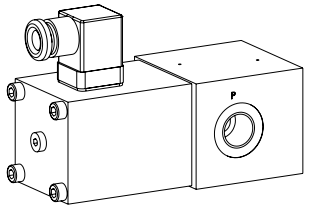
Solenoid operated poppet valve

Installation in pipes

- 2/2-way
- normally open and normally closed
- threaded connection 1/2"
- Q_{max} = 80 l/min
- p_{max} = 350 bar

NG10



DESCRIPTION

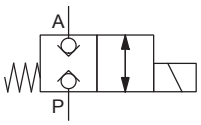
Direct operated 2/2-way solenoid poppet valve for installation in pipes. By means of the pressure tight switching solenoid, the poppet valve spool is opened or closed acting against the spring. Due to the poppet spool construction with pressure compensation on both sides, the flow through the valve is possible in both directions. The seat spool guide is sealed by means of an O-ring. The metallically sealing seat closes the valve virtually leak free.

APPLICATION

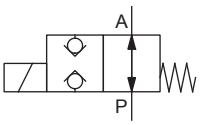
Poppet valves are used where tight closing functions of the valve are essential like leakage-free load holding, clamping or gripping.

SYMBOL

G.22101



G.22100



TYPE CODE

G ☐ 2 2 10 ☐ - ☐ - ☐ # ☐

Threaded connection					
Solenoid, Medium		M			
Solenoid, Super		S			
2 way (connections)					
2 switching positions					
Nominal size 10					
Normally closed		1			
Normally open		0			
Nominal voltage U_N	12 VDC	G12	115 VAC	R115	
	24 VDC	G24	230 VAC	R230	
Sealing material	NBR				
	FKM (Viton)	D1			
Design index (subject to change)					

1.11-2860

COMMISSIONING

Attention! When commissioning, the valve must be vented under pressure (max. 2 rotations of screw E).

ACTUATION

Actuation	Switching solenoid, wet pin push type, pressure tight
Execution	Medium: SIN60V (Data sheet 1.1-145) Super: SIS60V (Data sheet 1.1-150)
Connection	Connector socket EN 175301 – 803

GENERAL SPECIFICATIONS

Designation	2/2-way poppet valve
Construction	Direct operated
Mounting	Installation in pipes
Nominal size	NG10
Connection	Threaded connection G1/2"
Actuation	Switching solenoid
Ambient temperature	-25…+70 °C (NBR) -20…+70 °C (FKM)
Weight	≤ 4,0 kg
MTTFd	150 years

ELECTRICAL SPECIFICATIONS

Protection class	IP65
Relative duty factor	100 % DF
Switching frequency	15'000 / h
Service life time	10^7 (number of switching cycles, theoretically)
Voltage tolerance	± 10 % with regard to nominal voltage
Standard nominal voltage	12 VDC, 24VDC, 115 VAC, 230 VAC AC = 50 to 60 Hz, rectifier integrated in the connector socket

Note! Other electrical specifications see data sheet 1.1-145 (Medium) and 1.1-150 (Super)

HYDRAULIC SPECIFICATIONS

Working pressure	Medium: p_{max} = 160 bar Super: p_{max} = 350 bar
Maximum volume flow	Q_{max} = 80 l/min, see characteristic
Volume flow direction	Any (see characteristic)
Leakage oil	Seat tight, max. 0,05 ml / min (approx. 1 drop / min) at 30 cSt
Fluid	Mineral oil, other fluid on request
Viscosity range	12 mm²/s…320 mm²/s
Temperature range fluid	-20…+70 °C
Contamination efficiency	Class 20 / 18 / 14
Filtration	Required filtration grade ß 10…16 ≥ 75, see data sheet 1.0-50

STANDARDS

Solenoids	DIN VDE 0580
Connection execution D	DIN EN 175301 – 803
Protection class	EN 60 529
Contamination efficiency	ISO 4406

SEALING MATERIAL

NBR or FKM (Viton) as standard, choice in the type code

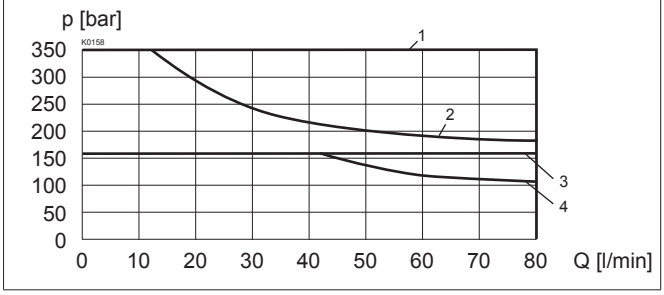
SURFACE TREATMENT

- The valve body, the solenoid, the cover and the socket head srews are zinc coated

PERFORMANCE SPECIFICATIONS

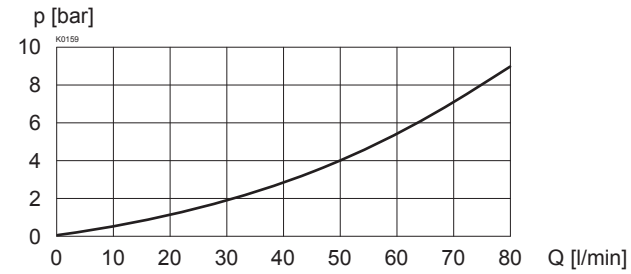
Oil viscosity υ = 30 mm²/s

p = f (Q) **Performance limits**
Measured with nominal voltage -10 %



	Flow direction	
Type	P → A	A → P
GM2210.	3	4
GS2210.	1	2

Δp = f (Q) **Pressure drop volume-flow characteristics**

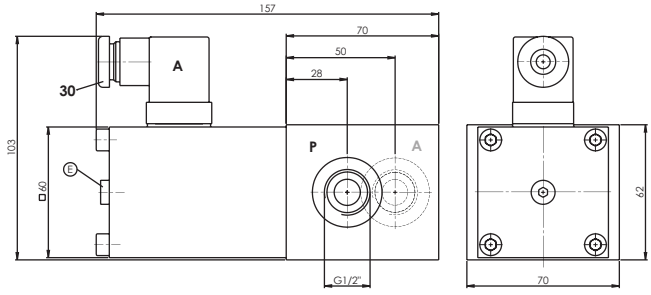


VALVES INSTALLED

The central functioning element is the poppet valve cartridge NG10, data sheet 1.11-2040.

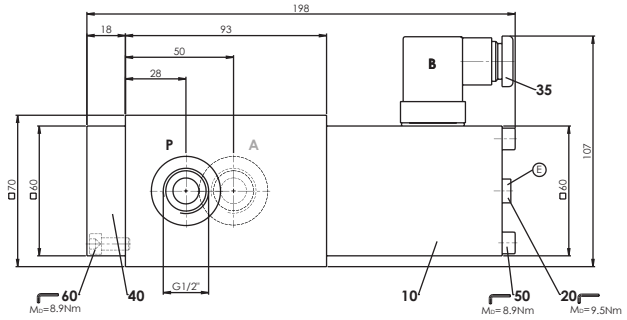
DIMENSIONS

G.22101



E = Air bleed screw

G.22100



PARTS LIST

Position	Article	Description
10	260.8... 260.9...	Solenoid SIN60V Solenoid SIS60V
20	239.2033	Screw plug HB0 (incl. seal)
30	219.2001	Electric plug A (grey)
35	219.2002	Electric plug B (black)
40	059.2200	Cover
50	246.3190	Socket head screw M6 x 90 DIN 912
60	246.3121	Socket head screw M6 x 20 DIN 912

MANUAL OVERRIDE

Screw plug (HB0), no actuation possible
Optionally: See data sheet 1.1-300 and 1.1-311.

INSTALLATION NOTES

Mounting position	Any, preferably horizontal

ACCESSORIES

Technical explanations	Data sheet 1.0-100
Filtration	Data sheet 1.0-50
Relative duty factor	Data sheet 1.1-430

Wandfluh AG Postfach CH-3714 Frutigen
Tel. +41 33 672 72 72 sales@wandfluh.com