

Proportional pressure relief valve type WZPSE6

NS 6 | p_{\max} 35 MPa | Q_{\max} 60 dm³/min | WK 495 880

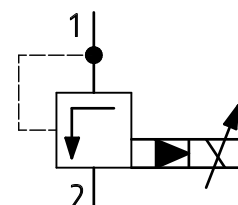
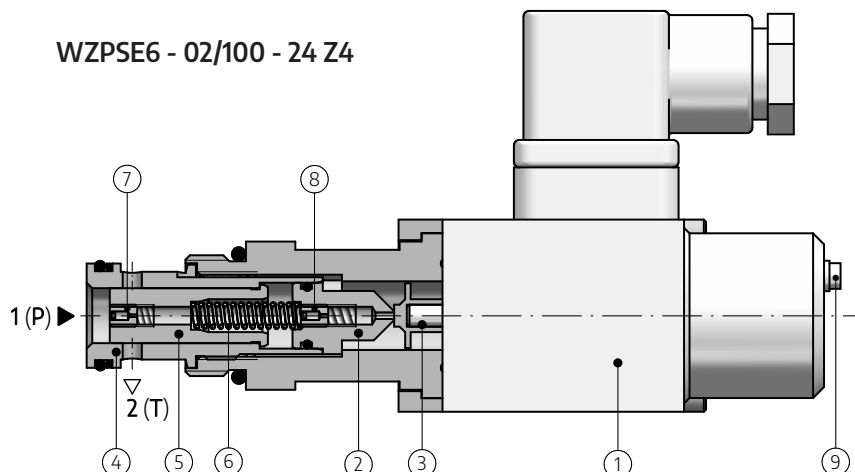
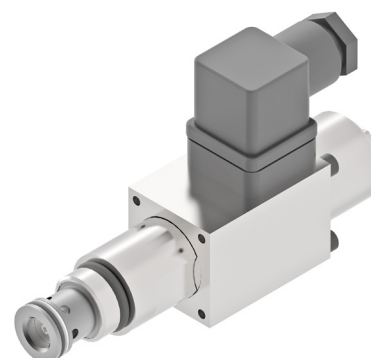


DATA SHEET - OPERATION MANUAL

APPLICATION

Electrically, proportionally operated pressure relief valves **WZPSE6...** type are used for controlling pressure in a hydraulic system. The pressure setting in a hydraulic system is related to the solenoid current.

WZPSE6 - 02/100 - 24 Z4



OPERATION DESCRIPTION

WZPSE6... is a pilot operated valve. Pressure from port **1 (P)** through orifices **7** and **8** and adjusting orifice **2** acts on the blind **3** connected with the plunger of a proportional solenoid **1**. Pushing force of the blind **3** to jet **2** is proportional to the amperage of current flowing through the solenoid **1**. A digital controller (see table below) can be used for supplying the solenoid **1**. If the pressure acting on the blind **3** is higher than the set pressure, the blind **3** is moved and the pressure

in the upper part of the spool **5** decreases. As a result, the spool **5** moves in the sleeve **4** and the flow from port **1 (P)** to **2 (T)** opens. The spring **6** keeps the spool **5** in a position cutting off the flow.

NOTE: The valve must be thoroughly bled by using the bleeding screw **9** to work properly. In case of occurrence of any vibrations, one must adjust the bias current at the solenoid controller.

TECHNICAL PARAMETERS

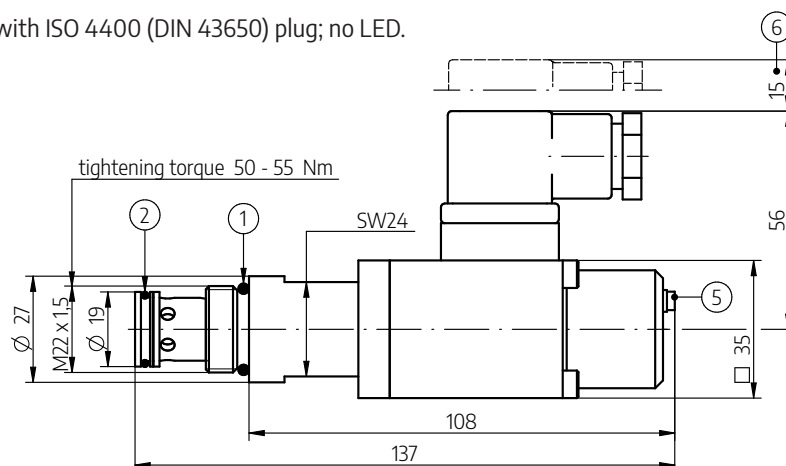
type of hydraulic fluid	mineral oil	working position	any position (horizontal recommended)
required fluid cleanliness class	ISO 4406 class 20/18/15	hysteresis	2,5% of max. pressure
nominal viscosity of hydraulic fluid	37 mm ² /s at temperature 55°C	setting pressure repeatability	±2%
viscosity range of hydraulic fluid	2,8 ÷ 380 mm ² /s	supply voltage	12V; 24V
fluid temperature range (in tank)	recommended 40 ÷ 55 °C, max. -20 ÷ 70°C	control current I_{\max}	1,35 A; 0,68 A
ambient temperature range	-20 ÷ 50°C	resistance of cold solenoid coil in temp. 20°C	6 Ω; 24,2 Ω
max. working pressure	in port P: 35 MPa, in port T: 21 MPa	weight (without electronic controller)	0,9 kg
nominal flow	60 dm ³ /min		

controller	data sheet	only for versions	delivery	setting
20RE10 E	WK 420 820	WZPSE...E...	included	when supplied with a stabilised voltage 12 to 24V DC, set the max. value of current I_{\max} depending on the selected value of supply voltage of digital controller. Control voltage: 0÷5V; 0÷10V.
20RC10 E	WK 427 790	WZPSE...C...	included	when supplied with a stabilised voltage 12 to 24V DC, set the maximal value of current I_{\max} depending on the selected value of supply voltage of digital controller.
20RE10 D	WK 420 810	-	not included	only for supply voltage of 24V electronic controller

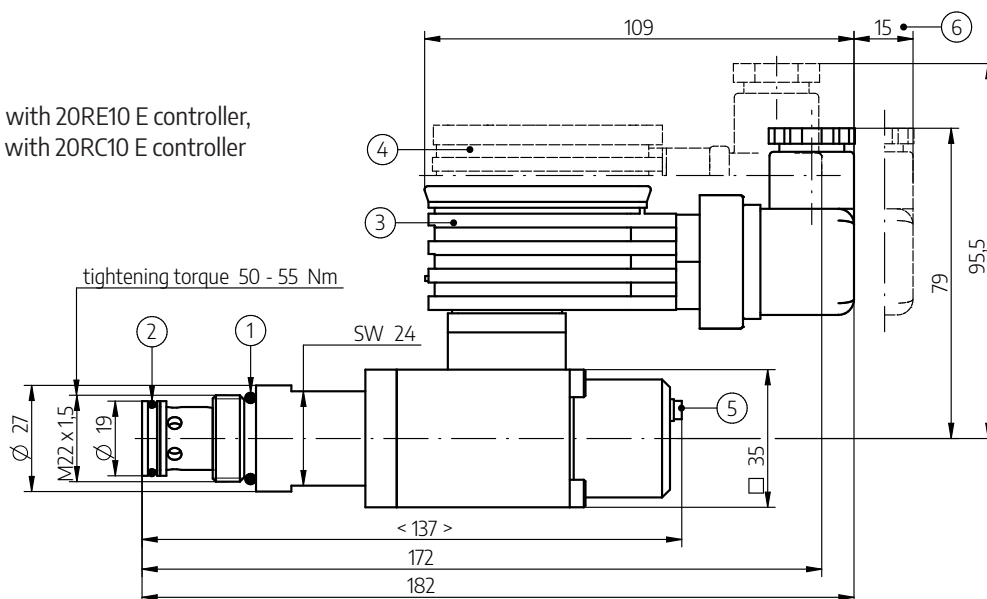
assembly and operation requirements at www.operating-conditions.ponar.pl

OVERALL AND CONNECTION DIMENSIONS

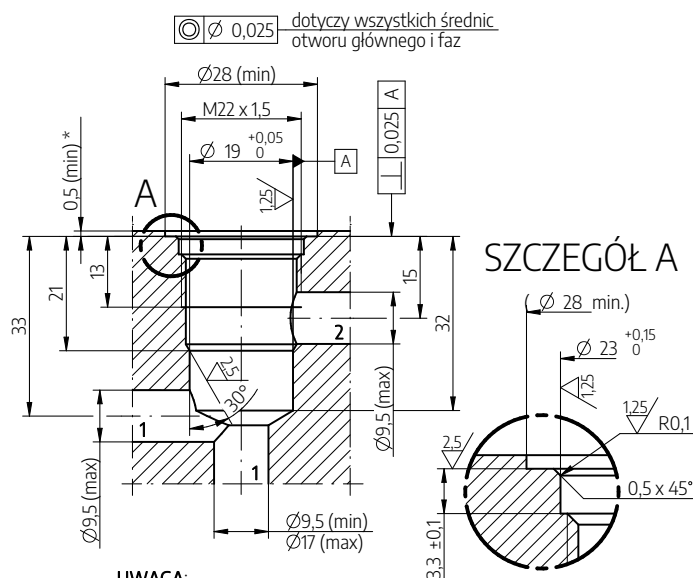
WZPSE6...Z4... with ISO 4400 (DIN 43650) plug; no LED.



WZPSE6...EZ4... with 20RE10 E controller,
WZPSE6...CZ4... with 20RC10 E controller



valve cavity M - 06 - 2 (M22 x 1,5; 2-way)
tightening torque (Md = 50-55 Nm)



UWAGA:

(*) - Max głębokość pogłębienia - 4,9

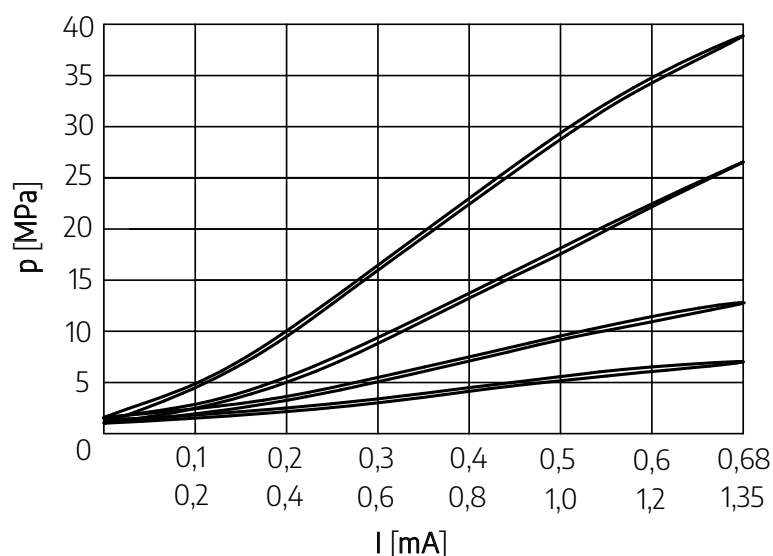
1. O-ring 18 x 2,65
2. O-ring 15,6 x 1,78
3. 20RC10E* digital controller of solenoid with ISO 4400 (DIN 43650-A) plug (see page 1)
4. 20RE10E* digital controller of solenoid with ISO 4400 (DIN 43650-A) plug (see page 1)
5. Bleeder screw
6. Space required to remove the plug

NOTE:

(*) - controller delivered with a default pre-set option of control signal $0 \div 10V$

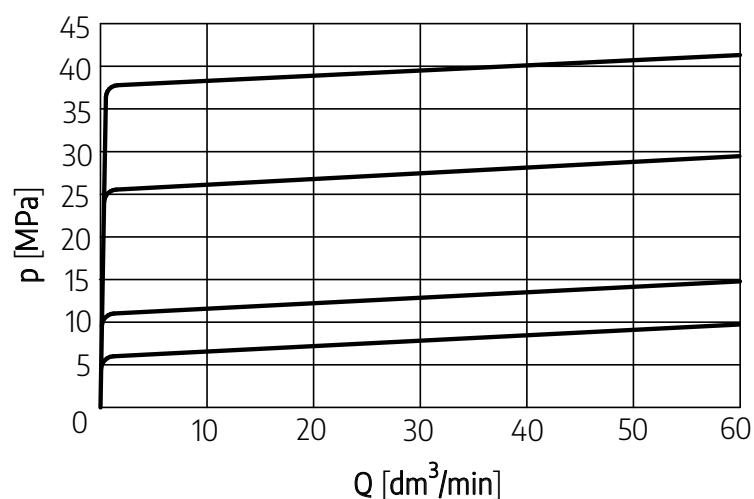
PERFORMANCE CURVES

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



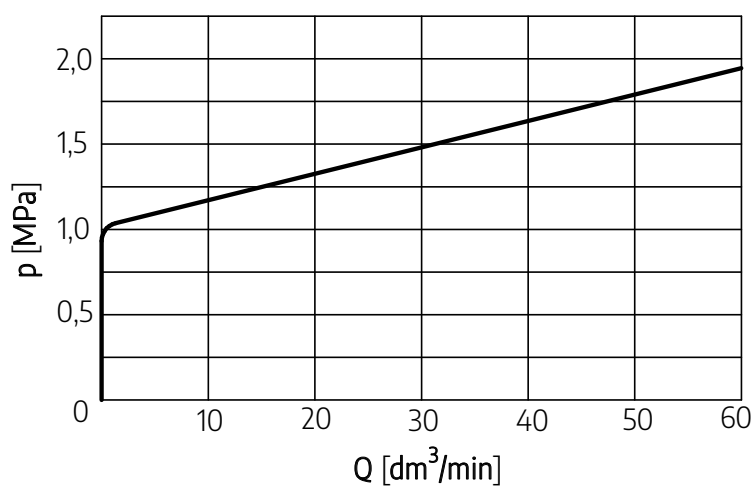
operating pressure **p**
in relation to current **I**

flow rate **Q** = 10 dm³/min



operating pressure **p**
in relation to flow rate **Q**

current **I** = I_{max}



minimal settable pressure **p**
in relation to flow rate **Q**

current **I** = I_{min}

WZPSE

6		/				Z4		
1	2		3	4	5	6	7	8

1 nominal size (NS)

NS6 = 6

2 series number

series 02 = 02
(00÷09) connection and installation
dimensions unchanged 0X

3 working pressure range

5 MPa = 50
10 MPa = 100
20 MPa = 200
35 MPa = 350

4 type of solenoid coil

with max current $I_{max} = 1,35 A = 12$
with max current $I_{max} = 0,68 A = 24$

5 electronic controller

without a controller = Ø
with a 20RC10E controller = C
with a 20RE10E controller = E

7 sealing

NBR (for fluids on mineral
oil base) = Ø
FKM (for fluids on phosphate
ester base) = V

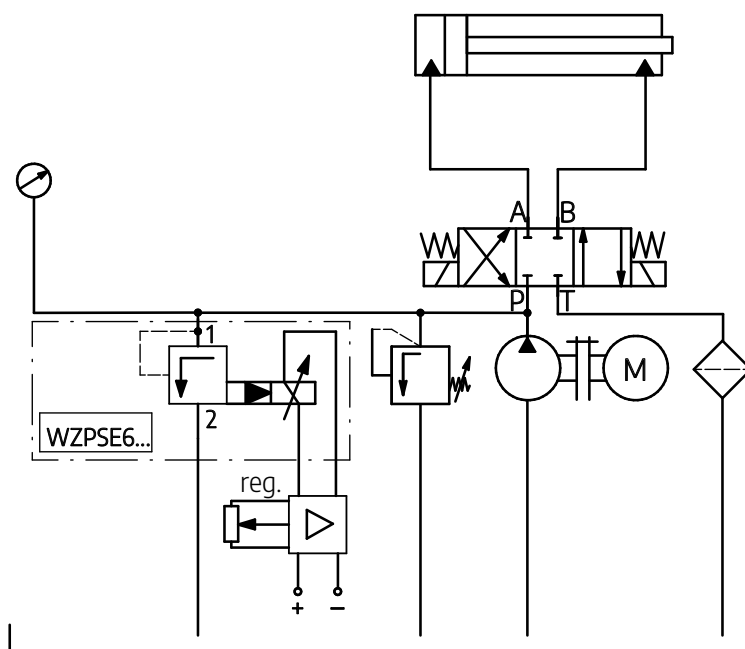
8 further requirements = *

(to be agreed upon with the ma-
nufacturer)

Ø indicates that the box should be left blank.

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

Coding example: **WZPSE6 - 02/100 - 24Z4**

EXAMPLE OF APPLICATION IN A HYDRAULIC SYSTEM**SUBPLATES**

Subplates must be ordered according
to data sheets:

- **WK 495 531** - subplate 2 UL 06/1...
2 thread connections G $\frac{3}{8}$ or G $\frac{1}{2}$
- **WK 495 532** - subplate 2 UL 06/2...
3 thread connections G $\frac{3}{8}$ or G $\frac{1}{2}$
- **WK 495 533** - subplate 2 UL 06/3...
3 thread connections G $\frac{3}{8}$ or G $\frac{1}{2}$

Subplates must be ordered separately.

CONTACT

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