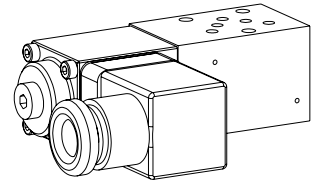


Solenoid operated poppet valve

Sandwich construction

- ◆ 2/2-way
- ◆ normally open and normally closed
- ◆ $Q_{\max} = 6 \text{ l/min}$
- ◆ $p_{\max} = 350 \text{ bar}$

NG3-Mini Wandfluh standard



DESCRIPTION

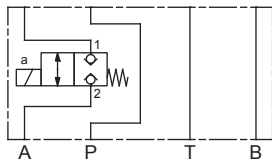
Direct operated 2/2-way solenoid poppet valve in sandwich construction. By means of the pressure tight switching solenoid, the poppet valve spool is opened or closed acting against the spring. Due to the poppet spool construction with pressure compensation on both sides, the flow through the valve is possible in both directions. The seat spool guide is sealed by means of an O-ring. The metallic sealing seat closes the valve virtually leak free.

APPLICATION

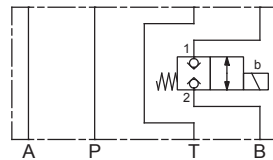
Poppet valves are used where tight closing functions of the valve are essential like leakage-free load holding, clamping or gripping. Miniature values are used where both, reduced dimensions and weight are important.

SYMBOL

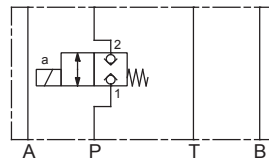
Z.22031A



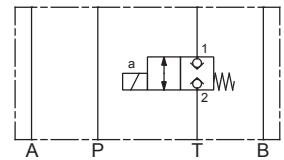
Z.22031B



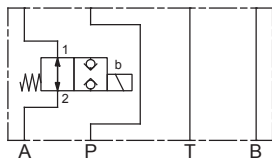
Z.22031P



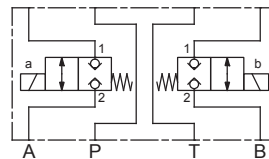
Z.22031T



Z.22030A



Z.22031AB



GENERAL SPECIFICATIONS

Designation	2/2-way poppet valve
Construction	Direct operated
Mounting	Sandwich construction
Nominal size	NG3-Mini according to Wandfluh standard
Actuation	Switching solenoid
Ambient temperature	-25...+70 °C
Weight	0,40 - 0,45 kg (1 solenoid) 0,65 kg (2 solenoids)
MTTFd	150 years

ACTUATION

Actuation	Switching solenoid, wet pin push type, pressure tight
Execution	SIS29V (Data sheet 1.1-85)
Connection	Connector socket DIN EN 175301 – 803

TYPE CODE

		Z		S	2	2	03	☐	☐	-	☐	-	☐	#	☐
Poppet valve, sandwich construction															
Solenoid, Super															
2 way (connections)															
2 switching positions															
Nominal size 3-Mini															
Normally closed															
Normally open															
Type list / Function															
Poppet valve		in P		☐	in T		☐	in B		☐					
		in A and B		☐	in A		☐								
				☐			☐								
				☐			☐								
Nominal voltage U _N		12 VDC		☐	115 VAC		☐	24 VDC		☐	230 VAC		☐		
				☐			☐			☐			☐		
Sealing material		NBR		☐	FKM (Viton)		☐								
				☐			☐								
Design index (subject to change)															
1.11-2500															

ELECTRICAL SPECIFICATIONS

Protection class	IP65
Relative duty factor	100 % DF
Switching frequency	15'000 / h
Service life time	10 ⁷ (number of switching cycles, theoretically)
Voltage tolerance	± 10 % with regard to nominal voltage
Standard nominal voltage	12 VDC, 24VDC, 115 VAC, 230 VAC AC = 50 to 60 Hz, rectifier integrated in the connector socket

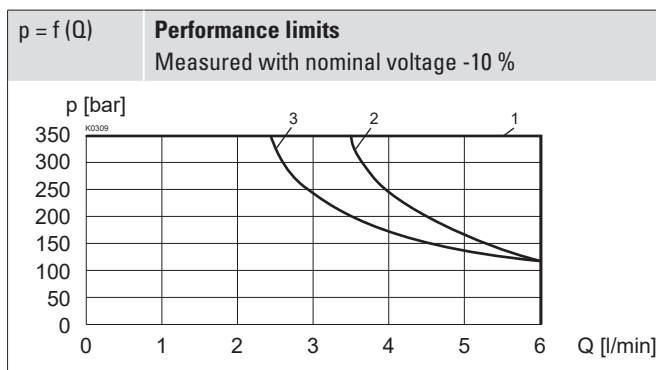
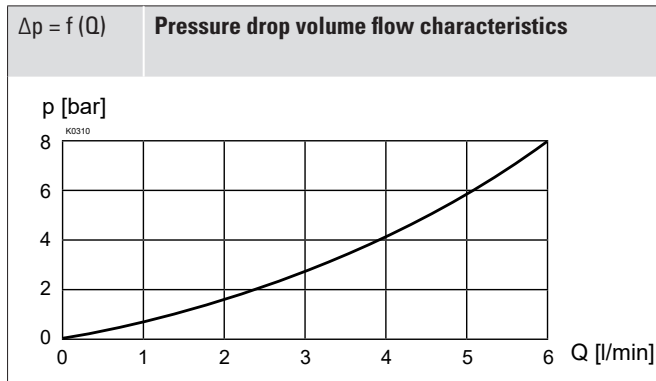
Note! Other electrical specifications see data sheet 1.1-85


HYDRAULIC SPECIFICATIONS

Working pressure	p _{max} = 350 bar
Maximum volume flow	Q _{max} = 6 l/min, see characteristic
Volume flow direction	Any (see characteristic)
Leakage oil	Poppet type, max. 0,05 ml / min (approx. 1 drop / min) at 30 cSt
Fluid	Mineral oil, other fluid on request
Viscosity range	12 mm ² /s...320 mm ² /s
Temperature range fluid	-25...+70 °C (NBR) -20...+70 °C (FKM)
Contamination efficiency	Class 20 / 18 / 14
Filtration	Required filtration grade β 10...16 ≥ 75, see data sheet 1.0-50

PERFORMANCE SPECIFICATIONS

Oil viscosity $\nu = 30 \text{ mm}^2/\text{s}$



Symbol	Flow direction	
	1 → 2	2 → 1
ZS22031.	1	2
ZS22030A	1	3

Attention! Long periods of non-actuation can reduce the switching performance



STANDARDS

Mounting interface	Wandfluh standard
Solenoids	DIN VDE 0580
Connection execution D	DIN EN 175301 – 803
Protection class	EN 60 529
Contamination efficiency	ISO 4406

MANUAL OVERRIDE

Screw plug (HB0), no actuation possible
Optionally: See data sheet 1.1-300 and 1.1-311.

ACCESSORIES

Fixing screws	Data sheet 1.0-60
Threaded subplates	Data sheet 2.9-05
Multi-station subplates	Data sheet 2.9-45
Horizontal mounting blocks	Data sheet 2.9-85
Technical explanations	Data sheet 1.0-100
Filtration	Data sheet 1.0-50
Relative duty factor	Data sheet 1.1-430

COMMISSIONING

Attention! When commissioning, the valve must be vented under pressure (max. two rotations of screw E).



SURFACE TREATMENT

- ◆ The sandwich bodies are zinc-phosphated or zinc-nickel coated
- ◆ The solenoid and the cover are re zinc-nickel coated
- ◆ The socket head screws are zinc coated

SEALING MATERIAL

NBR or FKM (Viton) as standard, choice in the type code

INSTALLATION NOTES

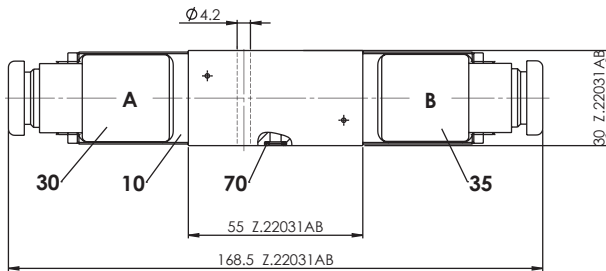
Mounting type	Sandwich mounting 3 fixing holes for socket head screws or studs M4
Mounting position	Any, preferably horizontal
Tightening torque	Fixing screws $M_D = 2,6 \text{ Nm}$ (quality 8.8, zinc coated)

VALVES INSTALLED

The central functioning element is the poppet valve cartridge NG3, data sheet 1.11-2010.

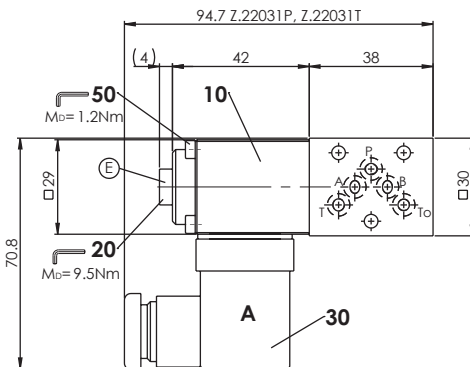
DIMENSIONS

Poppet valves in A and B

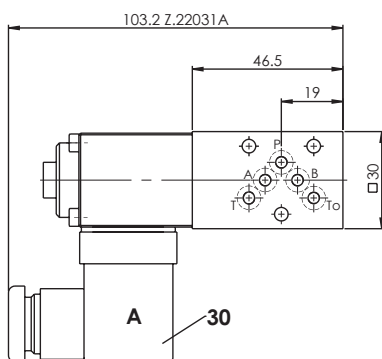


Poppet valve in P or T

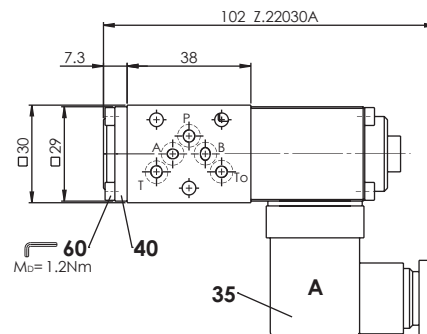
E = Air bleed screw



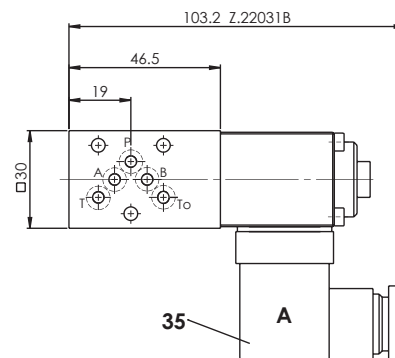
Poppet valve in A



Poppet valve in A



Poppet valve in B



PARTS LIST

Position	Article	Description
10	260.3...	Solenoid SIS29V
20	239.2033	Screw plug HB0 (incl. seal)
30	219.2001	Mating connector DIN EN 175301-803 grey
35	219.2002	Mating connector DIN EN 175301-803 black
40	056.4203	Cover
50	246.0141	Socket head screw M3 x 40 DIN 912
60	246.0109	Socket head screw M3 x 8 DIN 912
70	160.2045	O-ring ID 4,50 x 1,50 (NBR)
	160.6045	O-ring ID 4,50 x 1,50 (FKM)

HYDRAULIC CONNECTION

