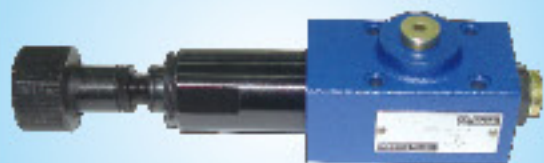




Huade



Hydraulic valves



Pressure Valves

Catalogue



BEIJING HUADE HYDRAULIC INDUSTRIAL GROUP CO.,LTD.

CONTENTS

Pressure Valves

No.	Name	Type	Size	Pressure max.(MPa)	Page
1	Pressure remote relief valve	DBT/DBWT		31.5	1
2	Pressure relief valve , direct operated	DBD	6~30	63	5
3	Direct operated pressure relief valve,sandwich plate	Z2DBD6	6	31.5	11
4	*Pilot operated pressure relief Valve,sandwich plate	ZDB/Z2DB	6	31.5	15
5	Pilot operated pressure relief valve,sandwich plate	ZDB/Z2DB	10	31.5	21
6	Pilot operated pressure relief valve,cartridge connection	DB...K	6、10、20	31.5	27
7	Pressure relief valve	DB/DBW...30B/...	10~30	31.5	37
	Pressure relief valve(New series)	DB/DBW...50B/ ...	10~32	35	43
8	Pressure relief valves	DB3U	10~30	31.5	53
9	*Check-Q-meter	DC	10~30	31.5	61
10	Pressure reducing valve direct operated,sandwich plate	ZDR6D...30B	6	21	67
	*Pressure reducing valve direct operated,sandwich plate (New series)	ZDR6D...40B	6	21	71
11	*Pressure reducing valve	ZDR6DP0...40B/40YM	6	4.0	75
12	Direct operated pressure reducing valve,sandwich plate	ZDR10D...40B/	10	21	79
13	*Direct operated pressure reducing valve,sandwich plate(New series)	ZDR10D-50B/	10	21	83
14	*Pressure reducing valve direct operated	DR5DP	5	31.5	87
	*Pressure reducing valve direct operated	DR6DP	6	21	91
	*Pressure reducing valve direct operated	DR10DP	10	21	95



CONTENTS

Pressure Valves

No.	Name	Type	Size	Pressure max.(MPa)	Page
15	Pilot operated pressure reducing Valve	DR...30B/...	10、20、30	31.5	99
	*Pilot operated pressure reducing Valve (New series)	DR...50B/	10~25	31.5	105
16	*Direct operated pressure sequence Valve	DZ5DP	5	31.5	111
	*Direct operated pressure sequence valve	DZ6DP	6	31.5	115
	*Direct operated pressure sequence valve	DZ10DP	10	21	119
17	Pressure sequence valve pilot operated	DZ...30B/	10~30	21	123
	*Pressure sequence valve pilot operated (New series)	DZ...-50B/	10、20、30	31.5	129
18	Pressure shut-off valve pilot operated	DA/DAW...-30B/	10、20、30	31.5	135
	*Pressure shut-off valve pilot operated (New series)	DA/DAW...-50B/	10、20、30	31.5	141
19	Subplate	—	—	—	148

* * : New products, for ordering, please consult us, telephone:+86-10-69083290



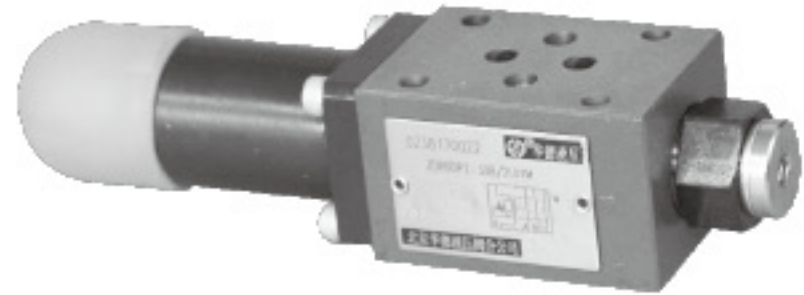
Other Huade Hydraulics Catalogues for Valves

- Directional Valves
- Flow Control Valves
- Proportional Valves
- Cartridge Valves

BEIJING HUADE HYDRAULIC INDUSTRIAL GROUP CO.,LTD.	Pressure reducing valve, direct operated, sandwich plate,type ZDR6D...30B/			RE 26569/12.2004
	Size 6	up to 21 MPa	up to 30L/min	Replaces: RE26569/05.2001

Features:

- Sandwich plate design
- Porting pattern to DIN 24 340, from A,ISO 4401 and CETOP-RP 121H
- 4 pressure ratings
- 3 adjustment elements:
 - Rotary knob
 - Sleeve with hexagon and protective cap
 - Lockable rotary knob with scale
- Pressure reduction in ports A,P,B
- Check valve, optional



Functional description, section

Pressure reducing valves type ZDR 6 D.. are 3-way direct operated pressure reducing valves 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 element (4) as well as with 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 to 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 A through line(6) on the control spool (2) to tank. Sufficient fluid then flows to tank to prevent any further rise in pressure. The spring chamber (7) is always drained to tank externally via drilling (6) to port T (Y).

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".

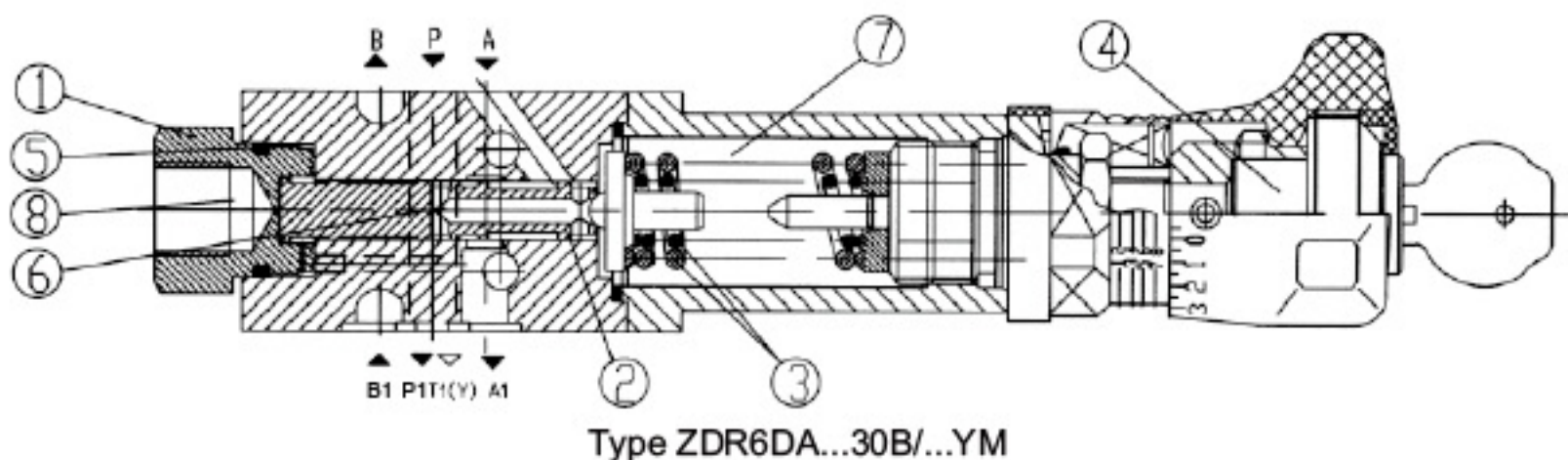
Models "DP" and "DB"

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.

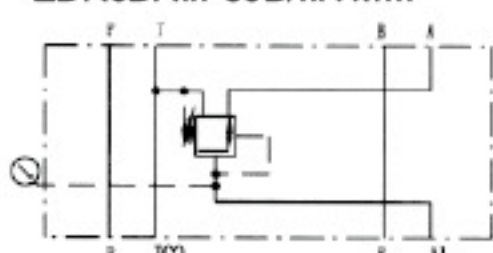
Attention!

In model DB, it must be ensured, that the pressure in port B is not higher than the set pressure when the directional valve is in position P to A. Otherwise, pressure in port A will be reduced.

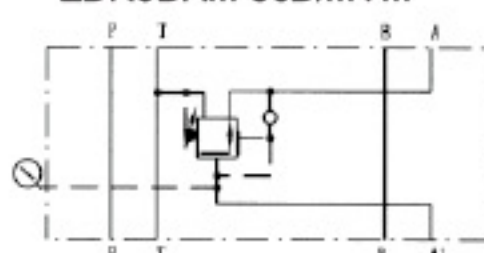


Symbols

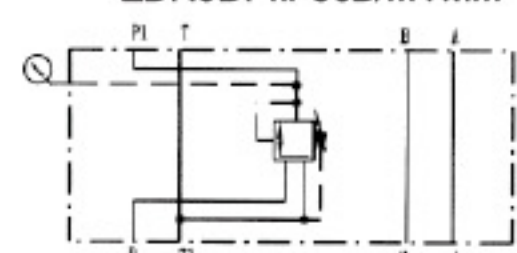
ZDR6DA...-30B/...YM...



ZDR6DA...-30B/...Y...



ZDR6DP...-30B/...YM...



Ordering details

Z DR 6 D - 30 B / Y *

Sandwich plate design = Z

Pressure reducing valve = DR

Nominal Size 6 = 6

Direct operated = D

Pressure reduction in port A = A
Pressure reduction in port P = P

Adjustment element
Rotary knob = 1
Hex. head screw with protective cap = 2
Lockable rotary knob with scale = 3

Series 30 to 39 = 30
(30 to 39 = unchanged installation and connection dimensions)

Further details in clear text

no code. = mineral oils
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, drain external

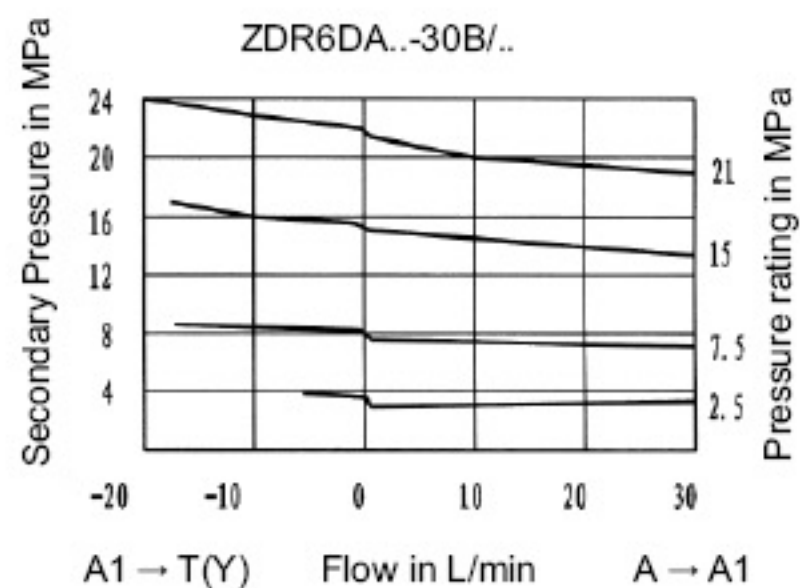
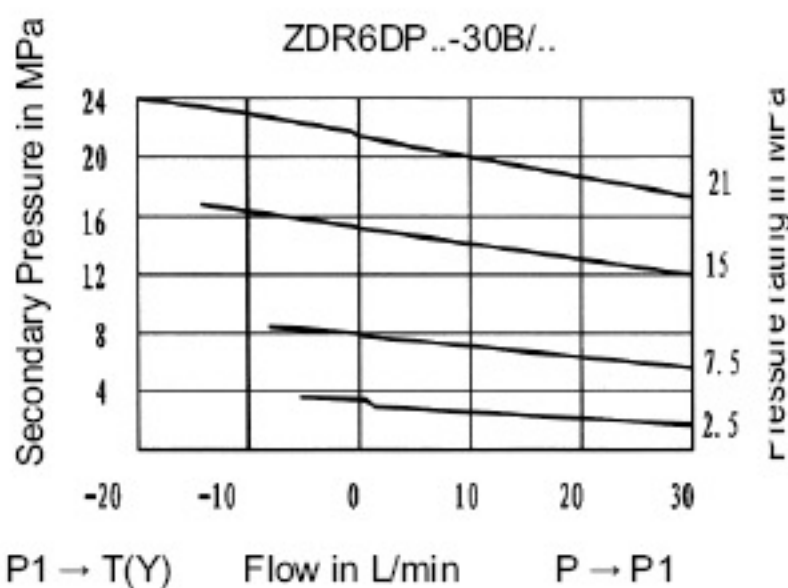
25 = max. secondary pressure 2.5 MPa
75 = max. secondary pressure 7.5 MPa
150 = max. secondary pressure 15.0 MPa
210 = max. secondary pressure 21.0 MPa

B = Technology of Beijing Huade Hydraulic

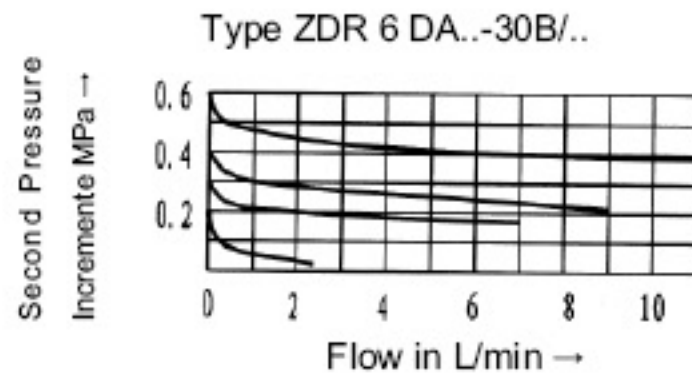
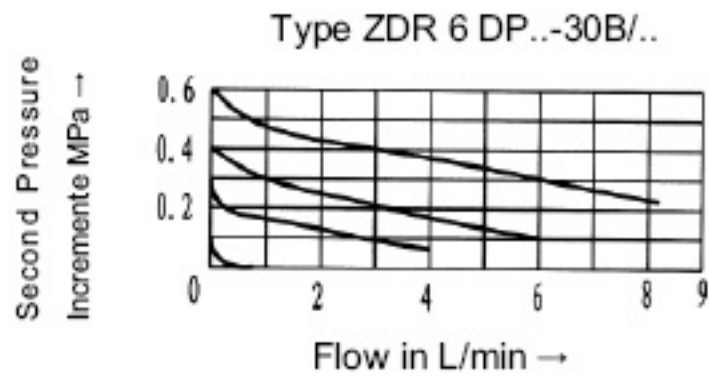
Technical data (For applications outside these parameters, please consult us!)

Pressure fluid	Mineral oil (for NBR seal) or phosphate ester (for FPM seal)
Pressure fluid-temperature range (°C)	-30 to +80
Viscosity range (mm ² /s)	10 to 800
Degree of fluid contamination (µm)	Maximum permissible degree of contamination of the fluid is to NAS 1638, class 9. $\beta_{10} \geq 75$
Max. operating Pressure (inlet) (MPa)	up to 31.5
Secondary pressure (output) (MPa)	up to 21
Back pressure port (MPa)	up to 6
Max. flow (L/min)	up to 30
Weight (kg)	approx. 1.2

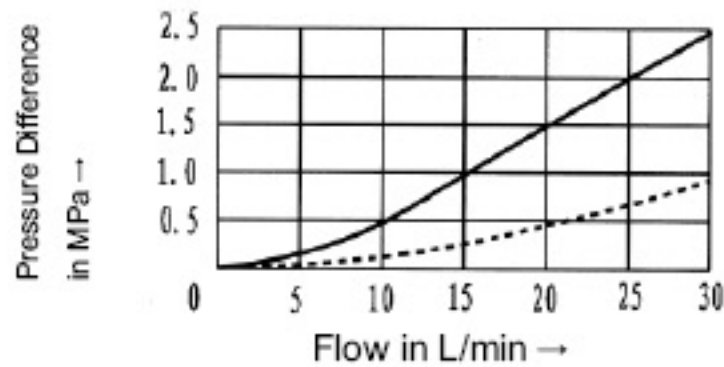
Characteristic curves (measured at $\nu = 41 \text{ mm}^2/\text{s}$ and $t = 50^\circ\text{C}$)



Characteristic curves (measured at $v = 41\text{mm}^2/\text{s}$ and $t=50^\circ\text{C}$)

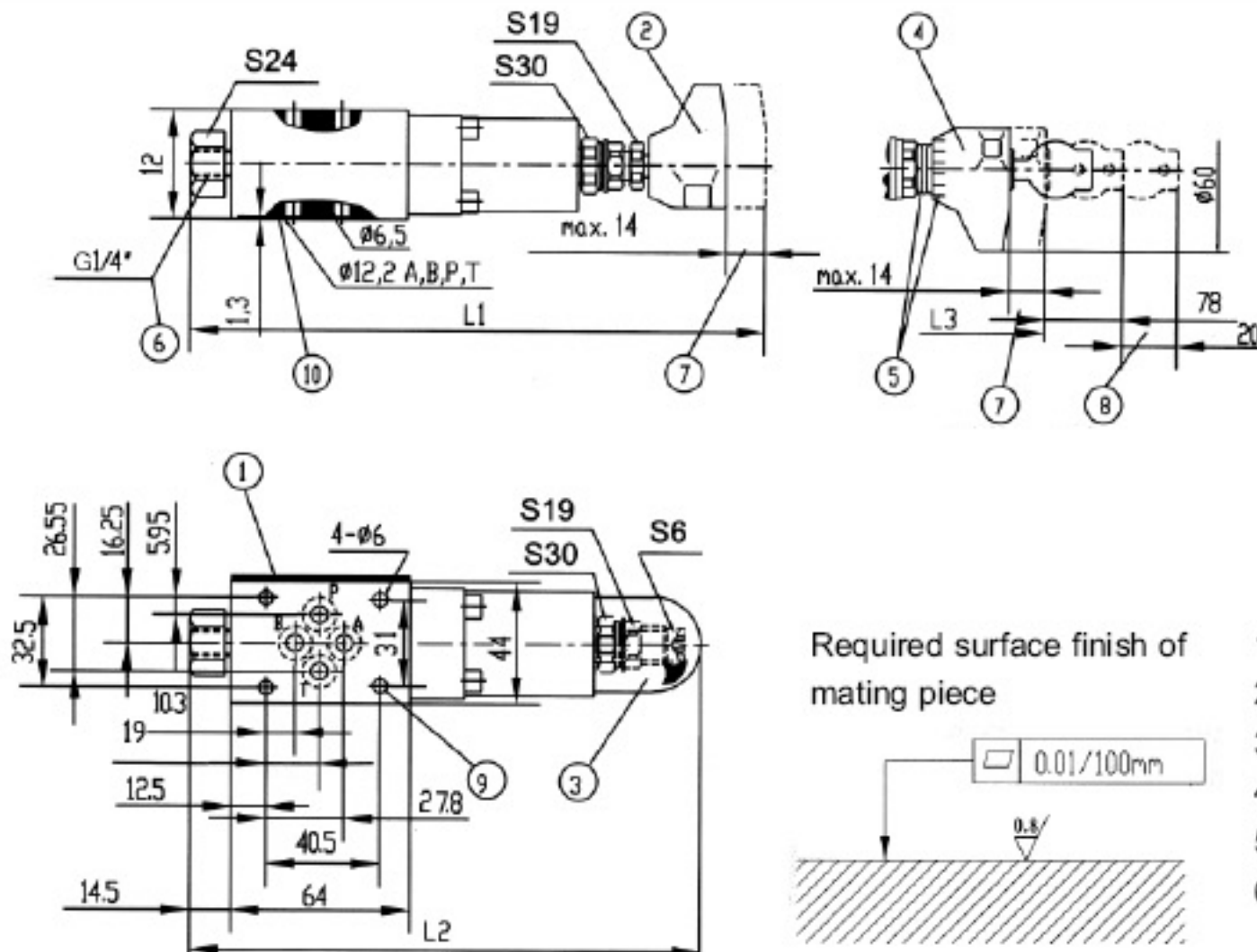


Settable pressure: <1MPa >1MPa
Check valve chacteristic curves ΔP -Q



Unit dimensions

(Dimensions in mm)



1. Nameplate
2. Adjustment1
3. Adjustment2
4. Adjustment3
5. Adjusting scale set
6. Pressure gauge connection
7. Stroke
8. Space required to remove key
9. Fixing screw hole
10. O-ring 9.25X1.78, for ports A, B, P, T.

type	L1 max.	L2	L3 max.
ZDR6DA...30B/...	208	182	203
ZDR6DP...30B/...	196	170	191

NOTICE

1. The fluid must be filtered. Minimum filter fineness is 20 μm .
2. The tank must be sealing up and an air filter must be installed on air entrance.
3. Products without subplate when leaving factory, if need them, please ordering specially.
4. Valve fixing screws must be high intensity level (class 10.9). Please select and use them according to the parameter listed in the sample book.
5. Roughness of surface linked with the valve is required to $\frac{0.8}{\sqrt{\quad}}$.
6. Surface finish of mating piece is required to 0.01/100mm.

Notice

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5	Pilot operated pressure relief valve,sandwich plate	ZDB/Z2DB	10	31.5	21
6	Pilot operated pressure relief valve,cartridge connection	DB...K	6、10、20	31.5	27
7	Pressure relief valve	DB/DBW...30B/...	10~30	31.5	37
	Pressure relief valve(New series)	DB/DBW...50B/ ...	10~32	35	43
8	Pressure relief valves	DB3U	10~30	31.5	53
9	*Check-Q-meter	DC	10~30	31.5	61
10	Pressure reducing valve direct operated,sandwich plate	ZDR6D...30B	6	21	67
	*Pressure reducing valve direct operated,sandwich plate (New series)	ZDR6D...40B	6	21	71
11	*Pressure reducing valve	ZDR6DP0...40B/40YM	6	4.0	75
12	Direct operated pressure reducing valve,sandwich plate	ZDR10D...40B/	10	21	79
13	*Direct operated pressure reducing valve,sandwich plate(New series)	ZDR10D-50B/	10	21	83
14	*Pressure reducing valve direct operated	DR5DP	5	31.5	87
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	*Pressure reducing valve direct operated	DR10DP	10	21	95



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16	*Direct operated pressure sequence Valve	DZ5DP	5	31.5	111
	*Direct operated pressure sequence valve	DZ6DP	6	31.5	115
	*Direct operated pressure sequence valve	DZ10DP	10	21	119
17	Pressure sequence valve pilot operated	DZ...30B/	10~30	21	123
	*Pressure sequence valve pilot operated (New series)	DZ...-50B/	10、20、30	31.5	129
18	Pressure shut-off valve pilot operated	DA/DAW...-30B/	10、20、30	31.5	135
	*Pressure shut-off valve pilot operated (New series)	DA/DAW...-50B/	10、20、30	31.5	141
19	Subplate	—	—	—	148

* * : New products, for ordering, please consult us, telephone:+86-10-69083290



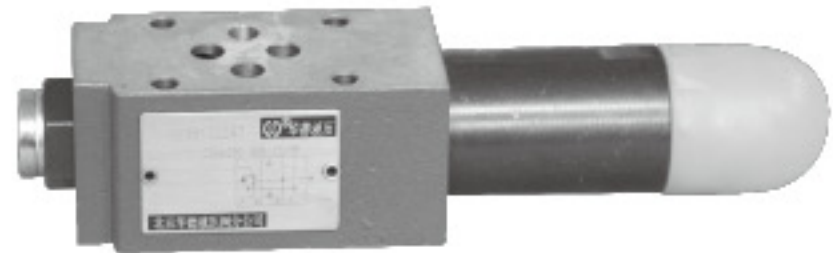
Other Huade Hydraulics Catalogues for Valves

- Directional Valves
- Flow Control Valves
- Proportional Valves
- Cartridge Valves

BEIJING HUADE HYDRAULIC INDUSTRIAL GROUP CO.,LTD.	Pressure reducing valve, direct operated, sandwich plate,type ZDR6D...40B/(New Series)			RE26550/12.2004
	Size 6	up to 21 MPa	up to 50L/min	

Features:

- Sandwich plate design
- 4 pressure ratings
- 3 adjustment elements:
 - Rotary knob
 - Sleeve with hexagon and protective cap
 - Lockable rotary knob with scale
- Pressure reduction in ports A, B or P
- Check valve, optional
- Porting pattern to DIN 24 340, form A,ISO 4401 and CETOP-RP 121H



Functional, section

Pressure reducing valves type ZDR 6 D.. are 3-way direct operated pressure reducing valves 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 element (4) as well as with an optional check valve.

The secondary pressure is set by the pressure adjustment element (4).

Model "ZDR6DA"

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 present at the spool area opposite to 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.

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 through control land (9) on the control spool (2) to tank. Sufficient fluid then flows to tank to prevent any further rise in pressure. The spring chamber (7) is always drained to tank externally via drilling (6) to port T (Y).

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".

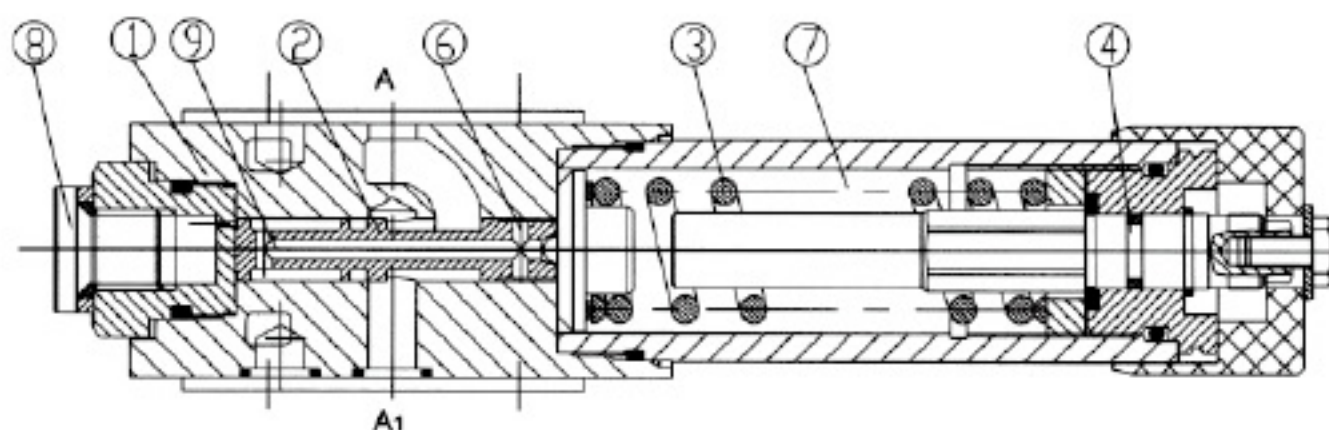
Models "DP" and "DB"

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.

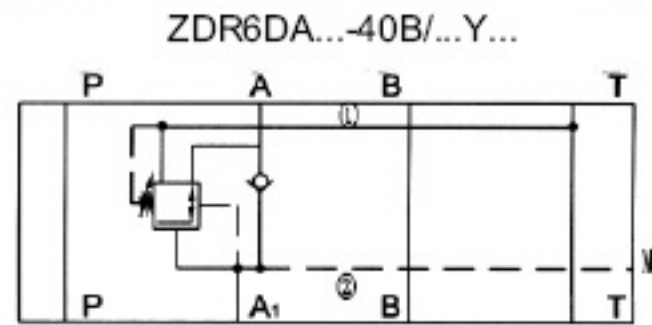
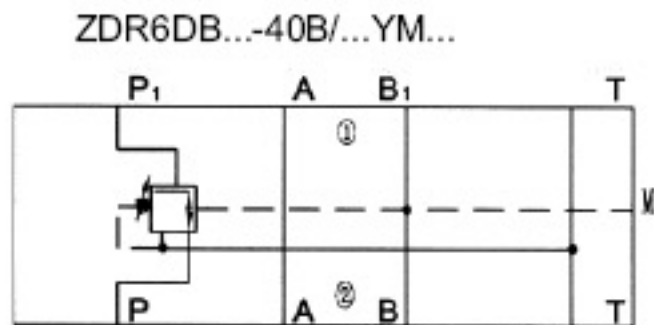
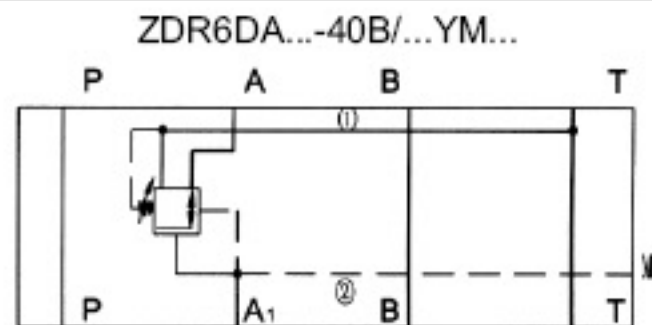
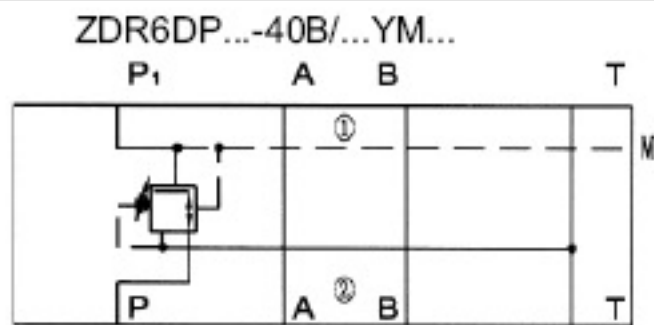
Attention!

In model DB, it must be ensured, that the pressure in port B is not higher than the set pressure when the directional valve is in position P to A. Otherwise, pressure in port A will be reduced.



Type ZDR6DA1-40B/...YM...

Symbols (① =valve side, ② =subplate side)



Ordering details

Z DR 6 D - 40 B / Y *

Sandwich plate design = Z

Pressure reducing valve = DR

Nominal Size 6 = 6

Direct operated = D

Pressure reduction in port A = A
 Pressure reduction in port B = B
 (Pilot oil from port B)
 Pressure reduction in port P = P

Adjustment element
 Rotary knob = 1
 Hex. head screw with protective cap = 2
 Lockable rotary knob with scale = 3

Series 40 to 49 = 40
 (40 to 49 = unchanged installation and connection dimensions)

Further details in clear text

No code. = mineral oils
 V = phosphate ester

No code. = with check valve
 (only possible for pressure reduction in port A)
 M = without check valve

Y= Pilot oil feed internal, drain external

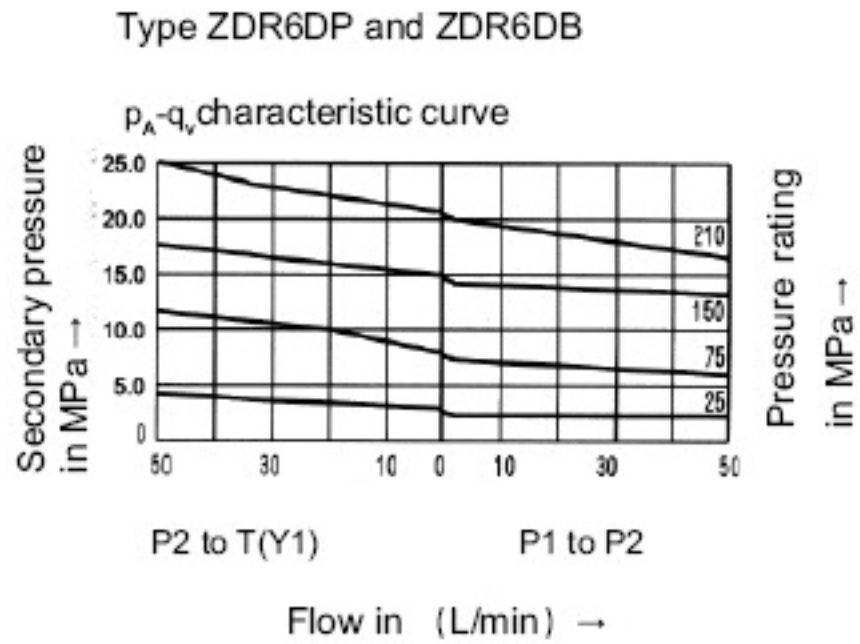
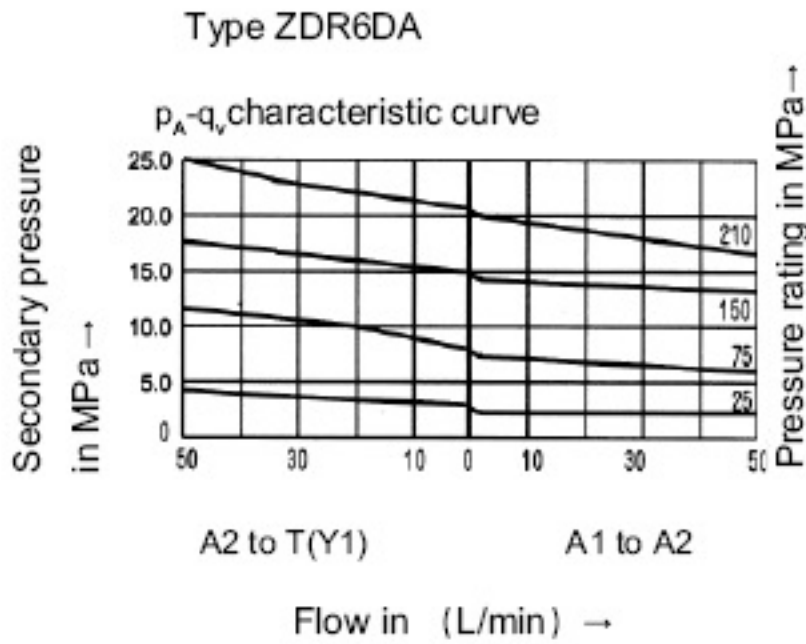
25= max. secondary pressure 2.5 MPa
 75= max. secondary pressure 7.5 MPa
 150= max. secondary pressure 15 MPa
 210= max. secondary pressure 21 MPa

B= Technology of Beijing Huade Hydraulic

Technical data (For applications outside these parameters, please consult us!)

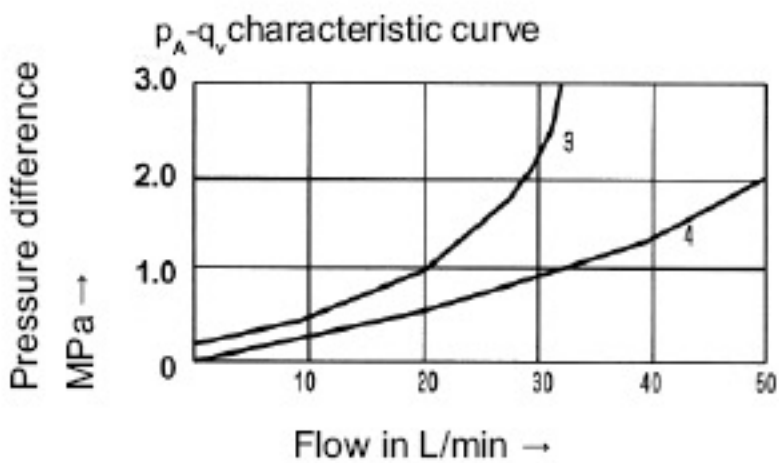
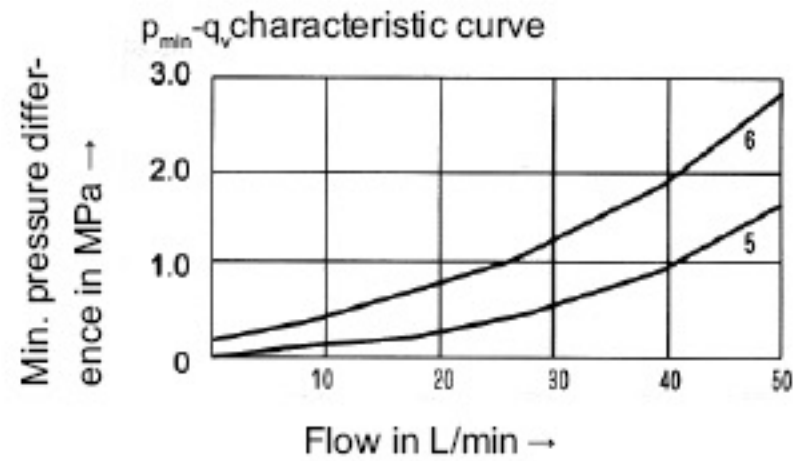
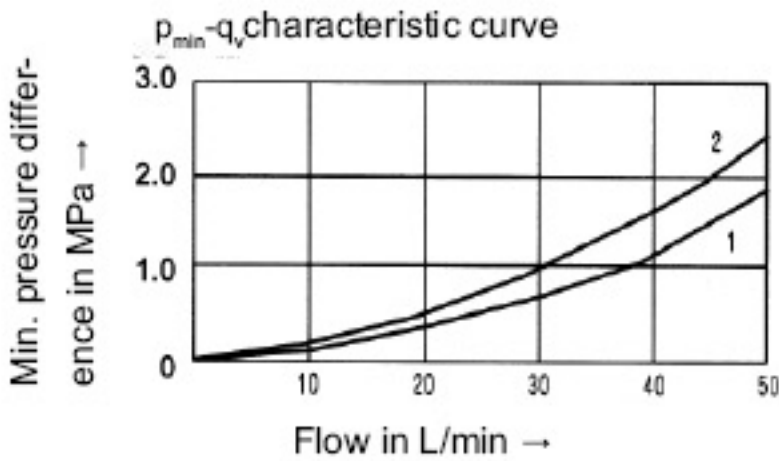
Pressure fluid	Mineral oil (for NBR seal) or phosphate ester (for FPM seal)
Pressure fluid-temperature range (°C)	-30 to +80
Viscosity range (mm ² /s)	10 to 800
Degree of fluid contamination (µm)	Maximum permissible degree of contamination of the fluid is to NAS 1638, class 9. β ₁₀ ≥ 75
Max. operating Pressure (inlet) (MPa)	up to 31.5
Secondary pressure (output) (MPa)	up to 2.5, up to 7.5, up to 15.0, up to 21.0
Back pressure port (MPa)	up to 16.0
max. flow (L/min)	up to 50.0
weight (kg)	approx. 1.2

Characteristic curves (measured at $v = 41\text{mm}^2/\text{s}$ and $t=50^\circ\text{C}$)



Note:

The curve characteristics remain, with low set pressures, the same in relation to the pressure rating



1. A to A1
2. A1 to TB (third. flow path)
3. A1 to A (flow via check valve only)
4. A1 to A (check valve and fully open control cross section)
5. P1 to TB
6. P1 to T(Y) (third. flow path)

The characteristic curves for the pressure relief function are valid for the outlet pressure = zero over the entire flow range!

Notice

1. The fluid must be filtered. Minimum filter fineness is 20 μm .
2. The tank must be sealing up and an air filter must be installed on air entrance.
3. Products without subplate when leaving factory, if need them, please ordering specially.
4. Valve fixing screws must be high intensity level (class 10.9). Please select and use them according to the parameter listed in the sample book.
5. Roughness of surface linked with the valve is required to $\frac{0.8}{\sqrt{\text{mm}}}$.
6. Surface finish of mating piece is required to 0.01/100mm.