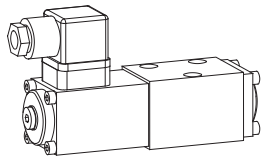
Solenoid poppet valve
- **2/2-, 3/2- and 3/4-way construction**
- **Q_{max} = 15 l/min**
- **p_{max} = 350 bar**

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 poppoet 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).

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. 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		-	☐	# ☐
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 4-Mini											
Normally closed	solenoid on A-side						1a				
Normally open	solenoid on B-side						0b				
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 Nm (quality 8.8)
Weight 2/2-, 3/2-way	m = 0,95 kg
3/4-way	m = 1,45 kg
Volume flow direction	any (see characteristics)

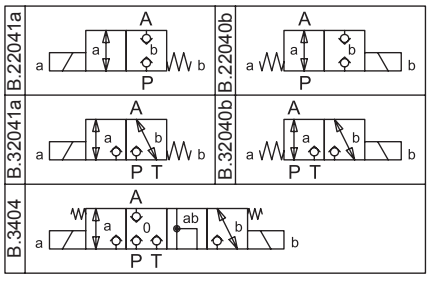
ELECTRICAL CONTROL

Construction	Solenoid, wet pin push type, pressure hight
Standard-nominal voltage	U_N = 12 VDC, 24 VDC U_N = 110 VAC∗, 115 VAC∗, 230 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 60529
Relative duty factor	100% DF (see data sheet 1.1-430)
Switching cycles	15000/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

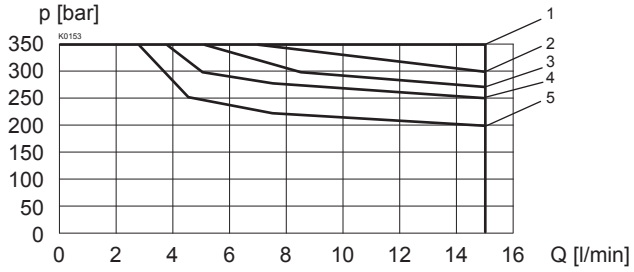
Fluid	Mineral oil, other fluid on request
Contamination efficiency	ISO 4406:1999, class 20/18/14 (Required filtration grade ß10…16≥75) refer to data sheet 1.0-50/2
Viscosity range	12 mm²/s…320 mm²/s
Fluid temperature	-20…+70 °C
Working pressure	Medium: p_{max} = 160 bar Super: p_{max} = 350 bar
Max. volume flow	$Q_{max.}$ = 15 l/min see characteristics

SYMBOLS



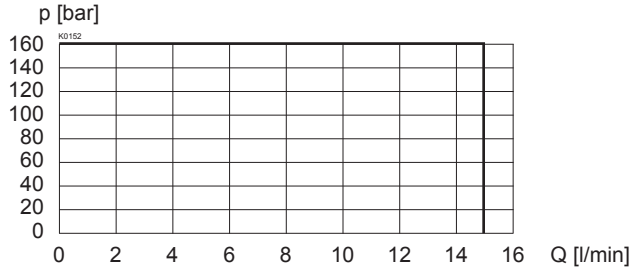
CHARACTERISTICS Oilviscosity υ = 30 mm²/s

p = f (Q) Performance limit
with standard voltage -10%
Super

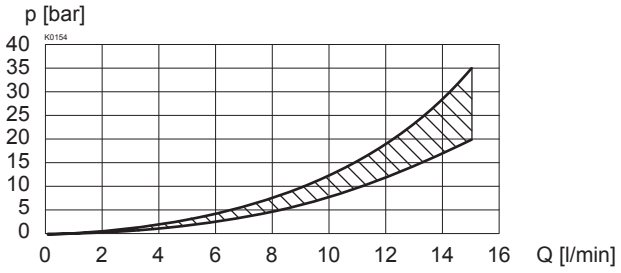


Type	Flow direction			
	P - A	A - T	A - P	T - A
BS22041a	1	-	2	-
BS22040b	1	-	4	-
BS32041a	1	3	5	1
BS32040b	1	4	5	1
BS3404	1	1	2	2

p = f (Q) Performance limit
with standard voltage -10%
Medium

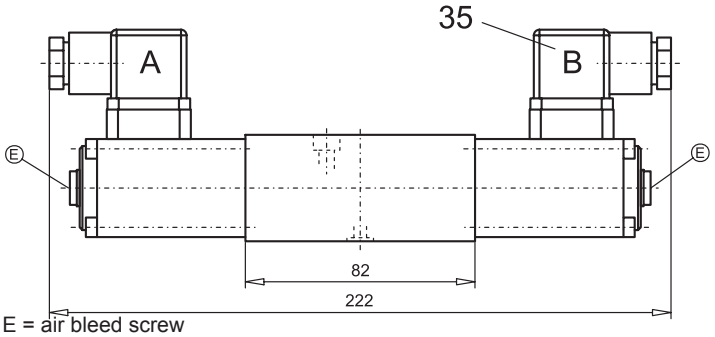


Δp = f (Q) Pressure loss/flow characteristics



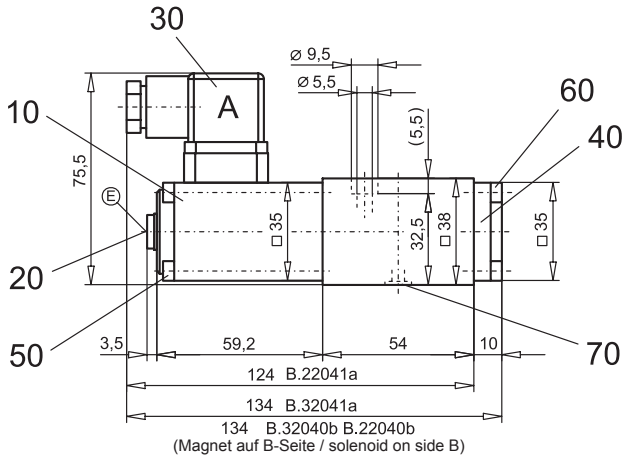
DIMENSIONS

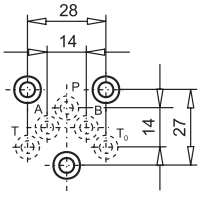
3/4-way poppet valve



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 M4 x 60 DIN 912
60	246.1113	Socket head cap screw M4 x 12 DIN 912
70	160.2052	O-ring ID 5,28 x 1,78

ACCESSORIES

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

Technical explanation see data sheet 1.0-100