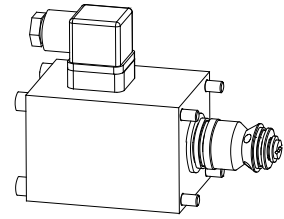


Solenoid poppet valve cartridge

- normally closed
- $Q_{max} = 80 \text{ l/min}$
- $p_{max} = 350 \text{ bar}$

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 cartridge, 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 type 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	#	<input type="checkbox"/>
Poppet valve cartridge with solenoid				2	2	10	-	<input type="checkbox"/>
Medium-solenoid	<input type="checkbox"/>	<input type="checkbox"/>						
Super-solenoid	<input type="checkbox"/>	<input type="checkbox"/>						
2-way (Connections)								
2 Position								
Nominal size 10								
Nominal voltage U_N								
	12 VDC	<input type="checkbox"/>	G12	110 VAC	<input type="checkbox"/>	R110		
	24 VDC	<input type="checkbox"/>	G24	115 VAC	<input type="checkbox"/>	R115		
				230 VAC	<input type="checkbox"/>	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	$M_D = 8,9 \text{ Nm}$ (quality 8.8)
Weight: 2210	$m = 0,12 \text{ kg}$
. 2210- . .	$m = 1,98 \text{ kg}$
Volume flow direction	any (see characteristics)

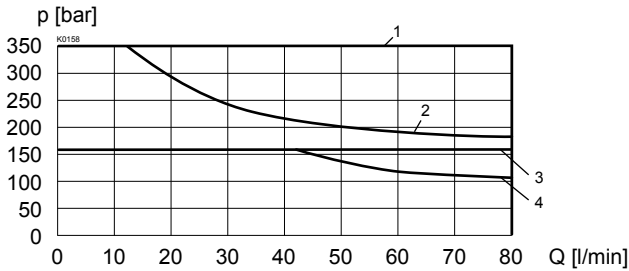
HYDRAULIC SPECIFICATIONS

Fluid	Mineral oil, other fluid on request
Contamination efficiency	ISO 4406:1999, class 20/18/14 (Required filtration grade $\beta_{10} \dots 16 \geq 75$) 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: $p_{max} = 160 \text{ bar}$ Super: $p_{max} = 350 \text{ bar}$
Max. volume flow	$Q_{max} = 80 \text{ l/min}$, see characteristics

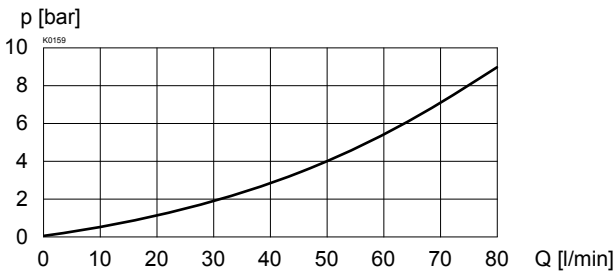
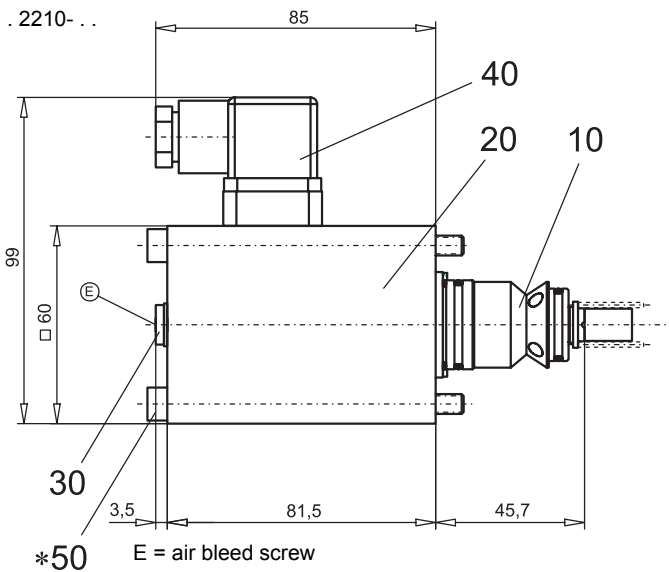
ELECTRICAL CONTROL

Construction	Solenoid, wet pin push type, pressure tight
Standard-nominal flow	$U_N = 12 \text{ VDC}$, $U_N = 24 \text{ VDC}$ $U_N = 110 \text{ VAC}$ *, $U_N = 115 \text{ VAC}$ * $U_N = 230 \text{ VAC}$ * 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)
Connections/Power supply	Overdevice plug connection to ISO4400/DIN 43650, (2P+E), other connections on request
Solenoid:	- Medium SIS60V (data sheet 1.1-145) - Super SIS60V (data sheet 1.1-150)

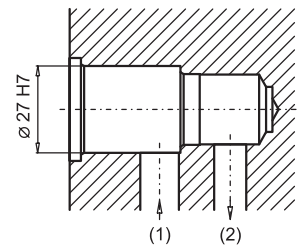
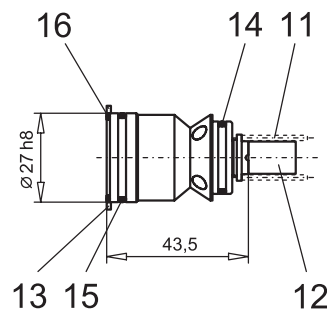
SYMBOLS


CHARACTERISTICS Oil viscosity $\nu = 30 \text{ mm}^2/\text{s}$
 $p = f(Q)$ Performance limit at -10%


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

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

DIMENSIONS


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 1,6x13,6x26
12	222.0042	Pin
13	212.0504	Washer
14	160.2188	O-ring ID 18,77x1,78
15	160.2236	O-ring ID 23,52x1,78
16	160.2230	O-ring ID 23,00x1,5
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 M6x90 DIN 912

* Cartridge supplied with fastening screw M6x90 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