

2.2 Valve bank (directional seated valve) type BVH

A valve bank combines different valves for operating independent consumers. The valve bank type BVH comprises several directional seated valves that are connected in parallel. As cone valves the directional seated valves have zero leakage in the closed state. The valve sections are connected using banjo bolts. 2/2, 3/2, 4/2 and 4/3-way directional seated valves are available. Depending on the functional requirement, pressure reducing valves, pressure switches, check valves, restrictors or restrictor check valves are integrated into the valve section. The valve bank can be flange-mounted directly on compact hydraulic power packs or integrated into a pipe system via a piping block.

Features and benefits:

- Flexible expandability
- Compact and lighter design (elimination of the base plates)

Intended applications:

- Auxiliary and clamping functions on machine tools and fixtures
- Auxiliary and clamping functions on forming machine tools
- Brake and rotor adjustment modules on wind turbines



Nomenclature:	Valve sections Directional seated valve Zero leakage
Version:	Valve sections for pipe connection
Actuation:	Solenoid
p_{max}:	400 bar
Q_{max}:	20 l/min

Design and order coding example

BVH 11 | **M/CZ/35/M/R/2** | **- 8** | **- G24**

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

- End plate**
- With tapped plugs at P, R
 - With accumulator port and drain valve

- Valve sections**
- With individual pressure reduction (parallel connection)
 - Additional elements:
 - Pressure-reducing valves
 - Orifice and/or check valve in P gallery
 - Orifice or restrictor check valve for A
 - Return pressure block in R gallery
 - Pressure switches for A

Basic type Type BVH 11 for direct mounting onto connection blocks type A etc. (for compact hydraulic power packs type KA, MPN, HC, HK, HKF, HKL)

Function

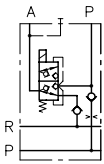
Connection blocks/adapter plates:

BVH

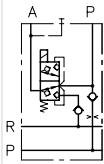
Direct mounting onto connection blocks type A etc.
for compact hydraulic power packs type KA, MPN, HC, HK, HKF, HKL

Valve sections:

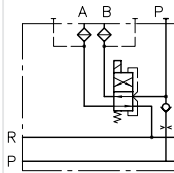
H



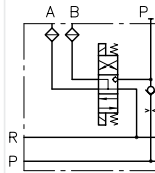
M



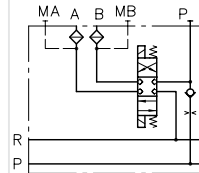
W



D



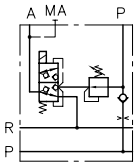
G



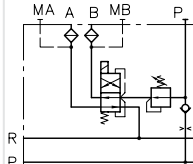
Additional options for the valve sections:

Individual pressure reduction (parallel connection)

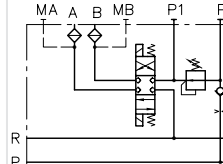
BVH 11 H/CZ...



BVH 11 W/CZ...

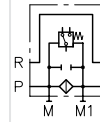


BVH 11 G/CZ...



Pressure filter

BVH 11 ZD



Actuations:

M: Solenoid actuation ($p_{max}= 400$ bar)

GM: Solenoid actuation ($p_{max}= 250$ bar)

End plates:

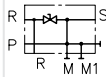
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Tapped plug at P, R



-81

with accumulator port and drain valve



General parameters and dimensions

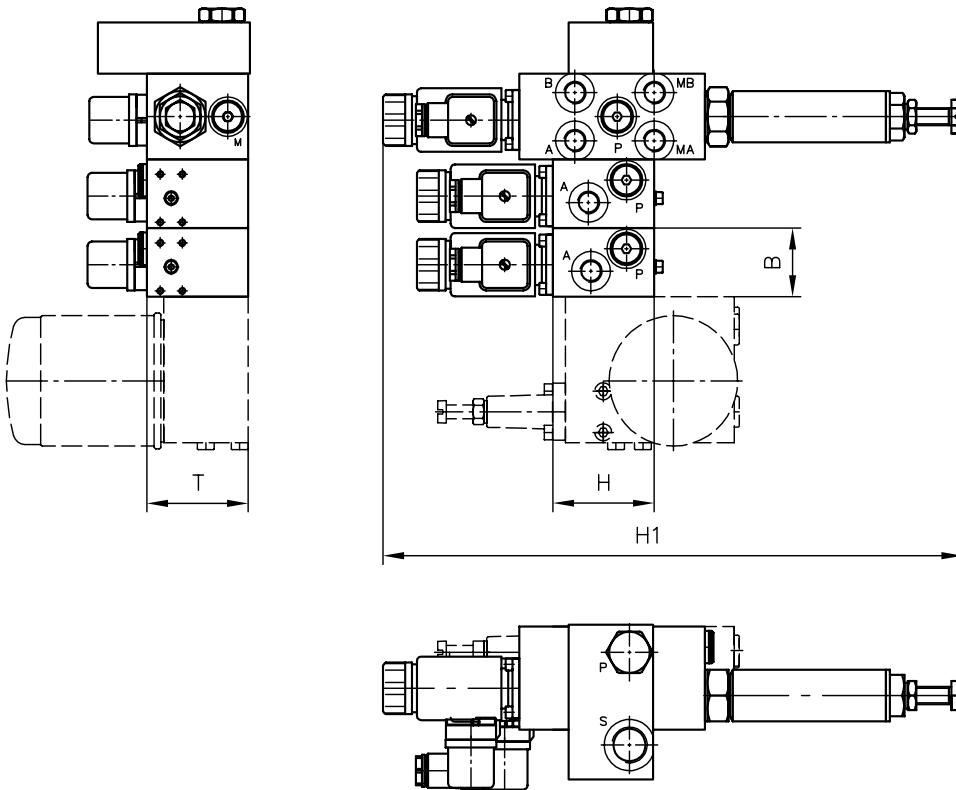
(A1F1/310)

- BVH 11 H/M/R/2
- BVH 11 M/M/R B2.5/3
- BVH 11 W/CZ 5/35/M/R/22 - 81 - G 24

Type BVH valve bank for direct mounting at type A connection block

- Valve section 1** with 3/2-way function circuit symbol H, P check valve (coding R), no pressure switch (coding 2)
- Valve section 2** with 3/2-way function circuit symbol M, check valve and orifice in P gallery (coding R, B, 2, 5) and pressure switch for A (coding 3)
- Valve section 3** with 4/2-way function circuit symbol W, individual pressure-reducing valve set to 35 bar (coding CZ5/35) and check valve in P gallery (coding R), no pressure switch
- End plate** for accumulator port (coding 8) and 24V DC solenoid voltage

Mounted valve type BVH



	Q_{\max} [lpm]	p_{\max} [bar]	Ports (BSPP)	Dimensions [mm]				m [kg]
				H	H1	B	T	
BVH	20	400	G 1/4	60	343	40/50	60	0,8

Circuit example:

KA 281 SKT/Z 9.8

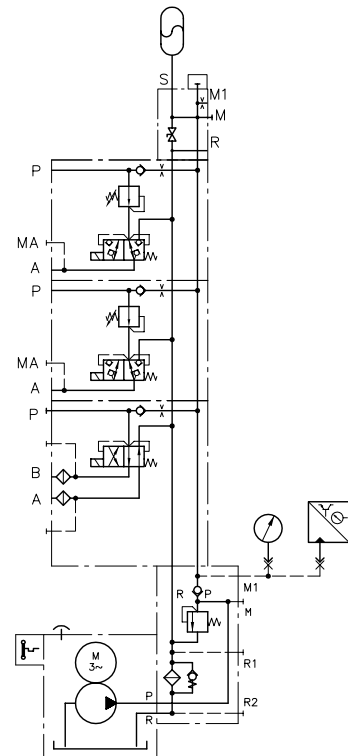
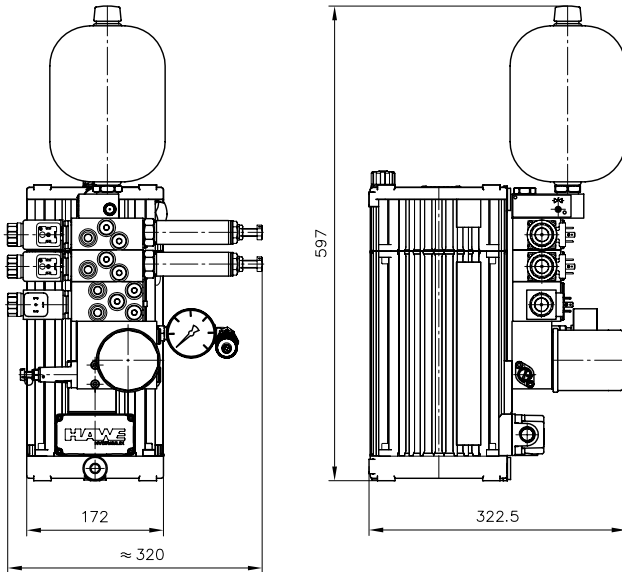
Compact hydraulic power pack type KA
1 kW motor power;
Connection block with return line filter
and TÜV-approved safety valve
set to 120 bar

- AX 3 F 1 E/120
- BVH 11 W/M/RH/2
- BVH 11 M/CZ5/35/M/RHB 2.5
- BVH 11 M/CZ5/35/M/RHB 2.5
- 82-X 24 - AC 2001/60/3/A 3x400V 50 Hz

Valve bank type BVH with three valve sections,
two clamping functions with individually
adjustable clamping pressure

Parameters of the circuit example

- $Q_{Pu} = 9.8$ lpm (at 1450 rpm)
- $p_{max Pu} = 170$ bar
- $p_{System} = 120$ bar
- $p_{switch-off feature} = 50$ bar
- $V_{use} = \text{approx. } 3$ l



Associated technical data sheets:

- [Valve bank \(directional seated valve\) type BVH: D 7788 BV](#)

Compact hydraulic power packs:

- See section "Compact hydraulic power packs"

Connection blocks:

- Type A: [Page 62](#)

Combinable products:

- Directional seated valves type NBVP: [Page 134](#)
- Pressure reducing valves type CDK, DK: [Page 180](#)

Accessories:

- Pressure switches type DG: [Page 262](#)
- Hydraulic accumulator type AC: [Page 258](#)

Plug:

- [Line connector type MSD and others: D 7163](#)