

Double check valve pilot-operated, sandwich type Z2S10

NS 10 | p_{max} 35 MPa | Q_{max} 120 dm³/min | WK 435 920



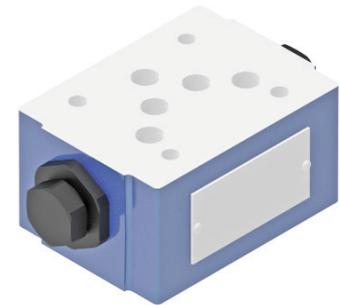
DATA SHEET - OPERATION MANUAL

APPLICATION

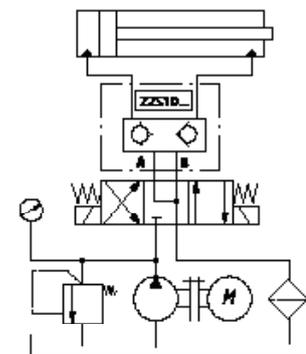
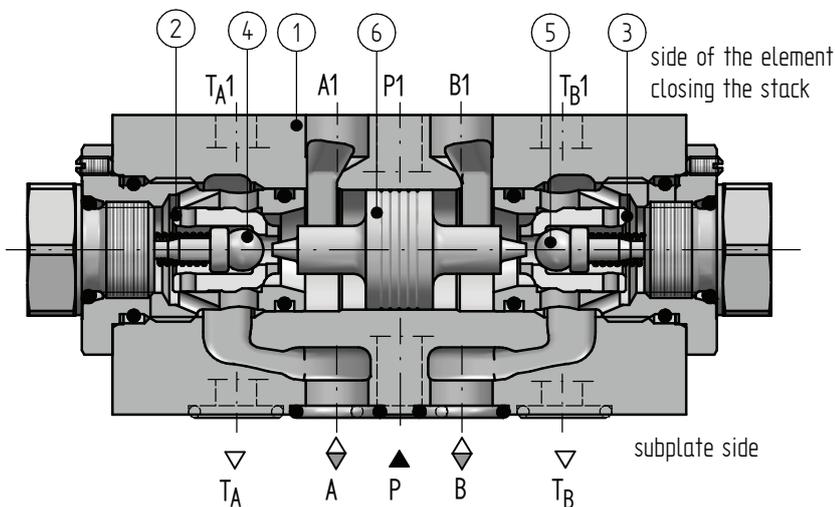
Double check valve, pilot operated, sandwich type Z2S10... is used for cutting off oil flow in one direction (with a possibility of controlling its opening) and opening free flow in the opposite direction. The valve is usually used for:

- unloading the valve that is under pressure
- preventing load drop in the event of a circuit break
- preventing creep movements of the blocked receivers.

The valve is used for sandwich mounting (inter-plate) in any working position.



EXAMPLE OF APPLICATION



DESCRIPTION OF OPERATION

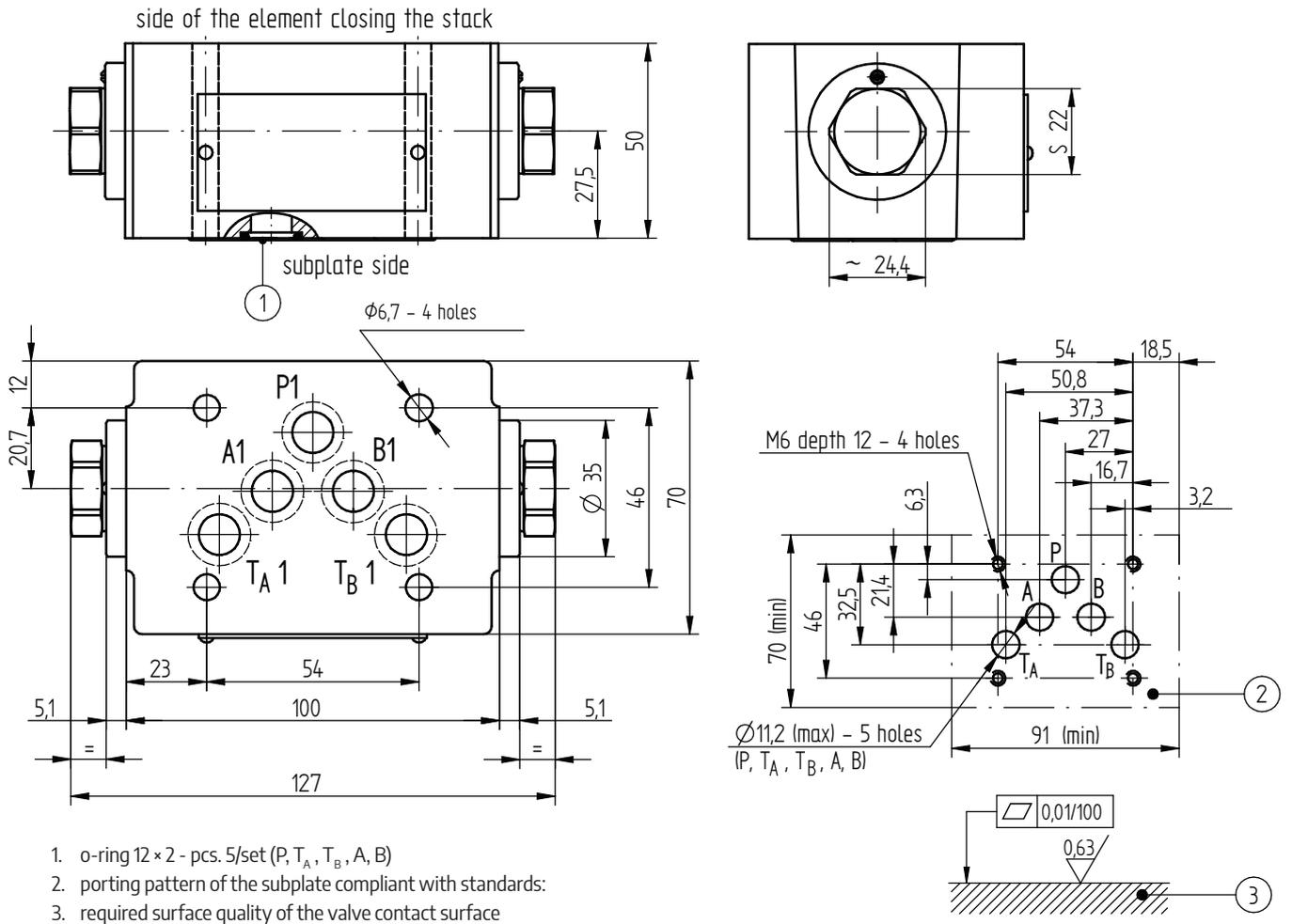
Double check valve, pilot-operated type **Z2S10...** was made by fitting into one body **1** two pilot-operated check valves **2** and **3** equipped with pre-opening ball valves **4** and **5**. In the direction of flow from **A1** to **A** or **B1** to **B** there is a free flow, but from **A** to **A1** or **B** to **B1**, the flow is closed. If there is a flow in the valve e.g. from **A1** to **A**, the piston **6** is moved to the right and pushes the pre-opening ball **5** from its seat, and then the main poppet **3**.

The connection from **B** to **B1** is then open. The valve operates in a similar way at flow from **B1** to **B**. Application of pre-opening ball valve causes initial, throttled expansion of the pressurised fluid, which prevents the occurrence of strokes/shocks during control. Pressure loss in lines **A1** or **B1** causes both valves to close. In order to obtain a safe and tight closure of both valves, the **A1** and **B1** lines must be connected with the drain.

TECHNICAL PARAMETERS

hydraulic fluid	mineral oil	max. working pressure	35 MPa
required fluid cleanliness class	ISO 4406 class 20/18/15	cracking pressure	0,15 MPa
nominal fluid viscosity	37 mm ² /s at temp. 55°C	area ratio (valve surface / piston surface)	2,68
viscosity range	2,8 ÷ 380 mm ² /s	area ratio (ball seat surface / piston surface)	13,4
fluid temperature range (in tank)	recommended: 40÷55°C max. -20 ÷ 70°C	weight	3 kg
ambient temperature range	-30 ÷ 80°C		

assembly and operation requirements at: www.operating-conditions.ponar.pl



1. o-ring 12 x 2 - pcs. 5/set (P, T_A, T_B, A, B)
2. porting pattern of the subplate compliant with standards:
3. required surface quality of the valve contact surface

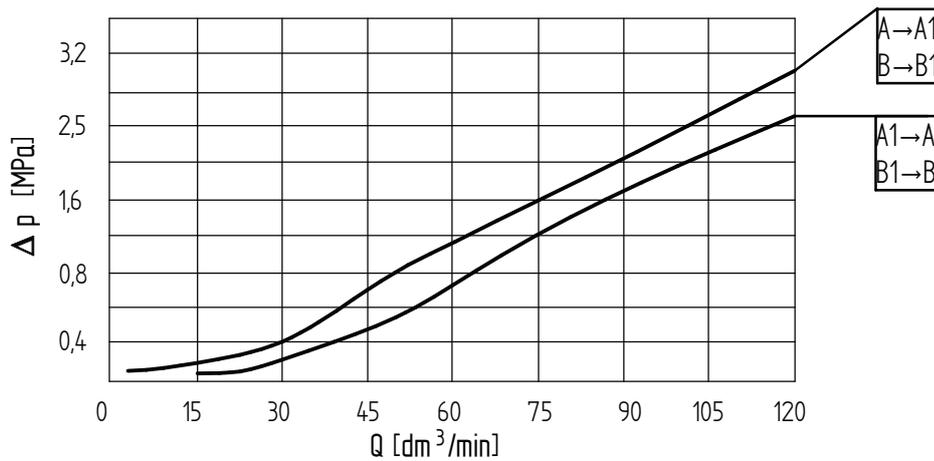
HYDRAULIC DIAGRAMS

graphical symbols of the version Z2S10...

version Z2S10...	version Z2S10 A...	version Z2S10B...
simplified symbol		
side of the element closing the stack subplate side	side of the element closing the stack subplate side	side of the element closing the stack subplate side
detailed symbol		
side of the element closing the stack subplate side	side of the element closing the stack subplate side	side of the element closing the stack subplate side

PERFORMANCE CURVES

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



HOW TO ORDER

Z2S 10 - 22 / 15 *

1 2 3 4 5

1 nominal size

WN 10 = 10

2 version

with two valves = Ø
 with a valve in port A = A
 with a valve in port B = B

3 series number

series 22 = 22
 (20 ÷ 29) - connection and installation dimensions unchanged

4 cracking pressure

0,15 MPa (1,5 bar) = 15

5 additional requirements = *

(agreed upon with the Customer)

Coding example: Z2S10-22/15

SUBPLATES AND MOUNTING SCREWS

Subplates should be ordered according to data sheet **WK 496 520**:

G 67/01 - threaded connections G ½

G 534/01 - threaded connections G ¾

NOTE:

The **symbols in bold** are the preferred versions available in short delivery time.

Subplates and mounting screws for mounting the valve **M6 × L*** - 10,9 acc. to **PN - EN ISO 4762 (PN/M-82302)**
 4 pcs./set **delivered on separate order.**

Tightening torque of the screws **M_d = 15 Nm.**

NOTE:

(*) - required length of the screws L is related to type and the number of hydraulic components mounted under and over the sandwich plate valve

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