

Pilot operated pressure reducing Valve type DR...30B/

Sizes 10 20 30 up to 31.5MPa up to 320 L/min

Features:

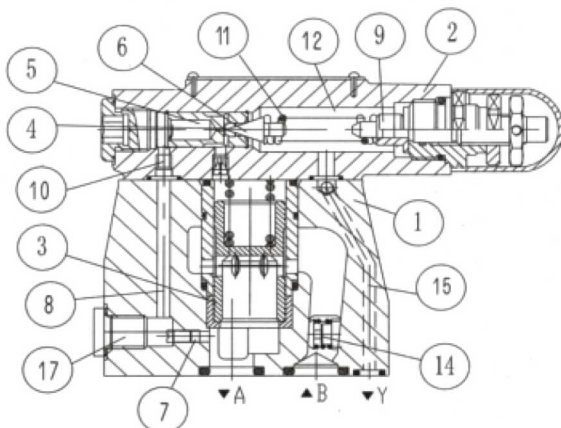
- For subplate mounting
- For threaded connections
- For cartridge connection
- 4 adjustment elements:
 - . Rotary knob.
 - . Sleeve with hexagon and protective cap,
 - . Lockable rotary knob with scale
 - . Rotary knob with scale
- 4 pressure settings
- optional check valve (only for valve for subplate mounting)



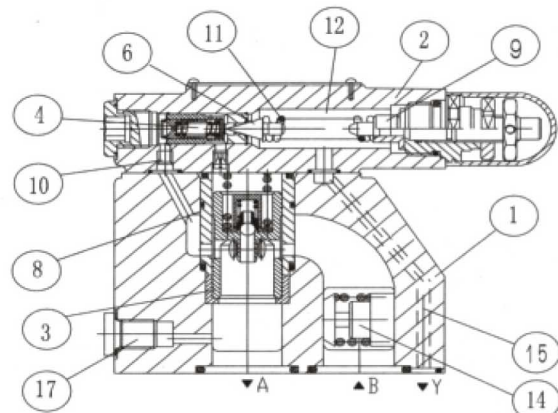
Functional description, section

Pressure valves type DR are pilot operated pressure reducing valves, which are controlled from the secondary circuit. They basically consist of main valve (1) with main spool insert (3) and pilot valve (2) with pressure adjustment element (9). At rest, the valves are open, fluid can freely pass from port B to port A via the main spool (3). Pressure present in port A acts upon the bottom side of the main spool (3). At the same time there is pressure acting on the poppet (6) in the pilot valve (2) via the orifice (4) on the spring-loaded side of the main spool (3) and via the port (5). Same it is acting on the poppet (6) via the orifice (7), control line (8) and orifice (10). According to setting of spring (11), pressure builds up in front of the poppet (6), in port (5) and in spring chamber (12), holding the control spool (3) in the open position. Fluid can freely flow from port B to port A via main spool (3), until the pressure in port A exceeds the value set at spring (11) and opens the poppet (6). The control spool (3) moves to closing position.

The desired reduced pressure is achieved, when a balance between the pressure in port A and the pressure set at spring (11) is reached. Pilot oil drain from spring chamber (12) to tank takes place externally via line (15). Free return flow from port A to B can be achieved by installing an optional check valve (14). A pressure gauge connection (17) allows the reduced pressure in port A to be monitored.



Structural drawing for reducing valve type
DR10-2-30B/...Y...



Structural drawing for reducing valve type
DR20, 30-2-30B/...Y...

Symbol

Subplate mounting valve				Threaded connection valve	
DR10...-30B/...Y...	DR ²⁰ ₃₀ ...-30B/...Y...	DR10...-30B/...YM...	DR ²⁰ ₃₀ ...-30B/...YM...	DR ⁸ ₁₀ ...-30B/...Y...	DR ¹⁵ ₃₀ ...-30B/...Y...

Ordering Codes

<div> <div> <div>Pilot operated pressure Reducing valve Without main spool insert (do not state valve size) Pilot valve with main Spool insert (state valve size)</div> <div>= DR</div> <div>= DRC</div> <div>= DRC</div> </div> <div> <div>No code = Subplate mounting</div> <div>G = Threaded connection</div> </div> <div> <div>1 = Rotary knob</div> <div>2 = Sleeve screw with hexagon and protective cap</div> <div>3 = Lockable rotary knob with scale</div> </div> </div>									
<div> <div> <div>Size</div> <div>Valve</div> <div>Ordering code</div> </div> <div> <div>10</div> <div>10 (M22x1.5 or G1/2")</div> </div> <div> <div>15</div> <div>15 (M27x2 or G3/4")</div> </div> <div> <div>20</div> <div>20 (M33x2 or G1")</div> </div> <div> <div>25</div> <div>25 (M42x2 or G1 1/4")</div> </div> <div> <div>30</div> <div>30 (M48x2 or G1 1/2")</div> </div> </div>									
<div> <div> <div>No code =</div> <div>100 =</div> <div>315 =</div> </div> <div> <div>Subplate mounting</div> <div>Settable pressure up to 10MPa</div> <div>Settable pressure up to 31.5MPa</div> </div> </div>									
<div> <div> <div>No code =</div> <div>2 =</div> <div>(A pressure gauge connection port G1/4)</div> </div> <div> <div>external connect port: inch</div> <div>external connect port: metric</div> </div> </div>									
<div> <div> <div>No code =</div> <div>M =</div> <div>(Without check valve, but no code)</div> </div> <div> <div>with check valve(for subplate mounting)</div> <div>without check valve (for subplate mounting)</div> </div> </div>									
<div> <div> <div>No code =</div> <div>Mineral oil</div> <div>Phosphate ester</div> </div> </div>									
<div> <div> <div>Further details in clear text</div> </div> </div>									
<div> <div> <div>30 = Series 30 to 39 (30 to 39: unchanged installation and connection dimensions)</div> </div> </div>									

Technical data

Size		8	10	15	20	25	30
Flow (L / min)	Subplate mounting	—	80	—	200	—	300
	Threaded connection	80	80	200	200	300	300
Max.operating pressure	Mpa	to 10 or 31.5					
inter pressure, port B	MPa	to31.5					
outlet pressure, port A	Mpa	0.3~31.5		1~31.5			
Back pressure, port Y	Mpa	to31.5					
Fluid		Mineral oil Phospate ester					
Viscosity range	mm²/s	10 ~ 800					
Oil temperature range	℃	-30~+80					

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- Technical drawing of a mechanical part, showing two views: a front view (top) and a side view (bottom).
- Front View (Top):**
- Overall width: 94
 - Overall height: 84
 - Internal dimensions: 34.5, 42.9, 66.7, 58.8, 7.9, 9, 7.2, 21.5, 31.8, 35.8
 - Features: M10/25, A.B Ø13, X.Y Ø6, Ø7/6
- Side View (Bottom):**
- Overall width: 110
 - Overall height: 100
 - Internal dimensions: 33, 60.3, 79.4, 7.3, 6.4, 9, 11.1, 20.6, 39.7, 44.5, 49.2, 60.3
 - Features: Ø6, M10/4, A.B Ø22, Ø6, Ø7/6

G460/01	G460/02	G412/01	G412/02	G414/01	G414/02
G461/01	G461/02	G413/01	G413/02	G415/01	G415/02

Size	Valve fixing screw(GB/T70.1-2000)
10	4-M10x50-10.9
20	4-M10x60-10.9
30	4-M10x70-10.9

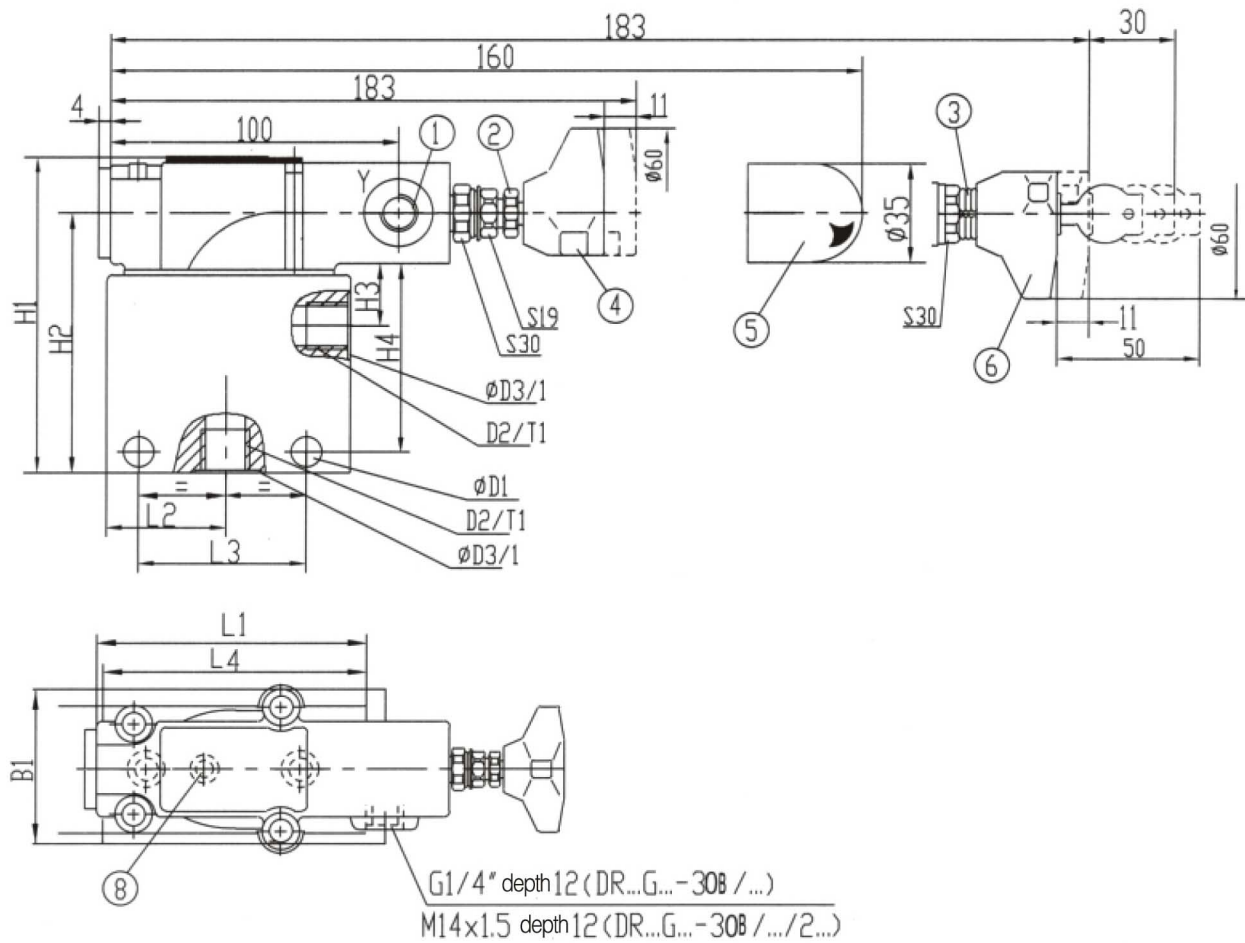
Size	B1	B2	H1	H2	H3	H4	L1	L2	L3	L4	L5	O-ring	
												For port X, Y	For port A, B
10	85	66.7	112	92	28	72	90	42.9	–	35.5	34.5	9.25x1.78	17.12x2.62
20	102	79.4	122	102	38	82	112	60.3	–	33.5	37	9.25x1.78	28.17x3.53
30	120	96.8	130	110	46	90	140	84.2	42.1	28	31.3	9.25x1.78	34.52x3.53

O-ring	
X, Y	For port A, B
Z	For port C, D

Unit dimensions

Dimensions in mm

Threaded connection



1.Port Y for drain external

2.Only apply to 31.5MPa

3.Repeat adjusting scale

4.Adjusting element 1

5.Adjusting element 2

6.Adjusting element 3

7.Pressure gauge

Note:Pipe connection pressure reducing valve with no one-way valve

Size	B1	ΦD1	D2		ΦD3	H1	H2	H3	H4	L1	L2	L3	L4	T1	Weight (kg)
			Metric	Inch											
10	63	9	M22X1.5	G1/2"	34	125	105	28	75	90	40	62	85	14	4.3
15			M27X2	G3/4"	42									16	
20			M33X2	G1"	47									18	
25	70	11	M42X2	G1 1/4"	58	138	118	34	85	100	46	72	99	20	10.2
30			M48X2	G1 1/2"	65									22	

