

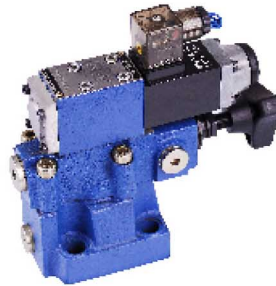
Pressure relief valve type DB/DBW...30B/...

Sizes 10 to 20 up to 31.5MPa up to 600 L/min



Features:

- Subplate mounting
- Pipe connection
- Insert connection
- Three adjustment elements:
 - . Rotary knob
 - . Hex. head screw with protective cap
 - . Lockable rotary knob with scale
- Solenoid operated unloading via a built-in directional spool valve



Functional description, section

General

Types DB and DBW pressure valves are pilot operated pressure relief valves.

They are used for the limitation (DB) or limitation and solenoid actuated unloading (DBW) of the control pressure.

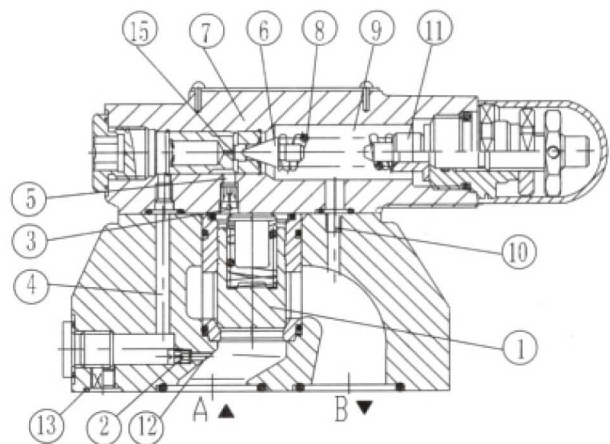
The pressure relief valves (DB) consist mainly of the main valve (1) with main spool assembly (3) and pilot operated valve (2) with pressure adjustment element.

Pressure relief valve type DB:

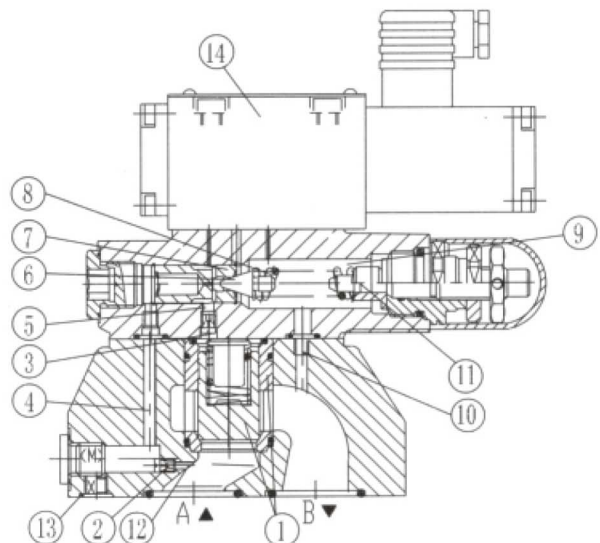
The pressure presents in port A acts on the main spool (3). At the same time pressure is applied via the control lines (6) and (7), which are fitted with orifices (4) and (5), on the spring loaded side of the main spool (3) and at the poppet (8) in the pilot control valve (2). If the pressure in port A exceeds the value set at the spring (9), the poppet (8) opens against the spring (9).

The signal for this comes internally via the control lines (10) and (6) from port A. The pressure fluid on the spring loaded side of the main spool (3) now flows via the control line (7), orifice bore (11) and poppet (8) into the spring chamber (12). In type DB...30/... it flows internally via the control line (13) to tank, or in type DB...30/...Y... externally via the port Y. Due to the orifices (4) and (5) a pressure drop occurs at the main spool (3), the connection from port A to port B is open. Now the pressure fluid flows from port A to port B while maintaining the value set operating pressure.

The pressure relief valve may be unloaded or switched over to a different pressure (second pressure stage) via port "X" (15).



DB...30B/...型先导式溢流阀

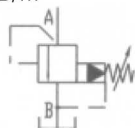


type DBW...30B/...

Oil control forms of graphic symbols

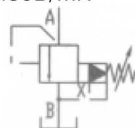
feed internal, return internal

BD...30B/...



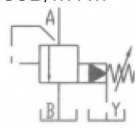
feed external, return internal

BD...30B/...X



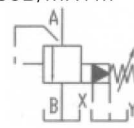
feed internal, return external

BD...30B/...Y...



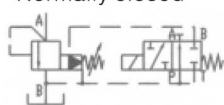
feed external, return external

BD...30B/...XY...



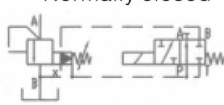
DBW...30B/...

Normally closed



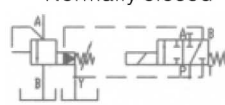
DBW...30B/...

Normally closed



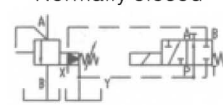
DBW...30B/...Y...

Normally closed



DBW...30B/...XY...

Normally closed



Normally open



Normally open



Normally open



Normally open



Ordering Codes

DB - **30** / / *

Without directional valve = DB
With built-in directional spool valve = W

Further details in clear text

Pilot operated valve (complete) = No code
Pilot operated valve without main spool assembly (do not enter nom. size) = C
Pilot operated valve with main spool assembly (enter valve size 10 or 30) = C
C without main valve

No code = Mineral oil
V = Phosphate ester

No code = Inch
2 = Metric

Z4 = Plug-in connector
Z5 = Large plug-in connector
Z5L = Large plug-in connector with light

No code = Without hand override
N = With hand override

W220-50 = 220V AC, 50Hz
G24 = 24V DC
W220R = Solenoid commuting automatically 220V AC (Other see WE5)

No code = Valve for minimum cracking pressure 0.5MPa
U = Valve for minimum cracking pressure 0.25MPa

No code = Pilot fluid feed internal, return internal
X = Pilot fluid feed external, return internal
Y = Pilot fluid feed internal, return external
XY = Pilot fluid feed external, return external

100 = Settable pressure up to 10MPa
315 = Settable pressure up to 31.5MPa

Nominal size	Ordering details	
	Subplate mounting	Pipe connection
8	-	8(M18X1.5orG3/8")
10	10	10(M22X1.5orG1/2")
15	-	15(M27X2orG3/4")
20	20	20(M33X2orG1")
25	-	25(M42X2orG1 1/4")
32	30	30(M48X2orG1 1/2")

Normally closed = A
Normally open = B

For subplate mounting = No code
For threaded connections = G

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

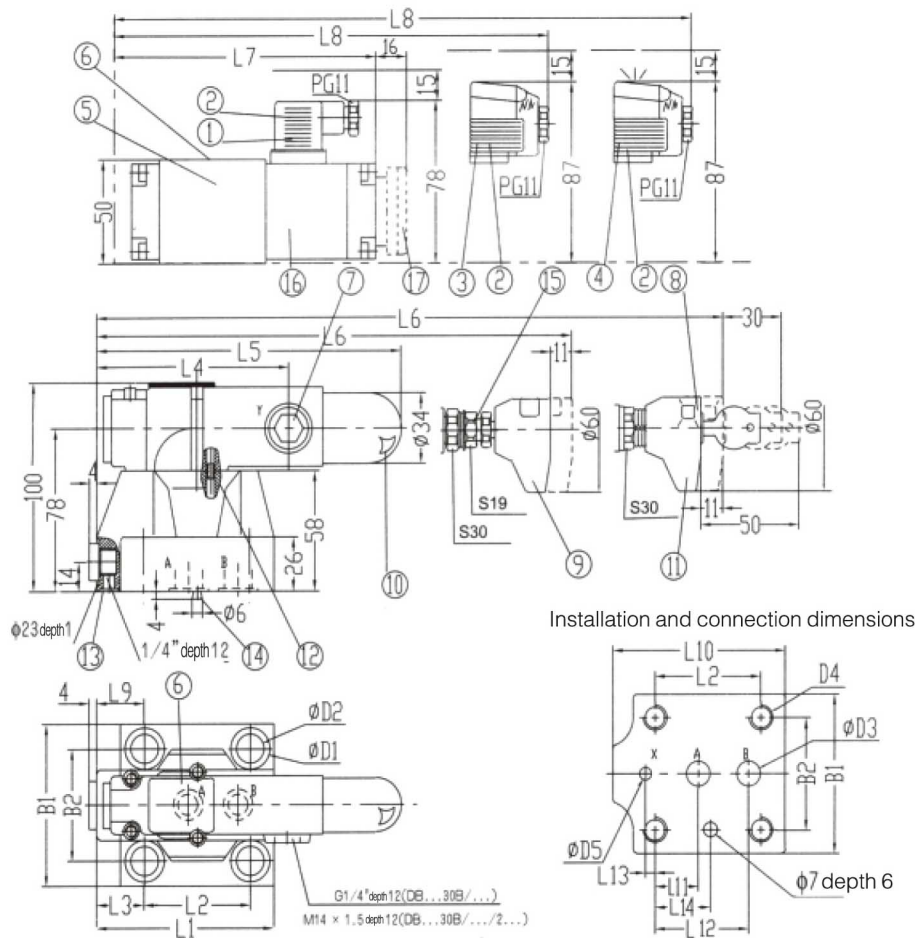
Series 30 to 39 = 30
(30 to 39: unchanged installation and connection dimensions)

Technical data

Size		8	10	15	20	25	30
Max. flow (L/min)	For threaded connections	100	200	200	400	400	600
	For subplate mounting	—	200	—	400	—	600
Operating pressure port A, B, X(MPa)		to 31.5					
Back pressure (MPa)	DB	to 31.5					
	DBW	to 6					
Min. setting pressure (MPa)		Flow dependent					
Max. setting pressure(MPa)		to 10or31.5					
Fluid		Mineral oil or Phosphate ester					
Viscosity range(MM ² /S)		10~800					
Oil temperature range(°C)		-30~+80					
Characteristic of solenoid valve		See type WE5					

Unit dimensions

Dimensions in mm



Installation and connection dimensions

- | | | | | |
|----------------------------------|---------------------------------------|---------------------------------------|-------------------------------|-----------------|
| 1.Plug-in connector type Z4 | 5.Direction valves, type WE5 | 9.Adjustment element 1 | 13.Port X for pilot oil drain | 14.Locating pin |
| 2.Plug-in connector: colour grey | 6.Name plate | 10.Adjustment element 2 | 15.Only apply to 31.5MPa | |
| 3.Plug-in connector type Z5 | 7.Port Y for external pilot oil drain | 11.Adjustment element 3 | 16.Solenoid "a" | |
| 4.Plug-in connector type Z5L | 8.Repeat adjusting scale | 12.Inside pilot oil drain is not need | 17.Hand override, optional | |

