RE 27 526/11.02

Replaces: 05.92

Double throttle check valve
Type Z2FS 16

Nominal size 16
Series 3X
Maximum operating pressure 350 bar
Maximum flow 250 L/min

K 3284/7

Type Z2FS 16 -3X/..

Overview of contents

Features

- Porting pattern to DIN 24 340 Form A, ISO 4401 and CETOP–RP 121 H,
- Sandwich plate design,
- For limiting the main or control fluid flow of 2 actuator ports,
- Meter-in or meter-out control.

Ordering details

Z2FS | 16 | –3X/ | | *

- Double throttle check valve
- Nominal size 16 — **= 16**
- Series 30 to 39 (30 to 39: unchanged installation and connection dimensions) — **= 3X**
- Meter-in control — **= S**
- Meter-out control — **= S2**
- Further details in clear text
- **No code =** NBR seals, suitable for mineral oil (HL, HLP) to DIN 51 524
- **V =** FKM seals, suitable for phosphate ester (HFD-R)

⚠ Attention!
The compatibility of the seals and pressure fluid has to be taken into account!

Preferred types

Material No.	Type
R900459203	Z2FS 16-3X/S
R900457256	Z2FS 16-3X/S2

Further preferred types and standard units can be found in the EPS (Rexroth Price List).

Function, section

Valve type Z 2 FS 16 is a double throttle check valve of sandwich plate design.

It is used to limit main or pilot oil flow of one or two actuator ports.

Two symmetrically arranged throttle check valves limit flow (by means of adjustable throttle spools) in one direction and permits free return flow in the other direction.

With meter-in control, pressure fluid reaches the actuator through port A via throttle area (1). The throttle spool (4.1) can be axially adjusted by means of the adjustment screw (5) and this in turn causes the throttle area (1) to be adjusted.

At the same time the pressure fluid in port A reaches the spring loaded side (3) of the throttle spool (4.1) via bore (2). Together with the spring force, the applied pressure holds the throttle spool (4.1) in its throttle position.

Fluid flowing back from the actuator moves the throttle spool (4.2) and permits fluid to flow freely via the check valve. Depending on the version (S or S2) throttling may take place in either meter-in or meter-out condition.

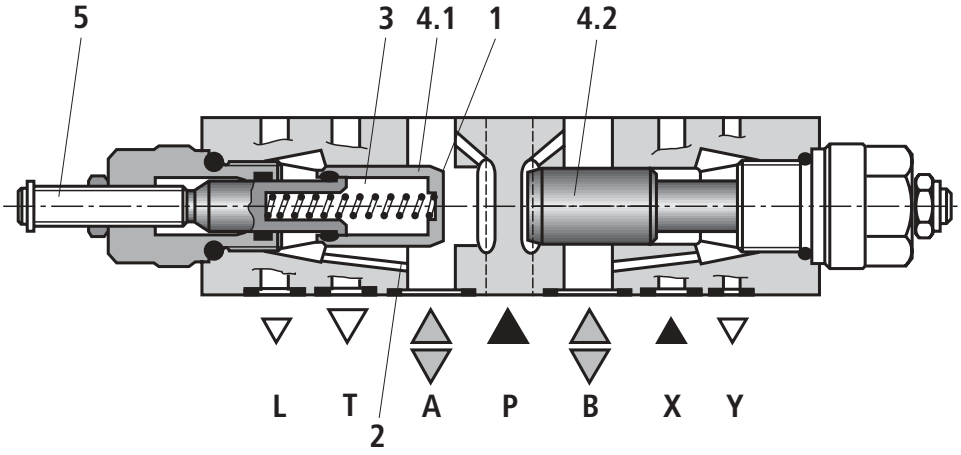
Main flow limiting

The double throttle check valve is fitted between the directional valve and the subplate to change the speed of an actuator (main flow limiting).

Control flow limiting

In the case of pilot operated directional valves, the double throttle check valve may be used as a pilot choke adjustment (control flow limiting). In this case, it is fitted between the main valve and the pilot valve.

Type Z2FS 16–3X/S (meter-in control)



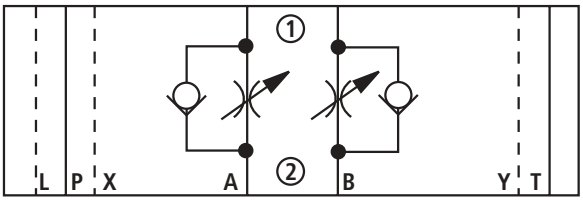
Technical data (for applications outside these parameters, please consult us!)

General		
Installation		Optional
Ambient temperature range	°C	–30 to +80 for NBR seals
		–20 to +80 for FKM seals
Weight	kg	Approx. 4.7
Hydraulic		
Pressure fluid [1] Suitable for NBR **and** FKM seals [2] **Only** suitable for FKM seals		Mineral oil (HL, HLP) to DIN 51 524 [1]; Fast bio-degradable pressure fluids to VDMA 24 568 (also see RE 90 221); HETG (rape seed oil) [1]; HEPG (polyglycols) [2]; HEES (Synthetic ester) [2]; Other pressure fluids on request
Cleanliness class to ISO code		Maximum permissible degree of contamination of the pressure fluid is to ISO 4406 (C) class 20/18/15 [3]
Pressure fluid temperature range	°C	–30 to +80 for NBR seals
		–20 to +80 for FKM seals
Viscosity range	mm^2/s	2.8 to 380
Operating pressure, max.	bar	Up to 350
Flow, max.	L/min	Up to 250

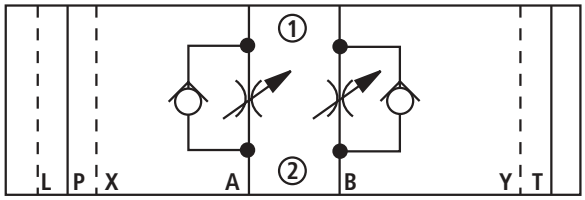
[3] The cleanliness class stated for the components must be adhered too in hydraulic systems. Effective filtration prevents faults from occurring and at the same time in creases the component service life.
For the selection of filters see catalogue sheets RE 50 070, RE 50 076 and RE 50 081.

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

Z2FS 16–3X/S (meter-in control)

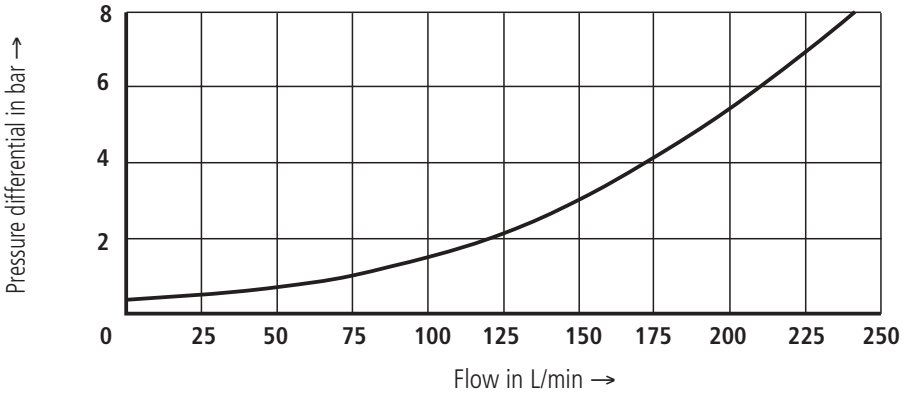


Z2FS 16–3X/S2 (meter-out control)

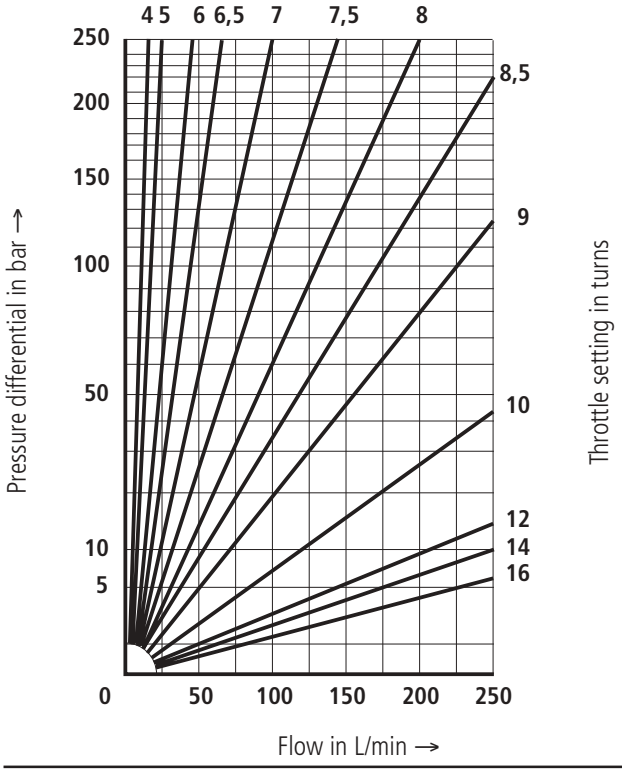


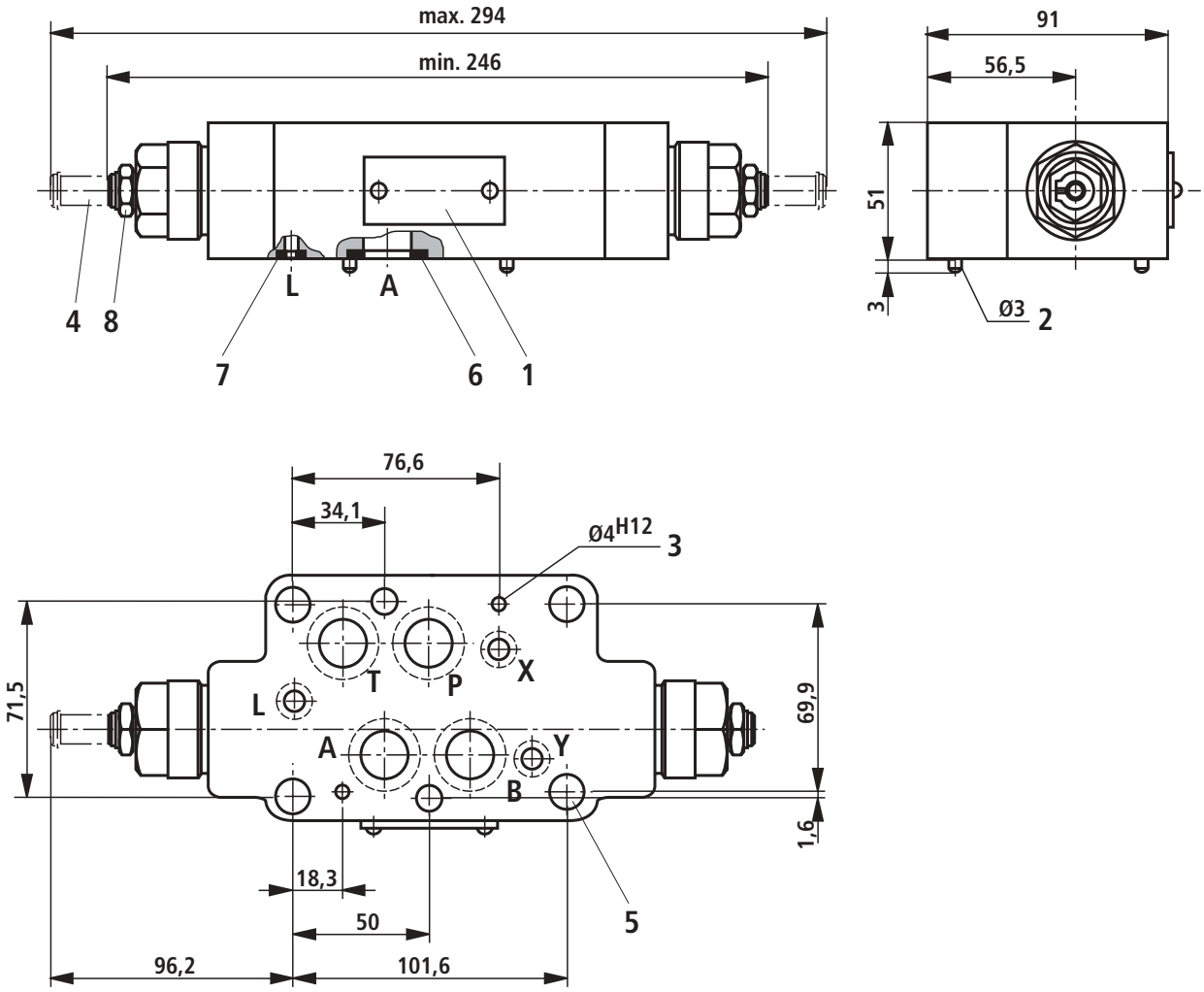
Characteristic curves (measured with HLP 46, ϑ_{oil} = 40 °C ± 5 °C)

Pressure differential Δp in relation to the flow q_V via the check valve



Pressure differential Δp in relation to the flow q_V at a constant throttle setting





1 Name plate

2 Locating pins

3 2 holes for locating pins

4 Adjustment screw for changing the flow cross-section
(internal hexagon 6A/F)

- Anti-clockwise = increases flow
- Clockwise = decreases flow

5 6 valve fixing holes

6 Identical seal rings for ports A, B, P, T

7 Identical seal rings for ports X, Y, L

8 Hexagon 19A/F

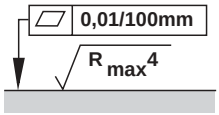
Valve fixing screws
(must be ordered separately)

4x M10 DIN 912-10.9,

Tightening torque M_A = 75 Nm and
2x M6 DIN 912-10.9,

Tightening torque M_A = 15,5 Nm,
must be ordered separately.

Required surface finish of the mating piece



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