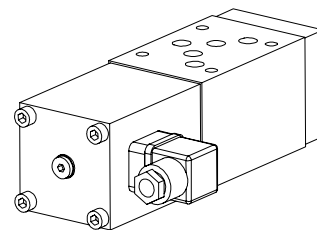


Solenoid poppet valve

- 2/2-way sandwich construction
- $Q_{\max} = 80 \text{ l/min}$
- $p_{\max} = 350 \text{ bar}$

NG10
ISO 4401-05


DESCRIPTION

Poppet valve, sandwich design NG10 according to ISO 4401-05, available as a 2/2-way valve normally open or closed. The central functioning element of all directly controlled poppet valves in the NG10 series is the poppet valve cartridge NG10. See data sheet 1.11-2040. The solenoids correspond to VDE standard 0580.

Important: When commissioning, the valve must be vented under pressure (max. 2 revolutions of screw E).

FUNCTION

The valve is direct operated by a wet pin push type solenoid which in turn either opens or closes the poppet. The design of the poppet spool, which is equal in surface area on both sides and thus pressure balanced, means there are no undue opening and closing hydraulic forces. Due to this the oil flow through the poppet valve is possible in both directions. The valve is tight in both flow directions.

APPLICATION

Wandfluh poppet valves can be used anywhere absolutely leak tight closing functions are important. Completely sealed loading, gripping and clamping operations are all important functions which Wandfluh poppet valves can perform.

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TYPE CODE

Z	☐	2	2	10	☐	☐	-	☐	#	☐
Poppet valve construction sandwich										
Medium	☐	M								
Super	☐	S								
2-way (connections)										
2 positions										
Nominal size 10										
Normally closed,	☐	1								
Normally open,	☐	0								
Poppet valve in:										
P	☐	AB	T	☐	A	☐	B	☐	B	
A and B			A							
Standard nominal voltage U_N :										
12 VDC	☐	G12	110 VAC	☐	R110					
24 VDC	☐	G24	115 VAC	☐	R115					
			230 VAC	☐	R230					
Design-Index (Subject to change)										

GENERAL SPECIFICATIONS

Description	2/2-way poppet valve
Nominal size	NG10 acc. to ISO 4401-05
Construction	Direct operated poppet valve
Operations	Solenoid
Mounting	Sandwich constr., 4 mounting holes for socket head screws or locking screws M6
Connections	Threaded connection plates Multi-flange subplates Longitudinal stacking system
Ambient temperature	-20...+50°C
Mounting position	any, preferable horizontal
Fastening torque	$M_D = 9,5 \text{ Nm}$ (Quality 8.8)
Masse poppet valve in:	
A, B, P or T	$m = 4,6 \text{ kg}$
A and B normally closed.	$m = 6,4 \text{ kg}$
A and B normally open	$m = 10,8 \text{ kg}$
Volume flow direction	any (see characteristics)

HYDRAULIC SPECIFICATIONS

Fluid	Mineral oil, other fluid on request
Contamination efficiency	ISO 4406:1999, class 20/18/14 (Required filtration grade $B_{10} \dots 16 \geq 75$) refer to data sheet 1.0-50/2
Viscosity range	12 mm ² /s...320 mm ² /s
Fluid temperature	-20...+70°C
Working pressure	Medium: $p_{\max} = 160 \text{ bar}$ Super: $p_{\max} = 350 \text{ bar}$
Max. volume flow	$Q_{\max} = 80 \text{ l/min}$ see characteristics

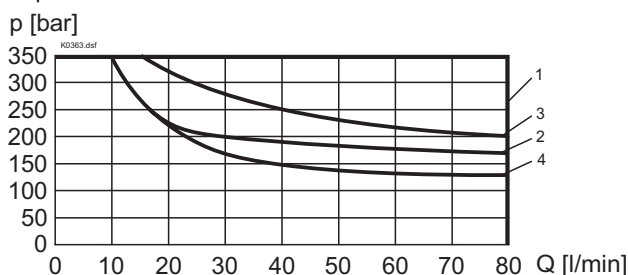
ELECTRICAL CONTROL

Construction Solenoid, wet pin push type, pressure tight
Standard-nominal voltage $U_N = 12 \text{ VDC}, 24 \text{ VDC}$
 $U_N = 110 \text{ VAC}^*, 115 \text{ VAC}^*, 230 \text{ VAC}^*$
AC = 50 to 60 Hz
* Rectifier integrated in the plug
Other nominal voltages and nominal performances on request
Voltage tolerance $\pm 10\%$ of nominal voltage
Protection class IP 65 to EN 60 529
Relative duty factor 100% DF (see data sheet 1.1-430)

Switching cycles 15'000/h
Operating life 10^7 (number of switching cycles, theoretically)
Connection/Power supply Over device plug connection to ISO 4400/
DIN 43 650, (2P+E), other connections on request
Solenoid:
- Medium SIN60V (1.1-145)
- Super SIS60V (1.1-150)

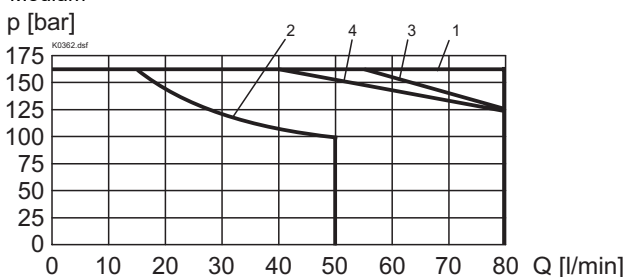
CHARACTERISTICS Oil viscosity $\nu = 30 \text{ mm}^2/\text{s}$

$p = f(Q)$ Performance limit by standard voltage at -10 %
Super

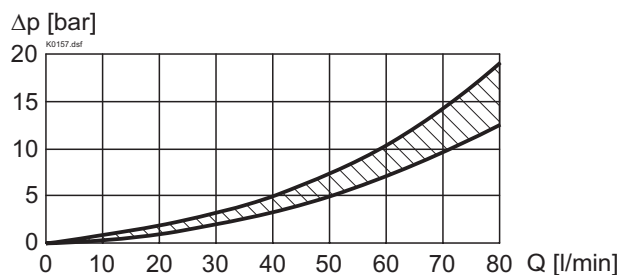


Type	Flow direction	
	1 → 2	2 → 1
Z.22101P	1	2
Z.22101T	1	2
Z.22101A	1	2
Z.22101B	1	2
Z.22101AB	1	2
Z.22100P	1	3
Z.22100T	1	3
Z.22100A	1	3
Z.22100B	1	3
Z.22100AB	1	4

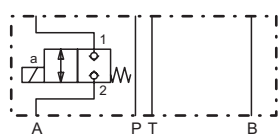
$p = f(Q)$ Performance limit by standard voltage at -10 %
Medium



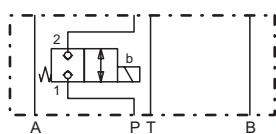
$\Delta p = f(Q)$ Pressure loss/flow characteristics


TYPE CHARTS

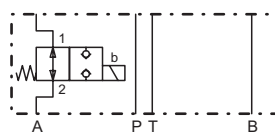
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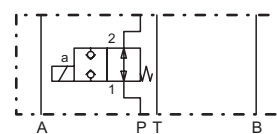
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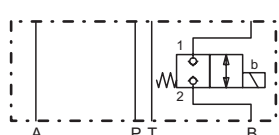
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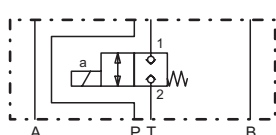
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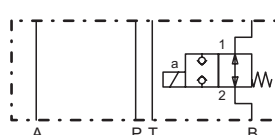
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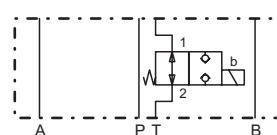
Z.22101T



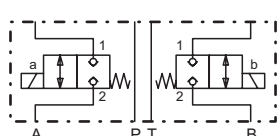
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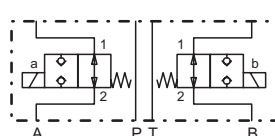
Z.22100T



Z.22101AB



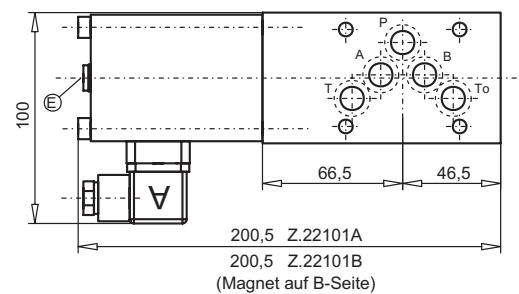
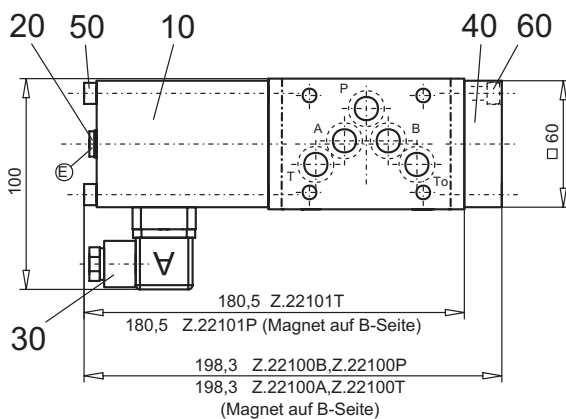
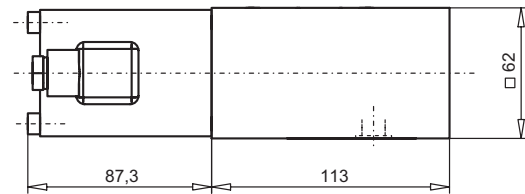
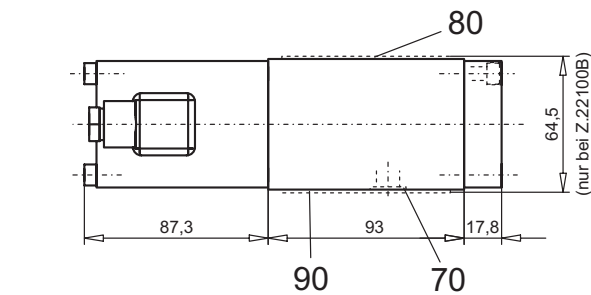
Z.22100AB



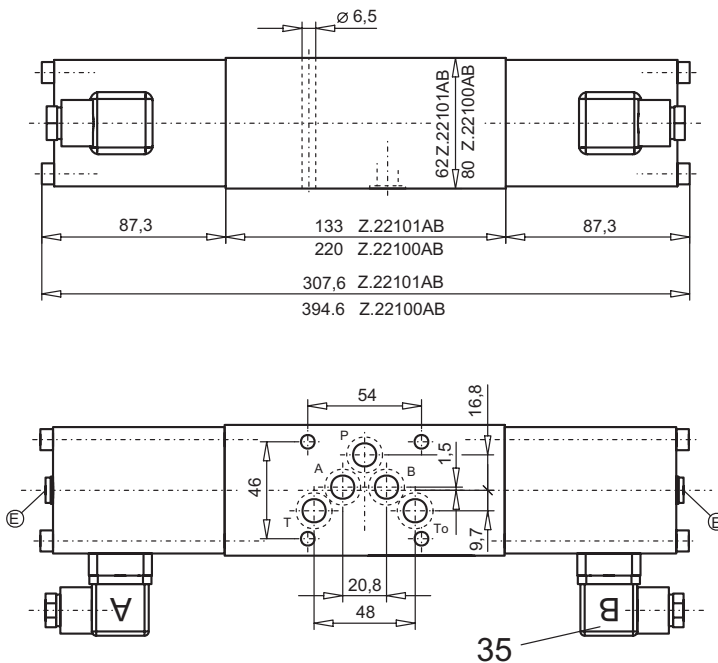
DIMENSIONS

Poppet valve in A, B, P or T normally open
Poppet valve in P or T normally closed

Poppet valve in A or B normally closed



Poppet valve in A and B



E = air bleed screw

PARTS LIST

Position	Article	Description
10	260.8... 260.9...	Medium-solenoid SIN60V Super-solenoid SIS60V
20	239.2033	Plug (incl. seal) HB0
30	219.2001	Plug A (grey)
35	219.2002	Plug B (black)
40	059.2200	Cover
50	246.3190	Socket head cap screw M6x90 DIN 912
60	246.3121	Socket head cap screw M6x20 DIN 912
70	160.2140	O-ring ID 14,00x1,78
80	173.4700	Intermediate plate AZB10 only to Z.22100B
90	173.4650	Sealing plate ADB10 only to Z.22100B

ACCESSORIES

Threaded connection plates, Multi-flange subplates and
Longitudinal stacking system see Register 2.9

Technical explanation see data sheet 1.0-100E