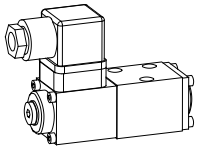
Solenoid poppet valve
- **2/2-, 3/2- and 3/4-way construction**
- **Q_{max} = 6 l/min**
- **p_{max} = 350 bar**

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 poppoet 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 typ 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

TYPE CODE

2/2- or 3/2-way construction	B	☐	☐	2	03	☐	-	☐	#	☐
3/4-way construction	B	☐	3	4	03		-	☐	#	☐

Interface acc. to Wandfluh standard
Medium-solenoid [M]
Super-solenoid [S]
2-way (connections) [2]
3-way (connections) [3]
2 position
4 position
Nominal size, 3-Mini
Normally closed — solenoid on A-side [1a]
Normally open — solenoid on B-side [0b]
Nominal voltage U_N: 12VDC [G12], 24VDC [G24], 110VAC [R110], 115VAC [R115], 230VAC [R230]
Design-Index (Subject to change)

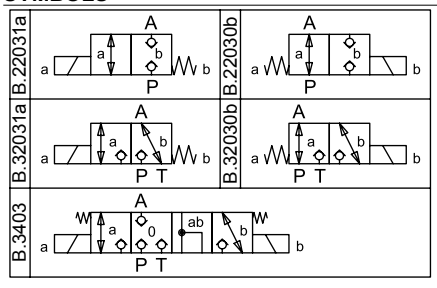
ELECTRICAL CONTROL

Construction	Solenoid, wet pin push, pressure tight
Standard-nominal voltage	U_N = 12 VDC, 24 VDC U_N = 110 VAC∗, 115 VAC∗, 230 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

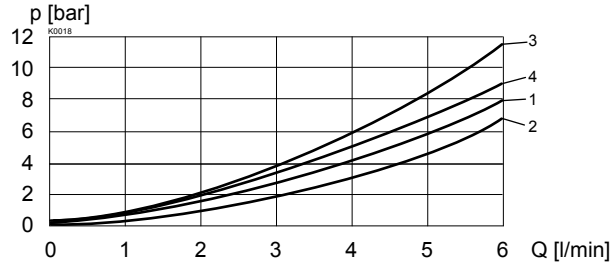
Fluid	Mineral oil, other fluid on request
Contamination efficiency	ISO 4406:1999, class 20/18/14 (Required filtration grade ß10…16≥75) refer to data sheet 1.0-50/2
Viscosity range	12 mm²/s…320 mm²/s
Fluid temperature	-20…+70 °C
Working pressure	Medium: p_{max} = 125 bar Super: p_{max} = 350 bar
Max. volume flow	$Q_{max.}$ = 6 l/min see characteristics

SYMBOLS



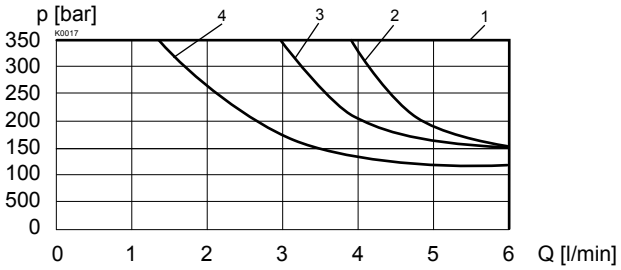
CHARACTERISTICS Oil viscosity υ = 30 mm²/s

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



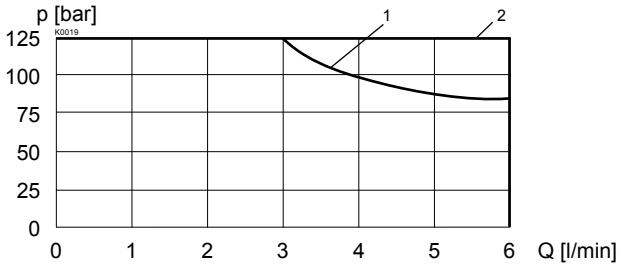
	Flow direction			
Type	P - A	A - T	A - P	T - A
B.2203..	1	-	2	-
B.3203..	3	4	4	3
B.3403	1	1	2	2

$p = f(Q)$ Perfomance limits
with standard voltage -10%
Super



	Flow direction			
Type	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

$p = f(Q)$ Performance limits
with standard voltage -10%
1 = 3/2 way valve flow direction from A --> P
2 = all other valves and flow directions
Medium



PARTS LIST

Position	Article	Description
10	260.2… 260.3…	Medium-solenoid SIN29V Super-solenoid SIS29V
20	239.2033	Plug (incl. seal ring) HB0
30	219.2001	Plug A (grey)
35	219.2002	Plug A (grey)
40	056.4203	Cover
50	246.0141	Socket head cap screw M3 x 40 DIN 912
60	246.0109	Socket head cap screw M3 x 8 DIN 912
70	160.2045	O-ring ID 4,50 x 1,50

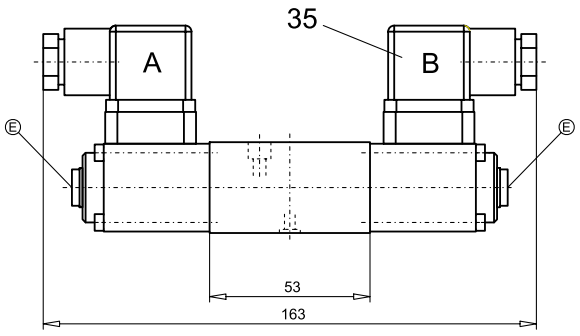
ACCESSORIES

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

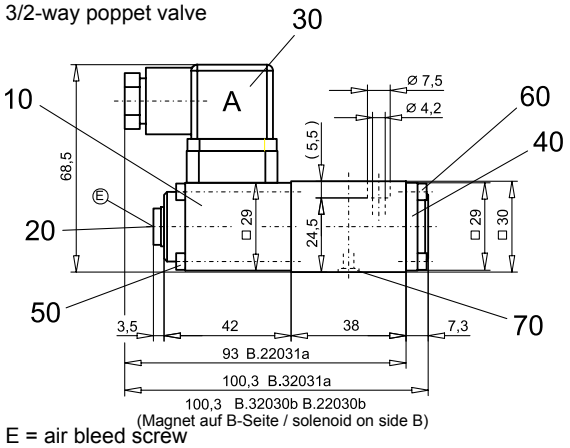
Technical explanation see data sheet 1.0-100

DIMENSIONS

3/4-way poppet valve



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



E = air bleed screw