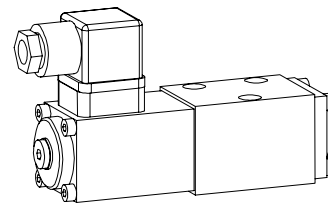


Solenoid poppet valve

- 2/2-, 3/2- and 3/4-way construction
- $Q_{max} = 15 \text{ l/min}$
- $p_{max} = 350 \text{ bar}$

NG4-Mini®

DESCRIPTION

Poppet valve, flanged design NG4-Mini according to Wandfluh standard, 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 NG4-Mini series is the poppet valve cartridge NG4. See data sheet 1.11-2020. The solenoids correspond to VDE standard 0580.

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

CONTENT

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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. NG4-mini valves are used where a light, compact unit is needed.

TYPE CODE

2/2- or 3/2-way construction	B	☐	☐	2	04	☐	-	☐	#	☐
3/4-way construction	B	☐	3	4	04	☐	-	☐	#	☐
Mounting interface										
Medium-solenoid	☒	M								
Super-solenoid	☐	S								
2-way (connections)	☐	2								
3-way (connections)	☐	3								
2 position										
4 position										
Nominal size 4-Mini										
Normally closed, solenoid on A-side						1a				
Normally open, solenoid on B-side						0b				
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

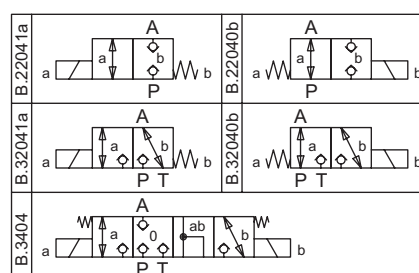
Description	2/2-, 3/2- and 3/4-way poppet valve
Nominal size	NG4-Mini acc. to Wandfluh standard
Construction	Direct operated poppet valve
Operations	Solenoid
Mounting	Flange, 3 holes for socket cap screws M5x40
Connections	Threaded connection plates Multi-flange subplates Longitudinal stacking system
Ambient temperature	-20...+50°C
Mounting position	any, preferable horizontal
Fastening torque	$M_D = 5,5 \text{ Nm}$ (quality 8.8)
Weight 2/2-, 3/2-way	$m = 0,95 \text{ kg}$
3/4-way	$m = 1,45 \text{ kg}$
Volume flow direction	any (see characteristics)

ELECTRICAL CONTROL

Construction	Solenoid, wet pin push type, pressure high
Standard-nominal voltage U_N	$U_N = 12 \text{ VDC}, 24 \text{ VDC}$ $U_N = 110 \text{ VAC}^*, 115 \text{ VAC}^*, 230 \text{ VAC}^*$ AC = 50 bis 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	Over device plug connection to ISO 4400/ DIN 43 650, (2P+E), other connections on request
Solenoid:	- Medium SIN35V (data sheet 1.1-105) - Super SIS35V (data sheet 1.1-110)

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 mm²/s...320 mm²/s
Fluid temperature	-20...+70°C
Working pressure	Medium: $p_{max} = 160 \text{ bar}$ Super: $p_{max} = 350 \text{ bar}$
Max. volume flow	$Q_{max} = 15 \text{ l/min}$ see characteristics

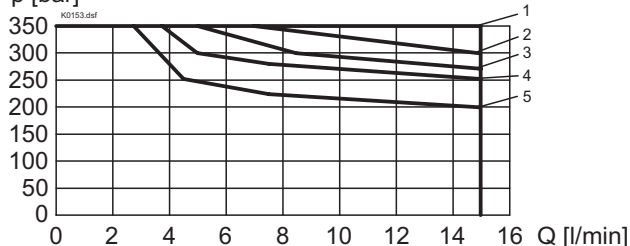
SYMBOLS


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

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

Super

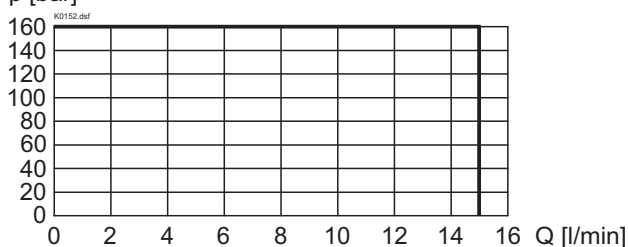
p [bar]



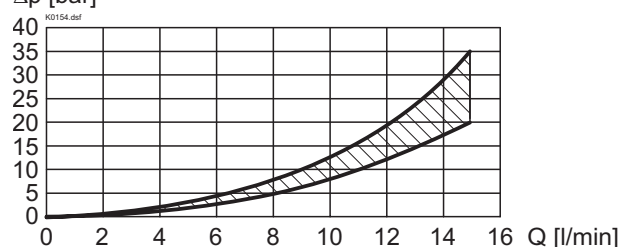
$p = f(Q)$ Performance limit by standard voltage at -10 %

Medium

p [bar]

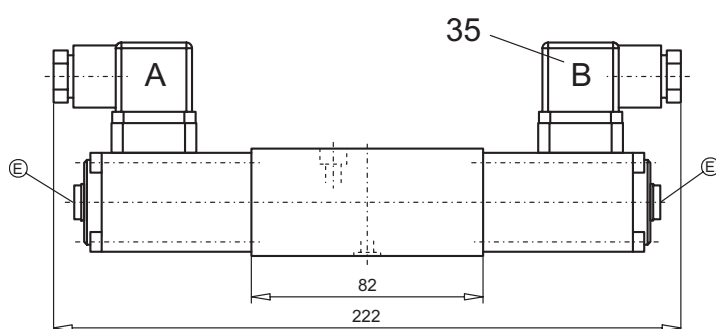


$\Delta p = f(Q)$ Pressure loss/flow characteristics

 Δp [bar]

DIMENSIONS

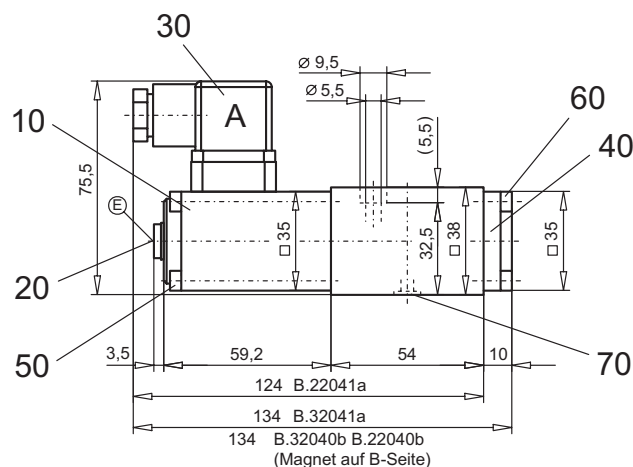
3/4-way poppet valve



E = air bleed screw

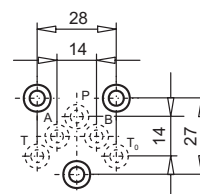
2/2-way poppet valve

3/2-way poppet valve



PARTS LIST

Position	Article	Description
10	260.4... 260.5...	Medium-solenoid SIN35V Super-solenoid SIS35V
20	239.2033	Plug (incl. seal) HB0
30	219.2001	Plug A (grey)
35	219.2002	Plug B (black)
40	057.4201	Cover
50	246.1161	Socket head cap screw M4x60 DIN 912
60	246.1113	Socket head cap screw M4x12 DIN 912
70	160.2052	O-ring ID 5.28x1.78



ACCESSORIES

Threaded connection plates, Multi-flange subplates and Longitudinal stacking system	see Register 2.9
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Technical explanation see data sheet 1.0-100E