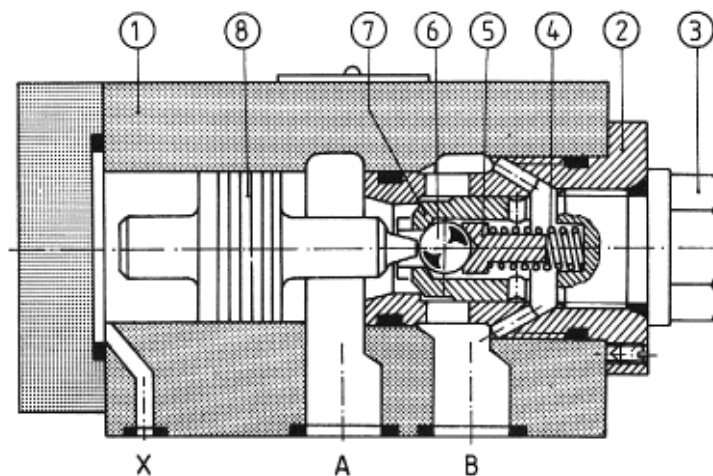
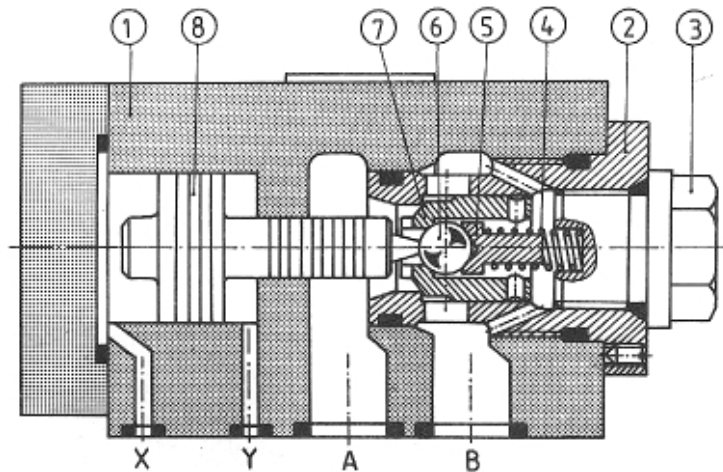


Pilot operated check valves for subplate mounting are used in the hydraulic systems when free flow in one direction and automatic closure in the opposite direction are required. There is a possibility of opening in the direction of closure. The valves can be mounted in any desired position together with a subplate. Sealing is achieved by fitting O-rings, which are included with the valve.



DESCRIPTION OF FUNCTION





The sleeve 2 with the inserted plug 3 is fitted in the housing 1. The plug 3 is the seat for the spring 4. The spring via the dished disc 5 pushes the ball 6 to the internal edge of the poppet 7 and holds the poppet closed. When pressure difference in port A exceeds cracking pressure determined by the spring, the poppet moves along the cylindrical sleeve and connection from A to B is then open. When pressure is

applied to port X oil can also flow through the valve from B to A. Pressure at port X affects the surface of the spool 8 which moves pushing the ball 6. It results in opening connection from A to B. Fluid can flow from B to A as long as pilot pressure affects port X. Port Y is an optional external drain connection .

TECHNICAL DATA

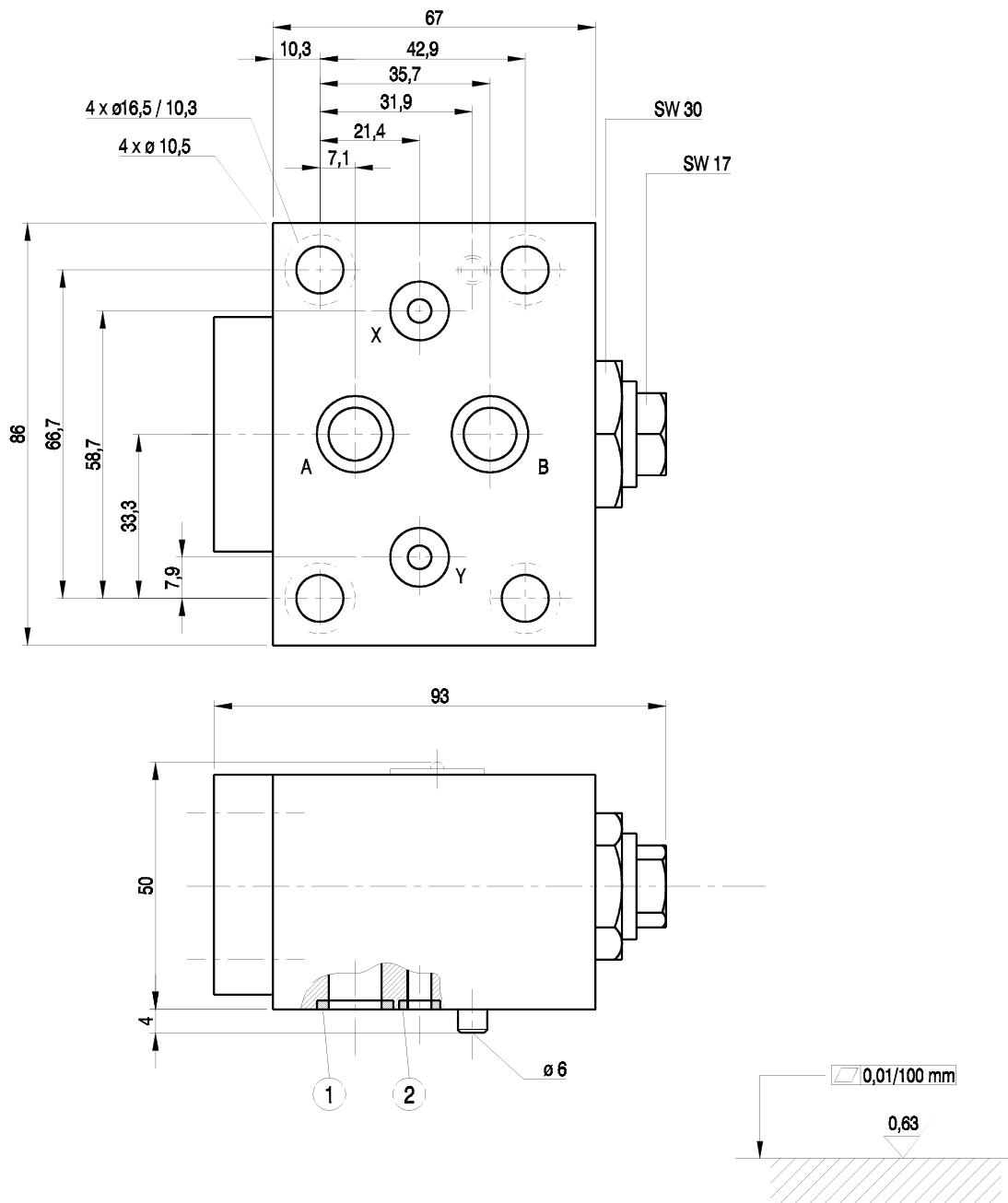
Hydraulic fluid	Mineral oil or phosphate ester
Nominal fluid viscosity	37 mm ² /s at the temperature of 328 K
Viscosity range	2.8 to 380 mm ² /s
Optimum working temperature (fluid in a tank)	313 - 328 K
Fluid temperature range	243 - 343 K
Required fluid filtration	16 μm
Recommended fluid filtration	10 μm
Maximum working pressure	32 MPa
Cracking pressure	0.05 MPa
Maximum control pressure	32 MPa
Weight	2.1 kg

CONTROL AREAS

Valve version	F ₁ (cm ²)	F ₂ (cm ²)	F ₃ (cm ²)	F ₄ (cm ²)	C(MPa)
UZSB 10...X	1.13	0.30	3.13	---	0.056
UZSB 10...Z	1.13	0.30	3.13	0.50	0.056

F₁ - surface area of the poppet 7
 F₂ - surface area of the pilot ball 6
 F₃ - surface area of the spool 8
 F₄ - surface area of the rod of the spool 8 inverse to F₃
 C - pressure affecting area F₃ required for exceeding the spring 4 force

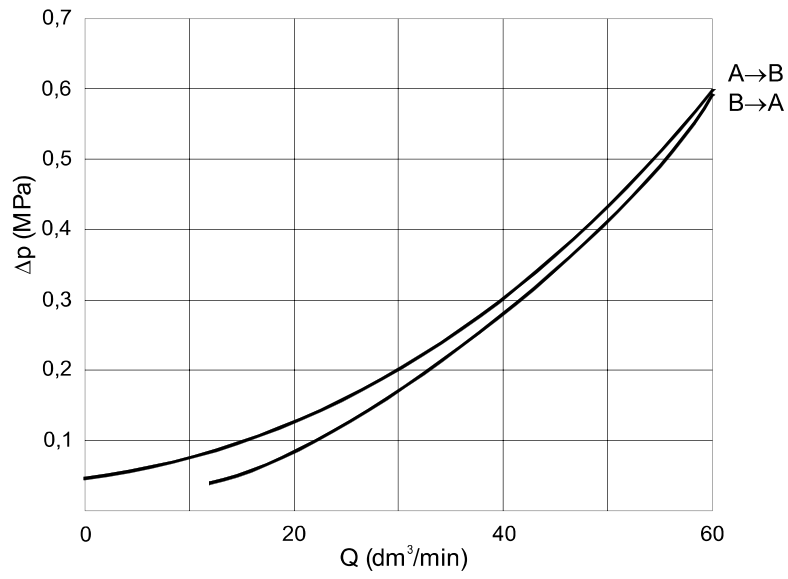
OVERALL DIMENSIONS



item 1 - O-ring 8.3 × 2.4 - 1 piece for version X
 2 pieces for version Z
 item 2 - O-ring 16 × 3 - 2 pieces

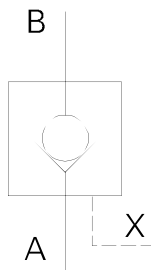
Admissible surface roughness and flatness deviation for a subplate face.

PERFORMANCE CURVES, measured at $v = 41 \text{ mm}^2/\text{s}$ and $T = 323 \text{ K}$

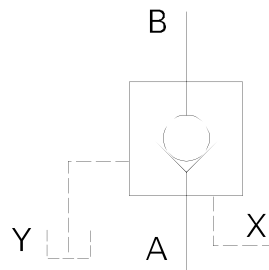


SCHEMES

Hydraulic scheme



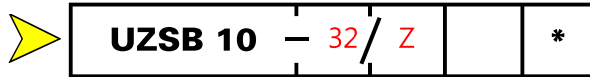
for version X



for version Z

HOW TO ORDER

Orders coded in the way showed below should be forwarded to the manufacturer.



Series number
 30 = 30
 (30 - 39) - installation and connection dimensions unchanged

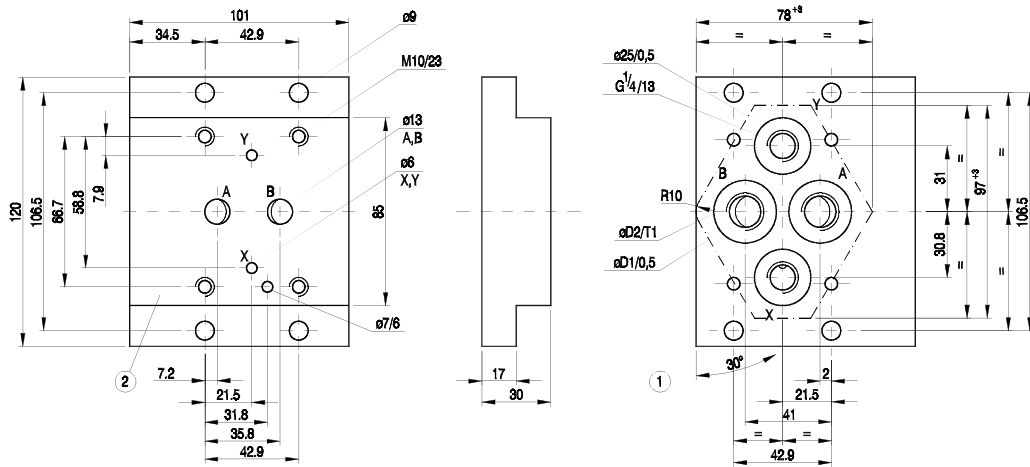
Additional requirements in clear text
 (to be agreed with the manufacturer)

Draining of leakage
 Internally drained (without drain port) = X
 Externally drained (with drain port) = Z

Sealing
 Fluid on mineral oil base - no designation
 Fluid on phosphate ester base - V

Coding example : UZSB 10 - 30/X

CONNECTION DIMENSIONS FOR SUBPLATE



item 1 - recess in subplate
 item 2 - interface

Valve	Subplate	D1	D2	T1	Bolts mounting the valve to subplate	Torque [Nm]	Weight [kg]
Size 10	G 460/01	28	G 3/8	13	4 x M10 x 50 - 10.9 PN - 87/M-82302 (DIN 912)	73	1.7
	G 461/01	34	G 1/2	15			

Note : Fixing bolts have to be ordered separately

CONNECTION DIMENSIONS FOR SUBPLATE

item 1 - recess in subplate
item 2 - interface

Type	L1	L2	D1	D2	D3	D4	D5	T1	T2
G 23/01	7	35.5	G 1/4	25	25	G 1/4	11.5	12	12
G 41/01	7	40	G 1/4	25	28	G 3/8	15	12	12
G 24/01	2	44	G 1/4	25	34	G 1/2	15	12	14
G 23/02	7	35.5	M14 × 1.5	24	24	M14 × 1.5	11.5	15	15
G 41/02	7	40	M14 × 1.5	24	30	M18 × 1.5	15	15	15
G 24/02	2	44	M14 × 1.5	24	36	M22 × 1.5	15	15	17

Mounting the valve to the subplate by means of 4 bolts M10 ´ 50 - 10.9 PN - 74 / M - 82302 (DIN 912).
Tightening torque - 69 Nm. Subplate and mounting bolts must be ordered separately.

PONAR WADOWICE S.A.
ul. Wojska Polskiego 29
34-100 Wadowice
tel. 033/ 823 39 43, 823 30 41
fax 033/ 873 48 80
e-mail: ponar@ponar-wadowice.pl

