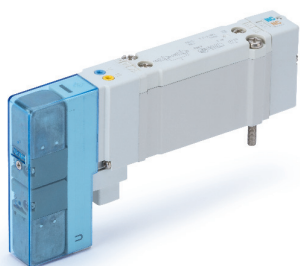
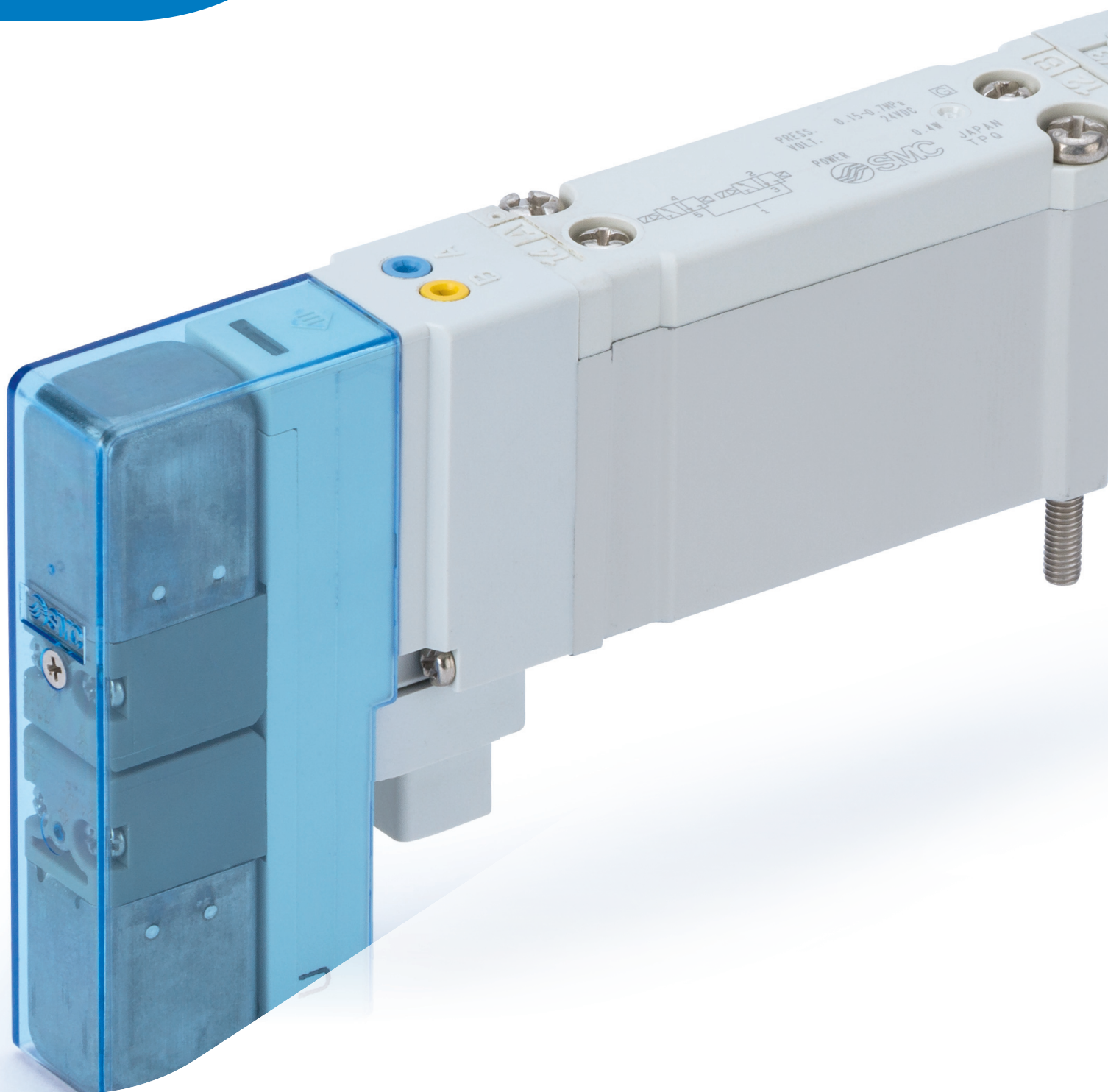




Expertise – Passion – Automation



Your safety in our focus

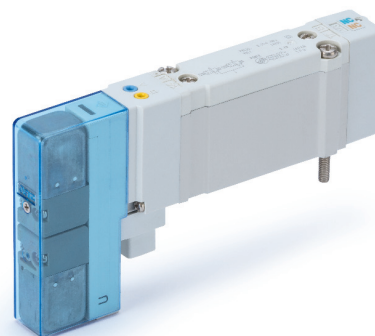
Safety-related products

2x3/2-4 position dual 3 port valve with spring return spool

SY-X67 Series

2x3/2-4 position dual 3 port valve with spring return spool SY-X67 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

▶ Spring return spool - the concept

SY-X67 version contains a spring to fulfil the well-trying safety principle “well-trying spring” according to ISO 13849-2. In case of a pressure loss or drop, the spool moves to its safe position. This valve is widely used for machinery safety applications, due to its enhanced stability.

▶ SY series valves

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

▶ SISTEMA library is available

SY safety-related valves data are additionally integrated into the SISTEMA software tool.

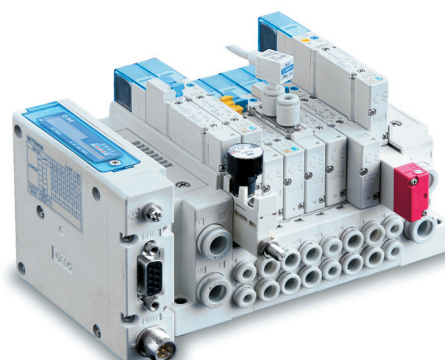
Download the library file from our website and be ready to build your safety function.

▶ Validated according to ISO 13849-2

This product is capable of meeting the relevant basic and well-trying safety principles.

Please download our reliability data for the details.

▶ External pilot type



Applications

In the case of a system and pilot pressure loss, the spool moves to its de-energised position irrespective of the applied electrical control signal.

How to order

Base mounted SY 5 00R - 1 - - X67

Top ported SY 5 30R - 1 - - - X67

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② Type of actuation

A	4-position dual 3 port valve N.C./N.C.
B	4-position dual 3 port valve N.O./N.O.
C	4-position dual 3 port valve N.C./N.O.

② Pilot type

—	Standard (0.7 MPa)
B	Quick response type (0.7 MPa)

③ Coil type

—	Standard
T	With power saving circuit

④ Rated voltage

5	24 VDC
6	12 VDC

⑤ Light/surge voltage suppressor and common specification

—	W/o indicator light & surge suppressor
R	W/surge suppressor (non-polar)
U	W/indicator light & surge suppressor (non-polar)
S	W/surge suppressor (positive common)
Z	W/indicator light & surge suppressor (positive common)
NS	W/surge suppressor (negative common)
NZ	W/indicator light & surge suppressor (negative common)

1) Only "Z" and "NZ" type is available for the product with power saving circuit.

⑥ Manual override

—	Non-locking push type
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⑦ 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
N3	One-touch fittings for Ø 5/32" tube
N7	One-touch fittings for Ø 1/4" tube
N9	One-touch fittings for Ø 5/16" tube

⑧ Thread type

—	Rc
F	G
N	NPT
T	NPTF

⑨ Type of mounting screw

—	Round head combination screw
B	Hexagon socket head cap screw
K	Round head combination screw (falling-out -prevention type)
H	Hexagon socket head cap screw (falling-out -prevention type)

Best selling part numbers

Part number	Max flow rate [l/min]	Operating pressure range [MPa]
SY5A00R-□1-X67	1042	0.25 to 0.7
SY5B00R-□1-X67		
SY5C00R-□1-X67		
SY5A30R-□1-□-X67		
SY5B30R-□1-□-X67		
SY5C30R-□1-□-X67		

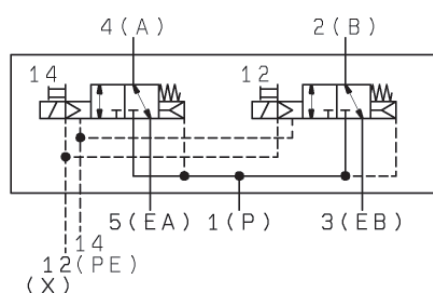
Valve specifications

Valve type			2x3/2-4 position dual 3 port valve with spring return spool
Fluid			Air
External pilot operating pressure range [MPa]	Operating pressure range		0.25 to 0.7
	Pilot pressure range	4-position dual 3 port valve	
Ambient and fluid temperature [°C]			-10 to 50 (No freezing)
Max. operating frequency [Hz]	SY5000	4-position dual 3 port valve	5
Manual override			Non-locking push type
Lubrication			Not required
Pilot exhaust type	External pilot		Pilot valve individual exhaust
Mounting orientation			Unrestricted
Impact/Vibration resistance ¹⁾ [m/s ²] [EN 60068]			150/30
Enclosure			IP67
Coil rated voltage [VDC]			24
Allowable voltage fluctuation [V] ²⁾			±10 % of rated voltage
Power consumption [W]	Standard		0.35 (17 mA)
Indicator light			LED
Required air quality			5 µm filtration or smaller

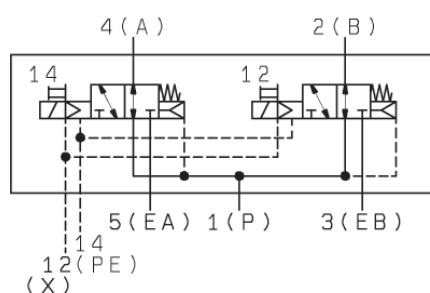
- 1) Impact resistance: No malfunction occurred when it is tested in the axial direction and at the right angles to the main valve and armature in both energised and de-energised states every time in each condition. (Values at the initial period)
Vibration resistance: No malfunction occurred in a one-sweep 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)
- 2) Due to voltage drops by the internal circuit in S/Z type and T type (with power saving circuit), use within the allowable voltage fluctuation as follows:
S/Z type 24 VDC: -7 % to +10 %; T type 24 VDC: -8 % to +10 %
- 3) For technical data which are not shown in this document, please see the instruction manual or the standard catalogue at www.smc.eu.

Symbols

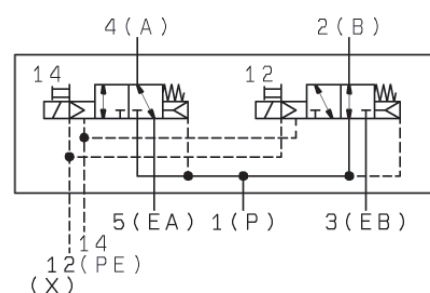
SY5A00R



SY5B00R



SY5C00R



Manifold flow characteristics ^{1) 2)}

Plug-in metal base

Series	Piping option	Port size		Valve flow-rate characteristics					
		1, 5, 3 (P, EA, EB)	4, 2 (A, B)	1→4/2 (P→A/B)			4/2→5/3 (A/B→E)		
				C [dm ³ /(s·bar)]	b	Q [l/min] (ANR) ³⁾	C [dm ³ /(s·bar)]	b	Q [l/min] (ANR) ³⁾
SY5000	SS5Y5-50 (Side ported)	1/4	C8	2.6	0.28	653	2.6	0.14	603
	SS5Y5-51 (Bottom ported)	1/4	C8	2.7	0.35	709	2.8	0.20	671
	SS5Y5-52 (Top ported)	1/4	C8	2.6	0.26	645	3.1	0.13	715

Resin base

Series	Piping option	Port size		Valve flow-rate characteristics					
		1, 5, 3 (P, EA, EB)	4, 2 (A, B)	1→4/2 (P→A/B)			4/2→5/3 (A/B→E)		
				C [dm ³ /(s·bar)]	b	Q [l/min] (ANR) ³⁾	C [dm ³ /(s·bar)]	b	Q [l/min] (ANR) ³⁾
SY5000	SS5Y5-10 (Side ported)	C10	C8	3.3	0.30	839	3.6	0.17	848
	SS5Y5-11 (Bottom ported)	C10	C8		0.29	834	4.2	0.26	1042
	SS5Y5-12 (Top ported)	C10	C8	2.8	0.27	699	3.8	0.23	926

1) The value is for manifold base with 5 stations and individually operated 2-position type.

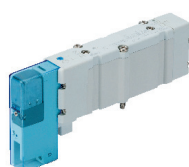
2) These values are applicable to rubber seal type valves.

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



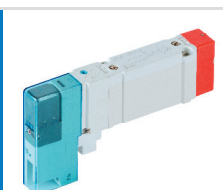
**5 port solenoid valve with
spring return spool**
SY-X350 Series



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



**2x3/2-4 position dual 3 port
solenoid valve with spring
return spool**
SY-X323 Series



**External pilot air control
valve**
SY-X310 Series



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SMC Corporation

Akihabara UDX 15F, 4-14-1
Sotokanda, Chiyoda-ku, Tokyo 101-0021, JAPAN
Phone: 03-5207-8249
Fax: 03-5298-5362

Austria	+43 (0)2262622800	www.smc.at	office@smc.at
Belgium	+32 (0)33551464	www.smc.be	info@smc.be
Bulgaria	+359 (0)2807670	www.smc.bg	office@smc.bg
Croatia	+385 (0)13707288	www.smc.hr	office@smc.hr
Czech Republic	+420 541424611	www.smc.cz	office@smc.cz
Denmark	+45 70252900	www.smc.dk.com	smc@smcdk.com
Estonia	+372 651 0370	www.smc.ee	info@smcee.ee
Finland	+358 207513513	www.smc.fi	smc@smc.fi
France	+33 (0)164761000	www.smc-france.fr	supportclient@smc-france.fr
Germany	+49 (0)61034020	www.smc.de	info@smc.de
Greece	+30 210 2717265	www.smc-hellas.gr	sales@smc-hellas.gr
Hungary	+36 23513000	www.smc.hu	office@smc.hu
Ireland	+353 (0)14039000	www.smc-automation.ie	sales@smc-automation.ie
Italy	+39 03990691	www.smc-italia.it	mailbox@smc-italia.it
Latvia	+371 67817700	www.smc.lv	info@smc.lv

Lithuania	+370 5 2308118	www.smc.lt	info@smc.lt
Netherlands	+31 (0)205318888	www.smc.nl	info@smc.nl
Norway	+47 67129020	www.smc-norge.no	post@smc-norge.no
Poland	+48 222119600	www.smc.pl	office@smc.pl
Portugal	+351 214724500	www.smc.eu	apoiocliente@smc-smc.es
Romania	+40 213205111	www.smcromania.ro	smcromania@smcromania.ro
Russia	+7 (812)3036600	www.smc.eu	sales@smcru.com
Slovakia	+421 (0)413213212	www.smc.sk	office@smc.sk
Slovenia	+386 (0)73885412	www.smc.si	office@smc.si
Spain	+34 945184100	www.smc.eu	post@smc-smc.es
Sweden	+46 (0)86031240	www.smc.nu	smc@smc.nu
Switzerland	+41 (0)523963131	www.smc.ch	info@smc.ch
Turkey	+90 212 489 0 440	www.smc-turkey.com.tr	info@smc-turkey.com.tr
UK	+44 (0)845 121 5122	www.smc.uk	sales@smc.uk

South Africa	+27 10 900 1233	www.smcza.co.za	zasales@smcza.co.za
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