

**RE 21 558/02.03**

Replaces: 06.02

**Check valve,  
hydraulically pilot operated  
Type Z2S 16**

Nominal size 16

Series 5X

Maximum operating pressure 315 bar

Maximum flow 300 L/min



K 4340/4

Type Z2S 16-1-5X/...

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**Features**

- Sandwich plate valve, porting pattern to DIN 24 340 form A, ISO 4401 and CETOP – RP 121 H
- For the leak-free closure of one or two actuator ports
- For use in vertical stacking assemblies
- 4 different opening pressures, optional

**Ordering details**

| Z2S 16                             |     | - 5X/ |  | *   |
|------------------------------------|-----|-------|--|---|
| Sandwich plate check valve, NS 16  |     |       |  | Further details in clear text   |
| Leak-free closure in ports A and B | = - |       |  | No code = NBR seals   |
| Leak-free closure in port A        | = A |       |  | V = FKM seals   |
| Leak-free closure in port B        | = B |       |  | (other seals on request)  |
| Opening pressure 1.5 bar           | = 1 |       |  | <b>⚠ Attention!</b>   |
| Opening pressure 5 bar             | = 2 |       |  | The compatibility of the seals and pressure fluid has to be taken into account! |
| Opening pressure 7.5 bar           | = 3 |       |  |   |
| Opening pressure 10 bar            | = 4 |       |  |   |
|                                    |     |       |  | 5X = Series 50 to 59  |
|                                    |     |       |  | (50 to 59: unchanged installation and connection dimensions)                    |

**Preferred types (readily available)**

| Type          | Material No. |
|---------------|--------------|
| Z2S 16 -1-5X/ | R900328797   |
| Z2S 16 A1-5X/ | R900328798   |
| Z2S 16 B1-5X/ | R900328799   |

**Preferred types and standard components are highlighted in the RPS (Standard Price List).**



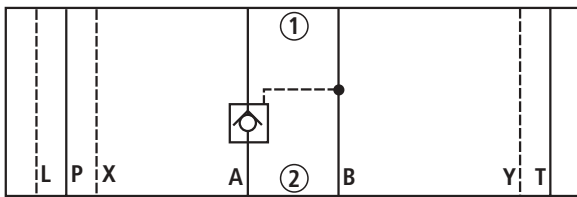
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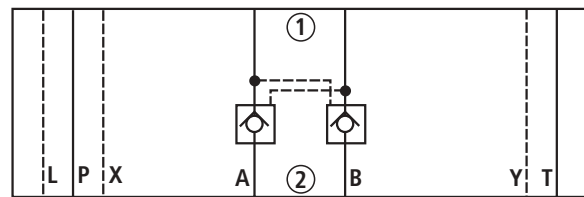
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**Symbols** (1) = components side, (2) = subplate side

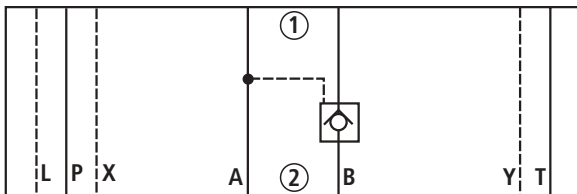
**Type Z2S 16 A.-5X/...**



**Type Z2S 16 -.5X/...**



**Type Z2S 16 B.-5X/...**



## Function, section

The hydraulic pilot operated check valve type Z2S is of sandwich plate design.

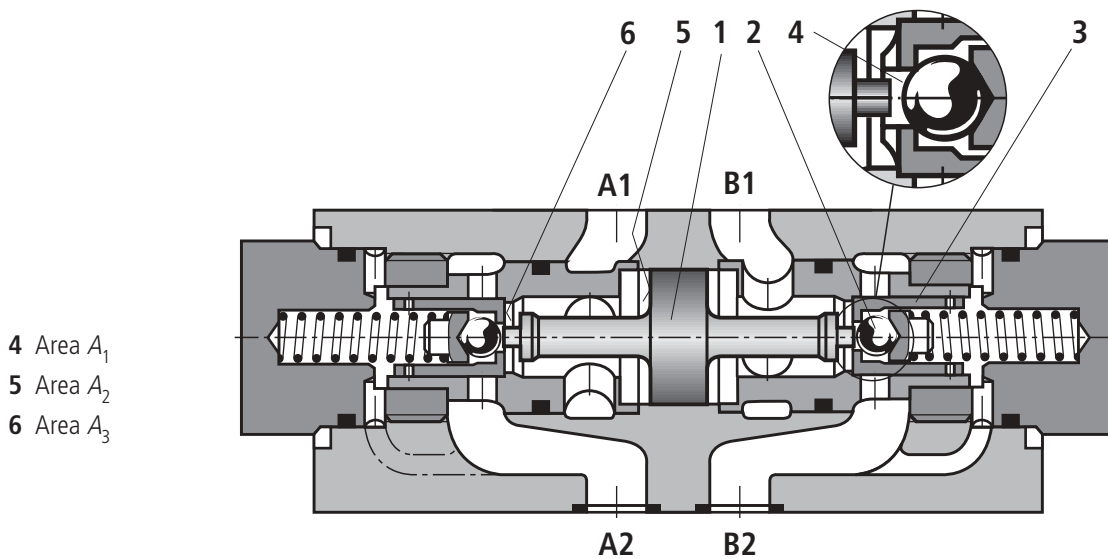
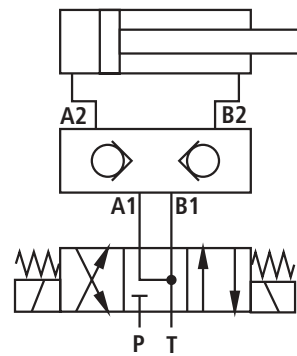
It is used for the leak-free closure of one or two actuator ports, even for long periods of time.

Free-flow occurs from A1 to A2 or B1 to B2. Flow in the opposite direction is blocked.

When fluid flows through the valve from A1 to A2, pressure is applied to the spool (1) which is then pushed to the right, thereby opening the ball poppet valve (2) which then pushes open the sleeve (3).

In order to ensure correct closing of the valve, the actuator ports of the directional valve must be connected to tank in the neutral position (see circuit example).

**Circuit example**



**Technical data** (for applications outside these parameters, please consult us!)

**General**

|                           |    |                           |
|---------------------------|----|---------------------------|
| Installation              |    | Optional                  |
| Ambient temperature range | °C | − 30 ... + 80 (NBR seals) |
|                           | °C | − 20 ... + 80 (FKM seals) |
| Weight                    | kg | Approx. 6.5               |

**Hydraulic**

|   |                    |  |
|---|--------------------|--|
| Maximum operating pressure                  | bar                | 315  |
| Maximum flow                                | L/min              | 300  |
| Flow direction                              |                    | See symbols  |
| Opening pressure in the free-flow direction |                    | See characteristic curves  |
| Area ratio                                  | L/min              | $A_1 / A_2 = 1 / 11.8$ ; $A_3 / A_2 = 1 / 2.8$<br>(see sectional drawing on page 2)  |
| Pressure fluid                              |                    | Mineral oil (HL, HLP) to DIN 51 524 <sup>1)</sup> ;<br>Fast bio-degradable pressure fluids to<br>VDMA 24 568 (also see RE 90 221); HETG (rape seed oil) <sup>1)</sup> ;<br>HEPG (polyglycols) <sup>2)</sup> ; HEES (synthetic ester) <sup>2)</sup> ;<br>other pressure fluids on request |
| Pressure fluid temperature range            | °C                 | − 30 ... + 80 (NBR seals)  |
|   | °C                 | − 20 ... + 80 (FKM seals)  |
| Viscosity range                             | mm <sup>2</sup> /s | 2.8 ... 500  |
| Cleanliness class to ISO code               |                    | Maximum permissible degree of contamination of the pressure fluid is to ISO 4406 (C) class 20/18/15 <sup>3)</sup>  |

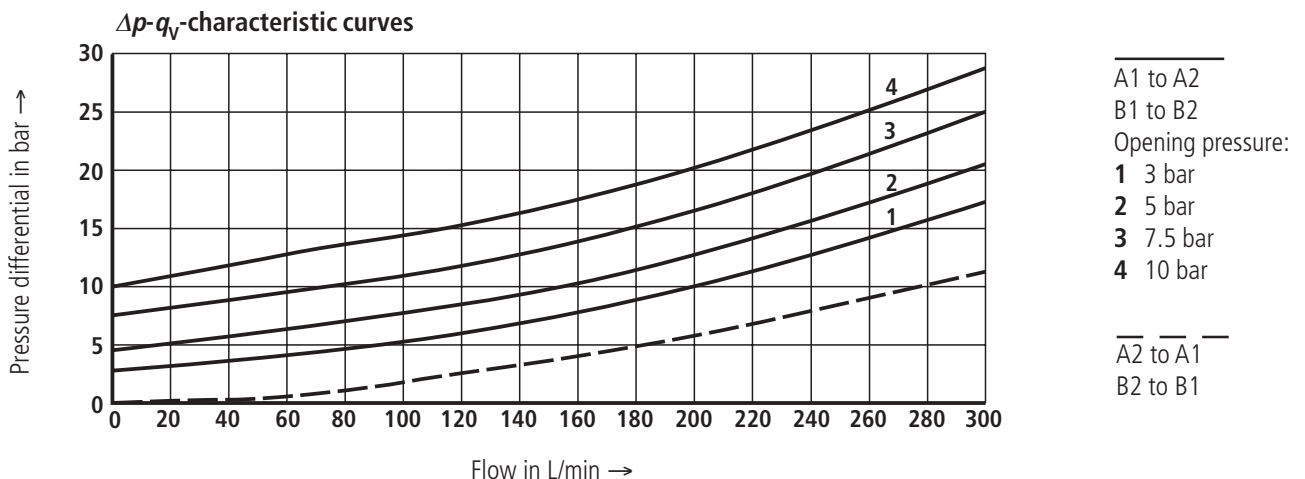
1) Suitable for NBR **and** FKM seals

2) **Only** suitable for FKM seals

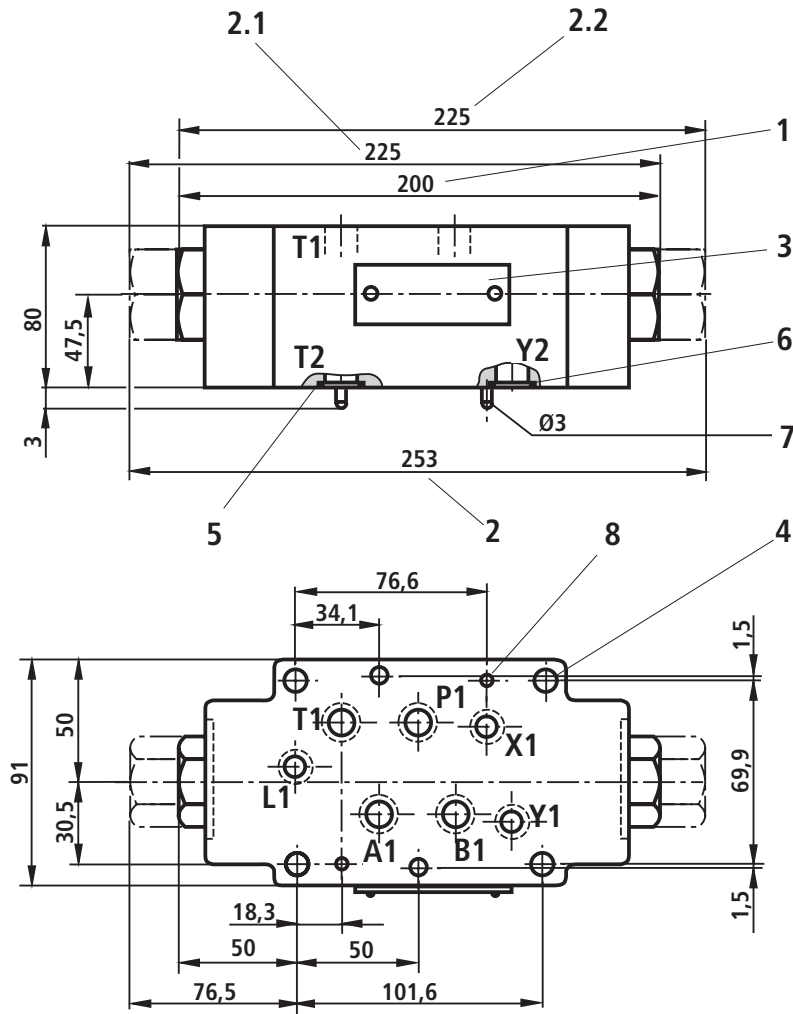
3) The cleanliness class stated for the components must be adhered too in hydraulic systems. Effective filtration prevents faults from occurring and at the same time increases the component service life.

For the selection of filters see catalogue sheets RE 50 070, RE 50 076 and RE 50 081.

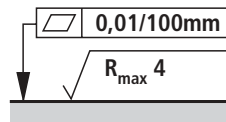
**Characteristic curves** (measured with HLP46,  $\vartheta_{oil} = 40 \text{ °C} \pm 5 \text{ °C}$ )



**Unit dimensions** (dimensions in mm)



- 1 Valve with an opening pressure of 3 or 5 bar, leak-free closure in ports A and/or B
- 2 Valve with an opening pressure of 7.5 or 10 bar, leak-free closure in ports A and B
- 2.1 Valve with an opening pressure of 7.5 or 10 bar, leak-free closure in port A
- 2.2 Valve with an opening pressure of 7.5 or 10 bar, leak-free closure in port B
- 3 Name plate
- 4 6 through drillings for valve fixing screws
- 5 Same seal rings for ports A2, B2, P2, T2
- 6 Same seal rings for ports X2, Y2, L2
- 7 Locating pin
- 8 Holes for locating pin



Required surface finish of the mating piece

**Valve fixing screws**

4 x M10 DIN 912-10.9,  
 $M_A = 75 \text{ Nm}$  and  
 2 x M6 DIN 912-10.9,  $M_A = 15.5 \text{ Nm}$ ,  
 must be ordered separately.

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