

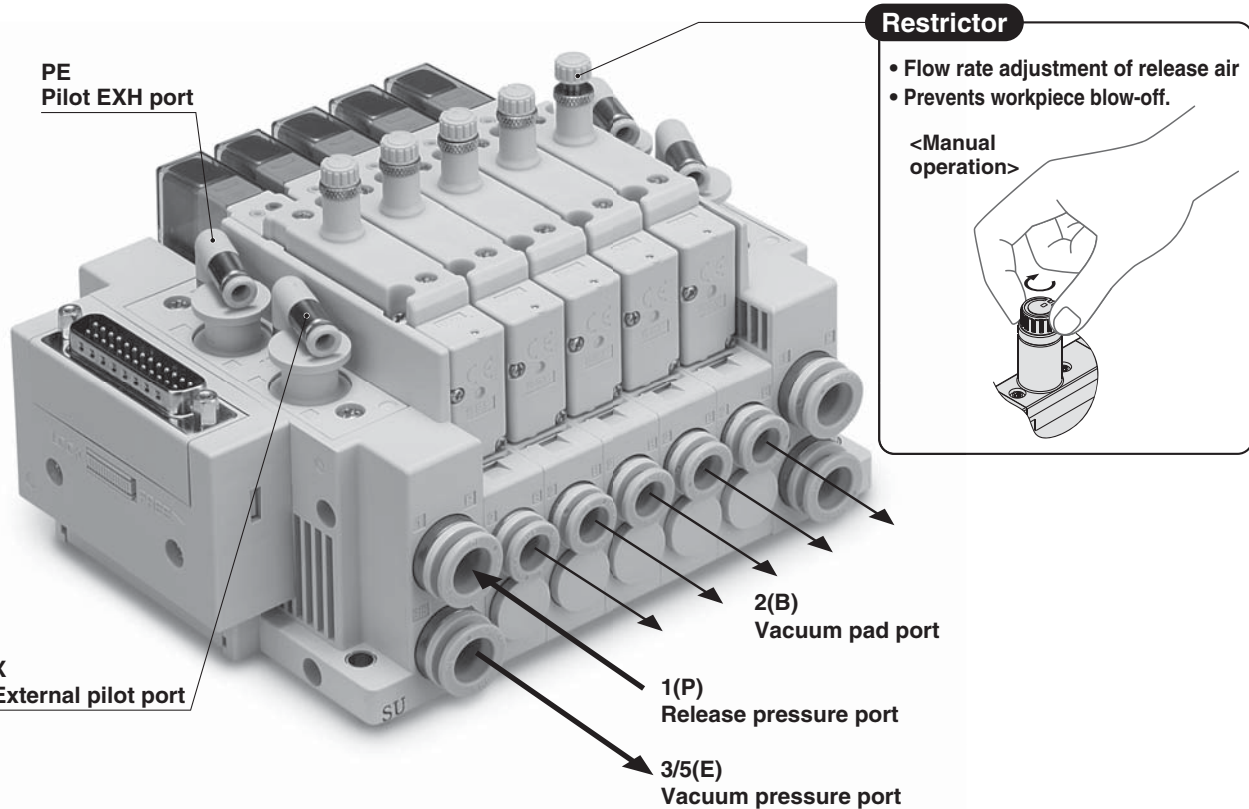
Series SY3000/5000

Plug-in Vacuum Release Valve with Restrictor

Only for External Pilot



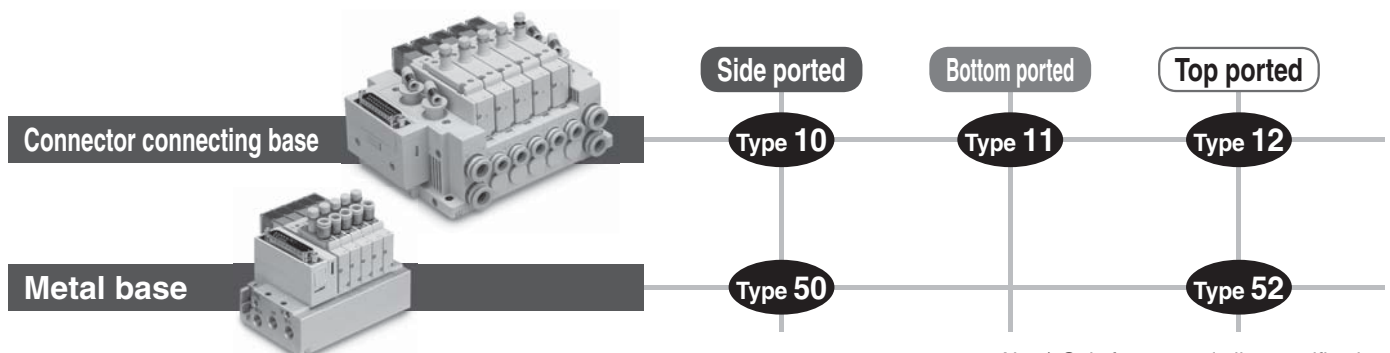
Vacuum suction and release can be controlled with a single valve!



■ Can be mounted on the same manifold with the standard valve.

* When the individual EXH spacer is used.

■ Mountable manifolds

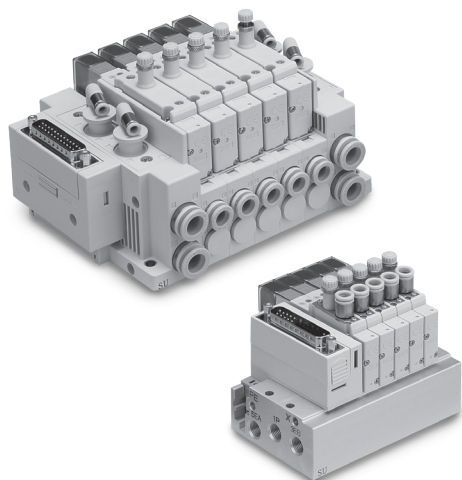


Note) Only for external pilot specification

Series SY³₅A□R



14-EU626-UK



Valve Specifications

Valve construction		3-position 3-port valve with restrictor
Seal		Rubber seal
Fluid		Air
Type of actuation		Normally closed
Operating pressure range [MPa]	Release pressure port 1(P)	0 to 0.6
	Vacuum pressure port 3(EB), 3/5(E)	-100 kPa to 0.7 <small>Note 1)</small>
	Pilot X port	Release pressure + 0.1 or more (Min. 0.25) to
Restrictor operation		Manual

Note 1) Can be used with positive pressure to suit the application.

Note 2) Other specifications are common to the valve specifications in the SY catalogue on SMC website, www.smc.eu

Note 3) Quick response type is not available.

Weight

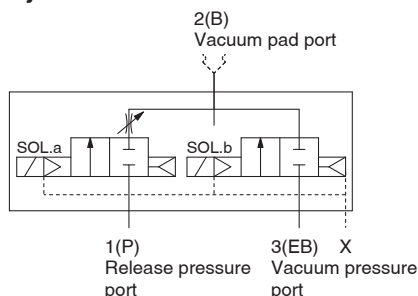
Valve model	Weight [g]
SY3A0R	90

Valve model	Port size	Weight [g]
	2(B) port	
SY3A3R	C4	91
	C6	93

Valve model	Weight [g]
SY5A0R	94

Valve model	Port size	Weight [g]
	2(B) port	
SY5A3R	C4	118
	C6	115
	C8	121

Symbol



Response Time

Valve model	Without light/surge voltage suppressor	With light/surge voltage suppressor	
		S/Z type	R/U type
SY3A□R	18	26	18
SY5A□R	27	32	27

* P = 0.1 MPa X = 0.5 MPa

Manifold Flow-rate Characteristics Note 1)

Flow-rate Characteristics (When restrictor is fully open)

① Plug-in Metal Base

Manifold type	Port size		Valve flow-rate characteristics					
	1, 3 (P, EB)	2 (B)	1→2 (P→B)			2→3 (B→EB)		
			C [dm ³ /(s·bar)]	b	Q [l/min] (ANR) <small>Note 2)</small>	C [dm ³ /(s·bar)]	b	Q [l/min] (ANR) <small>Note 2)</small>
SS5Y3-50R (Side ported)	1/8	C6	0.7	0.24	172	1.0	0.16	234
SS5Y3-52R (Top ported)	1/8	C6	1.0	0.25	247	1.1	0.25	271
SS5Y5-50R (Side ported)	1/4	C8	1.0	0.30	254	2.3	0.10	522
SS5Y5-52R (Top ported)	1/4	C8	1.4	0.16	328	2.4	0.14	556

② Plug-in Connector Connecting Base

Manifold type	Port size		Valve flow-rate characteristics					
	1, 3 (P, EB)	2 (B)	1→2 (P→B)			2→3 (B→EB)		
			C [dm ³ /(s·bar)]	b	Q [l/min] (ANR) <small>Note 2)</small>	C [dm ³ /(s·bar)]	b	Q [l/min] (ANR) <small>Note 2)</small>
SS5Y3-10R (Side ported)	C8	C6	0.7	0.36	185	1.2	0.22	291
SS5Y3-12R (Top ported)	C8	C6	1.0	0.26	248	1.2	0.20	287
SS5Y5-10R (Side ported)	C10	C8	1.0	0.20	240	2.9	0.17	683
SS5Y5-11R (Bottom ported)	C10	C8	1.0	0.30	254	3.3	0.24	809
SS5Y5-12R (Top ported)	C10	C8	1.4	0.15	326	2.6	0.24	637

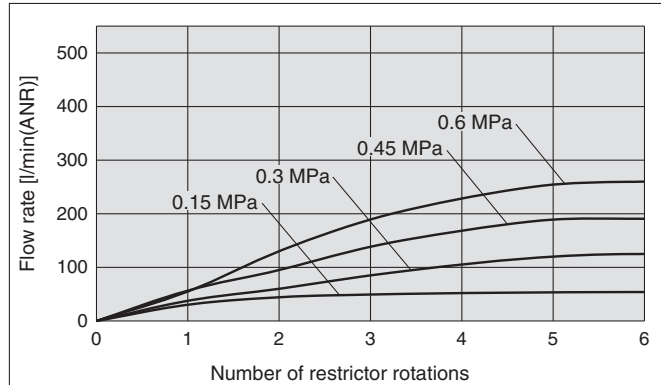
* Calculation of effective area S and sonic conductance C: S = 5.0 x C

Note 1) The value is for manifold base with 5 stations.

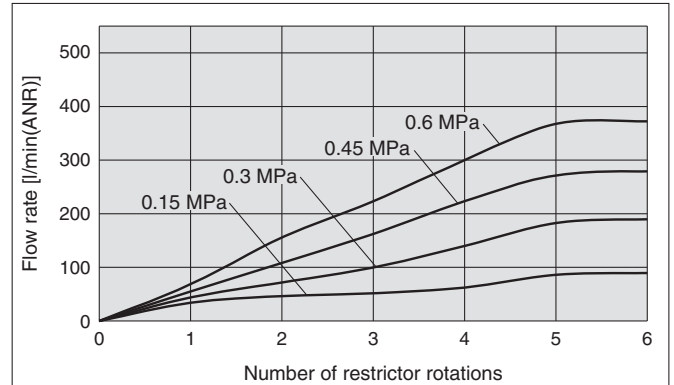
Note 2) These values have been calculated according to ISO 6358 and indicate the flow rate under standard conditions with an inlet pressure of 0.6 MPa (relative pressure) and a pressure drop of 0.1 MPa.

Restrictor Flow-rate Characteristics [Fluid passage: 1(P)→2(B)]

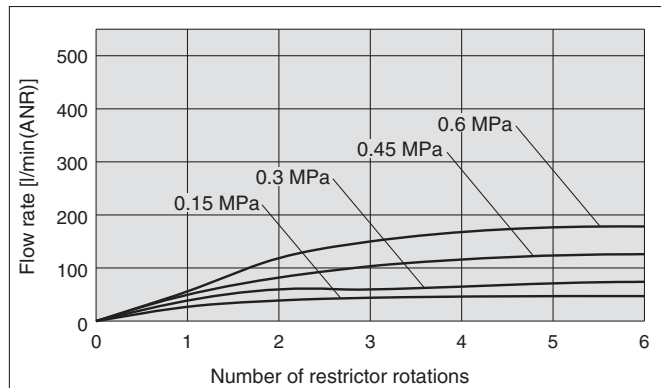
SY3A0R



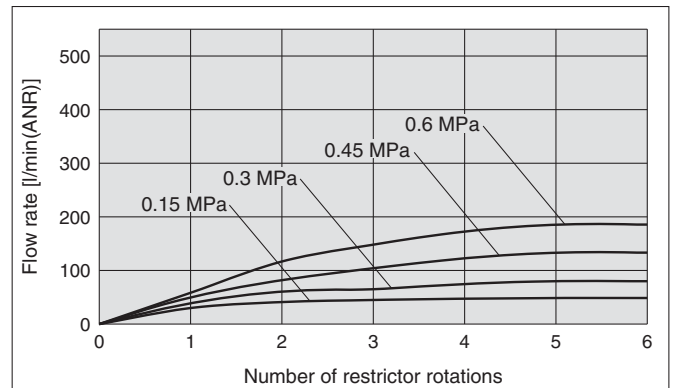
SY5A0R



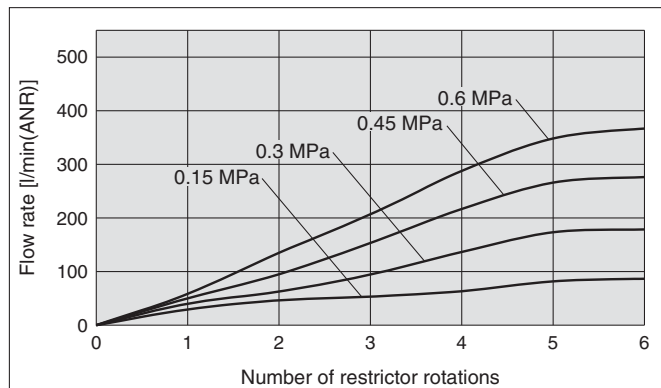
SY3A3R-C4



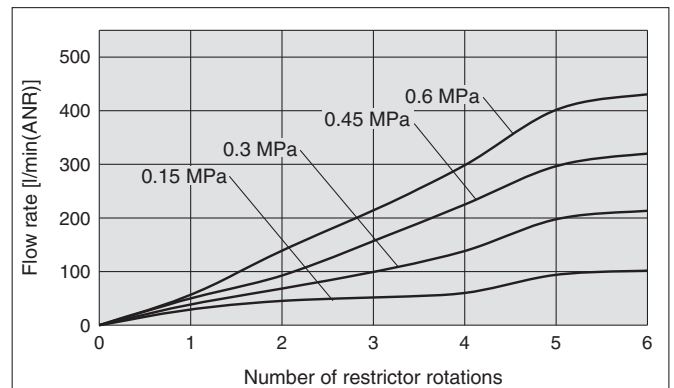
SY5A3R-C4



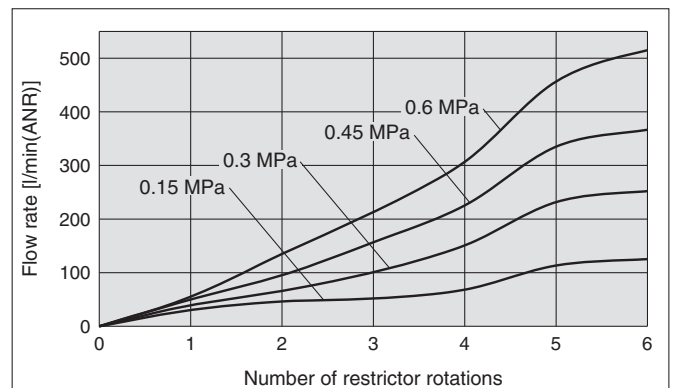
SY3A3R-C6



SY5A3R-C6



SY5A3R-C8



Plug-in Vacuum Release Valve with Restrictor

Series SY³₅A□R C€

Mountable manifolds
[External pilot]

Connector connecting base
SS5Y³₅-10/11/12 type manifold
Metal base
SS5Y³₅-50/52 type manifold

For details about How to Order Manifold, refer to the catalogue on SMC website, www.smc.eu

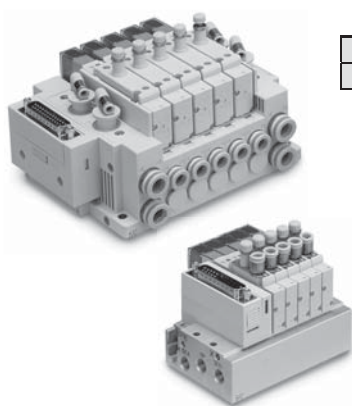
How to Order (With mounting screw)

Side ported/Bottom ported

SY 3 A 0 R □ - 5 □ □ 1 - □

Top ported

SY 3 A 3 R □ - 5 □ □ 1 - C6 - □



Series

3	SY3000
5	SY5000

Pilot type

R	External pilot
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Coil type

—	Standard
T	With power saving circuit (Continuous duty type)

* Be sure to select "with power saving circuit" when the solenoid valve will be energised continuously for long period.

* Note the specified energizing time when power saving circuit is selected. Refer to the catalogue on SMC website, www.smc.eu

Rated voltage

5	24 V DC
6	12 V DC

Light/surge voltage suppressor and common specification

Symbol	With light	Surge voltage suppressor	Common specification
—	—	—	Non-polar
R	—	●	
U	●		
S	—		
Z	●		
NS	—	Negative common	
NZ	●		

* Only "Z" and "NZ" types are available for the product with power saving circuit.

Type of mounting screw

—	Round head combination screw
B	Hexagon socket head cap screw

* When ordering a valve individually, the base gasket is not included.

Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance service.

Refer to the catalogue on SMC website, www.smc.eu for part numbers of the base gasket and mounting screw.

* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly or interface regulator.

B port size

One-touch fitting (Metric size)

Symbol	B port	SY3000	SY5000
C4	One-touch fitting for Ø 4	●	●
C6	One-touch fitting for Ø 6	●	●
C8	One-touch fitting for Ø 8	—	●

One-touch fitting (Inch size)

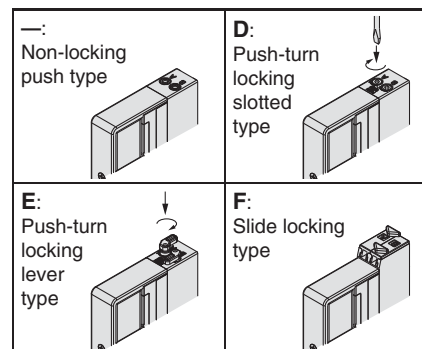
Symbol	B port	SY3000	SY5000
N3	One-touch fitting for Ø 5/32"	●	●
N7	One-touch fitting for Ø 1/4"	●	●
N9	One-touch fitting for Ø 5/16"	—	●

* When selecting the port size for each station, specify on a manifold specification sheet separately.

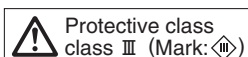
Note) When mounting on the manifold base or sub-plate, the A port is plugged.

When a manifold base or sub-plate is ordered separately, mount a plug on the A port.

Manual override

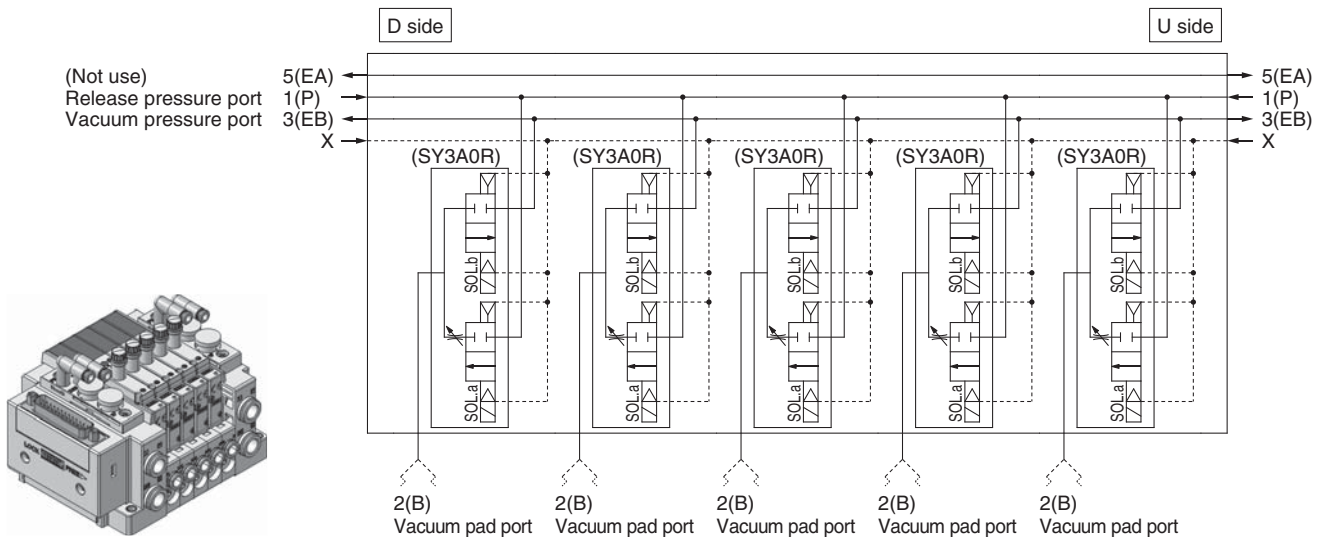


* Refer to the catalogue on SMC website, www.smc.eu for with the safety slide locking manual override.

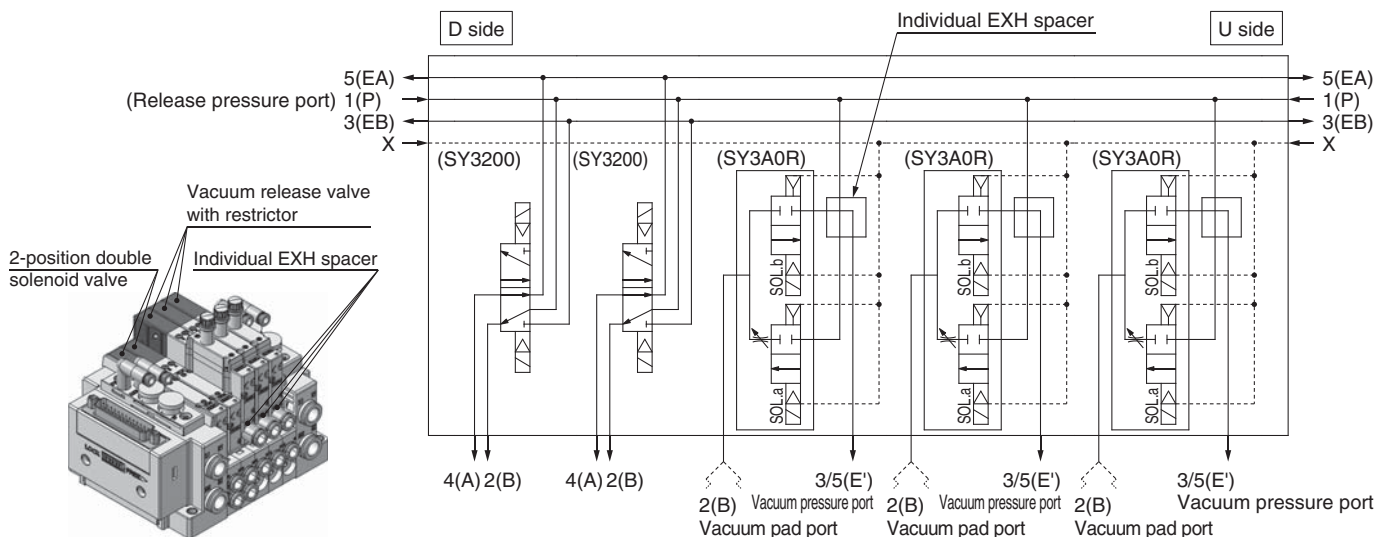


Circuit Example

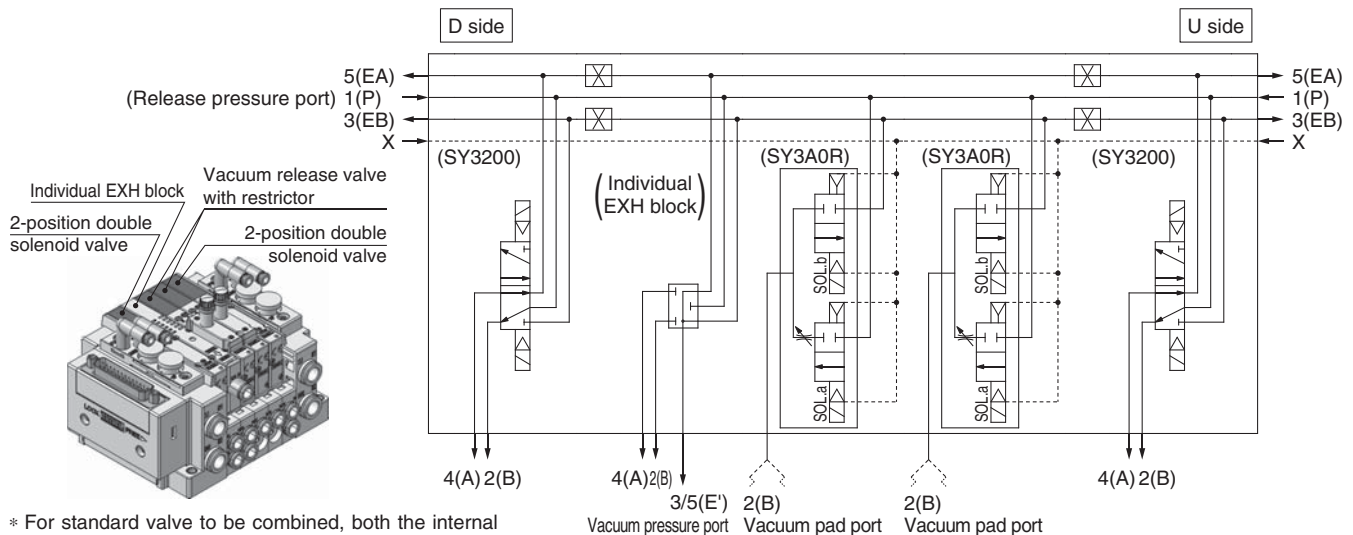
<Example 1: Only the vacuum release valve is used.>



<Example 2: When the 2-position double solenoid valve is combined with the individual EXH spacer.>



<Example 3: When the 2-position double solenoid valve is combined with the individual EXH block and blocking disk.>

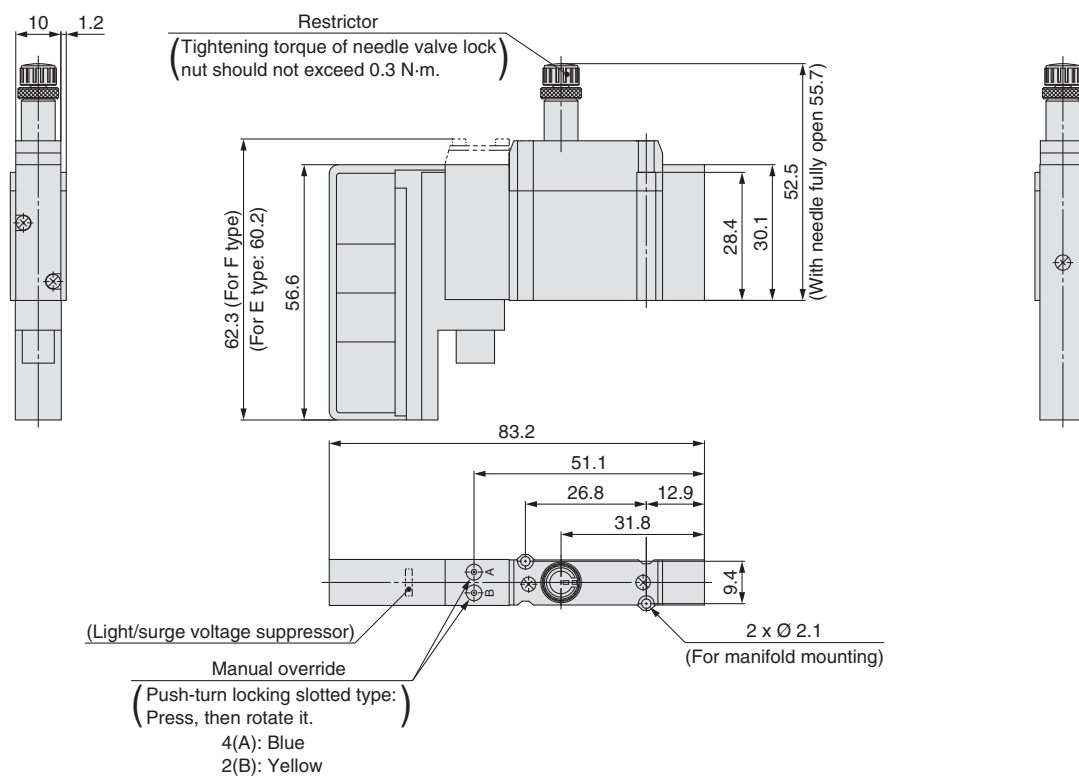


* For standard valve to be combined, both the internal pilot and external pilot can be selected. If the pressure drop may occur when the 1(P) port releases the vacuum, use the external pilot type.

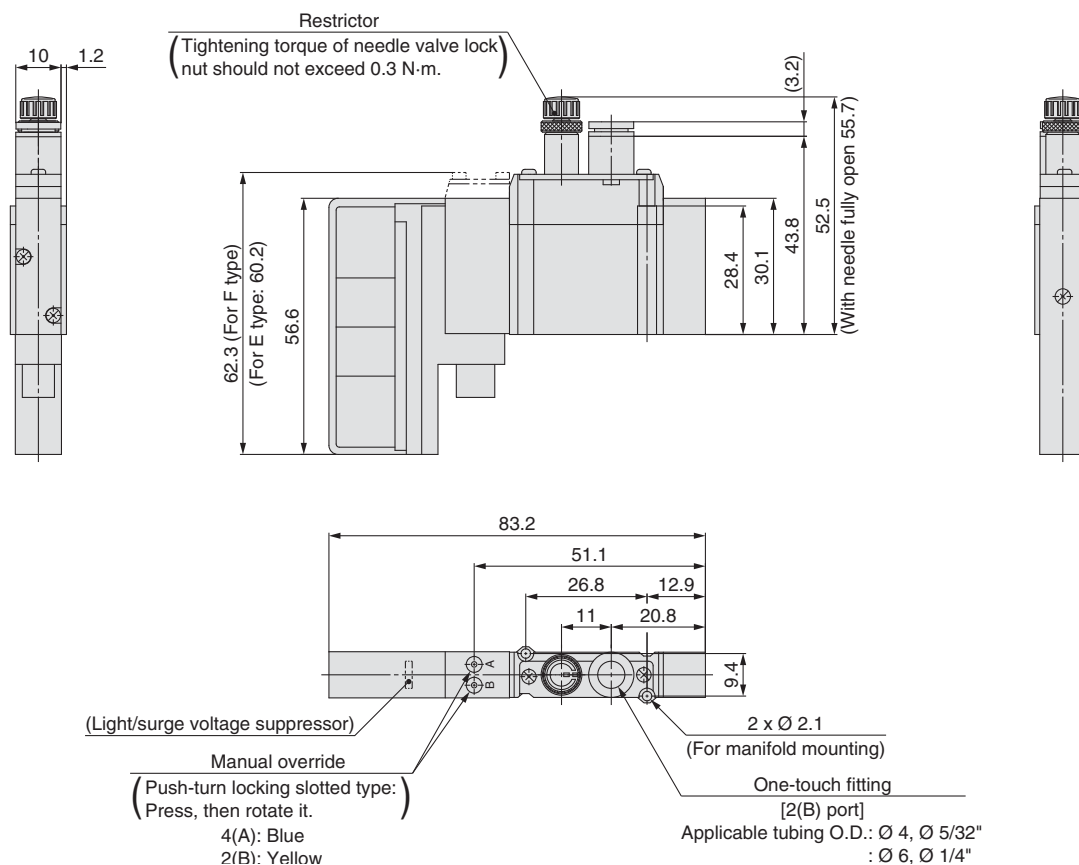
Series SY³₅A□R

Dimensions: SY3000

Side ported SY3A0R

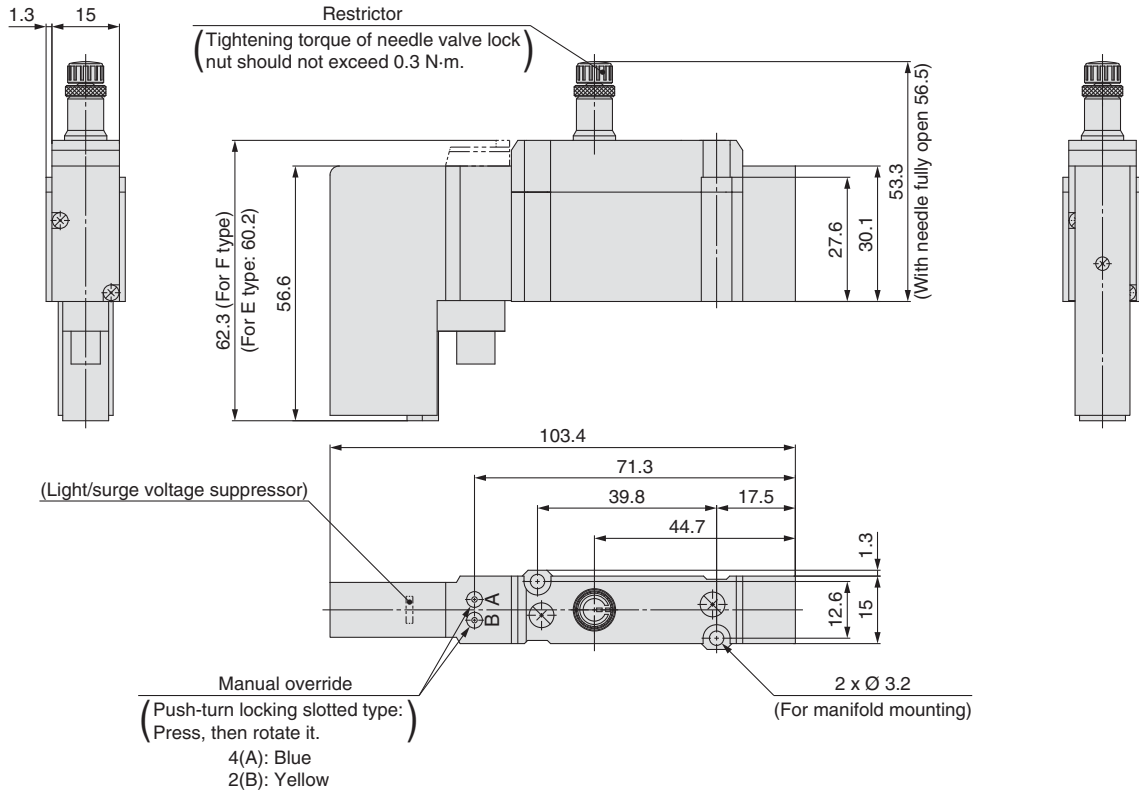


Top ported SY3A3R

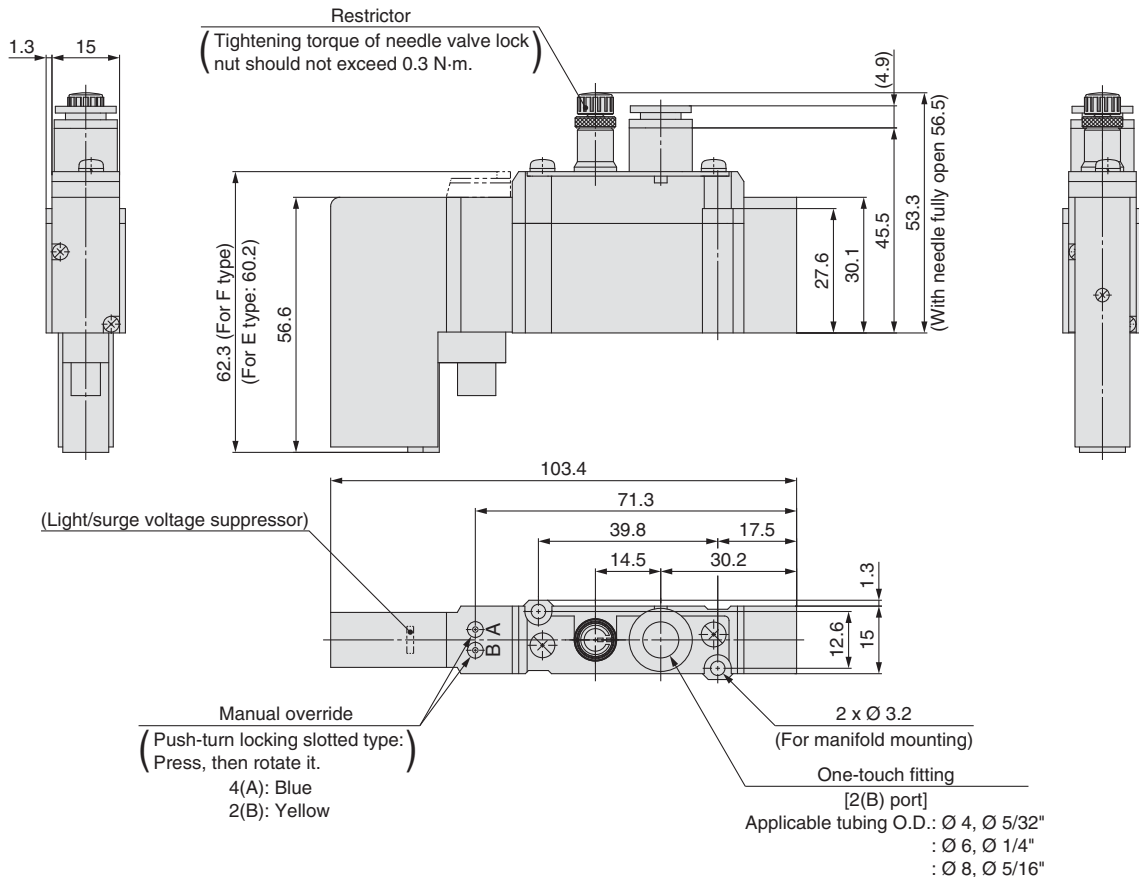


Dimensions: SY5000

Side ported **SY5A0R**
 Bottom ported



Top ported **SY5A3R**





SMC Corporation (Europe)

Austria	☎ +43 (0)2262622800	www.smc.at	office@smc.at
Belgium	☎ +32 (0)33551464	www.smcpnematics.be	info@smcpneumatics.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 6510370	www.smcpnematics.ee	smc@smcpneumatics.ee
Finland	☎ +358 207513513	www.smc.fi	smc.fi@smc.fi
France	☎ +33 (0)164761000	www.smc-france.fr	info@smc-france.fr
Germany	☎ +49 (0)61034020	www.smc.de	info@smc.de
Greece	☎ +30 210 2717265	www.smchellas.gr	sales@smchellas.gr
Hungary	☎ +36 23511390	www.smc.hu	office@smc.hu
Ireland	☎ +353 (0)14039000	www.smcpnematics.ie	sales@smcpneumatics.ie
Italy	☎ +39 0292711	www.smcitalia.it	mailbox@smcitalia.it
Latvia	☎ +371 67817700	www.smc.lv	info@smclv.lv

Lithuania	☎ +370 5 2308118	www.smc.lt	info@smc.lt
Netherlands	☎ +31 (0)205318888	www.smcpnematics.nl	info@smcpneumatics.nl
Norway	☎ +47 67129020	www.smc-norge.no	post@smc-norge.no
Poland	☎ +48 222119600	www.smc.pl	office@smc.pl
Portugal	☎ +351 226166570	www.smc.eu	postpt@smc.smces.es
Romania	☎ +40 213205111	www.smcromania.ro	smcromania@smcromania.ro
Russia	☎ +7 8127185445	www.smc-pneumatik.ru	info@smc-pneumatik.ru
Slovakia	☎ +421 (0)413213212	www.smc.sk	office@smc.sk
Slovenia	☎ +386 (0)73885412	www.smc.si	office@smc.si
Spain	☎ +34 902184100	www.smc.es	post@smc.smces.es
Sweden	☎ +46 (0)86031200	www.smc.nu	post@smc.nu
Switzerland	☎ +41 (0)523963131	www.smc.ch	info@smc.ch
Turkey	☎ +90 212 489 0 440	www.smcpnomatik.com.tr	info@smcpnomatik.com.tr
UK	☎ +44 (0)845 121 5122	www.smcpnematics.co.uk	sales@smcpneumatics.co.uk