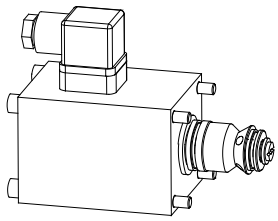
Solenoid poppet valve cartridge
- **normally closed**
- **Q_{max} = 80 l/min**
- **p_{max} = 350 bar**

NG10



DESCRIPTION

The 2/2-way seating valve in slip-in cartridge form is the central control element of virtually all directly-controlled seating valves in nominal size 10. The seating valve cartidge, the stroke limiting piston, the spring, one O-ring and a washer are supplied separately. A solenoid (VDE standard 0580) is an optional addition.
Important: at the time the valve is taken into service, the valve must be vented under pressure (max. 2 revolutions of screw E).

FUNCTION

The seating valve piston is held against the spring by the pressure-tight control solenoid. Because the seat-piston design has equal surface areas on both sides and since the seat / piston construction is balanced in terms of pressure, no undesirable closing and opening forces are generated. As a result, oil can flow in both directions through the seating valve. The seat / piston guide is sealed with an O-ring. The seat with a metallic seal closes off the valve so that there is no leakage oil.

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. Cavity tools are available for hire or sale for machining aluminium or steel. See data sheet register no. 2.13.

TYPE CODE

Poppet valve cartridge					2	2	10			#	
Poppet valve cartridge with solenoid					2	2	10	-		#	
Medium-solenoid	M										
Super-solenoid	S										
2-way (Connections)											
2 Position											
Nominal size 10											
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 cartridge
Nominal size	NG10
Construction	Direct operated poppet valve
Operations	Solenoid
Mounting	cartridge form 4 solenoid fixing screws M6
Ambient temperature	-20…+50 °C
Mounting position	any
Fastening torque	M_D = 8,9 Nm (quality 8.8)
Weight: 2210	m = 0,12 kg
. 2210- . .	m = 1,98 kg
Volume flow direction	any (see characteristics)

HYDRAULIC SPECIFICATIONS

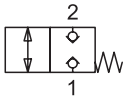
Fluid	Mineral oil, other fluid on request
Contamination efficiency	ISO 4406:1999, class 20/18/14 (Required filtration grade ß10…16≥75) refer to data sheet 1.0-50/2
Viscosity range	12 mm²/s…320 mm²/s
Fluid temperature	-20…+70 °C
Working pressure	Medium: p_{max} = 160 bar Super: p_{max} = 350 bar
Max. volume flow	Q_{max} = 80 l/min, see characteristics

ELECTRICAL CONTROL

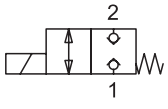
Construction	Solenoid, wet pin push type, pressure tight
Standard-nominal flow	U_N = 12 VDC, U_N = 24 VDC U_N = 110 VAC∗, U_N = 115 VAC∗ U_N = 230 VAC∗ AC = 50 to 60 Hz ∗ Rectifier integrated in the plug Other nominal voltages and nominal performances on request
Voltage tolerance	±10% of nominal voltage
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)
Connections / Power supply	Overdevice plug connection to ISO4400 / DIN 43650, (2P+E), other connections on request
Solenoid:	– Medium SIN60V (data sheet 1.1-145) – Super SIS60V (data sheet 1.1-150)

SYMBOLS

2210

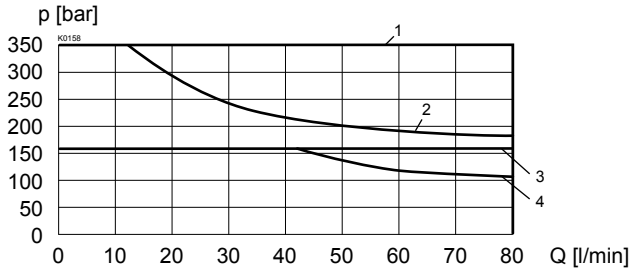


. 2210- . .



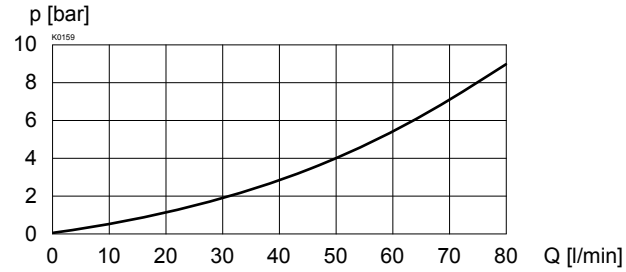
CHARACTERISTICS Oil viscosity υ = 30 mm²/s

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



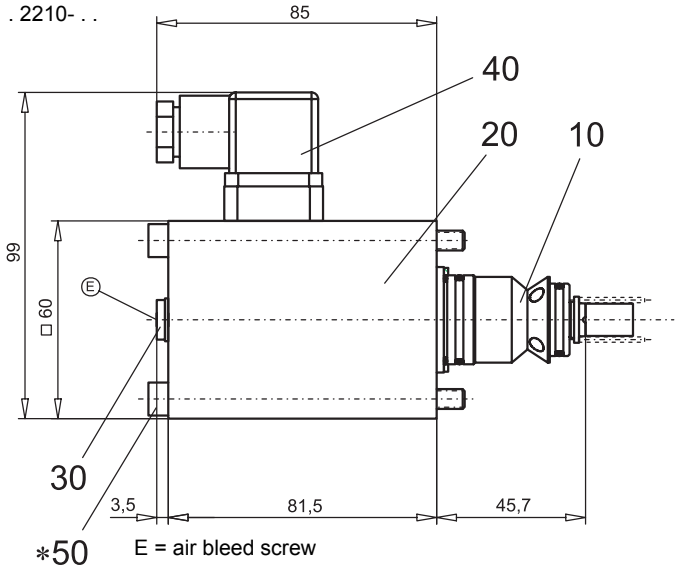
	Flow direction	
Type	1 → 2	2 → 1
M2210	3	4
S2210	1	2

Δp = f (Q) Pressure loss / flow characteristics



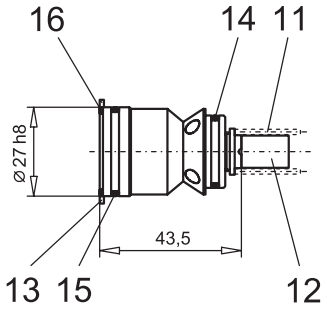
DIMENSIONS

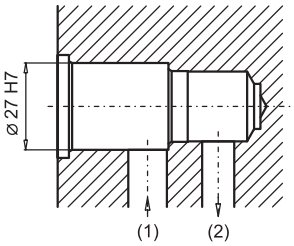
. 2210- . .



E = air bleed screw

2210





For detailed cavity drawing and cavity tools see data sheet 2.13-1015

PARTS LIST

Position	Article	Description
10	500.4010	Poppet valve cartridge 2210
11	052.4202	Spring 1,6 x 13,6 x 26
12	222.0042	Pin
13	212.0504	Washer
14	160.2188	O-ring ID 18,77 x 1,78
15	160.2236	O-ring ID 23,52 x 1,78
16	160.2230	O-ring ID 23,00 x 1,5
20	260.8… 260.9…	Medium-solenoid SIN60V Super-solenoid SIS60V
30	239.2033	Plug (incl. seal) HB0
40	219.2002	Plug
50	246.3190	Socket head cap screw M6 x 90 DIN 912

∗ Cartridge supplied with fastening screw M6 x 90 for steel bodies / blocs. For aluminium bodies / blocs longer screws are recommended (min. 2 screw diameter).

ACCESSORIES

Cartridge built-in flange- or sandwich body:

Flange	Register 1.11
Sandwich	Register 1.11

Special tool 983.2002 to poppet valve cartridge 2210.

Technical explanation see data sheet 1.0-100