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Flipper Solenoid Valve with Isolating Diaphragm

For Analytical Applications

Type 121

2/2-Way Valve, G 1/4 - G 3/8

Advantages/Benefits

- **Teflon diaphragm hermetically isolates the solenoid system from the fluid**
- **Resistant to contamination and does not magnetize particles**
- **Lockable manual override standard**
- **Body material: PTFE, stainless steel**
- **G 1/4 - G 3/8 solvent joint, tube connection**

Design/Function

The Type 121 is a direct-acting solenoid valve with flipper armature. The special design makes the valve less sensitive to contaminated fluids than plunger-type valves and provides long service life even under dry-run conditions.

The isolation of the solenoid from the fluid is achieved by the use of a teflon diaphragm on the fluid side and a viton diaphragm on the solenoid side.

The solenoid epoxy encapsulation efficiently dissipates the heat generated by the coil.

The valve is available as 2-way normally closed circuit function. Other circuit functions including 3/2-way are available on request.

Applications

- Surface treatment
- Photochemistry
- Dairies
- Breweries
- Food processing industry
- Biochemistry
- Analytical instruments
- Plastic production
- Color chemistry
- Pharmaceutical industry

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Flipper Solenoid Valve with Isolating Diaphragm **Type 121**

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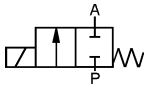
Technical Data

Circuit Function

A 2/2-way valve, normally closed



Other functions on request

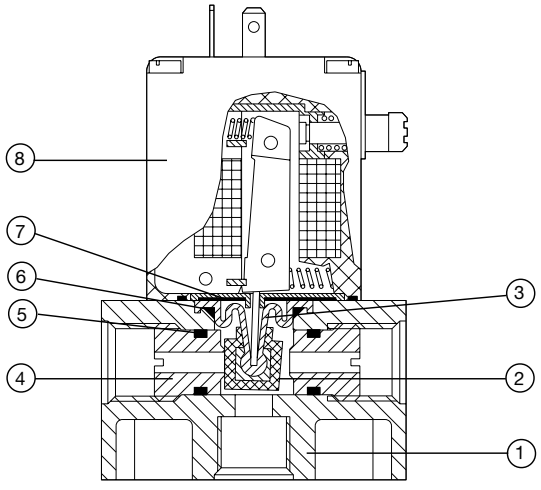
Operating Data (Valve)

Pressure range max.	0 - 58 PSI (see specifications)
Port connection	Threaded port G 1/4, G 3/8
Orifice	5/32" - 1/4"
Body material	Teflon (TE), 316 Stainless Steel (PVC, PVDF, PP on request)
Seal material	FPM (Viton), EPDM, FFKM (Simriz)
Fluids	EPDM: Alkalis, acids up to a medium concentration, washing and bleaching lyes. FPM: Oxydizing acids, salt solutions, exhaust gas. FFKM: Flavors, ether, ester kezones
Fluid temperature	14°F to +194°F (FPM) -22°F to +194°F (EPDM) -14°F to +122°F (FFKM)
Ambient temperature	max. +122°F
Max. viscosity	approx. 37 cSt
Response Times	opening: 15 - 25 ms closing: 15 - 25 ms

Operating Data (Actuator)

Operating voltages	110, 240 V/60 Hz 24 VDC 24 VUC
Voltage tolerance	±10 %
Power consumption	AC 40 VA (inrush), 18 VA/7 W (hold) DC 8.5 W UC 40 W (inrush), 3 W (hold)
Duty cycle	100% continuously rated with stainless steel body. intermittent operation: PTFE-body 40% 10 min. AC or DC use: 100% continuously rated
Cycling rate	approx. 600 c.p.m. AC or DC use: approx. 10 c.p.m.
Protection class	NEMA 4 (IP 65) with cable plug Type 2508
Electrical connection	Spade Connector (DIN 43650, form A)
Installation	As required

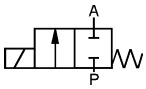
Materials



Schematic drawing shows stainless steel version

1	Valve body:	PTFE, 316 Stainless Steel (PVC, PVDF, PP on request)
2	Seal:	FFKM (Simriz), FPM (Viton), EPDM
3	Toggle pin:	Hostaflon TF 1502
4	Seat:	316 Stainless Steel
5	O-Rings:	FPM, EPDM
6	Seal:	PTFE
7	Isolating diaphragm:	FPM (Viton), EPDM, FFKM (Simriz)
8	Coil body:	Epoxy

Specifications - Ordering Chart (Other Versions on Request)



Normally closed

Stainless Steel 316 Valve Body

Port Connection	Orifice [inch]	C_V	SCFM (air)	Pressure Range [PSI]	Seal Material	Weight [oz]	ITEM - NO. Voltage / Frequency [V/Hz]		
							24/DC[1)]	120/60	240/60
G 1/4"	5/32	0.35	10.6	0 - 58	EPDM	11.3	457 457 W	457 458 F	457 459 G
G 1/4"	5/32	0.35	10.6	0 - 58	FPM	11.3	457 463 U	457 464 V	457 465 V
G 1/4"	1/4	0.71	21.2	0 - 29	EPDM	11.3	457 460 D	457 461 S	457 462 T
G 1/4"	1/4	0.71	21.2	0 - 29	FPM	11.3	457 466 X	457 467 Y	457 468 H

PTFE Valve Body

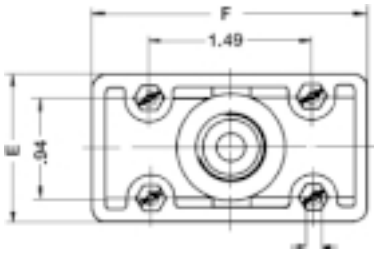
Port Connection	Orifice [inch]	C_V	SCFM (air)	Pressure Range [PSI]	Seal Material	Weight [oz]	ITEM - NO. Voltage / Frequency [V/Hz]		
							24/DC[1)]	120/60	240/60
G 3/8"	5/32	0.35	10.6	0 - 58	FFKM	11.3	457 452 Z	457 453 S	457 454 T
G 3/8"	1/4	0.71	21.2	0 - 29	FFKM	11.3	457 455 U	455 494 J	457 456 V

[1)] Universal current 24 VDC, 24 VAC

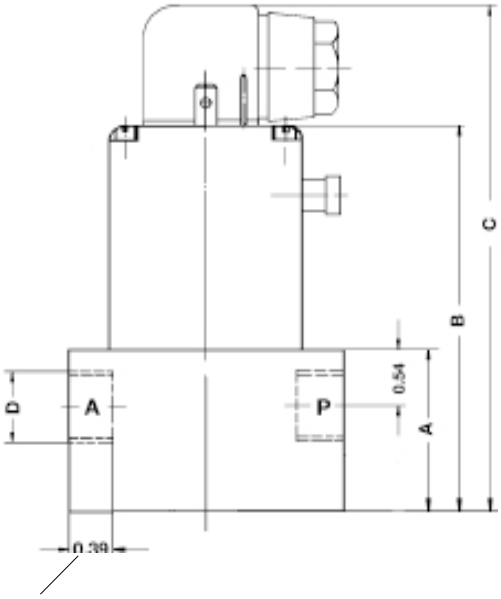
Options

- Vacuum
- Electrical feedback signaller
- Solvent joint, tube connection
- Electrical connection: molded in cable

Dimensions [inch]



M4 used depth ≈ 0.19

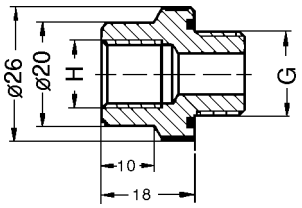


Max. screw-in depth for thread connection with plastic
Max. screw-in depth for stainless steel .051"

The seats on the valve have been set and must not be adjusted.

Body Material	Dimensions [inch]						
	A	B	C	D	E	F	G
PTFE	1.49	3.58	4.72	G 3/8	1.37	2.99	0.57
Stainless	1.41	3.50	4.64	G 1/4	1.25	2.99	0.51

Reducing Fitting



Dimension G: G 3/8"
Dimension H: G 1/4" or ø0.48"

Reducing Fitting	Material	O-Ring	Item No. Single Part
G 3/8 - G 1/4	PTFE	FPM	005 580 V
G 3/8 - G 1/4	PTFE	EPDM	005 646 A