

Check valve, pilot operated UZSB 20

NS 20 | p_{max} 35 MPa | Q_{max} 200 dm³/min | WK 450 560



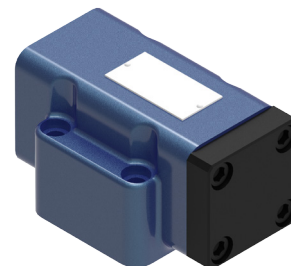
DATA SHEET - OPERATION MANUAL

APPLICATION

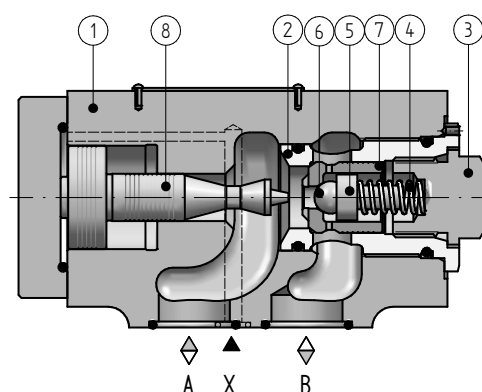
Pilot operated check valve type **UZSB20...** for subplate mounting is used in the hydraulic systems when free flow in one direction and automatic closure in the opposite direction are required. There is a possibility of opening in the direction of closure by pilot pressure. The valves can be mounted in any desired position.

DESCRIPTION OF OPERATION

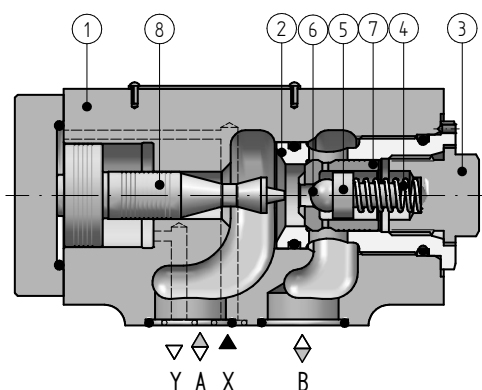
The sleeve **2** with the inserted plug **3** is fitted in the housing **1**. The plug **3** is a seat for the spring **4**. The spring via the dished disk **5** pushes the ball **6** to the internal edge of the poppet **7** and holds the poppet closed. When pressure difference in port **A** exceeds cracking pressure determined by the spring, the poppet moves along the cylindrical sleeve and the 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 pilot spool **8**, which moves pushing the ball **6**. It results in opening the connection from **B** to **A**. Fluid can flow from **B** to **A** as long as pilot pressure affects port **X**. Port **Y** is an optional external drain connection.



UZSB20-12/X



UZSB20-12/Z



TECHNICAL PARAMETERS

hydraulic fluid	mineral oil
required oil cleanliness class	ISO 4406 class 20/18/15
nominal fluid viscosity	37 mm ² /s at temperature 55 °C
viscosity range	2,8 ÷ 380 mm ² /s
temperature range (in tank)	max. -20 ÷ 70 °C; rec. 40 ÷ 55 °C
ambient temperature range	-20 ÷ 70 °C
max. working pressure	35 MPa
max. pilot pressure	35 MPa
cracking pressure	0,05 MPa
weight	6 kg

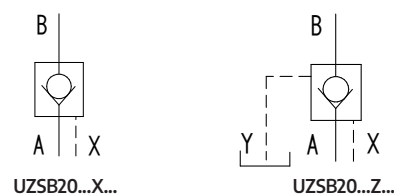
control areas

version	F ₁ [cm ²]	F ₂ [cm ²]	F ₃ [cm ²]	F ₄ [cm ²]	C [MPa]
UZSB20...X...	3,73	0,76	9,61	-	0,087
UZSB20...Z...	3,73	0,76	9,61	2,0	0,087

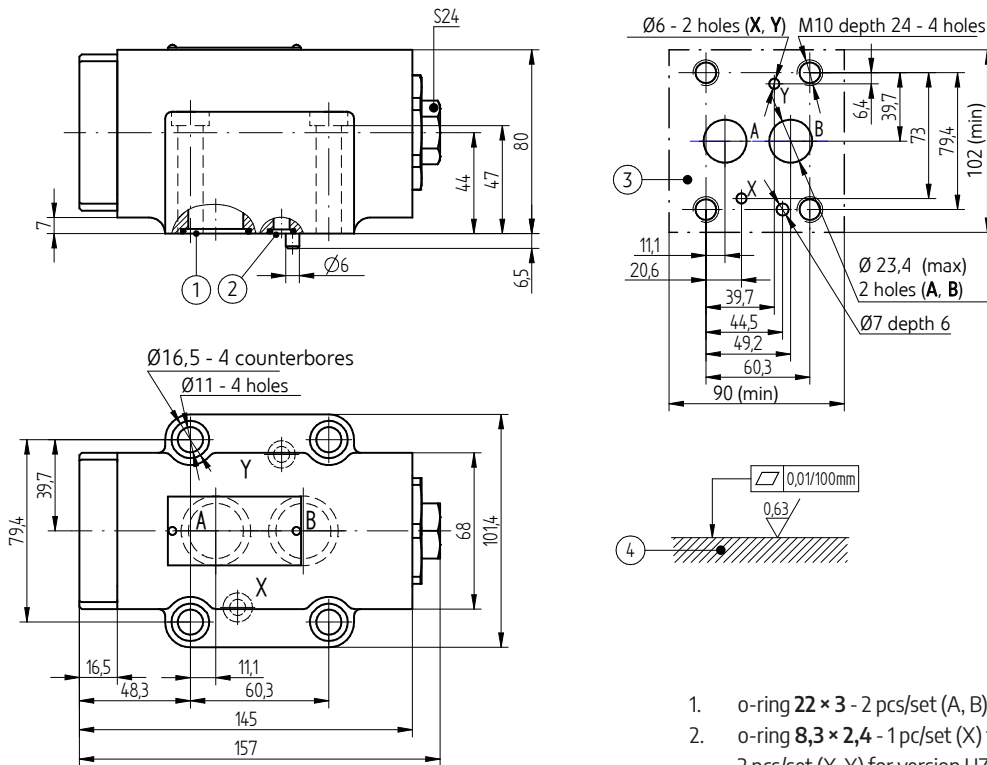
assembly and operation requirements at: www.operating-conditions.ponar.pl

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

HYDRAULIC DIAGRAM



OVERALL AND CONNECTION DIMENSIONS

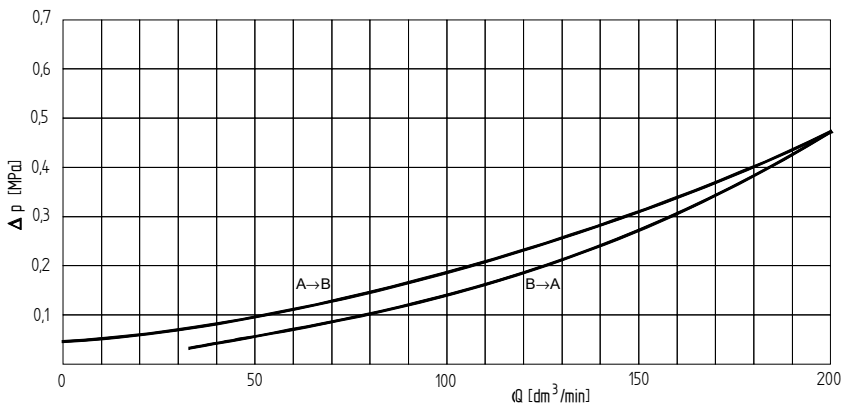


- o-ring 22×3 - 2 pcs/set (A, B)
- o-ring $8,3 \times 2,4$ - 1 pc/set (X) for version UZSB20.../X...; 2 pcs/set (X, Y) for version UZSB20.../Z...
- porting pattern of the subplate compliant with standards:
 - CETOP RP 121H** - designation **CETOP 4.4.5-2-08** (nominal size CETOP 08)
 - PN-ISO 5781**
- required surface quality of the valve contact surface

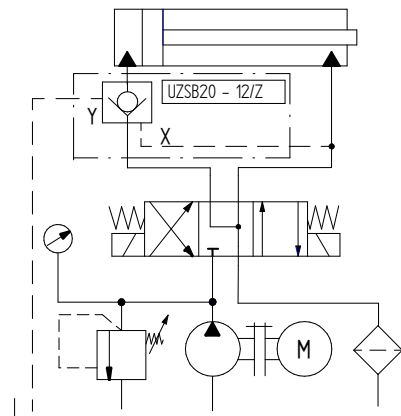
CHARACTERISTICS

for fluid viscosity $\nu = 41 \text{ mm}^2/\text{s}$ and temp. $t = 50 \text{ }^\circ\text{C}$

flow curves



APPLICATION EXAMPLE



HOW TO ORDER

UZSB 20 - /

1 2 3 4 5

1 nominal size

NS20 = 20

2 series number

series 12 = 12
(10 ÷ 19) - connection and installation dimensions unchanged

3 draining of leakage

internally drained (without drain port) = X
externally drained (with drain port) = Z

4 sealing

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

5 further requirements = *
(to be agreed upon with the Manufacturer)

Ø indicates that the box should be left blank.

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

Coding example: **UZSB20-12/X**

SUBPLATES AND MOUNTING SCREWS

Subplates should be ordered according to data sheet **WK 450 799:**
G413/01 – threaded connection **A, B – G 1; X, Y – G ¼**

Subplates and mounting screws for mounting the valve **M10 × 60 – 10.9** acc. to **PN – EN ISO 4762** (PN/M – 82302) – 4 pcs/set **delivered on separate order.**
Tightening torque of screws **M_d = 73 Nm.**

CONTACT

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