

# Directional seated valves

## 2.2 Directional seated valve type BVG, BVP and NBVP

### Directional seated valve BVG, BVP, NBVP

Directional seated valves are a type of directional valve. As cone valves they are tightly sealed without leakage in the closed state.

The directional seated valve type BVG is installed directly in the pipe. The valves type BVP and NBVP are valves for manifold mounting. The type NBVP has the standard connection pattern nominal size NG 6. 2/2, 3/2, 3/3 and 4/3 directional seated valves are available with different types of actuation. All connections can be subjected to the same pressures. Depending on the functional requirement, a check valve, restrictors and/or restrictor check valves are integrated into type NBVP, for example. Type NBVP is used together with other valves in valve bank type BA.

#### Features and benefits:

- Explosion-proof design
- 4th switching position on 4/3 directional valves
- 8-Watt solenoid

#### Intended applications:

- Machine tools
- Woodworking and processing machinery
- Testing machinery
- Jig construction



<b>Nomenclature:</b>	Directional seated valve, zero leakage
<b>Design:</b>	Individual valve for pipe connection Individual valve, Manifold mounting
<b>Actuation:</b>	<ul style="list-style-type: none"> <li>▪ Solenoid</li> <li>▪ Hydraulic</li> <li>▪ Pneumatic</li> <li>▪ Manual</li> </ul>
<b>p<sub>max</sub>:</b>	400 bar
<b>Q<sub>max</sub>:</b>	20 l/min

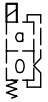
### Design and order coding example

BVG1 - R /B2 - 1/4 - WGM 230

<p><b>Basic type, size</b></p>	<p><b>Function</b></p> <ul style="list-style-type: none"> <li>▪ 2/2-way directional valve (R, S), also available in version with position monitoring (RK, SK)</li> <li>▪ 3/2-way directional valve (Z, Y), also available in version with position monitoring (ZK)</li> <li>▪ 4/3-way directional valve (G, D)</li> </ul>
<p><b>Additional elements</b></p> <ul style="list-style-type: none"> <li>▪ Orifice in one port</li> <li>▪ NBVP: orifice and/or check valve in the P gallery, orifice, restrictor check valve and/or pressure switches in port A, B, return pressure stop in T</li> </ul>	<p><b>Actuations:</b> Solenoid, hydraulic, pneumatic, manual</p> <p><b>Connection size or connection block</b></p>
<p>Type BVG and BVP, size 1 and 3 Type NBVP (with standard connection pattern NG 6), size 1</p>	

**Actuations:**

**Solenoid**



Solenoid voltages: 12V DC, 24V DC, 110V AC, 230V AC

- BVP 1, NBVP16 also available in ATEX-compliant version
- Version with M12 plug and 8-watt solenoid

**Hydraulic**

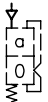


Control pressure:

$p_{\text{contr. min}} = 24 \text{ bar}$

$p_{\text{contr. max}} = 320 \text{ bar}$

**Pneumatic**



Control pressure:

$p_{\text{contr. min}} = 2 \dots 3.5 \text{ bar}$

$p_{\text{contr. max}} = 15 \text{ bar}$

**Manual**

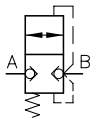


Actuation torque:

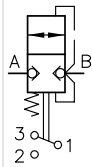
approx. 1.5 ... 3 Nm

**Function**

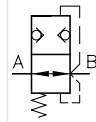
**R**



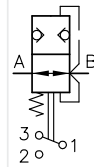
**RK**



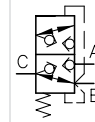
**S**



**SK**

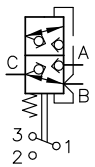


**Z**

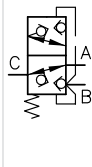


- Further circuit symbols available

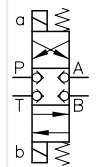
**ZK**



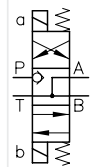
**Y**



**G**



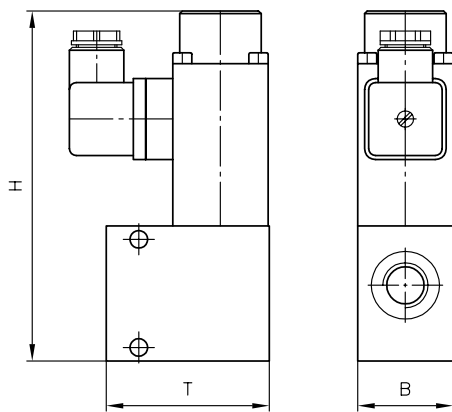
**D**



- additional switching symbols available
- **G, D:** only for type NBVP16
- Versions with contact switch for position monitoring

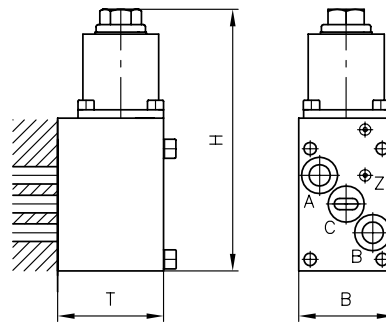
## General parameters and dimensions

BVG



Version for pipe connection  
(solenoid actuation)

BVP, NBVP



Version for base manifold mounting  
(hydraulic actuation)

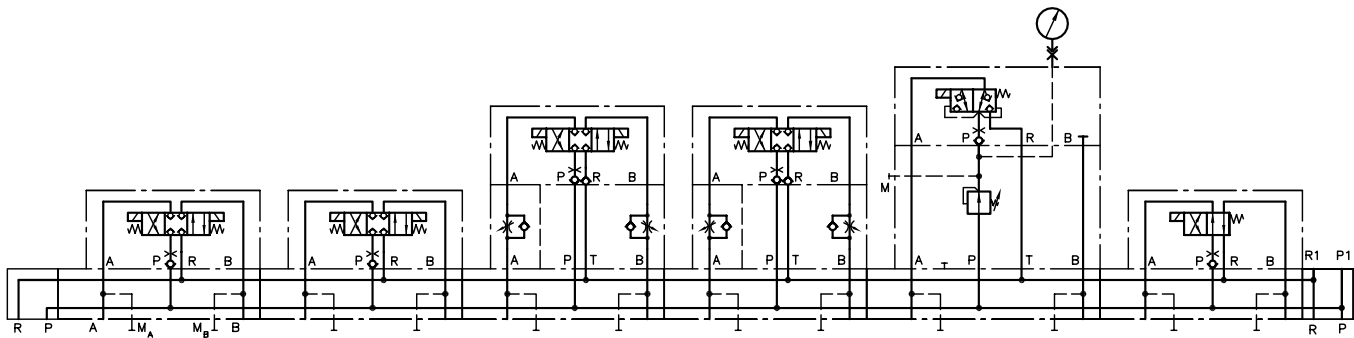
	$Q_{max}$ [lpm]	$p_{max}$ [bar]	Ports	Dimensions [mm]			$m_{max}$ [kg]
				$H_{max}$	$B_{max}$	$T_{max}$	
<b>BVG 1</b>	20	400/250 <sup>1)</sup>	G 1/4, G 3/8	115 (130)	60	40	1.6
<b>BVP 1</b>					35	39	1.0
<b>NBVP 16</b>	20	400/250 <sup>1)</sup>	NG 6	230	45	45	2.1

<sup>1)</sup> with solenoid actuation GM.. and WGM

**Circuit example:**

BA2A5

- NBVP16G/B2.0R/3
- NBVP16G/B2.0R/3
- NBVP16G/R/S/NZP16Q22/3
- NBVP16G/R/S/NZP16Q22/3
- NBVP16Y/B2.0R/2/NZP16CZ5/50/3 - X84V - 9/100A
- NBVP16W/B2.0R/3
- 2 - LM24


**Associated technical data sheets:**
**Directional seated valves**

- [Directional seated valve type BVG 1 and BVP 1: D 7765](#)
- [Directional seated valve type NBVP 16: D 7765 N](#)

**Products:**

- Type BA: [Page 144](#)
- Type NZP: [Page 144](#)
- Type BVH: [Page 124](#)

**Male connectors:**

- [Line connector type MSD and others: D 7163](#)
- With economy circuit: [D 7813](#), [D 7833](#)