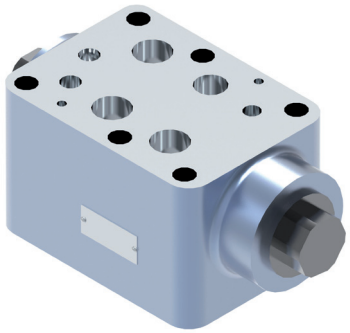
Pilot operated double check valve sandwich plate type Z2S22

NS 22 | p_{max} 35 MPa | Q_{max} 360 dm³/min | WK 433 370

PONAR wadowice

DATA SHEET – OPERATION MANUAL



APPLICATION

Pilot operated double check valve type **Z2S22...** is used for shuting-off oil flow in one direction, with a possibility of controlling its opening and opening a free flow in the opposite direction. The valves are often used:

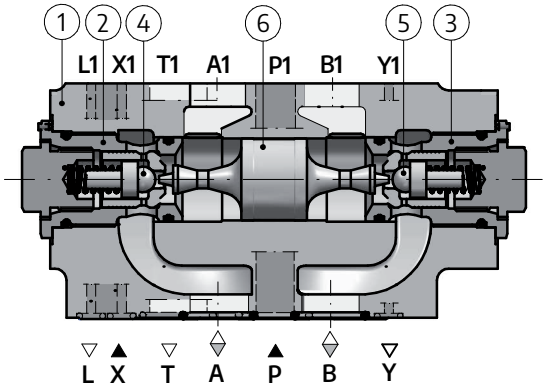
- to relieve a working circuit under pressure
- to prevent load from falling in case of a line rapture
- to prevent creep movements of blocked receivers

The valves are suitable for sandwich plate mounting in any working position.

OPERATION DESCRIPTION

Pilot operated double check valve type Z2S22... was made by combining two pilot operated check valves **2** and **3,** equipped with initial opening poppet valves **4** and **5** in one housing **1**. A free flow occurs from **A1** to **A** (or alternatively from **B1** to **B**) while the flow is blocked from **A** to **A1** (or alternatively from **B** to **B1**). If there is a flow in the valve e.g. from **A1** to **A**, the piston **6** is moved to the right and the poppet **5** is pushed from its seat, followed by the full opening of the valve **3**. The connection from **B** to **B1** is now open. In a similar way the valve operates in the direction **B** to **B1**. The initial opening poppet valve causes an initial throttled decompression of the pressurised fluid which prevents strokes during operation of the valve. Pressure drop at ports **A1** or **B1** causes both valves to close. In order to ensure safe closing of the valves both user ports **A1** and **B1** should be connected with a return line (recommended type J of the directional spool valve).

side of the element closing the stack

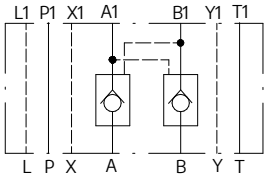


subplate side

HYDRAULIC DIAGRAM

detailed symbol

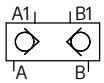
side of the element closing the stack



subplate side

simplified symbol

side of the element closing the stack



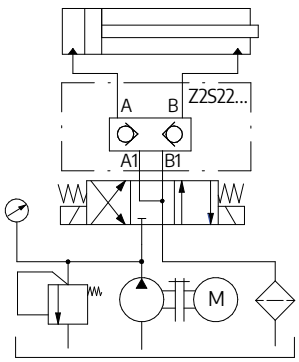
subplate side

TECHNICAL PARAMETERS

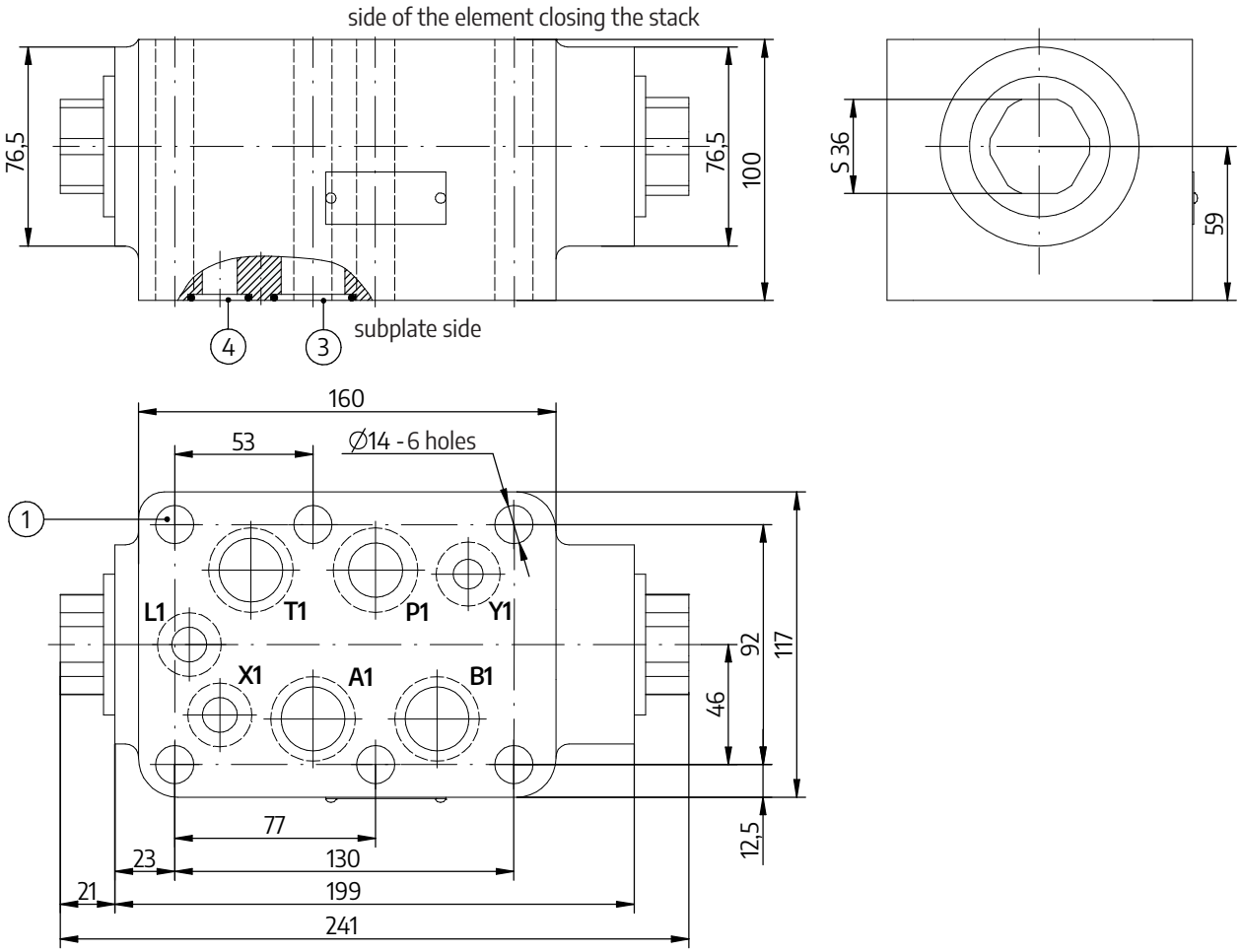
hydraulic fluid	mineral oil
required cleanliness class of oil	ISO 4406 class 20/18/15
nominal fluid viscosity	37 mm²/s at temp. 55 °C
viscosity range	2,8 ÷ 380 mm2/s
fluid temperature range (in tank)	-20 ÷ 70 °C
ambient temperature range	recommended -20 ÷ +50 °C maximum -20 ÷ +70 °C
maximum operating pressure	35 MPa
check valve opening pressure	0,3 MPa
area ratio: valve surface/piston surface	1 : 2,8
area ratio: initial opening poppet valve seat surface/piston surface	1 : 13,6
weight	11,7 kg

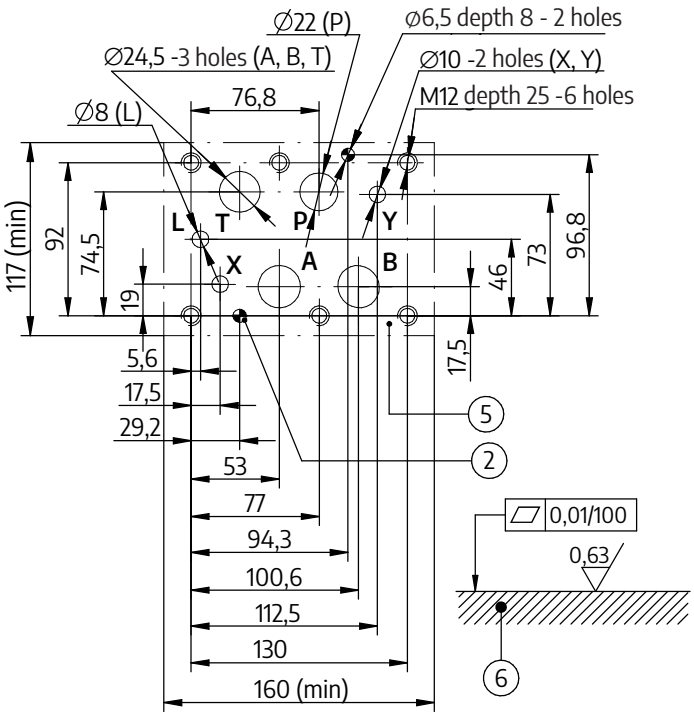
assembly and operation requirements at **www.operating-conditions.ponar.pl**

APPLICATION EXAMPLE



OVERALL AND CONNECTION DIMENSIONS





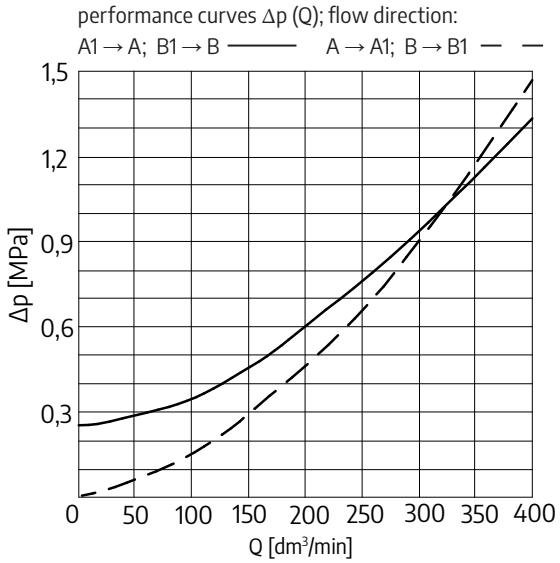
1. Holes for screws fixing the valve
2. Holes for locating pins
3. o-ring 27 × 3 – pcs. 4/set (P, T, A, B)
4. o-ring 19,2 × 3 – pcs. 3/set (X, Y, L)
5. Porting pattern – configuration of connection holes on subplate surface compliant with ISO 4401 standard; designation ISO 4401-08-07-0-94 (CETOP08); fixing screws M12 × L*– 10.9 acc. to PN – EN ISO 4762 pcs 6/set must be ordered separately; tightening torque M_d = 105 Nm
6. Subplate surface required

NOTE:
(*) – required length of the screws L is related to type and the number of sandwich-mounted hydraulic elements.

PERFORMANCE CURVES

measured at viscosity ν = 41 mm² /s and temperature t = 50 °C

Flow resistance curves



SUBPLATES AND FIXING SCREWS

Subplates must be ordered according to Data Sheet WK 491 800.

Subplate symbols:
G151/01 – threaded connections P, T, A, B – G1; X, Y, L – G¼
G154/01 – threaded connections P, T, A, B – G1 ¼; X, Y, L – G¼
G156/01 –threaded connections **P, T, A, B – G1 ½; X, Y, L – G¼**

Subplate and fixing srews M12 × L*–10.9 acc. to PN – EN ISO 4762 pcs 6/set must be ordered separately.
Tightening torque M_d = 105 Nm.

NOTE:
The subplate symbol **in bold** indicates the preferred version available in short delivery time

HOW TO ORDER

Z2S [22] – [ ] [ ]
1 2 3

1 nominal size
NS 22 = 22

2 series number
(22 ÷ 29) - connection and instalation dimensions unchanged = 2X
series 22 = 22

3 further requirements = *
(to be agreed with the manufacturer)

CONTACT

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