# Flipper Solenoid Valve with Isolating Diaphragm for Analytical Applications

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



## **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 plungertype 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.

### 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

## Applications

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





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#### **Technical Data**

#### **Circuit Function**

A 2/2-way valve, normally closed



Other functions on request

Operating Data (Val	lve)	Operating Data (Actuator)			
Pressure range max.	0 - 4 bar (see specifications)	Operating voltages	110, 230 V/50 Hz 24 V/= 24 V/UC		
Port connection Orifice	Threaded port G1/4, G 3/8 DN 4.0 - 6.0 mm	Voltage tolerance	±10 %		
Body material	Teflon (TE), 1.4401 Stainless Steel (PVC, PVDF, PP on request)	Power consumption	AC 40 VA (inrush), 18 VA/7 W (hold) DC 8,5 W UC 40 W (inrush), 3 W (hold)		
Seal material	FPM, EPDM, FFKM (Simriz)	Duty cycle	100 % continuously rated with stainless steel body		
Fluids	EPDM: Alkalis, acids up to a medium concentration, washing and bleaching lyes. FPM: Oxydizing acids, salt solutions, exhaust gas.		intermittent operation: PTFE-body 40 % 10 min AC or DC use: 100 % continuously rated		
	FFKM: Flavors, ether, ester kezones	Cycling rate	approx. 600 c.p.m. AC or DC use: approx. 10 c.p.m.		
		Protection class	IP65 with cable plug type 2508		
Fluid temperature	-10 to +90 °C (FPM) -30 to +90 °C (EPDM) -10 to +90 °C (FFKM)	Electrical connection	Cable plug type 2508 (DIN 43650, form A) for 7 mm ø cable (supplied as standard)		
Ambient temperature	max. +50 °C	Installation	as required		
Max. viscosity	approx. 37 mm <sup>2</sup> /s				
Response Times	opening: 15 - 25 ms				
	closing: 15 - 25 ms				

#### Materials



Schematic drawing shows stainless steel version

- 1 Valve body:
- 2 Seal: 3 Toggle pin:
- Seat: 4
- 5 O-Rings:
- Seal: 6
- 7
- (PVC, PVDF, PP on request) FFKM FPM, EPDM Hostaflon TF 1502 Stainless steel 1.4401 FPM, EPDM PTFE Isolating diaphragm: FPM, EPDM, FFKM (Simriz) Ероху

PTFE, Stainless steel 1.4401

8 Coil body:

Specifications - Ordering Chart (Other Versions on Request)



#### Stainless steel 1.4401 valve body

Port	Orifice	Kv-Value	Q <sub>Nn</sub> -Value	Pressure	Seal	Weight	ITEM-No.		
connection		(water)	(air)	range	material		Voltage / Frequency [V/Hz]		
	[mm]	[m <sup>3</sup> /h]	[l/min]	[bar]		[kg]	24/DC	110/50	230/50
G 1/4	4.0	0.3	300	0 - 4	EPDM	0.32	136 290 Z	136 291 N	136 292 P
G 1/4	4.0	0.3	300	0 - 4	FPM	0.32	088 780 G	136 296 K	136 297 L
G 1/4	6.0	0.6	600	0 - 2	EPDM	0.32	136 293 Q	136 294 R	136 295 J
G 1/4	6.0	0.6	600	0 - 2	FPM	0.32	136 298 V	136 299 W	136 300 B

#### PTFE valve body

Port	Orifice	Kv-Value	Q <sub>Nn</sub> -Value	Pressure	Seal	Weight	ITEM-No.		
connection		(water)	(air)	range	material		Voltage / Frequency [V/Hz]		
	[mm]	[m <sup>3</sup> /h]	[l/min]	[bar]		[kg]	24/DC <sup>1)</sup>	110/50	230/50
G 3/8	4.0	0.3	300	0 - 4	FFKM	0.32	126 035 E	136 287 J	136 288 T
G 3/8	6.0	0.6	600	0 - 2	FFKM	0.32	125 243 S		136 289 U

<sup>1)</sup> Universal current 24 VDC, 24 VAC

#### Options

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

# Туре 121

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#### Dimensions [mm]







Max. screw-in depth for thread connection with plastic Max. screw-in depth for stainless steel 13 mm

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

Body	Dimensions [mm]						
Material	А	В	С	D	E	F	G
PTFE	38	91	120	G 3/8	35	76	14,5
Stainless	36	89	118	G 1/4	32	76	13

#### **Reducing Fitting**



Dimension G: G 3/8 Dimension H: G 1/4 oder ø 12,2

Material	O-Ring	ltem-No. Single-part
PTFE	FPM	005 580 V
PTFE	EPDM	005 646 A
	Material PTFE PTFE	Material O-Ring PTFE FPM PTFE EPDM



We reserve the right to make technical changes without notice.