

RE 21 536/05.02

Replaces: 10.97

**Check valve
Type Z1S**

Nominal size 10

Series 3X

Maximum operating pressure 315 bar

Maximum flow 100 L/min



H/A/D 5856/97

Type Z1S 10 P1-3X/V

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Features

- Sandwich plate valve for use in vertical stacking assemblies
- Porting pattern to DIN 24 340 form A, ISO 4401 and CETOP-RP 121 H
- 8 different isolation functions



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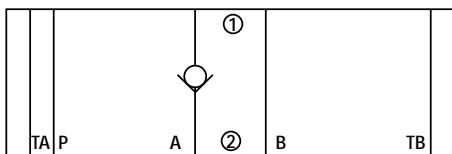
Ordering details

Z1S 10		- 3X/ V		*	
Leak-free closure in port A (A1 → A2)	= A				Details in clear text
Leak-free closure in port B (B1 → B2)	= B			No code =	Metallic seal
Leak-free closure in port A (A2 → A1)	= C			W4 =	Soft seal
Leak-free closure in port B (B2 → B1)	= D			V =	FKM seals (other seals on request)
Leak-free closure in ports A and B (A2 → A1) and (B2 → B1)	= E				⚠ Attention! The compatibility of the seals and pressure fluid has to be taken into account !
Leak-free closure in ports P and T (P1 → P2) and (T2 → T1)	= F			3X =	Series 30 to 39 (30 to 39: unchanged installation and connection dimensions)
Leak-free closure in port P (P1 → P2)	= P				
Leak-free closure in port T (T2 → T1)	= T				
(Symbols, see page 2)					
Opening pressure 0.5 bar	= 1				
Opening pressure 3.0 bar	= 2				
Opening pressure 5.0 bar (versions 2 and 3 not with soft seal "W4")	= 3				

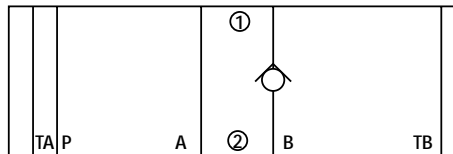
For preferred types see page 4, are readily available.

Symbols (① = valve side, ② = subplate side)

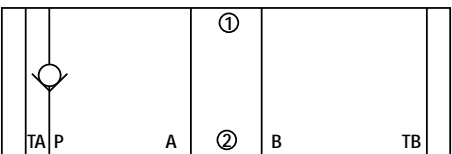
Type Z1S 10 A.-../..



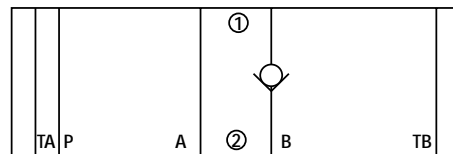
Type Z1S 10 D.-../..



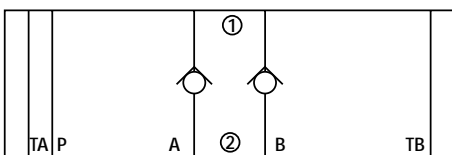
Type Z1S 10 P.-../..



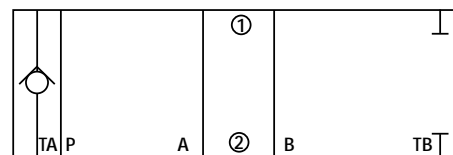
Type Z1S 10 B.-../..



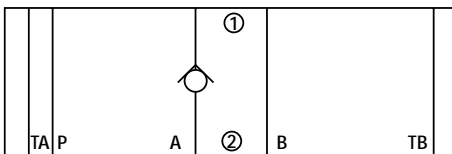
Type Z1S 10 E.-../..



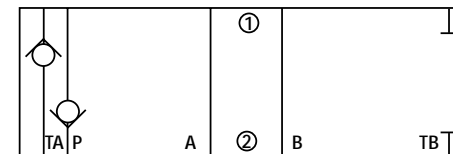
Type Z1S 10 T.-../..



Type Z1S 10 C.-../..



Type Z1S 10 F.-../..



Function

The Z1S 10 valve is a direct operated check valve of sandwich plate design.

It is used for the leak-free closure in one direction and allows free-flow in the opposite direction.

The stroke of the poppet (3) is limited by the spring plate (4). The integrated spring (5) supports the closing movement. The spring (5) holds the poppet (3) in in the closed position when there is no flow through the valve.

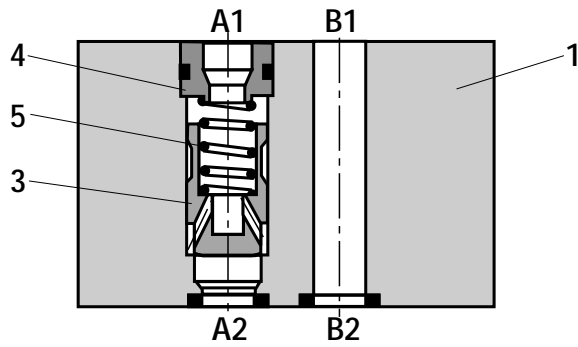
Type Z1S 10 ..-3X/V (with metallic seal)

This valve type has a metallic seal between poppet (3) and housing (1). Valves of this type are especially suitable for applications with operating pressures above 100 bar and flow velocities over 4 m/s.

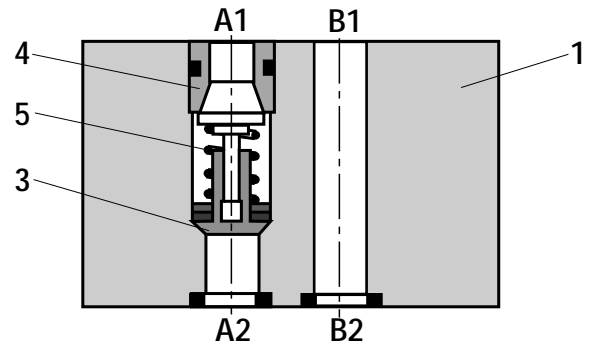
Type Z1S 10 ..1-3X/VW4 (with soft seal)

This valve type has a soft seal between poppet (3) and housing (1) and seals hermetically. Valves of this type are especially suitable for applications with flow velocities up to 4 m/s and low operating pressures.

Section



Type Z1S 10 A1-3X/V



Type Z1S 10 A1-3X/VW4

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

General

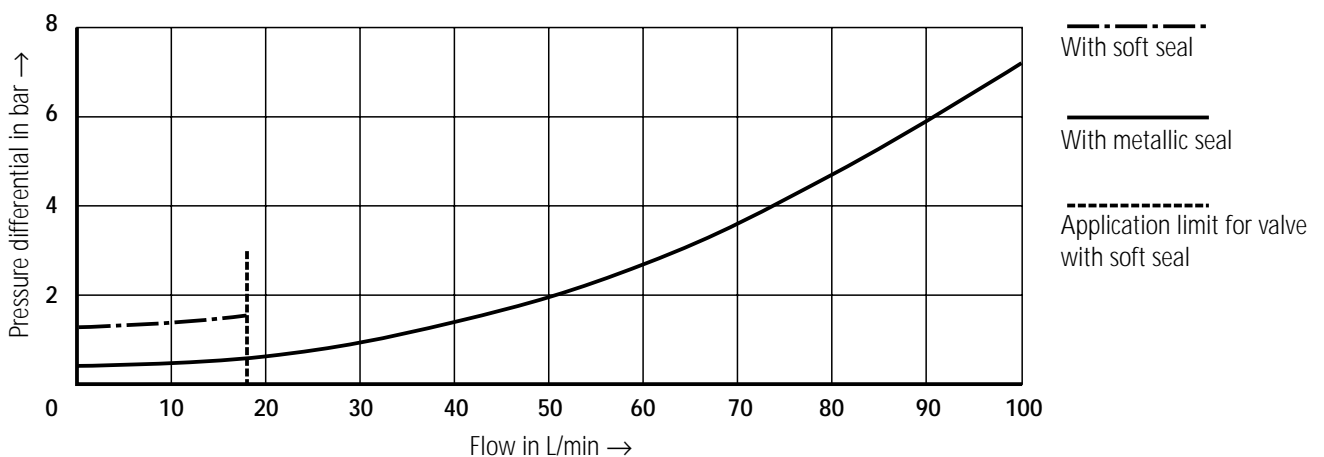
Installation		Optional
Ambient temperature range	°C	-20 to +80
Weight	kg	Approx. 2.3

Hydraulic

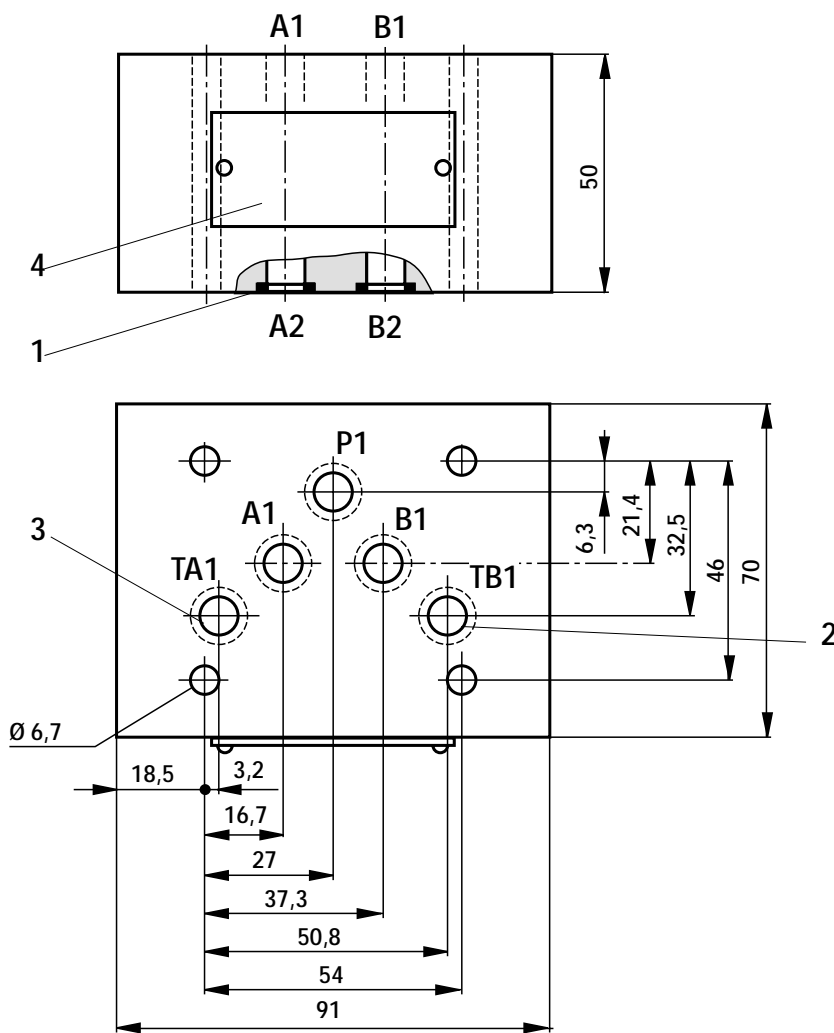
Pressure fluid		Mineral oil (HL, HLP) to DIN 51 524; Fast bio-degradable pressure fluids to VDMA 24 568 (also see RE 90 221); HETG (rape seed oil); HEPG (polyglycols); HEES (synthetic ester); other pressure fluids on request	
Degree of contamination		Maximum permissible degree of contamination of the pressure fluid is to NAS 1638 class 9. We therefore recommend a filter with a minimum retention rate of $\beta_{10} \geq 75$	
Pressure fluid temperature range	°C	-20 to +80	
Viscosity range	mm ² /s	2.8 to 500	
Max. operating pressure	bar	Up to 315	
Max. flow	L/min	Up to 100	
Opening pressure	- Metallic seal	bar	0.5; 3; 5
	- Soft seal	bar	0.5
Flow velocity	- Metallic seal	m/s	> 4
	- Soft seal	m/s	< 4

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

Δp - q_v -characteristic curves (A1 to A2)



Unit dimensions (dimensions in mm)



- 1 Seal ring
- 2 This port is blocked in versions "F" and "T".
- 3 The check valve is installed in this channel for versions "F" and "T".
- 4 Name plate

Valve fixing screws

M6 DIN 912-10.9,
Tightening torque $M_A = 15.5 \text{ Nm}$,
must be ordered separately.

⚠ Attention!

Select the **SO30** version if ports X and Y are to be drilled (e.g. pilot operated directional valve NS10)!

Preferred types (readily available)

Type	Material No.
Z1S 10 D1-3X/V	00417595
Z1S 10 E1-3X/V	00417596
Z1S 10 F1-3X/V	00417597
Z1S 10 P1-3X/V	00417590
Z1S 10 T1-3X/V	00417591
Z1S 10 T2-3X/V	00334980

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

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