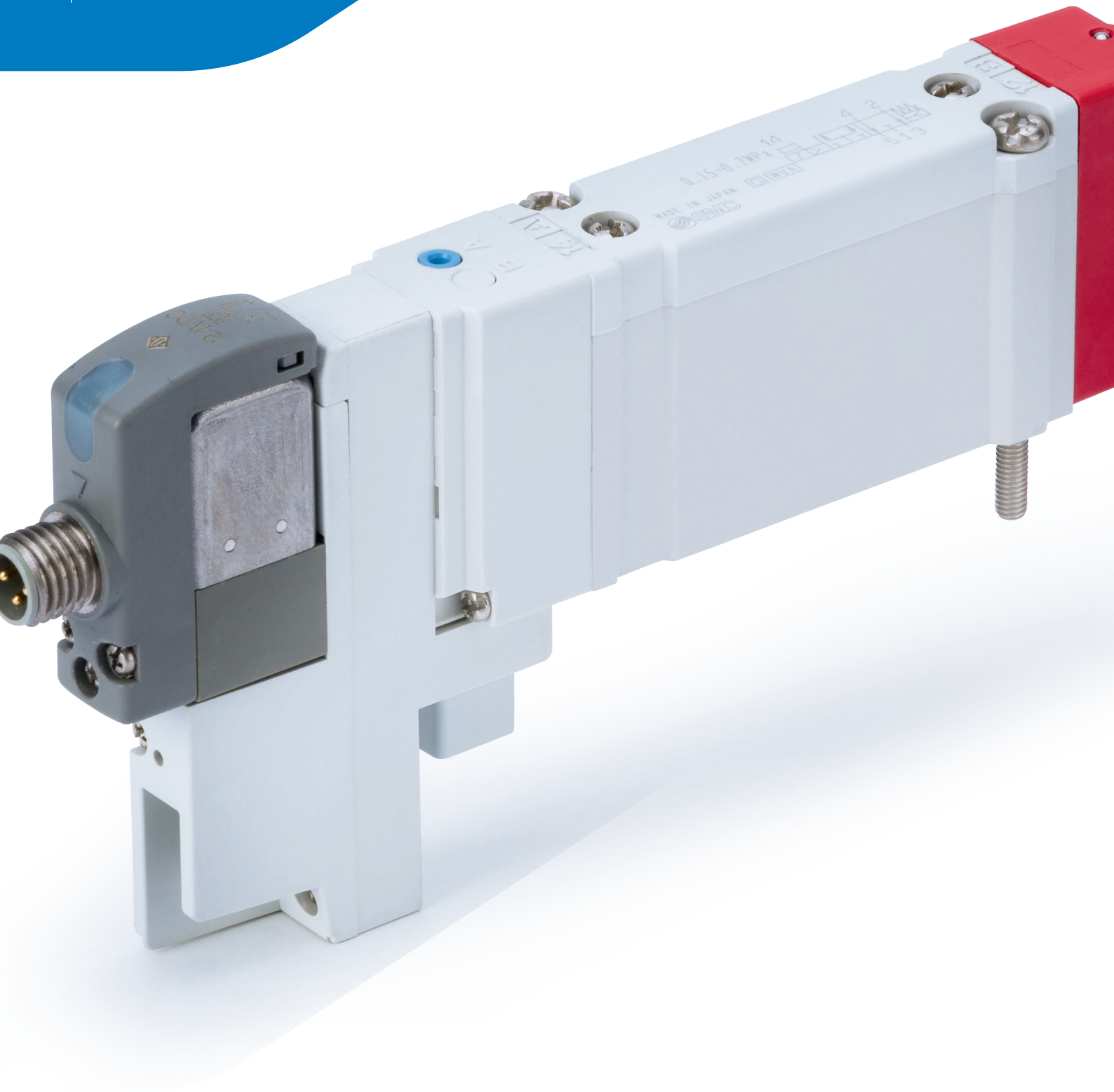
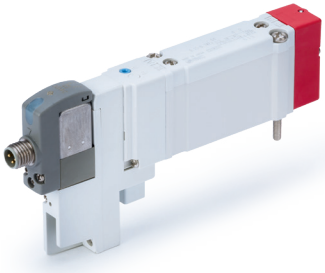
SMC

Expertise – Passion – Automation





Your safety in our focus

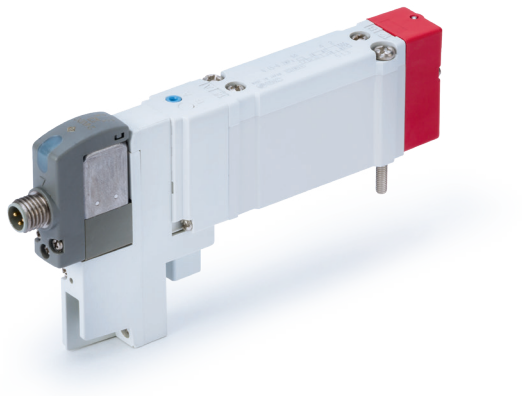
Safety-related products

Pilot air control valve with M8 connector (WA Type IEC60947-5-2)

SY-X74 Series

Pilot air control valve with M8 connector
SY-X74 Series

We focus on machinery safety as a key part of our product development strategy. This version will help satisfy your machine safety system requirements.



Main features

A pilot air control valve with M8 connector
The valve is used to control the pilot air supply to externally piloted valves on the manifold. A M8 connector integrated into the valve allows for individual electrical control. The valve can also be used with pressure detection.

Validated according to ISO 13849-2
This product is capable of meeting the relevant basic and well-tried safety principles.
Please download our reliability data for the details.

SISTEMA library is available
SY safety-related valves data are additionally integrated into the SISTEMA software tool.
Download the library file from our website and be ready to build your safety function.

SY series valves
Benefit from the high versatility this series gives you and create your own configuration, tailored to your needs.

Applications

Controlling the pilot air supply to externally piloted manifold mounted valves.

How to order

SY5100 □ – □□ 1 – X74

SY5100 □ – □□ 1 – □□ – X74

① ② ③ ④ ⑤

① Coil specifications

—	Standard
T	Power saving circuit [1]

1) Power saving circuit is only available in the "Z" type.

② Rated voltage

5	24 VDC
6	12 VDC

③ Light & surge suppressor

—	Without light & surge suppressor (non polar)
S	With surge suppressor
Z	With light & surge suppressor
R	With surge suppressor (non polar)
U	With light & surge suppressor (non polar)

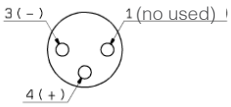
④ Thread type

—	Rc
F	G
N	NPT
T	NPTF

⑤ A, B port size

01	1/8"
C4	One-touch fittings for Ø 4 tube
C6	One-touch fittings for Ø 6 tube
C8	One-touch fittings for Ø 8 tube

Detail of Z



Note) Refer to the reliability data for the latest "How to order".

Applicable manifold block assemblies

Part number	Manifold series
SY50M-2-14SA-□□	SY5000
SY50M-2-14DA-□□	
SY50M-2-20A-□ □	SY5000 (Through wiring)
SY70M-2-19SA-□□	SY7000
SY70M-2-19DA-□□	

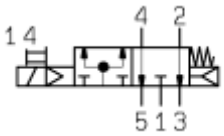
Valve specifications

Valve type		5 port solenoid valve, M8 connector
Valve type		Rubber seal
Type of actuation		2-position single/spring and air return type
Fluid		Air
Internal pilot operating pressure range [MPa]		0.15 to 0.7
Ambient and fluid temperature [°C]		-10 to 50 (No freezing)
Manual override		Non-locking push type
Max. operating frequency [Hz]		5
Min. operating frequency		1 cycle every 30 days
Lubrication		Not required
Mounting orientation		Unrestricted
Impact/Vibration resistance [1] **[m/s²]**		150/30
Enclosure		IEC60529 standard IP65
Filtration		5 µm filtration or smaller
Coil rated voltage [VDC]		24, 12
Allowable voltage fluctuation [V]		Standard type: -10 to +10 % S/Z type: 24 VDC: -7 to +10 % 12 VDC: -4 to +10 % T type: 24 VDC: -8 to +10 % 12 VDC: -6 to +10 %
Power consumption [W]		0.35 (with indicator light 0.4) with power saving circuit: 0.1 (with indicator light only) (inrush 0.4, holding 0.1)
Surge voltage suppressor		Diode (Varistor for non-polar type)
Indicator light		LED
Pilot exhaust type	**Internal pilot**	Main/pilot valve common exhaust

1) 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 energised and de-energised states every time in 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 energised and de-energised states in the axial direction and at right angles to the main valve and armature. (Values at the initial period)

Symbols

Internal pilot



For dimensions and other details refer to
SY catalogue and SY-X74 drawing at www.smc.eu

Manifold flow characteristics [1) 2)]

Plug-in connector connecting base

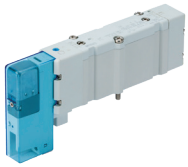
Series	Piping option	Port size		Valve flow-rate characteristics					
				1→4/2 (P→A/B)			4/2→5/3 (A/B→E)		
		1, 5, 3 (P, EA, EB)	4, 2 (A, B)	C [dm³/(s·bar)]	b	Q [l/min] (ANR) [3)]	C [dm³/(s·bar)]	b	Q [l/min] (ANR) [3)]
SY5000	**Side ported**	C10	C8	3.3	0.30	839	3.6	0.17	848
	Bottom ported	C10	C8	3.3	0.29	834	4.2	0.26	1042

1) The value is for manifold base with 5 stations and individually operated 2-position type.
2) These values are applicable to rubber seal type valves.
3) These values have been calculated according to ISO 6358 and indicate the flow rate under standard conditions with an inlet pressure of 0.6 MPa (relative pressure) and a pressure drop of 0.1 MPa.

Note

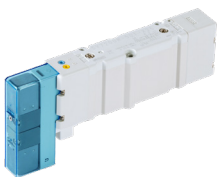
For confirmation of detailed specifications and dimensions, refer to product drawings, instruction manual, reliability data and catalogue at www.smc.eu.

Other related SY products

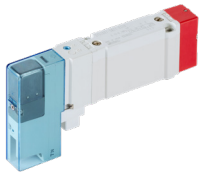


5 port solenoid valve with spring return spool
SY-X350 Series

5 port solenoid valve with spool position detection
SY-X30 Series



5 port solenoid valve with detent
SY-X25 Series



External pilot air control valve
SY-X310 Series

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Release EP
LEAF-SY-X74-A-UK