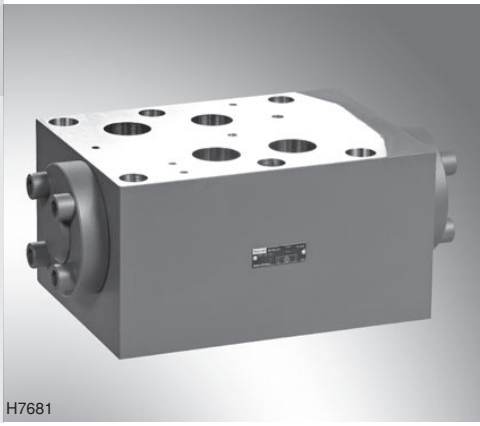
Rexroth
Bosch Group

Check valve, pilot operated

RE 21566/07.10 1/6

Type Z2S



Size 32
Component series 1X
Maximum operating pressure 315 bar *[4568 psi]*
Maximum flow 900 l/min *[237.7 US gpm]*

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Features

- Sandwich plate valve for use in vertical stackings
- Porting pattern according to ISO 4401-10-09-0-05 and NFPA T3.5.1 R2-2002 D10
- For the leak-free blocking of one or two actuator ports, optionally
- Pre-opening standard
- Check valve installation sets separately available
- Amending documentation:
  • “Hydraulic fluids on a mineral oil basis”, data sheet 90220

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

Ordering code

Z2S	32		–1X/		*

Check valve, sandwich plate

Size 32 **= 32**

Leak-free blocking in channel A and B **= –**
Leak-free blocking in channel A **= A**
Leak-free blocking in channel B **= B**

Cracking pressure
1 bar *[14.5 psi]* **= no code**

Component series 50 to 59 **= 1X**
(50 to 59: unchanged installation and connection dimensions)

Surface without corrosion resistance [1] **= no code**

Further details in the plain text

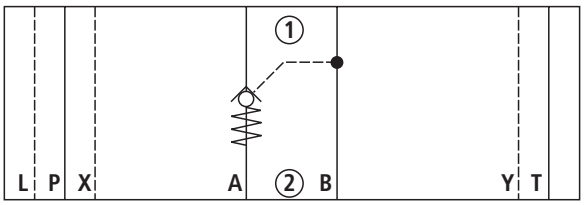
Seal material
no code = NBR seals
V = FKM seals

☞ **Note!**
The selection depends on the operating parameters (fluid, temperature, etc.)!

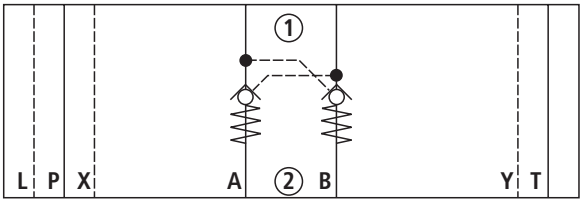
[1] Corrosion-resistant surface upon request:
e.g. “J50” thick layer passivated
(DIN 50979 Fe//Zn8//Cn//T0)

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

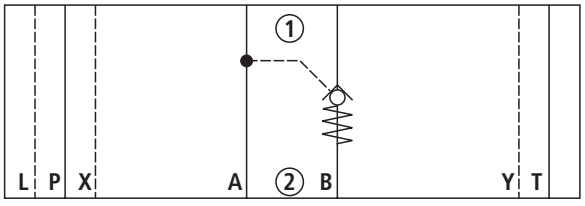
Type Z2S 32 A…



Type Z2S 32 –…



Type Z2S 32 B…



Function, sections, sample circuit

The isolator valve Type Z2S is a releasable check valve in sandwich plate design.

It is used for the leak-free blocking of one or two actuator ports, also in case of longer standstill times.

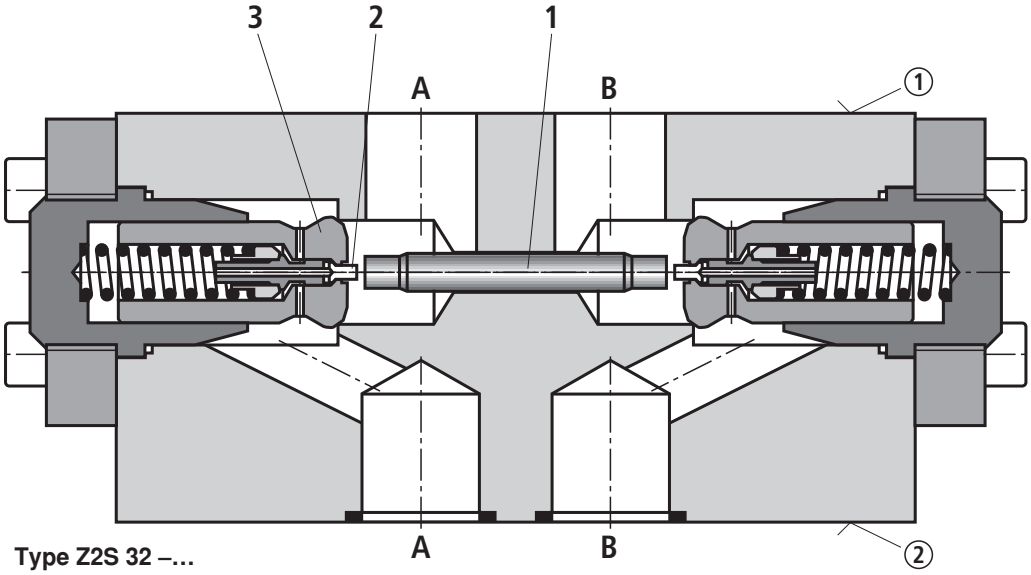
In the direction A① to A② or B① to B②, there is a free flow, in the opposite direction, the flow is blocked.

If the valve is, for example, flown through in the direction A① to A②, the control spool (1) is moved in the direction B side, opens the pilot poppet (2) and then pushes the poppet (3) off its seat. Now, hydraulic fluid can flow from B② to B①.

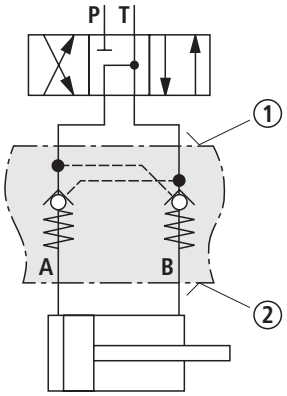
In order to allow for safe closing of the seat valve (3), the control spool (1) must be hydraulically unloaded (see circuit example).

Pre-opening

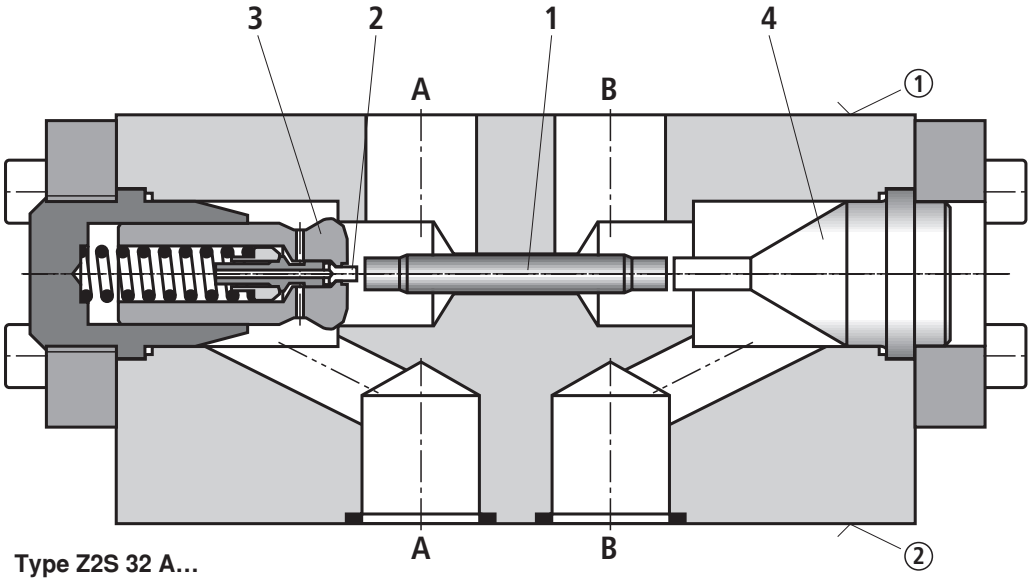
- Due to the two-stage structure with enlarged control open ratio, safe unloading is also possible with lower pilot pressure.
- Avoidance of switching shocks due to dampened decompression of the pressure volume on the actuator side.



Type Z2S 32 –…



Circuit example, schematic



Type Z2S 32 A…

① = Component side
② = Plate side

1 Control spool, area A_2
2 Pilot poppet, area A_3
3 Poppet, area A_1
4 Stop

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

general

Weight	kg *[lbs]*	approx. 56 *[123.5]*
Installation position		Any
Ambient temperature range	°C *[°F]*	–30 to +80 *[–22 to +176]* (NBR seals) –20 to +80 *[–4 to +176]* (FKM seals)

hydraulic

Maximum operating pressure	bar *[psi]*	315 *[4568]*
Cracking pressure in free direction		See characteristic curves page 5
Maximum flow	l/min *[US gpm]*	900 *[237.7]*
Direction of flow		See symbols page 2
Hydraulic fluid		– On mineral oil basis and related hydrocarbons (HL, HLP, HVLP, HVLPD, etc.) according to DIN 51524 – Flame-resistant (HFC, HFDU, HFDR) according to ISO 12922 [1)] – Environmentally compatible (HETG, HEES, HEPG, HEPR) according to ISO 15380 [1)] Other hydraulic fluids upon request
Hydraulic fluid temperature range (at the valve working ports)	°C *[°F]*	–30 to +80 *[–22 to +176]* (NBR seals) –20 to +80 *[–4 to +176]* (FKM seals)
Viscosity range	mm^2/s *[SUS]*	2.8 to 500 *[35 to 2320]*
Maximum permitted degree of contamination of the hydraulic fluid - cleanliness class according to ISO 4406 (c)		Class 20/18/15 [2)]
Area ratio		A_1/A_2 ~ 1/4 (see sectional drawing page 3)

1) When using flame-resistant or environmentally compatible hydraulic fluids, restrictions with regard to the technical data may be applicable (temperature, pressure range, life time, maintenance intervals, etc.).

2) The cleanliness classes specified for the components must be adhered to in hydraulic systems. Effective filtration prevents faults and at the same time increases the service life of the components.

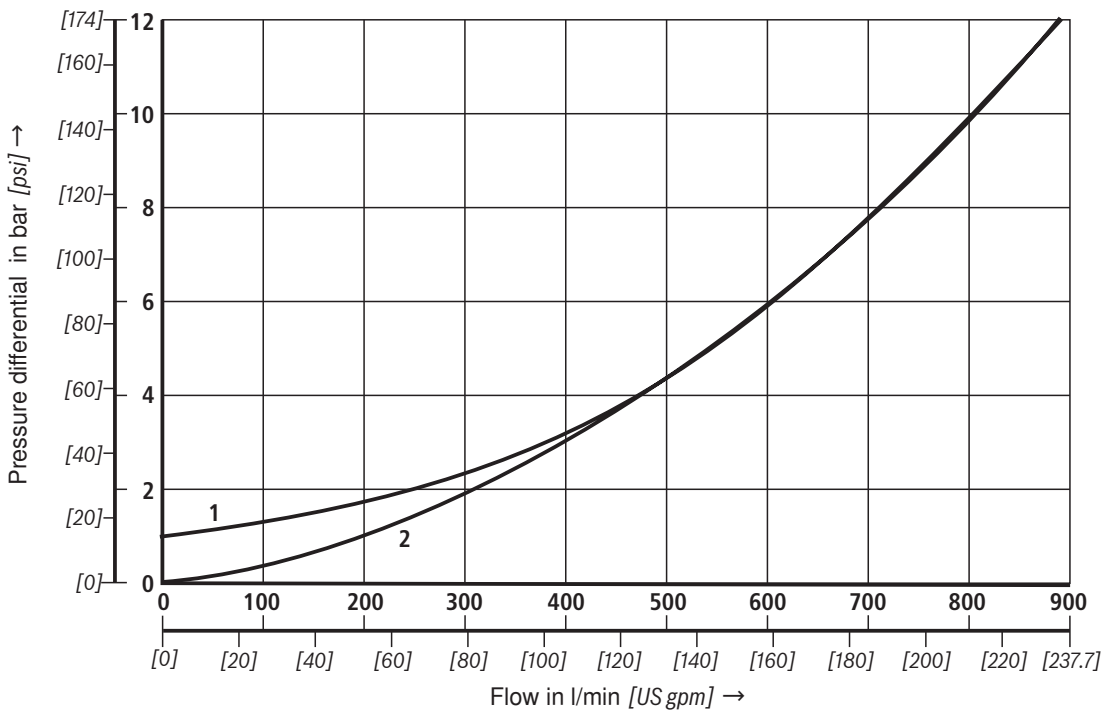
For the selection of the filters see www.boschrexroth.com/filter.

☞ **Note!**

Selection of the perfect sealing material (see ordering code page 2) also depends on the hydraulic fluid used.

Characteristic curves (measured with HLP46, ϑ_{Oil} = 40 °C ± 5 °C *[104 °F ± 9 °F]*)

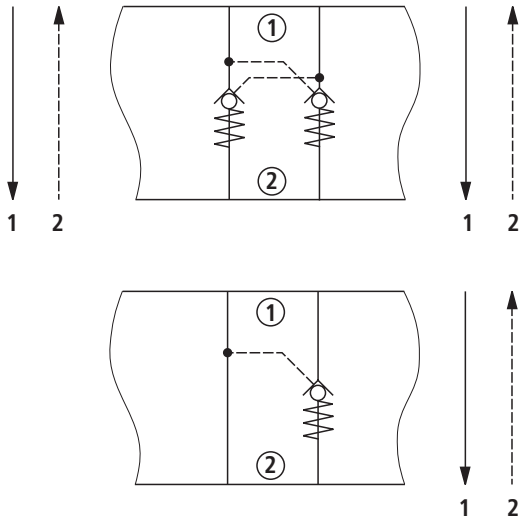
Δp-q_V characteristic curves



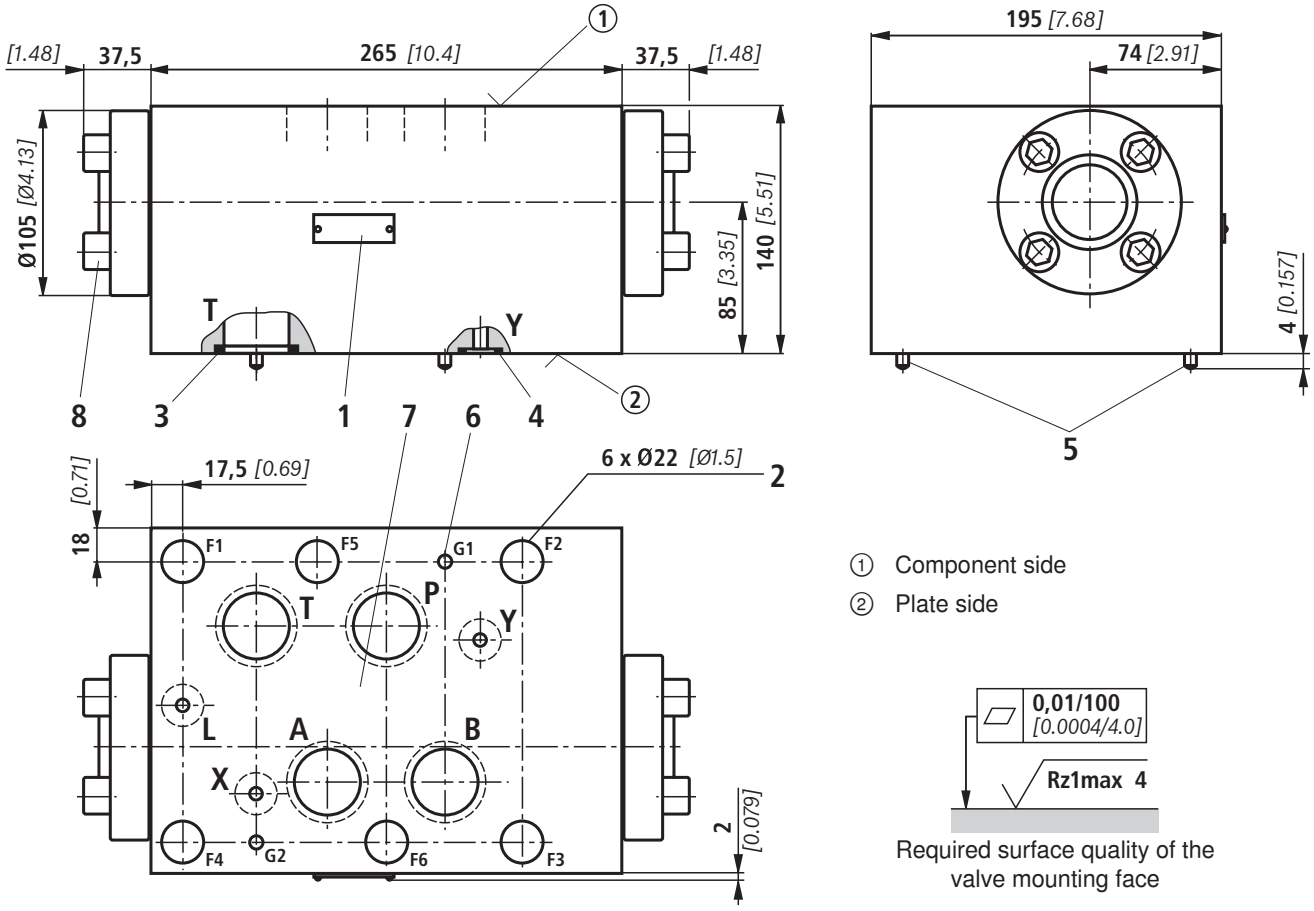
Cracking pressure:

1 1 bar *[14.5 psi]*

2 Check valve controlled open via control spool



Unit dimensions (dimensions in mm *[inch]*)



① Component side
② Plate side

Required surface quality of the valve mounting face

1 Name plate
2 Through hole for valve mounting
3 Identical seal rings for ports A, B, P, T
4 Identical seal rings for ports X, Y, L
5 Locating pins
6 Locating holes
7 Porting pattern according to ISO 4401-10-09-0-05 and NFPA T3.5.1 R2-2002 D10
8 Cover fastening, tightening torque M_A = 170 Nm *[125.4 ft-lbs]*

Valve mounting screws (separate order)

6 hexagon socket head cap screws ISO 4762 - M20 - 10.9

6 hexagon socket head cap screws 3/4”-10 UNC

☞ **Note!**

The length of the valve mounting screws of the sandwich plate valve must be selected according to the components mounted under and over the isolator valve.

Depending on the application, screw type and tightening torque must be adjusted to the circumstances.

Please ask Rexroth for screws with the required length.

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Notes

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