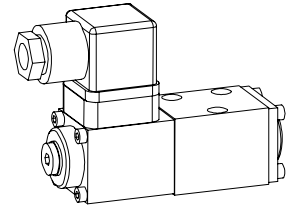


Solenoid poppet valve

- 2/2-, 3/2- and 3/4-way construction
- $Q_{max} = 6 \text{ l/min}$
- $p_{max} = 350 \text{ bar}$

NG3-Mini[®]

DESCRIPTION

Poppet valve, flanged design NG3-Mini, available as a 2/2 or 3/2-way valve (normally open or closed) and as a 3/4-way valve (normally closed). The central functioning element of all directly controlled poppet valves in the NG3-Mini series is the poppet valve cartridge NG3. See data sheet 1.11-2010. 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. Cartridge type poppet valves can be neatly accommodated in valve blocks. From a mechanical and functional point of view, poppet valves can replace slide valves at any time. NG3-mini valves are used where a light, compact unit is needed.

CONTENT

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TYPE CODE

2/2- or 3/2-way construction	B	<input type="checkbox"/>	<input type="checkbox"/>	2	03	<input type="checkbox"/>	-	<input type="checkbox"/>	#	<input type="checkbox"/>
3/4-way construction	B	<input type="checkbox"/>	3	4	03	<input type="checkbox"/>	-	<input type="checkbox"/>	#	<input type="checkbox"/>
Mounting interface										
Medium-solenoid			<input type="checkbox"/>							
Super-solenoid			<input type="checkbox"/>							
2-way (connections)			<input type="checkbox"/>							
3-way (connections)			<input type="checkbox"/>							
2 position										
4 position										
Nominal size 3-Mini										
Normally closed, solenoid on A-side										<input type="checkbox"/>
Normally open, solenoid on B-side										<input type="checkbox"/>
Standard nominal voltage U_N : 12VDC						<input type="checkbox"/>				<input type="checkbox"/>
24VDC						<input type="checkbox"/>				<input type="checkbox"/>
										<input type="checkbox"/>
										<input type="checkbox"/>

Design-Index (Subject to change)

GENERAL SPECIFICATIONS

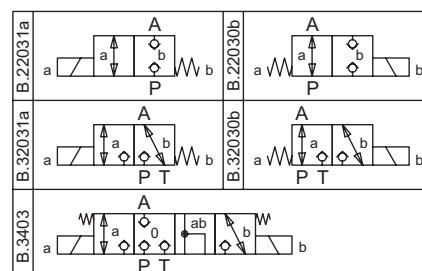
Description	2/2-, 3/2- and 3/4-way poppet valve
Nominal size	NG3-Mini acc. to Wandfluh standard
Construction	Direct operated poppet valve
Operations	Solenoid
Mounting	Flange, 3 holes for socket cap screws M4x30
Connections	Threaded connection plates Multi-flange subplates Longitudinal stacking system
Ambient temperature	-20...+50°C
Mounting position	any, preferable horizontal
Fastening torque	$M_D = 2,8 \text{ Nm}$ (quality 8.8)
Weight 2/2-, 3/2-way	$m = 0,46 \text{ kg}$
3/4-way	$m = 0,72 \text{ kg}$
Volume flow direction	any, (see characteristics)

ELECTRICAL CONTROL

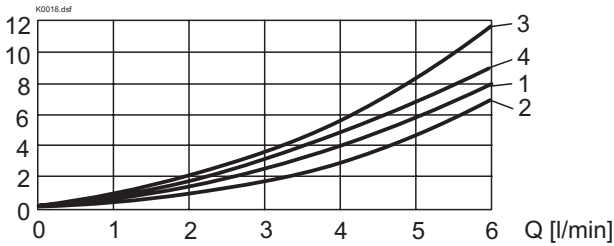
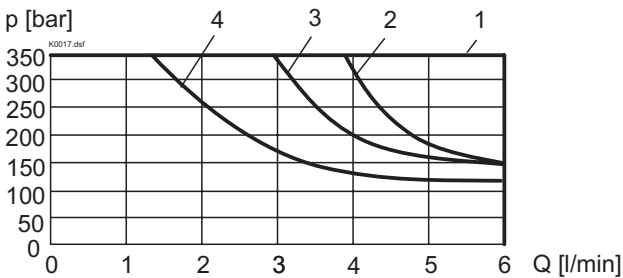
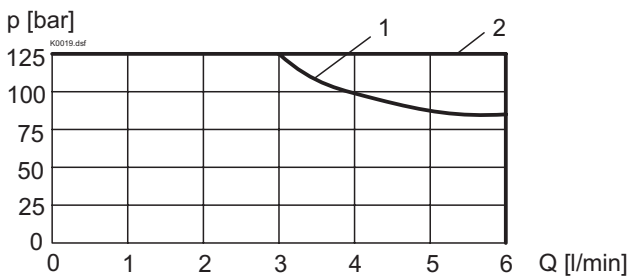
Construction	Solenoid, wet pin push, pressure tight
Standard-nominal voltage $U_N = 12 \text{ VDC}, 24 \text{ VDC}$	
$U_N = 110 \text{ VAC}^*, 115 \text{ VAC}^*, 230 \text{ VAC}^*$	
AC = 50 to 60 Hz	
	* Rectifier integrated in the plug
	Other nominal voltages and nominal performances on request.
Voltage tolerance	±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	Overdevice plug connection to ISO 4400/ DIN 43650, (2P+E), other connections on request
Solenoid:	- Medium SIN29V (data sheet 1.1-80) - Super SIS29V (data sheet 1.1-85)

HYDRAULIC SPECIFICATIONS

Fluid	Mineral oil, other fluid on request
Contamination efficiency	ISO 4406:1999, class 20/18/14 (Required filtration grade $\beta_{10} \dots 16 \geq 75$) 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: $p_{max} = 125 \text{ bar}$ Super: $p_{max} = 350 \text{ bar}$
Max. volume flow	$Q_{max} = 6 \text{ l/min}$ see characteristics

SYMBOLS


CHARACTERISTICS Oil viscosity $\nu = 30 \text{ mm}^2/\text{s}$
 $\Delta p = f(Q)$ Pressure loss/flow characteristics

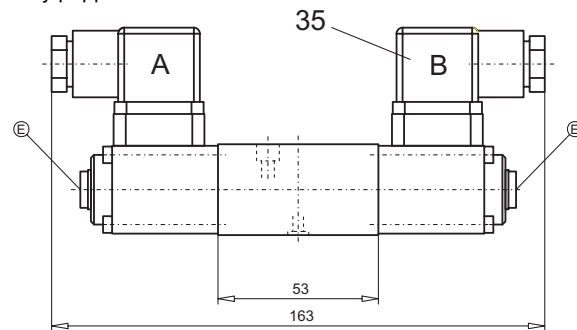
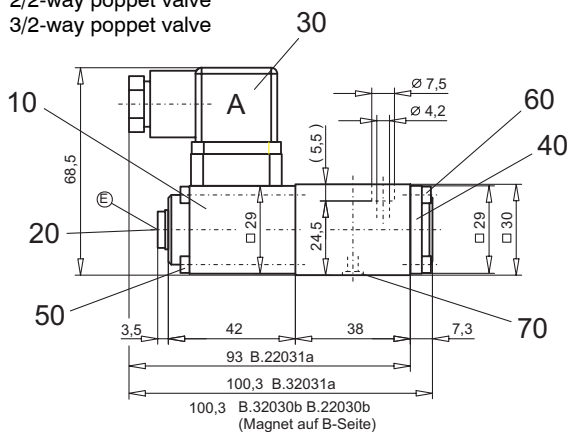
 Δp [bar]

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

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

 1: 3/2 way valve flow direction from A --> P
 2: all other valves and flow directions

Type	Flow direction			
	P - A	A - T	A - P	T - A
B.2203..	1	-	2	-
B.3203..	3	4	4	3
B.3403	1	1	2	2

Type	Flow direction			
	P - A	A - T	A - P	T - A
BS22031a	1	-	2	-
BS22030b	1	-	3	-
BS32031a	1	2	4	1
BS32030b	1	2	4	1
BS3403	1	1	2	4

DIMENSIONS

3/4-way poppet valve


 2/2-way poppet valve
 3/2-way poppet valve


E = air bleed screw

PARTS LIST

Position	Article	Description
10	260.2... 260.3...	Medium-solenoid SIN29V Super-solenoid SIS29V
20	239.2033	Plug (incl. seal ring) HBO
30	219.2001	Plug A (grey)
35	219.2002	Plug A (grey)
40	056.4203	Cover
50	246.0141	Socket head cap screw M3x40 DIN 912
60	246.0109	Socket head cap screw M3x8 DIN 912
70	160.2045	O-ring ID 4,50x1,50

ACCESSORIES

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

Technical explanation see data sheet 1.0-100E

