

5 port solenoid valve with detent SY-X25 Series



Manifold Flow characteristics ¹⁾

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) ²⁾	C [dm ³ /(s·bar)]	b	Q [l/min] (ANR) ²⁾
SY3000	Side ported	1/8	C6	1.1	0.19	262	1.1	0.15	256
	Bottom ported	1/8	C6	1.2	0.31	307	1.2	0.14	278
SY5000	Side ported	1/4	C8	2.6	0.28	653	2.6	0.14	603
	Bottom ported	1/4	C8	2.7	0.35	709	2.8	0.20	671
SY7000	Side ported	3/8	C10	3.8	0.27	948	4.0	0.20	958
	Bottom ported	3/8	C10	4.1	0.34	1070	4.8	0.20	1150

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) ²⁾	C [dm ³ /(s·bar)]	b	Q [l/min] (ANR) ²⁾
SY3000	Side ported	C8	C6	1.4	0.30	356	1.6	0.19	381
	Bottom ported	C8	C6	1.2	0.29	303	1.3	0.19	310
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
SY7000	Side ported	C12	C12	6.2	0.23	1511	5.9	0.20	1413
	Bottom ported	C12	C12	6.2	0.25	1529	6.6	0.21	1590

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

2) These values have been calculated according to ISO 6358 and indicate the flow rate under standard conditions with an inlet pressure of 87 psi (0.6 MPa) (relative pressure) and a pressure drop of 14.5 psi (0.1 MPa).

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

Dimensions

Dimensions are the same as the standard product. Please refer to the catalogue CAT.EUS11-103Dd at smc.eu.

Other SY safety specials



5 port solenoid valve with return spoolspring
SY-X350 Series



5 port solenoid valve with spool detection
SY-X30 Series



Pilot pressure control valve with spool detection
SY-X31 Series



External pilot pressure control valve
SY-X310 Series

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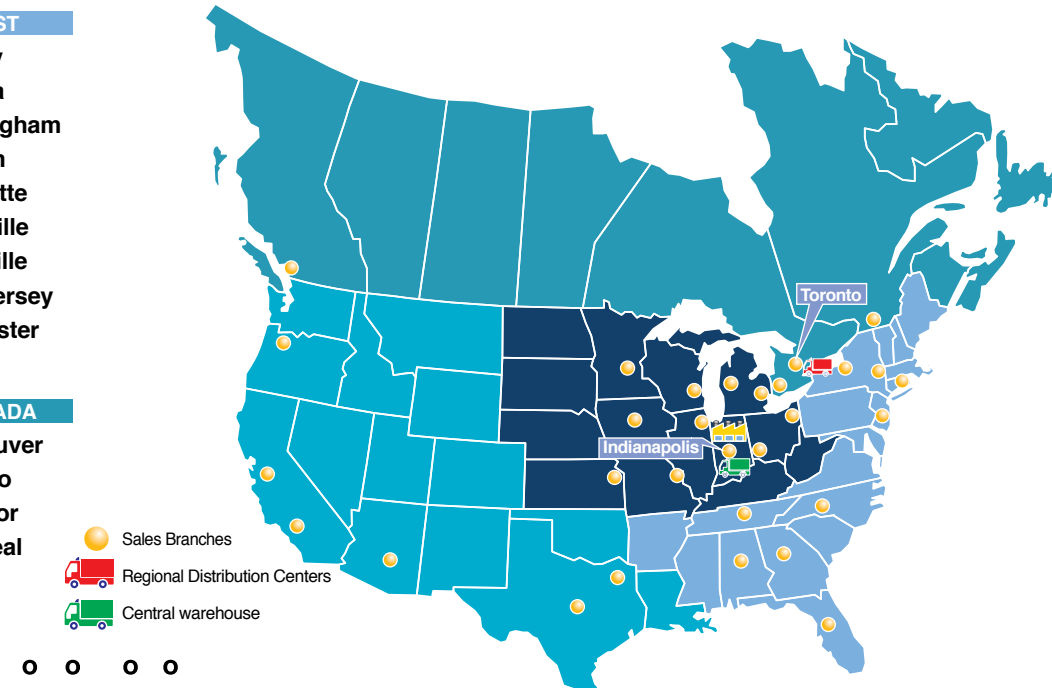
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5 port solenoid valve with detent

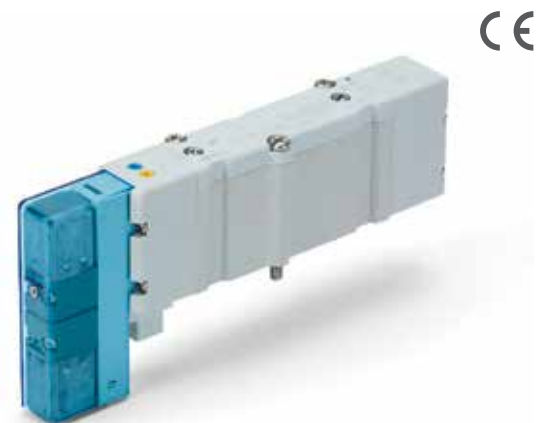
SY-X25 Series

NC400-A

5 port solenoid valve with detent SY-X25 Series



► We focus on machinery safety as a key part of our product development strategy. We have just developed a new version of our SY valve that will help you to satisfy your machine safety system requirements.



Main Features

► A valve with detent - The concept

The SY-X25 versions contain a detent that fulfils the well-tried safety principle "safe position", according to ISO 13849-2. This means that in case of pressure loss or in the case of shock or vibration within the given limits the spool stays in its last position.

► Validated according to ISO 13849-2

This product is capable of meeting the relevant basic and well-tried safety principles. Please request our validation document for the details.

► SISTEMA library is available

SY safety valves data are integrated into SISTEMA free software tool. Download it from our website and be ready to build your safety function.

► Still an option of our SY, the all-purpose valve

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



How to Order

Base mounted SY □ 200 □ □ - 5 □ □ 1 - □ - X25

Top ported SY □ 230 □ □ - 5 □ □ 1 - □ □ - □ - X25

① Valve series

3	SY3000
5	SY5000
7	SY7000

② Pilot type

-	Internal pilot
R	External pilot

③ Coil type

-	Standard
B	With power saving circuit

④ Light & surge suppressor

-	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.

⑤ Manual override

-	Non-locking push type
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⑥ 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

⑦ Thread type

-	Rc
F	G
N	NPT
T	NPTF

⑧ 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)

Selected Part Numbers

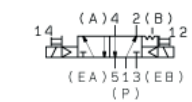
Part number	Max. flow rate [l/min]	Operating pressure range
SY3200-5U1-X25	310	14.5 to 101.5 psi (0.1 - 0.7 MPa)
SY3200R-5U1-X25	310	-14.5 to 101.5 psi (-100 kPa - 0.7 MPa)
SY5200-5U1-X25	1042	14.5 to 101.5 psi (0.1 - 0.7 MPa)
SY5200R-5U1-X25	1042	-14.5 to 101.5 psi (-100 kPa - 0.7 MPa)
SY7200-5U1-X25	1590	14.5 to 101.5 psi (0.1 - 0.7 MPa)
SY7200R-5U1-X25	1590	-14.5 to 101.5 psi (-100 kPa - 0.7 MPa)

Valve Specifications

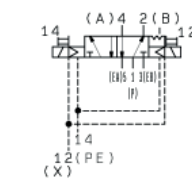
Valve type		Bistable 5 port solenoid valve with detent
Fluid		Air
Internal pilot operating pressure range	2-position double	14.5 to 101.5 psi (0.1 to 0.7 MPa)
External pilot operating pressure range	Operating pressure range	-14.5 to 101.5 psi (-100 kPa to 0.7 MPa)
	Pilot pressure range	36.3 to 101.5 psi (0.25 to 0.7 MPa)
	2-position double	
	4-position dual 3-port valve	
Ambient and fluid temperature		14 to 122°C (-10 to 50°F)
Max. operating frequency		5 Hz
Manual override		Non-locking push type
Pilot exhaust type	Internal pilot	Main/Pilot valve common exhaust
	External pilot	Pilot valve individual exhaust
Lubrication		Not required
Mounting orientation		Unrestricted
Impact/Vibration resistance (EN 60068)		150/50 m/s² (0.35 mm)
Enclosure		IP67 (based on IEC60529)
Coil rated voltage [DC]		24 VDC
Allowable voltage fluctuation		+/- 10 % of rated voltage
Power consumption	Standard	0.35 W (17 mA)
Surge voltage suppressor		Diode (Varistor for non-polar type)
Indicator light		LED
Required air quality		Min 5 µm filtering

Symbols

SY□200



SY□200R



Applications

Because of its validated design meeting this valve can be used to implement many different types of safety function for all types of pneumatic actuators, specially for short stroke cylinders or grippers

For dimensions and other details refer to general catalogue of SY-X350 series at www.smcusa.com