Directional seated valve bank type BVZP

The valve bank type BVZP consist of a connection block (with ports P and R), the directional seated valves type VZP installed on sub-plates and connected in parallel plus the end plate. The whole valve bank is held together with two tension rods. Depending on the type, the sub-plate feature optional functions e.g. restrictor check valves and/or pressure reduction valves covering only the corresponding valve section. Connection blocks with or without pressure-limiting valve can be mounted for pipe connection. Combination with hydraulic power packs (type HK, HC, MP, MPN and KA) and other directional valve types is achieved using appropriate adapter plates. Various end plates (e.g. with and without pressure switch in the P gallery) extend the range of possible applications. Particularly in conjunction with hydraulic power packs, the compact design enables complete hydraulic control systems with low spatial requirements to be achieved.

Nomen-clature:	Directional seated valve, zero leakage
Desing:	Valve bank ■ For pipe connection ■ Combination with hydraulic power packs
Actuation:	Solenoid
p_{max}:	450 bar
Q_{max}:	15 lpm

Features and benefits:

- Excellent price/performance ratio
- Max. operating pressure 450 bar
- Adapter plates for flange-mounting on compact hydraulic power packs
- Option to incorporate additional functions in the sub-plate, such as pressure switches, throttle and check valve combinations etc.

Intended applications:

- Machine tools (chipping and non-chipping)
- Mining (incl. oil production)
- Clamping equipment, punching tools, jigs
- Rubber and plastics machinery

Design and order coding example

BVZP1 | **A-1/400** | **- G33/22** | **- 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 (BSPP)

End plate
- With/without pressure switch or prepared for retro-fitting of a pressure switches
- Adapter plates for adding other valve banks (type BWN(H)1/BWH 2)

Valve sections
- 4/2-way functions via directional spool valve
- 4/3-way directional seated valve (G, D, E, O)
- 3/3-way directional seated valve (J, P)
- 2/2- and 3/2-way directional seated valve (F, D - H, M, N, R)
- Pressure reducing valve for gallery P

Additional elements
- Pressure switch in consumer port
- Pressure-reducing valve in the consumer port

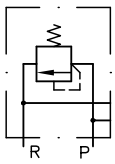
Connection block/adapter plates
- For pipe connection
  - Pressure limiting valve (manually of tool adjustable)
  - Drain valve (for discharging the accumulator)
  - Pressure switch
- For direct mounting at compact hydraulic power packs with connection block with/ without prop. 3-way flow controller and optional pre-load valve in gallery R

Basic type, size Type BVZP, size 1

Function

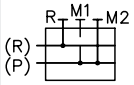
Connection blocks:

A 1



For pipe connection, with tool adjustable pressure limiting valve (/...- pressure specification in bar)

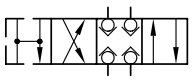
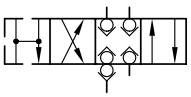
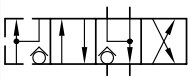
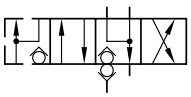
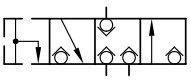
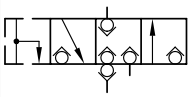
F



For direct mounting onto hydraulic power packs with connection block (type KA, HC, MP, MPN and HK), prepared for retrofitting of one or two pressure switches connected to gallery P

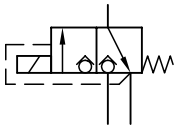
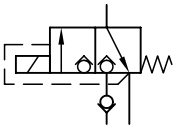
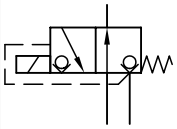
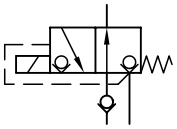
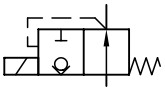
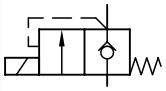
Valve sections:

Cone seated valves with 4/3- or 3/3-way function up to 400 bar

E	G	D	O	P	J
					

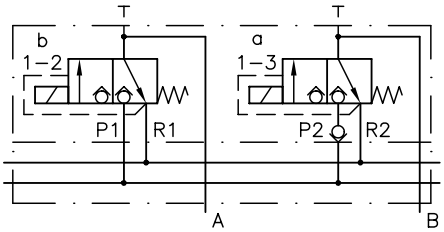
- The 4. shifting position illustrates mode when both solenoids are energized

Ball seated valves with 3/2- or 2/2-way function up to 450 bar

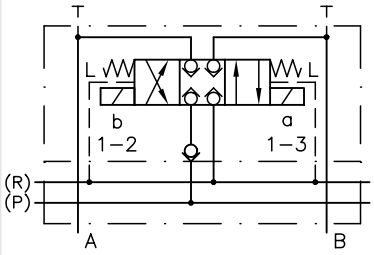
H	N	M	R	F	C
					

Valve sections

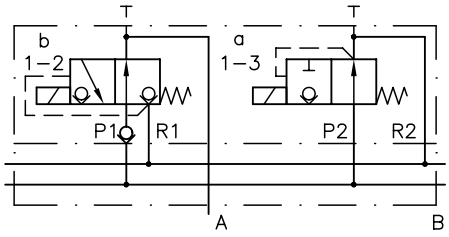
Example: -G22/0



Example: -H2N2/0



Example: -R2F2/0



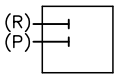
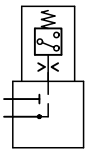
Options for the valve section:

- Sub-plate with throttle and restrictor check valves in the consumer port
- Valve section with 4/2-way function, directional spool valve
- Pressure reducing valve reducing the pressure for one valve section only (connected in parallel)
- Pressure reducing valve reducing the pressure for all subsequent valves (connected in series)
- Pressure reducing valve with orifice/throttle and by-pass check valve in the consumer port

Additional versions:

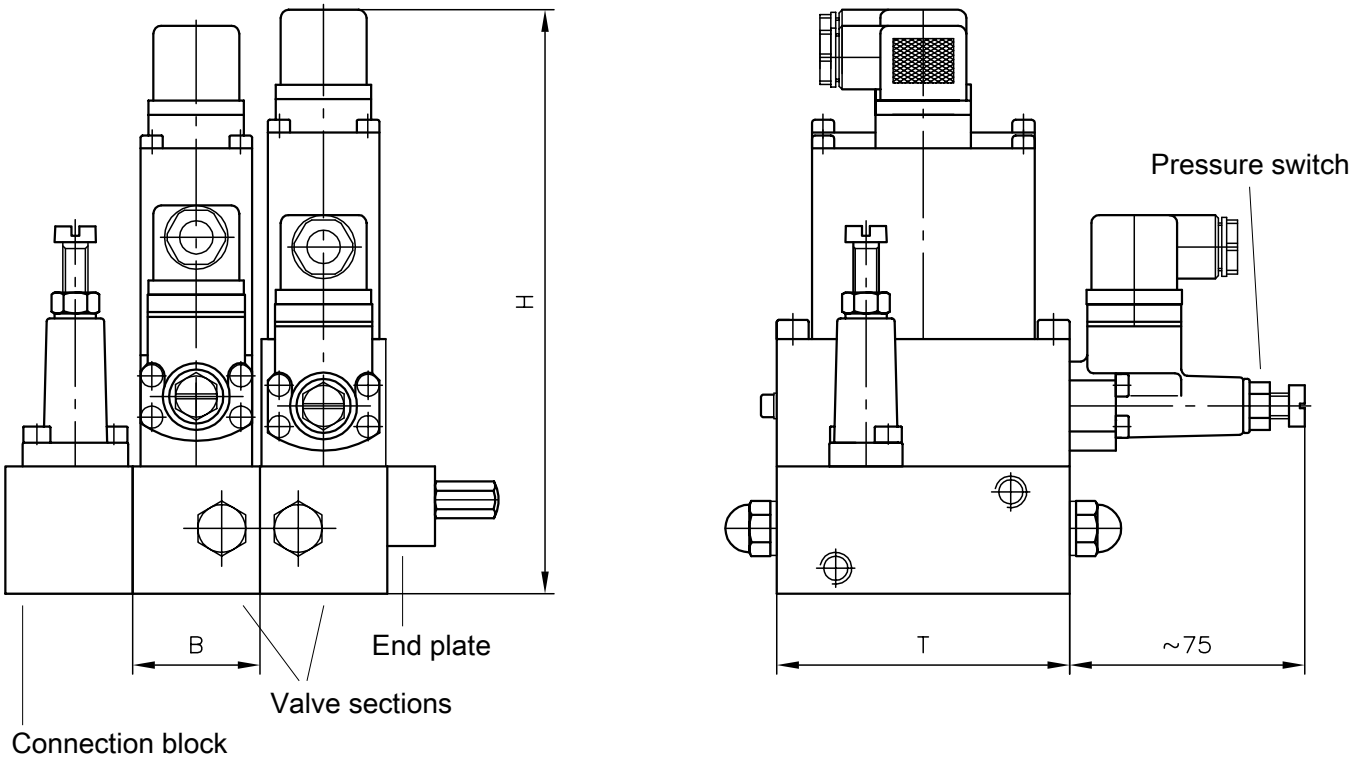
- Individual valve with orifice in the gallery P and/or return pressure stop in the return gallery
- Individual valve type WH with sub-plate, may be integrated in a valve bank
- Sub-plate for 4/3-way valves with ancillary blocks at the consumer side featuring a pressure reducing valve with tracked pressure switch and throttles

End plates:

1	32	33 to 37
		
Standard end plate	End plate prepared for retrofitting of a pressure switch type DG 3..	End plate with pressure switch type DG 3..

BVZP 1

Example: BVZP1 A-1/200 - G 52/22 - R5 M2/0 - 1 - 1 - G24



	Q_{max} [lpm]	p_{max} [bar]	Ports (BSPP)	Dimensions [mm]			m [kg]
			A, B, P, R, M	H	B	T	Valve section
BVZP 1	15	450	G 1/4	max. 182	40	92	2.9 - 3.2

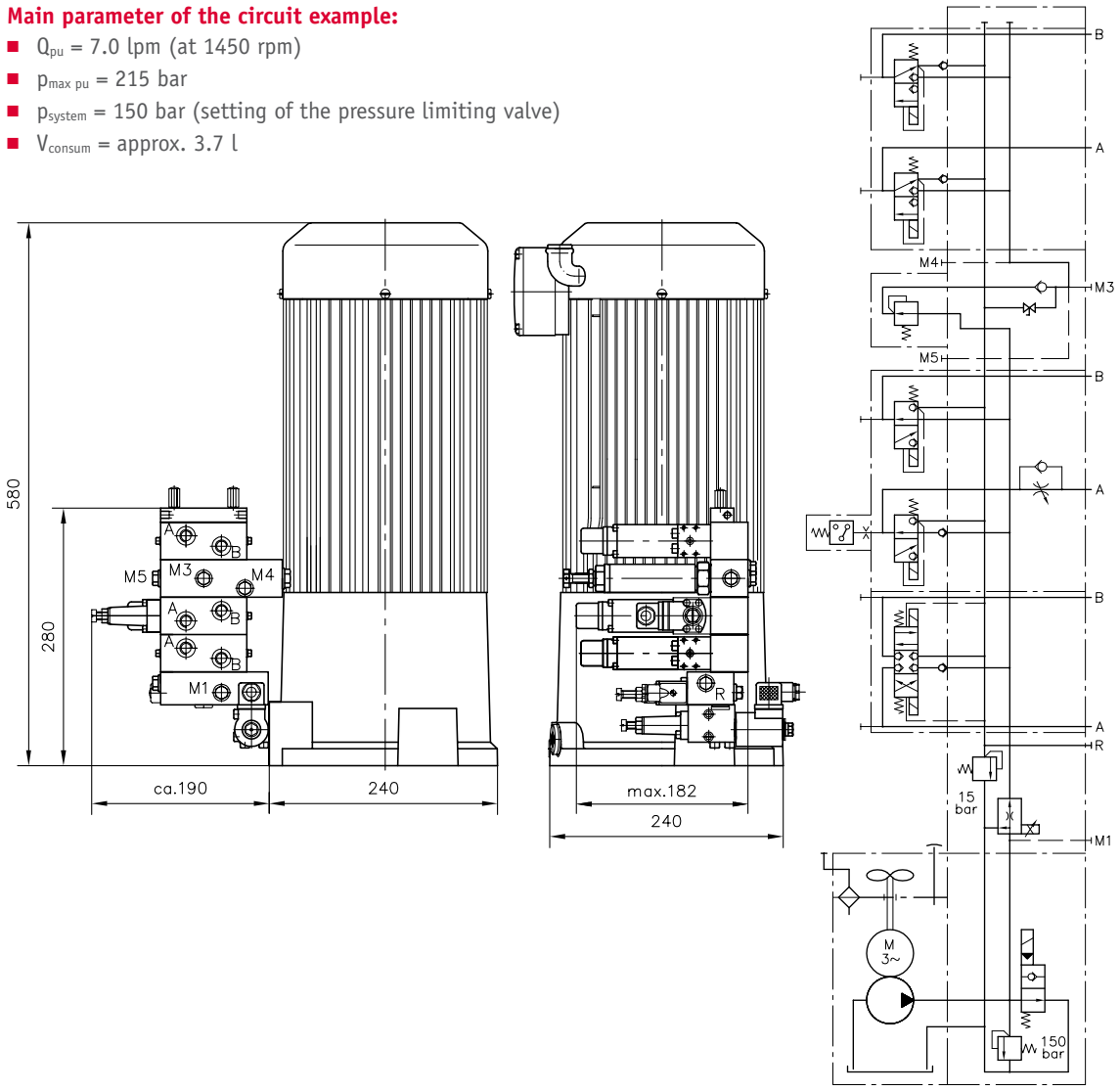
- m [kg]: + 0.3 per mounted pressure switch

Circuit example:

HK 448/1 - H7,0 - AS1/150	BVZP1 FEH10F V15/G12 - G22/0 - R5 M2/20 - CZ5/80/5R - H12 H12/0 - 1 - 1 - G24
Hydraulic power pack type HK, size 4; connection block with integrated idle circulation valve and pressure limiting valve	Valve bank type BVZP with 5 individually controlled valve functions housed in 3 valve sections, two functions are supplied with reduced pressure (pressure reducing valve section). The flow can be arbitrarily adjusted via a prop. flow control valve

Main parameter of the circuit example:

- Q_{pu} = 7.0 lpm (at 1450 rpm)
- $p_{max\ pu}$ = 215 bar
- p_{system} = 150 bar (setting of the pressure limiting valve)
- V_{consum} = approx. 3.7 l



Associated technical data sheets:

- Valve banks type BVZP: D 7785 B

Products:

- Directional seated valves type VZP1: D 7785 A
- Valve banks type BWN1, BWH: D 7470 B/1
- Pressure-reducing valves type CDK and DK: D 7745, D 7941
- Slot-type throttles type Q, QR, QV: D 7730

Accessories:

- Pressure switches type DG 3.., DG 5E: D 5440, D 5440 E/1

Plugs:

- With LEDs or to support the EMV or with economy circuit etc.: D 7163