

Pressure Control Valves Series



- B.1.1–1.4 Relief valve
- B.2.1–2.3 Sequence valve
- B.3.1–3.5 Unloading relief valve
- B.4.1–4.2 Direct–operated–reducing valve
- B.5.1–5.3 Pressure reducing valve
- B.6.1–6.3 Modular relief valve
- B.7.1–7.3 Modular reducing valve
- B.8.1–8.3 Modular counter–balance valve

Relief Valve

Technical specification



Specification	03		06		10
	10	15	20	25	30
Max. Flow (L/min)	250	500	500	500	650
Max. working pressure (MPa)	35				
Working fluid	Mineral oil; phosphate-ester				
Fluid temp. (°C)	-20~70				
Viscosity (mm ² /s)	12~380				
Working press (MPa)	5	10	20	31.5	35
Cleanliness	The maximum allowable cleanliness of the oil should be according to 9th degree of Standard NAS1638. It is suggested that the minimum filter rating should be $\beta_{10} \geq 75$.				

The relief valve is a pressure control valve. It maintains constant pressure at inlet by discharging excess fluid in the system. Solenoids relief valve is a combination of electromagnetic directional valve and pilot-operated pressure relief valve, it is used to control or unload multi-stage pressure in hydraulic system.

Model description

Y * * - * * - * * - * * / * * * * / * / * * 50 *

Relief valve

Omit without solenoids directional valve
W With solenoids directional valve

Omit Pilot operated valve
C Pilot operated without main cartridge (not marked diameter)
Pilot operated with main cartridge (marked diameter)

Specification

Subplate	Pipeline	DN	Screw thread connector
03	10	10	G1/2" or M22x1.5
	15	15	G3/4" or M27x2
06	20	20	G1" or M33x2
	25	25	G1 1/4" or M42x2
10	30	30	G1 1/2" or M48x2

Omit Subplate connection
G Pipe type connection-G Scew
G2 Pipe type connection-M Scew

Working pressure
5 to 5MPa
10 to 10MPa
20 to 20MPa
31.5 to 31.5MPa
35 to 35MPa

A Always close¹⁾
B Always open

1 Rotary knob
2 Sleeve with hehagon and protective cap

Remarks

Serial number

Seal material
Omit NBR Seals
V FPM Seals

Pilot operated drainage port thread
Omit G1/4"
2 M14X1.5

Omit No damping²⁾
08 Φ 0.8 Damping
10 Φ 1.0 Damping
12 Φ 1.2 Damping

Omit without push rod emergency³⁾
N9 with concealed push rod emergency

Z5L Square connector with light⁴⁾

Working voltage⁵⁾
D12 DC12V
D24 DC24V
A110 AC110V
A220 AC220V
B110 (B110V Rectified)
B220 (B220V Rectified)

Omit Standard Type⁶⁾
U minimum setting pressure is lower type

Omit Intl cntrl intl disch
X Extl cntrl intl disch
Y Intl cntrl extl disch
XY Extl cntrl extl disch

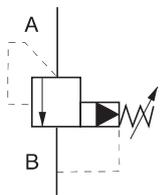
Relief Valve

Notice explanation

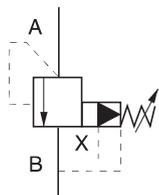
1. Item 1),2),3),4),5) is used in YW solenoid relief valves
2. Item 2) damping is fixed at port B of solenoid directional valves
3. 6) Type U characteristic refer to the curve

Code symbol

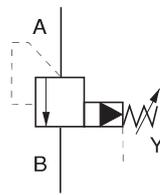
Y..



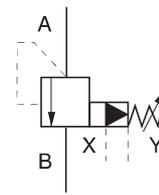
Y..X/..



Y..Y/..

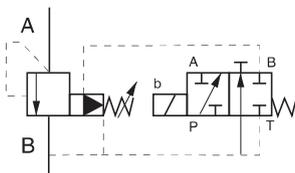


Y..XY/..



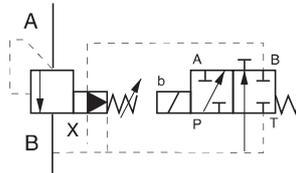
YW..

Always close



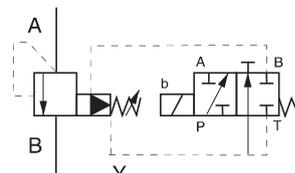
YW..X/

Always close



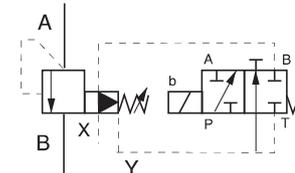
YW..Y/

Always close

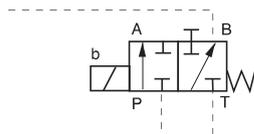


YW..XY/

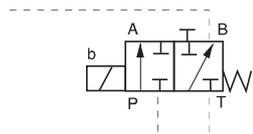
Always close



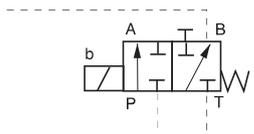
Always open



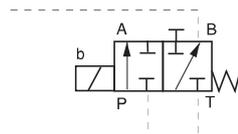
Always open



Always open



Always open

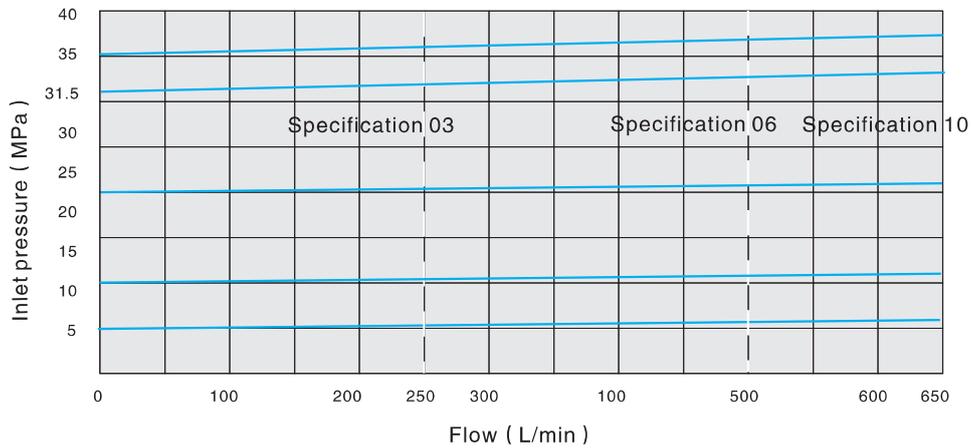


Relief Valve

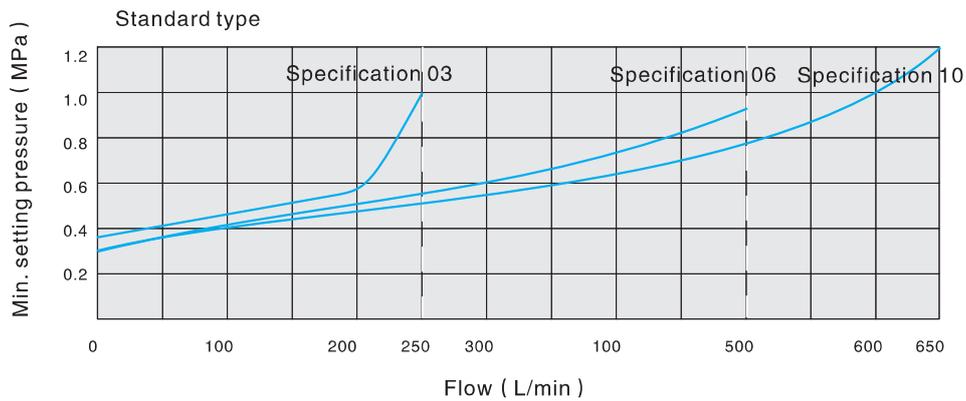
Performance curve (Measured at $v=41\text{mm}^2/\text{s}$ and $t=50^\circ\text{C}$)

- 1) The characteristic curves were measured with external, pressureless, pilot oil drain.
- 2) In the case of internal pilot oil drain, the inlet pressure increases by the outlet pressure in port T.

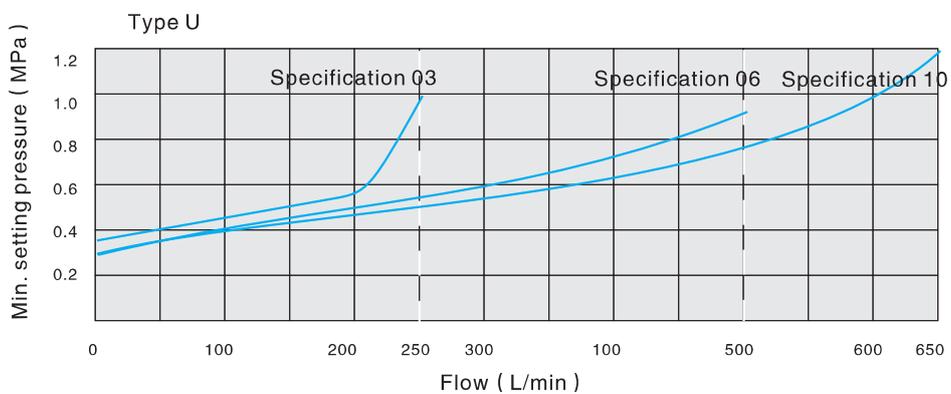
Working Pressure in relation to flow



Minimum set pressure and circulation pressure in dependence upon the flow standard version.



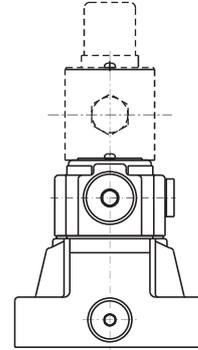
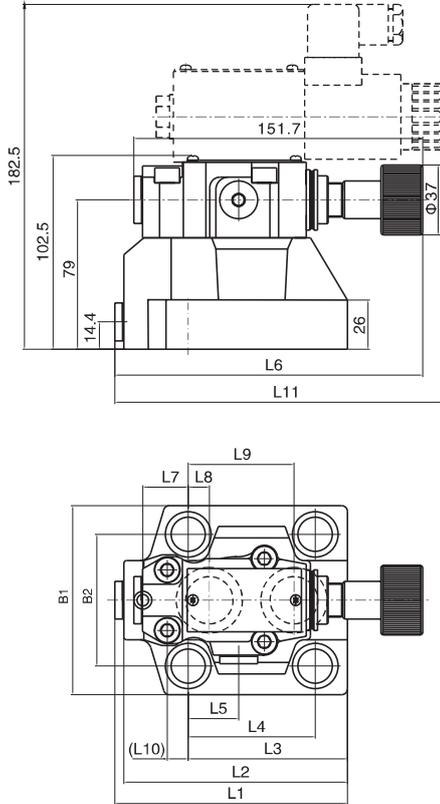
Minimum set pressure and circulation pressure in dependence upon the flow version "u"



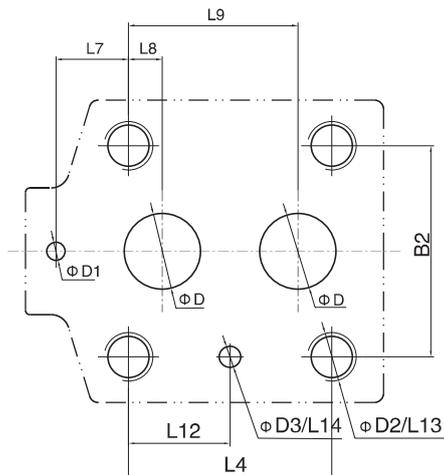
The characteristic curves are valid for outlet pressure B:0 over the entire flow range.

Relief Valve

External dimensions



Subplate mounting size



Specification	Mounting screw	Tighten torque
Y/YW-03	M12x45-10.9	130Nm
Y/YW-06	M16x50-10.9	310Nm
Y/YW-10	M18x50-10.9	430Nm

Notice: The surface, connecting with the valve, should be Ra0.8 roughness, and 0.01/100mm flatness.

Specification	B1	B2	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13	L14	D	D1	D2	D3
Y/YW-03	78	54	98.5	91.5	67	54	23.5	149.3	0	22.1	47.5	14	159.7	22.1	20	5	12	6	M12	7
Y/YW-06	100	69.8	122.2	117.5	83.7	66.7	26.5	161.8	23.8	11.1	55.6	11	172.2	33.3	25	6	25	6	M16	7
Y/YW-10	115	82.6	154.5	149.5	106.9	88.9	28.1	172.5	31.8	12.7	76.2	9.4	182.9	44.4	30	6	32	6	M18	7

Sequence Valve

Technical specification



Specification	03	06	10
Max. working pressure (MPa)	31.5		
Max. Flow (L/min)	250	500	600
Working fluid	Mineral oil; phosphate-ester		
Fluid temp. (°C)	-20~70		
Viscosity (mm ² /s)	12~380		
Working press (MPa)	5	10	20 31.5
Cleanliness	The maximum allowable cleanliness of the oil should be according to 9th degree of Standard NAS1638. It is suggested that the minimum filter rating should be $\beta_{10} \geq 75$.		

YS pilot-operated sequence valve is used to control action sequence of actuators in hydraulic systems so as to achieve automatic control. By changing the control mode, it can serve as back pressure valve, unload valve, bypass valve and sequence valve. In addition, an internal supply internal discharge or an external supply internal discharge sequence valve can also be used as a balance valve if it includes a check valve.

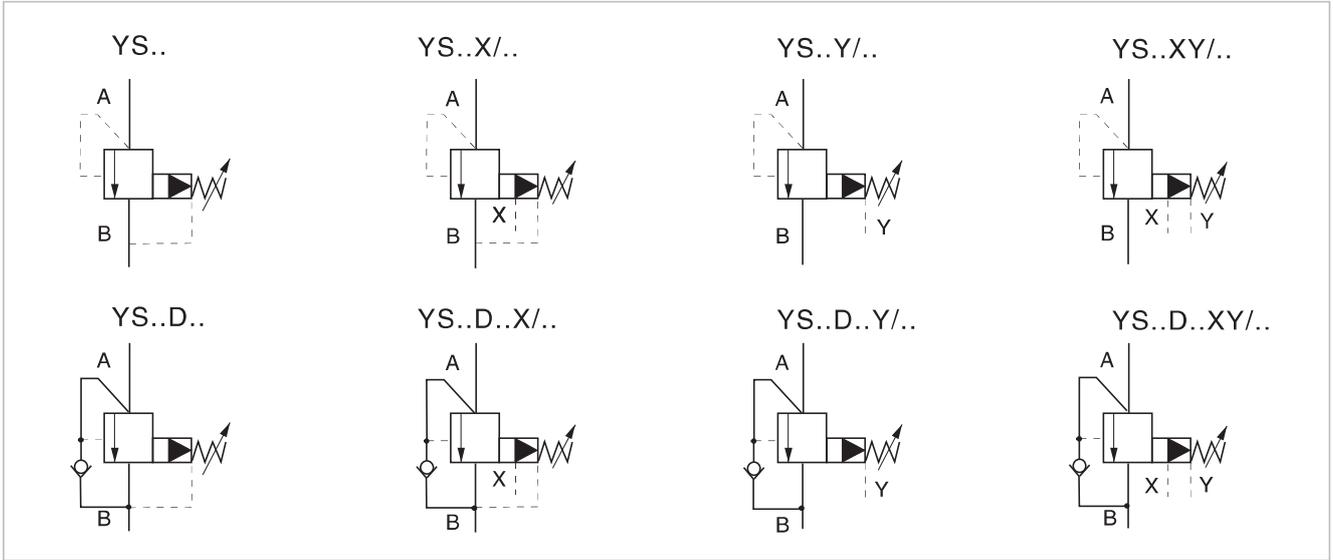
Model description

YS * - * - * * - * * / * * 50 *

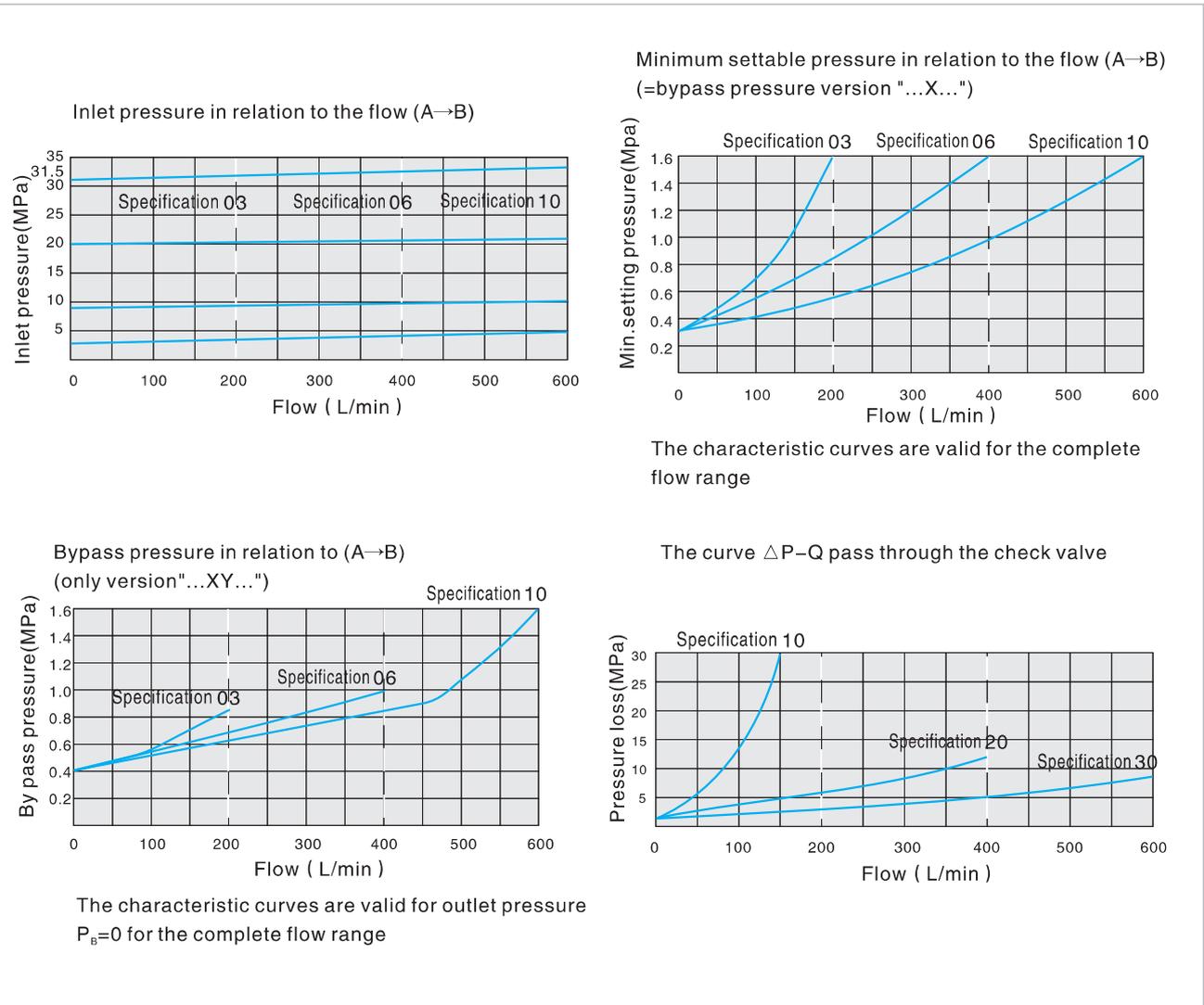
<p>Sequence valve</p> <p>Pilot operated valve Omit Pilot operated without main cartridge (not marked diameter) C Pilot operated with main cartridge (marked diameter)</p> <p>Specification 03 DN10 06 DN20 10 DN30</p> <p>Working press 5 to 5MPa 10 to 10MPa 20 to 20MPa 31.5 to 31.5MPa 35 to 35MPa</p> <p>Omit Without check valve D With check valve</p>	<p>YS</p> <p>*</p> <p>-</p> <p>*</p> <p>-</p> <p>*</p> <p>*</p> <p>-</p> <p>*</p> <p>*</p> <p>/</p> <p>*</p> <p>*</p> <p>50</p> <p>*</p>	<p>Remarks</p> <p>Serial number</p> <p>Seal material Omit NBR Seals V FPM Seals</p> <p>Pilot operated drainage port thread Omit G1/4" M M14X1.5</p> <p>Omit Intl cntrl intl disch X Extl cntrl intl disch Y Intl cntrl extl disch XY Extl cntrl extl disch</p> <p>1 Rotary knob 2 Sleeve with hexagon and protective cap</p>
--	--	--

Sequence Valve

Code symbol



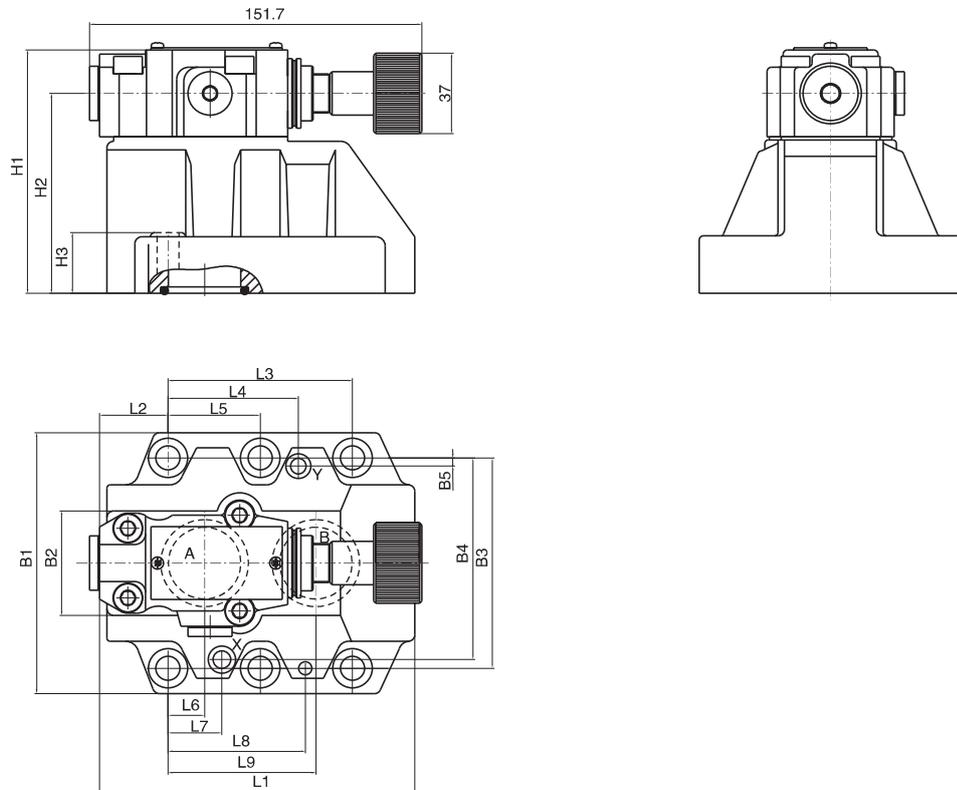
Performance curve (Measured at: Test under $\nu=41\text{mm}^2/\text{s}$ and $t=50^\circ\text{C}$)



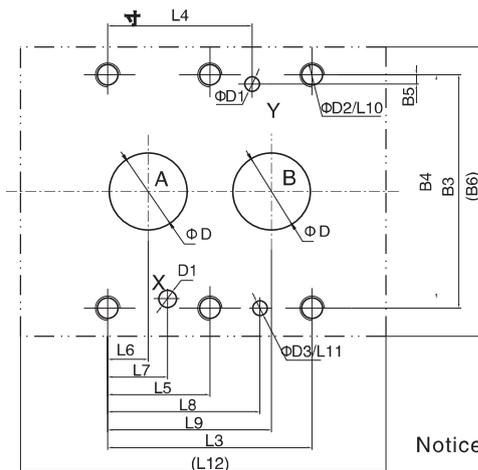
B.2.2

Sequence Valve

External dimensions



Subplate mounting size



Specification	Mounting screw	Tighten torque
YS-03	4-M10x50-10.9	75Nm
YS-06	4-M10x60-10.9	75Nm
YS-10	6-M10x70-10.9	75Nm

Notice: The surface, connecting with the valve, should be Ra0.8 roughness, and 0.01/100mm flatness.

Model	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	B1	B2	B3	B4	B5	B6	H1	H2	H3	D	D1	D2	D3
YS-03	96	35.5	42.9	21.5	-	7.2	21.5	31.5	35.8	23	6	98	85	80	66.7	58.8	7.9	87	112	92	28	12	6	M10	7
YS-06	116	37.5	60.3	39.7	-	11.1	20.6	44.5	49.2	24	6	118	102	59.5	79.4	73	6.4	104	122	102	38	25	6	M10	7
YS-10	145	33	84.2	59.5	42.1	16.7	24.6	62.7	67.5	25	6	147	120	76	96.8	92.8	3.8	149	130	110	46	32	6	M10	7

Unloading Relief Valve

Technical specification



Specification	03	06	10	
Max. working pressure (MPa)	31.5			
Max. Flow (L/min)	10%	40	80	120
	7%	60	120	240
Working fluid	Mineral oil; phosphate-ester			
Fluid temp. (°C)	-20~70			
Viscosity (mm ² /s)	12~380			
Working press (MPa)	5	10	20	31.5
Cleanliness	The maximum allowable cleanliness of the oil should be according to 9th degree of Standard NAS1638. It is suggested that the minimum filter rating should be $\beta_{10} \geq 75$.			

YX/YXW valve is a pilot-operated unloading valve. Its function is to switch two situations in hydraulic system, by adjusting handle to set the working pressure or unloading pressure. Pump will be unloading automatically by controlling electrical magnetic.

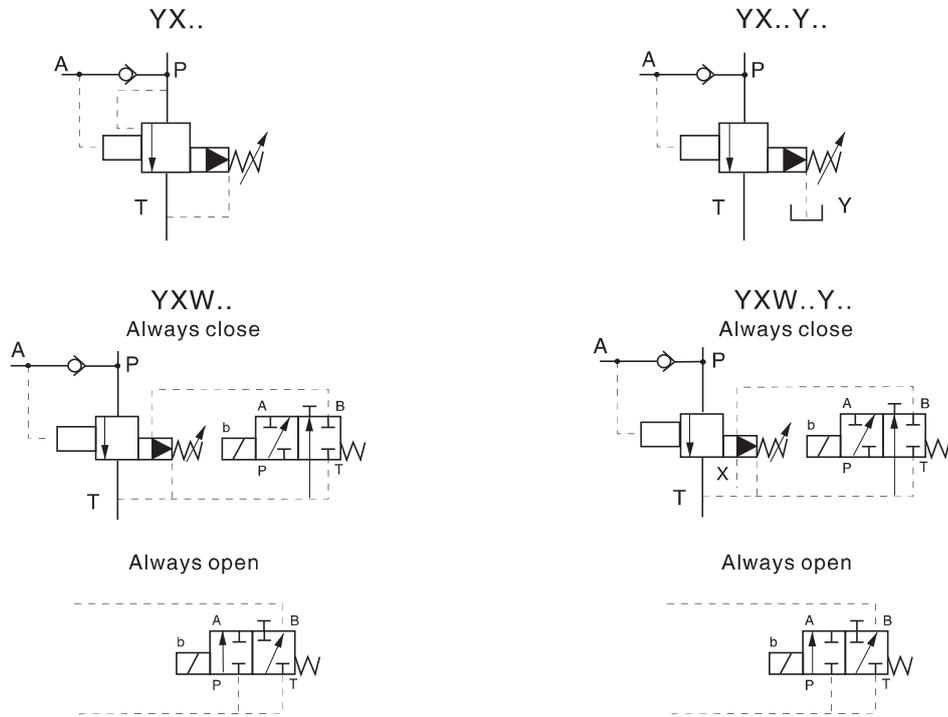
Model description

Unloading Relief Valve	YX * * - * - * * - * * / * * * * / * / * * 50 *	Remarks
Omit without solenoids directional valve W With solenoids directional valve		Serial number
Pilot operated valve Omit Pilot operated without main cartridge (not marked diameter) C Pilot operated with main cartridge (marked diameter)		Seal material Omit NBR Seals V FPM Seals
Specification 03 DN10 06 DN20 10 DN30		Pilot operated drainage port thread Omit G1/4" M M14X1.5
Working pressure 5 to 5MPa 10 to 10MPa 20 to 20MPa 31.5 to 31.5MPa		Omit No damping ²⁾ 08 $\Phi 0.8$ Damping 10 $\Phi 1.0$ Damping 12 $\Phi 1.2$ Damping
A Always closed ¹⁾ B Always open		Omit without push rod emergency ³⁾ N9 with concealed push rod emergency
1 Rotary knob 2 Sleeve with hexagon and protective cap		Z5L Square connector with light ⁴⁾
Omit Intl cntrl intl disch Y Intl cntrl extl disch		Working voltage ⁵⁾ D12 DC12V D24 DC24V A110 AC110V A220 AC220V B110 (A110V Rectified) B220 (A220V Rectified)
		Switching differential pressure (P→A) 10 on average 17 on average

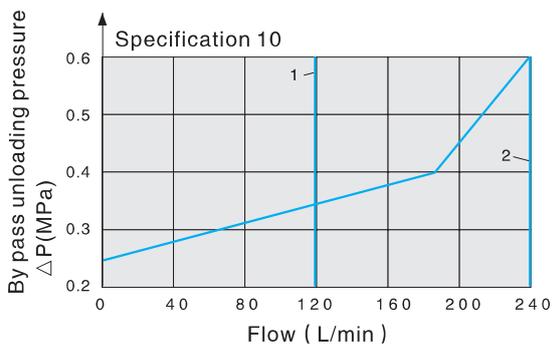
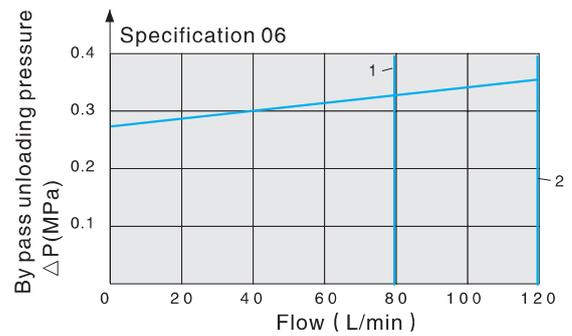
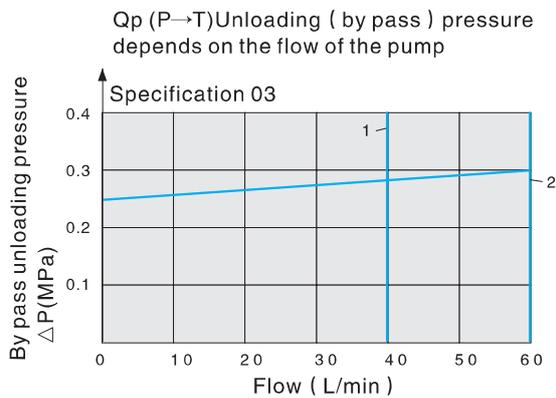
Explanation: 1. 1), 2), 3), 4), 5) is used in YXW solenoids relief valves
 2. 2) damping is fixed at the B oil port of the solenoids directional valves

Unloading Relief Valve

Code symbol



Performance curve (Measured at $v = 41 \text{ mm}^2/\text{s}$ and $t = 50^\circ\text{C}$)



1. Q_{pmax} is used in type 10%

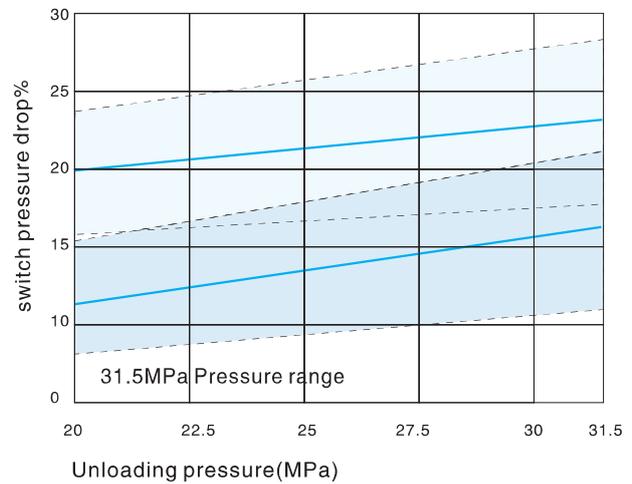
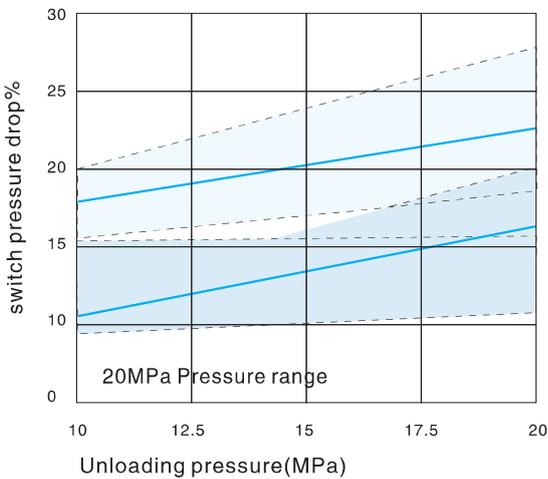
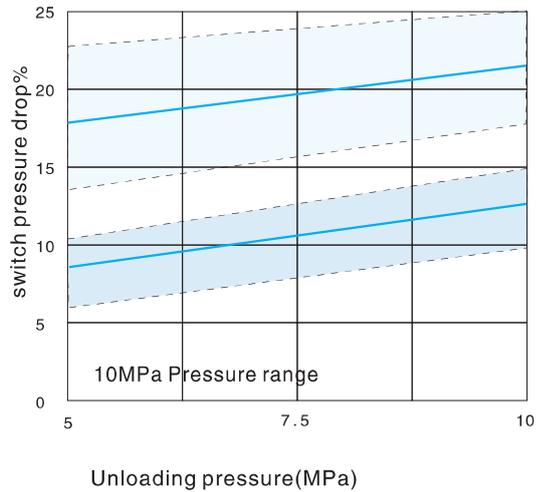
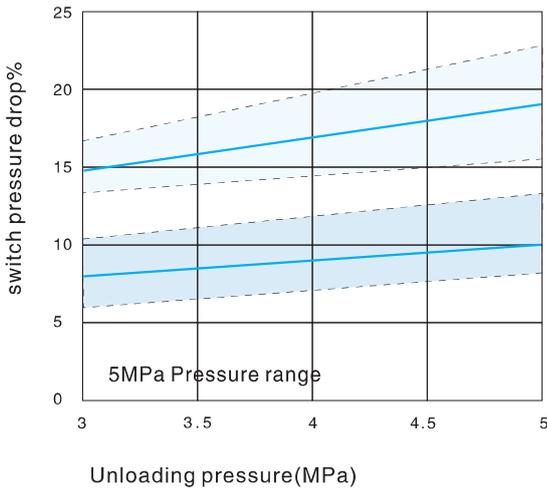
2. Q_{pmax} is used in type 17%

The characteristic curves are valid for outlet pressure $P_T = 0$ for complete flow range.

Unloading Relief Valve

Performance curve (Measured at $v=41\text{mm}^2/\text{s}$ and $t=50^\circ\text{C}$)

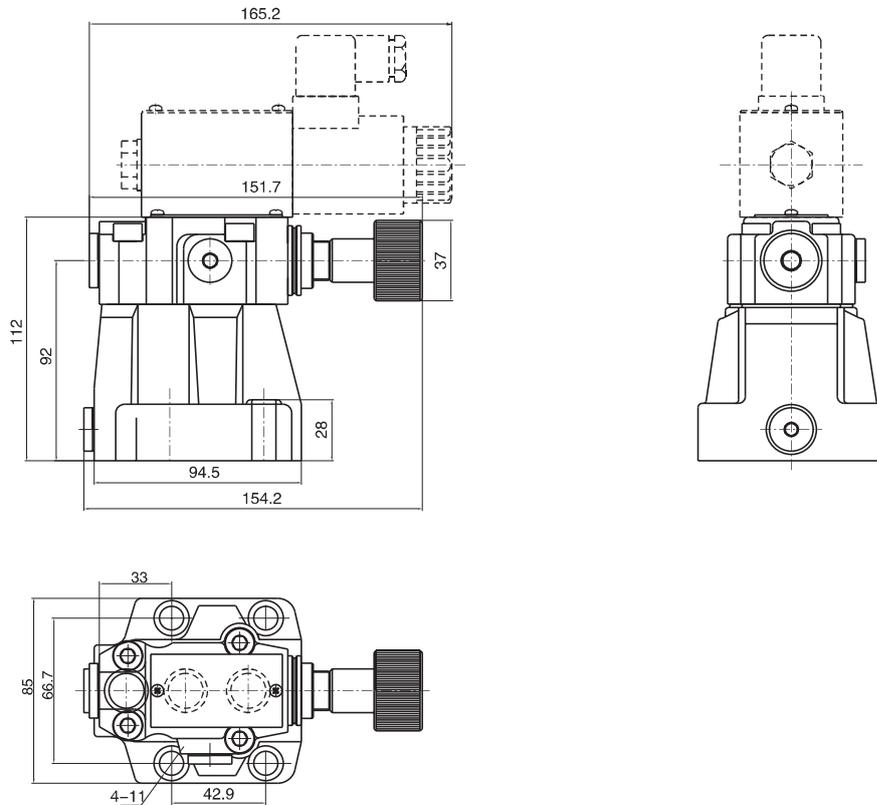
Switching differential pressure (P→A) depending on cut-off pressure P_o (Type DA)



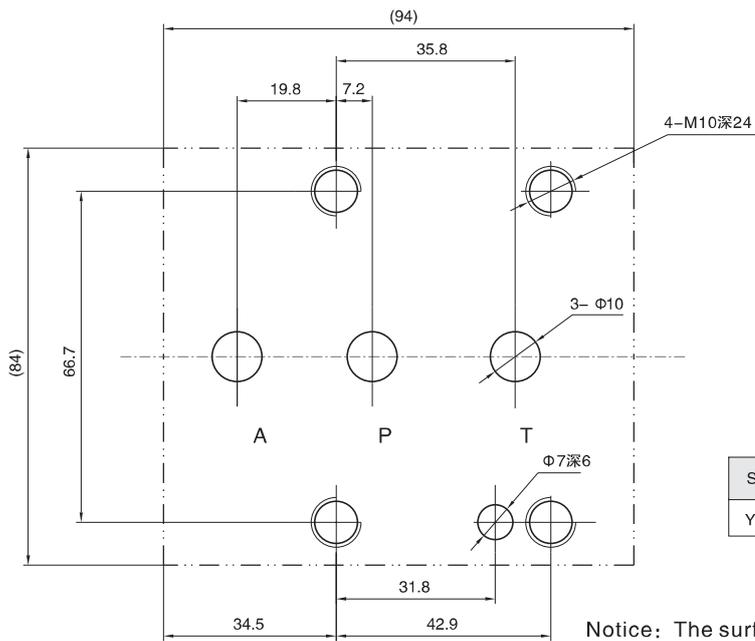
Scatter range of type 17%
 Scatter range of type 10%

Unloading Relief Valve

03 External dimensions



03 Subplate mounting size

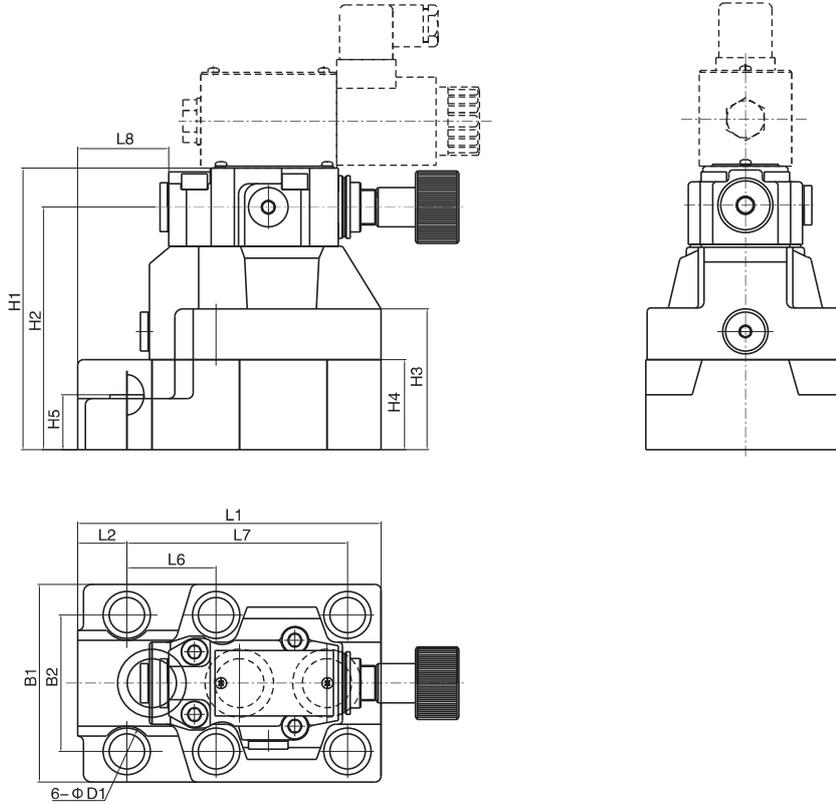


Specification	Mounting screw	Tighten torque
YX/YXW-03	4-M10x50-10.9	130Nm

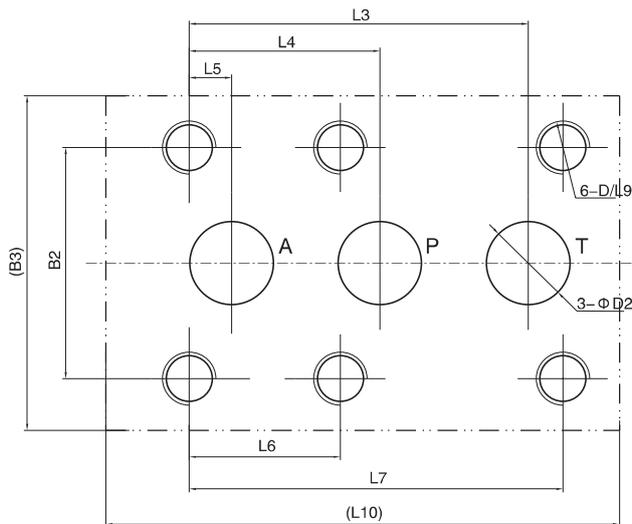
Notice: The surface, connecting with the valve, should be Ra0.8 roughness, and 0.01/100mm flatness.

Unloading Relief Valve

06、10 External dimensions



06、10 Subplate mounting size



Specification	Mounting screw	Tighten torque
YX/YXW-06	4-M16x100-10.9 2-M16x60-10.9	310Nm
YX/YXW-10	4-M18x120-10.9 2-M18x80-10.9	430Nm

Notice: The surface, connecting with the valve, should be Ra0.8 roughness, and 0.01/100mm flatness.

Specification	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	B1	B2	B3	H1	H2	H3	H4	H5	D	D1	D2
YX/YXW-06	154	25	101.6	57.1	12.7	46	112.7	46.3	34	156	101	69.9	103	144	124	72	46	28	M16	18	25
YX/YXW-10	199	42	127	63.5	12.7	50.8	139.7	67.9	37	201	118.5	82.5	118.5	165	145	93	87	45	M18	20	32

Direct-operated Reducing Valve

Technical specification



Specification	05
Max. working pressure (MPa)	31.5
Max. Flow (L/min)	15
Working fluid	Mineral oil; phosphate-ester
Fluid temp. (°C)	-20~80
Viscosity (mm ² /s)	-2.8~500
Cleanliness	The maximum allowable cleanliness of the oil should be according to 9th degree of Standard NAS1638. It is suggested that the minimum filter rating should be $\beta 10 \geq 75$.

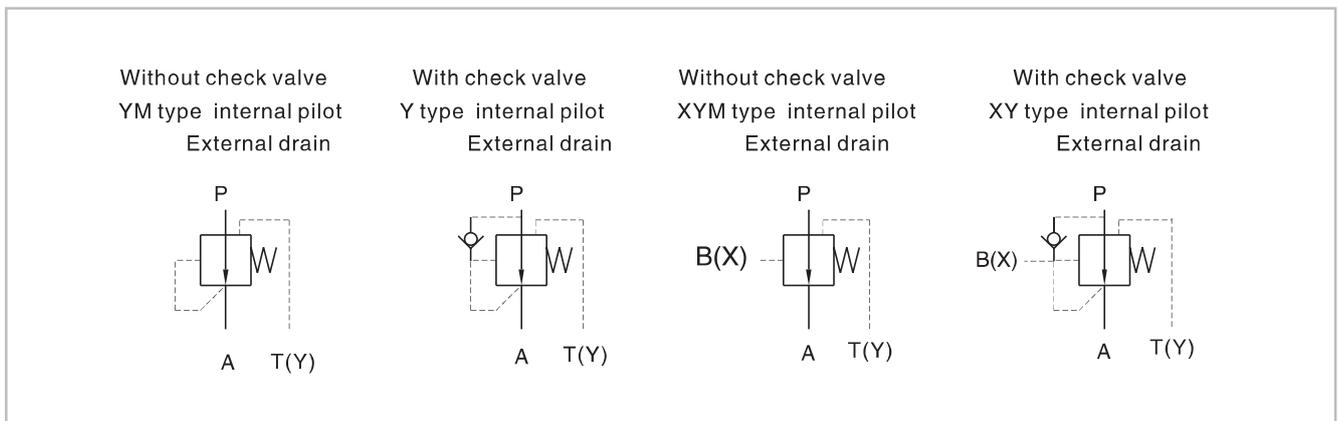
HYDR5DP is direct-operated reducing valve for pressure relief in minor circuit, used to reducing pressure in some circuit of the system

Model description

HY * DR5DP - * - * * / 50 *

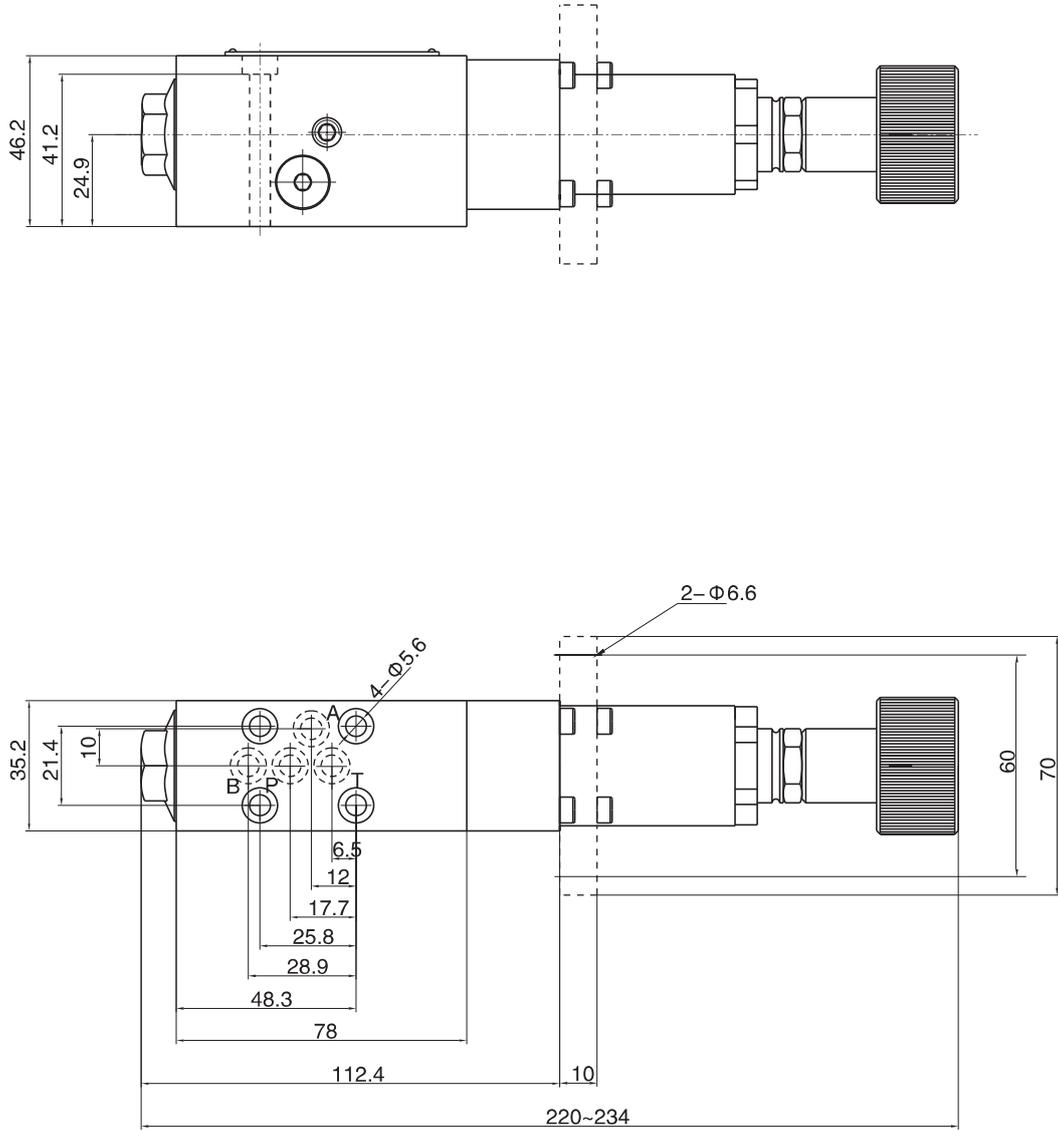
<p>Omit F</p> <p>Subplate mounting Front flange mounting</p>	<p>Direct-operated reducing valve</p> <p>Working press 2.5 upto 2.5MPa 7.5 upto 7.5MPa 15 upto 15MPa 21 upto 21MPa 31.5 to 31.5MPa</p>	<p>Remarks</p> <p>Serial number</p> <p>Omit M</p> <p>With check valve Without check valve</p> <p>Y Intl cntrl extl disch XY Ext cntrl ext disch</p>	
--	--	---	--

Code symbol



Pressure Reducing Valve

External dimensions



Specification	Mounting screw	Tighten torque
DR5DP-15	4-M5x30-10.9	9Nm

Pressure Reducing Valve

Technical specification



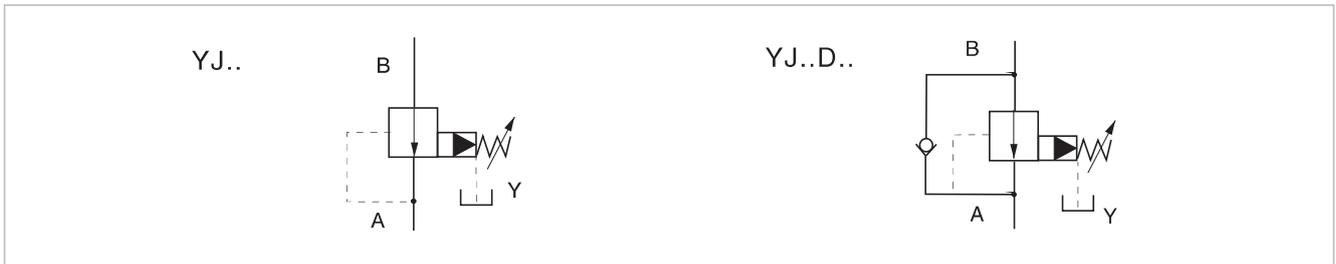
Specification	03	06
Max. working pressure (MPa)	31.5	
Max. Flow (L/min)	150	300
Working fluid	Mineral oil; phosphate-ester	
Fluid temp. (°C)	-20~70	
Viscosity (mm ² /s)	12~380	
Working pressure (MPa)	5	10 20 31.5
Cleanliness	The maximum allowable cleanliness of the oil should be according to 9th degree of Standard NAS1638. It is suggested that the minimum filter rating should be $\beta_{10} \geq 75$.	

The YJ pilot-operated reducing valve is controlled by the pilot and mainly used to reduce the pressure of a certain loop in the hydraulic system. It is suitable for hydraulic systems with a large flow rate.

Model description

<p>Pressure Reducing Valve</p> <p>Pilot operated valve Omit Pilot operated without main cartridge (not marked diameter) C Pilot operated with main cartridge (marked diameter)</p> <p>Specification 03 DN10 06 DN20</p> <p>Omit Subplate type connection</p> <p>Working press 5 to5MPa 10 to10MPa 20 to20MPa</p>	<p>YJ * - * - * * - * Y / * * 50 *</p>	<p>Remarks</p> <p>Serial number</p> <p>Seal material Omit NBR Seals V FPM Seals</p> <p>Pilot operated drainage port thread Omit G1/4" M M14X1.5</p> <p>1 Rotary knob 2 Sleeve with hexagon and protective cap</p> <p>Omit Without check valve D With check valve</p>
--	--	--

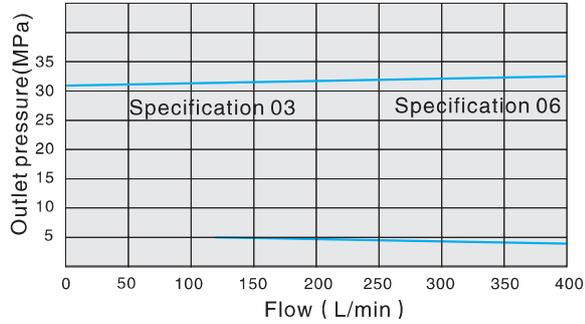
Code symbol



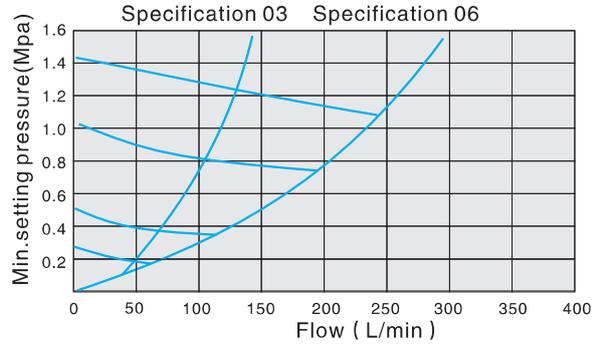
Pressure Reducing Valve

Performance curve (Test condition: Test under $\nu=41\text{mm}^2/\text{s}$ and $t=50^\circ\text{C}$)

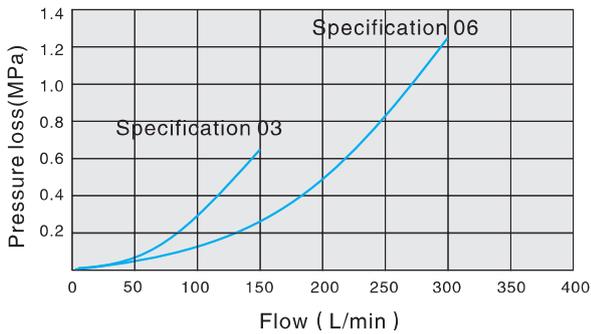
Inlet pressure in relation to the flow



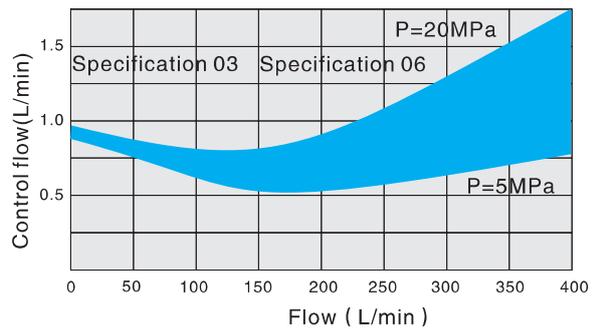
Minimum settable pressure in relation to the flow (A→B)
(=bypass pressure version "...X...")



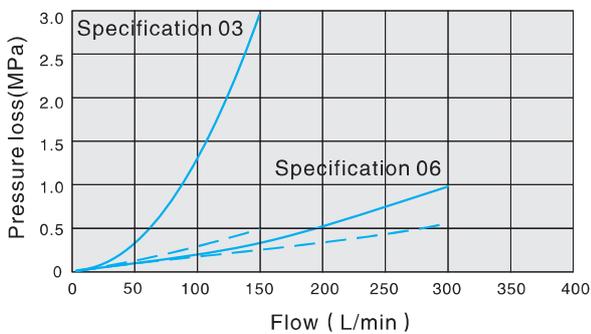
Inlet pressure in relation to the flow



Inlet pressure in relation to the flow



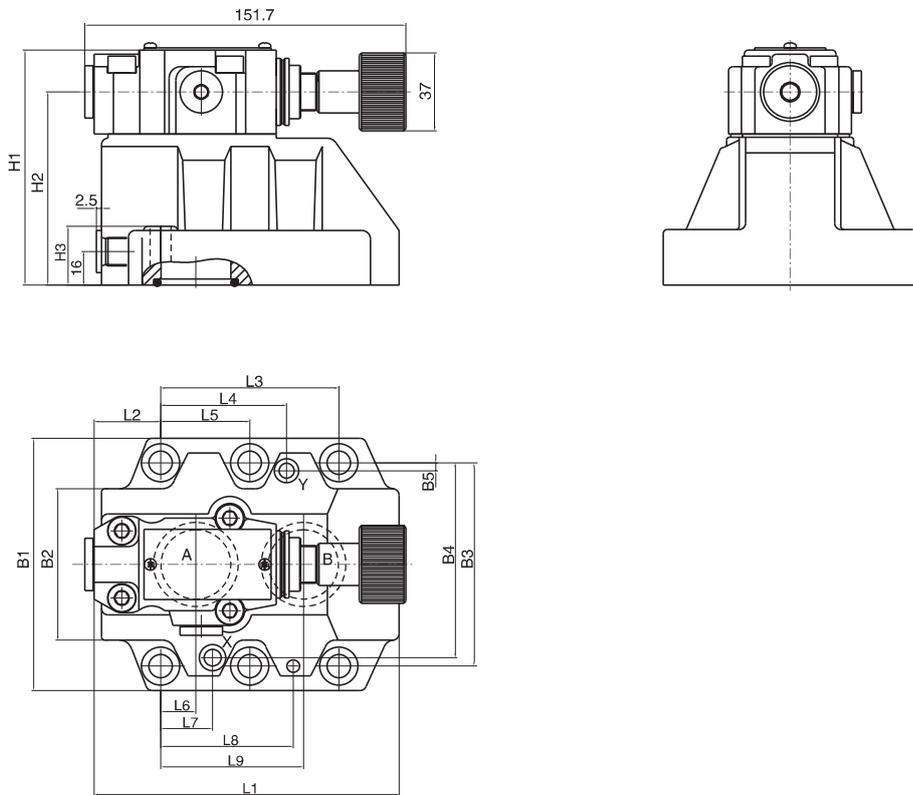
The curve $\Delta P-Q$ pass through the check valve



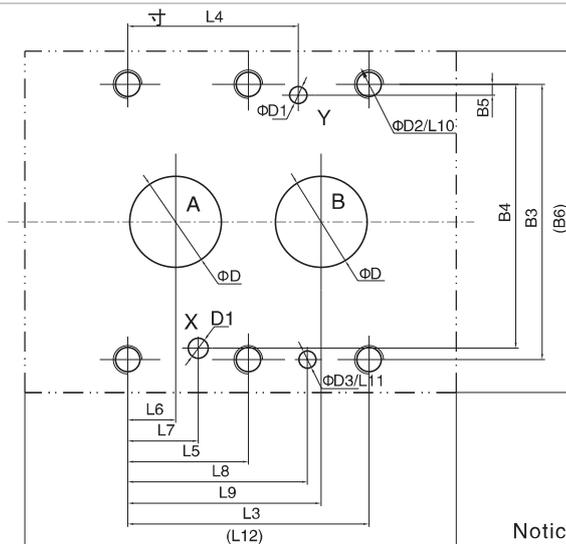
- The flow resistance through the check valve, when the main valve is closed
- - - The flow friction through the check valve, when the main valve is open

Pressure Reducing Valve

External dimensions



Subplate mounting size



Specification	Mounting screw	Tighten torque
YJ-03	4-M10X50-10.9	75Nm
YJ-06	4-M10X60-10.9	75Nm

Notice: The surface, connecting with the valve, should be Ra0.8 roughness, and 0.01/100mm flatness.

Model	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	B1	B2	B3	B4	B5	B6	H1	H2	H3	D	D1	D2	D3
YJ-03	96	35.5	42.9	21.5	-	7.2	21.5	31.5	35.8	23	6	98	85	50	66.7	58.8	7.9	87	112	92	28	12	6	M10	7
YJ-06	116	37.5	60.3	39.7	-	11.1	20.6	44.5	49.2	24	6	118	102	59.5	79.4	73	6.4	104	122	102	38	25	6	M10	7

Modular Relief Valve



Technical specification



Specification	02	03	
Max. working pressure (MPa)	31.5		
Max. Flow (L/min)	35	70	
Working fluid	Mineral oil; phosphate-ester		
Fluid temp. (°C)	-20~70		
Viscosity (mm ² /s)	12~380		
Working press (MPa)	7	14	21 31.5
Cleanliness	The maximum allowable cleanliness of the oil should be according to 9th degree of Standard NAS1638. It is suggested that the minimum filter rating should be $\beta_{10} \geq 75$.		

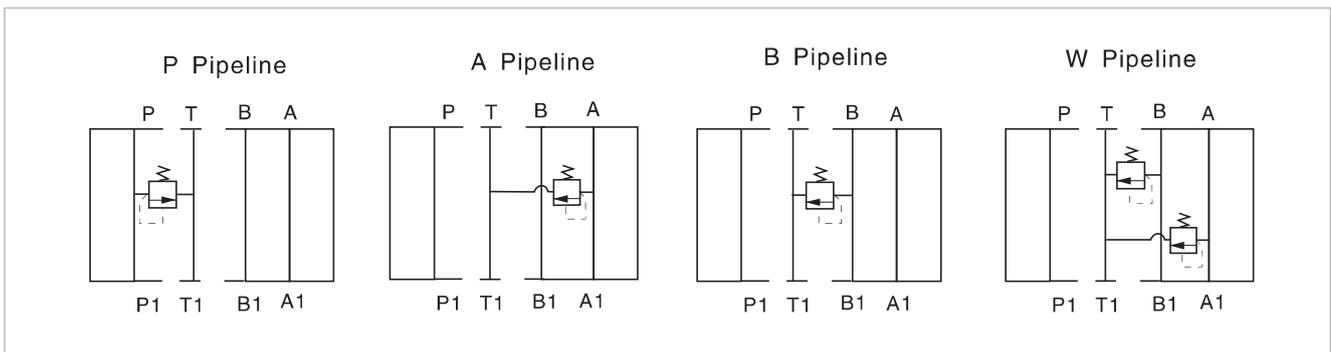
B.6.1

Model description

DY - * - * - * / * 70 *

<p>Modular relief valve</p> <p>Specification 02 DN 6 03 DN 10</p> <p>P P Pipeline relief A A Pipeline relief B B Pipeline relief W A B Pipeline relief</p> <p>Working pressure 5 to 5MPa 10 to 10MPa 20 to 20MPa 31.5 to 31.5MPa</p>	<p>Remarks</p> <p>Serial number</p> <p>Seal material Omit NBR Seals V FPM Seals</p> <p>8 Handle</p>
--	---

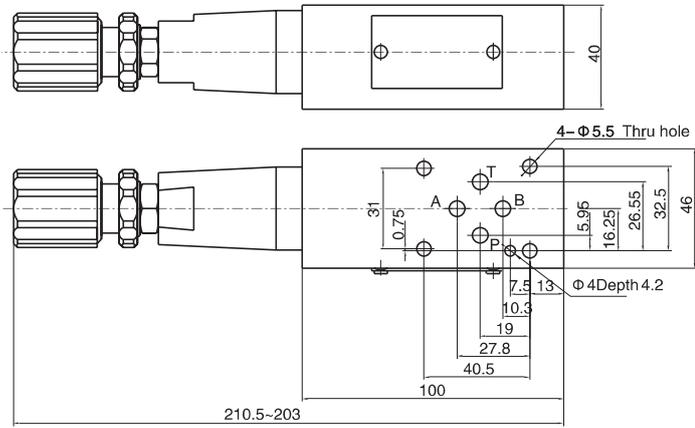
Code symbol



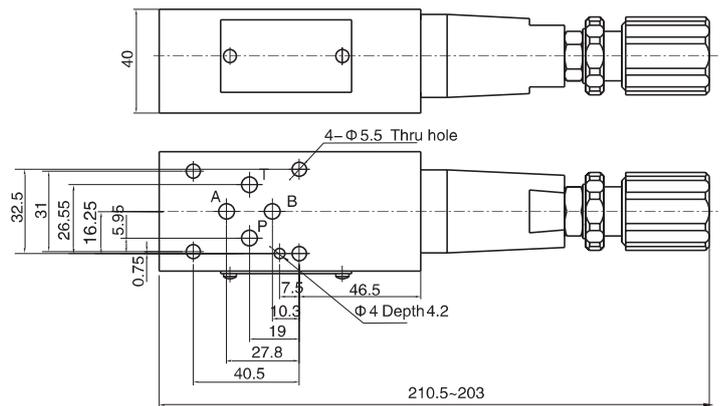
Modular Relief Valve

02 External dimensions

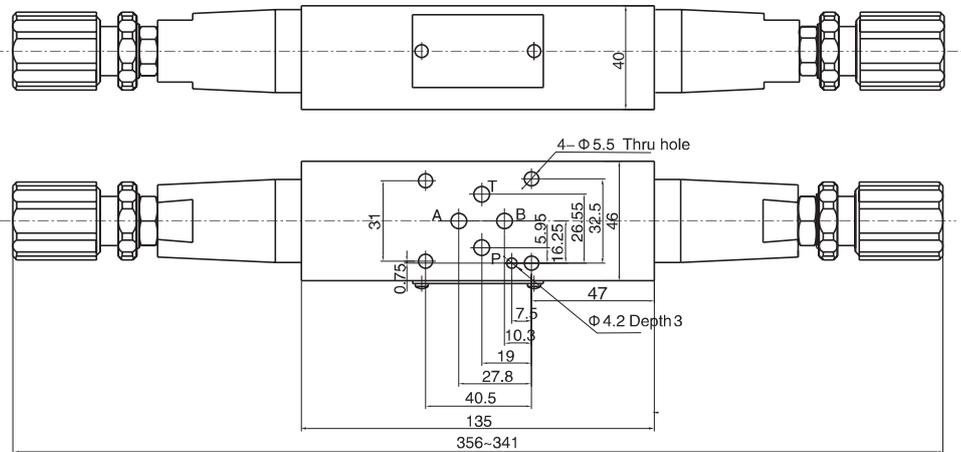
DY-02-A



DY-02-B,P



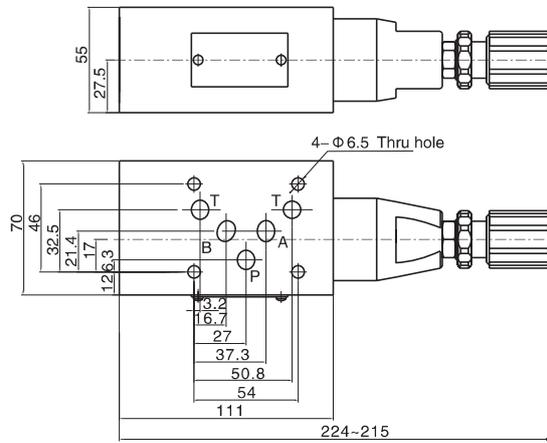
DY-02-W



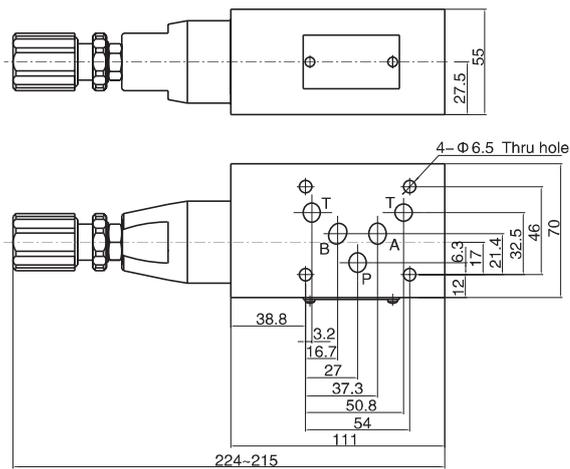
Modular Relief Valve

03 External dimensions

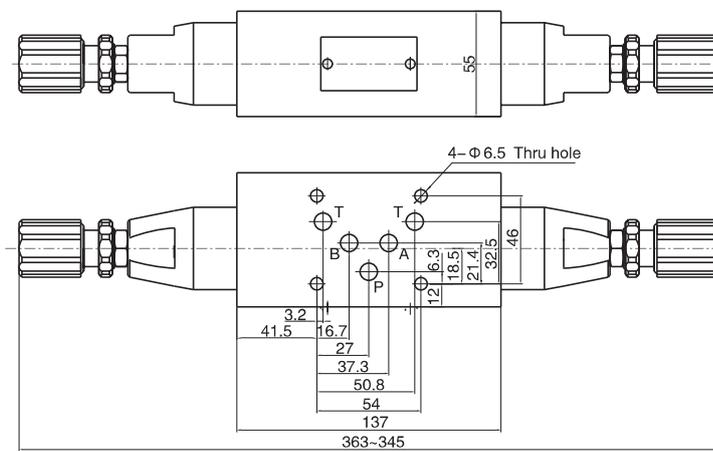
DY-03-A ...



DY-03-B,P ...



DY-03-W ...



Modular Reducing Valve

Technical specification



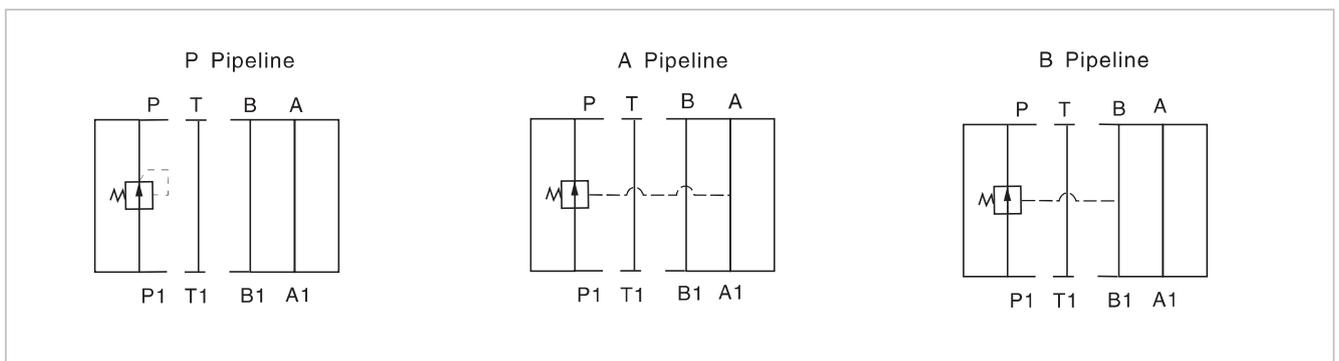
Specification	02	03
Max. working pressure (MPa)	31.5	
Max. Flow (L/min)	35	70
Working fluid	Mineral oil; phosphate-ester	
Fluid temp. (°C)	-20~70	
Viscosity (mm ² /s)	12~380	
Working press (MPa)	7	14 21
Cleanliness	The maximum allowable cleanliness of the oil should be according to 9th degree of Standard NAS1638. It is suggested that the minimum filter rating should be $\beta_{10} \geq 75$.	

Model description

DYJ - * * - * - * / * 70 *

<p>Modular reducing valve</p> <p>Specification 02 DN 6 03 DN 10</p> <p>P P Pipeline relief A A Pipeline relief B B Pipeline relief</p> <p>Working pressure 7 to 7MPa 14 to 14MPa 21 to 21MPa</p>	<p>Remarks</p> <p>Serial number</p> <p>Seal material Omit NBR Seals V FPM Seals</p> <p>8 Handle</p>
--	---

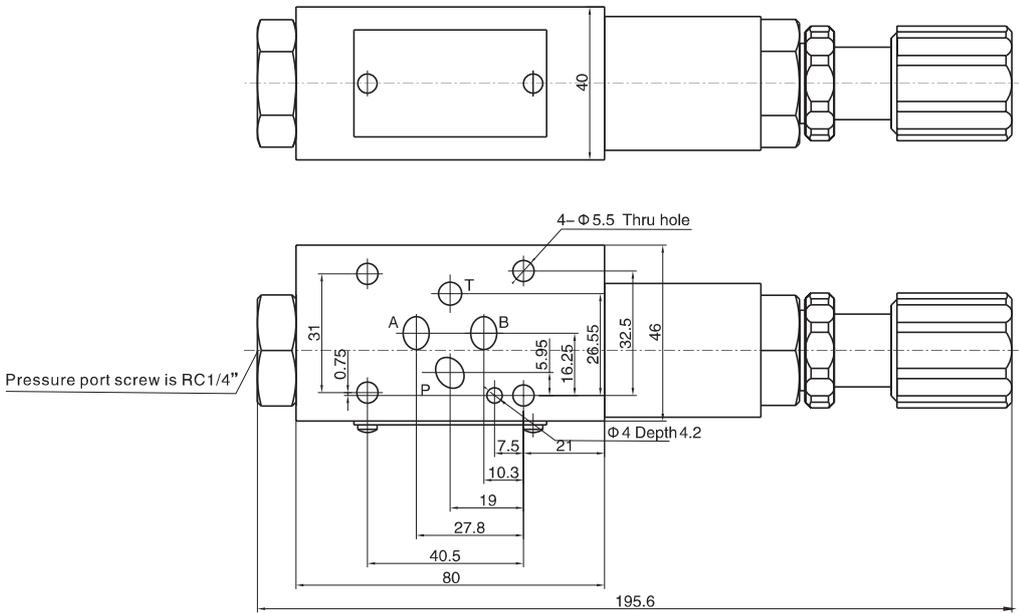
Code symbol



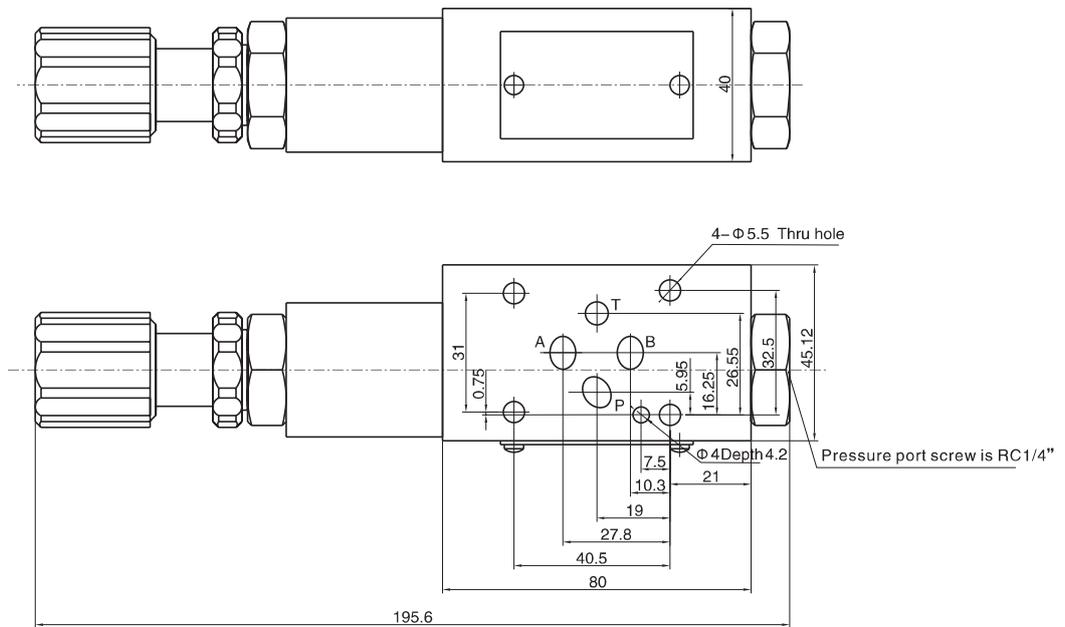
Modular Reducing Valve

02 External dimensions

DYJ-02-A , P ...



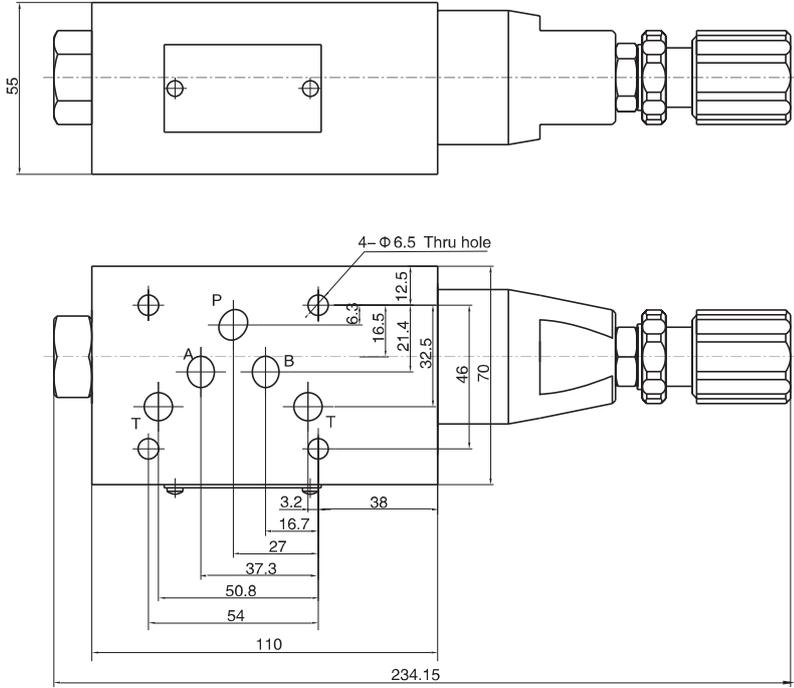
DYJ-02-B ...



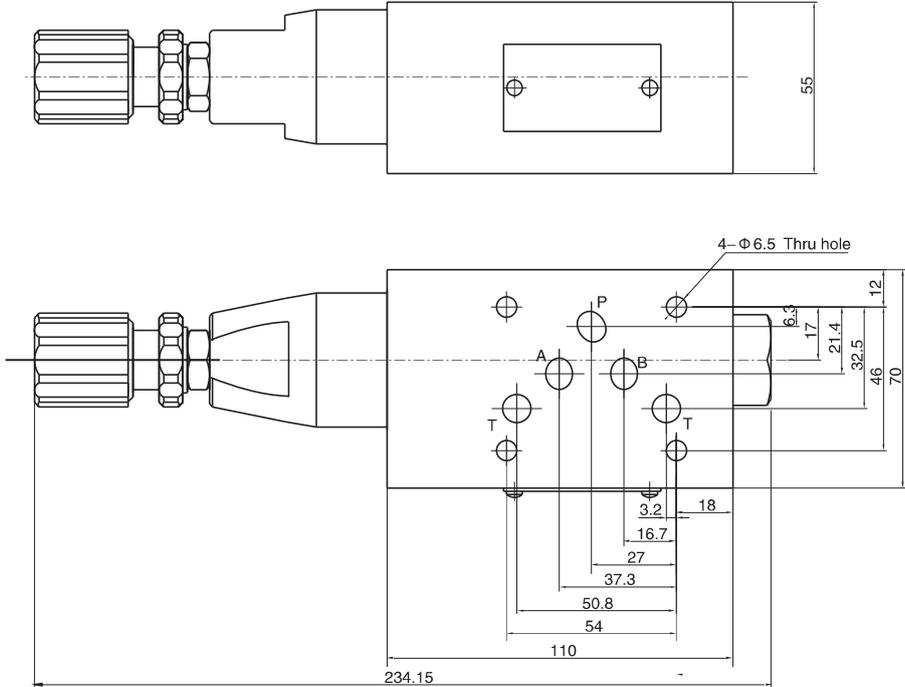
Modular Reducing Valve

03 External dimensions

DYJ-03-A , P ...



DYJ-03-B



Modular Counter-balance Valve



Technical specification



Specification	02	03
Max. working pressure (MPa)	31.5	
Max. Flow (L/min)	35	70
Working fluid	Mineral oil; phosphate-ester	
Fluid temp. (°C)	-20~70	
Viscosity (mm ² /s)	12~380	
Adjusting pressure (MPa)	7, 14,	21
Cleanliness	The maximum allowable cleanliness of the oil should be according to 9th degree of Standard NAS1638. It is suggested that the minimum filter rating should be $\beta_{10} \geq 75$.	

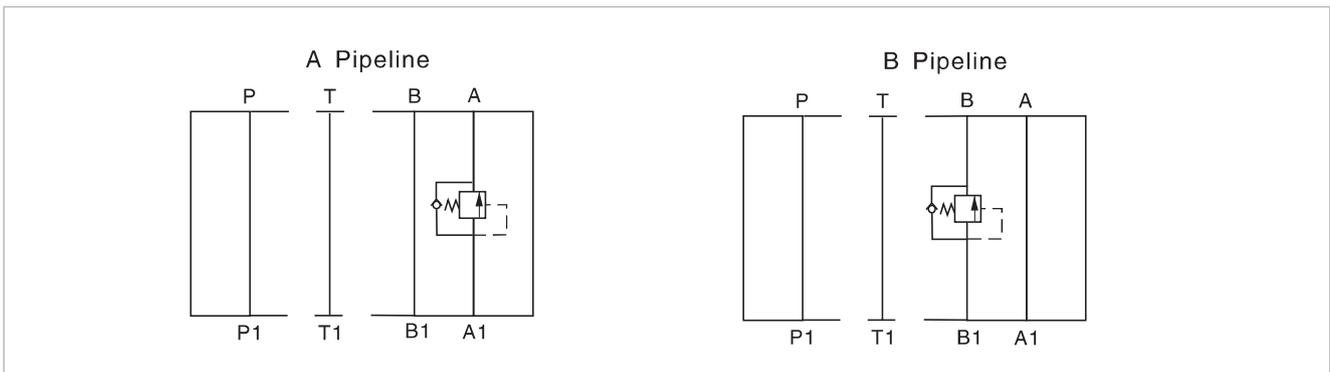
B.8.1

Model description

DYP - * * - * - * / * 70 *

<p>Modular counter-balance valve</p> <p>Specification 02 DN 6 03 DN 10</p> <p>A A Pipeline relief B B Pipeline relief</p> <p>Adjusting pressure 7 to 7MPa 14 to 14MPa 21 to 21MPa</p>	<p>Remarks</p> <p>Serial number</p> <p>Seal material Omit NBR Seals V FPM Seals</p> <p>8 Handle</p>
---	---

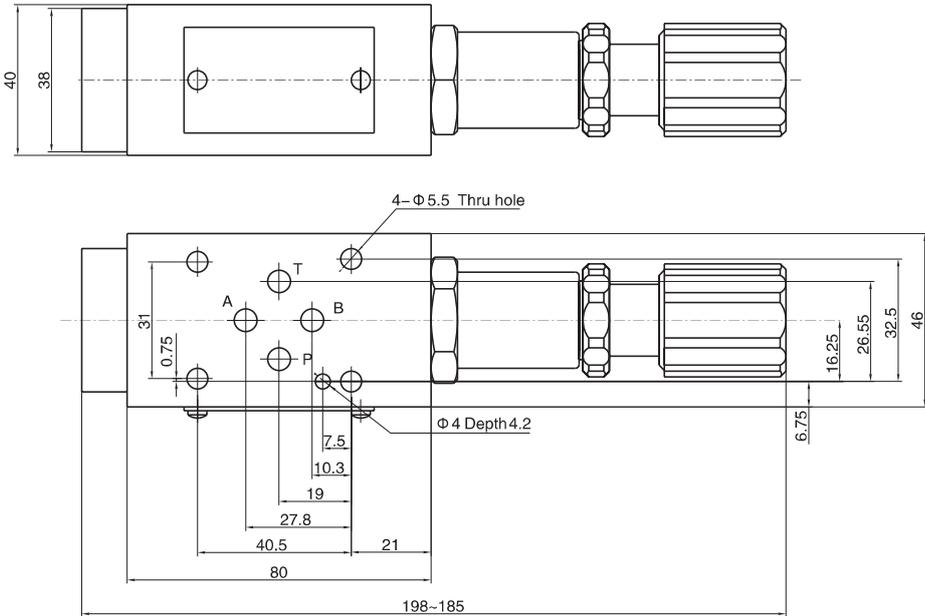
Code symbol



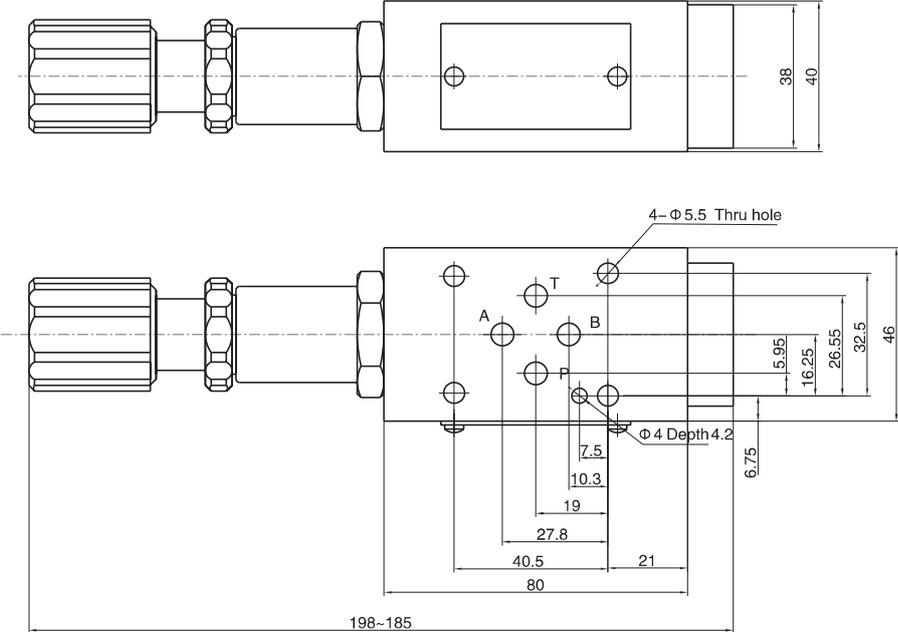
Modular Counter-balance Valve

02 External dimensions

DYP-02-A ...



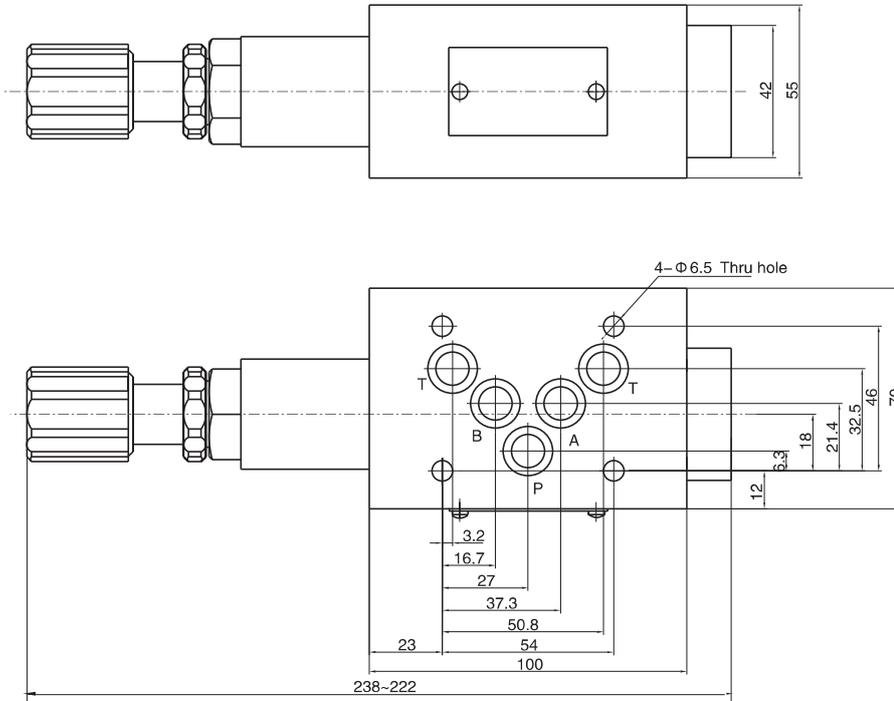
DYP-02-B ...



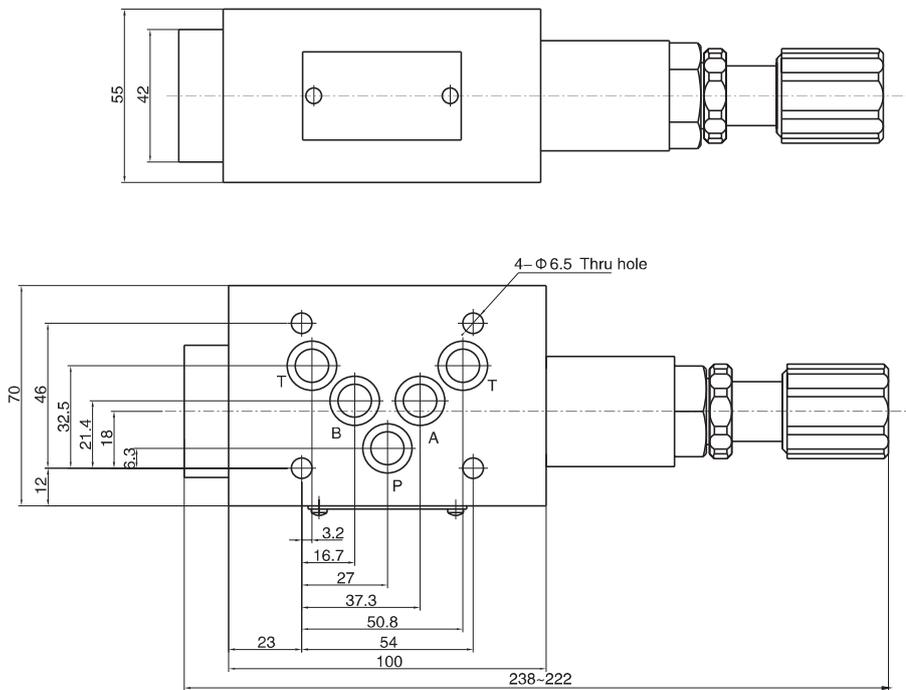
Modular Counter-balance Valve

03 External dimensions

DYP-03-A ...



DYP-03-B ...



Piston-type Pressure Switch

Technical specification



The hydro-electric pressure switch type HED 8 is a piston type pressure switch. It basically comprises of housing, installation kit with piston, compression spring, adjustment element and micro switch. If the pressure to be monitored is below the set pressure, the micro switch is operated. The pressure to be monitored is applied via the nozzle at the piston. The piston is supported by the spring plate and acts against the continuously adjustable force of the compression spring. The spring plate transmits the movement of the piston onto the micro switch and releases the latter when the set pressure is reached. This switches the electric circuit on or off, depending on the circuit set-up. The mechanical positive stop of the spring plate protects the micro switch in case of a sudden pressure drop from mechanical destruction and, in case of over-pressure, prevents solid compression of the compression spring.

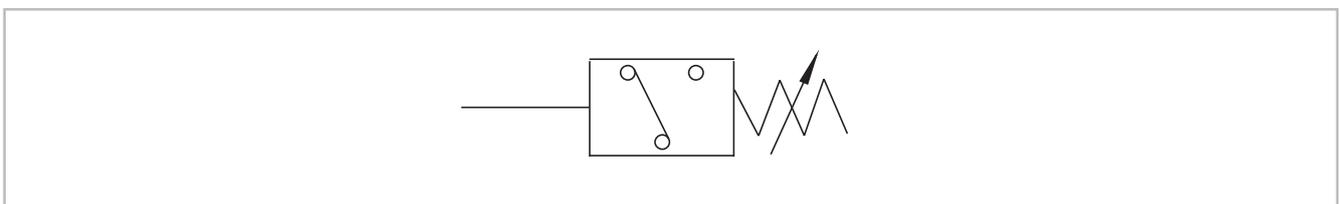
Model		HED 8	
Pressure range (Mpa) (Max setting pressure)		Max working pressure	Pressure setting range (Mpa)
	5	35	0.2-5
	10	35	0.4-10
	20	35	0.5-20
	35	50	0.8-35
working fluid		Mineral oil according to standard Din 51524 (HL, HLP)	
Fluid temp (°C)		-20~+80 (recommended +40~+50)	
Fluid viscosity (mm ² /s)		20-380 (recommended 30-46)	
Cleanliness		According to NAS1638 class9, recommended filter fineness (20 ≤ δ ≤ 50)	
Switching accuracy (repetition accuracy)		<±% of the set pressure	
Max switching frequency (1/h)		4800	
Electrical connection		Din 43650, type A, 3-pole + PE	
Max connection cross sectional area mm ²		0.5	
Max contact loading	-AC	250V; 5A	
	-DC	50V/1A; 125V/0.03A; 250V/0.02A	
protection class as per Din 40050		IP65	
If it is direct-current inductive load, it is necessary to use arc extinguisher for longer serve life purpose.			

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

Ordering code

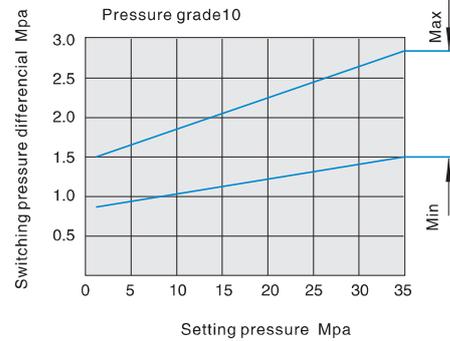
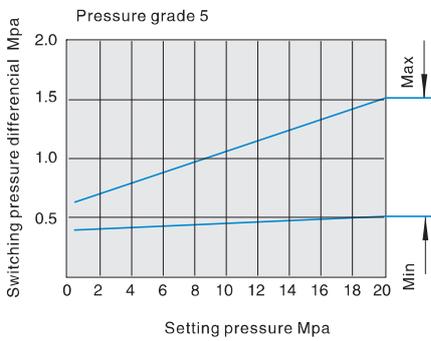
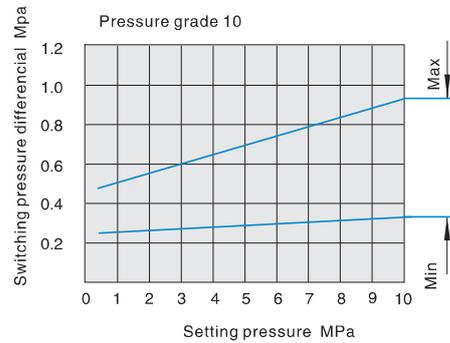
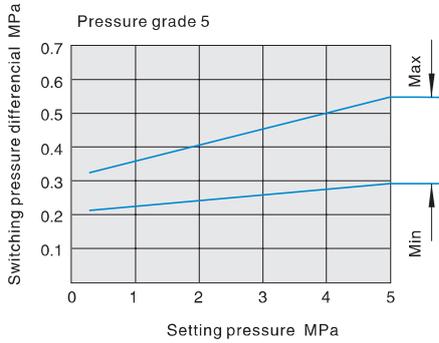
HED 8 - * - L1 * - / - * * / * *	
Piston-type pressure switch	Omit NBR V FPM
Flange mounting OH Subplate mounting OP Pipe mounting OA	For pipe mounting Omit G1/4 2 M14x1.5
L10-L19series L1X L10-L19series unchanged mounting size	Electrical connection Din plug Z14 Din plug with LED (DC24V) L24
5 Max setting pressure 5MPa 10 Max setting pressure 10MPa 20 Max setting pressure 20MPa 30 Max setting pressure 35MPa	

Code symbol

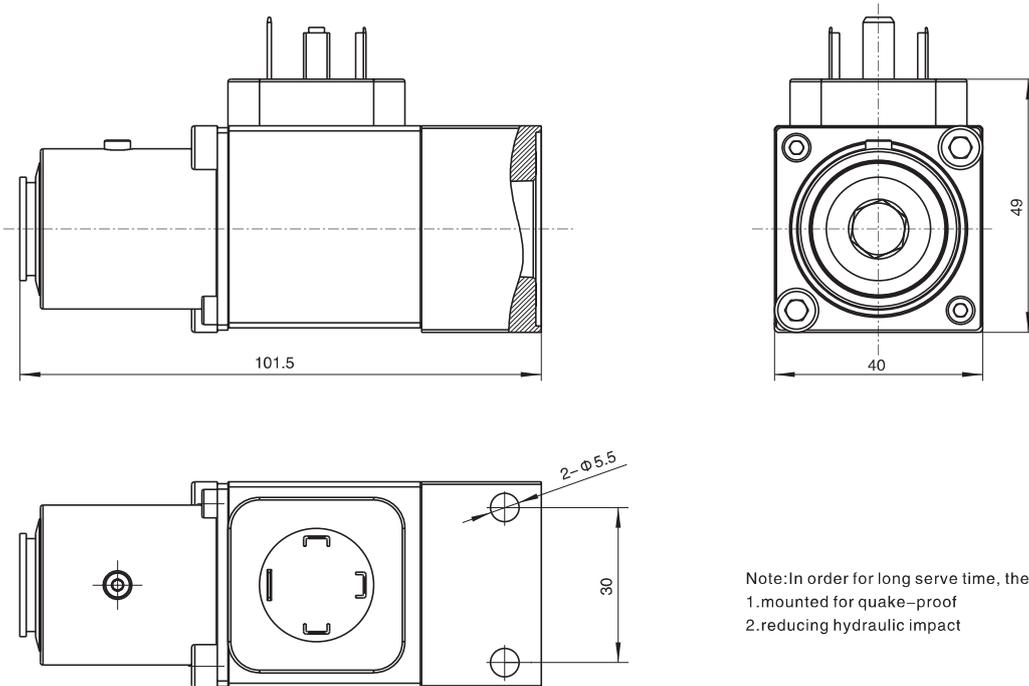


Piston-type Pressure Switch

Performance curve



Dimension (HED 8 OA L1X/ pipe type)



Note: In order for long serve time, the product shall be
 1. mounted for quake-proof
 2. reducing hydraulic impact

