

SOLENOID VALVES

100 SERIES

Basic Models and Functions

Item	Basic model	100E1 (M100E1 ^{Note})	100-4E1	100-4E2
		Direct piping, T, F, U, L type manifolds		
	A type manifold	—	A100-4E1	A100-4E2
Number of positions	2 positions			
Number of ports	2, 3 ports		5 ports	
Valve function	Normally closed (NC) or Normally open (NO)		Single solenoid	Double solenoid

Remark: For optional specifications and order codes, see p.149~150.

Note: M100E1 is a dedicated valve for the manifold. For details, see "About M100E1" on p.149.

Specifications

Item	Basic model	100E1 (M100E1)	100-4E1	100-4E2
		Direct piping, T, F, U, L type manifolds		
	A type manifold	—	A100-4E1	A100-4E2
Media	Air			
Operation type	Direct acting type			
Effective area [Cv]	mm ²	5.0 [0.28]	3.4 [0.19]	3.0 [0.17]
Port size	Rc1/8			
Lubrication	Not required			
Operating pressure range	MPa{kgf/cm ² } [psi.]	0~0.9 {0~9.2} [0~131]		0.2~0.7 {2~7.1} [29~102]
Proof pressure	MPa{kgf/cm ² } [psi.]	1.35 {13.8} [196]		1.05 {10.7} [152]
Response time ^{Note} ms	DC24V	20/20 or below		20 or below
ON/OFF	AC100V, AC200V	20/20 or below		20 or below
Maximum operating frequency	Hz	5		
Minimum time to energize for self holding	ms	—		
Operating temperature range (atmosphere and media) °C [°F]		0~50 [32~122]		5~50 [41~122]
Shock resistance m/s ² {G}	Lateral direction	1373.0 {140.0}		
	Axial direction	392.3 {40.0}	147.1 {15.0}	
Mounting direction	Any			

Note: Values when air pressure is 0.5MPa {5.1 kgf/cm²} [73psi.]. Values of double solenoid valves are switching time from the opposite position.

Solenoid Specifications

Item	Rated voltage	DC24V	AC100V		AC200V	
	Type		DC type	Flywheel diode type		
Operating voltage range	V	21.6~26.4 (24 ± 10%)	90~110 (100 ± 10%)		180~220 (200 ± 10%)	
Current ^{Note 1} (when rated voltage is applied)	Frequency Hz	—	50	60	50	60
	Energizing ^{Note 2} mA(r.m.s)	270 (6.5W) {282 (6.8W)}	100 {107}	95 {101}	48 {50}	46 {48}
Maximum allowable leakage current	mA	20	10		5	
Insulation resistance	MΩ	10				
Wiring type and lead wire length	Standard	Grommet type: 300mm [11.8in.]				
	Optional	With DIN connector				
Color of lead wire		Red {Red (+), Blue (-)} ^{Note 1} Red (+), Black (-) ^{Note 3}	Yellow, Black		White, Black	
Color of LED indicator (optional)		Red	Yellow		Green	
Surge suppression	Standard	—				
	Optional	Flywheel diode	Flywheel diode ^{Note 4}			

Notes: 1. Figures in brackets [] are for solenoids with LED indicators.

2. Since the AC types have built-in flywheel diodes, the starting current value and energizing current value are virtually the same.

3. For solenoids with surge suppression, and solenoids with surge suppression and LED indicators.

4. Since the AC model has a built-in flywheel diode, they are sometimes not turned on by the solid-state relay (SSR) with zero-cross function.

For this reason, use it only after confirming the solid-state relay's ratings and precautions.