Rexroth
Bosch Group

Check valve

RE 21536/07.05 1/6
Replaces: 05.02

Type Z1S

Size10
Component series 3X
Maximum operating pressure 315 bar
Maximum flow 100 l/min

H5856

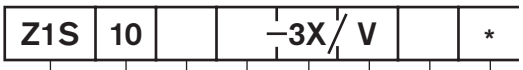
Table of contents

Features

- Sandwich plate valve for use in vertical stacking assemblies
- Position of ports to ISO 4401-05-04-0-94
- 8 different closing functions, optional

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

Ordering code



Check valve, sandwich plate

Size 10 **= 10**

Leak-free closure in channel A (A1 → A2) **= A**
Leak-free closure in channel B (B1 → B2) **= B**
Leak-free closure in channel A (A2 → A1) **= C**
Leak-free closure in channel B (B2 → B1) **= D**
Leak-free closure in channels A and B (A2 → A1) and (B2 → B1) **= E**
Leak-free closure in channels P and T (P1 → P2) and (T2 → T1) **= F**
Leak-free closure in channel P (P1 → P2) **= P**
Leak-free closure in channel T (T2 → T1) **= T**
(for symbols, see page 3)

Cracking pressure
0.5 bar **= 1**
3.0 bar **= 2**
5.0 bar **= 3**
(Versions 2 and 3 not with soft seal "W4")

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

Seal material
V = FKM seals
(other seals on enquiry)
⚠ Caution!
Observe compatibility of seals with hydraulic fluid used!

No code = Metal seal
W4 = Soft seal

Further details in clear text

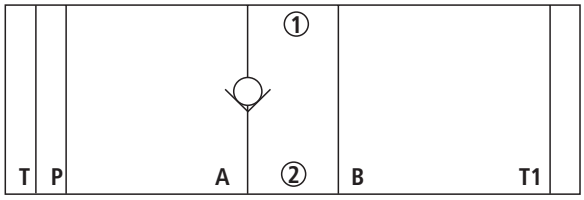
Standard types

Type	Material number
Z1S 10 D1-3X/V	R900417595
Z1S 10 E1-3X/V	R900417596
Z1S 10 F1-3X/V	R900417597
Z1S 10 P1-3X/V	R900417590
Z1S 10 T1-3X/V	R900417591
Z1S 10 T2-3X/V	R900334980

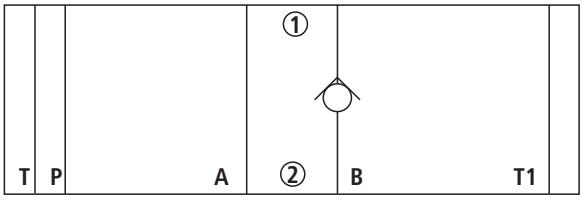
Further standard types and components can be found in the EPS (standard price list).

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

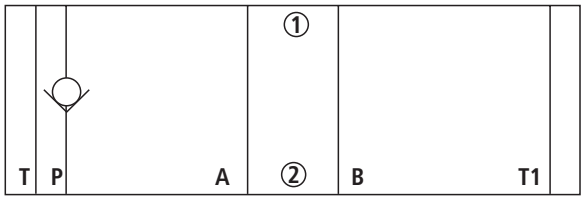
Type Z1S 10 **A**.-../..



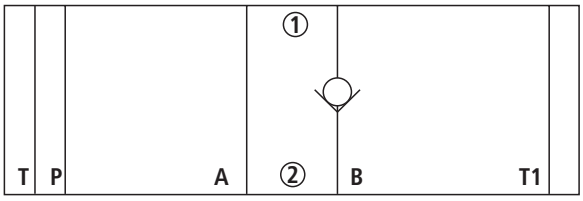
Type Z1S 10 **D**.-../..



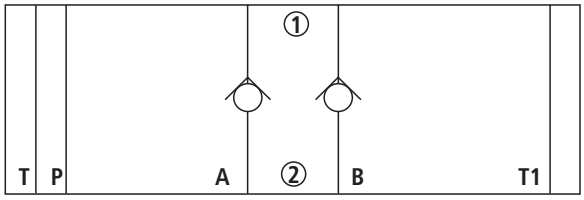
Type Z1S 10 **P**.-../..



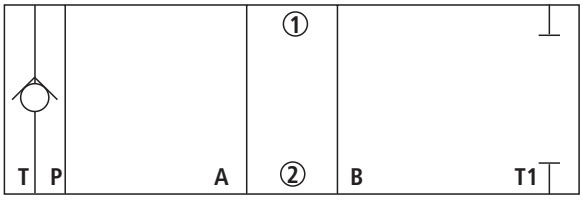
Type Z1S 10 **B**.-../..



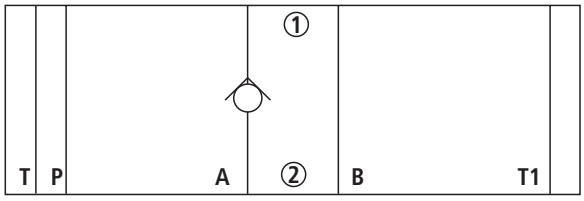
Type Z1S 10 **E**.-../..



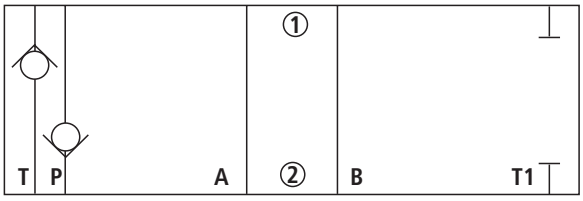
Type Z1S 10 **T**.-../..



Type Z1S 10 **C**.-../..



Type Z1S 10 **F**.-../..



Function, section

Valves of type Z1S are direct operated check valves of sandwich plate design.

They are used to check a flow leak-free in one direction and allow free flow in the opposite direction.

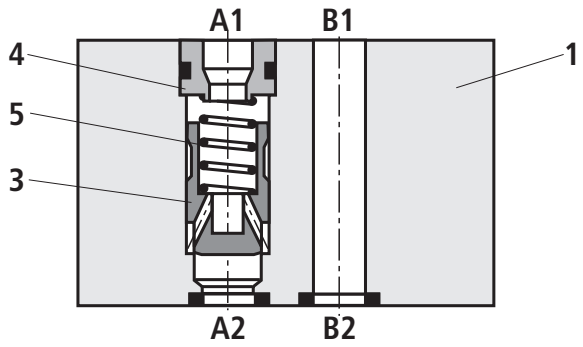
The stroke of poppet (3) is limited by spring plate (4). An integrated spring (5) supports the closing movement. When no fluid flows through the valve, spring (5) holds poppet (3) in the closed position.

Type Z1S 10 ..-3X/V (with metal seal)

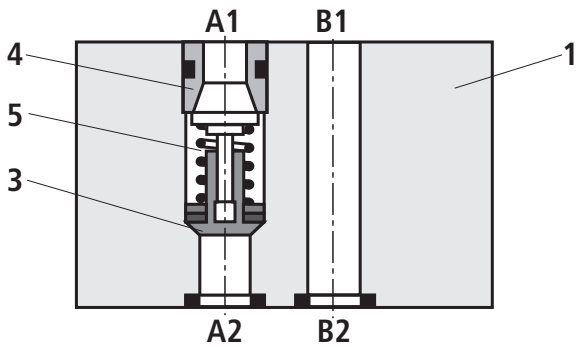
This valve version is provided with a metal seal between poppet (3) and housing (1). Valves of this version are particularly suitable for applications that involve operating pressures higher than 100 bar and flow velocities of more than 4 m/s.

Type Z1S 10 ..1-3X/VW4 (with soft seal)

This valve version is fitted with a soft seal between poppet (3) and housing (1) and provides hermetic sealing. Valves of this version are particularly suitable for applications with flow velocities of up to 4 m/s and low operating pressures.



Type Z1S 10 A1-3X/V



Type Z1S 10 A1-3X/VW4

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

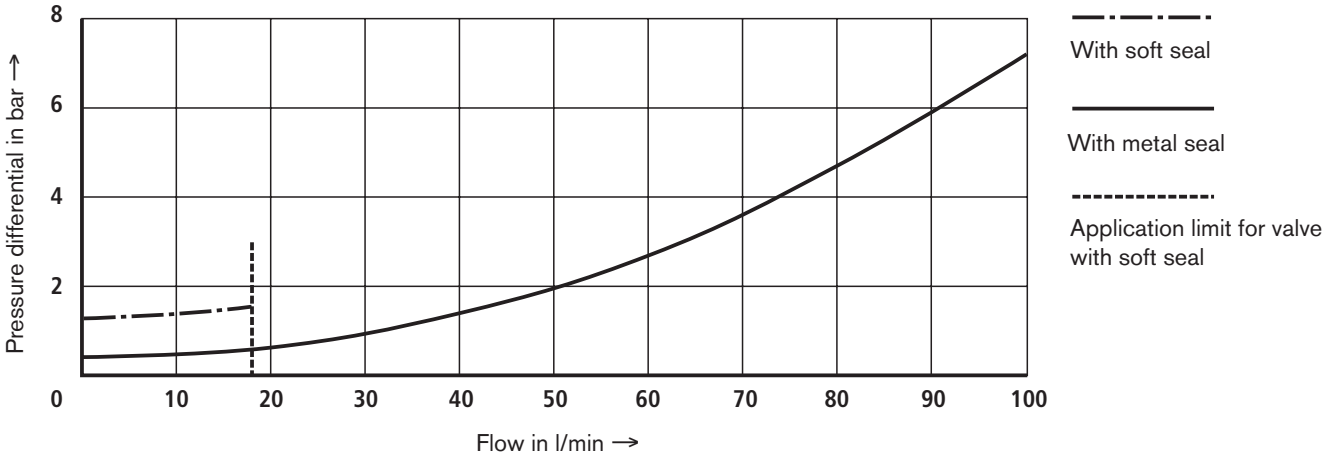
General			
Weight		kg	approx. 2.3
Installation orientation			Optional
Ambient temperature range		°C	–20 to +80
Hydraulic			
Maximum operating pressure		bar	315
Cracking pressure	– Metal seal	bar	0.5; 3; 5
	– Soft seal	bar	0.5
Maximum flow		l/min	100
Flow velocity	– Metal seal	m/s	> 4
	– Soft seal	m/s	< 4
Hydraulic fluid			Mineral oil (HL, HLP) to DIN 51524; fast bio-degradable hydraulic fluids to VDMA 24568 (see also RE 90221); HETG (rape seed oil); HEPG (polyglycols); HEES (synthetic esters); other hydraulic fluids on enquiry
Hydraulic fluid temperature range		°C	–20 to +80
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 [1]

[1] 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.

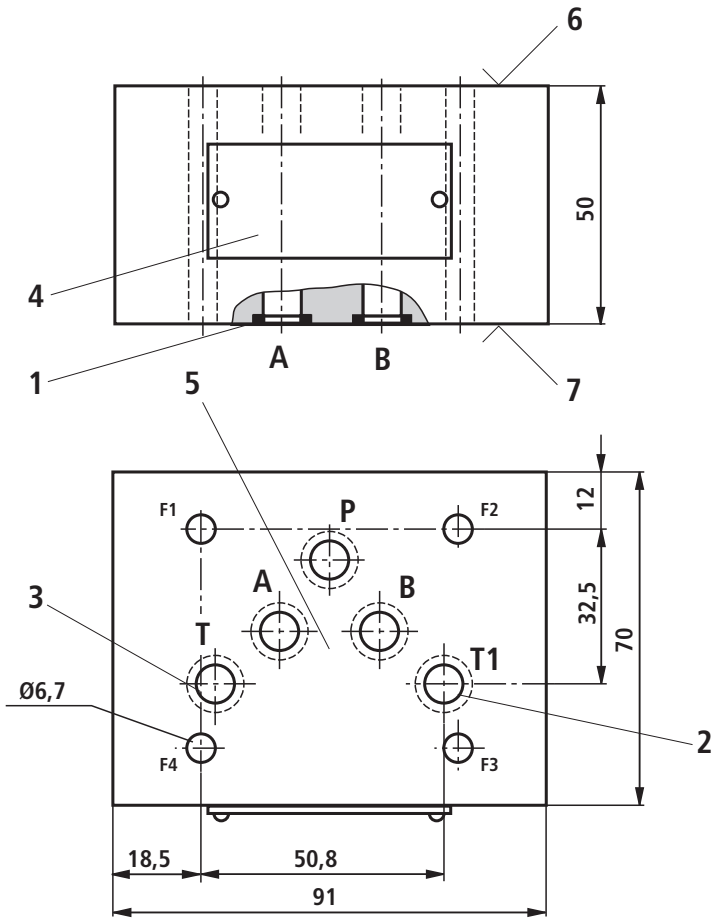
For the selection of filters, see data sheets RE 50070, RE 50076, RE 50081, RE 50086 and RE 50088.

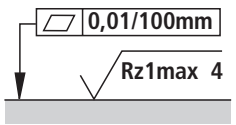
Characteristic curves (measured with HLP46, $\vartheta_{oil} = 40\ °C \pm 5\ °C$)

Δp-q_V characteristic curves (A1 to A2)



Unit dimensions (nominal dimensions in mm)





Required surface quality of mating part

1 Identical seal rings for ports A, B, P, T and T1

2 This port is plugged in versions "F" and "T".

3 With versions "F" and "T", the check valve is installed in this channel.

4 Nameplate

5 Position of ports to ISO 4401-05-04-0-94; deviating from standard: Port T1 (Ø ≙ ØT)

Ports X, Y as required:

⚠ Caution!

For drilled X and Y port (e.g. for pilot operated directional valve of size 10) version **SO30** is valid!

6 Component side

7 Plate side

Valve fixing screws
(separate order)

4 socket head cap screws
ISO 4762 - M6 - 10.9
(friction coefficient $\mu_{total} = 0.14$);
tightening torque $M_T = 15.5\ Nm \pm 10\%$
(please adapt in the case of changed surfaces)

Notes

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