Solenoid Valve Type 165

Product description

The pilot-controlled gate Valve Type 165 with servo diaphragm is closed when there is no current. A minimum differential pressure of 0.5 bar is required to fully open and close the valve. Actuator and media chamber are separated by a diaphragm. The solenoid coils are encapsulated with a highly chemically resistant epoxy.

Servo assisted solenoid valves have less power consumption than direct acting solenoid valves in the same dimension.

Function

A solenoid valve is a valve which is actuated by an electromagnet. Their tasks are to shut off, release, dose, distribute or mix gases and fluids. The solenoid valves can switch very fast, and guarantee high reliability and a long lifetime at a low actuator power. Solenoid valves with position measuring can be operated as servo valves.

Applications

- Water treatment
- Process/chemical engineering
- Plant/mechanical engineering
- Semiconductor industry
- Environmental engineering
- Medical engineering
- Apparatus engineering
- Analytical technology

Benefits/features

- Function: A
- PN 0.5 – 6 bar
- Pilot-controlled valve with servo diaphragm
- Separate from media
- No metal internal parts
- Pivoted armature pilot control with lockable emergency manual override
- Simple installation and removal
- Plastic valve for aggressive and contaminated media
- Service-friendly manual operation

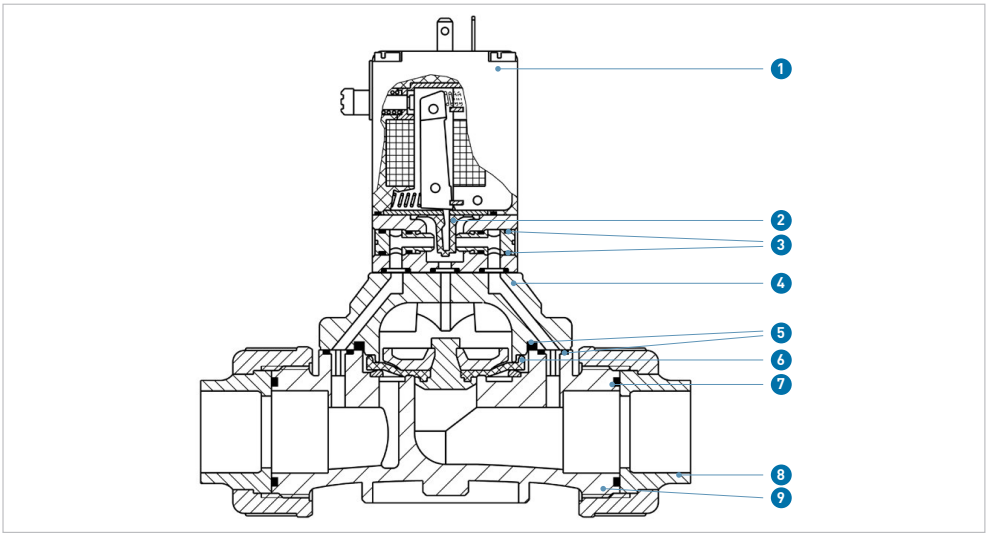
Limitations

- Sensitive to solids
- Δp of 0.5 bar absolutely necessary

Flow media

Clean liquids without solid particles (neutral or aggressive)

Technical data



1 Reel housing (Epoxy)
2 Diaphragms (EPDM, FKM)
3 O-ring (EPDM, FKM)
4 Cover (PVC, PVDF)
5 O-ring (EPDM, FKM)
6 Diaphragms (EPDM, FKM)
7 O-ring (EPDM, FKM)
8 Insert (sleeve) (PVC, PVDF)
9 Housing (PVC, PVDF)

Specification		
Nominal diameter	DN15 – DN50	
Housing material	PVC, PVDF	
Gasket material	EPDM, FKM	
Media	EPDM	Alkalines, detergent and bleach solutions
	FKM	Oxidizing acids and substances
Media temperature	PVC housing	0 to +50 °C
	PVDF housing	0 to +70 °C
Ambient temperature	PVC housing	0 to +40 °C
	PVDF housing	0 to +55 °C
Viscosity	21 mm^2/s	
Supply voltage	24V DC, 230V 50Hz/60Hz, 115V 50Hz/60Hz	
Voltage tolerance	±10%	
Nominal mode of operation	Continuous operation 100 % ED	
Electrical connection	Cable plug for ø 7 mm cable in accordance with DIN EN 175301-803 form A (included in scope of delivery)	
Protection rating	IP65 with appliance plug	
Insulation class coil	Class H	
Air connection	Sleeve	
Mounting position	As desired, preferably with actuator on top	

Kv 100 values

Nominal diameter (mm)	Mode of operation	Kv value[1] water (l/min)	Pressure range[2] (bar)	Power consumption Inrush (electrical)		Power consumption Operation (electrical)	
				AC (VA)	DC (W)	AC (VA/W)	DC (W)
15	A	83	0.5 - 6	20	5	11/5	5
20	A	100	0.5 - 6	20	5	11/5	5
25	A	233	0.5 - 6	20	5	11/5	5
32	A	267	0.5 - 6	20	5	11/5	5
40	A	500	0.5 - 6	20	5	11/5	5
50	A	600	0.5 - 6	20	5	11/5	5

1) Kv value (l/min) at +20 °C, 1 bar pressure at valve inlet and free outlet
2) Pressure data (bar) gauge pressure

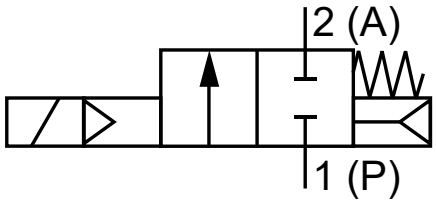
Switching time

Open	Close
(ms)	(ms)
100 - 800	1'000 - 4'000

Switching time (ms): Measurement at valve outlet at 6 bar and +20 °C. Open: Pressure build-up 0% to 90%. Close: Pressure build-up 100% to 10%.

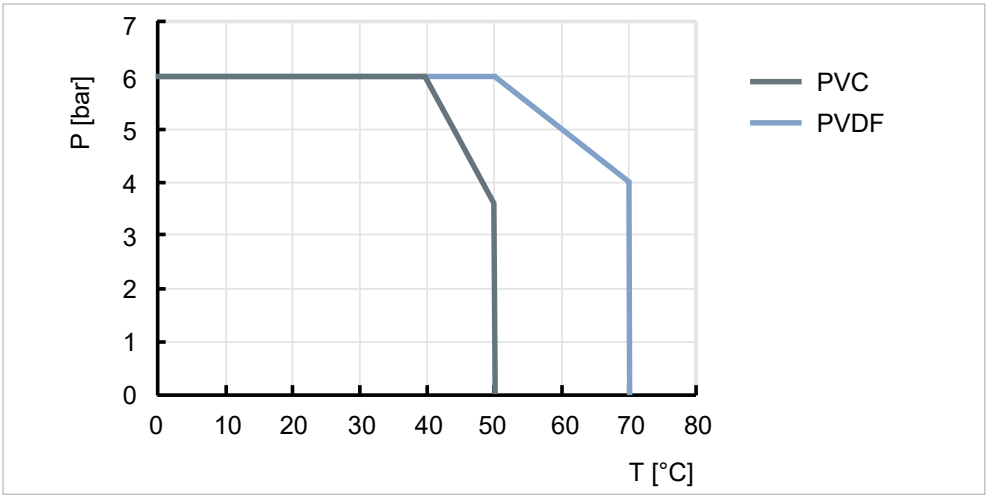
Switching functions

Circuit function A



2/2-way valve
(FC, Fail safe to close)

Pressure-temperature diagrams



T Temperature (°C, °F)
P Permissible pressure (bar, psi)

Technical basics

Valve handling

Installation notes

Electrical connection

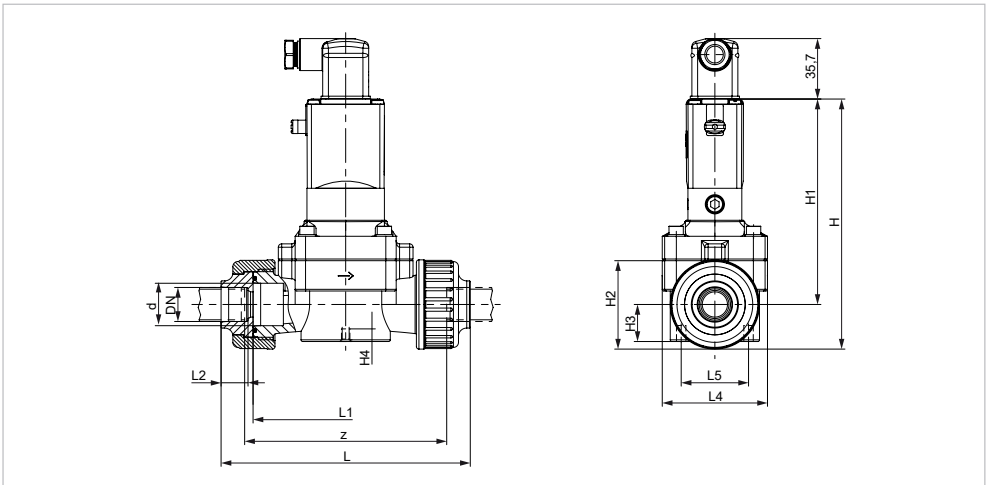
Observe the voltage and Type of current as given on the Type plate.
Voltage tolerance ± 10 %. Connection via cable plug, protection rating IP65.
Cable 3 x 0.75 mm^2. Flat pin terminal = ground connection.
Cable plug insert can be rotated by 4 x 90°. Tightening torque for cable plug attachment 1 Nm.

Maintenance notes

- Maintenance may be performed only by authorized specialists using appropriate tools.
- Secure the system against unintentional operation.
- Ensure a controlled restart after maintenance.

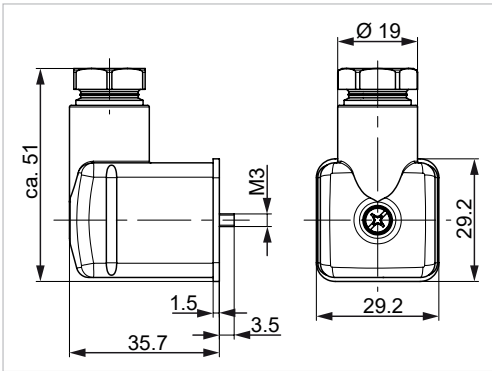
⚠ Installation and maintenance must be performed in accordance with the corresponding installation manual. The installation manual is provided with the product, see also the online product catalog at www.gfps.com

Dimensions



Alle Ausführungen											PVC housing		PVDF housing	
DN (mm)	d (mm)	H (mm)	H1 (mm)	H2 (mm)	H3 (mm)	H4 (mm)	L1 (mm)	L4 (mm)	L5 (mm)	z (mm)	L (mm)	L2 (mm)	L (mm)	L2 (mm)
15	20	148	122	53	22	8	110	63	40	116	148	16	147	16
20	25	148	122	53	22	8	110	62	40	116	154	19	151	18
25	32	175	137	76	31	15	141	85	45	147	190	22	185	20
32	40	175	137	76	31	15	141	85	45	147	198	26	189	22
40	50	212	160	105	42	15	192	115	45	198	254	31	245	25
50	63	212	160	105	42	15	192	115	45	198	268	38	253	29

Cable plug dimensions



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