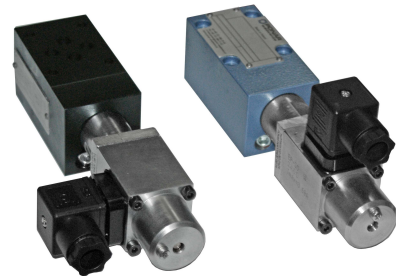


DATA SHEET - OPERATION MANUAL

APPLICATION

Pressure relief valves type WZPPE6... and WZPRE6... electrically and proportionally operated are used to adjust pressure in hydraulic system. The pressure setting in hydraulic system is related to the solenoid current.



DESCRIPTION OF OPERATION

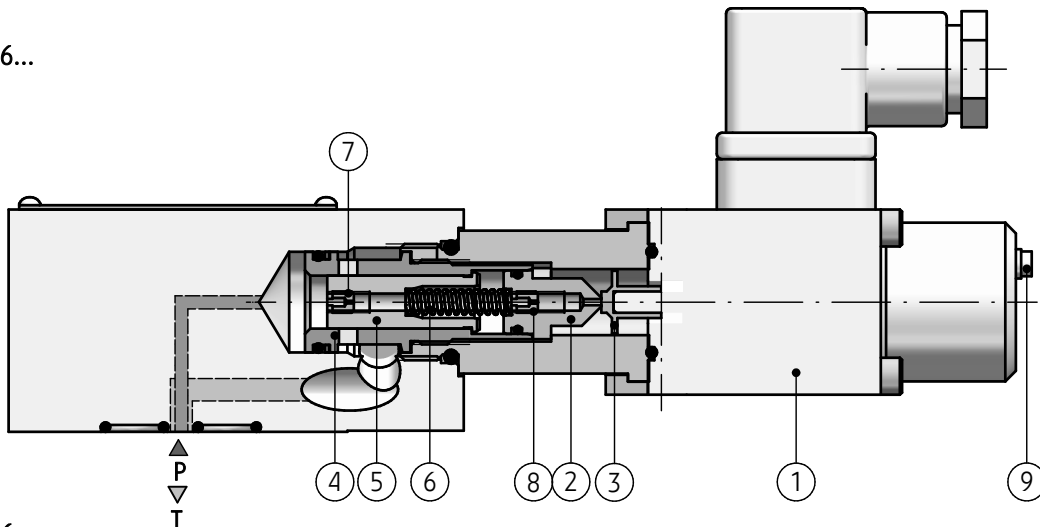
Proportional pressure relief valves type WZPPE6...; WZPRE6... are pilot-operated valves. The pressure in port P through the jets assembly (7) and (8) and adjusting jet (2) acts on the blind (3) connected with the plunger of proportional solenoid (1). Pushing force of the blind (3) to jet (2) is proportional to the strength of current flowing through the solenoid (1). One of the

electronic regulator according to table on page 2 is used to supply the solenoid (1). If the pressure acting on the blind (3) exceeds the pressure set, then the blind (3) is pushed back and pressure at the top of the spool (5) drops. Thus, the spool is shifted in the sleeve (4) and the line P to T opens. The spring (6) maintains the spool (5) in position to cut off the flow.

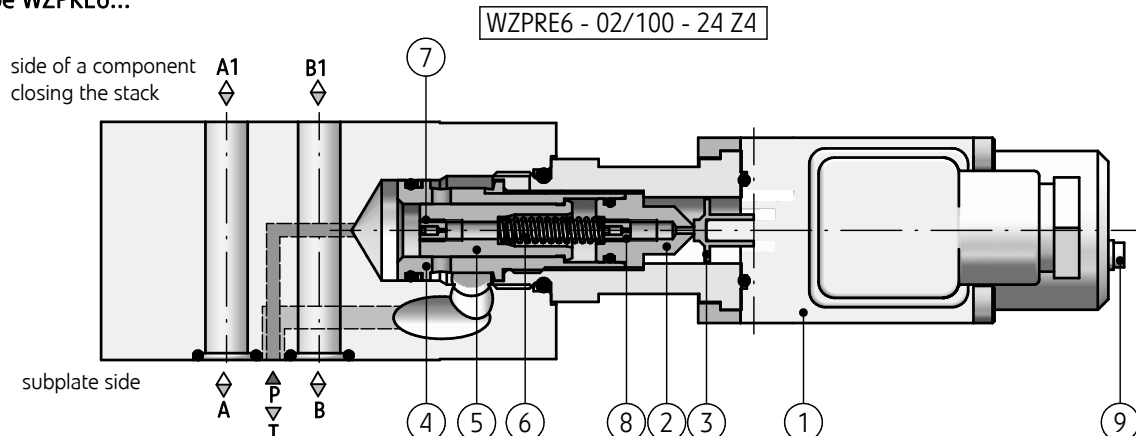
NOTE:

The valve must be precisely bled by means of bleeding screw (9) in order to work properly. In case of any vibrations, bias current at electronic regulator must be adjusted.

type WZPPE6...



type WZPRE6...



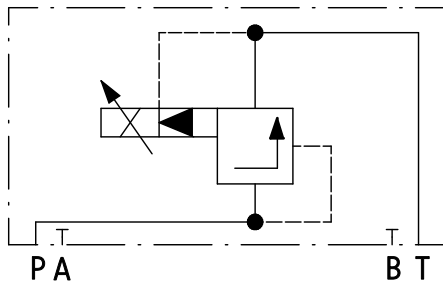
TECHNICAL DATA

Hydraulic fluid	mineral oil	
Required fluid cleanliness class	ISO 4406 class 20/18/15	
Nominal fluid viscosity	37 mm ² /s at temperature 55 °C	
Viscosity range	2,8 up to 380 mm ² /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 +50 °C	
Maximum operating pressure	ports P, A, B	35 MPa
	port T	21 MPa
Max flow rate	60 dm ³ /min	
Working position	optional (horizontal position recommended)	
Hysteresis	2,5 % max pressure	
Repetition accuracy	2 %	
Maximum supply current of the solenoid I _{max}	1,35 A	0,68 A
Resistance of cold solenoid coils (20 °C)	6 Ω	24,2 Ω
Supply voltage	12 V	24 V
Electronic regulators <ul style="list-style-type: none"> • type 20RC10 E - included in the order (only for valve versions WZPPE6...C...; WZPRE6...C...) • type 20RE10 E - included in the order (only for valve versions WZPPE6...E...; WZPRE6...E...) • type 20RE10 D - must be ordered separately 	type 20RE10 E in accordance with data sheet WK 420 820 (when powered by a stabilized voltage 12 to 24 V DC, set the maximum current I _{max} , depends of the regulator supply voltage) control voltage 0 - 5 V control voltage 0 - 10 V	
	type 20RC10 E in accordance with data sheet WK 427 790 (when powered by a stabilized voltage 12 to 24 V DC, set the maximum current I _{max} , depends of the regulator supply voltage)	
	type 20RE10 D in accordance with data sheet WK 420 810 (only when powered by a stabilized voltage 24 V)	
Weight (without electronic regulator)	version WZPPE6...	1,7 kg
	version WZPRE6...	1,8 kg

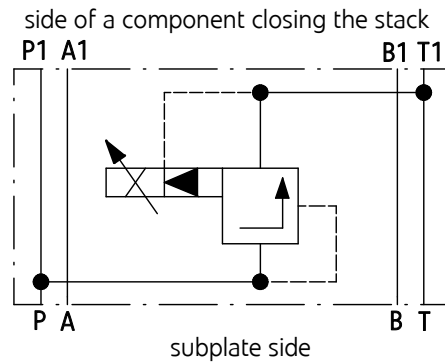
Assembly and operation requirements at www.operating-conditions.ponar.pl

DIAGRAMS

hydraulic diagram of valve type WZPPE6...

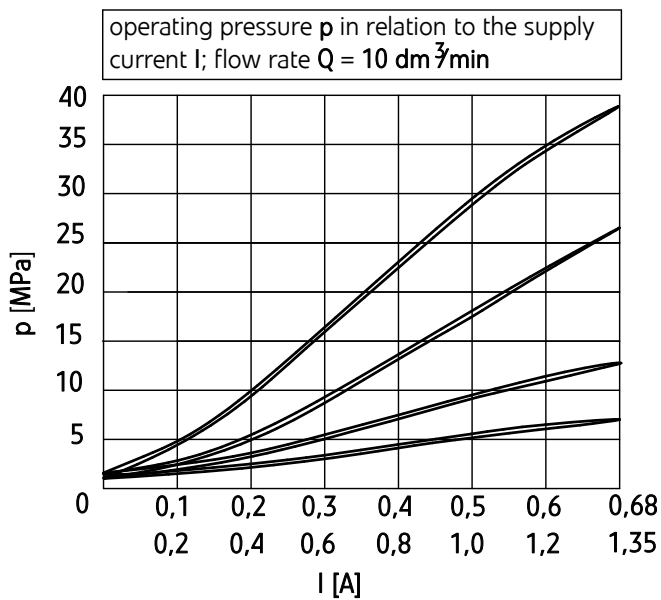


hydraulic diagram of valve type WZPPE6...

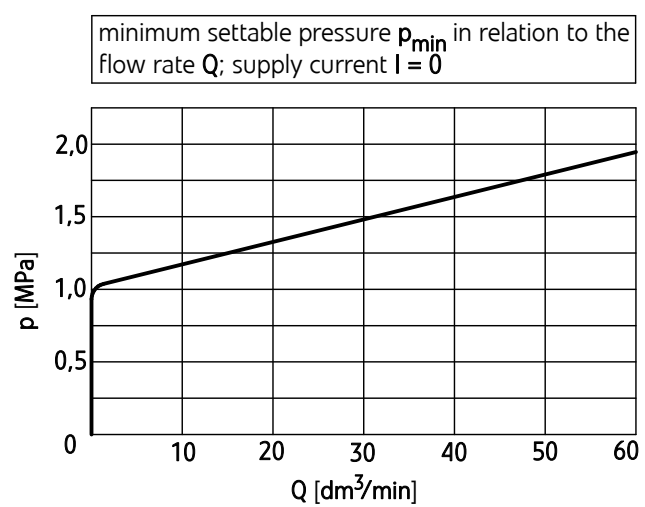
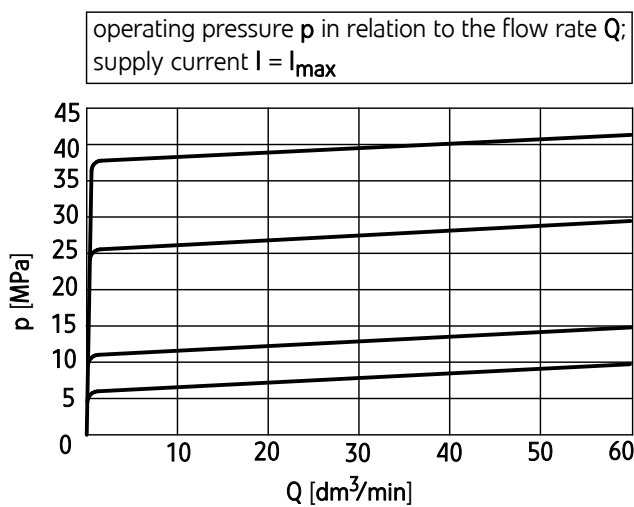


PERFORMANCE CURVES

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

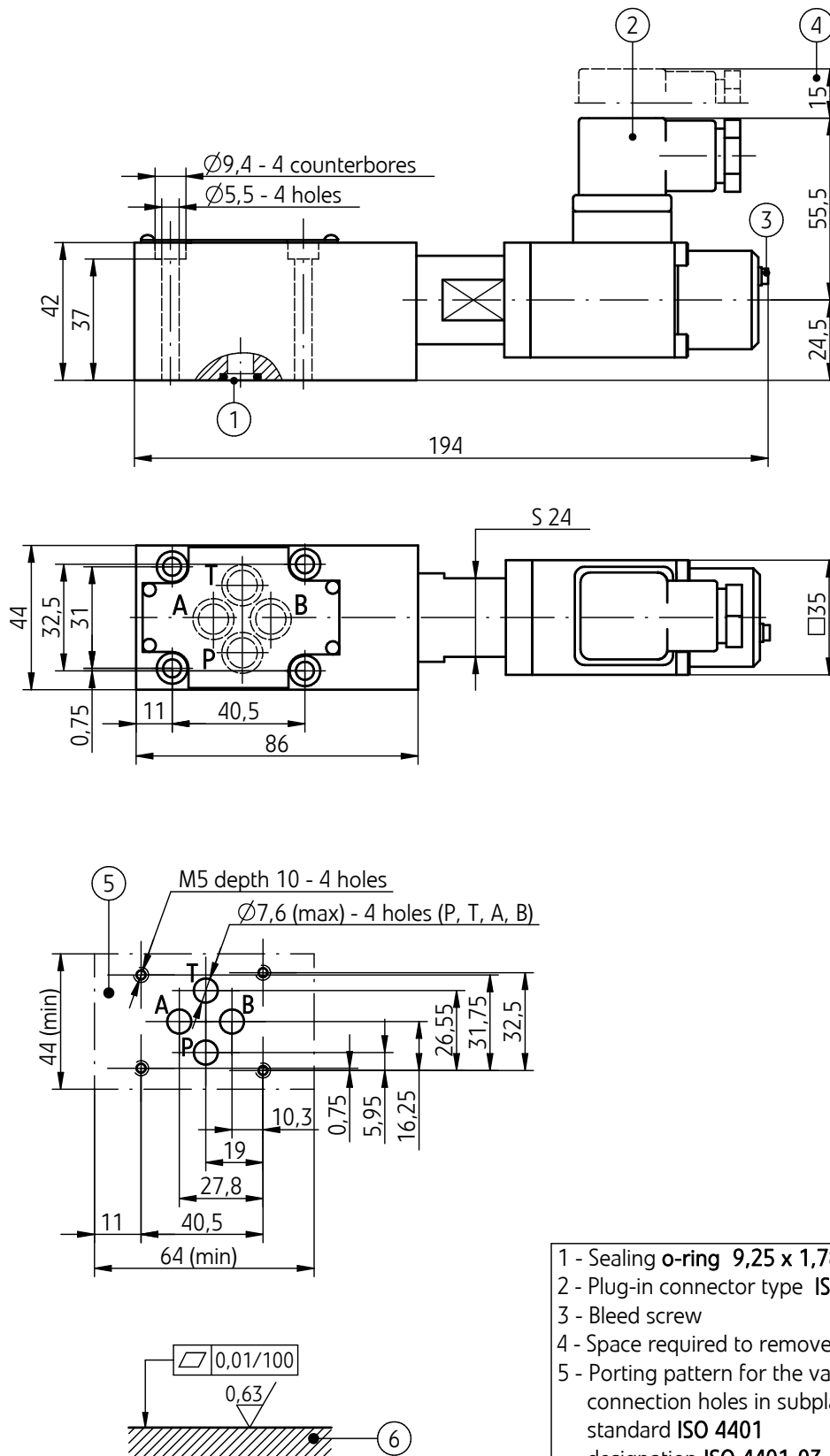


coil for $I_{\max} = 0,68 \text{ A}$
coil for $I_{\max} = 1,35 \text{ A}$



OVERALL AND CONNECTION DIMENSIONS

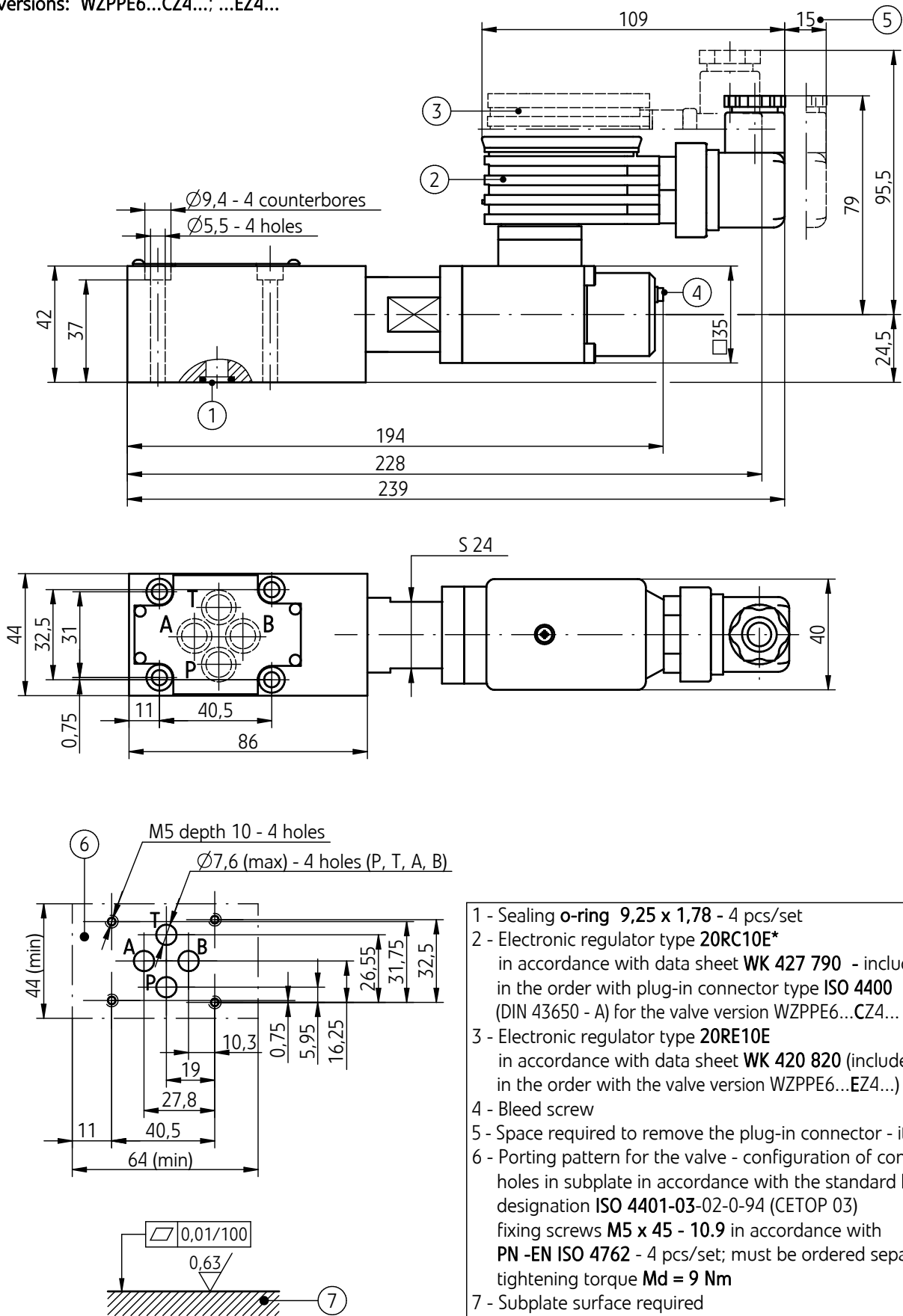
version WZPPE6...Z4...



- 1 - Sealing o-ring 9,25 x 1,78 - 4 pcs/set
- 2 - Plug-in connector type ISO 4400 (DIN 43650 - A)
- 3 - Bleed screw
- 4 - Space required to remove the plug-in connector - item 2
- 5 - Porting pattern for the valve - 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 45 - 10.9 in accordance with PN -EN ISO 4762 - 4 pcs/set; must be ordered separately; tightening torque $Md = 9 \text{ Nm}$
- 6 - Subplate surface required

OVERALL AND CONNECTION DIMENSIONS

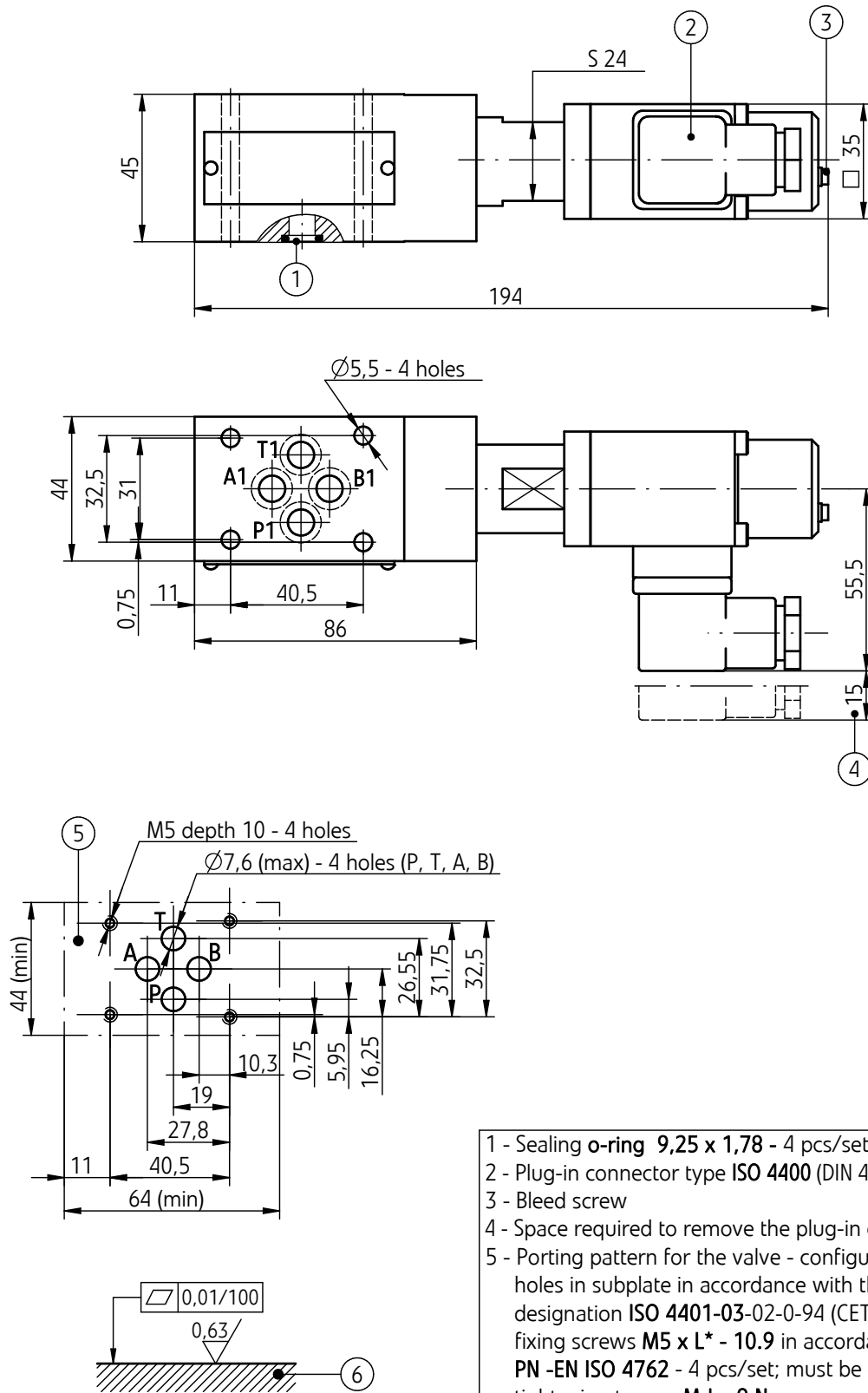
versions: WZPPE6...CZ4...; ...EZ4...



- 1 - Sealing o-ring 9,25 x 1,78 - 4 pcs/set
 - 2 - Electronic regulator type 20RC10E*
in accordance with data sheet WK 427 790 - included in the order with plug-in connector type ISO 4400 (DIN 43650 - A) for the valve version WZPPE6...CZ4...
 - 3 - Electronic regulator type 20RE10E
in accordance with data sheet WK 420 820 (included in the order with the valve version WZPPE6...EZ4...)
 - 4 - Bleed screw
 - 5 - Space required to remove the plug-in connector - item 2
 - 6 - Porting pattern for the valve - 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 45 - 10.9 in accordance with PN -EN ISO 4762 - 4 pcs/set; must be ordered separately; tightening torque Md = 9 Nm
 - 7 - Subplate surface required
- NOTE:**
(*) - Standard setting of the regulator control voltage 0 ÷ 10 V

OVERALL AND CONNECTION DIMENSIONS

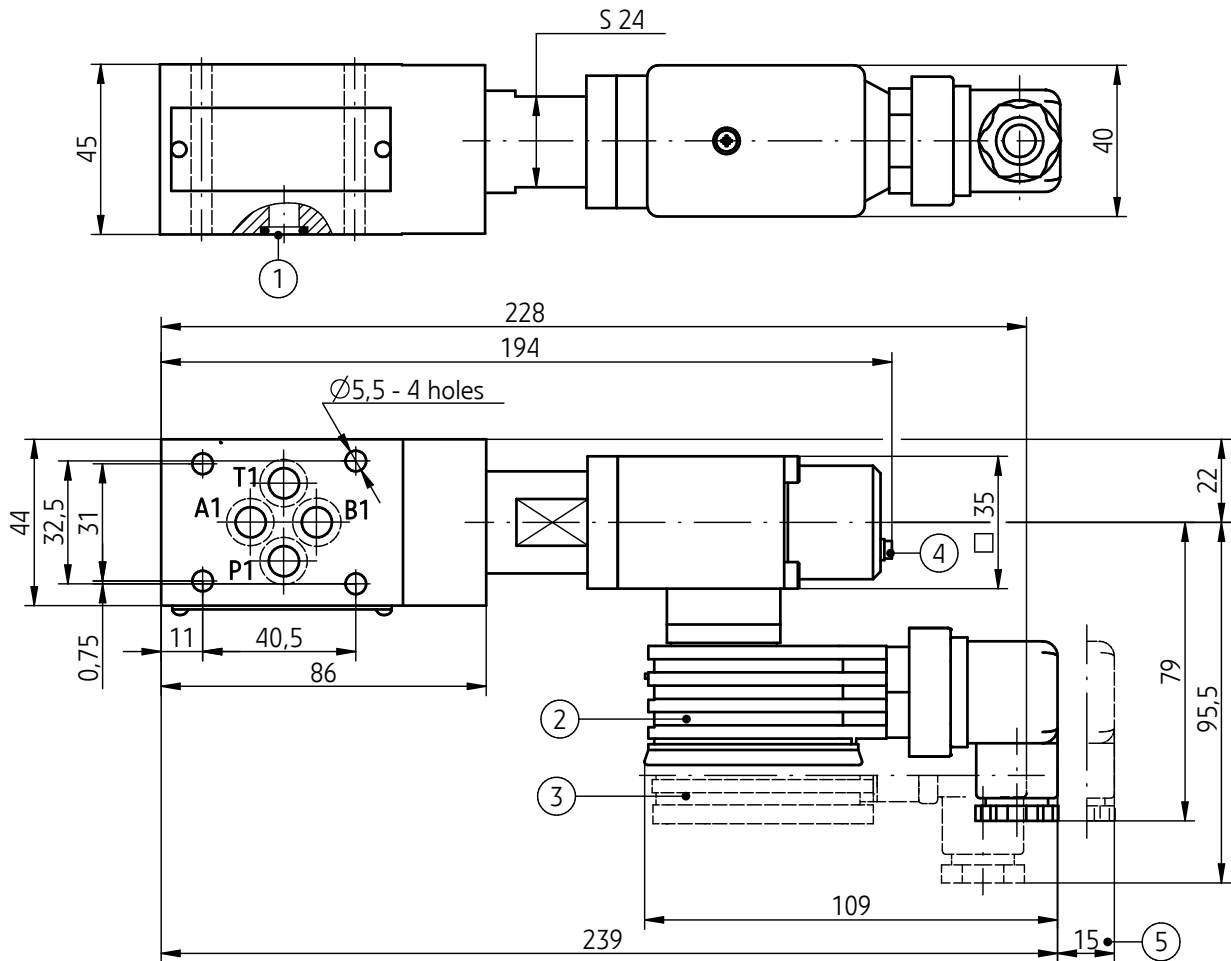
version WZPRE6...Z4...



- 1 - Sealing o-ring 9,25 x 1,78 - 4 pcs/set
 - 2 - Plug-in connector type ISO 4400 (DIN 43650 - A)
 - 3 - Bleed screw
 - 4 - Space required to remove the plug-in connector - item 2
 - 5 - Porting pattern for the valve - 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 L* - 10.9 in accordance with PN -EN ISO 4762 - 4 pcs/set; must be ordered separately; tightening torque Md = 9 Nm
 - 6 - Subplate surface required
- NOTE:**
 (*) - Required length of the screws L is related to type and the number of hydraulic components sandwich fitted

OVERALL AND CONNECTION DIMENSIONS

versions: WZPRE6...CZ4...; ...EZ4...



- 1 - Sealing **o-ring** 9,25 x 1,78 - 4 pcs/set
- 2 - Electronic regulator type **20RC10E***
in accordance with data sheet **WK 427 790** - included
in the order with plug-in connector type **ISO 4400**
(DIN 43650 - A) for the valve version WZPRE6...CZ4...
- 3 - Electronic regulator type **20RE10E**
in accordance with data sheet **WK 420 820** (included
in the order with the valve version WZPRE6...EZ4...)
- 4 - Bleed screw
- 5 - Space required to remove the plug-in connector - item 2
- 6 - Porting pattern for the valve - 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 L** - 10.9** in accordance with
PN -EN ISO 4762 - 4 pcs/set; must be ordered separately;
tightening torque **Md = 9 Nm**
- 7 - Subplate surface required

NOTE:

(*) - Standard setting of the regulator control voltage **0 ÷ 10 V**

(**) - Required length of the screws **L** is related to type and
the number of hydraulic components sandwich fitted

HOW TO ORDER

	6	+	/	+		Z4		*
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Valve type subplate mounting = WZPPE sandwich plate mounting = WZPRE								
Nominal size (NS) NS6 = 6								
Series number (00-09) - installation and connection dimensions unchanged = 0X series 02 = 02								
Set pressure range up to 5 MPa = 50 up to 10 MPa = 100 up to 20 MPa = 200 up to 35 MPa = 350								
Solenoid coil coil for max current I max = 1,35 A = 12 coil for max current I max = 0,68 A = 24								
Electronic regulator without regulator = no designation with electronic regulator type 20RC10E = C with electronic regulator type 20RE10E = E								
Electrical connection plug-in-connector type ISO 4400 (DIN 43650 - A) without LED = Z4								
Sealing NBR (for fluids on mineral oil base) = no designation FKM (for fluids on phosphate ester base) = V								
Further requirements in clear text (to be agreed with the manufacturer)								

NOTES:

Proportional pressure relief valve should be ordered according to the above coding.

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

Coding example: WZPRE6 - 02/100 - 24 C Z4.

SUBPLATES AND FIXING SCREWS

Subplates must be ordered according to catalogue sheet **WK 496 480**. Subplate symbols:

G 341/01 - threaded connections **G 1/4**

G 342/01 - threaded connections G 3/8

G 502/01 - threaded connections G 1/2

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

Subplates and fixing screws for mounting the valve:

- version **WZPPE6...** - M5 x 45 - 10,9

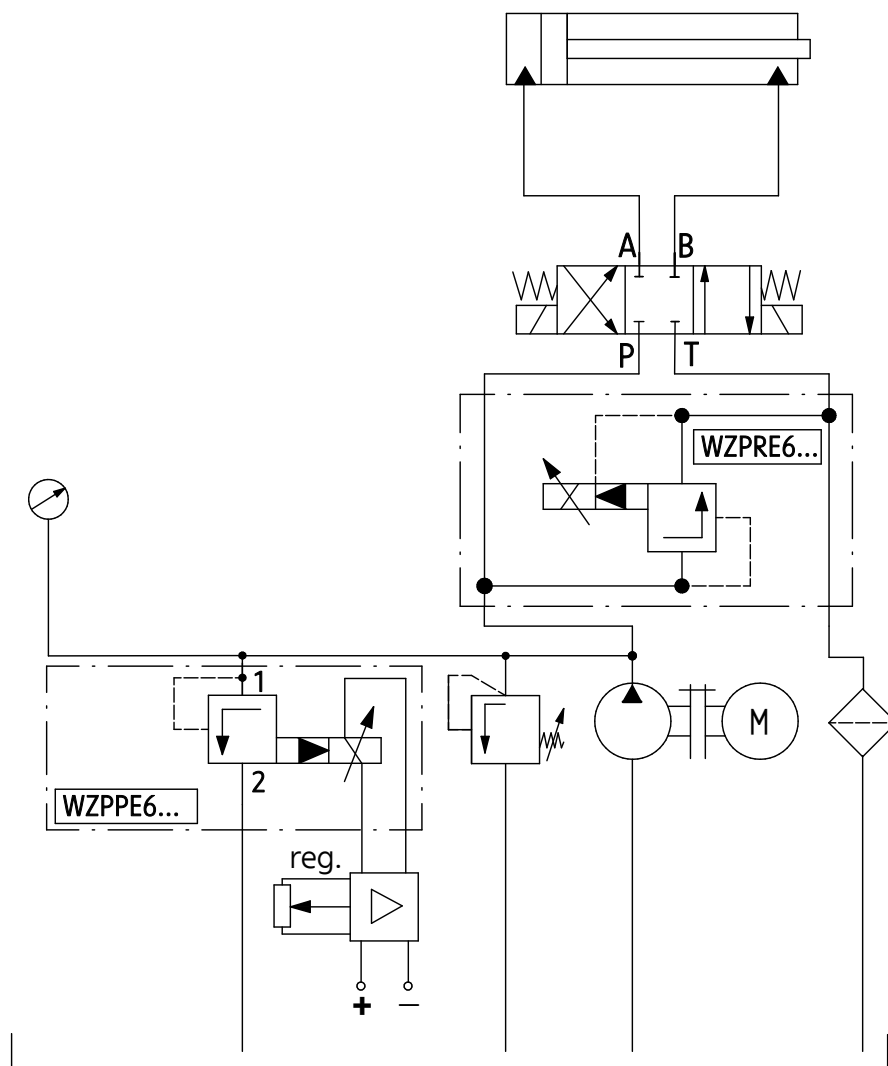
- version **WZPRE6...** - M5 x L* - 10,9

in accordance with **PN - EN ISO 4762** - 4 pcs/set must be ordered separately. Tightening torque **Md = 9 Nm**

NOTE:

(*) - Required length of the screws L is related to type and the number of hydraulic components sandwich fitted

EXAMPLE OF APPLICATION IN HYDRAULIC SYSTEM



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