

2/2- or 3/2-Way, NPT 1/4



### Advantages/Benefits

- ▶ Hermetic isolation of fluid from the actuator
- ▶ Insensitive to abrasive and slightly contaminated fluids
- ▶ Long service life, even in dry-run conditions
- ▶ Body materials: PP, PVDF
- ▶ Normally closed (2/2-way), Universal function (3/2-way)
- ▶ Lockable manual override standard
- ▶ Specific cleaning and testing available
- ▶ Options:  
Ex-proof, impulse, vacuum or low power versions

### Design/Function

This direct-acting 2- or 3-way solenoid valve has a flipper as the switching element. The special design of this device isolates the actuator from the medium, which makes the flipper valve less sensitive to contaminated fluids than the plunger-type valve, and provides a long service life even under dry-run conditions. The valve is available with several circuit functions.

When the valve is energized the armature is pulled against a spring. The solenoid epoxy encapsulation efficiently dissipates the heat generated by the coil.

### Applications

- Aggressive gases and liquids
- Demineralized water
- Pure fluids
- Water- and gas analysis
- Medical technology
- Pharmaceutical industry
- Laboratory technology

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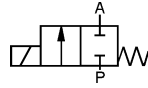
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Easy Fluid Control Solutions

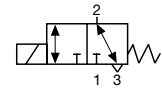
## Technical Data

### Circuit Function

**A** 2/2-way valve,  
normally closed



**T** 3/2-way valve, direct acting,  
universal function, any flow direction



### Operating Data (Valve)

Pressure range max.	0 - 174 PSI (see specifications)
Port connection Orifice	Threaded port NPT 1/4 5/64 - 1/8 inch (others on request) Sub-base (others on request)
Body material	Polypropylene (PP) Polyvinylidenfluoride (PVDF)
Seal material	FPM (Viton), EPDM
Fluids	EPDM: Alkalis, acids up to a medium concentration, alkaline washing and bleaching lyes. FPM (Viton): Oxydizing acids, salt solutions, exhaust gas
Fluid temperature	-22 to 176°F (EPDM) 32 to 176°F (FPM)
Ambient temperature	max. 131°F
Max. viscosity	Approx. 1.45 in <sup>2</sup> /s

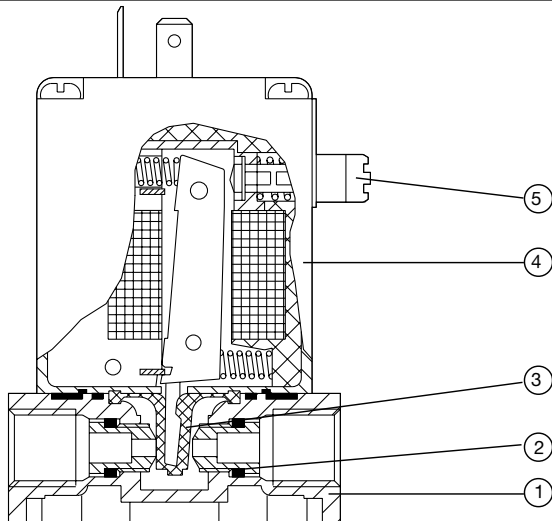
### Operating Data (Actuator)

Operating voltages	110, 230 V/50 Hz, 24 VDC
Voltage tolerance	±10 %
Power consumption	AC 30 VA (inrush) 15 VA / 8 W (hold) DC 8 W 5 W (on request)
Duty cycle	intermittent operation 40 % 30 min.
Cycling rate	approx 1000 c.p.m.
Protection class	NEMA 4 (IP 65) with cable plug Type 2508
Electrical connection	cable plug Type 2508 (DIN 43650, form A) for 7 mm ø cable (supplied as standard)
Installation	as required

### Response Times

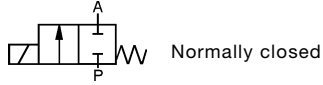
Circuit Function	Opening [ms]		Closing [ms]	
	AC	DC	AC	DC
A and T	Approx. 8	10 - 17	Approx. 15	15 - 20

### Materials



- |                        |                   |
|------------------------|-------------------|
| 1 Valve body:          | PP, PVDF          |
| 2 O-Rings:             | FPM (Viton), EPDM |
| 3 Isolating diaphragm: | FPM (Viton), EPDM |
| 4 Coil body:           | Epoxy             |
| 5 Manual override:     | PA                |

### Specifications - Ordering Chart (Other Versions on Request)

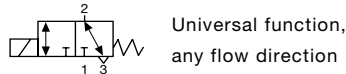


#### PP valve body

Port connection	Orifice [inch]	C <sub>v</sub>	Q <sub>Nt</sub> -Value (air) [l/min]	Pressure range [PSI]	Seal material	Weight [lb]	ITEM - No. Voltage / Frequency [V/Hz]		
							24/DC	120/60	240/60
NPT 1/4	5/64	0.15	120	0-174	EPDM	0.88	457 472 W	457 473 W	457 474 X
NPT 1/4	5/64	0.15	120	0-174	FPM	0.88	457 469 A	457 470 F	457 471 U
NPT 1/4	1/8	0.29	250	0-145	EPDM	0.88	454 952 T	453 648 R	457 476 Z
NPT 1/4	1/8	0.29	250	0-145	FPM	0.88	451 963 T	454 841 U	457 475 Y

#### PVDF valve body

Port connection	Orifice [mm]	C <sub>v</sub>	Q <sub>Nt</sub> -Value (air) [l/min]	Pressure range [PSI]	Seal material	Weight [lb]	ITEM - No. Voltage / Frequency [V/Hz]		
							24/DC	120/60	240/60
NPT 1/4	5/64	0.15	120	0-174	EPDM	0.88	457 492 J	457 493 K	457 494 L
NPT 1/4	5/64	0.15	120	0-174	FPM	0.88	457 489 X	457 490 U	457 491 R
NPT 1/4	1/8	0.29	250	0-145	EPDM	0.88	450 922 V	450 924 X	457 497 P
NPT 1/4	1/8	0.29	250	0-145	FPM	0.88	454 200 N	457 495 M	457 496 N



#### PP valve body

Port connection	Orifice [inch]	C <sub>v</sub>	Q <sub>Nt</sub> -Value (air) [l/min]	Pressure range [PSI]	Seal material	Weight [lb]	ITEM - No. Voltage / Frequency [V/Hz]		
							24/DC	120/60	240/60
NPT 1/4	5/64	0.15	120	0-174	EPDM	0.88	457 480 S	457 481 P	457 482 Q
NPT 1/4	5/64	0.15	120	0-174	FPM	0.88	—	—	457 479 C
NPT 1/4	1/8	0.29	250	0-116	EPDM	0.88	457 486 L	457 487 M	457 488 W
NPT 1/4	1/8	0.29	250	0-116	FPM	0.88	—	—	457 485 K

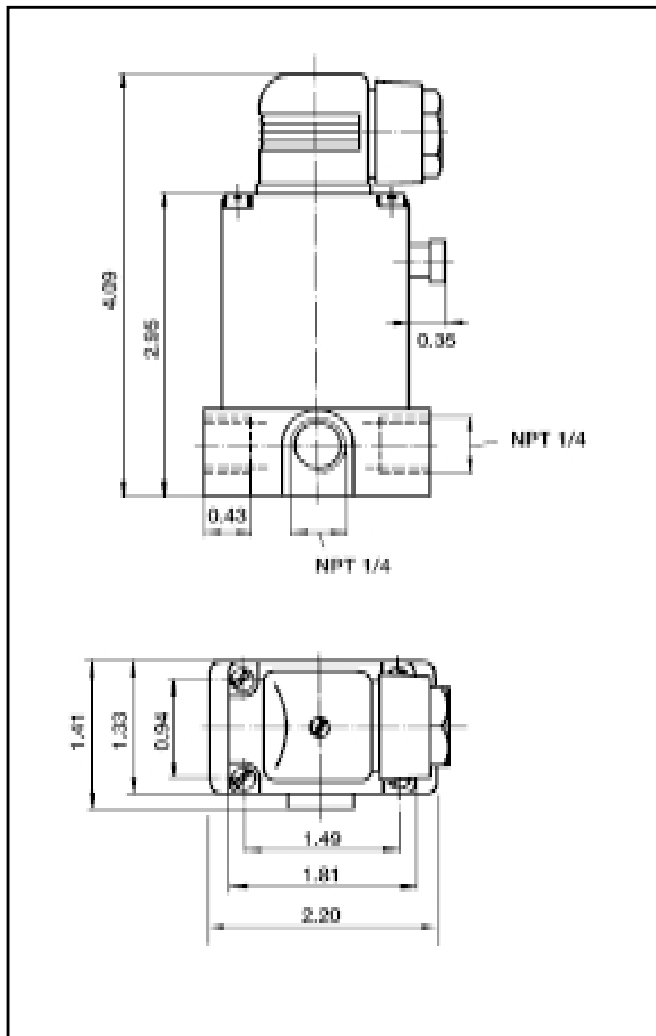
#### PVDF valve body

Port connection	Orifice [inch]	C <sub>v</sub>	Q <sub>Nt</sub> -Value (air) [l/min]	Pressure range [PSI]	Seal material	Weight [lb]	ITEM - No. Voltage / Frequency [V/Hz]		
							24/DC	120/60	240/60
NPT 1/4	5/64	0.15	120	0-174	EPDM	0.88	457 501 T	457 502 U	457 503 V
NPT 1/4	5/64	0.15	120	0-174	FPM	0.88	457 498 Y	457 499 Z	457 500 E
NPT 1/4	1/8	0.29	250	0-116	EPDM	0.88	457 507 Z	457 508 A	457 509 B
NPT 1/4	1/8	0.29	250	0-116	FPM	0.88	457 504 W	457 505 X	457 506 Y

### Options

- Diagnosis: Electrical feedback signaller
- Specific clean and testing
- Vacuum version
- Impulse coil
- DN 4 mm

Dimensions [inch]



*Easy* ON/OFF Control



-60%

