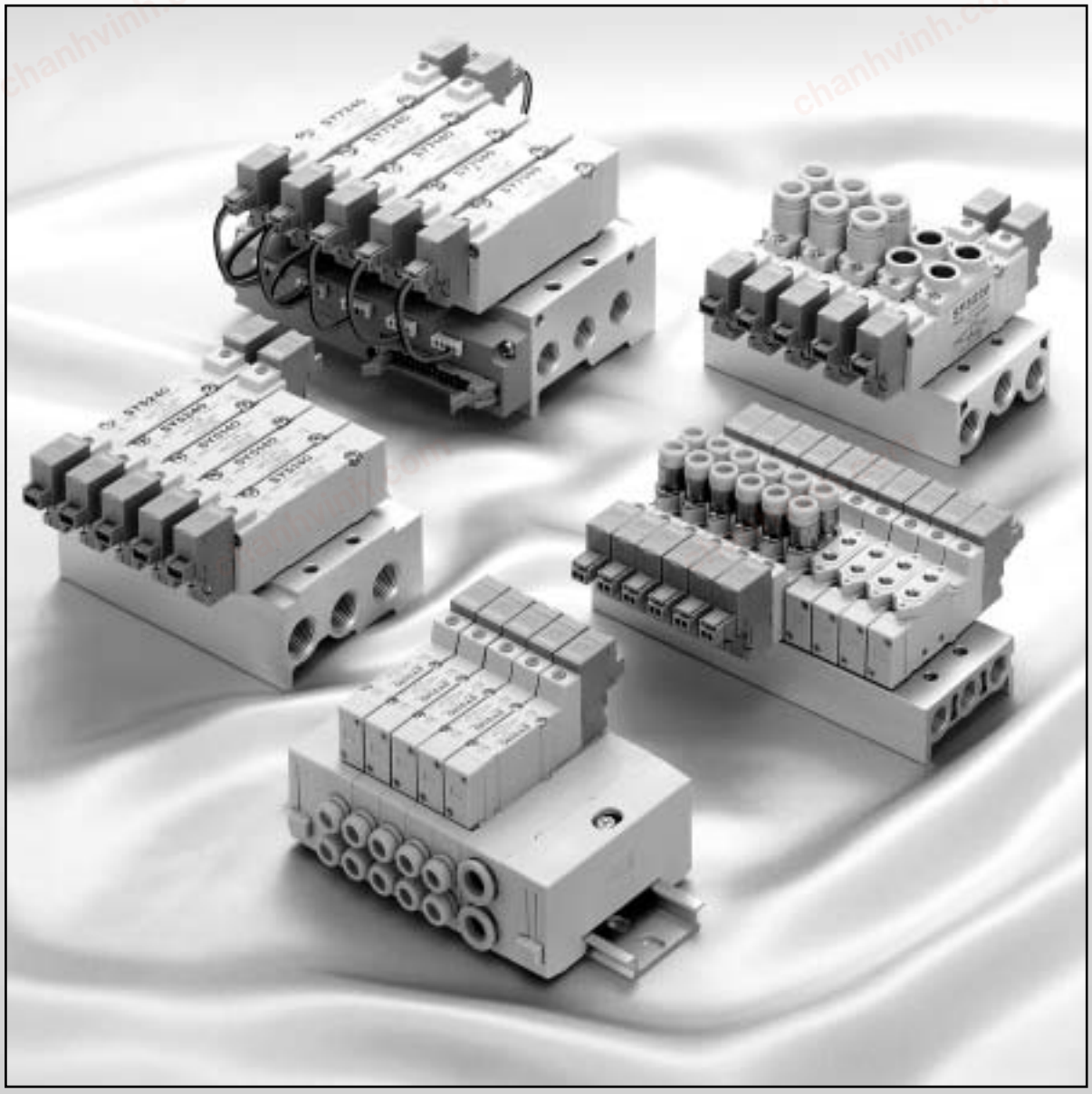
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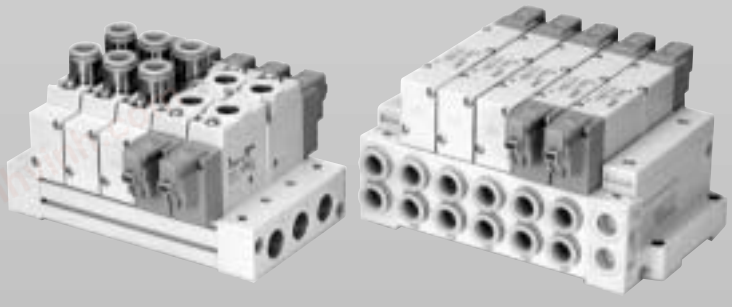
High Capacity & Simple Choices

Series SY

5 Port Rubber Seal Solenoid Valve



Series SY9000 newly realased



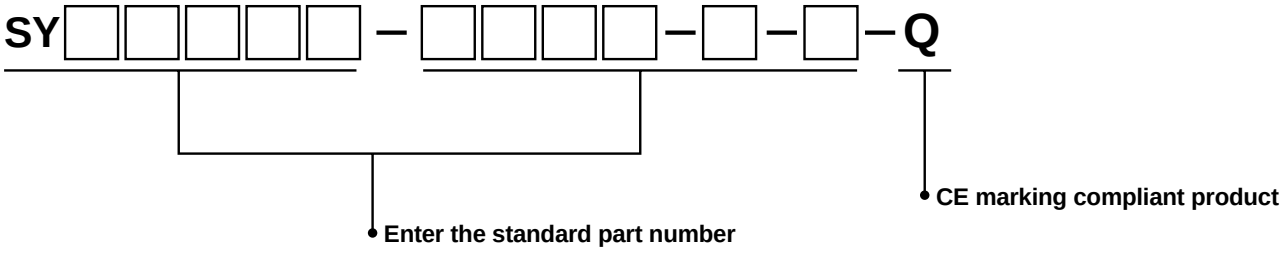
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CE Marking Compliant Products

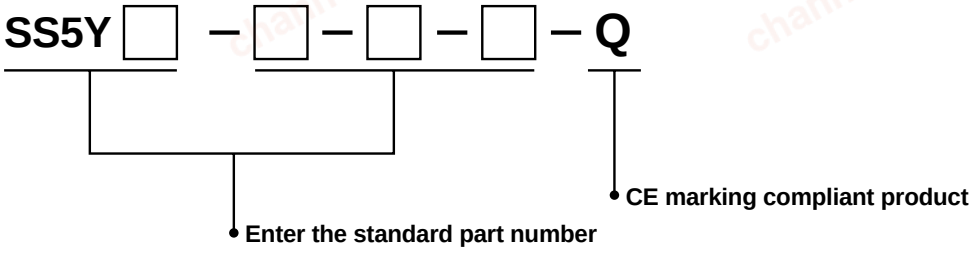
The SY series complies with the EMC Directive and the Low Energy Directive based on approval by TÜV Rheinland, an EC Notified Body (EC authorization No. 0197).

When ordering CE marking compliant products, add "– Q" at the end of the standard part number.

How to order valves



How to order manifolds



Note) Contact SMC for details, as there are limitations on models, voltage specifications and electrical entry, etc.

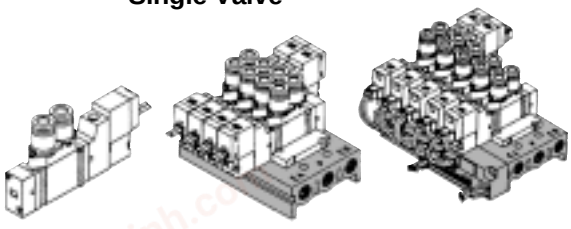
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Cylinder Speed Chart 1.2-6
Valve Variations 1.2-7
Manifold Variations ..... 1.2-8 to 1.2-9

Body Ported

Single Valve P. 1.2-10 to 1.2-27



Single valve　Bar stock manifold

Bar Stock Manifold/Individual Wiring P. 1.2-46 to 1.2-51

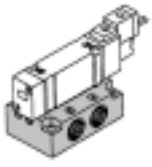
Stacking Manifold/Individual Wiring P. 1.2-52 to 1.2-55

Bar Stock Manifold/Flat Ribbon Cable P. 1.2-56 to 1.2-61

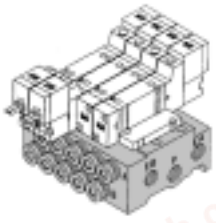
Stacking Manifold/Flat Ribbon Cable P. 1.2-62 to 1.2-67

Base Mounted

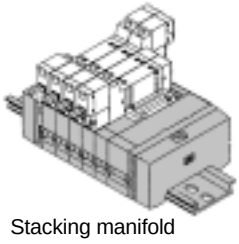
Single Valve P. 1.2-28 to 1.2-45



Single valve



Bar stock manifold



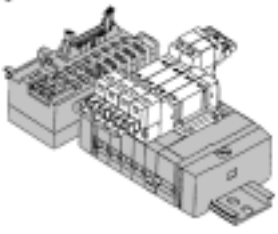
Stacking manifold



Bar Stock Manifold/Individual Wiring P. 1.2-68 to 1.2-77

Stacking Manifold/Individual Wiring P. 1.2-78 to 1.2-83

Bar Stock Manifold/Flat Ribbon Cable P. 1.2-84 to 1.2-91

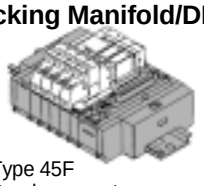


Stacking Manifold/Flat Ribbon Cable P. 1.2-92 to 1.2-103

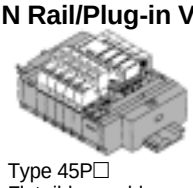
Stacking Manifold/DIN Rail/Individual Wiring P. 1.2-104 to 1.2-114

Stacking Manifold/DIN Rail/Connector Box P. 1.2-115 to 1.2-123

Stacking Manifold/DIN Rail/Plug-in Valve P. 1.2-124 to 1.2-162



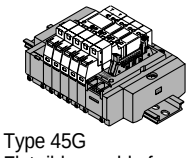
Type 45F
D-sub connector



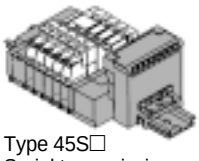
Type 45P□
Flat ribbon cable



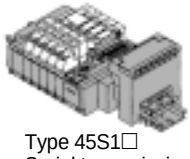
Type 45T
Terminal block



Type 45G
Flat ribbon cable for
PC wiring system

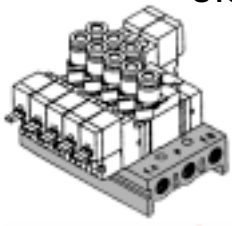


Type 45S□
Serial transmission



Type 45S1□
Serial transmission
(separate type)

SY300/500 3 Port Valves P. 1.2-163 to 1.2-167

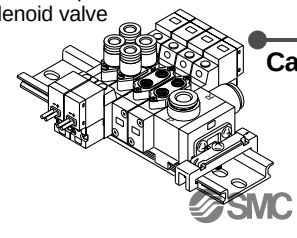


Order Made P. 1.2-168 to 1.2-177

- Type 45S2/serial type with SMC IN313
- Type 45S3/serial type with OMRON G71-OD16
- External pilot and built-in silencer
- Mixed mounting type
- DIN connector (DIN43650C standard)
- Body ported type with external pilot
- Main valve fluoro rubber specification
- Energy saving solenoid valve

Specific Product Precautions P. 1.2-178 to 1.2-182

Cassette Type Manifold P. 1.2-183 to 1.2-206



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High Capacity & Simple Choices

5 Port Solenoid Valves

SY3000/5000/7000/9000

Low power consumption: 0.5W

(Current value: 21mA at 24VDC)

Low power consumption enables direct operation by a PLC, and cost savings are realized through the use of a smaller power supply and switching elements and the elimination of relay cards.

[An energy saving type [0.22W] is also available. Refer to page 1.2-177 for details.]

Compact design with high flow capacity of 1668.6 to 2944.5 N*l*/min with the same body width

The same size cylinder can be driven with a valve one physical size smaller than a conventional type, contributing greatly to both space and cost savings.

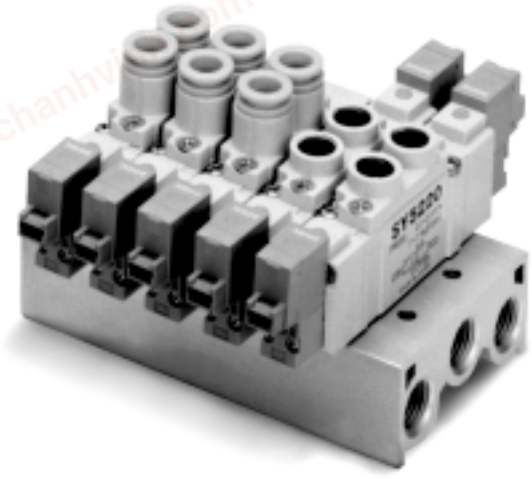
Valves to drive cylinders of sizes ø6 to ø200 — Pressure: 0.5MPa, Load factor: 50%

Base mounted (sub-plate)	Nl/min	Cylinder speed mm/s	Cylinder bore size mm																
			Series CJ2			Series CM2				Series MB/CA1					Series CS1				
			ø6	ø10	ø16	ø20	ø25	ø32	ø40	ø40	ø50	ø63	ø80	ø100	ø125	ø140	ø160	ø180	ø200
SY3000	294.5	150	■	■	■	■	■	■	■	■	■	□	□	□	□	□	□	□	□
		300	■	■	■	■	■	■	■	■	□	□	□	□	□	□	□	□	□
		450	■	■	■	■	■	■	□	□	□	□	□	□	□	□	□	□	□
		600	■	■	■	■	■	□	□	□	□	□	□	□	□	□	□	□	□
		750	■	■	□	■	■	□	□	□	□	□	□	□	□	□	□	□	□
SY5000	687	150	■	■	■	■	■	■	■	■	■	■	■	□	□	□	□	□	□
		300	■	■	■	■	■	■	■	■	■	□	□	□	□	□	□	□	□
		450	■	■	■	■	■	■	■	■	□	□	□	□	□	□	□	□	□
		600	■	■	■	■	■	■	■	■	□	□	□	□	□	□	□	□	□
		750	■	■	□	■	■	■	□	□	□	□	□	□	□	□	□	□	□
SY7000	1177.8	150	■	■	■	■	■	■	■	■	■	■	■	■	✻	✻	□	□	□
		300	■	■	■	■	■	■	■	■	■	■	✻	✻	□	□	□	□	□
		450	■	■	■	■	■	■	■	■	■	✻	✻	□	□	□	□	□	□
		600	■	■	■	■	■	■	■	■	■	✻	□	□	□	□	□	□	□
		750	■	■	□	■	■	■	■	■	✻	✻	□	□	□	□	□	□	□
SY9000	2748.2	150	■	■	■	■	■	■	■	■	■	■	■	■	■	■	✻	✻	✻
		300	■	■	■	■	■	■	■	■	■	■	■	✻	✻	✻	□	□	□
		450	■	■	■	■	■	■	■	■	■	■	✻	✻	□	□	□	□	□
		600	■	■	■	■	■	■	■	■	■	✻	✻	✻	□	□	□	□	□
		750	■	■	□	■	■	■	■	■	■	✻	✻	□	□	□	□	□	□

The speed of CJ2 and CM2 cylinders is controlled by a fixed orifice built into the cylinder.

∗ Cylinder speeds are for extension of the cylinder.

∗ The "✻" symbol indicates conditions with SGP (steel piping).





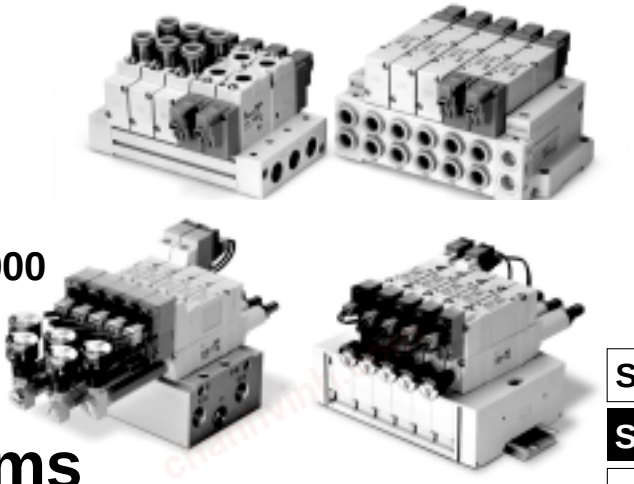
Long life exceeding 50 million cycles

(Based on SMC life test conditions.)

Long life is achieved by a new pilot design, guide rings that prevent main valve eccentricity, and a stronger return force.

New

- **5 port solenoid valve series SY9000 N*l*/min 2748.2 (base mounted type with sub-plate)**
- **Interface regulator series ARBY3000/5000 (for series SY3000/5000/7000)**



High speed response: 10ms

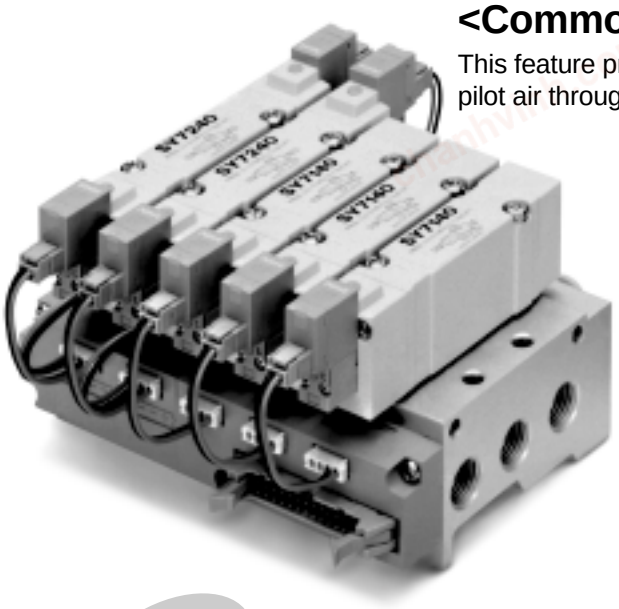
(SY3000 single solenoid, 0.5MPa, 20°C) (representative value)

The innovative design of the pilot valve makes it possible to achieve a short response time of 10ms while consuming only a half watt of power.

Exhaust mist and noise from the pilot valve are eliminated.

<Common exhaust construction for main/pilot valves>

This feature provides for a cleaner and quieter operating environment by exhausting the pilot air through the main valve body rather than directly to the atmosphere.



Interchangeable cylinder port sizes

<Body ported type>

	Interchangeable port sizes				
SY3000	C4		C6		M5
SY5000	C4	C6		C8	1/8
SY7000	C8		C10		1/4
SY9000	C8	C10	C12	Rc1/4	3/8

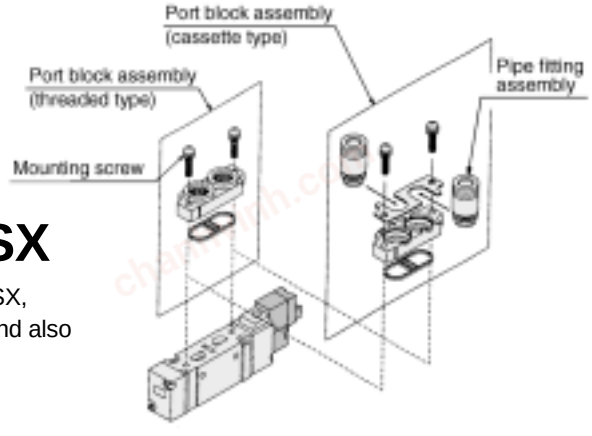
C# = Tube fitting cartridge size

- **For SY5000**

[SY5000-6A-01] **[SY5000-6A-C6]**

Outstanding seal performance

Special rubber seals in the main valve offer improved durability and performance, greatly reducing valve failures under a wide range of operating conditions.



Same valve footprint as series SX

The non-plug-in type manifold base and sub-plate are common with series SX, making it possible to mount both series SX and SY on the same manifold, and also reducing base inventory when both series are being used.

Clean aesthetics and state-of-the-art design

Bright white colours and a clean design have been adopted to complement high-tech operating environments.

Values presented in this catalogue are for reference and are not guaranteed.

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Cylinder Speed Chart

* Values in the chart below are for reference. Confirm the actual conditions with the SMC sizing program.

Body ported type

Series	Cylinder speed mm/s	Cylinder bore size mm														
		Series CJ2 Pressure 0.5MPa Load factor 50% Cylinder stroke 60mm			Series CM2 Pressure 0.5MPa Load factor 50% Cylinder stroke 300mm				Series MB/CA1 Pressure 0.5MPa Load factor 50% Cylinder stroke 500mm					Series CS1 Pressure 0.5MPa Load factor 50/% Cylinder stroke 1000mm		
		ø6	ø10	ø16	ø20	ø25	ø32	ø40	ø40	ø50	ø63	ø80	ø100	ø125	ø140	ø160
SY3120 -C6 Nl/min = 225.7	150	■	■	■	■	■	■		■							
	300	■	■	■	■	■	■		■							
	450	■	■	■	■	■										
	600	■	■	■	■	■										
	750	■	■		■											
SY5120 -01 Nl/min = 579.1	150	■	■	■	■	■	■	■	■	■	■	■				
	300	■	■	■		■	■	■	■	■						
	450	■	■	■	■	■	■	■	■							
	600	■	■	■	■	■	■	■	■							
	750	■	■		■	■	■									
SY7120 -02 Nl/min = 854	150	■	■	■	■	■	■	■	■	■	■	■	■			
	300	■	■	■	■	■	■	■	■	■	■					
	450	■	■	■	■	■	■	■	■	■						
	600	■	■	■	■	■	■	■	■	■						
	750	■	■		■	■	■	■	■							
SY9120 -03 Nl/min = 2061.2	150	■	■	■	■	■	■	■	■	■	■	■	■	■	✻	✻
	300	■	■	■	■	■	■	■	■	■	■	■	✻			
	450	■	■	■	■	■	■	■	■	■	■	✻				
	600	■	■	■	■	■	■	■	■	■	✻	✻				
	750	■	■		■	■	■	■	■	■	✻					

The speed of CJ2 and CM2 cylinders is controlled by a fixed orifice built into the cylinder.
* Cylinder speeds are for extension of the cylinder.
* The "✻" symbol indicates conditions with SGP (steel piping).

Base mounted type (with sub-plate)

Series	Cylinder speed mm/s	Cylinder bore size mm																
		Series CJ2 Pressure 0.5MPa Load factor 50% Cylinder stroke 60mm			Series CM2 Pressure 0.5MPa Load factor 50% Cylinder stroke 300mm				Series MB/CA1 Pressure 0.5MPa Load factor 50% Cylinder stroke 500mm					Series CS1 Pressure 0.5MPa Load factor 50% Cylinder stroke 1000mm				
		ø6	ø10	ø16	ø20	ø25	ø32	ø40	ø40	ø50	ø63	ø80	ø100	ø125	ø140	ø160	ø180	ø200
SY3140 -01 Nl/min = 294.5	150	■	■	■	■	■	■	■	■									
	300	■	■	■	■	■	■	■	■									
	450	■	■	■	■	■	■											
	600	■	■	■	■	■												
	750	■	■		■	■												
SY5140 -02 Nl/min=687	150	■	■	■	■	■	■	■	■	■	■	■						
	300	■	■	■	■	■	■	■	■	■								
	450	■	■	■	■	■	■	■	■									
	600	■	■	■	■	■	■	■	■									
	750	■	■		■	■	■											
SY7140 -03 Nl/min = 1177.8	150	■	■	■	■	■	■	■	■	■	■	■	■	✻	✻			
	300	■	■	■	■	■	■	■	■	■	■	✻	✻					
	450	■	■	■	■	■	■	■	■	■	✻	✻						
	600	■	■	■	■	■	■	■	■	■	✻							
	750	■	■		■	■	■	■	■	✻	✻							
SY9140 -04 Nl/min = 2748.2	150	■	■	■	■	■	■	■	■	■	■	■	■	■	■	✻	✻	✻
	300	■	■	■	■	■	■	■	■	■	■	■	✻	✻	✻			
	450	■	■	■	■	■	■	■	■	■	■	✻	✻					
	600	■	■	■	■	■	■	■	■	■	✻	✻	✻					
	750	■	■		■	■	■	■	■	■	✻	✻						

The speed of CJ2 and CM2 cylinders is controlled by a fixed orifice built into the cylinder.
* Cylinder speeds are for extension of the cylinder.
* The "✻" symbol indicates conditions with SGP (steel piping).

Conditions

Body ported type		Series CJ2	Series CM2	Series MB/CA1	Series CS1
SY3120 -C6 (Nl/min = 225.7)	Tube bore x Length	ø6 x 1m			—
	Speed controller	AS2051F-06 (S = 0.25)			—
	Silencer	AN120-M5 (Nl/min = 265)			—
SY5120 -01 (Nl/min = 579.1)	Tube bore x Length	ø6 x 1m	ø8 x 1m		—
	Speed controller	AS3001F-06 (Nl/min = 353.3)	AS3001F-08 (Nl/min = 549.6)		—
	Silencer	AN101-01 (Nl/min = 1089.5)			—
SY7120 -02 (Nl/min = 853.9)	Tube bore x Length	ø6 x 1m	ø10 x 1m		—
	Speed controller	AS3001F-06 (Nl/min = 353.3)	AS4001F-10 (Nl/min = 873.5)		—
	Silencer	AN110-01 (Nl/min = 1904.1)			—
SY9120 -03 (Nl/min = 2061.2)	Tube bore x Length	ø6 x 1m	ø10 x 1m	ø12 x 1m	
	Speed controller	AS3001F-06 (Nl/min =127.2)	AS4001F-10 (Nl/min = 873.5)	AS4001F-12 (Nl/min = 1148.4)	
	Silencer	AN200-02 (Nl/min = 1904.1)			

Conditions [with SGP (steel tube)]

Body ported type		Series CS1
SY9120 -03 (Nl/min = 2061.2)	Steel tube size x Length	SGP3/8 x 1m
	Speed controller	AS420-03 (Nl/min = 4034)
	Silencer	AN400-04 (Nl/min = 4907.5)

Conditions

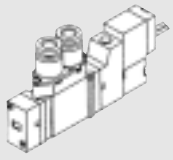
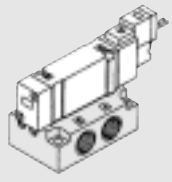
Base mounted type		Series CJ2	Series CM2	Series MB/CA1	Series CS1
SY3140 -01 (Nl/min = 294.5)	Tube bore x Length	ø6 x 1m			—
	Speed controller	AS3001F-06 (S = 0.36)			—
	Silencer	AN110-01 (Nl/min = 1904.1)			—
SY5140 -02 (Nl/min = 480.9)	Tube bore x Length	ø6 x 1m	ø8 x 1m		—
	Speed controller	AS3001F-06 (Nl/min = 353.3)	AS3001F-08 (Nl/min = 549.6)		—
	Silencer	AN110-01 (Nl/min = 1904.1)			—
SY7140 -03 (Nl/min = 1177.8)	Tube bore x Length	ø6 x 1m	ø10 x 1m	ø12 x 1m	
	Speed controller	AS3001F-06 (Nl/min = 353.3)	AS3001F-08 (Nl/min = 549.6)	AS4001F-10 (Nl/min = 1.17)	
	Silencer	AN200-02 (Nl/min = 1904.1)			
SY9140 -04 (Nl/min = 2748.2)	Tube bore x Length	ø6 x 1m	ø10 x 1m	ø12 x 1m	
	Speed controller	AS3001F-06 (Nl/min = 1148.4)	AS4001F-10 (Nl/min = 873.5)	AS4001F-12 (Nl/min = 1148.4)	
	Silencer	AN200-02 (Nl/min = 1904.1)			

Conditions [with SGP (steel tube)]

Base mounted type		Series MB/CA1	Series CS1
SY7140 -03 (Nl/min = 1177.8)	Steel tube size x Length	SGP3/8 x 1m	
	Speed controller	AS420-03 (Nl/min = 4034)	
	Silencer	AN300-03 (Nl/min = 3602.1)	
SY9140 -04 (Nl/min = 2748.2)	Steel tube size x Length	SGP1/2 x 1m	
	Speed controller	AS420-04 (Nl/min = 4907.5)	
	Silencer	AN400-04 (Nl/min = 4907.5)	

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Valve Variations

Series			Effective area mm² (Nl/min)	Type of actuation					Voltage		Electrical entry				Note 1) Indicator light/Surge voltage suppressor
				2 position		3 position			DC	AC					
				Single	Double	Closed center	Exhaust center	Pressure center	24V 12V 6V 5V 3V	100V 50/60Hz 110V 50/60Hz 200V 50/60Hz 220V 50/60Hz	Grommet	L type plug connector	M type plug connector	DIN terminal	
Body ported type	Page 1.2-10 	**SY3□20**	4.14 (225.7)	●	●	●	●	●	●	—	●	●	●	—	●
		SY5□20	10.6 (579.1)	●	●	●	●	●	●	●	●	●	●	●	●
		SY7□20	16.2 (883.4)	●	●	●	●	●	●	●	●	●	●	●	●
		SY9□20	38.23 (2080.8)	●	●	●	●	●	●	●	●	●	●	●	●
Base mounted type	Page 1.2-28 	**SY3□40**	5.4 (294.5)	●	●	●	●	●	●	—	●	●	●	—	●
		SY5□40	12.6 (687)	●	●	●	●	●	●	●	●	●	●	●	●
		SY7□40	21.6 (1177.8)	●	●	●	●	●	●	●	●	●	●	●	●
		SY9□40	51.71 (2817)	●	●	●	●	●	●	●	●	●	●	●	●

Series		Manual override			Bracket	P, EA, EB port size					A, B port size					One-touch fitting					Options						
		Non-locking push type	Push-turn locking slotted type	Push-turn locking lever type		M5	1/8	1/4	3/8	1/2	M5	1/8	1/4	3/8	1/2	C4	C6	C8	C10	C12	Exhaust throttle	Oil resistant (except turbine oil)	Vacuum specification	Low pressure specification	Reverse pressure	IP65 enclosure Note 3)	Interface regulator
Body ported type	**SY3□20**	●	●	●	●	●	—	—	—	—	●	—	—	—	—	●	●	—	—	—	●	▲	▲ External pilot Note 2)	▲ External pilot Note 2)	▲ External pilot Note 2)	● DIN terminal	—
	SY5□20	●	●	●	●	—	●	—	—	—	—	●	—	—	—	●	●	●	—	—							
	SY7□20	●	●	●	●	—	● (EA, EB)	● (P)	—	—	—	—	●	—	—	—	—	●	●	—							
	SY9□20	●	●	●	—	—	—	●	—	—	—	—	●	●	—	—	—	●	●	●							
Base mounted type	**SY3□40**	●	●	●	—	—	●	—	—	—	—	●	—	—	—	—	—	—	—	—	● Sub-plate	▲	● External pilot	● External pilot	● External pilot	● DIN terminal	●
	SY5□40	●	●	●	—	—	—	●	—	—	—	—	●	—	—	—	—	—	—	—							—
	SY7□40	●	●	●	—	—	—	●	●	—	—	—	●	●	—	—	—	—	—	—							
	SY9□40	●	●	●	—	—	—	—	●	●	—	—	—	●	●	—	—	—	—	—							

Note 1) All AC voltages have built-in surge voltage suppressor as standard.
Note 2) Body ported external pilot type (order made product) is not available for DIN terminal type.
Note 3) Only available for DIN terminal type.

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Manifold Variations

Manifold variations			Valve series	Wiring: Connection: Individual wiring	Flat ribbon cable (26 pins)	Connector box (Flat ribbon cable 20 pins)	D-sub connector (25 pins) <Plug-in type>	Flat ribbon cable (26, 20, 10 pins) <Plug-in type>	Terminal block (9, 18 pins) <Plug-in type>	PC wiring	Serial transmission unit	Common specifications: Positive COM	Negative COM
			5 port										
Body ported type	**Bar stock type** **Individual wiring** ■ Direct piping to the main unit of valve. Combination of different fittings is possible.	Type 20 Page 1.2-46	SY3□20 SY5□20 SY7□20	●	—	—	—	—	—	—	—	—	—
	Bar stock type **Flat ribbon cable** ■ A 26 pin MIL connector permits one-touch wiring of external cables in a bundle.	Type 20P Page 1.2-56	SY3□20 SY5□20 SY7□20	—	●	—	—	—	—	—	—	● Common	
	Stacking type **Individual wiring** ■ Addition/Removal of manifold stations is possible.	Type 23 Page 1.2-52	SY9□20	●	—	—	—	—	—	—	—	—	—
	Stacking type **Flat ribbon cable** ■ Addition/Removal of manifold stations is possible.	Type 23P Page 1.2-62	SY9□20	—	●	—	—	—	—	—	—	● Common	
Base mounted type	**Compact bar stock type** **Individual wiring** ■ The base mounting facilitates maintenance when valves are changed.	Type 41 Page 1.2-68	SY3□40 SY5□40	●	—	—	—	—	—	—	—	—	—
	Compact bar stock type **Flat ribbon cable** ■ A 26 pin MIL connector permits one-touch wiring of external cables in a bundle.	Type 41P Page 1.2-84	SY3□40 SY5□40	—	●	—	—	—	—	—	—	● Common	
	Bar stock type/Common external pilot **Individual wiring** ■ The base mounting facilitates maintenance when valves are changed. ■ Vacuum/low pressure combination system is possible.	Type 42 Page 1.2-68	SY3□40 SY5□40 SY7□40	●	—	—	—	—	—	—	—	—	—
	Bar stock type/Common external pilot **Flat ribbon cable** ■ A 26 pin MIL connector permits one-touch wiring of external cables in a bundle. ■ Vacuum/low pressure combination system is possible.	Type 42P Page 1.2-84	SY3□40 SY5□40 SY7□40	—	●	—	—	—	—	—	—	● Common	
	Stacking type **Individual wiring** ■ Addition/Removal of manifold stations is possible.	Type 43 Page 1.2-78	SY9□40	●	—	—	—	—	—	—	—	—	—
	Stacking type **Flat ribbon cable** ■ Addition/Removal of manifold stations is possible.	Type 43P Page 1.2-92	SY9□40	—	●	—	—	—	—	—	—	● Common	
	Stacking type/DIN rail **Individual wiring** ■ Stations can be changed on the DIN rail. Integral mounting of other parts is possible.	Type 45 Page 1.2-104	SY3□40 SY5□40	●	—	—	—	—	—	—	—	—	—
	Stacking type/DIN rail **Connector box** ■ Stations can be changed on the DIN rail. The provided connector box permits one-touch connection of electric cables.	Type 45-A□NA Page 1.2-115	SY3□40 SY5□40	—	—	●	—	—	—	●	—	●	●
	Stacking type/DIN rail **Plug-in type** ■ Stations can be changed on the DIN rail. ■ A variety of centralized wiring methods are possible.	Type 45□ Page 1.2-124	SY3□40 SY5□40	—	—	—	●	●	●	●	●	●	●

● Standard ● Option
▲ Order made (See "Order Made Specifications" pages.)

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Manifold Variations

Manifold options								A, B port size									Valve options											
Blanking plate	Individual SUP spacer	Individual EXH spacer	SUP Block disc	EXH Block disc	Labels for block disc	Silencer with One-touch fitting	Built-in silencer	M5	1/8	1/4	3/8	One-touch fitting					SY3000, SY5000 Mixed mounting	Oil resistant (except specified turbine oil)	Vacuum specification	Low pressure specification	Different pressure	Reverse pressure	Exhaust throttle	Bundled wiring	Mixed fitting sizes	IP65 enclosure	Interface regulator
												C4	C6	C8	C10	C12											
●	●	●	—	—	—	—	—	●	—	—	—	●	●	—	—	—	—	▲	—	—	Individual SUP spacer	—	Individual EXH spacer	—	—	— Note) ●	—
								—	●	—	—	●	●	●	—	—										Note) ●	
								—	—	●	—	—	—	●	●	—											
●	●	●	—	—	—	—	—	●	—	—	—	●	●	—	—	—	—	▲	—	—	Individual SUP spacer	—	Individual EXH spacer	●	—	—	—
								—	●	—	—	●	●	●	—	—											
								—	—	●	—	—	—	●	●	—											
●	●	●	●	●	●	—	—	—	—	●	●	—	—	●	●	●	—	▲	● External pilot	● External pilot	Individual SUP block disc	● External pilot	Individual EXH	—	—	Note) ●	—
●	●	●	●	●	●	—	—	—	—	●	●	—	—	●	●	●	—	▲	● External pilot	● External pilot	Individual SUP block disc	● External pilot	Individual EXH	●	—	—	
●	●	●	—	—	—	—	—	●	—	—	—	●	●	—	—	—	—	▲	—	—	Individual SUP spacer	—	—	—	—	— Note) ●	●
								—	●	—	—	—	●	●	—	—											
●	●	●	—	—	—	—	—	●	—	—	—	●	●	—	—	—	—	▲	—	—	Individual SUP spacer	—	—	●	—	—	—
								—	●	—	—	●	●	●	—	—											
●	●	●	—	—	—	—	—	—	●	—	—	●	●	—	—	—	—	▲	● External pilot	● External pilot	Individual SUP spacer	● External pilot	—	—	—	— Note) ●	●
								—	—	●	—	—	●	●	—	—											
								—	—	●	—	—	—	—	●	—										Note) ●	—
●	●	●	—	—	—	—	—	—	●	—	—	●	●	—	—	—	—	▲	● External pilot	● External pilot	Individual SUP spacer	● External pilot	—	●	—	—	●
								—	—	●	—	—	●	●	—	—											
								—	—	●	—	—	—	—	●	—											—
●	●	●	●	●	●	●	●	—	—	●	●	—	—	●	●	●	—	▲	● External pilot	● External pilot	Individual SUP block disc	● External pilot	Individual EXH	—	●	Note) ●	—
●	●	●	●	●	●	●	●	—	—	●	●	—	—	●	●	●	—	▲	● External pilot	● External pilot	Individual SUP block disc	● External pilot	Individual EXH	●	●	—	
●	●	●	●	●	●	●	▲	—	—	—	—	●	●	—	—	—	▲	▲	▲ External pilot	▲ External pilot	Individual SUP spacer or block disc	—	—	—	●	— Note) ●	●
								—	—	—	—	●	●	●	—	—											
●	●	●	●	●	●	●	▲	—	—	—	—	●	●	—	—	—	▲	▲	▲ External pilot	▲ External pilot	Individual SUP spacer or block disc	—	—	●	●	—	●
								—	—	—	—	●	●	●	—	—											
●	●	●	●	●	●	●	▲	—	—	—	—	●	●	—	—	—	▲	▲	▲ External pilot	▲ External pilot	Individual SUP spacer or block disc	—	—	●	●	—	—
								—	—	—	—	●	●	●	—	—											

Note) When using DIN terminal.

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SY3000/5000/7000/9000
Body Ported Type
Single Valve

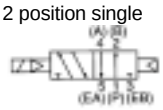
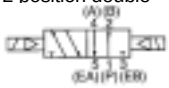
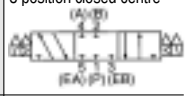
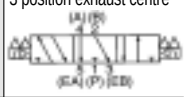
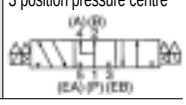
How to Order

SY [5] [1] 20 – [5] [L] [ ] [ ] – [01] [ ] – [ ] – Q

Series

3	SY3000
5	SY5000
7	SY7000
9	SY9000

Type of actuation

1	2 position single 
2	2 position double 
3	3 position closed centre 
4	3 position exhaust centre 
5	3 position pressure centre 

Rated voltage

DC specifications	
5	24VDC
6	12VDC
V	6VDC
S	5VDC
R	3VDC
9	Less than 50 VDC

AC specifications (50/60Hz)

1	100VAC
2	200VAC
3	110VAC [115VAC]
4	220VAC [230VAC]
9	Less than 250 VAC

Note 1) "D", "DO", "Y" and "YO" are only available in 24VDC and 12VDC in case of DC.
Note 2) "D", "DO", "Y" and "YO" are not available for SY3000.

Contact SMC for other voltages (9)

Protective class
class I (Mark: ⏚)..... DIN terminal type

Protective class
class III (Mark: ◈)..... Grommet, L and M plug connector

Note) When single body ported solenoid valves are ordered, manifold mounting bolts and gaskets are not included. Order them separately, if necessary. (Refer to page 1.2-65 for details.)

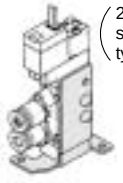
A/B port size

Symbol	Port size	Applicable series
M5	M5	SY3000
C4	ø4 One-touch fitting	
C6	ø6 One-touch fitting	
01	1/8	SY5000
C4	ø4 One-touch fitting	
C6	ø6 One-touch fitting	
C8	ø8 One-touch fitting	
02	1/4	SY7000
C8	ø8 One-touch fitting	
C10	ø10 One-touch fitting	
02	1/4	SY9000
03	3/8	
C8	ø8 One-touch fitting	
C10	ø10 One-touch fitting	
C12	ø12 One-touch fitting	

Thread

–	Rc (PT)
N	NPT
T	NPTF
F	G (PF)

Bracket

Nil: Without bracket
F1: With foot bracket
2 position single type only


F2: With side bracket


∗ SY9000 does not use brackets.

Manual override

Nil: Non-locking push type 

D: Push-turn locking slotted type 

E: Push-turn locking lever 

Indicator light/Surge voltage suppressor

For electrical entry G, H, L, M

Nil	Without indicator light/surge voltage suppressor
S	With surge voltage suppressor
Z	With indicator light/surge voltage suppressor
U	With indicator light/surge voltage suppressor (non-polar type)

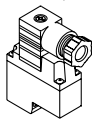
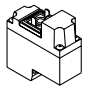
Note 1) "U" is available for DC only.

For electrical entry D

Nil	Without indicator light/surge voltage suppressor
S	With surge voltage suppressor (non-polar type)
Z	With indicator light/surge voltage suppressor (non-polar type)

Note 1) "DOZ" is not available.
Note 2) For AC, there is no "S" specification, since it is integrated with the rectifier.

Electrical entry

24V, 12V, 6V, 5V, 3VDC				24V, 12VDC 100V, 110V, 200V, 220VAC
Grommet	L type plug connector	M type plug connector		DIN terminal
G: Lead wire length 300mm 	**L:** With lead wire (length 300mm) 	**M:** With lead wire (length 300mm) 	**MN:** Without lead wire 	**(Except SY3000)** **D:** With connector **Y:** With connector (DIN 43650C) 
H: Lead wire length 600mm 	**LN:** Without lead wire 	**LO:** Without connector 	**MO:** Without connector 	**DO:** Without connector **YO:** Without connector (DIN 43650C) 

Note 1) "LN" and "MN" include 2 sockets.
Note 2) "D" and "DO" are not available for SY3000.

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Order Made Pages 1.2-168 to 1.2-177

Specifications

Series		SY3000	SY5000	SY7000	SY9000
Fluid		Air			
Internal pilot operating pressure range MPa	2 position single	0.15 to 0.7			
	2 position double	0.1 to 0.7			
	3 position	0.2 to 0.7			
Ambient and fluid temperature °C		Maximum 50			
Maximum operating frequency Hz	2 position single, double	10	5	5	5
	3 position	3	3	3	3
Manual override		Non-locking push type, Push-turn locking slotted type, Push-turn locking lever type			
Pilot exhaust method		Common exhaust for main and pilot valves			
Lubrication		Not required			
Mounting orientation		Unrestricted			
Impact resistance/Vibration resistance m/s² Note)		150/30			
Enclosure		Dust proof (IP65 for DIN terminal*)			

* In compliance with IEC529 standard.
Note) **Impact resistance:** No malfunction resulted from the impact test using a drop impact tester. The test was performed one time each in the axial and right angle directions of the main valve and armature, for both energized and de-energized states. (Value in the initial stage)

Vibration resistance: No malfunction occurred in a one-sweep test between 8.3 and 2000Hz. Test was performed for both energized and de-energized states in the axial and right angle directions of the main valve and armature. (Value in the initial stage)

Solenoid specifications

Electrical entry			Grommet (G)/(H), L type plug connector (L), M type plug connector (M), DIN terminal (D) Note 1)
Rated coil voltage V	DC		24, 12, 6, 5, 3
	AC 50/60Hz		100, 110, 200, 220 Note 2)
Allowable voltage fluctuation			±10% of rated voltage
Current consumption W	DC		0.5 [With indicator light: 0.55 (0.6 for DIN terminal with indicator light)] Note 3)
Apparent power VA	AC	100V	0.9 (With indicator light: 1.0)
		110V [115V]	1.0 (With indicator light: 1.1) [1.1 (With indicator light: 1.2)]
		200V	1.8 (With indicator light: 1.9)
		220V [230V]	1.9 (With indicator light: 2.0) [2.2 (With indicator light: 2.3)]
Surge voltage suppressor			Diodes (ZNR for DIN terminal, Zener diode for G, L or M non-polar type)
Indicator light			LED (Neon bulb for AC type DIN terminal)

Note 1) DIN terminal (D) is not available for SY3000.
Note 2) 110 and 115VAC are common, as are 220 and 230VAC.
Note 3) Energy saving [0.22W] type is also available. Refer to page 1.2-177 for details.
Note 4) AC specifications are only for the DIN terminal type.

Response time

Note) Based on dynamic performance test JISB8375-1981 (at coil temperature of 20°C with rated voltage)

SY3000

Type of actuation	Response time ms (at 0.5MPa)		
	Without indicator light/ surge voltage suppressor	With indicator light/surge voltage suppressor	
		S, Z types	U types
2 position single	12 or less	15 or less	12 or less
2 position double	10 or less	13 or less	10 or less
3 position	15 or less	20 or less	16 or less

SY5000

Type of actuation	Response time ms (at 0.5MPa)		
	Without indicator light/ surge voltage suppressor	With indicator light/surge voltage suppressor	
		S, Z types	U types
2 position single	19 or less	26 or less	19 or less
2 position double	18 or less	22 or less	18 or less
3 position	32 or less	38 or less	32 or less

SY7000

Type of actuation	Response time ms (at 0.5MPa)		
	Without indicator light/ surge voltage suppressor	With indicator light/surge voltage suppressor	
		S, Z types	U types
2 position single	31 or less	38 or less	33 or less
2 position double	27 or less	30 or less	28 or less
3 position	50 or less	56 or less	50 or less

SY9000

Type of actuation	Response time ms (at 0.5MPa)		
	Without indicator light/ surge voltage suppressor	With indicator light/surge voltage suppressor	
		S, Z types	U types
2 position single	35 or less	41 or less	35 or less
2 position double	35 or less	41 or less	35 or less
3 position	62 or less	64 or less	62 or less

Body Ported Type

Models/Series SY3000

Valve model	Type of actuation			Port size		Effective area mm² (N ℓ/min)		Weight g	
				P, EA, EB	A, B	P to A/B	A/B to EA/EB	Grommet	L/M type plug connector
SY3□20-□-M5	2 pos.	Single		M5	M5	3.6 (196.3)	3.78 (206)	48	51
		Double						62	70
	3 position	Closed centre				3.6 (196.3)	3.42 (186.5)	65	72
		Exhaust centre				3.6 (196.3)	3.78 (206) [2.7 (147.2)]		
		Pressure centre				3.96 (216) [2.88 (157)]	3.6 (196.3)		
SY3□20-□-C4	2 pos.	Single			C4 ø4 One-touch fitting	3.42 (186.5)	3.6 (196.3)	57	61
		Double						72	79
	3 position	Closed centre				3.42 (186.5)	3.42 (186.5)	75	82
		Exhaust centre				3.42 (186.5)	3.78 (206) [2.7 (147.2)]		
		Pressure centre				3.6 (196.3) [2.16 (117.8)]	3.6 (196.3)		
SY3□20-□-C6	2 pos.	Single			C6 ø6 One-touch fitting	3.6 (196.3)	4.14 (225.7)	53	57
		Double						68	75
	3 position	Closed centre				3.6 (196.3)	3.96 (216)	71	78
		Exhaust centre				3.78 (206)	4.5 (245.4) [3.06 (166.9)]		
		Pressure centre				3.96 (216) [2.88 (157)]	3.96 (216)		

Note) Values inside [ ] are for normal position.

Models/Series SY7000

Valve model	Type of actuation			Port size		Effective area mm² (N ℓ/min)		Weight g		
				P, EA, EB	A, B	P to A/B	A/B to EA/EB	Grommet	L/M type plug connector	DIN terminal
SY7□20-□-02	2 pos.	Single		P port: 1/4 EA, EB ports: 1/8	1/4	16.2 (883.4)	15.66 (854)	98	102	125
		Double						114	121	167
	3 position	Closed centre				12.06 (657.6)	11.34 (618.3)	122	129	175
		Exhaust centre				11.88 (647.8)	16.74 (912.8) [11.7 (638)]			
		Pressure centre				17.1 (932.4) [11.16 (608.5)]	11.34 (618.3)			
SY7□20-□-C8	2 pos.	Single			C8 ø8 One-touch fitting	13.86 (755.8)	13.68 (746)	104	108	131
		Double						120	128	174
	3 position	Closed centre				11.52 (402)	10.44 (569.3)	128	136	182
		Exhaust centre				11.16 (608.5)	14.4 (785.2) [10.8 (353.3)]			
		Pressure centre				14.58 (795) [10.62 (579)]	10.44 (569.3)			
SY7□20-□-C10	2 pos.	Single			C10 ø10 One-touch fitting	15.84 (863.7)	14.94 (814.6)	100	103	126
		Double						116	123	169
	3 position	Closed centre				12.24 (453.8)	11.16 (608.5)	124	131	177
		Exhaust centre				11.88 (647.8)	16.2 (873.5) [11.34 (618.3)]			
		Pressure centre				16.74 (912.8) [11.16 (608.5)]	11.34 (618.3)			

Note) Values inside [ ] are for normal position.

Models/Series SY5000

Valve model	Type of actuation			Port size		Effective area mm² (N ℓ/min)		Weight g		
				P, EA, EB	A, B	P to A/B	A/B to EA/EB	Grommet	L/M type plug connector	DIN terminal
SY5□20-□-01	2 pos.	Single		1/8	1/8	9.18 (500.5)	10.6 (579)	67	70	93
		Double						82	89	135
	3 position	Closed centre				7.38 (402.4)	7.92 (431.9)	87	94	140
		Exhaust centre				7.56 (402.4)	12.06 (341.7) [8.28 (451.5)]			
		Pressure centre				10.62 (341.7) [4.32 (235.6)]	8.46 (451.5)			
SY5□20-□-C4	2 pos.	Single			C4 ø4 One-touch fitting	5.5 (304.3)	3.9 (216)	91	94	117
		Double						105	113	159
	3 position	Closed centre				5.3 (284.6)	3.9 (216)	111	118	164
		Exhaust centre				5.3 (284.6)	3.9 (216)			
		Pressure centre				5.7 (314)	3.9 (216)			
SY5□20-□-C6	2 pos.	Single			C6 ø6 One-touch fitting	9 (500.5)	9 (500.5)	85	89	112
		Double						100	107	153
	3 position	Closed centre				7.2 (402.4)	7.38 (402.4)	105	112	158
		Exhaust centre				7.38 (402.4)	9.72 (530) [7.2 (402.4)]			
		Pressure centre				10.62 (579) [4.32 (235.6)]	7.2 (402.4)			
SY5□20-□-C8	2 pos.	Single			C8 ø8 One-touch fitting	9.18 (500.5)	9.9 (530)	77	80	103
		Double						92	99	145
	3 position	Closed centre				7.38 (402.4)	7.92 (431.9)	97	104	150
		Exhaust centre				7.38 (402.4)	11.88 (341.7) [7.74 (431.9)]			
		Pressure centre				10.62 (579) [4.32 (235.6)]	7.92 (431.9)			

Note) Values inside [ ] are for normal position.

Models/Series SY9000

Valve model	Type of actuation			Port size		Effective area mm² (N ℓ/min)		Weight g		
				P, EA, EB	A, B	P to A/B	A/B to EA/EB	Grommet	L/M type plug connector	DIN terminal
SY9□20-□-02	2 pos.	Single		1/4	1/4	35.76 (1953.2)	37.43 (2041.5)	238	242	265
		Double						254	262	308
	3 position	Closed centre				34.69 (1894.3)	30.51 (1678.4)	278	286	332
		Exhaust centre				33.63 (1835.4)	41.09 (2238) [18.96 (1030.6)]			
		Pressure centre				37.99 (2071)	31.62 (1727.4) [15.22 (834.3)]			
SY9□20-□-03	2 pos.	Single			3/8	37.90 (2071)	38.23 (2071)	233	237	260
		Double						249	257	303
	3 position	Closed centre				35.98 (1963)	32.37 (1757)	273	281	327
		Exhaust centre				34.17 (1865)	44.76 (2444) [24.92 (1354.5)]			
		Pressure centre				39.94 (2179)	32.97 (1796) [14.67 (660)]			
SY9□20-□-C8	2 pos.	Single			C8 ø8 One-touch fitting	27.34 (1492)	16.23 (795)	290	294	317
		Double						306	314	360
	3 position	Closed centre				26.75 (1462.4)	16.55 (795)	330	338	384
		Exhaust centre				26.17 (1423.2)	16.42 (795) [15.68 (854)]			
		Pressure centre				27.49 (1492)	16.28 (795) [16.28 (795)]			
SY9□20-□-C10	2 pos.	Single			C10 ø10 One-touch fitting	31.16 (1698)	27.40 (1492)	276	280	303
		Double						292	300	346
	3 position	Closed centre				30.74 (1678.4)	26.08 (1423.2)	316	324	370
		Exhaust centre				30.02 (1639)	27.13 (1492) [18.26 (991.3)]			
		Pressure centre				32.28 (1757)	26.36 (1423.2) [15.10 (660)]			
SY9□20-□-C12	2 pos.	Single			C12 ø12 One-touch fitting	33.45 (1835.4)	35.81 (1953.2)	262	266	289
		Double						278	286	332
	3 position	Closed centre				32.96 (1796)	29.62 (1619.5)	302	310	356
		Exhaust centre				32.38 (1767)	37.77 (2071) [18.83 (1030.6)]			
		Pressure centre				35.41 (1933.5)	30.55 (1678.4) [15.23 (834.3)]			

Note) Values inside [ ] are for normal position.

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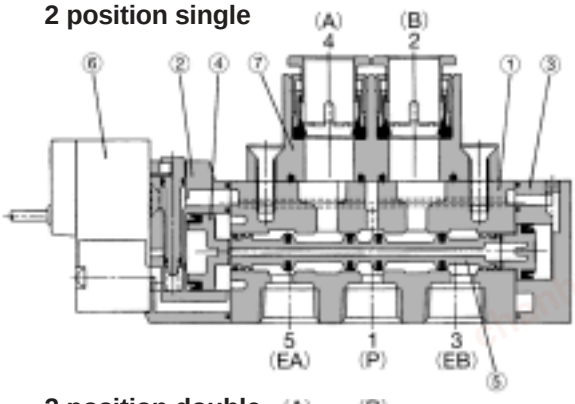
Construction

Series SY

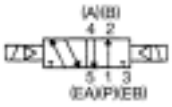
Symbol:
2 position single



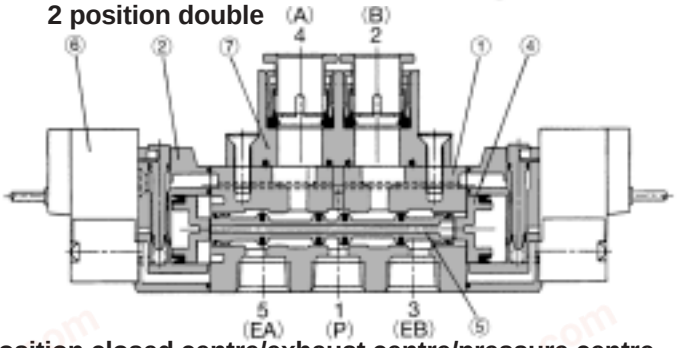
2 position single



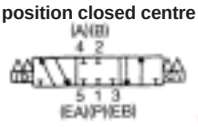
Symbol:
2 position double



2 position double



Symbol:
3 position closed centre



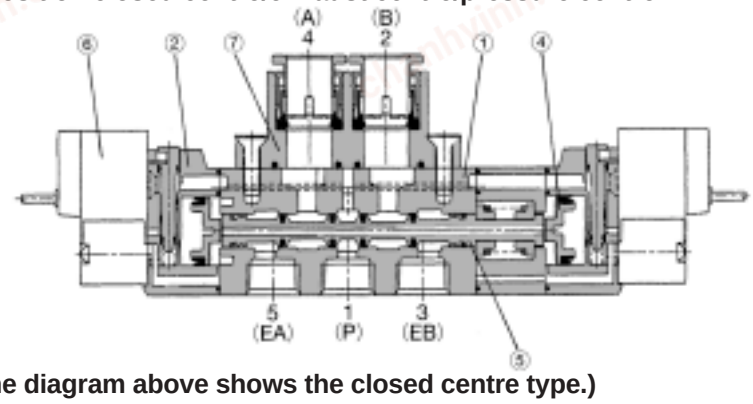
3 position exhaust centre



3 position pressure centre



3 position closed centre/exhaust centre/pressure centre



(The diagram above shows the closed centre type.)

Parts list

No.	Description	Material	Note
1	Body	Die-cast aluminum (SY3000 is die-cast zinc.)	White
2	Adaptor plate	Resin	White (Gray for SY9000)
3	End plate	Resin	White
4	Piston	Resin	—
5	Spool valve assembly	Aluminum/NBR	—

Replacement parts

No.	Description	Part no.
6	Pilot valve assembly	Refer to "How to Order Pilot Valve Assemblies" on page 1.2-14.
7	Port block assembly	Refer to "How to Order Port Block Assemblies" on page 1.2-14.

Bracket assembly part nos.

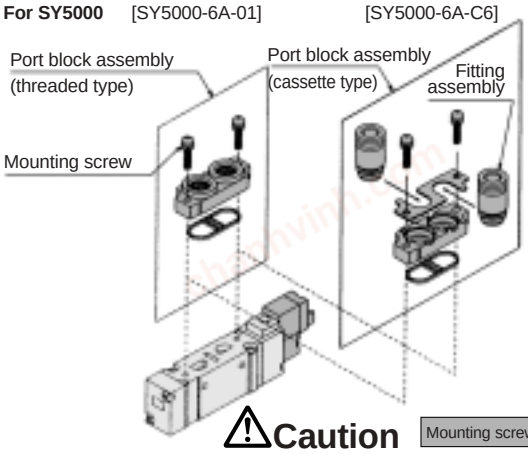
Description	Part no.
Bracket (for F1 type)	SX$^{3}_{5}_{7}$000-16-2A (with mounting screws)
Bracket (for F2 type)	SX$^{3}_{5}_{7}$000-16-1A (with mounting screws)

∗ Brackets are not available for SY9000.

How to Replace Port Block Assembly

With the body ported type, the A/B port size can be changed by replacing the port block assembly mounted on the body. Use appropriate tightening torque when replacing the port block assembly, as insufficient tightening of mounting screws will cause air leakage, etc.

● **For SY5000** [SY5000-6A-01] [SY5000-6A-C6]



⚠Caution Mounting screw tightening torques

SY3000 (M2): 0.12N·m
SY$^{5}_{7}$000 (M3): 0.6N·m
SY9000 (M4): 1.4N·m

∗ Refer to "How to Order Port Block Assemblies" on page 1.2-14 for part numbers.

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Body Ported Type

How to Order Pilot Valve Assemblies

SY114 — 5 G □ — Q

Rated voltage

5	24VDC
6	12VDC
V	6VDC
S	5VDC
R	3VDC

Indicator light/Surge voltage suppressor

Nil	Without indicator light/surge voltage suppressor
S	With surge voltage suppressor
Z	With indicator light/surge voltage suppressor
R	With surge voltage suppressor (non-polar type)
U	With indicator light/surge voltage suppressor (non-polar type)

Note 2) "U" specifications are only available for DC.

Electrical entry

G	Grommet (lead wire length: 300mm)	
H	Grommet (lead wire length: 600mm)	
L	L type plug connector	With lead wire
LN		Without lead wire
LO		Without connector
M	M type plug connector	With lead wire
MN		Without lead wire
MO		Without connector

SY115 — 5 D □ — Q

Rated voltage

5	24VDC
6	12VDC
1	100VAC 50/60Hz
2	200VAC 50/60Hz
3	110VAC 50/60Hz [115VAC 50/60Hz]
4	220VAC 50/60Hz [230VAC 50/60Hz]

Indicator light/Surge voltage suppressor

Nil	Without indicator light/surge voltage suppressor
S	With surge voltage suppressor (non-polar type)
Z	With indicator light/surge voltage suppressor (non-polar type)

Note 1) "DOZ" is not available.
Note 2) "S" specification is not available for AC since it is integrated with the rectifier.

Electrical entry

D	DIN terminal	With connector
DO		Without connector
Y	DIN terminal (DIN 43650C)	With connector
YO		Without connector

Note) When replacing the pilot valve assembly alone, SY114 (G, H, L, and M) cannot be replaced with SY115 (DIN terminal), or vice versa.

How to Order Connector Assemblies

DC: **SY100 − 30 − 4A − □**

Without lead wire: **SY100 − 30 − A**
(Connector, socket x 2pcs. only)

Lead wire length

Nil	300mm
6	600mm
10	1000mm
15	1500mm
20	2000mm
25	2500mm
30	3000mm
50	5000mm

How to Order Port Block Assemblies

SY □ 000 — 6A — □ □

Series

3	SY3000
5	SY5000
7	SY7000
9	SY9000

Thread

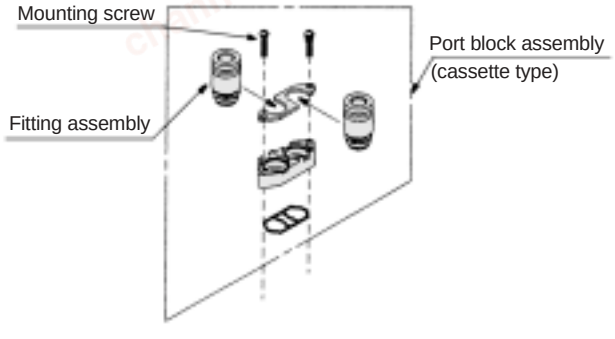
—	Rc (PT)
N	NPT
T	NPTF
F	G (PF)

A/B port size

Symbol	Port size	Applicable series
M5	M5	SY3000
C4	ø4 One-touch fitting	
C6	ø6 One-touch fitting	
01	1/8	SY5000
C4	ø4 One-touch fitting	
C6	ø6 One-touch fitting	
C8	ø8 One-touch fitting	
02	1/4	SY7000
C8	ø8 One-touch fitting	
C10	ø10 One-touch fitting	
02	1/4	SY9000
03	3/8	
C8	ø8 One-touch fitting	
C10	ø10 One-touch fitting	
C12	ø12 One-touch fitting	

∗ Fitting assembly alone can be replaced also.

SY3000	ø4 One-touch fitting	VVQ1000-50A-C4
	ø6 One-touch fitting	VVQ1000-50A-C6
SY5000	ø4 One-touch fitting	VVQ1000-51A-C4
	ø6 One-touch fitting	VVQ1000-51A-C6
	ø8 One-touch fitting	VVQ1000-51A-C8
SY7000	ø8 One-touch fitting	VVQ2000-51A-C8
	ø10 One-touch fitting	VVQ2000-51A-C10
SY9000	ø8 One-touch fitting	VVQ4000-50B-C8
	ø10 One-touch fitting	VVQ4000-50B-C10
	ø12 One-touch fitting	VVQ4000-50B-C12

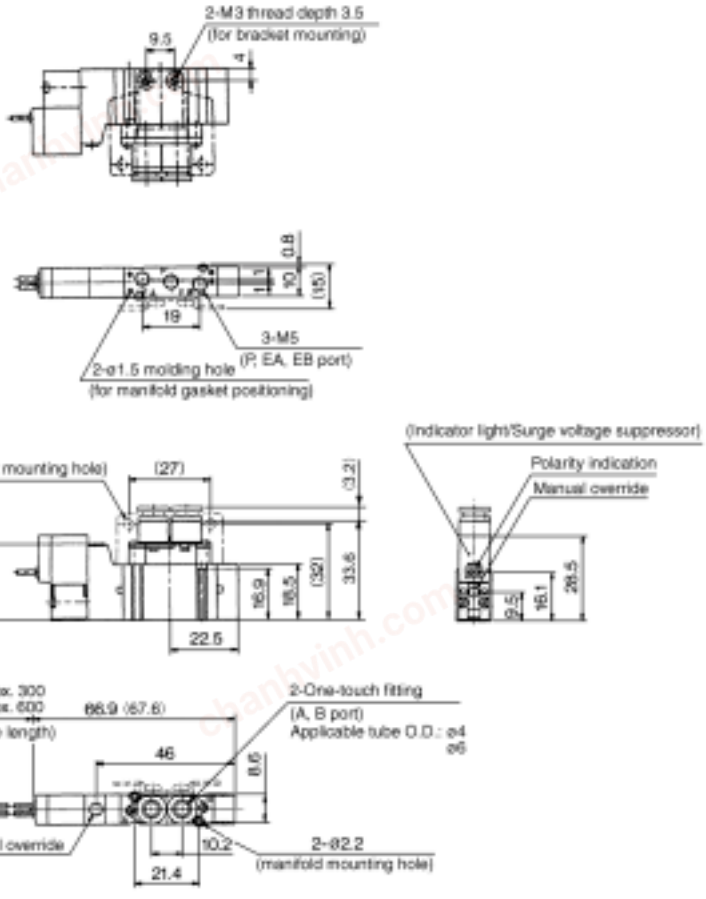


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Series SY3000 Dimensions

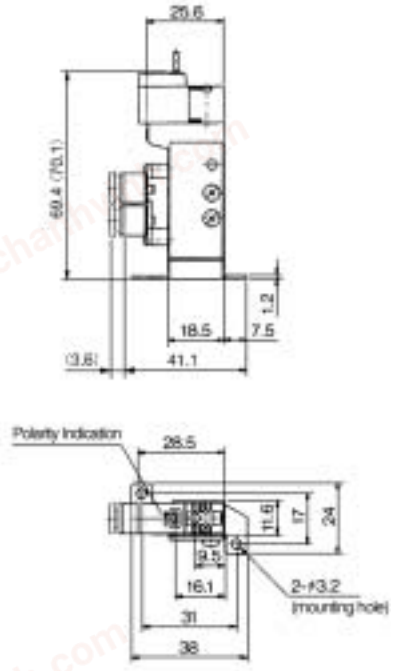
Note)< >: Values with surge voltage suppressor

2 position single
Grommet (G), (H): SY3120-□$^{G}_{H}$□□-$^{C4}_{C6}$(-F2)-Q

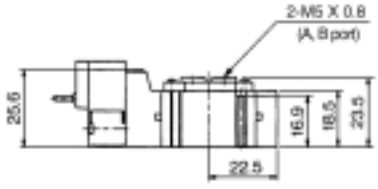


With foot bracket
SY3120-□$^{G}_{H}$□□-$^{C4}_{C6}$-F1-Q

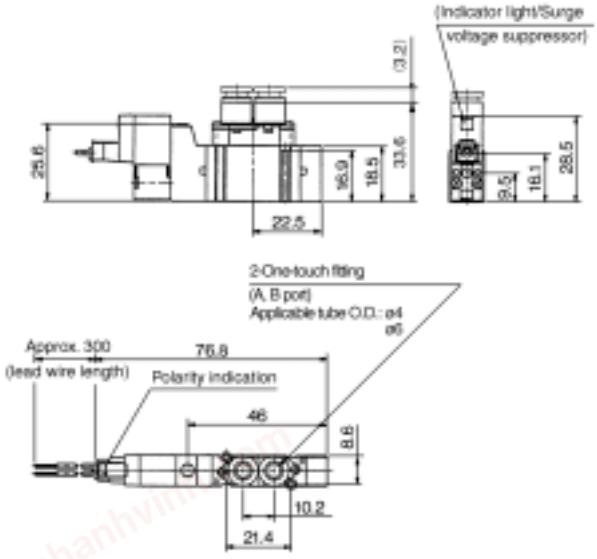
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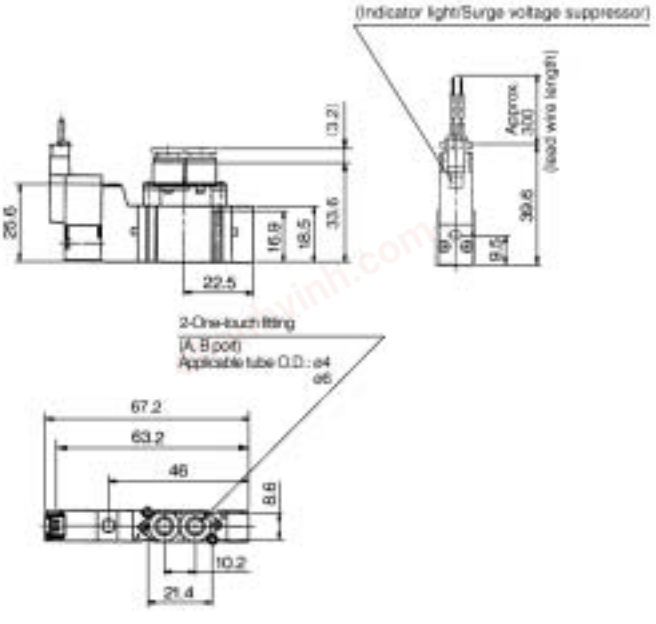
SY3120-□$^{G}_{H}$□□-M5-Q



L type plug connector (L): SY3120-□L□□-$^{C4}_{C6}$-Q



M type plug connector (M): SY3120-□M□□-$^{C4}_{C6}$-Q



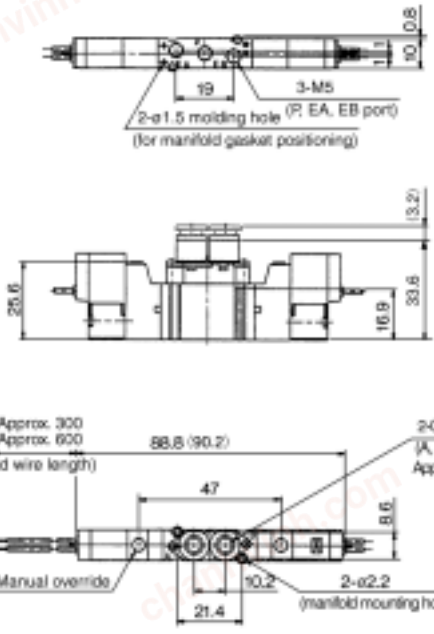
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Body Ported Type

Series SY3000 Dimensions

Note)< >: Values with surge voltage suppressor

2 position double
Grommet (G), (H): SY3220-□$^{G}_{H}$□□-$^{C4}_{C6}$-Q

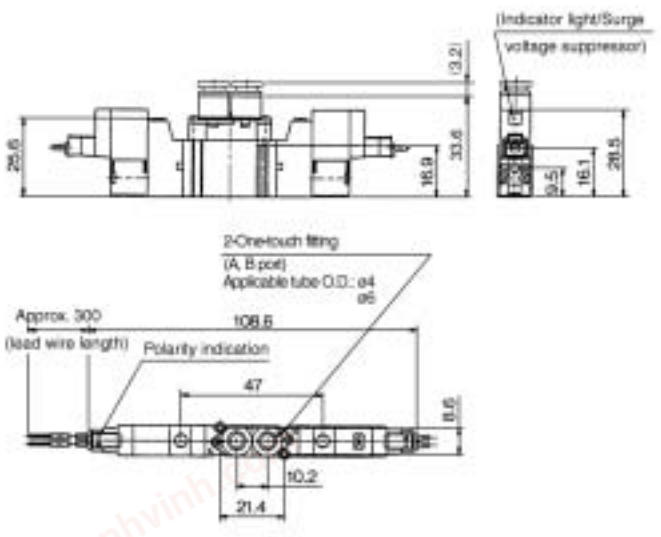


SY3220-□$^{G}_{H}$□□-M5-Q

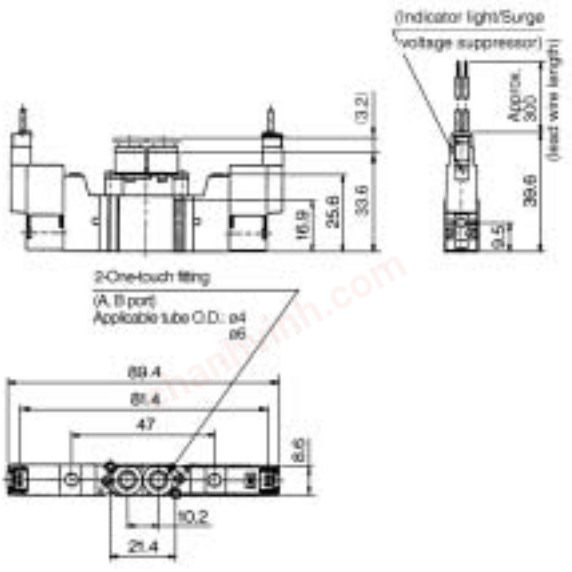
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L type plug connector (L): SY3220-□L□□-$^{C4}_{C6}$-Q



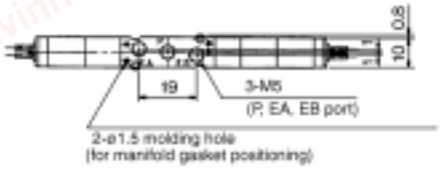
M type plug connector (M): SY3220-□M□□-$^{C4}_{C6}$-Q

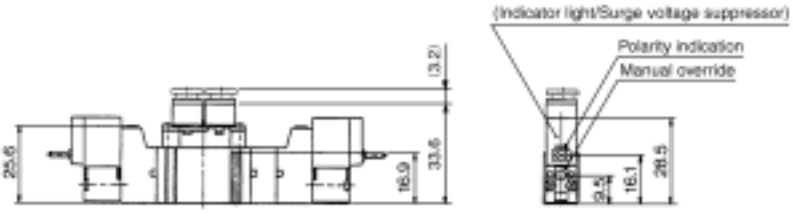


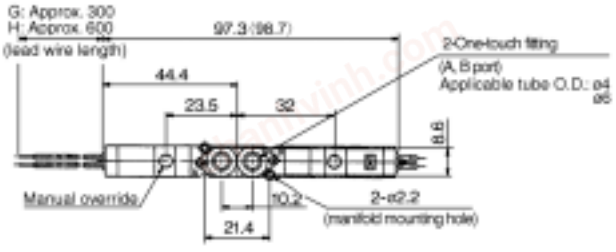
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Note)< >: Values with surge voltage suppressor

3 position closed centre/exhaust centre/pressure centre
Grommet (G), (H): SY3$^{3}_{5}$20-□$^{G}_{H}$□□-$^{C4}_{C6}$-Q

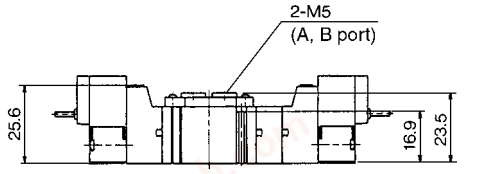




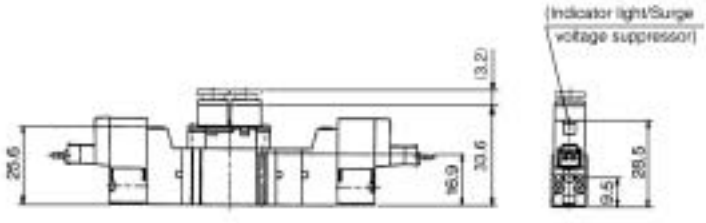


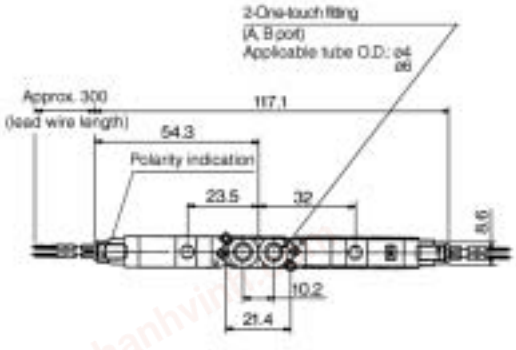
SY3$^{3}_{5}$20-□$^{G}_{H}$□□-M5-Q

Scale: 40%

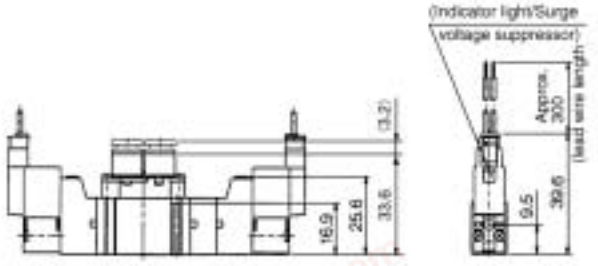


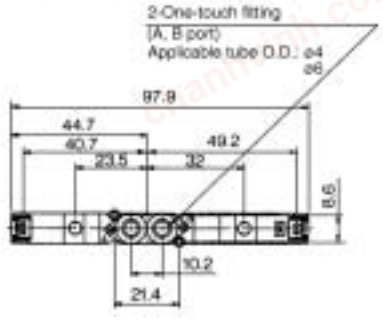
L type plug connector (L): SY3$^{3}_{5}$20-□L□□-$^{C4}_{C6}$-Q





M type plug connector (M): SY3$^{3}_{5}$20-□M□□-$^{C4}_{C6}$-Q



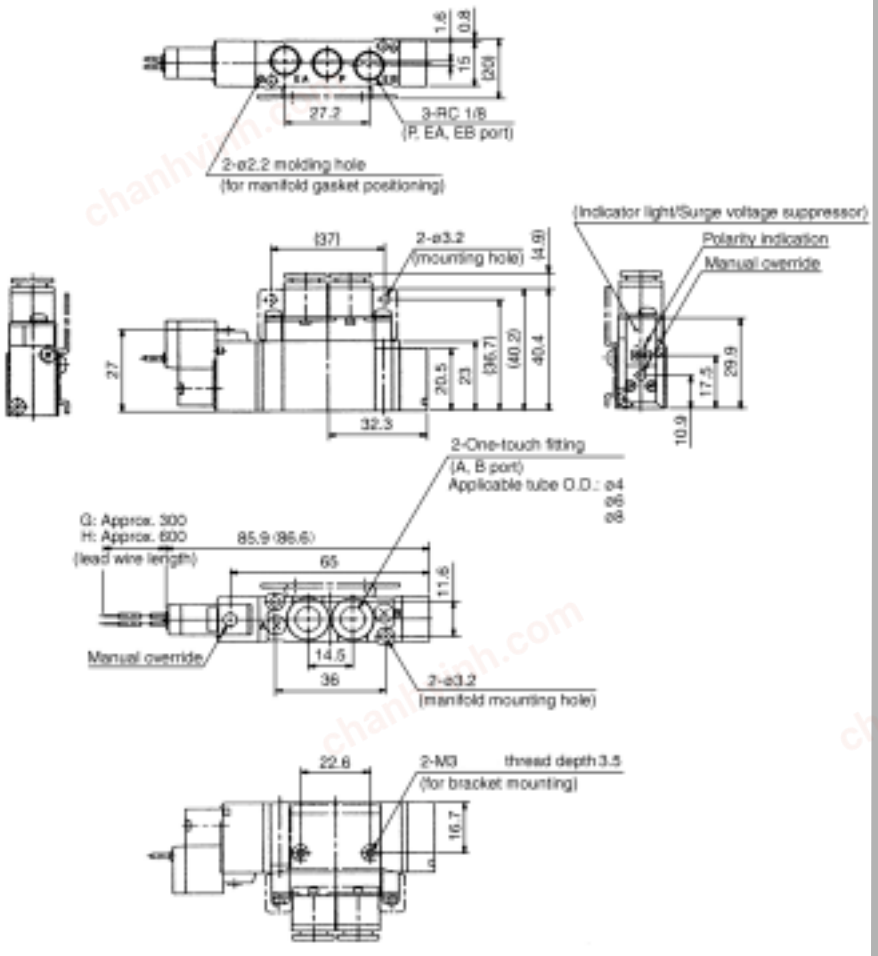


Body Ported Type

Series SY5000 Dimensions

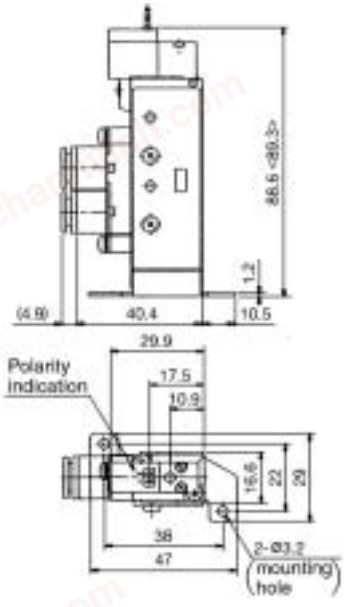
Note)< >: Values with surge voltage suppressor

2 position single
Grommet (G), (H): SY5120-□$^{G}_{H}$□□-$^{C4}_{C6}_{C8}$(-F2)-Q

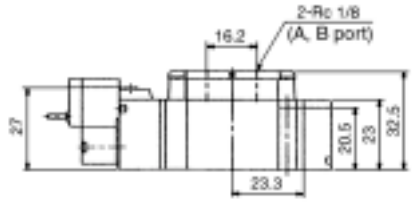


With foot bracket
SY5120-□$^{G}_{H}$□□-$^{C4}_{C6}_{C8}$-F1-Q

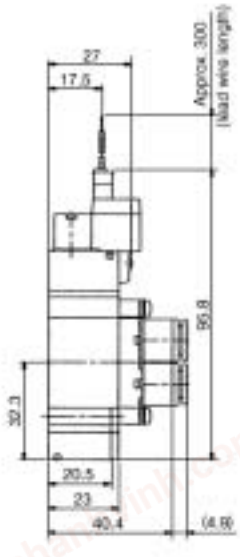
Scale: 40%



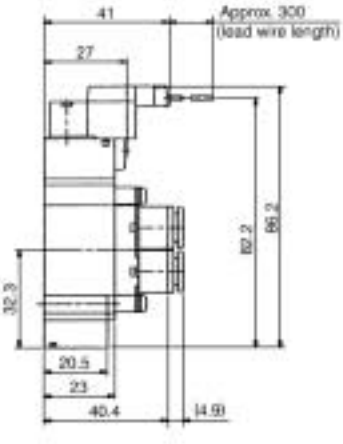
SY5120-□$^{G}_{H}$□□-01□-Q



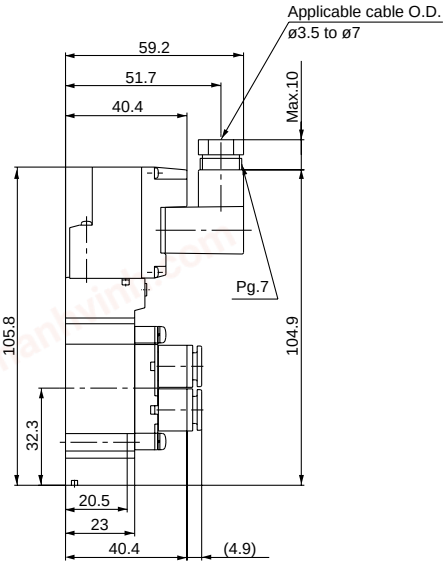
L type plug connector (L):
SY5120-□L□□-$^{C4}_{C6}_{C8}$-Q



M type plug connector (M):
SY5120-□M□□-$^{C4}_{C6}_{C8}$-Q



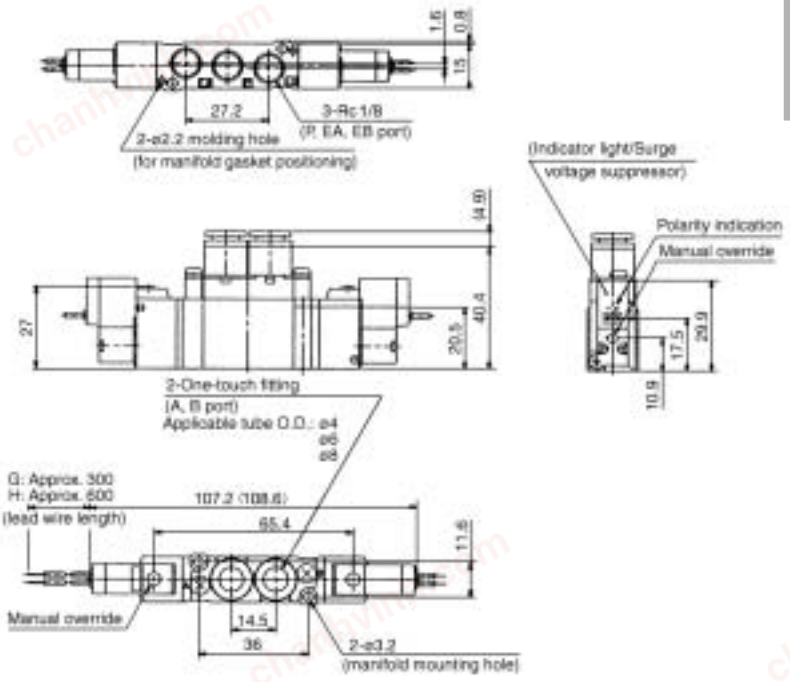
DIN terminal (D):
SY5120-□D□□-$^{C4}_{C6}_{C8}$-Q



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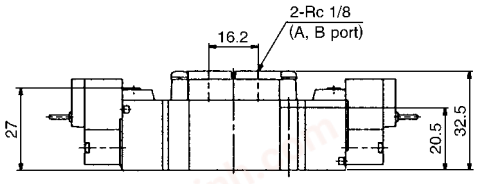
Note)< >: Values with surge voltage suppressor

2 position double
Grommet (G), (H): SY5220-□$^{G}_{H}$□□-$^{C4}_{C6}$$^{}_{C8}$-Q

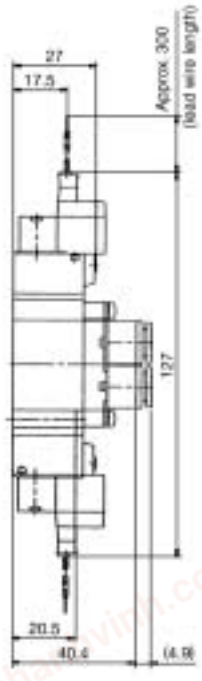


SY5220-□$^{G}_{H}$□□-01□-Q

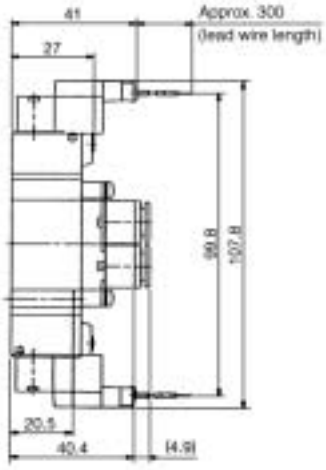
Scale: 40%



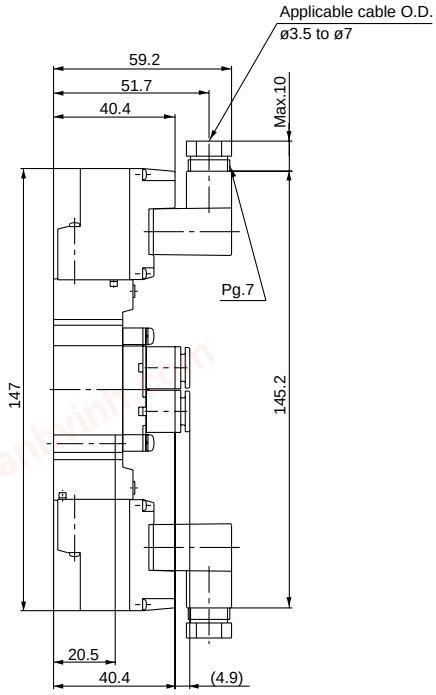
L type plug connector (L):
SY5220-□L□□-$^{C4}_{C6}$$^{}_{C8}$-Q



M type plug connector (M):
SY5220-□M□□-$^{C4}_{C6}$$^{}_{C8}$-Q



DIN terminal (D):
SY5220-□D□□-$^{C4}_{C6}$$^{}_{C8}$-Q



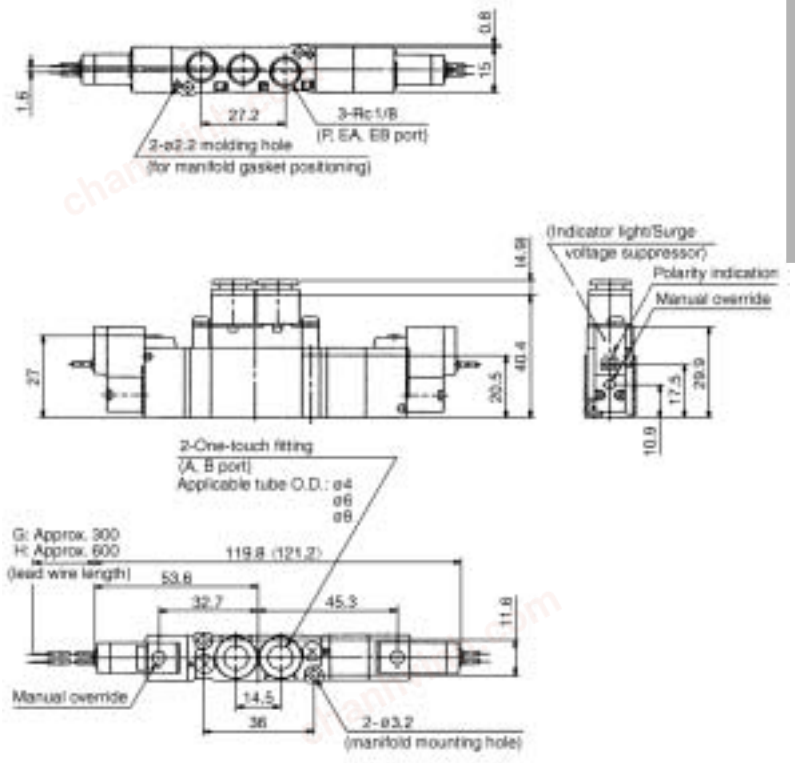
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Body Ported Type

Series SY5000 Dimensions

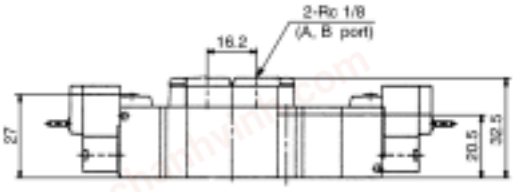
< >: Values with surge voltage suppressor

3 position closed centre/exhaust centre/pressure centre
Grommet (G), (H): SY5$^{3}_{4}_{5}$20-□$^{G}_{H}$□□-$^{C4}_{C6}_{C8}$-Q

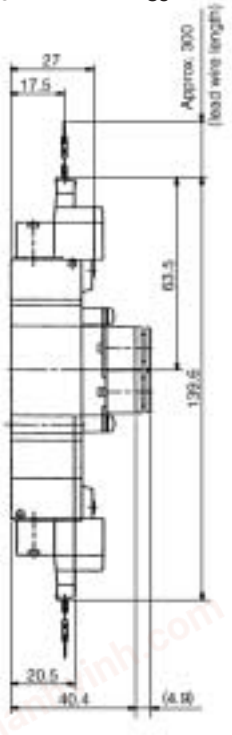


SY5$^{3}_{4}_{5}$20-□$^{G}_{H}$□□-01□-Q

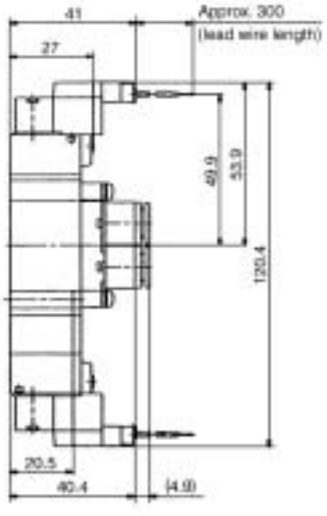
Scale: 40%



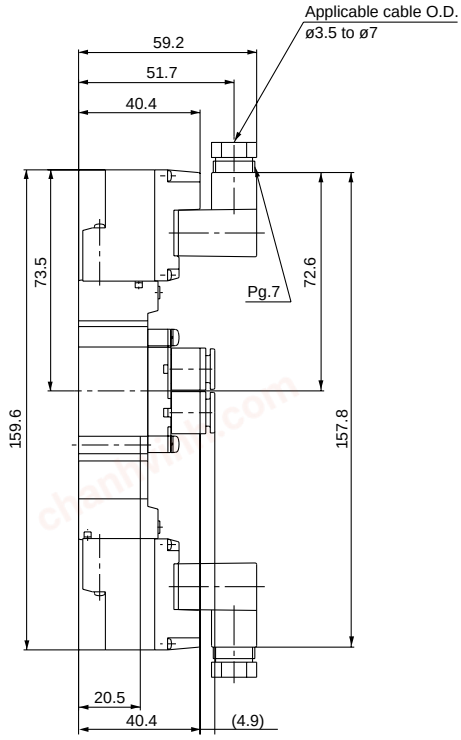
L type plug connector (L):
SY5$^{3}_{4}_{5}$20-□L□□-$^{C4}_{C6}_{C8}$-Q



M type plug connector (M):
SY5$^{3}_{4}_{5}$20-□M□□-$^{C4}_{C6}_{C8}$-Q



DIN terminal (D):
SY5$^{3}_{4}_{5}$20-□D□□-$^{C4}_{C6}_{C8}$-Q

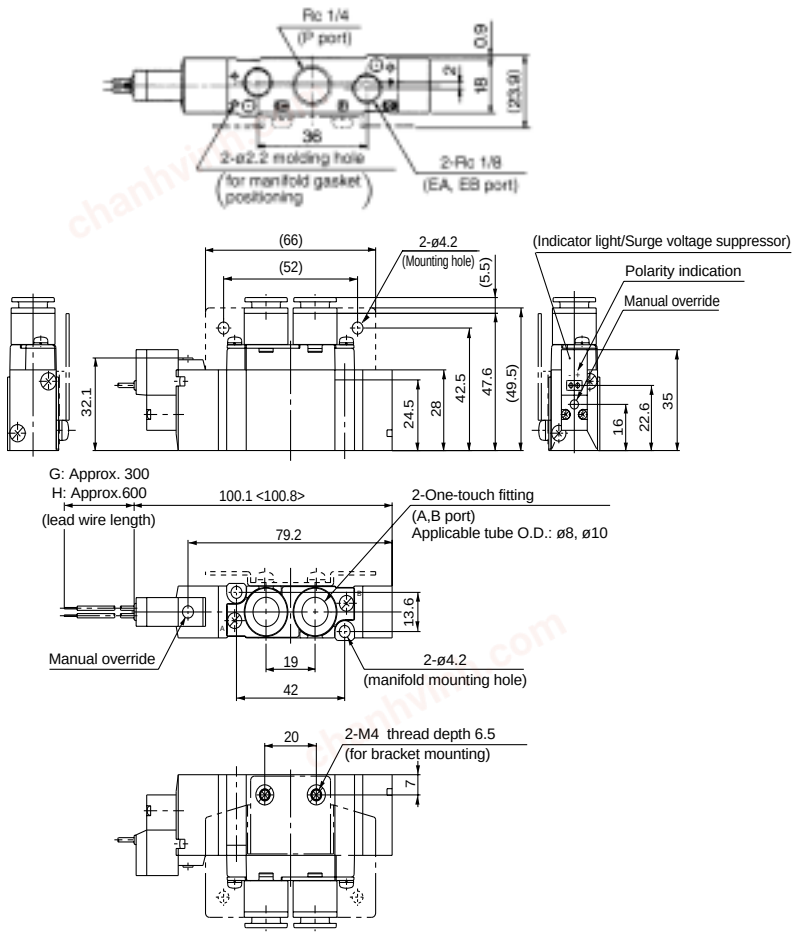


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Series SY7000 Dimensions

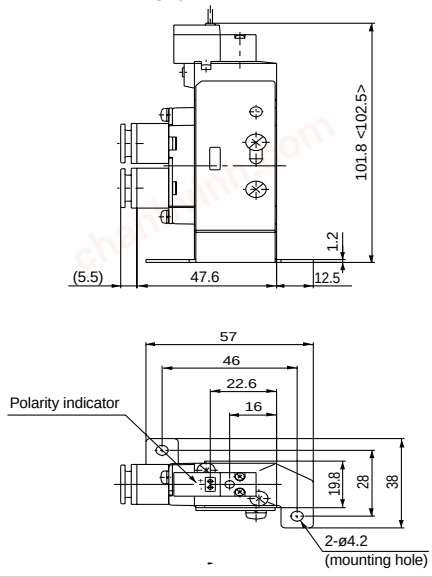
Note)< >: Values with surge voltage suppressor

2 position single
Grommet (G), (H): SY7120-□ G/H □□-C8/C10 (-F2)-Q

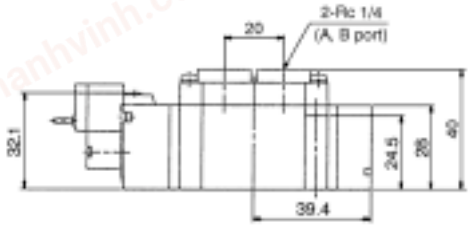


SY7120-□ G/H □□- C8/C10 -F1-Q

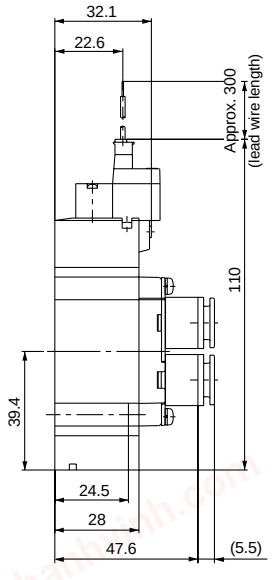
Scale: 40%



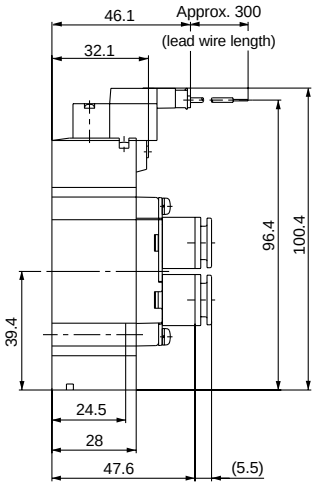
SY7120-□ G/H □□-02□-Q



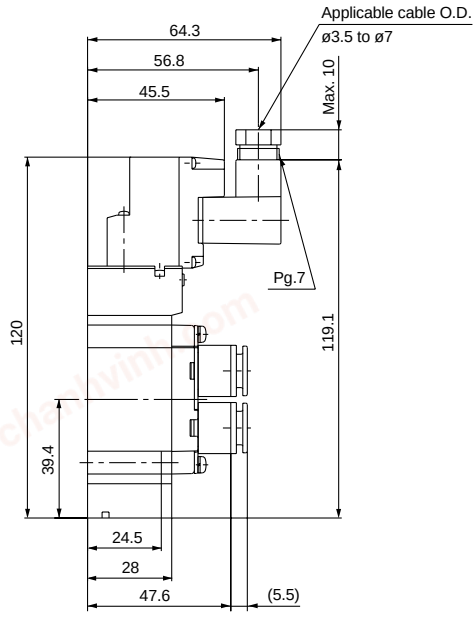
L type plug connector (L): SY7120-□L□□-C8/C10-Q



M type plug connector (M): SY7120-□M□□-C8/C10-Q



DIN terminal (D): SY7120-□D□□-C8/C10-Q



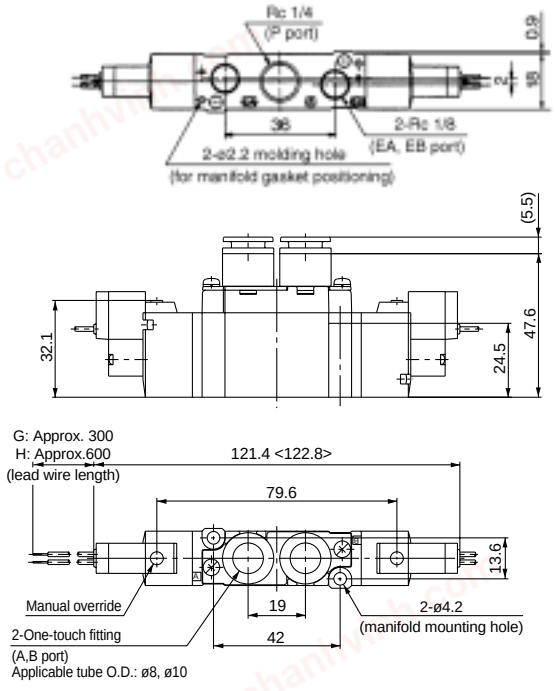
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Body Ported Type

Series SY7000 Dimensions

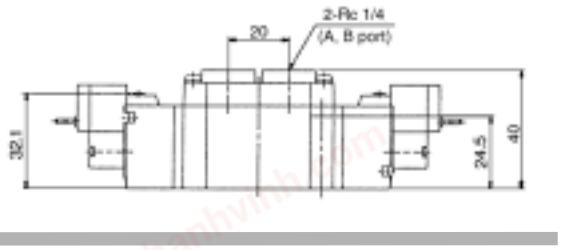
< >: Values with surge voltage suppressor

2 position double
Grommet (G), (H): SY7220-□$^{G}_{H}$□□-$^{C8}_{C10}$ -Q

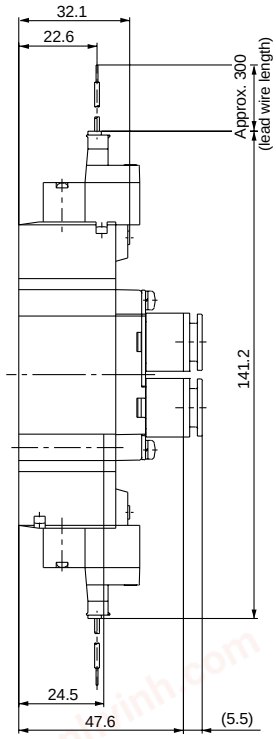


SY7220-□$^{G}_{H}$□□-02□-Q

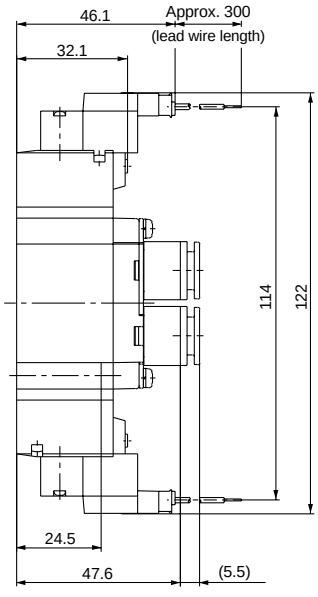
Scale: 40%



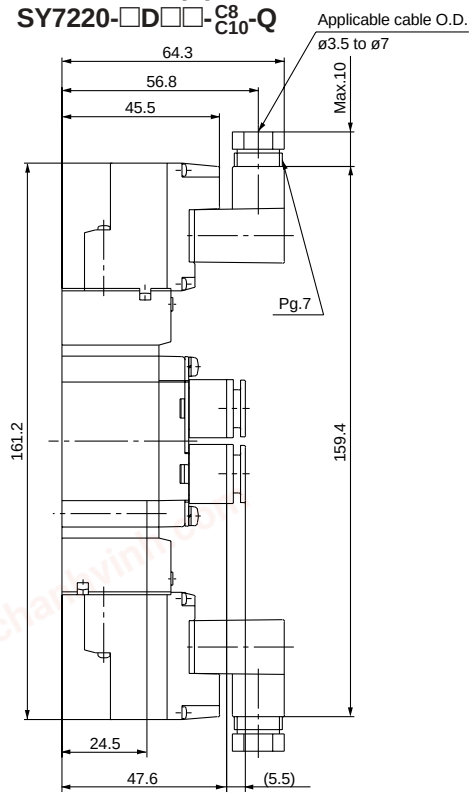
L type plug connector (L):
SY7220-□L□□-$^{C8}_{C10}$-Q



M type plug connector (M):
SY7220-□M□□-$^{C8}_{C10}$-Q



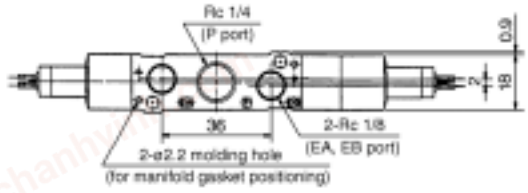
DIN terminal (D):
SY7220-□D□□-$^{C8}_{C10}$-Q

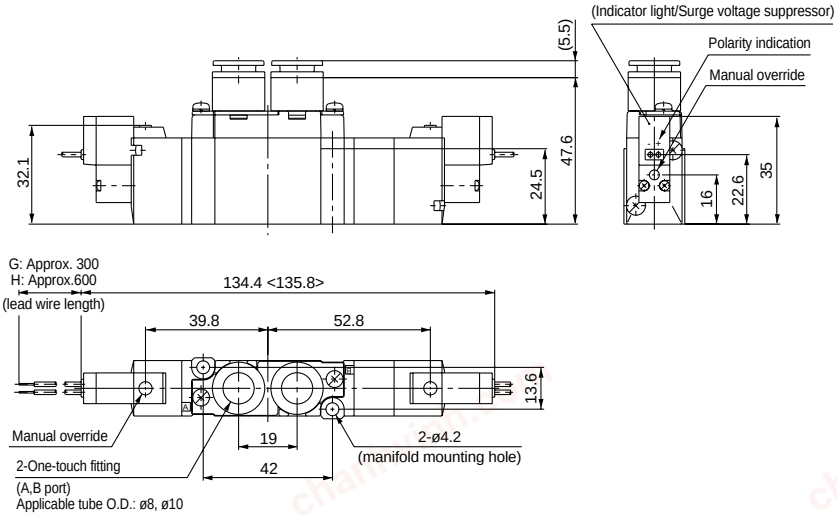


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Note)< >: Values with surge voltage suppressor

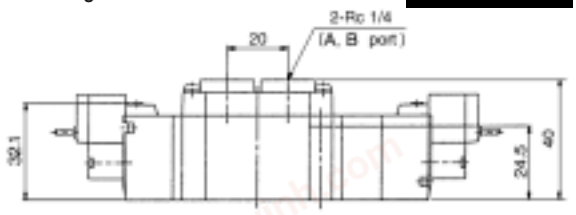
3 position closed centre/exhaust centre/pressure centre
Grommet (G), (H): SY7$^{3}_{5}$20-□$^{G}_{H}$□□-$^{C8}_{C10}$ -Q



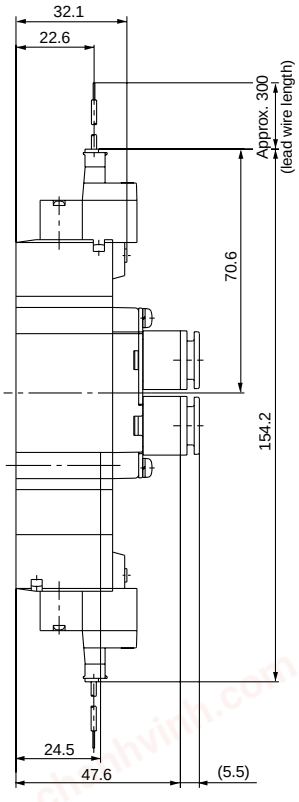


SY7$^{3}_{5}$20-□$^{G}_{H}$□□-02□-Q

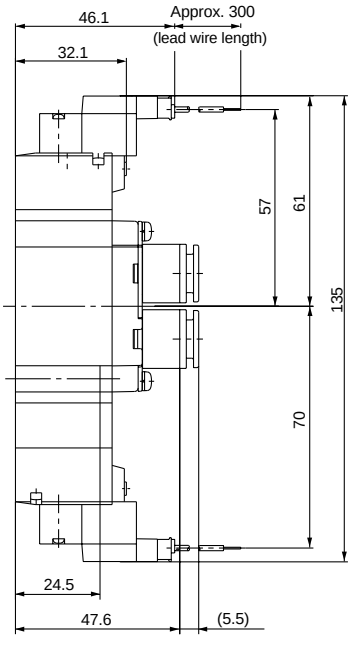
Scale: 40%



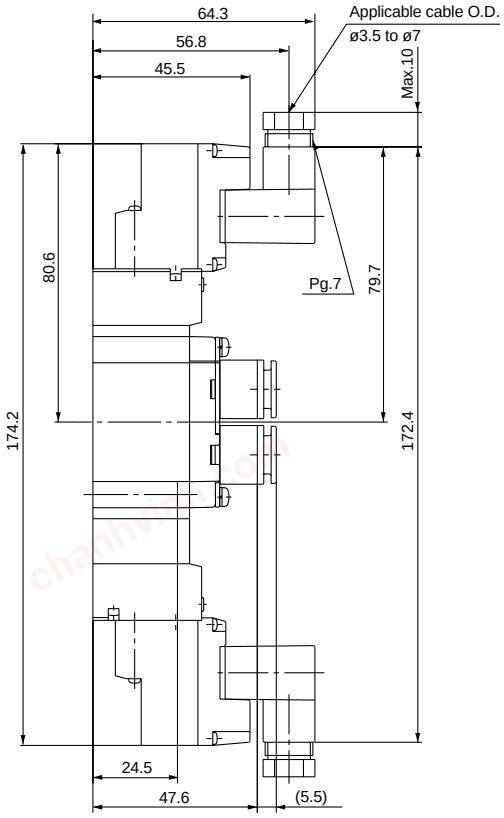
L type plug connector (L):
SY7$^{3}_{5}$20-□L□□-$^{C8}_{C10}$-Q



M type plug connector (M):
SY7$^{3}_{5}$20-□M□□-$^{C8}_{C10}$-Q



DIN terminal (D):
SY7$^{3}_{5}$20-□D□□-$^{C8}_{C10}$-Q



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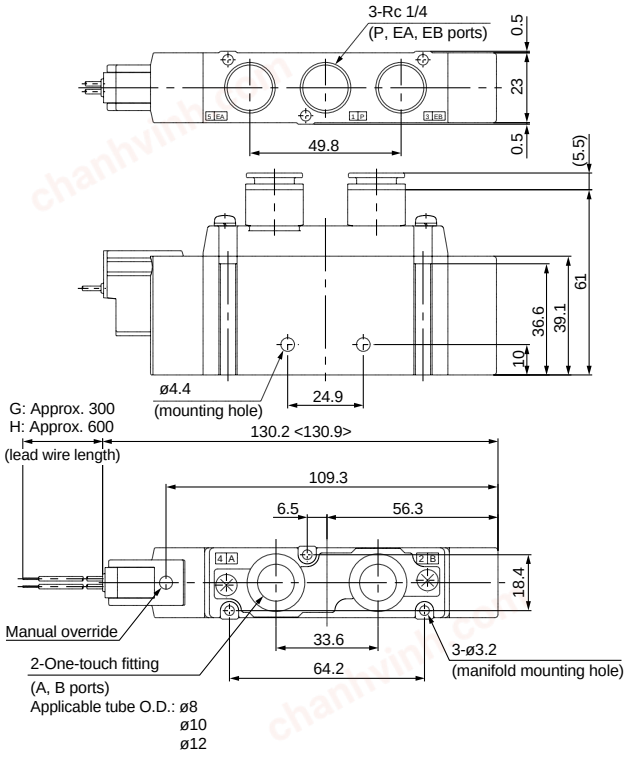
Body Ported Type

Series SY9000 Dimensions

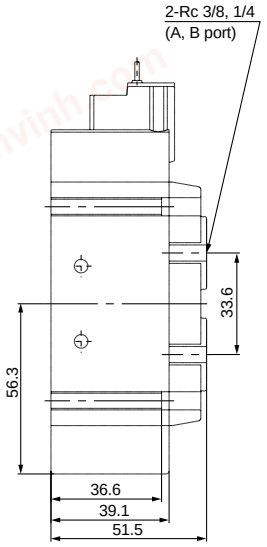
Note)< >: Values with surge voltage suppressor

2 position single

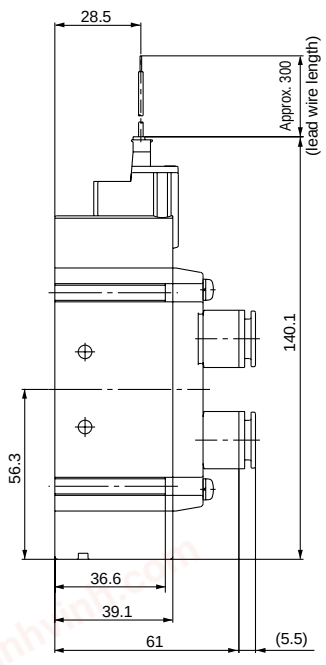
Grommet (G), (H): SY9120-□$^{G}_{H}$□□-$^{C8}_{C10}$-Q



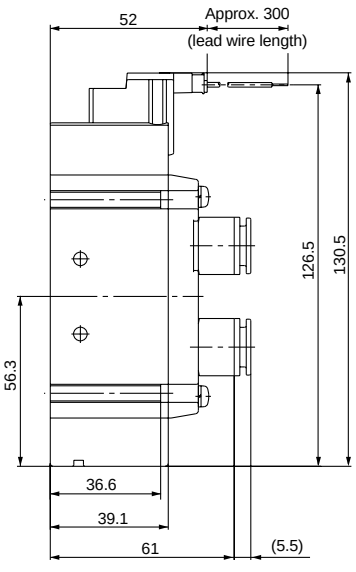
SY9120-□$^{G}_{H}$□□-$^{02}_{03}$□-Q **Scale: 40%**



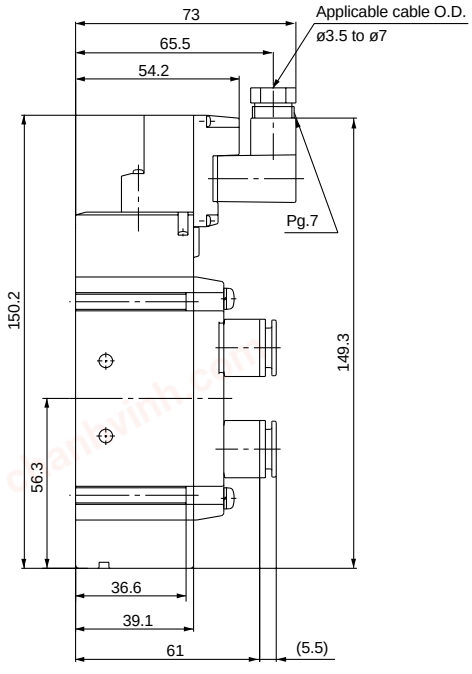
L type plug connector (L):
SY9120-□L□□-$^{C8}_{C10}$-Q



M type plug connector (M):
SY9120-□M□□-$^{C8}_{C10}$-Q



DIN terminal (D):
SY9120-□D□□-$^{C8}_{C10}$-Q



SMC

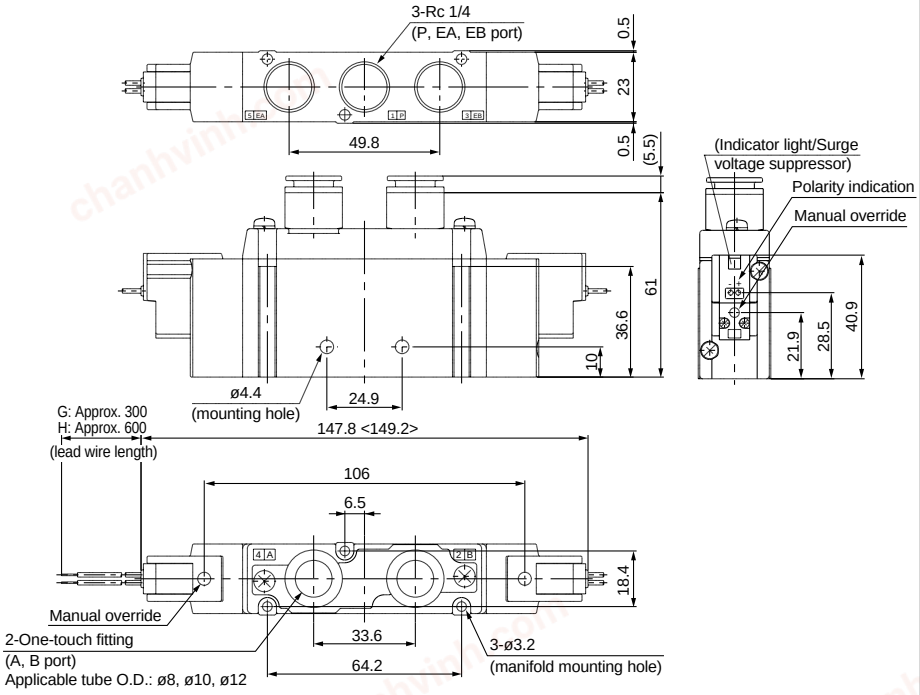
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Series SY9000 Dimensions

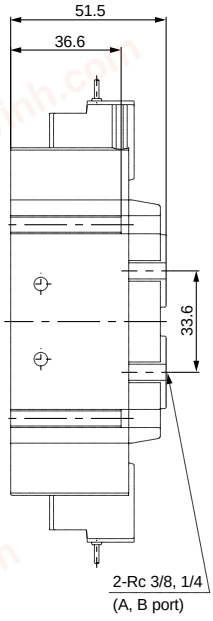
Note)< >: Values with surge voltage suppressor

2 position double

Grommet (G), (H): SY9220-□$^{G}_{H}$□□-$^{C8}_{C10}$ -Q

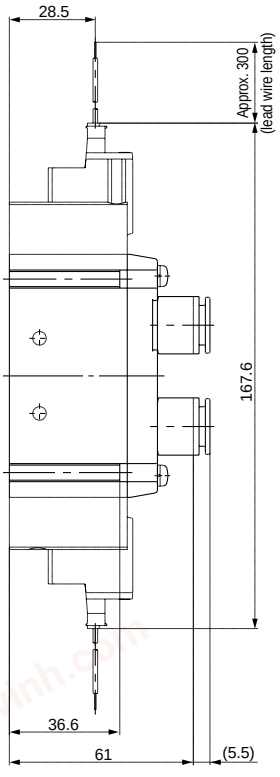


SY9220-□$^{G}_{H}$□□-$^{02}_{03}$□-Q **Scale: 40%**



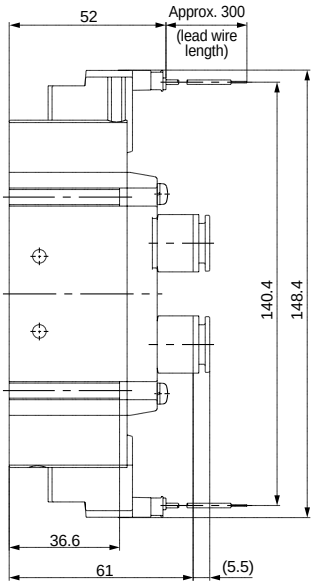
L type plug connector (L):

SY9220-□L□□-$^{C8}_{C10}$-Q



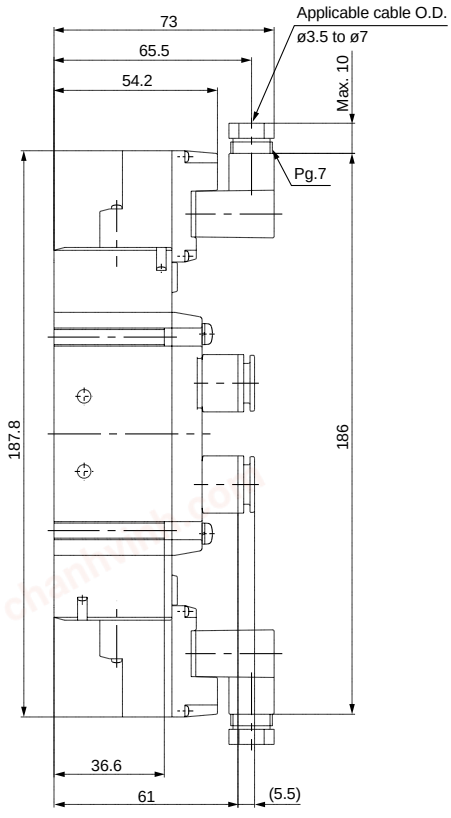
M type plug connector (M):

SY9220-□M□□-$^{C8}_{C10}$ -Q



DIN terminal (D):

SY9220-□D□□-$^{C8}_{C10}$ -Q

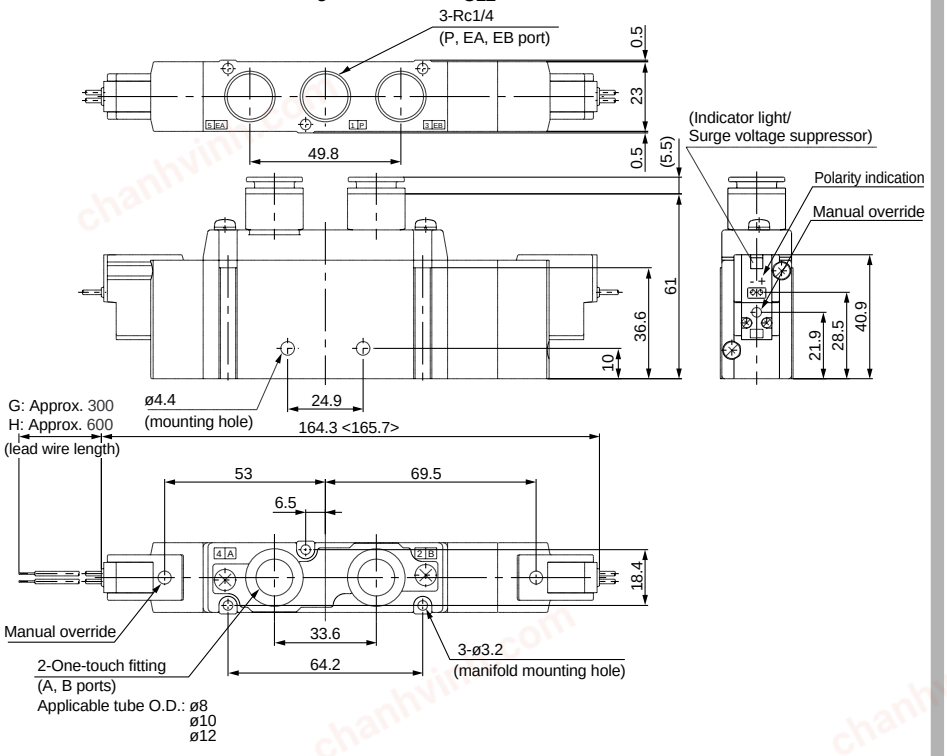


Body Ported Type

Series SY9000 Dimensions

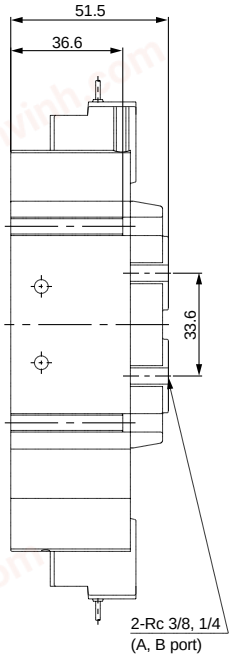
Note)< >: Values with surge voltage suppressor

3 position closed centre/exhaust centre/pressure centre
Grommet (G), (H): SY9$^{3}_{5}$20-□$^{G}_{H}$□□-$^{C8}_{C10}$-Q

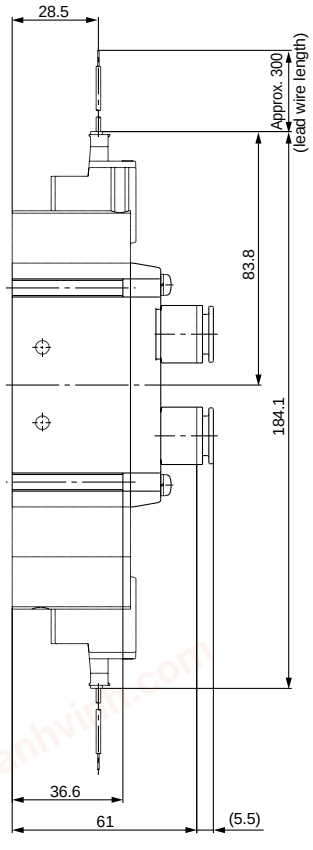


SY9$^{3}_{5}$20-□$^{G}_{H}$□□-$^{02}_{03}$□-Q

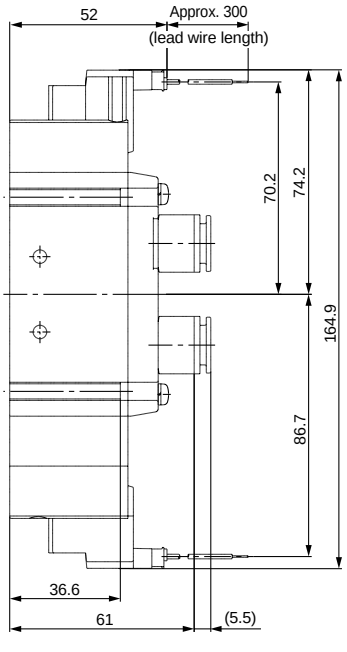
Scale: 40%



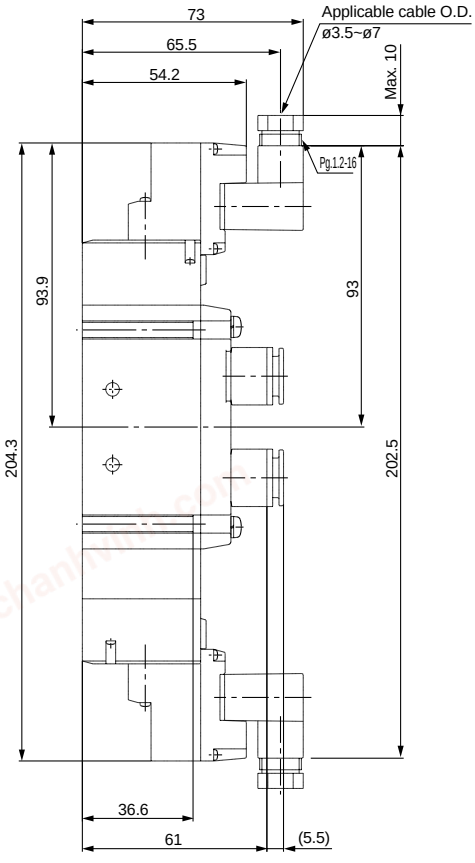
L type plug connector (L):
SY9$^{3}_{5}$20-□L□□-$^{C8}_{C10}$-Q



M type plug connector (M):
SY9$^{3}_{5}$20-□M□□-$^{C8}_{C10}$-Q



DIN terminal (D):
SY9$^{3}_{5}$20-□D□□-$^{C8}_{C10}$-Q



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SY3000/5000/7000/9000
Base Mounted Type
Single Valve

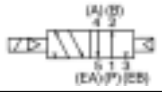
How to Order

SY [5] [2] 40 [ ] – [5] [L] [ ] [ ] – [ ] [ ] – Q

Series

3	SY3000
5	SY5000
7	SY7000
9	SY9000

Type of actuation

1	2 position single 
2	2 position double 
3	3 position closed centre 
4	3 position exhaust centre 
5	3 position pressure centre 

Pilot type

Nil	Internal pilot
R	External pilot

Rated voltage

DC specifications

5	24VDC
6	12VDC
V	6VDC
S	5VDC
R	3VDC
9	Less than 50 VDC

AC specifications (50/60Hz)

1	100VAC
2	200VAC
3	110VAC [115VAC]
4	220VAC [230VAC]
9	Less than 250 VAC

Note 1) "D", "DO", "Y" and "YO" are only available in 24VDC and 12VDC in case of DC.
Note 2) "D", "DO", "Y" and "YO" are not

Order Made Contact SMC for other voltages (9)

Protective class
class I (Mark: ⏚)..... DIN terminal type

Protective class
class III (Mark: ◈)..... Grommet, L and M plug connector

Port size

Symbol	Port size	Applicable series
Nil	Without sub-plate	
01	1/8 With sub-plate	SY3000
02	1/4 With sub-plate	SY5000 SY7000
03	3/8 With sub-plate	SY7000 SY9000
04	1/2 With sub-plate	SY9000

Thread

–	Rc (PT)
N	NPT
T	NPTF
F	G (PF)

Manual override

Nil: Non-locking push type 

D: Push-turn locking slotted type 

E: Push-turn locking lever type 

Indicator light/Surge voltage suppressor

For electrical entry G, H, L, M

Nil	Without indicator light/surge voltage suppressor
S	With surge voltage suppressor
Z	With indicator light/surge voltage suppressor
U	With indicator light/surge voltage suppressor (non-polar type)

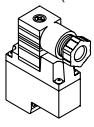
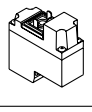
Note 1) "U" are available for DC only.

For electrical entry D

Nil	Without indicator light/surge voltage suppressor
S	With surge voltage suppressor (non-polar type)
Z	With indicator light/surge voltage suppressor (non-polar type)

Note 1) "DOZ" is not available.
Note 2) For AC, there is no "S" specification, since it is integrated with the rectifier.

Electrical entry

24V, 12V, 6V, 5V, 3VDC				24V, 12VDC 100V, 110V, 200V, 220VAC
Grommet	L type plug connector	M type plug connector		DIN terminal
G: Lead wire length 300mm 	**L:** With lead wire (length 300mm) 	**M:** With lead wire (length 300mm) 	**MN:** Without lead wire 	**(Except SY3000)** **D:** With connector **Y:** With connector (DIN 43650C) 
H: Lead wire length 600mm 	**LN:** Without lead wire 	**LO:** Without connector 	**MO:** Without connector 	**DO:** Without connector **YO:** Without connector (DIN 43650C) 

Note 1) "LN" and "MN" include 2 sockets
Note 2) "D" , "DO", "Y", "YO" are not available for SY3000.

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Order Made Pages 1.2-168 to 1.2-177

Specifications

Series			SY3000	SY5000	SY7000	SY9000
Fluid			Air			
Internal pilot operating pressure range MPa	2 position single		0.15 to 0.7			
	2 position double		0.1 to 0.7			
	3 position		0.2 to 0.7			
External pilot operating pressure range MPa	Operating pressure range		–100kPa to 0.7			
	Pilot pressure range	2 position single	0.25 to 0.7			
		2 position double	0.25 to 0.7			
		3 position	0.25 to 0.7			
Ambient and fluid temperature °C			Maximum 50			
Maximum operating frequency Hz	2 position single, double		10	5	5	5
	3 position		3	3	3	3
Manual override			Non-locking push type, Push-turn locking slotted type, Push-turn locking lever type			
Pilot exhaust type	Internal pilot		Common exhaust for main and pilot valves			
	External pilot		Separate exhaust for pilot valve			
Lubrication			Not required			
Mounting orientation			Unrestricted			
Impact resistance/Vibration resistance m/s² Note)			150/30			
Enclosure			Dust proof (IP65 for DIN terminal*)			

* In compliance with IEC529 standard.

Note) **Impact resistance:** No malfunction resulted from the impact test using a drop impact tester. The test was performed one time each in the axial and right angle directions of the main valve and armature, for both energized and de-energized states. (Value in the initial stage)

Vibration resistance: No malfunction occurred in a one-sweep test between 8.3 and 2000Hz. Test was performed for both energized and de-energized states in the axial and right angle directions of the main valve and armature. (Value in the initial stage)

Solenoid specifications

Electrical entry			Grommet (G)/(H), L type plug connector (L), M type plug connector (M), DIN terminal (D) Note 1)
Rated coil voltage V	DC		24, 12, 6, 5, 3
	AC 50/60Hz		100, 110, 200, 220 Note 2)
Allowable voltage fluctuation			±10% of rated voltage
Current consumption W	DC		0.5 [With indicator light: 0.55 (0.6 for DIN terminal with indicator light)] Note 3)
Apparent power VA	AC	100V	0.9 (With indicator light: 1.0)
		110V [115V]	1.0 (With indicator light: 1.1) [1.1 (With indicator light: 1.2)]
		200V	1.8 (With indicator light: 1.9)
		220V [230V]	1.9 (With indicator light: 2.0) [2.2 (With indicator light: 2.3)]
Surge voltage suppressor			Diodes (ZNR for DIN terminal, Zener diode for G, L or M non-polar type)
Indicator light			LED (Neon bulb for AC type DIN terminal)

Note 1) DIN terminal (D) is not available for SY3000.
Note 2) 110 and 115VAC are common, as are 220 and 230VAC.
Note 3) Energy saving [0.22W] type is also available. Refer to page 1.2-177 for details.
Note 4) AC specifications are only for the DIN terminal type.

Response time

Note) Based on dynamic performance test JISB8375-1981 (at coil temperature of 20°C with rated voltage)

SY3000

Type of actuation	Response time ms (at 0.5MPa)		
	Without indicator light/ surge voltage suppressor	With indicator light/ surge voltage suppressor	
		S, Z types	U types
2 position single	12 or less	15 or less	12 or less
2 position double	10 or less	13 or less	10 or less
3 position	15 or less	20 or less	16 or less

SY7000

Type of actuation	Response time ms (at 0.5MPa)		
	Without indicator light/ surge voltage suppressor	With indicator light/ surge voltage suppressor	
		S, Z types	U types
2 position single	31 or less	38 or less	33 or less
2 position double	27 or less	30 or less	28 or less
3 position	50 or less	56 or less	50 or less

SY5000

Type of actuation	Response time ms (at 0.5MPa)		
	Without indicator light/ surge voltage suppressor	With indicator light/ surge voltage suppressor	
		S, Z types	U types
2 position single	19 or less	26 or less	19 or less
2 position double	18 or less	22 or less	18 or less
3 position	32 or less	38 or less	32 or less

SY9000

Type of actuation	Response time ms (at 0.5MPa)		
	Without indicator light/ surge voltage suppressor	With indicator light/ surge voltage suppressor	
		S, Z types	U types
2 position single	35 or less	41 or less	35 or less
2 position double	35 or less	41 or less	35 or less
3 position	62 or less	64 or less	62 or less

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Base Mounted Type

Models/Series SY3000

Valve model	Type of actuation		Port size	Effective area[Note1] mm² (Nl/min)		Weight g[Note 2]	
				P to A/B	A/B to EA/EB	Grommet	L/M type plug connector
SY3□40-□-01	2 pos.	Single	1/8	4.86 (265)	5.4 (323.9)	81 (47)	85 (51)
		Double		4.86 (265)	5.4 (323.9)	96 (62)	103 (69)
	3 position	Closed centre		4.68 (255.2)	4.86 (265)	98 (63)	105 (70)
		Exhaust centre		4.86 (265)	5.94 (323.9) [3.24 (167.7)]		
		Pressure centre		6.66 (363.2) [3.24 (176.7)]	5.22 (284.6)		

Note 1) Values inside [ ] are for normal position.
Note 2) Values inside ( ) are for valves without sub-plate.

Models/Series SY5000

Valve model	Type of actuation		Port size	Effective area[Note1] mm² (Nl/min)		Weight g[Note 2]		
				P to A/B	A/B to EA/EB	Grommet	L/M type plug connector	DIN terminal
SY5□40-□-02	2 pos.	Single	1/4	12.78 (696.9)	12.6 (696.9)	118 (55)	121 (59)	154 (82)
		Double		12.78 (696.9)	12.6 (696.5)	133 (70)	140 (77)	186 (123)
	3 position	Closed centre		7.56 (412.2)	8.1 (441.7)	138 (76)	146 (83)	192 (129)
		Exhaust centre		7.92 (432.9)	14.4 (785.2) [9.0 (490.8)]			
		Pressure centre		15.84 (863.7) [4.5 (245.4)]	8.64 (471.1)			

Note 1) Values inside [ ] are for normal position.
Note 2) Values inside ( ) are for valves without sub-plate.

Models/Series SY7000

Valve model	Type of actuation		Port size	Effective area[Note1] mm² (Nl/min)		Weight g[Note 2]		
				P to A/B	A/B to EA/EB	Grommet	L/M type plug connector	DIN terminal
SY7□40-□-02 03	2 pos.	Single	1/4 3/8	23.22 (1266)	21.6 (1178)	215 (86)	219 (90)	242 (113)
		Double		23.22 (1266)	21.6 (1178)	231 (102)	238 (109)	284 (155)
	3 position	Closed center		14.04 (765.6)	12.24 (667.4)	233 (104)	241 (112)	287 (158)
		Exhaust centre		14.04 (765.6)	20.88 (1138.5) [12.96 (706.7)]			
		Pressure centre		24.48 (1335) [13.5 (736)]	12.42 (677.2)			

Note 1) Values inside [ ] are for normal position.
Note 2) Values inside ( ) are for valves without sub-plate.

Models/Series SY9000

Valve model	Type of actuation		Port size	Effective area[Note1] mm² (Nl/min)		Weight g[Note 2]		
				P to A/B	A/B to EA/EB	Grommet	L/M type plug connector	DIN terminal
SY9□40-□-03	2 pos.	Single	3/8	40.29 (2198.5)	47.94 (2611)	466 (169)	470 (173)	493 (196)
		Double				482 (185)	490 (193)	535 (239)
	3 position	Closed centre		39.57 (2159.3)	36.92 (4125)	506 (209)	514 (217)	560 (263)
		Exhaust centre		37.56 (2051.3)	62.31 (3996) [20.64 (1128.7)]			
		Pressure centre		57.25 (3121.2)	37.51 (2051.3) [16.48 (903)]			
SY9□40-□-04	2 pos.	Single	1/2	44.75 (2444)	51.71 (2817)	445	449	472
		Double				461	469	515
	3 position	Closed centre		40.24 (2198.5)	37.61 (2051.3)	485	493	539
		Exhaust centre		39.76 (2159.3)	64.12 (3494) [20.76 (1128.7)]			
		Pressure centre		59.21 (3229)	37.85 (2061) [15.23 (834.3)]			

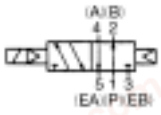
Note 1) Values inside [ ] are for normal position.
Note 2) Values inside ( ) are for valves without sub-plate.

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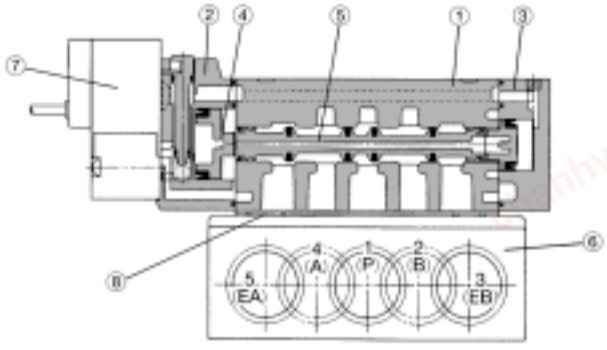
Construction

Series SY

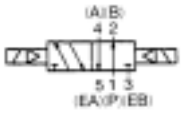
Symbol:
2 position single



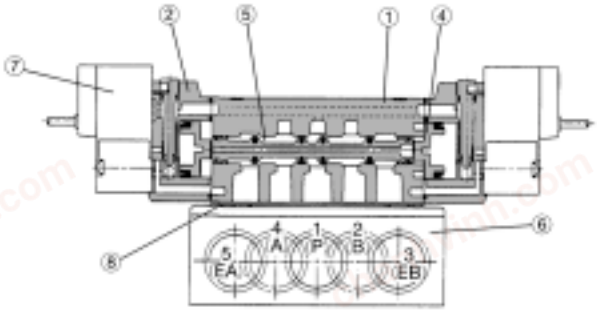
2 position single



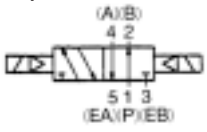
Symbol:
2 position double



2 position double



Symbol:
3 position closed centre



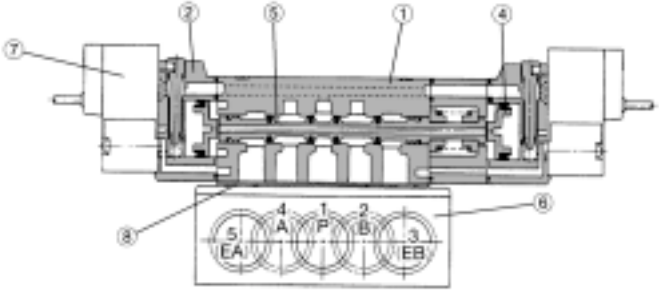
3 position exhaust centre



3 position pressure centre



3 position closed centre/exhaust centre/pressure centre



(The diagram above shows the closed centre type.)

Parts list

No.	Description	Material	Note
1	Body	Die-cast aluminum (SY3000 is die-cast zinc.)	White
2	Adaptor plate	Resin	White (Grey for SY9000)
3	End plate	Resin	White
4	Piston	Resin	—
5	Spool valve assembly	Aluminum/NBR	—

Replacement parts

No.	Description	Part no.				Note
		SY3□40	**SY5□40**	**SY7□40**	**SY9□40**	
6	Sub-plate	SY3000-27-1*-Q	SY5000-27-1*-Q	Rc 1/4: SY7000-27-1*-Q Rc 3/8: SY7000-27-2*-Q	Rc 3/8: SY9000-27-1*-Q Rc 1/2: SY9000-27-2*-Q	Die-cast aluminum
7	Pilot valve assembly	Refer to "How to Order Pilot Valve Assemblies" on page 1.2-32.				
8	Gasket	SY3000-11-25	SY5000-11-14	SY7000-11-13	SY9000-11-2	NBR
—	Round head combination screw	SY3000-23-4 (M2 x 21)	M3 x 26	M4 x 31	SY9000-18-2 (M3 x 42)	For mounting valves (Flat nickel plated)

⚠Caution

Mounting screw tightening torques
M2: 0.15N·m
M3: 0.6N·m
M4: 1.4N·m

***Thread**

–	Rc (PT)
N	NPT
T	NPTF
F	G (PF)

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Base Mounted Type

How to Order Pilot Valve Assemblies

SY114 — 5 G □ — Q

Rated voltage

5	24VDC
6	12VDC
V	6VDC
S	5VDC
R	3VDC

Indicator light/Surge voltage suppressor

Nil	Without indicator light/surge voltage suppressor
S	With surge voltage suppressor
Z	With indicator light/surge voltage suppressor
R	With surge voltage suppressor (non-polar type)
U	With indicator light/surge voltage suppressor (non-polar type)

Note 2) U" types only 24 VDC and 12 VDC.

Electrical entry

G	Grommet (lead wire length: 300mm)	
H	Grommet (lead wire length: 600mm)	
L	L type plug connector	With lead wire
LN		Without lead wire
LO		Without connector
M	M type plug connector	With lead wire
MN		Without lead wire
MO		Without connector

SY115 — 5 D □ — Q

Rated voltage

5	24VDC
6	12VDC
1	100VAC 50/60Hz
2	200VAC 50/60Hz
3	110VAC 50/60Hz [115VAC 50/60Hz]
4	220VAC 50/60Hz [230VAC 50/60Hz]

Electrical entry

D	DIN terminal	With connector
DO		Without connector
Y	DIN terminal (DIN 43650C)	With connector
YO		Without connector

Indicator light/Surge voltage suppressor

Nil	Without indicator light/surge voltage suppressor
S	With surge voltage suppressor (non-polar type)
Z	With indicator light/surge voltage suppressor (non-polar type)

* DOZ is not available.
* "S" specification is not available for AC since it is integrated with the rectifier.

How to Order Connector Assemblies

DC: **SY100 − 30 − 4A − □**

Without lead wire: **SY100 − 30 − A**
(Connector, socket x 2pcs. only)

Lead wire length

Nil	300mm
6	600mm
10	1000mm
15	1500mm
20	2000mm
25	2500mm
30	3000mm
50	5000mm

How to Order Interface Regulators (SY3000, 5000,7000 only)

Series SY3000

ARBY3000 — 05 — P — 2

Pressure gauge connecting port

05	Pressure gauge (G15-10-01)
M1	Plug (M-5P)

Regulated port

P	P port
A1	A port (P port control type A port regulated)
B1	B port (P port control type B port regulated)

Series SY5000/7000

ARBY5000
ARBY7000 — 00 — P — 2

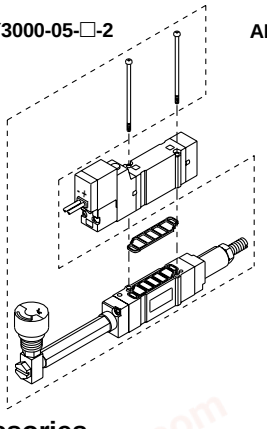
Pressure gauge connecting port

00	Pressure gauge (G15-10-01)
M1	Plug (M-5P)

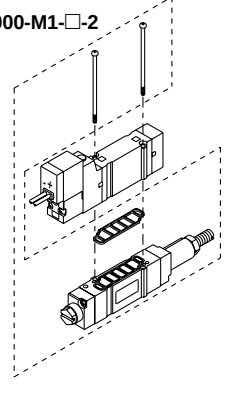
Regulated port

P	P port
A1	A port (P port control type A port regulated)
B1	B port (P port control type B port regulated)

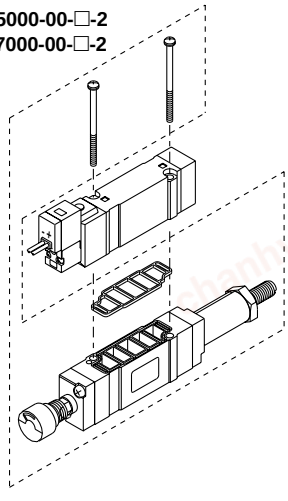
ARBY3000-05-□-2



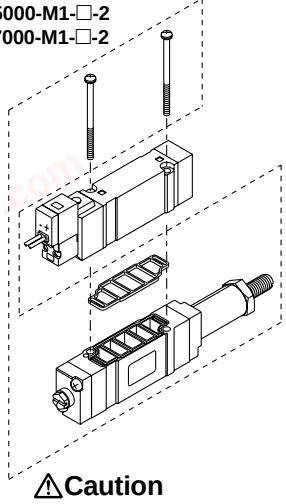
ARBY3000-M1-□-2



ARBY5000-00-□-2
ARBY7000-00-□-2



ARBY5000-M1-□-2
ARBY7000-M1-□-2



Accessories

Series	Round head combination screw	Gasket
ARBY3000	SY3000-23-10 (M2 x 36)	SX3000-57-4
ARBY5000	M3 x 48.5 (Flat nickel plated)	SX5000-57-5
ARBY7000	**New! Contact SMC**	

⚠Caution

Mounting screw tightening torques

M2: 0.15N·m
M3: 0.6N·m

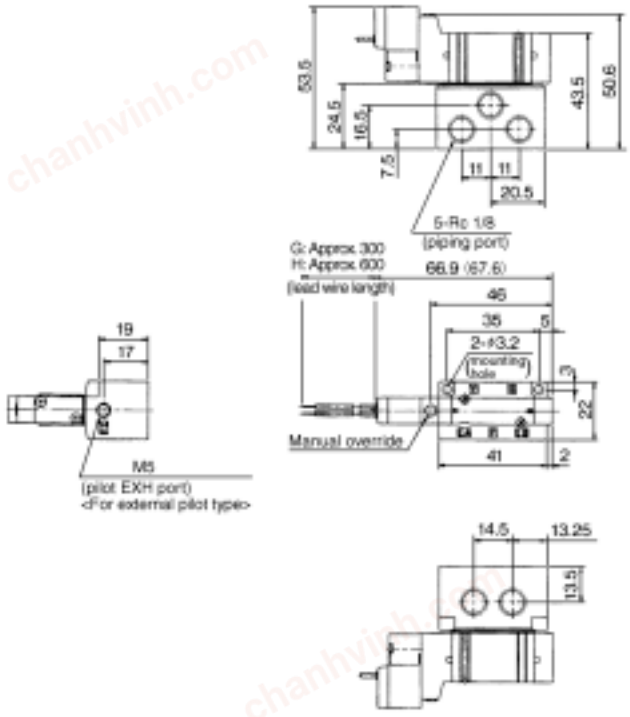
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Series SY3000 Dimensions

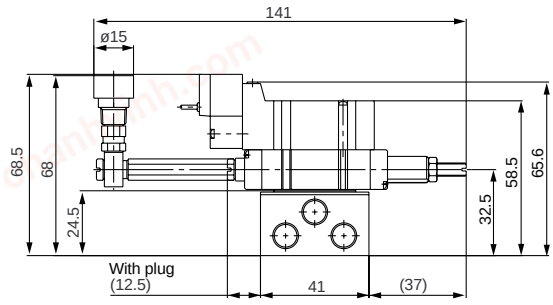
Note)< >: Values with surge voltage suppressor

2 position single
Grommet (G), (H): SY3140(R) -□$^{G}_{H}$□□-01□-Q

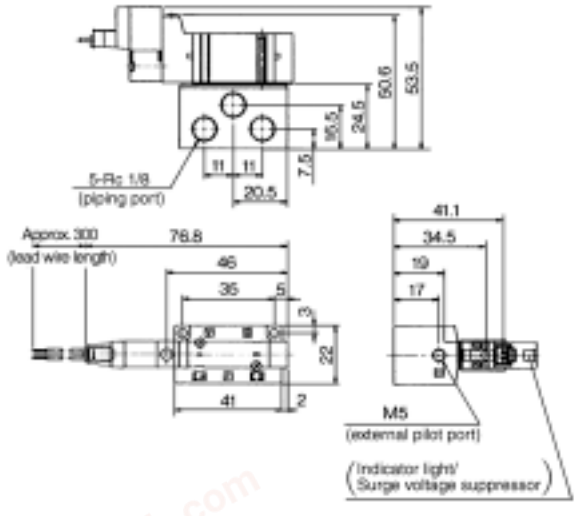
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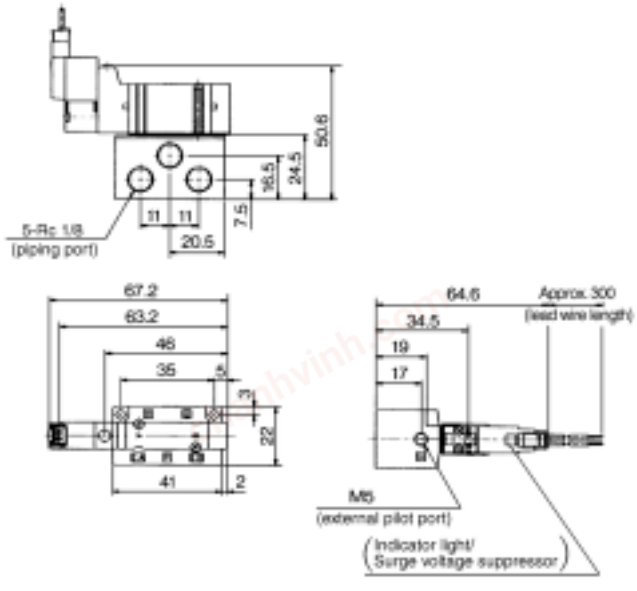
With interface regulator



L type plug connector (L): SY3140(R)-□L□□-01□-Q



M type plug connector (M): SY3140(R)-□M□□-01□-Q



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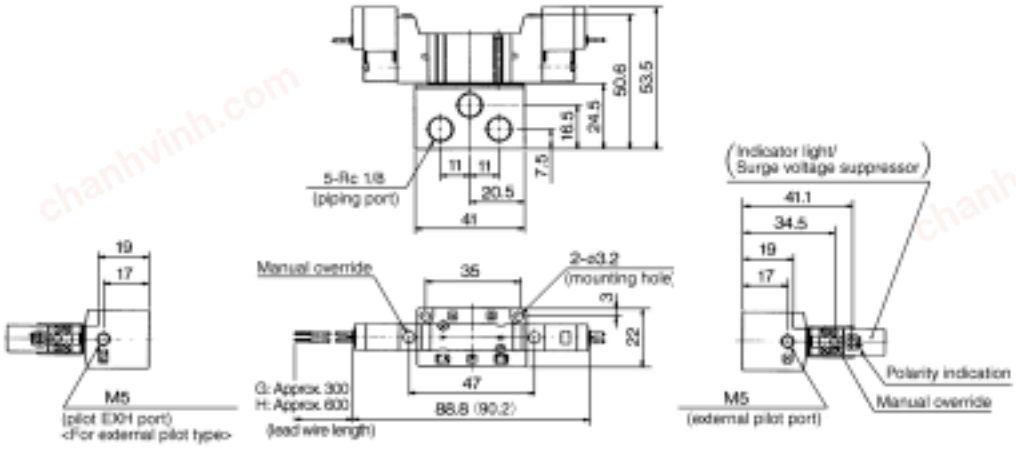
Base Mounted Type

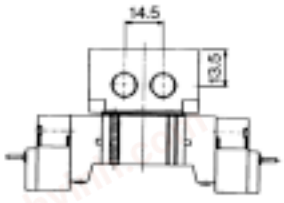
Series SY3000 Dimensions

Note)< >: Values with surge voltage suppressor

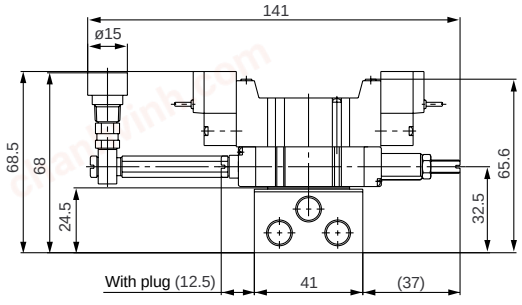
2 position double
Grommet (G), (H): SY3240(R)-□$^{G}_{H}$□□-01□-Q

Scale: 35%

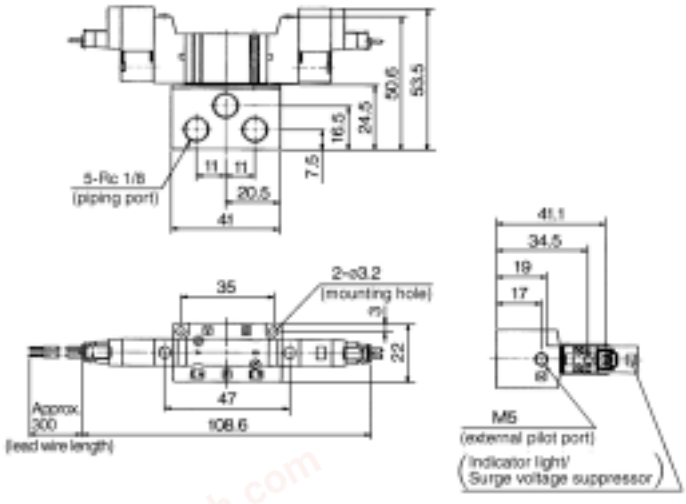




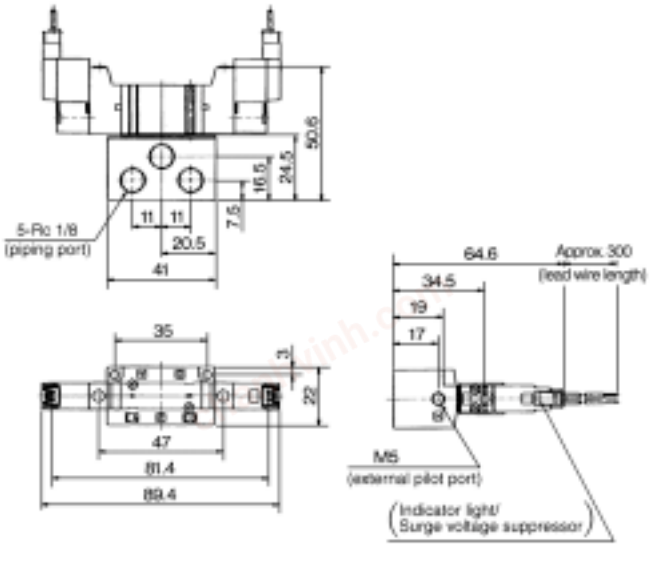
With interface regulator



L type plug connector (L): SY3240(R)-□L□□-01□-Q



M type plug connector (M): SY3240(R)-□M□□-01□-Q

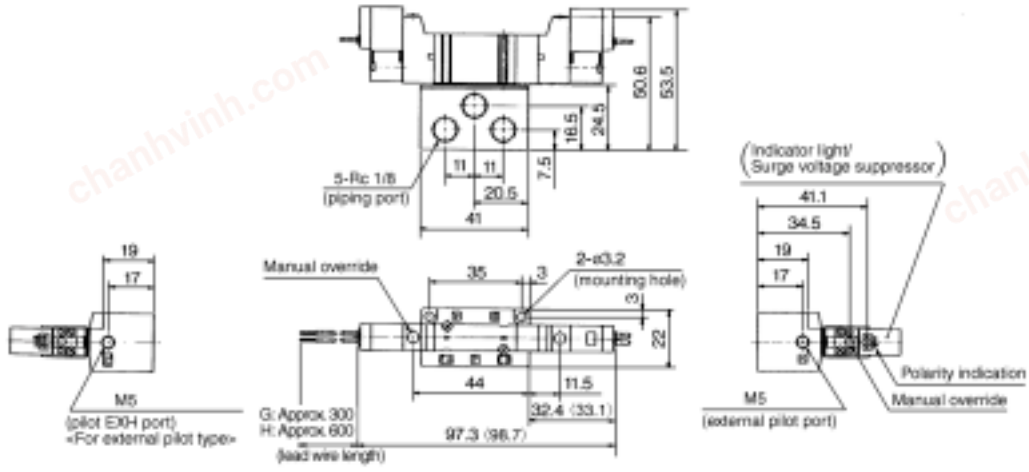


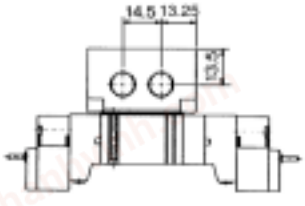
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Note)< >: Values with surge voltage suppressor

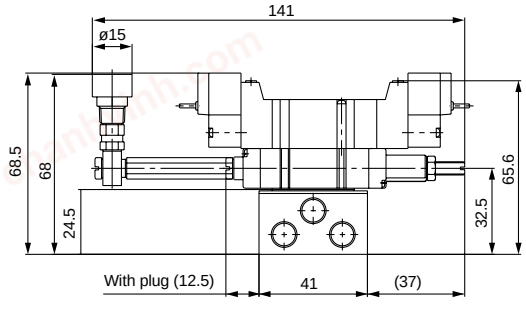
3 position closed centre/exhaust centre/pressure centre
Grommet (G), (H): SY3$^{3}_{5}$40(R)-□$^{G}_{H}$□□-01□-Q

Scale: 35%

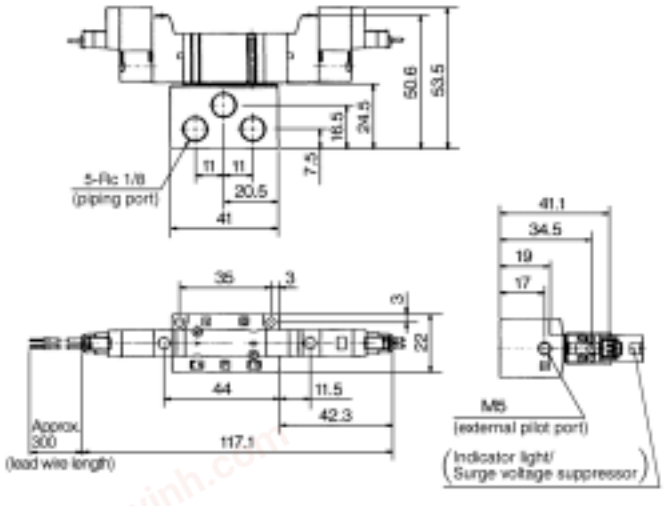




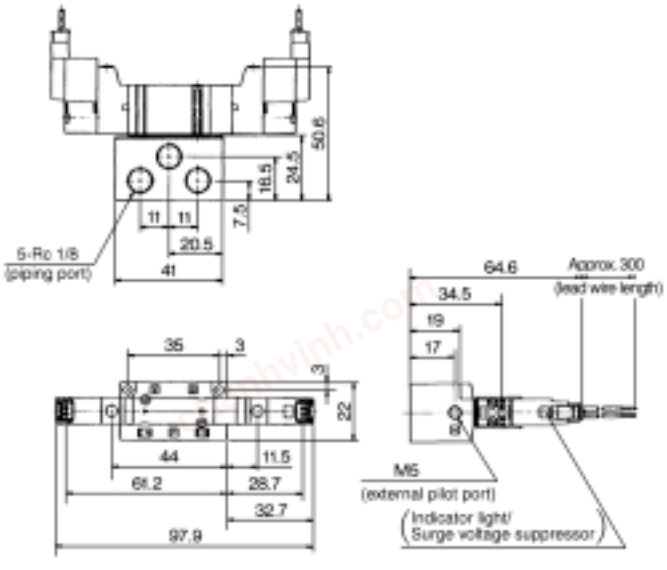
With interface regulator



L type plug connector (L): SY3$^{3}_{5}$40(R)-□L□□-01□-Q



M type plug connector (M): SY3$^{3}_{5}$40(R)-□M□□-01□-Q



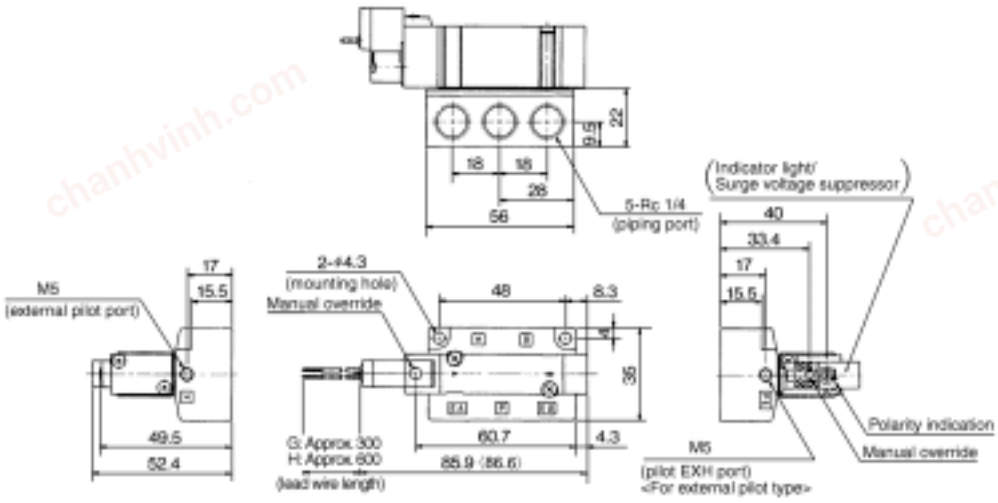
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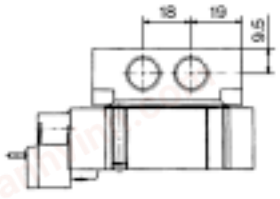
Series SY5000 Dimensions

Note)< >: Values with surge voltage suppressor

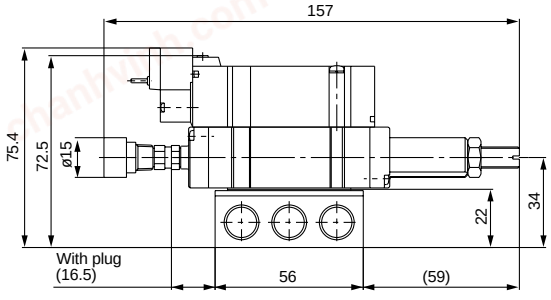
2 position single
Grommet (G), (H): SY5140(R)-□$^{G}_{H}$□□-02□-Q

Scale: 35%

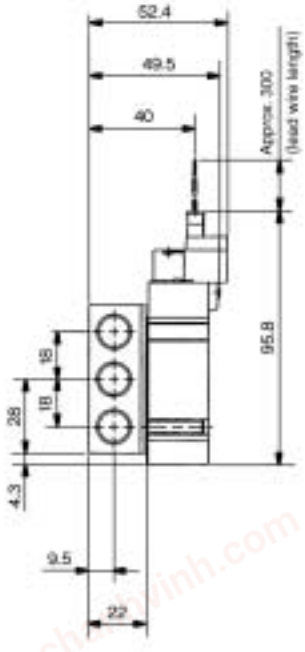




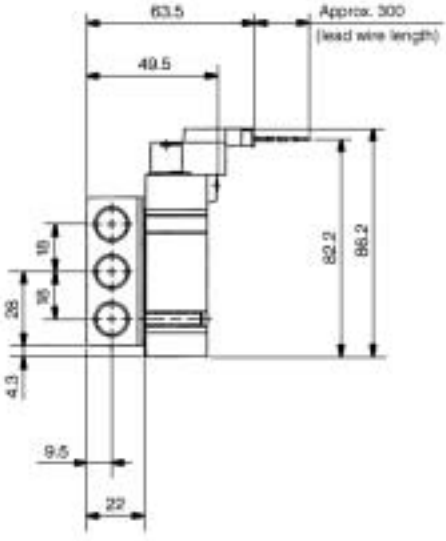
With interface regulator



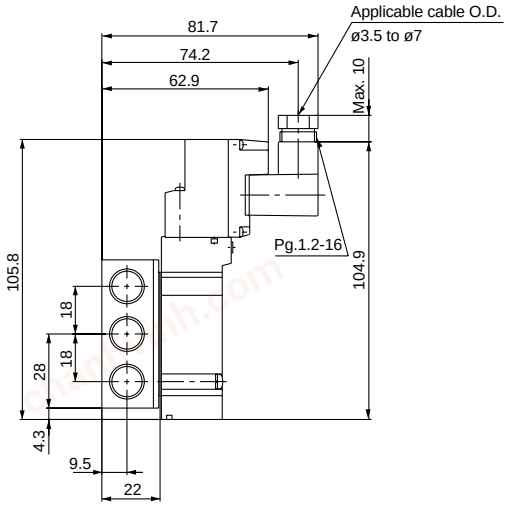
L type plug connector (L): SY5140(R)-□L□□-02□-Q



M type plug connector (M): SY5140(R)-□M□□-02□-Q



DIN terminal (D): SY5140(R)-□D□□-02□-Q



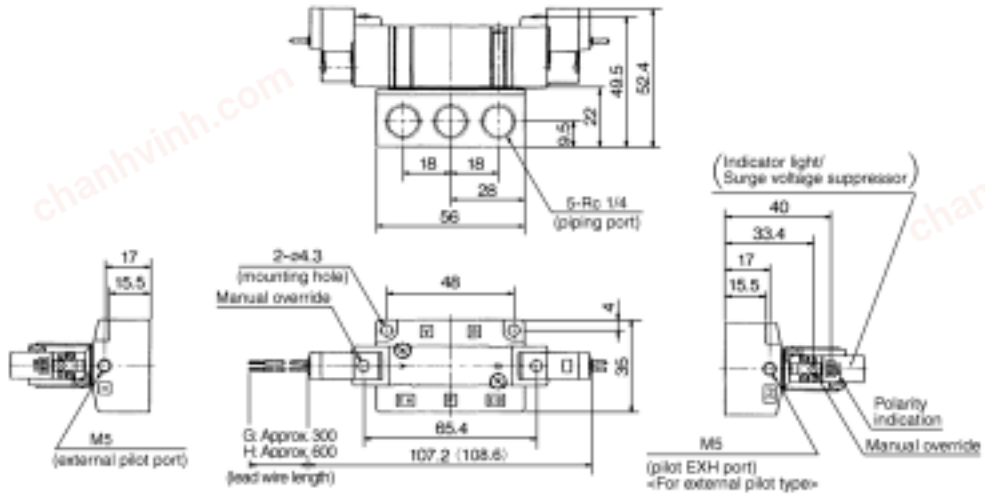
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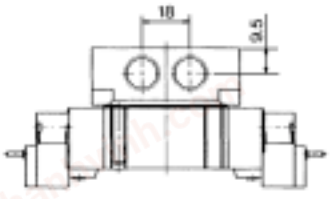
Note)< >: Values with surge voltage suppressor

2 position double

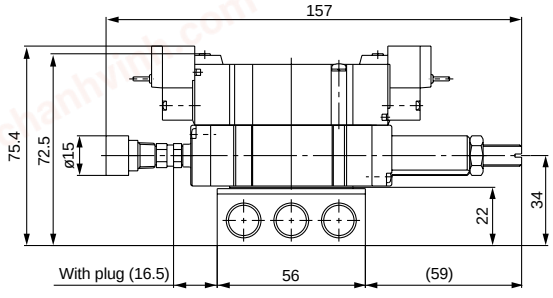
Grommet (G), (H): SY5240(R)-□$^{G}_{H}$□□-02□-Q

Scale: 35%

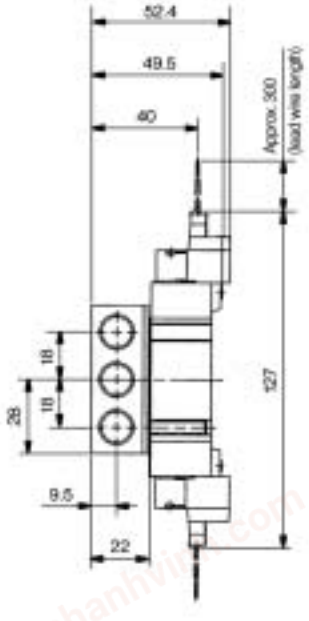




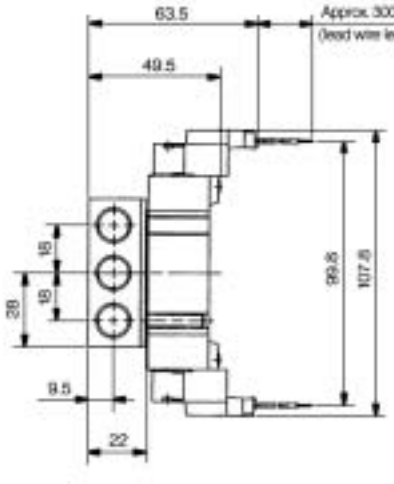
With interface regulator



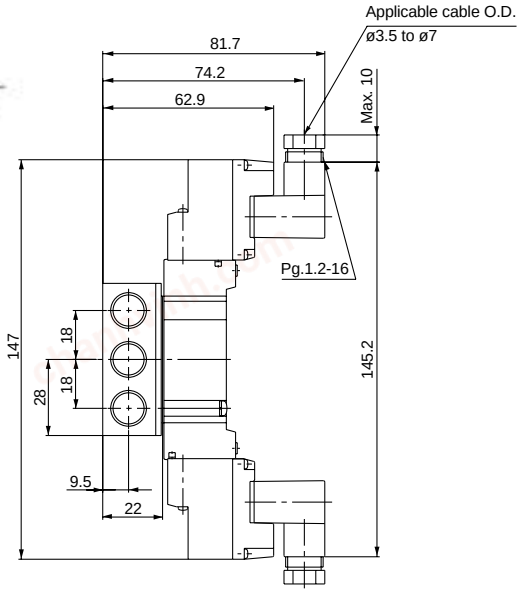
L type plug connector (L):
SY5240(R)-□L□□-02□-Q



M type plug connector (M):
SY5240(R)-□M□□-02□-Q



DIN terminal (D):
SY5240(R)-□D□□-02□-Q



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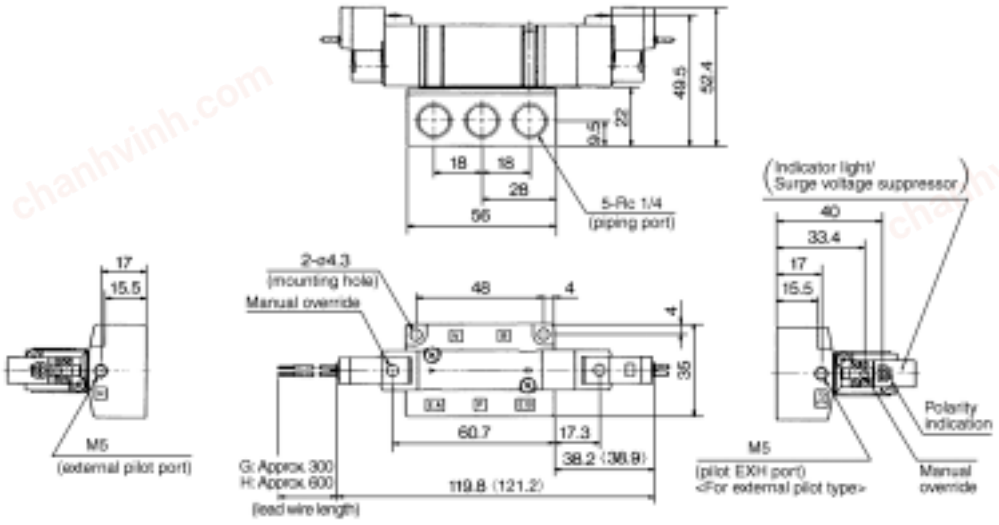
Base Mounted Type

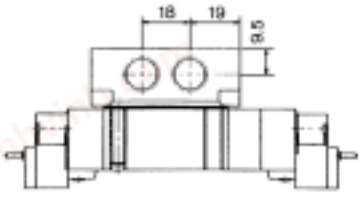
Series SY5000 Dimensions

Note)< >: Values with surge voltage suppressor

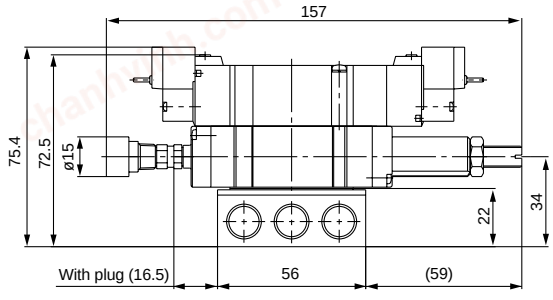
3 position closed centre exhaust centre/pressure centre
Grommet (G), (H): SY5$^{3}_{4}_{5}$40(R)-□$^{G}_{H}$□□-02□-Q

Scale: 35%

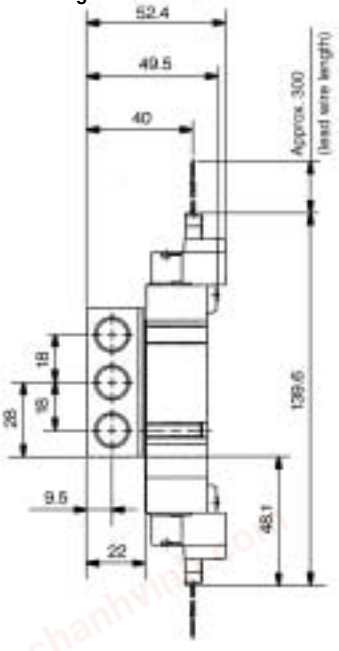




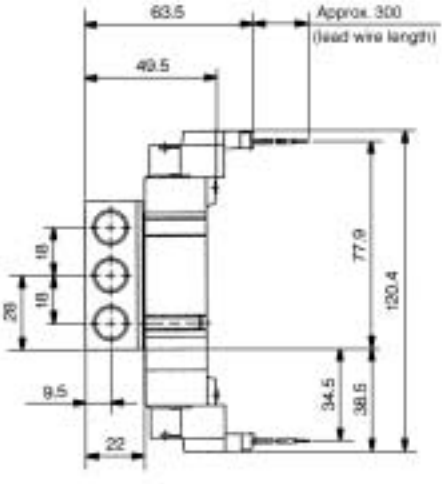
With interface regulator



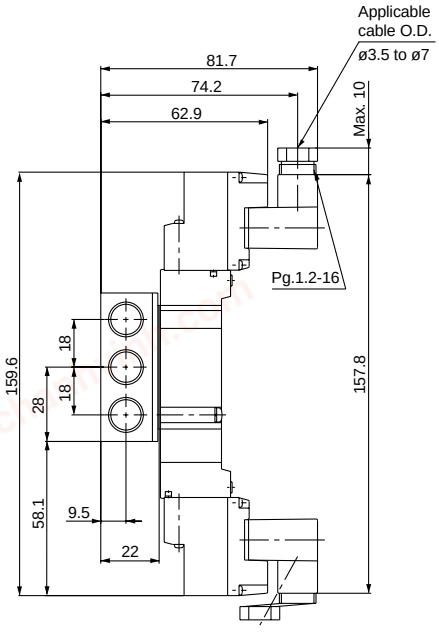
L type plug connector (L):
SY5$^{3}_{4}_{5}$40(R)-□L□□-02□-Q



M type plug connector (M):
SY5$^{3}_{4}_{5}$40(R)-□M□□-02□-Q



DIN terminal (D):
SY5$^{3}_{4}_{5}$40(R)-□D□□-02□-Q



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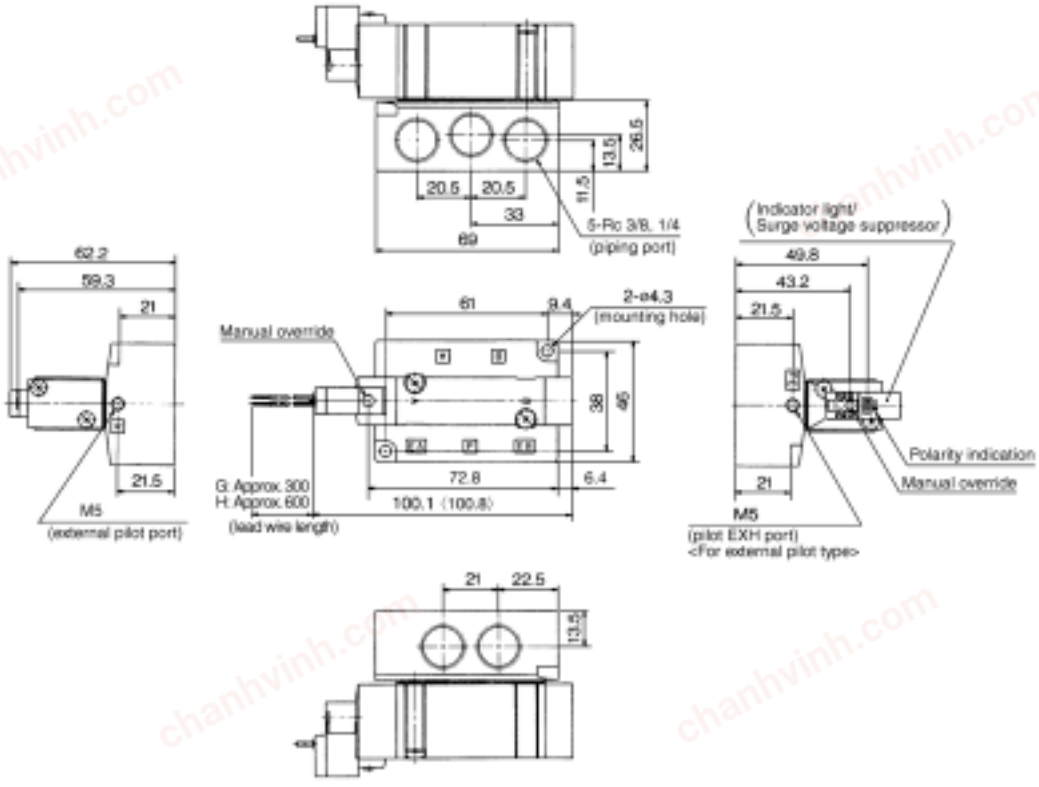
Series SY7000 Dimensions

Note)< >: Values with surge voltage suppressor

2 position single

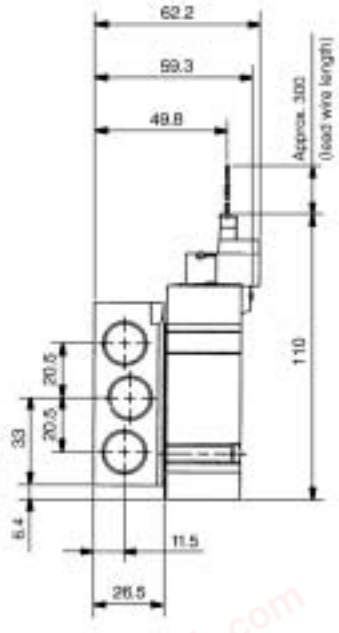
Grommet (G), (H): SY7140(R)-□$^{G}_{H}$□□-$^{02}_{03}$□-Q

Scale: 35%



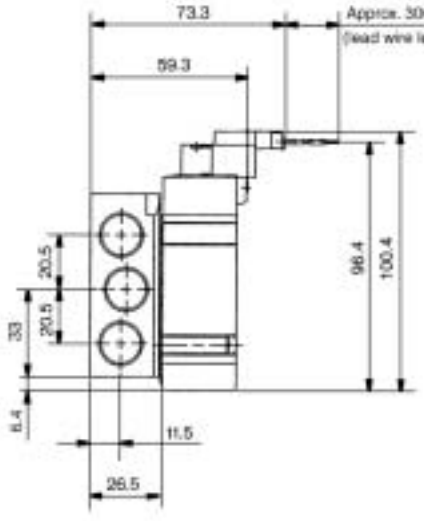
L type plug connector (L):

SY7140(R)-□L□□-$^{02}_{03}$□-Q



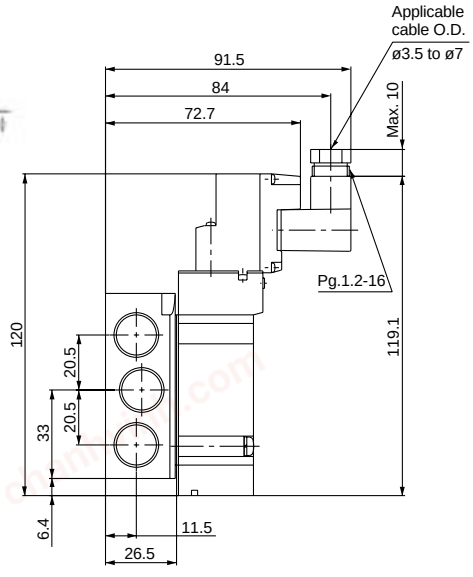
M type plug connector (M):

SY7140(R)-□M□□-$^{02}_{03}$□-Q



DIN terminal (D):

SY7140(R)-□D□□-$^{02}_{03}$□-Q



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Base Mounted Type

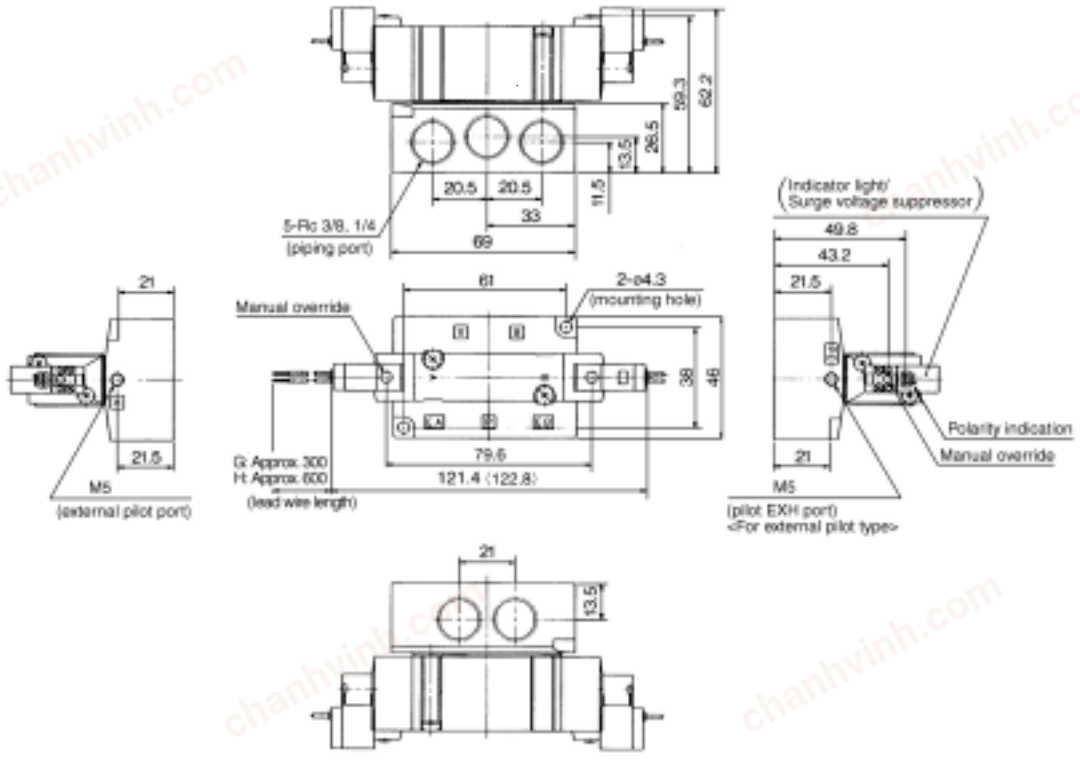
Series SY7000 Dimensions

Note)< >: Values with surge voltage suppressor

2 position double

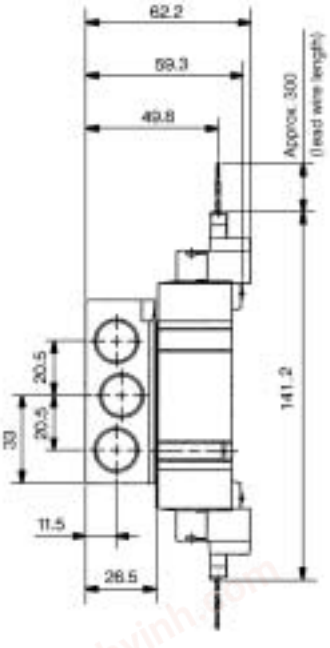
Grommet (G), (H): SY7240(R)-□$^{G}_{H}$□□-$^{02}_{03}$□-Q

Scale: 35%



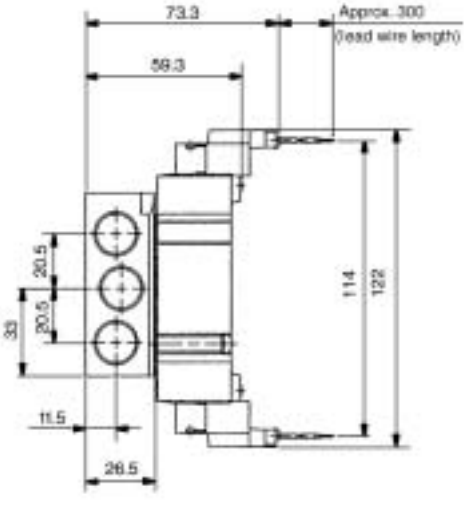
L type plug connector (L):

SY7240(R)-□L□□-$^{02}_{03}$□-Q



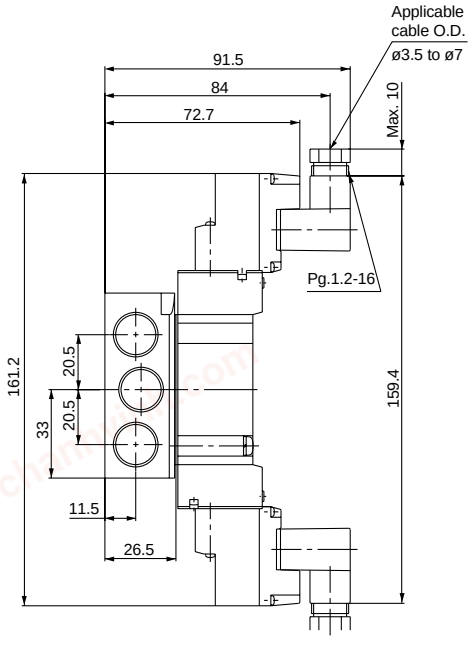
M type plug connector (M):

SY7240(R)-□M□□-$^{02}_{03}$□-Q



DIN terminal (D):

SY7240(R)-□D□□-$^{02}_{03}$□-Q

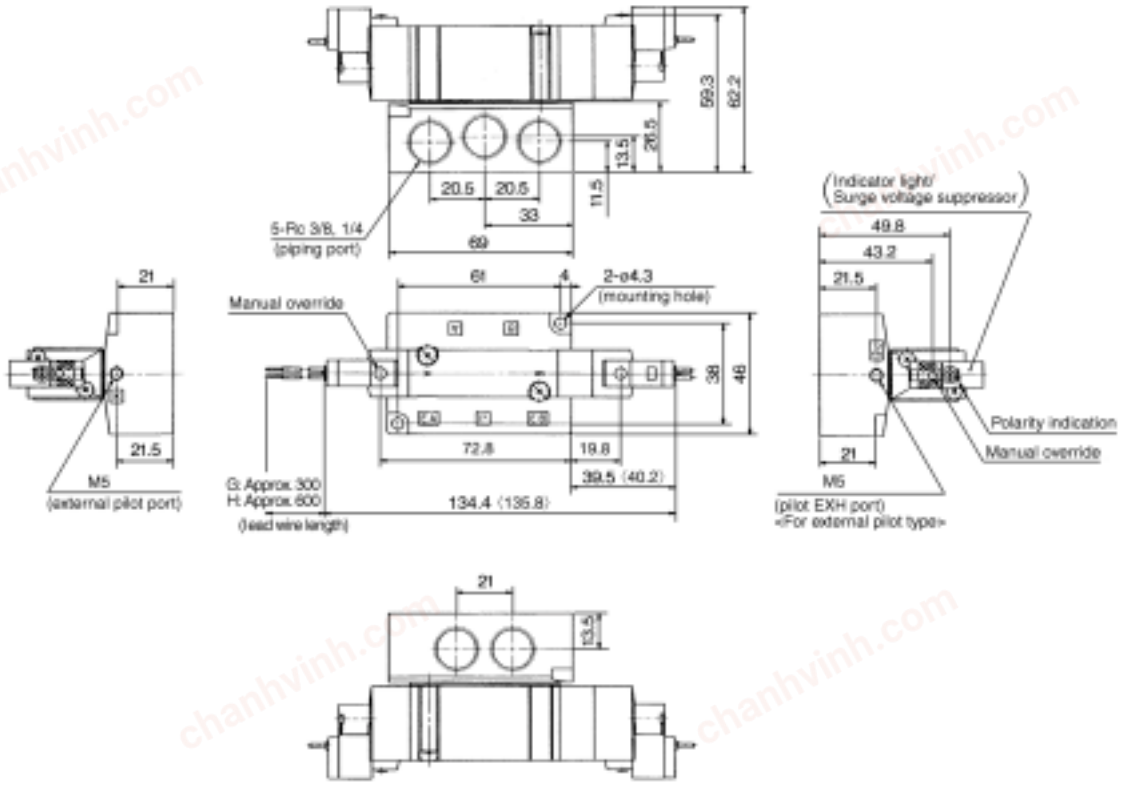


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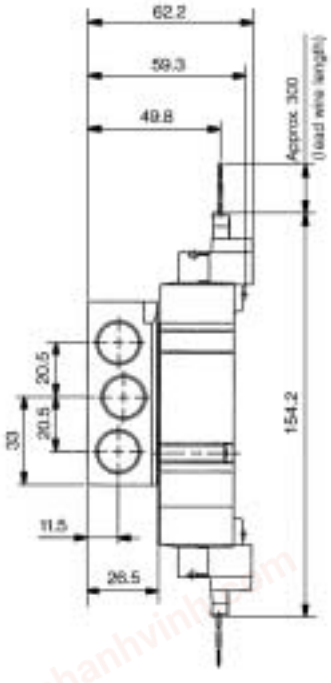
< >: Values with surge voltage suppressor

3 position closed centre/exhaust centre/pressure centre
Grommet (G), (H): SY7$^{3}_{5}$40(R)-□$^{G}_{H}$□□-$^{02}_{03}$□-Q

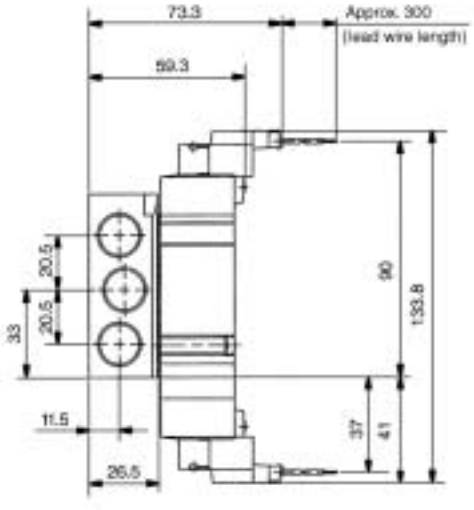
Scale: 35%



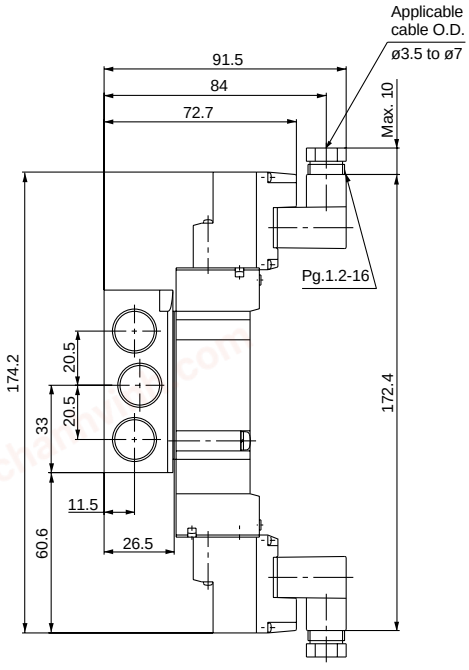
L type plug connector (L):
SY7$^{3}_{5}$40(R)-□L□□-$^{02}_{03}$□-Q



M type plug connector (M):
SY7$^{3}_{5}$40(R)-□M□□-$^{02}_{03}$□-Q



DIN terminal (D):
SY7$^{3}_{5}$40(R)-□D□□-$^{02}_{03}$□-Q



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Base Mounted Type

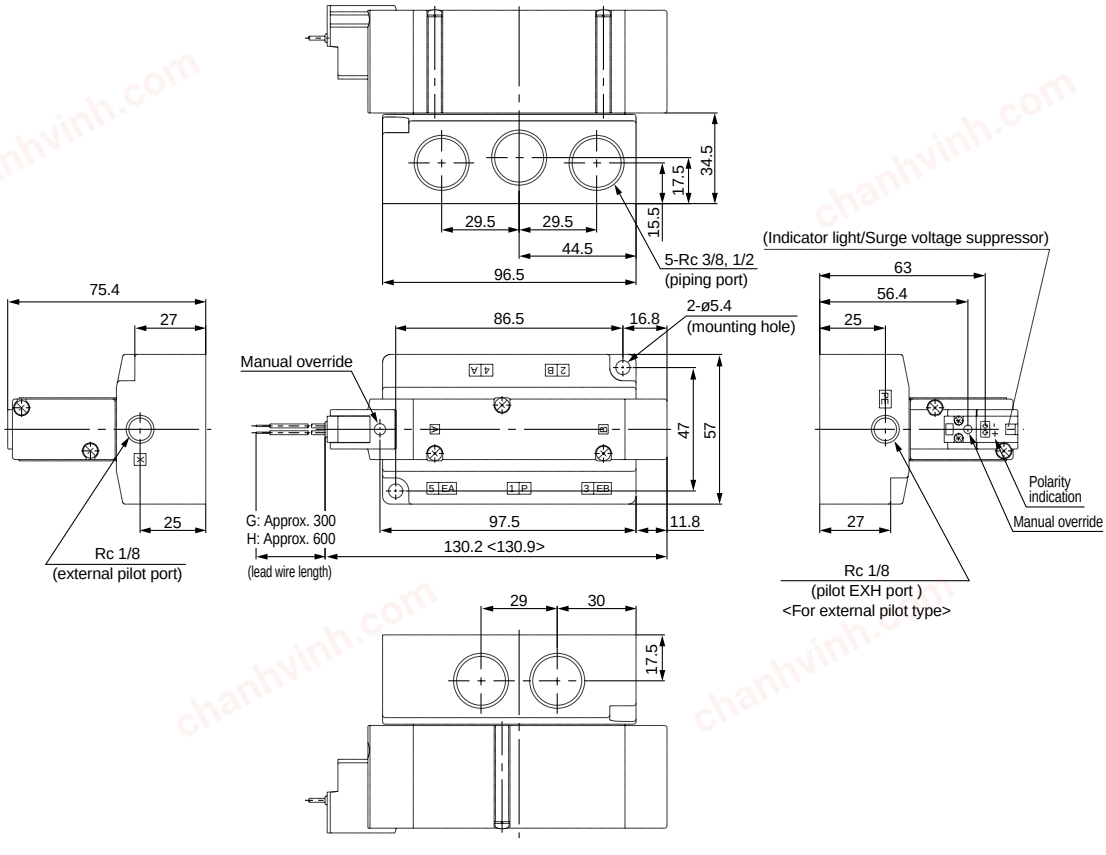
Series SY9000 Dimensions

Note)< >: Values with surge voltage suppressor

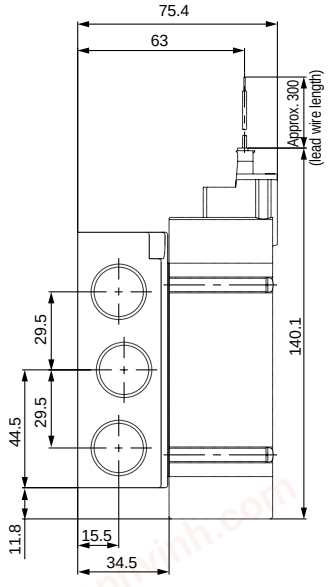
2 position single

Grommet (G), (H): SY9140(R)-□$^{G}_{H}$□□-$^{03}_{04}$□-Q

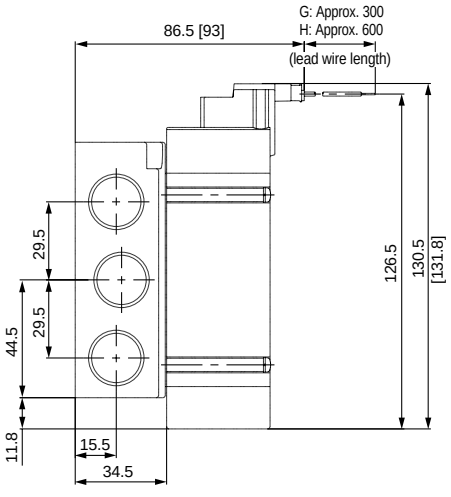
Scale: 35%



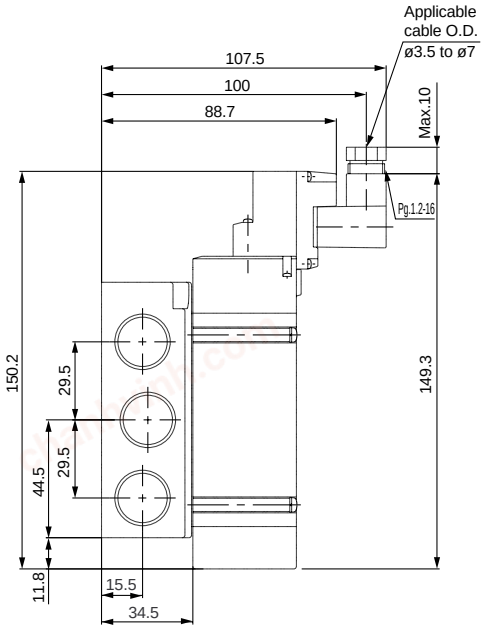
L type plug connector (L): SY9140(R)-□L□□-$^{03}_{04}$□-Q



M type plug connector (M): SY9140(R)-□M□□-$^{03}_{04}$□-Q



DIN terminal (D): SY9140(R)-□D□□-$^{03}_{04}$□-Q



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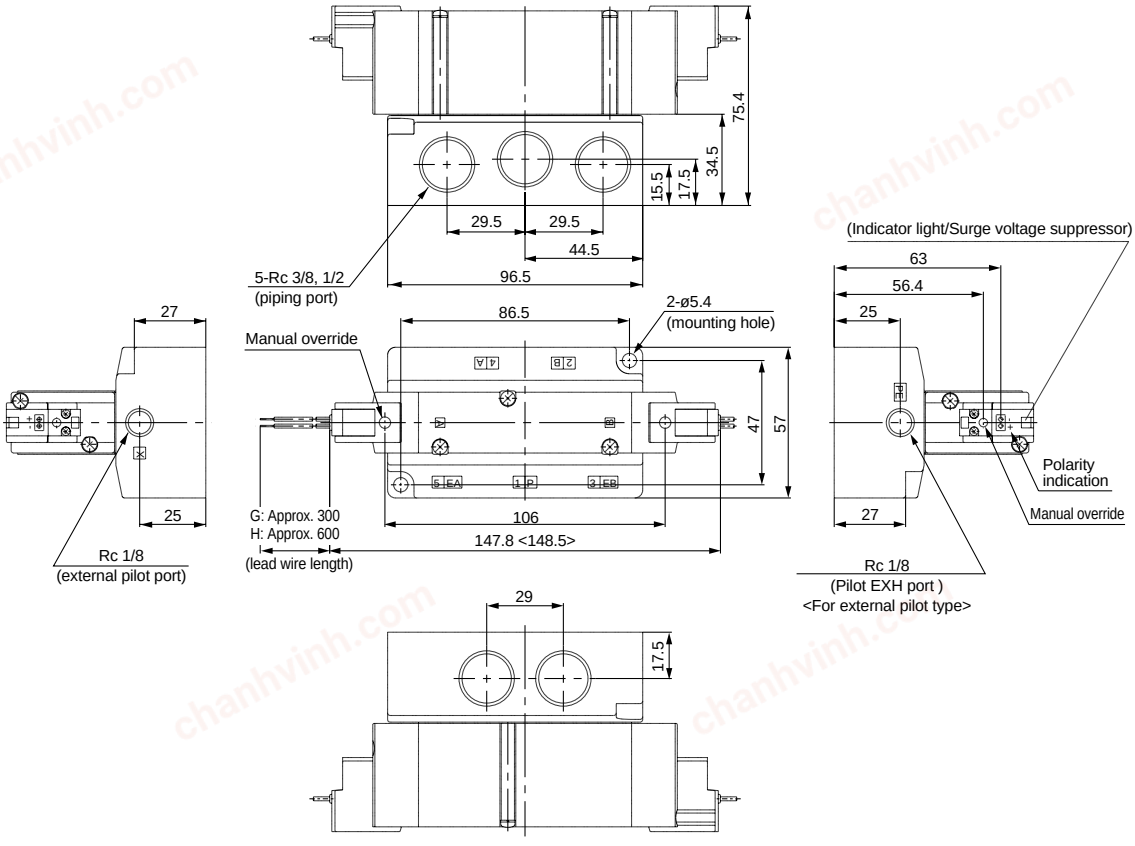
Series SY9000 Dimensions

Note)< >: Values with surge voltage suppressor

2 position double

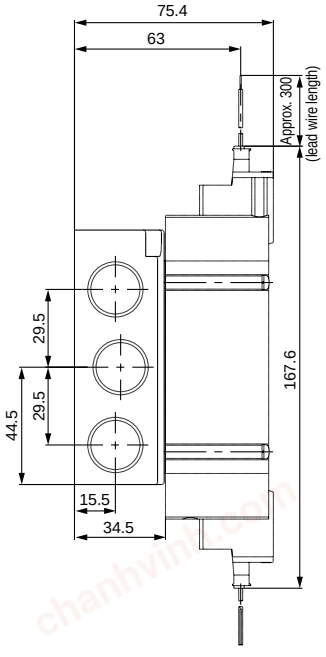
Grommet (G), (H): SY9240(R)-□$^{G}_{H}$□□-$^{03}_{04}$□-Q

Scale: 35%



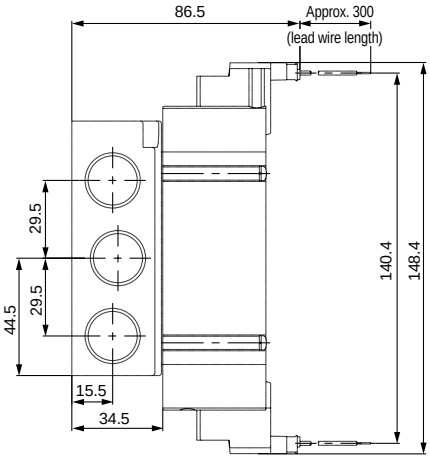
L type plug connector (L):

SY9240(R)-□L□□-$^{03}_{04}$□-Q



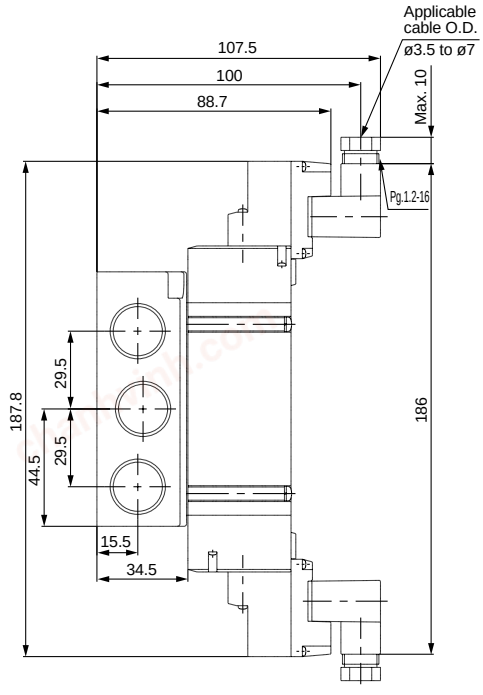
M type plug connector (M):

SY9240(R)-□M□□-$^{03}_{04}$□-Q



DIN terminal (D):

SY9240(R)-□D□□-$^{03}_{04}$□-Q



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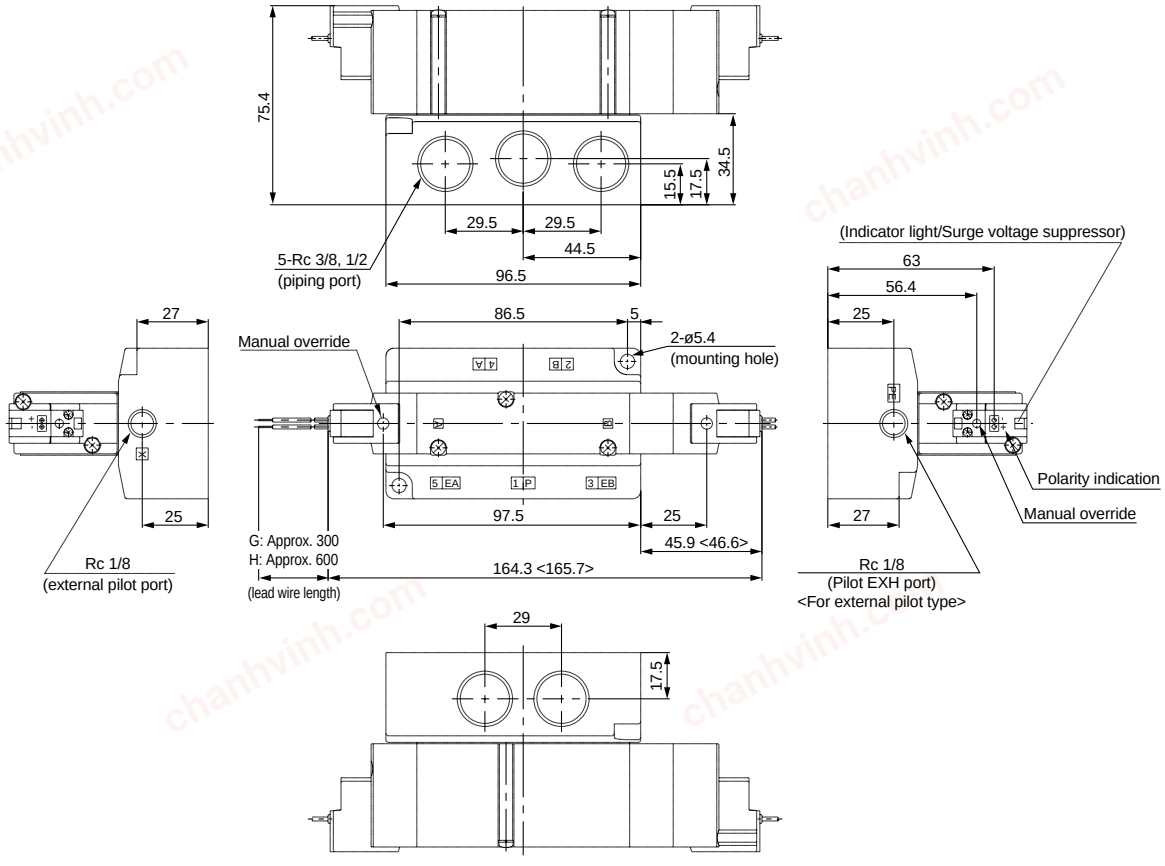
Base Mounted Type

Series SY9000 Dimensions

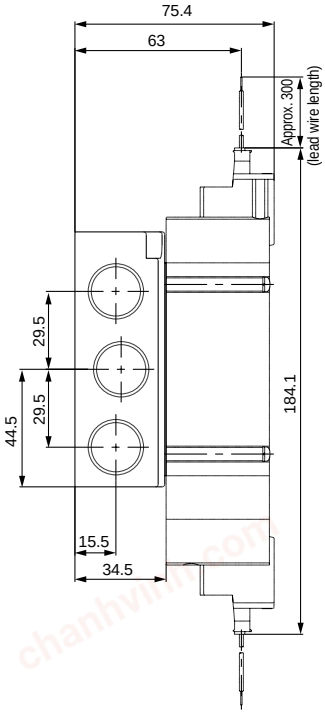
Note)< >: Values with surge voltage suppressor

3 position closed centre/exhaust centre/pressure centre
Grommet (G), (H): SY9$^{3}_{5}$40(R)-□$^{G}_{H}$□□-$^{03}_{04}$□-Q

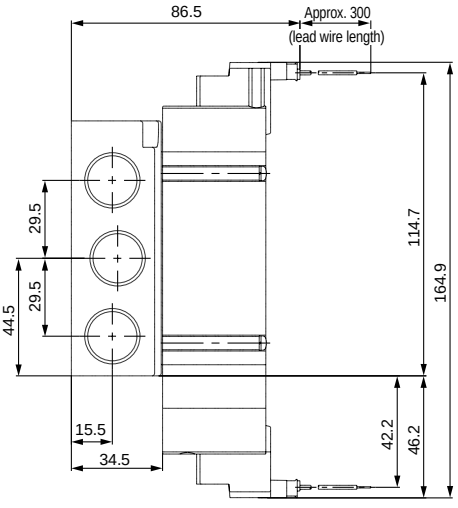
Scale: 35%



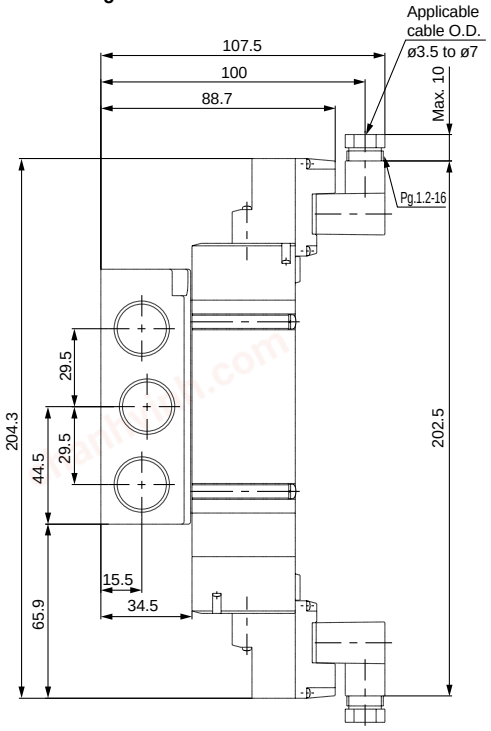
L type plug connector (L):
SY9$^{3}_{5}$40(R)-□L□□-$^{03}_{04}$□-Q



M type plug connector (M):
SY9$^{3}_{5}$40(R)-□M□□-$^{03}_{04}$□-Q



DIN terminal (D):
SY9$^{3}_{5}$40(R)-□D□□-$^{03}_{04}$□-Q



SMC

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Type 20

SY3000/5000/7000
Body Ported Type Manifold
Bar Stock/Individual Wiring

How to Order Manifolds

SS5Y [5] — 20 — [05] — [ ] — Q

Manifold series

3	SY3000
5	SY5000
7	SY7000

Thread

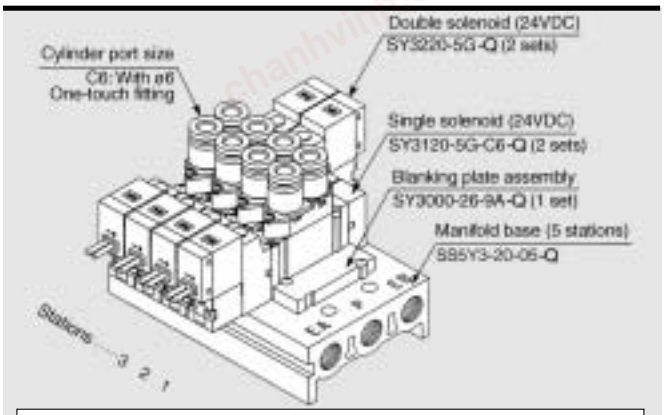
—	Rc (PT)
00N	NPT
00T	NPTF
00F	G (PF)

Stations

02	2 stations
⋮	⋮
20	20 stations

∗ Includes the number of blanking plate assemblies.

How to Order Manifold Assemblies (Example)



SS5Y3-20-05-Q ..... 1 set (Type 20, 5 station manifold base part no.)
SY3000-26-9A-Q ..... 1 set (Blanking plate assembly part no.)
SY3120-5G-C6-Q ..... 2 sets (Single solenoid part no.)
SY3220-5G-C6-Q ..... 2 sets (Double solenoid part no.)

Add the valve and option part numbers in order starting from the first station as shown above.

How to Order Valves

SY [5] [1] 20 — [5] [L] [ ] [ ] — [01] [ ] — Q

Series

3	SY3000
5	SY5000
7	SY7000

Type of actuation

1	2 position single
2	2 position double
3	3 position closed centre
4	3 position exhaust centre
5	3 position pressure centre

Rated voltage

DC specifications

5	24VDC
6	12VDC
V	6VDC
S	5VDC
R	3VDC
9	Less than 50 VDC

AC specifications (50/60Hz)

1	100VAC
2	200VAC
3	110VAC [115VAC]
4	220VAC [230VAC]
9	Less than 250 VAC

Note 1) "D", "DO", "Y" and "YO" are only available in 24VDC and 12VDC in case of DC.
Note 2) "D", "DO", "Y" and "YO" are not available for SY3000.

Order Made Contact SMC for other voltages (9)

Protective class
class I (Mark: ⏚)..... DIN terminal type

Protective class
class III (Mark: ◈)..... Grommet, L and M plug connector

Indicator light/Surge voltage suppressor

Electrical entry G, H, L, M

Nil	Without indicator light/surge voltage suppressor
S	With surge voltage suppressor
Z	With indicator light/surge voltage suppressor
U	With indicator light/surge voltage suppressor (non-polar type)

Note 1) "U" are available for DC only.

Electrical entry D

Nil	Without indicator light/surge voltage suppressor
S	With surge voltage suppressor (non-polar type)
Z	With indicator light/surge voltage suppressor (non-polar type)

Note 1) "DOZ", "YOZ" are not available.
Note 2) For AC, there is no "S" specification, since it is integrated with the rectifier.

Port size

Symbol	Port size	Applicable series
M5	M5	SY3000
C4	ø4 One-touch fitting	
C6	ø6 One-touch fitting	
01	1/8	SY5000
C4	ø4 One-touch fitting	
C6	ø6 One-touch fitting	
C8	ø8 One-touch fitting	
02	1/4	SY7000
C8	ø8 One-touch fitting	
C10	ø10 One-touch fitting	

Thread

—	Rc (PT)
N	NPT
T	NPTF
F	G (PF)

Manual override

Nil	Non-locking push type
D	Push-turn locking slotted type
E	Push-turn locking lever type

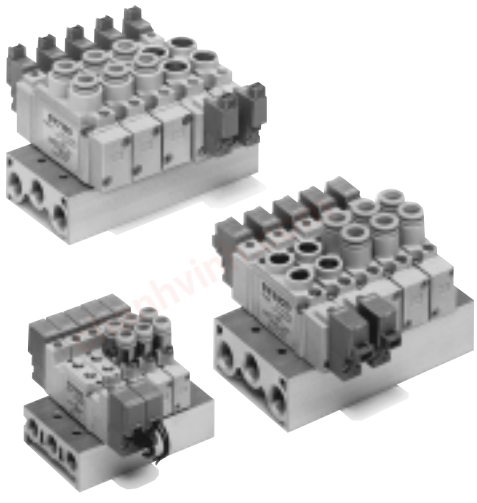
Electrical entry

24V, 12V, 6V, 5V, 3VDC			24V, 12VDC 100V, 110V, 200V, 220VAC
Grommet	**L type plug connector**	**M type plug connector**	**DIN terminal**
G: Lead wire length 300mm **H:** Lead wire length 600mm	**L:** With lead wire (length 300mm) **LN:** Without lead wire **LO:** Without connector	**M:** With lead wire (length 300mm) **MN:** Without lead wire **MO:** Without connector	**(Except SY3000)** **D:** With connector **DO:** Without connector **Y:** With connector (DIN 43650C) **YO:** Without connector (DIN 43650C)

Note 1) "LN" and "MN" include 2 sockets.
Note 2) "D", "DO", "Y", "YO" are not available for SY3000.

Note) When single body ported solenoid valves are ordered, manifold mounting bolts and gaskets are not included. Order them separately if necessary. (Refer to page 1.2-65 for details.)

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Manifold specifications

Model		SS5Y3-20	SS5Y5-20	SS5Y7-20
Applicable valve		SY3□20	SY5□20	SY7□20
Manifold type		Single base type/B mount		
P (SUP)/R (EXH) method		Common SUP/EXH		
Valve stations		2 to 20 stations Note 1)		
A, B port location		Valve		
Port size	P, EA, EB port	1/8	1/4	1/4
	A, B port	M5 C4 (ø4 One-touch fitting) C6 (ø6 One-touch fitting)	1/8 C4 (ø4 One-touch fitting) C6 (ø6 One-touch fitting) C8 (ø8 One-touch fitting)	1/4 C8 (ø8 One-touch fitting) C10 (ø10 One-touch fitting)
Valve effective area Note 2) mm^2 (Nl/min)		C6: P to A/B 3.6 (196.3) A/B to EA/EB 4.14 (225.7)	C8: P to A/B 9.18 (255.3) A/B to EA/EB 9.9 (539.8)	C10: P to A/B 15.84 (863.7) A/B to EA/EB 14.94 (814.6)
Manifold base weight W (g) n: Number of stations		W = 13n + 35	W = 36n + 64	W = 43n + 64

Note 1) For 10 stations or more (5 stations or more in case of SS5Y7), supply pressure to P port on both sides and exhaust from EA and EB ports on both sides.

Note 2) Value when manifold base (5 stations) is mounted, with single action 2 position type.

Note 3) Refer to page 1.2-65 for manifold options.

Type 20

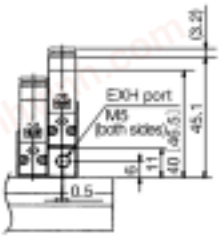
SY3000: SS5Y3-20-Stations-□-Q

Note)< >: Values with surge voltage suppressor

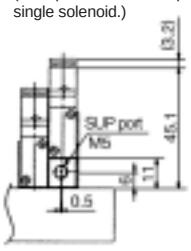
Grommet (G)

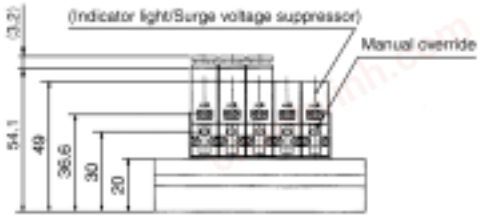
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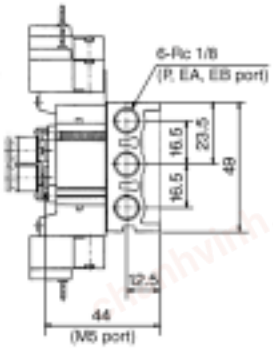
Dimensions when mounting individual EXH spacer

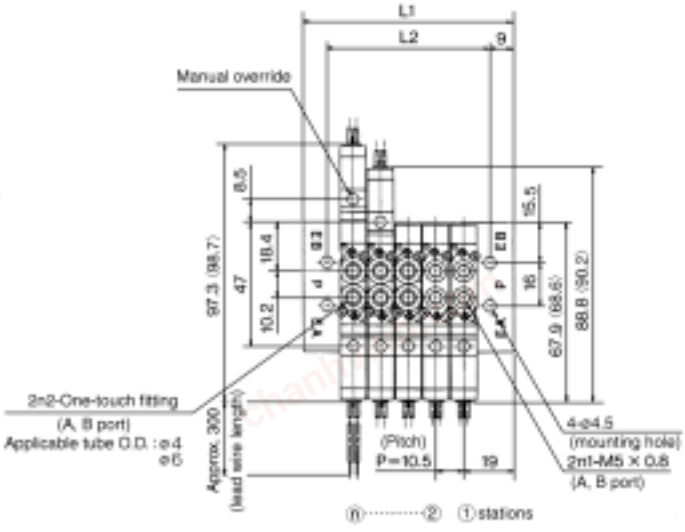


Dimensions when mounting individual SUP spacer
(SUP port is at the end plate side of the single solenoid.)

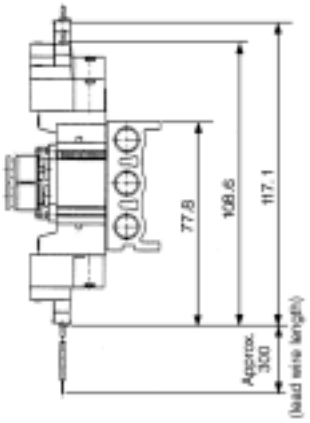




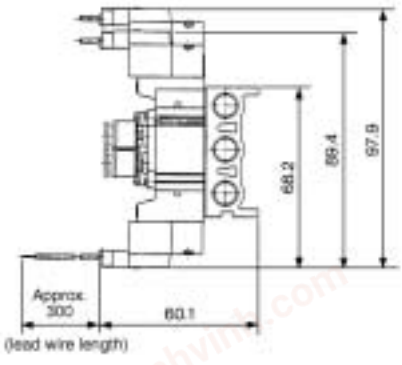




L type plug connector (L)



M type plug connector (M)



Stations n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	48.5	59	69.5	80	90.5	101	111.5	122	132.5	143	153.5	164	174.5	185	195.5	206	216.5	227	237.5
L2	30.5	41	51.5	62	72.5	83	93.5	104	114.5	125	135.5	146	156.5	167	177.5	188	198.5	209	219.5

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SY5000: SS5Y5-20-Stations-□-Q

Note)< >: Values with surge voltage suppressor

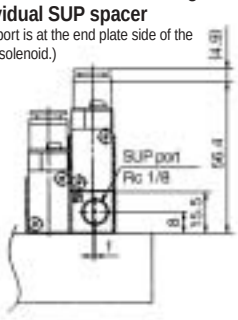
Grommet (G)

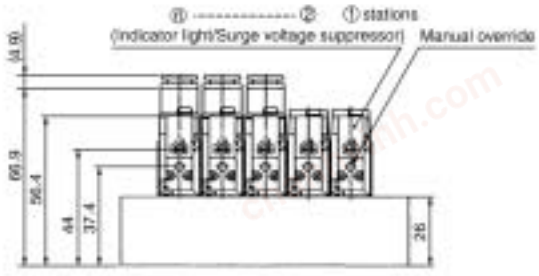
Scale: 35%

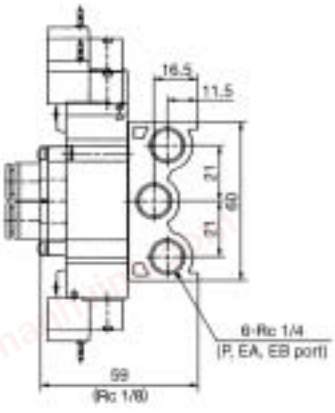
Dimensions when mounting individual EXH spacer

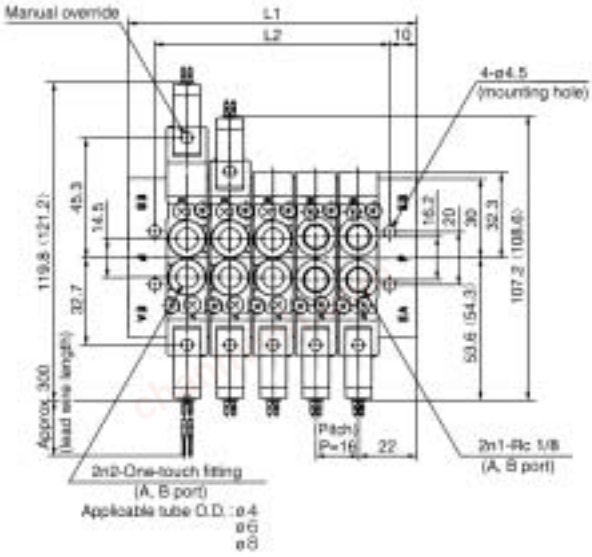


Dimensions when mounting individual SUP spacer
(SUP port is at the end plate side of the single solenoid.)

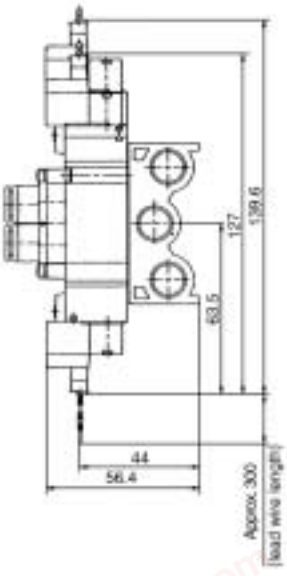




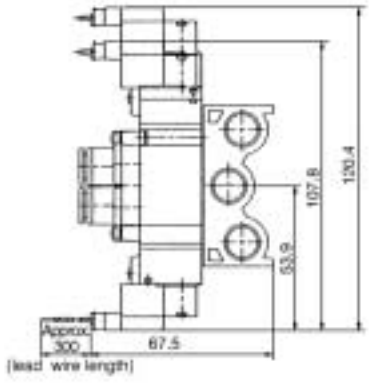




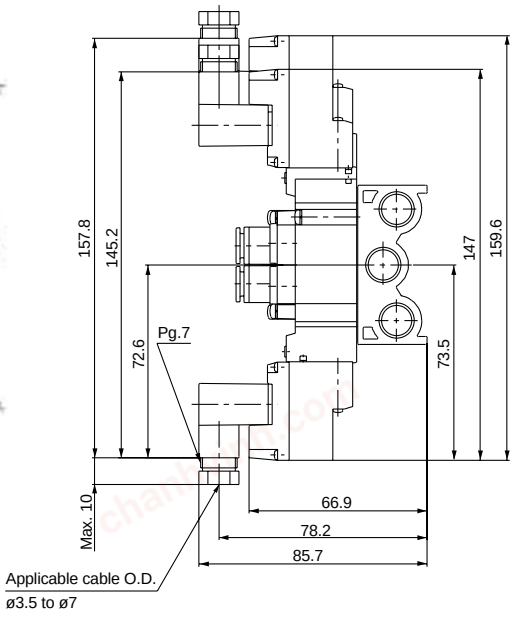
L type plug connector (L)



M type plug connector (M)



DIN terminal (D)



Stations n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	60	76	92	108	124	140	156	172	188	204	220	236	252	268	284	300	316	332	348
L2	40	56	72	88	104	120	136	152	168	184	200	216	232	248	264	280	296	312	328

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Type 20

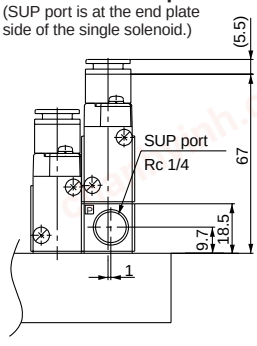
SY7000: SS5Y7-20-Stations-□-Q

Note)< >: Values with surge voltage suppressor

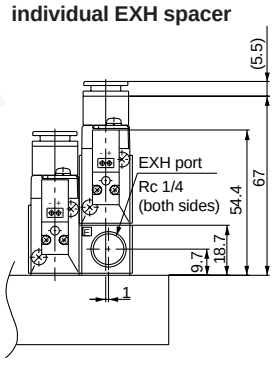
Grommet (G)

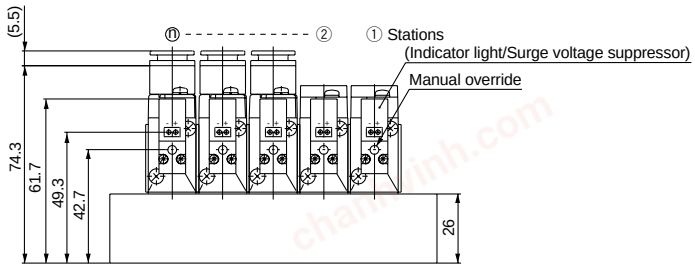
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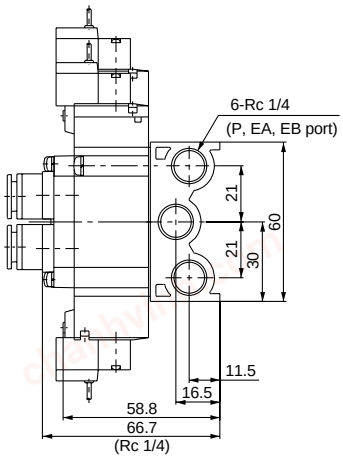
Dimensions when mounting individual SUP spacer
(SUP port is at the end plate side of the single solenoid.)

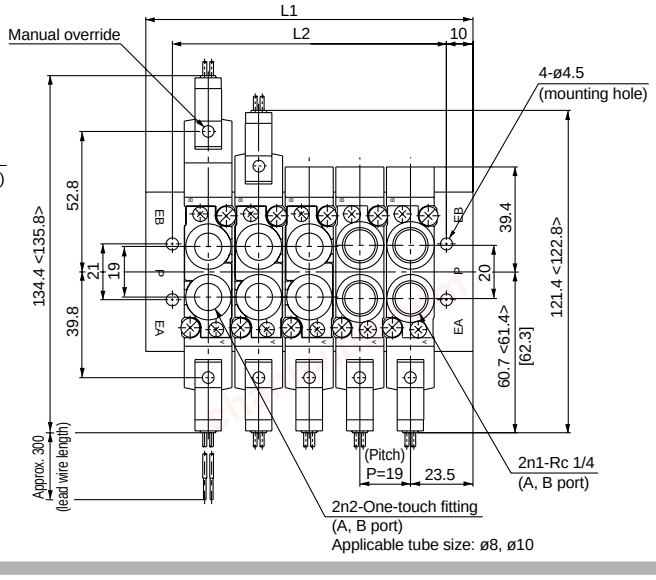


Dimensions when mounting individual EXH spacer

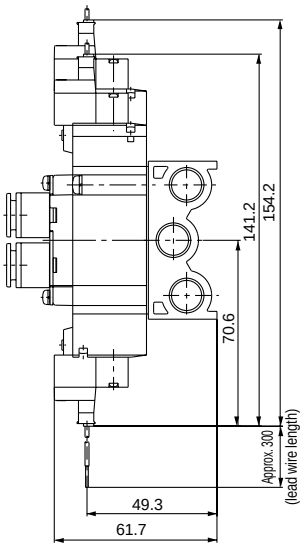




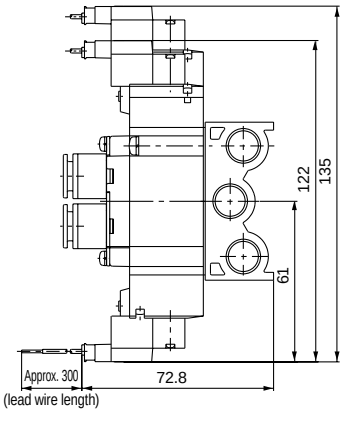




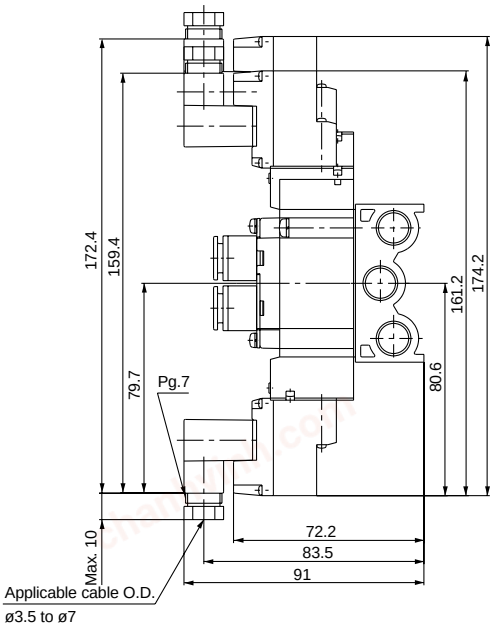
L type plug connector (L)



M type plug connector (M)



DIN terminal (D)



Stations n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	66	85	104	123	142	161	180	199	218	237	256	275	294	313	332	351	370	389	408
L2	46	65	84	103	122	141	160	179	198	217	236	255	274	293	312	331	350	369	388

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Type 23

SY9000
Body Ported Type Manifold
Stacking Type/Individual Wiring

How to Order Manifolds

SS5Y 9 — 23 — 05 — [ ] — [ ] — Q

Manifold series

9	SY9000

Stations

Symbol	Stations
02	2 stations
⋮	⋮
20	20 stations

∗ Includes the number of blanking plate assemblies.

Thread

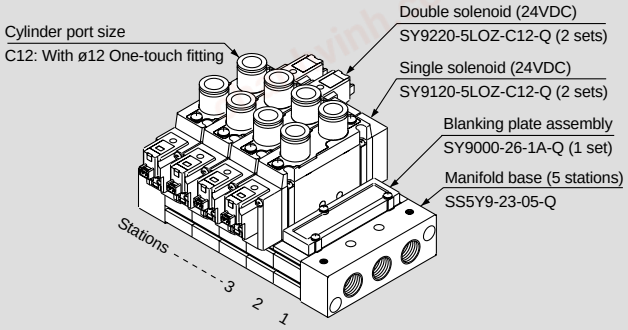
—	Rc (PT)
00N	NPT
00T	NPTF
00F	G (PF)

Option

Symbol	Mounting
Nil	Direct mount
D	DIN rail mount (with DIN rail)
DO	DIN rail mount (without DIN rail)
D∗	When a DIN rail longer than the specified stations is necessary, indicate the number of required stations at the "∗" symbol.

∗ Type 23 manifolds for SY9000 have common internal and external pilots.

How to Order Manifold Assemblies (Example)



SS5Y9-23-05-Q .....1 set (Type 23, 5 station manifold base part no.)
SY9000-26-1A-Q ..... 1 set (Blanking plate assembly part no.)
SY9120-5LOZ-C12-Q ..... 2 sets (Single solenoid part no.)
SY9220-5LOZ-C12-Q ..... 2 sets (Double solenoid part no.)

Add the valve and option part numbers in order starting from the first station as shown above.

How to Order Valves

SY 9 1 20 [ ] — 5 L [ ] [ ] — 02 [ ] — Q

Series

9	SY9000

Type of actuation

1	2 position single
2	2 position double
3	3 position closed centre
4	3 position exhaust centre
5	3 position pressure centre

Pilot specification

Nil	Internal pilot
R	External pilot

∗ External pilot specification is not available for single unit.

Rated voltage

DC specifications

5	24VDC
6	12VDC
V	6VDC
S	5VDC
R	3VDC
9	Less than 50 VDC

AC specifications (50/60Hz)

1	100VAC
2	200VAC
3	110VAC [115VAC]
4	220VAC [230VAC]
9	Less than 250 VAC

Note 1) "D", "DO", "Y" and "YO" are only available in 24VDC and 12VDC in case of DC.
Note 2) "D", "DO", "Y" and "YO" are not available for SY3000.

Order Made Contact SMC for other voltages (9)

Protective class class I (Mark: ⏚)..... DIN terminal type
Protective class class III (Mark: ◈)..... Grommet, L and M plug connector

Indicator light/Surge voltage suppressor

Electrical entry G, H, L, M

Nil	Without indicator light/surge voltage suppressor
S	With surge voltage suppressor
Z	With indicator light/surge voltage suppressor
U	With indicator light/surge voltage suppressor (non-polar type)

Note 1) For AC, there is no "S" specification, since it is integrated with the rectifier.
Note 2) "U" are available for DC only.

Electrical entry D

Nil	Without indicator light/surge voltage suppressor
S	With surge voltage suppressor (non-polar type)
Z	With indicator light/surge voltage suppressor (non-polar type)

Note 1) "DOZ", "YOZ" are not available.
Note 2) For AC, there is no "S" specification, since it is integrated with the rectifier.

Thread

—	Rc (PT)
N	NPT
T	NPTF
F	G (PF)

Port size

Symbol	Port size
C8	ø8 One-touch fitting
C10	ø10 One-touch fitting
C12	ø12 One-touch fitting
02	1/4
03	3/8

Manual override

Nil	Non-locking push type
D	Push-turn locking slotted type
E	Push-turn locking lever type

Electrical entry

24V, 12V, 6V, 5V, 3VDC			24V, 12VDC 100V, 110V, 200V, 220VAC
Grommet	**L type plug connector**	**M type plug connector**	**DIN terminal**
G: Lead wire length 300mm **H:** Lead wire length 600mm	**L:** With lead wire (length 300mm) **LN:** Without lead wire **LO:** Without connector	**M:** With lead wire (length 300mm) **MN:** Without lead wire **MO:** Without connector	**D:** With connector **DO:** Without connector **Y:** With connector (DIN 43650C) **YO:** Without connector (DIN 43650C)

Note 1) "LN" and "MN" include 2 sockets.

Note) When single body ported solenoid valves are ordered, manifold mounting bolts and gaskets are not included. Order them separately if necessary.
(Refer to page 1.2-65 for details.)

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Manifold specifications

Model		SS5Y9-23
Applicable valve		SY9□20
Manifold type		Stacking type
P (SUP)/R (EXH) method		Common SUP/EXH
Valve stations		2 to 20 stations Note 1)
A, B port location		Valve
Port size	P, EA, EB port	3/8
	A, B port	1/4 3/8 C8 (ø8 One-touch fitting) C10 (ø10 One-touch fitting) C12 (ø12 One-touch fitting)
Valve effective area Note 2) mm² (Nl/min)		C12: P to A/B 35.41 (1933.6) A/B to EA/EB 30.55 (1668.6)
Manifold base weight W (g) n: Number of stations		W = 66n + 246

Note 1) For 10 stations or more, supply pressure to P port on both sides and exhaust from EA and EB ports on both sides.

Note 2) Value when manifold base (5 stations) is mounted, with single action of 2 position type.

Note 3) Refer to page 1.2-65 for manifold options.

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Type 23

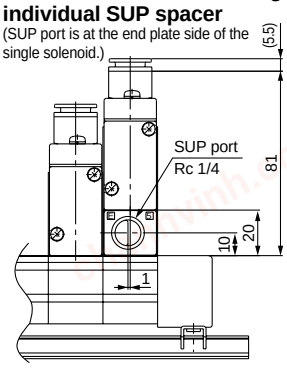
SY9000: SS5Y9-23-Stations-(D)-□-Q

Note)< >: Values with surge voltage suppressor

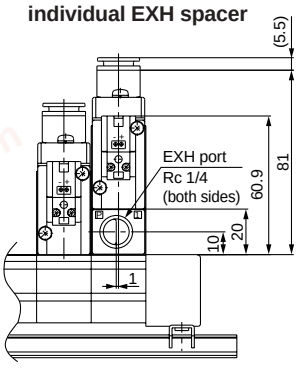
Grommet (G)

Dimensions when mounting individual SUP spacer

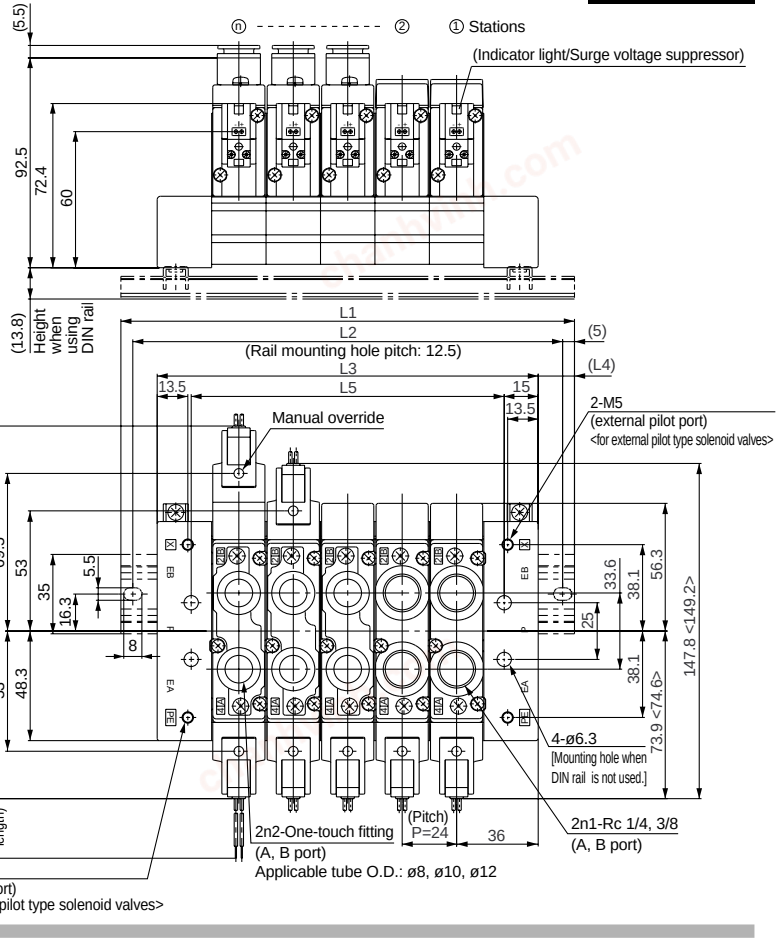
(SUP port is at the end plate side of the single solenoid.)



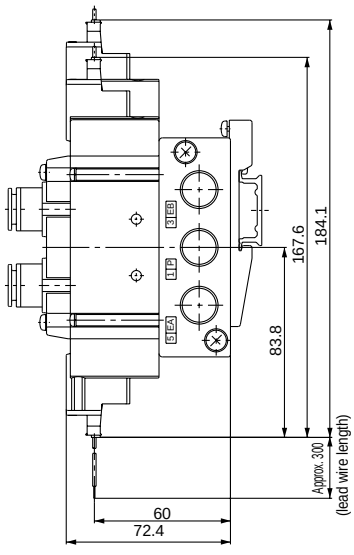
Dimensions when mounting individual EXH spacer



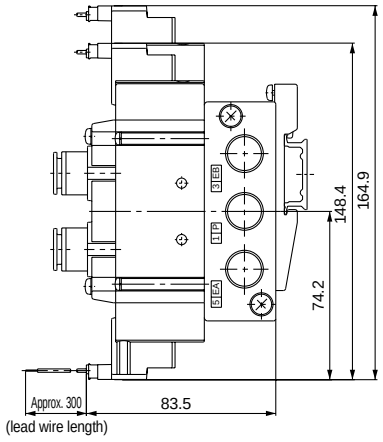
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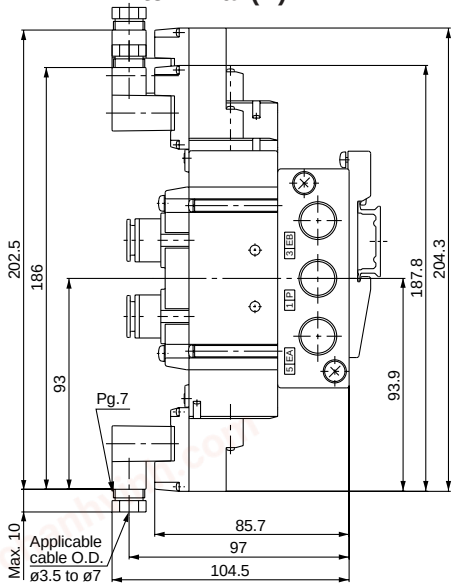
L type plug connector (L)



M type plug connector (M)



DIN terminal (D)



Stations n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	123	148	173	198	223	248	273	298	323	335.5	360.5	385.5	410.5	435.5	460.5	485.5	510.5	535.5	560.5
L2	112.5	137.5	162.5	187.5	212.5	237.5	262.5	287.5	312.5	325	350	375	400	425	450	475	500	525	550
L3	96	120	144	168	192	216	240	264	288	312	336	360	384	408	432	456	480	504	528
L4	13.5	14	14.5	15	15.5	16	16.5	17	17.5	12	12.5	13	13.5	14	14.5	15	15.5	16	16.5
L5	66	90	114	138	162	186	210	234	258	282	306	330	354	378	402	426	450	474	498

Note) The overall manifold width is L3 for direct mounting without DIN rail.

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Type 20P

SY3000/5000/7000
Body Ported Type Manifold
Bar Stock/Flat Ribbon Cable

How to Order Manifolds

SS5Y [5] — 20P — [05] — [ ] — Q

Manifold series

3	SY3000
5	SY5000
7	SY7000

Stations

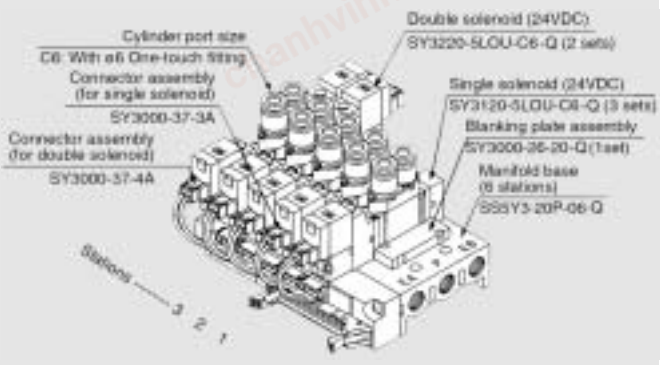
03	3 stations
⋮	⋮
12	12 stations

Note) SS5Y3 has 4 to 12 stations.

Thread

—	Rc (PT)
00N	NPT
00T	NPTF
00F	G (PF)

How to Order Manifold Assemblies (Example)



SS5Y3-20P-06-Q .....1 set (Type 20P, 6 station manifold base part no.)
SY3000-26-10A-Q ..... 1 set (Blanking plate assembly part no.)
SY3120-5LOU-C6-Q . 3 sets (Single solenoid part no.)
SY3220-5LOU-C6-Q . 2 sets (Double solenoid part no.)
SY3000-37-3A-Q ..... 3 sets (Connector assembly part no.)
SY3000-37-4A-Q ..... 2 sets (Connector assembly part no.)

Add the valve and option part numbers in order starting from the first station as shown above.

How to Order Valves

SY [5] [1] 20 — [5] LO [U] [ ] — [01] [ ] — Q

Rated voltage

5	24VDC
6	12VDC

Indicator light/Surge voltage suppressor

U	With indicator light/ surge voltage suppressor (non-polar type)

Series

3	SY3000
5	SY5000
7	SY7000

Type of actuation

1	2 position single
2	2 position double
3	3 position closed centre
4	3 position exhaust centre
5	3 position pressure centre

Manual override

Nil	Non-locking push type
D	Push-turn locking slotted type
E	Push-turn locking lever type

A port size

Symbol	Port size	Applicable series
M5	M5	SY3000
C4	ø4 One-touch fitting	
C6	ø6 One-touch fitting	
01	1/8	SY5000
C4	ø4 One-touch fitting	
C6	ø6 One-touch fitting	
C8	ø8 One-touch fitting	
02	1/4	SY7000
C8	ø8 One-touch fitting	
C10	ø10 One-touch fitting	

Thread

—	Rc (PT)
N	NPT
T	NPTF
F	G (PF)

How to Order Connector Assemblies

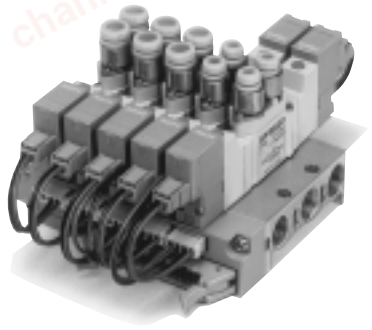
For 12, 24VDC

Specification	SY3000	SY5000/7000
Single solenoid	SY3000-37-3A	SY5000-37-3A
Double solenoid/ 3 position	SY3000-37-4A	SY5000-37-4A
Single solenoid with spacer assembly	SY5000-37-3A	SY5000-37-5A
Double solenoid/3 position with spacer assembly	SY3000-37-6A	SY5000-37-6A

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- **External wiring is bundled for one-touch wiring**
- **Clean appearance**

With the flat ribbon cable type, each valve is wired to the printed circuit board of the manifold base to allow the external wiring to be bundled with a 26 pin MIL connector for one-touch wiring.



Manifold Specifications

Model		SS5Y3-20P	SS5Y5-20P	SS5Y7-20P
Applicable valve		SY3□20	SY5□20	SY7□20
Manifold type		Single base type/B mount		
P (SUP)/R (EXH) method		Common SUP/EXH		
Valve stations		4 to 12 stations Note 1)	3 to 12 stations Note 1)	
A, B port location		Valve		
Port size	P, EA, EB port	1/8	1/4	1/4
	A, B port	M5 C4 (ø4 One-touch fitting) C6 (ø6 One-touch fitting)	1/8 C4 (ø4 One-touch fitting) C6 (ø6 One-touch fitting) C8 (ø8 One-touch fitting)	Rc 1/4 C8 (ø8 One-touch fitting) C10 (ø10 One-touch fitting)
Valve effective area Note 2) mm² (Nl/min)		C6: P to A/B 3.6 (196.3) A/B to EA/EB 4.14 (225.7)	C8: P to A/B 9.18 (255.3) A/B to EA/EB 9.9 (539.8)	C10: P to A/B 15.84 (863.7) A/B to EA/EB 14.94 (814.6)
Manifold base weight W (g) n: Number of stations		W = 19n + 45	W = 43n + 77	W = 51n + 81
Applicable flat ribbon cable connector		Flat ribbon cable connector, Socket: 26 pin MIL, With strain relief, MIL-C-83503 conformity		
Internal wiring		Common positive and negative COM (Only positive COM for "Z" type)		
Rated voltage		12, 24VDC		

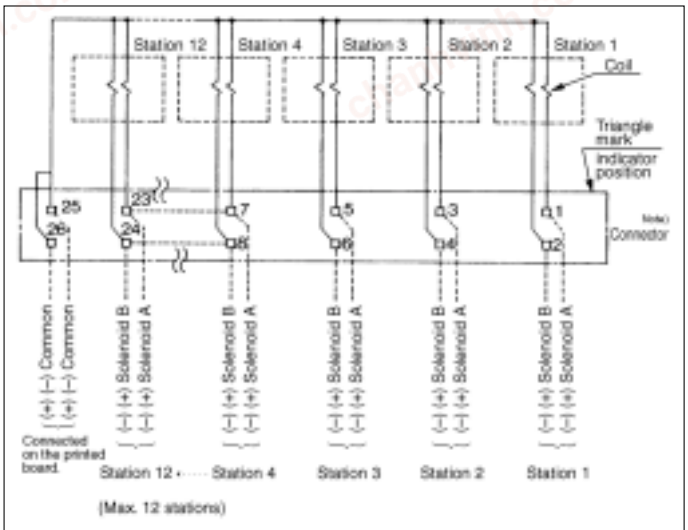
Note 1) For 10 stations or more (5 stations or more in case of SS5Y7), supply pressure to P port on both sides and exhaust from EA and EB ports on both sides.

Note 2) Value when manifold base (5 stations) is mounted, with single action 2 position type.

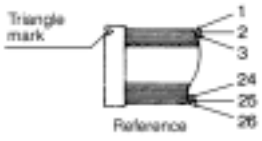
Note 3) The withstand voltage specification for the wiring unit is equivalent to JIS C0704, Class 1.

Note 4) Refer to page 1.2-65 for manifold options.

Manifold Internal Wiring (non-polar type)



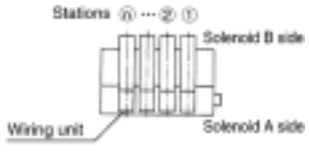
Note) Terminal numbers are not indicated on the connector. The terminal numbers indicated in the connector schematic shown above, show the correlation if the inserted connector's flat ribbon cable were numbered 1 to 26 from the triangle mark side, as shown in the figure to the right.



Note 1) For 10 stations or more, wire both of the common poles.

Note 2) For single solenoids, connect to the solenoid A side.

Note 3) The maximum number of stations is 12. Contact SMC if more than 12 stations are required.



⚠Caution

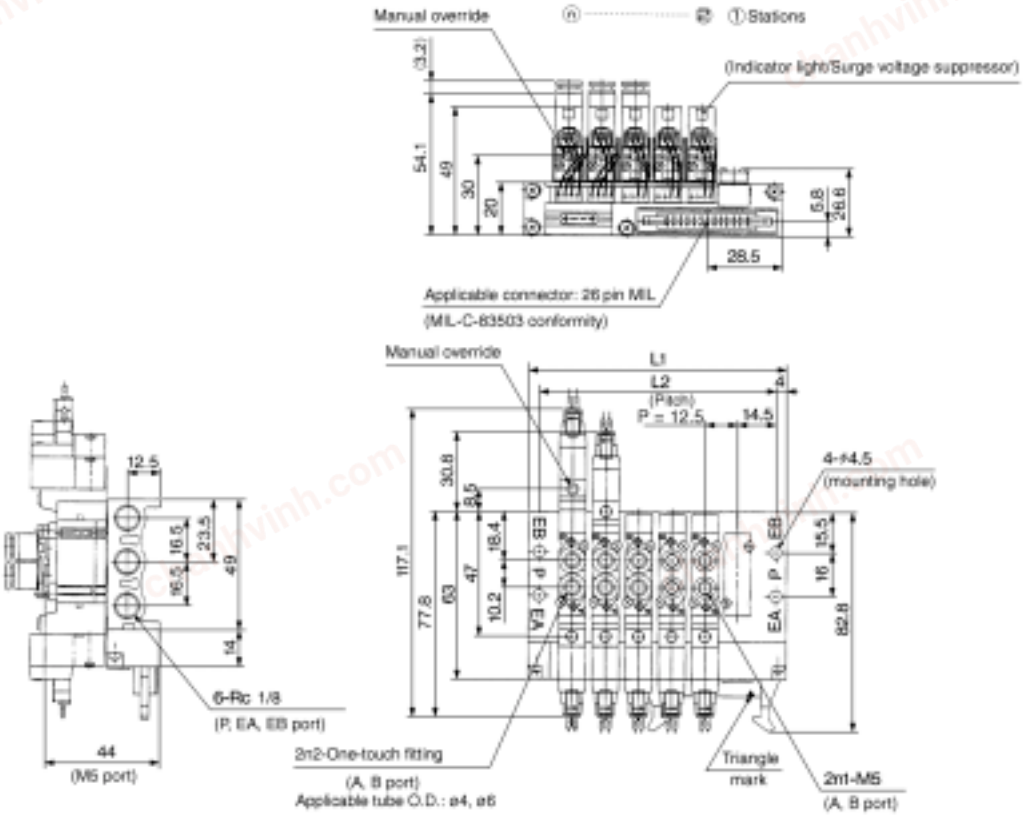
Non-polar type (U) valves with DC electrical connection can be used for both negative and positive COM. However, always use positive COM with the "Z" type, since valves will not be actuated when negative COM is used.

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Type **20P**

SY3000: SS5Y3-20P-Stations-□-Q

Scale: 35%

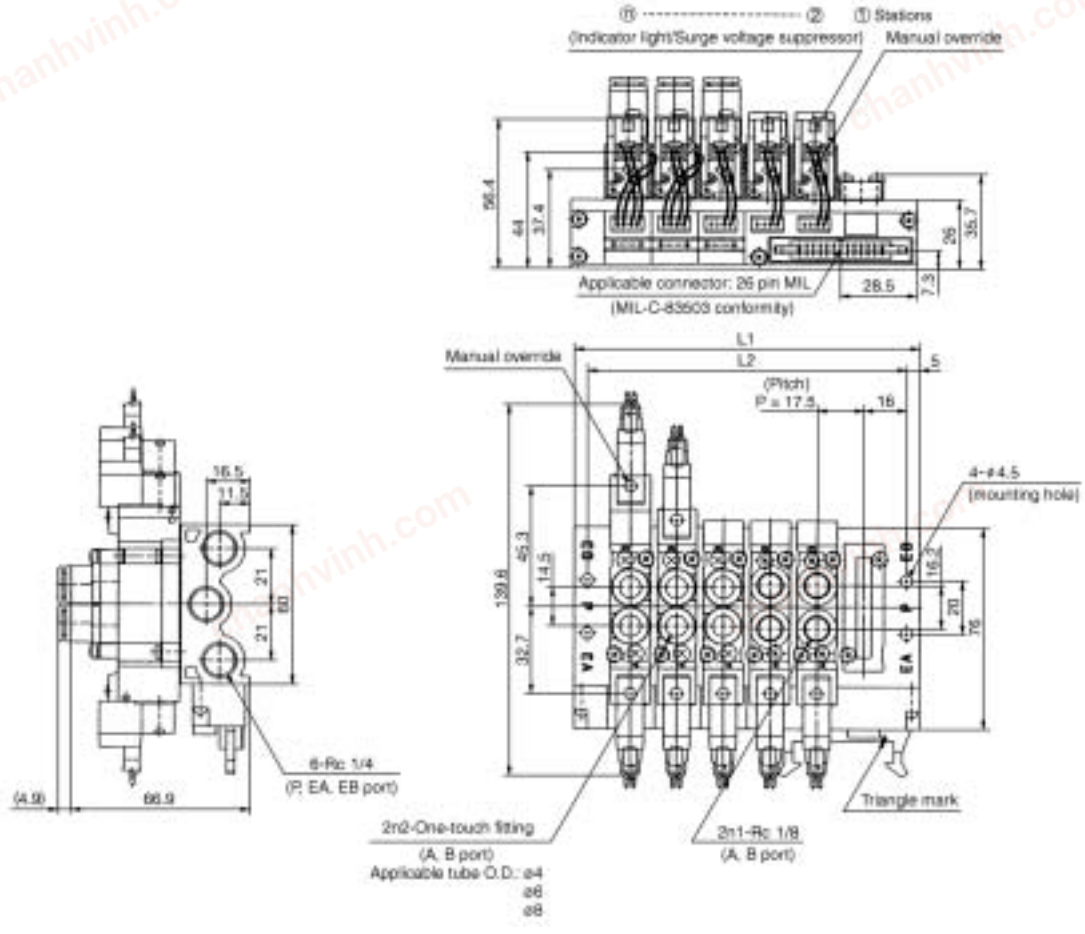


Stations n	4	5	6	7	8	9	10	11	12
L1	72.5	85	97.5	110	122.5	135	147.5	160	172.5
L2	64.5	77	89.5	102	114.5	127	139.5	152	164.5

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SY5000: SS5Y5-20P-Stations-□-Q

Scale: 35%



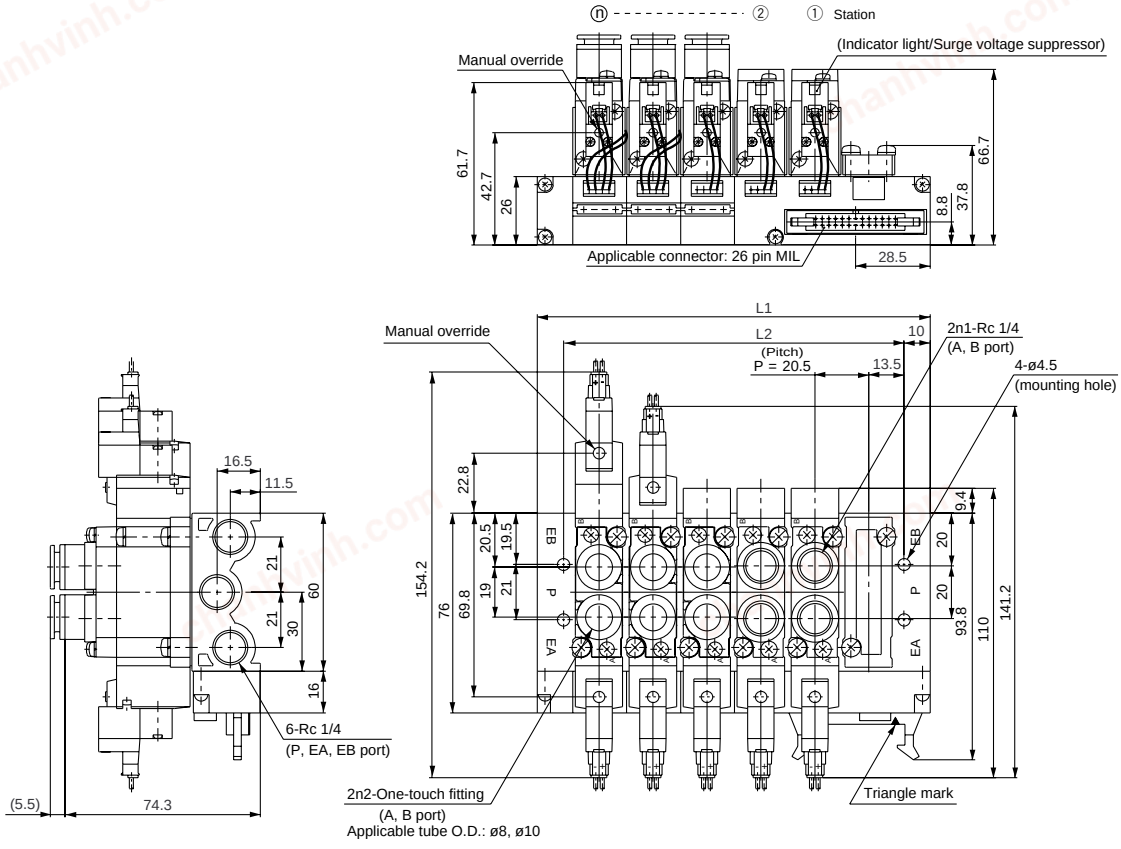
Stations n	3	4	5	6	7	8	9	10	11	12
L1	77	94.5	112	129.5	147	164.5	182	199.5	217	234.5
L2	67	84.5	102	119.5	137	154.5	172	189.5	207	224.5

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Type 20P

SY7000: SS5Y7-20P-Stations-□-Q

Scale: 35%



Stations n	3	4	5	6	7	8	9	10	11	12
L1	88	108.5	129	149.5	170	190.5	211	231.5	252	272.5
L2	68	88.5	109	129.5	150	170.5	191	211.5	232	252.5

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Type 23P

SY9000
Body Ported Type Manifold
Stacking Type/Flat Ribbon Cable

How to Order Manifolds

SS5Y 9 — 23P — 05 — [ ] — [ ] — Q

Manifold series

9	SY9000

Thread

—	Rc (PT)
00N	NPT
00T	NPTF
00F	G (PF)

Stations

Symbol	Stations
04	4 stations
⋮	⋮
12	12 stations

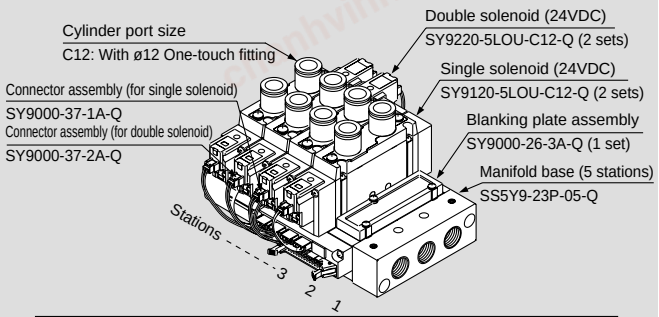
∗ Includes the number of blanking plate assemblies.

Option

Symbol	Mounting
Nil	Direct mount
D	DIN rail mount (with DIN rail)
DO	DIN rail mount (without DIN rail)
D∗	When a DIN rail longer than the specified stations is necessary, indicate the number of required stations at the "∗" symbol.

∗ Type 23P manifolds for SY9000 have common internal and external pilots.

How to Order Manifold Assemblies (Example)



SS5Y9-23P-05-Q ..... 1 set (Type 23, 5 station manifold base part no.)
SY9000-26-3A-Q ..... 1 set (Blanking plate assembly part no.)
SY9120-5LOU-C12-Q .... 2 sets (Single solenoid part no.)
SY9220-5LOU-C12-Q .... 2 sets (Double solenoid part no.)
SY9000-37-1A-Q ..... 2 sets (Single solenoid part no.)
SY9000-37-2A-Q ..... 2 sets (Double solenoid part no.)

Add the valve and option part numbers in order starting from the first station as shown above.

How to Order Valves

SY 9 1 20 [ ] — 5 LO U [ ] — 02 [ ] — Q

Indicator light/Surge voltage suppressor

U	With indicator light/ surge voltage suppressor (non-polar type)

Rated voltage

5	24VDC
6	12VDC

Series

9	SY9000

Pilot specification

Nil	Internal pilot
R	External pilot

∗ Type 23P manifolds can be used for both internal and external pilots.

Type of actuation

1	2 position single
2	2 position double
3	3 position closed centre
4	3 position exhaust centre
5	3 position pressure centre

Manual override

Nil	Non-locking push type
D	Push-turn locking slotted type
E	Push-turn locking lever type

Thread

—	Rc (PT)
N	NPT
T	NPTF
F	G (PF)

A, B port size

Symbol	Port size
C8	ø8 One-touch fitting
C10	ø10 One-touch fitting
C12	ø12 One-touch fitting
02	1/4
03	3/8

Note) When single body ported solenoid valves are ordered, manifold mounting bolts and gaskets are not included. Order them separately if necessary. (Refer to page 1.2-65 for details.)

How to Order Connector Assemblies

For 12, 24VDC

Specification	SY9000
Single solenoid	SY9000-37-1A
Double solenoid/ 3 position	SY9000-37-2A
Single solenoid with spacer assembly	SY9000-37-3A
Double solenoid/3 position with spacer assembly	SY9000-37-4A

Protective class
class I (Mark: ⏚)..... DIN terminal type

Protective class
class III (Mark: ◈)..... Grommet, L and M plug connector

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- **External wiring is bundled for one-touch wiring**
- **Clean appearance**

With the flat ribbon cable type, each valve is wired to the printed circuit board of the manifold base to allow the external wiring to be bundled with a 26 pin MIL connector for one-touch wiring.



Manifold specifications

Model		**SS5Y9-23P**
Applicable valve		**SY9□20**
Manifold type		Stacking type
P (SUP)/R (EXH) method		Common SUP/EXH
Valve stations		4 to 12 stations Note 1)
A, B port location		Valve
Port size	P, EA, EB port	3/8
	A, B port	1/4 3/8 C8 (ø8 One-touch fitting) C10 (ø10 One-touch fitting) C12 (ø12 One-touch fitting)
Valve effective area Note 2) mm² (Nl/min)		C: P to A/B 35.41 (1933.5) A/B to EA/EB 30.55 (1668.5)
Manifold base weight W (g) n: Number of stations		W = 73n + 259
Applicable flat ribbon cable connector		Flat ribbon cable connector, Socket: 26 pin MIL, With strain relief, MIL-C-83503 conformity
Internal wiring		Common positive and negative COM (Only positive COM for "Z" type)
Rated voltage		12, 24VDC

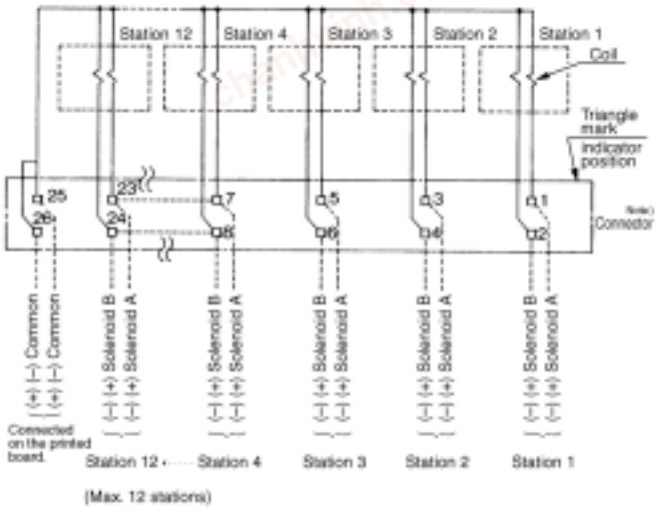
Note 1) For 10 stations or more, supply pressure to P port on both sides and exhaust from EA and EB ports on both sides.

Note 2) Value when manifold base (5 stations) is mounted, with single action 2 position type.

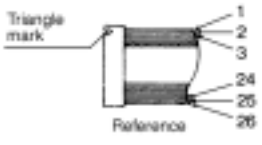
Note 3) The withstand voltage specification for the wiring unit is equivalent to JIS C0704, class 1.

Note 4) Refer to page 1.2-65 for manifold options.

Manifold internal wiring (non-polar type)



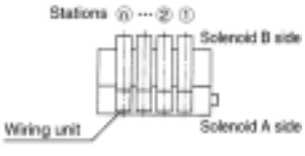
Note) Terminal numbers are not indicated on the connectors. The terminal numbers indicated in the connector schematic shown above, show the correlation if the inserted connector's flat ribbon cable were numbered 1 to 26 from the triangle mark side, as shown in the figure to the right.



Note 1) For 10 stations or more, wire both of the common poles.

Note 2) For single solenoids, connect to the solenoid A side.

Note 3) The maximum number of stations is 12. Contact SMC if more than 12 stations are required.



⚠Caution

Non-polar type (U) valves with DC electrical connection can be used for both negative and positive COM. However, always use positive COM with the "Z" type, since valves will not be actuated when negative COM is used.

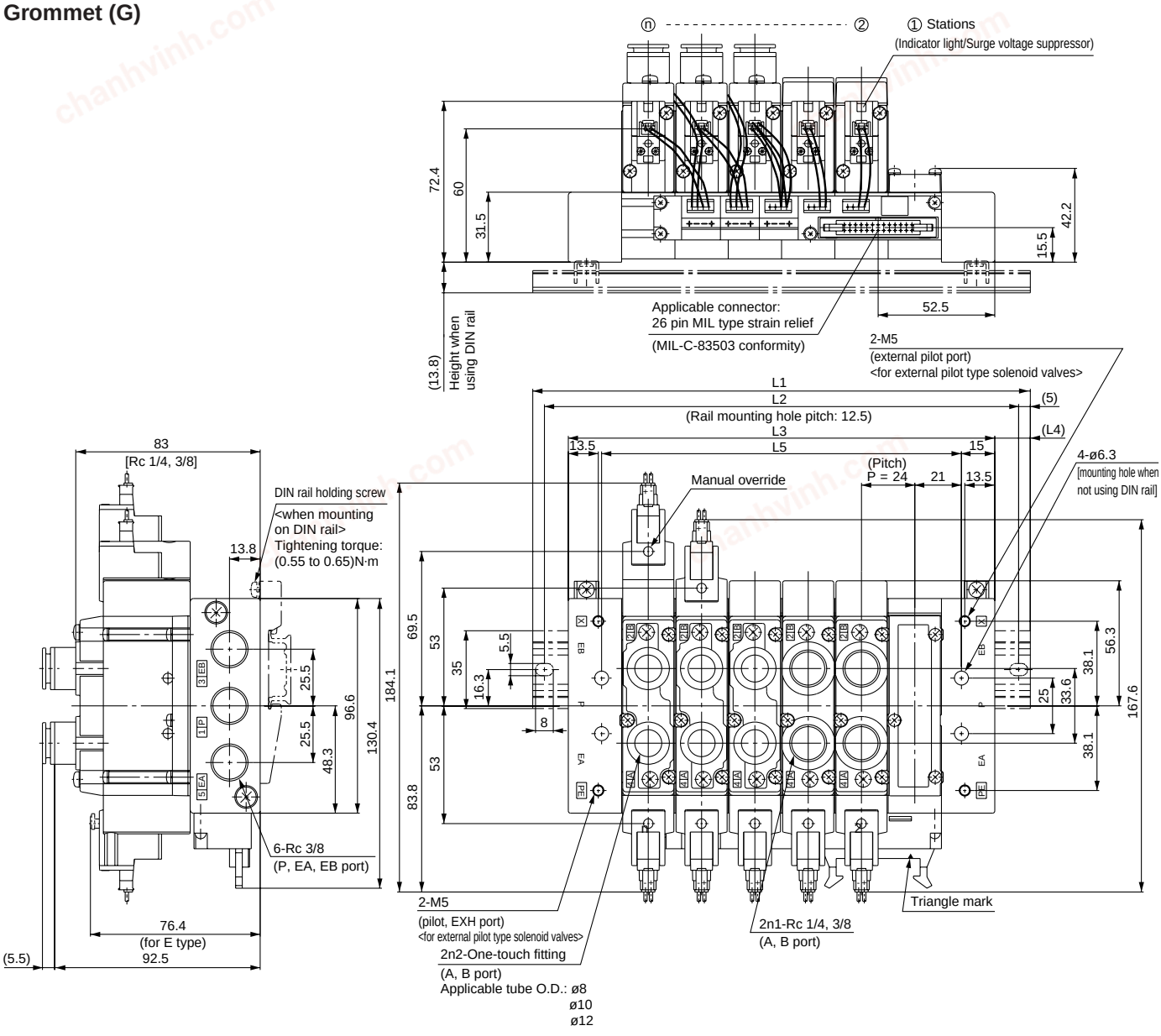
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Type 23P

SY9000: SS5Y9-23P-Stations-(D)-□-Q

Scale: 30%

Grommet (G)



Stations n	4	5	6	7	8	9	10	11	12
L1	173	198	223	248	273	298	323	335.5	360.5
L2	162.5	187.5	212.5	237.5	262.5	287.5	312.5	325	350
L3	144	168	192	216	240	264	288	312	336
L4	14.5	15	15.5	16	16.5	17	17.5	12	12.5
L5	114	138	162	186	210	234	258	282	306

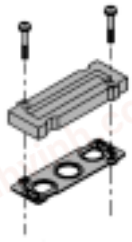
Note) The overall manifold width is L3 for direct mounting without DIN rail.

SMC

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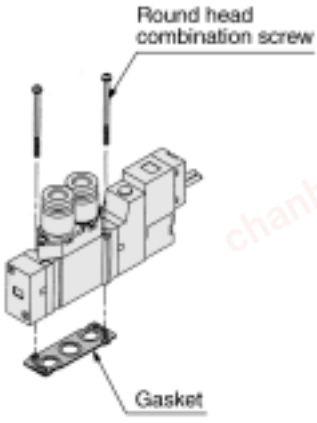
Manifold Options

■ For types 20, 23 Blanking plate assembly



Series	Assembly part no.
SY3000	SY3000-26-9A-Q
SY5000	SY5000-26-18A-Q
SY7000	SY7000-26-20A-Q
SY9000	SY9000-26-1A-Q

■ Bolt, Gasket part numbers



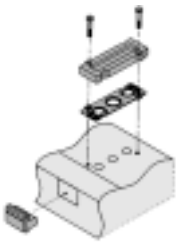
Series	Round head combination screw	Gasket
SY3000	SY3000-23-4 (M2 x 21)	SY3000-11-24
SY5000	M3 x 26 (Flat nickel plated)	SY5000-11-10
SY7000	M4 x 31 (Flat nickel plated)	SY7000-11-9
SY9000	SY9000-18-2 (M3 x 42)	SY9000-11-1

⚠Caution

Mounting screw tightening torque

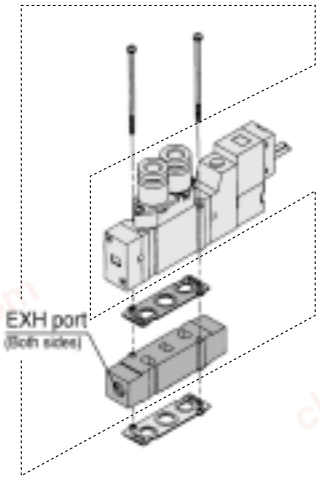
M2: 0.15N·m
M3: 0.6N·m
M4: 1.4N·m

■ For types 20P, 23P Blanking plate assembly



Series	Assembly part no.
SY3000	SY3000-26-10A-Q
SY5000	SY5000-26-19A-Q
SY7000	SY7000-26-21A-Q
SY9000	SY9000-26-3A-Q

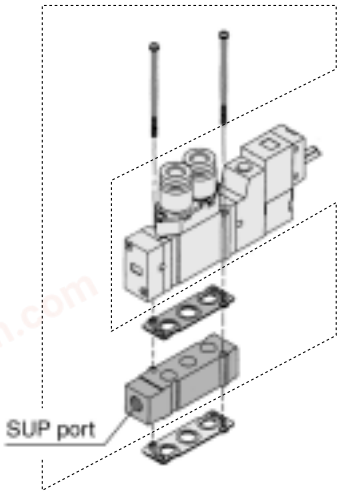
■ Individual EXH spacer assembly



Series	Assembly part no.	Port size
SY3000	SY3000-39-20A	M5
SY5000	SY5000-39-1□A-Q	1/8
SY7000	SY7000-39-1□A-Q	1/4
SY9000	SY9000-39-1□A-Q	1/4

Note) In case of types 20P and 23P, to protect from drainage, arrange the piping on the EA port (wiring unit side) so that the wiring unit will not be exposed to the direct exhaust from the valve.

■ Individual SUP spacer assembly

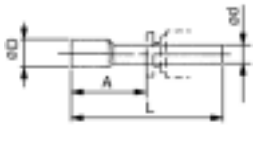


Series	Assembly part no.	Port size
SY3000	SY3000-38-20A	M5
SY5000	SY5000-38-1□A-Q	1/8
SY7000	SY7000-38-1□A-Q	1/4
SY9000	SY9000-38-1□A-Q	1/4

Note 1) The SUP port can be on the lead wire side or end plate side for SY3000/5000/7000. (The SUP port direction is as shown above when shipped already assembled.)
Note 2) For SY9000, the SUP port is only available on the end plate side.

■ Plug (white)

Insert into unused cylinder ports and SUP/EXH ports.
The minimum order quantity is 10 pieces. Order in multiples of 10.



Thread

–	Rc (PT)
N	NPT
T	NPTF
F	G (PF)

Dimensions

Applicable fitting size ød	Model	A	L	D
4	**KQ2P-04**	16	32	6
6	**KQ2P-06**	18	35	8
8	**KQ2P-08**	20.5	39	10
10	**KQ2P-10**	22	43	12
12	**KQ2P-12**	24	45.5	14

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Type 20 Type 20P
Type 23 Type 23P

Manifold Options

■ SUP block disc (SY9000)

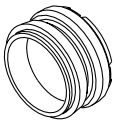
By installing a SUP block disc in the pressure supply passage of the manifold valve, two or more different pressures, high or low, can be supplied to one manifold.



Series	Part no.
SY9000	SY9000-61-2A

■ EXH block disc (SY9000)

By installing an EXH block disc in the exhaust passage of the manifold valve, the passage can be divided so that the exhaust from one valve will not affect another valve. (Two block discs are required to block both EXH ports.)



Series	Part no.
SY9000	SY9000-61-2A

■ Labels for block disc (SY9000)

Labels are applied to valves with SUP and EXH block discs for external confirmation of blocked passages. (3 labels per package)

VZ3000-123-1A

SUP block disc label



EXH block disc label



SUP/EXH block disc label



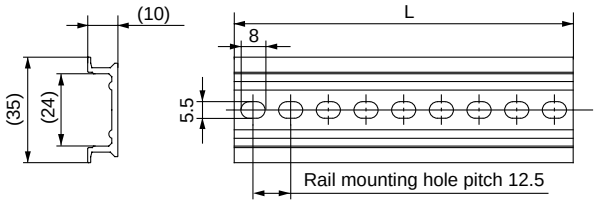
∗ When block discs are ordered with manifolds using a manifold specification sheet, block disc labels are already applied if the block discs are installed at the time of shipment.

■ SY9000 DIN rail dimensions and weights

VZ1000 − 11 − 4 − □

● Refer to the table below for dimension L.

∗ Specify a number inside □ from the DIN rail dimensions table below.



No.	0	1	2	3	4	5	6	7	8	9
Dimension L	98	110.5	123	135.5	148	160.5	173	185.5	198	210.5
Weight (g)	24.8	28	31.1	34.3	37.4	40.6	43.8	46.9	50.1	53.3

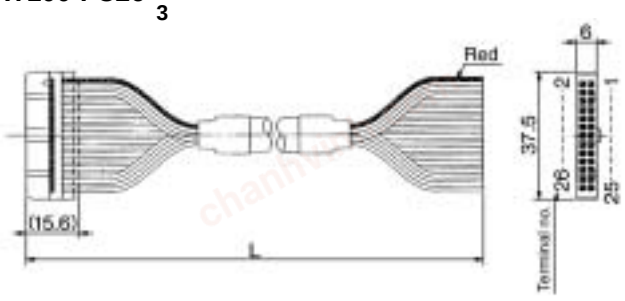
No.	10	11	12	13	14	15	16	17	18	19
Dimension L	223	235.5	248	260.5	273	285.5	298	310.5	323	335.5
Weight (g)	56.4	59.6	62.7	65.9	69.1	72.2	75.4	78.6	81.7	84.9

No.	20	21	22	23	24	25	26	27	28	29
Dimension L	348	360.5	373	385.5	398	410.5	423	435.5	448	460.5
Weight (g)	88	91.2	94.4	97.5	100.7	103.9	107	110.2	113.3	116.5

Refer to dimension L1 on page 1.2-64 for lengths that correspond to the number of manifold stations.

■ Cable assembly (20P, 23P)

AXT100-FC26- 1 2 3



Flat ribbon cable connector assembly

Cable length (L)	Assembly part no.	Note
1.5m	AXT100-FC26-1	26 core cable x 28AWG
3m	AXT100-FC26-2	
5m	AXT100-FC26-3	

∗ For other commercial connectors, use a 26 pin type with strain relief conforming with MIL-C-83503.

Connector manufacturer examples

- **Hirose Electric Company**
- **Sumitomo/3-M Limited**
- **Fujitsu, Ltd.**
- **Japan Aviation Electronics Industry, Ltd.**
- **J.S.T. Mfg. Co., Ltd.**

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Manifold Base Expansion (for SY9000 Only) Stations can be added in a desired location.

For type 23 manifold base expansion, tension bolts are required as well as a manifold block assembly. Tension bolts vary in length depending on the number of stations; therefore, order the appropriate tension bolts for the expanded (or reduced) manifold base. (Changes in the number of stations for type 23P manifolds require wiring units and lead wire assemblies for any additional stations.)

1. Loosen the two tension bolts ⑤ that connect the manifold base and remove them.
   (In case of a DIN rail type, also loosen the DIN rail holding screw on either the U side or D side.)
2. Separate the blocks at the location where a new station is to be added.
3. Mount the manifold block assembly to be added.
4. Hold the blocks so that there is no space between them, insert the appropriate tensions bolts into the expanded manifold base and tighten them.

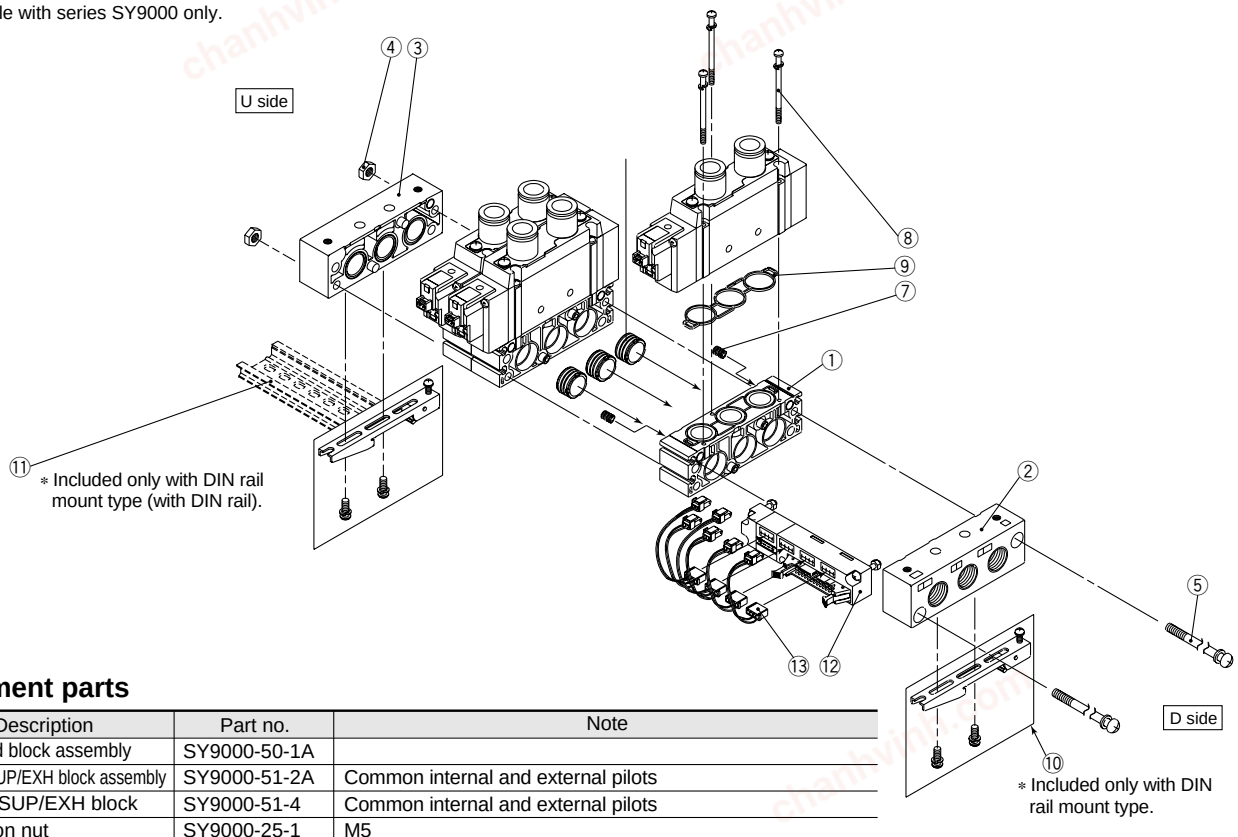
⚠ **Caution** (Tightening torque: 2.9N·m)
(With the DIN rail type, be sure to tighten the tension bolts first, and then tighten the DIN rail holding screws. Tightening torque: 1.4N·m)

⚠ Caution

1. Be sure to turn off the power supply and air supply before disassembling. Furthermore, confirm that the air is completely exhausted before beginning disassembly, since residual air may be present inside the actuator, piping, and manifold.
2. When disassembly and assembly are performed, insufficient tightening of the tension bolts will cause air leakage.
3. Type 23 manifold can be changed into a type 23P manifold by adding a wiring unit assembly.

23 Exploded View of Body Ported Type Manifold 23P Common

In case of body ported type manifolds, disassembly and expansion of manifolds are possible with series SY9000 only.



Replacement parts

No.	Description	Part no.	Note
1	Manifold block assembly	SY9000-50-1A	
2	D side SUP/EXH block assembly	SY9000-51-2A	Common internal and external pilots
3	U side SUP/EXH block	SY9000-51-4	Common internal and external pilots
4	Hexagon nut	SY9000-25-1	M5
5	Tension bolt	SY9000-23-☐	Specify the number of stations inside ☐ at the end of the part number.
6	Bushing assembly	SY9000-61-1A	Included with the manifold block assembly and D side SUP/EXH block assembly.
7	Bushing assembly	SY9000-61-3A	Included with the manifold block assembly and D side SUP/EXH block assembly.
8	Round head combination screw	SY9000-18-2	Included with the manifold block assembly.
9	Manifold gasket	SY9000-11-1	Included with the manifold block assembly.
10	Clamp bracket sub-assembly	SY9000-29-1A	
11	DIN rail	VZ1000-11-4-☐	Refer to page 1.2-66.
12	Wiring unit assembly	SY9000-36-☐A	Specify the number of stations (4 to 12) inside ☐ in the part number.
13	Connector assembly	SY9000-37-☐☐	Refer to page 1.2-62.

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Type 41
Type 42

SY3000/5000/7000
Base Mounted Type Manifold
Bar Stock/Individual Wiring

How to Order Manifolds

Type 41/Compact type

SS5Y 5 — 41 — 05 — C8 □ — Q

Manifold series

3	SY3000
5	SY5000

Stations

02	2 stations
⋮	⋮
20	20 stations

∗ Includes the number of blanking plate assemblies.

Thread

—	Rc (PT)
N	NPT
T	NPTF
F	G (PF)

A/B port size

Symbol	Port size	Applicable series
M5	M5	SY3000
C4	ø4 One-touch fitting	
C6	ø6 One-touch fitting	
01	1/8	SY5000
C6	ø6 One-touch fitting	
C8	ø8 One-touch fitting	

Type 42/Common external pilot type

SS5Y 5 — 42 — 05 — C8 □ — Q

Manifold series

3	SY3000
5	SY5000
7	SY7000

Stations

02	2 stations
⋮	⋮
20	20 stations

Thread

—	Rc (PT)
N	NPT
T	NPTF
F	G (PF)

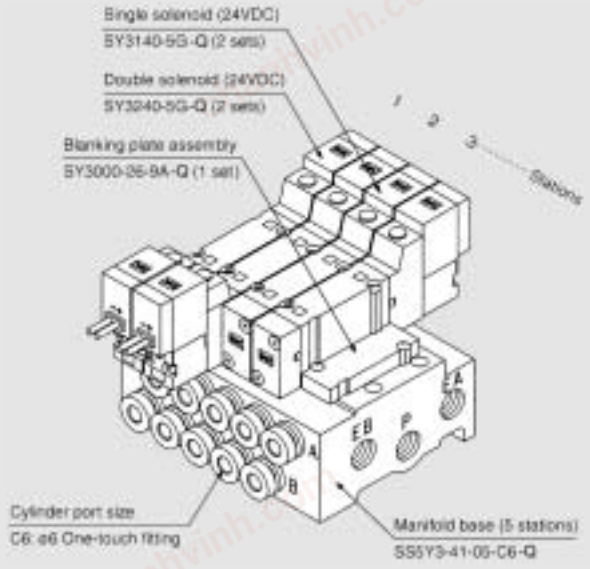
A/B port size

Symbol	Port size	Applicable series
01	1/8	SY3000
C4	ø4 One-touch fitting	
C6	ø6 One-touch fitting	
02	1/4	SY5000
C6	ø6 One-touch fitting	
C8	ø8 One-touch fitting	
02	1/4	SY7000
C10	ø10 One-touch fitting	

⚠ Protective class
class I (Mark: ⏚)..... DIN terminal type

⚠ Protective class
class III (Mark: ◈)..... Grommet, L and M plug connector

How to Order Manifold Assemblies (Example)



SS5Y3-41-05-C6-Q .....1 set (Type 41, 5 station manifold base part no.)
SY3240-5G-Q .....2 sets (Double solenoid part no.)
SY3140-5G-Q .....2 sets (Single solenoid part no.)
SY3000-26-9A-Q .....1 set (Blanking plate assembly part no.)

Add the valve and option part numbers in order starting from the first station as shown above.

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How to Order Valves

SY 5 2 40 □ — 5 L □ □ — Q

Series

3	SY3000
5	SY5000
7	SY7000

Type of actuation

1	2 position single
2	2 position double
3	3 position closed centre
4	3 position exhaust centre
5	3 position pressure centre

Pilot type

Nil	Internal pilot
R	External pilot

Rated voltage

DC specifications

5	24VDC
6	12VDC
V	6VDC
S	5VDC
R	3VDC
9	Less than 50 VDC

AC specifications (50/60Hz)

1	100VAC
2	200VAC
3	110VAC [115VAC]
4	220VAC [230VAC]
9	Less than 250 VAC

Note 1) "D", "DO", "Y" and "YO" are only available in 24VDC and 12VDC in case of DC.
Note 2) "D", "DO", "Y" and "YO" are not available for SY3000.

Order Made Contact SMC for other voltages (9)

Protective class
class I (Mark: ⏚)..... DIN terminal type

Protective class
class III (Mark: ◈)..... Grommet, L and M plug connector

Manual override

Nil	Non-locking push type
D	Push-turn locking slotted type
E	Push-turn locking lever type

Indicator light/Surge voltage suppressor

Electrical entry G, H, L, M

Nil	Without indicator light/surge voltage suppressor
S	With surge voltage suppressor
Z	With indicator light/surge voltage suppressor
U	With indicator light/surge voltage suppressor (non-polar type)

Note 2) "U" are available for DC only.

Electrical entry D

Nil	Without indicator light/surge voltage suppressor
S	With surge voltage suppressor (non-polar type)
Z	With indicator light/surge voltage suppressor (non-polar type)

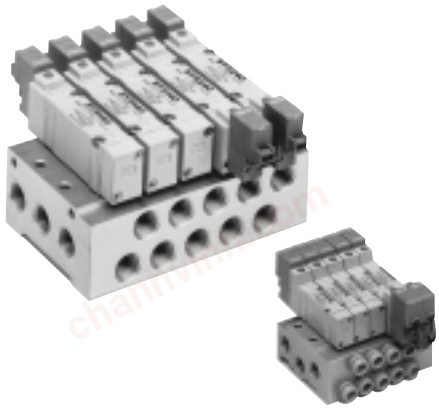
Note 1) "DOZ", "YOZ" are not available.
Note 2) For AC, there is no "S" specification, since it is integrated with the rectifier.

Electrical entry

24V, 12V, 6V, 5V, 3VDC			24V, 12VDC 100V, 110V, 200V, 220VAC
Grommet	**L type plug connector**	**M type plug connector**	**DIN terminal**
G: Lead wire length 300mm **H:** Lead wire length 600mm	**L:** With lead wire (length 300mm) **LN:** Without lead wire **LO:** Without connector	**M:** With lead wire (length 300mm) **MN:** Without lead wire **MO:** Without connector	**(Except SY3000)** **D:** With connector **DO:** Without connector **Y:** With connector (DIN 43650C) **YO:** Without connector (DIN 43650C)

Note 1) "LN" and "MN" include 2 sockets.
Note 2) "D" and "DO" are not available for SY3000.

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Manifold specifications

Model		SS5Y3-41	SS5Y3-42	SS5Y5-41	SS5Y5-42	SS5Y7-42
Applicable valve		SY3□40		SY5□40		SY7□40
Manifold type		Single base type/B mount				
P (SUP)/R (EXH) method		Common SUP/EXH				
Valve stations		2 to 20 stations Note 1)				
A, B port specifications	Location	Base				
	Direction	Side				
Port size	P, EA, EB port	1/8		1/4		1/4
	A, B port	M5 C4 (ø4 One-touch fitting) C6 (ø6 One-touch fitting)	1/8 C4 (ø4 One-touch fitting) C6 (ø6 One-touch fitting)	1/8 C6 (ø6 One-touch fitting) C8 (ø8 One-touch fitting)	1/4 C6 (ø6 One-touch fitting) C8 (ø8 One-touch fitting)	1/4 C10 (ø10 One-touch fitting)
Valve effective area Note 2) mm² (Nl/min)		C6: P to A/B 3.96 (215.9) A/B to EA/EB 4.14 (225.7)		C8: P to A/B 9.54 (520.2) A/B to EA/EB 9.0 (490.8)		C10: P to A/B 16.2 (883.4) A/B to EA/EB 16.2 (883.4)
Manifold base weight W (g) n: Number of stations		W = 30n + 50	W = 37n + 63	W = 61n + 101	W = 79n + 127	W = 100n + 151

Note 1) For 10 stations or more (5 stations or more in case of SS5Y7), supply pressure to P port on both sides and exhaust from EA and EB ports on both sides.

Note 2) Value when manifold base (5 stations) is mounted, with single action 2 position type.

Note 3) Refer to page 1.2-98 for manifold options.

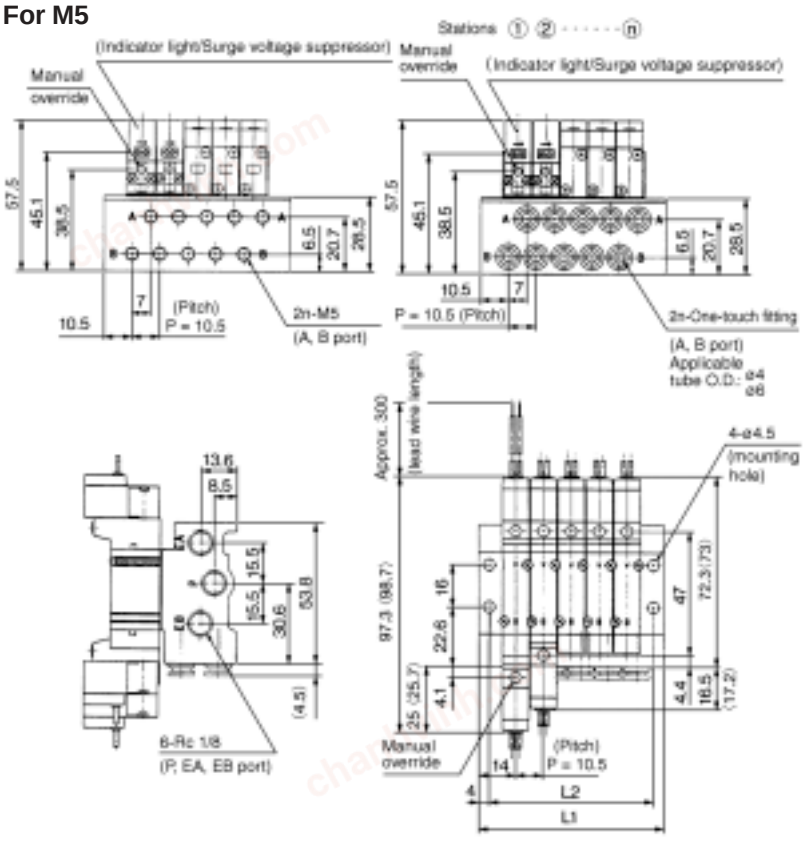
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SY3000: SS5Y3-41-Stations-M5, C4, C6□-Q

Note)< >: Values with surge voltage suppressor

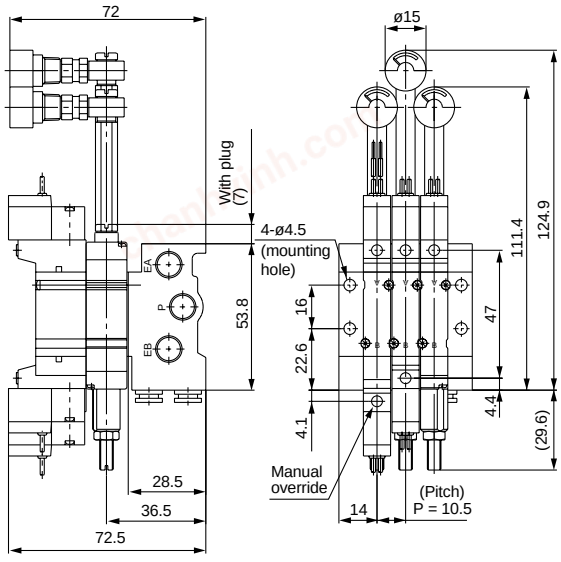
Grommet (G)

For M5

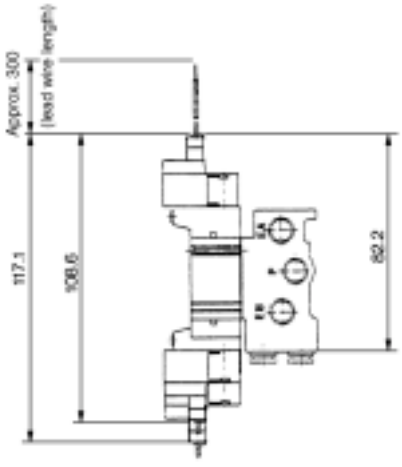


With interface regulator (with gauge)

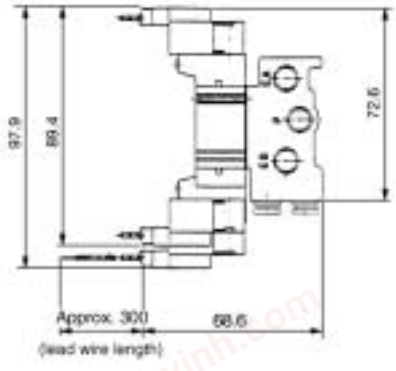
Scale: 35%



L type plug connector (L)



M type plug connector (M)



Stations n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	38.5	49	59.5	70	80.5	91	101.5	112	122.5	133	143.5	154	164.5	175	185.5	196	206.5	217	227.5
L2	30.5	41	51.5	62	72.5	83	93.5	104	114.5	125	135.5	146	156.5	167	177.5	188	198.5	209	219.5

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Type 41

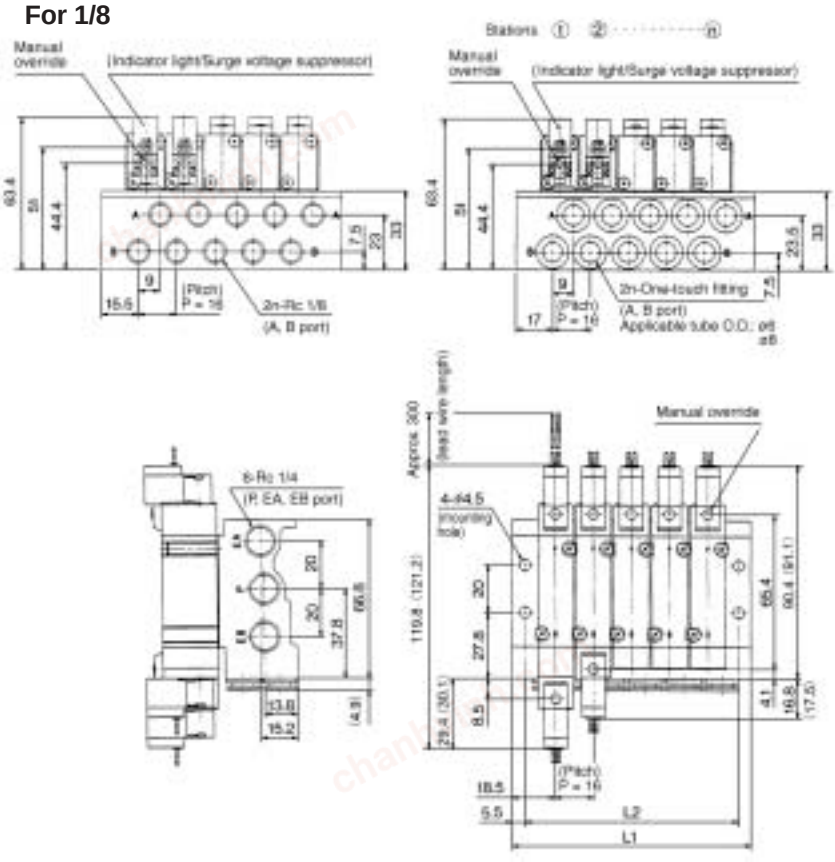
SY5000: SS5Y5-41-Stations-01, C6, C8□-Q

Note)< >: Values with surge voltage suppressor

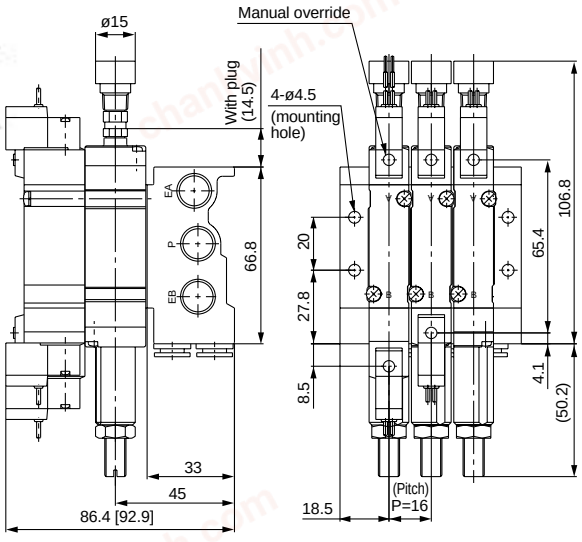
Grommet (G)

Scale: 35%

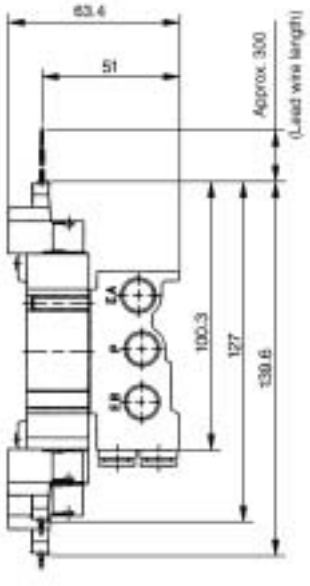
For 1/8



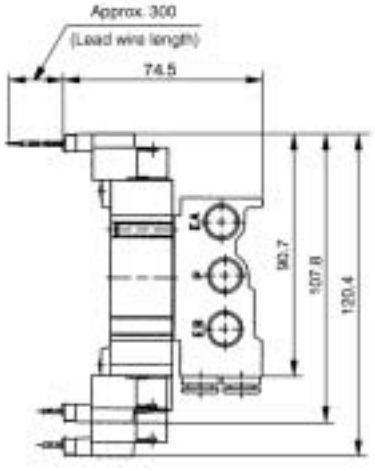
With interface regulator (with gauge)



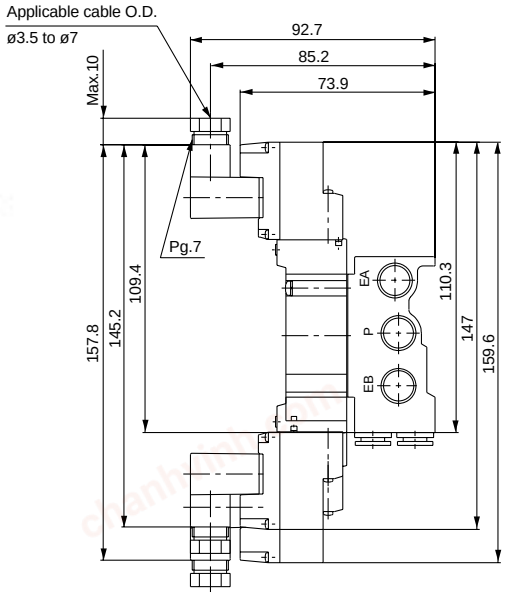
L type plug connector (L)



M type plug connector (M)



DIN terminal (D)



Stations n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	52.5	68.5	84.5	100.5	116.5	132.5	148.5	164.5	180.5	196.5	212.5	228.5	244.5	260.5	276.5	292.5	308.5	324.5	340.5
L2	42	58	74	90	106	122	138	154	170	186	202	218	234	250	266	282	298	314	330

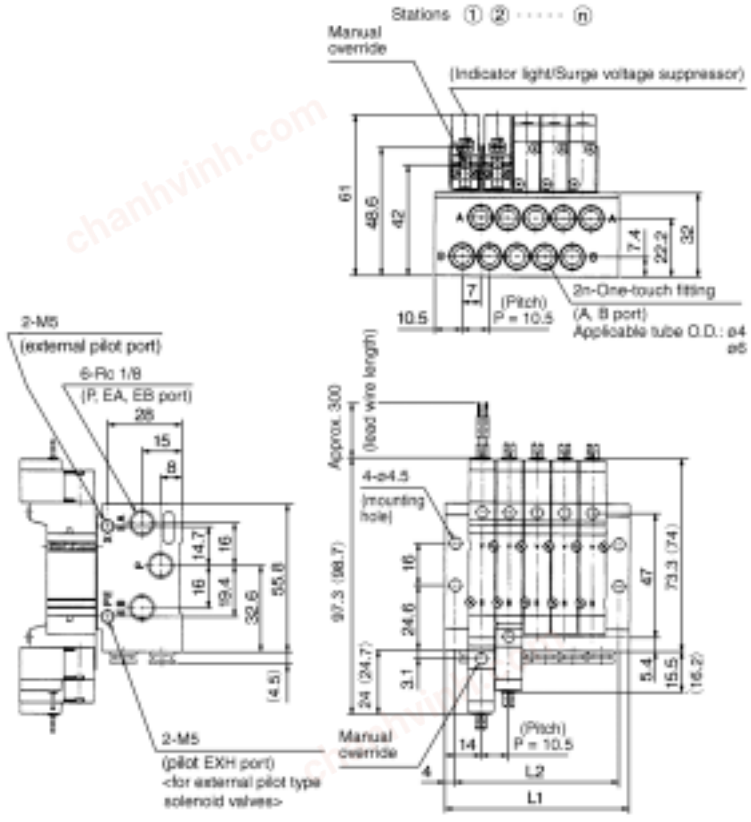
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SY3000: SS5Y3-42-Stations-C4, C6□-Q

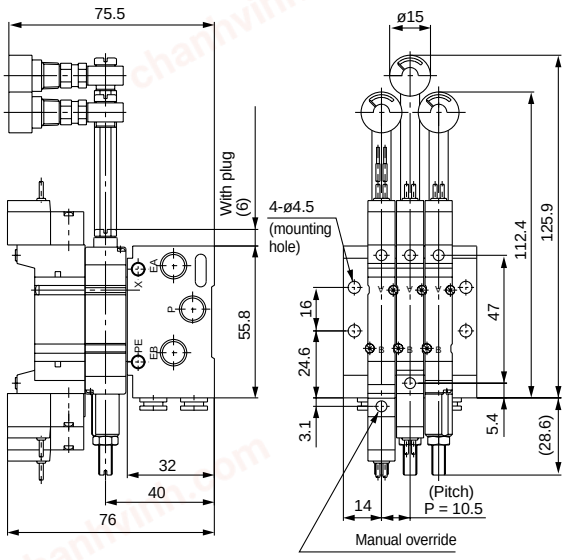
Note)< >: Values with surge voltage suppressor

Grommet (G)

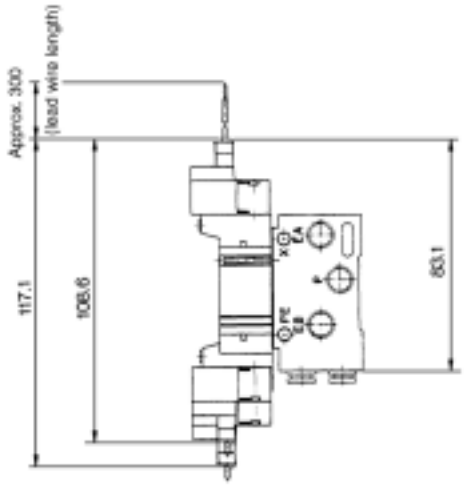
Scale: 35%



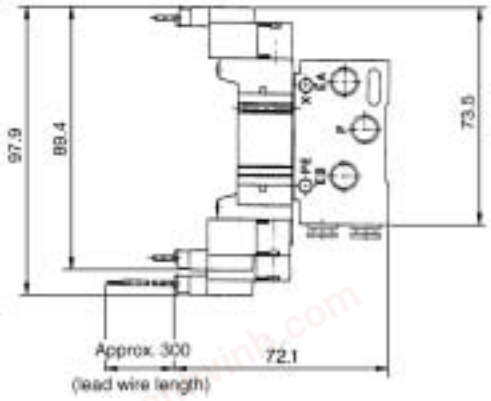
With interface regulator (with gauge)



L type plug connector (L)



M type plug connector (M)



Stations n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	38.5	49	59.5	70	80.5	91	101.5	112	122.5	133	143.5	154	164.5	175	185.5	196	206.5	217	227.5
L2	30.5	41	51.5	62	72.5	83	93.5	104	114.5	125	135.5	146	156.5	167	177.5	188	198.5	209	219.5

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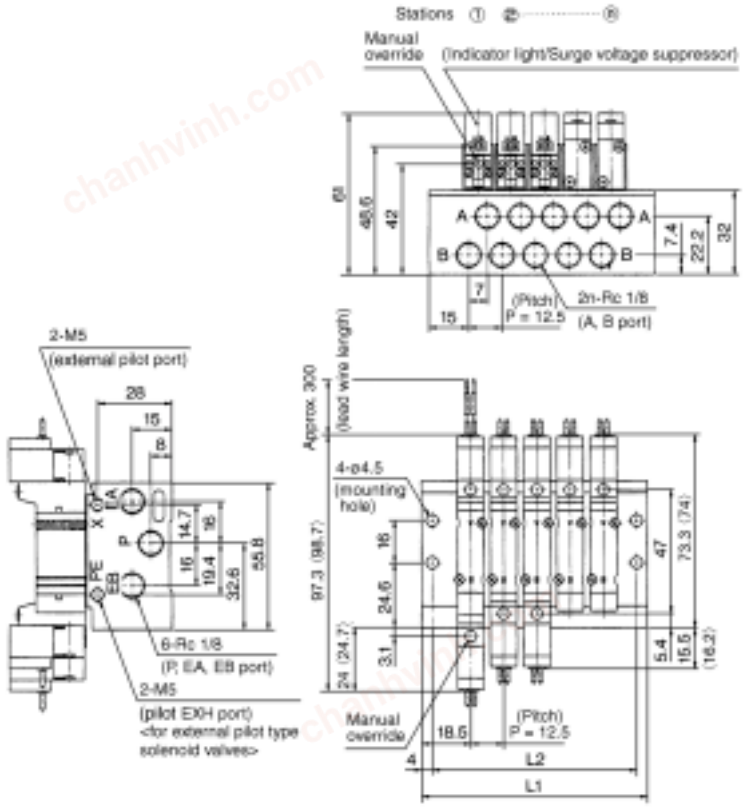
Type 42

SY3000: SS5Y3-42-Stations-01□-Q

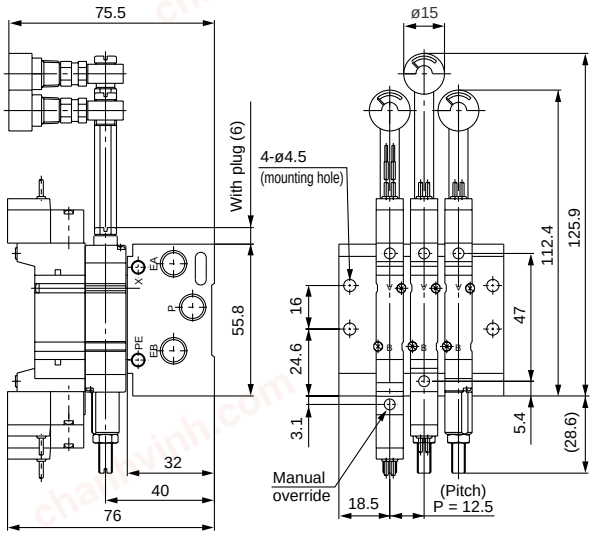
Note)< >: Values with surge voltage suppressor

Grommet (G)

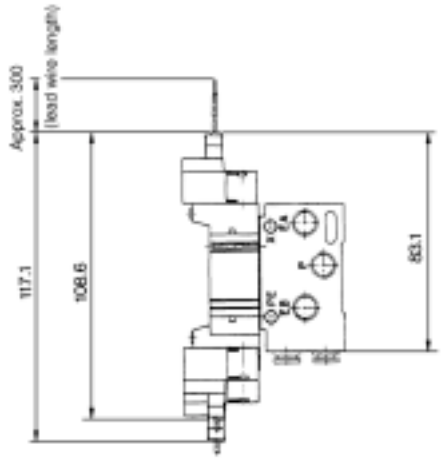
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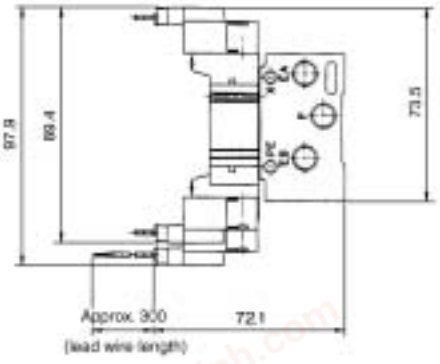
With interface regulator (with gauge)



L type plug connector (L)



M type plug connector (M)



Stations n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	47.5	60	72.5	85	97.5	110	122.5	135	147.5	160	172.5	185	197.5	210	222.5	235	247.5	260	272.5
L2	39.5	52	64.5	77	89.5	102	114.5	127	139.5	152	164.5	177	189.5	202	214.5	227	239.5	252	264.5

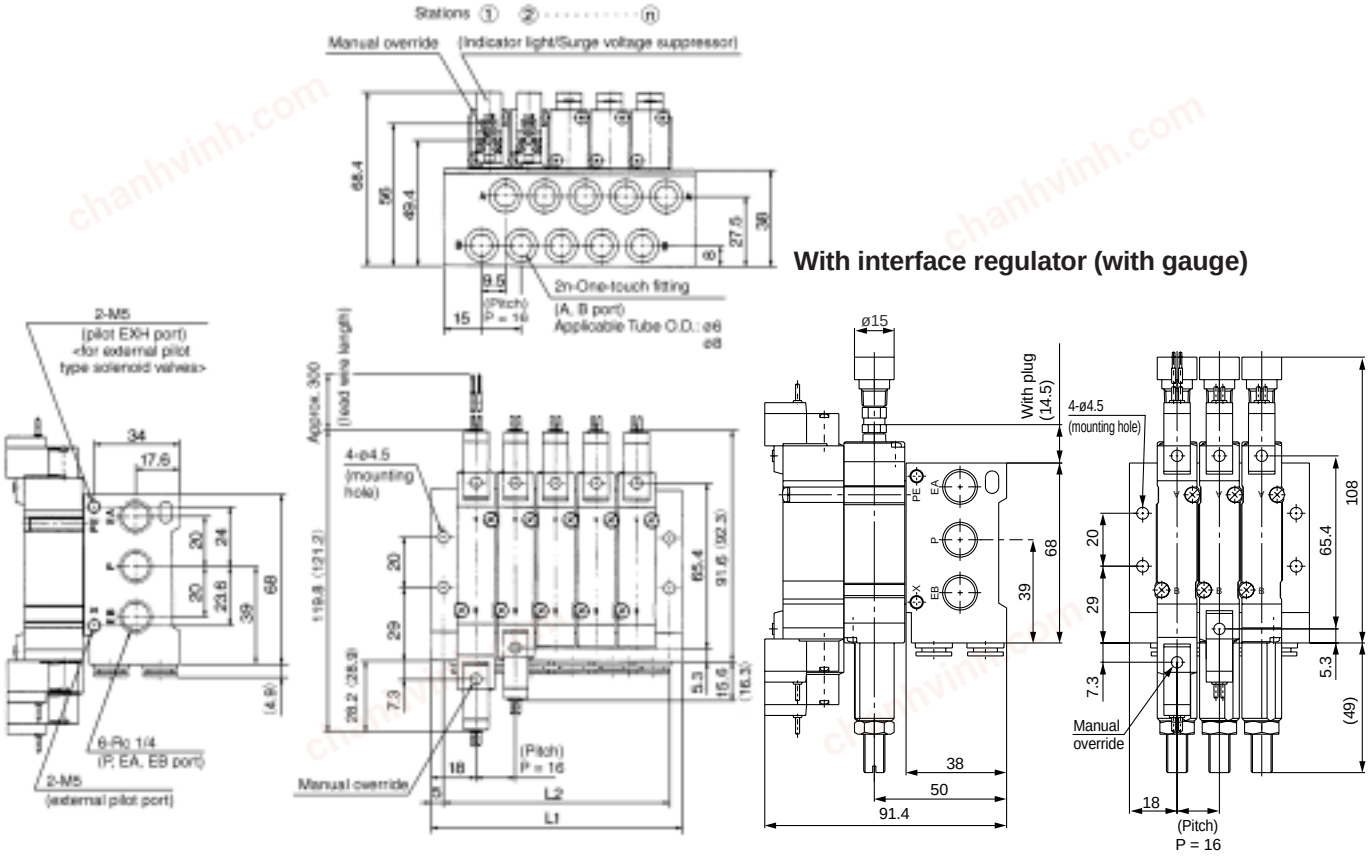
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SY5000: SS5Y5-42-Stations-C6, C8□-Q

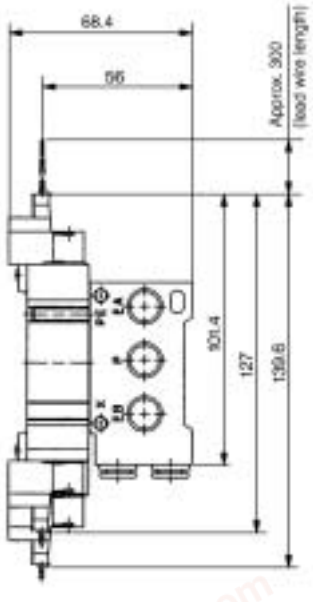
Note)< >: Values with surge voltage suppressor

Grommet (G)

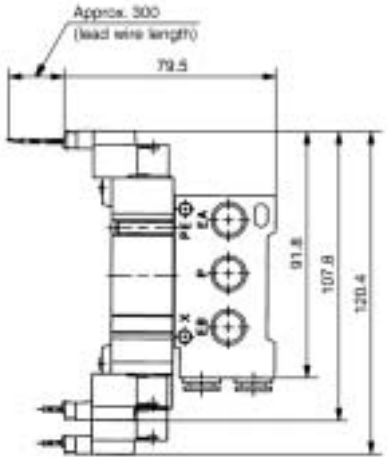
Scale: 35%



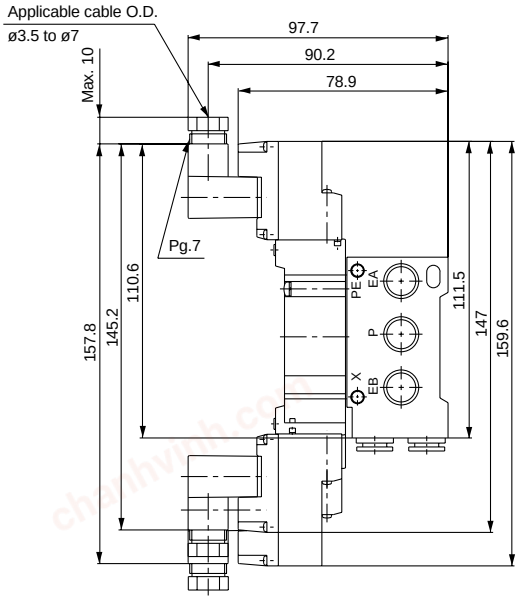
L type plug connector (L)



M type plug connector (M)



DIN terminal (D)



Stations n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	52	68	84	100	116	132	148	164	180	196	212	228	244	260	276	292	308	324	340
L2	42	58	74	90	106	122	138	154	170	186	202	218	234	250	266	282	298	314	330

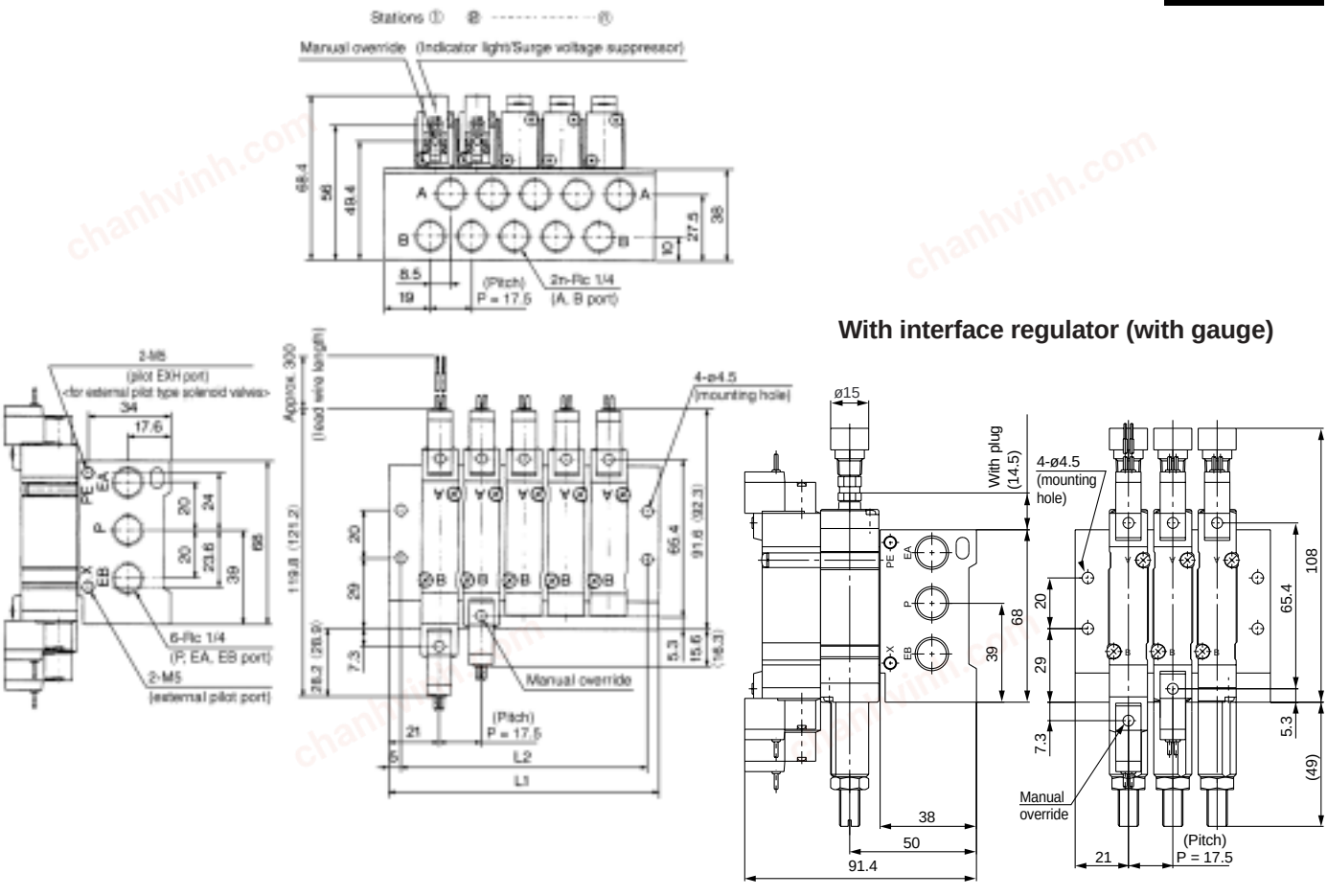
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SY5000: SS5Y5-42-Stations-02□-Q

Note)< >: Values with surge voltage suppressor

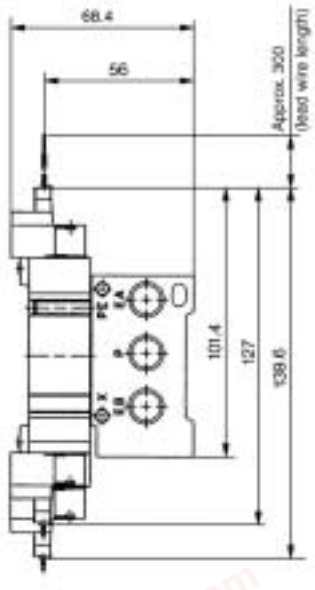
Grommet (G)

Scale: 35%

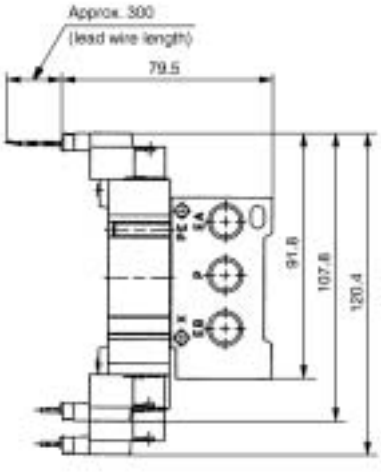


With interface regulator (with gauge)

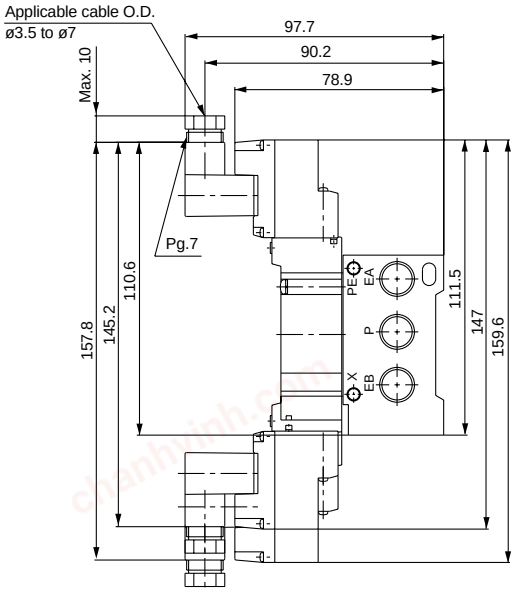
L type plug connector (L)



M type plug connector (M)



DIN terminal (D)



Stations n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	59.5	77	94.5	112	129.5	147	164.5	182	199.5	217	234.5	252	269.5	287	304.5	322	339.5	357	374.5
L2	49.5	67	84.5	102	119.5	137	154.5	172	189.5	207	224.5	242	259.5	277	294.5	312	329.5	347	364.5

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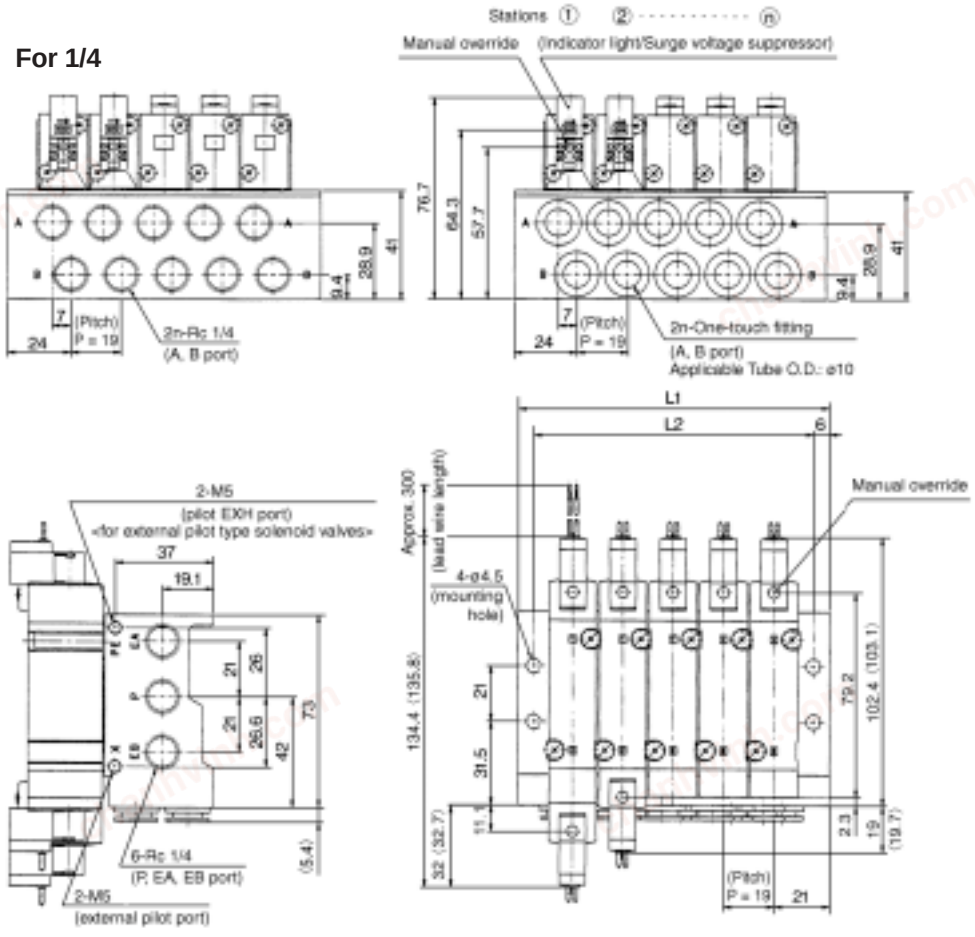
SY7000: SS5Y7-42-Stations-02, C10□-Q

Note)< >: Values with surge voltage suppressor

Grommet (G)

Scale: 35%

For 1/4


Stations ① ② ⋯ ⋯ ⋯

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Type 43

SY9000
Base Mounted Type Manifold
Stacking Type/Individual Wiring

How to Order Manifolds

SS5Y 9 – 43 – 05 U [ ] – C8 [ ] [ ] – Q

Manifold series

9	SY9000

Stations

Symbol	Stations
02	2 stations
⋮	⋮
20	20 stations

∗ Includes the number of blanking plate assemblies.

P/R port position

Symbol	Position	Applicable stations
U	U side	2 to 10
D	D side	
B	Both sides	2 to 20

SUP/EXH block assembly specification

Symbol	Specification
Nil	Standard/Internal pilot
R	External pilot
S	Internal pilot with built-in silencer
RS	External pilot with built-in silencer

Thread

–	Rc (PT)
N	NPT
T	NPTF
F	G (PF)

Option

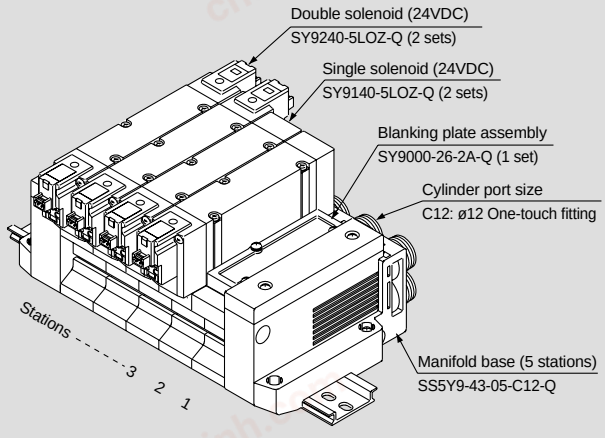
Symbol	Mounting
Nil	Direct mount
D	DIN rail mount (with DIN rail)
DO	DIN rail mount (without DIN rail)
D∗	When a DIN rail longer than the specified stations is necessary, indicate the number of required stations at the "∗" symbol.

A/B port size

Symbol	Specification
C8	ø8 One-touch fitting
C10	ø10 One-touch fitting
C12	ø12 One-touch fitting
02	1/4
03	3/8
M	Mixed

∗ For mixed specifications, order separately on a manifold specification sheet.

How to Order Manifold Assemblies (Example)



SS5Y9-43-05B-C12-Q .....1 set (Type 43, 5 station manifold base part no.)
SY9000-26-2A-Q .....1 set (Blanking plate assembly part no.)
SY9140-5LOZ-Q ..... 2 sets (Single solenoid part no.)
SY9240-5LOZ-Q ..... 2 sets (Double solenoid part no.)

Add the valve and option part numbers in order starting from the first station as shown above.

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How to Order Valves

SY 9 2 40 [ ] — 5 L [ ] [ ] — Q

Series

9	SY9000

Type of actuation

1	2 position single
2	2 position double
3	3 position closed centre
4	3 position exhaust centre
5	3 position pressure centre

Pilot type

Nil	Internal pilot
R	External pilot

Rated voltage

DC specifications

5	24VDC
6	12VDC
V	6VDC
S	5VDC
R	3VDC
9	Less than 50 VDC

AC specifications (50/60Hz)

1	100VAC
2	200VAC
3	110VAC [115VAC]
4	220VAC [230VAC]
9	Less than 250 VAC

Note 1) "D", "DO", "Y" and "YO" are only available in 24VDC and 12VDC in case of DC.

Note 2) "D", "DO", "Y" and "YO" are not available for SY3000.

Contact SMC for other voltages (9)

Protective class
class I (Mark: ⏚)..... DIN terminal type

Protective class
class III (Mark: ◈)..... Grommet, L and M plug connector

Manual override

Nil	Non-locking push type
D	Push-turn locking slotted type
E	Push-turn locking lever type

Indicator light/Surge voltage suppressor

Electrical entry G, H, L, M

Nil	Without indicator light/surge voltage suppressor
S	With surge voltage suppressor
Z	With indicator light/surge voltage suppressor
U	With indicator light/surge voltage suppressor (non-polar type)

Note 2) "U" are available for DC only.

Electrical entry D

Nil	Without indicator light/surge voltage suppressor
S	With surge voltage suppressor (non-polar type)
Z	With indicator light/surge voltage suppressor (non-polar type)

Note 1) "DOZ", "YOZ" are not available.

Note 2) For AC, there is no "S" specification, since it is integrated with the rectifier.

Electrical entry

24V, 12V, 6V, 5V, 3VDC			24V, 12VDC 100V, 110V, 200V, 220VAC
Grommet	**L type plug connector**	**M type plug connector**	**DIN terminal**
G: Lead wire length 300mm **H:** Lead wire length 600mm	**L:** With lead wire (length 300mm) **LN:** Without lead wire **LO:** Without connector	**M:** With lead wire (length 300mm) **MN:** Without lead wire **MO:** Without connector	**D:** With connector **DO:** Without connector **Y:** With connector (DIN 43650C) **YO:** Without connector (DIN 43650C)

Note 1) "LN" and "MN" include 2 sockets.

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Manifold specifications

Model			SS5Y9-43
Applicable valve			SY9□40
Manifold type			Stacking type
P (SUP)/R (EXH) method			Common SUP/EXH
Valve stations			2 to 20 stations Note 1)
A, B port specifications		Location	Base
		Direction	Side
Port size	P, EA, EB port		C12 (ø12 One-touch fitting)
	A, B port		1/4 3/8 C8 (ø8 One-touch fitting) C10 (ø10 One-touch fitting) C12 (ø12 One-touch fitting)
Valve effective area Note 2) mm² (Nl/min)			C12: P to A/B 30.46 (1658.7) A/B to EA/EB 32.98 (1796.2)
Manifold base weight W (g) n: Number of stations			W = 107n + 330

Note 1) For 10 stations or more, supply pressure to P port on both sides and exhaust from EA and EB ports on both sides.

Note 2) Value when manifold base (5 stations) is mounted, with single action 2 position type.

Note 3) Refer to page 1.2-98 for manifold options.

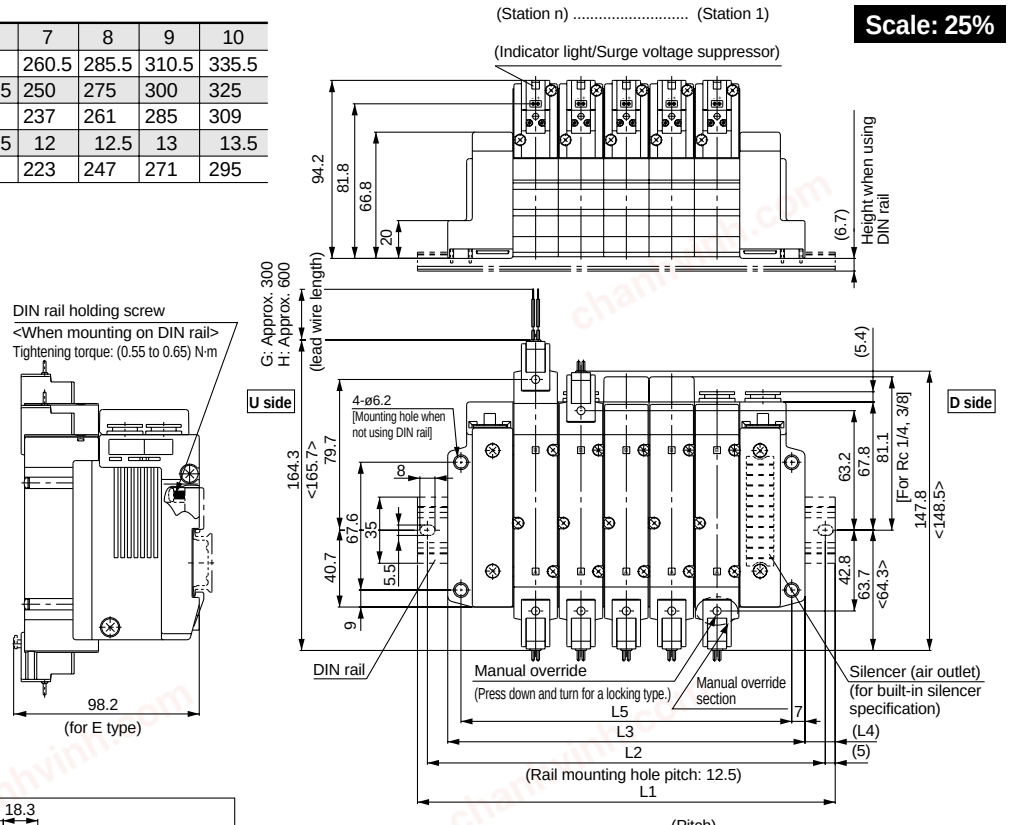
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SY9000: SS5Y9-43-[Stations]D[ ]-02, 03, C8, C10, C12-(D)□-Q

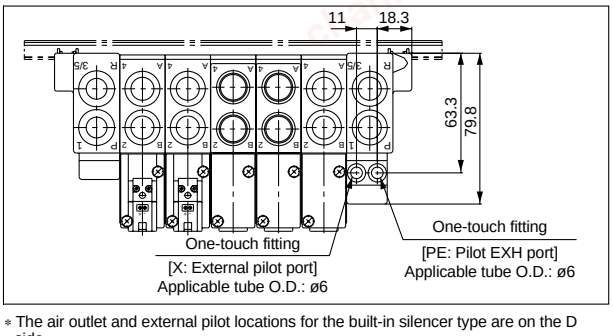
Note)< >: Values with surge voltage suppressor

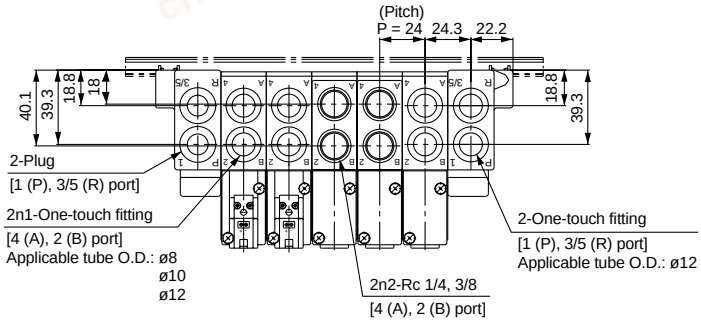
Stations n	2	3	4	5	6	7	8	9	10
L1	148	173	198	223	248	260.5	285.5	310.5	335.5
L2	137.5	162.5	187.5	212.5	237.5	250	275	300	325
L3	117	141	165	189	213	237	261	285	309
L4	15.5	16	16.5	17	17.5	12	12.5	13	13.5
L5	103	127	151	175	199	223	247	271	295

Scale: 25%



For external pilot specification

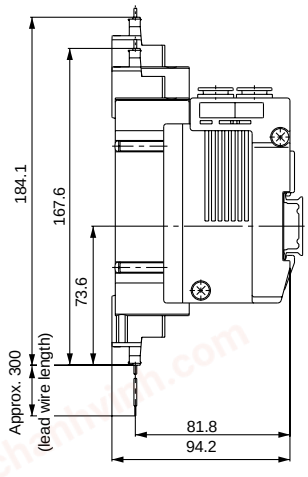




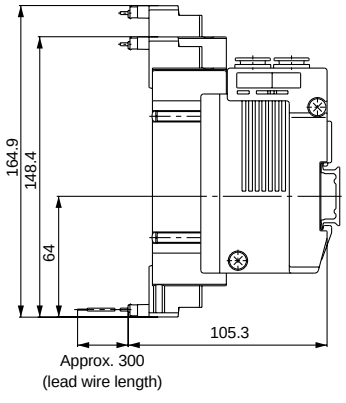
∗ The air outlet and external pilot locations for the built-in silencer type are on the D side.

∗ When P/R ports are located on the D side, the designated P/R ports on the other side are plugged.

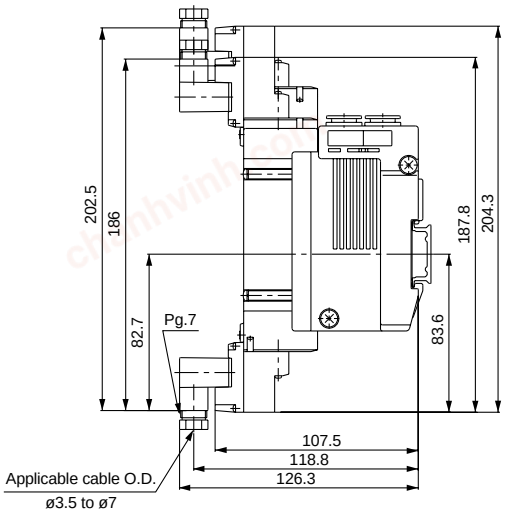
L type plug connector (L)



M type plug connector (M)



DIN terminal (D)



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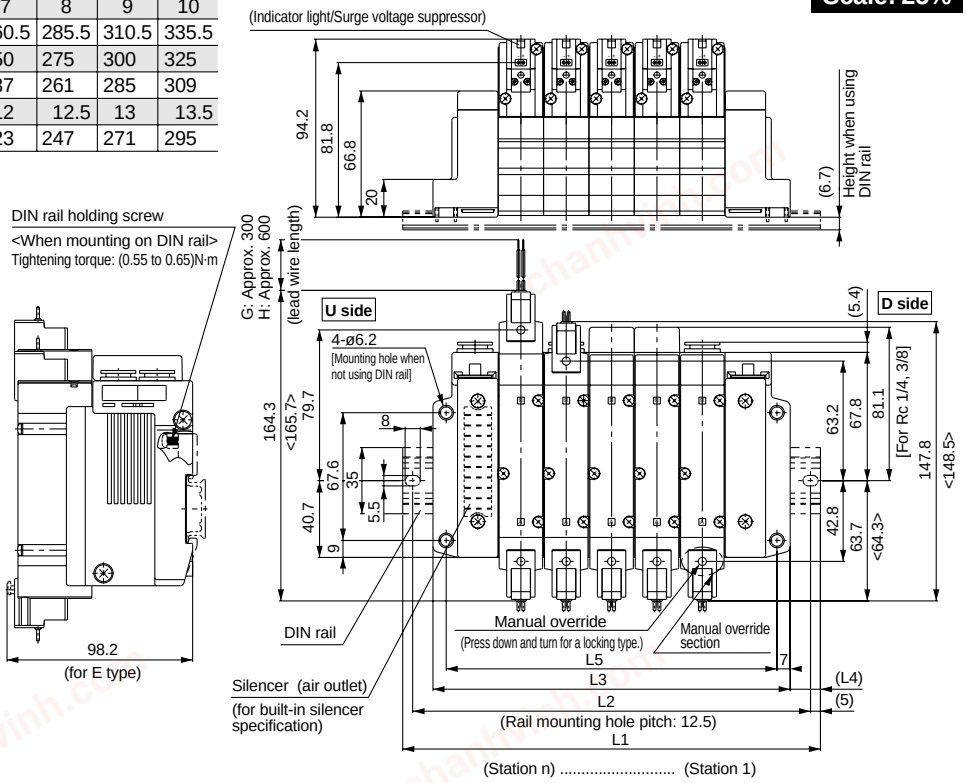
Type 43

SY9000: SS5Y9-43-Stations U□-02, 03, C8, C10, C12-(D)□-Q

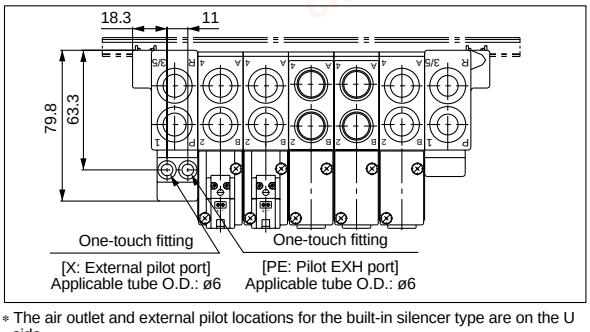
Note)< >: Values with surge voltage suppressor

Stations n	2	3	4	5	6	7	8	9	10
L1	148	173	198	223	248	260.5	285.5	310.5	335.5
L2	137.5	162.5	187.5	212.5	237.5	250	275	300	325
L3	117	141	165	189	213	237	261	285	309
L4	15.5	16	16.5	17	17.5	12	12.5	13	13.5
L5	103	127	151	175	199	223	247	271	295

Scale: 25%

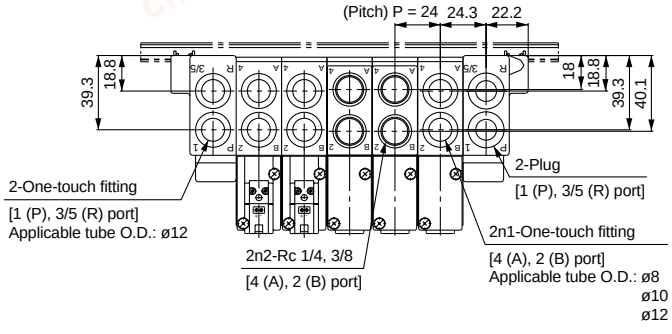


For external pilot specification

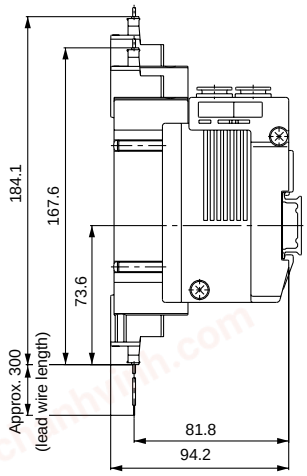


∗ The air outlet and external pilot locations for the built-in silencer type are on the U side.

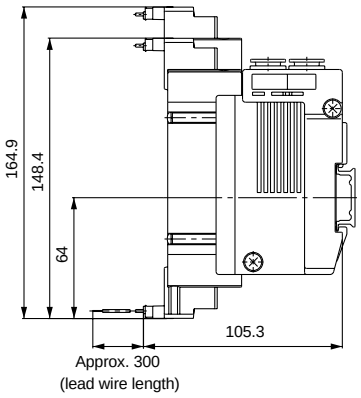
∗ When P/R ports are located on the U side, the designated P/R ports on the other side are plugged.



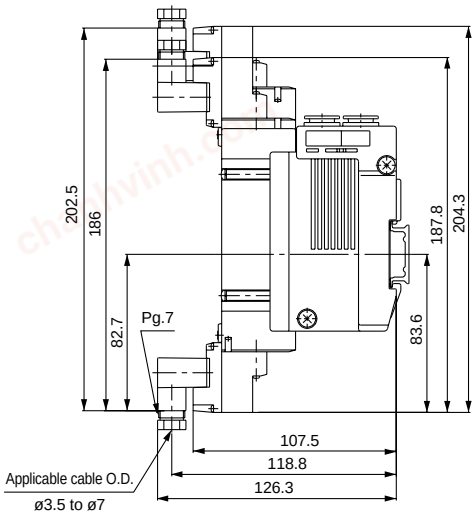
L type plug connector (L)



M type plug connector (M)



DIN terminal (D)



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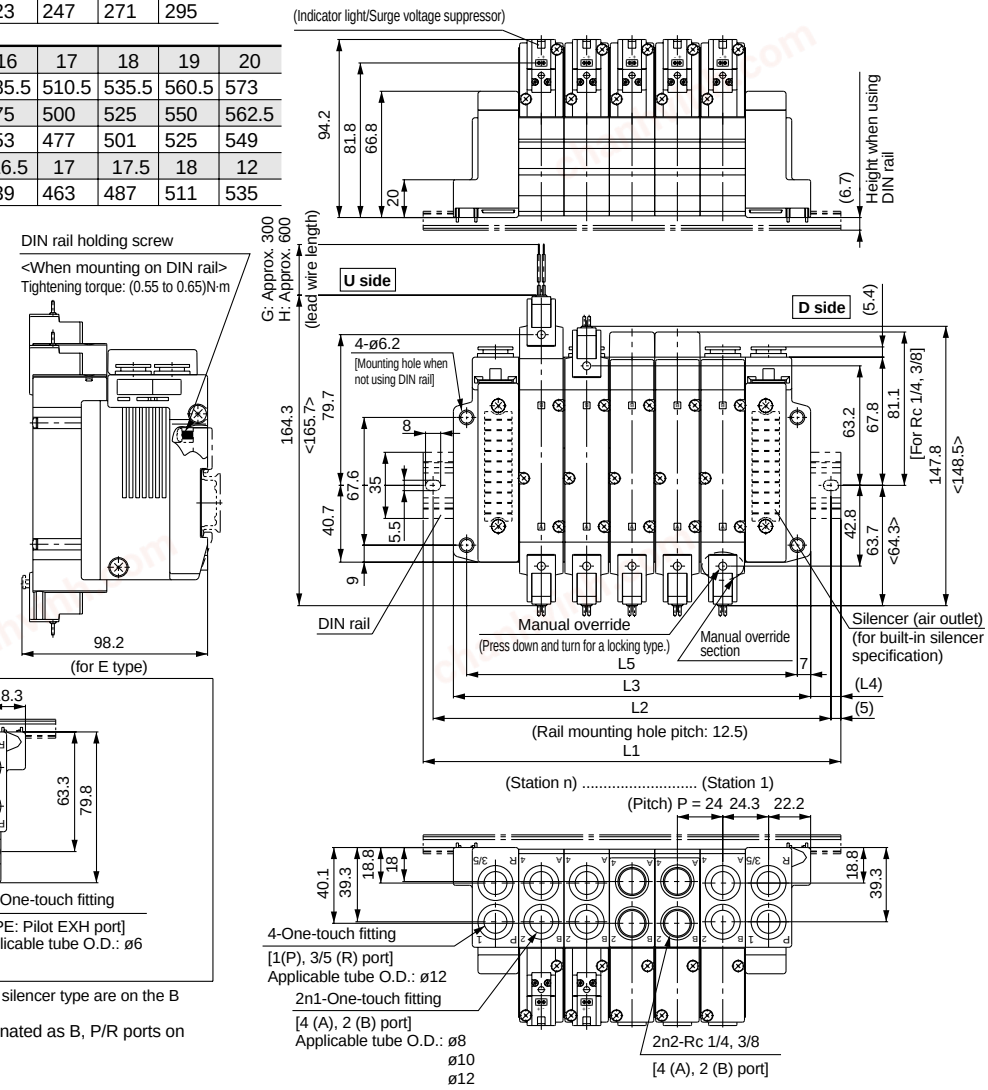
SY9000: SS5Y9-43-Stations B□-02, 03, C8, C10, C12-(D)□-Q

Note)< >: Values with surge voltage suppressor

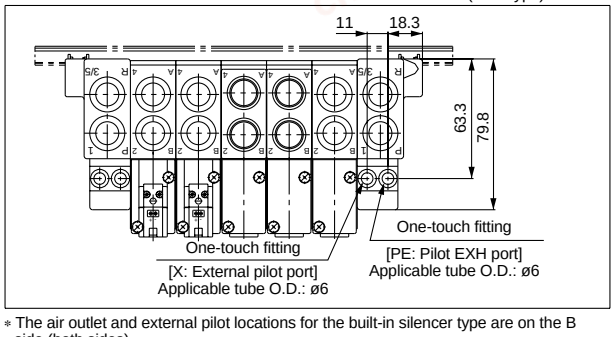
Scale: 25%

Stations n	2	3	4	5	6	7	8	9	10
L1	148	173	198	223	248	260.5	285.5	310.5	335.5
L2	137.5	162.5	187.5	212.5	237.5	250	275	300	325
L3	117	141	165	189	213	237	261	285	309
L4	15.5	16	16.5	17	17.5	12	12.5	13	13.5
L5	103	127	151	175	199	223	247	271	295

Stations n	11	12	13	14	15	16	17	18	19	20
L1	360.5	385.5	410.5	435.5	460.5	485.5	510.5	535.5	560.5	573
L2	350	375	400	425	450	475	500	525	550	562.5
L3	333	357	381	405	429	453	477	501	525	549
L4	14	14.5	15	15.5	16	16.5	17	17.5	18	12
L5	319	343	367	391	415	439	463	487	511	535



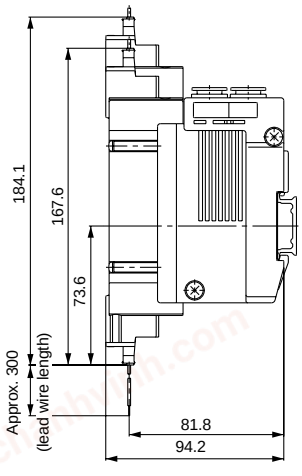
For external pilot specification



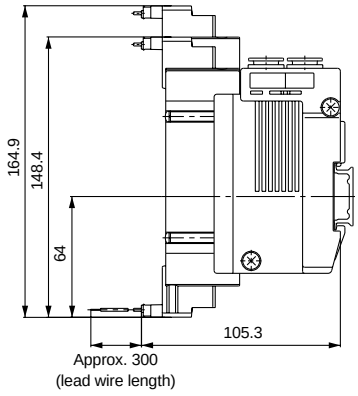
* The air outlet and external pilot locations for the built-in silencer type are on the B side (both sides) .

* When P/R ports are designated as B, P/R ports on both sides are open.

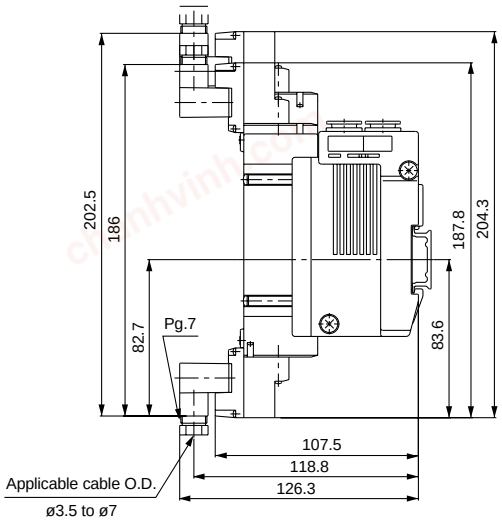
L type plug connector (L)



M type plug connector (M)



DIN terminal (D)



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Type 41P
Type 42P

SY3000/5000/7000
Base Mounted Type Manifold
Bar Stock/Flat Ribbon Cable

How to Order Manifolds

Type 41P/Compact type

SS5Y [5] — 41P — [05] — [C8] [ ] — Q

Manifold series

3	SY3000
5	SY5000

Stations

03	3 stations
⋮	⋮
12	12 stations

Note) 4 to 12 stations for SS5Y3

Thread

—	Rc (PT)
N	NPT
T	NPTF
F	G (PF)

A/B port size

Symbol	Port size	Applicable series
M5	M5	SY3000
C4	ø4 One-touch fitting	
C6	ø6 One-touch fitting	
01	1/8	SY5000
C6	ø6 One-touch fitting	
C8	ø8 One-touch fitting	

Type 42P/Common external pilot type

SS5Y [5] — 42P — [05] — [C8] [ ] — Q

Manifold series

3	SY3000
5	SY5000
7	SY7000

Stations

03	3 stations
⋮	⋮
12	12 stations

Note) 4 to 12 stations for SS5Y3

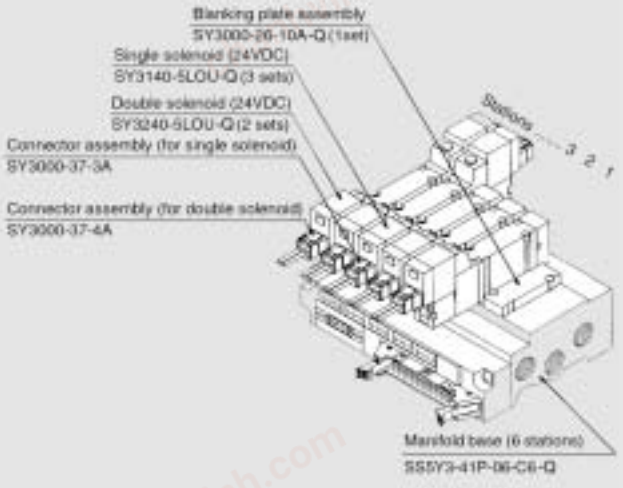
Thread

—	Rc (PT)
N	NPT
T	NPTF
F	G (PF)

A/B port size

Symbol	Port size	Applicable series
01	1/8	SY3000
C4	ø4 One-touch fitting	
C6	ø6 One-touch fitting	
02	1/4	SY5000
C6	ø6 One-touch fitting	
C8	ø8 One-touch fitting	
02	1/4	SY7000
C10	ø10 One-touch fitting	

How to Order Manifold Assemblies (Example)

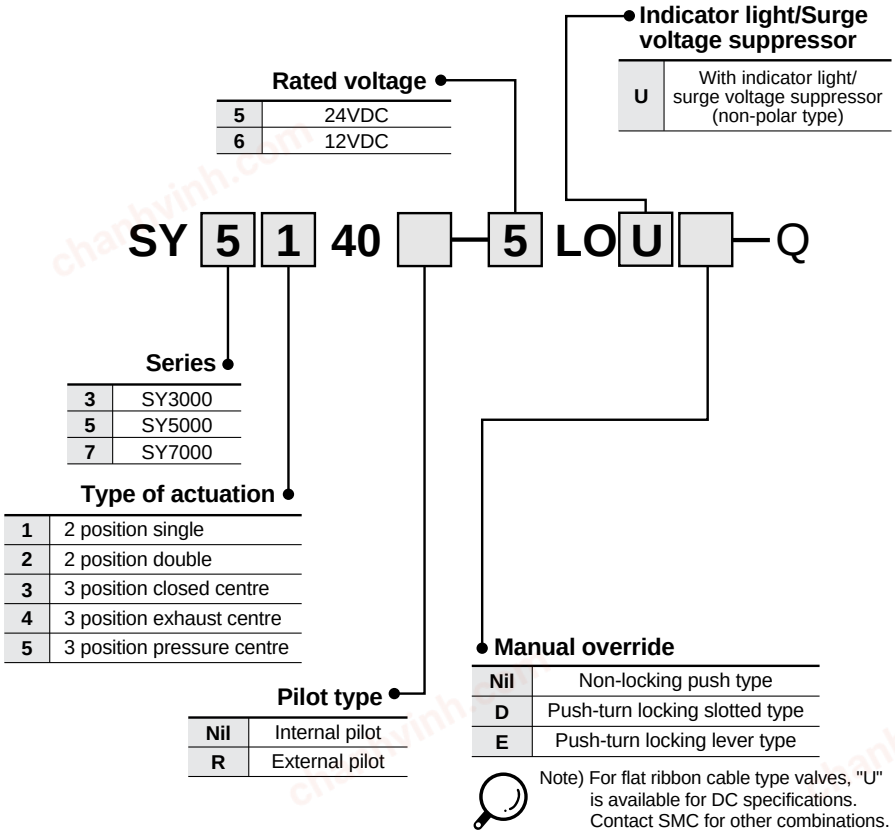


SS5Y3-41P-06-C6-Q .....1 set (Type 41P, 6 station manifold base part no.)
SY3000-26-10A-Q .. 1 set (Blanking plate assembly part no.)
SY3140-5LOU-Q .... 3 sets (Single solenoid part no.)
SY3240-5LOU-Q .... 2 sets (Double solenoid part no.)
SY3000-37-3A ..... 3 sets (Connector assembly part no.)
SY3000-37-4A ..... 2 sets (Connector assembly part no.)

Add the valve and option part numbers in order starting from the first station as shown above.

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How to Order Valves



Rated voltage

5	24VDC
6	12VDC

Indicator light/Surge voltage suppressor

U	With indicator light/ surge voltage suppressor (non-polar type)

Series

3	SY3000
5	SY5000
7	SY7000

Type of actuation

1	2 position single
2	2 position double
3	3 position closed centre
4	3 position exhaust centre
5	3 position pressure centre

Pilot type

Nil	Internal pilot
R	External pilot

Manual override

Nil	Non-locking push type
D	Push-turn locking slotted type
E	Push-turn locking lever type

Note) For flat ribbon cable type valves, "U" is available for DC specifications. Contact SMC for other combinations.

Protective class
class I (Mark: ⏚)..... DIN terminal type

Protective class
class III (Mark: ◈)..... Grommet, L and M plug connector

How to Order Connector Assemblies

For 12, 24VDC

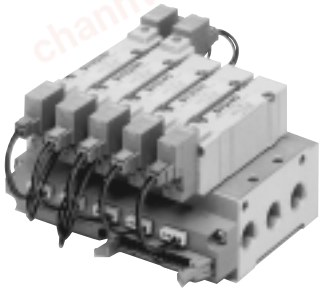
Specification	SY3000	SY5000/7000
Single solenoid	SY3000-37-3A	SY5000-37-3A
Double solenoid/ 3 position	SY3000-37-4A	SY5000-37-4A
Single solenoid with spacer assembly	SY5000-37-3A	SY5000-37-5A
Double solenoid/3 position with spacer assembly	SY3000-37-6A	SY5000-37-6A

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Type 41P Type 42P

- **External wiring is bundled for one-touch wiring**
- **Clean appearance**

With the flat ribbon cable type, each valve is wired to the printed circuit board of the manifold base to allow the external wiring to be bundled with a 26 pin MIL connector for one-touch wiring.



Flat cable manifold specifications

Model		SS5Y3-41P	SS5Y3-42P	SS5Y5-41P	SS5Y5-42P	SS5Y7-42P
Applicable valve		SY3□40		SY5□40		SY7□40
Manifold type		Single base type/B mount				
P (SUP)/R (EXH) method		Common SUP/EXH				
Valve stations		4 to 12 stations Note 1)		3 to 12 stations Note 1)		
A, B port specification	Location	Base				
	Direction	Side				
Port size	P, EA, EB port	1/8		1/4		1/4
	A, B port	M5 C4 (ø4 One-touch fitting) C6 (ø6 One-touch fitting)	1/8 C4 (ø4 One-touch fitting) C6 (ø6 One-touch fitting)	1/8 C6 (ø6 One-touch fitting) C8 (ø8 One-touch fitting)	1/4 C6 (ø6 One-touch fitting) C8 (ø8 One-touch fitting)	1/4 C10 (ø10 One-touch fitting)
Valve effective area Note 2) mm² (NL/min)		C6: P to A/B 3.96 (215.9) A/B to EA/EB 4.14 (225.7)		C8: P to A/B 9.54 (520.2) A/B to EA/EB 9.0 (490.7)		C10: P to A/B 16.2 (883.3) A/B to EA/EB 16.2 (883.3)
Manifold base weight W (g) n: Number of stations		W = 39n + 83	W = 48n + 99	W = 67n + 118	W = 88n + 151	W = 109n + 174
Applicable flat ribbon cable connector		Flat ribbon cable connector, Socket: 26 pin MIL, With strain relief, MIL-C-83503 conformity				
Internal wiring		Common positive and negative COM (Only positive COM for "Z" type)				
Rated voltage		12, 24VDC				

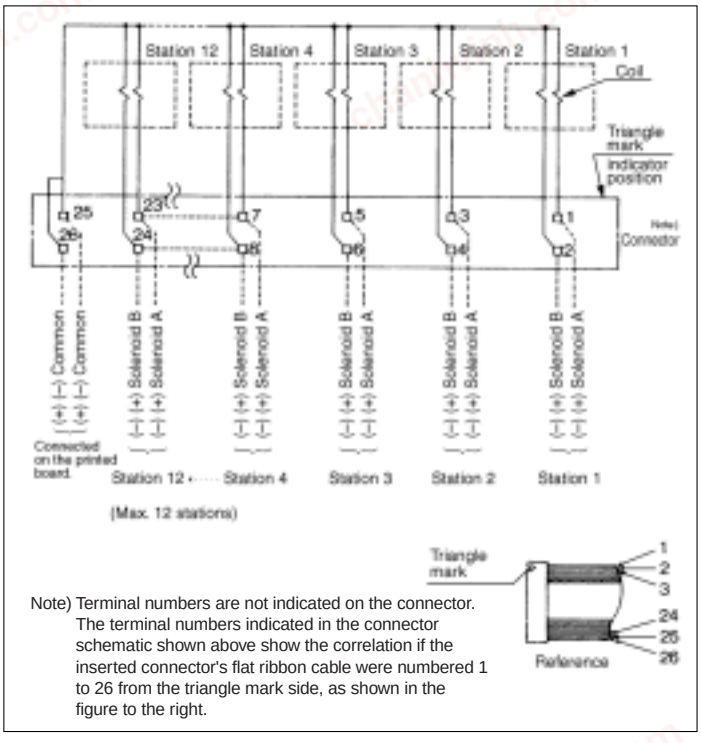
Note 1) For 10 stations or more (5 stations or more in case of SS5Y7), supply pressure to P port on both sides and exhaust from EA and EB ports on both sides.

Note 2) Value when manifold base (5 stations) is mounted, with single action 2 position type.

Note 3) The withstand voltage specification for the wiring unit is equivalent to JIS C0704, class 1.

Note 4) Refer to page 1.2-98 for manifold options.

Manifold internal wiring (non-polar type)

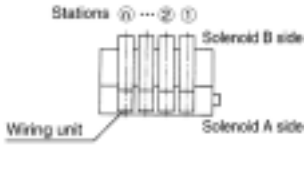


Note) Terminal numbers are not indicated on the connector. The terminal numbers indicated in the connector schematic shown above show the correlation if the inserted connector's flat ribbon cable were numbered 1 to 26 from the triangle mark side, as shown in the figure to the right.

Note 1) For 10 stations or more, wire both of the common poles.

Note 2) For single solenoids, connect to the solenoid A side.

Note 3) The maximum number of stations is 12. Contact SMC if more than 12 stations are required.



⚠Caution

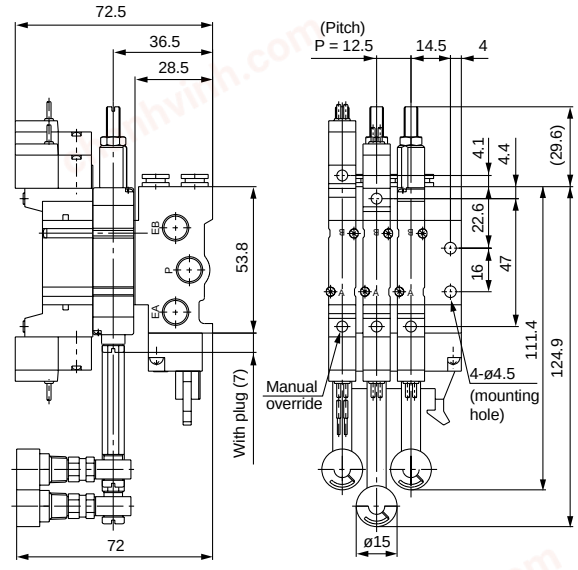
Non-polar type (U) valves with DC electrical connection can be used for both negative and positive COM. However, always use the positive COM with the "Z" type, since valves will not be actuated when the negative COM is used.

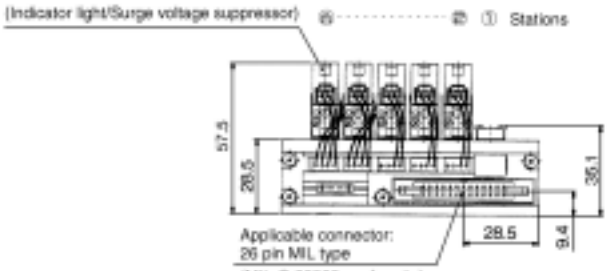
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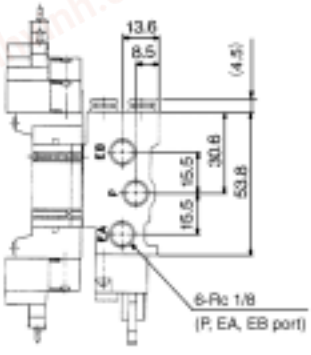
SY3000: SS5Y3-41P-Stations-M5, C4, C6□-Q

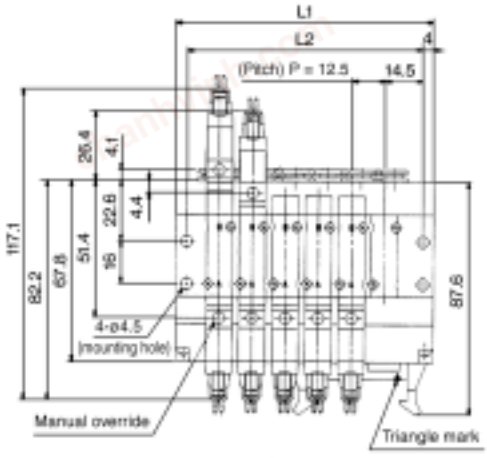
Scale: 35%

With interface regulator (with gauge)

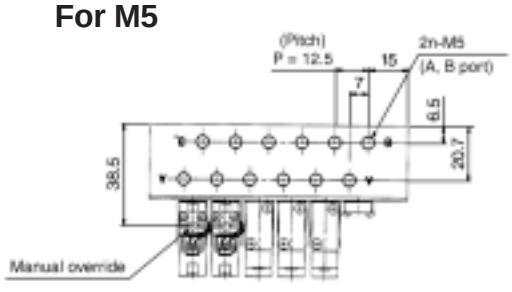


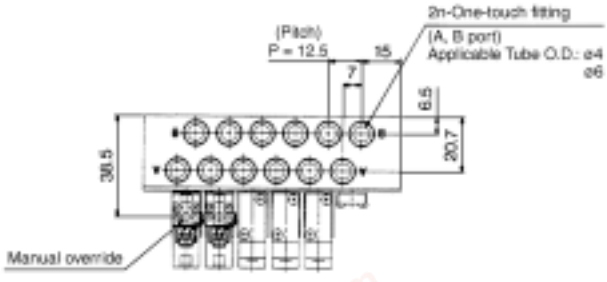






For M5





Stations n	4	5	6	7	8	9	10	11	12
L1	72.5	85	97.5	110	122.5	135	147.5	160	172.5
L2	64.5	77	89.5	102	114.5	127	139.5	152	164.5

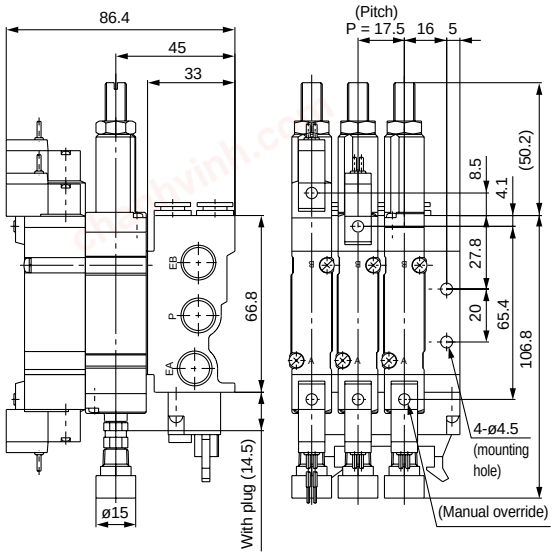
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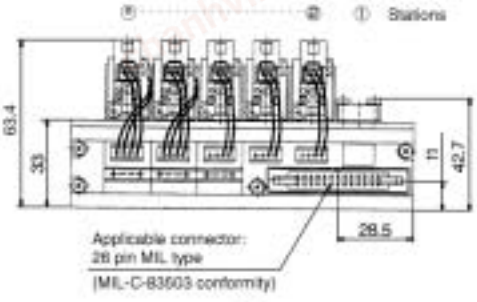
Type 41P

SY5000: SS5Y5-41P-Stations-01, C6, C8□-Q

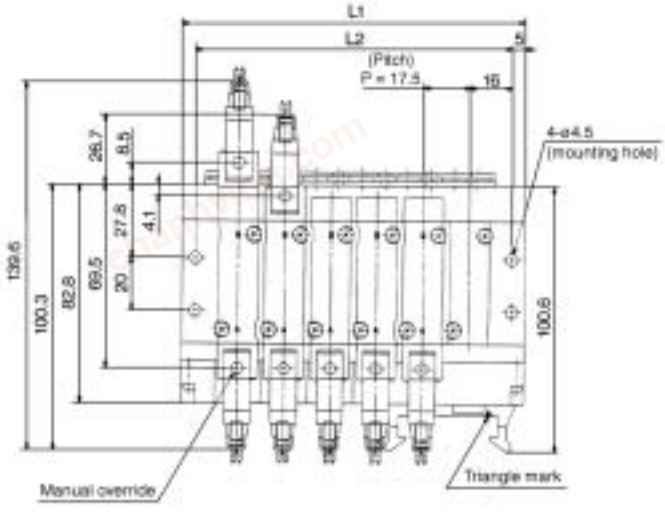
With interface regulator (with gauge)

Scale: 35%

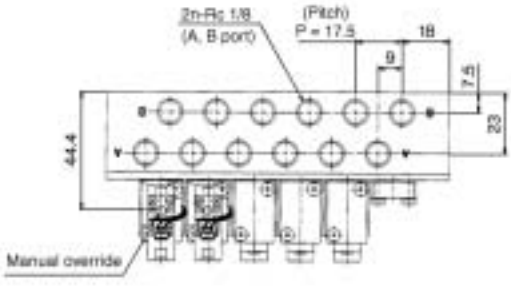


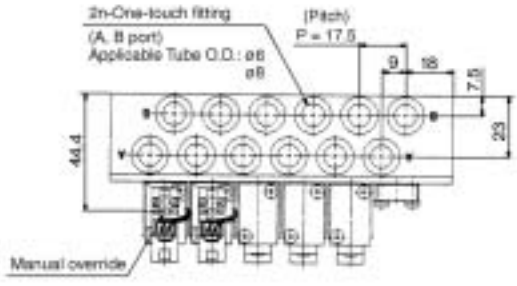






For 1/8





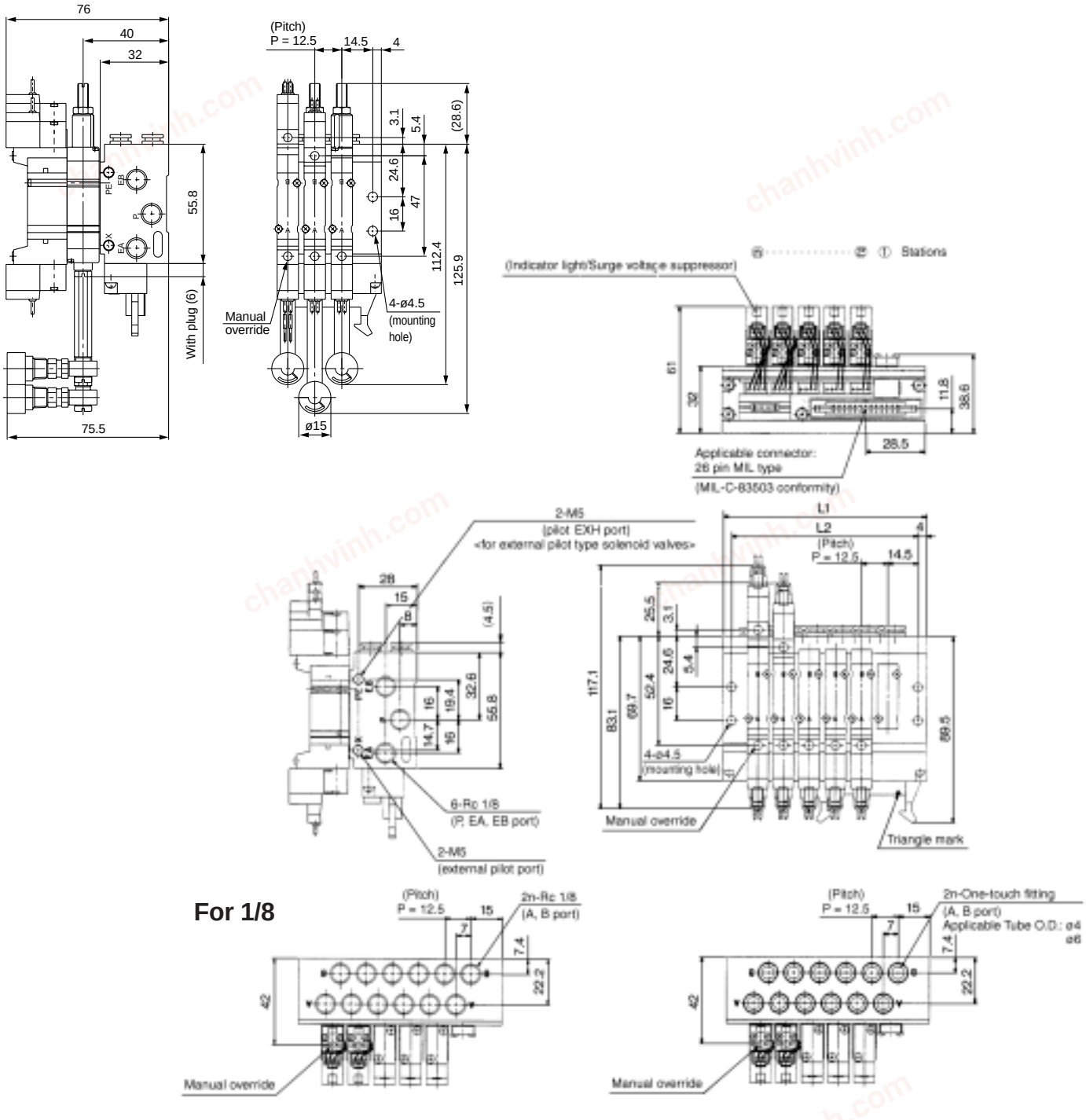
Stations n	3	4	5	6	7	8	9	10	11	12
L1	77	94.5	112	129.5	147	164.5	182	199.5	217	234.5
L2	67	84.5	102	119.5	137	154.5	172	189.5	207	224.5

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SY3000: SS5Y3-42P-Stations-01, C4, C6□-Q

With interface regulator (with gauge)

Scale: 35%



For 1/8

Stations n	4	5	6	7	8	9	10	11	12
L1	72.5	85	97.5	110	122.5	135	147.5	160	172.5
L2	64.5	77	89.5	102	114.5	127	139.5	152	164.5

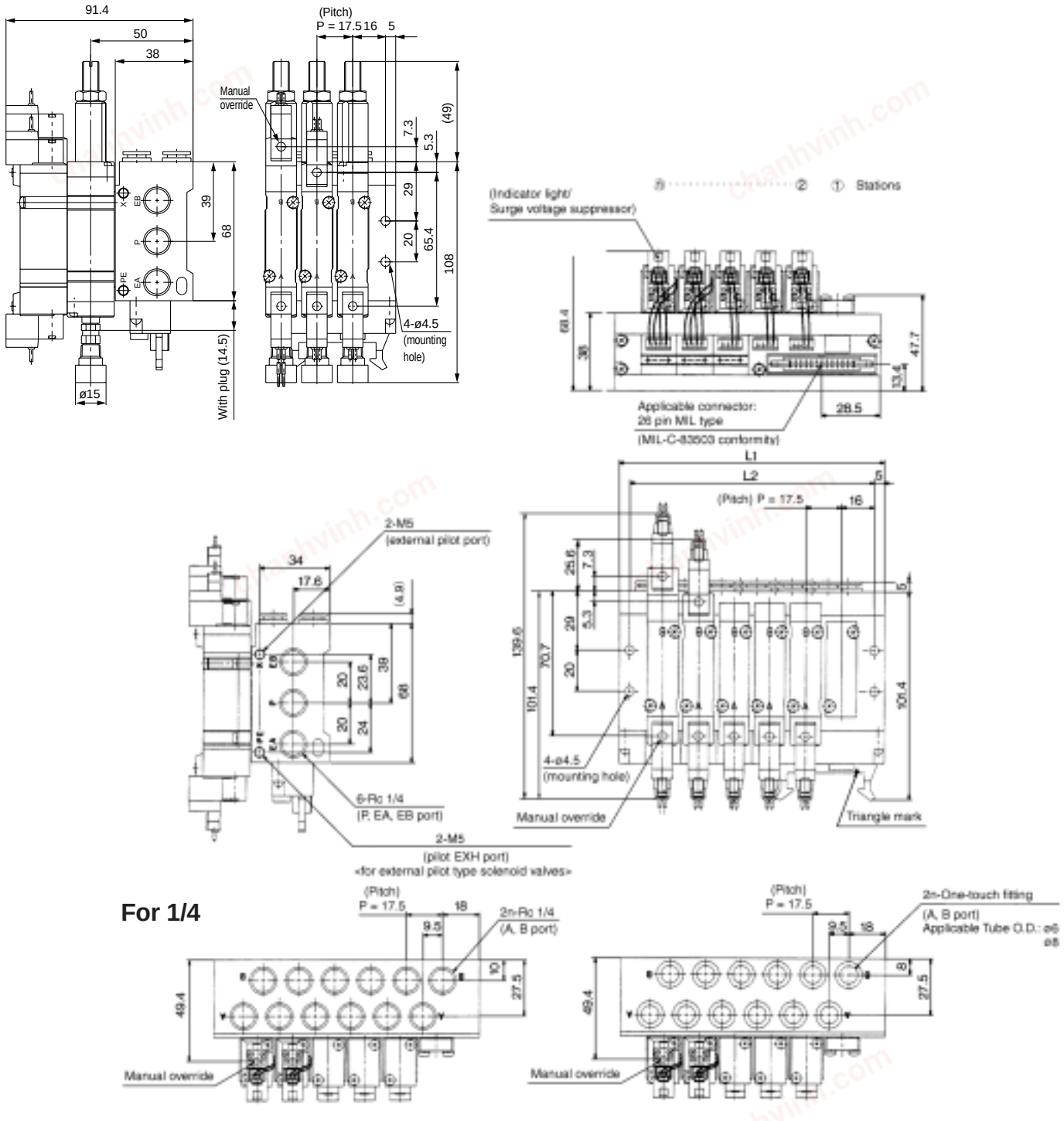
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Type 42P

SY5000: SS5Y5-42P-Stations-02, C6, C8□-Q

With interface regulator (with gauge)

Scale: 35%



For 1/4

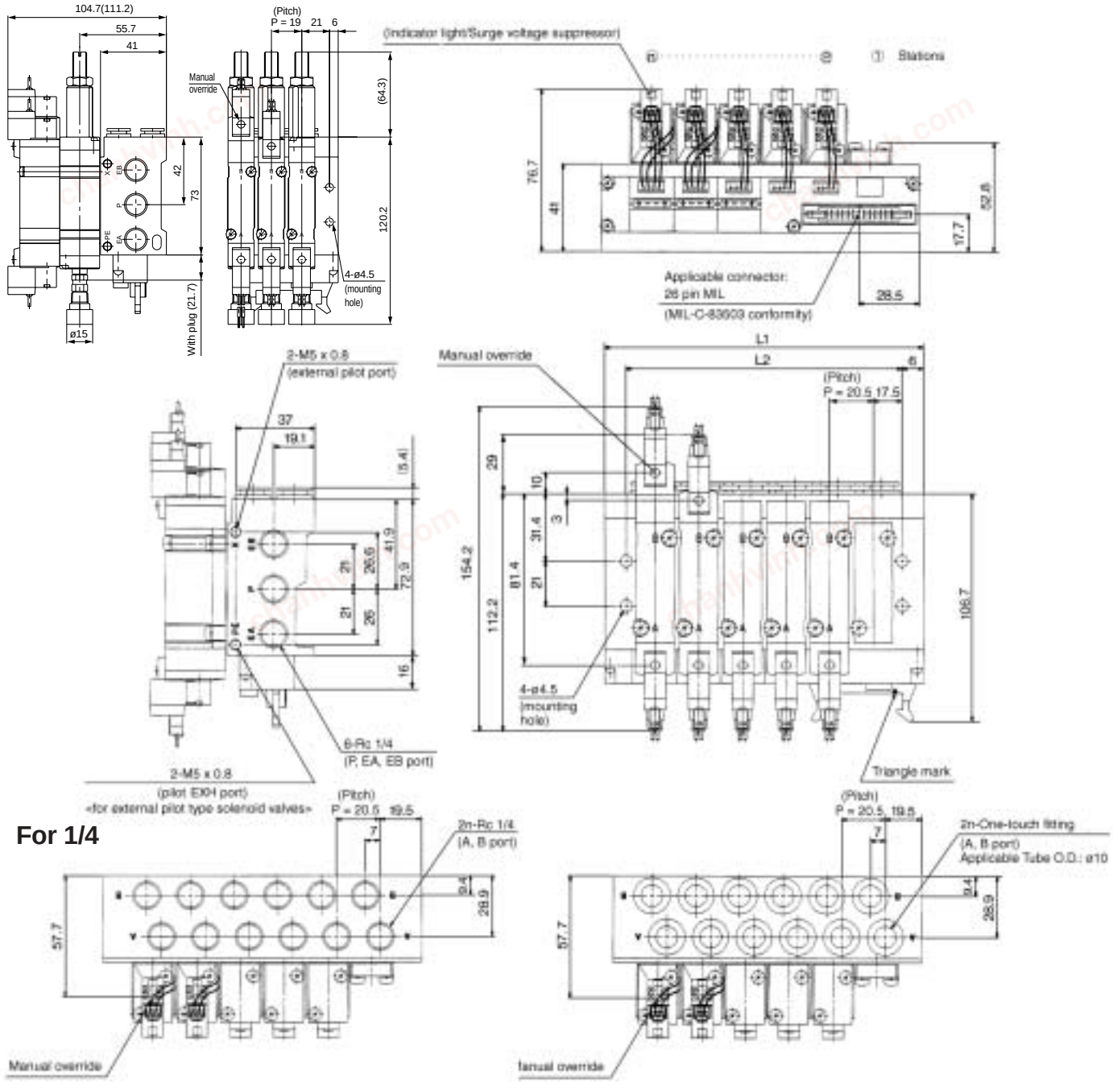
Stations n	3	4	5	6	7	8	9	10	11	12
L1	77	94.5	112	129.5	147	164.5	182	199.5	217	234.5
L2	67	84.5	102	119.5	137	154.5	172	189.5	207	224.5

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SY7000: SS5Y7-42P-Stations-02, C10□-Q

With interface regulator (with gauge)

Scale: 35%



Stations n	3	4	5	6	7	8	9	10	11	12
L1	88	108.5	129	149.5	170	190.5	211	231.5	252	272.5
L2	76	96.5	117	137.5	158	178.5	199	219.5	240	260.5

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Type 43P

SY9000
Base Mounted Type Manifold
Stacking Type/Flat Ribbon Cable

How to Order Manifolds

SS5Y9 − 43P − 05 U [ ] C8 [ ] [ ] -Q

Manifold series

9	SY9000

Stations

Symbol	Stations
04	4 stations
⋮	⋮
12	12 stations

∗ Includes the number of blanking plate assemblies.

P/R port position

Symbol	Position	Applicable stations
U	U side	4 to 10
D	D side	
B	Both sides	4 to 12

SUP/EXH block assembly specification

Symbol	Specification
Nil	Standard/Internal pilot
R	External pilot
S	Internal pilot with built-in silencer
RS	External pilot with built-in silencer

Option

Symbol	Mounting
Nil	Direct mount
D	DIN rail mount (with DIN rail)
DO	DIN rail mount (without DIN rail)
D∗	When a DIN rail longer than the specified stations is necessary, indicate the number of required stations at the "∗" symbol.

A/B port size

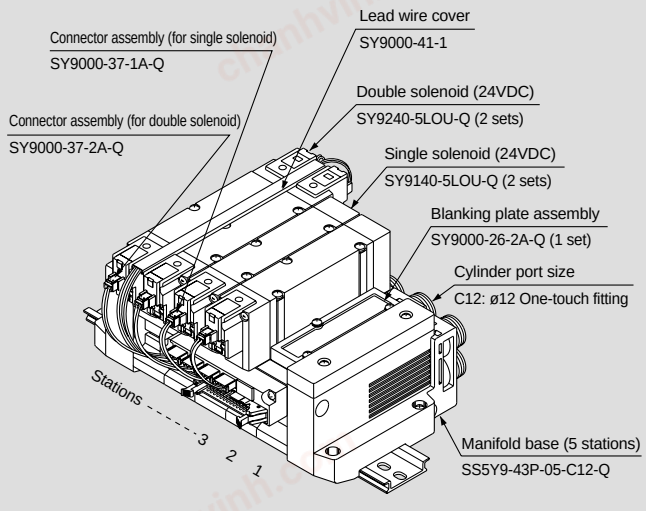
Symbol	Specification
C8	ø8 One-touch fitting
C10	ø10 One-touch fitting
C12	ø12 One-touch fitting
02	1/4
03	3/8
M	Mixed

∗ For mixed specifications, order separately on a manifold specification sheet.

Thread

—	Rc (PT)
N	NPT
T	NPTF
F	G (PF)

How to Order Manifold Assemblies (Example)

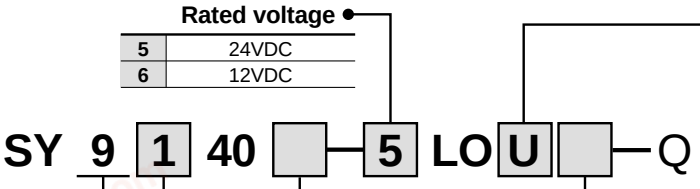


SS5Y9-43P-05B-C12-Q ... 1 set (Type 43P, 5 station manifold base part no.)
SY9000-26-2A-Q ..... 1 set (Blanking plate assembly part no.)
SY9140-5LOU-Q ..... 2 sets (Single solenoid part no.)
SY9240-5LOU-Q ..... 2 sets (Double solenoid part no.)
SY9000-37-1A-Q ..... 2 sets (Connector assembly part no.)
SY9000-37-2A-Q ..... 2 sets (Connector assembly part no.)
SY9000-41-1 .....1 set (lead wire cover)

Add the valve and option part numbers in order starting from the first station as shown above.

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How to Order Valves



Rated voltage

5	24VDC
6	12VDC

Indicator light/ Surge voltage suppressor

U	With indicator light/ surge voltage suppressor (non-polar type)

Series

9	SY9000

Type of actuation

1	2 position single
2	2 position double
3	3 position closed centre
4	3 position exhaust centre
5	3 position pressure centre

Pilot type

Nil	Internal pilot
R	External pilot

Manual override

Nil	Non-locking push type
D	Push-turn locking slotted type
E	Push-turn locking lever type

Note) For flat ribbon cable type valves, "U" is available for DC specifications. Contact SMC for other combinations.

Protective class
class I (Mark: ⏚)..... DIN terminal type

Protective class
class III (Mark: ◈)..... Grommet, L and M plug connector

How to Order Connector Assemblies

For 12, 24VDC

Specification	SY9000
Single solenoid	SY9000-37-1A
Double solenoid/ 3 position	SY9000-37-2A
Single solenoid with spacer assembly	SY9000-37-3A
Double solenoid/3 position with spacer assembly	SY9000-37-4A

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Type 43P

- **External wiring is bundled for one-touch wiring**
- **Clean appearance**

With the flat ribbon cable type, each valve is wired to the printed circuit board of the manifold base to allow the external wiring to be bundled with a 26 pin MIL connector for one-touch wiring.



Flat cable manifold specifications

Model		SS5Y9-43P
Applicable valve		SY9□40
Manifold type		Stacking type
P (SUP)/R (EXH) method		Common SUP/EXH
Valve stations		4 to 12 stations Note 1)
A, B port specifications	Location	Base
	Direction	Side
Port size	P, EA, EB port	C12 (ø12 One-touch fitting)
	A, B port	1/4 3/8 C8 (ø8 One-touch fitting) C10 (ø10 One-touch fitting) C12 (ø12 One-touch fitting)
Valve effective area Note 2) mm² (Nl/min)		C12: P to A/B 30.46 (1658.7) A/B to EA/EB 32.98 (1796.2)
Manifold base weight W (g) n: Number of stations		W = 114n + 343
Applicable flat ribbon cable connector		Flat ribbon cable connector, Socket: 26 pin MIL, With strain relief, MIL-C-83503 conformity
Internal wiring		Common positive and negative COM (Only positive COM for "Z" type)
Rated voltage		12, 24VDC

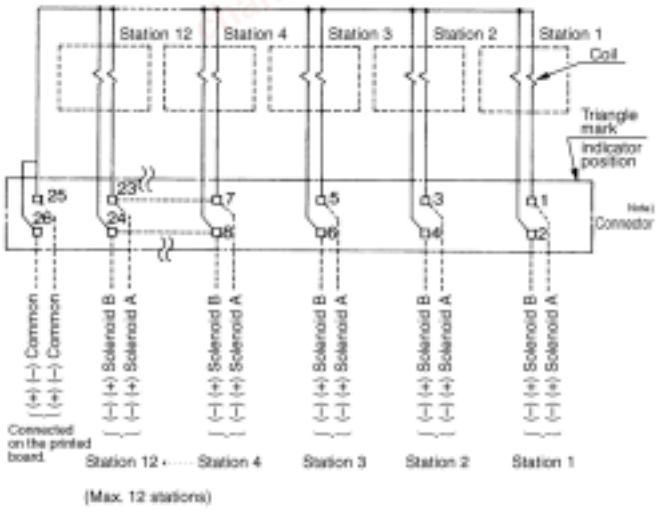
Note 1) For 10 stations or more, supply pressure to P port on both sides and exhaust from EA and EB ports on both sides.

Note 2) Value when manifold base (5 stations) is mounted, with single action 2 position type.

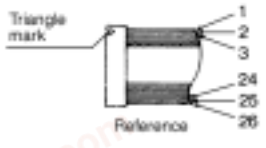
Note 3) The withstand voltage specification for the wiring unit is equivalent to JIS C0704, class 1.

Note 4) Refer to page 1.2-98 for manifold options.

Manifold internal wiring (non-polar type)



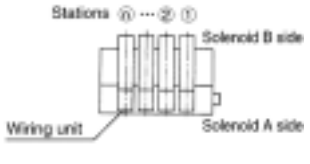
Note) Terminal numbers are not indicated on the connector. The terminal numbers indicated in the connector schematic shown above, show the correlation if the inserted connector's flat ribbon cable were numbered 1 to 26 from the triangle mark side, as shown in the figure to the right.



Note 1) For 10 stations or more, wire both of the common poles.

Note 2) For single solenoids, connect to the solenoid A side.

Note 3) The maximum number of stations is 12. Contact SMC if more than 12 stations are required.



⚠Caution

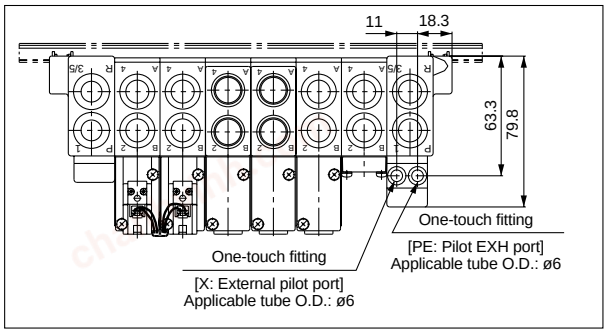
Non-polar type (U) valves with DC electrical connection can be used for both negative and positive COM. However, always use the positive COM with the "Z" type, since valves will not be actuated when the negative COM is used.

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SY9000: SS5Y9-43P-Stations D□-02, 03, C8, C10, C12-(D)□-Q

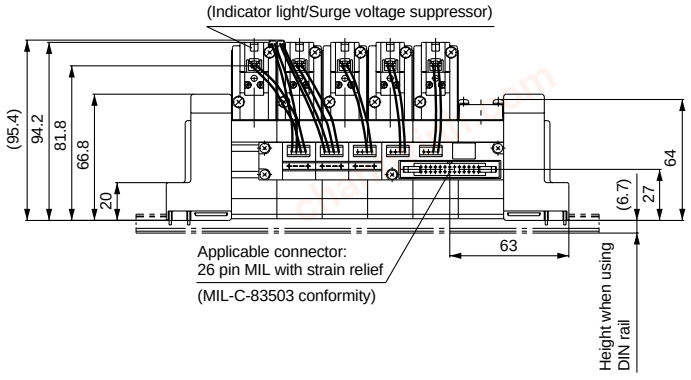
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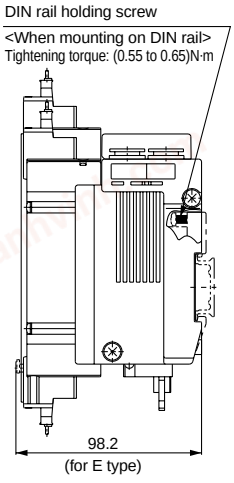
For external pilot specification

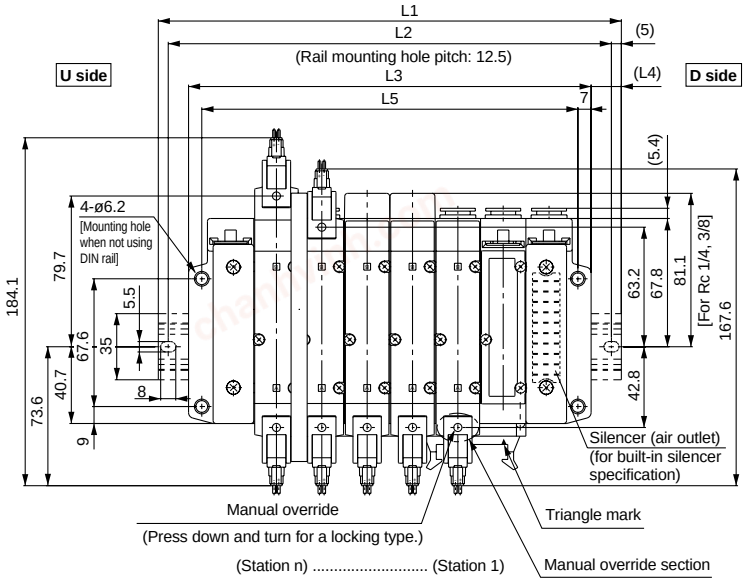


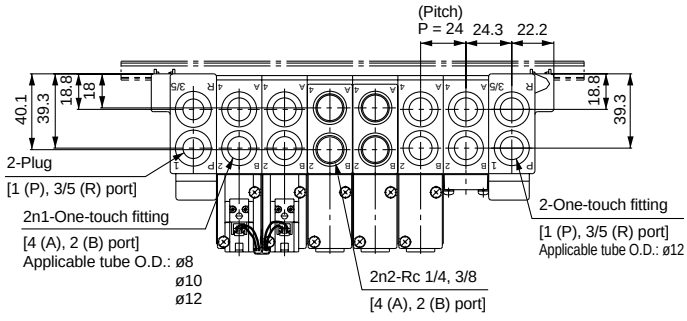
∗ The air outlet and external pilot locations for the built-in silencer type are on the D side.

∗ When P/R ports are located on the D side, the designated P/R ports on the other side are plugged.









Stations n	4	5	6	7	8	9	10
L1	198	223	248	260.5	285.5	310.5	335.5
L2	187.5	212.5	237.5	250	275	300	325
L3	165	189	213	237	261	285	309
L4	16.5	17	17.5	12	12.5	13	13.5
L5	151	175	199	223	247	271	295

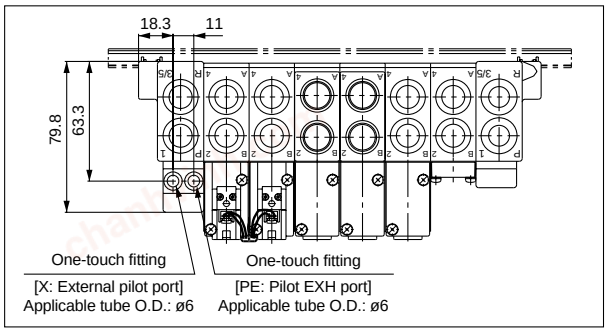
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Type 43P

SY9000: SS5Y9-43P-Stations U□-02, 03, C8, C10, C12-(D)□-Q

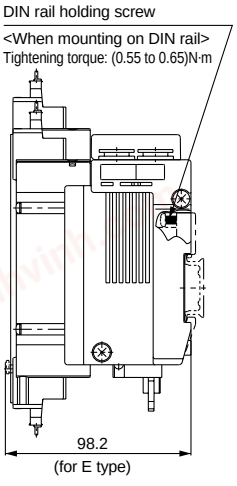
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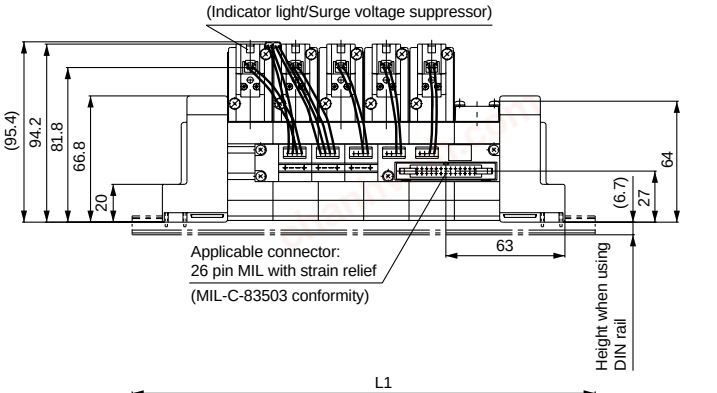
For external pilot specification

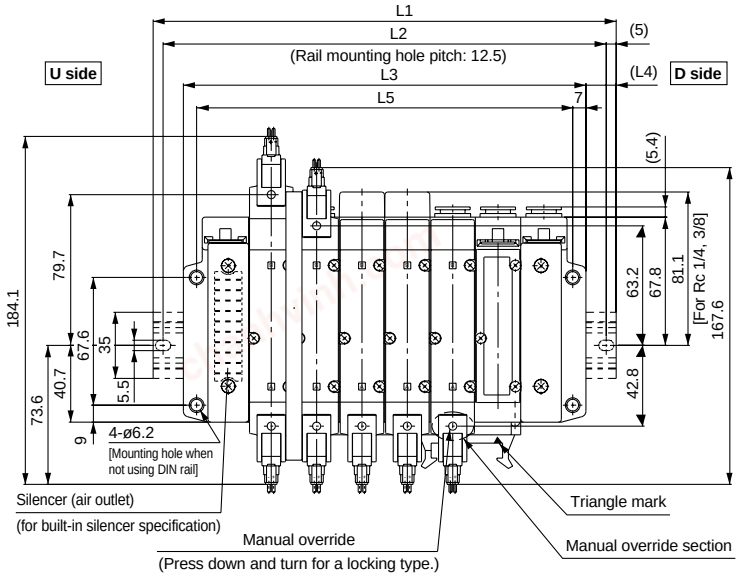


∗ The air outlet and external pilot locations for the built-in silencer type are on the U side.

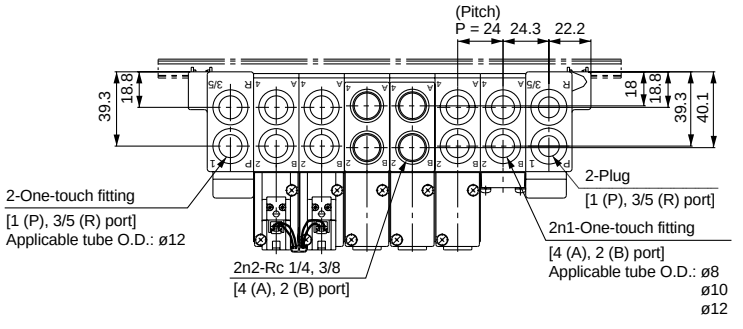
∗ When P/R ports are located on the U side, the designated P/R ports on the other side are plugged.







(Station n) ..... (Station 1)



Stations n	4	5	6	7	8	9	10
L1	198	223	248	260.5	285.5	310.5	335.5
L2	187.5	212.5	237.5	250	275	300	325
L3	165	189	213	237	261	285	309
L4	16.5	17	17.5	12	12.5	13	13.5
L5	151	175	199	223	247	271	295

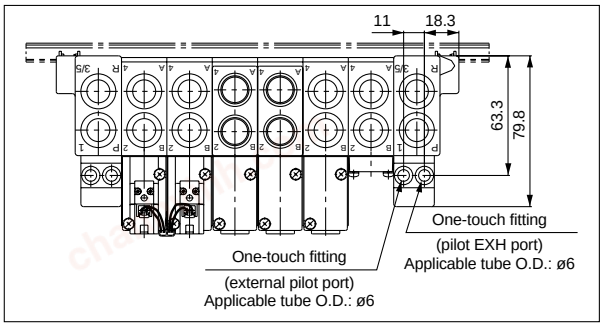
SMC

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SY9000: SS5Y9-43P-Stations B□-02, 03, C8, C10, C12-(D)□-Q

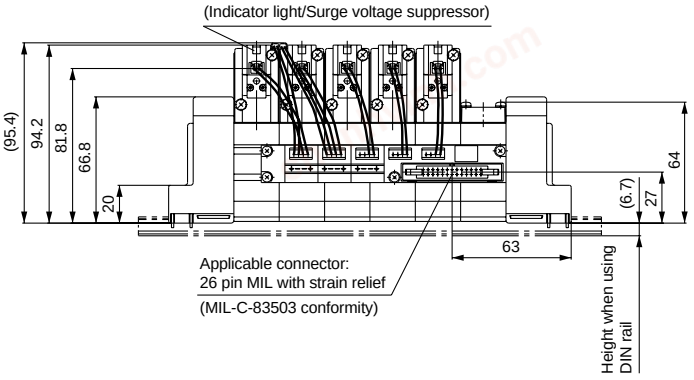
For external pilot specification

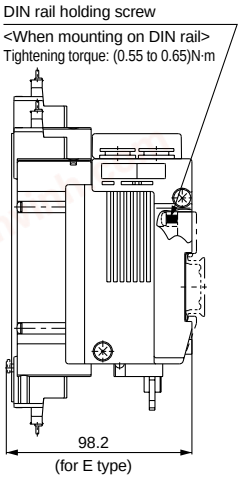
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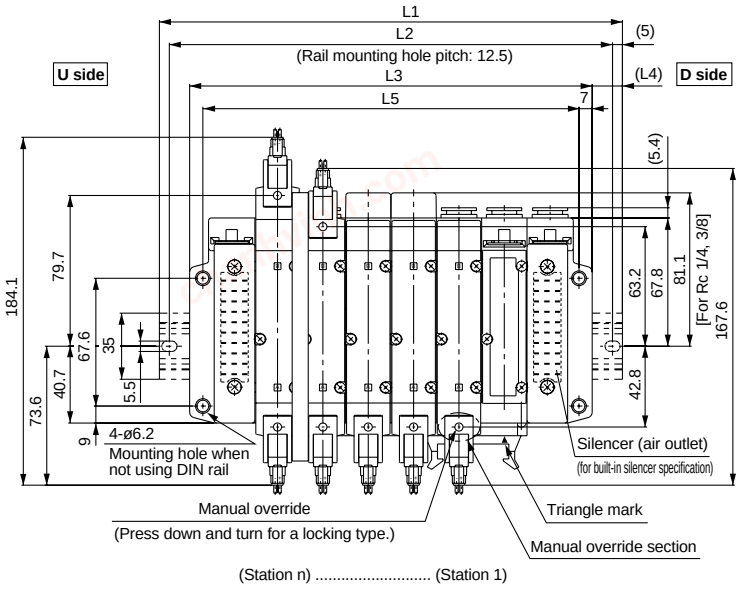


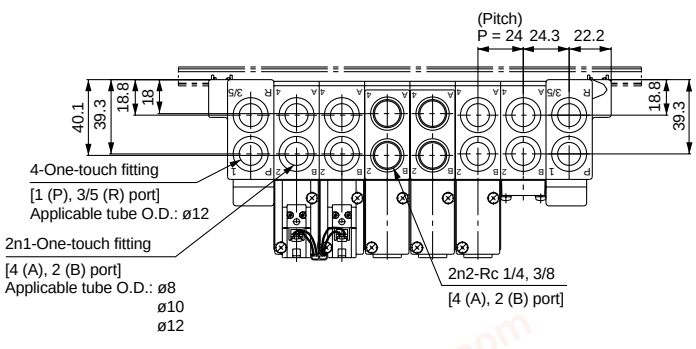
* The air outlet and external pilot locations for the built-in silencer type are on the B side (both sides) .

* When P/R ports are designated as B, P/R ports on both sides are open.







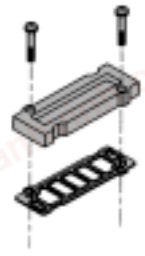


Staions n	4	5	6	7	8	9	10	11	12
L1	198	223	248	260.5	285.5	310.5	335.5	360.5	385.5
L2	187.5	212.5	237.5	250	275	300	325	350	375
L3	165	189	213	237	261	285	309	333	357
L4	16.5	17	17.5	12	12.5	13	13.5	14	14.5
L5	151	175	199	223	247	271	295	319	343

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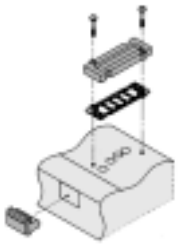
Manifold Options

For types 41, 42, 43 Blanking plate assembly



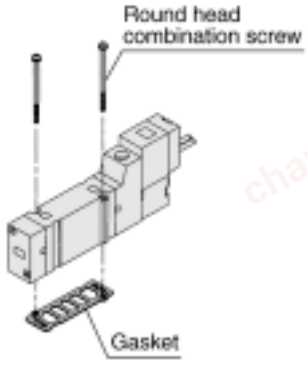
Series	Assembly part no.
SY3000	SY3000-26-9A-Q
SY5000	SY5000-26-18A-Q
SY7000	SY7000-26-20A-Q
SY9000	SY9000-26-2A-Q

For types 41P, 42P, 43P Blanking plate assembly



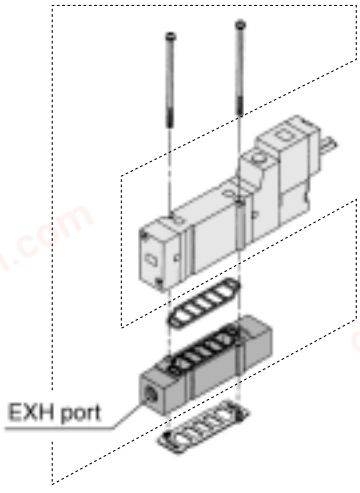
Series	Assembly part no.
SY3000	SY3000-26-10A-Q
SY5000	SY5000-26-19A-Q
SY7000	SY7000-26-21A-Q
SY9000	SY9000-26-4A-Q

Bolt & gasket part numbers



Series	Round head combination screw	Gasket
SY3000	SY3000-23-4 (M2 x 21)	SY3000-11-25
SY5000	M3 x 26 (Flat nickel plated)	SY5000-11-13
SY7000	M4 x 31 (Flat nickel plated)	SY7000-11-7
SY9000	SY9000-18-2 (M3 x 42)	SY9000-11-2

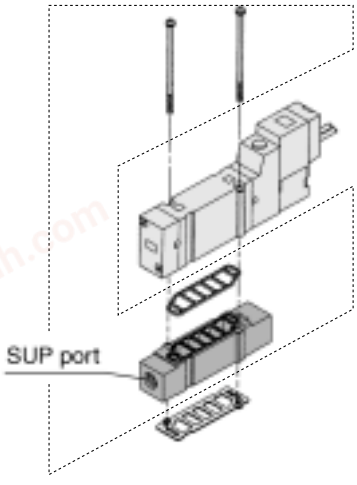
Individual EXH spacer assembly



Series	Assembly part no.	Port size
SY3000	SY3000-39-2□A-Q	M5
SY5000	SY5000-39-2□A-Q	1/8
SY7000	SY7000-39-2□A-Q	1/4
SY9000	SY9000-39-2□A-Q	1/4

Note) In case of types 41P, 42P, and 43P, to protect from drainage, arrange the piping on the EA port (wiring unit side) so that the wiring unit will not be exposed to the direct exhaust from the valve.

Individual SUP spacer assembly



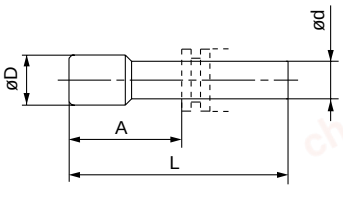
Series	Assembly part no.	Port size
SY3000	SY3000-38-2□A-Q	M5
SY5000	SY5000-38-2□A-Q	1/8
SY7000	SY7000-38-2□A-Q	1/4
SY9000	SY9000-38-2□A-Q	1/4

Note 1) The SUP port can be on the lead wire side or end plate side for SY3000/5000/7000. (The SUP port direction is as shown above when shipped already assembled.)

Note 2) For SY9000, the SUP port is only available on the end plate side.

Plug (white)

Insert into unused cylinder ports and SUP/EXH ports.
The minimum order quantity is 10 pieces. Order in multiples of 10.



Thread

–	Rc (PT)
N	NPT
T	NPTF
F	G (PF)

Dimensions

Applicable fitting size ød	Model	A	L	D
4	**KQ2P-04**	16	32	6
6	**KQ2P-06**	18	35	8
8	**KQ2P-08**	20.5	39	10
10	**KQ2P-10**	22	43	12
12	**KQ2P-12**	24	45.5	14

⚠Caution

Mounting screw tightening torques

M2: 0.15N·m
M3: 0.6N·m
M4: 1.4N·m

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Manifold Options

■ SUP block disc (SY9000)

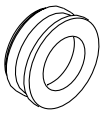
By installing a SUP block disc in the pressure supply passage of the manifold base, two or more different pressures, high or low, can be supplied to one manifold.



Series	Part no.
SY9000	SY9000-57-1A

■ EXH block disc (SY9000)

By installing an EXH block disc in the exhaust passage of the manifold base, the passage can be divided so that the exhaust from one valve will not affect another valve. (Two block discs are required to block both EXH ports.)



Series	Part no.
SY9000	SY9000-57-1A

■ Labels for block disc (SY9000)

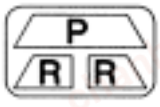
Labels are applied to blocks with SUP and EXH block discs for external confirmation of blocked passages. (3 labels per package)

VZ3000-123-1A

SUP block disc label



EXH block disc label



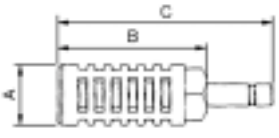
SUP/EXH block disc label



Note) When block discs are ordered with manifolds using a manifold specification sheet, block disc labels are already applied if the block discs are installed at the time of shipment.

■ Silencer with One-touch fitting (SY9000)

Can be attached with one touch to the R (EXH) port of the manifold.



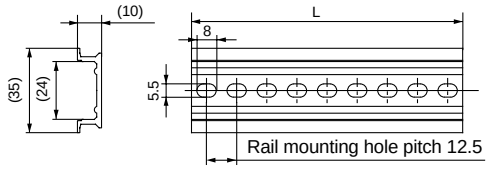
Series	Model	Effective area	A	B	C
For SY9000 (ø12)	AN300-KM12	41mm²	ø25	70	98

■ SY9000 DIN rail dimensions and weights

VZ1000 − 11 − 4 − □

● Refer to the table below for dimension L.

* Specify a number inside □ from the DIN rail dimension table below.



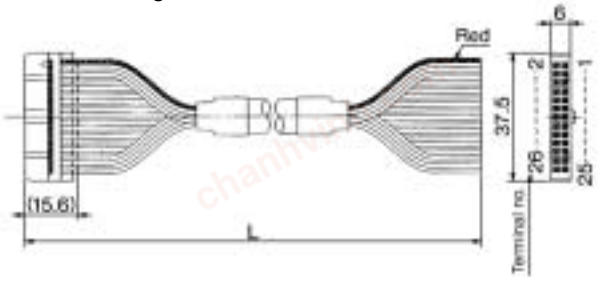
No.	0	1	2	3	4	5	6	7	8	9
Dimension L	98	110.5	123	135.5	148	160.5	173	185.5	198	210.5
Weight (g)	24.8	28	31.1	34.3	37.4	40.6	43.8	46.9	50.1	53.3

No.	10	11	12	13	14	15	16	17	18	19
Dimension L	223	235.5	248	260.5	273	285.5	298	310.5	323	335.5
Weight (g)	56.4	59.6	62.7	65.9	69.1	72.2	75.4	78.6	81.7	84.9

No.	20	21	22	23	24	25	26	27	28	29
Dimension L	348	360.5	373	385.5	398	410.5	423	435.5	448	460.5
Weight (g)	88	91.2	94.4	97.5	100.7	103.9	107	110.2	113.3	116.5

■ Cable assembly

AXT100-FC26- 1 2 3



Flat ribbon cable connector assembly

Cable length (L)	Assembly part no.	Note
1.5m	AXT100-FC26-1	26 core cable x 28AWG
3m	AXT100-FC26-2	
5m	AXT100-FC26-3	

* For other commercial connectors, use a 26 pin type with strain relief conforming to MIL-C-83503.

Connector manufacturer examples

- **Hirose Electric Company**
- **Japan Aviation Electronics Industry, Ltd.**
- **Sumitomo/3-M Limited**
- **J.S.T. Mfg. Co., Ltd.**
- **Fujitsu, Ltd.**

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Manifold Options

■ How to order interface regulators

Series SY3000

ARBY3000 — 05 — P — 2

Regulated port

P	P port
A1	A port (P port control type A port regulated)
B1	B port (P port control type B port regulated)

Pressure gauge connection port

05	Pressure gauge (G15-10-01) [for odd number stations]
06	Pressure gauge (G15-10-01) [for even number stations]
M1	Plug (M-5P)

Note) Note that for series ARBY3000 with pressure gauge, part numbers differ for odd number and even number stations to prevent interference between the pressure gauges when mounted on the manifold.

Series SY5000/7000

ARBY5000
ARBY7000 — **00** — **P** — **2**

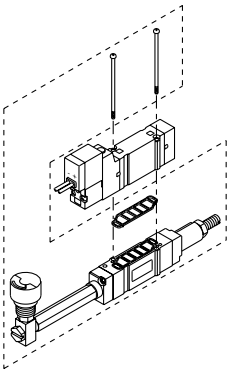
Regulated port

P	P port
A1	A port (P port control type A port regulated)
B1	B port (P port control type B port regulated)

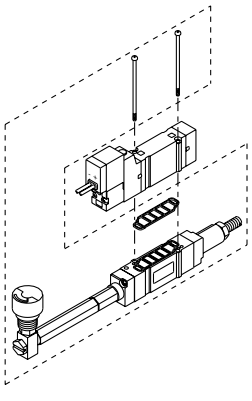
Pressure gauge connection port

00	Pressure gauge (G15-10-01)
M1	Plug (M-5P)

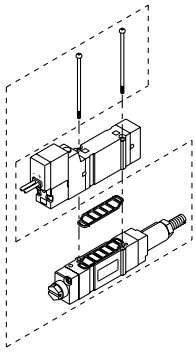
ARBY3000-05-□-2
(for mounting on odd number stations)



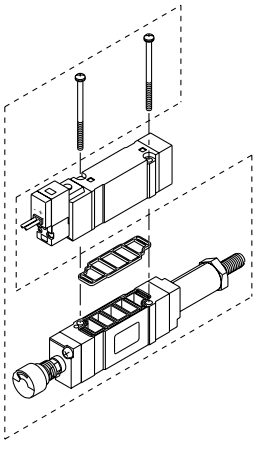
ARBY3000-06-□-2
(for mounting on even number stations)



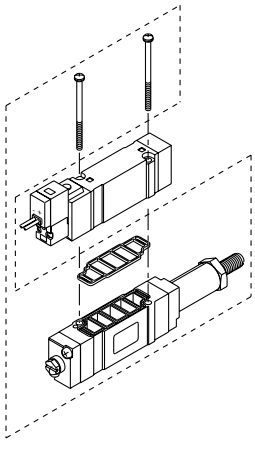
ARBY3000-M1-□-2



ARBY5000-00-□-2
ARBY7000-00-□-2



ARBY5000-M1-□-2
ARBY7000-M1-□-2



Accessories

Series	Round head combination screw	Gasket
ARBY3000	SY3000-23-10 (M2 x 36)	SX3000-57-4
ARBY5000	M3 x 48.5 (Flat nickel plated)	SX5000-57-6
ARBY7000	M4 x 57 (Flat nickel plated)	SX7000-57-4

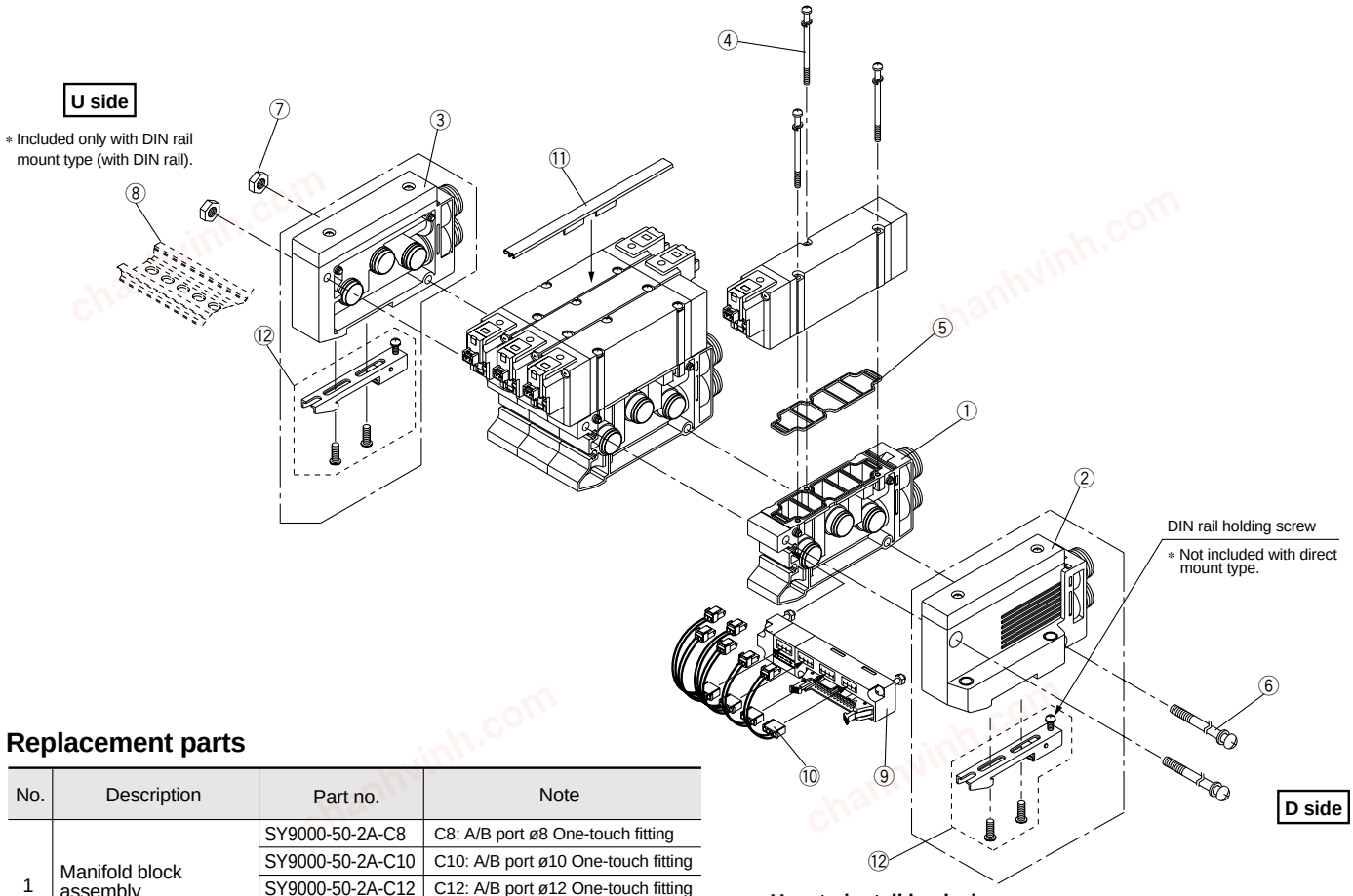
⚠ Caution

Mounting screw tightening torques

M2: 0.15N·m
M3: 0.6N·m

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Exploded View of Base Mounted Type Manifold

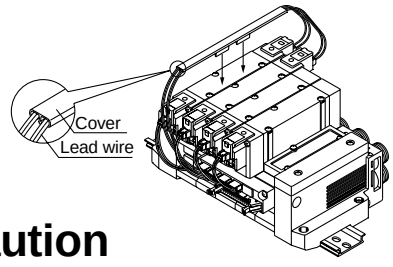


Replacement parts

No.	Description	Part no.	Note
1	Manifold block assembly	SY9000-50-2A-C8	C8: A/B port ø8 One-touch fitting
		SY9000-50-2A-C10	C10: A/B port ø10 One-touch fitting
		SY9000-50-2A-C12	C12: A/B port ø12 One-touch fitting
		SY9000-50-2A-02	02: A/B port Rc 1/4
		SY9000-50-2A-03	03: A/B port Rc 3/8
4	Round head combination screw	SY9000-18-2	M3 x 42 (Flat nickel plated)
5	Gasket	SY9000-11-2	
6	Tension bolt	SY9000-23-☐	Specify the number of stations inside ☐ in the part number.
7	Hexagon nut	SY9000-25-1	
8	DIN rail	VZ1000-11-4-☐	Refer to page 1.2-99.
9	Wiring unit assembly	SY9000-36-☐A	Specify the number of stations (4 to 12) inside ☐ in the part number.
10	Connector assembly	SY9000-37-☐☐	Refer to page 1.2-93.
11	Lead wire cover	SY9000-41-1	
12	Clamp bracket sub-assembly	SY9000-30-1A	Included with the DIN rail mount type.

How to install lead wire cover

Lead wire cover is only used for double solenoid valves. As shown in the expanded view below, insert lead wires inside the lead wire cover and push until the cover is tightly in contact with the valve body.



⚠Caution

For 43P type (flat ribbon cable manifold) of series SY9000, lead wire cover to bundle lead wire of each solenoid is available.
When double solenoid valves are added, order lead wire covers separately.

SUP/EXH Block Assembly ② Part Nos. (D Side Mount Type)

Direct mount type: **SY9000-70-☐A-☐**

DIN rail mount type: **SY9000-72-☐A-☐**

P/R port

C12	ø12 One-touch fitting
00	Plug

Specification

1	Internal pilot type
3	External pilot type
4	Internal pilot with built-in silencer type
5	External pilot with built-in silencer type

SUP/EXH Block Assembly ③ Part Nos. (U Side Mount Type)

Direct mount type: **SY9000-71-☐A-☐**

DIN rail mount type: **SY9000-73-☐A-☐**

P/R port

C12	ø12 One-touch fitting
00	Plug

Specification

1	Internal pilot type
3	External pilot type
4	Internal pilot with built-in silencer type
5	External pilot with built-in silencer type

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Manifold Base Expansion (for SY9000 Only) Stations can be added in a desired location.

For type 43 manifold base expansion, tension bolts are required as well as a manifold block assembly. Tension bolts vary in length depending on the number of stations; therefore, order the appropriate tension bolts for the expanded (or reduced) manifold base. (Changes in the number of stations for type 43P manifolds require wiring units and lead wire assemblies for any additional stations.)

1. Loosen the two tension bolts ⑥ that connect the manifold base and remove them.
   (In case of a DIN rail type, also loosen the DIN rail holding screw on either the U side or D side.)
2. Separate the blocks at the location where a new station is to be added.
3. Mount the manifold block assembly to be added.
4. Hold the blocks so that there is no space between them, insert the appropriate tension bolts into the expanded manifold base and tighten them.

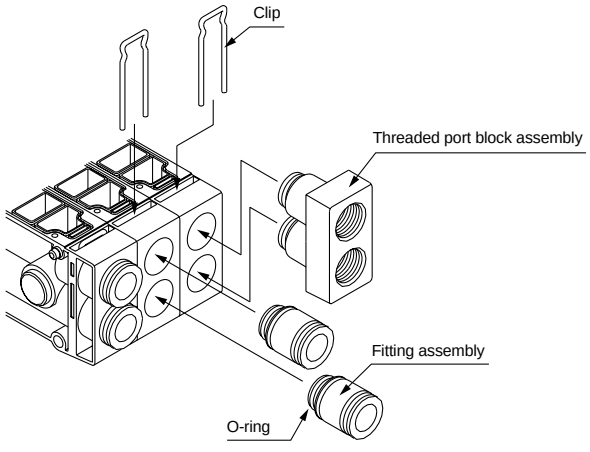
⚠Caution (Tightening torque: 2.9N·m)
(With the DIN rail type, be sure to tighten the tension bolts first, and then tighten the DIN rail holding screws. Tightening torque: 1.4N·m)

⚠Caution

1. Be sure to turn off the power supply and air supply before disassembling. Furthermore, confirm that the air is completely exhausted before beginning disassembly, since residual air may be present inside the actuator, piping, and manifold.
2. When disassembly and assembly are performed, insufficient tightening of the tension bolts will cause air leakage.
3. A type 43 manifold can be changed into a type 43P manifold by adding a wiring unit assembly.

Replacement of A/B Port Fitting Assembly

By replacing manifold block fitting assemblies or the threaded port block assembly of a type 43(P) manifold, the port size of the A and B ports can be changed. To replace these parts, remove the clip with a flat head screw driver after the valve has been removed. Insert the fitting assemblies or threaded port block assembly, and then reinsert the clip so that it does not protrude from the manifold block.



Fitting assembly part nos.

Connection port size	Part no.
ø8 One-touch fitting assembly	VVQ4000-50B-C8
ø10 One-touch fitting assembly	VVQ4000-50B-C10
ø12 One-touch fitting assembly	VVQ4000-50B-C12
Rc 1/4 Threaded port block assembly	SY9000-58A-02
Rc 3/8 Threaded port block assembly	SY9000-58A-03
Plug assembly	SY9000-62-1A

Note 1) Do not scratch or put foreign matter on the O-ring, as this will cause air leakage.

Note 2) One-touch fittings for P/R ports can be replaced also. However, if a fitting smaller than the standard size (ø12) is used, air supply and exhaust may be insufficient when there is frequent simultaneous operation of solenoid valves. Also, the fittings used are the same as those used for the A/B ports, however, threaded port block assemblies cannot be used.

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Type 45

SY3000/5000
Base Mounted Type Manifold Stacking Type/DIN Rail Mount
Individual Wiring

How to Order Manifolds

SS5Y 3 – 45 – 05 U – C6 – [ ] -Q

Manifold series

3	SY3000
5	SY5000

Stations

02	2 stations
⋮	⋮
20	20 stations

SUP/EXH block assembly mounting position

Symbol	Mounting position	Applicable stations
U	U side	2 to 10
D	D side	
B	Both sides	2 to 20
M*	Special specifications	

* For special specifications, order separately on a manifold specification sheet.

A/B port size

SY3000

Symbol	Port size
C4	ø4 One-touch fitting
C6	ø6 One-touch fitting
M*	Mixed

SY5000

Symbol	Port size
C4	ø4 One-touch fitting
C6	ø6 One-touch fitting
C8	ø8 One-touch fitting
M*	Mixed

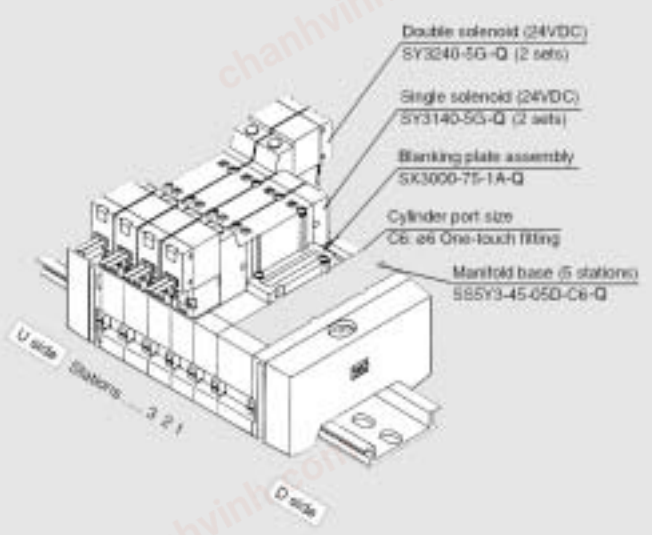
* For mixed specifications, order separately on a manifold specification sheet.

Option

When a DIN rail longer than the specified stations is necessary, indicate the number of required stations. (Max. 20 stations)

Refer to pages starting with 1.2-171 regarding external pilot specifications and built-in silencer.

How to Order Manifold Assemblies (Example)



SS5Y3-45-05D-C6-Q .....1 set (Type 45, 5 station manifold base part no.)
SX3000-75-1A-Q .....1 set (Blanking plate assembly part no.)
SY3140-5G-Q .....2 sets (Single solenoid part no.)
SY3240-5G-Q .....2 sets (Double solenoid part no.)

Valves are assembled from the D side regardless of the location of the SUP/EXH block assembly. Add the valve and option part numbers in order starting from the first station on the D side.

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How to Order Valves

SY [5] [2] **40** — [5] [L] [ ] [ ] — Q

Series

3	SY3000
5	SY5000

Type of actuation

1	2 position single
2	2 position double
3	3 position closed centre
4	3 position exhaust centre
5	3 position pressure centre

Rated voltage

DC specifications

5	24VDC
6	12VDC
V	6VDC
S	5VDC
R	3VDC
9	Less than 50 VDC

AC specifications (50/60Hz)

1	100VAC
2	200VAC
3	110VAC [115VAC]
4	220VAC [230VAC]
9	Less than 250 VAC

Note 1) "D", "DO", "Y" and "YO" are only available in 24VDC and 12VDC in case of DC.
Note 2) "D", "DO", "Y" and "YO" are not available for SY3000.

Order Made Contact SMC for other voltages (9)

Protective class
class I (Mark: ⏚)..... DIN terminal type

Protective class
class III (Mark: ◈)..... Grommet, L and M plug connector

Manual override

Nil	Non-locking push type
D	Push-turn locking slotted type
E	Push-turn locking lever type

Indicator light/Surge voltage suppressor

Electrical entry G, H, L, M

Nil	Without indicator light/surge voltage suppressor
S	With surge voltage suppressor
Z	With indicator light/surge voltage suppressor
U	With indicator light/surge voltage suppressor (non-polar type)

Note 2) "U" are available for DC only.

Electrical entry D

Nil	Without indicator light/surge voltage suppressor
S	With surge voltage suppressor (non-polar type)
Z	With indicator light/surge voltage suppressor (non-polar type)

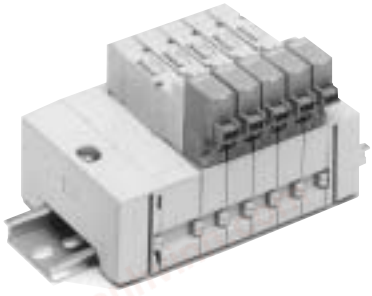
Note 1) "DOZ", "YOZ" are not available.
Note 2) For AC, there is no "S" specification, since it is integrated with the rectifier.

Electrical entry

24V, 12V, 6V, 5V, 3VDC			24V, 12VDC 100V, 110V, 200V, 220VAC
Grommet	**L type plug connector**	**M type plug connector**	**DIN terminal**
G: Lead wire length 300mm **H:** Lead wire length 600mm	**L:** With lead wire (length 300mm) **LN:** Without lead wire **LO:** Without connector	**M:** With lead wire (length 300mm) **MN:** Without lead wire **MO:** Without connector	**(SY5000 only)** **D:** With connector **DO:** Without connector **Y:** With connector (DIN 43650C) **YO:** Without connector (DIN 43650C)

Note 1) "LN" and "MN" include 2 sockets.
Note 2) "D", "DO", "Y", "YO" are available for SY5000 only.

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Manifold specifications

Model		SS5Y3-45	SS5Y5-45
Applicable valve		SY3□40	SY5□40
Manifold type		Stacking type/DIN rail	
P (SUP)/R (EXH) method		Common SUP/EXH	
Valve stations		2 to 20 stations Note 1)	
A, B port specifications	Location	Base	
	Direction	Side	
Port size	P, R port	C8 (ø8 One-touch fitting)	C10 (ø10 One-touch fitting)
	A, B port	C4 (ø4 One-touch fitting) C6 (ø6 One-touch fitting)	C4 (ø4 One-touch fitting) C6 (ø6 One-touch fitting) C8 (ø8 One-touch fitting)
Valve effective area Note 2) mm² (Nl/min)		C6: P to A/B 4.68 (255.2) A/B to R 4.68 (255.2)	C8: P to A/B 12.6 (687) A/B to R 12.6 (687)
Manifold base weight W (g) n: Number of stations		For 2 to 10 stations: W = 22n + 118 For 11 to 20 stations: W = 22n + 140	For 2 to 10 stations: W = 47n + 156 For 11 to 20 stations: W = 47n + 190

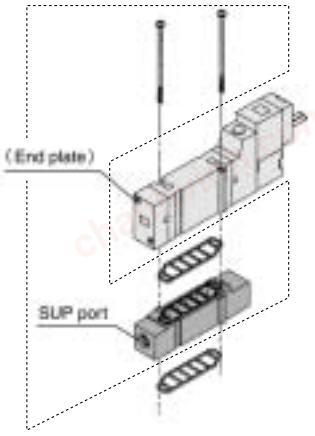
Note 1) For 11 stations or more, supply pressure to P port on both sides and exhaust from R port on both sides.

Note 2) Value when manifold base (5 stations) is mounted, with single action 2 position type.

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Manifold Options

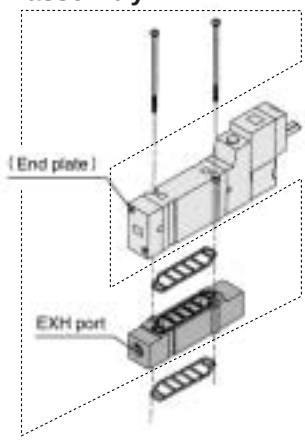
■ Individual SUP spacer assembly



Series	Assembly part no.	Port size
SY3000	SY3000-38-2□A-Q	M5
SY5000	SY5000-38-2□A-Q	1/8

Note) The SUP port can be on the lead wire side or end plate side. (It is as shown above when shipped already assembled.)

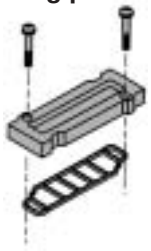
■ Individual EXH spacer assembly



Series	Assembly part no.	Port size
SY3000	SY3000-39-2□A-Q	M5
SY5000	SY5000-39-2□A-Q	1/8

Note) The EXH port can be on the lead wire side or end plate side. (It is as shown above when shipped already assembled.)

■ Blanking plate assembly



Series	Assembly part no.
SY3000	SX3000-75-1A-Q
SY5000	SX5000-76-1A-Q

Thread

—	Rc (PT)
N	NPT
T	NPTF
F	G (PF)

⚠Caution

Mounting screw tightening torques

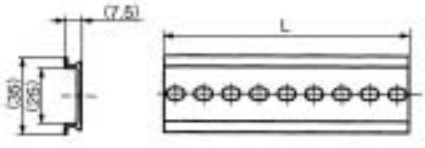
M2: 0.15N·m
M3: 0.6N·m
M4: 1.4N·m

■ DIN rail dimensions

VZ1000 – 11 – 1 – □

Refer to the table below for dimension L.

* Specify a number inside □ from the DIN rail dimension table



No.	0	1	2	3	4	5	6	7	8	9	10
Dimension L	98	110.5	123	135.5	148	160.5	173	185.5	198	210.5	223
No.	11	12	13	14	15	16	17	18	19	20	21
Dimension L	235.5	248	260.5	273	285.5	298	310.5	323	335.5	348	360.5
No.	22	23	24	25	26	27	28	29	30	31	32
Dimension L	373	385.5	398	410.5	423	435.5	448	460.5	473	485.5	498
No.	33	34	35	36	37	38	39	40	41	42	43
Dimension L	510.5	523	535.5	548	560.5	573	585.5	598	610.5	623	635.5
No.	44	45	46	47	48	49	50	51	52	53	54
Dimension L	648	660.5	673	685.5	698	710.5	723	735.5	748	760.5	773
No.	55	56	57	58	59	60	61	62	63	64	65
Dimension L	785.5	798	810.5	823	835.5	848	860.5	873	885.5	898	910.5
No.	66	67	68	69	70	71					
Dimension L	923	935.5	948	960.5	973	985.5					

Note) Refer to dimension L1 on pages starting with 1.2-110 for lengths that correspond to the number of manifold stations.

■ SUP block disc

By installing a SUP block disc in the pressure supply passage of the manifold base, two or more different pressures, high or low, can be supplied to one manifold.



Series	Part no.
SY3000	SX3000-77-1A
SY5000	SX5000-77-1A

■ EXH block disc

By installing an EXH block disc in the exhaust passage of the manifold base, the passage can be divided so that the exhaust from one valve will not affect other valves. (Two block discs are required to block both EXH ports.)



Series	Part no.
SY3000	SX3000-77-1A
SY5000	SX5000-77-1A

■ Labels for block disc

Labels are applied to blocks with SUP and EXH block discs for external confirmation of blocked passages. (3 labels per package)

VZ3000-123-1A

SUP block disc label



EXH block disc label



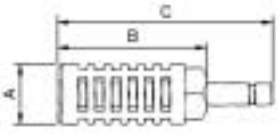
SUP/EXH block disc label



* When block discs are ordered with manifolds using a manifold specification sheet, block disc labels are already applied where block discs are installed at the time of shipment.

■ Silencer with One-touch fitting

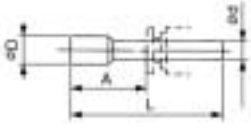
Can be attached with one touch to the R (EXH) port of the manifold.



Series	Model	Effective area	A	B	C
SY3000 (ø8)	AN203-KM8	14mm²	ø16	26	51
SY5000 (ø10)	AN200-KM10	26mm²	ø22	53.8	80.8
	AN300-KM10	30mm²	ø25	70	97

■ Plug (white)

Insert into unused cylinder ports and SUP/EXH ports.
The minimum order quantity is 10 pieces. Order in multiples of 10.



Dimensions

Applicable fitting size ød	Model	A	L	D
4	**KQ2P-04**	16	32	6
6	**KQ2P-06**	18	35	8
8	**KQ2P-08**	20.5	39	10
10	**KQ2P-10**	22	43	12

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Manifold Options

■ How to order interface regulators

Series SY3000

ARBY3000 — 05 — P — 2

Regulated port

P	P port
A1	A port (P port control type A port regulated)
B1	B port (P port control type B port regulated)

Pressure gauge connection port

05	Pressure gauge (G15-10-01) [for odd number stations]
06	Pressure gauge (G15-10-01) [for even number stations]
M1	Plug (M-5P)

Note) Note that for series ARBY3000 with pressure gauge, part numbers differ for odd number and even number stations to prevent interference between the pressure gauges when mounted on the manifold.

Series SY5000/7000

ARBY5000 / ARBY7000 — 00 — P — 2

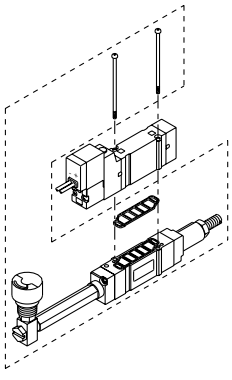
Regulated port

P	P port
A1	A port (P port control type A port regulated)
B1	B port (P port control type B port regulated)

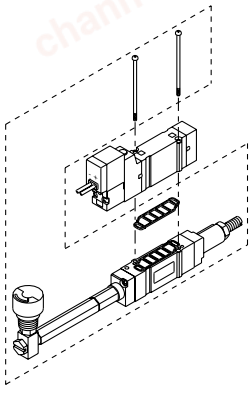
Pressure gauge connection port

00	Pressure gauge (G15-10-01)
M1	Plug (M-5P)

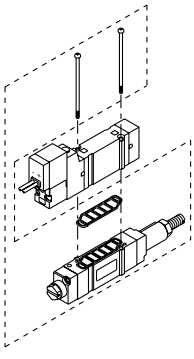
ARBY3000-05-□-2
(for mounting on odd number stations)



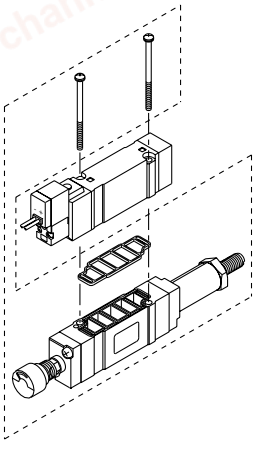
ARBY3000-06-□-2
(for mounting on even number stations)



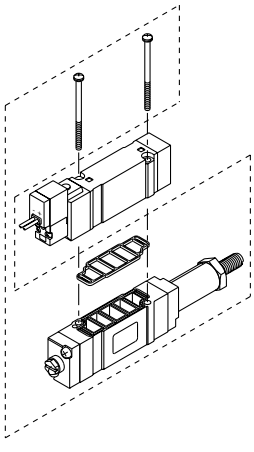
ARBY3000-M1-□-2



ARBY5000-00-□-2
ARBY7000-00-□-2



ARBY5000-M1-□-2
ARBY7000-M1-□-2



Accessories

Series	Round head combination screw	Gasket
ARBY3000	SY3000-23-10 (M2 x 36)	SX3000-57-4
ARBY5000	M3 x 48.5 (Flat nickel plated)	SX5000-57-6
ARBY7000	M4 x 57 (Flat nickel plated)	SX7000-57-4

⚠ Caution

Mounting screw tightening torques

M2: 0.15N·m
M3: 0.6N·m

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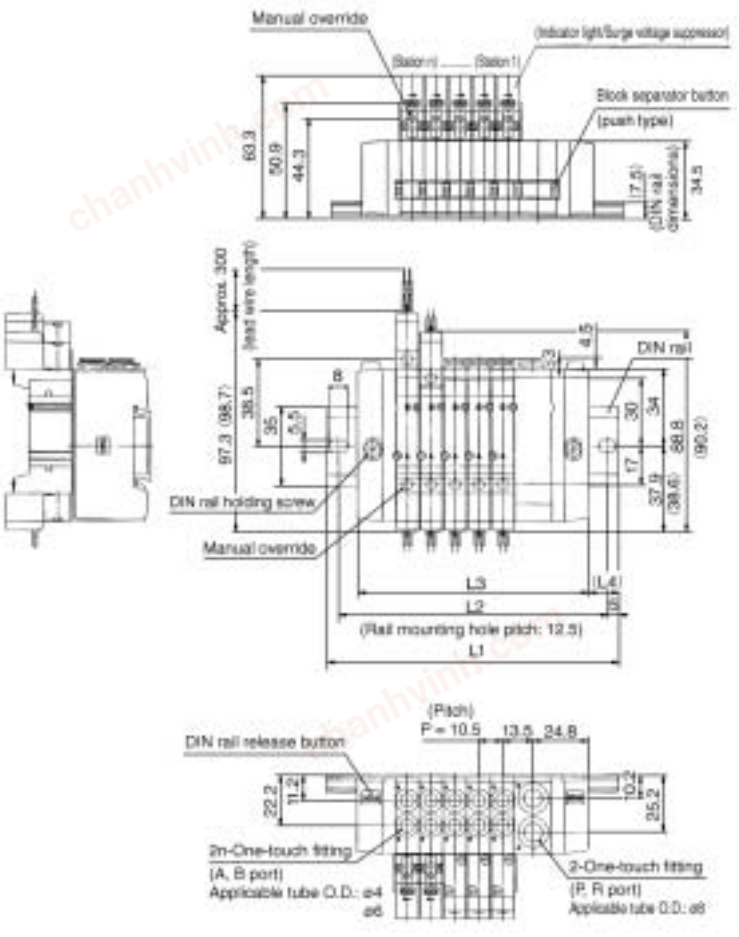
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Type 45

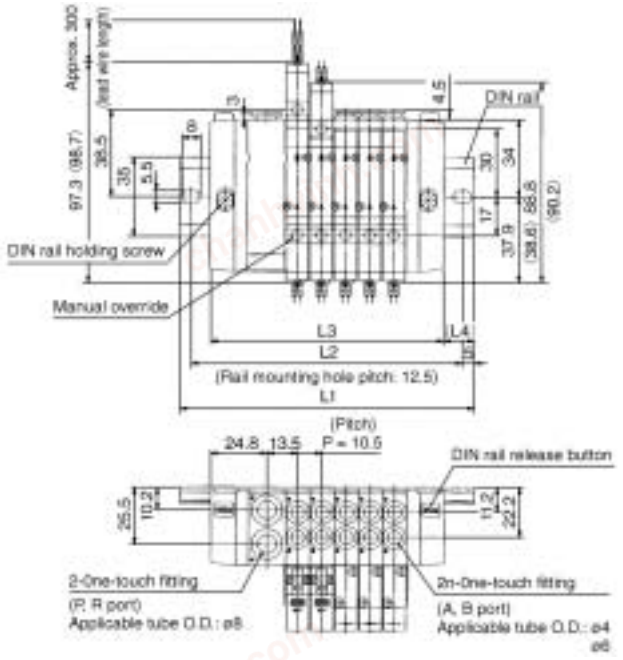
Series SY3000 Dimensions

Note)< >: Values with surge voltage suppressor

SS5Y3-45-Stations D-C4/C6-Q

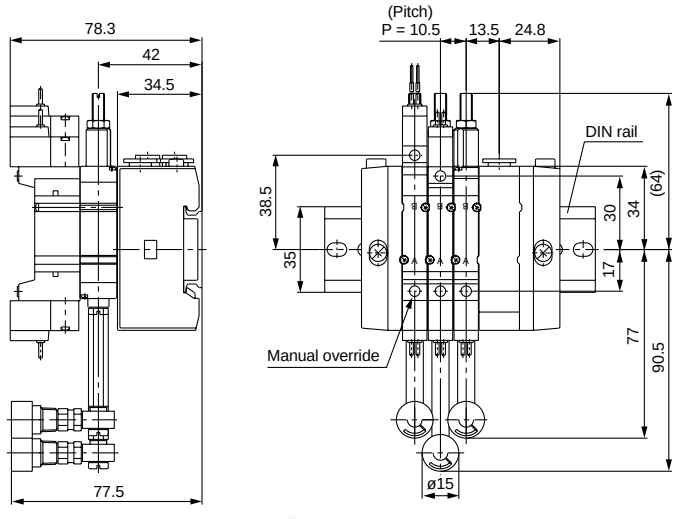


SS5Y3-45-Stations U-C4/C6-Q



Stations n	2	3	4	5	6	7	8	9	10
L1	98	110.5	123	135.5	148	148	160.5	173	185.5
L2	87.5	100	112.5	125	137.5	137.5	150	162.5	175
L3	70.5	81	91.5	102	112.5	123	133.5	144	154.5
L4	13.5	14.5	15.5	16.5	17.5	12.5	13.5	14.5	15.5

With interface regulator (with gauge)



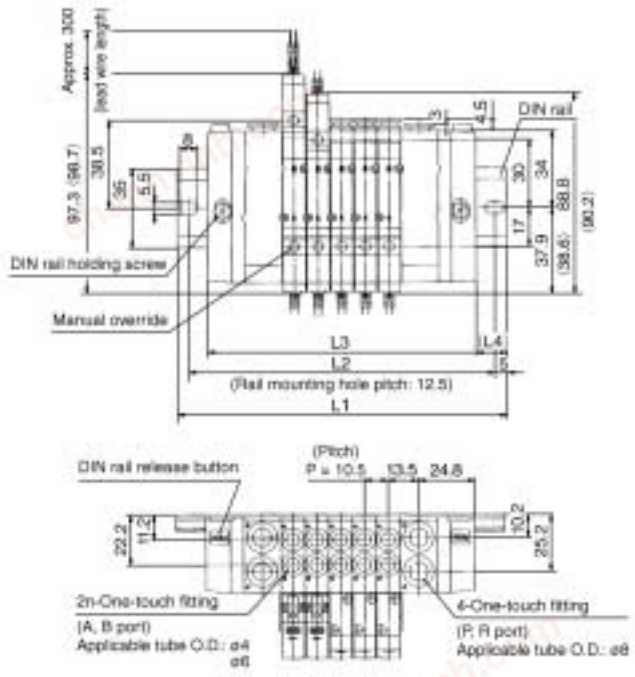
SMC

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Note)< >: Values with surge voltage suppressor

SS5Y3-45-[Stations]B-$^{C4}_{C6}$-Q

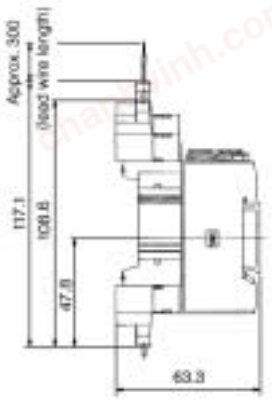
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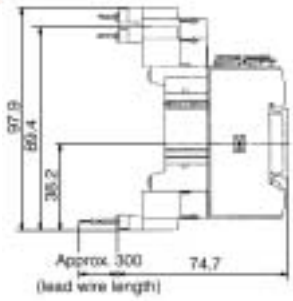
Stations n	2	3	4	5	6	7	8	9	10
L1	110.5	123	135.5	148	160.5	173	185.5	185.5	198
L2	100	112.5	125	137.5	150	162.5	175	175	187.5
L3	87	97.5	108	118.5	129	139.5	150	160.5	171
L4	11.5	12.5	13.5	14.5	15.5	16.5	17.5	12.5	13.5

Stations n	11	12	13	14	15	16	17	18	19	20
L1	210.5	223	235.5	248	248	260.5	273	285.5	298	310.5
L2	200	212.5	225	237.5	237.5	250	262.5	275	287.5	300
L3	181.5	192	202.5	213	223.5	234	244.5	255	265.5	276
L4	14.5	15.5	16.5	17.5	12	13	14	15	16	17

L type plug connector



M type plug connector



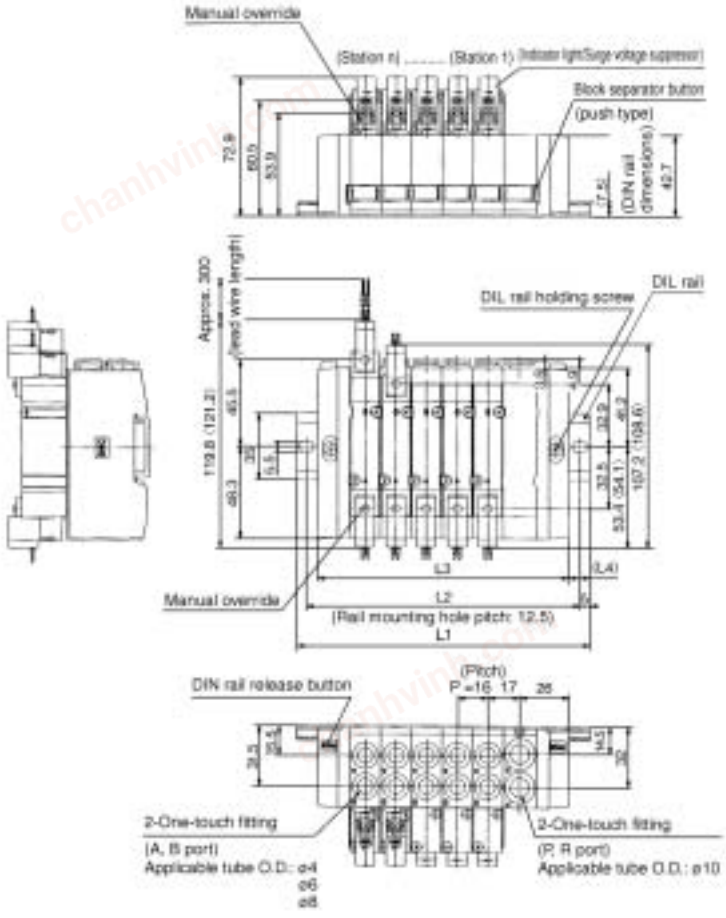
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Type 45

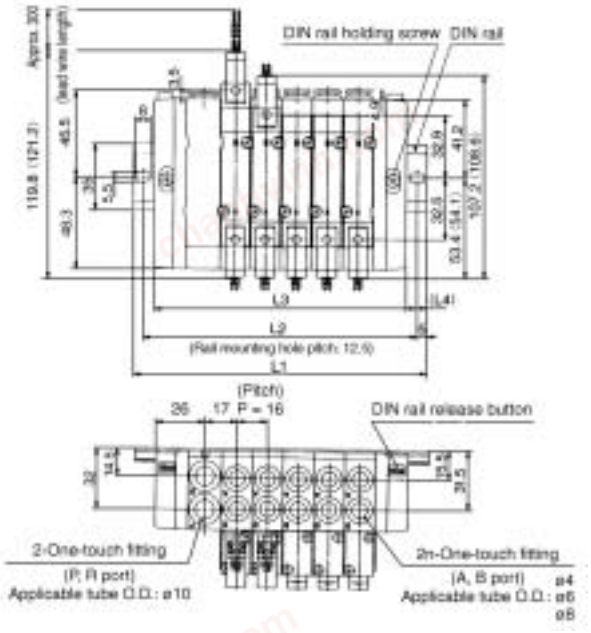
Series SY5000 Dimensions

Note)< >: Values with surge voltage suppressor

SS5Y5-45-[Stations]D-[C4/C6/C8]-Q

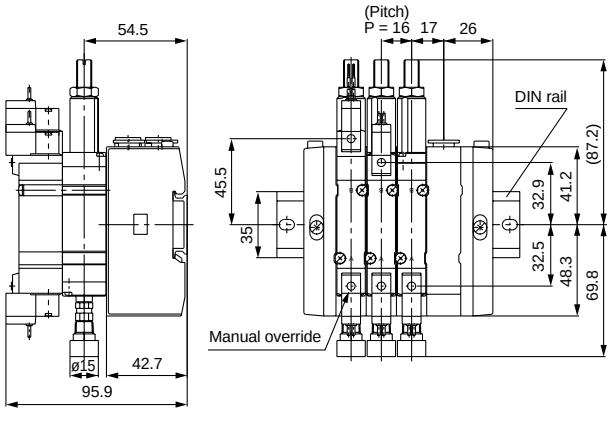


SS5Y5-45-[Stations]U-[C4/C6/C8]-Q



Stations n	2	3	4	5	6	7	8	9	10
L1	110.5	135.5	148	160.5	173	198	210.5	223	235.5
L2	100	125	137.5	150	162.5	187.5	200	212.5	225
L3	84	100	116	132	148	164	180	196	212
L4	13	17.5	16	14	12.5	17	15	13.5	11.5

With interface regulator (with gauge)

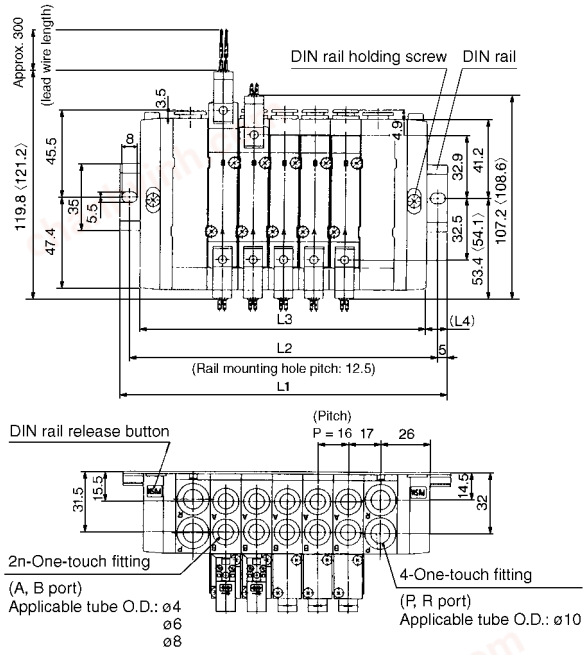


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Note)< >: Values with surge voltage suppressor

SS5Y5-45-[Stations]B-C4/C6/C8-Q

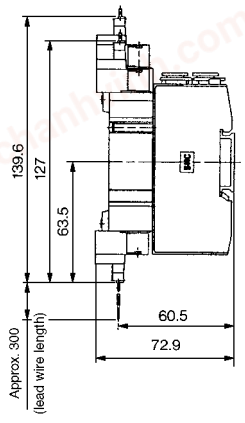
Scale: 25%



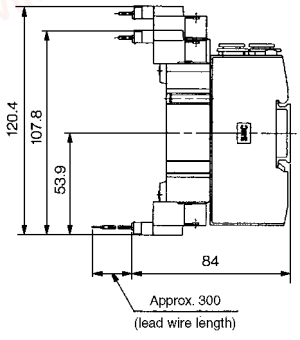
Stations n	2	3	4	5	6	7	8	9	10
L1	135.5	148	160.5	185.5	198	210.5	223	248	260.5
L2	125	137.5	150	175	187.5	200	212.5	237.5	250
L3	102	118	134	150	166	182	198	214	230
L4	16.5	15	13	17.5	16	14	12.5	17	15

Stations n	11	12	13	14	15	16	17	18	19	20
L1	273	285.5	310.5	323	335.5	360.5	373	385.5	398	423
L2	262.5	275	300	312.5	325	350	362.5	375	387.5	412.5
L3	246	262	278	294	310	326	342	358	374	390
L4	13.5	11.5	16	14.5	12.5	17	15.5	13.5	12	16.5

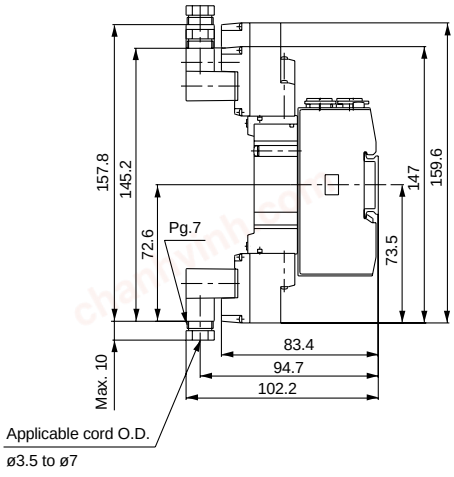
L type plug connector



M type plug connector



DIN terminal



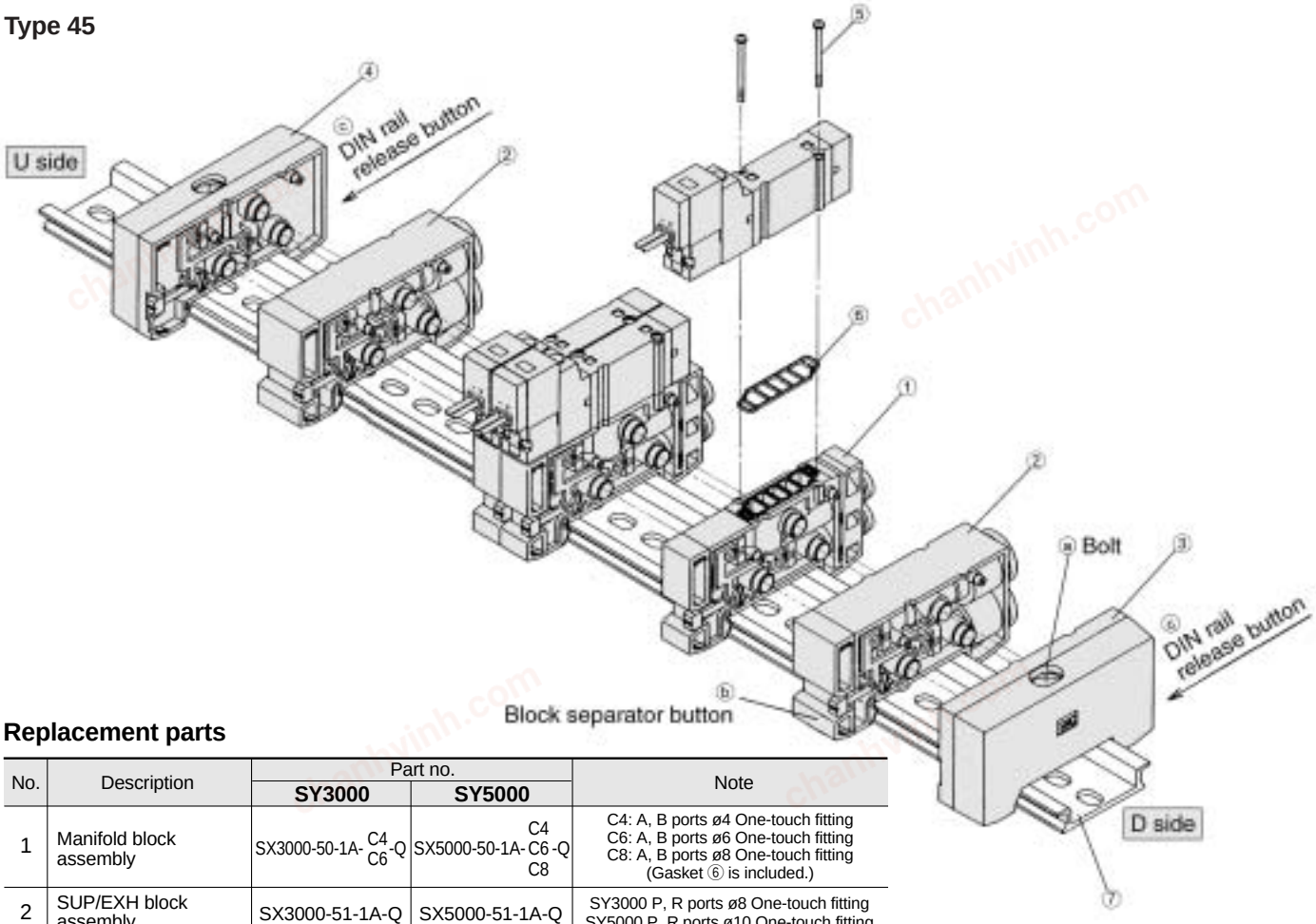
SMC

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Type 45

Exploded View of DIN Rail Manifold

Type 45



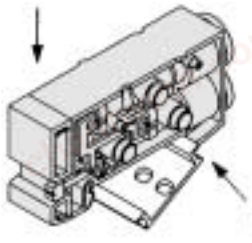
Replacement parts

No.	Description	Part no.		Note
		SY3000	SY5000	
1	Manifold block assembly	SX3000-50-1A- C4 C6 -Q	SX5000-50-1A- C4 C6 C8 -Q	C4: A, B ports ø4 One-touch fitting C6: A, B ports ø6 One-touch fitting C8: A, B ports ø8 One-touch fitting (Gasket ⑥ is included.)
2	SUP/EXH block assembly	SX3000-51-1A-Q	SX5000-51-1A-Q	SY3000 P, R ports ø8 One-touch fitting SY5000 P, R ports ø10 One-touch fitting
3	End block assembly R	SX3000-52-1A-Q	SX5000-52-1A-Q	For D side
4	End block assembly L	SX3000-53-1A-Q	SX5000-53-1A-Q	For U side
5	Round head combination screw	SY3000-23-4	M3 x 26 (Flat nickel plated)	
6	Gasket	SX3000-57-4	SX5000-57-5	
7	DIN rail	VZ1000-11-1-□		Refer to page 1.2-107.

Manifold Base Expansion Stations can be added in a desired location.

1. Loosen bolts (a) which hold the manifold base until it begins to turn idly. (While pressing down the DIN rail release buttons (c) at two locations, remove the manifold base from the DIN rail.)
2. Press the manifold block assembly separator button (b) at the desired location until it locks, and then break the connection between block assemblies.
3. Mount the manifold block assembly to be added onto the DIN rail as shown in Figure 1.
4. Connect the manifold block assemblies by pressing them together until a click is heard, and secure them to the DIN rail with bolts (a).
   ⚠ **Caution** (Tightening torque: 1.4N·m)
   (To improve the sealing, after one end block has been secured, hold the block assemblies lightly while tightening the other end block.)

Figure 1. Block mounting

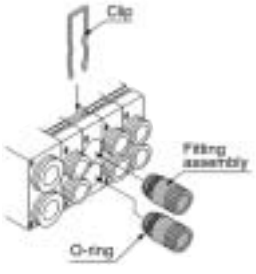


⚠ Caution

Note 1) When 10 or less stations are increased to 11 or more stations, add SUP/EXP block assemblies also.

Note 2) When disassembly and assembly are performed, insufficient connection of blocks or tightening of bolts (a) will cause air leakage. Be sure to confirm that there is no space between the manifold blocks and they are firmly secured on the DIN rail before supplying air. After supplying air, confirm that there is no air leakage.

How to Replace Fitting Assemblies



By replacing manifold block fitting assemblies on a type 45 manifold, the port size of the A and B ports can be changed.
To replace these parts, remove the clip with a flat head screw driver after the valve has been removed. Insert the fitting assemblies, and then reinsert the clip so that it does not protrude from the manifold block.

Fitting assembly part nos.

Port size	SY3000	SY5000
ø4 One-touch fitting	VVQ1000-50A-C4	VVQ1000-51A-C4
ø6 One-touch fitting	VVQ1000-50A-C6	VVQ1000-51A-C6
ø8 One-touch fitting	———	VVQ1000-51A-C8

Note 1) Fitting assemblies for P and R ports cannot be changed.
Note 2) Do not scratch or put foreign matter on the O-ring, as this will cause air leakage.

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Type 45- A NA

SY3000/5000
Base Mounted Type Manifold Stacking Type/DIN Rail Mount
Connector Box

How to Order Manifolds

SS5Y 3 – 45 – A U – 05 D – C6 – □ -Q

Manifold series

3	SY3000
5	SY5000

Specification

Symbol	Specification
A	With connector box (positive COM specification)
NA	With connector box (negative COM specification)

The type of lead wire assemblies included is different.

Connector box mounting position

Symbol	Mounting position
U	U side
D	D side

Stations

Symbol	Stations	Note
02	2 stations	Up to 16 solenoids applicable
⋮	⋮	
16	16 stations	

SUP/EXH block assembly mounting position

Symbol	Mounting position	Applicable stations
U	U side	2 to 10
D	D side	
B	Both sides	2 to 16
M*	Special specification	

* For special specifications, order separately on a manifold specification sheet.

A/B port size

SY3000

Symbol	Port size
C4	ø4 One-touch fitting
C6	ø6 One-touch fitting
M*	Mixed

SY5000

Symbol	Port size
C4	ø4 One-touch fitting
C6	ø6 One-touch fitting
C8	ø8 One-touch fitting
M*	Mixed

* For mixed specifications, order separately on a manifold specification sheet.

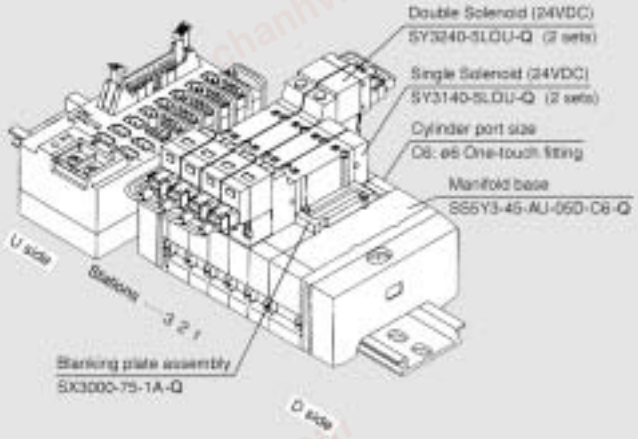
Option

When a DIN rail longer than the specified stations is necessary, indicate the number of required stations. (Max. 20 stations)

Refer to page 1.2-171 regarding external pilot specifications and built-in silencer types.

How to Order Manifold Assemblies (Example)

(SY3000, positive COM, U side mounting)



SS5Y3-45-AU-05D-C6-Q .....1 set (Type 45, 5 station manifold base part no.)
SX3000-75-1A-Q ..... 1 set (Blanking plate assembly part no.)
SY3140-5LOU-Q ..... 2 sets (Single solenoid part no.)
SY3240-5LOU-Q ..... 2 sets (Double solenoid part no.)

Valves are assembled from the D side regardless of the mounting position of the connector box. Add the valve and option part numbers in order starting from the first station on the D side.
Also, SS5Y$^{3}_{5}$-45-A$^{U}_{D}$- □ □-C□ manifolds are only shipped with solenoid valves and lead wire assemblies mounted, therefore, be sure to list the part number for solenoid valves. When only the base unit is required, by listing the manifold part number on page 1.2-104 (specify the number which is 3 stations more than the required stations for the option at the end of S5Y$^{3}_{5}$-45-□ □-C□-□), the connector box part number VZ3000-106-1A, and the rail stopper part number TXE1-SMC, the connector box can be mounted on the U side. (In this case, please note that dimensions L1 and L2 on pages 1.2-120 and 1.2-121 may vary.) Refer to page 1.2-122 regarding other parts.

How to Order Valves

SY 5 2 40 – 5 LOU □ – Q

Series

3	SY3000
5	SY5000

Type of actuation

1	2 position single
2	2 position double
3	3 position closed centre
4	3 position exhaust centre
5	3 position pressure centre

Manual override

Nil	Non-locking push type
D	Push-turn locking slotted type
E	Push-turn locking lever type

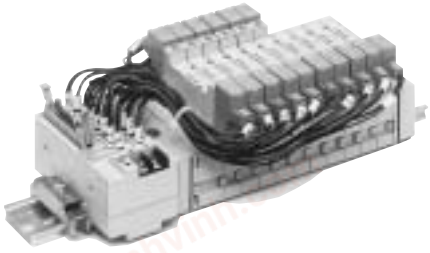
Rated voltage

5	24VDC

Protective class
class III (Mark:⧐)

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Type 45- A NA



Manifold specifications

Model		SS5Y3-45-A NA	SS5Y5-45-A NA
Applicable valve		SY3□40	SY5□40
Manifold type		Stacking type/DIN rail	
P (SUP)/R (EXH) method		Common SUP/EXH	
Valve stations		2 to 16 stations Notes 1, 2)	
A, B port specifications	Location	Base	
	Direction	Side	
Port size	P, R port	C8 (ø8 One-touch fitting)	C10 (ø10 One-touch fitting)
	A, B port	C4 (ø4 One-touch fitting) C6 (ø6 One-touch fitting)	C4 (ø4 One-touch fitting) C6 (ø6 One-touch fitting) C8 (ø8 One-touch fitting)
Valve effective area Note 3) mm² (Nl/min)		C6: P to A/B 4.68 (255.2) A/B to R 4.68 (255.2)	C8: P to A/B 12.6 (687) A/B to R 12.6 (687)
Manifold base weight W (g) n: Number of stations		For 2 to 10 stations: W = 26n + 207 For 11 to 20 stations: W = 26n + 229	For 2 to 10 stations: W = 52n + 245 For 11 to 16 stations: W = 52n + 279
Applicable flat ribbon cable connector		Flat ribbon cable connector, Socket: 20 pin MIL type With strain relief, MIL-C-83503 conformity	
Wiring specifications		Positive COM specification (type 45-A), Negative COM specification (type 45-NA)	

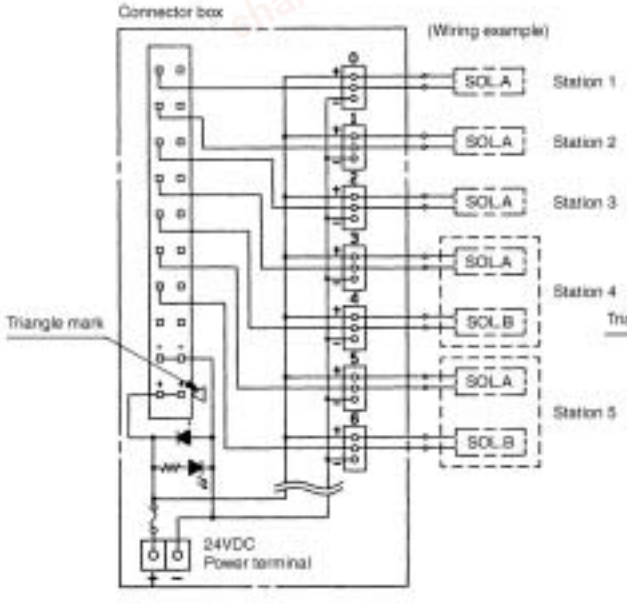
Note 1) For 11 stations or more, supply pressure to P port on both sides and exhaust from R port on both sides.

Note 2) Due to restrictions depending on the number of solenoids, refer to the ordering procedures.

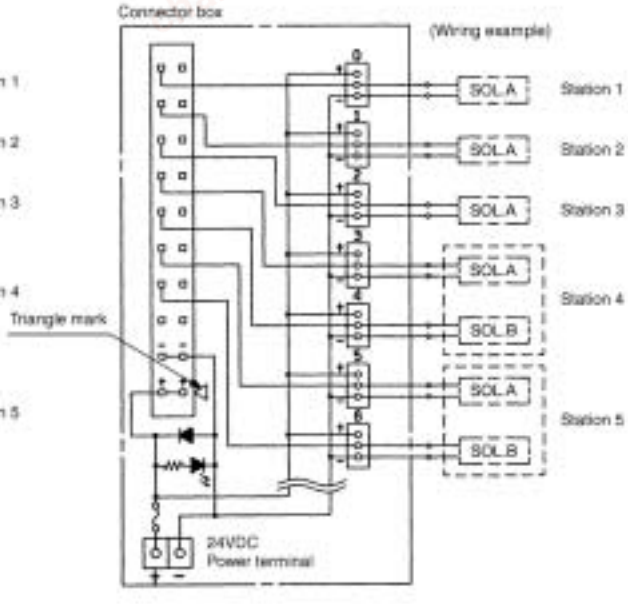
Note 3) Value when manifold base (5 stations) is mounted, with single action 2 position type.

Manifold wiring (Example layout circuit diagram)

Positive COM electrical circuit



Negative COM electrical circuit



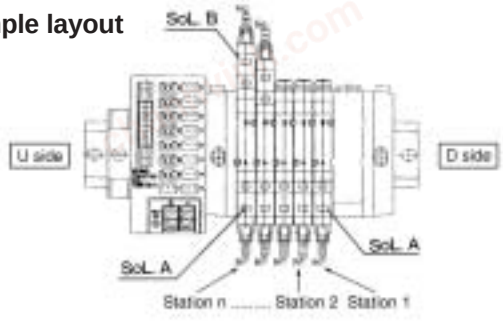
Note 1) Use of a connector box for positive COM allows direct connection of the transmission unit G71-OD16 manufactured by OMRON Corporation for the application of serial transmission. This can also be used with the PC wiring system.

Note 2) When an external power supply is required, connect the power supply to the power supply terminal. Since connecting the incorrect polarity will cause malfunction, be careful when connecting.

Note 3) Wiring is connected in order from 0 to 15 of the connector box on the D side where solenoids are placed.

Note 4) Use of other than non-polar type valves will cause a problem.

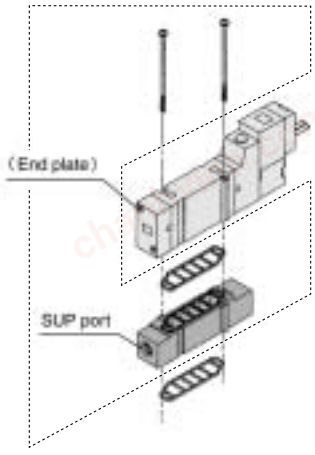
Example layout



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Manifold Options

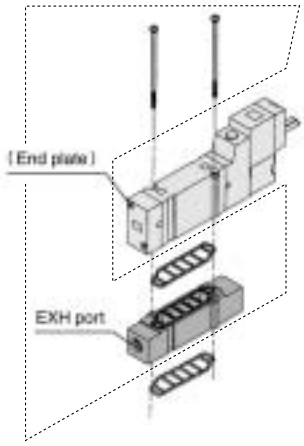
■ Individual SUP spacer assembly



Series	Assembly part no.	Port size
SY3000	SY3000-38-2□A-Q	M5
SY5000	SY5000-38-2□A-Q	1/8

Note) The SUP port can be on the lead wire side or end plate side. (It is as shown above when shipped already assembled.)

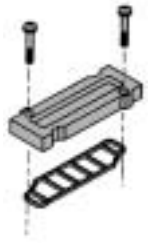
■ Individual EXH spacer assembly



Series	Assembly part no.	Port size
SY3000	SY3000-39-2□A-Q	M5
SY5000	SY5000-39-2□A-Q	1/8

Note) The EXH port can be on the lead wire side or end plate side. (It is as shown above when shipped already assembled.)

■ Blanking plate assembly



Series	Assembly part no.
SY3000	SX3000-75-1A-Q
SY5000	SX5000-76-1A-Q

Thread

—	Rc (PT)
N	NPT
T	NPTF
F	G (PF)

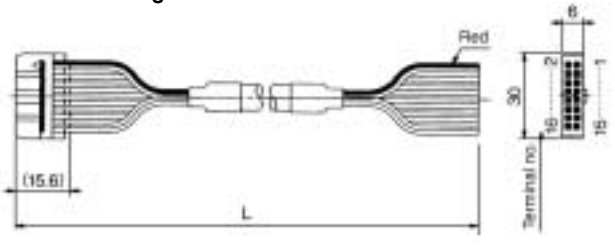
⚠Caution

Mounting screw tightening torques

M2: 0.15N·m
M3: 0.6N·m
M4: 1.4N·m

■ Cable assembly

AXT100-FC20- 1 / 2 / 3



Flat ribbon cable connector assembly

Cable length (L)	Assembly part no.	Note
1.5m	AXT100-FC20-1	20 core cable x 22AWG
3m	AXT100-FC20-2	
5m	AXT100-FC20-3	

∗ For other commercial connectors, use a 20 pin type with strain relief conforming to MIL-C-83503.

Connector manufacturer examples

- **Sumitomo/3-M Limited**
- **Fujitsu, Ltd.**
- **Japan Aviation Electronics Industry, Ltd.**
- **J.S.T. Mfg. Co., Ltd.**

■ SUP block disc

By installing a SUP block disc in the pressure supply passage of the manifold base, two or more different pressures, high or low, can be supplied to one manifold.



Series	Part no.
SY3000	SX3000-77-1A
SY5000	SX5000-77-1A

■ EXH block disc

By installing an EXH block disc in the exhaust passage of the manifold base, the passage can be divided so that the exhaust from one valve will not affect other valves. (Two block discs are required to block both EXH ports.)



Series	Part no.
SY3000	SX3000-77-1A
SY5000	SX5000-77-1A

■ Labels for block disc

Labels are applied to blocks with SUP and EXH block discs for external confirmation of blocked passages. (3 labels per package)

VZ3000-123-1A

SUP block disc label



EXH block disc label



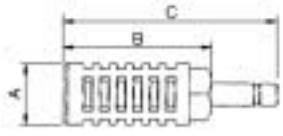
SUP/EXH block disc label



∗ When block discs are ordered with manifolds using a manifold specification sheet, block disc labels are already applied where block discs are installed at the time of shipment.

■ Silencer with One-touch fitting

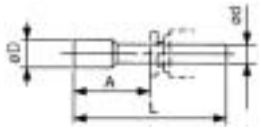
Can be attached with one touch to the R (EXH) port of the manifold.



Series	Model	Effective area	A	B	C
SY3000 (ø8)	AN203-KM8	14mm²	ø16	26	51
SY5000 (ø10)	AN200-KM10	26mm²	ø22	53.8	80.8
	AN300-KM10	30mm²	ø25	70	97

■ Plug (white)

Insert into unused cylinder ports and SUP/EXH ports.
The minimum order quantity is 10 pieces. Order in multiples of 10.



Dimensions

Applicable fitting size ød	Model	A	L	D
4	**KQ2P-04**	16	32	6
6	**KQ2P-06**	18	35	8
8	**KQ2P-08**	20.5	39	10
10	**KQ2P-10**	22	43	12

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Manifold Options

■ How to order interface regulators (SY3000/5000/7000 only)

Series SY3000

ARBY3000 — 05 — P — 2

Regulated port

P	P port
A1	A port (P port control type A port regulated)
B1	B port (P port control type B port regulated)

Pressure gauge connection port

05	Pressure gauge (G15-10-01) [for odd number stations]
06	Pressure gauge (G15-10-01) [for even number stations]
M1	Plug (M-5P)

Note) Note that for series ARBY3000 with pressure gauge, part numbers differ for odd number and even number stations to prevent interference between the pressure gauges when mounted on the manifold.

Series SY5000/7000

ARBY5000 / ARBY7000 — 00 — P — 2

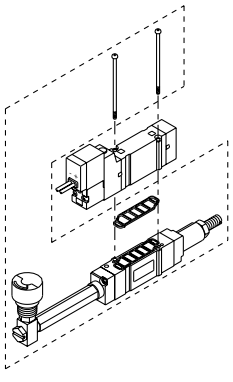
Regulated port

P	P port
A1	A port (P port control type A port regulated)
B1	B port (P port control type B port regulated)

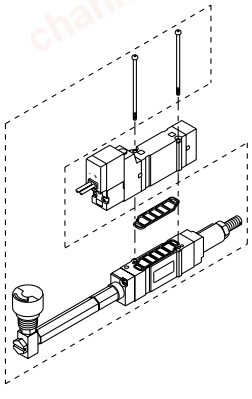
Pressure gauge connection port

00	Pressure gauge (G15-10-01)
M1	Plug (M-5P)

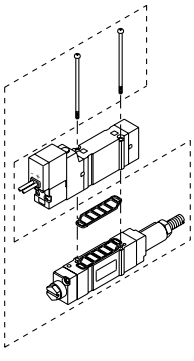
ARBY3000-05-□-2
(for mounting on odd number stations)



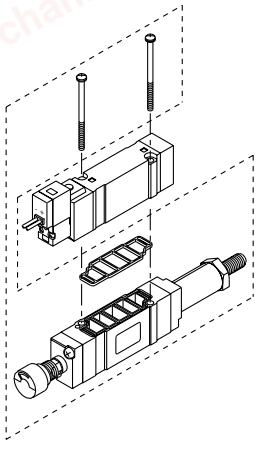
ARBY3000-06-□-2
(for mounting on even number stations)



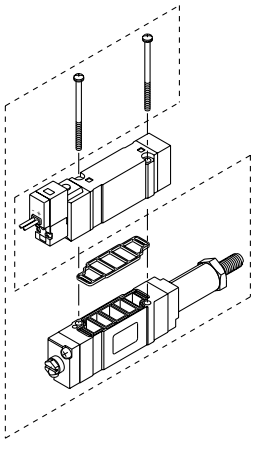
ARBY3000-M1-□-2



ARBY5000/7000-00-□-2



ARBY5000/7000-M1-□-2



Accessories

Series	Round head combination screw	Gasket
ARBY3000	SY3000-23-10 (M2 x 36)	SX3000-57-4
ARBY5000	M3 x 48.5 (Flat nickel plated)	SX5000-57-5
ARBY7000	**New! Contact SMC**	

⚠ Caution

Mounting screw tightening torques

M2: 0.15N·m
M3: 0.6N·m

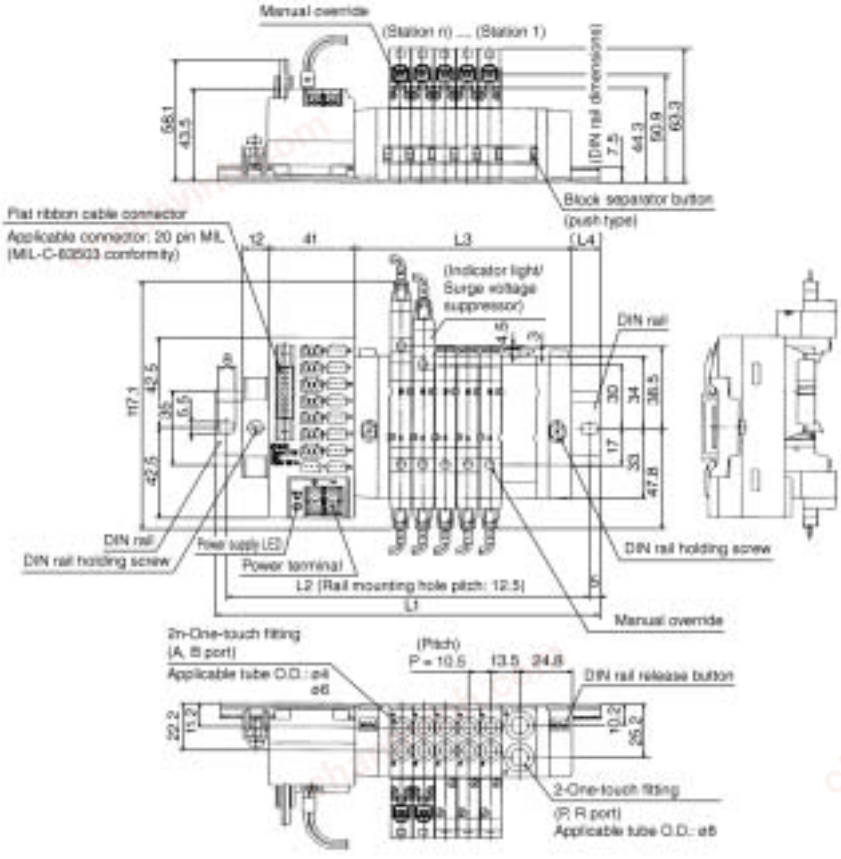
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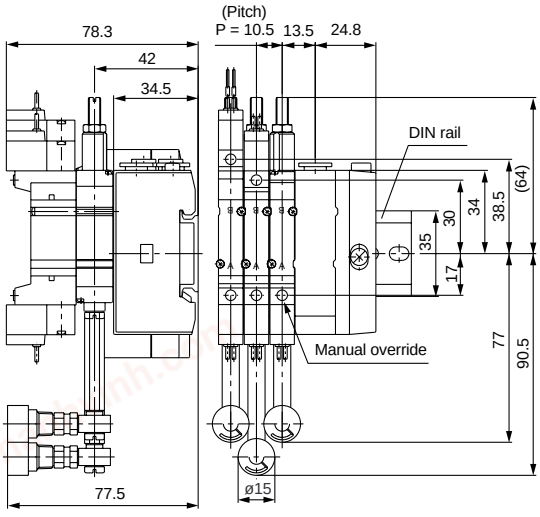
Series SY3000 Dimensions

SS5Y3-45-AU- Stations D-$^{C4}_{C6}$-Q

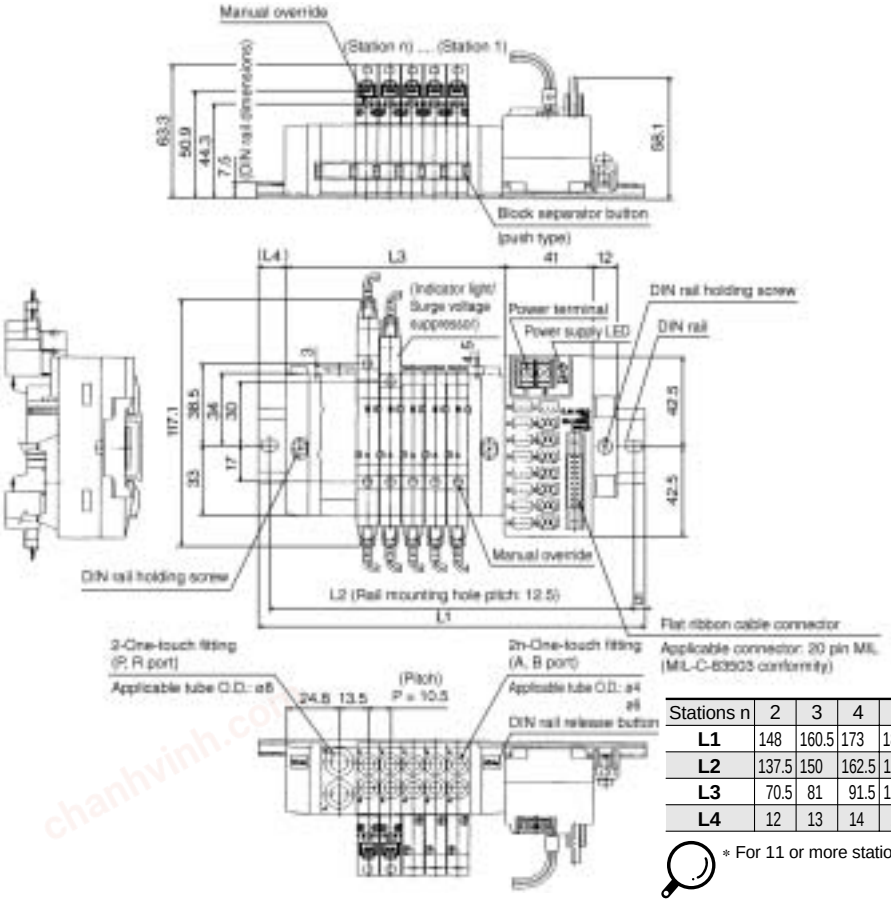
Scale: 30%



With interface regulator (with gauge)



SS5Y3-45-AD- Stations U-$^{C4}_{C6}$-Q



Stations n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	148	160.5	173	185.5	198	210.5	210.5	223	235.5	260.5	273	285.5	298	310.5	310.5
L2	137.5	150	162.5	175	187.5	200	200	212.5	225	250	262.5	275	287.5	300	300
L3	70.5	81	91.5	102	112.5	123	133.5	144	154.5	181.5	192	202.5	213	223.5	234
L4	12	13	14	15	16	17	12	13	14	13	14	15	16	17	11.5

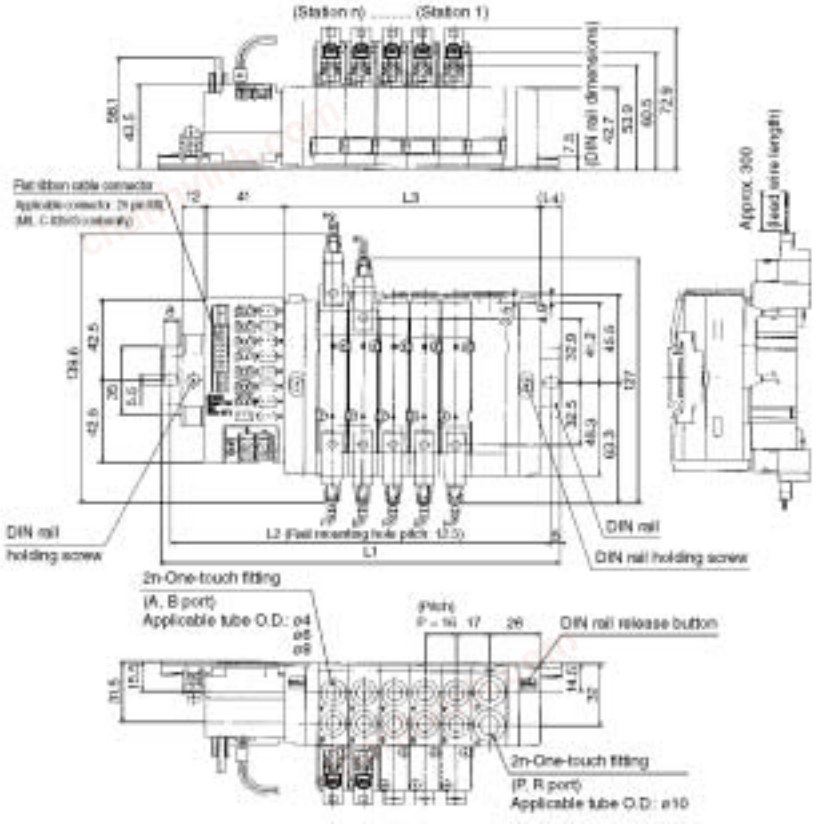
∗ For 11 or more stations, two SUP/EXH blocks are included.

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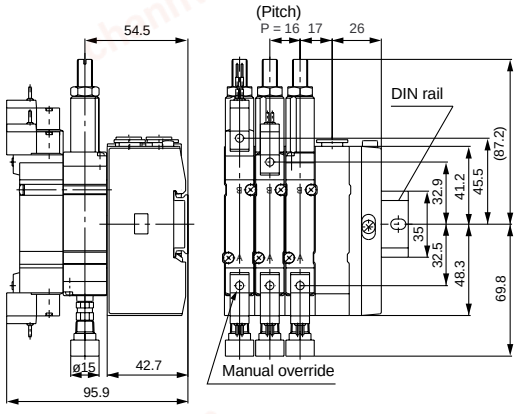
Series SY5000 Dimensions

SS5Y5-45-AU-[Stations]D-[C4/C6/C8]-Q

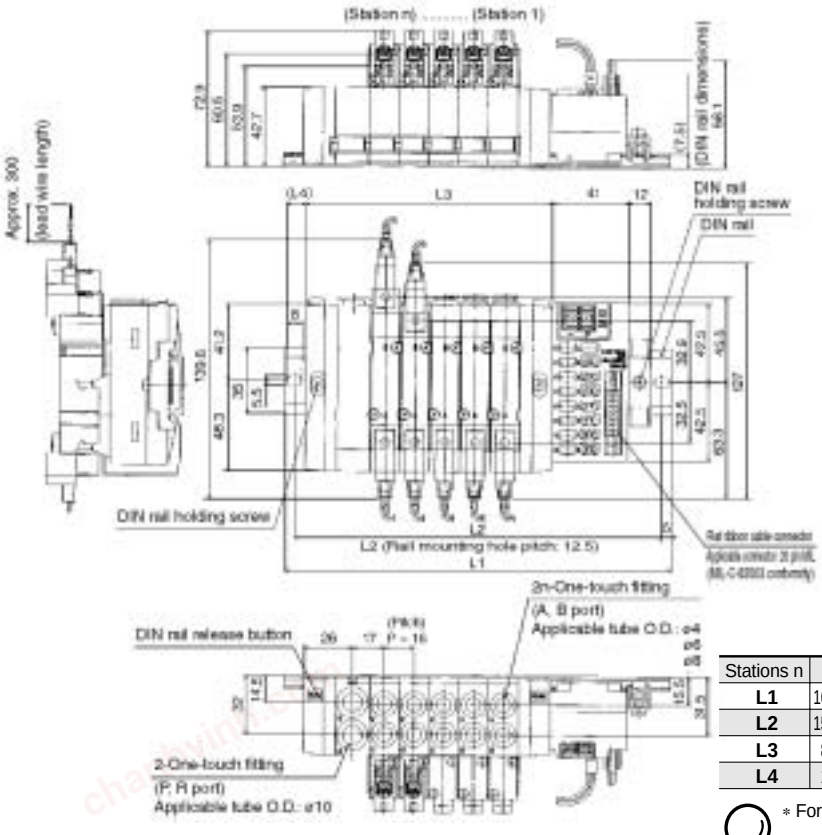
Scale: 30%



With interface regulator (with gauge)



SS5Y5-45-AD-[Stations]U-[C4/C6/C8]-Q



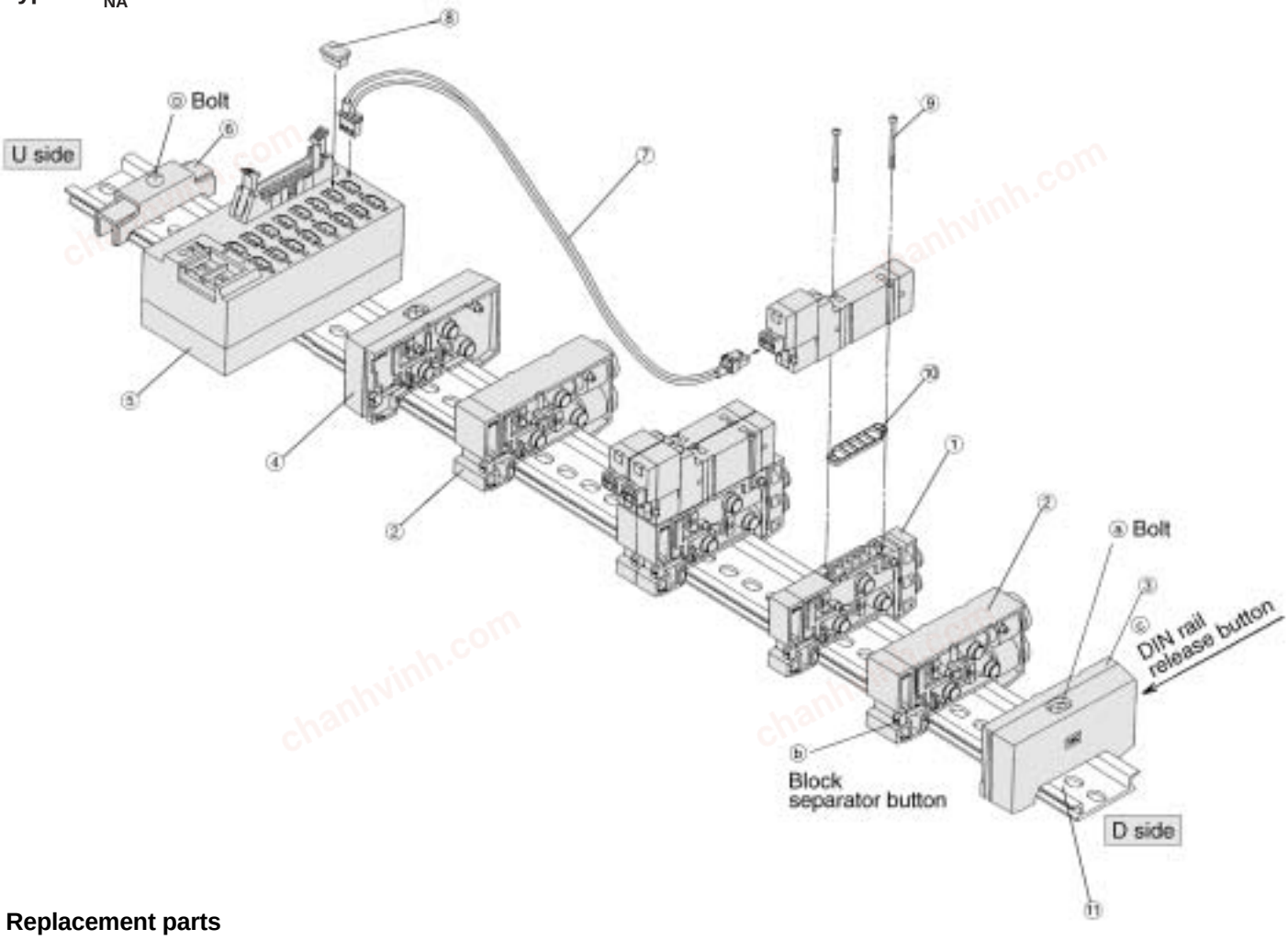
Stations n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	160.5	185.5	198	210.5	235.5	248	260.5	273	298	323	348	360.5	373	398	410.5
L2	150	175	187.5	200	225	237.5	250	262.5	287.5	312.5	337.5	350	362.5	387.5	400
L3	84	100	116	132	148	164	180	196	212	246	262	278	294	310	326
L4	11.5	16	14.5	12.5	17	15.5	13.5	12	16.5	12	16.5	14.5	13	17.5	15.5

∗ For 11 or more stations, two SUP/EXH blocks are included.

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Exploded View of DIN Rail Manifold

Type 45- A NA



Replacement parts

No.	Description	Part no.		Note
		SY3000	SY5000	
1	Manifold block assembly	SX3000-50-1A-C4/C6-Q	SX5000-50-1A-C4/C6/C8-Q	C4: A, B ports ø4 One-touch fitting C6: A, B ports ø6 One-touch fitting C8: A, B ports ø8 One-touch fitting (Gasket ⑩ is included.)
2	SUP/EXH block assembly	SX3000-51-1A	SX5000-51-1A	P, R ports SY3000 ø8 One-touch fitting P, R ports SY5000 ø10 One-touch fitting
3	End block assembly R	SX3000-52-1A-Q	SX5000-52-1A-Q	For D side
4	End block assembly L	SX3000-53-1A-Q	SX5000-53-1A-Q	For U side
5	Connector box	VZ3000-106-1A		24VDC only
6	Rail stopper	TXE1-SMC		Made by Kasuga Electronic Works, Ltd.
7	Connector assembly	SY3000-43-1A-☐	SY3000-43-2A-☐	Positive COM Type D, 2 to 8 stations / Type U, 9 to 16 stations
		SY3000-43-2A-☐	SY3000-43-3A-☐	Positive COM Type D, 9 to 16 stations / Type U, 2 to 8 stations
		SY3000-43-1NA-☐	SY3000-43-2NA-☐	Negative COM Type D, 2 to 8 stations / Type U, 9 to 16 stations
		SY3000-43-2NA-☐	SY3000-43-3NA-☐	Negative COM Type D, 9 to 16 stations / Type U, 2 to 8 stations
8	Dust cap	VZ3000-63-2		
9	Round head combination screw	SY3000-23-4	M3 x 26 (Flat nickel plated)	
10	Gasket	SX3000-57-4	SX5000-57-5	
11	DIN rail	VZ1000-11-1-☐		Refer to page 1.2-107.

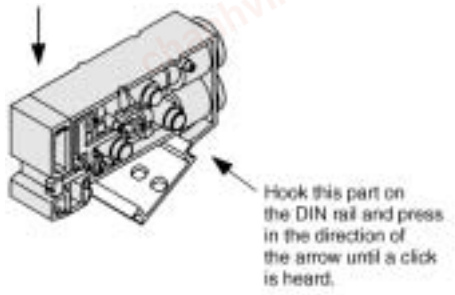
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Manifold Base Expansion

Stations can be added in a desired location.

1. Loosen bolts (a) which hold the manifold base until it begins to turn idly. (While pressing down the DIN rail release buttons (c) at two locations, remove the manifold base from the DIN rail.)
2. Press the manifold block assembly separator button (b) at the desired location until it locks, and then break the connection between block assemblies.
3. Mount the manifold block assembly to be added onto the DIN rail as shown in Figure 1.
4. Connect the manifold block assemblies by pressing them together until a click is heard, and secure them to the DIN rail with bolts (a).
   ⚠ **Caution** (Tightening torque: 1.4N·m)
   (To improve the sealing, after one end block has been secured, hold the block assemblies lightly while tightening the other end block.)
5. To remove the connector box from the DIN rail, loosen the rail stopper bolt (D) and remove it. To remount it, press it against the connector block and tighten bolt (D).

Figure 1. Block mounting



⚠ Caution

Note 1) When 10 or less stations are increased to 11 or more stations, add SUP/EXP block assemblies also.

Note 2) When disassembly and assembly are performed, insufficient connection of blocks or tightening of bolts (a) will cause air leakage. Be sure to confirm that there is no space between the manifold blocks and they are firmly secured on the DIN rail before supplying air. After supplying air, confirm that there is no air leakage.

Note 3) One connector assembly is required for each solenoid.
Also, if a number is required for the connector assembly mark tube, indicate the number at the end of the part number. (Numbers 0 to 15 are available for mark tube numbering.)

Example) Positive COM specification, type D for 2 to 8 stations, with number 10
SY3000-43-1A-10

How to Replace Fitting Assembly

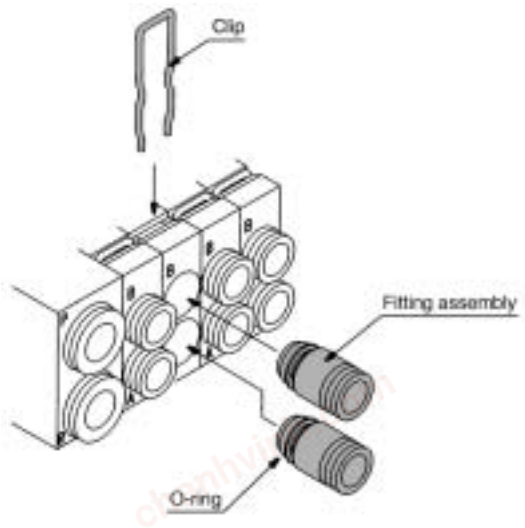
By replacing manifold block fitting assemblies on a type 45 manifold, the port size of the A and B ports can be changed.
To replace these parts, remove the clip with a flat head screw driver after the valve has been removed. Insert the fitting assemblies, and then reinsert the clip so that it does not protrude from the manifold block.

Fitting assembly part nos.

Port size	SY3000	SY5000
ø4 One-touch fitting	VVQ1000-50A-C4	VVQ1000-51A-C4
ø6 One-touch fitting	VVQ1000-50A-C6	VVQ1000-51A-C6
ø8 One-touch fitting	———	VVQ1000-51A-C8

Note 1) Fitting assemblies for P and R ports cannot be changed.

Note 2) Do not scratch or put foreign matter on the O-ring, as this will cause air leakage.



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Type 45□

SY3000/5000
Base Mounted Type Manifold
Stacking Type/DIN Rail Mount
Plug-in

How to Order Manifolds

Type 45F (D-sub connector 25 pin type)

SS5Y 3 – 45 □ F D – 05 U – C4 □ □ -Q

Manifold series

3	SY3000
5	SY5000

Common specification

Nil	Positive COM
N	Negative COM

Connector mounting position

Symbol	Mounting position
U	U side
D	D side

Stations

Symbol	Stations	Note
02	2	Single wiring specification (Up to 20 solenoids applicable)
⋮	⋮	
20	20	

Note 1) Includes the number of blanking plate assemblies.

Note 2) Two manifold stations are required for double solenoid 3 position valves (dual body type).

SUP/EXH block assembly mounting position

Symbol	Mounting position	Applicable stations
U	U side	2 to 10
D	D side	2 to 10
B	Both sides	2 to 20
M*	Special specifications	

* For special specifications, order separately on a manifold specification sheet.

A/B port size

SY3000

Symbol	Port size
C4	ø4 One-touch fitting
C6	ø6 One-touch fitting
M*	Mixed

SY5000

Symbol	Port size
C4	ø4 One-touch fitting
C6	ø6 One-touch fitting
C8	ø8 One-touch fitting
M*	Mixed

* For mixed specifications, order separately on a manifold specification sheet.

Voltage specification

Nil	24VDC
12V	12VDC

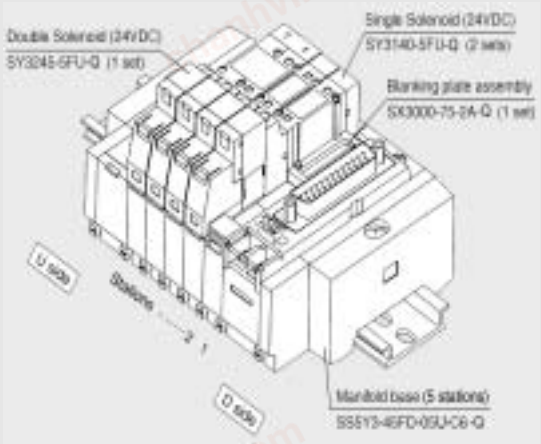
Option

When a DIN rail longer than the specified stations is necessary, indicate the number of required stations. (Max. 20 stations)

Refer to page 1.2-172 regarding external pilot specifications and built-in silencer.

How to Order Manifold Assemblies (Example)

(Type 45F/D-sub connector 25 pin type)



SS5Y3-45FD-05U-C6-Q .....1 set (Type 45F, D-sub connector 5 station manifold base part no.)
SX3000-75-2A-Q ..... 1 set (Blanking plate assembly part no.)
SY3140-5FU-Q ..... 2 sets (Single solenoid part no.)
SY3245-5FU-Q ..... 1 set (Double solenoid part no.)

Valves are assembled from the D side regardless of the location of the connector. Since double solenoid 3 position valves (dual body type) require 2 manifold stations, be sure to specify the appropriate number of stations with the manifold part

How to Order Valves (Types 45F, 45P□, 45T, 45T1)

2 position single **SY 3 1 4 0 – 5 FU □ -Q**

Double solenoid 3 position **SY 3 2 4 5 – 5 FU □ -Q**

Series

3	SY3000
5	SY5000

Type of actuation

2	2 position double
3	3 position closed centre
4	3 position exhaust centre
5	3 position pressure centre

Dual body type (double solenoid 3 position)

Rated voltage

5	24VDC
6	12VDC

Manual override

Nil	Non-locking push type
D	Push-turn locking slotted type
E	Push-turn locking lever type

Protective class class III (Mark: ⏚)

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How to Order Manifolds

Type 45P□ (Flat ribbon cable type)

SS5Y 3 – 45 □ P □ D – 05 U – C4 □ □ -Q

Manifold series

3	SY3000
5	SY5000

Common specification

Nil	Positive COM
N	Negative COM

Number of connector pins

Symbol	Pins	Applicable stations
Nil	26	2 to 20
G	20	2 to 16
H	10	2 to 8

Connector mounting position

Symbol	Mounting position
U	U side
D	D side

Stations (Includes the number of blanking plate assemblies.)

26 pin connector (P)

Symbol	Stations	Note
02	2	Single wiring specification (Up to 20 solenoids applicable)
⋮	⋮	
20	20	

20 pin connector (PG)

Symbol	Stations	Note
02	2	Single wiring specification (Up to 16 solenoids applicable)
⋮	⋮	
20	16	

10 pin connector (PH)

Symbol	Stations	Note
02	2	Single wiring specification (Up to 8 solenoids applicable)
⋮	⋮	
08	8	

Note) Two manifold stations are required for double solenoid 3 position valves (dual body type).

SUP/EXH block assembly mounting position

Symbol	Mounting position	Applicable stations
U	U side	2 to 10
D	D side	2 to 10
B	Both sides	2 to 20
M*	Special specification	

* For special specifications, order separately on a manifold specification sheet.

A/B port size

SY3000

Symbol	Port size
C4	ø4 One-touch fitting
C6	ø6 One-touch fitting
M*	Mixed

SY5000

Symbol	Port size
C4	ø4 One-touch fitting
C6	ø6 One-touch fitting
C8	ø8 One-touch fitting
M*	Mixed

* For mixed specifications, order separately on a manifold specification sheet.

Rated voltage

Nil	24VDC
12V	12VDC

Option

When a DIN rail longer than the specified stations is necessary, indicate the number of required stations. (Max. 20 stations)

Type 45T (9 pin terminal block type)

SS5Y 3 – 45T D – 05 U – C4 □ -Q

Manifold series

3	SY3000
5	SY5000

Terminal block mounting position

Symbol	Mounting position
U	U side
D	D side

Stations

Symbol	Stations	Note
02	2	Single wiring specification (Up to 8 solenoids applicable)
⋮	⋮	
08	8	

Note 1) Includes the number of blanking plate assemblies.

Note 2) Two manifold stations are required for double solenoid 3 position valves (dual body type).

SUP/EXH block assembly mounting position

Symbol	Mounting position	Applicable stations
U	U side	2 to 8
D	D side	2 to 8
B	Both sides	2 to 8
M*	Special specifications	

* For special specifications, order separately on a manifold specification sheet.

A/B port size

SY3000

Symbol	Port size
C4	ø4 One-touch fitting
C6	ø6 One-touch fitting
M*	Mixed

SY5000

Symbol	Port size
C4	ø4 One-touch fitting
C6	ø6 One-touch fitting
C8	ø8 One-touch fitting
M*	Mixed

* For mixed specifications, order separately on a manifold specification sheet.

Option

When a DIN rail longer than the specified stations is necessary, indicate the number of required stations. (Max. 20 stations)

Type 45T1 (18 pin terminal block type)

SS5Y 3 – 45T1 D – 15 B – C4 □ -Q

Manifold series

3	SY3000
5	SY5000

Terminal block mounting position

Symbol	Mounting position
U	U side
D	D side

Stations

Symbol	Stations	Note
02	2	Single wiring specification (Up to17 solenoids applicable)
⋮	⋮	
17	17	

Note 1) Includes the number of blanking plate assemblies.

Note 2) Two manifold stations are required for double solenoid 3 position valves (dual body type).

SUP/EXH block assembly mounting position

Symbol	Mounting position	Applicable stations
U	U side	2 to 10
D	D side	2 to 10
B	Both sides	2 to 17
M*	Special specifications	

* For special specifications, order separately on a manifold specification sheet.

A/B port size

SY3000

Symbol	Port size
C4	ø4 One-touch fitting
C6	ø6 One-touch fitting
M*	Mixed

SY5000

Symbol	Port size
C4	ø4 One-touch fitting
C6	ø6 One-touch fitting
C8	ø8 One-touch fitting
M*	Mixed

* For mixed specifications, order separately on a manifold specification sheet.

Option

When a DIN rail longer than the specified stations is necessary, indicate the number of required stations. (Max. 20 stations)

Note) The terminal block (type 45T□) manifold has no common polarity. It can be used for both positive and negative COM.

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How to Order Manifolds

Type 45G (Flat ribbon cable/PC wiring applicable)

SS5Y 3 – 45G D – 05 U □ – C4 – □ -Q

Manifold series

3	SY3000
5	SY5000

Connector mounting position

Symbol	Mounting position
U	U side
D	D side

Stations

Symbol	Stations	Note
02	2	Single wiring specification (Up to 16 solenoids applicable)
⋮	⋮	
16	16	

Note 1) Two manifold stations are required for double solenoid 3 position valves (dual body type).

Note 2) Includes the number of blanking plate assemblies.

Option

When a DIN rail longer than the specified stations is necessary, indicate the number of required stations. (Max. 20 stations)

A/B port size

SY3000

Symbol	Port size
C4	ø4 One-touch fitting
C6	ø6 One-touch fitting
M*	Mixed

SY5000

Symbol	Port size
C4	ø4 One-touch fitting
C6	ø6 One-touch fitting
C8	ø8 One-touch fitting
M*	Mixed

* For mixed specifications, order separately on a manifold specification sheet.

SUP/EXH block assembly specification

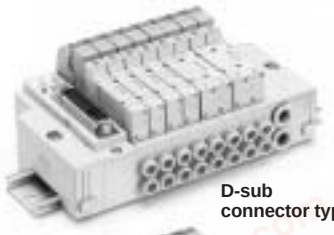
Symbol	Specification
Nil	Internal pilot
R	External pilot
S	Internal pilot with built-in silencer
RS	External pilot with built-in silencer

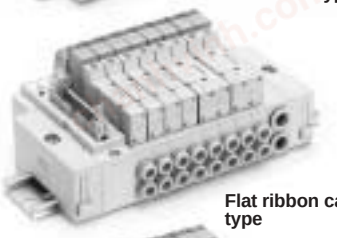
SUP/EXH block assembly mounting position

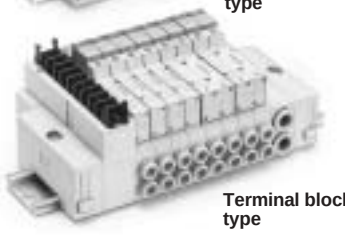
Symbol	Mounting position	Applicable stations
U	U side	2 to 10
D	D side	2 to 10
B	Both sides	2 to 16
M*	Special specifications	

* For special specifications, order separately on a manifold specification sheet.

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D-sub connector type


Flat ribbon cable type


Terminal block type

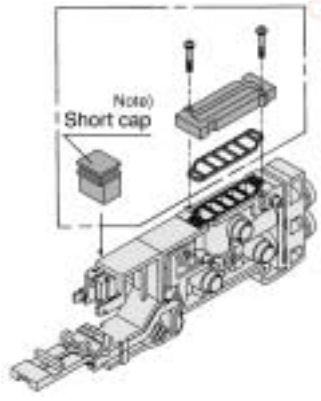
Manifold specifications

Model			D-sub connector type 45F	Flat ribbon cable type 45P□ 45P	45PG	45PH	Terminal block type 45T	45T1	Flat ribbon cable PC wiring applicable 45G
Manifold type			Plug-in type						
P (SUP)/R (EXH) method			Common SUP/EXH						
Valve stations Notes 1, 2)			2 to 20		2 to 16	2 to 8		2 to 17	2 to 16
A, B port specifications		Location	Base						
		Direction	Side						
Port size	P, R port	SY3000	C8 (ø8 One-touch fitting)						
		SY5000	C10 (ø10 One-touch fitting)						
	A, B port	SY3000	C4 (ø4 One-touch fitting)/C6 (ø6 One-touch fitting)						
		SY5000	C4 (ø4 One-touch fitting)/C6 (ø6 One-touch fitting)/C8 (ø8 One-touch fitting)						
Valve effective area Note 3) mm² (Nl/min)		SY3000	C6: P to A/B 4.68 (255.2), A/B to R 4.68 (255.2)						
		SY5000	C8: P to A/B 12.6 (687), A/B to R 12.6 (687)						
Applicable connector			D-sub connector Conforming to MIL-C-24308 JIS-X-5101	Flat ribbon cable connector Socket: 26 pin MIL type With strain relief Conforming to MIL-C-83503	Flat ribbon cable connector Socket: 20 pin MIL type With strain relief Conforming to MIL-C-83503	Flat ribbon cable connector Socket: 10 pin MIL type With strain relief Conforming to MIL-C-83503	Terminal block (M3) 9 pins	Terminal block (M3) 18 pins	Flat ribbon cable connector Socket: 20 pin MIL type With strain relief Conforming to MIL-C-83503
Internal wiring			Positive COM (45□), Negative COM (45N□)				Common positive and negative COM		Positive COM
Manifold base weight W (g) n: Number of stations (For D-sub connector)		SY3000	For 2 to 10 stations: W = 26n + 172 For 11 to 20 stations: W = 26n + 199	Valve weight: Single: 51, Double: 77, 3 position: 82					
		SY5000	For 2 to 10 stations: W = 54n + 227 For 11 to 20 stations: W = 54n + 264	Valve weight: Single: 59, Double: 102, 3 position: 112.6					

Note 1) For 11 stations or more, supply pressure to P port on both sides and exhaust from R port on both sides.
Note 2) Due to restrictions depending on the number of solenoids, refer to the ordering procedures.
Note 3) Value when manifold base (5 stations) is mounted, with single action 2 position type.

Manifold Options

■ Blanking plate assembly



Series	Assembly part no.
SY3000	SX3000-75-2A-Q
SY5000	SX5000-76-2A-Q

Note 1) When mounting a blanking plate, be sure to mount a short cap also.
Note 2) Two manifold stations are required for double solenoid 3 position valves (dual body type).

■ SUP block disc

By installing a SUP block disc in the pressure supply passage of the manifold base, two or more different pressures, high or low, can be supplied to one manifold.



Series	Part no.
SY3000	SX3000-77-1A
SY5000	SX5000-77-1A

■ EXH block disc

By installing an EXH block disc in the exhaust passage of the manifold base, the passage can be divided so that the exhaust from one valve will not affect another valve. (Two block discs are required to block both EXH ports.)



Series	Part no.
SY3000	SX3000-77-1A
SY5000	SX5000-77-1A

■ Labels for block disc

Labels are applied to blocks with SUP and EXH block discs for external confirmation of blocked passages. (3 labels per package)

VZ3000-123-1A (SY3000/5000 common)

SUP block disc label



EXH block disc label



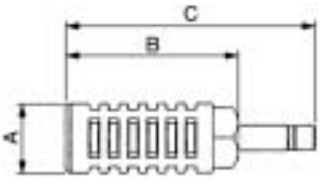
SUP/EXH block disc label



* When block discs are ordered with manifolds using a manifold specification sheet, block disc labels are already applied where block discs are installed at the time of shipment.

■ Silencer with One-touch fitting

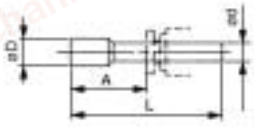
Can be attached with one touch to the R (EXH) port of the manifold.



Series	Model	Effective area	A	B	C
SY3000 (ø8)	AN203-KM8	14mm²	ø16	26	51
SY5000 (ø10)	AN200-KM10	26mm²	ø22	53.8	80.8
	AN300-KM10	30mm²	ø25	70	97

■ Plug (white)

Insert into unused cylinder ports and SUP/EXH ports.
The minimum order quantity is 10 pieces. Order in multiples of 10.



Dimensions

Applicable fitting size ød	Model	A	L	D
4	**KQ2P-04**	16	32	6
6	**KQ2P-06**	18	35	8
8	**KQ2P-08**	20.5	39	10
10	**KQ2P-10**	22	43	12

⚠Caution

Mounting screw tightening torques

M2: 0.15N·m
M3: 0.6N·m
M4: 1.4N·m

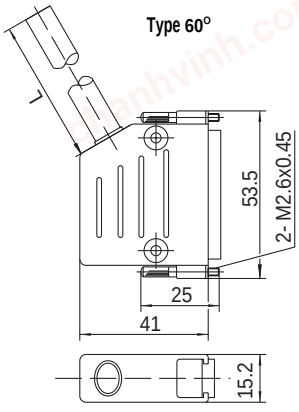
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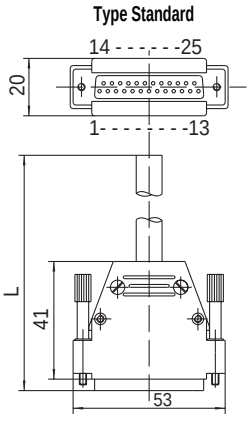
Manifold Options

■ D-sub connector (25 pins)/Cable assembly

GVVZS3000-21A- 1/2/3/4/5 **-** S/60

(The D-sub connector cable ass'y can be ordered individually or included in a specific manifold model no. Refer to "How to Order Manifold".)





D-sub connector cable ass'y

Cable length (L)	Ass'y No.
1m	GVVZS3000-21A-1□
3m	GVVZS3000-21A-2□
5m	GVVZS3000-21A-3□
8m	GVVZS3000-21A-4□
20m	GVVZS3000-21A-5S

Model

Standard	**S**
60°	**60**

Electric characteristics

Item	Characteristics
Conductor resistance Ω/km, 20°C	57 or less
Voltage limit V, 5min, AC	1500
Insulation resistance MΩ/km	20

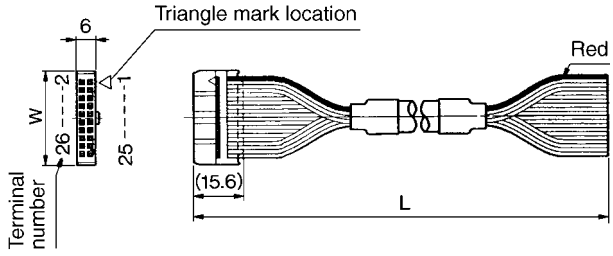
Wire color table by terminal number of D-sub connector cable assembly

Terminal No.	Lead wire color	Dot marking
1	White	–
2	Brown	–
3	Green	–
4	Yellow	–
5	Grey	–
6	Pink	–
7	Blue	–
8	Red	–
9	Black	–
10	Violet	–
11	Grey	Pink
12	Red	Blue
13	White	Green
14	Brown	Green
15	White	Yelow
16	Yelow	Brown
17	White	Grey
18	Grey	Brown
19	White	Pink
20	Pink	Brown
21	White	Blue
22	Brown	Blue
23	White	Red
24	Brown	Red
25	White	Black

∗ Connector made in conformity with DIN47100.

■ Flat ribbon cable type/Cable assembly

AXT100-FC□- 1/2/3



Flat ribon cable assembly

Cable length (L)	10 pins	20 pins	26 pins
1.5m	AXT100-FC10-1	AXT100-FC20-1	AXT100-FC26-1
3m	AXT100-FC10-2	AXT100-FC20-2	AXT100-FC26-2
5m	AXT100-FC10-3	AXT100-FC20-3	AXT100-FC26-3
Connector width (W)	17.2	30	37.5

∗ For other commercial connectors, use a type with strain relief conforming to MIL-C-83503.

Connector manufacturer examples

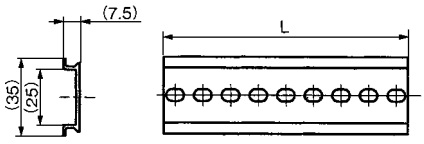
- **Hirose Electric Company**
- **Sumitomo/3-M Limited**
- **Fujitsu, Ltd.**
- **Japan Aviation Electronics Industry, Ltd.**
- **J.S.T. Mfg. Co., Ltd.**

■ DIN rail dimensions

VZ1000 – 11 – 1 – □

Refer to the table below for dimension L.

∗ Specify a number inside □ from the DIN rail dimension table below.



No.	0	1	2	3	4	5	6	7	8	9	10
Dimension L	98	110.5	123	135.5	148	160.5	173	185.5	198	210.5	223
No.	11	12	13	14	15	16	17	18	19	20	21
Dimension L	235.5	248	260.5	273	285.5	298	310.5	323	335.5	348	360.5
No.	22	23	24	25	26	27	28	29	30	31	32
Dimension L	373	385.5	398	410.5	423	435.5	448	460.5	473	485.5	498
No.	33	34	35	36	37	38	39	40	41	42	43
Dimension L	510.5	523	535.5	548	560.5	573	585.5	598	610.5	623	635.5
No.	44	45	46	47	48	49	50	51	52	53	54
Dimension L	648	660.5	673	685.5	698	710.5	723	735.5	748	760.5	773
No.	55	56	57	58	59	60	61	62	63	64	65
Dimension L	785.5	798	810.5	823	835.5	848	860.5	873	885.5	898	910.5
No.	66	67	68	69	70	71					
Dimension L	923	935.5	948	960.5	973	985.5					

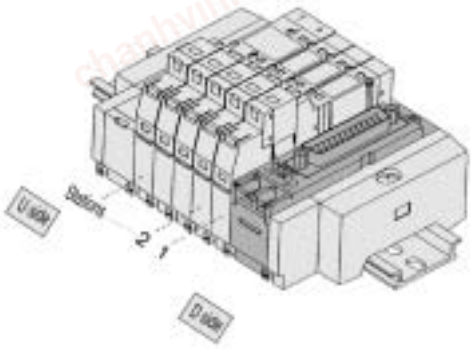
Note) Refer to dimension L1 on pages starting with 1.2-134 for lengths that correspond to the number of manifold stations.

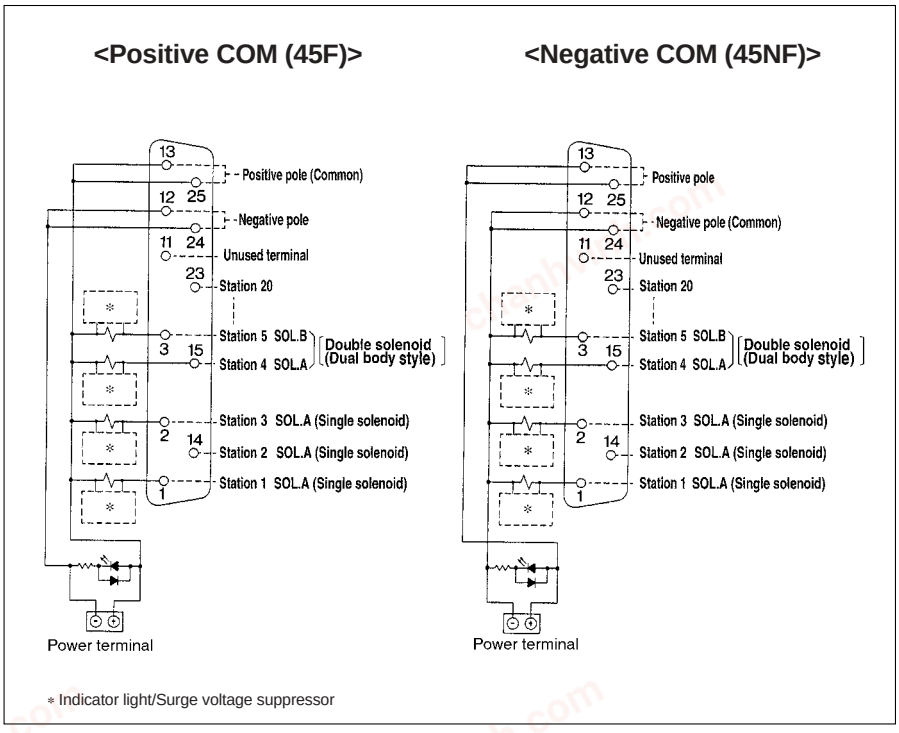
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Manifold Internal Wiring

45(N)F/D-sub Connector Type

Use of a D-sub connector for electrical connection helps to achieve simplification and labour savings in connection procedures. Also, connectors conforming to MIL standards are used for wide interchangeability.





∗ Indicator light/Surge voltage suppressor

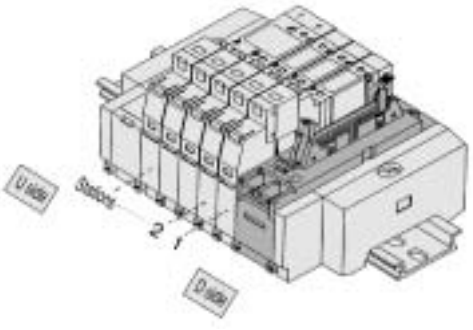
Note 1) When an external power supply is required, connect the power supply to the power terminal.

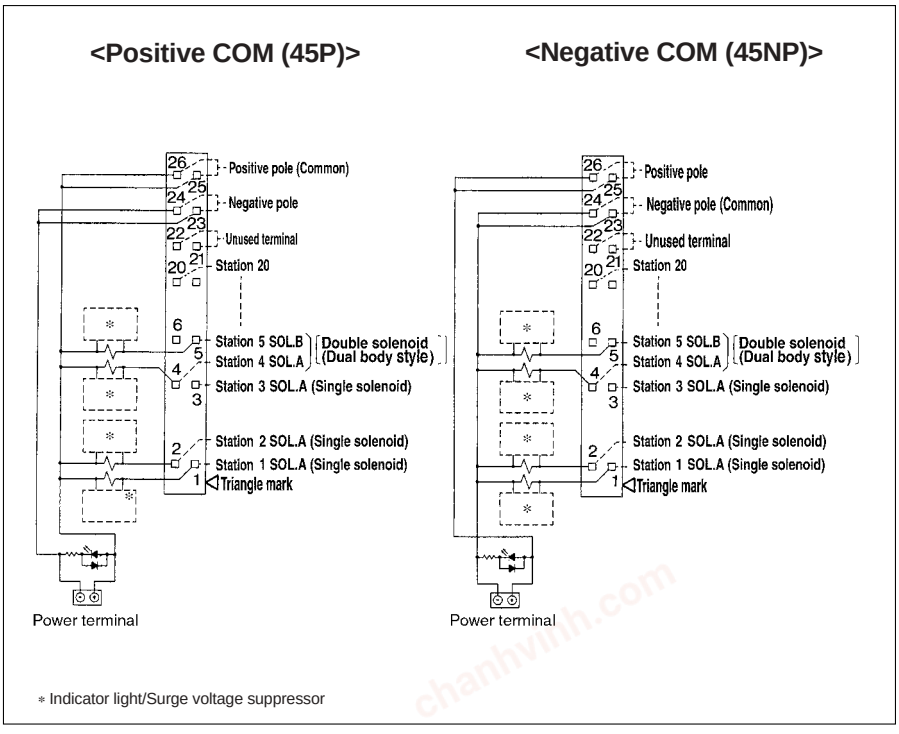
Note 2) A maximum of 20 manifold stations and 20 solenoids can be used. (Contact SMC if more than these quantities are required.)

Note 3) Valves are numbered from the D side regardless of the mounting position of the connector.

45(N)P/Flat Ribbon Cable Type (26 Pins)

Use of a flat ribbon cable connector for electrical connection helps to achieve simplification and labour savings in connection procedures. Also, connectors conforming to MIL standards are used for wide interchangeability.



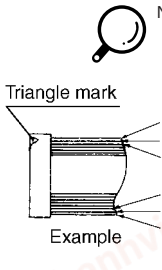


∗ Indicator light/Surge voltage suppressor

Note 1) When an external power supply is required, connect the power supply to the power terminal.

Note 2) A maximum of 20 manifold stations and 20 solenoids can be used. (Contact SMC if more than these quantities are required.)

Note 3) Valves are numbered from the D side regardless of the mounting position of the connector.

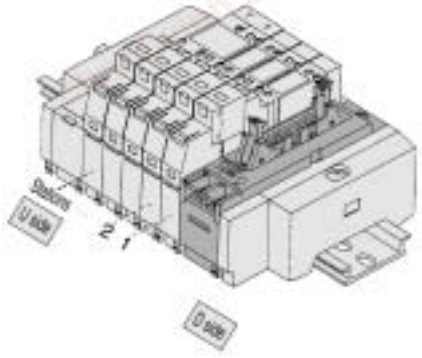


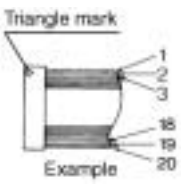
Note) Terminal numbers are not indicated on the connectors. The terminal numbers indicated in the connector schematic shown on the right show the correlation if the inserted connector's flat ribbon cable were numbered 1 to 26 from the triangle mark side, as shown in the figure to the left.

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45(N)PG/Flat Ribbon Cable Type (20 Pins)

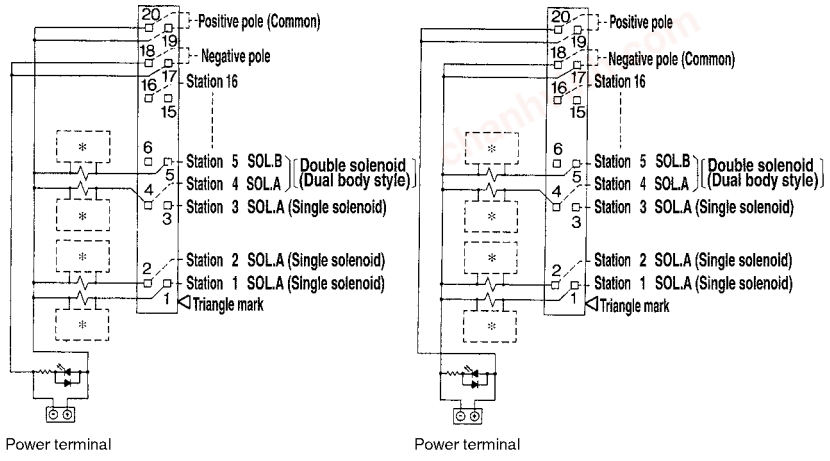
Use of a flat ribbon cable connector for electrical connection helps to achieve simplification and labor savings in connection procedures. Also, connectors conforming to MIL standards are used for wide interchangeability.





Note) Terminal numbers are not indicated on the connectors. The terminal numbers indicated in the connector schematic shown on the right show the correlation if the inserted connector's flat ribbon cable were numbered 1 to 20 from the triangle mark side, as shown in the figure to the left.

<Positive COM (45PG)> **<Negative COM (45NPG)>**



∗ Indicator light/Surge voltage suppressor

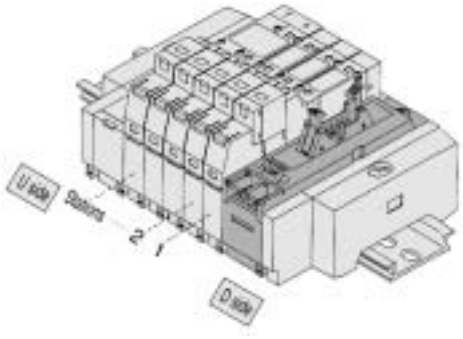
Note 1) When an external power supply is required, connect the power supply to the power terminal.

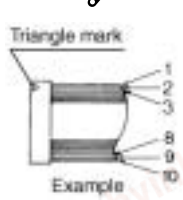
Note 2) A maximum of 16 manifold stations and 16 solenoids can be used. (Contact SMC if more than these quantities are required.)

Note 3) Valves are numbered from the D side regardless of the mounting position of the connector.

45(N)PH/Flat Ribbon Cable Type (10 Pins)

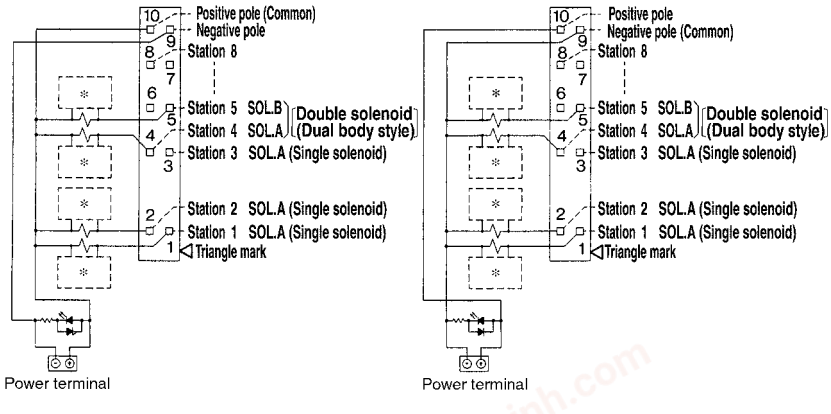
Use of a flat ribbon cable connector for electrical connection helps to achieve simplification and labor savings in connection procedures. Also, connectors conforming to MIL standards are used for wide interchangeability.





Note) Terminal numbers are not indicated on the connectors. The terminal numbers indicated in the connector schematic shown on the right show the correlation if the inserted connector's flat ribbon cable were numbered 1 to 10 from the triangle mark side, as shown in the figure to the left.

<Positive COM (45PH)> **<Negative COM (45NPH)>**



∗ Indicator light/Surge voltage suppressor

Note 1) When an external power supply is required, connect the power supply to the power terminal.

Note 2) A maximum of 8 manifold stations and 8 solenoids can be used. (Contact SMC if more than these quantities are required.)

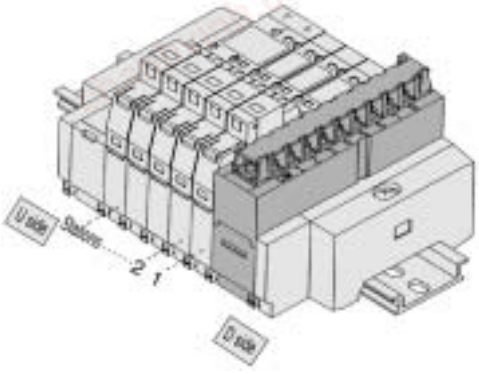
Note 3) Valves are numbered from the D side regardless of the mounting position of the connector.

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Manifold Internal Wiring

45T/Terminal Block Type

Use of a terminal block type for electrical connection allows direct connection without lead wire work.

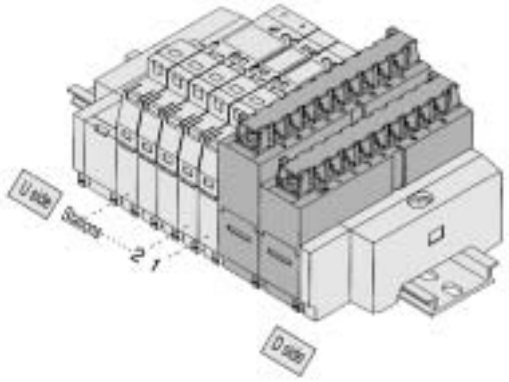


Note 1) A maximum of 8 manifold stations and 8 solenoids can be used. (Contact SMC if more than these quantities are required.)

Note 2) Valves are numbered from the D side regardless of the mounting position of the connector.

Note 3) Since the COM wiring does not have polarity, use a positive power supply for the positive COM specification and a negative power supply for the negative COM specification.

45T1/Terminal Block Type



Note 1) A maximum of 17 manifold stations and 17 solenoids can be used. (Contact SMC if more than these quantities are required.)

Note 2) Valves are numbered from the D side regardless of the mounting position of the connector.

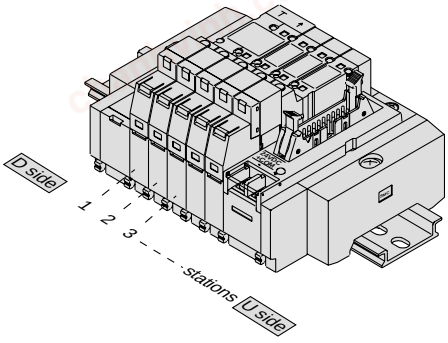
Note 3) Since the COM wiring does not have polarity, use a positive power supply for the positive COM specification and a negative power supply for the negative COM specification.

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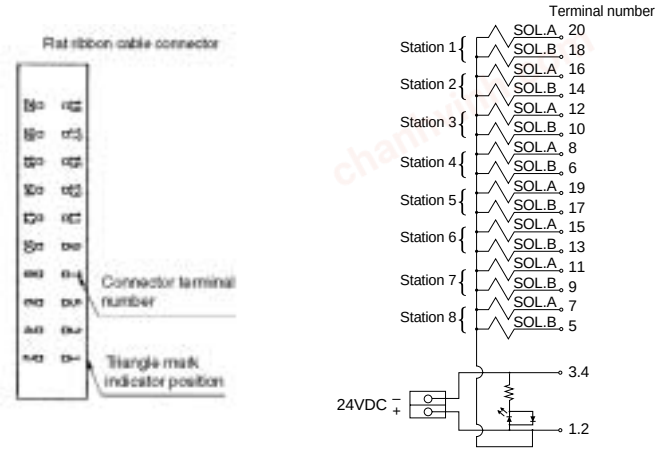
Manifold Internal Wiring

45G/Flat Ribbon Cable Type (PC wiring applicable)

A 20 pin flat ribbon cable connector type manifold that can be used with the PC wiring system.



Electrical circuit diagram (wiring shown below are all double solenoid connections)



Note 1) A maximum of 16 manifold stations and 16 solenoids can be used. (Contact SMC if more than these quantities are required.)

Note 2) Valves are numbered from the D side regardless of the mounting position of the connector.

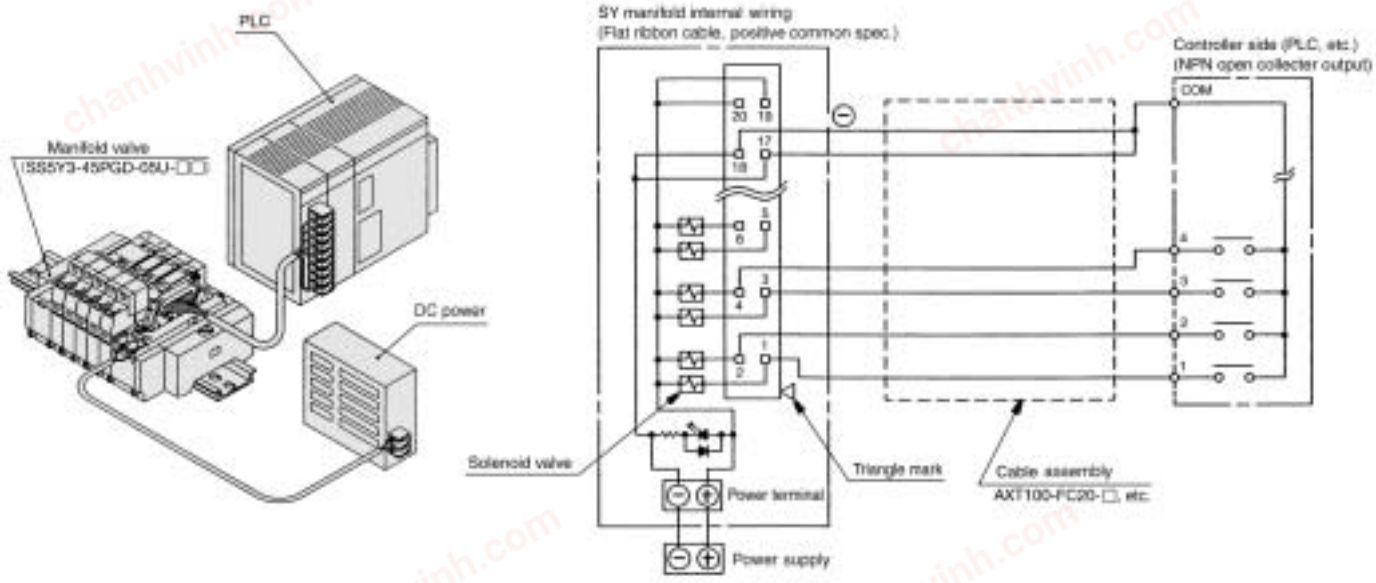
(Refer to the separate catalogue CAT.ES02-20A for details regarding the PC wiring system.)

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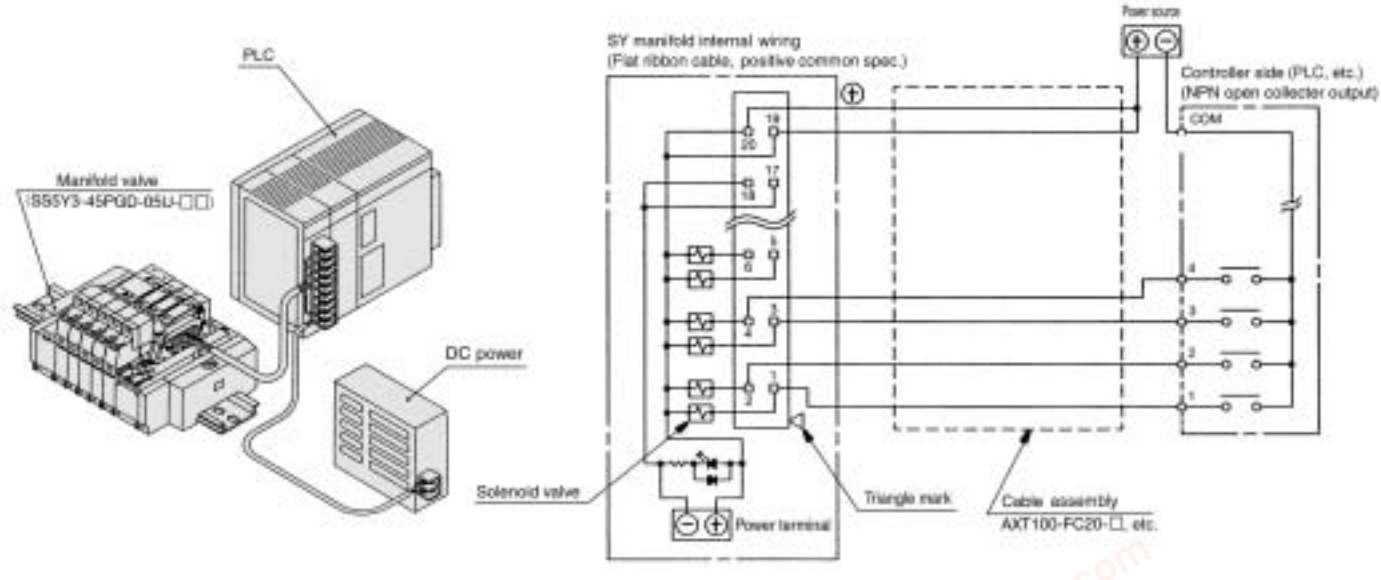
Wiring of Plug-in Type SS5Y□-45□

Series SY plug-in type manifolds are equipped with a power terminal as standard. The power terminal enables power supply to valves from either the controller side or manifold side. Refer to wiring examples below for either connection.

1. Wiring example with manifold power terminal



2. Wiring example without manifold power terminal (Power supplied to the controller side or to the wiring, etc.)



⚠ Caution

When connecting to a PLC, etc., the connection method for the signal lines and COM positions are different for each manufacturer. Carefully study the electrical circuits in in each catalog before connecting. Incorrect connection may cause malfunction in the PLC (control side) and power supply, etc., as well as in manifolds and valves.

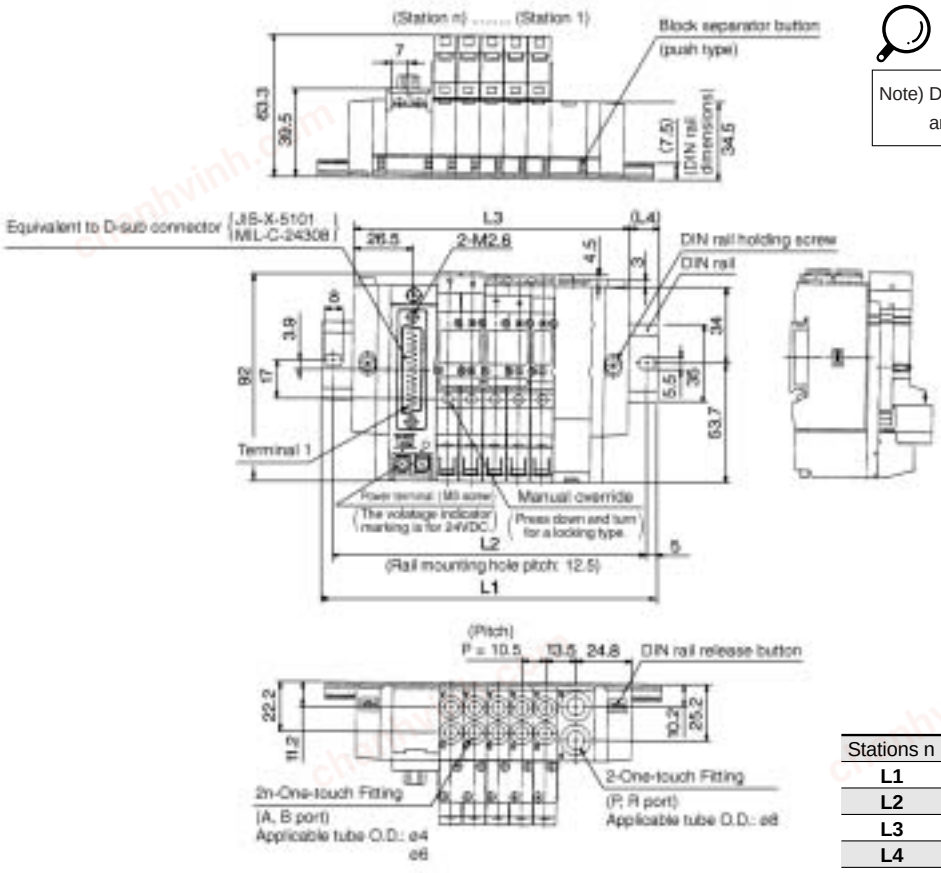
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Type 45□

SY3000: D-sub Connector Type/Plug-in

SS5Y3-45FU-Stations D - C4/C6 -Q

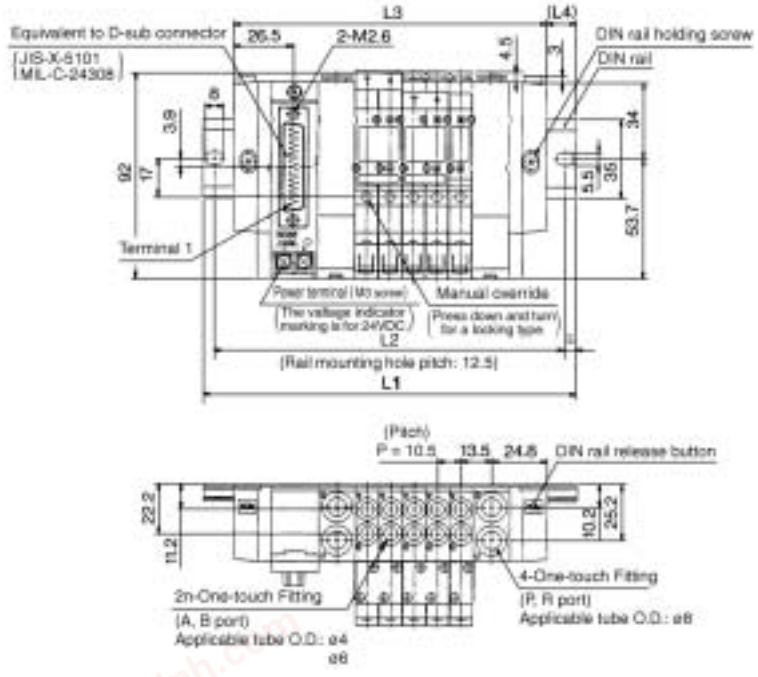
Scale: 30%



Note) Dimensions L1 to L4 of SS5Y3-45FU-Stations U-C4/C6-Q are the same as SS5Y3-45FU-Stations D-C4/C6-Q.

Stations n	2	3	4	5	6	7	8	9	10
L1	123	135.5	148	148	160.5	173	185.5	198	210.5
L2	112.5	125	137.5	137.5	150	162.5	175	187.5	200
L3	91.5	102	112.5	123	133.5	144	154.5	165	175.5
L4	15.5	16.5	17.5	12.5	13.5	14.5	15.5	16.5	17.5

SS5Y3-45FU-Stations B-C4/C6 -Q



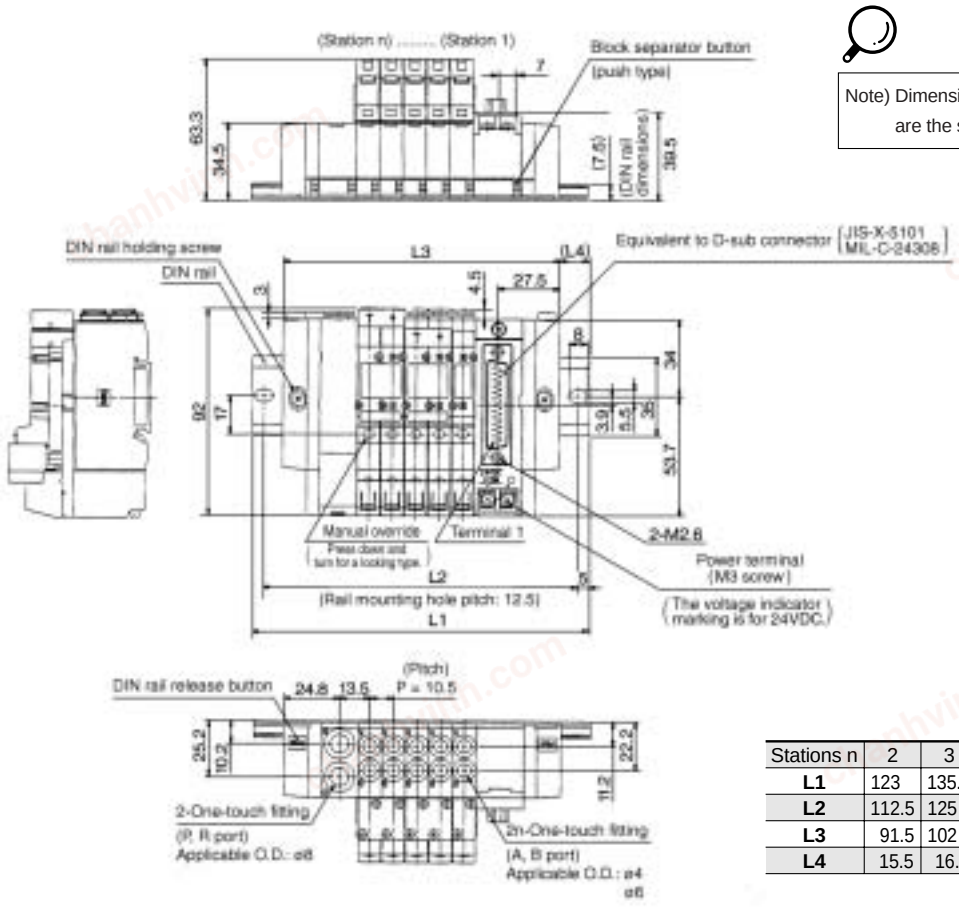
Stations n	2	3	4	5	6	7	8	9	10
L1	135.5	148	160.5	173	185.5	185.5	198	210.5	223
L2	125	137.5	150	162.5	175	175	187.5	200	212.5
L3	108	118.5	129	139.5	150	160.5	171	181.5	192
L4	13.5	14.5	15.5	16.5	17.5	12.5	13.5	14.5	15.5

Stations n	11	12	13	14	15	16	17	18	19	20
L1	235.5	248	248	260.5	273	285.5	298	310.5	310.5	323
L2	225	237.5	237.5	250	262.5	275	287.5	300	300	312.5
L3	202.5	213	223.5	234	244.5	255	265.5	276	286.5	297
L4	16.5	17.5	12	13	14	15	16	17	12	13

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SS5Y3-45FD-[Stations]U-$^{C4}_{C6}$-Q

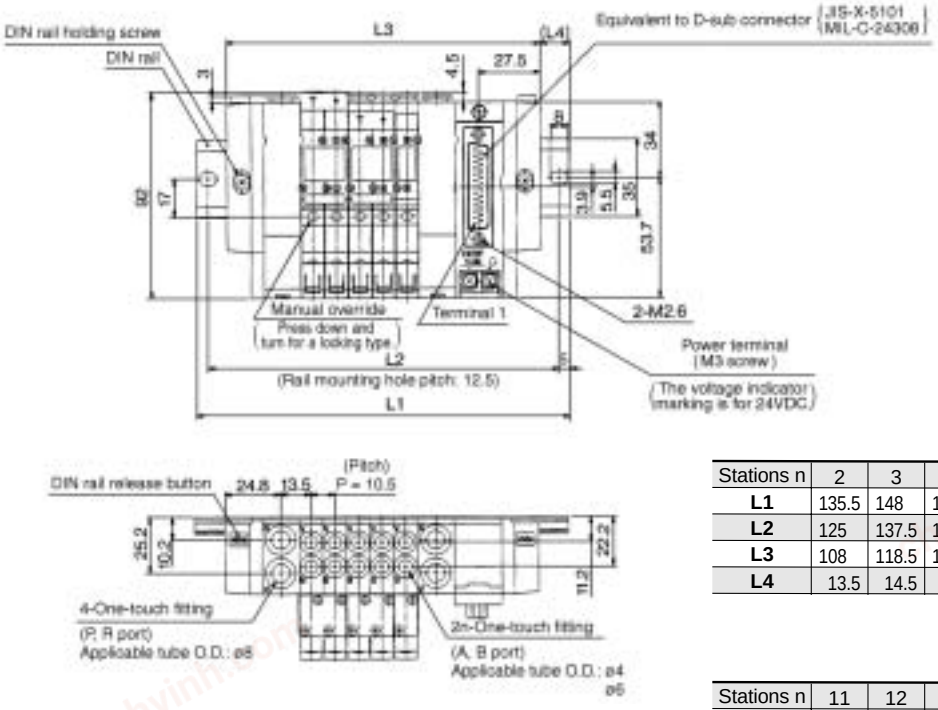
Scale: 30%



Note) Dimensions L1 to L4 of SS5Y3-45FD-[Stations]D-$^{C4}_{C6}$-Q are the same as SS5Y3-45FD-[Stations]U-$^{C4}_{C6}$-Q.

Stations n	2	3	4	5	6	7	8	9	10
L1	123	135.5	148	148	160.5	173	185.5	198	210.5
L2	112.5	125	137.5	137.5	150	162.5	175	187.5	200
L3	91.5	102	112.5	123	133.5	144	154.5	165	175.5
L4	15.5	16.5	17.5	12.5	13.5	14.5	15.5	16.5	17.5

SS5Y3-45FD-[Stations]B-$^{C4}_{C6}$-Q



Stations n	2	3	4	5	6	7	8	9	10
L1	135.5	148	160.5	173	185.5	185.5	198	210.5	223
L2	125	137.5	150	162.5	175	175	187.5	200	212.5
L3	108	118.5	129	139.5	150	160.5	171	181.5	192
L4	13.5	14.5	15.5	16.5	17.5	12.5	13.5	14.5	15.5

Stations n	11	12	13	14	15	16	17	18	19	20
L1	235.5	248	248	260.5	273	285.5	298	310.5	310.5	323
L2	225	237.5	237.5	250	262.5	275	287.5	300	300	312.5
L3	202.5	213	223.5	234	244.5	255	265.5	276	286.5	297
L4	16.5	17.5	12	13	14	15	16	17	12	13

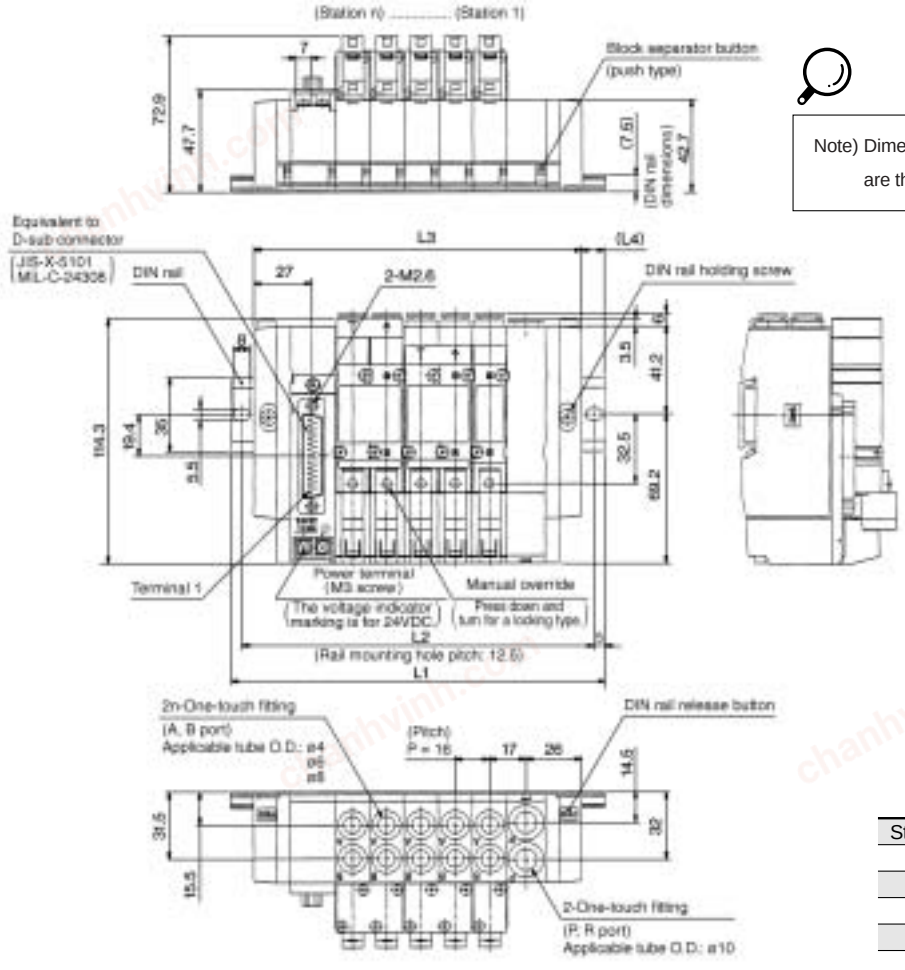
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Type 45□

SY5000: D-sub Connector Type/Plug-in

SS5Y5-45FU-[Stations]D-C4/C6/C8-Q

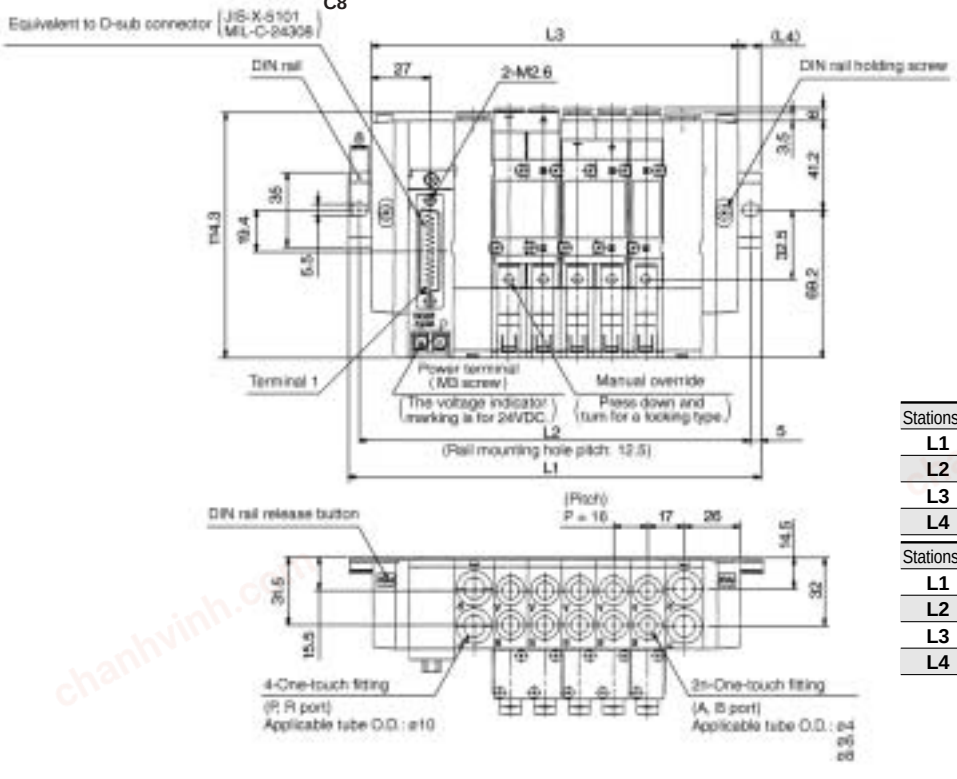
Scale: 30%



Note) Dimensions L1 to L4 of SS5Y5-45FU-[Stations]U-C4/C6/C8-Q are the same as SS5Y5-45FU-[Stations]D-C4/C6/C8-Q.

Stations n	2	3	4	5	6	7	8	9	10
L1	135.5	148	160.5	185.5	198	210.5	235.5	248	260.5
L2	125	137.5	150	175	187.5	200	225	237.5	250
L3	105	121	137	153	169	185	201	217	233
L4	15	13.5	11.5	16	14.5	12.5	17	15.5	13.5

SS5Y5-45FU-[Stations]B-C4/C6/C8-Q



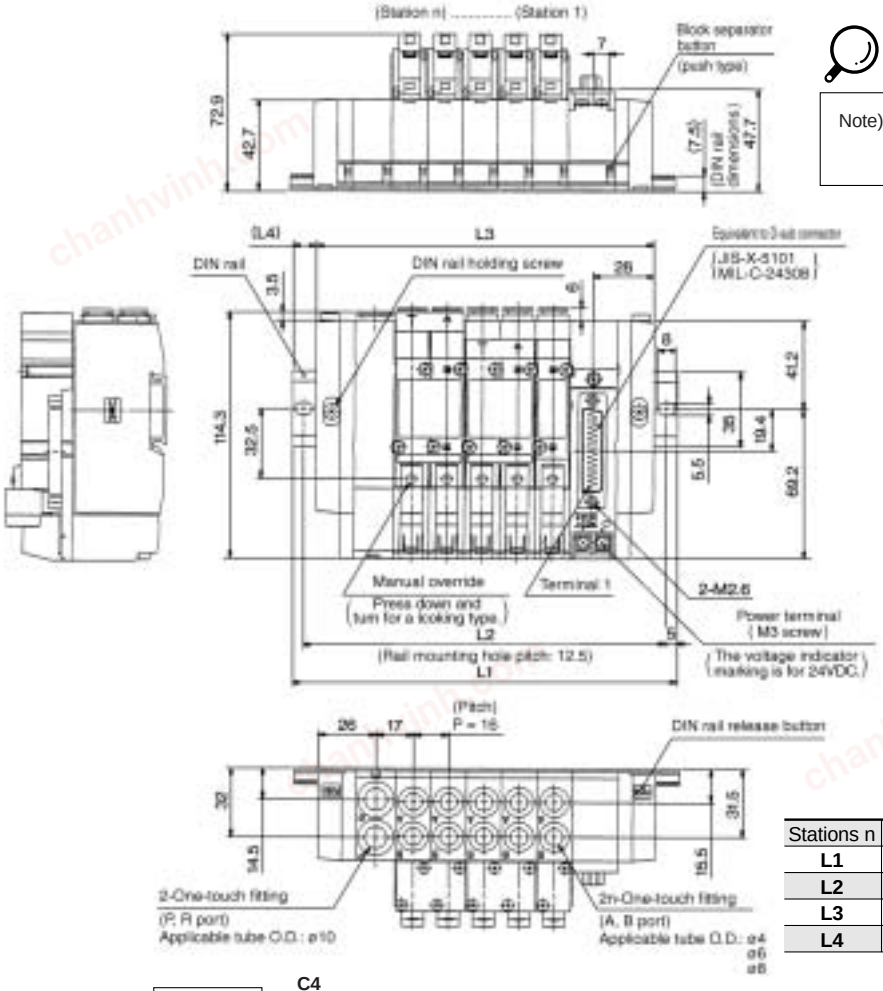
Stations n	2	3	4	5	6	7	8	9	10
L1	148	173	185.5	198	210.5	235.5	248	260.5	285.5
L2	137.5	162.5	175	187.5	200	225	237.5	250	275
L3	123	139	155	171	187	203	219	235	251
L4	12.5	17	15	13.5	11.5	16	14.5	12.5	17

Stations n	11	12	13	14	15	16	17	18	19	20
L1	298	310.5	323	348	360.5	373	398	410.5	423	435.5
L2	287.5	300	312.5	337.5	350	362.5	387.5	400	412.5	425
L3	267	283	299	315	331	347	363	379	395	411
L4	15.5	13.5	12	16.5	14.5	13	17.5	15.5	14	12

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SS5Y5-45FD-Stations U-C4/C6/C8-Q

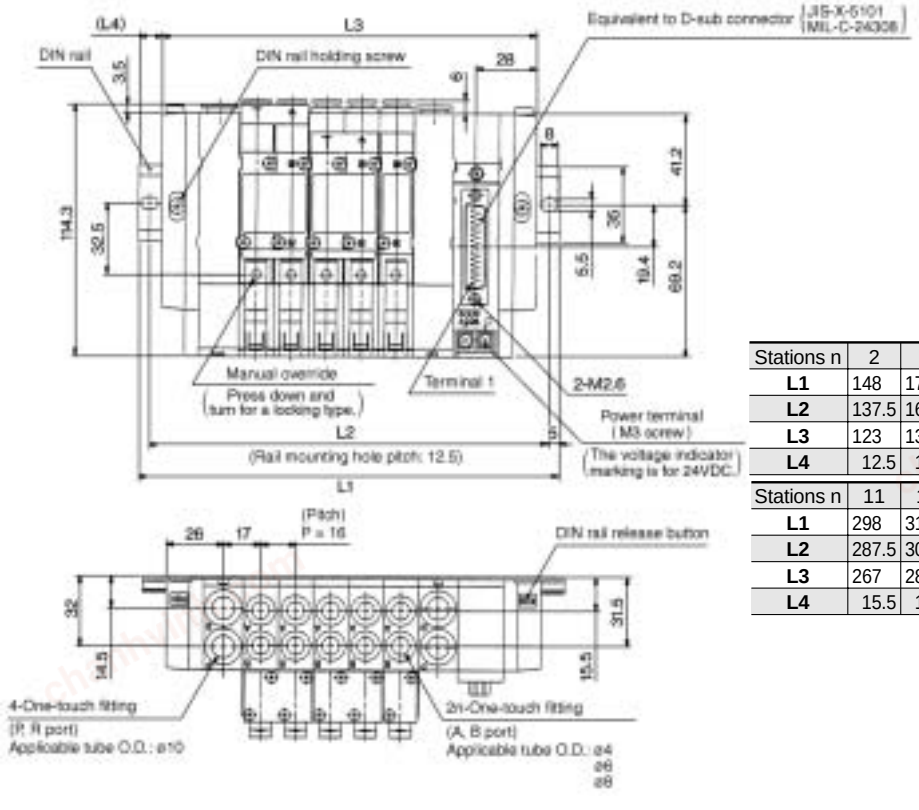
Scale: 30%



Note) Dimensions L1 to L4 of SS5Y5-45FD-Stations D-C4/C6/C8-Q are the same as SS5Y5-45FD-Stations U-C4/C6/C8-Q.

Stations n	2	3	4	5	6	7	8	9	10
L1	135.5	148	160.5	185.5	198	210.5	235.5	248	260.5
L2	125	137.5	150	175	187.5	200	225	237.5	250
L3	105	121	137	153	169	185	201	217	233
L4	15	13.5	11.5	16	14.5	12.5	17	15.5	13.5

SS5Y5-45FD-Stations B-C4/C6/C8-Q



Stations n	2	3	4	5	6	7	8	9	10
L1	148	173	185.5	198	210.5	235.5	248	260.5	285.5
L2	137.5	162.5	175	187.5	200	225	237.5	250	275
L3	123	139	155	171	187	203	219	235	251
L4	12.5	17	15	13.5	11.5	16	14.5	12.5	17

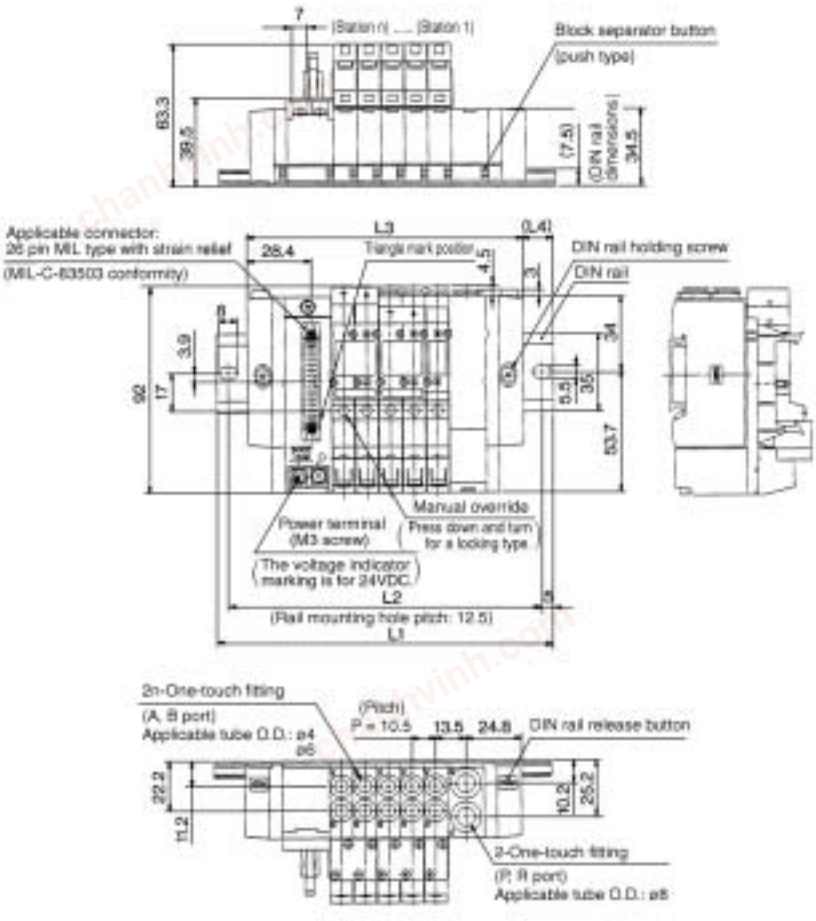
Stations n	11	12	13	14	15	16	17	18	19	20
L1	298	310.5	323	348	360.5	373	398	410.5	423	435.5
L2	287.5	300	312.5	337.5	350	362.5	387.5	400	412.5	425
L3	267	283	299	315	331	347	363	379	395	411
L4	15.5	13.5	12	16.5	14.5	13	17.5	15.5	14	12

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SY3000: Flat Ribbon Cable Type/Plug-in

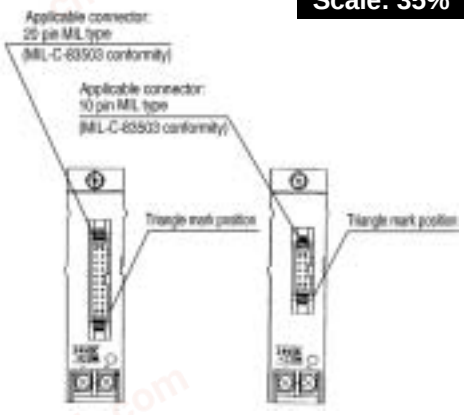
SS5Y3-45PU-[Stations] D-$^{C4}_{C6}$-Q (26 pins)

Scale: 30%



Note) Dimensions L1 to L4 of SS5Y3-45P□U-[Stations]U-$^{C4}_{C6}$-Q are the same as SS5Y3-45P□U-[Stations]D-$^{C4}_{C6}$-Q.

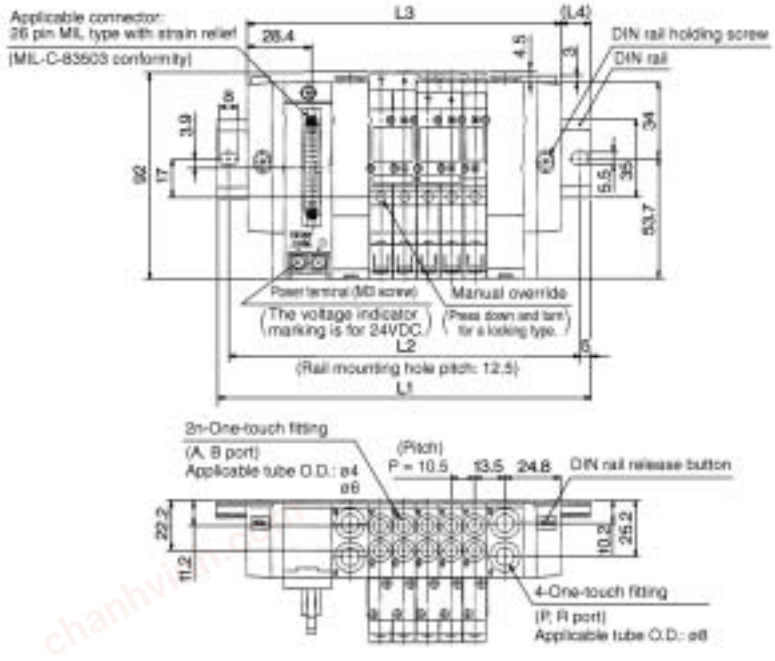
Scale: 35%



For 45PG (20 pins) **For 45PH (10 pins)**

Stations n	2	3	4	5	6	7	8	9	10
L1	123	135.5	148	148	160.5	173	185.5	198	210.5
L2	112.5	125	137.5	137.5	150	162.5	175	187.5	200
L3	91.5	102	112.5	123	133.5	144	154.5	165	175.5
L4	15.5	16.5	17.5	12.5	13.5	14.5	15.5	16.5	17.5

SS5Y3-45PU-[Stations] B-$^{C4}_{C6}$-Q (26 pins)



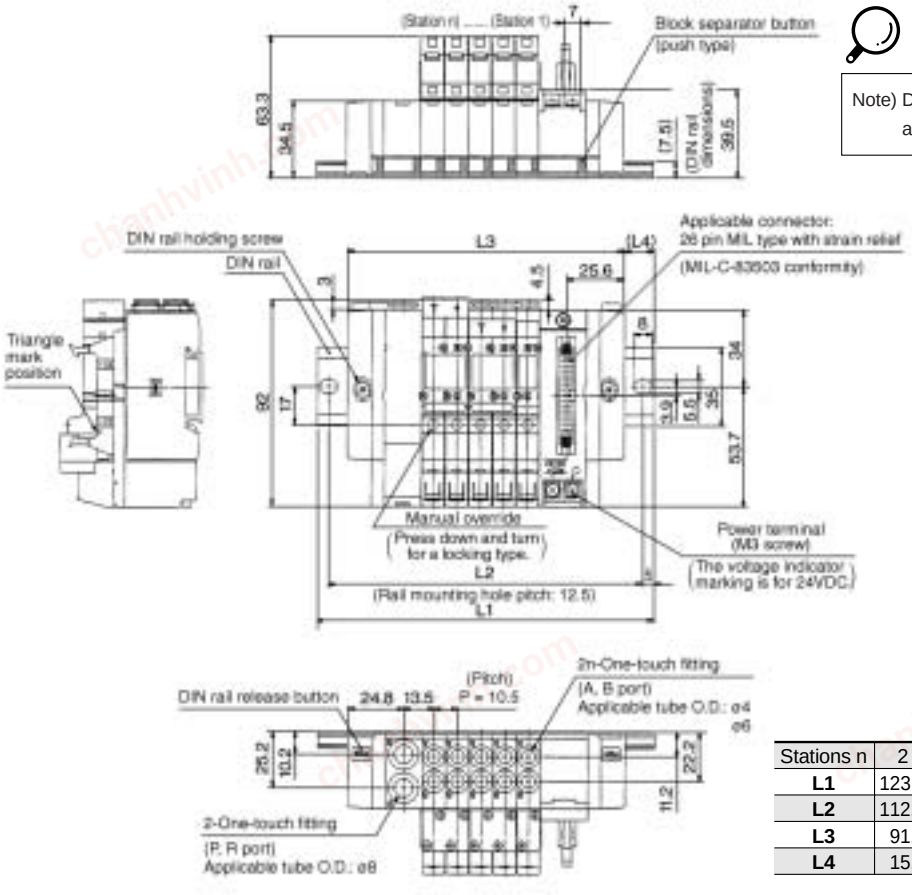
Stations n	2	3	4	5	6	7	8	9	10
L1	135.5	148	160.5	173	185.5	185.5	198	210.5	223
L2	125	137.5	150	162.5	175	175	187.5	200	212.5
L3	108	118.5	129	139.5	150	160.5	171	181.5	192
L4	13.5	14.5	15.5	16.5	17.5	12.5	13.5	14.5	15.5

Stations n	11	12	13	14	15	16	17	18	19	20
L1	235.5	248	248	260.5	273	285.5	298	310.5	310.5	323
L2	225	237.5	237.5	250	262.5	275	287.5	300	300	312.5
L3	202.5	213	223.5	234	244.5	255	265.5	276	286.5	297
L4	16.5	17.5	12	13	14	15	16	17	12	13

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SS5Y3-45PD-Stations U-$^{C4}_{C6}$-Q (26 pins)

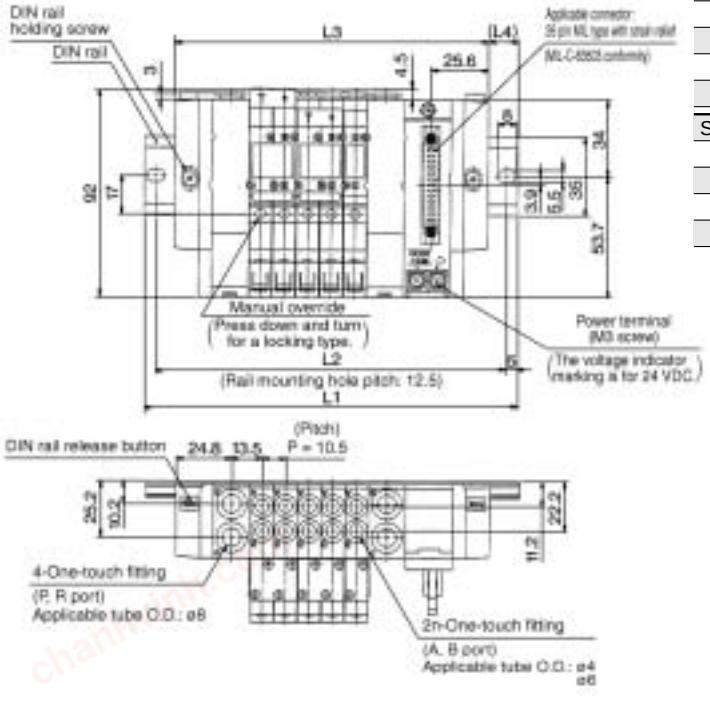
Scale: 30%



Note) Dimensions L1 to L4 of SS5Y3-45P□D-Stations D-$^{C4}_{C6}$-Q are the same as SS5Y3-45P□D-Stations U-$^{C4}_{C6}$-Q.

Stations n	2	3	4	5	6	7	8	9	10
L1	123	135.5	148	148	160.5	173	185.5	198	210.5
L2	112.5	125	137.5	137.5	150	162.5	175	187.5	200
L3	91.5	102	112.5	123	133.5	144	154.5	165	175.5
L4	15.5	16.5	17.5	12.5	13.5	14.5	15.5	16.5	17.5

SS5Y3-45PD-Stations B-$^{C4}_{C6}$-Q (26 pins)



Stations n	2	3	4	5	6	7	8	9	10
L1	135.5	148	160.5	173	185.5	185.5	198	210.5	223
L2	125	137.5	150	162.5	175	175	187.5	200	212.5
L3	108	118.5	129	139.5	150	160.5	171	181.5	192
L4	13.5	14.5	15.5	16.5	17.5	12.5	13.5	14.5	15.5

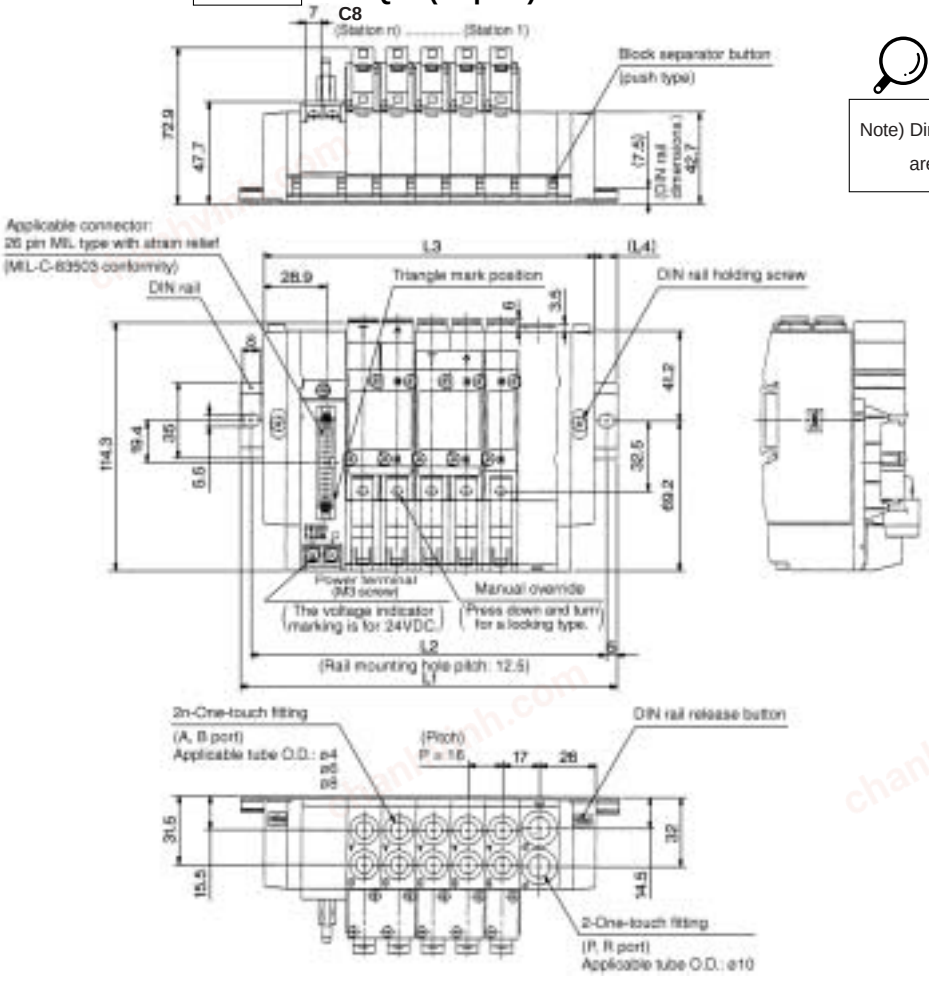
Stations n	11	12	13	14	15	16	17	18	19	20
L1	235.5	248	248	260.5	273	285.5	298	310.5	310.5	323
L2	225	237.5	237.5	250	262.5	275	287.5	300	300	312.5
L3	202.5	213	223.5	234	244.5	255	265.5	276	286.5	297
L4	16.5	17.5	12	13	14	15	16	17	12	13

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SY5000: Flat Ribbon Cable Type/Plug-in

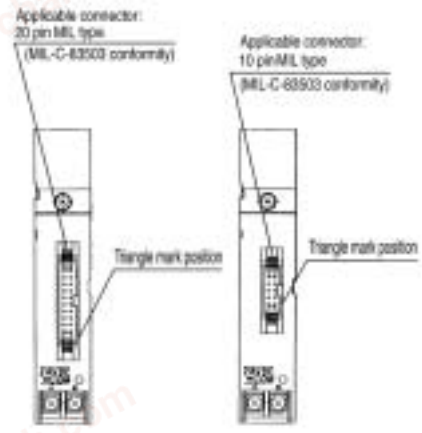
SS5Y5-45PU-[Stations] D-C4/C6/C8-Q (26 pins)

Scale: 30%



Note) Dimensions L1 to L4 of SS5Y5-45P□U-[Stations]U-C4/C6/C8-Q are the same as SS5Y5-45P□U-[Stations]D-C4/C6/C8-Q.

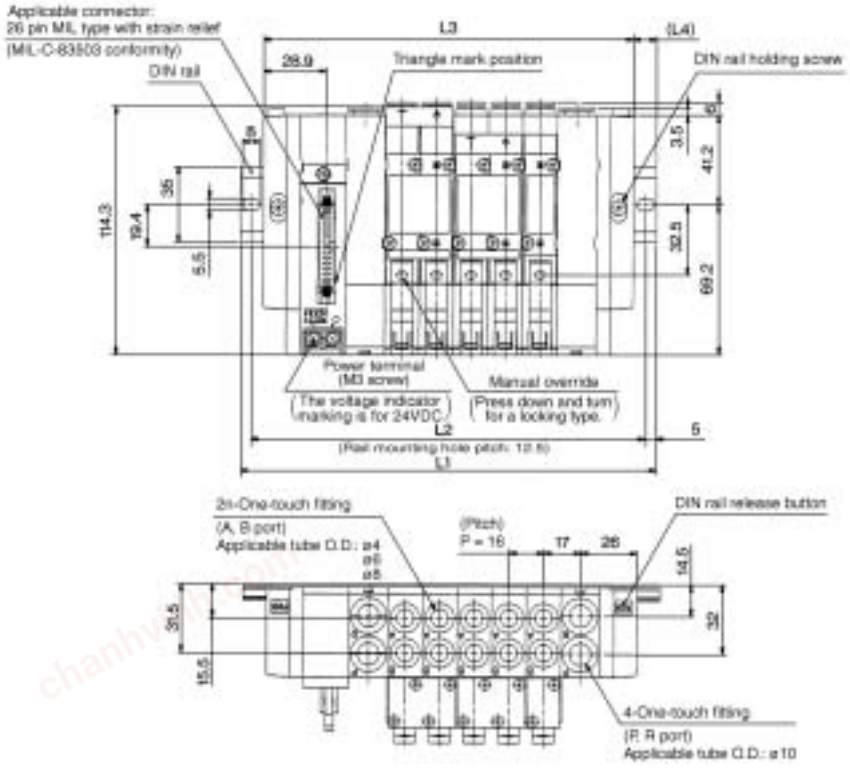
Scale: 35%



For 45PG (20 pins) **For 45PH (10 pins)**

Stations n	2	3	4	5	6	7	8	9	10
L1	135.5	148	160.5	185.5	198	210.5	235.5	248	260.5
L2	125	137.5	150	175	187.5	200	225	237.5	250
L3	105	121	137	153	169	185	201	217	233
L4	15	13.5	11.5	16	14.5	12.5	17	15.5	13.5

SS5Y5-45PU-[Stations] B-C4/C6/C8-Q (26 pins)



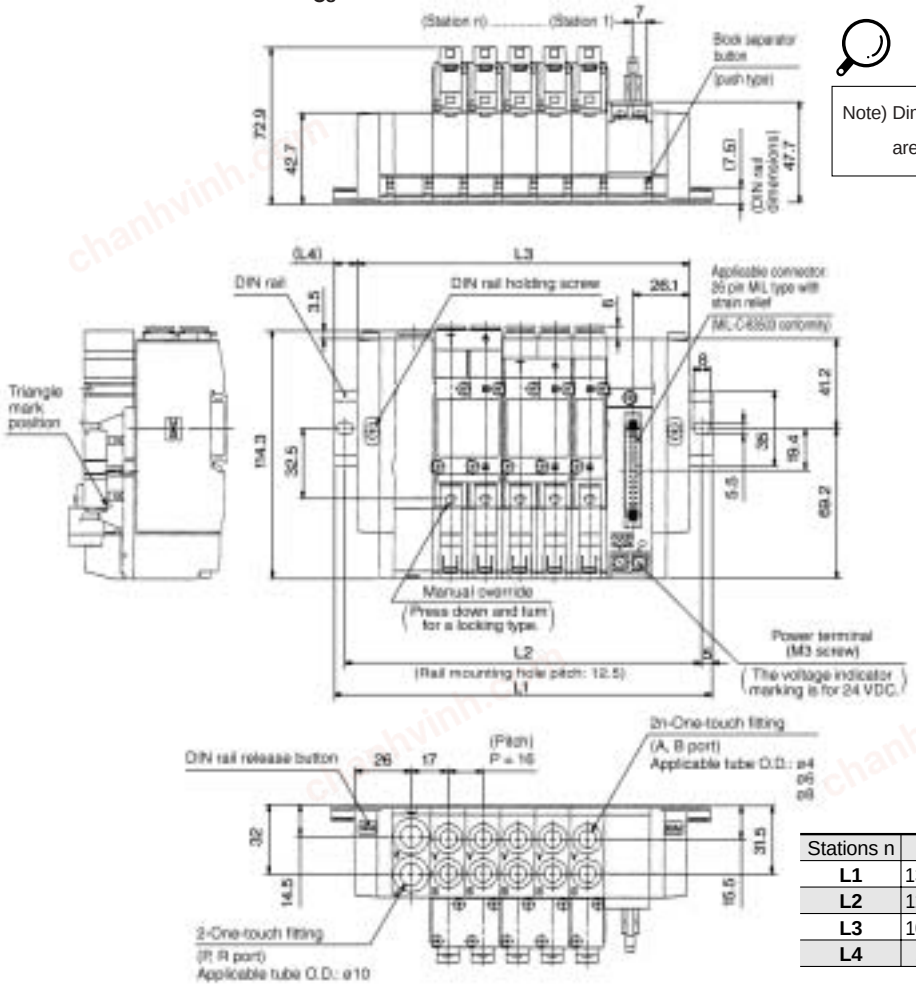
Stations n	2	3	4	5	6	7	8	9	10
L1	148	173	185.5	198	210.5	235.5	248	260.5	285.5
L2	137.5	162.5	175	187.5	200	225	237.5	250	275
L3	123	139	155	171	187	203	219	235	251
L4	12.5	17	15	13.5	11.5	16	14.5	12.5	17

Stations n	11	12	13	14	15	16	17	18	19	20
L1	298	310.5	323	348	360.5	373	398	410.5	423	435.5
L2	287.5	300	312.5	337.5	350	362.5	387.5	400	412.5	425
L3	267	283	299	315	331	347	363	379	395	411
L4	15.5	13.5	12	16.5	14.5	13	17.5	15.5	14	12

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SS5Y5-45PD-[Stations]U-C4/C6/C8-Q (26 pins)

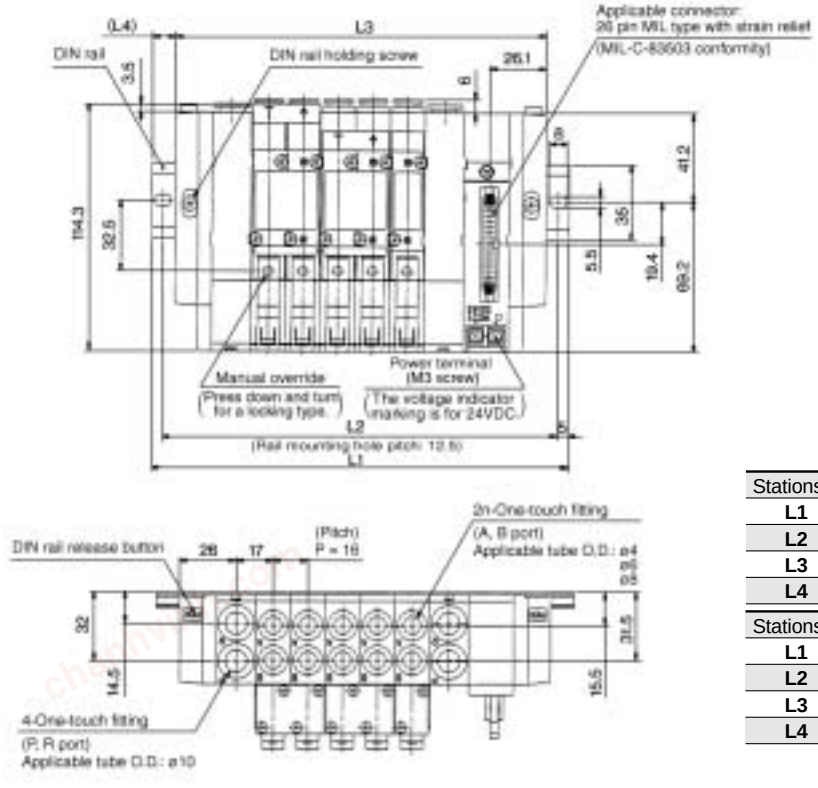
Scale: 30%



Note) Dimensions L1 to L4 of SS5Y5-45P□D-[Stations]D-C4/C6/C8-Q are the same as SS5Y5-45P□D-[Stations]U-C4/C6/C8-Q.

Stations n	2	3	4	5	6	7	8	9	10
L1	135.5	148	160.5	185.5	198	210.5	235.5	248	260.5
L2	125	137.5	150	175	187.5	200	225	237.5	250
L3	105	121	137	153	169	185	201	217	233
L4	15	13.5	11.5	16	14.5	12.5	17	15.5	13.5

SS5Y5-45PD-[Stations]B-C4/C6/C8-Q (26 pins)



Stations n	2	3	4	5	6	7	8	9	10
L1	148	173	185.5	198	210.5	235.5	248	260.5	285.5
L2	137.5	162.5	175	187.5	200	225	237.5	250	275
L3	123	139	155	171	187	203	219	235	251
L4	12.5	17	15	13.5	11.5	16	14.5	12.5	17

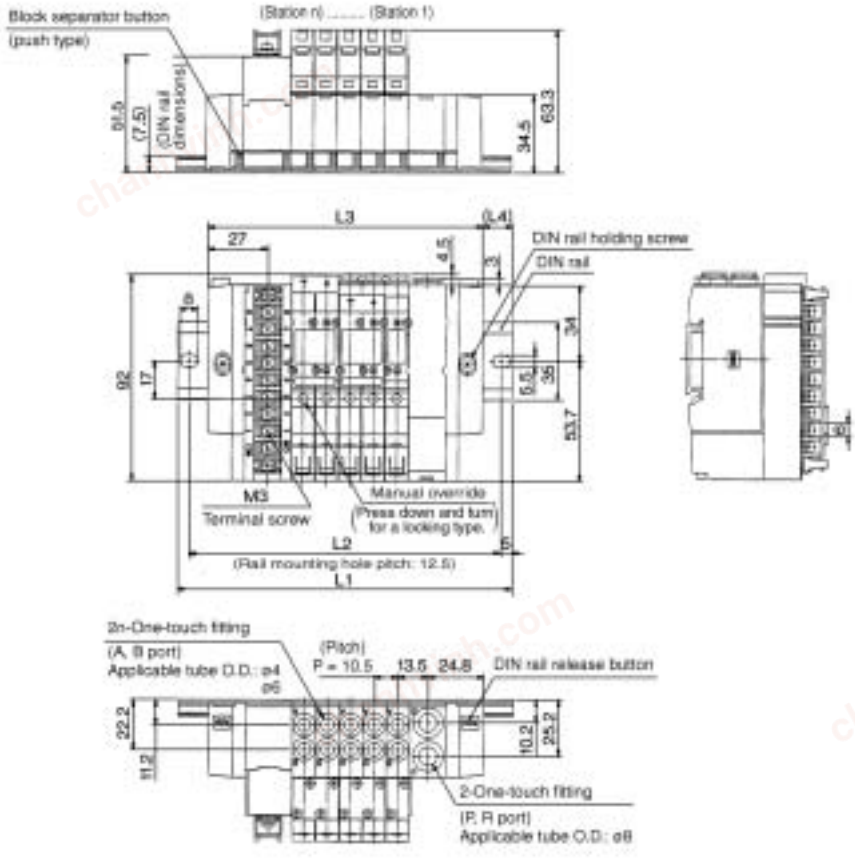
Stations n	11	12	13	14	15	16	17	18	19	20
L1	298	310.5	323	348	360.5	373	398	410.5	423	435.5
L2	287.5	300	312.5	337.5	350	362.5	387.5	400	412.5	425
L3	267	283	299	315	331	347	363	379	395	411
L4	15.5	13.5	12	16.5	14.5	13	17.5	15.5	14	12

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SY3000: Terminal Block 9 Pin Type/Plug-in

SS5Y3-45TU-[Stations]D-$^{C4}_{C6}$-Q (9 pins)

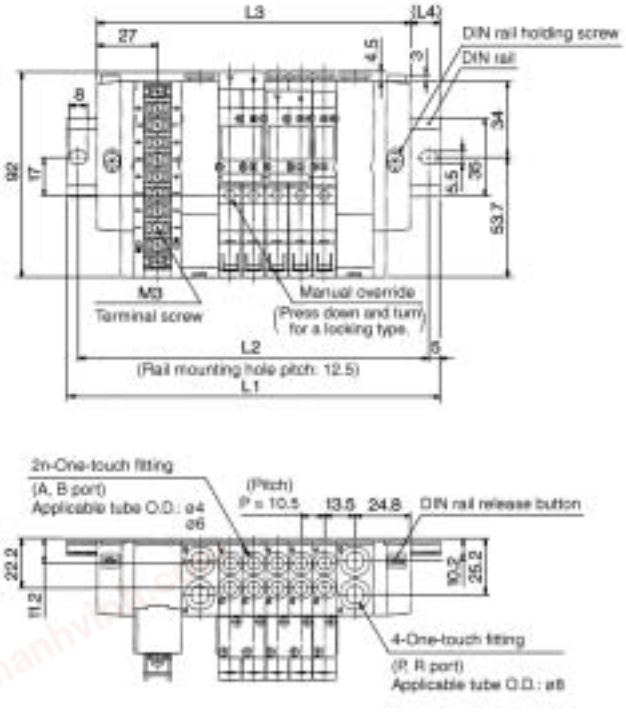
Scale: 30%



Note) Dimensions L1 to L4 of
SS5Y3-45TU-[Stations]U-$^{C4}_{C6}$-Q,
SS5Y3-45TD-[Stations]U-$^{C4}_{C6}$-Q, and
SS5Y3-45TD-[Stations]D-$^{C4}_{C6}$-Q
are the same as SS5Y3-45TU-[Stations]D-$^{C4}_{C6}$-Q.

Stations n	2	3	4	5	6	7	8
L1	123	135.5	148	148	160.5	173	185.5
L2	112.5	125	137.5	137.5	150	162.5	175
L3	91.5	102	112.5	123	133.5	144	154.5
L4	15.5	16.5	17.5	12.5	13.5	14.5	15.5

SS5Y3-45TU-[Stations]B-$^{C4}_{C6}$-Q (9 pins)



Note) Dimensions L1 to L4 of SS5Y3-45TD-[Stations]B-$^{C4}_{C6}$-Q are the same as SS5Y3-45TU-[Stations]B-$^{C4}_{C6}$-Q.

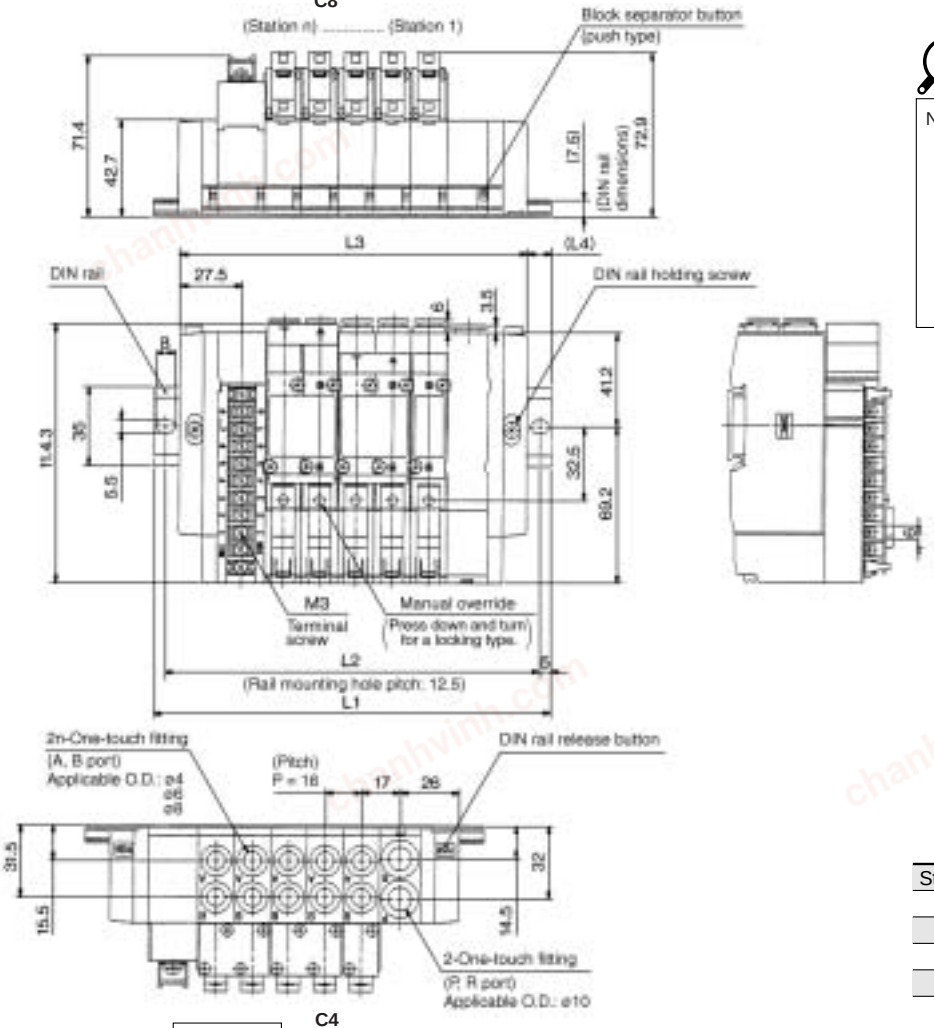
Stations n	2	3	4	5	6	7	8
L1	135.5	148	160.5	173	185.5	185.5	198
L2	125	137.5	150	162.5	175	175	187.5
L3	108	118.5	129	139.5	150	160.5	171
L4	13.5	14.5	15.5	16.5	17.5	12.5	13.5

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SY5000: Terminal Block 9 Pin Type/Plug-in

SS5Y5-45TU-[Stations]D-C4/C6/C8-Q (9 pins)

Scale: 30%



Note) Dimensions L1 to L4 of

SS5Y5-45TU-[Stations]U-C4/C6/C8-Q,

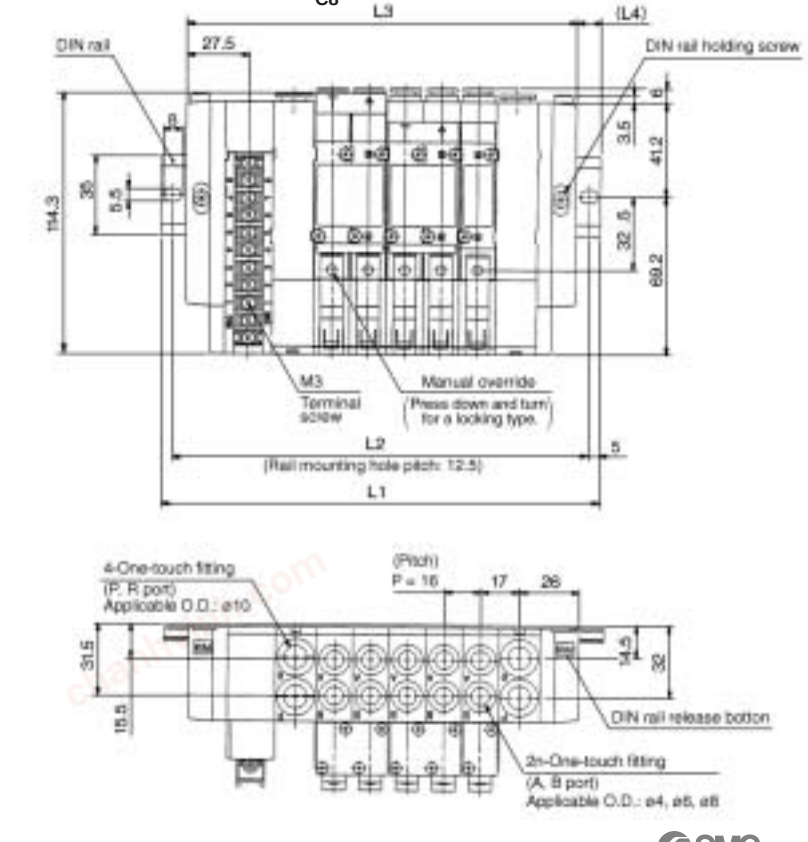
SS5Y5-45TD-[Stations]U-C4/C6/C8-Q, and

SS5Y5-45TD-[Stations]D-C4/C6/C8-Q

are the same as SS5Y5-45TU-[Stations]D-C4/C6/C8-Q.

Stations n	2	3	4	5	6	7	8
L1	135.5	148	160.5	185.5	198	210.5	235.5
L2	125	137.5	150	175	187.5	200	225
L3	105	121	137	153	169	185	201
L4	15	13.5	11.5	16	14.5	12.5	17

SS5Y5-45TU-[Stations]B-C4/C6/C8-Q (9 pins)



Note) Dimensions L1 to L4 of SS5Y5-45TD-[Stations]B-C4/C6/C8-Q are the same as SS5Y5-45TU-[Stations]B-C4/C6/C8-Q.

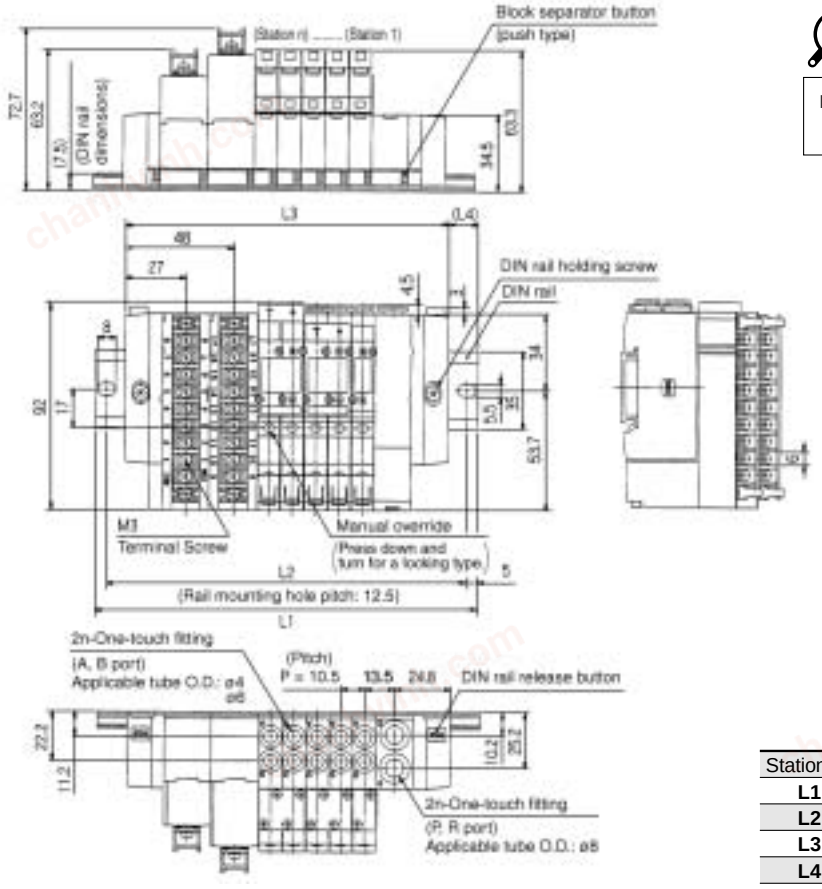
Stations n	2	3	4	5	6	7	8
L1	148	173	185.5	198	210.5	235.5	248
L2	137.5	162.5	175	187.5	200	225	237.5
L3	123	139	155	171	187	203	219
L4	12.5	17	15	13.5	11.5	16	14.5

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SY3000: Terminal Block 18 Pin Type/Plug-in

SS5Y3-45T1U-[Stations]D-$^{C4}_{C6}$-Q (18 pins)

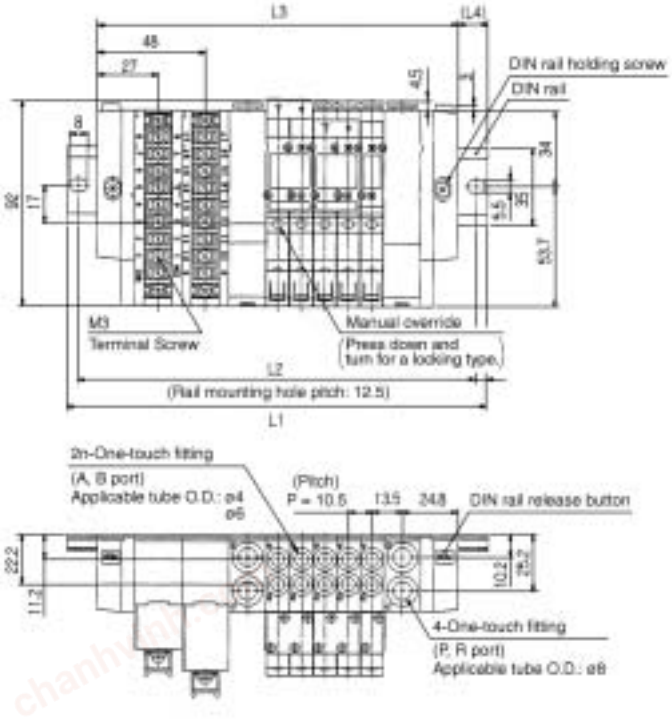
Scale: 30%



Note) Dimensions L1 to L4 of SS5Y3-45T1U-[Stations]U-$^{C4}_{C6}$-Q are the same as SS5Y3-45T1U-[Stations]D-$^{C4}_{C6}$-Q.

Stations n	2	3	4	5	6	7	8	9	10
L1	148	148	160.5	173	185.5	198	210.5	210.5	223
L2	137.5	137.5	150	162.5	175	187.5	200	200	212.5
L3	112.5	123	133.5	144	154.5	165	175.5	186	196.5
L4	17.5	12.5	13.5	14.5	15.5	16.5	17.5	12	13

SS5Y3-45T1U-[Stations]B-$^{C4}_{C6}$-Q (18 pins)



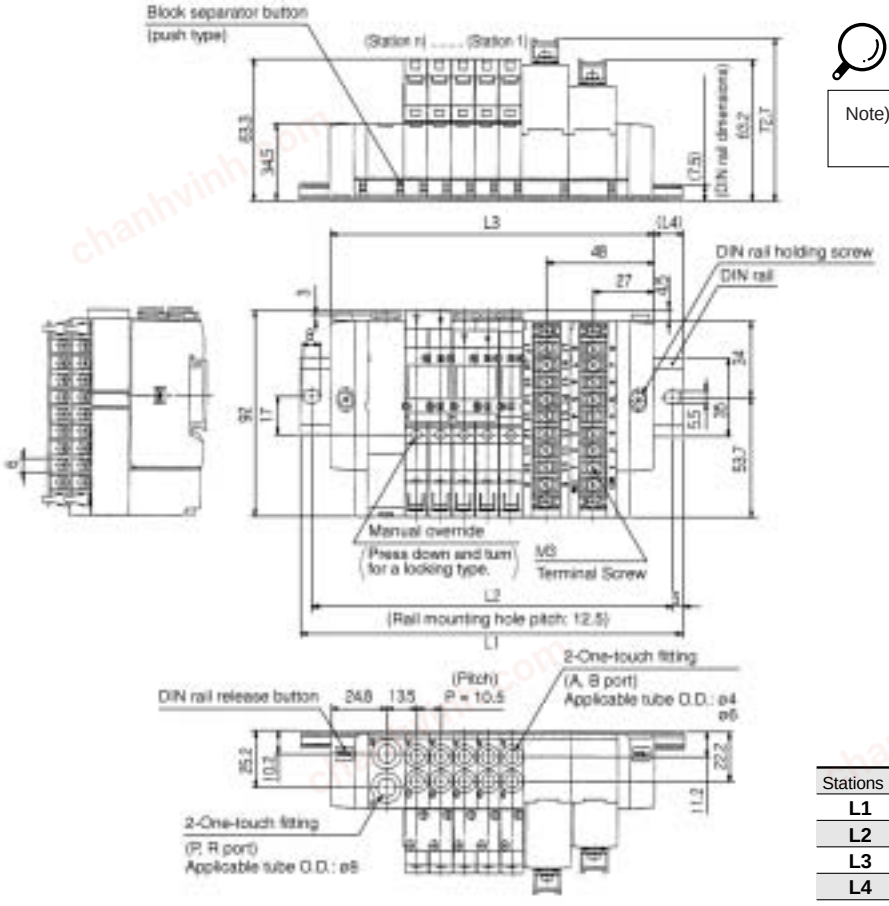
Stations n	2	3	4	5	6	7	8	9
L1	160.5	173	185.5	185.5	198	210.5	223	235.5
L2	150	162.5	175	175	187.5	200	212.5	225
L3	129	139.5	150	160.5	171	181.5	192	202.5
L4	15.5	16.5	17.5	12.5	13.5	14.5	15.5	16.5

Stations n	10	11	12	13	14	15	16	17
L1	248	248	260.5	273	285.5	298	310.5	310.5
L2	237.5	237.5	250	262.5	275	287.5	300	300
L3	213	223.5	234	244.5	255	265.5	276	286.5
L4	17.5	12	13	14	15	16	17	12

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SS5Y3-45T1D-Stations U-C4/C6-Q (18 pins)

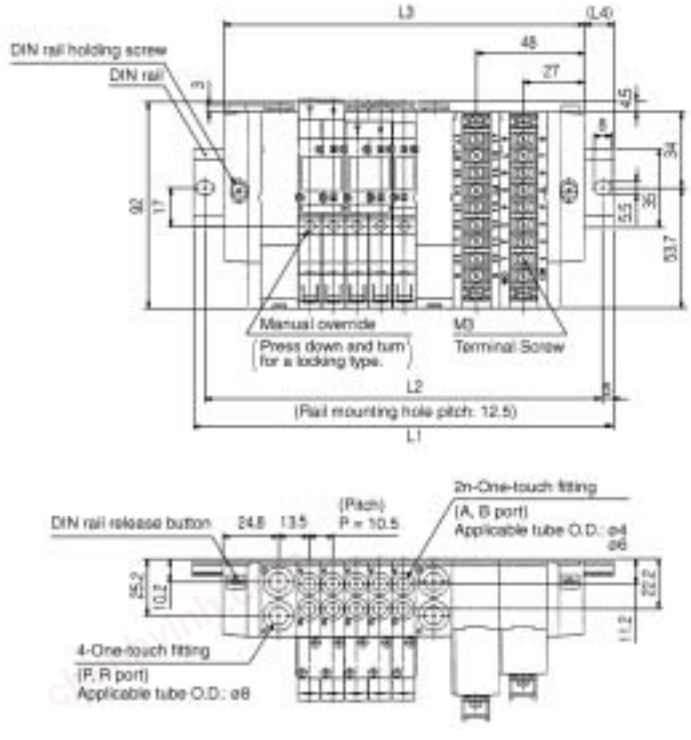
Scale: 30%



Note) Dimensions L1 to L4 of SS5Y3-45T1D-Stations D-C4/C6-Q are the same as SS5Y3-45T1D-Stations U-C4/C6-Q.

Stations n	2	3	4	5	6	7	8	9	10
L1	148	148	160.5	173	185.5	198	210.5	210.5	223
L2	137.5	137.5	150	162.5	175	187.5	200	200	212.5
L3	112.5	123	133.5	144	154.5	165	175.5	186	196.5
L4	17.5	12.5	13.5	14.5	15.5	16.5	17.5	12	13

SS5Y3-45T1D-Stations B-C4/C6-Q (18 pins)



Stations n	2	3	4	5	6	7	8	9
L1	160.5	173	185.5	185.5	198	210.5	223	235.5
L2	150	162.5	175	175	187.5	200	212.5	225
L3	129	139.5	150	160.5	171	181.5	192	202.5
L4	15.5	16.5	17.5	12.5	13.5	14.5	15.5	16.5

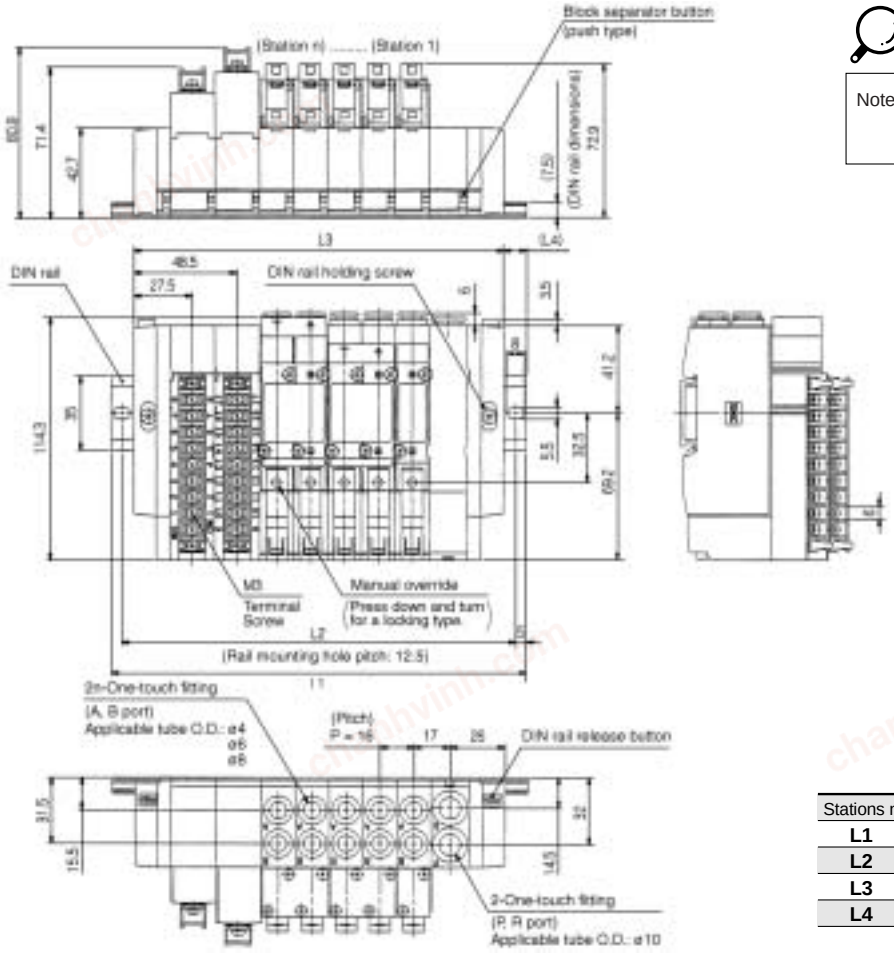
Stations n	10	11	12	13	14	15	16	17
L1	248	248	260.5	273	285.5	298	310.5	310.5
L2	237.5	237.5	250	262.5	275	287.5	300	300
L3	213	223.5	234	244.5	255	265.5	276	286.5
L4	17.5	12	13	14	15	16	17	12

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SY5000: Terminal Block 18 Pin Type/Plug-in

SS5Y5-45T1U-Stations D-C4/C6/C8-Q (18 pins)

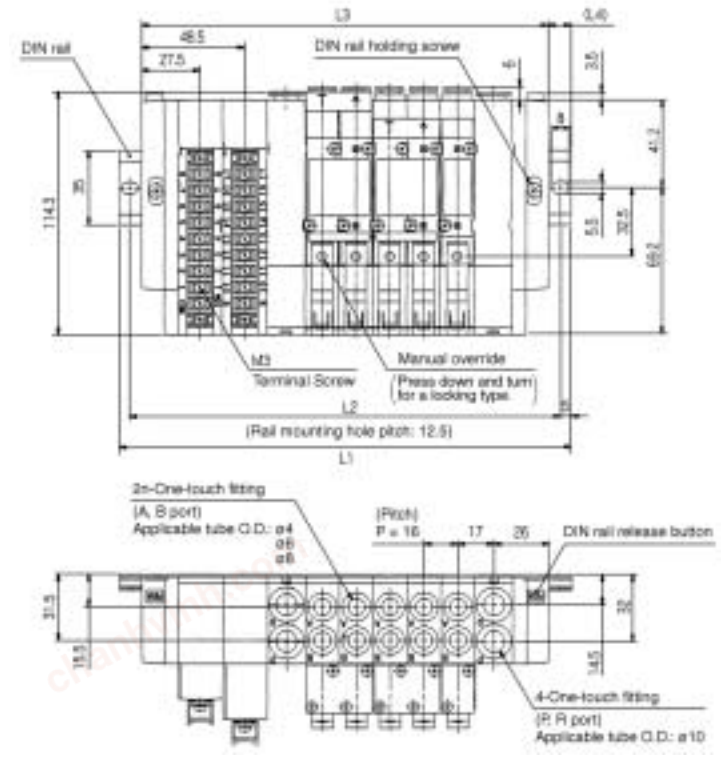
Scale: 30%



Note) Dimensions L1 to L4 of SS5Y5-45T1U-Stations U-C4/C6/C8-Q are the same as SS5Y5-45T1U-Stations D-C4/C6/C8-Q.

Stations n	2	3	4	5	6	7	8	9	10
L1	160.5	173	185.5	198	223	235.5	248	273	285.5
L2	150	162.5	175	187.5	212.5	225	237.5	262.5	275
L3	126	142	158	174	190	206	222	238	254
L4	17	15.5	13.5	12	16.5	14.5	13	17.5	15.5

SS5Y5-45T1U-Stations B-C4/C6/C8-Q (18 pins)



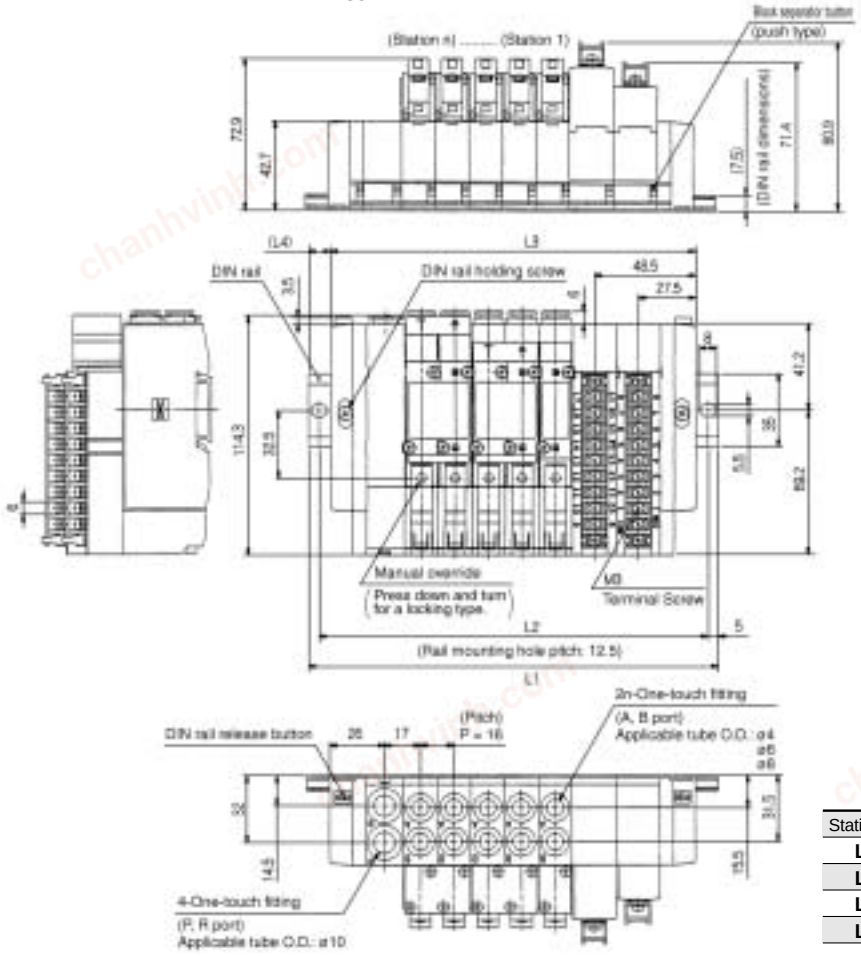
Stations n	2	3	4	5	6	7	8	9
L1	173	185.5	210.5	223	235.5	248	273	285.5
L2	162.5	175	200	212.5	225	237.5	262.5	275
L3	144	160	176	192	208	224	240	256
L4	14.5	12.5	17	15.5	13.5	12	16.5	14.5

Stations n	10	11	12	13	14	15	16	17
L1	298	323	335.5	348	360.5	385.5	398	410.5
L2	287.5	312.5	325	337.5	350	375	387.5	400
L3	272	288	304	320	336	352	368	384
L4	13	17.5	15.5	14	12	16.5	15	13

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SS5Y5-45T1D-[Stations] U-C4/C6/C8-Q (18 pins)

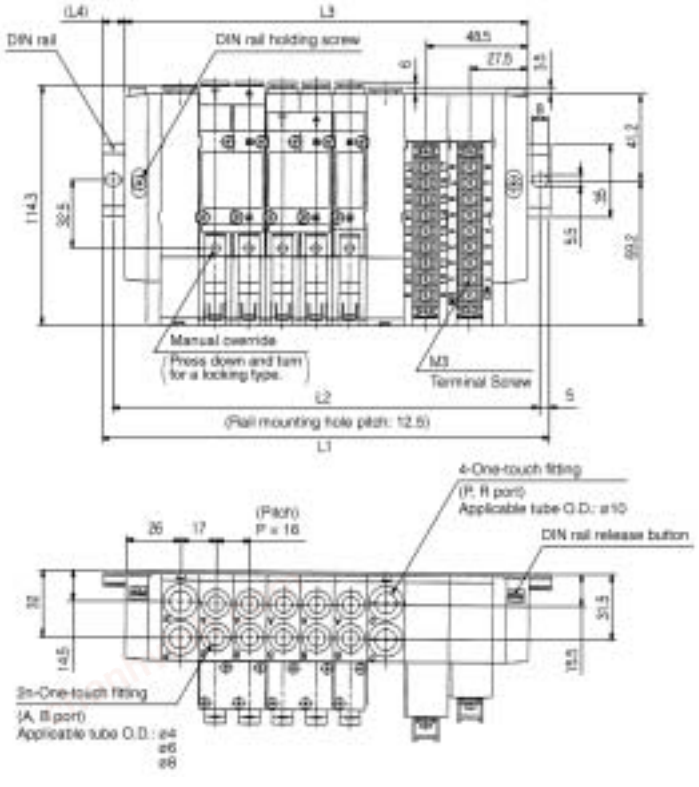
Scale: 30%



Note) Dimensions L1 to L4 of SS5Y5-45T1D-[Stations]D-C4/C6/C8-Q are the same as SS5Y5-45T1D-[Stations]U-C4/C6/C8-Q.

Stations n	2	3	4	5	6	7	8	9	10
L1	160.5	173	185.5	198	223	235.5	248	273	285.5
L2	150	162.5	175	187.5	212.5	225	237.5	262.5	275
L3	126	142	158	174	190	206	222	238	254
L4	17	15.5	13.5	12	16.5	14.5	13	17.5	15.5

SS5Y5-45T1D-[Stations] B-C4/C6/C8-Q (18 pins)



Stations n	2	3	4	5	6	7	8	9
L1	173	185.5	210.5	223	235.5	248	273	285.5
L2	162.5	175	200	212.5	225	237.5	262.5	275
L3	144	160	176	192	208	224	240	256
L4	14.5	12.5	17	15.5	13.5	12	16.5	14.5

Stations n	10	11	12	13	14	15	16	17
L1	298	323	335.5	348	360.5	385.5	398	410.5
L2	287.5	312.5	325	337.5	350	375	387.5	400
L3	272	288	304	320	336	352	368	384
L4	13	17.5	15.5	14	12	16.5	15	13

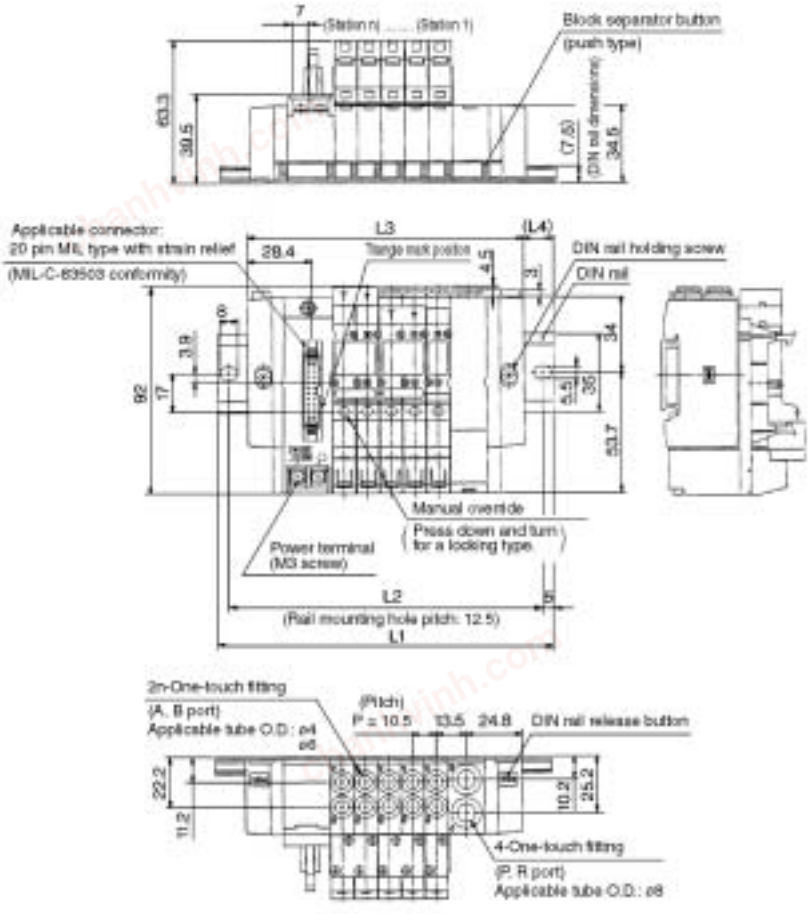
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Type 45□

SY3000: PC Wiring System Compatible (Flat Ribbon Cable Type/Plug-in)

SS5Y3-45GU-[Stations]D-$^{C4}_{C6}$-Q

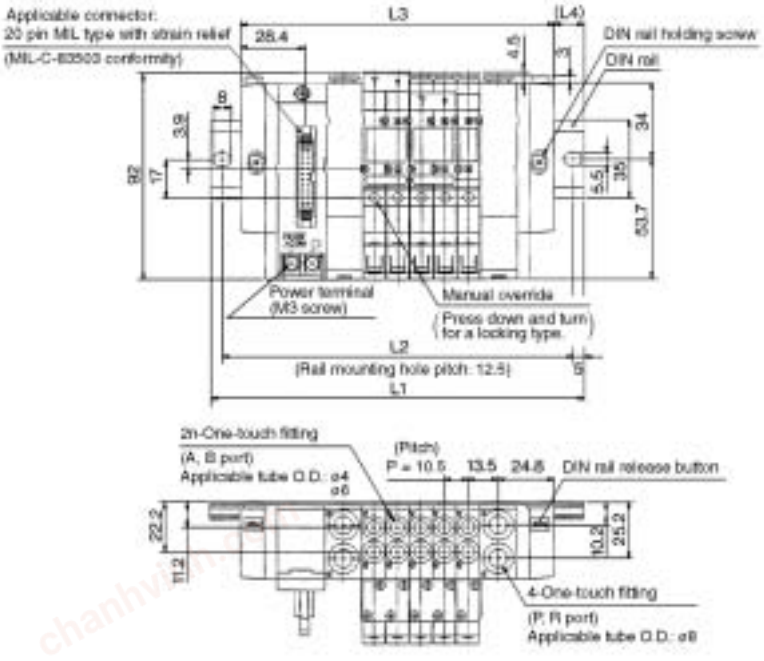
Scale: 30%



Note) Dimensions L1 to L4 of SS5Y3-45GU-[Stations]U-$^{C4}_{C6}$-Q are the same as SS5Y3-45GU-[Stations]D-$^{C4}_{C6}$-Q.

Stations n	2	3	4	5	6	7	8	9	10
L1	123	135.5	148	148	160.5	173	185.5	198	210.5
L2	112.5	125	137.5	137.5	150	162.5	175	187.5	200
L3	91.5	102	112.5	123	133.5	144	154.5	165	175.5
L4	15.5	16.5	17.5	12.5	13.5	14.5	15.5	16.5	17.5

SS5Y3-45GU-[Stations]B-$^{C4}_{C6}$-Q



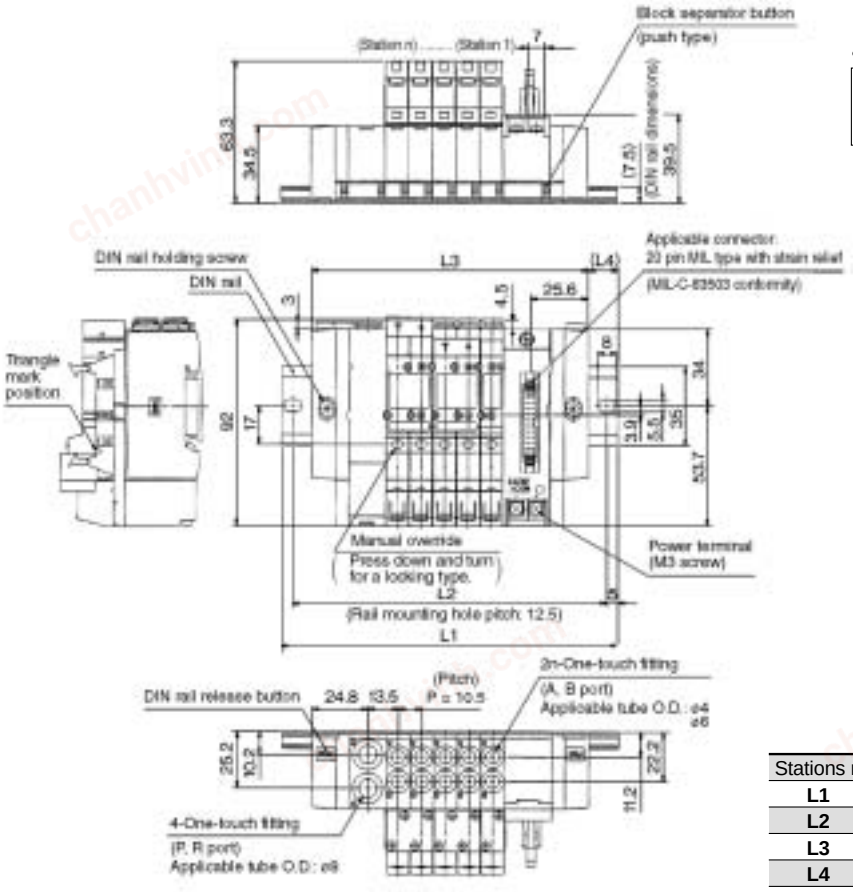
Stations n	2	3	4	5	6	7	8	9	10
L1	135.5	148	160.5	173	185.5	185.5	198	210.5	223
L2	125	137.5	150	162.5	175	175	187.5	200	212.5
L3	108	118.5	129	139.5	150	160.5	171	181.5	192
L4	13.5	14.5	15.5	16.5	17.5	12.5	13.5	14.5	15.5

Stations n	11	12	13	14	15	16
L1	235.5	248	248	260.5	273	285.5
L2	225	237.5	237.5	250	262.5	275
L3	202.5	213	223.5	234	244.5	255
L4	16.5	17.5	12	13	14	15

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SS5Y3-45GD-Stations U-$^{C4}_{C6}$-Q

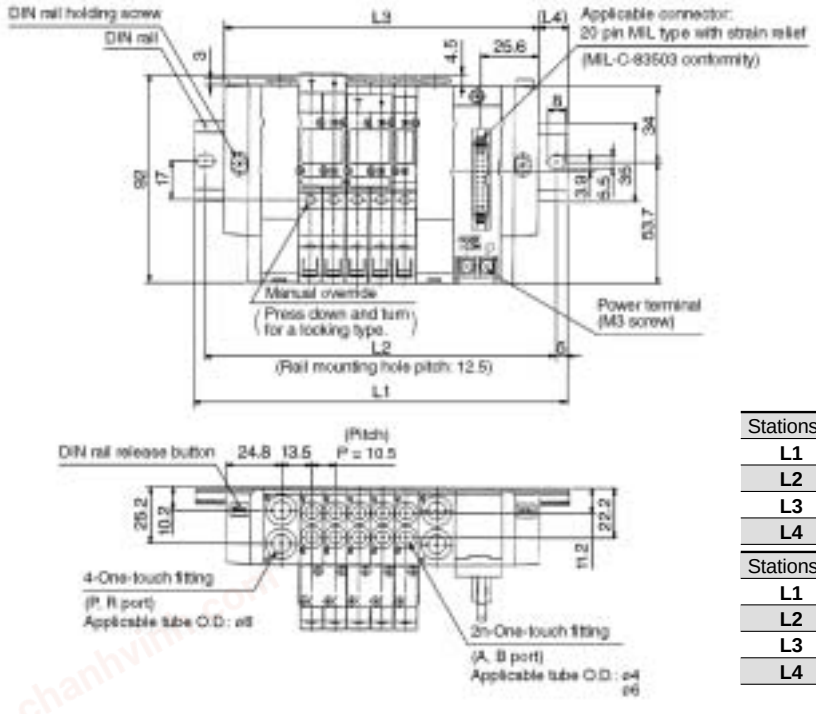
Scale: 30%



Note) Dimensions L1 to L4 of SS5Y3-45GD-Stations D-$^{C4}_{C6}$-Q are the same as SS5Y3-45GD-Stations U-$^{C4}_{C6}$-Q.

Stations n	2	3	4	5	6	7	8	9	10
L1	123	135.5	148	148	160.5	173	185.5	198	210.5
L2	112.5	125	137.5	137.5	150	162.5	175	187.5	200
L3	91.5	102	112.5	123	133.5	144	154.5	165	175.5
L4	15.5	16.5	17.5	12.5	13.5	14.5	15.5	16.5	17.5

SS5Y3-45GD-Stations B-$^{C4}_{C6}$-Q



Stations n	2	3	4	5	6	7	8	9	10
L1	135.5	148	160.5	173	185.5	185.5	198	210.5	223
L2	125	137.5	150	162.5	175	175	187.5	200	212.5
L3	108	118.5	129	139.5	150	160.5	171	181.5	192
L4	13.5	14.5	15.5	16.5	17.5	12.5	13.5	14.5	15.5

Stations n	11	12	13	14	15	16
L1	235.5	248	248	260.5	273	285.5
L2	225	237.5	237.5	250	262.5	275
L3	202.5	213	223.5	234	244.5	255
L4	16.5	17.5	12	13	14	15

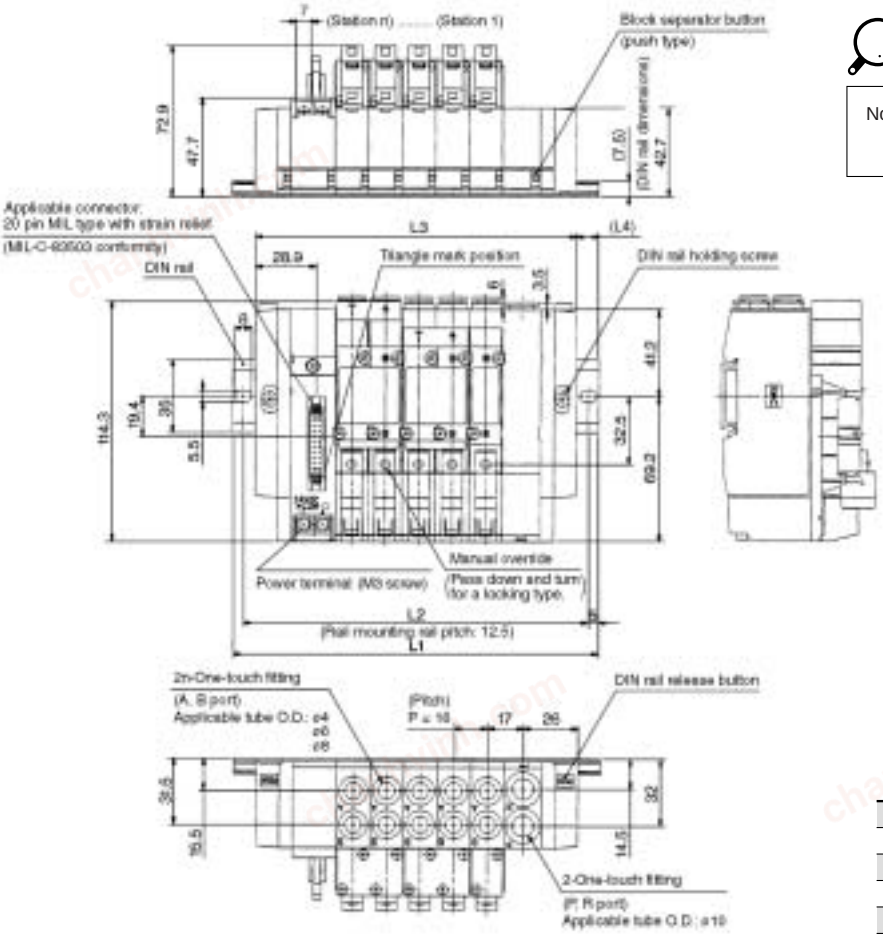
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Type 45□

SY5000: PC Wiring System Compatible (Flat Ribbon Cable Type/Plug-in)

SS5Y5-45GU-[Stations]D-C4/C6/C8-Q

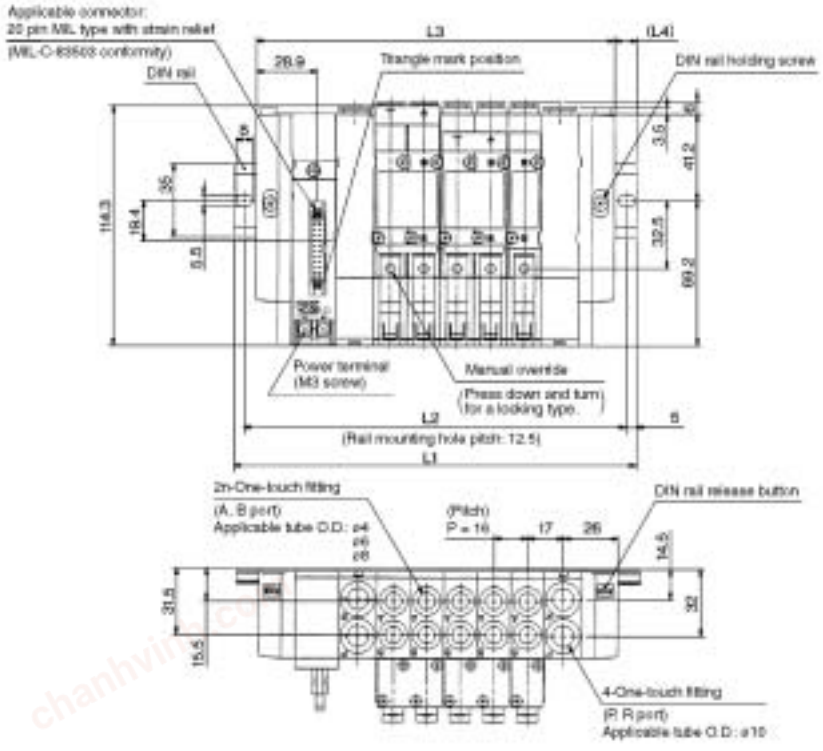
Scale: 30%



Note) Dimensions L1 to L4 of SS5Y5-45GU-[Stations]U-C4/C6/C8-Q are the same as SS5Y5-45GU-[Stations]D-C4/C6/C8-Q.

Stations n	2	3	4	5	6	7	8	9	10
L1	135.5	148	160.5	185.5	198	210.5	235.5	248	260.5
L2	125	137.5	150	175	187.5	200	225	237.5	250
L3	105	121	137	153	169	185	201	217	233
L4	15	13.5	11.5	16	14.5	12.5	17	15.5	13.5

SS5Y5-45GU-[Stations]B-C4/C6-Q



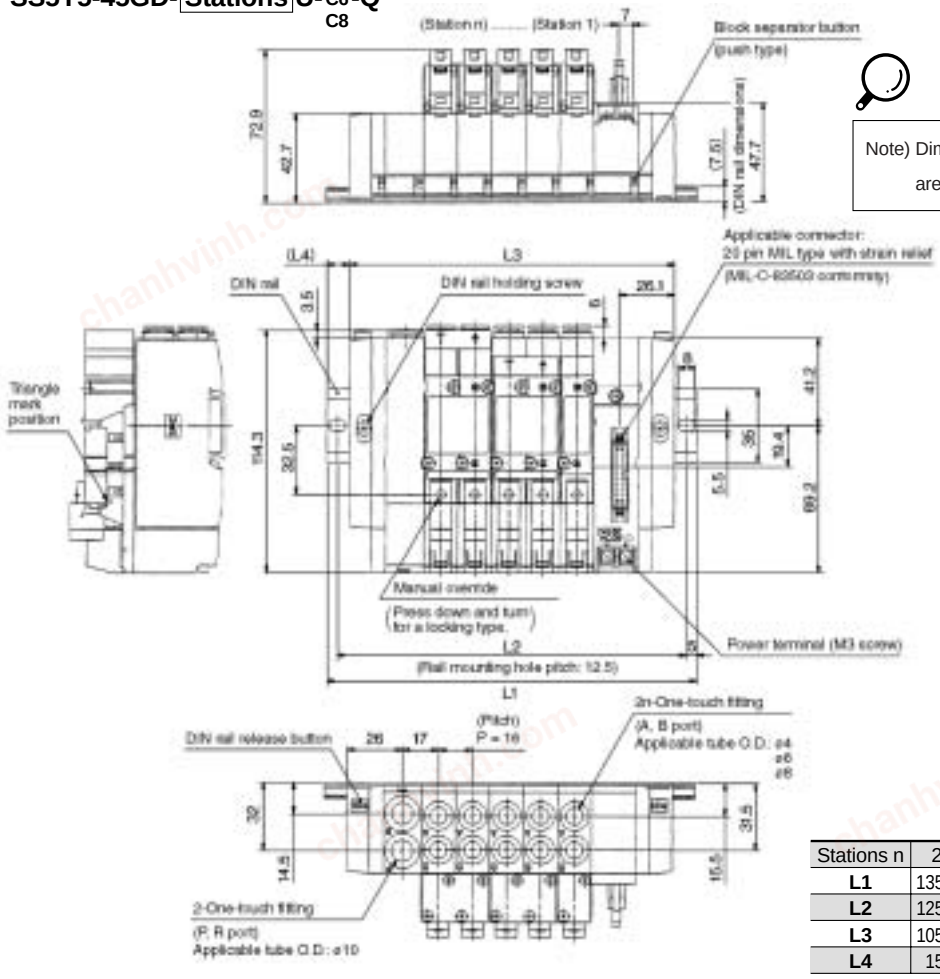
Stations n	2	3	4	5	6	7	8	9	10
L1	148	173	185.5	198	210.5	235.5	248	260.5	285.5
L2	137.5	162.5	175	187.5	200	225	237.5	250	275
L3	123	139	155	171	187	203	219	235	251
L4	12.5	17	15	13.5	11.5	16	14.5	12.5	17

Stations n	11	12	13	14	15	16
L1	298	310.5	323	348	360.5	373
L2	287.5	300	312.5	337.5	350	362.5
L3	267	283	299	315	331	347
L4	15.5	3.5	12	16.5	14.5	13

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SS5Y5-45GD-[Stations]U-C4/C6/C8-Q

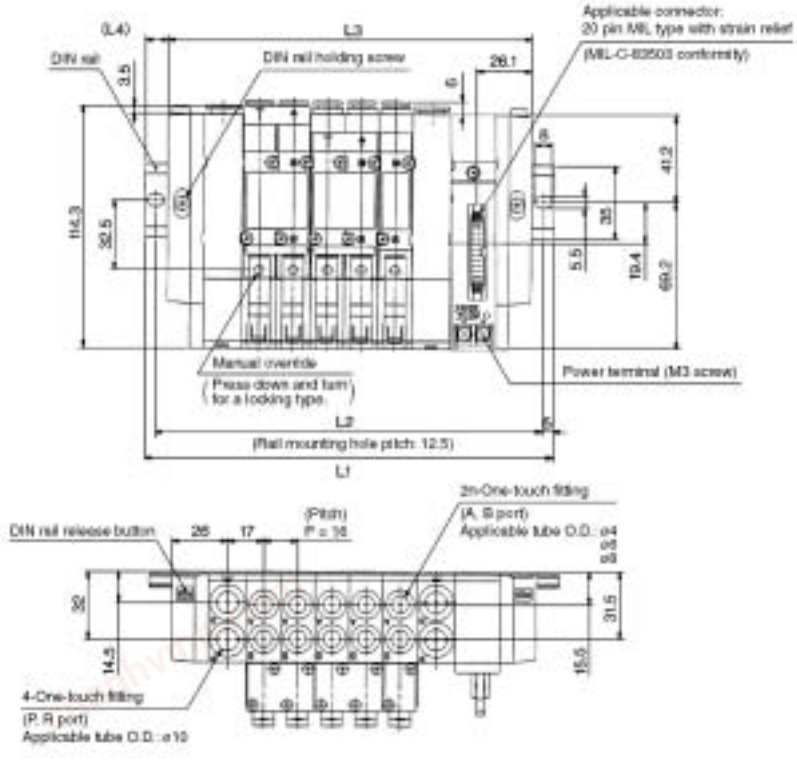
Scale: 30%



Note) Dimensions L1 to L4 of SS5Y5-45GD-[Stations]D-C4/C6/C8-Q are the same as SS5Y5-45GD-[Stations]U-C4/C6/C8-Q.

Stations n	2	3	4	5	6	7	8	9	10
L1	135.5	148	160.5	185.5	198	210.5	235.5	248	260.5
L2	125	137.5	150	175	187.5	200	225	237.5	250
L3	105	121	137	153	169	185	201	217	233
L4	15	13.5	11.5	16	14.5	12.5	17	15.5	13.5

SS5Y5-45GD-[Stations]B-C4/C6/C8-Q



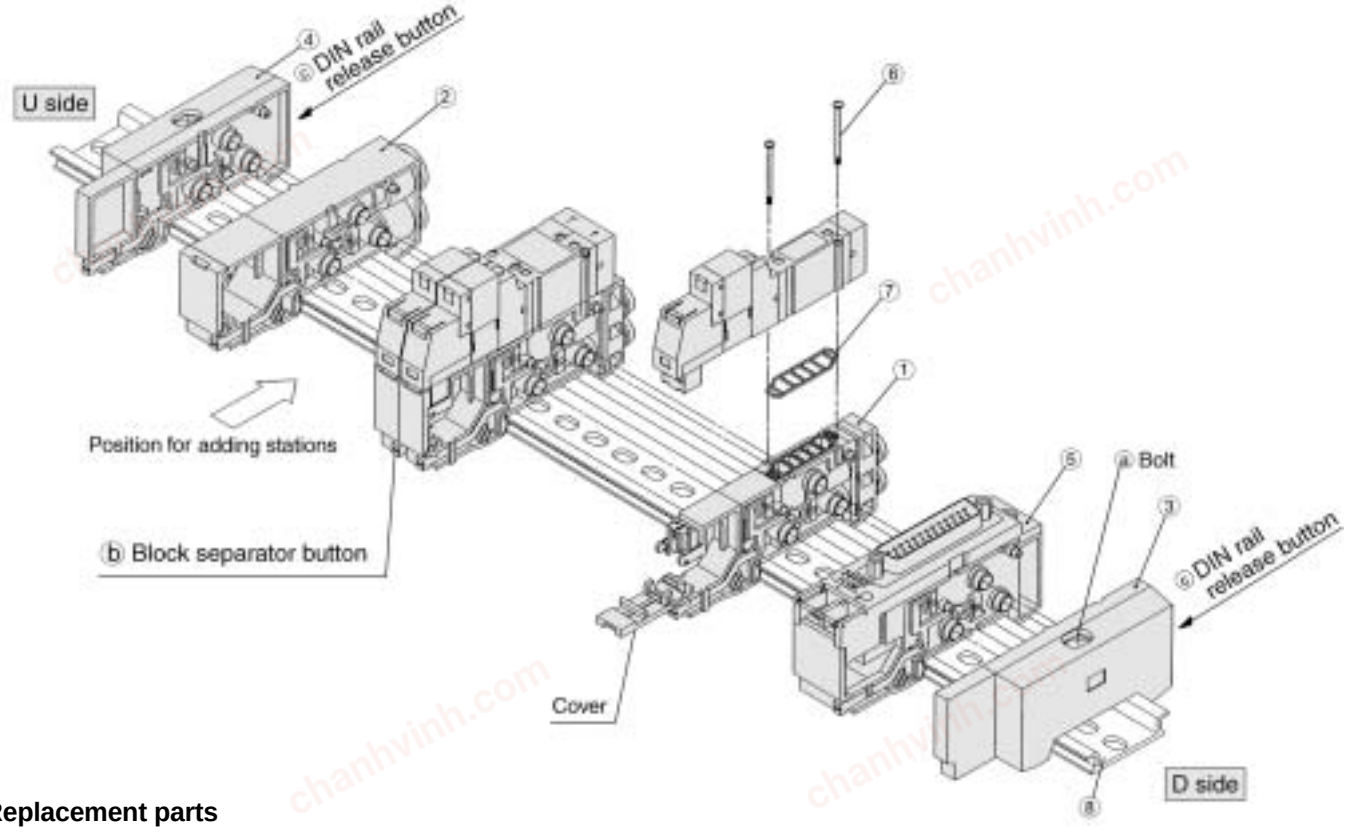
Stations n	2	3	4	5	6	7	8	9	10
L1	148	173	185.5	198	210.5	235.5	248	260.5	285.5
L2	137.5	162.5	175	187.5	200	225	237.5	250	275
L3	123	139	155	171	187	203	219	235	251
L4	12.5	17	15	13.5	11.5	16	14.5	12.5	17

Stations n	11	12	13	14	15	16
L1	298	310.5	323	348	360.5	373
L2	287.5	300	312.5	337.5	350	362.5
L3	267	283	299	315	331	347
L4	15.5	13.5	12	16.5	14.5	13

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Exploded View of DIN Rail Manifold

Type 45F (D-sub connector) manifold



Replacement parts

No.	Description	Part no.		Note	
		SY3000	SY5000		
1	Manifold block assembly	The manifold block assembly part number differs depending on the connector specification and lead wire assembly included. Select an appropriate manifold assembly part number from the table below. (Gasket ⑦ is included.)			
2	SUP/EXH block assembly	SX3000-51-2A	SX5000-51-2A	SY3000: P, R ports ø8 One-touch fitting SY5000: P, R ports ø10 One-touch fitting	
3	End block assembly	SX3000-52-2A-Q	SX5000-52-2A-Q	For D side	
4	End block assembly	SX3000-53-2A-Q	SX5000-53-2A-Q	For U side	
5-1	Connector block assembly (for D-sub connector)	SX3000-64-$^{1A}_{1NA}$	SX5000-64-$^{1A}_{1NA}$	-1A: Positive COM -1NA: Negative COM	24VDC specification Note)
5-2	Connector block assembly (for flat ribbon cable 26 pins)	SX3000-64-$^{2A}_{2NA}$-26	SX5000-64-$^{2A}_{2NA}$-26	-2A: Positive COM -2NA: Negative COM	
5-3	Connector block assembly (for flat ribbon cable 20 pins)	SX3000-64-$^{2A}_{2NA}$-20	SX5000-64-$^{2A}_{2NA}$-20		
5-4	Connector block assembly (for flat ribbon cable10 pins)	SX3000-64-$^{2A}_{2NA}$-10	SX5000-64-$^{2A}_{2NA}$-10		
5-5	Connector block assembly (for terminal block 2 to 8 stations [T, T1])	SX3000-64-3A	SX5000-64-3A	Positive COM, negative COM common	
5-6	Connector block assembly (for terminal block 9 to 17 stations [T1])	SX3000-64-8A	SX5000-64-8A		
6	Round head combination screw	SY3000-23-4	M3 x 26 (Flat nickel plated)		
7	Gasket	SX3000-57-4	SX5000-57-5		
8	DIN rail	VZ1000-11-1-□		Refer to page 1.2-107.	

Note 1) The numbers 5-1 through 5-4 are 24VDC specification. For 12VDC specification, add -12V at the end of the part number. Example: SX3000-64-1A-12V
Note 2) Two manifold block assemblies are required for a double solenoid 3 position (dual body type).

Manifold block assembly part nos.

Manifold type	Manifold block assembly part no.	Note
45(N)F (D-sub connector type)	SX$^{3}_{5}$000-50-3A-□□-Q	□□: • For SY3000 C4: ø4 One-touch fitting C6: ø6 One-touch fitting • For SY5000 C4: ø4 One-touch fitting C6: ø6 One-touch fitting C8: ø8 One-touch fitting
45(N)$^{P}_{PG}$ (Flat ribbon cable type)	SX$^{3}_{5}$000-50-5A-□□-Q	
45G PC wiring compatible		
45$^{T}_{T1}$ (Terminal block type)	SX$^{3}_{5}$000-50-7A-□□-Q	

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Manifold Base Expansion

1. Loosen bolts (a) which hold the manifold block until it begins to turn idly. (While pressing down the DIN rail release buttons (c), remove the manifold base from the DIN rail.)
2. Since stations are added on the U side, press the manifold block assembly separator button (b) on the U side until it locks, and then break the connection between block assemblies.
3. Separate the connector block assembly in the same manner as step 2, and remove the connector mounting screw as shown in Figure 1.
4. Loosen the valve mounting screw on the U side, remove the valve, and then take out the receptacle housing. (See Figure 2.)
5. Insert the common wire (red), of the manifold block assembly to be added, into the pin insertion section (N mark) of the receptacle housing, which was taken out in step 4. Mount this to the manifold block and remount the removed valve.
6. On the U side, mount the manifold block assembly to be added onto the DIN rail as shown in Figure 3. Refer to the circuit diagram and insert the lead wire (black) as shown in Figure 4.
7. Connect the manifold block assemblies by pressing them together until a click is heard. Put the lead wire inside the manifold block and close the lid, making sure that the lead wire does not get caught.
8. Hold the block assemblies lightly so that there is no space between them and secure them on the DIN rail by tightening bolts (a). ⚠ **Caution** (Tightening torque: 1.4N·m)

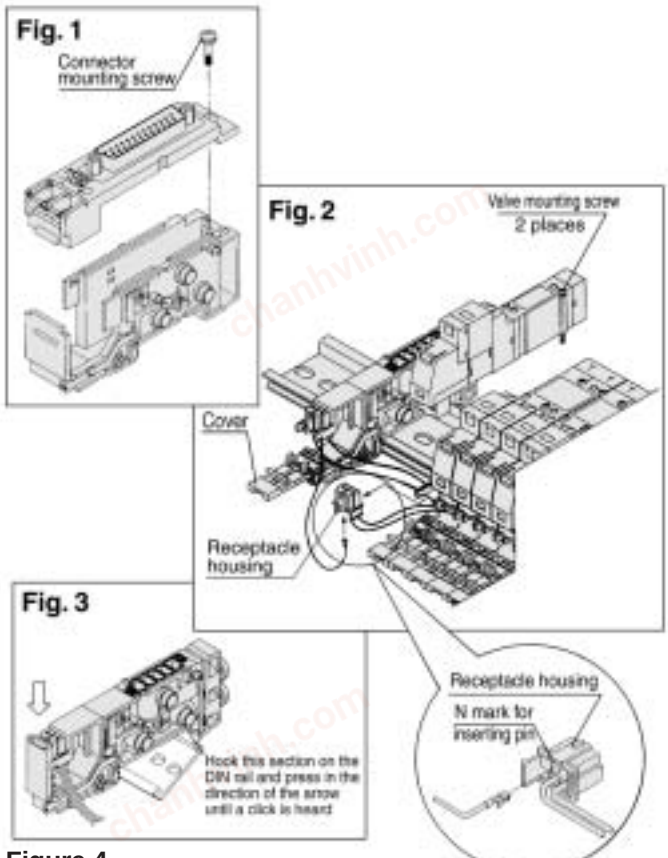
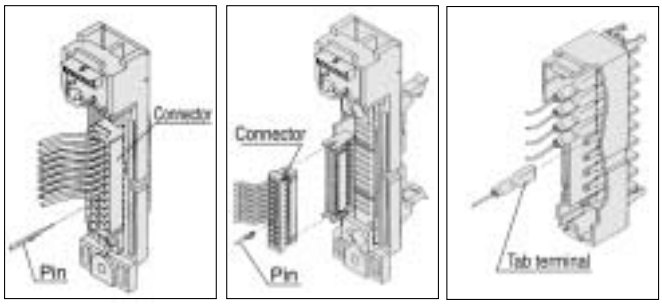


Figure 4



Note) After inserting the pin, lightly pull the lead wire to confirm that the pins are locked.

Note) Remove the connector before beginning work. Also, after inserting pins, lightly pull the lead wire to confirm that the pins are locked.

Note) Insert tab terminals completely to the end.

⚠ Caution

Note 1) Depending on the connector type, there is a limit to the number of solenoids that be used with this manifold. Manifold stations that can be added cannot exceed the number of usable solenoids.

Note 2) Note that manifold block assemblies are always added on the U side since the wiring to each connector is made sequentially from the D side.

Note 3) When disassembly and assembly are performed, insufficient connection of blocks or tightening of bolts (a) will cause air leakage. Be sure to confirm that there is no space between the manifold blocks and they are firmly secured on the DIN rail before supplying air. After supplying air, confirm that there is no air leakage.

How to Replace Fitting Assemblies

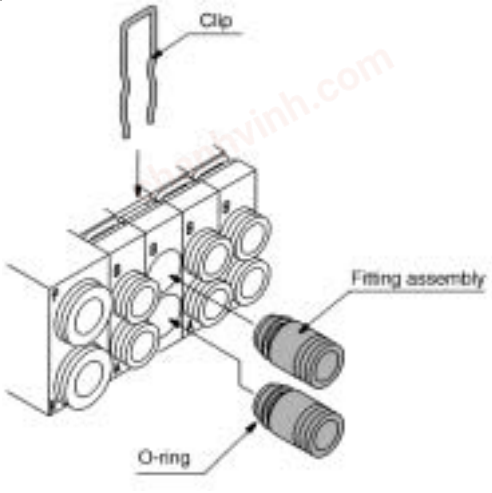
By replacing manifold block fitting assemblies on a type 45 manifold, the port size of the A and B ports can be changed.
To replace these parts, remove the clip with a flat head screw driver after the valve has been removed. Insert the fitting assemblies, and then reinsert the clip so that it does not protrude from the manifold block.

Fitting assembly part nos.

Port size \ Series	SY3000	SY5000
ø4 One-touch fitting	VVQ1000-50A-C4	VVQ1000-51A-C4
ø6 One-touch fitting	VVQ1000-50A-C6	VVQ1000-51A-C6
ø8 One-touch fitting	———	VVQ1000-51A-C8

Note 1) Fitting assemblies for P and R ports cannot be changed.

Note 2) Do not scratch or put foreign matter on the O-ring, as this will cause air leakage.



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Type 45S□

SY3000/5000 Base Mounted Type Manifold Stacking Type/DIN Rail Mount
Serial Transmission (Integrated)

How to Order Manifolds

SS5Y 3 – 45S N 05 U C6 □ -Q

Manifold series

3	SY3000
5	SY5000

SI unit type

Symbol	Specification
O	Without SI unit
B	MELSECNET/MINI-S3
C	SYSBUS Wire system (OMRON)
N	SI unit for Profibus DP
P	SI unit for Interbus
Q	SI unit for Device Net and Compo Bus/D (OMRON)
Y	SI unit for Can Open
T2	SI unit for ASI (yellow + black wires) 8 stations
T4	SI unit for ASI (yellow + black wires) 4 stations
T5	SI unit for ASI (yellow wires) 4 stations

Note 1) With general purpose types, a transmission unit is required on the CPU side.

Note 2) Even without an SI unit, the length of the DIN rail can accommodate an SI unit.

Stations

Symbol	Stations	Note
02	2 stations	Single wiring specification (Up to 16 solenoids applicable)
⋮	⋮	
16	16 stations	

Note 1) Includes the number of blanking plate assemblies.

Note 2) Two manifold stations are required for double solenoid 3 position valves (dual body type).

SUP/EXH block assembly mounting position

Symbol	Mounting position	Applicable stations
U	U side	2 to 10 stations
D	D side	2 to 10 stations
B	Both sides	2 to 16 stations
M*	Special specifications	

* For special specifications, order separately on a manifold specification sheet.

A/B port size

SY3000

Symbol	Port size
C4	ø4 One-touch fitting
C6	ø6 One-touch fitting
M*	Mixed

SY5000

Symbol	Port size
C4	ø4 One-touch fitting
C6	ø6 One-touch fitting
C8	ø8 One-touch fitting
M*	Mixed

* For mixed specifications, order separately on a manifold specification sheet.

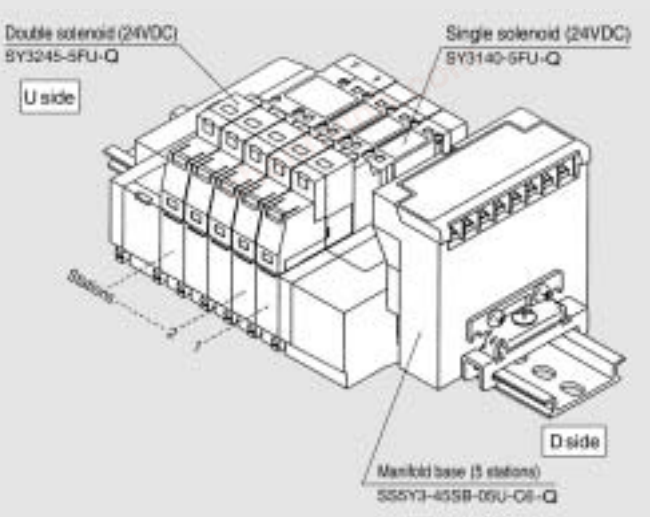
Option

When a DIN rail longer than the specified stations is necessary, indicate the number of required stations. (Max. 20 stations)

SI Unit Part No.

Symbol	Specifications	For SS5Y□-45S
B	MELSECNET/MINI-S3 Data Link System (Mitsubishi Electirc)	EX122-SMB1
C	SYSBUS Wire System (OMRON)	EX122-STA1
N	SI unit for Profibus DP	EX122-SPR1
P	SI unit for Interbus S	EX122-SIB1
Q	SI unit for Device Net and Compo Bus/D(OMRON)	EX122-SDN1
Y	SI unit for Can Open	EX122-SCA1
T2	SI unit for ASI (yellow+black wires) 8 stations	EX122-SAS2
T4	SI unit for ASI (yellow+black wires) 4 stations	EX122-SAS4
T5	SI unit for ASI (yellow wires) 4 stations	EX122-SAS5

How to Order Manifold Assemblies (Example)



SS5Y3-45SB-05U-C6-Q.....1 set (Type 45S, 5 station manifold base with serial unit part no.)
SY3140-5FU-Q .....3 sets (Single solenoid part no.)
SY3245-5FU-Q .....1 set (Double solenoid part no.)

- Valves are assembled from the D side.
- Since double solenoid 3 position valves (dual body type) require 2 manifold stations, be sure to specify the appropriate number of stations with the manifold part number.
- Serial units are only available with the D side mounting type.

How to Order Valves

2 position single **SY 3 1 4 0 – 5 FU □ -Q**

Double solenoid 3 position **SY 3 2 4 5 – 5 FU □ -Q**

Series

3	SY3000
5	SY5000

Type of actuation

2	2 position double
3	3 position closed centre
4	3 position exhaust centre
5	3 position pressure centre

Dual body type (double solenoid 3 position)

Rated voltage

5	24VDC

Manual override

Nil	Non-locking push type
D	Push-turn locking slotted type
E	Push-turn locking lever type

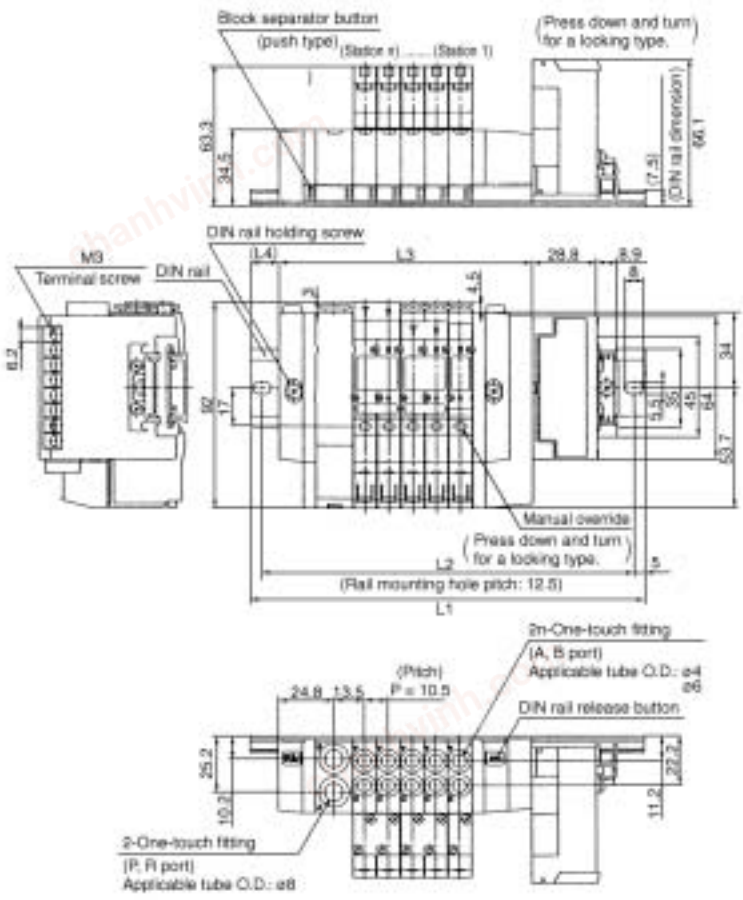
Protective class class III (Mark:⏚)

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Series SY3000: Serial Transmission/Plug-in

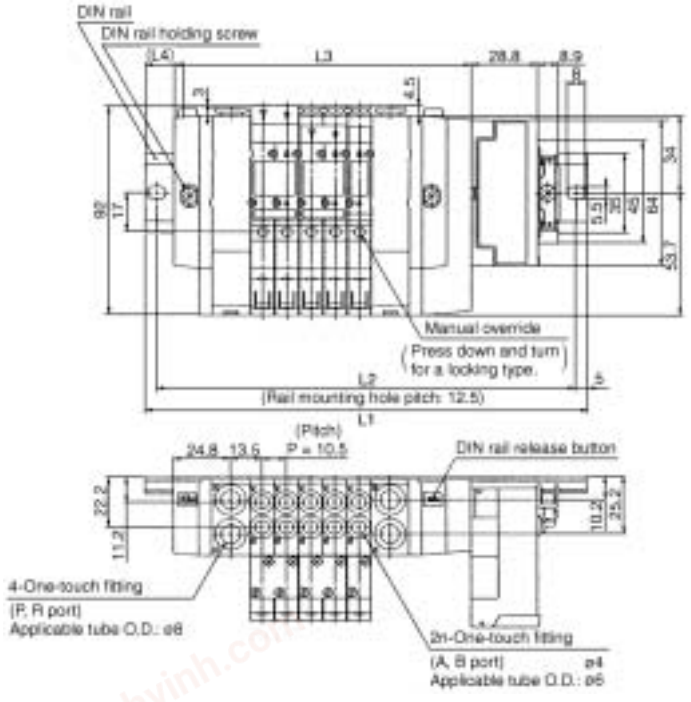
SS5Y3-45S□-Stations U-$^{C4}_{C6}$-Q

Scale: 30%



Stations n	2	3	4	5	6	7	8	9	10
L1	148	160.5	173	185.5	185.5	198	210.5	223	235.5
L2	137.5	150	162.5	175	175	187.5	200	212.5	225
L3	81	91.5	102	112.5	123	133.5	144	154.5	165
L4	14.45	15.45	16.45	17.45	12.2	13.2	14.2	15.2	16.2

SS5Y3-45S□-Stations B-$^{C4}_{C6}$-Q



Stations n	2	3	4	5	6	7	8	9	10
L1	160.5	173	185.5	198	210.5	223	223	235.5	248
L2	150	162.5	175	187.5	200	212.5	212.5	225	237.5
L3	97.5	108	118.5	129	139.5	150	160.5	171	181.5
L4	12.45	13.45	14.45	15.45	16.45	17.45	12.2	13.2	14.2

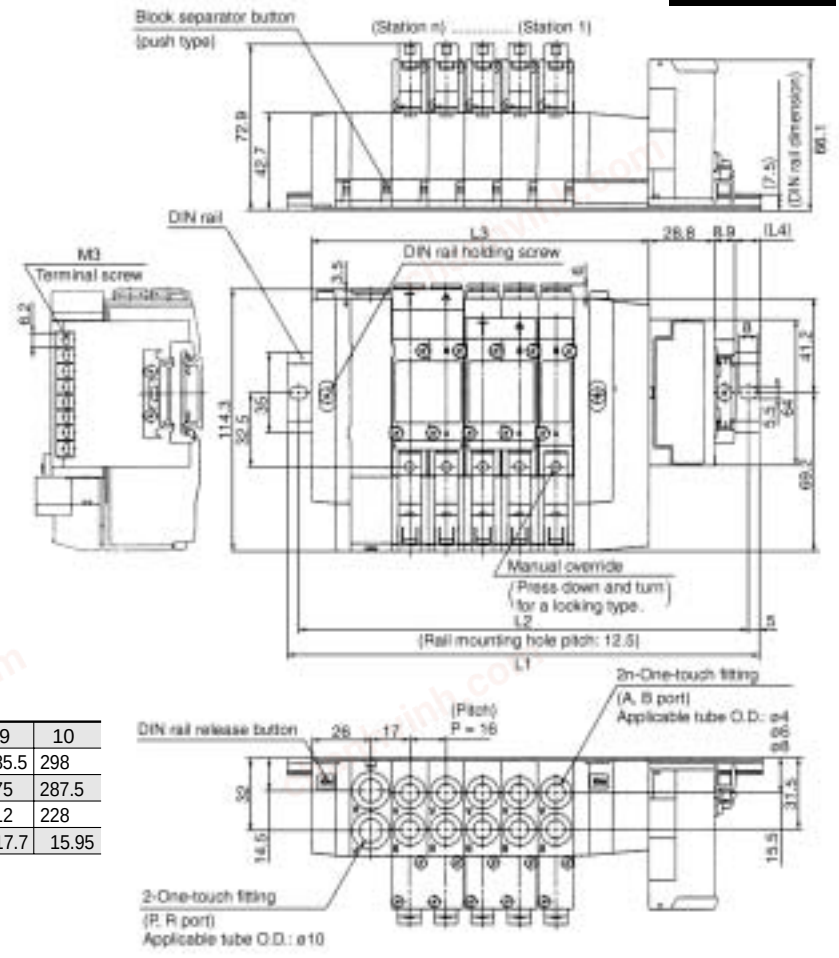
Stations n	11	12	13	14	15	16
L1	260.5	273	285.5	285.5	298	310.5
L2	250	262.5	275	275	287.5	300
L3	192	202.5	213	223.5	234	244.5
L4	15.2	16.2	17.2	11.95	12.95	13.95

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Series SY5000: Serial Transmission Type/Plug-in

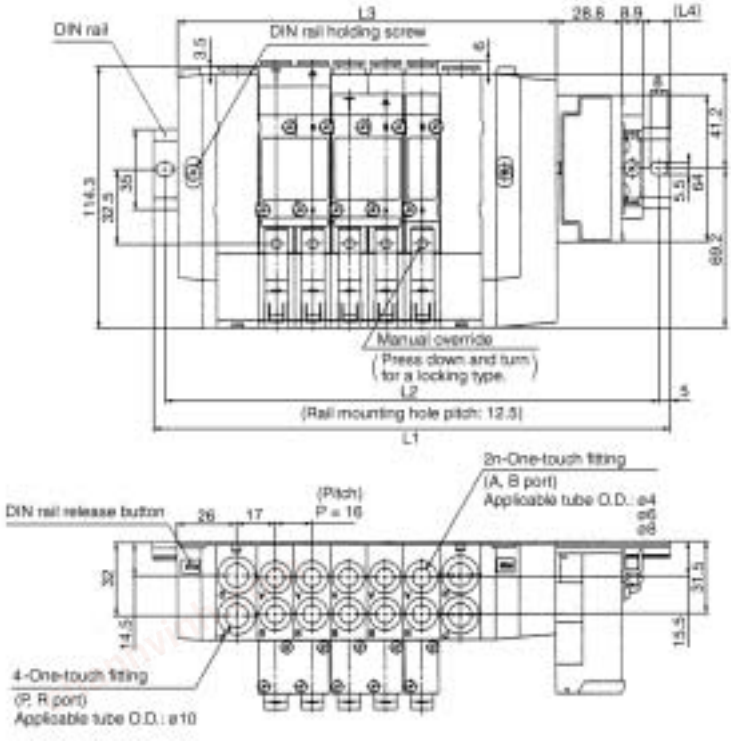
SS5Y5-45S□-[Stations]U-C4/C6/C8-Q

Scale: 30%



Stations n	2	3	4	5	6	7	8	9	10
L1	173	185.5	198	210.5	235.5	248	260.5	285.5	298
L2	162.5	175	187.5	200	225	237.5	250	275	287.5
L3	100	116	132	148	164	180	196	212	228
L4	17.45	15.7	13.95	12.2	16.7	14.95	13.2	17.7	15.95

SS5Y5-45S□-[Stations]B-C4/C6/C8-Q



Stations n	2	3	4	5	6	7	8	9	10
L1	185.5	198	223	235.5	248	260.5	285.5	298	310.5
L2	175	187.5	212.5	225	237.5	250	275	287.5	300
L3	118	134	150	166	182	198	214	230	246
L4	14.7	12.95	17.45	15.7	13.95	12	16.5	14.95	13.2

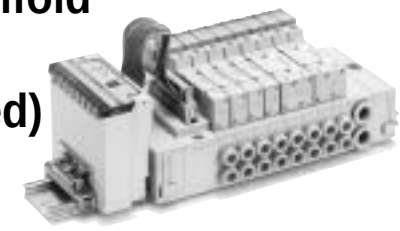
Stations n	11	12	13	14	15	16
L1	335.5	348	360.5	373	398	410.5
L2	325	337.5	350	362.5	387.5	400
L3	262	278	294	310	326	342
L4	17.7	15.95	14.2	12.45	16.95	15.2

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Type 45S1□

SY3000/5000 Base Mounted Type Manifold Stacking Type/DIN Rail Mount
Serial Transmission (Separated)



How to Order Manifolds

SS5Y 3 – 45S1 N D – 05 U – C4 – □ -Q

Manifold series

3	SY3000
5	SY5000

SI unit type

Symbol	Specification
O	Without SI unit
B	MELSECNET/MINI-S3
C	SYSBUS Wire system (OMRON)
N	SI unit for Profibus DP
P	SI unit for Interbus
Q	SI unit for Device Net and Compo Bus/D (OMRON)
Y	SI unit for Can Open
T2	SI unit for ASI (yellow + black wires) 8 stations
T4	SI unit for ASI (yellow + black wires) 4 stations
T5	SI unit for ASI (yellow wires) 4 stations

Note 1) With general purpose types, a transmission unit is required on the CPU side.

Note 2) Even without an SI unit, the length of the DIN rail can accommodate an SI unit. If a shorter length for the DIN rail is desired (same as type 45□), add "0" for option at the end of the part number.

SI unit mounting position

Symbol	Mounting position
U	U side
D	D side

Stations

Symbol	Stations	Note
02	2	Single wiring specification (Up to 16 solenoids applicable)
⋮	⋮	
16	16	

Note 1) Includes the number of blanking plate assemblies.

Note 2) Two manifold stations are required for double solenoid 3 position valves (dual body type).

SUP/EXH block assembly mounting position

Symbol	Mounting position	Applicable stations
U	U side	2 to 10 stations
D	D side	2 to 10 stations
B	Both sides	2 to 16 stations
M*	Special specifications	

* For special specifications, order separately on a manifold specification sheet.

A/B port size

SY3000

Symbol	Port size
C4	ø4 One-touch fitting
C6	ø6 One-touch fitting
M*	Mixed

SY5000

Symbol	Port size
C4	ø4 One-touch fitting
C6	ø6 One-touch fitting
C8	ø8 One-touch fitting
M*	Mixed

* For mixed specifications, order separately on a manifold specification sheet.

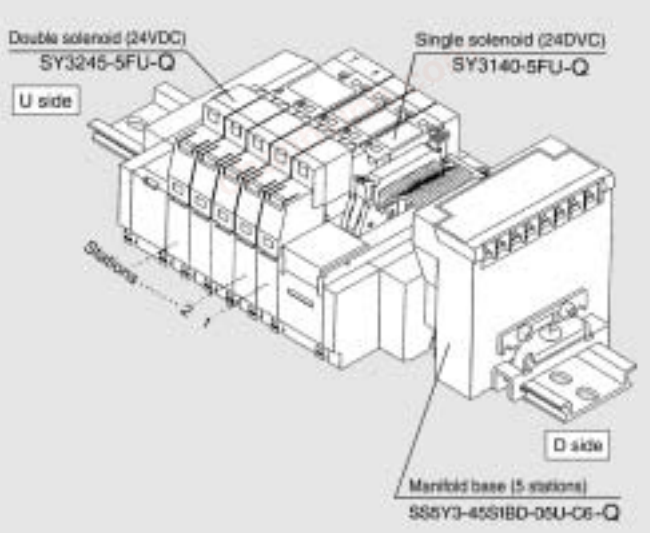
Option

When a DIN rail longer than the specified stations is necessary, indicate the number of required stations. (Max. 20 stations)

SI Unit Part No.

Symbol	Specifications	For SS5Y□-45S
B	MELSECNET/MINI-S3 Data Link System (Mitsubishi Electirc)	EX121-SMB1
C	SYSBUS Wire System (OMRON)	EX121-STA1
N	SI unit for Profibus DP	EX121-SPR1
P	SI unit for Interbus S	EX121-SIB1
Q	SI unit for Device Net and Compo Bus/D(OMRON)	EX121-SDN1
Y	SI unit for Can Open	EX121-SCA1
T2	SI unit for ASI (yellow+black wires) 8 stations	EX121-SAS2
T4	SI unit for ASI (yellow+black wires) 4 stations	EX121-SAS4
T5	SI unit for ASI (yellow wires) 4 stations	EX121-SAS5

How to Order Manifold Assemblies (Example)



SS5Y3-45S1BD-05U-C6-Q.....1 set (Type 45S1, 5 station manifold base with serial unit part no.)
SY3140-5FU-Q ..... 3 sets (Single solenoid part no.)
SY3245-5FU-Q ..... 1 set (Double solenoid part no.)

- Valves are assembled from the D side regardless of the mounting position of the SI unit.
- Since double solenoid 3 position valves (dual body type) require 2 manifold stations, be sure to specify the appropriate number of stations with the manifold part number.

How to Order Valves

2 position single SY 3 1 4 0 – 5 FU □ -Q

Double solenoid 3 position SY 3 2 4 5 – 5 FU □ -Q

Series

3	SY3000
5	SY5000

Type of actuation

2	2 position double
3	3 position closed centre
4	3 position exhaust centre
5	3 position pressure centre

Dual body type (double solenoid 3 position)

Rated voltage

5	24VDC

Manual override

Nil	Non-locking push type
D	Push-turn locking slotted type
E	Push-turn locking lever type

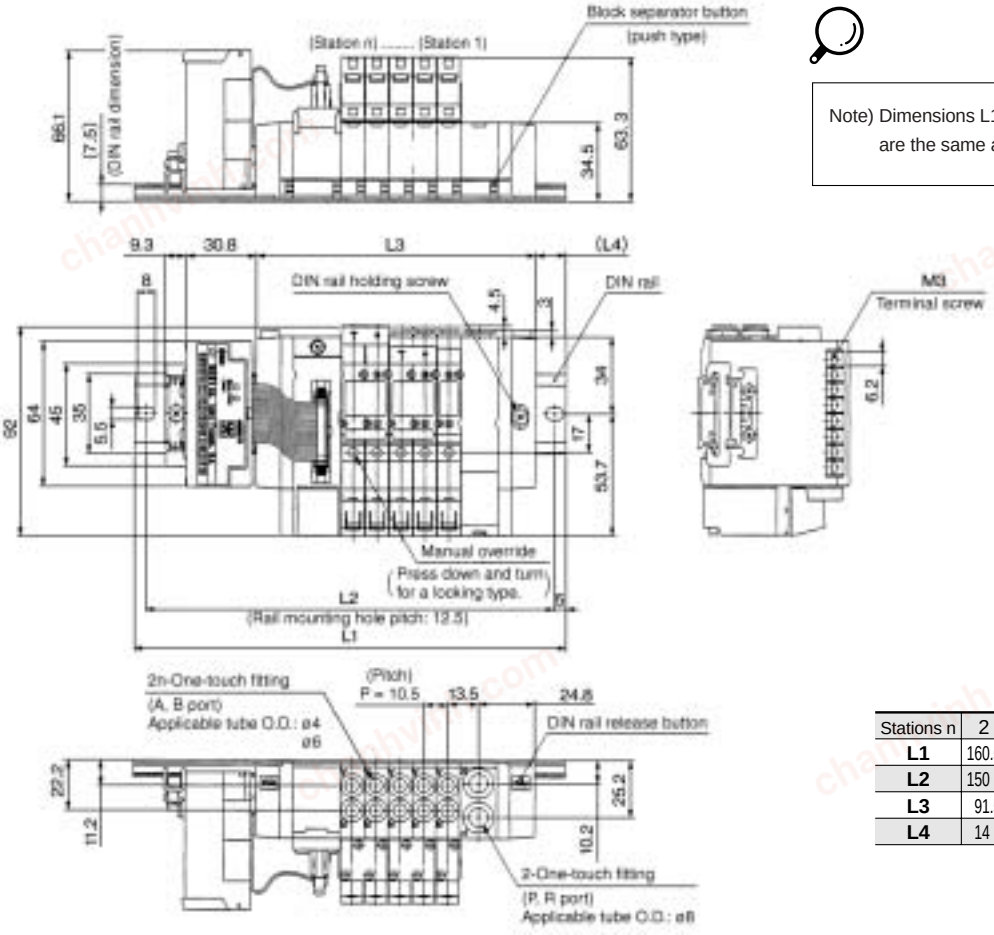
Protective class class III (Mark: ⏚)

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Series SY3000: Serial Transmission/Plug-in

SS5Y3-45S1□U-[Stations]U-$^{C4}_{C6}$-Q

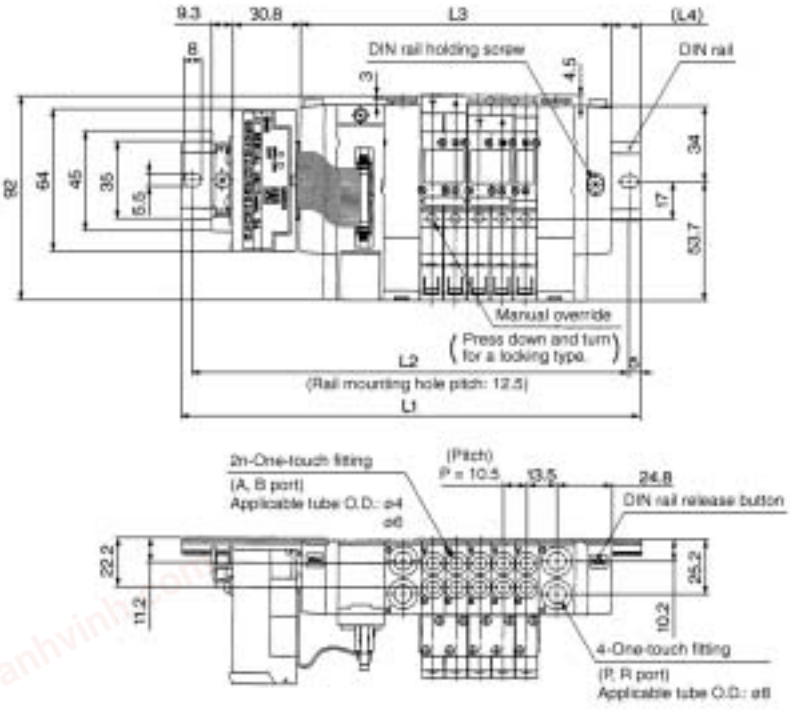
Scale: 30%



Note) Dimensions L1 to L4 of SS5Y3-45S1□U-[Stations]U-$^{C4}_{C6}$-Q are the same as SS5Y3-45S1□U-[Stations]D-$^{C4}_{C6}$-Q.

Stations n	2	3	4	5	6	7	8	9	10
L1	160.5	173	185.5	198	198	210.5	223	235.5	248
L2	150	162.5	175	187.5	187.5	200	212.5	225	237.5
L3	91.5	102	112.5	123	133.5	144	154.5	165	175.5
L4	14	15	16	17	12	13	14	15	16

SS5Y3-45S1□U-[Stations]B-$^{C4}_{C6}$-Q



Stations n	2	3	4	5	6	7	8	9	10
L1	173	185.5	198	210.5	223	235.5	235.5	248	260.5
L2	162.5	175	187.5	200	212.5	225	225	237.5	250
L3	108	118.5	129	139.5	150	160.5	171	181.5	192
L4	12	13	14	15	16	17	12	13	14

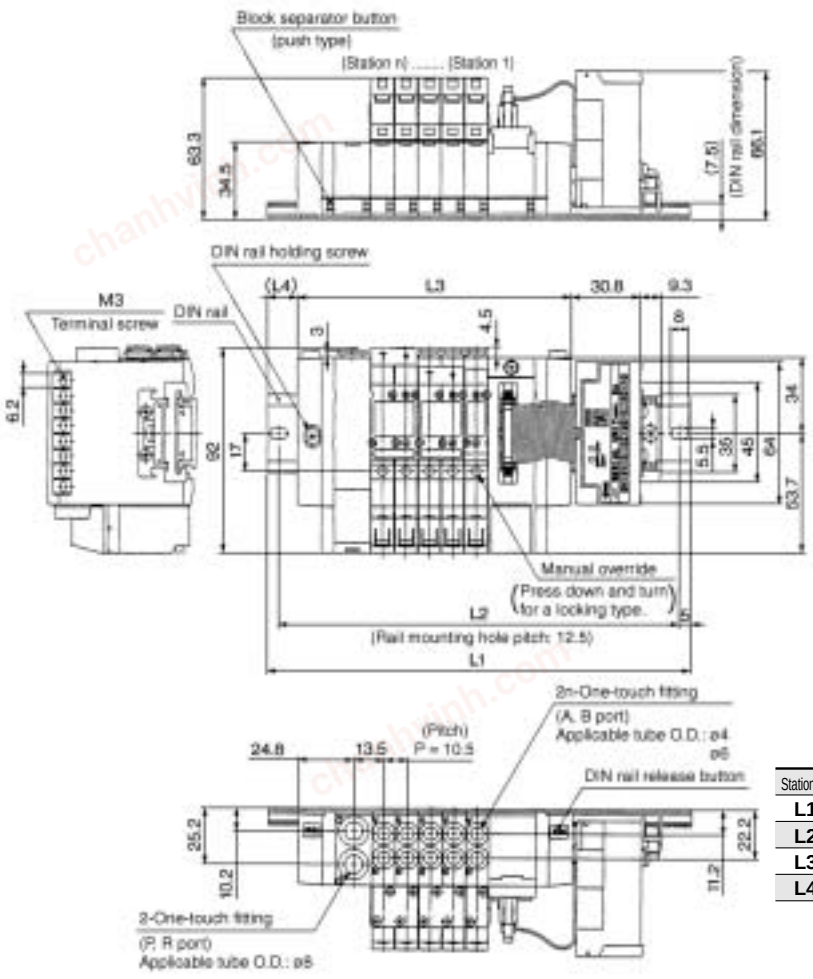
Stations n	11	12	13	14	15	16
L1	273	285.5	298	298	310.5	323
L2	262.5	275	287.5	287.5	300	312.5
L3	202.5	213	223.5	234	244.5	255
L4	15	16	17	11.5	12.5	13.5

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Series SY3000: Serial Transmission/Plug-in

SS5Y3-45S1□D-[Stations]U-$^{C4}_{C6}$-Q

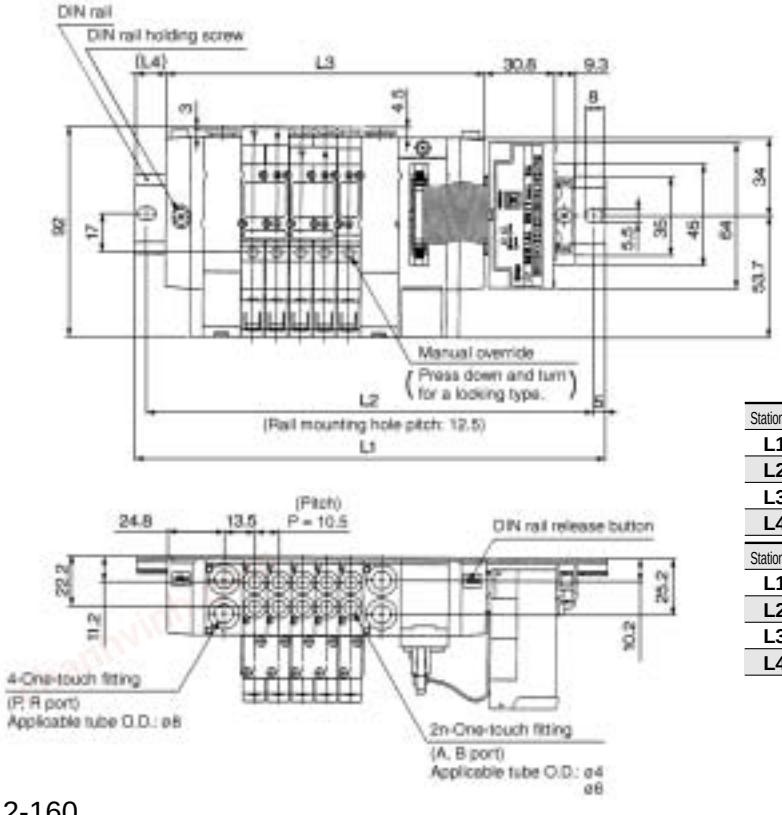
Scale: 30%



Note) Dimensions L1 to L4 of SS5Y3-45S1□D-[Stations]D-$^{C4}_{C6}$-Q are the same as SS5Y3-45S1□D-[Stations]U-$^{C4}_{C6}$-Q.

Stations n	2	3	4	5	6	7	8	9	10
L1	160.5	173	185.5	198	198	210.5	223	235.5	248
L2	150	162.5	175	187.5	187.5	200	212.5	225	237.5
L3	91.5	102	112.5	123	133.5	144	154.5	165	175.5
L4	14	15	16	17	12	13	14	15	16

SS5Y3-45S1□D-[Stations]B-$^{C4}_{C6}$-Q



Stations n	2	3	4	5	6	7	8	9	10
L1	173	185.5	198	210.5	223	235.5	235.5	248	260.5
L2	162.5	175	187.5	200	212.5	225	225	237.5	250
L3	108	118.5	129	139.5	150	160.5	171	181.5	192
L4	12	13	14	15	16	17	12	13	14

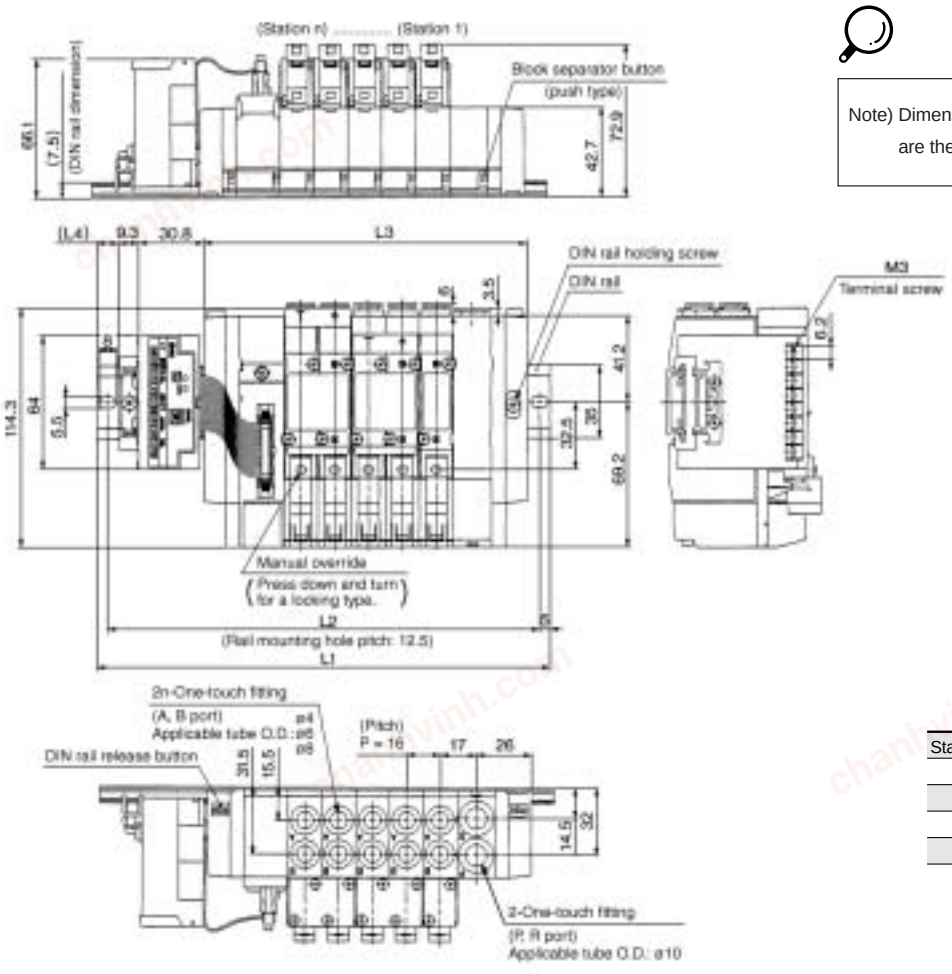
Stations n	11	12	13	14	15	16
L1	273	285.5	298	298	310.5	323
L2	262.5	275	287.5	287.5	300	312.5
L3	202.5	213	223.5	234	244.5	255
L4	15	16	17	11.5	12.5	13.5

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Series SY5000: Serial Transmission/Plug-in

SS5Y5-45S1□U-[Stations]D-C4/C6/C8-Q

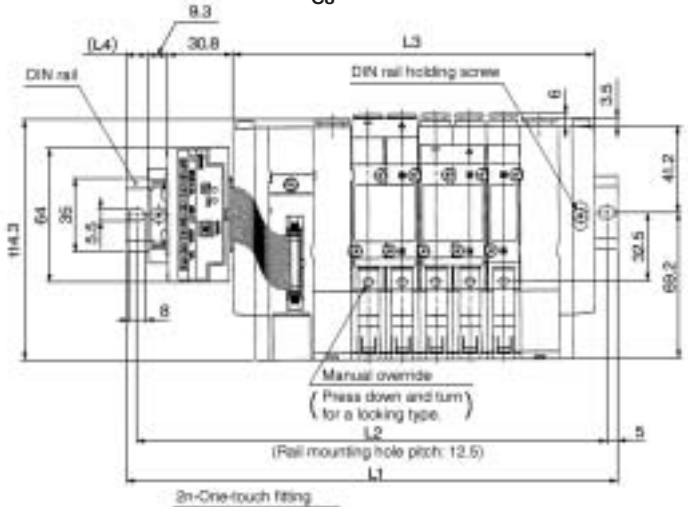
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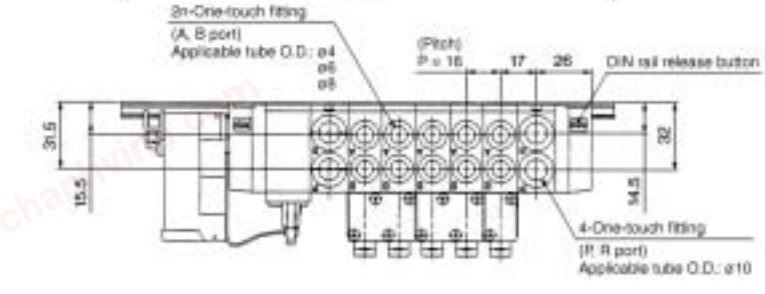


Note) Dimensions L1 to L4 of SS5Y5-45S1□U-[Stations]U-C4/C6/C8-Q are the same as SS5Y5-45S1□U-[Stations]D-C4/C6/C8-Q.

Stations n	2	3	4	5	6	7	8	9	10
L1	173	185.5	210.5	223	235.5	260.5	273	285.5	298
L2	162.5	175	200	212.5	225	250	262.5	275	287.5
L3	105	121	137	153	169	185	201	217	233
L4	13.5	12	16.5	14.5	13	17.5	15.5	14	12

SS5Y5-45S1□U-[Stations]B-C4/C6/C8-Q





Stations n	2	3	4	5	6	7	8	9	10
L1	198	210.5	223	235.5	260.5	273	285.5	310.5	323
L2	187.5	200	212.5	225	250	262.5	275	300	312.5
L3	123	139	155	171	187	203	219	235	251
L4	17	15.5	13.5	12	16.5	14.5	13	17.5	15.5

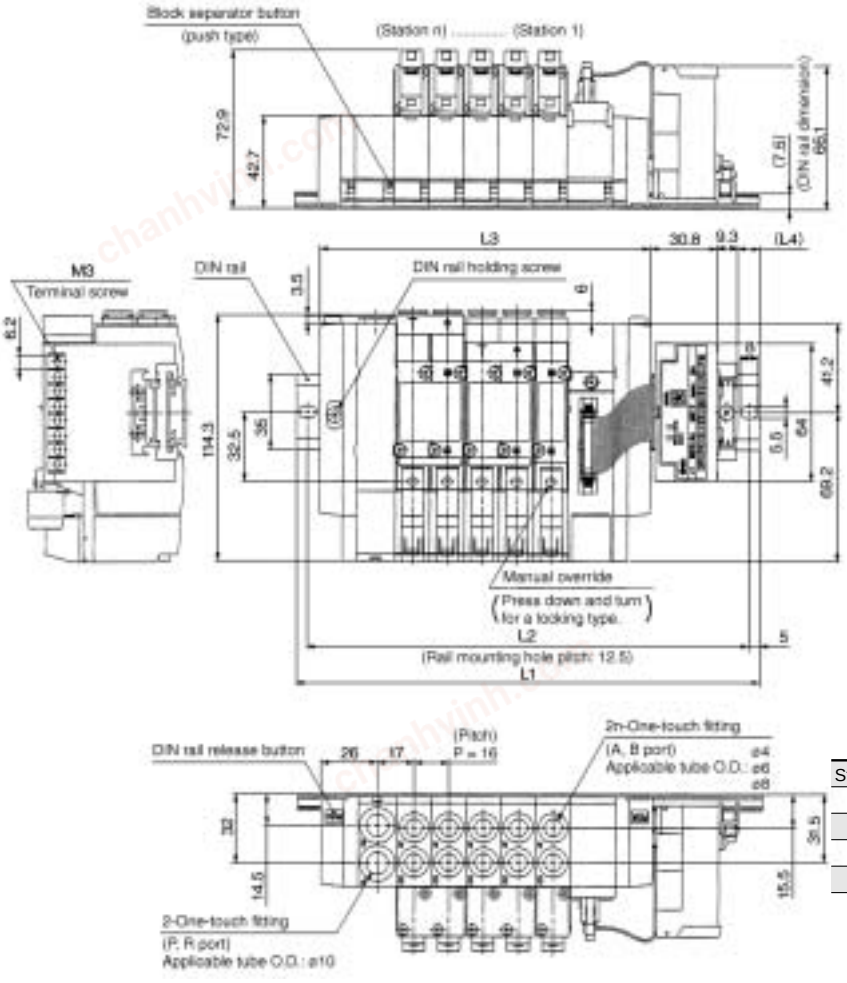
Stations n	11	12	13	14	15	16
L1	335.5	348	373	385.5	398	410.5
L2	325	337.5	362.5	375	387.5	400
L3	267	283	299	315	331	347
L4	14	12	16.5	15	13	11.5

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Series SY5000: Serial Transmission/Plug-in

SS5Y5-45S1□D-Stations U-C4/C6/C8-Q

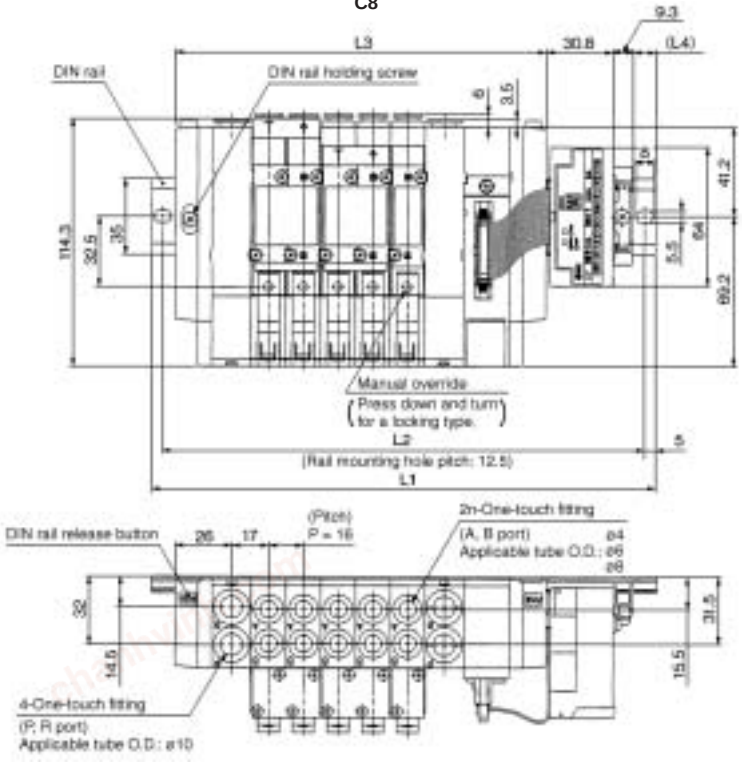
Scale: 30%



Note) Dimensions L1 to L4 of SS5Y5-45S1□D-Stations D-C4/C6/C8-Q are the same as SS5Y5-45S1□D-Stations U-C4/C6/C8-Q.

Stations n	2	3	4	5	6	7	8	9	10
L1	173	185.5	210.5	223	235.5	260.5	273	285.5	298
L2	162.5	175	200	212.5	255	250	262.5	275	287.5
L3	105	121	137	153	169	185	201	217	233
L4	13.5	12	16.5	14.5	13	17.5	15.5	14	12

SS5Y5-45S1□D-Stations B-C4/C6/C8-Q



Stations n	2	3	4	5	6	7	8	9	10
L1	198	210.5	223	235.5	260.5	273	285.5	310.5	323
L2	187.5	200	212.5	225	250	262.5	275	300	312.5
L3	123	139	155	171	187	203	219	235	251
L4	17	15.5	13.5	12	16.5	14.5	13	17.5	15.5

Stations n	11	12	13	14	15	16
L1	335.5	348	373	385.5	398	410.5
L2	325	337.5	362.5	375	387.5	400
L3	267	283	299	315	331	347
L4	14	12	16.5	15	13	11.5

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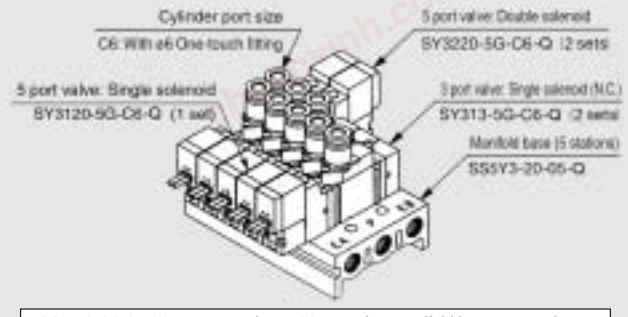
SY300/500
3 Port Valve/Mixed Mounting Style on 5 Port valve Manifold

3 port valve can be mounted on manifold for 5 port valve.

Applicable Manifolds

Can be mounted on all manifold types in series SY3000/5000.
For manifold part numbers, refer to "How to Order Manifold" pages for each series.

How to Order Manifold Assemblies (Example)



SS5Y3-20-05-Q .....1 set (Type 20, 5 station manifold base part no.)
SY313-5G-C6-Q …2 sets (3 port valve, N.C. type part no.)
SY3120-5G-C6-Q ..1 set (5 port valve, single solenoid part no.)
SY3220-5G-C6-Q ..2 sets (5 port valve, double solenoid part no.)

Add the valve and option part numbers in order starting from the first station as shown above.

Body Ported/How to Order Valves

Individual wiring: SS5Y$^{3}_{5}$-Type 20

SY 5 1 3 □ — 5 L □ □ — 01 □ — Q

Series

3	SY300
5	SY500

Type of actuation

1	Normally closed (N.C.)
2	Normally open (N.O.)

Solenoid type

Nil	Single solenoid
D	Double solenoid

Rated voltage

DC specifications

5	24VDC
6	12VDC
V	6VDC
S	5VDC
R	3VDC
9	Less than 50 VDC

AC specifications (50/60Hz)

1	100VAC
2	200VAC
3	110VAC [115VAC]
4	220VAC [230VAC]
9	Less than 250 VAC

Note 1) "D", "DO", "Y" and "YO" are only available in 24VDC and 12VDC in case of DC.
Note 2) "D", "DO", "Y" and "YO" are not available for SY3000.

Order Made Contact SMC for other voltages (9)

Protective class
class I (Mark: ⏚)..... DIN terminal type

Protective class
class III (Mark: ◈)..... Grommet, L and M plug connector

Manual override

Nil	Non-locking push type
D	Push-turn locking slotted type
E	Push-turn locking lever type

Thread

—	Rc (PT)
N	NPT
T	NPTF
F	G (PF)

A/B port size

Symbol	Port size	Applicable series
M5	M5 x 0.8	SY300
C4	ø4 One-touch fitting	
C6	ø6 One-touch fitting	
01	1/8	SY500
C4	ø4 One-touch fitting	
C6	ø6 One-touch fitting	
C8	ø8 One-touch fitting	

Indicator light/Surge voltage suppressor

Electrical entry G, H, L, M

Nil	Without indicator light/surge voltage suppressor
S	With surge voltage suppressor
Z	With indicator light/surge voltage suppressor
U	With indicator light/surge voltage suppressor (non-polar type)

Note 2) "U" are available for DC only.

Electrical entry D (SY500 only)

Nil	Without indicator light/surge voltage suppressor
S	With surge voltage suppressor
Z	With indicator light/surge voltage suppressor

Note 1) "DOZ","YOZ" are not available.
Note 2) For AC, there is no "S" specification, since it is integrated with the rectifier.

Electrical entry

24V, 12V, 6V, 5V, 3VDC			24V, 12VDC, 100V 110VAC, 200V, 220VAC
Grommet	**L type plug connector**	**M type plug connector**	**DIN terminal (SY500 only)**
G: Lead wire length 300mm **H:** Lead wire length 600mm	**L:** With lead wire (length 300mm) **LN:** Without lead wire **LO:** Without connector	**M:** With lead wire (length 300mm) **MN:** Without lead wire **MO:** Without connector	**D:** With connector **DO:** Without connector **Y:** With connector (DIN 43650C) **YO:** Without connector (DIN 43650C)

Note 1) "LN" and "MN" include 2 sockets.
Note 2) "D" and "DO" are not available for SY300.

Note) When single body ported solenoid valves are ordered, manifold mounting bolts and gaskets are not included. Order them separately if necessary. (Refer to page 1.2-65 for details.)

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Body Ported/How to Order Valves

Flat ribbon cable: SS5Y$^{3}_{5}$-Type 20P

Indicator light/Surge voltage suppressor

U	With indicator light/surge voltage suppressor (non-polar type)

Rated voltage

5	24VDC
6	12VDC

A/B port size

Symbol	Port size	Applicable series
M5	M5	SY300
C4	ø4 One-touch fitting	
C6	ø6 One-touch fitting	
01	1/8	SY500
C4	ø4 One-touch fitting	
C6	ø6 One-touch fitting	
C8	ø8 One-touch fitting	

SY 5 1 3 □ – 5 LO U □ □ □ – Q

Thread

–	Rc (PT)
N	NPT
T	NPTF
F	G (PF)

Series

3	SY300
5	SY500

Type of actuation

1	Normally closed (N.C.)
2	Normally open (N.O.)

Manual override

Nil	Non-locking push type
D	Push-turn locking slotted type
E	Push-turn locking lever type

Solenoid type

Nil	Single solenoid
D	Double solenoid

Protective class
class III (Mark:⟠)

Base Mounted/How to Order Valves

Individual wiring: SS5Y$^{3}_{5}$-Type 41/42/45

SY 5 1 5 □ □ – 5 L □ □ – Q

Series

3	SY300
5	SY500

Type of actuation

1	Normally closed (N.C.)
2	Normally open (N.O.)

Solenoid type

Nil	Single solenoid
D	Double solenoid

Pilot type

Nil	Internal pilot
R	External pilot

* External pilot cannot be used on a type 41 manifold.

Manual override

Nil	Non-locking push type
D	Push-turn locking slotted type
E	Push-turn locking lever type

Protective class
class I (Mark:⏚).....
DIN terminal type
Protective class
class III (Mark:⟠).....
Grommet, L and M plug connector

Indicator light/Surge voltage suppressor

Electrical entry G, H, L, M

Nil	Without indicator light/surge voltage suppressor
S	With surge voltage suppressor
Z	With indicator light/surge voltage suppressor
U	With indicator light/surge voltage suppressor (non-polar type)

Note 2) "U" are available for DC only.

Electrical entry D (SY500 only)

Nil	Without indicator light/surge voltage suppressor
S	With surge voltage suppressor
Z	With indicator light/surge voltage suppressor

Note 1) "DOZ" is not available.
Note 2) For AC, there is no "S" specification, since it is integrated with the rectifier.

Rated voltage

DC specifications	
5	24VDC
6	12VDC
V	6VDC
S	5VDC
R	3VDC
9	Less than 50 VDC

Order Made Contact SMC for other voltages (9)

AC specifications (50/60Hz)	
1	100VAC
2	200VAC
3	110VAC [115VAC]
4	220VAC [230VAC]
9	Less than 250 VAC

Note 1) "D", "DO", "Y" and "YO" are only available in 24VDC and 12VDC in case of DC.
Note 2) "D", "DO", "Y" and "YO" are not available for SY3000.

Electrical entry

24V, 12V, 6V, 5V, 3VDC			24V, 12VDC, 100V 110VAC, 200V, 220VAC
Grommet	**L type plug connector**	**M type plug connector**	**DIN terminal (SY500 only)**
G: Lead wire length 300mm **H:** Lead wire length 600mm	**L:** With lead wire (length 300mm) **LN:** Without lead wire **LO:** Without connector	**M:** With lead wire (length 300mm) **MN:** Without lead wire **MO:** Without connector	**D:** With connector **DO:** Without connector **Y:** With connector (DIN 43650C) **YO:** Without connector (DIN 43650C)

Note 1) "LN" and "MN" include 2 sockets.
Note 2) "D" and "DO" are not available for SY300.

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Base Mounted/How to Order Valves

Flat ribbon cable: Connector box: SS5Y$^{3}_{5}$-Type 41P/42P/45-A

41P/42P/45-A for DC: SY 5 1 5 □ □ — 5 LO U □ — Q

Series

3	SY300
5	SY500

Type of actuator

1	Normally closed (N.C.)
2	Normally open (N.O.)

Solenoid type

Nil	Single solenoid
D	Double solenoid

Rated voltage

5	24VDC
6	12VDC

Pilot type

Nil	Internal pilot
R	External pilot

* External pilot cannot be used on a type 41P manifold.

Manual override

Nil	Non-locking push type
D	Push-turn locking slotted type
E	Push-turn locking lever type

Indicator light/Surge voltage suppressor

U	With indicator light/ surge voltage suppressor (non-polar type)

Plug-in: SS5Y$^{3}_{5}$-Type 45□

Single solenoid: SY 5 1 5 — 5 FU □ — Q

Double solenoid: SY 5 1 5C — 5 FU □ — Q

Series

3	SY300
5	SY500

Type of actuator

1	Normally closed (N.C.)
2	Normally open (N.O.)

Dual body type

Note) Since double solenoid valves (dual body type) require 2 manifold stations, be sure to specify appropriate number of stations with the manifold part number.

Rated voltage

DC specifications

5	24VDC
6	12VDC

Manual override

Nil	Non-locking push type
D	Push-turn locking slotted type
E	Push-turn locking lever type

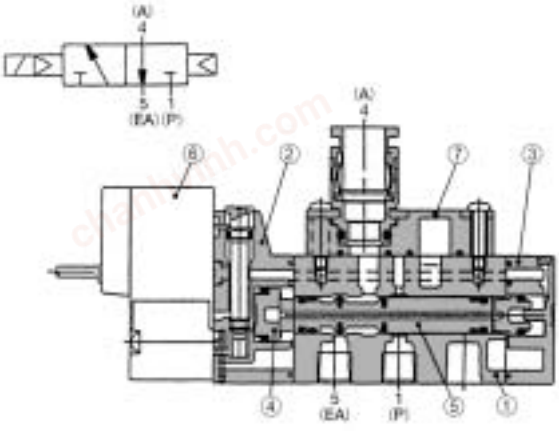
Protective class
class III (Mark:⏚)

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Construction

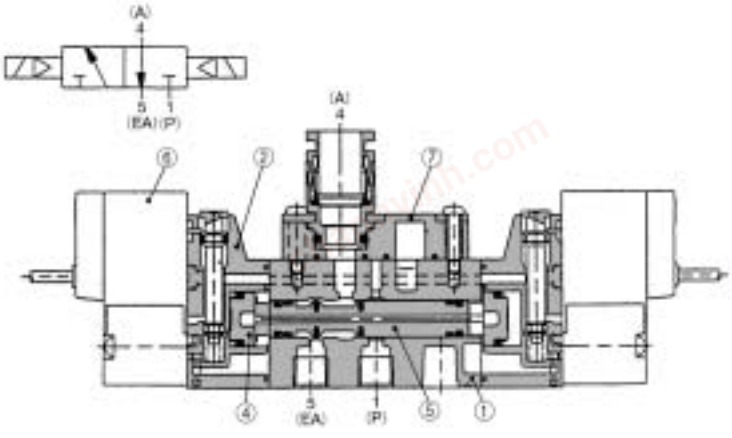
Symbol
Single

Normally closed (N.C.)
Single solenoid



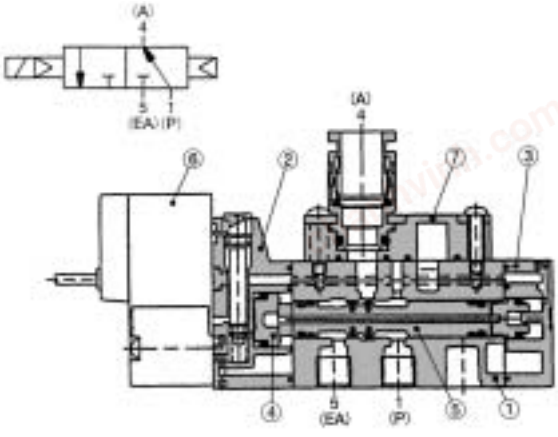
Symbol
Double

Normally closed (N.C.)
Double solenoid



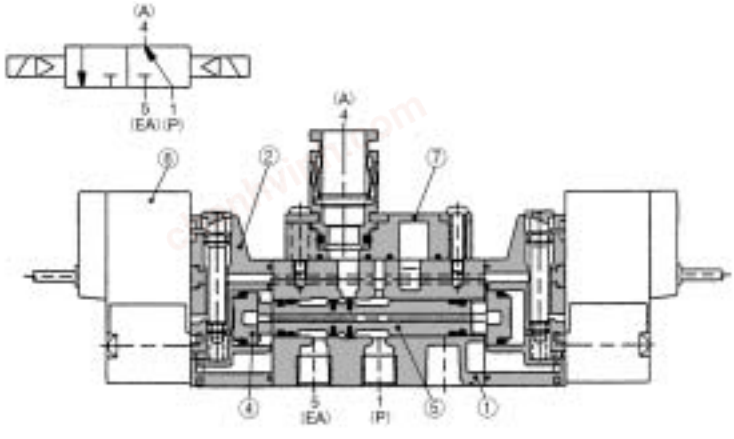
Symbol
Single

Normally open (N.O.)
Single solenoid



Symbol
Double

Normally open (N.O.)
Double solenoid



Parts list

No.	Description	Material	Note
1	Body	Die-cast aluminum (SY300 is die-cast zinc.)	White
2	Adaptor plate	Resin	White
3	End plate	Resin	White
4	Piston	Resin	—
5	Spool valve assembly	Aluminum/NBR	—

Replacement parts

No.	Description	Part no.
6	Pilot valve assembly	Refer to "How to Order Pilot Valve Assemblies" on page 1.2-14.
7	Port block assembly	Refer to "How to Order Port Block Assemblies" below.

How to Order Port Block Assemblies

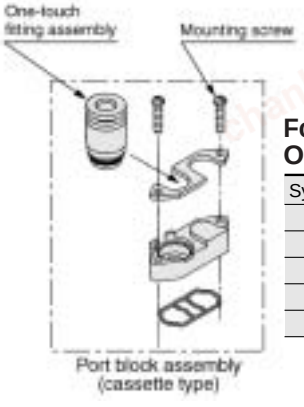
SY □ 00 — 2A — □

Series

3	SY300
5	SY500

A/B port size

Symbol	Port size	Applicable series
M5	M5	SY300
C4	ø4 One-touch fitting	
C6	ø6 One-touch fitting	
01	1/8	SY500
C4	ø4 One-touch fitting	
C6	ø6 One-touch fitting	
C8	ø8 One-touch fitting	



For replacement of One-touch fitting assembly only

Symbol	Part no.	Applicable series
C4	VVQ1000-50A-C4	SY300
C6	VVQ1000-50A-C6	
C4	VVQ1000-51A-C4	SY500
C6	VVQ1000-51A-C6	
C8	VVQ1000-51A-C8	

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Specifications

Dimensions, specifications, solenoid specifications, response time, and effective area are the same as 5 port valves.

Weights

Models/Series SY300

Valve model	Type of actuation	Weight g	
		Grommet	L/M type plug connector
SY3□3-□□-M5-Q	Single	48	51
	Double	63	70
SY3□3-□□-C4-Q	Single	53	57
	Double	68	75
SY3□3-□□-C6-Q	Single	51	55
	Double	66	73
SY3□5-□□-Q	Single	44	48
	Double	59	66

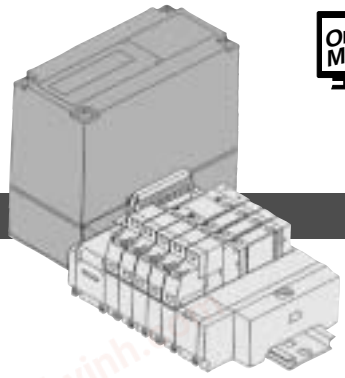
Models/Series SY300

Valve model	Type of actuation	Weight g		
		Grommet	L/M type plug connector	DIN terminal
SY5□3-□-01-Q	Single	66	70	93
	Double	81	89	135
SY5□3-□-C4-Q	Single	79	80	103
	Double	94	98	144
SY5□3-□-C6-Q	Single	76	75	98
	Double	91	94	140
SY5□3-□-C8-Q	Single	72	82	105
	Double	87	101	147
SY5□5-□□-Q	Single	52	56	79
	Double	67	74	120

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Type 45S2

Order Made Specifications
SY3000/5000
Serial Type with SMC IN313



Order Made

Serial transmission manifold equipped with SMC's IN313.

How to Order Manifolds

Type 45S2 (Serial type with IN313)

SS5Y 3 – 45S2 U – 06 D – C4 – □ -Q

Manifold series

3	SY3000
5	SY5000

SI unit mounting position

Symbol	Mounting position
U	U side
D	D side

Stations

Symbol	Stations	Note
02	2 stations	Single wiring specification (Up to 16 solenoids applicable)
⋮	⋮	
16	16 stations	

Note 1) Includes the number of blanking plate assemblies.

Note 2) Two manifold stations are required for double solenoid 3 position valves (dual body type).

SUP/EXH block assembly mounting position

Symbol	Mounting position	Applicable stations
U	U side	2 to 10 stations
D	D side	2 to 10 stations
B	Both sides	2 to 16 stations
M*	Special specifications	

* For special specifications, order separately on a manifold specification sheet.

A/B port size

SY3000

Symbol	Port size
C4	ø4 One-touch fitting
C6	ø6 One-touch fitting
M*	Mixed

SY5000

Symbol	Port size
C4	ø4 One-touch fitting
C6	ø6 One-touch fitting
C8	ø8 One-touch fitting
M*	Mixed

* For mixed specifications, order separately on a manifold specification sheet.

Option

When a DIN rail longer than the specified stations is necessary, indicate the number of required stations. (Max. 20 stations)

Protective class
class III (Mark:⏚)

For the external pilot specification and built-in silencer type, refer to page 1.2-172.

How to Order Applicable SI Units

IN313 – MB1

Compatible manufacturers

MB1	Mitsubishi Electric Corporation
TA1	OMRON Corporation

How to Order Valves

2 position single **SY 3 1 4 0 – 5 FU □ -Q**

Double solenoid 3 position **SY 3 2 4 5 – 5 FU □ -Q**

Series

3	SY3000
5	SY5000

Type of actuation

2	2 position double
3	3 position closed centre
4	3 position exhaust centre
5	3 position pressure centre

Dual body type (double solenoid 3 position)

Rated voltage

5	24VDC

Manual override

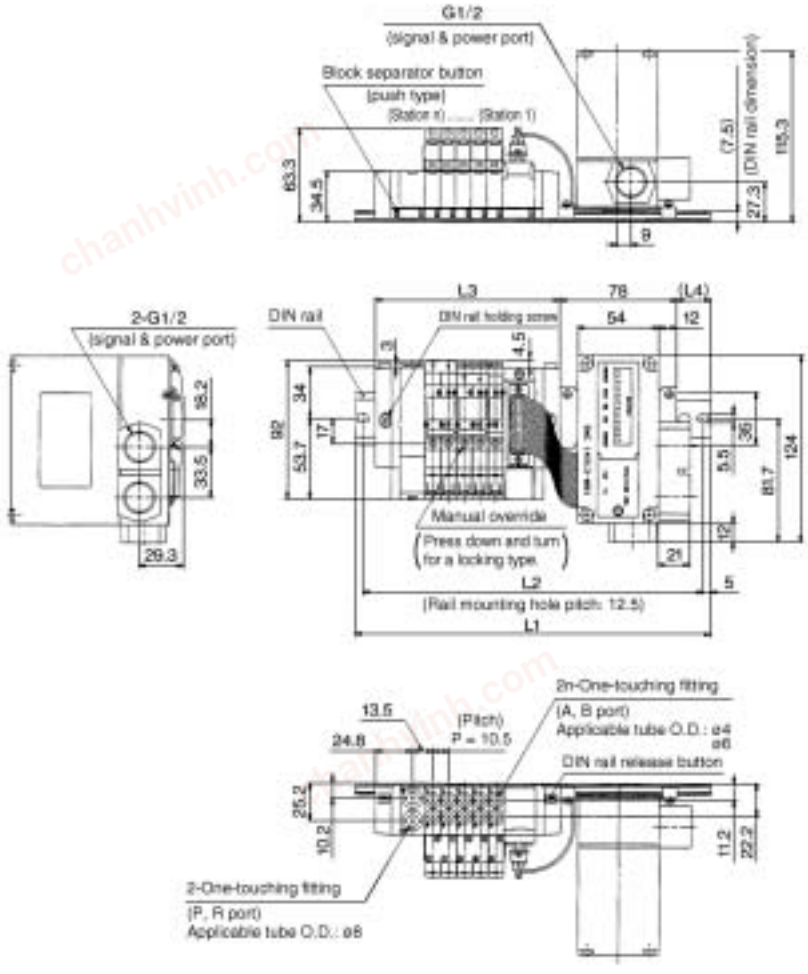
Nil	Non-locking push type
D	Push-turn locking slotted type
E	Push-turn locking lever type

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Type 45S2 SY3000: Serial Transmission/Plug-in

SS5Y3-45S2D-[Stations]U-$^{C4}_{C6}$-Q

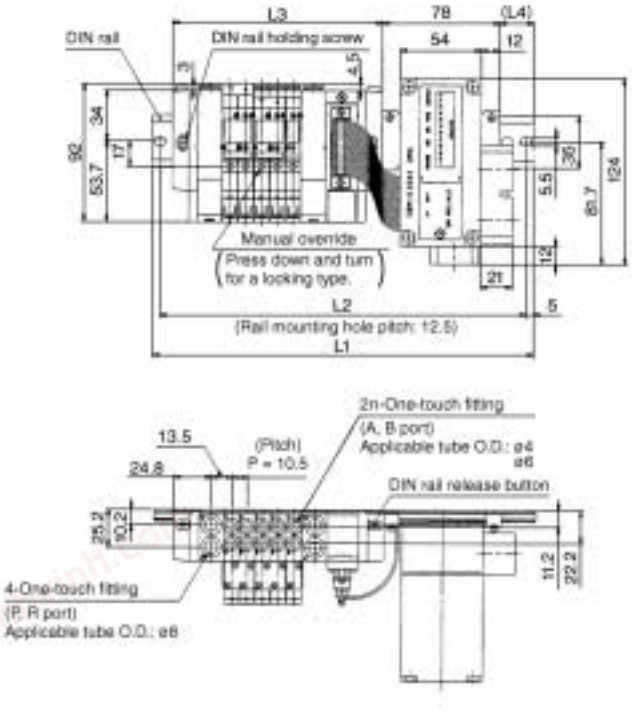
Scale: 20%



Note) Dimensions L1 to L4 of
SS5Y3-45S2D-[Stations]D-$^{C4}_{C6}$-Q,
SS5Y3-45S2U-[Stations]D-$^{C4}_{C6}$-Q, and
SS5Y3-45S2U-[Stations]U-$^{C4}_{C6}$-Q are the same as
SS5Y3-45S2D-[Stations]U-$^{C4}_{C6}$-Q.

Stations n	2	3	4	5	6	7	8	9	10
L1	198	210.5	223	235.5	235.5	248	260.5	273	285.5
L2	187.5	200	212.5	225	225	237.5	250	262.5	275
L3	91.5	102	112.5	123	133.5	144	154.5	165	175.5
L4	14	15	16	17	12	13	14	15	16

SS5Y3-45S2U-[Stations]B-$^{C4}_{C6}$-Q



Note) Dimensions L1 to L4 of SS5Y3-45S2U-[Stations]B-$^{C4}_{C6}$-Q are the same as SS5Y3-45S2D-[Stations]B-$^{C4}_{C6}$-Q.

Stations n	2	3	4	5	6	7	8	9
L1	210.5	223	235.5	248	260.5	273	273	285.5
L2	200	212.5	225	237.5	250	262.5	262.5	275
L3	108	118.5	129	139.5	150	160.5	171	181.5
L4	12	13	14	15	16	17	12	13

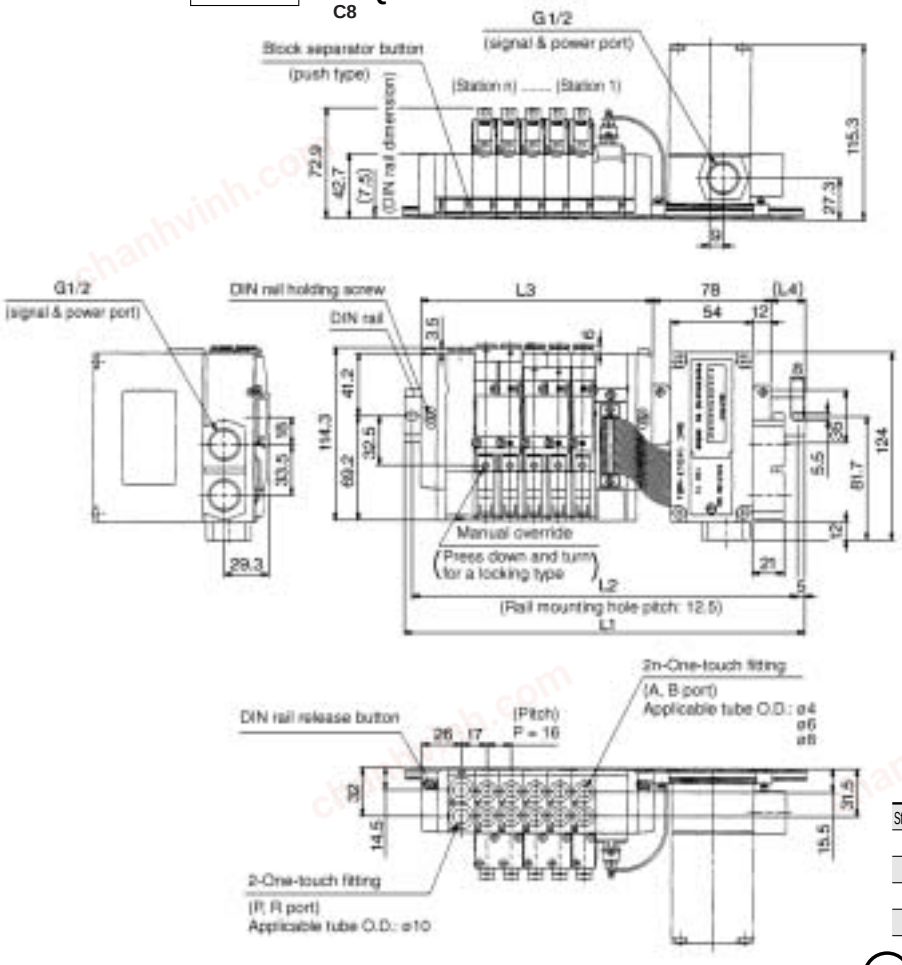
Stations n	10	11	12	13	14	15	16
L1	298	310.5	323	335.5	335.5	348	360.5
L2	287.5	300	312.5	325	325	337.5	350
L3	192	202.5	213	223.5	234	244.5	255
L4	14	15	16	17	11.5	12.5	13.5

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Type 45S2 SY5000: Serial Transmission/Plug-in

SS5Y5-45S2D-[Stations]U-C4/C6/C8-Q

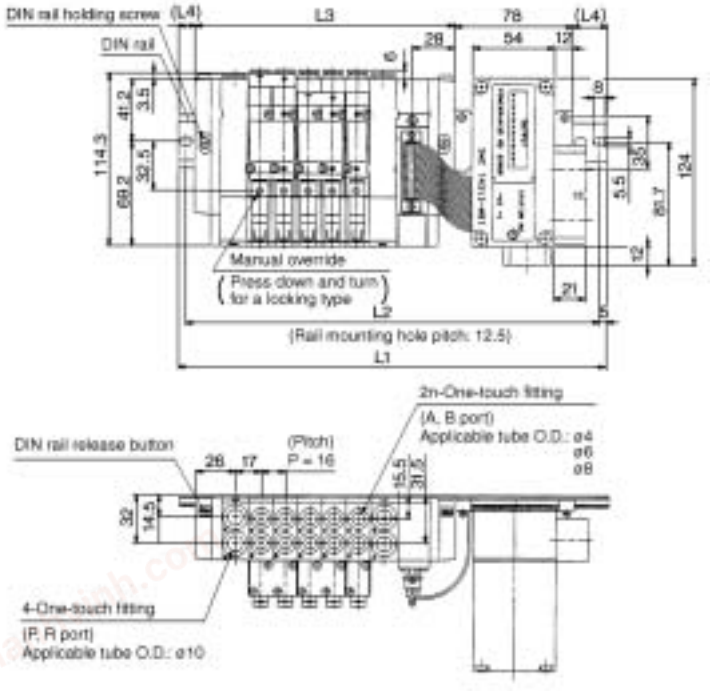
Scale: 20%



Note) Dimensions L1 to L4 of
SS5Y5-45S2D-[Stations]D-C4/C6/C8-Q,
SS5Y5-45S2U-[Stations]D-C4/C6/C8-Q, and
SS5Y5-45S2U-[Stations]U-C4/C6/C8-Q are the same as
SS5Y5-45S2D-[Stations]U-C4/C6/C8-Q.

Stations n	2	3	4	5	6	7	8	9	10
L1	210.5	223	248	260.5	273	298	310.5	323	335.5
L2	200	212.5	237.5	250	262.5	287.5	300	312.5	325
L3	105	121	137	153	169	185	201	217	233
L4	13.5	12	16.5	14.5	13	17.5	15.5	14	12

SS5Y5-45S2U-[Stations]B-C4/C6/C8-Q



Note) Dimensions L1 to L4 of SS5Y5-45S2U-[Stations]B-C4/C6/C8-Q are the same as SS5Y5-45S2D-[Stations]B-C4/C6/C8-Q.

Stations n	2	3	4	5	6	7	8	9
L1	235.5	248	260.5	273	298	310.5	323	348
L2	225	237.5	250	262.5	287.5	300	312.5	337.5
L3	123	139	155	171	187	203	219	235
L4	17	15.5	13.5	12	16.5	14.5	13	17.5

Stations n	10	11	12	13	14	15	16
L1	360.5	373	385.5	410.5	423	435.5	460.5
L2	350	362.5	375	400	412.5	425	450
L3	251	267	283	299	315	331	347
L4	15.5	14	12	16.5	15	13	17.5

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Order Made Specifications *SY3000/5000*
External pilot and Built-in Silencer

Manifolds with external pilot specification for use with low pressure and vacuum are added to the stacking and DIN rail mount types. Also, a clean appearance is achieved with the built-in silencer.

Type 45 Individual wiring/Connector box

How to Order Manifolds

Type 45

SS5Y$^{3}_{5}$-45(-A)-05 U R -C6 - -Q

Manifold series

3	SY3000
5	SY5000

Stations

Symbol	Stations
02	2 stations
⋮	⋮
20	20 stations

* Includes the number of blanking plate assemblies.

SUP/EXH block assembly mounting position

Symbol	Mounting position	Applicable stations
U	U side	2 to 10 stations
D	D side	
B	Both sides	2 to 20 stations
M*	Special specifications	

* For special specifications, order separately on a manifold specification sheet.

SUP/EXH block assembly specification

Symbol	Specification
R	External pilot
S	Internal pilot/Built-in silencer
RS	External pilot/Built-in silencer

Option

When a DIN rail longer than the specified stations is necessary, indicate the number of required stations. (Max. 20 stations)

A/B port size

SY3000

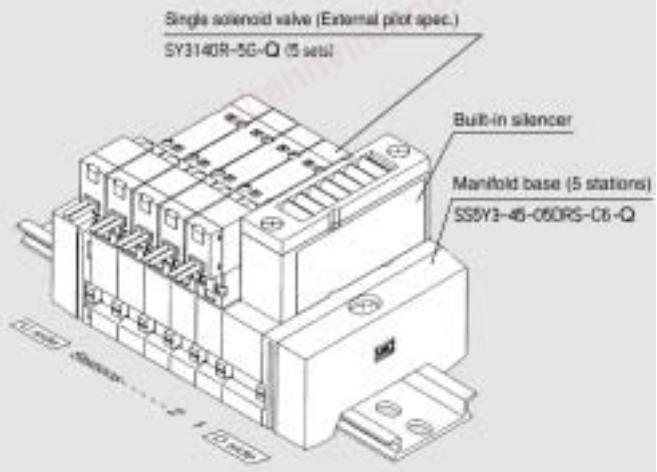
Symbol	Port size
C4	ø4 One-touch fitting
C6	ø6 One-touch fitting
M*	Mixed

SY5000

Symbol	Port size
C4	ø4 One-touch fitting
C6	ø6 One-touch fitting
C8	ø8 One-touch fitting
M*	Mixed

* For mixed specifications, order separately on a manifold specification sheet.

How to Order Manifold Assemblies (Example)



SS5Y3-45-05DRS-C6-Q ....1 set (External pilot/Built-in silencer part no.)
SY3140R-5G-Q .....5 sets (Single solenoid part no.)

Valves are assembled from the D side regardless of the location of the SUP/EXH block assembly. Make entries in order from station 1 on the D side.

When entry of part numbers becomes complicated, indicate on a manifold specification sheet.

When SUP/EXH block assemblies are mounted on both sides, two pieces of the external pilot and silencer will be mounted on each side.

For special applications of the SUP/EXH block, the SUP/EXH block assembly shown on page 1.2-128 (SX3/5000-51-1A) is also available. Indicate the part number and mounting positions on a manifold specification sheet in section (b).

How to Order Valves

SY 5 2 40 - 5 L - Q

Series

3	SY3000
5	SY5000

Pilot type

Nil	Internal pilot
R	External pilot

Type of actuation

1	2 position single
2	2 position double
3	3 position closed centre
4	3 position exhaust centre
5	3 position pressure centre

Rated voltage

AC specifications (50/60Hz)

1	100VAC
2	200VAC
3	110VAC [115VAC]
4	220VAC [230VAC]
9	Less than 250 VAC

DC specifications

5	24VDC
6	12VDC
V	6VDC
S	5VDC
R	3VDC
9	Less than 50 VDC

Note 1) "D", "DO", "Y" and "YO" are only available in 24VDC and 12VDC in case of DC.

Note 2) "D", "DO", "Y" and "YO" are not available for SY3000.

Contact SMC for other voltages (9)

Protective class
class I (Mark: ⏚)..... DIN terminal type

Protective class
class III (Mark: ◈)..... Grommet, L and M plug connector

Manual override

Nil	Non-locking push type
D	Push-turn locking slotted type
E	Push-turn locking lever type

Indicator light/Surge voltage suppressor

Electrical entry G, H, L, M

Nil	Without indicator light/surge voltage suppressor
S	With surge voltage suppressor
Z	With indicator light/surge voltage suppressor
U	With indicator light/surge voltage suppressor (non-polar type)

Note 2) "U" are available for DC only.

Electrical entry D (SY5000 only)

Nil	Without indicator light/surge voltage suppressor
S	With surge voltage suppressor (non-polar type)
Z	With indicator light/surge voltage suppressor (non-polar type)

Note 1) "DOZ", "YOZ" are not available.
Note 2) For AC, there is no "S" specification, since it is integrated with the rectifier.

Electrical entry

24V, 12V, 6V, 5V, 3VDC			24V, 12VDC 100V, 110V, 200V, 220VAC
Grommet	**L type plug connector**	**M type plug connector**	**DIN terminal**
G: Lead wire length 300mm **H:** Lead wire length 600mm	**L:** With lead wire (length 300mm) **LN:** Without lead wire **LO:** Without connector	**M:** With lead wire (length 300mm) **MN:** Without lead wire **MO:** Without connector	**(SY5000 only)** **D:** With connector **DO:** Without connector **Y:** With connector (DIN43650C) **YO:** Without connector (DIN43650C)

Note 1) "LN" and "MN" include 2 sockets.
Note 2) "D" and "DO" are available for SY5000 only
Note 4) The connector box type is only available with "-5LOU" setting.

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Type 45□ Plug-in

How to Order Manifolds

Type 45□

SS5Y 3/5 – 45 □ F U 05 U R □ □ □ -Q

Manifold series

3	SY3000
5	SY5000

Common specification

Nil	Positive COM
N	Negative COM

Note) Indicate "Nil" for types T, T1, and S□.

Connector type

Symbol	Mounting position
F	D-sub connector
P	Flat ribbon cable 26 pins
PG	Flat ribbon cable 20 pins
PH	Flat ribbon cable 10 pins
T	Terminal block 9 pins
T1	Terminal block 18 pins
S□	Serial transmission

Refer to pages starting with 1.2-124 for details.

Connector mounting position

Symbol	Mounting position
U	U side
D	D side

Stations

Symbol	Stations	Note
02	2 stations	Single wiring specification
⋮	⋮	
20	20 stations	

Note 1) Includes the number of blanking plate assemblies.
Note 2) Since the number of stations is limited depending on the connector type, refer to page 1.2-127.
Note 3) Two manifold stations are required for double solenoid 3 position valves (dual body type).

SUP/EXH block assembly mounting position

Symbol	Mounting position	Applicable stations
U	U side	2 to 10 stations
D	D side	
B	Both sides	2 to 20 stations
M*	Special specifications	

* For special specifications, order separately on a manifold specification sheet.

SUP/EXH block assembly specification

Symbol	Specification
R	External pilot
S	Internal pilot/Built-in silencer
RS	External pilot/Built-in silencer

A/B port size

SY3000

Symbol	Port size
C4	ø4 One-touch fitting
C6	ø6 One-touch fitting
M*	Mixed

SY5000

Symbol	Port size
C4	ø4 One-touch fitting
C6	ø6 One-touch fitting
C8	ø8 One-touch fitting
M*	Mixed

* For mixed specifications, order separately on a manifold specification sheet.

Voltage specification

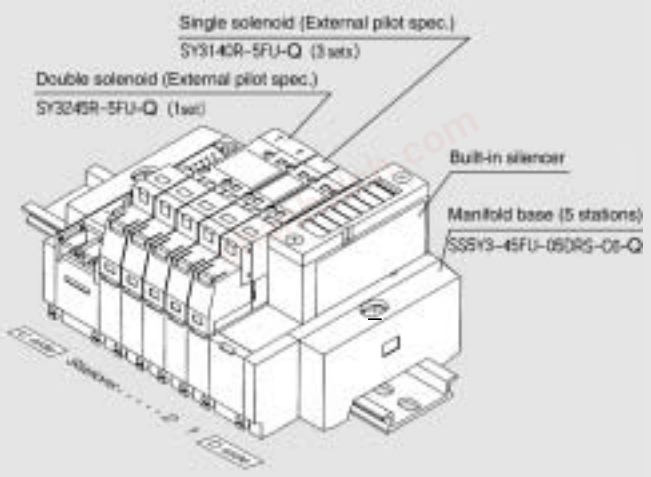
Nil	24VDC
12V	12VDC

Note) Indicate "Nil" for types T, T1, and S□.

Option

When a DIN rail longer than the specified stations is necessary, indicate the number of required stations. (Max. 20 stations)

How to Order Manifold Assemblies (Example)



SS5Y3-45FU-05DRS-C6-Q .....1 set (External pilot/Built-in silencer part no.)
SY3140R-5FU-Q .....3 sets (Single solenoid part no.)
SY3245R-5FU-Q .....1 set (Double solenoid part no.)

Valves are assembled from the D side regardless of the location of the SUP/EXH block assembly. Make entries in order from station 1 on the D side.

When entry of part numbers becomes complicated, indicate on a manifold specification sheet.

When SUP/EXH block assemblies are mounted on both sides, two pieces of the external pilot and silencer will be mounted on each side.

For special applications of the SUP/EXH block, the SUP/EXH block assembly shown on page 1.2-152 (SX3/5000-51-2A) is also available. Indicate the part number and mounting positions on a manifold specification sheet in section (b).

Since double solenoid 3 position valves (dual body type) require 2 manifold stations, be sure to specify the appropriate number of stations with the manifold part number.

How to Order Valves

SY 3 1 4 □ □ – 5 FU □ -Q

Series

3	SY3000
5	SY5000

Type of actuation

1	2 position single
2	2 position double
3	3 position closed centre
4	3 position exhaust centre
5	3 position pressure centre

Body option

0	Standard (single only)
5	Dual body type (double solenoid 3 position)

Pilot type

Nil	Internal pilot
R	External pilot

Rated voltage

5	24VDC
6	12VDC
V*	6VDC
S*	5VDC
R*	3VDC
9	Less than 50VDC

Order Made Contact SMC for other voltages (9)

* Applies to 45T/T1 only. 24VDC only for type S□.

Manual override

Nil	Non-locking push type
D	Push-turn locking slotted type
E	Push-turn locking lever type

Protective class class III (Mark:⏚)

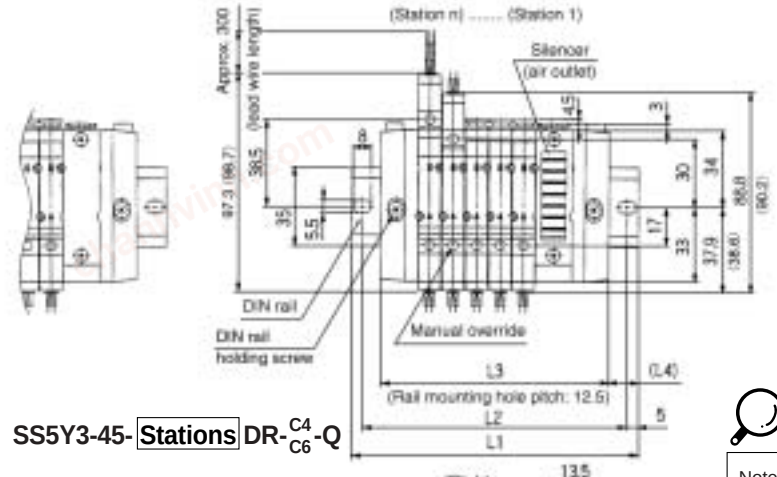
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Type 45 External Pilot and Built-in Silencer

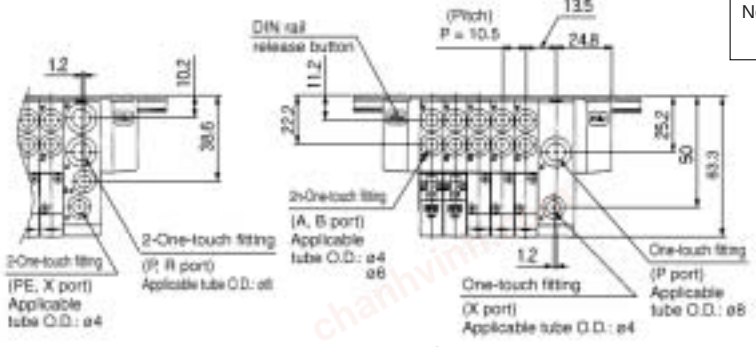
Note)< >: Values with surge voltage suppressor

Scale: 30%

SY3000: SS5Y3-45-[Stations] DRS-$^{C4}_{C6}$-Q

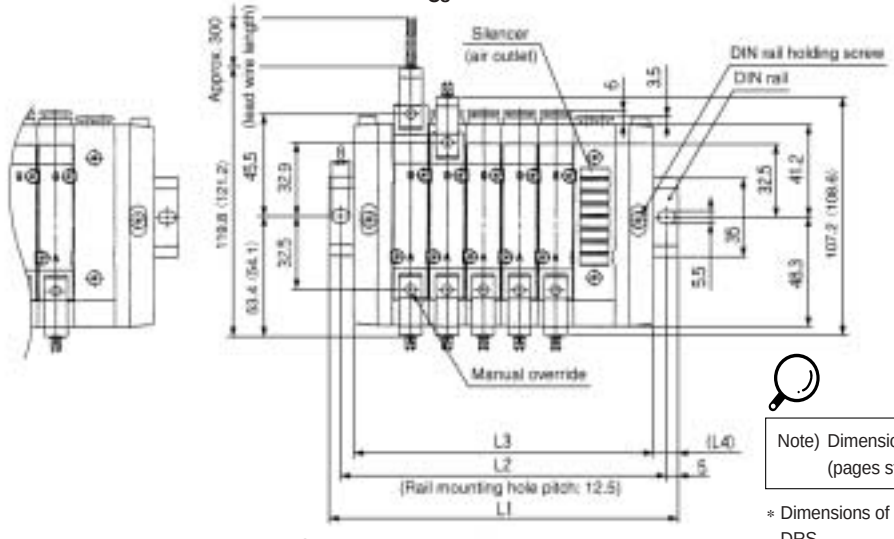


SS5Y3-45-[Stations] DR-$^{C4}_{C6}$-Q



Note) Dimensions L1 to L4 are the same as SS5Y3-45-[Stations] $^{U}_{B}$-D-$^{C4}_{C6}$-Q (pages starting with 1.2-110).

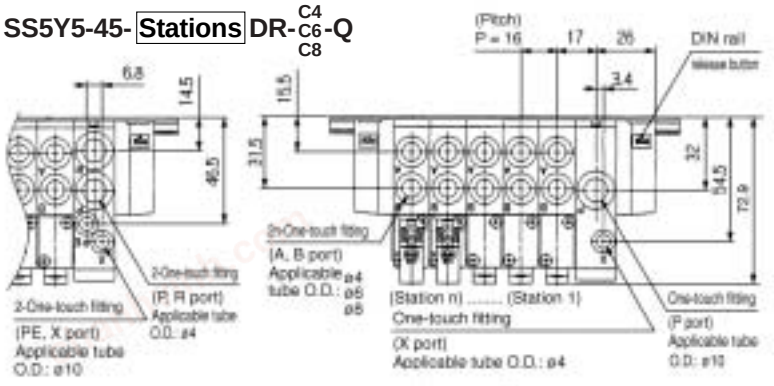
SY5000: SS5Y5-45-[Stations] DRS-$^{C4}_{C6}$-Q



Note) Dimensions L1 to L4 are the same as SS5Y5-45-[Stations] $^{U}_{B}$-D-$^{C4}_{C6}$-Q (pages starting with 1.2-112).

* Dimensions of SS5Y$^{3}_{5}$-45-[Stations]URS are the same as SS5Y$^{3}_{5}$-45-[Stations] DRS.

SS5Y5-45-[Stations] DR-$^{C4}_{C6}$-Q

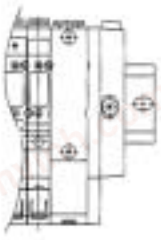


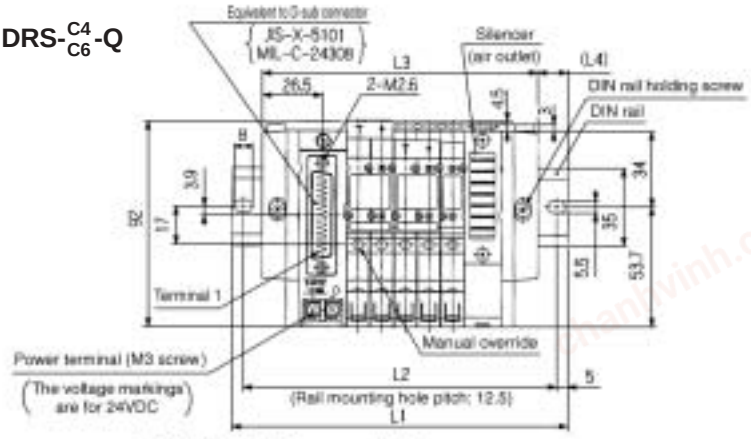
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Type 45□ External Pilot and Built-in Silencer

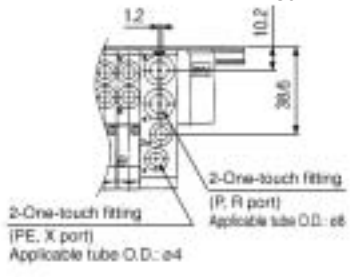
SY3000: SS5Y3-45FU-Stations DRS-$^{C4}_{C6}$-Q

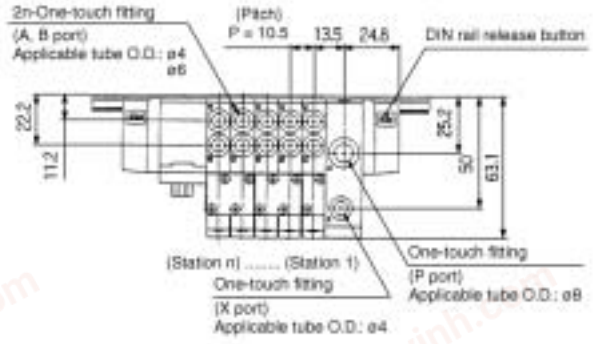
Scale: 30%





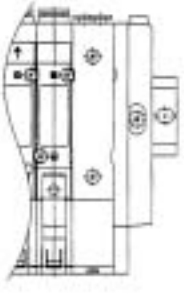
SS5Y3-45FU-Stations DR-$^{C4}_{C6}$-Q

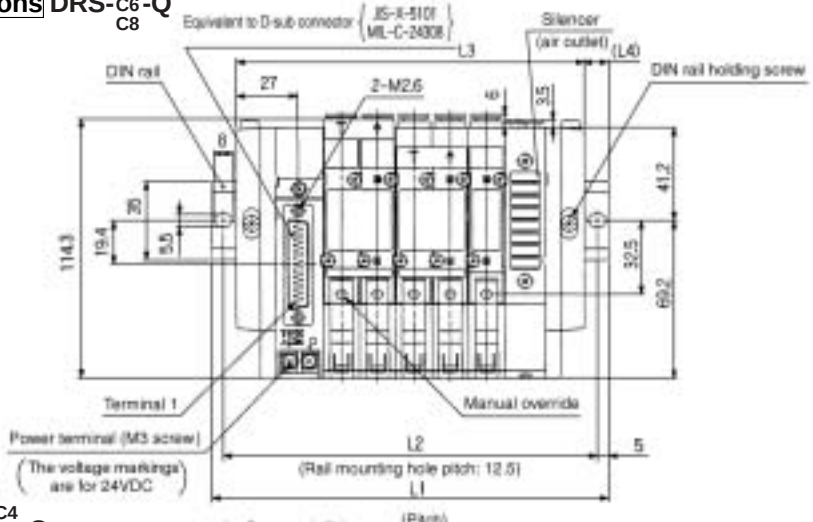




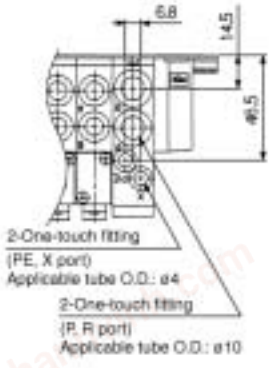
Note) Dimensions L1 to L4 are the same as SS5Y3-45F$^{U}_{D}$-Stations-$^{U}_{D}$-$^{C4}_{C6}$-Q (pages starting with 1.2-134).

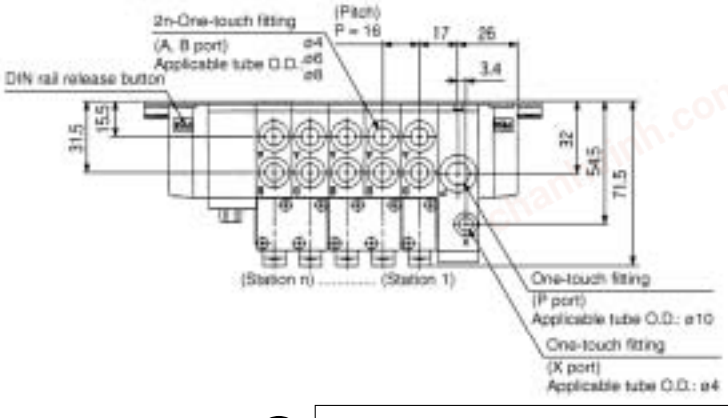
SY5000: SS5Y5-45FU-Stations DRS-$^{C4}_{C6}$-Q





SS5Y5-45FU-Stations DR-$^{C4}_{C6}_{C8}$-Q





Note) Dimensions L1 to L4 are the same as SS5Y5-45F$^{U}_{D}$-Stations-$^{U}_{D}$-$^{C4}_{C6}_{C8}$-Q (pages starting with 1.2-136).

∗ Dimensions of SS5Y$^{3}_{5}$-45-Stations URS are the same as SS5Y$^{3}_{5}$-45-Stations DRS.

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Order Made Specifications *SY3000/5000*
Mixed Mounting Type

Type M45 Non-plug-in

SY5000 manifold base allows mounting of SY3000.

How to Order Manifolds

Type M45 (Mixed mounting)

SS5Y5 − M45 − 05 U □ − C86 − □ -Q

Mixed mounting type

Stations

Symbol	Stations
02	2 stations
⋮	⋮
20	20 stations

* Includes the number of blanking plate assemblies.

SUP/EXH block assembly mounting position

Symbol	Mounting position	Applicable stations
U	U side	2 to 10 stations
D	D side	
B	Both sides	2 to 20 stations
M*	Special specifications	

* For special specifications, order separately on a manifold specification sheet.

Option

When a DIN rail longer than the specified stations is necessary, indicate the number of required stations. (Max. 20 stations)

SUP/EXH block assembly specification

Symbol	Specification
Nil	Standard/Internal pilot
S	Built-in silencer

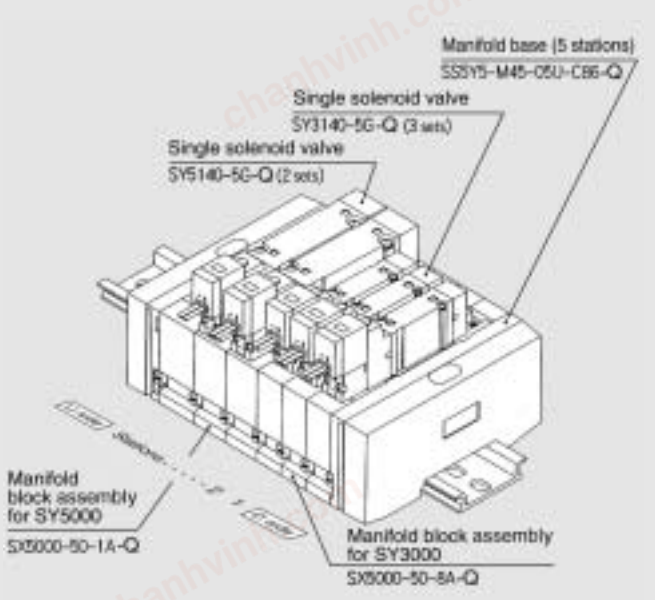
Note) External pilot specification is not available for the mixed mounting type.

A/B port size

Symbol	Port size
C44	SY5000: ø4 One-touch fitting SY3000: ø4 One-touch fitting
C46	SY5000: ø4 One-touch fitting SY3000: ø6 One-touch fitting
C64	SY5000: ø6 One-touch fitting SY3000: ø4 One-touch fitting
C66	SY5000: ø6 One-touch fitting SY3000: ø6 One-touch fitting
C84	SY5000: ø8 One-touch fitting SY3000: ø4 One-touch fitting
C86	SY5000: ø8 One-touch fitting SY3000: ø6 One-touch fitting
M*	Mixed

* For mixed specifications, order separately on a manifold specification sheet.

How to Order Manifold Assemblies (Example)



SS5Y5-M45-05U-C86-Q ..... 1 set (Type M45 manifold base part no.)
SY3140-5G-Q ..... 3 sets (Single solenoid part no.)
SY5140-5G-Q ..... 2 sets (Single solenoid part no.)

Valves are assembled from the D side regardless of the location of the SUP/EXH block assembly. Add the valve and option part numbers in order starting from the first station on the D side.

How to Order Valves

SY □ □ 40 − □ □ □ − Q

Series

3	SY3000
5	SY5000

Type of actuation

1	2 position single
2	2 position double
3	3 position closed centre
4	3 position exhaust centre
5	3 position pressure centre

Rated voltage

DC specifications

5	24VDC
6	12VDC
V	6VDC
S	5VDC
R	3VDC
9	Less than 50 VDC

Order Made Contact SMC for other voltages (9)

Protective class class III (Mark:⟪⟫)

Manual override

Nil	Non-locking push type
D	Push-turn locking slotted type
E	Push-turn locking lever type

Indicator light/Surge voltage suppressor

Electrical entry G, H, L, M

Nil	Without indicator light/surge voltage suppressor
S	With surge voltage suppressor
Z	With indicator light/surge voltage suppressor
U	With indicator light/surge voltage suppressor (non-polar type)

Note 2) "U" are available for DC only.

Electrical entry

24V, 12V, 6V, 5V, 3VDC

Grommet	L type plug connector	M type plug connector
G: Lead wire length 300mm **H:** Lead wire length 600mm	**L:** With lead wire (length 300mm) **LN:** Without lead wire **LO:** Without connector	**M:** With lead wire (length 300mm) **MN:** Without lead wire **MO:** Without connector

Note) "LN" and "MN" include 2 sockets.

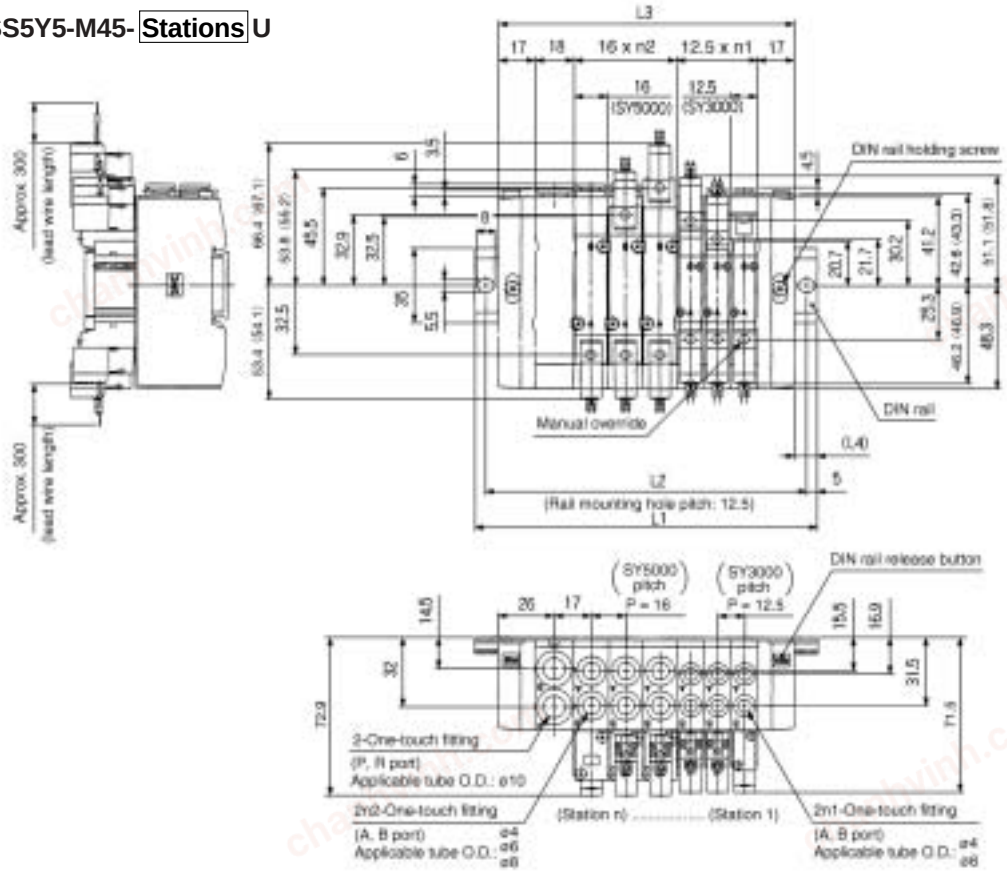
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Type M45 Mixed Mounting Type Dimensions

Note)< >: Values with surge voltage suppressor

SS5Y5-M45-Stations U

Scale: 30%



Dimension L: Formulas for dimensions L1 to L4

$L3 = 12.5 \times n1 + 16 \times n2 + 52$

$M = (\frac{L3}{12.5} + 1)$ omit decimals

$L1 = 12.5 \times M + 23$

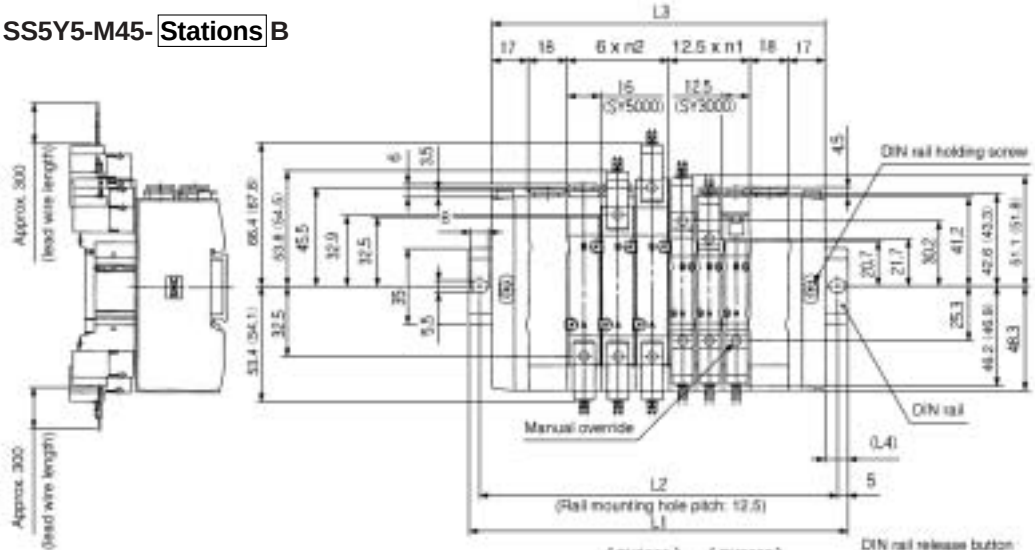
$L2 = L1 - 10.5$

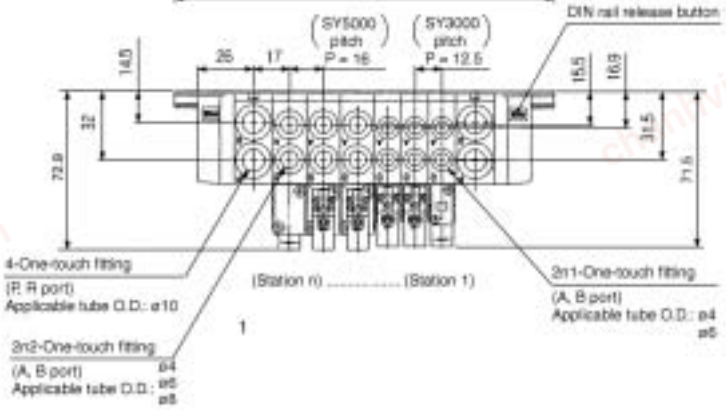
$L4 = (L1 - L3)/2$

n1: Number of SY3000 stations
n2: Number of SY5000 stations

Note) Dimensions L1 to L4 of SS5Y5-M45-Stations D are the same as SS5Y5-M45-Stations U.

SS5Y5-M45-Stations B





Dimension L: Formulas for dimensions L1 to L4

$L3 = 12.5 \times n1 + 16 \times n2 + 70$

$M = (\frac{L3}{12.5} + 1)$ omit decimals

$L1 = 12.5 \times M + 23$

$L2 = L1 - 10.5$

$L4 = (L1 - L3)/2$

n1: Number of SY3000 stations
n2: Number of SY5000 stations

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Order Made Specifications *SY3000/5000/7000/9000*
Body Ported Type with External Pilot Main Valve Fluoro Rubber Specification Energy Saving Solenoid Valve

Order Made

Body Ported Type with External Pilot

Applicable solenoid valve series: SY3□20, SY5□20, SY7□20

Part number: SY $\begin{matrix}3\\5\\7\end{matrix}$ □ 20 – □□□□ – □ – □ – X20-Q

● Enter in the same manner as the standard product.

Operating pressure range MPa

Operating pressure range	–100kPa to 0.7
Pilot pressure range	0.25 to 0.7

Dimensions

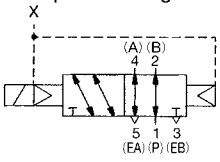
SY3000: Overall length will be 6.5mm longer.
SY5000/7000: Overall length will be 10mm longer.

External pilot port size

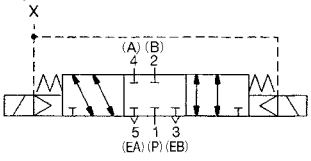
Series	Port size
SY3000	M3
SY $\begin{matrix}5\\7\end{matrix}$ 000	M5

JIS symbols

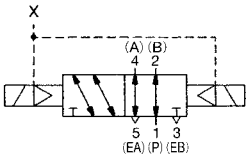
Body ported
2 position single



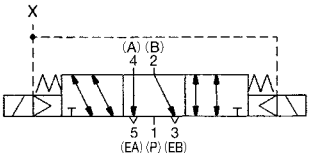
3 position closed center



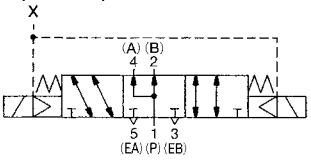
2 position double



3 position exhaust center



3 position pressure center



Main Valve Fluoro Rubber Specification

The use of fluoro rubber for the main valve can be applied in situations such as the following.

- When a turbine oil other than the recommended type is used and swelling of the spool valve seal causes or may cause malfunction.

Applicable solenoid valve series: SY3□$^{2}_{4}$0, SY5□$^{2}_{4}$0, SY7□$^{2}_{4}$0, SY9□$^{2}_{4}$0

Part number: SY $\begin{matrix}3\\5\\7\\9\end{matrix}$ □ $\begin{matrix}20\\40\end{matrix}$ – □□□□ – □ – □ – X90-Q

● **Enter in the same manner as the standard product.**

Specifications and performance are the same as the standard product.

⚠ Protective class
class I (Mark: ⏚)..... DIN terminal type

⚠ Protective class
class III (Mark: ◈)..... Grommet, L and M plug connector

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Series SY3000/5000/7000/9000
Specific Product Precautions 1

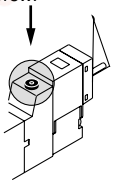
Be sure to read before handling.

⚠Warning

Manual Override Operation

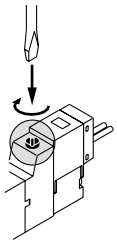
■ Non-locking push type [Standard type]

Push in the direction of the arrow.

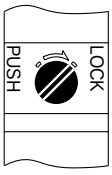


■ Push-turn slotted locking type [type D]

While pressing, turn in the direction of the arrow.
If it is not turned, it can be operated the same way as the non-locking type.



Locked position



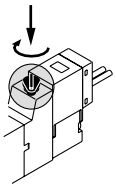
⚠Caution

When operating the locking type D with a screw driver, turn it gently using a watchmakers screw driver.

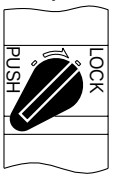
[Torque: Less than 0.1N·m]

■ Push-turn lever locking type [type E]

While pressing, turn in the direction of the arrow.
If it is not turned, it can be operated the same way as the non-locking type.



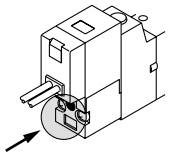
Locked position



⚠Caution

When locking the manual override on the push-turn locking types (D, E), be sure to push it down before turning.
Turning without first pushing it down can cause damage to the manual override and trouble such as air leakage, etc.

Note) It can also be operated using the manual override on the pilot valve side.
However, the manual override on the pilot valve side is a non-locking push type only, which is operated by pushing it in the direction of the arrow.



⚠Caution

Exhaust Throttle

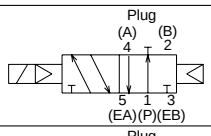
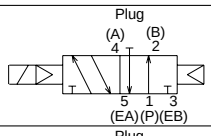
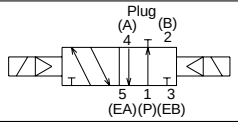
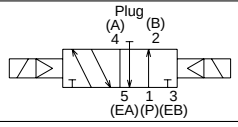
With series SY, the pilot valve and main valve share a common exhaust inside the valve. Therefore, do not block the exhaust port when arranging the piping.

⚠Caution

Series SY3000, SY5000, SY7000, SY9000
Used as a 3 Port Valve

Using 5 port valves as 3 port valves

Series SY valves can be used as normally closed (N.C.) or normally open (N.O.) 3 port valves by closing one of the cylinder ports (A or B) with a plug. However, they should be used with the exhaust ports kept open. (Refer to pages 1.2-163 through 1.2-167 for dedicated 3 port solenoid valves.)

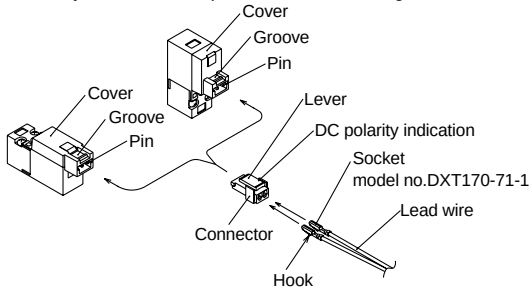
Plug position		B port	A port
Configuration		N.C.	N.O.
Number of solenoids	Single		
	Double		

⚠Caution

How to Use Plug Connectors

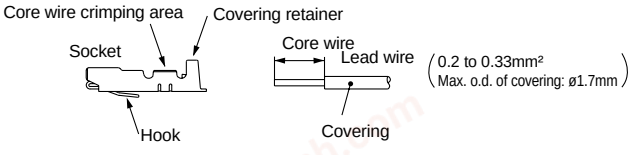
1. Attaching and detaching connectors

- To attach a connector, hold the lever and connector unit between your fingers and insert straight onto the pins of the solenoid valve so that the lever's pawl is pushed into the groove and locks.
- To detach a connector, remove the pawl from the groove by pushing the lever downward with your thumb, and pull the connector straight out.



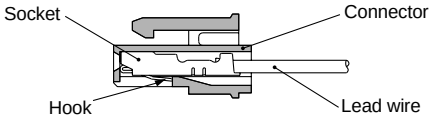
2. Crimping of lead wires and sockets

Strip 3.2 to 3.7mm at the end of the lead wires, insert the ends of the core wires evenly into the sockets, and then crimp with a crimping tool. When this is done, take care that the coverings of the lead wires do not enter the core wire crimping area.
(Crimping tool: Model number DXT170-75-1)



3. Attaching and detaching sockets with lead wires

- **Attaching**
  Insert the sockets into the square holes of the connector (+, – indication), and continue to push the sockets all the way in until they lock by hooking into the seats in the connector. (When they are pushed in, their hooks open and they are locked automatically.) Then confirm that they are locked by pulling lightly on the lead wires.
- **Detaching**
  To detach a socket from a connector, pull out the lead wire while pressing the socket's hook with a stick having a thin tip (about 1mm). If the socket will be used again, first spread the hook outward.



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Series SY3000/5000/7000/9000
Specific Product Precautions 2

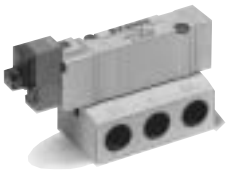
Be sure to read before handling.

⚠Caution

Surge Voltage Suppressor

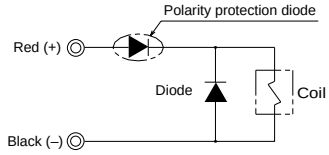
<For DC>

Grommet, L and M type plug connectors

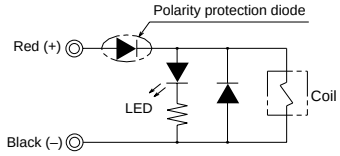


■ **Standard type (with polarity)**

With surge voltage suppressor (□S)

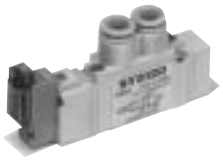


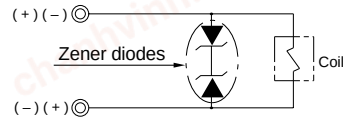
With indicator light/ surge voltage suppressor (□Z)



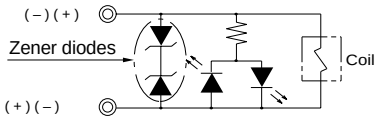
■ **Non-polar type**

With surge voltage suppressor (□R)





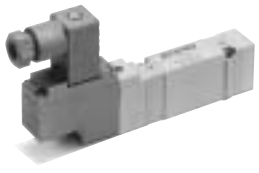
With indicator light/ surge voltage suppressor (□U)

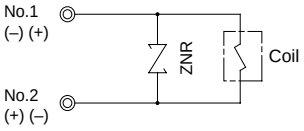


- Connect the standard type in accordance with the +, – polarity indication. (The non-polar type can be used with the connections made either way.)
- Since voltage specifications other than standard 24V and 12V DC do not have diodes for polarity protection, be careful not to make errors in the polarity.
- When wiring is done at the factory, positive (+) is red and negative (–) is black.

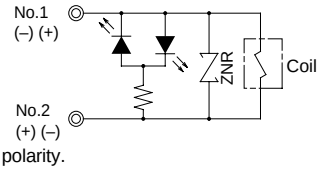
DIN terminal

With surge voltage suppressor (DS)





With indicator light/ surge voltage suppressor (DZ)

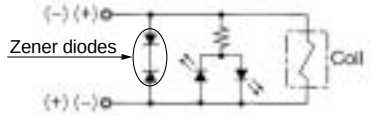


The DIN terminal type does not have polarity.

Plug-in Type



Non-polar type circuit diagram (FU)



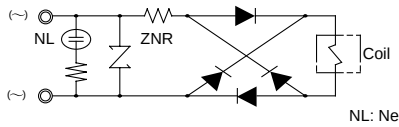
Plug-in valves do not have polarity. Therefore, they can be used for both the positive COM (SS5Y$^{3}_{5}$-45□) and negative COM(SS5Y$^{3}_{5}$-45N□).

<For AC>

(There is no "S" type, because the generation of surge voltage is prevented by a rectifier.)

DIN terminal

With indicator light (DZ)



NL: Neon light

Note) Zener diodes and ZNR surge voltage suppressor have residual voltage corresponding to the protective element and rated voltage; therefore, protect the controller side from the surge voltage.
The residual voltage of the diodes is approximately 1V.

⚠Caution

Plug Connector Lead Wire Length

Plug connector lead wires have a standard length of 300mm, however, the following lengths are also available.

Connector assembly part numbers

For DC: **SY100−30−4A−□**

Without lead wires: **SY100−30−A**

(Connector, socket x 2pcs. only)

● Lead wire length

Nil	300mm
6	600mm
10	1000mm
15	1500mm
20	2000mm
25	2500mm
30	3000mm
50	5000mm

Ordering

Include the connector assembly part number together with the part number for the plug connector's solenoid valve without connector.
<Example> Lead wire length 2000mm

For DC

SY3120-5LO-M5

SY100-30-4A-20

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Series SY3000/5000/7000/9000
Specific Product Precautions 3

Be sure to read before handling.

⚠Caution

How to Use the DIN Terminal Connector

Connection

1. Loosen the holding screw and pull the connector out of the solenoid valve terminal block.
2. After removing the holding screw, insert a flat head screw driver, etc., into the notch on the bottom of the terminal block and pry it open, separating the terminal block and the housing.
3. Loosen the terminal screws (slotted screws) on the terminal block, insert the cores of the lead wires into the terminals according to the connection method, and fasten them securely with the terminal screws.
4. Secure the cord by fastening the ground nut.

⚠Caution

When making connections, take note that using other than the supported size (ø3.5 to ø7) heavy duty cord will not satisfy IP65 (enclosure) standards. Also, be sure to tighten the ground nut and holding screw within their specified torque ranges.

Changing the entry direction

After separating the terminal block and housing, the cord entry can be changed by attaching the housing in the desired direction (4 directions at 90° intervals).

∗ When equipped with a light, be careful not to damage the light with the cord's lead wires.

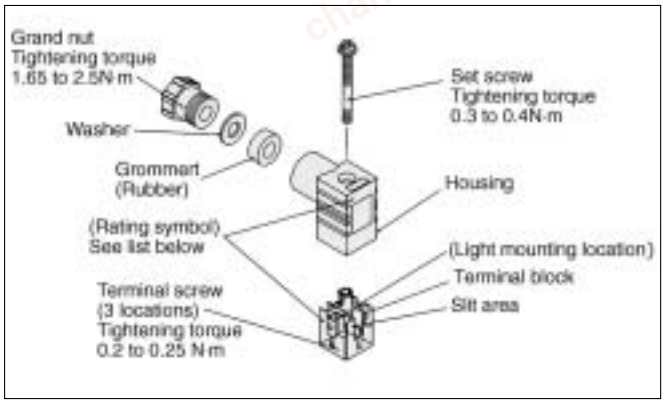
Precautions

Plug in and pull out the connector vertically without tilting to one side.

Compatible cable

Cord O.D.: ø3.5 to ø7

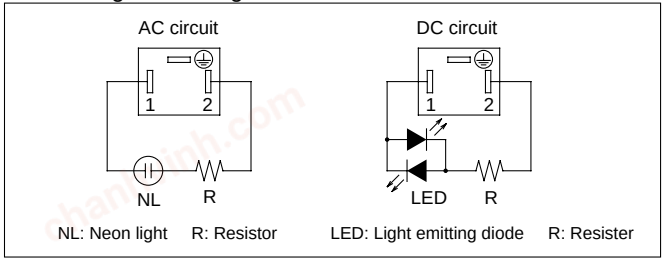
(Reference) 0.5mm², 2 core or 3 core, equivalent to JIS C 3306



DIN Connector Part Nos.

Without light	SY100-61-1	
With light		
Rated voltage	Rating symbol	Part no.
24VDC	24V	SY100-61-3-05
12VDC	12V	SY100-61-3-06
100VAC	100V	SY100-61-2-01
200VAC	200V	SY100-61-2-02
110VAC	110V	SY100-61-2-03
220VAC	220V	SY100-61-2-04

Circuit diagram with light



⚠Caution

Connector Assembly with Cover

Connector assembly with dust proof protective cover

- Effective for prevention of short circuit failure due to the entry of foreign matter into the connector
- Chloroprene rubber for electrical use, which provides outstanding weather resistance and electrical insulation, is used for the cover material. However, do not allow contact with cutting oil, etc.
- Use of a round type cord creates a neat appearance

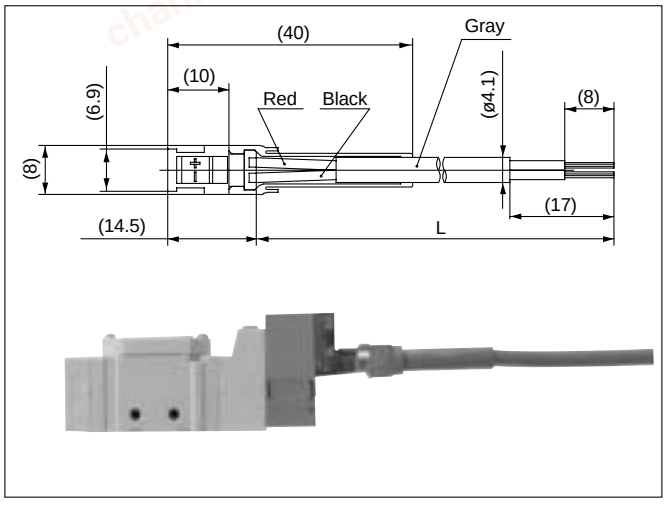
Part numbers

SY100−68−A −□

● Lead wire length (L)

Nil	300mm
6	600mm
10	1000mm
15	1500mm
20	2000mm
25	2500mm
30	3000mm
50	5000mm

Connector assembly with cover/Dimensions



Ordering Examples

Enter the part number for a plug connector solenoid valve without connector together with the part number for a connector assembly with cover.

<Example 1> Lead wire length of 2000mm

SY3120-5LOZ-M5

SY100-68-A-20

<Example 2> Lead wire length of 300mm (standard)

SY3120-5LPZ-M5

Symbol for connector assembly with cover

∗ In this case, the part number for the connector assembly with cover is not required.

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Series SY3000/5000/7000/9000
Specific Product Precautions 4

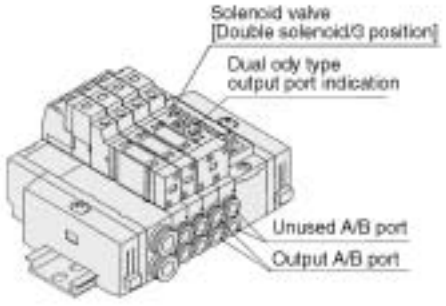
Be sure to read before handling.

⚠Caution

Plug-in Type

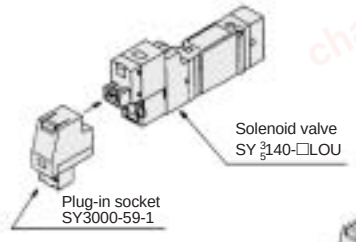
■ When using a double solenoid valve (Dual body type: SY$^{3}_{5}$245-□FU) on the plug-in type manifold (SS5Y$^{3}_{5}$-45 (N)□), two manifold stations are required. Output to A/B ports will be made through the manifold block on the side indicated by an arrow on the top of the solenoid valve. Therefore, arrange the piping on the side indicated by the arrow.
Although the "T" side will not be used, plugs will not be necessary since it is sealed with the valve.
(However, insert a plug into the A/B ports if dust intrusion is possible. Refer to page 1.2-127.)

Manifold valve
SS5Y$^{3}_{5}$-45(N)□



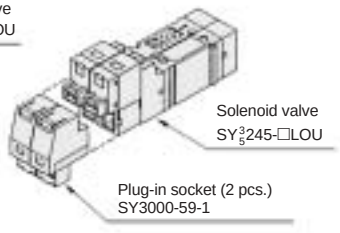
Plug-in type solenoid valves consist of a non-polar solenoid valve and a plug-in socket. When ordering them separately, refer to the following part numbers.

[Single solenoid]



Note) Using a valve other than a non-polar type may cause trouble.

[Double solenoid/3 position]
Dual body type



⚠Caution

Series SY9000 DIN Rail

The DIN rail used with series SY9000 is stronger than that used with series SY3000 and SY5000. Use this exclusive DIN rail with series SY9000. Furthermore, if using a DIN rail other than that supplied by SMC, refer to the manifold mounting section below, and mount using the same method as prescribed for side facing and rear facing, regardless of the mounting orientation.

Manifold Mounting

For type 23, 43, 45, and 45□ DIN rail mounting, when attaching a manifold to a mounting surface, etc., with bolts, if the entire bottom surface of the DIN rail contacts the mounting surface in a horizontal mounting, it can be used by simply securing both ends of the DIN rail. However, for any other mounting method or for side facing and rear facing, etc., secure the DIN rail with bolts at uniform intervals using the following as a guide: 2 to 5 stations at 2 locations, 6 to 10 stations at 3 locations, 11 to 15 stations at 4 locations, and 16 to 20 stations at 5 locations. In addition, even in the case of a horizontal mounting, if the mounting surface is subject to vibration, etc., take the same measures indicated above. If secured at fewer than the specified number of locations, warping or twisting may occur in the DIN rail and manifold, causing trouble such as air leakage.

⚠Caution

Precautions for One-touch Fittings

The pitch determined for each of the series SY piping ports (P, A, B, etc.) is based on the assumption that series KJ One-touch fittings will be used. For this reason, other pipe fittings may interfere with each other depending on their type and size. Dimensions should be confirmed in a pipe fitting catalog before they are used.

⚠Caution

Precautions for One-touch Fittings

1. Tube attachment/detachment for One-touch fittings

1) Attaching of tube

1. Take a tube having no flaws on its periphery and cut it off at a right angle. When cutting the tube, use tube cutters TK-1, 2 or 3. Do not use pinchers, nippers or scissors, etc. If cutting is done with tools other than tube cutters, the tube may be cut diagonally or become flattened, etc., making a secure installation impossible, and causing problems such as the tube pulling out after installation or air leakage. Allow some extra length in the tube.
2. Grasp the tube and push it in slowly, inserting it securely all the way into the fitting.
3. After inserting the tube, pull on it lightly to confirm that it will not come out. If it is not installed securely all the way into the fitting, this can cause problems such as air leakage or the tube pulling out.

2) Detaching of tube

1. Push in the release button sufficiently, pushing its collar equally around the circumference.
2. Pull out the tube while holding down the release button so that it does not come out. If the release button is not pressed down sufficiently, there will be increased bite on the tube and it will become more difficult to pull it out.
3. When the removed tube is to be used again, cut off the portion which has been chewed before reusing it. If the chewed portion of the tube is used as is, this can cause trouble such as air leakage or difficulty in removing the tube.

⚠Caution

Precautions on Other Tube Brands

1. When using other than SMC brand tubes, confirm that the following specifications are satisfied with respect to the outside diameter tolerance of the tube.

1) Nylon tube	within ±0.1mm
2) Soft nylon tube	within ±0.1mm
3) Polyurethane tube	within +0.15mm within –0.2mm

Do not use tubes which do not meet these outside diameter tolerances. It may not be possible to connect them, or they may cause other trouble, such as air leakage or the tube pulling out after connection.

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Series SY3000/5000/7000/9000
Specific Product Precautions 5

Be sure to read before handling.

⚠Caution

Interface Regulators

Specifications

Interface regulator model		ARBY3000-□-P-2	ARBY3000-□-$^{A1}_{B1}$-2		ARBY5000/7000-□-P-2	ARBY5000/70000-□-$^{A1}_{B1}$-2	
Applicable solenoid valve model		SY3[1]40(R)			SY[1]40(R)		
Regulated port		P	A	B	P	A	B
Regulating pressure range		0.1 to 0.7MPa					
Maximum operating pressure		0.7MPa					
Fluid		Air					
Ambient and fluid temperature		Maximum 50°C					
Pressure gauge port size		M5					
Weight	With pressure gauge	46g (with 05), 50g (with 06)			66.8g / **New! Contact SMC**		
	With plug	20g			60.4g / **New! Contact SMC**		
Supply side effective area (Cv factor) Note 3)	P to A, B	—	2.45mm² (0.13)		_	7.61mm² (0.42)13.54mm² (0.75)	
Exhaust side effective area (Cv factor) Note 3)	A, B to EA, EB	4.05mm² (0.22)	3.91mm² (0.21)		11.1mm² (0.61)/ 15,71mm² (0.87)	10.1mm² (0.56) / 15.71mm² (0.87)	

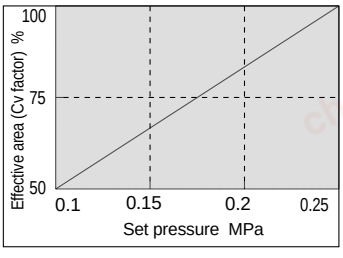
Note 1) Pressurize the interface regulator from P port on the base.

Note 2) With closed center and pressure center valves, the pressure can be regulated through P port only.

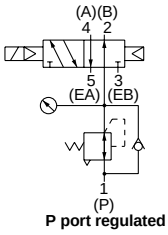
Note 3) Effective area, excluding the regulated port, when a primary pressure of 0.5MPa is supplied with regulators mounted on the solenoid valves (2 positions) and sub-plate. Refer to "Flow Characteristics" regarding the regulated port.

Note 4) Values for weight include gasket and mounting screws.

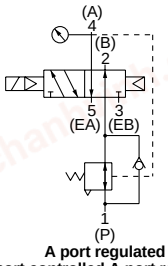
Note 5) With A, B ports regulated (P port controlled A, B ports regulated), the effective area (CV factor) for the regulated port and unregulated passage (P to B or P to A) decreases as shown in the graph below when the set pressure is 0.25MPa or less.



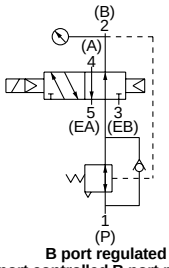
Symbols



P port regulated



A port regulated
(P port controlled A port regulated)



B port regulated
(P port controlled B port regulated)

How to Order Interface Regulators

ARBY3000 — 05 — P — 2



Regulated port

P	P port
A1	A port (P port controlled A port regulated)
B1	B port (P port controlled B port regulated)

Pressure gauge connection port

05	Pressure gauge (G15-10-01) [for odd number stations]
06	Pressure gauge (G15-10-01) [for even number stations]
M1	Plug (M-5P)

Note) For series ARBY3000 with pressure gauge, note that the part numbers for odd number and even number stations differ to prevent interference between the pressure gauges when installing on the manifold.

ARBY5000
ARBY7000 — 00 — P — 2



Regulated port

P	P port
A1	A port (P port controlled A port regulated)
B1	B port (P port controlled B port regulated)

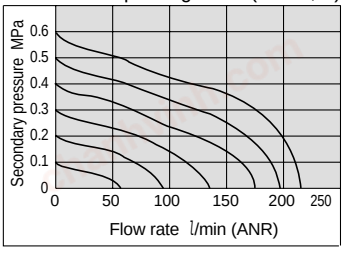
Pressure gauge connection port

00	Pressure gauge (G15-10-01)
M1	Plug (M-5P)

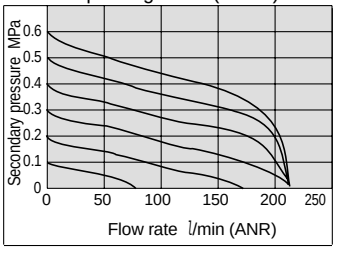
Flow Characteristics

(Conditions: Primary pressure of 0.7MPa with 2 position solenoid valves mounted)

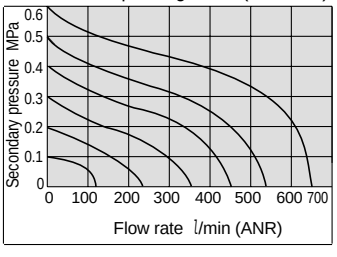
ARBY3000 P port regulated (P to A, B)



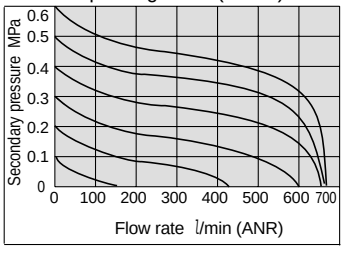
ARBY3000 A1 port regulated (P to A), B1 port regulated (P to B)



ARBY5000 P port regulated (P to A, B)



ARBY5000 A1 port regulated (P to A), B1 port regulated (P to B)



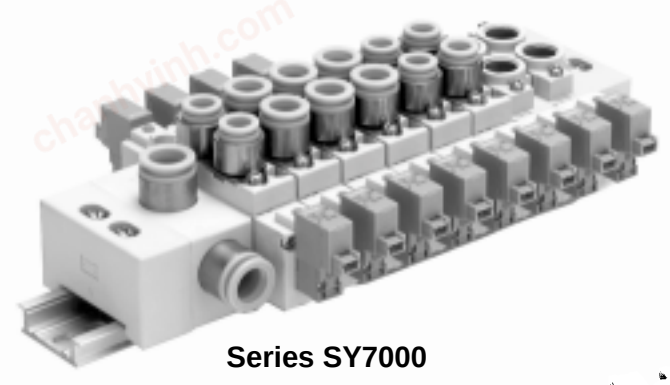
NOTE) Contact SMC for details of ARBY7000 (New)

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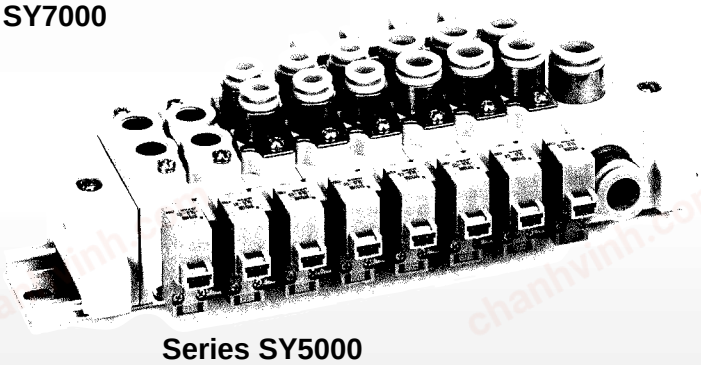
5 Port Solenoid Valve/Body ported

Cassette Type Manifold

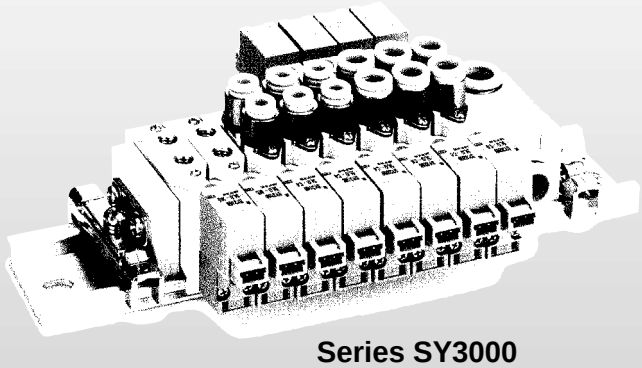
Series SY3000/5000/7000



Series SY7000



Series SY5000



Series SY3000

Flexible Valve System

Individual valves can easily be added to or removed from the cassette-style manifold, increasing system flexibility.

Compact and Light Weight

Series	SY3000	SY5000	SY7000
Height	△22% reduction	△24% reduction	△18% reduction
Weight	△15% reduction	△20% reduction	△10% reduction

(Compared to SMC's SY3000/5000/700 stacking manifold)

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Series SY3000/5000/7000

⚠Precautions

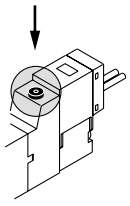
Be sure to read before handling. Refer to p.0-33 to 0-36 for Safety Instructions and common precautions.

⚠Warning

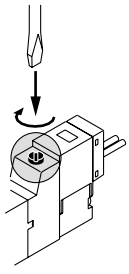
Manual Override Operation

Since connected equipment will operate when manual override is performed, firtst confirm that conditions are safe.

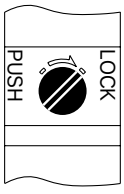
■ **Non-locking push type (Standard type)**
Push in the direction of the arrow.



■ **Slotted locking type (type D)**
It goes into manual override when pressed, and is locked by turning in the direction of the arrow. If it is not turned, it can be operated the same way as the non-locking type.



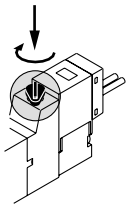
Locked position



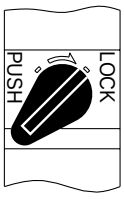
⚠Caution When operating the locking type D with a screw driver, turn it gently using a watchmakers screw driver.

[Torque: Less than 0.1N·m]

■ **Knob locking type (type E)**
It goes into manual override when pressed, and is locked by turning in the direction of the arrow. If it is not turned, it can be operated the same way as the non-locking type.



Locked position

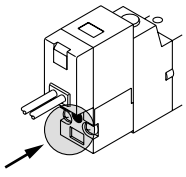


⚠Caution

When locking the manual override on the push-turn locking types (D, E), be sure to push it down before turning.
Turning without first pushing it down can cause damage to the manual override and trouble such as air leakage, etc.

⚠Caution

It can also be operated using the manual override on the pilot valve side.
However, the manual override on the pilot valve side is a non-locking push type only, which is operated by pushing it in the direction of the arrow.

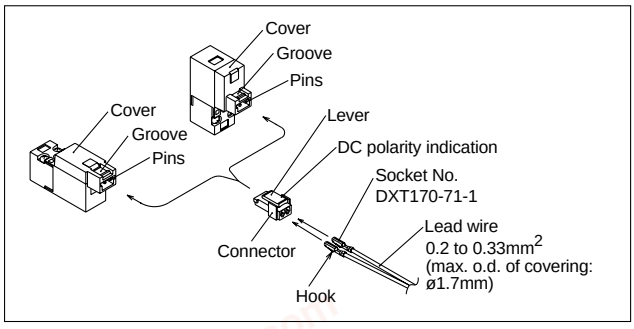


⚠Caution

How to Use Plug Connectors

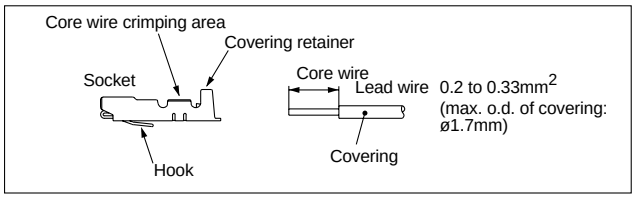
1. Attaching and detaching connectors

- To attach a connector, hold the lever and connector unit between your fingers and insert straight onto the pins of the solenoid valve so that the lever's pawl is pushed into the groove and locks.
- To detach a connector, remove the pawl from the groove by pushing the lever downward with your thumb, and pull the connector straight out.



2. Crimping of lead wires and sockets

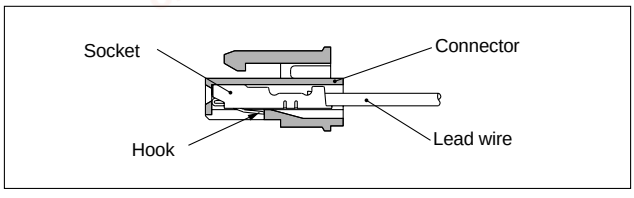
Strip 3.2 to 3.7mm at the end of the lead wires, insert the ends of the core wires evenly into the sockets, and then crimp with a crimping tool. When this is done, take care that the coverings of the lead wires do not enter the core wire crimping area. Furthermore, use a special crimping tool for the crimping operation.
(Contact SMC regarding special crimping tools.)



3. Attaching and detaching sockets with lead wires

• Attaching
Insert the sockets into the square holes of the connector (⊕, ⊖ indication), and continue to push the sockets all the way in until they lock by hooking into the seats in the connector. (When they are pushed in, their hooks open and they are locked automatically.) Then confirm that they are locked by pulling lightly on the lead wires.

• Detaching
To detach a socket from a connector, pull out the lead wire while pressing the socket's hook with a stick having a thin tip (about 1mm). If the socket will be used again, first spread the hook outward.



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⚠Caution

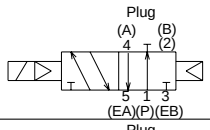
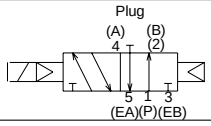
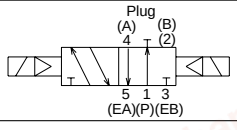
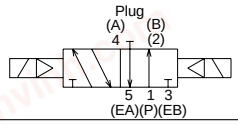
Exhaust Restriction

In the Series SY, since the pilot valve exhaust joins the main valve exhaust inside the valve, care must be taken that the piping from the exhaust port is not excessively restricted.

Used as a 3 Port Valve

Using a 5 port valve as a 3 port valve

Series SY valves can be used as normally closed (N.C.) or normally open (N.O.) 3 port valves by closing one of the cylinder ports (A or B) with a plug. However, they should be used with the exhaust ports kept open. They are convenient at times when a double solenoid type 3 port valve is required.

Plug position		Port B	Port A
Switching		N.C	N.O
Number of solenoids	Single		
	Double		

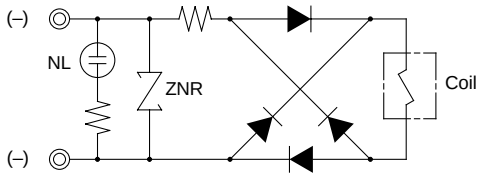
Surge Voltage Suppressor

<For AC>

(There is no "S" type, because the generation of surge voltage is prevented by a rectifier.)

DIN terminal (SY5000/7000 only)

With light (DZ)



⚠Caution

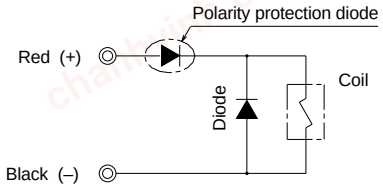
Surge Voltage Suppressor

<For DC>

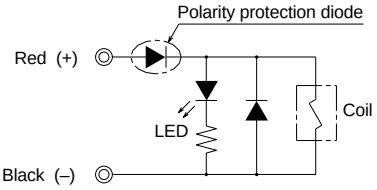
Grommet, L and M type plug connectors

Standard type (polar)

With surge voltage suppressor (☐S)

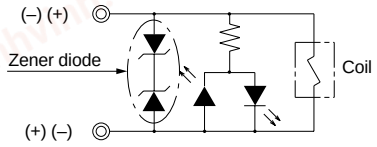


With light/surge voltage suppressor (☐Z)



Non-polar type

Light/surge voltage suppressor (☐U)

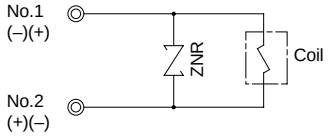


- Connect the standard type in accordance with the +, – polarity indication. (The non-polar type can be used with the connections made either way.)
- Since standard voltage specifications other than 24V and 12V DC do not have diodes for polarity protection, be careful not to make errors in the polarity.
- When wiring is done at the factory, positive (+) is red and negative (–) is black.

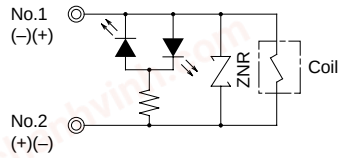
⚠Caution

DIN terminal (SY5000/7000 only)

With surge voltage suppressor (D)



With light/surge voltage suppressor (DZ)



- The DIN terminal type does not have polarity.

Note) In the case of the zener diode ZNR surge suppressor, since there is residual voltage corresponding to the protection element and the rated voltage, give consideration to surge voltage suppression on the controller side. In the case of a diode, the residual voltage is approximately 1V.

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⚠Caution

Plug Connector Lead Wire Length

Plug connector lead wires have a standard length of 300mm, however, the following lengths are also available.

Connector assembly part numbers

For DC: **SY100 − 30 − 4A −** □

Without lead wires: **SY100 − 30 − A**

(Connector, socket x 2pcs. only)

Lead wire length

Nil	300mm
6	600mm
10	1000mm
15	1500mm
20	2000mm
25	2500mm
30	3000mm
50	5000mm

Ordering

Include the connector assembly part number together with the part number for the plug connector's solenoid valve without connector.

<Example> Lead wire length 2000mm

For DC

SY3160-5LO-M5

SY100-30-4A-20

⚠Caution

How to Use the DIN Terminal Connector (SY5000/7000 only)

Connection

1. Loosen the holding screw and pull the connector out of the solenoid valve terminal block.
2. After removing the holding screw, insert a flat head screw driver, etc. into the notch on the bottom of the terminal block and pry it open, separating the terminal block and the housing.
3. Loosen the terminal screws (slotted screws) on the terminal block, insert the core wires of the lead wires into the terminals according to the connection method, and fasten them securely with the terminal screws.
4. Secure the cord by fastening the ground nut.

When making connections, take note that using other than the supported size (ø3.5 to ø7) heavy duty cord will not satisfy IP65 (enclosure) standards. Also, be sure to tighten the ground nut and holding screw within their specified torque ranges.

Changing the entry direction

After separating the terminal block and housing, the cord entry can be changed by attaching the housing in the desired direction (4 directions at 90° intervals).

∗ When equipped with a light, be careful not to damage the light with the cord's lead wires.

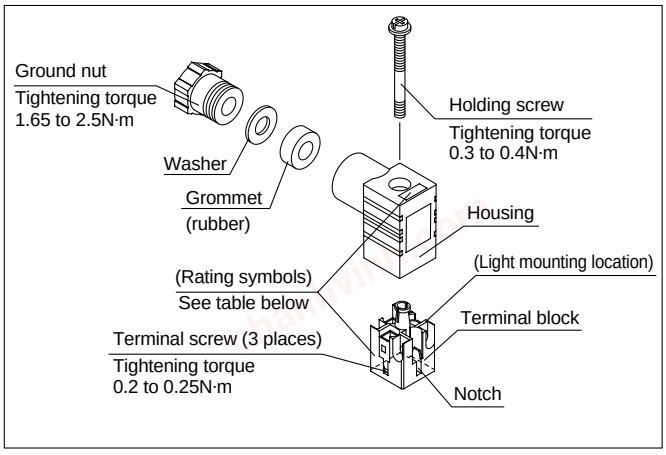
Precautions

Plug in and pull out the connector vertically without tilting to one side.

Compatible cable

Cord O.D.: ø3.5 to ø7

(Reference) 0.5mm^2, 2 wire or 3 wire, equivalent to JISC3306



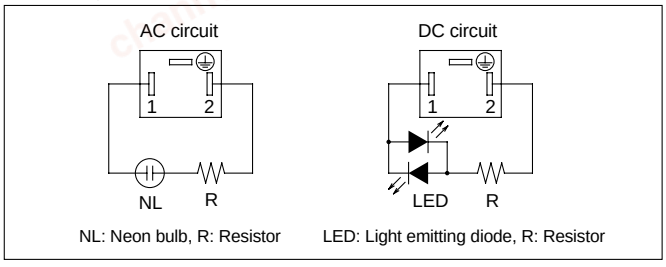
DIN Connector Part Nos.

Without light	SY100-61-1

With light

Rated voltage	Rating symbol	Part No.
24VDC	24V	SY100-61-3-05
12VDC	12V	SY100-61-3-06
100VAC	100V	SY100-61-2-01
200VAC	200V	SY100-61-2-02
110VAC	110V	SY100-61-2-03
220VAC	220V	SY100-61-2-04

Circuit diagram with light



⚠Caution

Series SY7000 DIN Rail

The DIN rail used with series SY7000 is stronger than that used with series SY3000 and SY5000. Use this exclusive DIN rail with series SY7000. Furthermore, if using a DIN rail other than that supplied by SMC, regardless of the mounting orientation, refer to the manifold mounting section below, and mount using the same method as prescribed for side facing and rear facing.

Manifold Mounting

When attaching a manifold to a ground surface, etc. with bolts, if the entire bottom surface of the DIN rail contacts the mounting surface in a horizontal mounting, it can be used by simply securing both ends of the DIN rail. However, for any other mounting method or for side facing and rear facing, etc., secure the DIN rail with bolts at uniform intervals using the following as a guide: 2 to 5 stations at 2 locations, 6 to 10 stations at 3 locations, 11 to 15 stations at 4 locations, and 16 to 20 stations at 5 locations. In addition, even in the case of a horizontal mounting, if the mounting surface is subject to vibration, etc., take the same measures indicated above. If secured at fewer than the specified number of locations, warping or twisting may occur in the DIN rail and manifold, causing trouble such as air leakage.

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Connector Assembly with Cover

Connector assembly with dust proof protective cover
- Effective for prevention of short circuit failure due to the entry of foreign matter into the connector
- Chloroprene rubber for electrical use, which provides outstanding weather resistance and electrical insulation, is used for the cover material. However, do not allow cutting oil, etc. to come into contact with it.
- Use of a round type cord creates a neat appearance

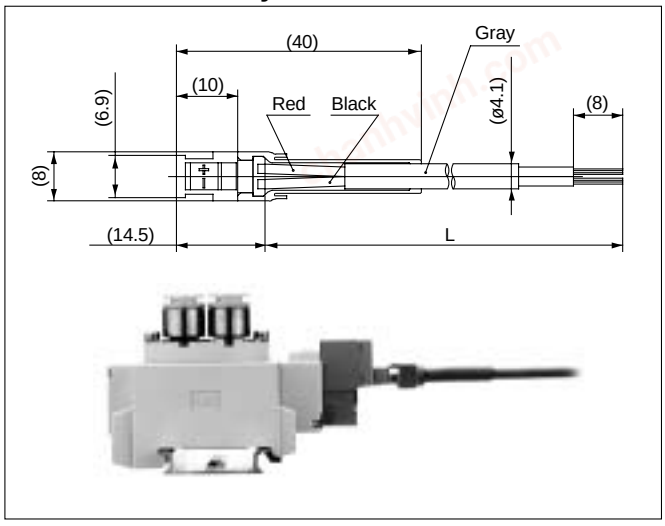
Part numbers

SY100-68-A-□

● **Lead wire length (L)**

Nil	300mm
6	600mm
10	1000mm
15	1500mm
20	2000mm
25	2500mm
30	3000mm
50	5000mm

Connector assembly with cover/Dimensions



Ordering Examples

<Example> Lead wire length of 2000mm

Enter the part number for a plug connector solenoid valve without connector together with the part number for a connector assembly with cover.

SY3160-5LO-M5

SY100-68-A-20

Further, for a lead wire length of 300mm, when "MP" or "LP" is entered with the valve lead wire entry symbol, it is added to the part number.

<Example> SY3160-5LP-M5

⚠ Caution

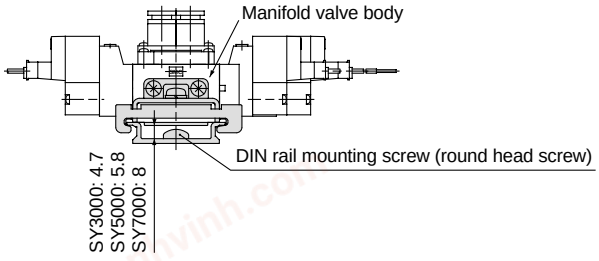
Precautions on Other Tube Brands

1. When using other than SMC brand tubes, confirm that the following specifications are satisfied with respect to the outside diameter tolerance of the tube.
   1) Nylon tube within ±0.1mm
   2) Soft nylon tube within ±0.1mm
   3) Polyurethane tube within +0.15mm or less
      within - 0.2mm or less

   Do not use tubes which do not meet these outside diameter tolerances. It may not be possible to connect them, or they may cause other trouble, such as air leakage or the tube pulling out after connection.

DIN Rail Mounting

When using a DIN rail mounting screw on the bottom of a manifold valve body (in the L3 dimensions of this catalog's dimension table) the screw head dimensions should be 4.7mm or less for SY3000, 5.8mm or less for SY5000 and 8mm or less for SY7000.



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5 Port Solenoid Valve
Series SY3000/5000/7000
Body Ported
Cassette Type Manifold



How to Order

SS5Y 3 — 60 — 05 D — □ — Q

Series

3	SY3000
5	SY5000
7	SY7000

Valve stations

02	2 stations
⋮	⋮
20	20 stations

SUP/EXH block assembly mounting position

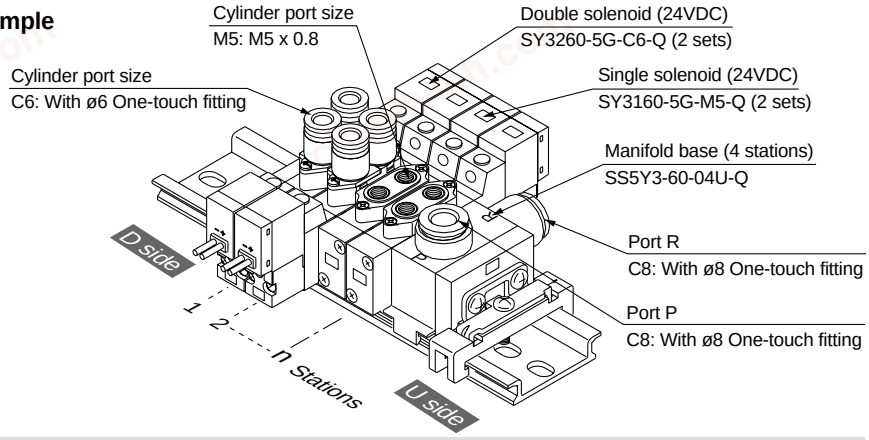
Symbol	Mounting position	Applicable stations
U	U side	2 to 10 stations
D	D side	
B	Both sides	2 to 20 stations
M *	Special specifications	

Option
When a longer than standard DIN rail is required, indicate the number of stations. (Max. 20 stations)

* In case of special specifications, indicate separately on a manifold specification sheet.

How to Order Manifold Assemblies (Example)

Example



SS5Y3-60-04U-Q ..... **1 set (type 60, 4 station manifold base part number)**
SY3260-5G-C6-Q ..... **2 sets (double solenoid part number)**
SY3160-5G-M5-Q ..... **2 sets (single solenoid part number)**

Enter the part numbers of valves and options to be mounted under the manifold base part number, in order, starting from station No. 1 as shown in the drawing.
Furthermore, when layouts become complicated, indicate them on a manifold specification sheet.

Manifold Specifications

Model		SS5Y3-60	SS5Y5-60	SS5Y7-60
Applicable valve		SY3□60	SY5□60	SY7□60
Manifold type		Stacking DIN rail mounted type		
P (SUP)/R (EXH) type		Common SUP/Common EXH		
Valve stations		2 to 20 stations Note 1)		
Ports A, B location		Valve		
Port size	Ports P, R	C8 (ø8 One-touch fitting)	C10 (ø10 One-touch fitting)	C12 (ø12 One-touch fitting)
	Ports A, B	M5 x 0.8 C4 (ø4 One-touch fitting) C6 (ø6 One-touch fitting)	1/8 C4 (ø4 One-touch fitting) C6 (ø6 One-touch fitting) C8 (ø8 One-touch fitting)	1/4 C8 (ø8 One-touch fitting) C10 (ø10 One-touch fitting)
Valve effective area mm² (Nl/min) Note 2)		M5: P→A/B 3.6 (196), A/B→R 3.24 (177)	Rc(PT)1/8: P→A/B 9.2 (491), A/B→R 10.3 (559)	Rc(PT) 1/4: P→A/B 18 (981), A/B→P 18 (981)
		C4: P→A/B 3.42 (186), A/B→R 3.24 (177)	C4: P→A/B 5.2 (285), A/B→R 3.8 (206)	C8 : P→A/B 17.6 (961), A/B→P 14.4 (785)
		C6: P→A/B 3.6 (196), A/B→R 3.6 (196)	C6: P→A/B 8.1 (442), A/B→R 8.5 (461)	C10: P→A/B 18 (981), A/B→P 17.1 (932)
		—	C8: P→A/B 9.2 (500), A/B→R 9.5 (520)	—
Manifold base weight W (g) Note 3) (n: Number of SUP/EXH blocks, m: DIN rail weight)		W = 13n + m + 36	W = 41.2n + m + 77.6	W = 65.4n + m + 128.2

Note 1) In cases such as when many valves are operated simultaneously, supply pressure to port P on both sides and exhaust from port R on both sides, using "- stations B (SUP/EXH block both sides)".
Note 2) The value when a manifold base (5 stations) is mounted. For 2 position type with single action.
Note 3) Refer to page 6 for DIN rail weight.

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Series SY3000/5000/7000

How to Order Valves

SY | 3 | 1 | 60 — | 5 | L | | | — | C6 | | — Q

Series

3	SY3000
5	SY5000
7	SY7000

Type of actuation

1	2 position single
2	2 position double
3	3 position closed center
4	3 position exhaust center
5	3 position pressure center

A, B port size

Symbol	Port size	Applicable series
M5	M5 x 0.8	SY3000
C4	ø4 One-touch fitting	
C6	ø6 One-touch fitting	
01	1/8	SY5000
C4	ø4 One-touch fitting	
C6	ø6 One-touch fitting	
C8	ø8 One-touch fitting	
02	1/4	SY7000
C8	ø8 One-touch fitting	
C10	ø10 One-touch fitting	

Thread

–	Rc (PT)
F	G (PF)
N	NPT
T	NPTF

Manual override

Nil: Non-locking push type	D: Slotted locking type	E: Knob locking type

Rated voltage

* DC specifications

5	24VDC
6	12VDC
V	6VDC
S	5VDC
R	3VDC
9	50V or less

AC specifications (50/60Hz)

1	100VAC
2	200VAC
3	110VAC [115VAC]
4	220VAC [230VAC]
9	250VAC or less

* D, DO, Y and YO type DC specifications are 24VDC or 12VDC only.
* D, DO, Y and YO type are for SY5000/7000 only.

Contact SMC for other voltages (9)

Protective class class I (Mark: ⏚)

Protective class class III (Mark: ⧋)

Light/Surge voltage suppressor

Electrical entry G, H, L or M

Nil	Without light/surge voltage suppressor
S	With surge voltage suppressor
Z	With light/surge voltage suppressor
U	With light/surge voltage suppressor (non-polar type)

Electrical entry D (SY5000/7000 only)

Nil	Without light/surge voltage suppressor
S	With surge voltage suppressor (non-polar type)
Z	With light/surge voltage suppressor (non-polar type)

* There is no DOZ, YOZ type.
* There is no "S" type for AC, since the generation of surge voltage is prevented by a rectifier.

Electrical entry

24V, 12V, 6V, 5V, 3VDC				24V,12VDC 100V,110V,200V,220VAC
Grommet	L type plug connector	M type plug connector		DIN terminal
G: Lead wire length 300mm	L: With lead wire (length 300mm)	M: With lead wire (length 300mm)	MN: Without lead wire	(SY5000/7000 only) D: With connector DO: Without connector (DIN43650C)
H: Lead wire length 600mm	LN: Without lead wire	LO: Without connector	MO: Without connector	DO: Without connector YO: Without connector (DIN43650C)

* Types LN and MN are equipped with sockets (2pcs.).

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Specifications

Series		SY3000	SY5000	SY7000
Fluid		Air		
Internal pilot operating pressure range MPa	2 position single	0.15 to 0.7		
	2 position double	0.1 to 0.7		
	3 position	0.2 to 0.7		
Ambient and fluid temperature °C		Maximum 50		
Max. operating frequency Hz	2 position single/double	10	5	5
	3 position	3	3	3
Manual override		Non-locking push type, Slotted locking type, Knob locking type		
Pilot exhaust		Main valve/pilot valve common exhaust type		
Lubrication		Not required		
Mounting orientation		Unrestricted		
Impact/Vibration resistance m/s^2 Note)		150/30		
Enclosure		Dust proof (DIN terminal is IP65 *)		

Note) Impact resistance: No malfunction when tested with a drop tester in the axial direction and at a right angle to the main valve and armature, one time each in both an energized and deenergized state.

Vibration resistance: No malfunction when tested with one sweep of 8.3 to 2000Hz in the axial direction and at a right angle to the main valve and armature, one time each in both an energized and deenergized state. (initial value)

* Based on IEC529.

Solenoid Specifications

Electrical entry			Grommet (G), (H), L type plug connector (L), M type plug connector (M), DIN terminal (D) Note 1)
Rated coil voltage V	DC		24, 12, 6, 5, 3
	AC 50/60Hz		100, 110, 200, 220 Note 2)
Allowable voltage fluctuation			±10% of rated voltage
Power consumption W	DC		0.5 {with light: 0.55 DIN terminal with light: 0.6}
Apparent power VA	AC	100V	0.9 {with light: 1.0}
		110V [115V]	1.0 {with light: 1.1} [1.1 {with light: 1.2}]
		200V	1.8 {with light: 1.9}
		220V [230V]	1.9 {with light: 2.0} [2.2 {with light: 2.3}]
Surge voltage suppressor			DC: Diode (DIN type: ZNR), (G, L, M non-polar type: Zener diode) AC: ZNR
Indicator light			LED (DIN terminal AC type uses a neon bulb)

Note 1) DIN terminal (D) is for SY5000 and SY7000 only.
Note 2) 110VAC can be used for 115VAC and 220VAC can be used for 230VAC.

Response Time

Note) Based on JISB8375-1981 dynamic performance test (coil temperature 20°C, at rated voltage)

SY3000

Type of actuation	Response time ms (at 0.5MPa)		
	Without surge voltage suppressor	With surge voltage suppressor	
		Types S, Z	Types R, U
2 position single	12 or less	15 or less	12 or less
2 position double	10 or less	13 or less	10 or less
3 position	15 or less	20 or less	16 or less

SY5000

Type of actuation	Response time ms (at 0.5MPa)		
	Without surge voltage suppressor	With surge voltage suppressor	
		Types S, Z	Types R, U
2 position single	19 or less	26 or less	19 or less
2 position double	18 or less	22 or less	18 or less
3 position	32 or less	38 or less	32 or less

SY7000

Type of actuation	Response time ms (at 0.5MPa)		
	Without light/surge voltage suppressor	With light/surge voltage suppressor	
		Types S, Z	Types R, U
2 position single	31 or less	38 or less	33 or less
2 position double	27 or less	30 or less	28 or less
3 position	50 or less	56 or less	50 or less

Weight Tables

Series SY3000

Valve model	Type of actuation		Port size	Weight g	
			A, B	Grommet type	L type, M type plug connector
SY3□60-□-M5	2 position	Single	M5 x 0.8	43	47
		Double		58	65
	3 position	Closed center		61	68
		Exhaust center			
		Pressure center			
SY3□60-□-C4	2 position	Single	C4 ø4 (One-touch fitting)	53	57
		Double		68	75
	3 position	Closed center		70	78
		Exhaust center			
		Pressure center			
SY3□60-□-C6	2 position	Single	C6 ø6 (One-touch fitting)	49	53
		Double		64	71
	3 position	Closed center		66	74
		Exhaust center			
		Pressure center			

Note) Entries inside ( ) are for the normal position

Series SY5000

Valve model	Type of actuation		Port size	Weight g		
			A, B	Grommet type	L type, M type plug connector	DIN terminal
SY5□60-□-01	2 position	Single	Rc(PT) 1/8	61	65	88
		Double		79	86	132
	3 position	Closed center		85	92	138
		Exhaust center				
		Pressure center				
SY5□60-□-C4	2 position	Single	C4 ø4 (One-touch fitting)	85	89	112
		Double		101	108	154
	3 position	Closed center		107	114	160
		Exhaust center				
		Pressure center				
SY5□60-□-C6	2 position	Single	C6 ø6 (One-touch fitting)	80	84	107
		Double		96	103	149
	3 position	Closed center		102	109	155
		Exhaust center				
		Pressure center				
SY5□60-□-C8	2 position	Single	C8 ø8 (One-touch fitting)	72	76	99
		Double		88	95	141
	3 position	Closed center		94	101	147
		Exhaust center				
		Pressure center				

Series SY7000

Valve model	Type of actuation		Port size	Weight g		
			A, B	Grommet type	L type, M type plug connector	DIN terminal
SY7□60-□-02	2 position	Single	Rc(PT) 1/4	97	101	124
		Double		113	120	166
	3 position	Closed center		121	128	174
		Exhaust center				
		Pressure center				
SY7□60-□-C8	2 position	Single	C8 ø8 (One-touch fitting)	132	135	158
		Double		148	155	201
	3 position	Closed center		156	163	209
		Exhaust center				
		Pressure center				
SY7□60-□-C10	2 position	Single	C10 ø10 (One-touch fitting)	117	121	144
		Double		133	141	187
	3 position	Closed center		141	149	195
		Exhaust center				
		Pressure center				

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Series SY3000/5000/7000

How to Order Pilot Valve Assembly

SY114 — 5 G □ — Q

Rated voltage

5	24VDC
6	12VDC
V	6VDC
S	5VDC
R	3VDC

Light/Surge voltage suppressor

Nil	Without light/surge voltage suppressor
S	With surge voltage suppressor
Z	With light/surge voltage suppressor
U	With light/surge voltage suppressor (non-polar type)

Electrical entry

G	Grommet (lead wire length 300mm)	
H	Grommet (lead wire length 600mm)	
L	L type plug connector	With lead wires
LN		Without lead wires
LO		Without connector
M	M type plug connector	With lead wires
MN		Without lead wires
MO		Without connector

SY115 — 5 D □ — Q

Rated voltage

5	24VDC
6	12VDC
1	100VAC 50/60Hz
2	200VAC 50/60Hz
3	110VAC 50/60Hz [115VAC 50/60Hz]
4	220VAC 50/60Hz [230VAC 50/60Hz]

Light/Surge voltage suppressor

Nil	Without light/surge voltage suppressor
S	With surge voltage suppressor (non-polar type)
Z	With light/surge voltage suppressor (non-polar type)

∗ There is no DOZ type.
∗ There is no "S" type for AC, since the generation of surge voltage is prevented by a rectifier.

Electrical entry

D	DIN terminal	With connector
DO		Without connector
Y	DIN terminal*	With connector
YO		Without connector

*DIN 43650C

Note) When replacing a pilot valve assembly only, note that SY114 (G, H, L, M) cannot replace SY115 (DIN terminal) or vice versa.

How to Order Connector Assembly

For DC : SY100-30-4A-□

Without lead wires : SY100-30-A
(connector, socket x 2pcs. only)

Lead wire length

Nil	300mm
6	600mm
10	1000mm
15	1500mm
20	2000mm
25	2500mm
30	3000mm
50	5000mm

How to Order Port Block Assembly

Series SY3000

SY 3 000 — 6A — C4 □

Series

3	SY3000
5	SY5000

A, B port size

Symbol	Port size	Applicable series
M5	M5 x 0.8	SY3000
C4	ø4 One-touch fitting	
C6	ø6 One-touch fitting	
01	1/8	SY5000
C4	ø4 One-touch fitting	
C6	ø6 One-touch fitting	
C8	ø8 One-touch fitting	

Series SY7000

SY7000 — 13A — C8 □

A, B port size

Symbol	Port size	Applicable series
02	1/4	SY7000
C8	ø8 One-touch fitting	
C10	ø10 One-touch fitting	

Thread

—	Rc (PT)
F	G (PF)
N	NPT
T	NPTF

How to Replace Port Block Assembly

It is possible to change the size of ports A and B by replacing the port block assembly which is mounted on the body. Take careful note of the tightening torque when replacement is performed because if the mounting screws are not tightened sufficiently, air leaks or other problems may occur.
In addition, it is also possible to replace the fitting assembly only on One-touch fitting type port block assemblies. Refer to the part numbers below.

Series SY3000

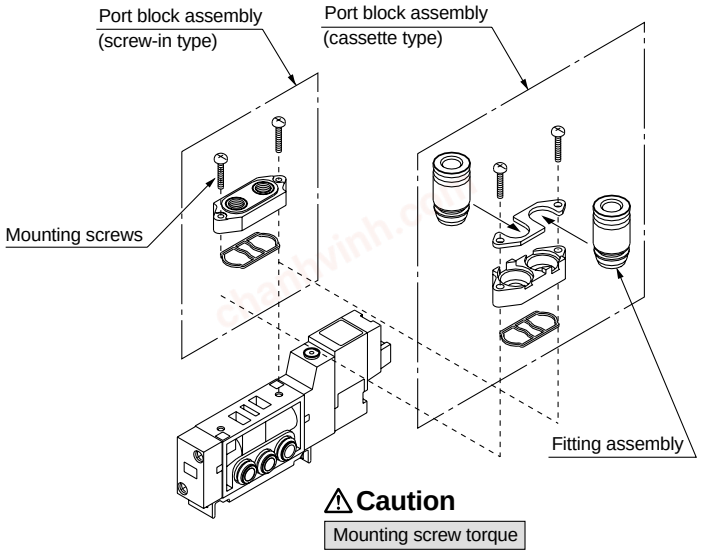
Port size	Fitting assembly part no.
For ø4 One-touch fitting	VVQ1000-50A-C4
For ø6 One-touch fitting	VVQ1000-50A-C6

Series SY5000

Port size	Fitting assembly part no.
For ø4 One-touch fitting	VVQ1000-51A-C4
For ø6 One-touch fitting	VVQ1000-51A-C6
For ø8 One-touch fitting	VVQ1000-51A-C8

Series SY7000

Port size	Fitting assembly part no.
For ø8 One-touch fitting	VVQ2000-51A-C8
For ø10 One-touch fitting	VVQ2000-51A-C10



⚠ Caution

Mounting screw torque

SY3000 (M2): 0.09N·m

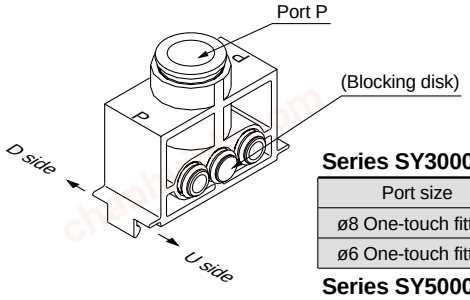
SY5000, 7000 (M3): 0.6N·m

∗ For part numbers, see How to Order Port Block Assembly above.

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Manifold Options

■ Individual SUP block assembly



Series SY3000

Port size	Assembly No.
ø8 One-touch fitting	SY3000-54-1C-Q
ø6 One-touch fitting	SY3000-54-2C-Q

Series SY5000

Port size	Assembly No.
ø10 One-touch fitting	SY5000-54-1C-Q

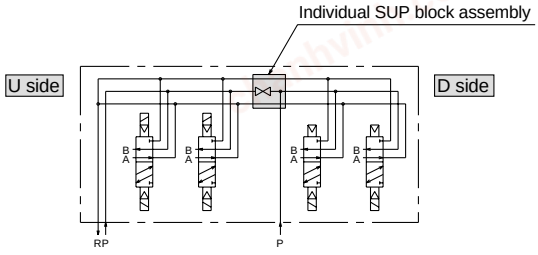
Series SY7000

Port size	Assembly No.
ø12 One-touch fitting	SY7000-54-1C-Q

[When using 2 different supply pressures]

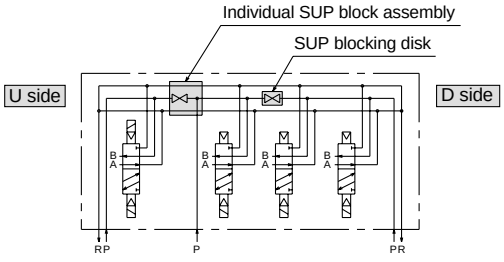
Indicate the individual SUP block assembly arrangement on a manifold specification sheet. (For SS5Y□-60-□□D-Q, the blocking disk is attached on the D side.)

<Manifold model: SS5Y$^{3}_{5}$-60-□□$^{U}_{D}$-Q>

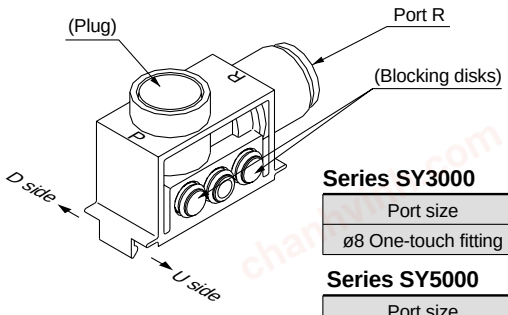


[When supplying different pressure only to an intermediate valve]

Indicate the arrangement of the individual SUP block assembly and SUP blocking disk on a manifold specification sheet.
(The applicable manifold model is SS5Y□-60-□□B.)



■ Individual EXH block assembly



Series SY3000

Port size	Assembly No.
ø8 One-touch fitting	SY3000-55-1B-Q

Series SY5000

Port size	Assembly No.
ø10 One-touch fitting	SY5000-55-1B-Q

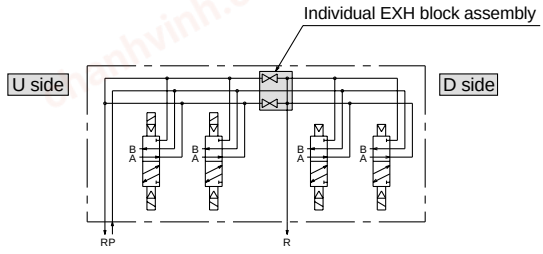
Series SY7000

Port size	Assembly No.
ø12 One-touch fitting	SY7000-55-1B-Q

[When used with 2 different exhaust passages]

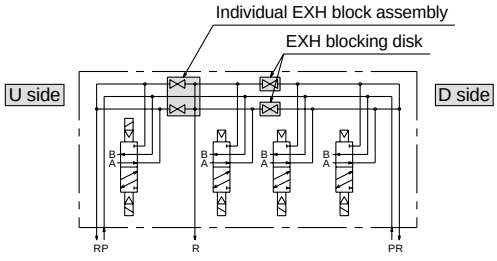
Indicate the individual EXH block assembly arrangement on a manifold specification sheet. (For SS5Y□-60-□□D-Q, the blocking disk is attached on the D side.)

<Manifold model: SS5Y$^{3}_{5}$-60-□□$^{U}_{D}$-Q>



[When an intermediate valve only is exhausted]

Indicate the arrangement of the individual EXH block assembly and EXH blocking disk on a manifold specification sheet.
(The applicable manifold model is SS5Y□-60-□□B-Q.)



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Series SY3000/5000/7000

Manifold Options

■ SUP blocking disk

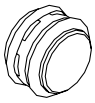
Two or more different pressures can be supplied to one manifold by installing a SUP blocking disk in the pressure supply passage of a manifold valve. (The blocking disk is the same as that used in the individual SUP block assembly.)



Series	Part No.
SY3000	SY3000-52-2A
SY5000	SY5000-52-2A
SY7000	SY7000-52-2A

■ EXH blocking disk

The exhaust from a valve can be separated so that it does not affect other valves by installing an EXH blocking disk in the exhaust passage of a manifold valve. (2 disks are needed to separate the EXH on both sides. The blocking disk is the same as that used in the individual EXH block assembly.)



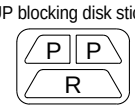
Series	Part No.
SY3000	SY3000-52-2A
SY5000	SY5000-52-2A
SY7000	SY7000-52-2A

■ Blocking disk indication stickers

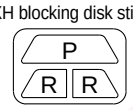
These stickers are attached to valves which contain SUP or EXH blocking disks so that the blocked locations can be visually confirmed. (3 of each sheet included)

VZ3000-123-1A

SUP blocking disk stickers



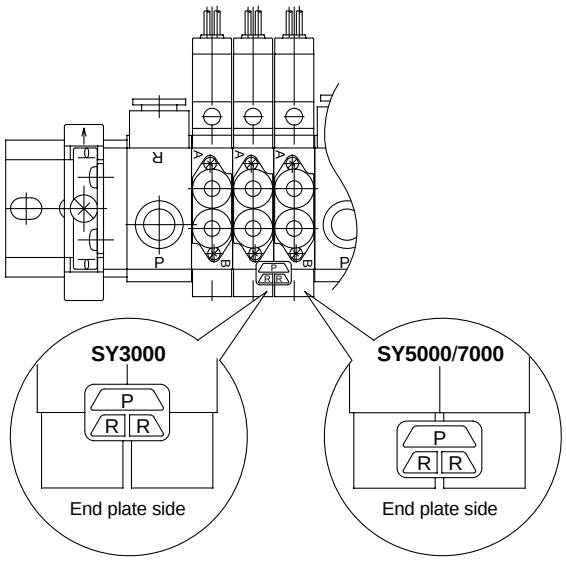
EXH blocking disk stickers



SUP, EXH blocking disk stickers

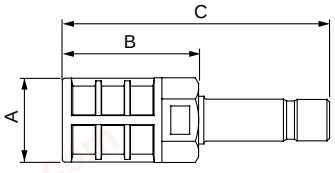


∗ When blocking disks are ordered installed in manifolds using a manifold specification sheet, etc., the stickers will be attached prior to shipment.



■ Silencer with One-touch fitting

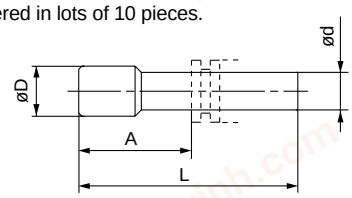
This is a silencer which can be attached to the R (exhaust) port of a manifold using a One-touch fitting.



Series	Model	Effective area	A	B	C
For **SY3000** (ø8)	AN203-KM8	14mm^2	ø16	26	51
For **SY5000** (ø10)	AN200-KM10	26mm^2	ø22	54	80.8
	AN300-KM10	30mm^2	ø25	70	97
For **SY7000** (ø12)	AN300-KM12	41mm^2	ø25	70	98

■ Plug (white)

These are inserted into unused cylinder ports and SUP/EXH ports.
They can be ordered in lots of 10 pieces.



Dimensions

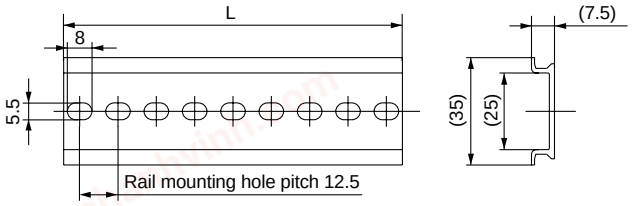
Applicable fitting size ød	Model	A	L	D
4	**KQ2P-04**	16	32	6
6	**KQ2P-06**	18	35	8
8	**KQ2P-08**	20.5	39	10
10	**KQ2P-10**	22	43	12
12	**KQ2P-12**	24	45.5	14

■ SY3000/5000 DIN rail dimensions and weight

VZ1000-11-1- ☐

Refer to L dimensions

∗ Enter a number from the DIN rail dimension table below in the ☐.



No.	0	1	2	3	4	5	6	7	8	9
L dimension	98	110.5	123	135.5	148	160.5	173	185.5	198	210.5
Weight (g)	17.6	19.9	22.1	24.4	26.6	28.9	31.1	33.4	35.6	37.9

No.	10	11	12	13	14	15	16	17	18	19
L dimension	223	235.5	248	260.5	273	285.5	298	310.5	323	335.5
Weight (g)	40.1	42.4	44.6	46.9	49.1	51.4	53.6	55.9	58.1	60.4

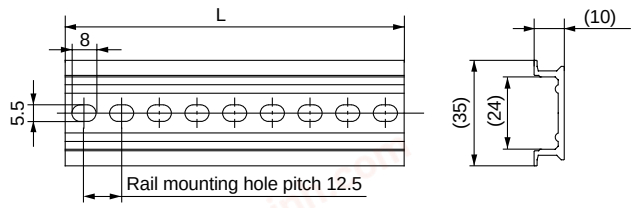
No.	20	21	22	23	24	25	26	27	28	29
L dimension	348	360.5	373	385.5	398	410.5	423	435.5	448	460.5
Weight (g)	62.6	64.9	67.1	69.4	71.6	73.9	76.1	78.4	80.6	82.9

■ SY7000 DIN rail dimensions and weight

VZ1000-11-4- ☐

Refer to L dimensions

∗ Enter a number from the DIN rail dimension table below in the ☐.



No.	0	1	2	3	4	5	6	7	8	9
L dimension	98	110.5	123	135.5	148	160.5	173	185.5	198	210.5
Weight (g)	24.8	28	31.1	34.3	37.4	40.6	43.8	46.9	50.1	53.3

No.	10	11	12	13	14	15	16	17	18	19
L dimension	223	235.5	248	260.5	273	285.5	298	310.5	323	335.5
Weight (g)	56.4	59.6	62.7	65.9	69.1	72.2	75.4	78.6	81.7	84.9

No.	20	21	22	23	24	25	26	27	28	29
L dimension	348	360.5	373	385.5	398	410.5	423	435.5	448	460.5
Weight (g)	88	91.2	94.4	97.5	100.7	103.9	107	110.2	113.3	116.5

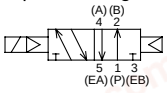
Note) Refer to page 30 regarding the DIN rail.

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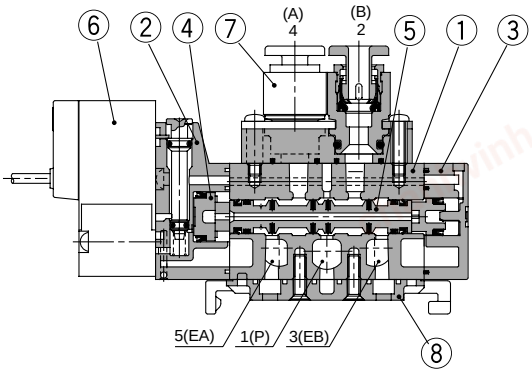
Construction

Series SY

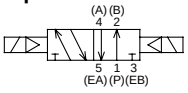
JIS symbol
2 position single



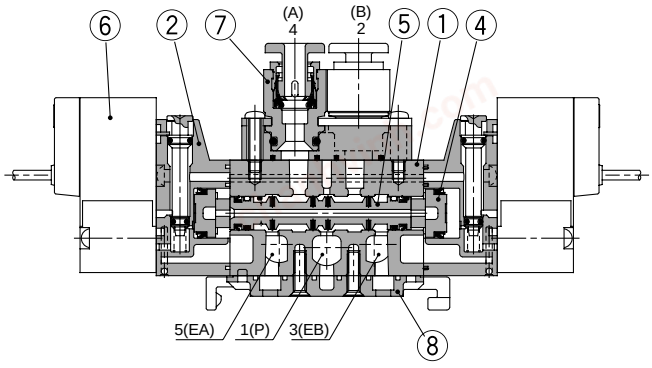
2 position single



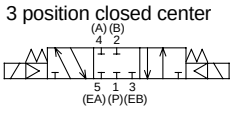
JIS symbol
2 position double



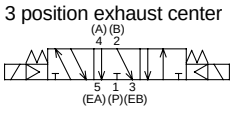
2 position double



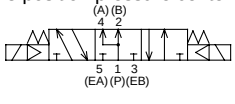
JIS symbol
3 position closed center



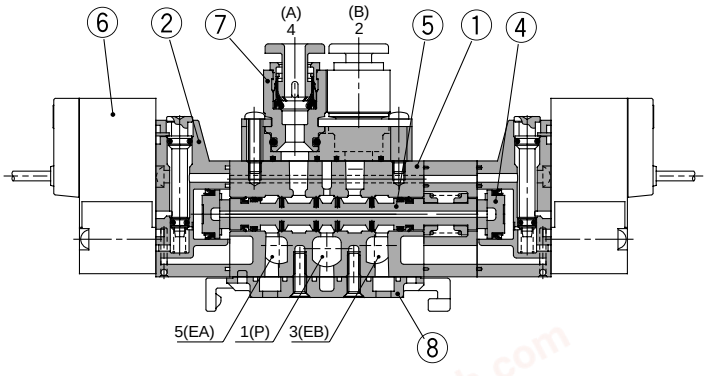
3 position exhaust center



3 position pressure center



3 position closed center/exhaust center/pressure center



(This drawing shows a closed center type)

Parts list

No.	Description	Material	Note
1	Body	Die-cast aluminum (SY3000 is die-cast zinc)	White
2	Adapter plate	Resin	White
3	End plate	Resin	White
4	Piston	Resin	–
5	Spool valve assembly	Aluminum/NBR	–

Replacement parts

No.	Description	Part No.
6	Pilot valve assembly	See page 1.2-142 for How to Order Pilot Valve Assembly
7	Port block assembly	See page 1.2-142 for How to Order Port Block Assembly
8	Bottom cover assembly Note)	SY3000-41-2A (with screw & gasket)
		SY5000-41-2A (with screw & gasket)

Note) SY7000 does not have a bottom cover assembly.

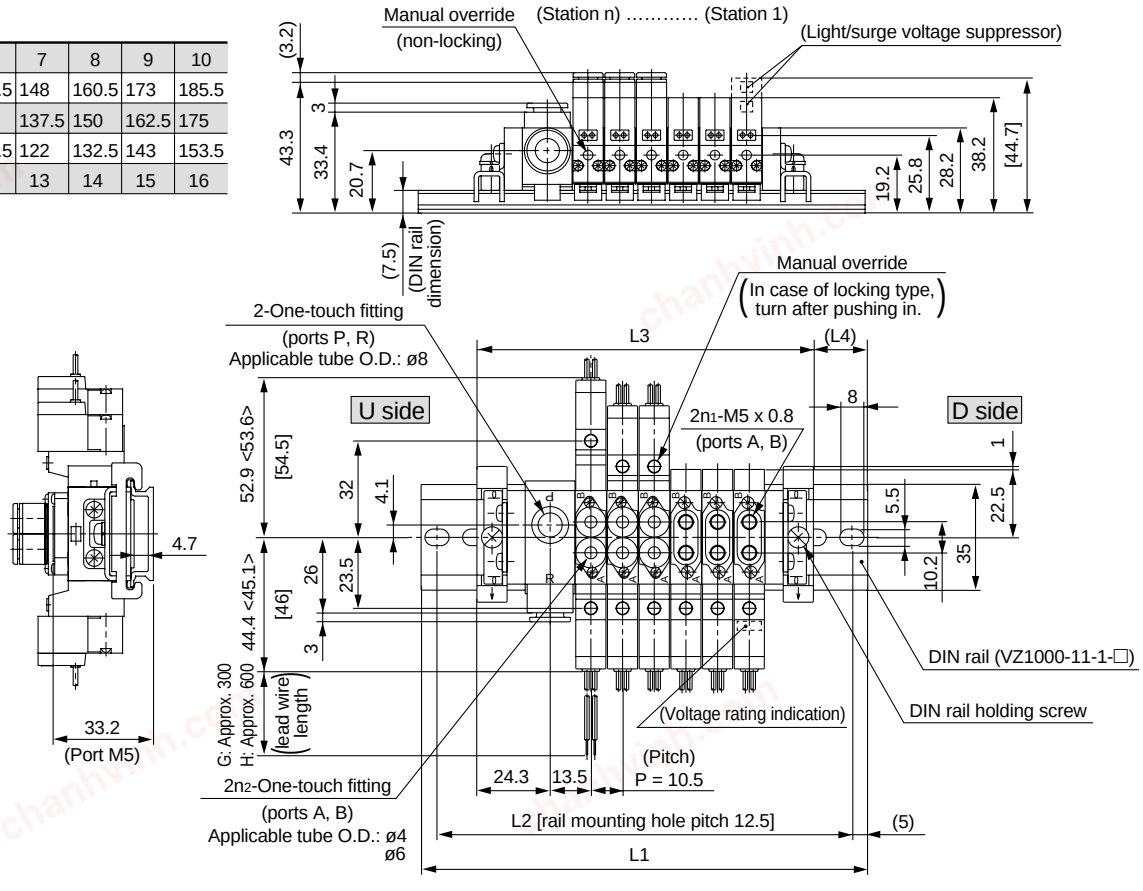
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Series SY3000/5000/7000

Dimensions

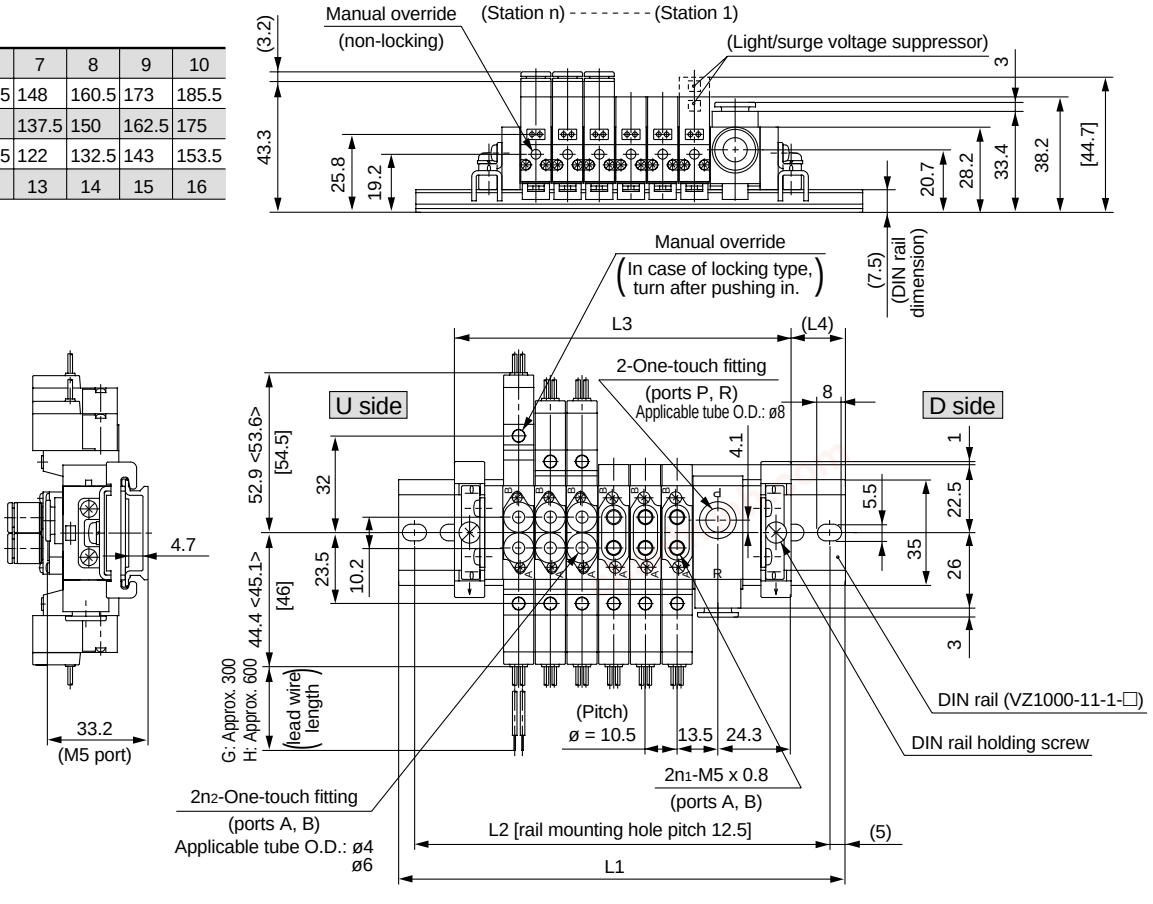
SS5Y3-60- Stations U

Stations	2	3	4	5	6	7	8	9	10
L1	98	110.5	123	135.5	135.5	148	160.5	173	185.5
L2	87.5	100	112.5	125	125	137.5	150	162.5	175
L3	69.5	80	90.5	101	111.5	122	132.5	143	153.5
L4	14	15	16	17	12	13	14	15	16



SS5Y3-60- Stations D

Stations	2	3	4	5	6	7	8	9	10
L1	98	110.5	123	135.5	135.5	148	160.5	173	185.5
L2	87.5	100	112.5	125	125	137.5	150	162.5	175
L3	69.5	80	90.5	101	111.5	122	132.5	143	153.5
L4	14	15	16	17	12	13	14	15	16



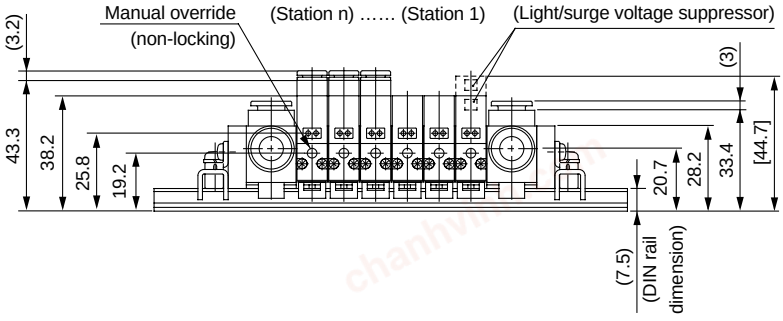
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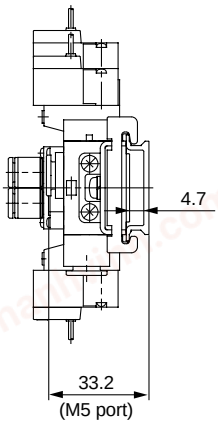
Note) [ ] are for AC type, while < > are for units equipped with surge voltage suppressor.

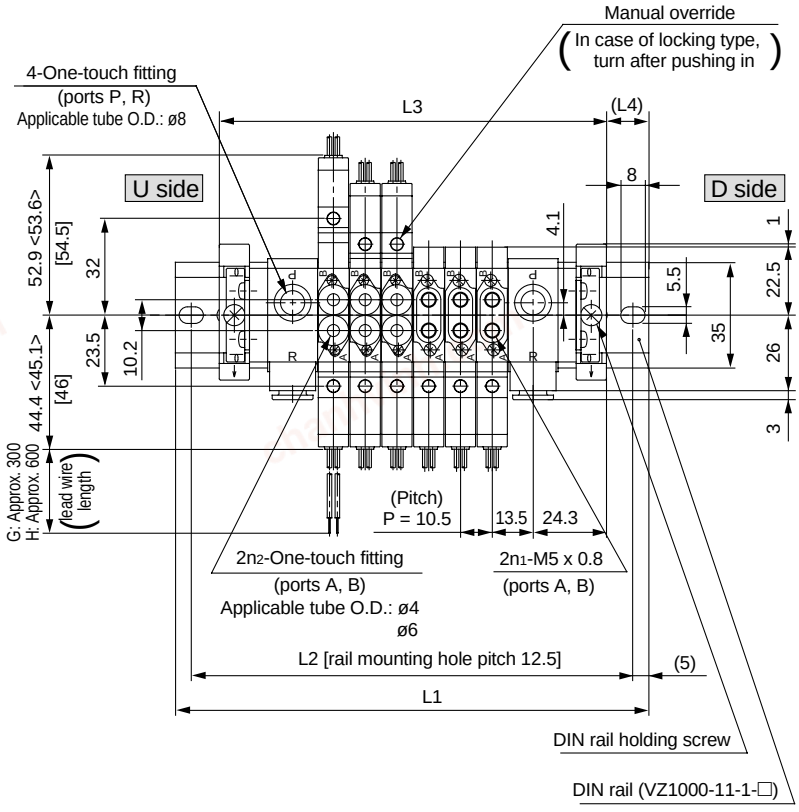
SS5Y3-60-Stations B

Stations	2	3	4	5	6	7	8	9	10
L1	110.5	123	135.5	148	160.5	173	173	185.5	198
L2	100	112.5	125	137.5	150	162.5	162.5	175	187.5
L3	86	96.5	107	117.5	128	138.5	149	159.5	170
L4	12	13	14	15	16	17	12	13	14

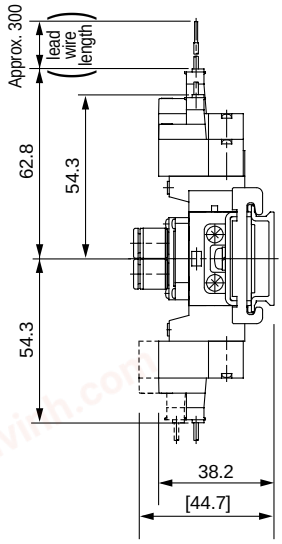
Stations	11	12	13	14	15	16	17	18	19	20
L1	210.5	223	235.5	235.5	248	260.5	273	285.5	298	310.5
L2	200	212.5	225	225	237.5	250	262.5	275	287.5	300
L3	180.5	191	201.5	212	222.5	233	243.5	254	264.5	275
L4	15	16	17	11.5	12.5	13.5	14.5	15.5	16.5	17.5



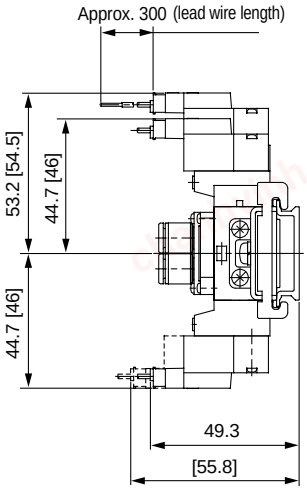




L type plug connector



M type plug connector



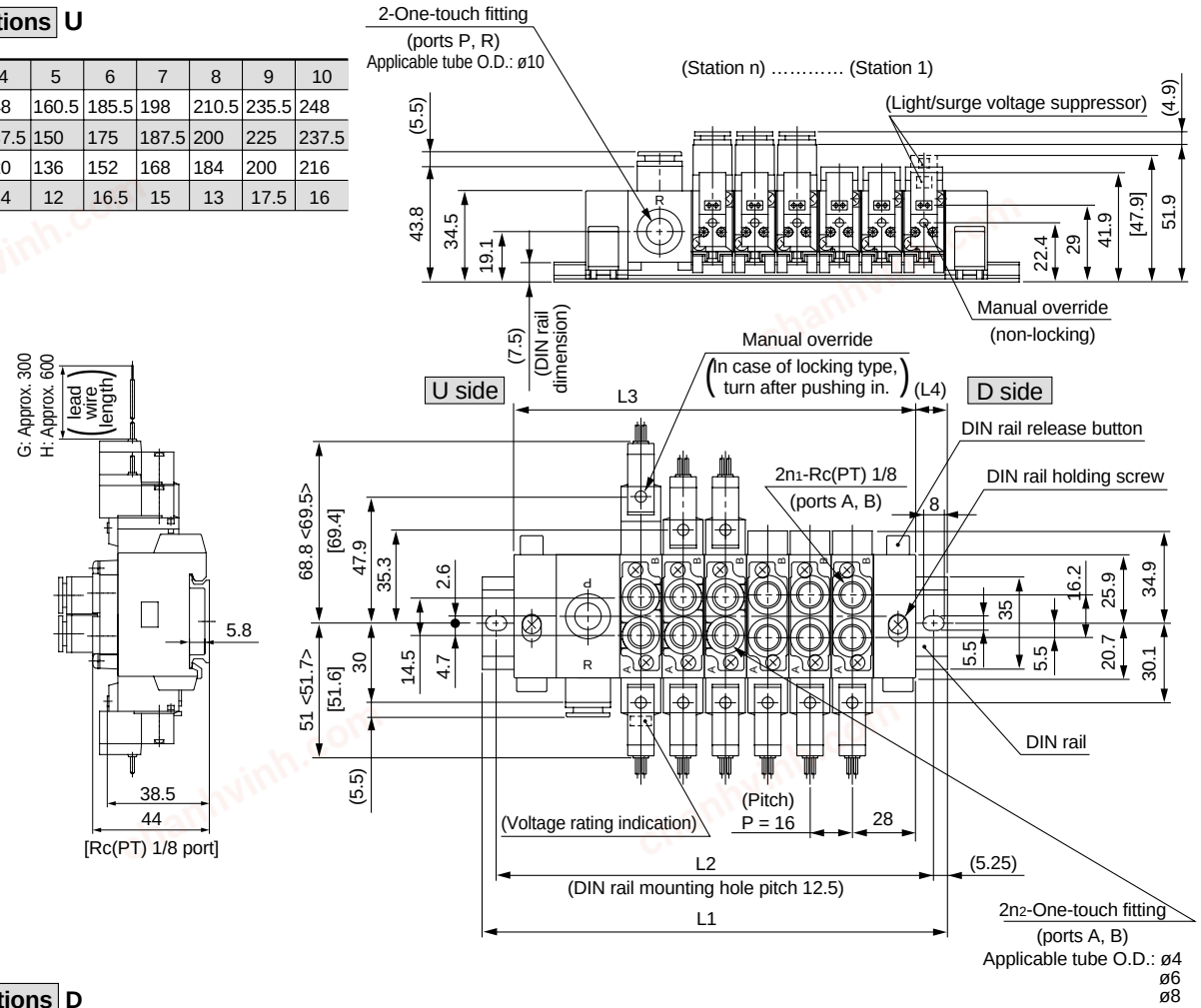
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Series SY3000/5000/7000

Dimensions

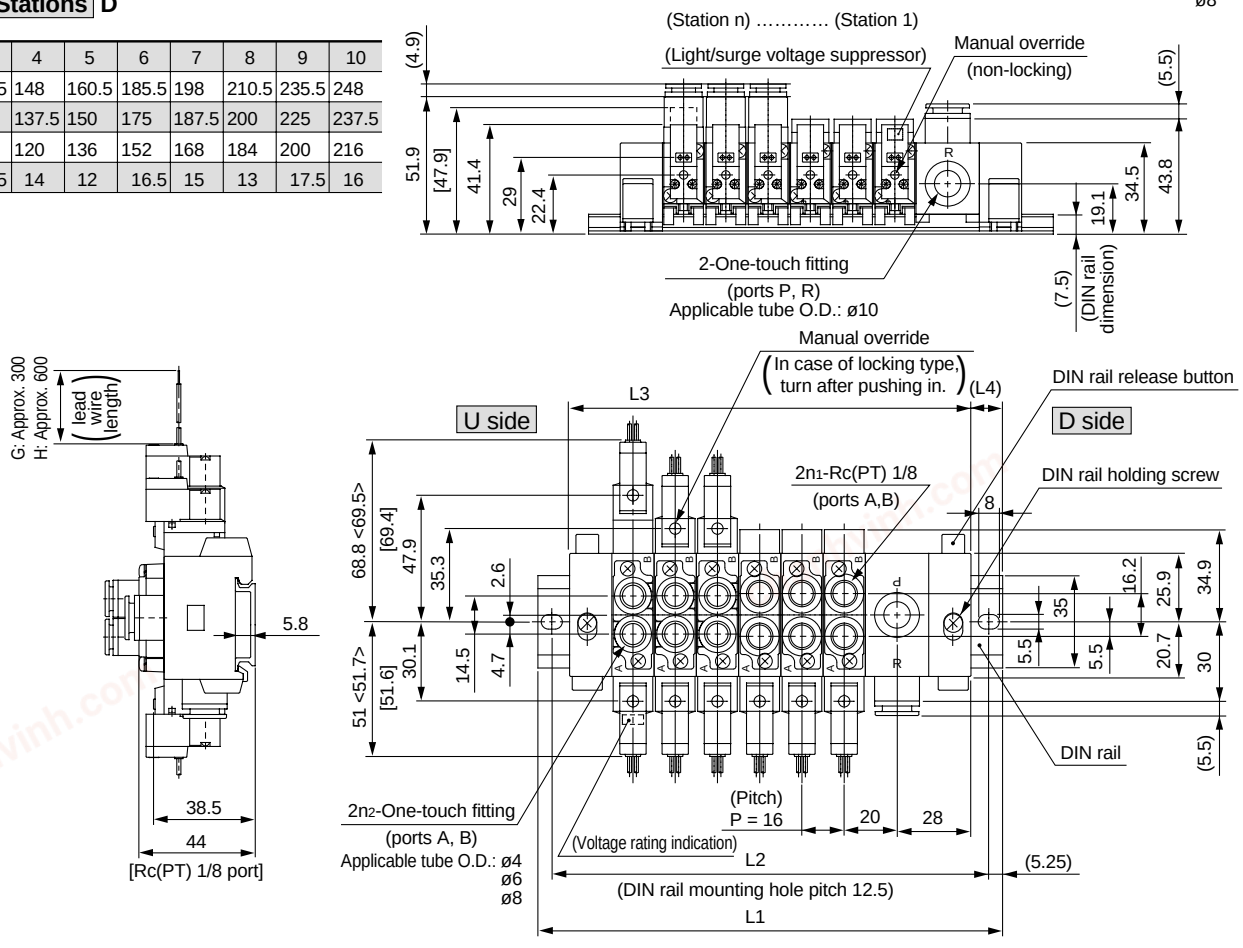
SS5Y5-60- Stations U

Stations	2	3	4	5	6	7	8	9	10
L1	123	135.5	148	160.5	185.5	198	210.5	235.5	248
L2	112.5	125	137.5	150	175	187.5	200	225	237.5
L3	88	104	120	136	152	168	184	200	216
L4	17.5	15.5	14	12	16.5	15	13	17.5	16



SS5Y5-60- Stations D

Stations	2	3	4	5	6	7	8	9	10
L1	123	135.5	148	160.5	185.5	198	210.5	235.5	248
L2	112.5	125	137.5	150	175	187.5	200	225	237.5
L3	88	104	120	136	152	168	184	200	216
L4	17.5	15.5	14	12	16.5	15	13	17.5	16



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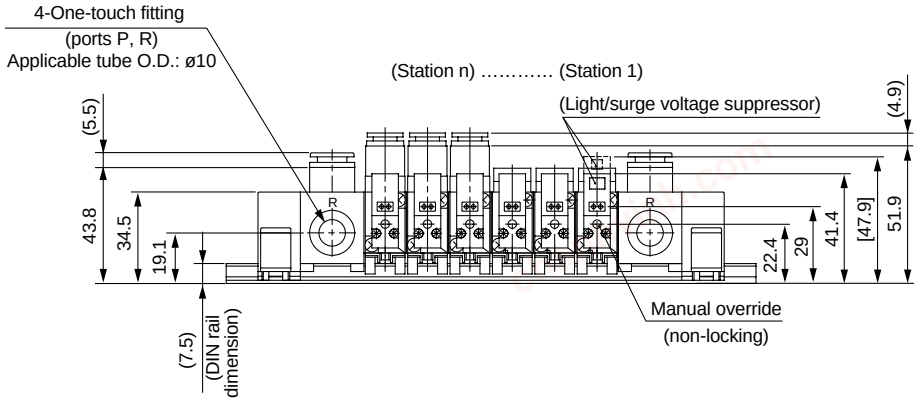
Note) [ ] are for AC type, while < > are for units equipped with surge voltage suppressor.

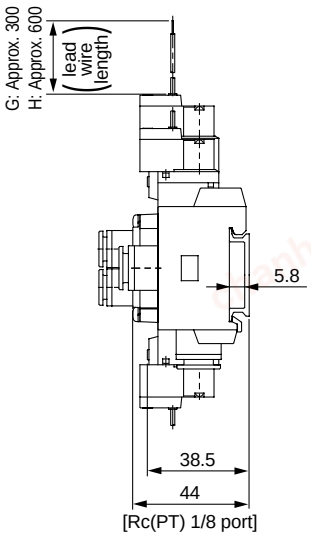
SS5Y5-60- Stations B

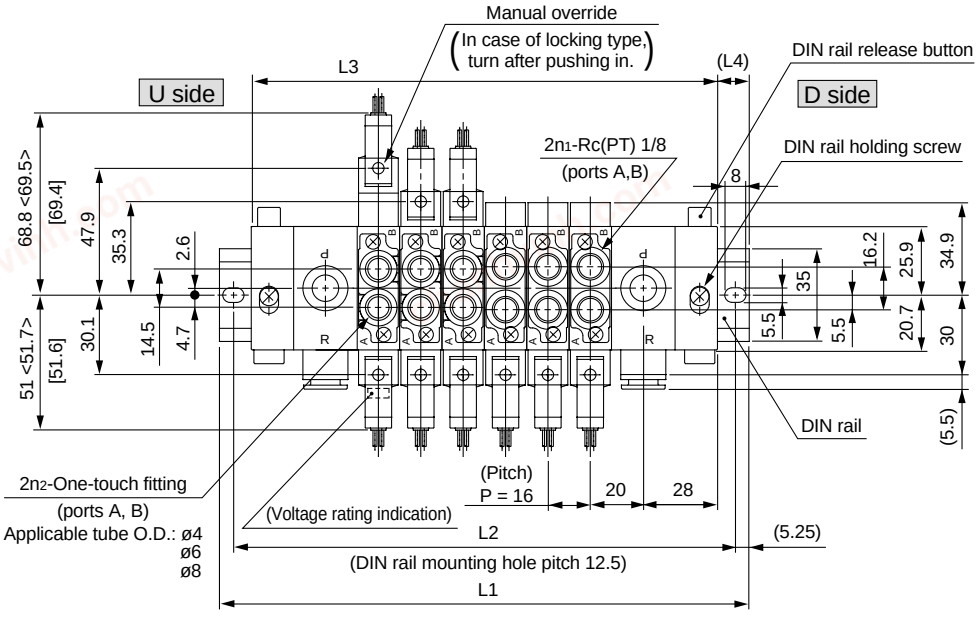
Stations	2	3	4	5	6	7	8
L1	135.5	160.5	173	185.5	210.5	223	235.5
L2	125	150	162.5	175	200	212.5	225
L3	112	128	144	160	176	192	208
L4	11.5	16	14.5	12.5	17.5	15.5	13.5

Stations	9	10	11	12	13	14	15
L1	248	273	285.5	298	323	335.5	348
L2	237.5	262.5	275	287.5	312.5	325	337.5
L3	224	240	256	272	288	304	320
L4	12	16.5	14.5	13	17.5	15.5	14

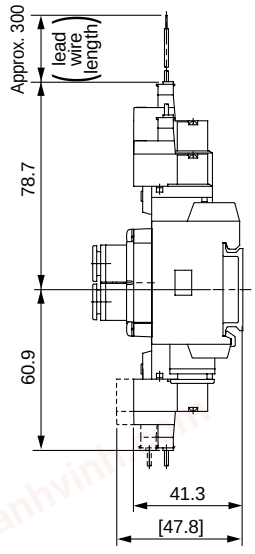
Stations	16	17	18	19	20
L1	360.5	385.5	398	410.5	435.5
L2	350	375	387.5	400	425
L3	336	352	368	384	400
L4	12	16.5	15	13	17.5



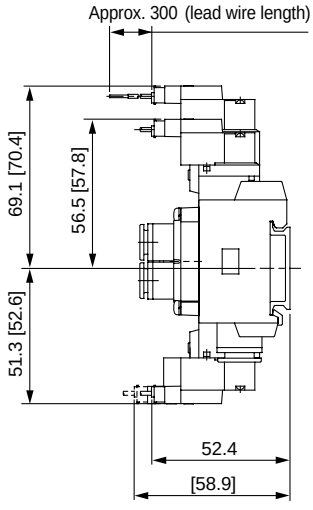




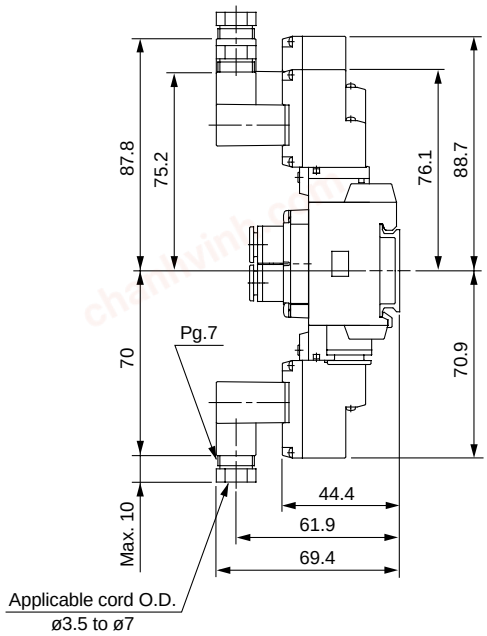
L type plug connector



M type plug connector



DIN terminal



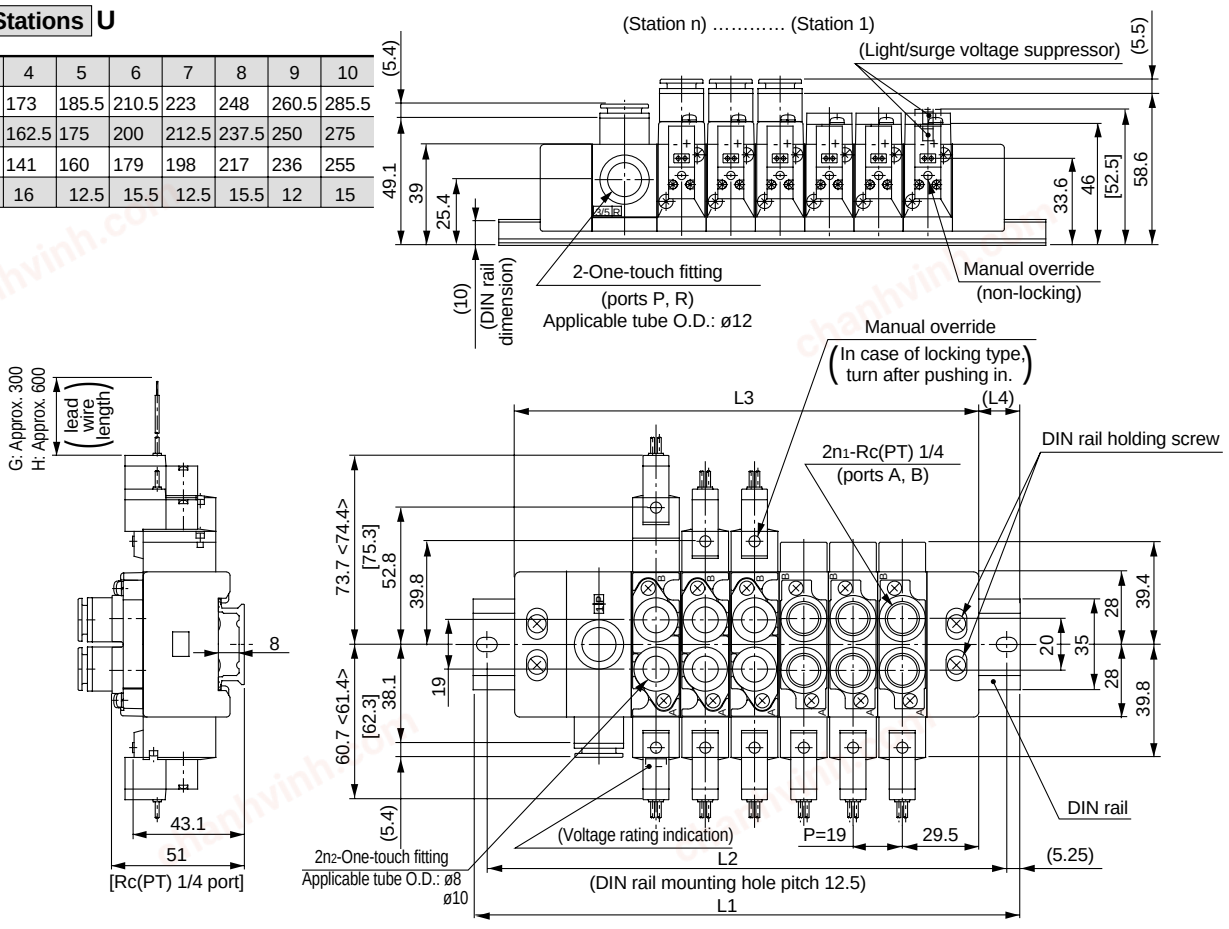
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Series SY3000/5000/7000

Dimensions

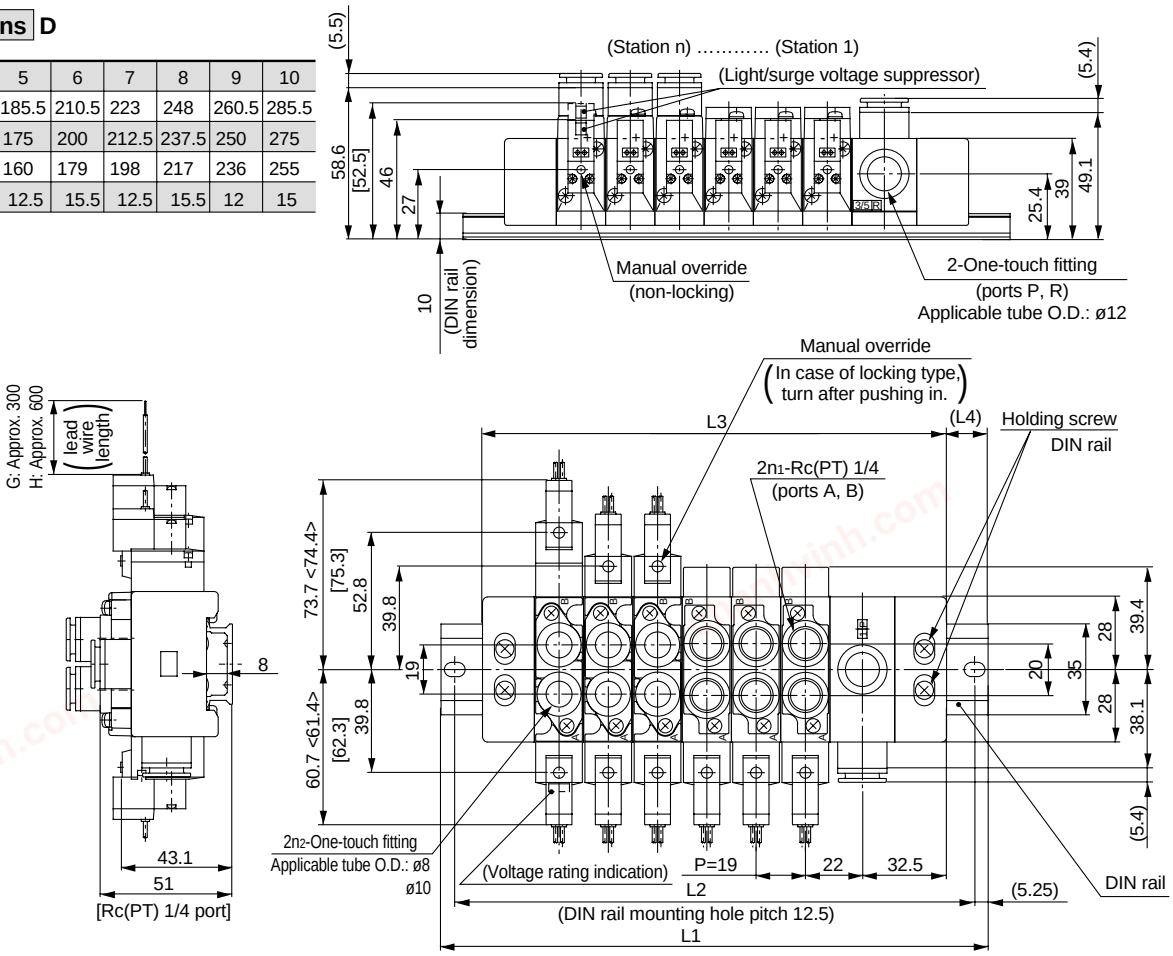
SS5Y7-60- Stations U

Stations	2	3	4	5	6	7	8	9	10
L1	135.5	148	173	185.5	210.5	223	248	260.5	285.5
L2	125	137.5	162.5	175	200	212.5	237.5	250	275
L3	103	122	141	160	179	198	217	236	255
L4	16	13	16	12.5	15.5	12.5	15.5	12	15



SS5Y7-60- Stations D

Stations	2	3	4	5	6	7	8	9	10
L1	135.5	148	173	185.5	210.5	223	248	260.5	285.5
L2	125	137.5	162.5	175	200	212.5	237.5	250	275
L3	103	122	141	160	179	198	217	236	255
L4	16	13	16	12.5	15.5	12.5	15.5	12	15



SMC

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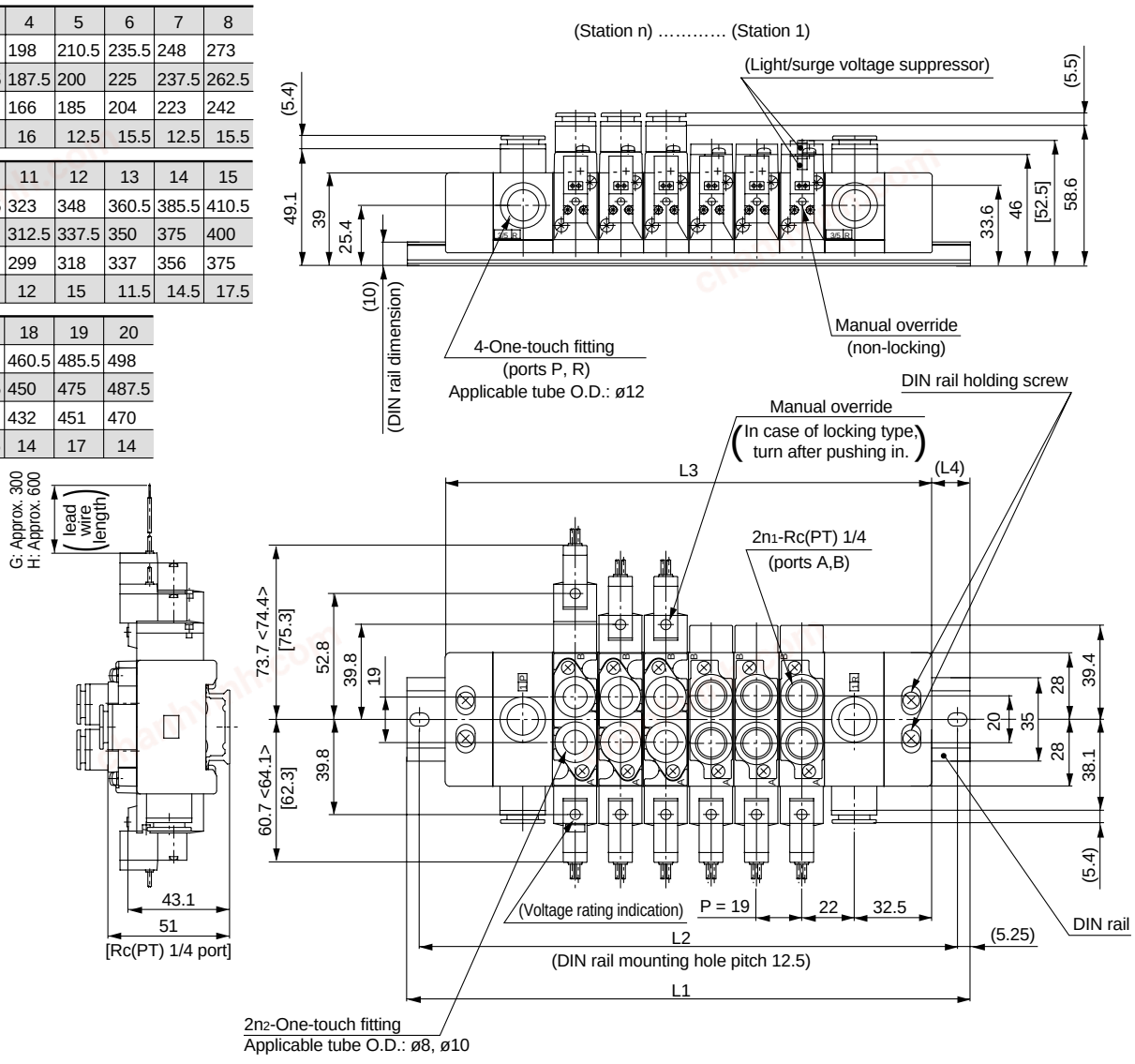
Note) [ ] are for AC type, while < > are for units equipped with surge voltage suppressor.

SS5Y7-60-Stations B

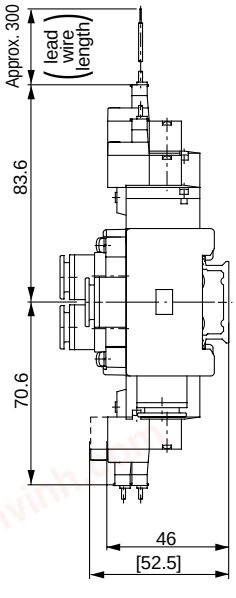
Stations	2	3	4	5	6	7	8
L1	160.5	173	198	210.5	235.5	248	273
L2	150	162.5	187.5	200	225	237.5	262.5
L3	128	147	166	185	204	223	242
L4	16	13	16	12.5	15.5	12.5	15.5

Stations	9	10	11	12	13	14	15
L1	285.5	310.5	323	348	360.5	385.5	410.5
L2	275	300	312.5	337.5	350	375	400
L3	261	280	299	318	337	356	375
L4	12	15	12	15	11.5	14.5	17.5

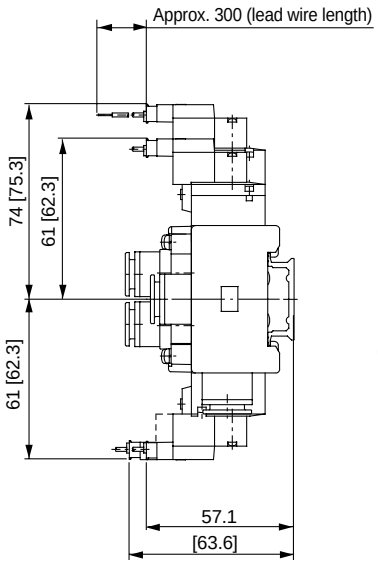
Stations	16	17	18	19	20
L1	423	448	460.5	485.5	498
L2	412.5	437.5	450	475	487.5
L3	394	413	432	451	470
L4	14.5	17.5	14	17	14



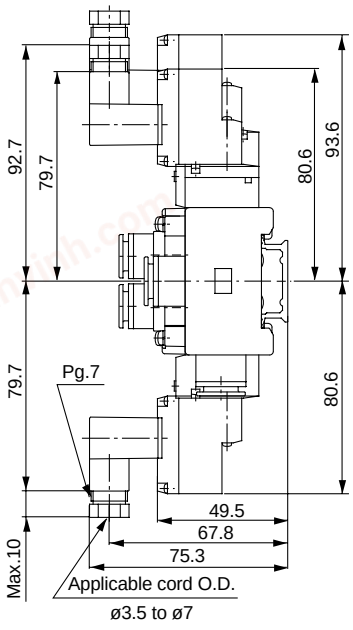
L type plug connector



M type plug connector



DIN terminal

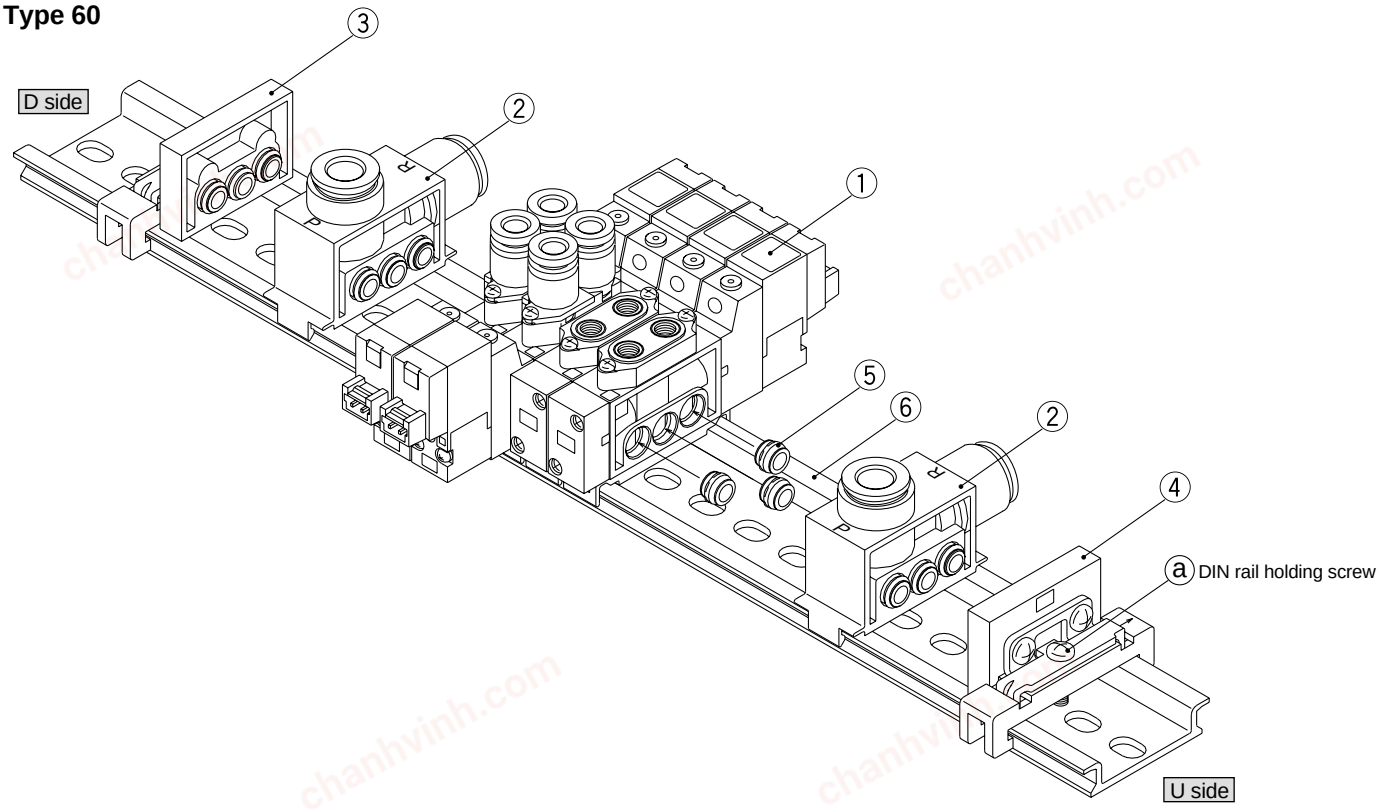


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DIN Rail Manifold Exploded View

SY3000

Type 60

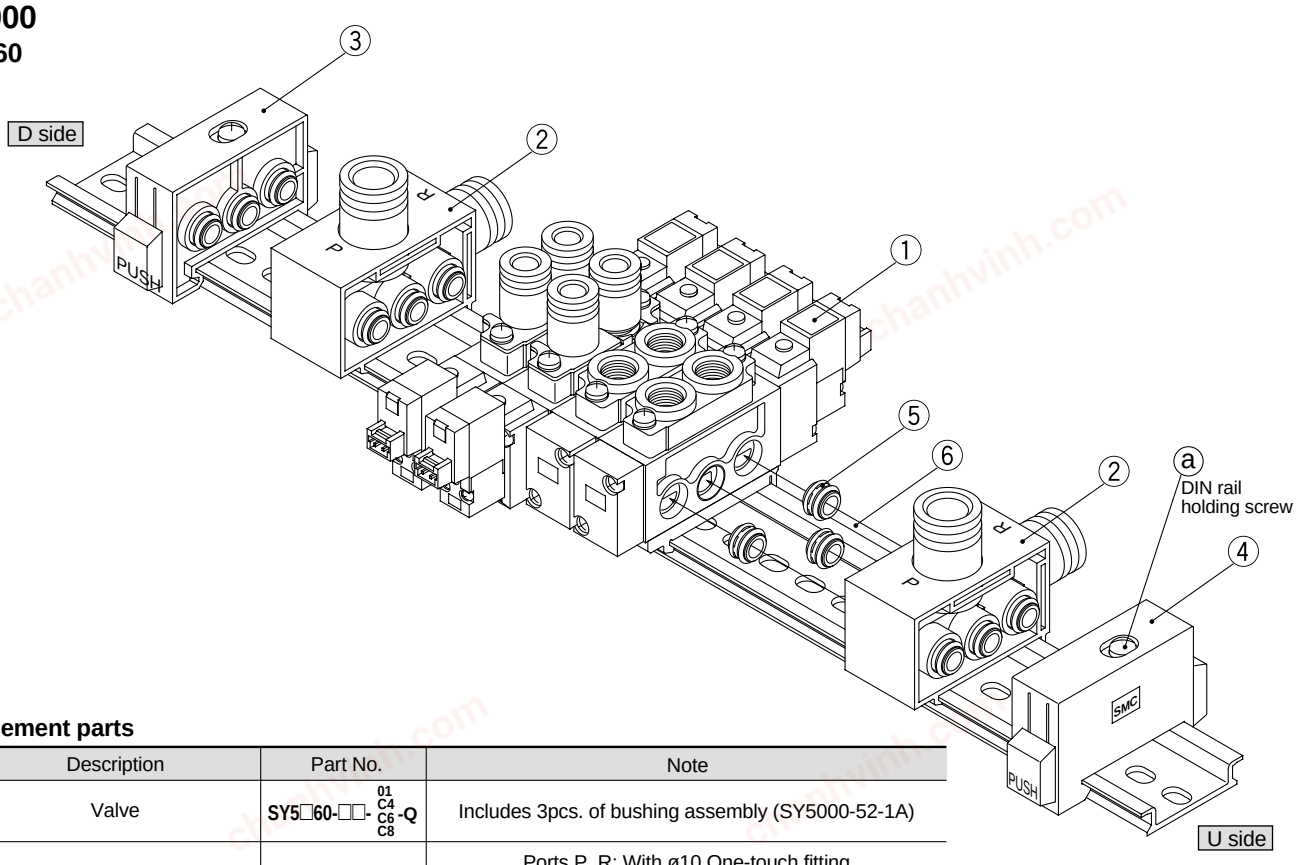


Replacement parts

No.	Description	Part No.	Note
1	Valve	SY3□60-□□-$^{M5}_{C4}$-Q$_{C6}$	Includes 3pcs. of bushing assembly (SY3000-52-1A)
2	Supply/Exhaust block assembly	SY3000-55-1A-Q	Ports P, R: With ø8 One-touch fitting Includes 3pcs. of bushing assembly (SY3000-52-1A)
3	End block assembly	SY3000-56-1A-Q	For D side (bushing assembly: SY3000-52-1A not included)
4	End block assembly	SY3000-56-1B-Q	For U side (bushing assembly: SY3000-52-1A not included)
5	Bushing assembly	SY3000-52-1A	
6	DIN rail	VZ1000-11-1-□	

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SY5000
Type 60



Replacement parts

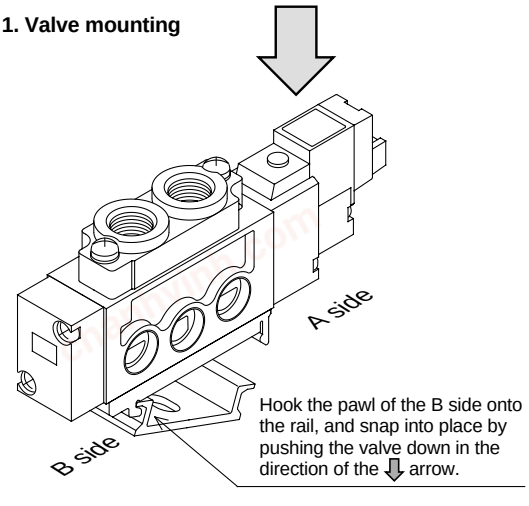
No.	Description	Part No.	Note
1	Valve	SY5□60-□□- 01 C4 C6 C8 -Q	Includes 3pcs. of bushing assembly (SY5000-52-1A)
2	Supply/Exhaust block assembly	SY5000-55-1A-Q	Ports P, R: With ø10 One-touch fitting Includes 3pcs. of bushing assembly (SY5000-52-1A)
3	End block assembly	SY5000-56-1A-Q	For D side (bushing assembly: SY5000-52-1A not included)
4	End block assembly	SY5000-56-1B-Q	For U side (bushing assembly: SY5000-52-1A not included)
5	Bushing assembly	SY5000-52-1A	
6	DIN rail	VZ1000-11-1-□	

SY3000/5000 Manifold Base Expansion
Stations can be added at any position.

1. **Loosen the holding screw ⓐ that secures the manifold base.**
2. **Separate the valves at the location where a new station is to be added.**
3. **Mount the additional valve on the DIN rail as shown in Figure 1.**
4. **Press the block assemblies back together, and secure them to the DIN rail by tightening the holding screw ⓐ.**

⚠ Caution
- **Tightening torque**
  SY3000: 1N·m
  SY5000: 1.4N·m
  (To ensure proper sealing, press the blocks together with your hands after securing the end block on one side. **While doing this,** confirm that there are no gaps between the valves and tighten the end block on the other side.)
- **When installing bushing assemblies on each block assembly, seat them properly so that they are not tilted. If they are tilted, air leakage can occur.**

Figure 1. Valve mounting



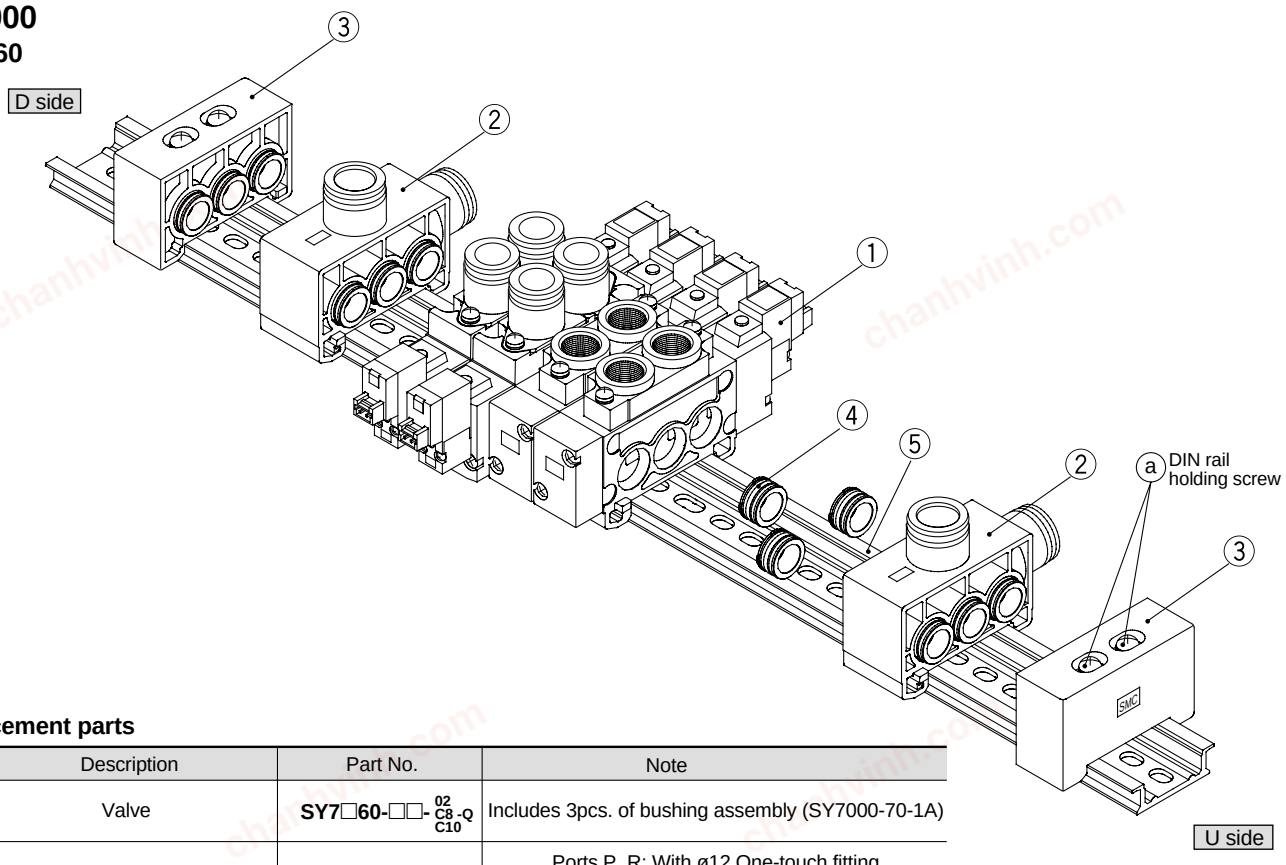
⚠ Caution After disassembly or mounting, etc., air leakage may result if valve connections and tightening of the end block holding screw ⓐ are not performed properly. Before supplying air, confirm that there are no gaps between valves and that they are securely mounted to the DIN rail. Then supply air and make sure that there are no air leaks.

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Series SY3000/5000/7000

DIN Rail Manifold Exploded View

SY7000
Type 60



Replacement parts

No.	Description	Part No.	Note
1	Valve	SY7□60-□□- 02 C8 C10 -Q	Includes 3pcs. of bushing assembly (SY7000-70-1A)
2	Supply/Exhaust block assembly	SY7000-75-1A-Q	Ports P, R: With ø12 One-touch fitting Includes 3pcs. of bushing assembly (SY7000-70-1A)
3	End block assembly	SY7000-56-1A-Q	Common for U & D sides (bushing assembly: SY7000-70-1A not included)
4	Bushing assembly	SY7000-70-1A	
5	DIN rail	VZ1000-11-4-□□	

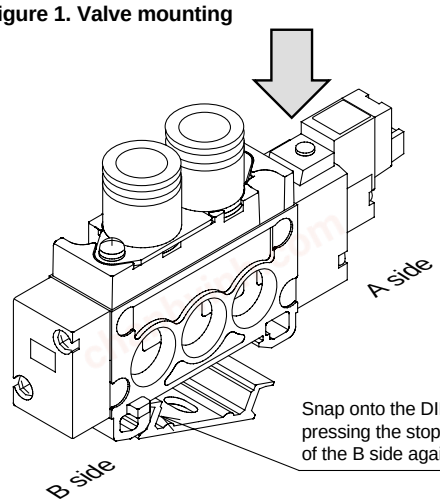
SY7000 Manifold Base Expansion
Stations can be added at any position.

1. **Loosen the two DIN rail holding screws ⓐ which secure the manifold base on the U side and the D side.**
   [**To remove the end block assembly from the DIN rail, slide it to the end of the rail after loosening the DIN rail holding screws.**]
2. **Separate the valves at the location where a new station is to be added.**
3. **Mount the additional valve on the DIN rail as shown in Figure 1.**
4. **Press the block assemblies back together, and secure them to the DIN rail by alternately tightening the two DIN rail holding screws ⓐ (2 to 3 turns) to the prescribed torque of (1.4 N·m).**

⚠Caution

- **Tightening torque**
  SY7000: 1.4N·m
  (To ensure proper sealing, press the blocks together with your hands after securing the end block on one side. **While doing this,** confirm that there are no gaps between the valves and tighten the end block on the other side.
- **When installing bushing assemblies on each block assembly, seat them properly so that they are not tilted. If they are tilted, air leakage can occur.**

Figure 1. Valve mounting



⚠Caution After disassembly or mounting, etc., air leakage may result if valve connections and tightening of the end block holding screws ⓐ are not performed properly. Before supplying air, confirm that there are no gaps between valves and that they are securely mounted to the DIN rail. Then supply air and make sure that there are no air leaks.

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Order Made Specifications
External Pilot/Main Valve Fluoro rubber

(Contact SMC for detailed specifications, dimensions and delivery time.)

External Pilot

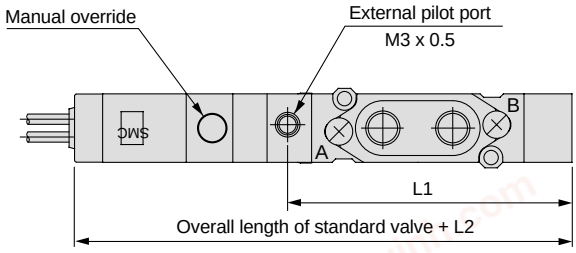
Part No.

SY3□5□7 60 – □□□□ – □ – □ – X20-Q

Make entries in the same way as for standard models.

Operating pressure range MPa

Operating pressure range	–100kPa to 0.7
Pilot pressure range	0.25 to 0.7



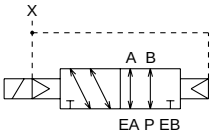
External pilot port position dimensions

Series	L1 dimension	L2 dimension
SY3000	41.5	6.5
SY5000	60.4	9
SY7000	71.9	9

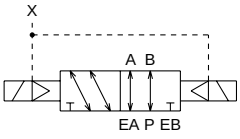
JIS symbol

Body ported

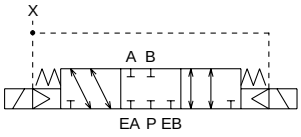
2 position single



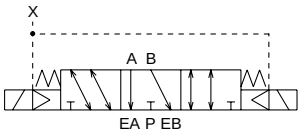
2 position double



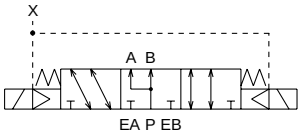
3 position closed center



3 position exhaust center



3 position pressure center



Main Valve Fluoro rubber Specifications

Fluoro rubber specifications for the main valve section make the following kinds of applications possible.

1. When lubricated with other than the recommended turbine oil, and malfunction occurs due to swelling of the spool valve seal, or this is a possibility.
2. When ozone enters or is generated in the air supply.

Part No.

SY3□5□7 60 – □□□□ – □ – □ – X90-Q

Make entries in the same way as for standard models.

Specifications and performance are the same as those of standard models.

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