

Pilot-operated, cartridge type pressure relief valve type UZPS 10

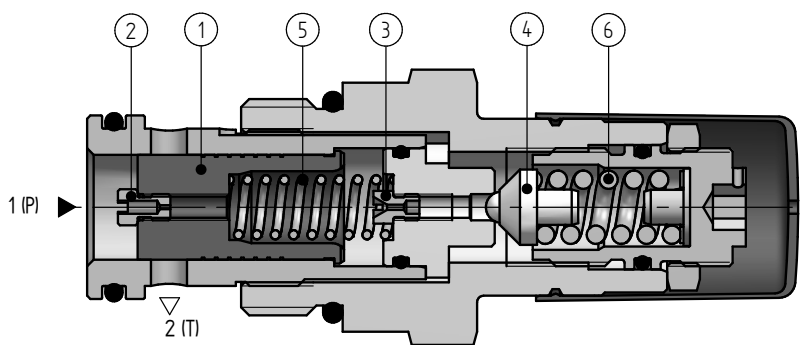
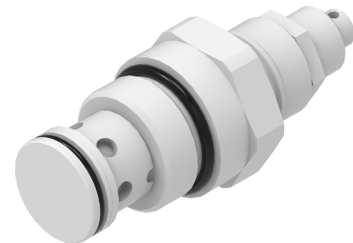
NS 10 | p_{max} 31,5 MPa | Q_{max} 120 dm³/min | WK 497 060



DATA SHEET - OPERATION MANUAL

APPLICATION

Pressure relief valves type **UZPS10...** are used for limiting pressure in hydraulic systems.



OPERATION DESCRIPTION

The **UZPS10...** valve is a pilot-operated pressure relief valve and consists of a pilot valve and a main valve. Regulated pressure affects the lower surface of the main valve spool **1** and at the same time through the nozzle **2** affects the upper surface of the main valve spool. The pressure also affects the pilot valve cone **4** through the nozzle **3**. In neutral position, the pressure on both sides of the main spool **1** is the same. The spring **5** holds the spool **1** in rest position (closed position).

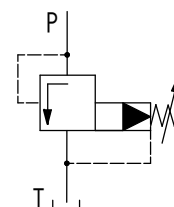
The ports **P** and **T** are separated from each other. When the pressure in the system reaches the value set by spring tension **6**, the pilot valve **4** opens and the oil flows through the nozzles **3**. At the nozzle **2** arises the pressure difference which affects both the upper and lower surface of the spool **1** overcomes the initial tension of the spring **5**. As a result, the spool **1** shifts by opening the way to the port **T**, allowing the excessive oil to be drained from port **P** to the tank.

TECHNICAL PARAMETERS

hydraulic fluid	mineral oil	
cleanliness class	ISO 4406 class 20/18/15	
filtration	required	up to 16 µm
	recommended	up to 10 µm
nom. viscosity of hydraulic fluid	37 mm ² /s at temperature 55°C	
viscosity range	2,8 ÷ 380 mm ² /s	
temperature range in the tank	recommended: 40 ÷ 55°C; max. -20 ÷ 70°C	
ambient temperature range	-20 ÷ 70°C	
pressure setting ranges	5 MPa, 10 MPa, 20 MPa, 30 MPa	
max. set pressure	30 MPa	
max. allowable flow	120 dm ³ /min	
weight	0,45 kg	

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

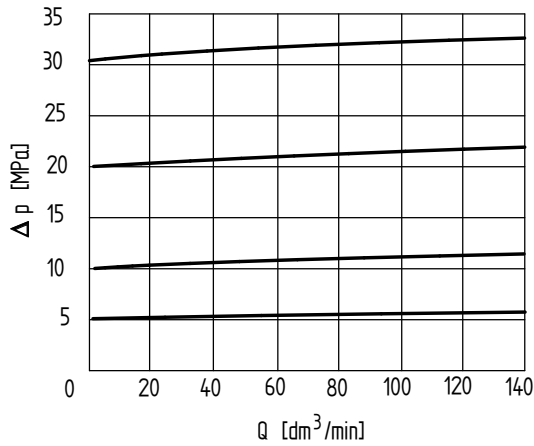
HYDRAULIC SYMBOL



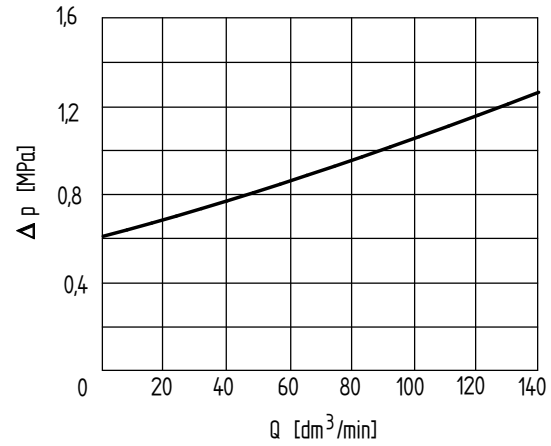
CHARACTERISTICS

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

flow rate curves



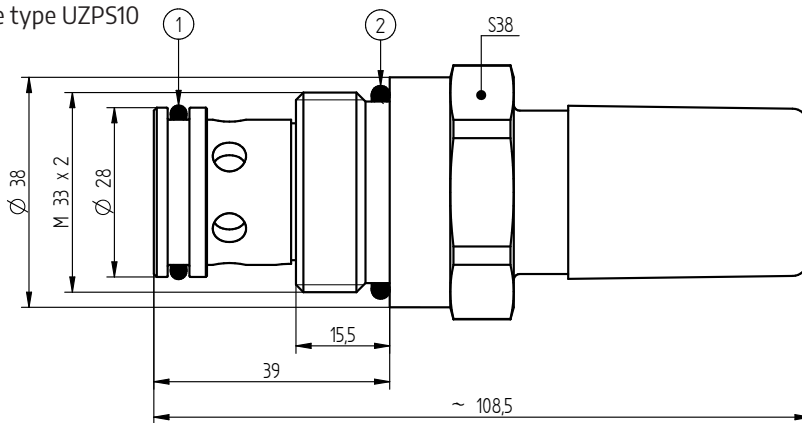
working pressure in relation to the flow rate for nominal pressure settings



working pressure in relation to the flow rate for minimal pressure setting

OVERALL AND CONNECTION DIMENSIONS

valve type UZPS10

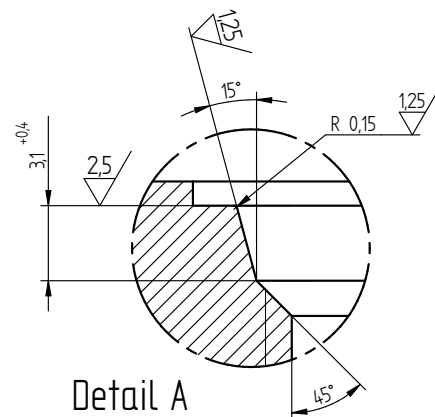
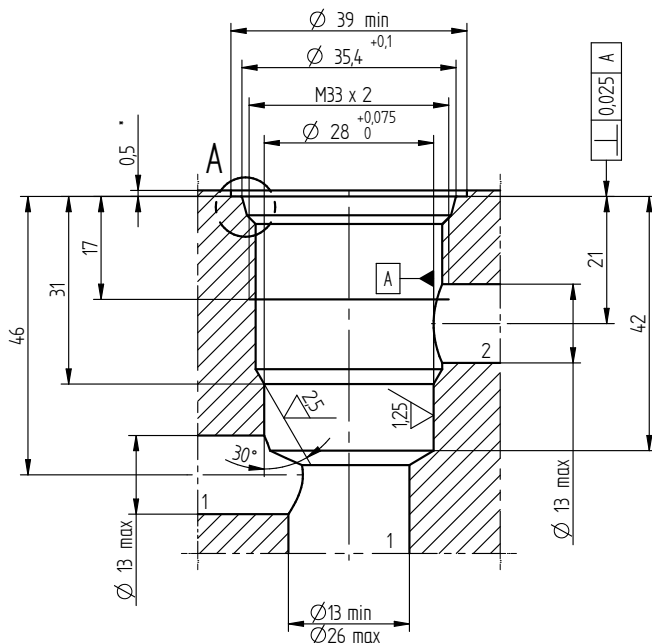


1. sealing ring o-ring 23,47 × 2,62 – 1 pc.
2. sealing ring o-ring 29,2 × 3 – 1 pc.

DIMENSIONS OF THE CONNECTION PORT

designation: port M-10-2 (thread M33x2; 2 ways); tightening torque of the valve $M_d = 50 - 55 \text{ Nm}$

$\text{Ⓢ} \text{ } \varnothing 0,025$ applies to all diameters of the main hole and chamfers



NOTE

* max. counterbore acc. to the dimensions of the valve

HOW TO ORDER

UZPS10 / 02 - - 2 *

1 2 3 4 5 6

1 series number

serie **02** = **02**
(00-09) connection and installation dimensions unchanged

2 settable pressure range

up to 5 MPa = 50
up to 10 MPa = 100
up to 20 MPa = 200
up to 31,5 MPa = 315

3 adjustment element

hexagon head bolt = 2

4 connection type

thread M33 x 2 = **M1**

5 sealing

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

6 further requirements = *

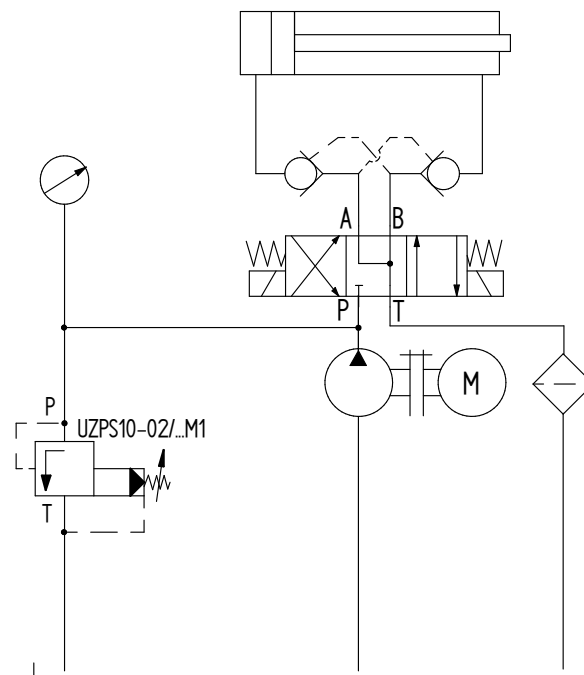
(to be agreed with the manufacturer)

The valve must be ordered in accordance with the above coding. The symbols **in bold** are preferred versions available in short delivery time.

Ø symbol means the field should be left blank.

Coding example: **UZPS10/02-200-2M1**

EXAMPLE OF APPLICATION IN A HYDRAULIC SYSTEM



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