

# Product Profile

## Intrinsically Safe Explosion-proof System

### 5 Port Solenoid Valve

# Series 51-SY

#### Compliant to International Standard (IEC 79)

The 51-SY series (system which combines a pilot valve and SMC specific barrier (safety retainer)) is certified to have explosion-proof performance of ExialIBT4, which is compliant with the "New Technical Standard" which was established based on the international standard (IEC 79).

#### ■ Can be selected from 3 types of connectors

- L plug connector (L)
- L plug connector with a cover (LL)
- Terminal block (TT)

#### ■ Can be selected from 5 barriers



#### Specifications

##### Body Ported

Series		51-SY5000	51-SY7000	51-SY9000
Fluid		Air		
Internal pilot operating pressure range (MPa)	2 position single	0.15 to 0.7		
	2 position double	0.1 to 0.7		
	3 position	0.2 to 0.7		
Ambient and fluid temperature (°C)		-10 to 50 (No freezing)		
Max. operating frequency (Hz)	2 position single, double	5		
	3 position	3		
Manual override (Manual operation)		Non-locking push type, Push-turn locking slotted type, Push-turn locking lever type		
Pilot exhaust method		Common exhaust type for main and pilot valve		
Lubrication		Not required		
Mounting orientation		Unrestricted		
Impact/Vibration resistance (m/s <sup>2</sup> ) <small>Note)</small>		150/30		
Enclosure		IP30 (L-type), IP40 (LL-type), IP65 (TT-type)		



\* Based on IEC60529

Note) Impact resistance: No malfunction occurred when it is tested in the axial direction and at the right angles to the main valve and armature in both energized and de-energized states every once for each condition. (Values at the initial period)

Vibration resistance: No malfunction occurred in a one-sweep test between 45 and 2000 Hz. Test was performed at both energized and de-energized states in the axial direction and at the right angles to the main valve and armature. (Values at the initial period)

##### Base Mounted

Series			51-SY5000	51-SY7000	51-SY9000
Fluid			Air		
Internal pilot operating pressure range (MPa)		2 position single	0.15 to 0.7		
		2 position double	0.1 to 0.7		
		3 position	0.2 to 0.7		
External pilot operating pressure range (MPa)	Operating pressure range		-100 kPa to 0.7		
	Pilot pressure range	2 position single	0.25 to 0.7		
		2 position double	0.25 to 0.7		
		3 position	0.25 to 0.7		
Ambient and fluid temperature (°C)			-10 to 50 (No freezing)		
Max. operating frequency (Hz)		2 position single, double	5		
		3 position	3		
Manual override (Manual operation)			Non-locking push type, Push-turn locking slotted type, Push-turn locking lever type		
Pilot exhaust method		Internal pilot	Common exhaust type for main and pilot valve		
		External pilot	Pilot valve individual exhaust		
Lubrication			Not required		
Mounting orientation			Unrestricted		
Impact/Vibration resistance (m/s <sup>2</sup> ) <small>Note)</small>			150/30		
Enclosure			IP30 (L-type), IP40 (LL-type), IP65 (TT-type)		



\* Based on IEC60529

Note) Impact resistance: No malfunction occurred when it is tested in the axial direction and at the right angles to the main valve and armature in both energized and de-energized states every once for each condition. (Values at the initial period)

Vibration resistance: No malfunction occurred in a one-sweep test between 45 and 2000 Hz. Test was performed at both energized and de-energized states in the axial direction and at the right angles to the main valve and armature. (Values at the initial period)



Refer to a separate catalog, CAT.ES11-90 for the detailed specifications.