

## Valve bank (nominal size 6) type BA

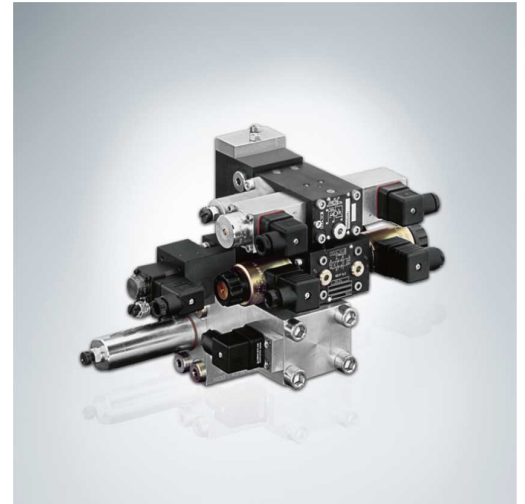
A valve bank combines different valves for operating independent consumers. The directional valve bank type BA consists of several valve sections that are fitted to sub-plates with NG 6. Using these items compact control blocks can be assembled flexibly. The intermediate plates type NZP make possible additional functions and contain, e.g., pressure-reducing valves, shock valves, load-holding valves etc. An intermediate plate can be inserted between the sub-plate and the valve. The valve bank type BA can be flange-mounted directly on the compact hydraulic power pack.

### Features and benefits:

- Sub-plates for flexible combination of directional valve types with NG 6 (CETOP) standard connection pattern
- Valve bank can be flange mounted directly on the connection block of a compact hydraulic power pack or connected as a separately arranged valve bank for pipe connection
- Pressure switches and/or any other monitoring elements can be connected directly
- Additional elements, such as orifices, throttles and check valves for connections P, R, A and B can be integrated
- Hydraulic accumulator can be mounted directly

### Intended applications:

- Clamping systems on machine tools and equipment
- Process control on deforming machine tools
- Brake and rotor adjustment modules on wind turbines



<b>Nomenclature:</b>	Sub-plates/directional seated valve, zero leakage
<b>Version:</b>	Valve section with sub-plates for pipe connection
<b>Actuation:</b>	Solenoid Pressure-operated <ul style="list-style-type: none"> <li>▪ Hydraulic</li> <li>▪ Pneumatic</li> </ul> Manual Mechanical <ul style="list-style-type: none"> <li>▪ Pin</li> <li>▪ Roller</li> </ul>
<b>p<sub>max</sub>:</b>	500 bar
<b>Q<sub>max</sub>:</b>	50 lpm

## Design and order coding example

BA2 A5	NBVP16 NBVP16 NSWP2	S G G	B0,8 R B0,6 R	/ABR2,0/BBR1,5 /ABR1,0/BBR1,5	/A3B9/400 /50	/S /S	/0 /3 /0	- 1	- G24
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**Solenoid voltage** 12V DC, 24V DC, 230V AC, 110V AC

**End plate**

- Drain valve with/without pressure switches
- with one or two accumulator ports with/without release valve and/or with/without drain valve

**Sub-plate**

- Check valves with release
- Throttle
- Additional pressure gauge connections

**Additional elements in R** Return pressure stop

**Pressure switch/pressure gauge** in A and/or B

**Additional elements in A, B** Throttle check valve in A and/or B  
Throttle valve in A and/or B

**Additional elements in P** Check valve  
Orifice

**Circuit symbol of the directional valve**

- Valve sections**
- Directional valves**
- Type NSMD2, NSWP2, NBVP16, NBMD16, NG...-1, NZP16
- Intermediate plates for series connection**
- Type CZ: with pressure-reducing valve in P gallery
- Intermediate plates for parallel connection type NZP**
- with throttle and/or throttle check valves
  - with pressure-reducing valves
  - with short-circuit and by-pass valves
  - for random switching of a 2nd speed

- Connection block**
- Direct mounting onto type A, AF etc. connection blocks (for type KA, MP, MPN, HC, HK(F), HKL compact hydraulic power packs)
  - Variant for pipe connection with/without pressure-limiting valve (A5)

**Function**

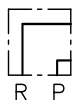
**Connection blocks/adapter plates:**

**BA2 ..**

Direct mounting onto type A, AF etc. connection blocks at type KA, MP, MPN, HC, HK(F), HKL compact hydraulic power packs

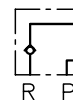
**BA2 A5**

Version for pipe connection without pressure-limiting valve



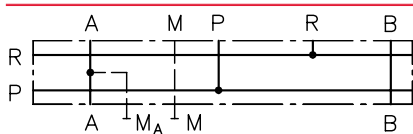
**BA2 A8**

Like version BA2 A5 but with check valve in R

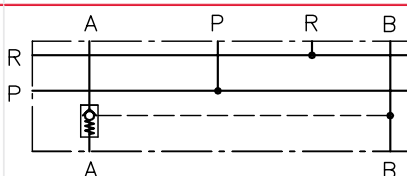


**Sub-plates for plate assembly valve**

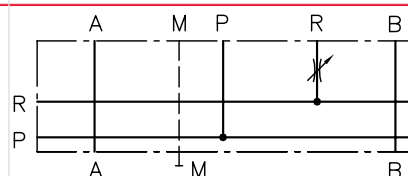
**BA2.../0**



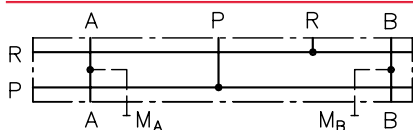
**BA2.../1**



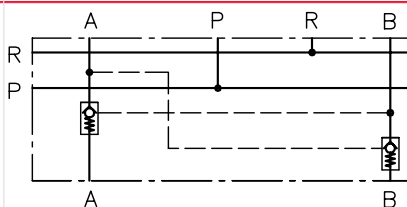
**BA2.../2**



**BA2.../3**



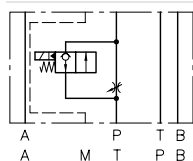
**BA2.../5**



**Valve section additional options**

Intermediate plates for 2nd speed with orifice/throttle in P and T gallery

**/NZP16(T)V/P(T)Q20...**

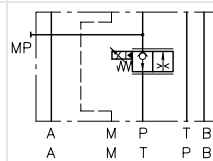


Example: .../NZP16TV/TB1.0/...

Type B1.0 orifice and type EM21V by-pass valve in T gallery

Intermediate plate for variable speed adaptation via proportional throttle in P and T gallery

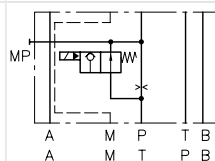
**/NZP16(T)VP**



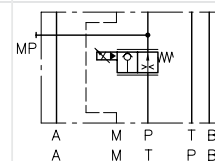
Example: .../NZP16VP/...

Type EMP21V proportional throttle valve in P gallery

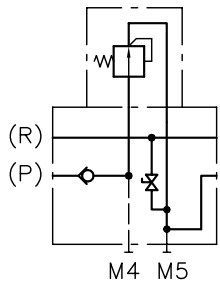
**/NZP16(T)S/P(T)B...**



**/NZP16(T)SP**

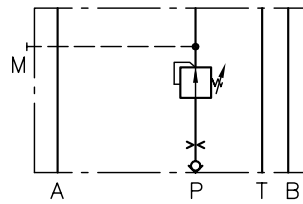


**Intermediate plate (series connection) with pressure-reducing valve for pressure reduction of the subsequent P gallery  
.../CZ...**



Example: BAZ-CZ2/180/5R  
Type CDK3 pressure-reducing valve set to 180 bar with check valve

**Intermediate plates (parallel connection) with pressure-reducing valve in P gallery  
.../NZP16(26)CZ...**



Example: .../NZP16CZ08/350/B0.8R/...  
Type CDK0.8 pressure-reducing valve set to 350 bar with orifice and check valve in P gallery

**Actuations:**

M: Solenoid actuation ( $p_{max}= 400$  bar)  
GM: Solenoid actuation ( $p_{max}= 250$  bar)  
H: Hydraulic actuation

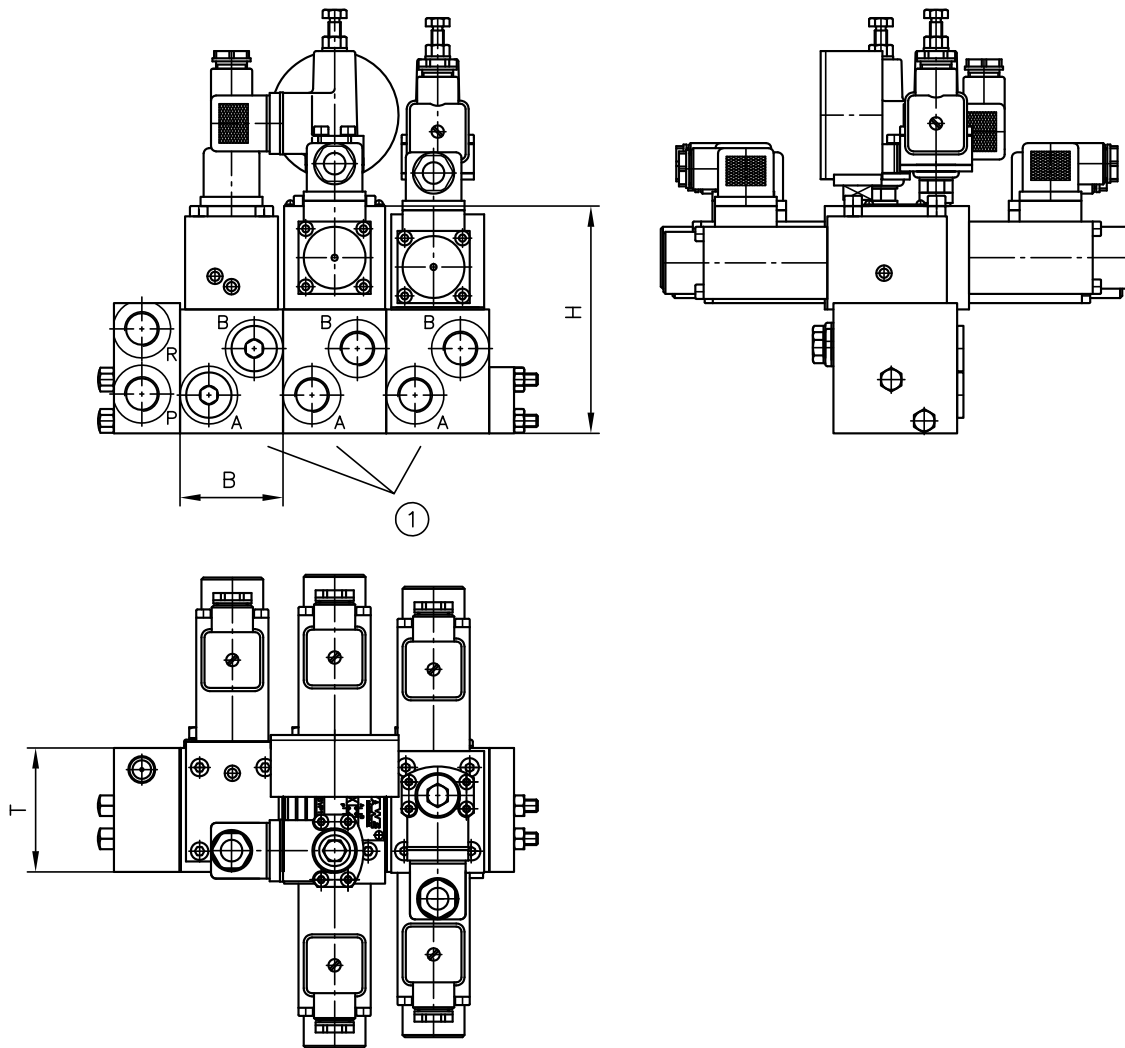
P: Pneumatic  
A: Manual actuation  
T: Pin  
K: Roller

**End plates**

-1	-6	-422	-8	-80/-8W	-880(88W)/...
Series	with drain valve	with drain valve and pressure switches	with accumulator port and drain valve	with accumulator port and release valve	with two accumulator ports and release valve

General parameters and dimensions

Mounted valve type BA



1 Sub-plates type BA2

	$Q_{max}$ [lpm]	$p_{max}$ [bar]	Ports (BSPP)	Dimensions [mm]			m [kg]
				H	B	T	
			A, B, P, R, M				Valve section
BA2	20	400	G 1/4, G 3/8	139	50	60	0,8

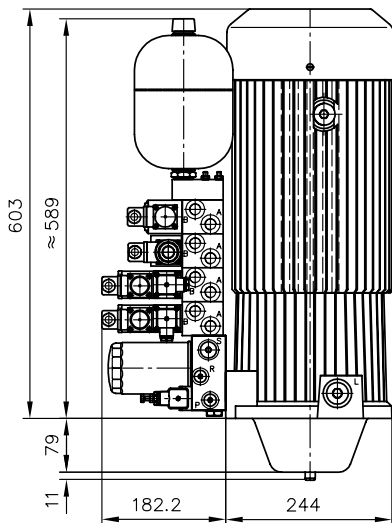
## Circuit example:

HK 449 LDT/1 - Z16  
- AL21R F2 - F/50/60 - 7/45

Type HK compact hydraulic power pack size 4;  
connection block with accumulator charging valve, setting: 50 bar, pressure-limiting valve, setting: 60 bar, filter and pressure switch, setting: 45 bar

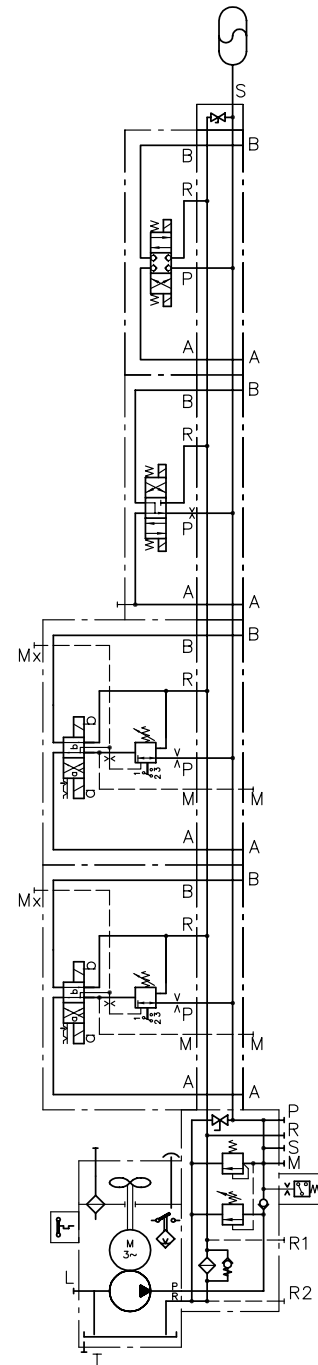
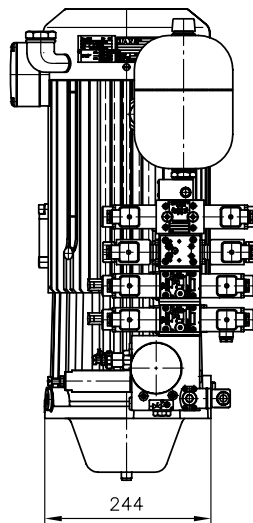
### Parameters of the example circuit:

- $Q_{Pu} = 16 \text{ lpm}$  (at 1450 rpm)
- $p_{\max Pu} = 110 \text{ bar}$
- $p_{\text{system}} = 60 \text{ bar}$   
(pressure-limiting valve setting)
- $p_{\text{switch-off feature}} = 50 \text{ bar}$
- $V_{\text{load}} = \text{approximately } 5 \text{ l}$



- BA2  
- NSMD2W/GRK/B2.0/0  
- NSMD2W/GRK/B2.0/0  
- NSWP2D/B2.0/20/1  
- NBVP16G/0  
- 8 - AC2001/35 - L24

Type BA2 valve bank with four industrial standard valves mounted on sub-plates, two clamping functions for work piece clamping with combined option to adjust pressure and pressure switches, two additional functions for indexing and tool clamping



### Associated technical data sheets:

- [Valve bank \(nominal size 6\) type BA: D 7788](#)
- [Intermediate plate type NZP: D 7788 Z](#)

### Suitable compact hydraulic power packs:

- see "Compact hydraulic power pack" chapter

### Suitable connection block:

- [Connection blocks type A for hydraulic power packs: D 6905 A/1](#)

### Combinable products:

- [Clamping module type NSMD: D 7787](#)
- [Directional spool valve type NSWP 2: D 7451 N](#)
- [Directional spool valve type SWPN: D 7451 AT](#)
- [Directional seated valve type NBVP 16: D 7765 N](#)

### Suitable accessories:

- [Pressure switch type DG: D 5440](#)
- [Diaphragm accumulator type AC: D 7969](#)

### Suitable plugs:

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