

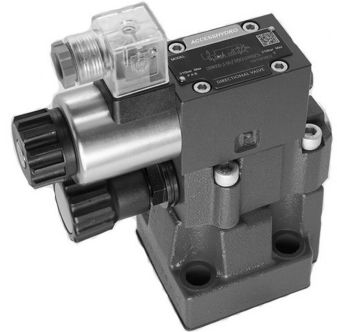
AH-DB/DBW...type (Solenoid) Pilot Relief Valve

AH-DB/DBW...50S...type

AH-DBT/DBWT...type (Solenoid) Remote Pressure Valve

AH-DBT/DBWT...type

Sizes 10, 16, 20, 25, 32
Max. Working Pressure: 350 bar
Max. Flow: 650 L/min



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Features

- For sub-plate mounting
- Porting pattern to DIN 24 340 form E and ISO 6264
- For threaded connection and installation in manifolds
- 5 pressure ratings
- Unloading operation via a built-on solenoid directional valve
- 4 adjustment versions
 - Knob
 - Adjusting bolt with protective cap
 - Lockable knob with scale
 - Knob with scale
- Optional switching shock damping (Only for DBW)

Function and configuration

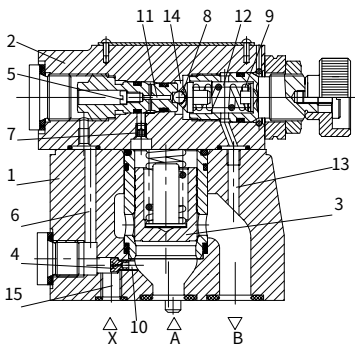
AH-DB and AH-DBW type valve is a pilot operated pressure relief valve, it is used to limit (AH-DB) or limit and unload (AH-DBW) pressure via solenoid operation. The pressure relief valves consist of main valve (1) with main spool cartridge (3) and pilot operated valve (2) with pressure adjustment elements (6) with main spool cartridge (3) and pilot operated valve (2) with pressure adjustment elements.

Type AH-DB pressure relief valves

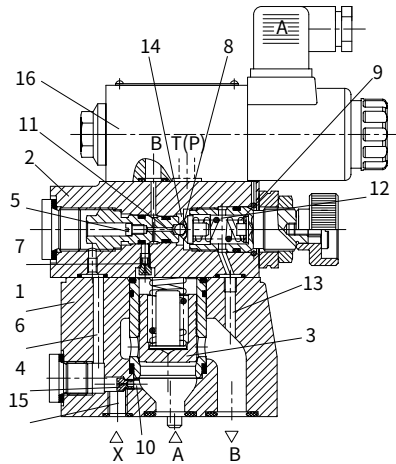
The pressure of channel A acts on the main spool (3), meanwhile, pressure is applied via control line (6) and (7) with orifice (4) and (5) on the spring loaded side of the main spool (3) and on the ball (8) in the pilot operated valve(2). If the pressure in channel A rises excess the setting value at the spring (9), the ball (8) opens against the spring (9). As for the internal control forms, signal is given by control oil (10) and (6) supplied by channel A. The oil from the spring loaded side of the main spool (3), via control line (7), orifice(11), and ball (8), then flows into spring chamber (12). Internal drain - type AH-DB...50S...Y, oil flows via control line(14) into the tank. In virtue of the orifice (4) and (5), the pressure drop arises at the main spool (3), and the connection from port A to port B is open while theoperational pressure setting maintained stable. The pressure relief valve may unload or shift the different pressure (second rated pressure value) in virtue of external control port X (15).

Type AH-DBW pressure relief valves

The function of pressure relief valve type AH-DBW is the same with pressure relief valve type AH-DB, the difference is that valve type AH-DBW operates unloading via a built-on directional valve(16).



Type AH-DB pressure relief valves



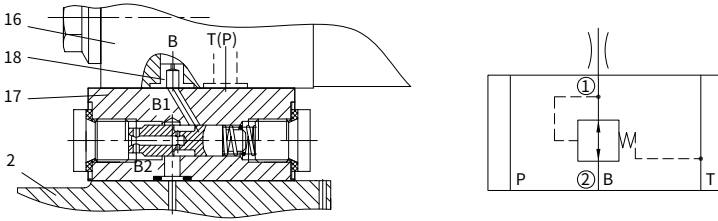
Type AH-DBW pressure relief valves

Function and configuration

Pressure relief valves with switching shock damping (sandwich), type AH-DBW../..S..R12

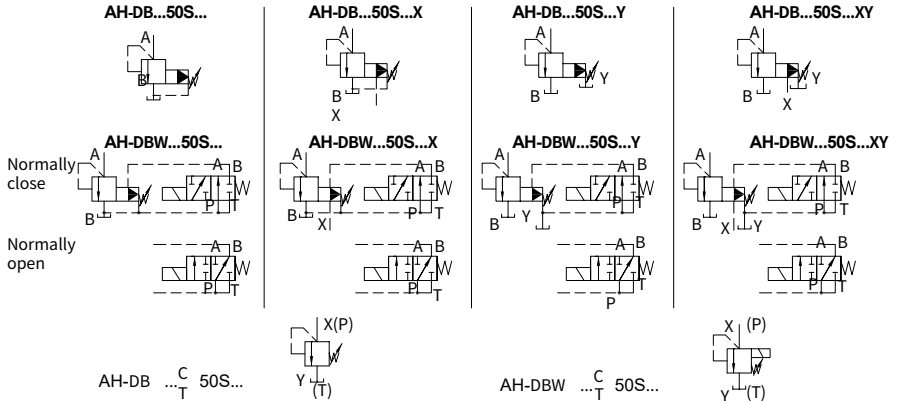
Switching shock damping (17), the connection from B2 to B1 opens with delay to avoid peak pressure spikes and decompression in the return line. It is fitted between pilot valve (2) and the directional valve (16).

The relief degree (decompression impact) is determined by the size of the orifice (18). Orifice $\varnothing 1.2\text{mm}$ is recommended. (ordering detail:..R12 ..).



Indication: the directional valve is open

Symbols



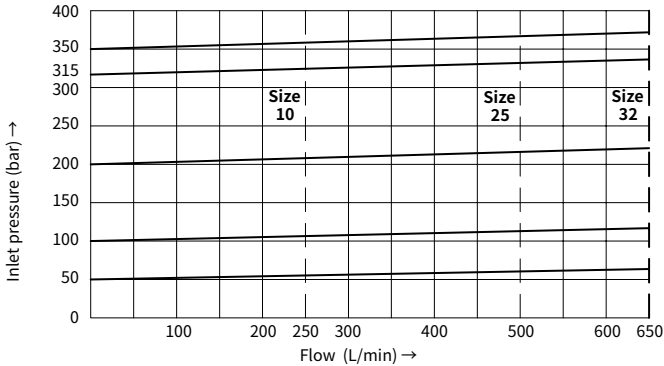
Technical data

Fixing position			Optional				
Weight	Sub-plate mounting	AH-DB kg	AH-DB...10	AH-DB...15	AH-DB...20	AH-DB...25	AH-DB...30
		AH-DBW kg	Approx.3	-	Approx.3.9	-	Approx.5.3
		AH-DBC kg	Approx.4.5	-	Approx.5.4	-	Approx.6.8
		AH-DBC10 or 30 kg	Approx.1.2(Type AH-DBWC add 1.5)kg				
	Threaded connection	AH-DB..G.. kg	Approx.5.3	Approx.5.2	Approx.5.1	Approx.5.9	Approx.5.8
		AH-DBW..G.. kg	Approx.6.8	Approx.6.7	Approx.6.6	Approx.7.4	Approx.7.3
	Switching shock damping	kg	Approx.0.6				
Technical parameters of directional valve			Refer to the solenoid valvetype AH-WE6, normally close use AH-3WE6A9, normally open use AH-3WE6B9				
Fluid			Mineral oil - suitable for NRB and FRMseal phosphate ester-suitable for FKM seal				
Fluid temperature range		°C	-30 to +80 (NRB seal) -20 to +80 (FKM seal)				
viscosity range		mm ² /s	10 to 800				
Degree of contamination			Maximum permissible degree of fluid contamination: Class 9. NAS 1638 or 20/18/15, ISO4406				
Max. operating pressure	Port A,B,X,P	bar	350				
	Port T (AH-DB)	bar	315				
Max. back pressure	Port Y AH-DB	bar	315				
	Port Y or T AH-DBW	bar	AC up to 160, DC up to 210				
Max. setting pressure		bar	50;100;200;315;350				
Min. setting pressure		bar	Interrelated with Q(refer to the curve)				
Sizes			10	15	20	25	30
Max. flow-rate	sub-plate mounting	L/min	250	-	500	-	650
	threaded connection	L/min	250	500	500	500	650

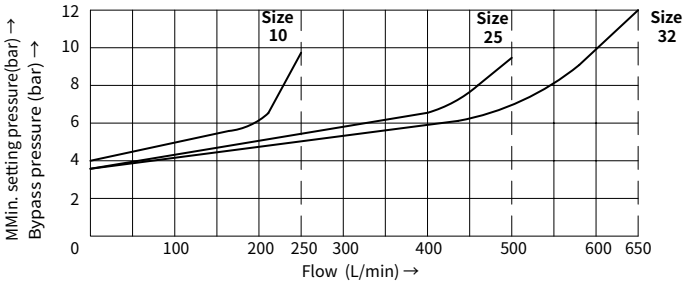
Performance curves (Measured at $t=40^{\circ}\text{C} \pm 5^{\circ}\text{C}$, using HLP 46) The

characteristic curves are measured with external pilot oil drain at zero pressure.
 With internal pilot oil drain, the inlet pressure at port B should be added to the value presented as curves.

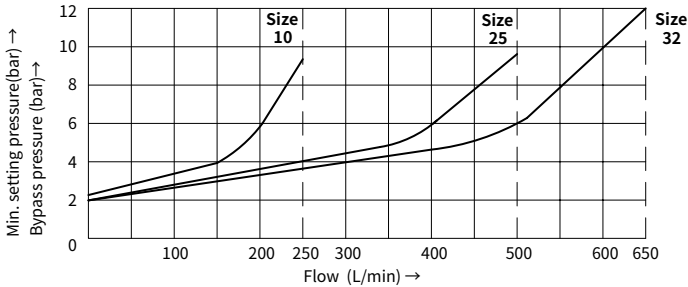
Inlet pressure in relation to the flow-rate



Minimum setting pressure and bypass pressure in relation to the flow-rate!
 ·Standard version



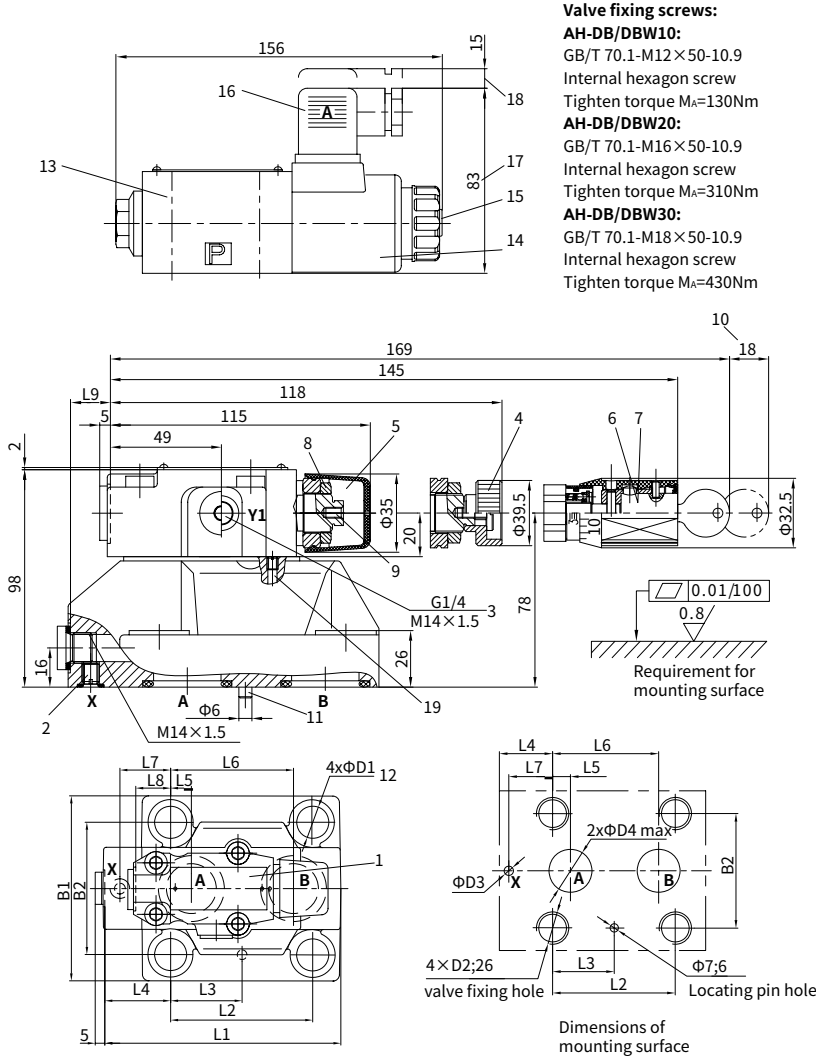
Minimum setting pressure and bypass pressure in relation to the flow-rate!
 ·Version "U"



Unit dimensions

(Dimensions in mm)

Sub-plate mounting

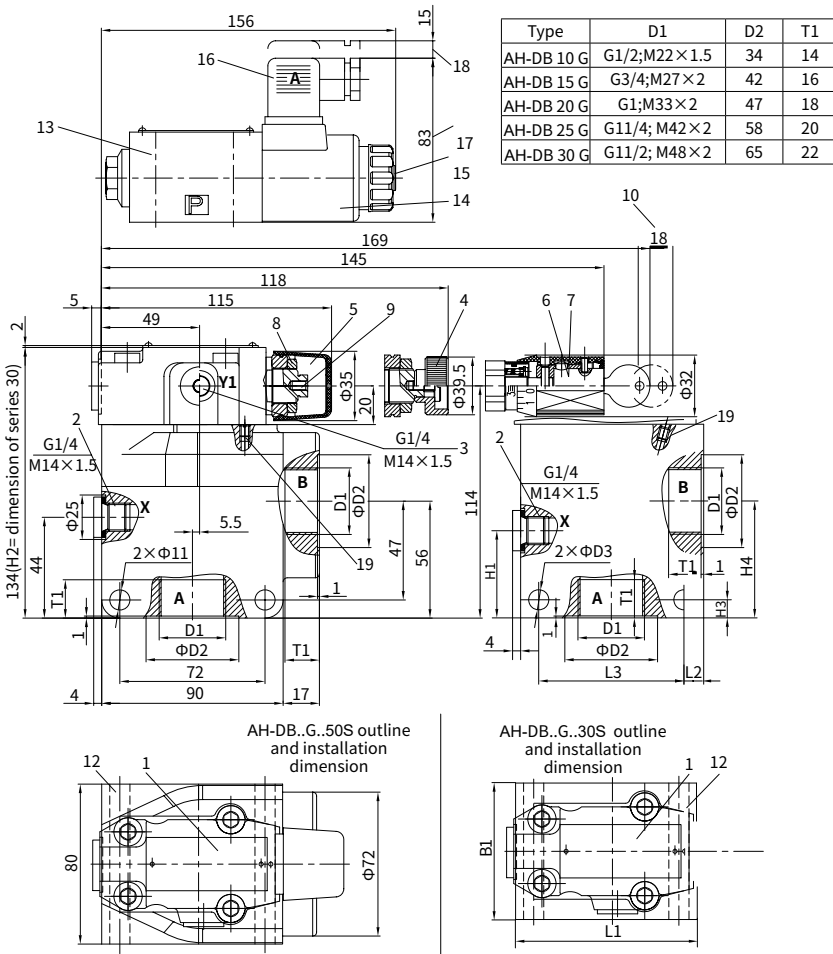


Type	L1	L2	L3	L4	L5	L6	L7	L8	L9	B1	B2	D1	D2	D3	D4	O-ring(A, B)	O-ring(X)
AH-DB/DBW 10	91	53.8	22.1	27.5	22.1	47.5	0	25.5	2	78	53.8	14	M12	6	12	17.12×2.62	9.25×1.78
AH-DB/DBW 20	116	66.7	33.4	33.3	11.1	55.6	23.8	22.8	10.5	100	70	18	M16	6	22	28.17×3.53	9.25×1.78
AH-DB/DBW 30	147.5	88.9	44.5	41	12.7	76.2	31.8	20	21	115	82.6	20	M18	7	30	34.52×3.53	9.25×1.78

Unit dimensions

(Dimensions in mm)

• Threaded connection



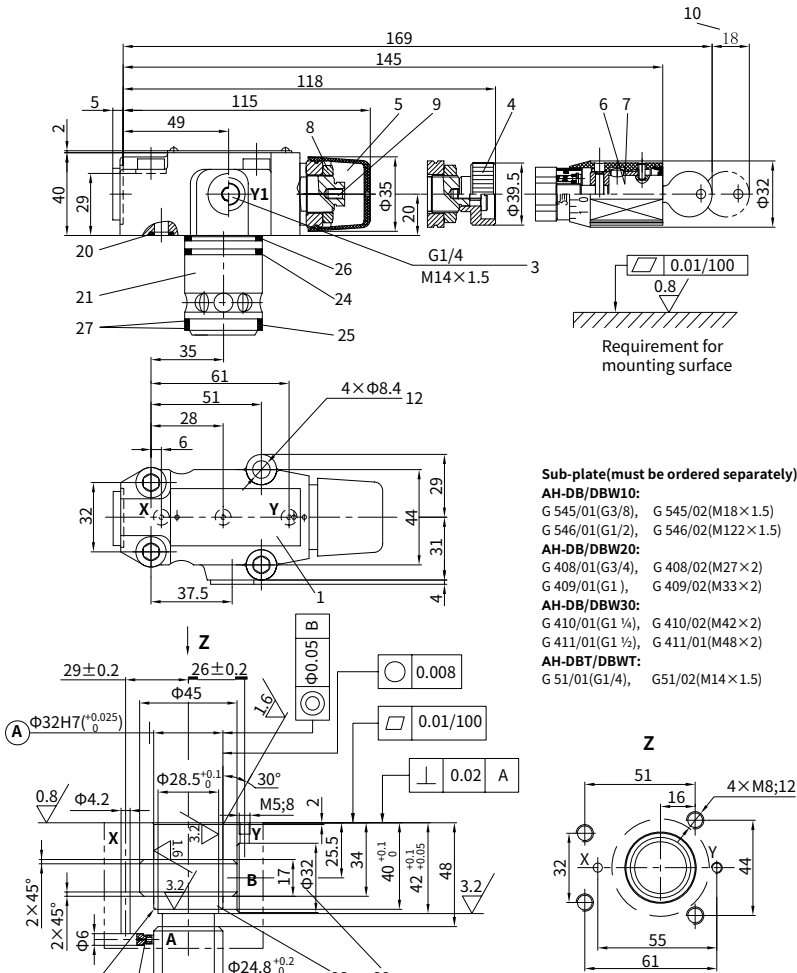
Outline and installation dimension of series 3XJ threaded connection valve:

Type	B1	D3	H1	H2	H3	H4	L1	L2	L3
AH-DB 10 G	63	9	27	125	10	62	85	14	62
AH-DB 15 G						57			
AH-DB 20 G						57			
AH-DB 25 G	70	11	42	138	13	66	100	18	72
AH-DB 30 G									

Unit dimensions

(Dimensions in mm)

• With main spool valve (AH-DBC10 or 30) or without main spool valve (AH-DBC, AH-DBT)



Sub-plate(must be ordered separately):

AH-DB/DBW10:

G 545/01(G3/8), G 545/02(M18x1.5)

G 546/01(G1/2), G 546/02(M122x1.5)

AH-DB/DBW20:

G 408/01(G3/4), G 408/02(M27x2)

G 409/01(G1), G 409/02(M33x2)

AH-DB/DBW30:

G 410/01(G1 1/4), G 410/02(M42x2)

G 411/01(G1 1/2), G 411/02(M48x2)

AH-DBT/DBWT:

G 51/01(G1/4), G51/02(M14x1.5)

- 1 Nameplate
- 2 Port X for external pilot oil supply
- 3 Port Y for external pilot oil drain
- 4 Adjustment element "1"
- 5 Adjustment element "2"
- 6 Adjustment element "3"
- 7 Adjustment element "7"
- 8 Lockable nut S=24
- 9 Internal hexagon screw S=10
- 10 Space for drawing the key
- 11 Locating pin
- 12 Valve fixing hole
- 13 Directional valve, size6

- 14 Solenoid "a"
- 15 Hand override "N" button, optional
- 16 Plug-in connector Z4
- 17 Valve dimension with standard solenoid A
- 18 Space required to remove plug-in connector
- 19 Plugged not for internal pilot oil drain
- 20 O-ring 9.25x1.78
- 21 Main spool cartridge
- 22 The Ø32 bore may connect the Ø45 bore at any position.
Please take care that the connection hole X and the fixing holes are not damaged.
- 23 Back-up ring and O-ring must be inserted into this bore before assembling the main spool.
- 24 O-ring 28x1.8
- 25 O-ring 27.3x2.4
- 26 O-ring 28x2.65
- 27 Back-up ring 28.4x32x0.8
- 28 Flow controller must be ordered separately

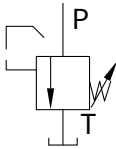
Remote pressure adjusting valve

• Specification

AH-DBT		G	1	- 30S /	
Remote pressure valve					
Threaded connection	=G				No code= NBR seals V = FKM seals
Adjusting handle	=1				
Series 30S to 39S (30S to 39S: unchanged installation and connection dimensions)			=30S		
			100 = Max. secondary pressure 100bar 315 = Max. secondary pressure 315bar		

03

• Symbol



• Connection dimension

