

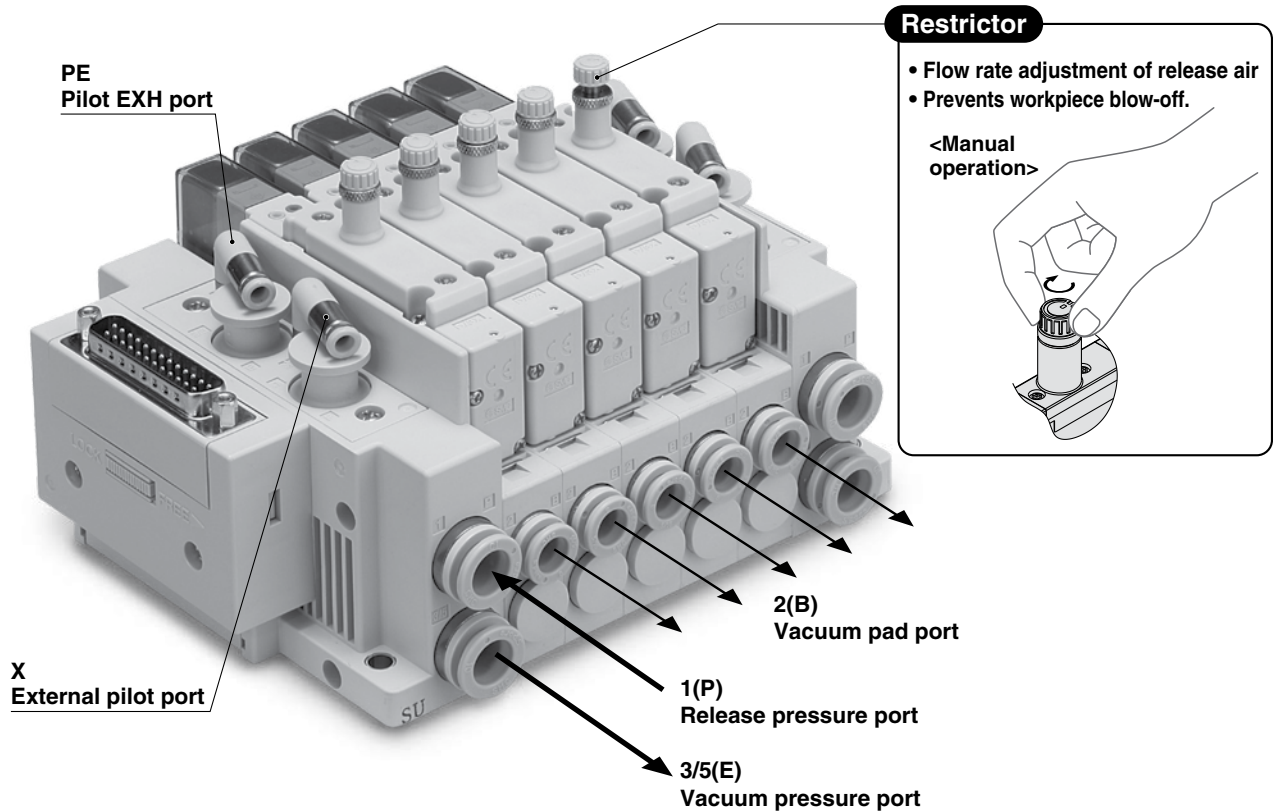
Series SY3000/5000

# Plug-in Vacuum Release Valve with Restrictor

Only for External Pilot



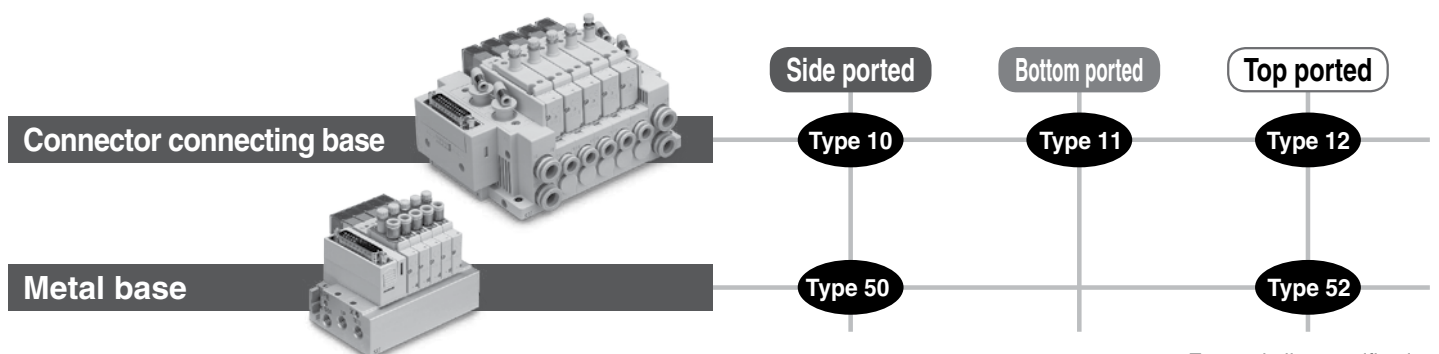
## Vacuum suction and release can be controlled with a single valve!



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

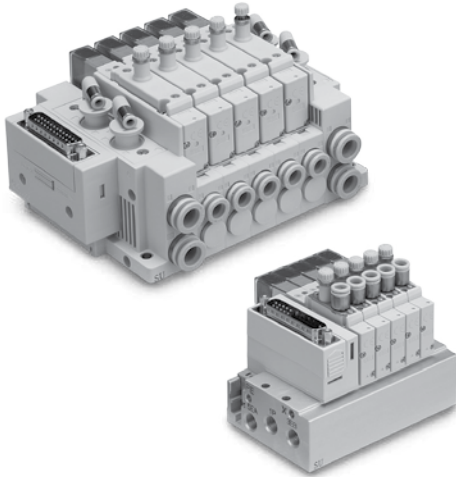
\* When the individual EXH spacer is used.

### ■ Mountable manifolds



\* External pilot specification

Series **SY<sup>3</sup><sub>5</sub>A□R**



## Valve Specifications

<b>Valve construction</b>		3-position 3-port valve with restrictor
<b>Seal</b>		Rubber seal
<b>Fluid</b>		Air
<b>Type of actuation</b>		Normally closed
<b>Operating pressure range</b> psi [MPa]	<b>Release pressure port 1(P)</b>	0 to 87 [0 to 0.6]
	<b>Vacuum pressure port 3(EB), 3/5(E)</b>	14.5 to 102 [-100 kPa to 0.7] <small>Note 1)</small>
	<b>Pilot X port</b>	Release pressure + 15 [0.1] or more (Min. 36 [0.25] to 102 [0.7])
<b>Restrictor operation</b>		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 **WEB catalog** or the Best Pneumatics No. 1.

Note 3) Quick response type is not available.

## Weight

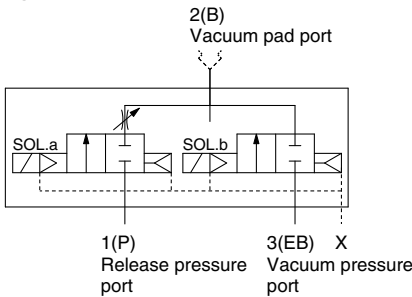
Valve model	Weight [g]
<b>SY3A0R</b>	90

Valve model	Port size	Weight [g]
	2(B) port	
	C4	
<b>SY3A3R</b>	C6	93

Valve model	Weight [g]
<b>SY5A0R</b>	94

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

## Symbol



## Response Time

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

\* P = 14.5 psi [0.1 MPa] X = 72.5 psi [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 <sup>3</sup> /(s·bar)]	b	C [dm <sup>3</sup> /(s·bar)]	b
<b>SS5Y3-50R (Side ported)</b>	1/8	C6	0.7	0.24	1.0	0.16
<b>SS5Y3-52R (Top ported)</b>	1/8	C6	1.0	0.25	1.1	0.25
<b>SS5Y5-50R (Side ported)</b>	1/4	C8	1.0	0.30	2.3	0.10
<b>SS5Y5-52R (Top ported)</b>	1/4	C8	1.4	0.16	2.4	0.14

#### ② Plug-in Connector Connecting Base

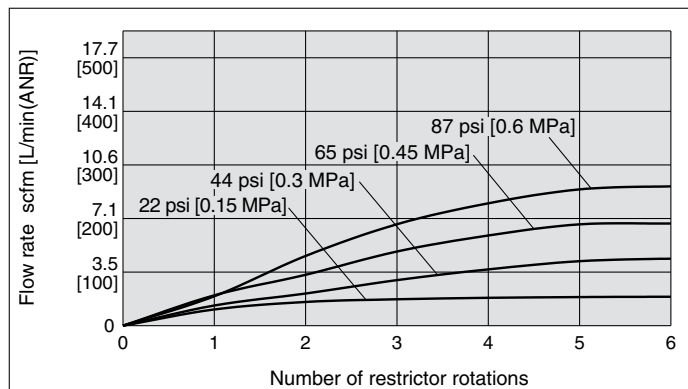
Manifold type	Port size		Valve flow-rate characteristics			
	1, 3 (P, EB)	2 (B)	1→2 (P→B)		2→3 (B→EB)	
			C [dm <sup>3</sup> /(s·bar)]	b	C [dm <sup>3</sup> /(s·bar)]	b
<b>SS5Y3-10R (Side ported)</b>	C8	C6	0.7	0.36	1.2	0.22
<b>SS5Y3-12R (Top ported)</b>	C8	C6	1.0	0.26	1.2	0.20
<b>SS5Y5-10R (Side ported)</b>	C10	C8	1.0	0.20	2.9	0.17
<b>SS5Y5-11R (Bottom ported)</b>	C10	C8	1.0	0.30	3.3	0.24
<b>SS5Y5-12R (Top ported)</b>	C10	C8	1.4	0.15	2.6	0.24

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

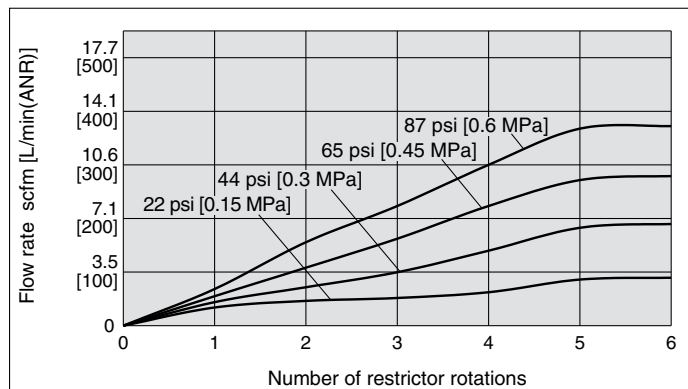
Note 1) The value is for manifold base with 5 stations.

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

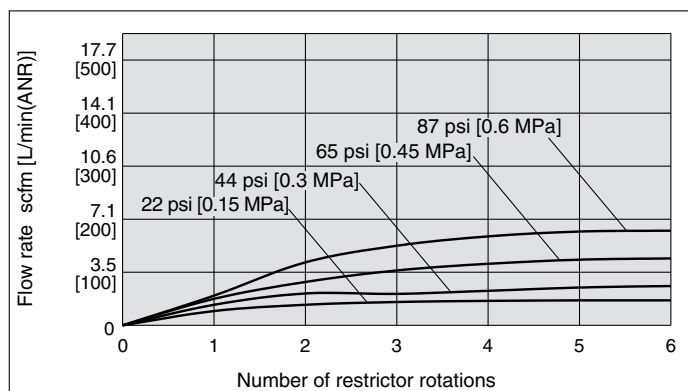
**SY3A0R**



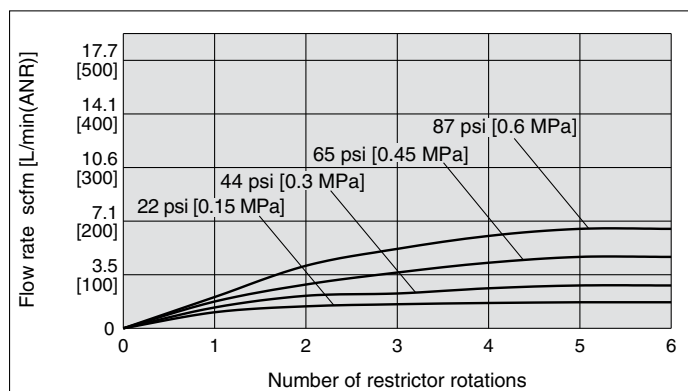
**SY5A0R**



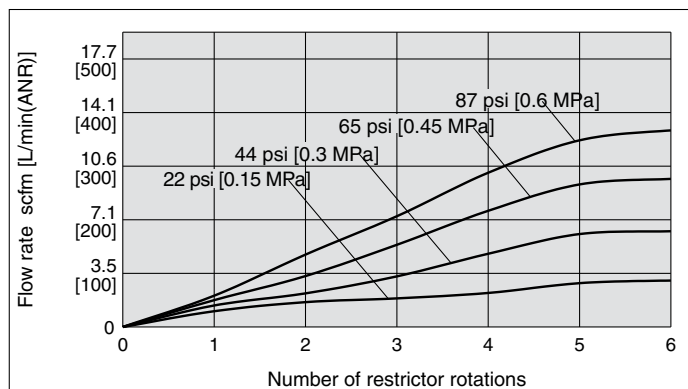
**SY3A3R-C4**



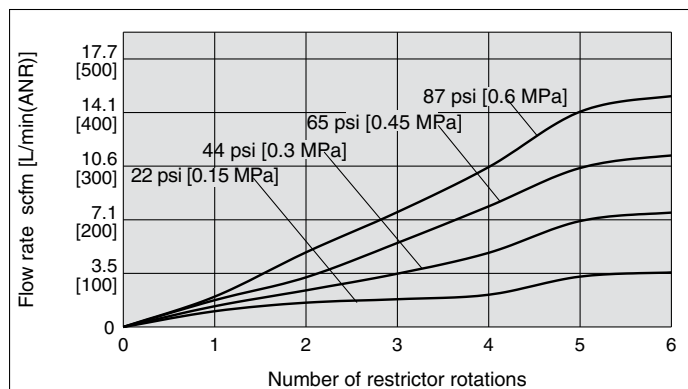
**SY5A3R-C4**



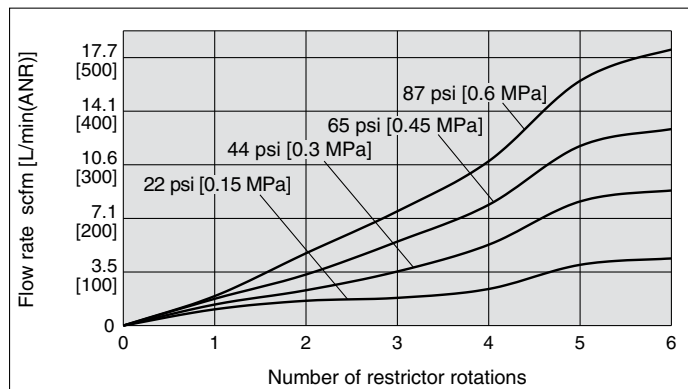
**SY3A3R-C6**



**SY5A3R-C6**



**SY5A3R-C8**



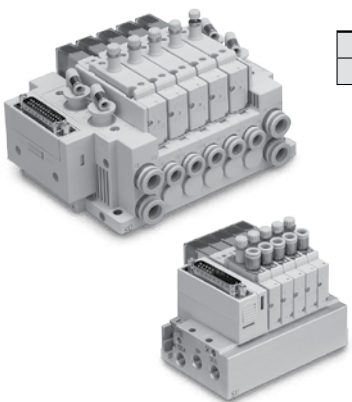
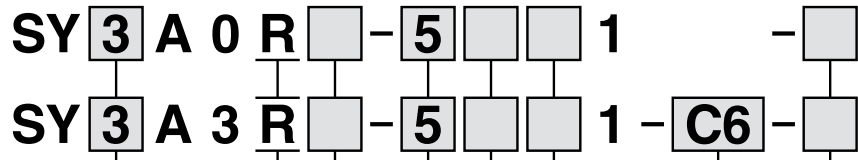
# Plug-in Vacuum Release Valve with Restrictor

# Series SY<sup>3</sup><sub>5</sub>A□R C€

Mountable manifolds [External pilot] Connector connecting base  
 SS5Y<sup>3</sup><sub>5</sub>-10/11/12 type manifold  
 Metal base  
 SS5Y<sup>3</sup><sub>5</sub>-50/52 type manifold  
 For details about How to Order Manifold, refer to the **WEB catalog** or the Best Pneumatics No. 1.

## How to Order (With mounting screw)

Side ported/Bottom ported  
 Top ported



**Series**

3	SY3000
5	SY5000

**Pilot type**

R	External pilot
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**Coil type**

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

\* Be sure to select "with power saving circuit" when the solenoid valve will be energized continuously for long period.  
 \* Note the specified energizing time when power saving circuit is selected. Refer to the **WEB catalog** or the Best Pneumatics No. 1 for details.

**Rated voltage**

5	24 VDC
6	12 VDC

### Light/surge voltage suppressor and common specification

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

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

**Type of mounting screw**

Nil	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 **WEB catalog** or the Best Pneumatics No.1 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)

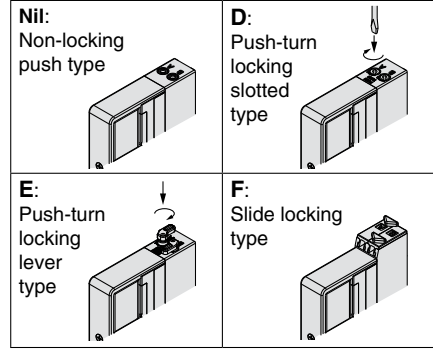
Symbol	B port	SY3000	SY5000
C4	One-touch fitting for ø4	●	●
C6	One-touch fitting for ø6	●	●
C8	One-touch fitting for ø8	—	●

#### One-touch fitting (Inch size)

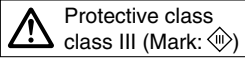
Symbol	B port	SY3000	SY5000
N3	One-touch fitting for ø5/32"	●	●
N7	One-touch fitting for ø1/4"	●	●
N9	One-touch fitting for ø5/16"	—	●

\* 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

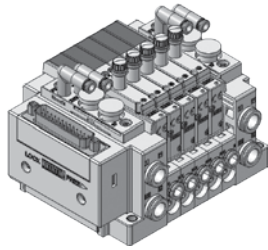
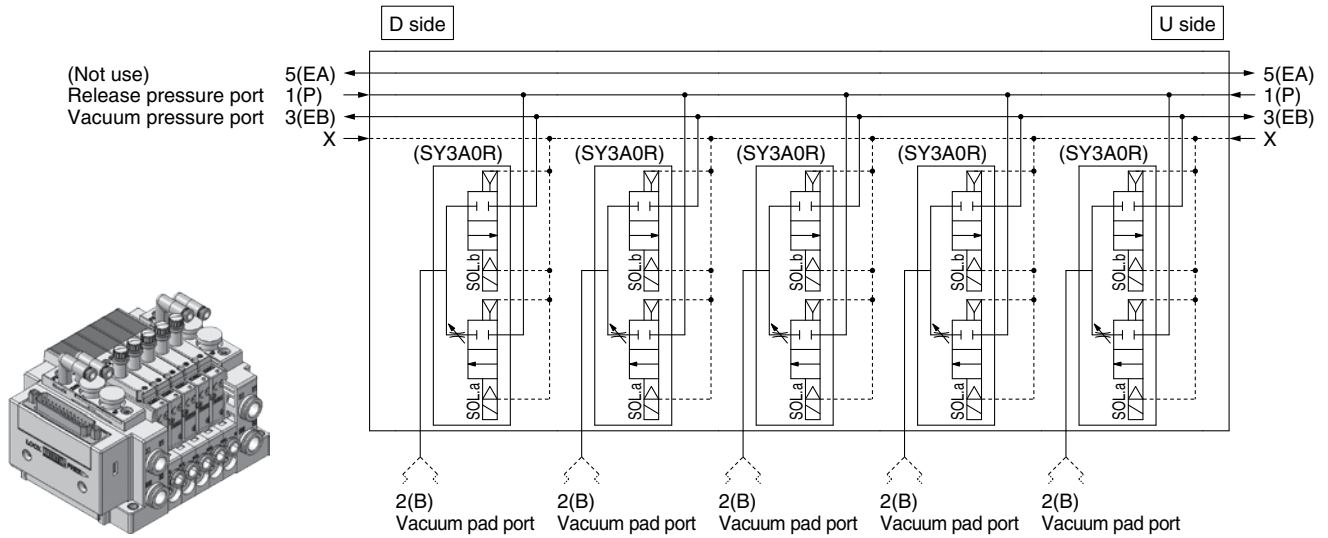


\* Refer to the **WEB catalog** or the Best Pneumatics No. 1 for with the safety slide locking manual override.

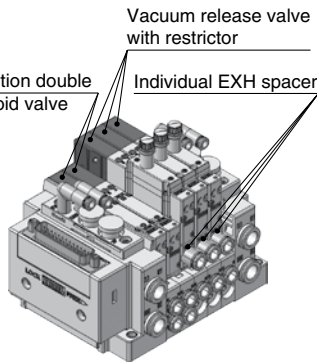
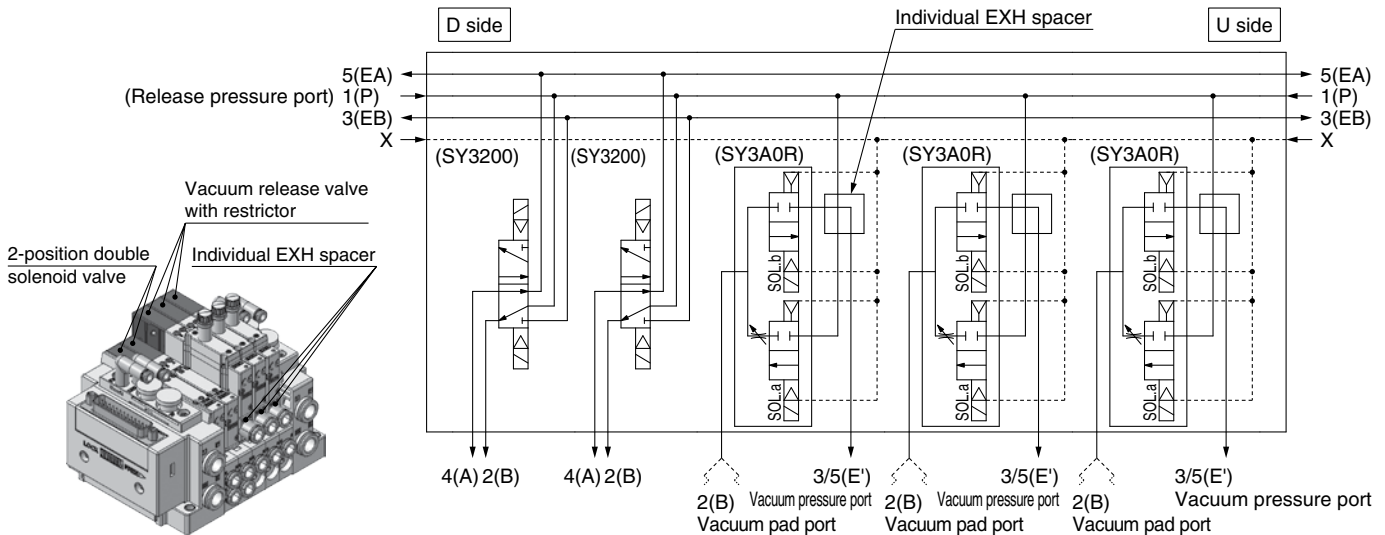


## Circuit Example

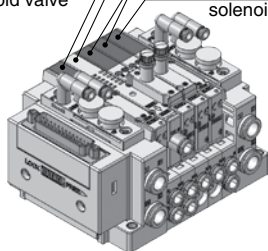
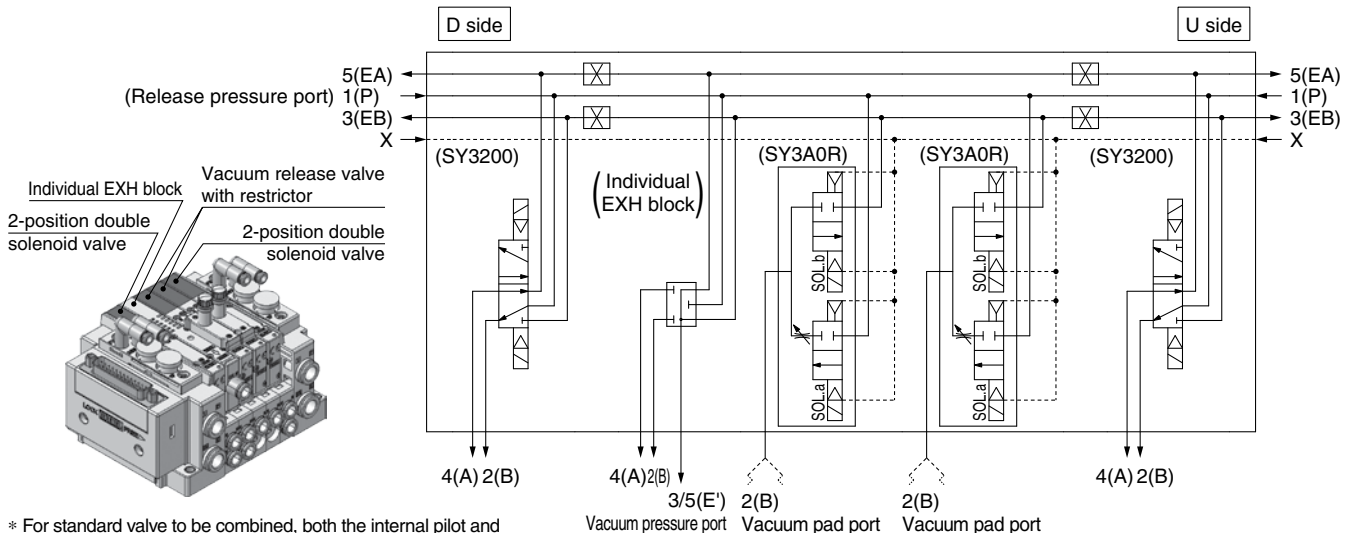
<Example 1: Only the vacuum release valve is used.>



<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.>

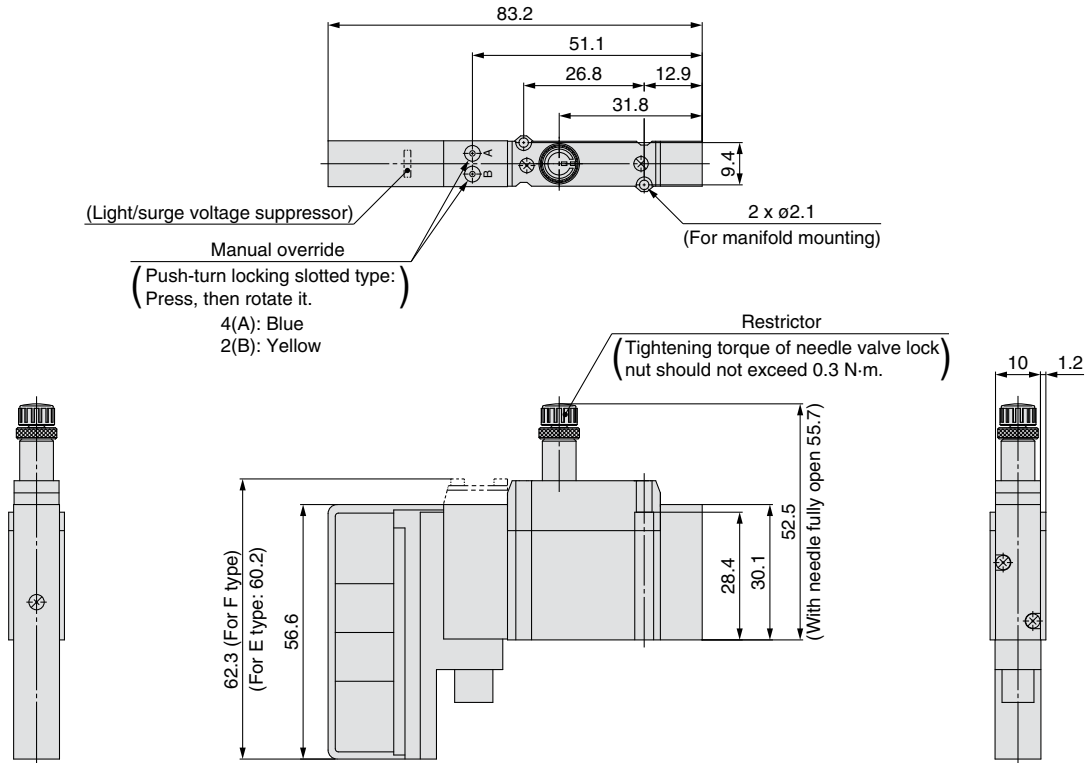


\* For standard valve to be combined, both the internal pilot and external pilot can be selected. If the pressure drop may occur when the 1(P) port releases the vacuum, use the external pilot type.

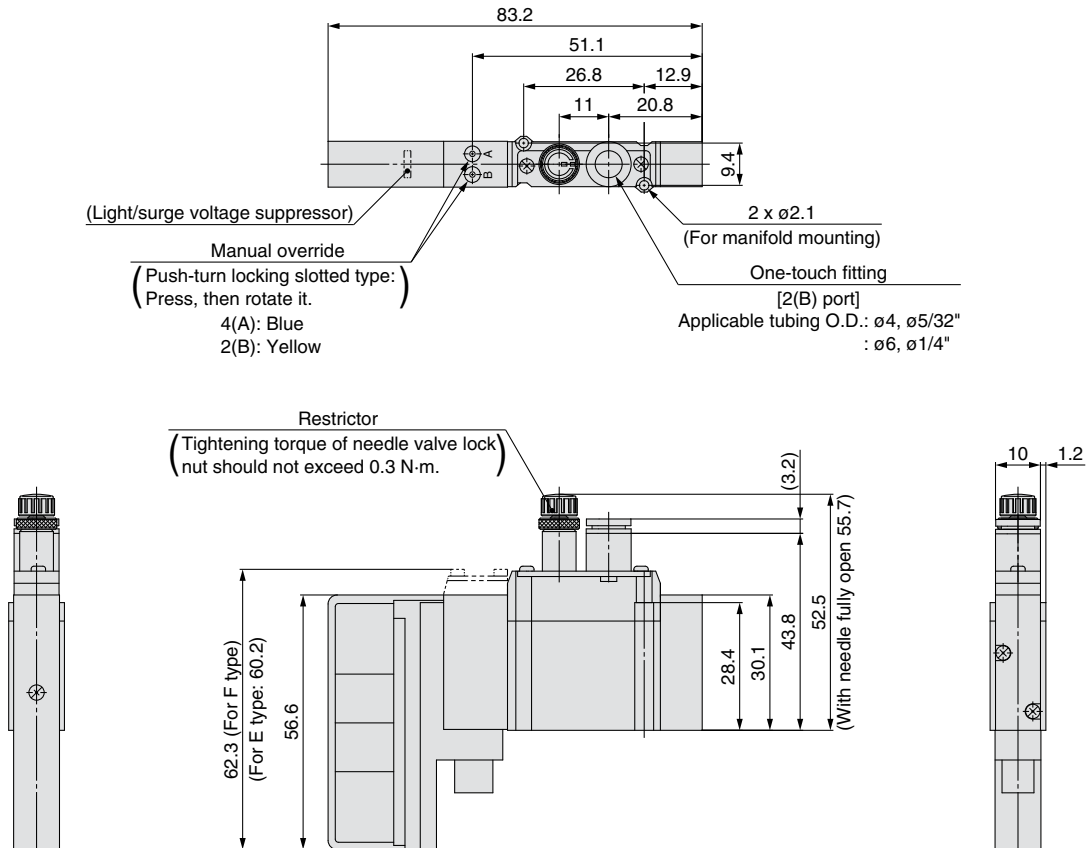
# Series SY<sup>3</sup>A□R

## Dimensions: SY3000

### Side ported SY3A0R



### Top ported SY3A3R

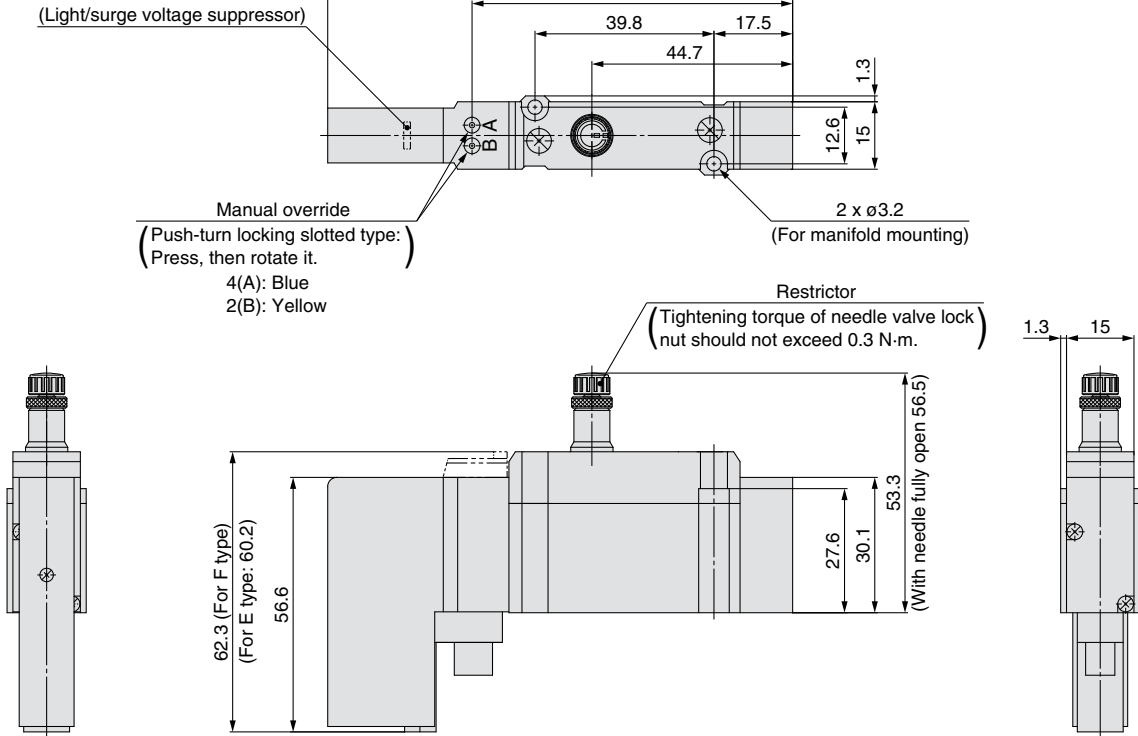


**Dimensions: SY5000**

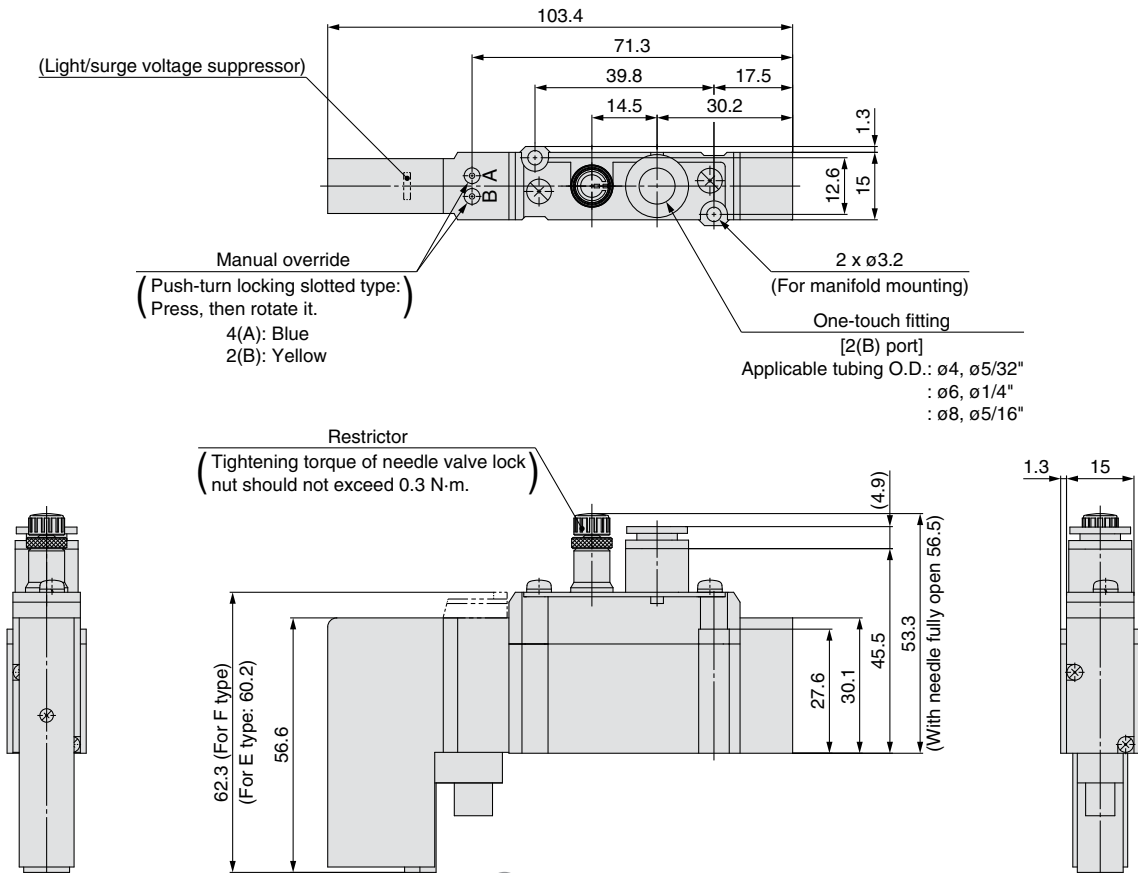
Side ported

**SY5A0R**

Bottom ported



Top ported **SY5A3R**



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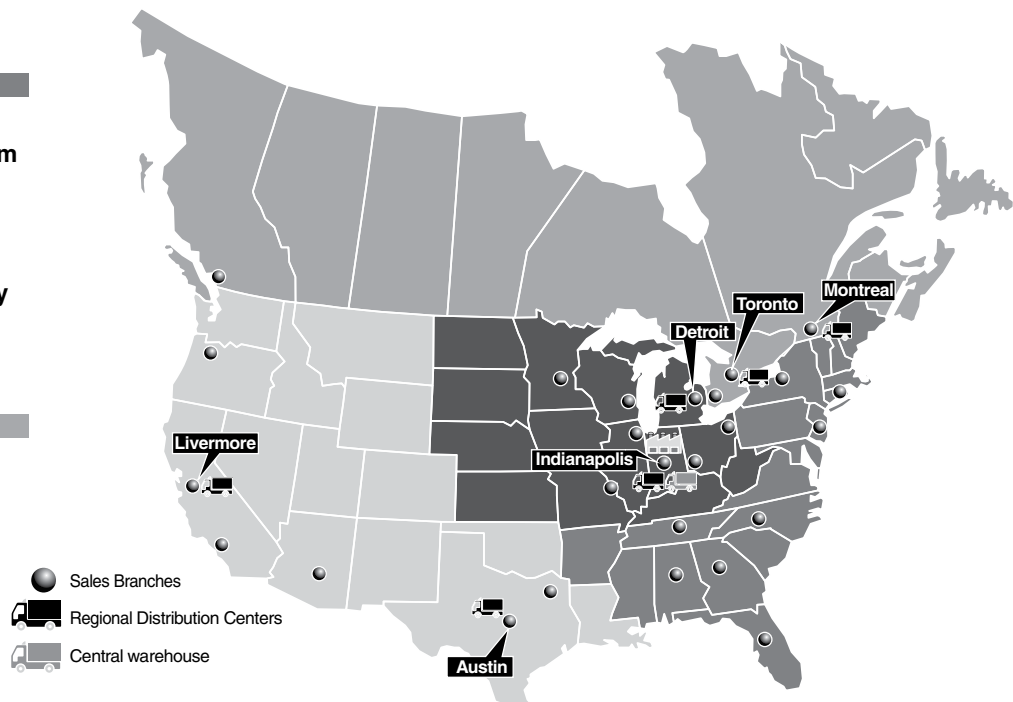
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