Rexroth
Bosch Group

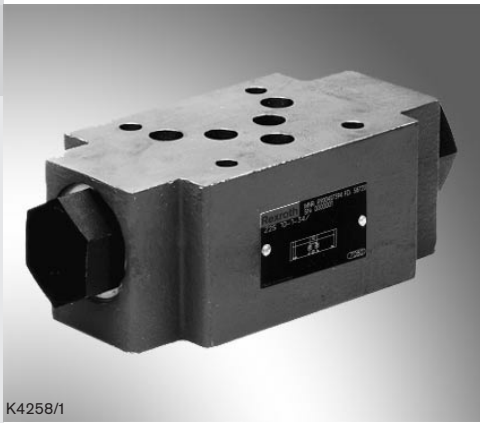


# Check valve, pilot operated

**RE 21553/08.05** 1/4
Replaces: 02.03

## Type Z2S

Size 10
Component series 3X
Maximum operating pressure 315 bar
Maximum flow 120 l/min


K4258/1

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## Features

- Sandwich plate valve
- Position of ports to ISO 4401-05-04-0-94
- For the leak-free closure of one or two actuator ports, optional
- For use in vertical stacking assemblies
- 4 different cracking pressures, optional

- Supplementary documentation:
  Sandwich plate size 10 RE 48052

Information on available spare parts:
www.boschrexroth.com/spc

## Ordering code

| Z2S | 10 | | –3X/ | * |
|---|---|---|---|---|

Sandwich plate check valve

Size 10 = **10**

**Leak-free closure**

In channels A and B = **–**

In channel A = **A**

In channel B = **B**

**Cracking pressure**

1.5 bar = **1**

3 bar = **2**

6 bar = **3**

10 bar = **4**

**3X =** Component series 30 to 39
(30 to 39: unchanged installation and connection dimensions)

**Seal material**

**no code =** NBR seals

**V =** FKM seals

**⚠ Caution!**
Observe compatibility of seal material with hydraulic fluid used!

Further details in clear text

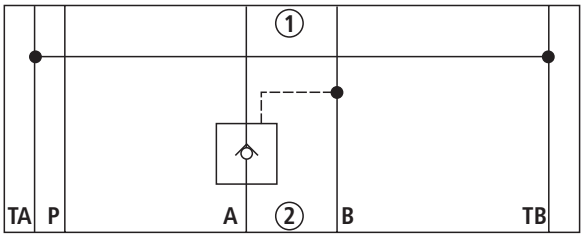
## Standard types

| Type | Material number |
|---|---|
| Z2S 10 -1-3X/ | R900407394 |
| Z2S 10 -2-3X/ | R900421985 |
| Z2S 10 A1-3X/ | R900407424 |
| Z2S 10 B1-3X/ | R900407434 |

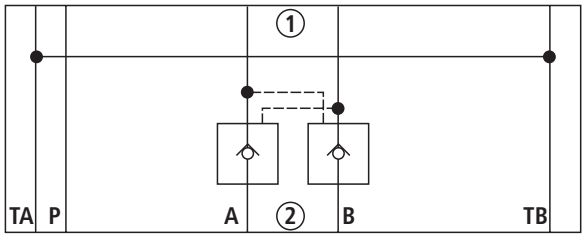
**Further standard types and components can be found in the EPS (standard price list).**

## Symbols (① = component side, ② = plate side)

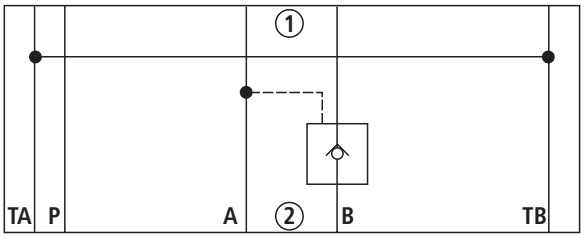
**Type Z2S 10 A…**




**Type Z2S 10 –…**




**Type Z2S 10 B…**



## Function, section, circuit example

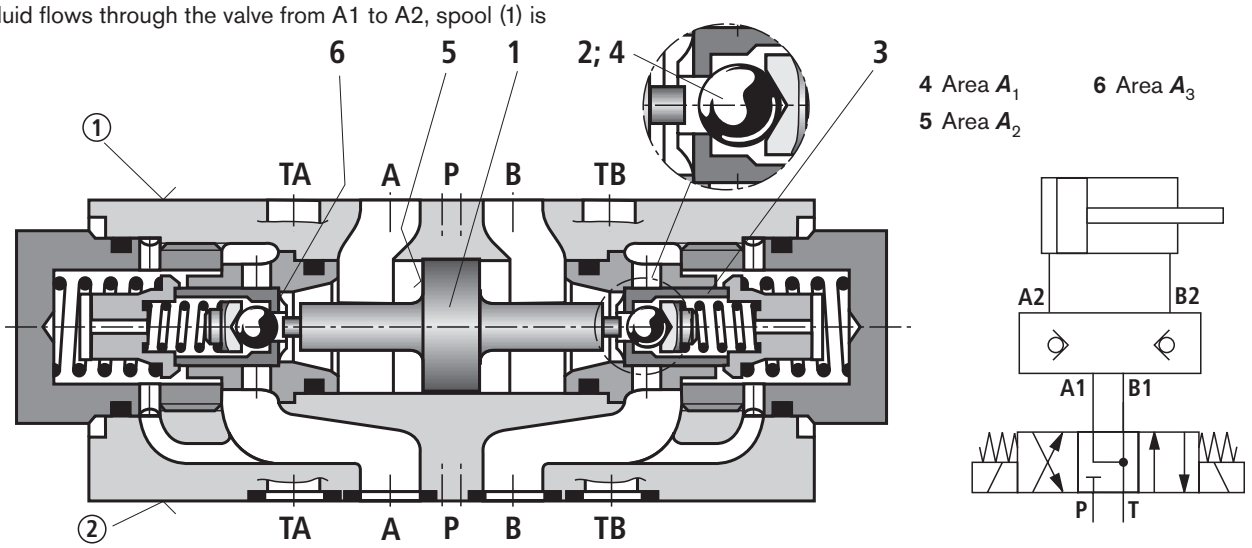
Isolator valve type Z2S is a pilot operated check valve of sandwich plate design.

It is used for the leak-free closure of one or two actuator ports, even over longer periods of standstill.

The fluid can freely flow in the direction from A1 to A2 or B1 to B2, whereas the fluid flow is checked in the opposite direction.

When fluid flows through the valve from A1 to A2, spool (1) is pressurised and shifted to the right. This opens ball seat valve (2) and then pushes poppet (3) off its seat.

To allow reliable closing of the valve poppet, the actuator ports of the directional valve must be unloaded to the tank when the directional valve is at its central position (see circuit example).




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

| General | | |
|---|---|---|
| Weight | kg | approx. 3 |
| Installation orientation | | Optional |
| Ambient temperature range | °C | –30 to +80 (NBR seals)<br>–20 to +80 (FKM seals) |

| Hydraulic | | |
|---|---|---|
| Maximum operating pressure | bar | 315 |
| Cracking pressure in free direction of flow | | See characteristic curves on page 4 |
| Maximum flow | l/min | 120 |
| Direction of flow | | See symbols on page 2 |
| Hydraulic fluid | | Mineral oil (HL, HLP) to DIN 51524 [1]; fast bio-degradable hydraulic fluids to VDMA 24568 (see also RE 90221); HETG (rape seed oil) [1]; HEPG (polyglycols) [2]; HEES (synthetic esters) [2]; other hydraulic fluids on enquiry |
| Hydraulic fluid temperature range | °C | – 30 to + 80 (NBR seals)<br>– 20 to + 80 (FKM seals) |
| Viscosity range | $mm^2/s$ | 2.8 to 500 |
| Max. permissible degree of contamination of the hydraulic fluid - cleanliness class to ISO 4406 (c) | | Class 20/18/15 [3] |
| Area ratio | | $A_1/A_2$ = 1/11.45; $A_3/A_2$ = 1/2.86 (see section drawing above) |

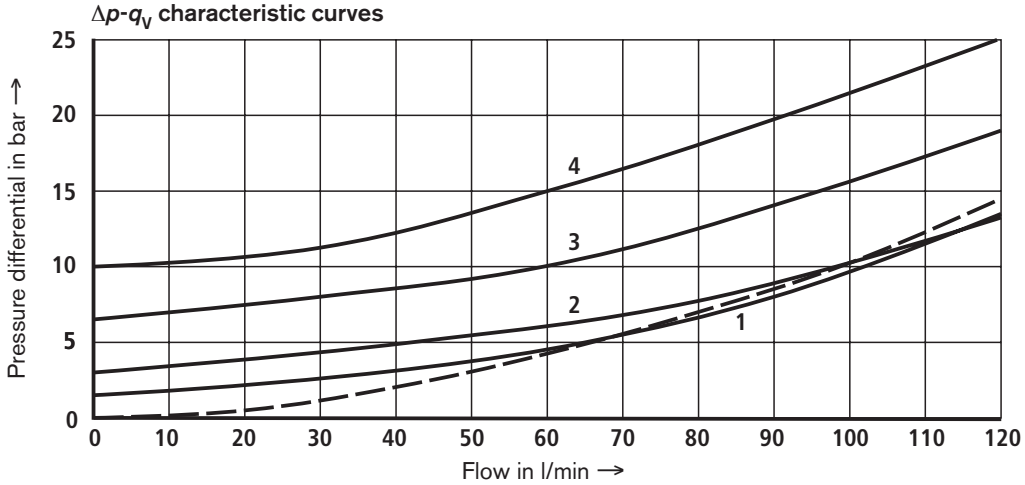
[1] Suitable for NBR and FKM seals

[2] Suitable only for FKM seals

[3] The cleanliness classes specified for components must be adhered to in hydraulic systems. Effective filtration prevents malfunction and, at the same time, prolongs the service life of components.

For the selection of filters, see data sheets RE 50070, RE 50076, RE 50081, RE 50086 and RE 50088.

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



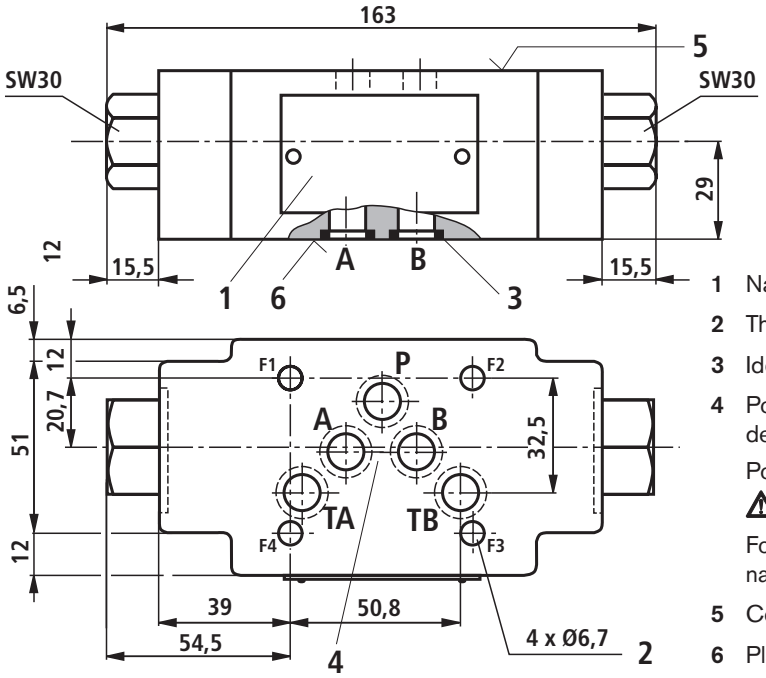

**A1 → A2; B1 → B2**

**A2 → A1; B2 → B1**

Cracking pressure:

**1** 1.5 bar
**2** 3 bar
**3** 6 bar
**4** 10 bar

## **Unit dimensions** (nominal dimensions in mm)




**1** Nameplate

**2** Through bore for valve fixing

**3** Identical seal rings for ports A, B, P, T

**4** Position of ports to ISO 4401-05-04-0-94; deviating from standard: Port TB (Ø ≙ ØTA)

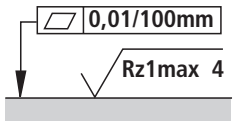
Ports X, Y as required:

**⚠ Caution!**

For drilled X and Y ports (e.g. for pilot operated directional valve size 10), version Z2S 10 … **SO30 is valid**!

**5** Component side

**6** Plate side




Required surface quality of mating surface

**Valve fixing screws** (separate order)

**4 socket head cap screws ISO 4762 - M6 - 10.9**
(friction coefficient $\mu_{ges} = 0.14$);
tightening torque $M_T = 15.5$ Nm
(please adjust in the case of changed surfaces)

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