

Throttle valve

RE 27482/08.07

1/4

Type Z1FG

Size 6
 Component series 4X
 Maximum operating pressure 315 bar [4568 psi]
 Maximum flow 70 l/min [18.5 US gpm]



TB0198

Table of contents

Contents	Page
Features	1
Ordering code	2
Function, section, symbol	2
Technical data	3
Characteristic curves	3
Unit dimensions	4

Features

- Sandwich plate valve
- Porting pattern to ISO 4401-03-02-0-05, NFPA T3.5.1 R2 and ANSI B93-7 D03 (**with** locating bore)
- For limiting a flow
- Adjustment element:
Spindle with hexagon socket

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

Ordering code

	Z	1	FG	6	P	8	-4X/	*
--	----------	----------	-----------	----------	----------	----------	-------------	----------

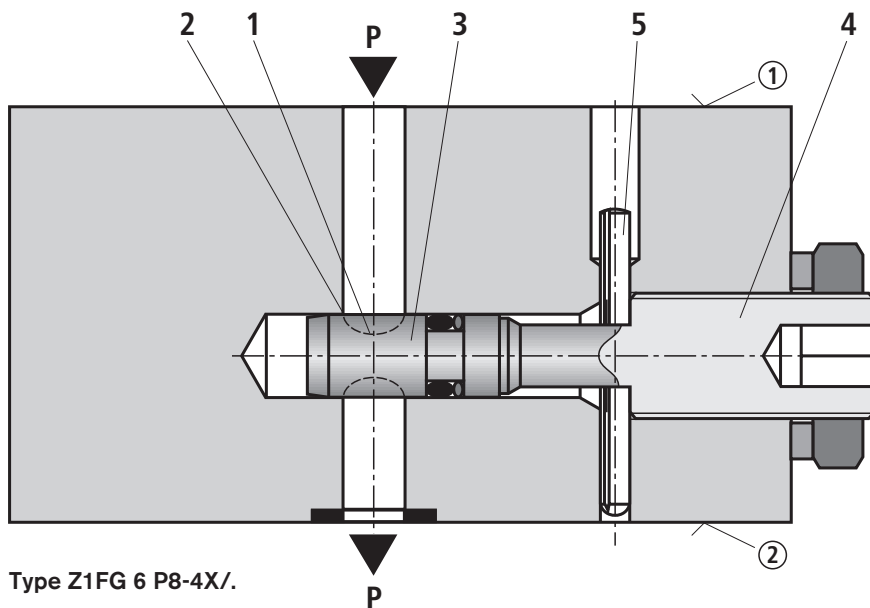
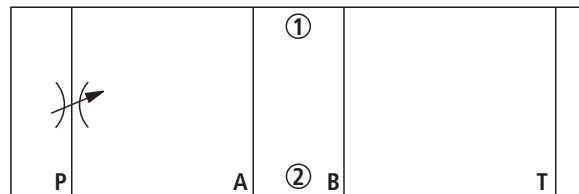
<p>Sandwich plate valve = Z</p> <p>1 function = 1</p> <p>Throttle valve = FG</p> <p>Size 6 = 6</p> <p>Throttling in channel P = P</p> <p>Adjustment element Spindle with hexagon socket = 8</p>	<p>Further details in clear text</p> <p>Seal material M = NBR seals V = FKM seals (other seals on request) ⚠ Attention! Observe compatibility of seals with hydraulic fluid used!</p> <p>4X = Component series 40 to 49 (40 to 49: unchanged installation and connection dimensions)</p>
--	---

Function, section, symbol (① = component side, ② = plate side)

Valves of type Z1FG are throttle valves of sandwich plate design. They are used to limit the flow in channel P.

When throttled, the hydraulic fluid flows through channel P1 across throttling point (1), which is formed by control land (2) and throttling spool (3), to port P2. Throttling spool (3) can be axially adjusted by means of spindle (4) axial and thus allows the flow across throttling point (1) to be adjusted. The adjustment stroke is limited on both sides by pin (5). The flow depends on the pressure differential and viscosity.

Symbol



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

Weight	kg [lbs]	ca. 0.91 [2.01]
Installation position		Optional
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]
Maximum flow	l/min [US gpm]	70 [18.5]
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 request
Hydraulic fluid temperature range	°C [°F]	-30 to +80 [-22 to +176] (NBR seals) -20 to +80 [-4 to +176] (FKM seals)
Viscosity range	mm ² /s [SUS]	10 to 800 [46 to 3700]
Permissible max. degree of contamination of the hydraulic fluid - cleanliness class to ISO 4406 (c)		Class 20/18/15 ³⁾

¹⁾ Suitable for NBR and FKM seals

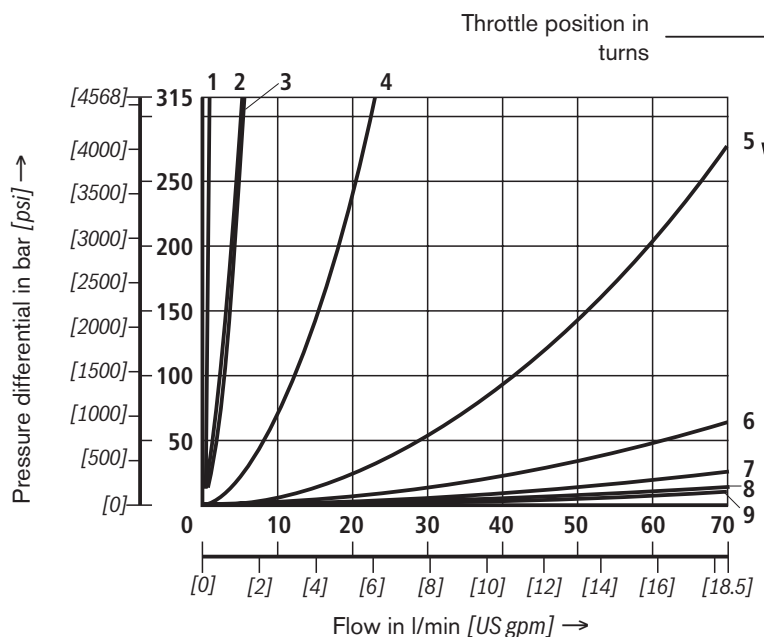
²⁾ Suitable only for FKM seals

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.

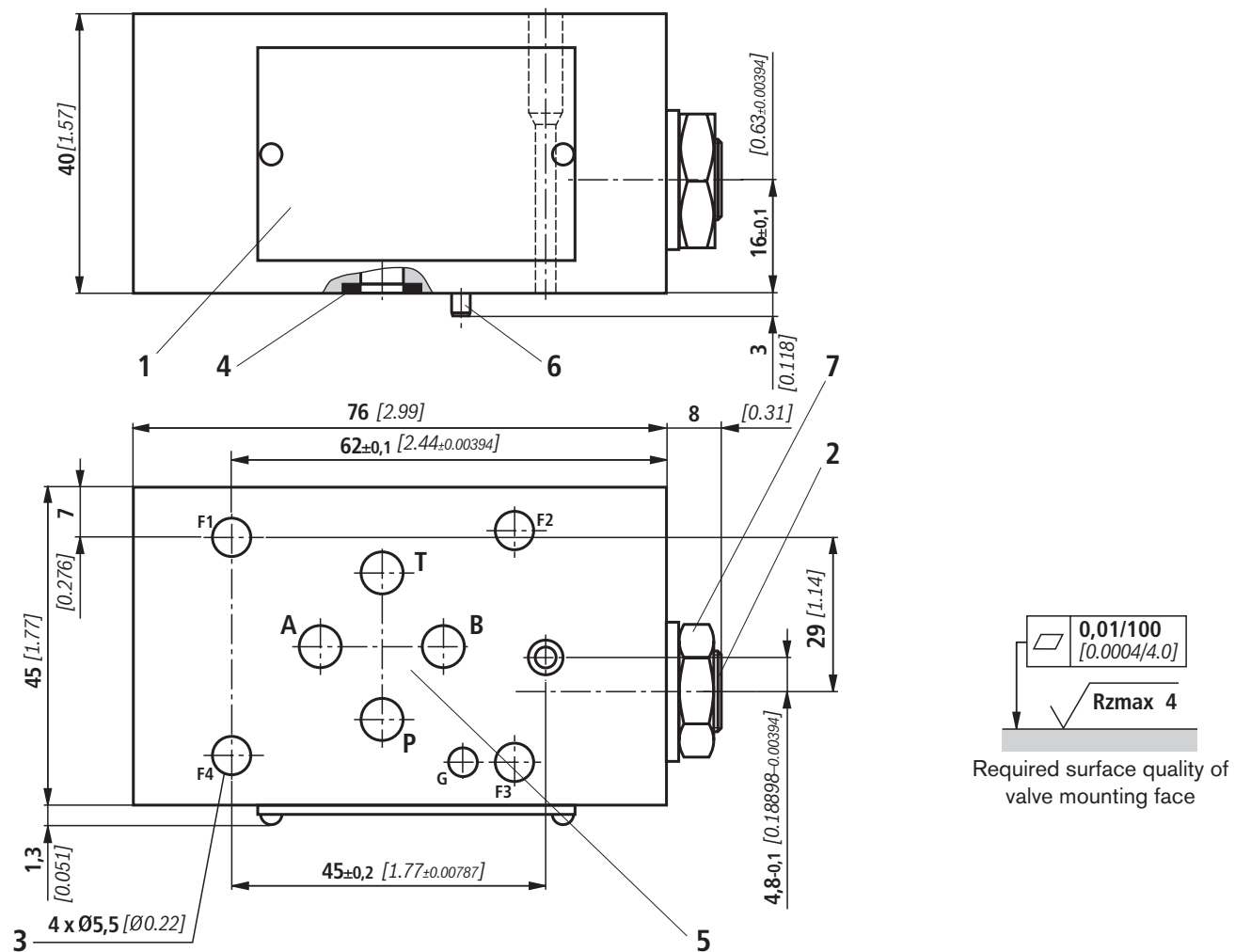
For the selection of filters, see data sheets RE 50070, RE 50076, RE 50081, RE 50086, RE 50087 and RE 50088.

Characteristic curves (measured with HLP46, $\nu_{\text{oil}} (\nu = 190 \text{ SUS}) = 40 \text{ °C} \pm 5 \text{ °C} [104 \text{ °F} \pm 9 \text{ °F}]$)

Δp - q_v characteristics with constant throttle position



Unit dimensions (dimensions in mm [inch])



Required surface quality of valve mounting face

- 1 Nameplate
- 2 Adjustment element "8"
Spindle with hexagon socket for adjusting the flow cross-section (hexagon socket 8 A/F)
 - Turning counter-clockwise = increased flow
 - Turning clockwise = reduced flow
- 3 4 valve mounting bores
- 4 Identical seal rings for ports A, B, P, T (plate side)
- 5 Porting pattern to ISO 4401-03-02-0-05, NFPA T3.5.1 R2 and ANSI B93-7 D03 (with locating bore)
- 6 Locating pin ISO 8752-3x8-St

7 Locknut 19 A/F, tightening torque $M_T = 10^{+5}$ Nm [7.4⁺ 3.7ft-lbs]

Valve mounting screws (separate order)

4 hexagon socket head cap screws ISO 4762 - M5 - 10.9

4 hexagon socket head cap screws 10-24 UNC

Note!

The length and tightening torque of the valve mounting screws must be calculated taking into account the components mounted above and below the sandwich plate valve.