

### APPLICATION

Pressure relief valves type **WZPSE6**... electrically and proportionally operated are used to adjust pressure in hydraulic system. The pressure setting in hydraulic system is related to the solenoid current.



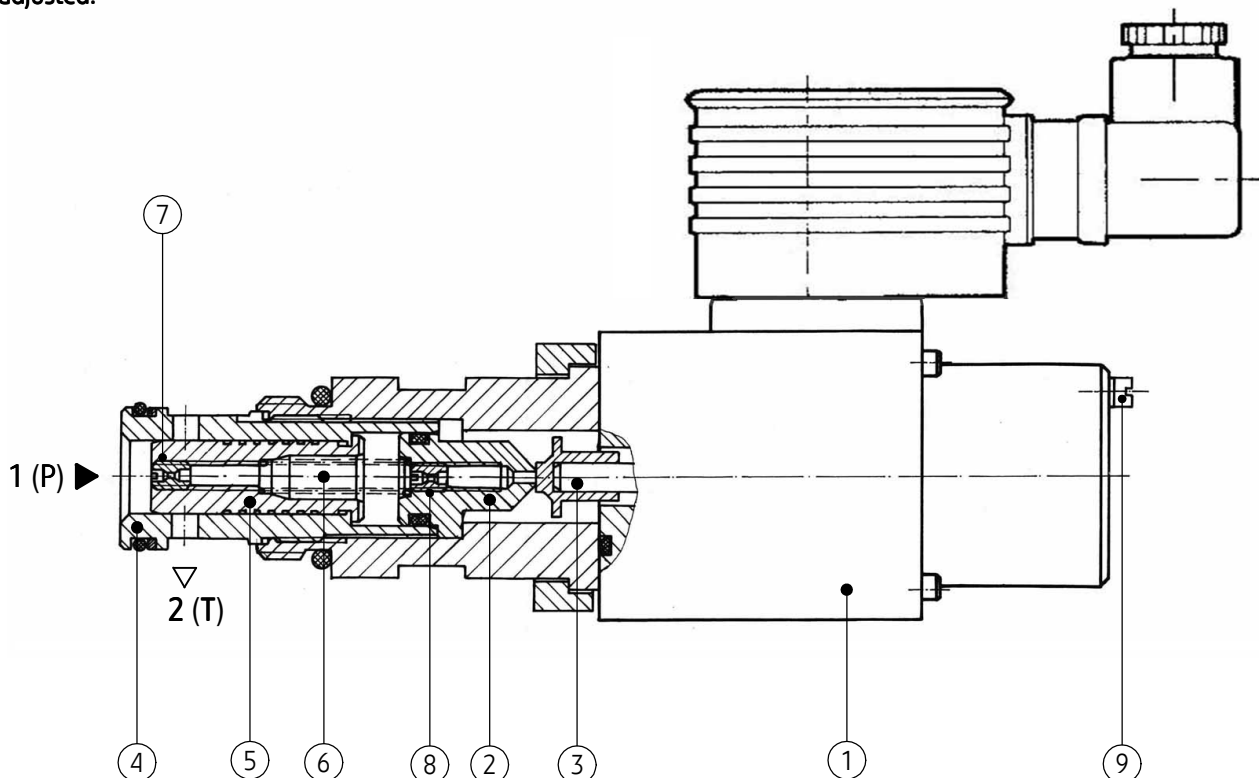
### DESCRIPTION OF OPERATION

Proportional pressure relief valve type **WZPSE6**... is a pilot-operated valve. The pressure in port 1 (P) through the jets assembly (7) and (8) and adjusting jet (2) acts on the blind (3) connected with the plunger (1) of proportional solenoid. Pushing force of the blind (3) to jet (2) is proportional to the strength of current flowing through the solenoid (1). Electronic regulator type **VPC**... according to data sheet **WK 499 735** 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 1 (P) to 2 (T) opens. The spring (6) maintains the spool (5) in position to cut off the flow.

#### CAUTION:

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.

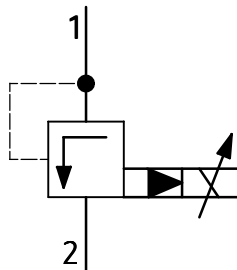


## TECHNICAL DATA

Hydraulic fluid	mineral oil	
<b>Required filtration</b>	<b>up to 16 <math>\mu\text{m}</math></b>	
Recommended filtration	up to 10 $\mu\text{m}$	
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 +50 °C	
<b>Pressure in port P</b>	<b>31,5 MPa</b>	
<b>Nominal flow</b>	<b>60 dm<sup>3</sup>/min</b>	
Working position	any position (horizontal position recommended)	
Hysteresis	2,5 % of max pressure	
Repetition accuracy	2 %	
Control power	up to 0,8 A	
Resistance of cold solenoid coil	supply voltage 12V	6 $\Omega$
	supply voltage 24V	24,2 $\Omega$
<b>Electronic regulator</b>	<b>type VPC...</b> according to data sheet <b>WK 499 735</b> (version WZPSE6/02...VPC )	

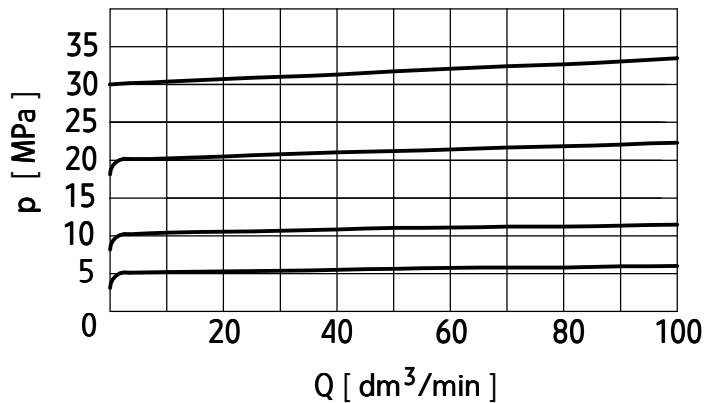
## SCHEMES

Graphic symbol for the valve type WZPSE6...



## PERFORMANCE CURVES

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



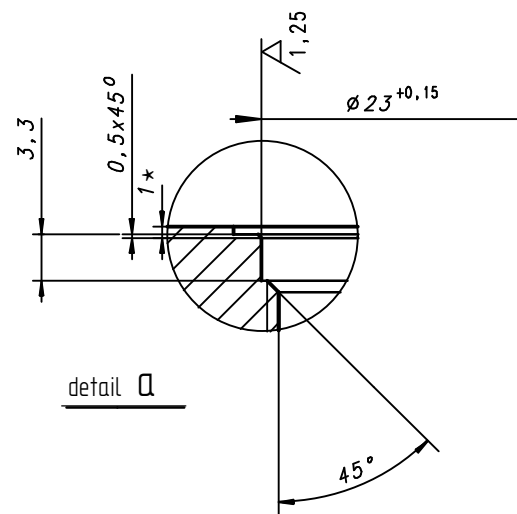
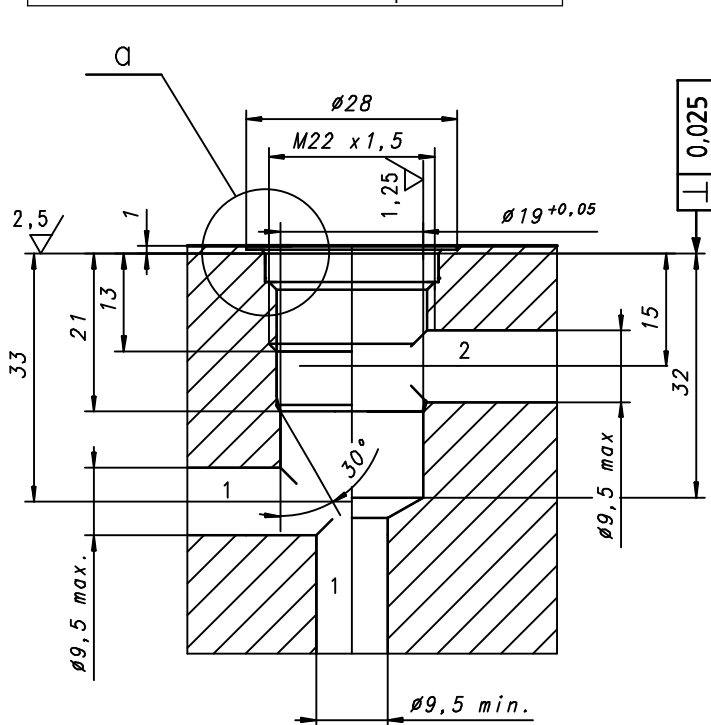
## OVERALL AND CONNECTION DIMENSIONS

Cavity M22 x 1,5

tightening torque **Md = 80 Nm**

$\text{⊙} \phi 0,025$

applied to all diameters of the main hole and phases



(\* ) max depth of the depth hole - 4,9 mm

### Plates for mounting

Plates (bodies) type **ZUL06...** are recommended to mount proportional relief valves type **WZPSE6...** The valve connections as well as threaded inch and metric connections are in the plates.

The plates should be ordered separately according to the following data sheets:

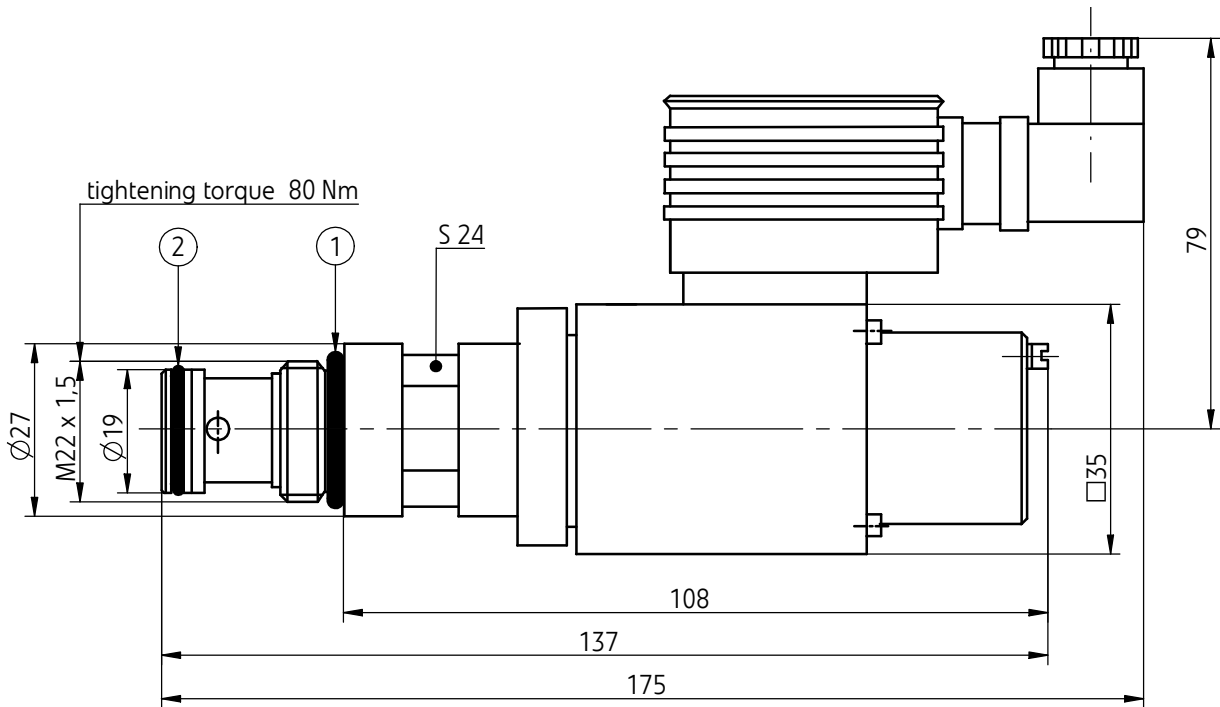
**WK 495 531** - plate type **ZUL06/1**

**WK 495 532** - plate type **ZUL06/2**

**WK 495 533** - plate type **ZUL06/3**

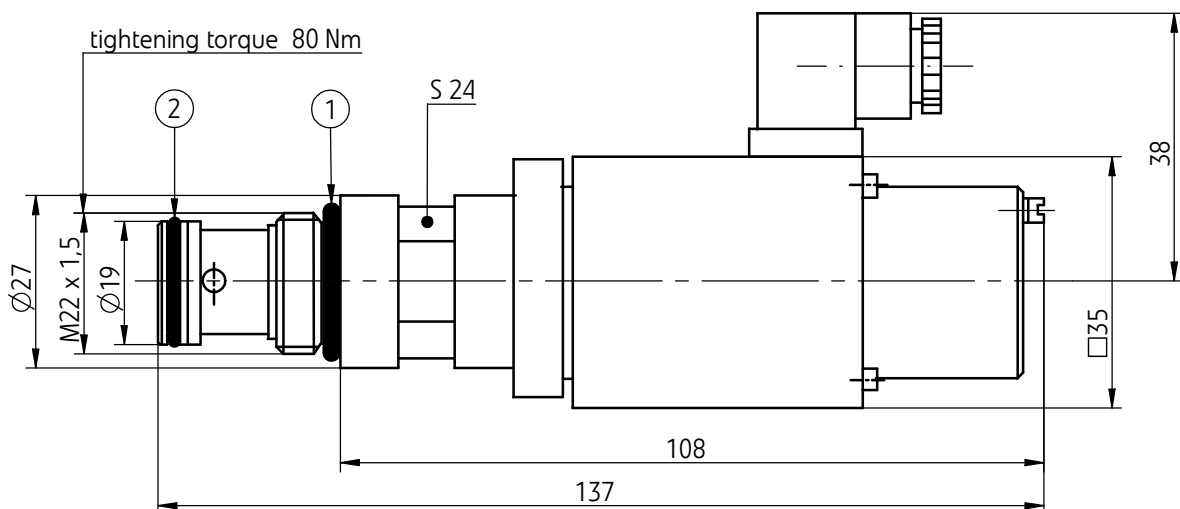
## OVERALL AND CONNECTION DIMENSIONS

version WZPSE6/02...VPC (with electronic regulator type VPC)



- 1 - O-ring 18 x 2,65
- 2 - O-ring 15,6 x 1,78

version WZPSE6/02...Z4 (with connector-in-plug type ISO 4400)



- 1 - O-ring 18 x 2,65
- 2 - O-ring 15,6 x 1,78

## HOW TO ORDER

<b>WZPSE</b>	<b>6</b>	<b>/</b>	<b>02</b>	<b>-</b>	<b>-</b>				<b>*</b>
--------------	----------	----------	-----------	----------	----------	--	--	--	----------

### Nominal size (NS)

**NS6** = **6**

### Series number

(01-09) - connection and installation dimensions unchanged = 0X  
**series 02** = **02**

### Working pressure range

**5 MPa** = **50**  
**10 MPa** = **100**  
**20 MPa** = **200**  
**30 MPa** = **300**

### Supply voltage for solenoid

12 V DC = 12  
**24 V DC** = **24**

### Electrical connection

**with electronic regulator type VPC \*** = **VPC**  
 without electronic regulator and with connector in-plug type ISO4400 = Z4

### Sealing

**NBR** (for fluids on mineral oil base) = **no designation**  
 FPM (for fluids on phosphate ester base) = V

Further requirements in clear text (to be agreed with the manufacturer)

### NOTES:

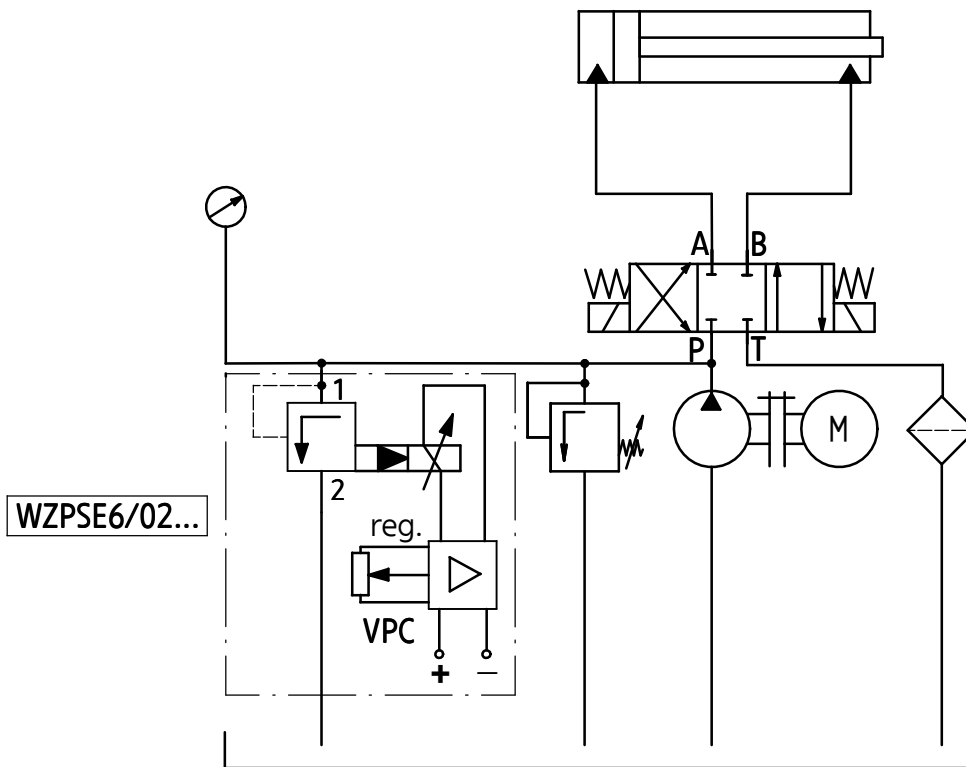
The proportional valve type **WZPSE6...** should be ordered according to the above coding.

(\*) - technical data for electronic regulator type **VPC** are included in data sheet **WK 499 735**.

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

Coding example: WZPSE6/02-50-24 VPC

**EXAMPLE OF APPLICATION  
IN HYDRAULIC SYSTEM**



PONAR Wadowice S.A.  
ul. Wojska Polskiego 29  
34-100 Wadowice  
tel. +48 33 488 29 00  
fax. +48 33 488 21 03  
[www.ponar-wadowice.pl](http://www.ponar-wadowice.pl)

