

Directional poppet valves

Type WVH-4B

NG 4 Bieri
up to 12 l/min, up to **700 bar**

Features

- Directly operated
- Poppet tight
- Good corrosion resistance
- Compact
- Low weight

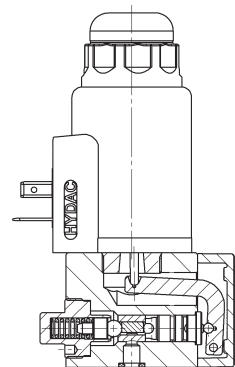


Applications

- Controlling of cylinders in higher pressure ranges as full replacement for spool valve technology (especially for poppet tight holding and bending)
- In machine tools, hoisting technology, test stands and rescue devices
- Power units

Design

- With hardened balls
- 360° turnable and exchangeable plug-in coil
- Mounting on single subplates as “stand-alone” valves or in valve banks with subplates (see technical data sheets EAP-4B and APH/X-4B)
- As 2/2, 3/2, 4/2* or 3/3 valve with solenoid or alternative control
- With sealed manual override



* pilot-operated

Technical data

Hydraulic fluid	mineral oil according to DIN 51524 (other fluids on request)
Fluid temperature range	-20 to 80 °C
Ambient temperature range	-30 to 50 °C
Viscosity range	5 to 400 mm ² /s
Porting	NG 4 according to Bieri standard
Max. operating pressure connection P, A, B	700 bar pressure difference from P to A, B to T must be adhered! ($p_p \geq p_A$ (p_B) $\geq p_T$)
Max. operating pressure connection T	700 bar
Max. flow rate	12 l/min
Filtration (recommendation)	according to NAS 1638 class 6 resp. ISO/DIN 4406 17/15/12
Duty cycle ED	100%
Solenoid voltage (nominal power)	24 VDC (27.2 W) / 110 VAC (25 W) / 230 VAC (25 W)
Voltage tolerance	+/- 10%
Switching time	40 - 120 ms
Degree of protection	IP 63 according to EN 60529 / DIN 40050 (solenoid IP 65)
Weight	see overview “Product information”
Material	corrosion-resistant steel and aluminium (coil housing: ZnFe - corrosion protection)

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Type code

Example	WV	H	-	4B	-	2	/	2	-	WS	-	24	-	V	-	B		00
Directional poppet valves																		Design 00 ... 99 For internal purposes
Size																		
Nominal size																		
Connection Bieri																		
Number of ports																		
Number of positions																		
Control function																		
Control method																		
Seal material																		

Design
00 ... 99
For internal purposes

Index
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For internal purposes


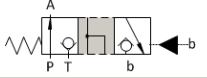
Design revision
For internal purposes

Product information

Solenoid-operated directional poppet valves

Valve type	2/2	
Control function	W0	WS
Part No. 24 VDC	4536422	4536435
Part No. 110 VAC	4536423	4536436
Part No. 230 VAC	4536424	4536437
Symbol		
Weight	0,85 kg	0,85 kg
Valve type	3/2	
Control function	L	N
Part No. 24 VDC	4536498	4536568
Part No. 110 VAC	4536499	4536569
Part No. 230 VAC	4536565	4536570
Symbol		
Weight	0,85 kg	0,85 kg
Valve type	4/2	
Control function	D	C
Part No. 24 VDC	4536573	4536586
Part No. 110 VAC	4536574	4536588
Part No. 230 VAC	4536585	4536590
Symbol		
Symbol simplified		
Weight	1,2 kg	1,2 kg
Valve type	3/3	
Control function	K	
Part No. 24 VDC	4536591	
Part No. 110 VAC	4536592	
Part No. 230 VAC	4536593	
Symbol		
Weight	1,75 kg	

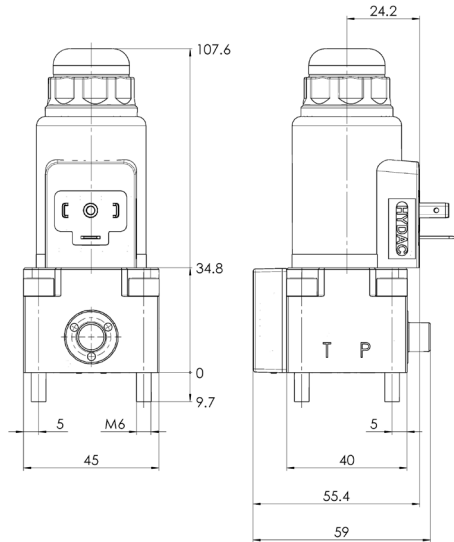
Type WVH-4BNG 4 Bieri
up to 12 l/min, up to 700 bar**Air- and oil-operated directional poppet valves**

Valve type	3/2	
Control function	L	N
Part No. AIR	4536567	4536572
Part No. OIL	4536566	4536571
Symbol		
Weight	0,8 kg	0,8 kg

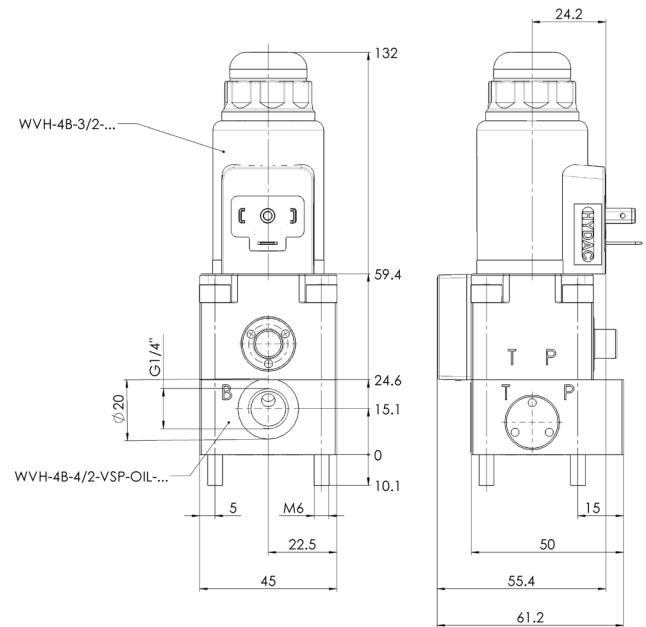
Dimensional drawings

Solenoid-operated directional poppet valves

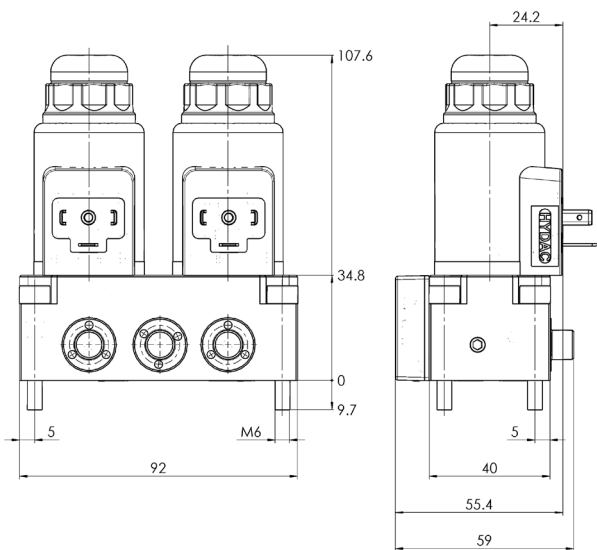
2/2 and 3/2 directional poppet valves



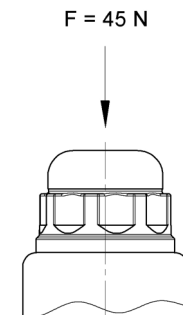
4/2 directional poppet valves



3/3 directional poppet valves



Manual override

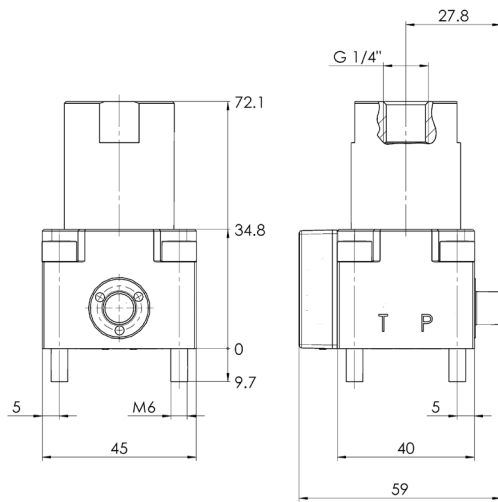


Type WVH-4B

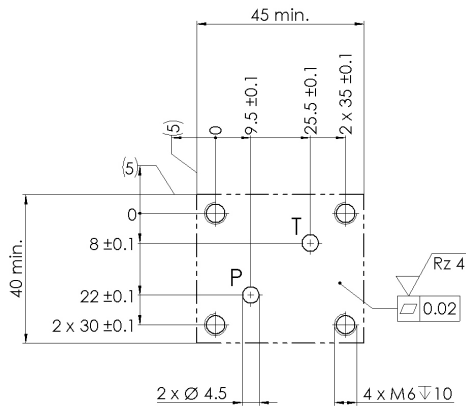
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Air- and oil-operated directional poppet valves

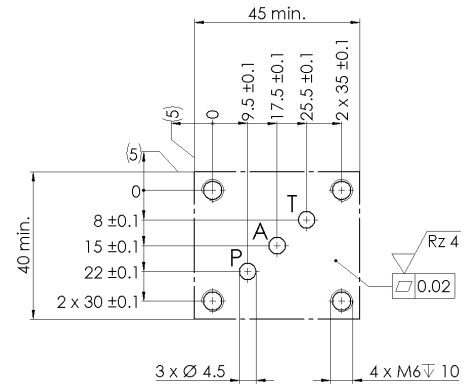
3/2 directional poppet valves



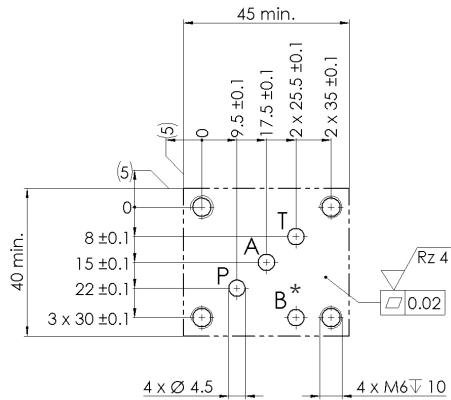
Drilling pattern 2/2 directional poppet valves



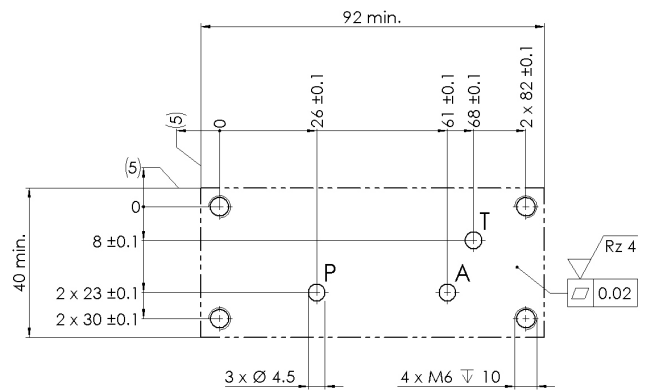
Drilling pattern 3/2 directional poppet valves



Drilling pattern 4/2 directional poppet valves



Drilling pattern 3/3 directional poppet valves



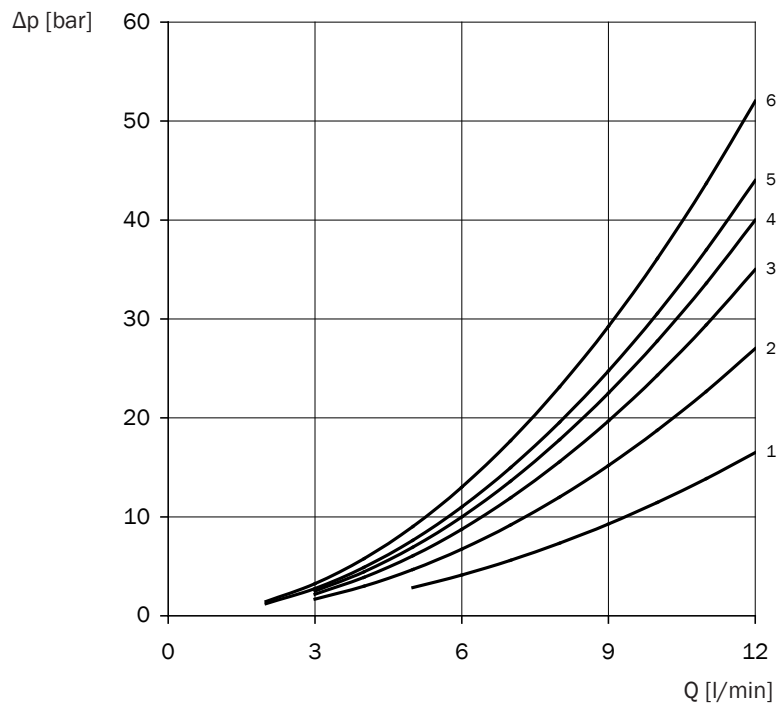
* The B hole in the connecting plate is only necessary if the pipe connection (delivered condition) is not used. When using the sub-base, the plug in the B-port of the valve must be removed.

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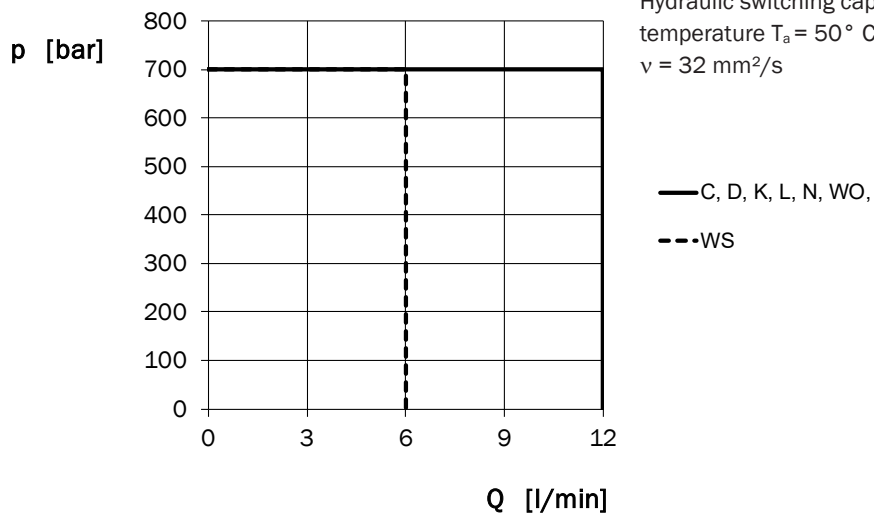
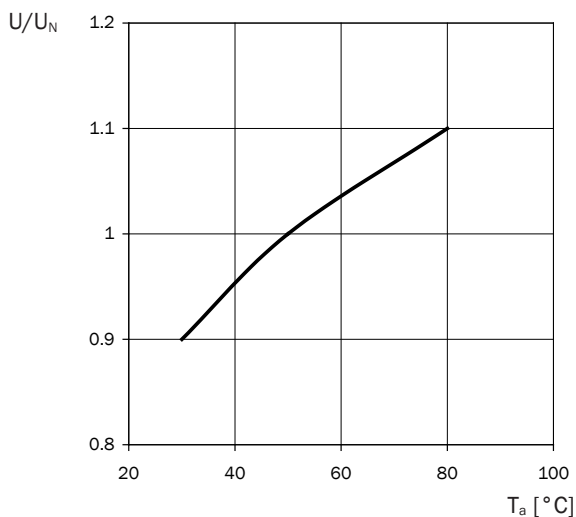
Pressure drop

($v = 32 \text{ mm}^2/\text{s}$)



Valve type	Control function	P - A	P - B	A - T	B - T	P - T
2/2	WO					1
2/2	WS					2
3/2	L	4		6		
3/2	N	3		4		
4/2	C	5	3	6	5	
4/2	D	5	5	5	6	
3/3	K	5		2		

() = for neutral position

Hydraulic switching capacity (solenoid operated)**Operating voltage (solenoid operated)****Alternative control methods (without solenoid)****Pneumatic (AIR)**

The actuating force is provided by a single acting spool with spring return. The piston is sealed to prevent leakage.
Connection: G1/8".
Min. pilot pressure: 3 bar
Max. pilot pressure: 8 bar

Hydraulic (OIL)

The actuating force is provided by a single acting spool with spring return. The piston is sealed to prevent leakage.
Connection: G1/8".
Min. pilot pressure: 11 bar
Max. pilot pressure: 700 bar

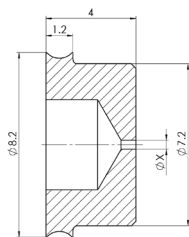
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Accessories

Item description	Type code	For valve type	Part No.
Orifice insert Ø 0,4 (fitting in connection T)	BLM-4-0,4-A*00	2/2, 3/2	4002279
Orifice insert Ø 0,5 (fitting in connection T)	BLM-4-0,5-A*00	2/2, 3/2	4002353
Orifice insert Ø 0,6 (fitting in connection T)	BLM-4-0,6-A*00	2/2, 3/2	4002354
Orifice insert Ø 0,7 (fitting in connection T)	BLM-4-0,7-A*00	2/2, 3/2	4002355
Orifice insert Ø 0,8 (fitting in connection T)	BLM-4-0,8-A*00	2/2, 3/2	4002356
Orifice insert Ø 1,0 (fitting in connection T)	BLM-4-1,0-A*00	2/2, 3/2	4002357

Dimensional drawing



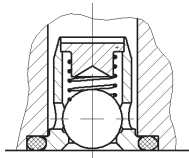
Symbol



Item description	Type code	For valve type	Part No.
Check valve (fitting in connection P)	RVH700-4B-D6,5-X-A*00	All	3680704
Return pressure stop (fitting in connection T)	RDH700-4B-D6,5-X-A*00	All	3687580

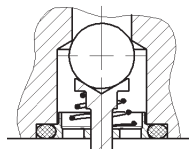
Dimensional drawing

Check valve



P

Return pressure stop



T

Symbol

Check valve



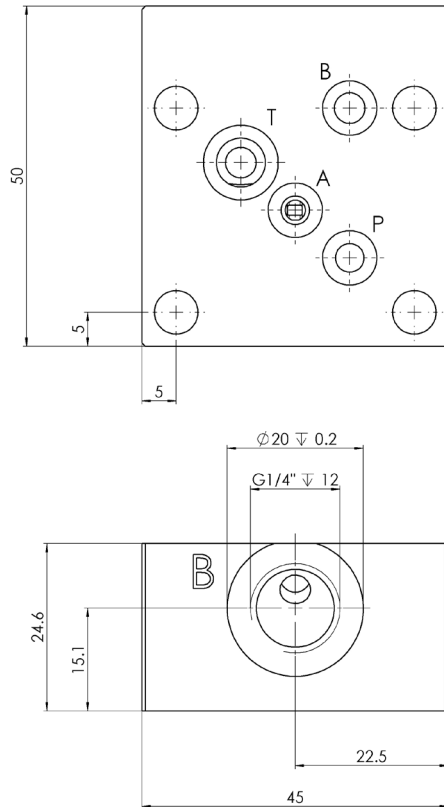
Return pressure stop



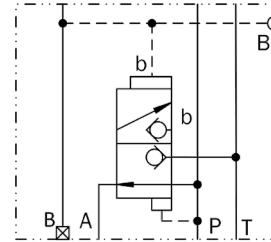
Item description	Part No.
1 x Plug for solenoid grey	6132484
1 x Plug for solenoid black	3728850
1 x Plug for solenoid with integrated reduction of performance	3689354

Item description	Part No.
1 x WVH-4B-4/2-VSP-OIL-V-B*00	3726984

Dimensional drawing



Symbol



Pilot plate for achieving a 4/2 control function via 3/2 directional poppet valve. The combination of a 3/2-L directional poppet valve and the pilot plate results in the control function 4/2-D. The control function 3/2-N results in a 4/2-C directional poppet

Spare parts

Item description	Part No.
5 x O-Ring 5 x 1,5, FKM	
5 x O-Ring 8 x 1,5, FKM	
4 x Socket head screw ISO 4762-M6 x 35 - A2-70	3853409
4 x Socket head screw ISO 4762-M6 x 60 - A2	
1 x Seal cover plate (Port B for 4/2 valves)	
1 x Solenoid 24 VDC	915142
1 x Solenoid 110 VAC	3547372
1 x Solenoid 230 VAC	3547373
1 x Pole tube nut	4422997
1 x O-Ring for pole tube nut	629833

Further fastening elements, tie bolts, subplates and single subplates please see technical data sheets APH/X-4B or EAP-4B.

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The information in this brochure relates to the operating conditions and applications described.

For applications and operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.