indicated by a hatched area. The drawing includes a dimension of 0.01/100mm and a section line with a 0.8/100mm dimension.