

### DATA SHEET - OPERATION MANUAL

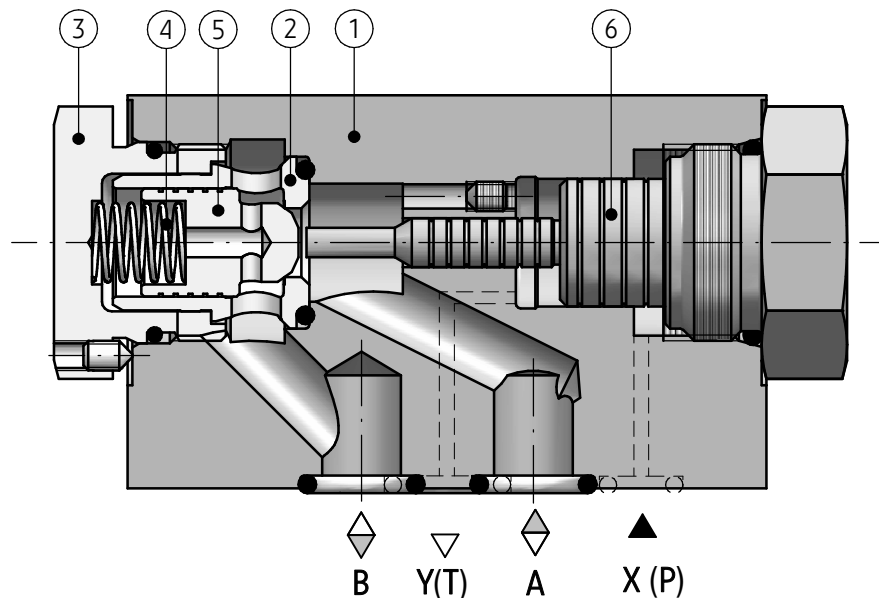
## APPLICATION

Pilot operated check valve for subplate mounting type UZSB6.. is used in the hydraulic systems when free flow in one direction and automatic closure in the opposite direction are required. There is a possibility of opening the flow by control pressure. The valves can be mounted in any desired position together with a subplate.



## DESCRIPTION OF OPERATION

UZSB6 - 32/Z 10



The plug (3) being the seat for the spring (4) is fitted in the housing (1). The spring pushes the poppet (5) to the internal edge of sleeve (2). When pressure difference in port A exceeds cracking pressure determined by the spring, the poppet moves along the cylindrical sleeve and connection from A to B is then open. When pressure is applied to port X oil can also

flow through the valve from B to A. Pressure at port X affects the surface of the spool (6) which moves pushing the poppet. It results in opening connection from A to B. Fluid can flow from B to A as long as pilot pressure affects port X. Port Y is an optional external drain connection

## TECHNICAL DATA

Hydraulic fluid	mineral oil		
Required fluid cleanliness class	ISO 4406; class 20/18/15		
Nominal fluid viscosity	37 mm <sup>2</sup> /s at temperature 55 °C		
Viscosity range	2,8 up to 380 mm <sup>2</sup> /s		
Fluid temperature range (in a tank)	recommended	40 °C up to 55 °C	
	max	-20 °C up to +70 °C	
Ambient temperature range	- 20 °C up to +70 °C		
Maximum operating pressure	31,5 MPa		
Maximum control pressure	31,5 MPa		
Cracking pressure	0,1 MPa	0,15 MPa	0,3 MPa
Weight	0,9 kg		

### Pressure affecting areas

Valve version	F <sub>1</sub> [cm <sup>2</sup> ]	F <sub>2</sub> [cm <sup>2</sup> ]	F <sub>3</sub> [cm <sup>2</sup> ]	C [MPa]		
				UZSB6...10...	UZSB6...15...	UZSB6...30...
UZSB 6...X...	1,32	0,38	-	0,05	0,08	0,12
UZSB 6...Z...	1,32	0,38	0,19			

F<sub>1</sub> - surface area of the spool (6)

F<sub>2</sub> - surface area of the poppet (5)

F<sub>3</sub> - surface area of the rod of the spool (6) inverse to F<sub>1</sub>

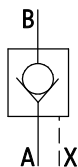
C - pressure affecting area F<sub>1</sub> required for exceeding the spring (4) force

## INSTALLATION AND OPERATION REQUIREMENTS

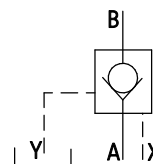
- |   |   |
|---|---|
| <ol style="list-style-type: none"> <li>Only fully functional and operational valve must be used.</li> <li>During the period of operation must be kept fluid viscosity acc. to requirements defined in this Data Sheet - Operation Manual</li> <li>In order to ensure failure free and safe operation the following must be checked: <ul style="list-style-type: none"> <li>proper working of the valve</li> <li>cleanliness of the hydraulic fluid</li> </ul> </li> <li>Due to heating of valve body to high temp., the valve shall be placed in such way to eliminate the risk of</li> </ol> | <ol style="list-style-type: none"> <li>accidental contact with the valve body during operation or to apply suitable covers acc. to PN-EN ISO 13732 - 1 and PN - EN 4413</li> <li>In order to ensure tightness of the directional valve block, one should take care of dimension of sealing rings, tightening torques and valve operation parameters given in this Data Sheet - Operation Manual</li> <li>A person that operates the valve must be thoroughly familiar with this Data Sheet - Operation Manual.</li> </ol> |
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## DIAGRAMS

Graphic symbols for the valve type UZSB6...

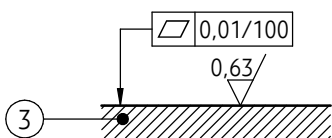
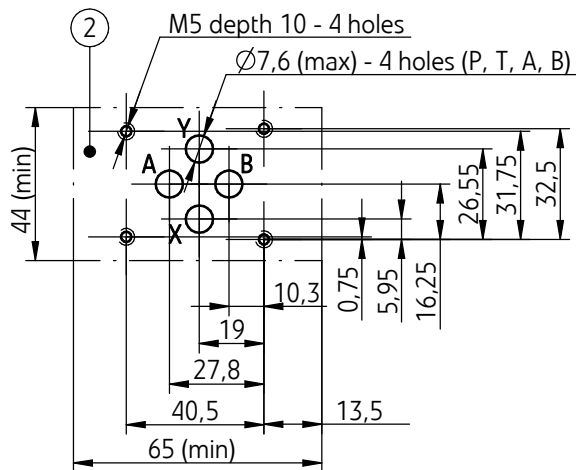
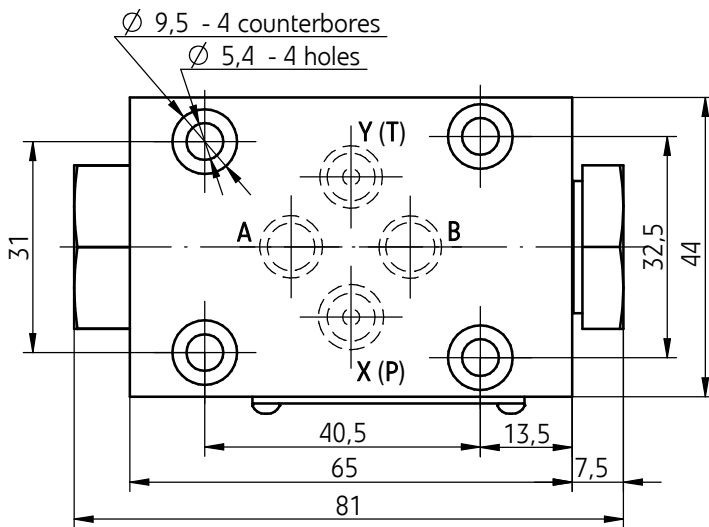
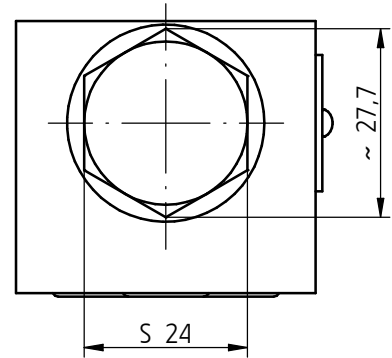
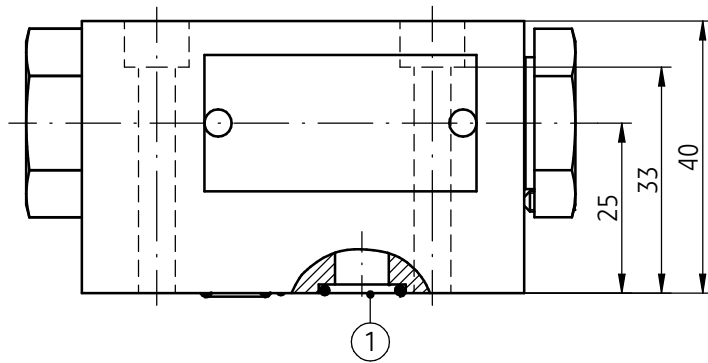


version UZSB6...X...



version UZSB6...Z...

# OVERALL AND CONNECTION DIMENSIONS



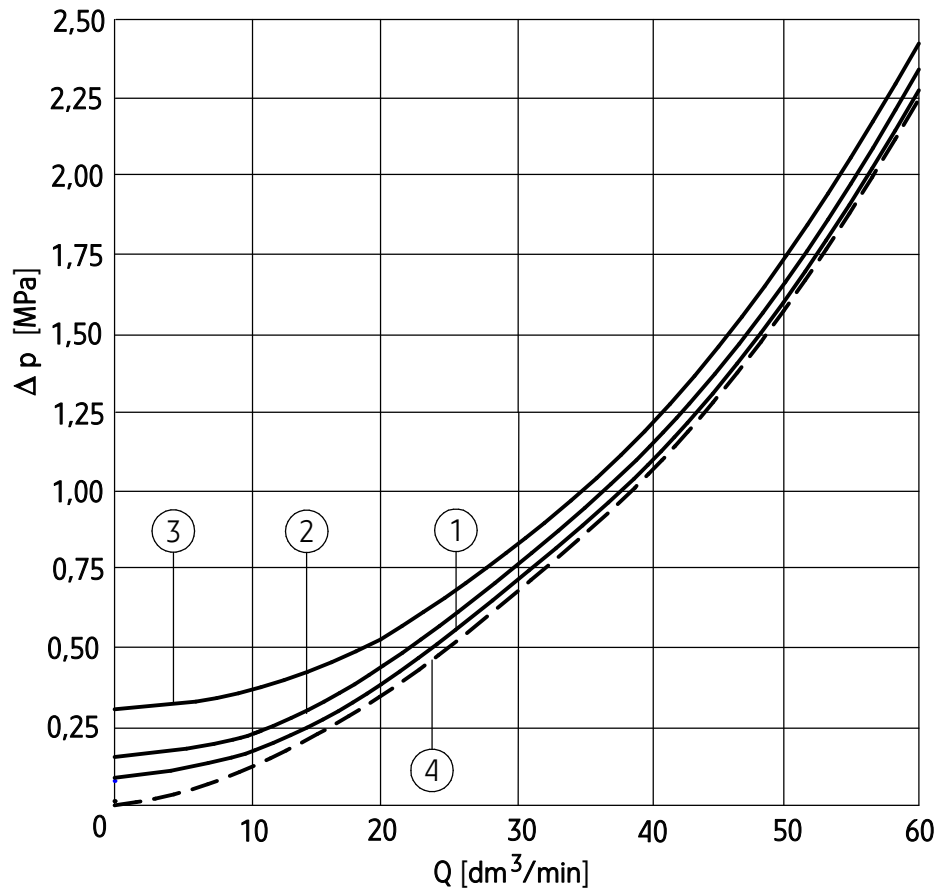
- 1 - Sealing o-ring 9,2 x 1,8 - 4 pcs/set (A, B, X, Y)
- 2 - Porting pattern - configuration of connection holes in subplate in accordance with the standard ISO 4401 designation ISO 4401-03-02-0-94 (CETOP 03) fixing screws M5 x 40 -10.9 - in accordance with PN-EN ISO 4762 - 4 pcs/set; must be ordered separately; tightening torque Md = 9 Nm
- 3 - Subplate surface required

# PERFORMANCE CURVES

measured at viscosity  $\nu = 41 \text{ mm}^2/\text{s}$  and temperature  $t = 50^\circ\text{C}$

## Flow resistance curves

characteristic curves $\Delta p(Q)$ for check valve type UZSB6...			
flow direction	performance diagram number		
— A → B	cracking pressure		
	0,1 MPa	0,15 MPa	0,3 MPa
	1	2	3
- - B → A (shifted position check valve)	4		



## HOW TO ORDER

<b>UZSB</b>	<b>6</b>	+	/				*
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<b>Nominal size (NS)</b> <b>NS6</b>	= <b>6</b>
<b>Series number</b> (30 - 39) - connection and instalation dimensions unchanged <b>series 32</b>	= 3X = <b>32</b>
<b>Draining of leaks</b> <b>internally drained</b> externally drained	= <b>X</b> = Z
<b>Cracking pressure</b> <b>0,1 MPa</b> 0,15 MPa 0,3 MPa	= <b>10</b> = 15 = 30
<b>Sealing type</b> <b>NBR</b> (for fluids on mineral oil base) FKM (for fluids on phosphate ester base)	= <b>no designation</b> = V
<b>Further requirements in dear text</b> (to be agreed with the manufacturer)	

### NOTES:

The valve should be ordered according to the above coding.

The symbols in bold are preferred versions in short delivery time.

Coding example: UZSB6 - 32/X10

## SUBPLATES AND FIXING SCREWS

Subplates must be ordered according to data sheet

**WK 496 480**. Subplate: threaded connections

G 341/01 - threaded connections G 1/4

**G 342/01** - threaded connections **G 3/8**

G 502/01 - threaded connections G 1/2

G 341/02 - threaded connections M14 x 1,5

G 342/02 - threaded connections M16 x 1,5

Subplates and fixing screws **M5 x 40 - 10,9** - 4 pcs/set  
in accordance with **PN-EN ISO 4762**;

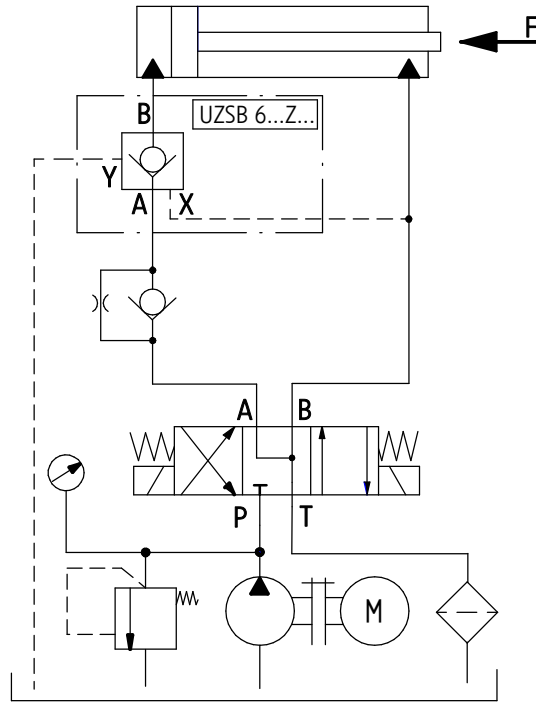
must be ordered separately.

Tightening torque **Md = 9 Nm**

### NOTE:

Subplate symbol in bold is the preferred version available in short delivery time.

**EXAMPLE OF APPLICATION  
IN HYDRAULIC SYSTEM**



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