

Directional seated valves

2.2 Valve bank (directional seated valve) type BWN and BWH

A valve bank combines different valves for operating independent consumers. The valve bank type BWN or BWH comprises several directional seated valves of type WN or WH that are connected in parallel. The directional seated valves as ball valves have zero leakage in the closed state. They are attached to sub-plates. These sub-plates are clamped between the inlet section (P and R port) and the end plate via tension rods. Pressure switches or pressure-limiting valves can be integrated into the pumps and/or consumer lines.

2/2 and 3/2- directional seated valves . Combined, these are also available as 3/3 and 4/3 directional seated valves. The valve bank can be mounted directly to compact hydraulic power packs using connection blocks.

Features and benefits:

- Modular concept
- Adapter plates for flange-mounting on hydraulic power packs or combination with other valve types
- With the valve bank version, option to incorporate additional functions in the sub-plate, such as pressure-limiting valves, pressure switches etc.
- Energy-efficient solutions in connection with hydraulic accumulators

Intended applications:

- Machine tools (chipping and non-chipping)
- Rubber and plastic machinery
- Mining machinery (incl. oil production)
- Rubber and plastics machinery



Nomenclature:	Directional seated valve, zero leakage
Design:	Valve bank <ul style="list-style-type: none"> ▪ For pipe connection ▪ Combination with hydraulic power packs
Actuation:	Solenoid
p_{max}:	450 bar
Q_{max}:	30 lpm

Design and order coding example

BWH2 A-1/300 - FH5N5 - 1 - 1 - G24

Solenoid voltage 12V DC, 24V DC, 110V AC, 230V AC

- Versions with M12-plug and 8-Watt solenoid

Port size G 1/4, G 3/8 (BSPP)

- End plate**
- With one or two pressure switches
 - With accumulator drain valve
 - With additional pressure limiting valve in gallery P

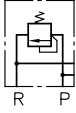


- Valve sections**
- Directional valves type WH or WN
 - Valve section options:
 - Return pressure stop
 - Pressure switch for the consumer ports or for gallery P
 - Pressure limiting valves at the consumer port
 - Pressure reducing valve reducing the pressure in the downstream P gallery
 - Additional sections:
 - Pressure reducing valve
 - Indiv. sub-plate with pressure switch
 - Separation plate for gallery P

- Connection block/adaptor plates**
- For pipe connection, with/without pressure limiting valve, manually or fixed, with/without prop. pressure limiting valve
 - For direct mounting at compact hydraulic power packs
 - For direct mounting at hydraulic power packs
 - Adapter plates for combination with directional valves type BVZP or SWR/SWP

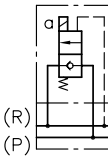
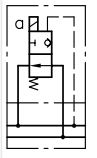
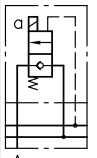
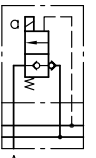
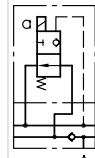
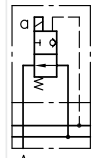
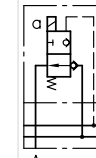
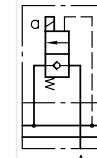
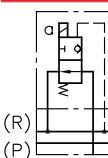
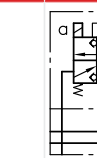


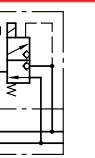
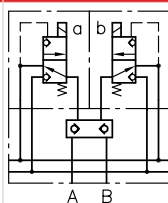
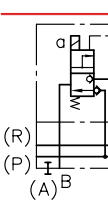
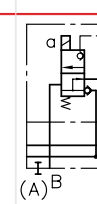
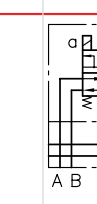
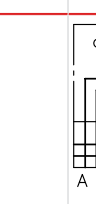


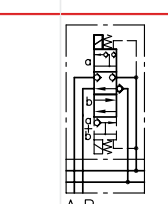
Basic type, size Type BWN, size 1 and type BWH, size 1 to 3

Function

Connection blocks/adaptor plates:

<p>A-1/...</p>  <p>For pipe connection, with fixed pressure-limiting valve (/...- pressure specification in bar)</p>	<p>C</p>  <p>For mounting onto hydraulic power packs</p>	<p>F</p>  <p>For mounting on compact hydraulic power packs with connection block (type KA, HC, MP, MPN and HK)</p>
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
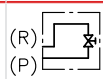
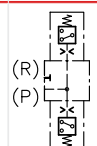
Valve sections:

D 	F 	B 	Q 	A 	C 	E 	D 
O 	H 	N 	M 	R 	K 		
I 	Y 	S 	T 	J 	U 	L 	

Additional options for the valve sections:

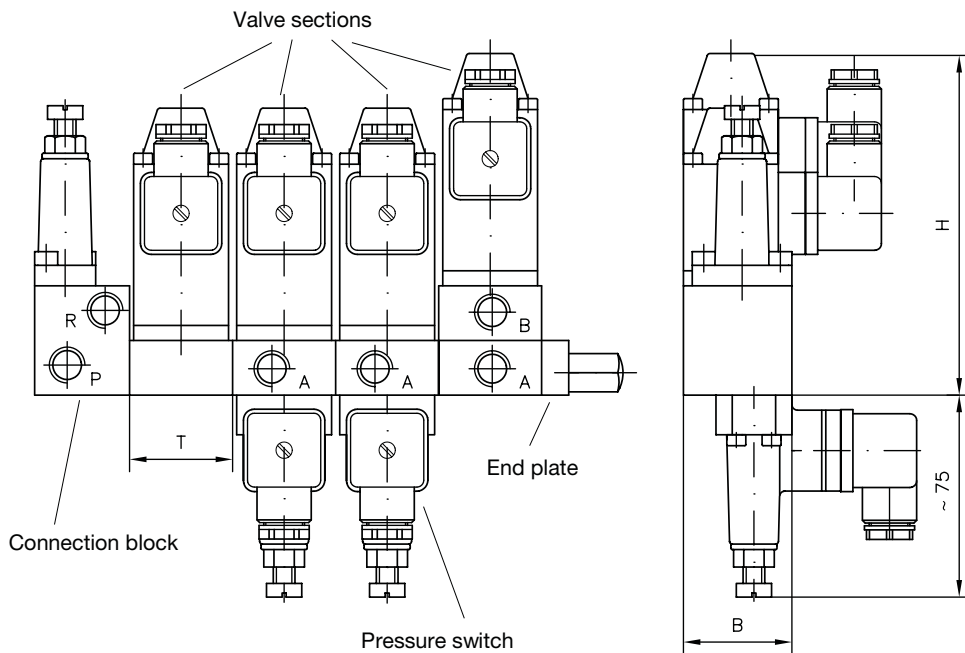
- Pressure switches in the consumer or pump channel. The pressure switches (type DG 3..) are directly flange-mounted to the sub-plate.
- Pressure-limiting valves in the consumer channel (for 3/2- or 3/3-way directional valves, for size 1). The pressure-limiting valve is directly incorporated in the sub-plate.
- Pressure-reducing valves for pressure reduction in the subsequent pump channel.

End plates:

<p>1</p>  <p>Standard end plate</p>	<p>2</p>  <p>End plate with accumulator drain valve</p>	<p>3../3..</p>  <p>End plate with one or two pressure switches connected to the P gallery</p>
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General parameters and dimensions

Version for pipe connection:



- 1 Connection block
- 2 Valve sections
- 3 End plate
- 4 Pressure switches

	Q_{\max} [lpm]	p_{\max} [bar]	Ports P, R, A, B	Dimensions [mm]			m [kg]
				H	T	B	
BWN 1	5	350	G 1/4	116.5 ... 131.5	38	40	0.8 ... 0.9
BWH 1	8	450	G 1/4	116.5 ... 131.5	38	40	0.8 ... 0.9
BWH 2	15	350	G 1/4	122 ... 157.5	38	50	0.9 ... 1.1
BWH 3	30	350	G 3/8	155.5 ... 168	50	60	1.9 ... 2.4

- Weight m [kg] per individual element: + 0.3 kg per pressure switch fitted

Associated publications:

- Valve bank (directional seated valve) type BWN and BWH: [D 7470 B/1](#)
- Directional seated valve type WN and WH: [D 7470 A/1](#)

Connection block:

- Type A: [Page 62](#)

Compact hydraulic power packs:

- Type HC, HCW, HCG: [Page 42](#)
- Type HK, HKF, HKL: [Page 54](#)

- Type NPC: [Page 40](#)
- Type KA, KAW: [Page 46](#)

Hydraulic accessories:

- Pressure switches type DG 3.., DG 5E: [Page 262](#)
- Pressure reducing valves type CDK: [Page 180](#)