

Direct Operated Relief Valve

Model: DBD...1X



- ◆ Size 6 to 30
- ◆ Maximum working pressure 630 bar
- ◆ Maximum working flow 330 L/min

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Features

- Inserted cartridge
- Threaded connection
- Subplate mounting
- 3 pressure adjustment elements
 - Inner hexagon adjusting screw with protective cap
 - Adjusting handle
 - Adjusting handle with lock

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02

● =available

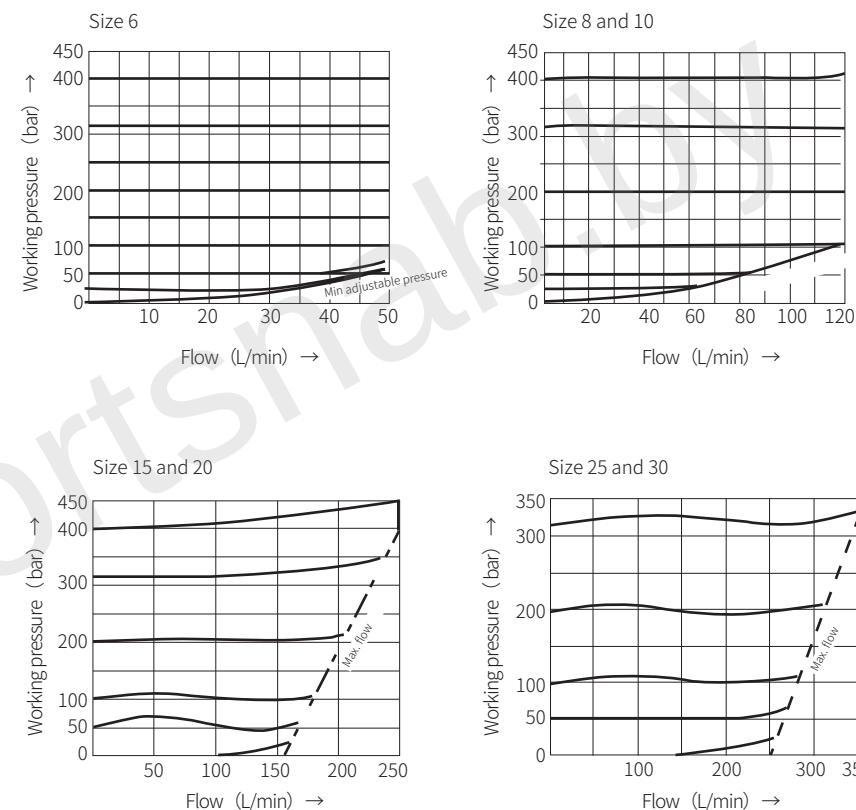
(Measured when using HLP46, $t_{oil} = 40^{\circ}\text{C} \pm 5^{\circ}\text{C}$)

Overview					
Size		6 and 8	10	15 and 20	25 and 30
Installation position		Optional			
Environment temperature range	°C	-30 to +80 (NBR seal) -20 to +80 (FKM seal)			
Minimum strength of valve body material		The selection of valve body material has been included in the safety factor in all condition (e.g. referenced pressure strength, thread strength and tightening torques.)			
Hydraulic					
Maximum working pressure	-inlet port bar -outlet port bar	400 315	630 315	400 315	315 315
Maximum flow rate (standard valve)		See characteristic curve			
Oil fluid		Mineral oil (HL, HLP) ¹⁾ in accordance with DIN 51524; Fast living organisms degraded oil according to VDMA 24568; HETG (Rapeseed oil) ¹⁾ HEPG(Polyethylene glycol) ²⁾ HEES (synthetic ester) ²⁾			
Oil temperature range	°C	-30 to +80 (NBR seal) -20 to +80 (FRM seal)			
Viscosity range	mm²/s	10 to 800			
Cleanliness of oil		The maximum allowable pollution level of oil is ISO4406 Class 20/18/15 ³⁾			

¹⁾ For NBR seal and FKM seal

²⁾ Only for FKM seal

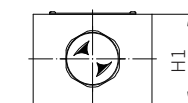
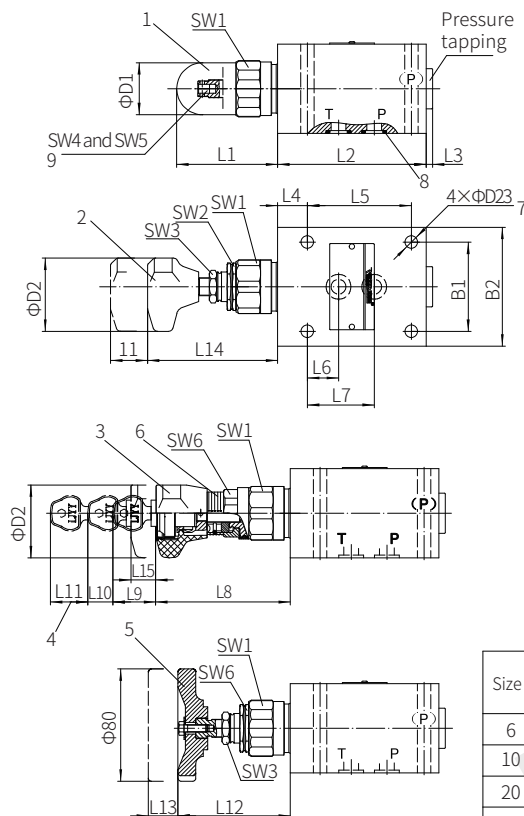
³⁾ The oil must meet the cleanliness degree requested by the components in the hydraulic system. Effect oil filtration can prevent failure and increase the service life of the components.



Note:

- This characteristic curve is valid for outlet pressure = 0 over the entire flow range, but no related to the pressure drop in the housing when measuring.
- The characteristic curve is valid only under the environment and temperature conditions. It is necessary to consider that the characteristic curve is affected by changes in boundary conditions.
- This characteristic curve is associated with the given pressure grade (e.g. 200bar). The more the setting pressure value differs from the nominal pressure rating (e.g. <200bar), the pressure increases with the relief flow increases.

Subplate mounting valve



Required surface finishing
of mating components

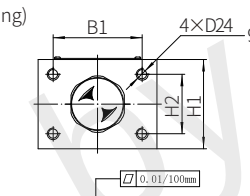
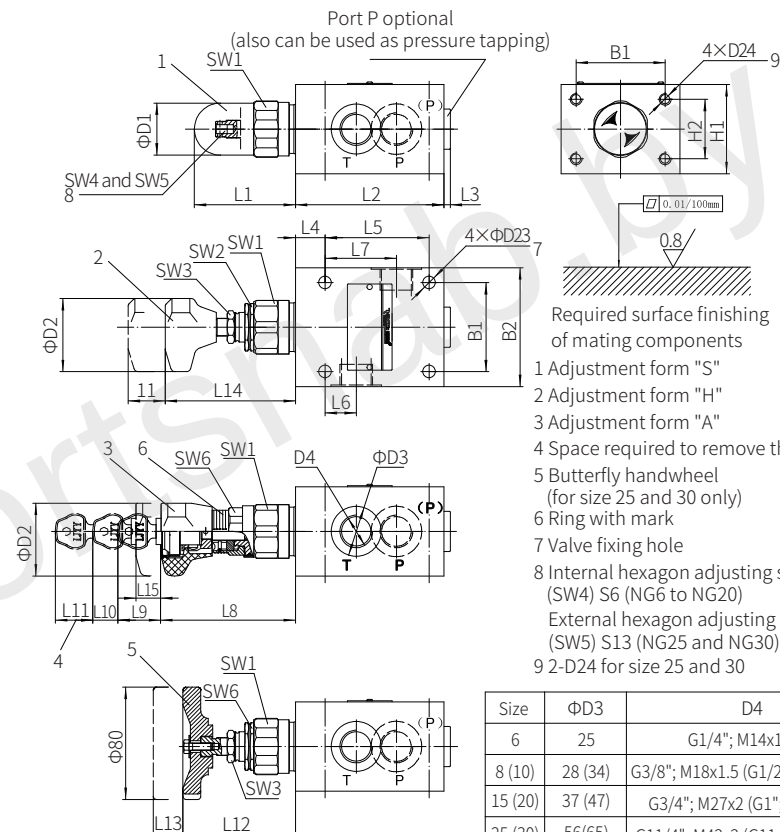
- 1 Adjustment form "S"
- 2 Adjustment form "H"
- 3 Adjustment form "A"
- 4 Space required to remove the key
- 5 Butterfly handwheel
(for size 25 and 30 only)
- 6 Ring with mark
- 7 Valve fixing hole
- 8 O-ring
- 9 Internal hexagon adjusting screw
(SW4) S6 (NG6 to NG20)
External hexagon adjusting screw
(SW5) S13 (NG25 to NG30)

Size	O-ring (P, T)	Size of pressure tapping	Valve fixing screw (10.9)	Torque (Nm)
6	7×1.5	G1/4	M6×50	10
10	12.3×2.4	G1/2	M8×70	25
20	22×3	G3/4	M8×90	25
30	34×3	G1 1/4	M10×110	50

Size	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13
6	72	80	2	15	55	20	40	83	30	11	20	-	-
10	68	100	3	20	70	21	45	79	30	11	20	-	-
20	65	135	4	20	100	34	65	-	-	-	-	-	-
30	83	180	4	25	130	35	85	-	-	-	-	79.5	11

Size	L14	L15	B1	B2	H1	ΦD23	ΦD1	ΦD2	SW1	SW2	SW3	SW4	SW5	SW6
6	83	11	45	60	40	6.6	34	60	32	30	19	6	-	30
10	79	11	60	80	60	9	38	60	36	30	19	6	-	30
20	77	-	70	100	70	9	48	60	46	36	19	6	-	30
30	-	-	100	130	90	11	63	-	60	46	19	-	13	-

Threaded connection



Required surface finishing
of mating components

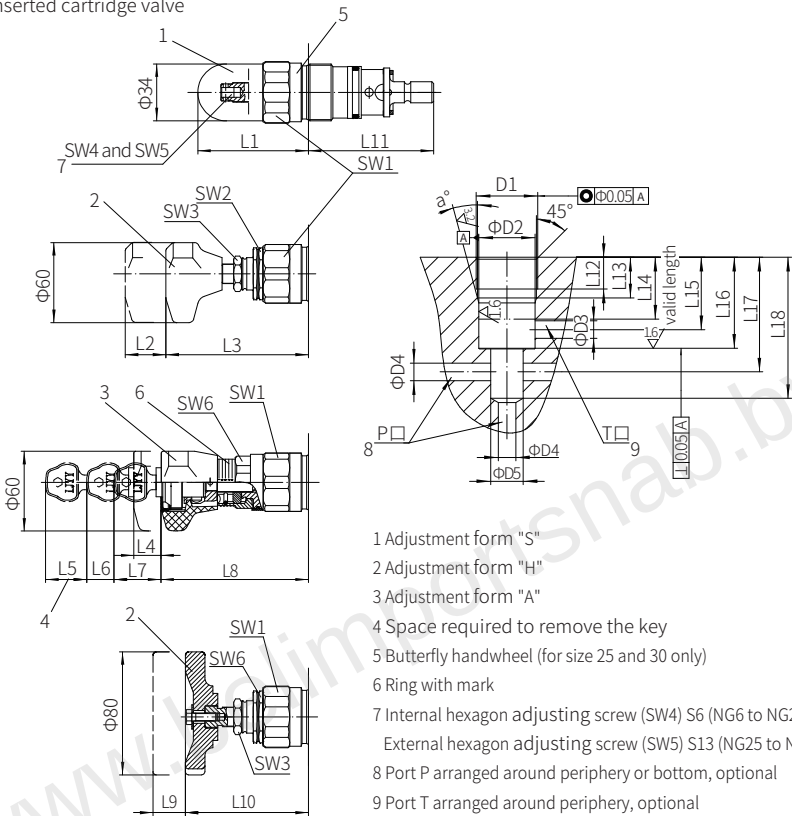
- 1 Adjustment form "S"
- 2 Adjustment form "H"
- 3 Adjustment form "A"
- 4 Space required to remove the key
- 5 Butterfly handwheel
(for size 25 and 30 only)
- 6 Ring with mark
- 7 Valve fixing hole
- 8 Internal hexagon adjusting screw
(SW4) S6 (NG6 to NG20)
External hexagon adjusting screw
(SW5) S13 (NG25 to NG30)
- 9 2-D24 for size 25 and 30

Size	ΦD3	D4
6	25	G1/4"; M14x1.5
8 (10)	28 (34)	G3/8"; M18x1.5 (G1/2"; M22x1.5)
15 (20)	37 (47)	G3/4"; M27x2 (G1"; M33x2)
25 (30)	56 (65)	G1 1/4"; M42x2 (G1 1/2"; M48x2)

Size	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13	D24
6	72	80	2	15	55	20	40	83	30	11	20	-	-	M6
8, 10	68	100	3	20	70	21	48	79	30	11	20	-	-	M8
15, 20	65	135	4	20	100	34	65	-	-	-	-	-	-	M8
25, 30	83	180	4	25	130	35	85	-	-	-	-	79.5	11	M10

Size	L14	L15	B1	B2	H1	ΦD23	ΦD1	ΦD2	SW1	SW2	SW3	SW4	SW5	SW6
6	83	11	45	60	40	6.6	34	60	32	30	19	6	-	30
8, 10	79	11	60	80	60	9	38	60	36	30	19	6	-	30
15, 20	77	-	70	100	70	9	48	60	46	36	19	6	-	30
25, 30	-	-	100	130	90	11	63	-	60	46	19	-	13	-

Inserted cartridge valve



- 1 Adjustment form "S"
- 2 Adjustment form "H"
- 3 Adjustment form "A"
- 4 Space required to remove the key
- 5 Butterfly handwheel (for size 25 and 30 only)
- 6 Ring with mark
- 7 Internal hexagon adjusting screw (SW4) S6 (NG6 to NG20)
External hexagon adjusting screw (SW5) S13 (NG25 to NG30)
- 8 Port P arranged around periphery or bottom, optional
- 9 Port T arranged around periphery, optional

Size	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13
6	72	11	83	11	20	11	30	83	-	-	64.5	15	19
8, 10	68	11	79	11	20	11	30	79	-	-	77	18	23
15, 20	65	11	77	-	-	-	-	-	-	-	106	21	27
25, 30	83	-	-	-	-	-	-	-	11	79.5	131	23	29

Size	L14	L15	L16	L17	L18	$\Phi D1$	$\Phi D2$	$\Phi D3$	$\Phi D4$	$\Phi D5$	a
6	39	35	45	56.5 ± 15.5	65	$M28 \times 1.5$	25H9	6	6	15	15
8, 10	35	41	52	67.5 ± 7.5	80	$M35 \times 1.5$	32H9	10	10	18.5	15
15, 20	45	54	70	91.5 ± 8.5	110	$M45 \times 1.5$	40H9	20	20	24	20
25, 30	45	60	84	113.5 ± 11.5	140	$M60 \times 2$	55H9	30	30	38.75	20