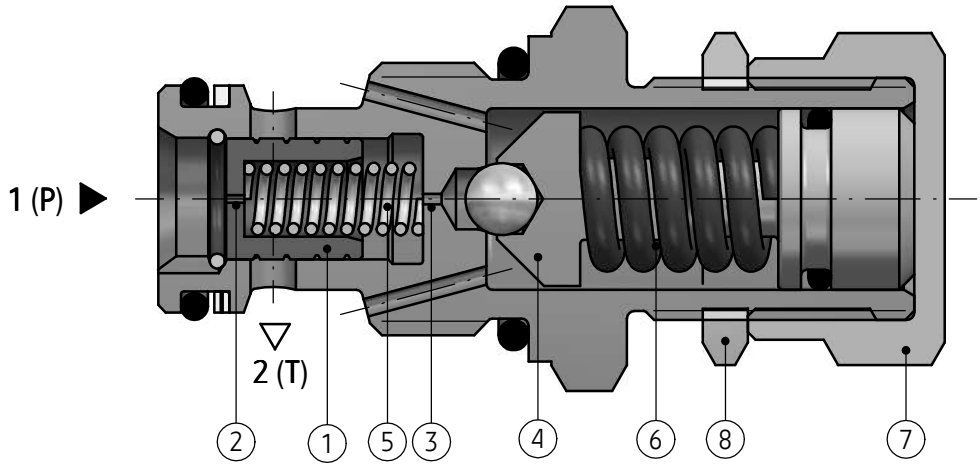
PONAR wadowice	Pressure relief valve, pilot operated, cartridge mounting type UZPS4			WK 420 260
	NS4	up to 31,5 MPa	up to 30 dm^3/min	06.2010

APPLICATION

The pressure relief valve, pilot operated type **UZPS4...** is used to limit pressure in hydraulic systems.

DESCRIPTION OF OPERATION

UZPS4 - 02/200 M1



The valve type **UZPS4...** is a pressure relief valve, pilot operated and basically consists of a pilot stage and a main stage. The regulated pressure acts on the face of the main spool (1) and as well via the orifice (2) on the spring loaded side of the spool (1) and also through the orifice (3) on the poppet of the pilot valve (4). In the off-position of the main spool (1) the pressure on both its sides is the same. The spring (5) holds the spool (1) in initial position (closed). Ports **P** and **T** are then separated.

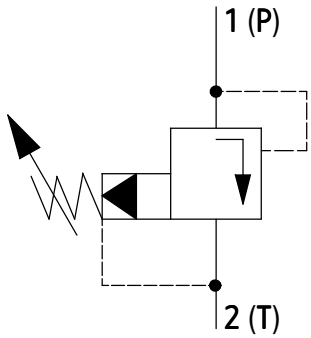
If pressure in hydraulic system exceeds the value set at the spring (6), the pilot valve (4) opens flow through the orifice (3). In the result on the orifice (2) rises pressure difference which acting on both sides of the spool (1) causes its shifting and opening connection from port **P** to **T** that allows the overflow to be drained to a tank. The pressure is set by rotation the nut (7) and then blocking by means of the lock nut (8).

TECHNICAL DATA

Hydraulic fluid	mineral oil	
Required filtration	**up to 16 µm**	
Recommended filtration	up to 10 µm	
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 +70°C	
Settable pressure ranges	10 MPa ; 20 MPa ; 31,5 MPa	
Maximum set pressure	**31,5 MPa**	
Maximum flow	**30 dm^3/min**	
Weight	0,1 kg	

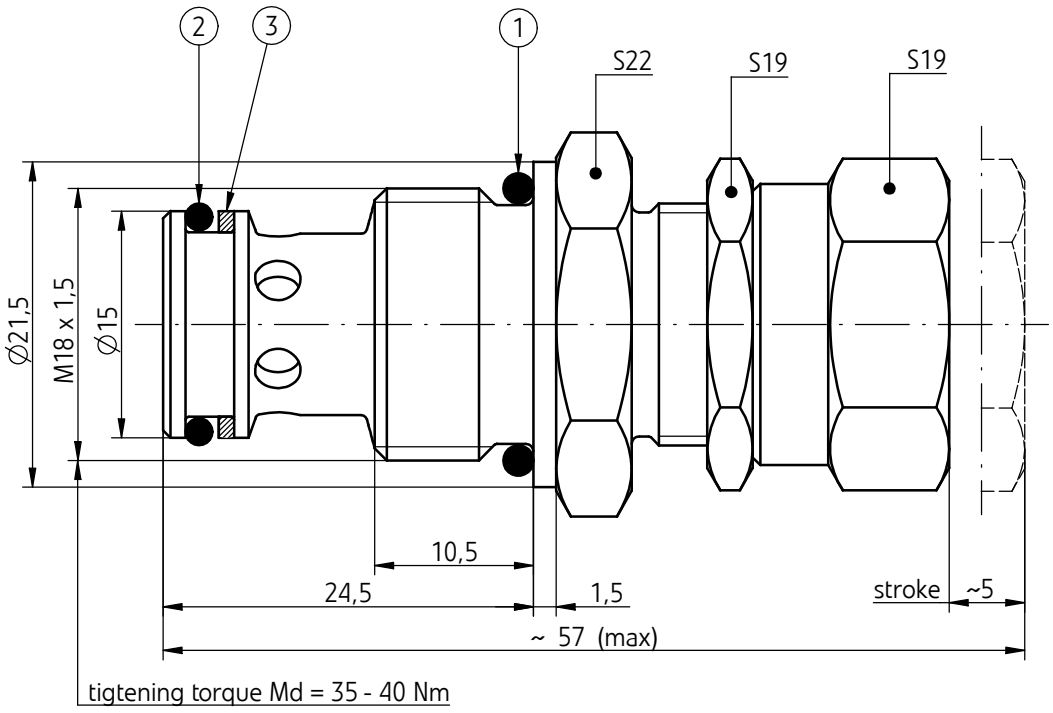
SCHEMES

Graphic symbol of the valve type **UZPS4...**



OVERALL AND CONNECTION DIMENSIONS

valve type UZPS4...



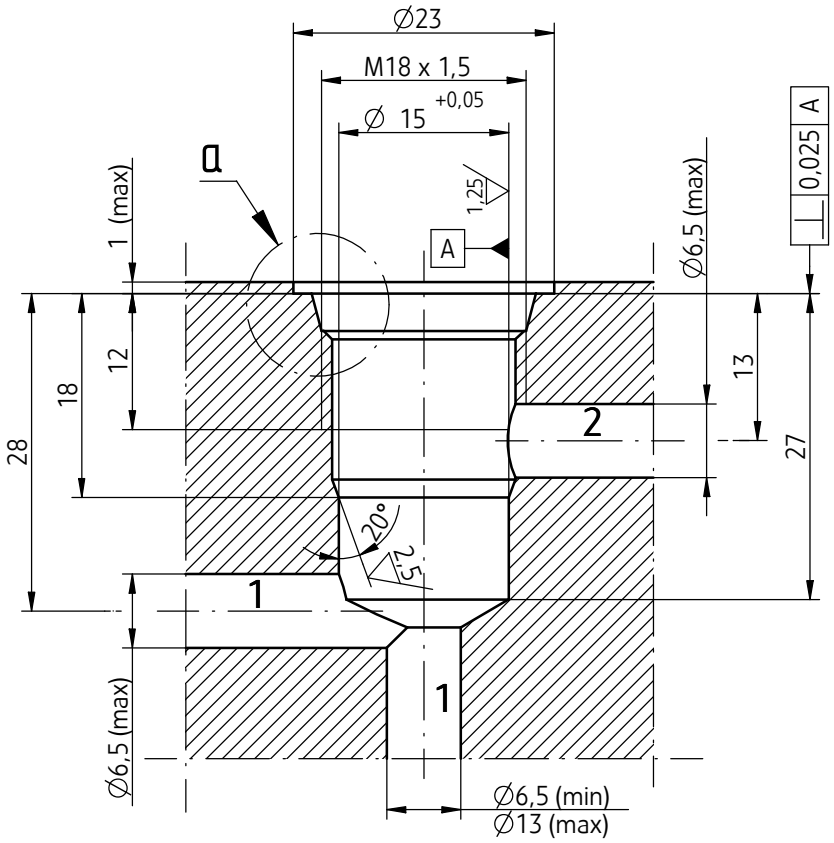
1 - Seal **o-ring 16 x 2**
2 - Seal **o-ring 12,42 x 1,78**
3 - Back-up ring **PTFE 12,2 x 15 x 1**

OVERALL AND CONNECTION DIMENSIONS

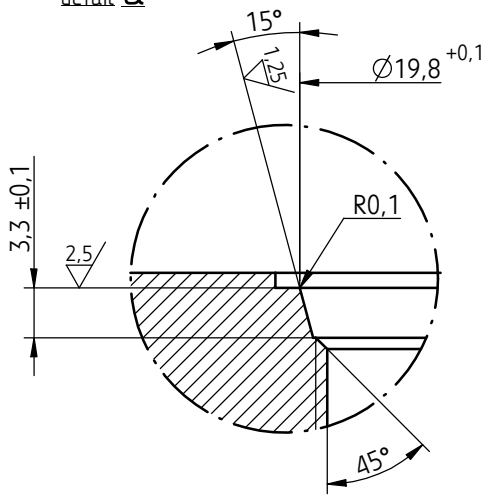
installation cavity **M18 x1,5** (size M - 4 - 2)

tightening torque **Md = 35 - 40 Nm**

⌀ 0,025 - applied to all main bore diameters and chamfers



detail a

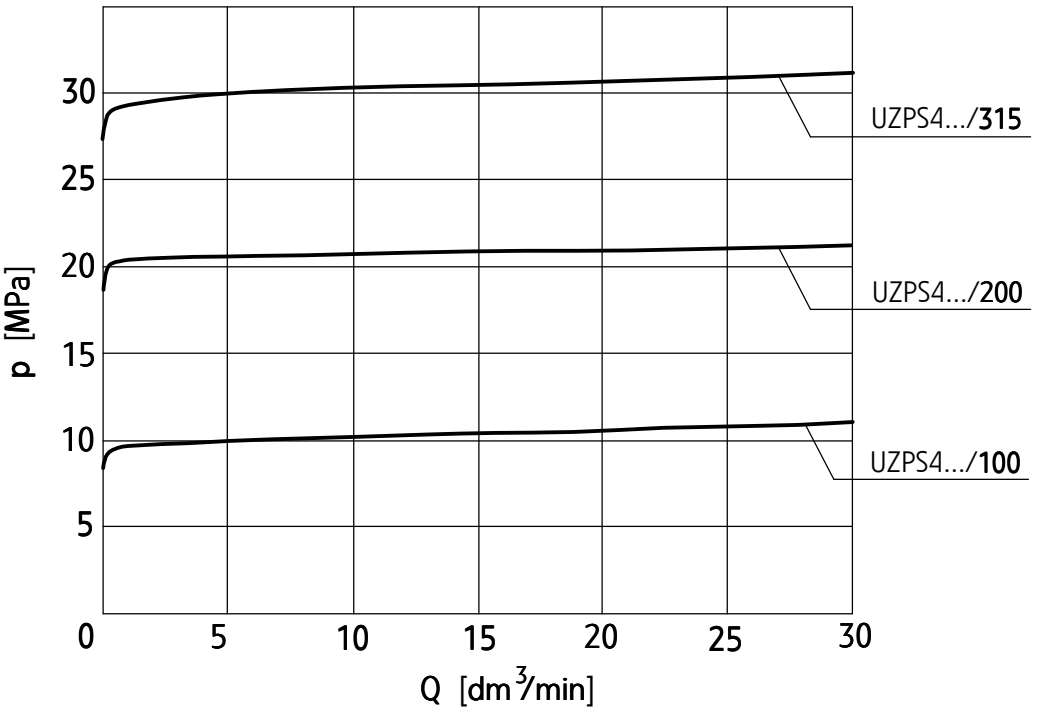


PERFORMANCE CURVES

measured at viscosity ν = 41 mm^2/s and temperature t = 50°C

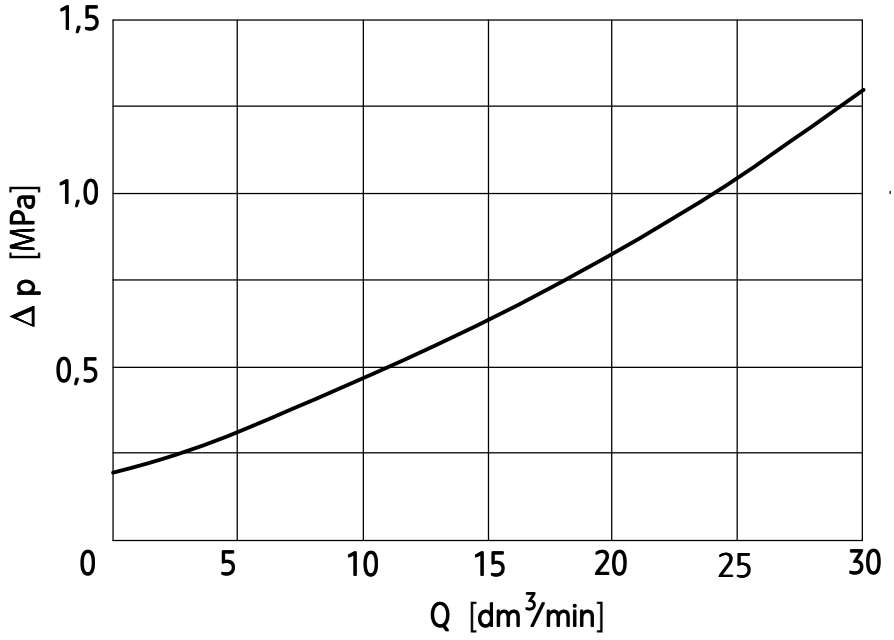
Flow characteristic curves

Characteristic curves of operating pressure **p** in relation to flow **Q**
for valves type **UZPS4...** with different set pressure ranges

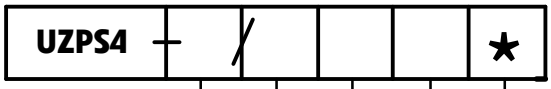


Flow resistance characteristic curves

Characteristic curve of pressure drop **Δp** in relation to flow **Q**
for the valve type **UZPS4...** at minimum set pressure (p_{nast} = 0,2 MPa)



HOW TO ORDER



Series number
(00-09) - connection and installation dimensions unchanged = 0X
series 02 = **02**

Settable pressure range
up to **10 MPa** = **100**
up to **20 MPa** = **200**
up to **31,5 MPa** = **315**

Installation connection
cavity M18 x 1,5 = **M1**

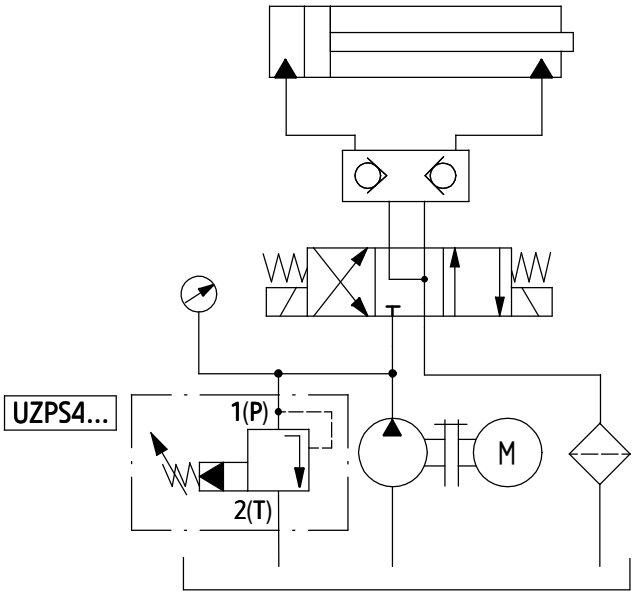
Sealing
NBR (for fluids on mineral oil base) = **no code**
FKM (for fluids on phosphate ester base) = V

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

NOTES:

The pressure relief valve should be ordered according to the above coding.
The symbols in bold are the preferred versions available in short delivery time.
Coding example: UZPS4 - 02/100 M1

EXAMPLES OF APPLICATION IN HYDRAULIC SYSTEM



PONAR Wadowice S.A.
ul. Wojska Polskiego 29
34-100 Wadowice
tel. +48 33 488 21 00
fax.+48 33 488 21 03
www.ponar-wadowice.pl