

Clean Style Valve Manifold

Developed for the **Food & Beverage Industries**

NEW!
Product



- IP69K rated for wash down and cleaning
- Ability to install valves outside of protective panel and close to actuators for better control
- No gap between stations
- Small, lightweight package
- Easy to clean and easy to maintain
- Corrosion resistant

SY5000-X500



P-E13-14Aa-UK

Clean Style Valve Manifold

Developed for the **Food & Beverage Industries**

IP69K



Valve Specifications

Valve type		Rubber seal	Metal seal
Max. operating pressure		0.7 MPa (100 psi)	0.7 MPa (100 psi) [High pressure type 1 MPa (145 psi)]
Internal pilot minimum operating pressure	2 position single	0.15 MPa (25 psi)	0.1 MPa (15 psi)
	2 position double	0.1 MPa (15 psi)	
	3 position	0.2 MPa (30 psi)	
	Dual 3/2 port	0.15 MPa (25 psi)	—
External pilot operating pressure range	Operating pressure range		-100 kPa to 0.7 (4-position: -100 kPa to 0.6)
	Pilot pressure range	2 position single	-100 kPa to 0.7 (High pressure type: -100 kPa to 1)
		2 position double	0.1 to 0.7 MPa (15 to 100 psi) [High pressure type 0.1 to 1.0 MPa (15 to 145 psi)]
		3 position	
4 position dual 3 port valve	Operating pressure + 0.1 MPa (15 psi) or more [Min. 0.25 MPa (35 psi) to 0.7 MPa (100 psi)]	—	
Pilot exhaust method		Internal version	Main/Pilot valve common exhaust
		External version	Common external pilot exhaust
Max. operating frequency	2 position single, double	5 Hz	20 Hz ^{Note 1)}
	4 position dual 3/2 port		
	3 position	3 Hz	10 Hz ^{Note 1)}
Fluid		Air	
Ambient and fluid temperature		-10 to 50°C (15 to 120°F) (No freezing)	
Flow rate characteristics (2 position single and double) ^{Cv}		0.9	0.7
Coil rated voltage		12, 24 VDC	
Allowable voltage fluctuation (V)		±10% of rate voltage ^{Note 2)}	
Power consumption [High pressure type]	Standard	0.35 (With indicator light: 0.4)	
	High pressure type Quick response type	0.9 (With indicator light: 0.95)	
	With power saving circuit	Standard: 0.1 (With indicator light only) High pressure type: 0.4 (With indicator light only)	

Note 1) Use below 5 Hz for with power saving circuit.

Note 2) Due to voltage drops by the internal circuit in S/Z type and T type (with power saving circuit), use within the allowable voltage fluctuation as follows.

S/Z type { 24 VDC: -7% to +10%
12 VDC: -4% to +10% } T type { 24 VDC: -8% to +10%
12 VDC: -6% to +10% }

Manifold Specifications

Port size 4(A), 2(B)	G 1/4 ^{Note)}
Port size 1(P), 3/5(R) SUP/EXH block	G 3/8 ^{Note)}
Port size X, PE	M5
Enclosure	IP69K
Number of stations	Max. 16 stations (32 solenoids)
Manifold option	SUP/EXH block disk
Manifold internal connection	Connector type
Electrical entry	Parallel wiring for bottom entry

Note) This manifold can only be used with parallel threads. If tapered threads are used with this manifold the plastic manifold block can crack when the fitting is tightened into the manifold.

How to Order Clean Style Valve Manifold

1. Manifold

SS5Y 5 - H 11 L1 3 D - 05 D - C10 M - X500

Series

5	SY5000
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Clean style

Type

11	Bottom ported
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Number of cores (Lead wire)

L1	38 cores
L2	20 cores

Lead wire length

3	3 m
4	5 m
6	10 m

Lead wire outlets

D	D side
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Pilot type

Nil	Internal pilot
R	External pilot

P, E port entry

D	D side (2 to 10 stations)
B	Both sides (2 to 16 stations)

Valve stations
[L1]

Symbol	Stations	Note
02	2 stations	Double wiring
⋮	⋮	
16	16 stations	

[L2]

Symbol	Stations	Note
02	2 stations	Double wiring
⋮	⋮	
09	9 stations	

A, B port size (Thread piping)

Symbol	A, B port	P, E port	X, PE, VENT port
02F	G1/4	G3/8	M5

* This manifold can only be used with parallel threads. If tapered threads are used with this manifold the plastic manifold block can crack when the fitting is tightened into the manifold.

A, B port size (Metric)

Symbol	A, B port	P, E port	X, PE, VENT port
C6	ø6 One-touch fitting	ø10 One-touch fitting	ø4 One-touch fitting
C8	ø8 One-touch fitting		
C10	ø10 One-touch fitting		

A, B port size (Inch)

Symbol	A, B port	P, E port	X, PE, VENT port
N7	ø1/4" One-touch fitting	ø3/8" One-touch fitting	ø5/32" One-touch fitting
N11	ø3/8" One-touch fitting		

Fittings material

Nil	Brass + Nickel
G	Stainless steel

* For the thread piping, "G" cannot be selected.

Option for mounting

Nil	None
M	Mounting leg

2. Solenoid valve

SY 5 1 0 0 - 5 U 1 - HC

Series

5	SY5000
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Type of actuation

1	Single
2	Double
3	Closed center
4	Exhaust center
5	Pressure center
A*	Dual 3-port valve (N.C.)
B*	Dual 3-port valve (N.O.)
C*	Dual 3-port valve (N.C., N.O.)

* Only rubber seal type is available for the 4-position dual 3-port valve.

Body

0	Base mounted
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Seal

0	Rubber seal
1	Metal seal

Pilot type

Nil	Internal pilot
R	External pilot

Back pressure check valve (Built-in valve type)

Nil	None
H*	Built-in

* Only rubber seal type.
 * The built-in valve type back pressure check valve is not available for the 3-position type.

Option for mounting

HC	Valve mounting screw falling-out-prevention type
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* Top cover and mounting screw are not included. (Order separately)

Light/surge voltage suppressor and common specification

Nil	Without light/surge voltage suppressor (Non-polar)
R	With surge voltage suppressor (Non-polar)
U	With light/surge voltage suppressor (Non-polar)
S	With surge voltage suppressor (Positive common)
Z	With light/surge voltage suppressor (Positive common)
NS	With surge voltage suppressor (Negative common)
NZ	With light/surge voltage suppressor (Negative common)

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

Rated voltage

5	24 VDC
6	12 VDC

Coil type

Nil	Standard
T	With power saving circuit

* Be sure to select the power saving circuit type when a valve is continuously energized for long periods of time.
 * Note the specified energizing time when power saving circuit is selected.

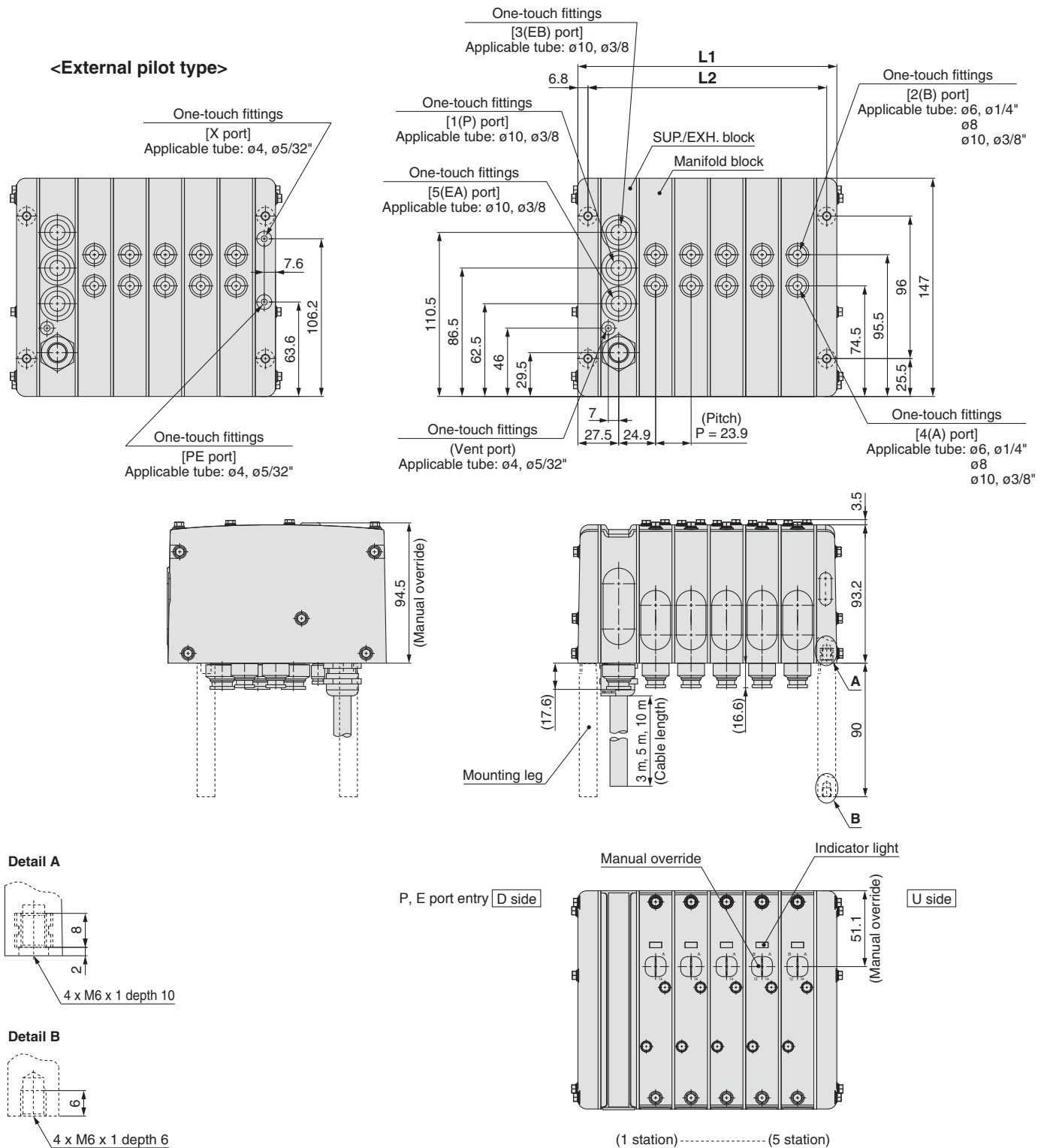
Pilot valve option

Nil	Standard (0.7 MPa)
B	Quick response type (0.7 MPa)
K*	High pressure type (1.0 MPa)

* Only metal seal type is available for the high pressure type.

Dimensions

SS5Y5-H11L1□D-□D(R)-□(M)-X500



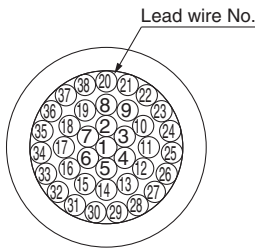
P, E port entry D side

(mm)

Stations (n)	2	3	4	5	6	7	8	9	10
L1	102.8	126.7	150.6	174.5	198.4	222.3	246.2	270.1	294.0
L2	89.2	113.1	137.0	160.9	184.8	208.7	232.6	256.5	280.4

Electrical Wiring Specifications

38 cores



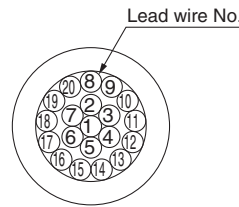
Electrical characteristics

Item	Property
Conductor resistance Ω/km, 20°C	146 or less
Voltage limit V, 1 minute, AC	2000
Insulation resistance MΩ/km, 20°C	10 or more

Station	Lead wire No.	Polarity	Lead wire color	Printed mark (Both sides)	
				Type	Color
Station 1	SOL.a 1	(-) (+)	Orange	-	Red
	SOL.b 2	(-) (+)		-	Black
Station 2	SOL.a 3	(-) (+)	Light gray	-	Red
	SOL.b 4	(-) (+)		-	Black
Station 3	SOL.a 5	(-) (+)	White	-	Red
	SOL.b 6	(-) (+)		-	Black
Station 4	SOL.a 7	(-) (+)	Yellow	-	Red
	SOL.b 8	(-) (+)		-	Black
Station 5	SOL.a 9	(-) (+)	Pink	-	Red
	SOL.b 10	(-) (+)		-	Black
Station 6	SOL.a 11	(-) (+)	Orange	---	Red
	SOL.b 12	(-) (+)		---	Black
Station 7	SOL.a 13	(-) (+)	Light gray	---	Red
	SOL.b 14	(-) (+)		---	Black
Station 8	SOL.a 15	(-) (+)	White	---	Red
	SOL.b 16	(-) (+)		---	Black
Station 9	SOL.a 17	(-) (+)	Yellow	---	Red
	SOL.b 18	(-) (+)		---	Black
Station 10	SOL.a 19	(-) (+)	Pink	---	Red
	SOL.b 20	(-) (+)		---	Black
Station 11	SOL.a 21	(-) (+)	Orange	----	Red
	SOL.b 22	(-) (+)		----	Black
Station 12	SOL.a 23	(-) (+)	Light gray	----	Red
	SOL.b 24	(-) (+)		----	Black
Station 13	SOL.a 25	(-) (+)	White	----	Red
	SOL.b 26	(-) (+)		----	Black
Station 14	SOL.a 27	(-) (+)	Yellow	----	Red
	SOL.b 28	(-) (+)		----	Black
Station 15	SOL.a 29	(-) (+)	Pink	----	Red
	SOL.b 30	(-) (+)		----	Black
Station 16	SOL.a 31	(-) (+)	Orange	-----	Red
	SOL.b 32	(-) (+)		-----	Black
	33	Unused		---	Red
	34			---	Black
	35			---	Red
	36			---	Black
	COM. 37	(+) (-)		---	Red
	COM. 38	(+) (-)		---	Black

Positive Negative
common common

20 cores



Electrical characteristics

Item	Property
Conductor resistance Ω/km, 20°C	146 or less
Voltage limit V, 1 minute, AC	2000
Insulation resistance MΩ/km, 20°C	10 or more

Station	Lead wire No.	Polarity	Lead wire color	Printed mark (Both sides)	
				Type	Color
Station 1	SOL.a 1	(-) (+)	Orange	-	Red
	SOL.b 2	(-) (+)		-	Black
Station 2	SOL.a 3	(-) (+)	Light gray	-	Red
	SOL.b 4	(-) (+)		-	Black
Station 3	SOL.a 5	(-) (+)	White	-	Red
	SOL.b 6	(-) (+)		-	Black
Station 4	SOL.a 7	(-) (+)	Yellow	-	Red
	SOL.b 8	(-) (+)		-	Black
Station 5	SOL.a 9	(-) (+)	Pink	-	Red
	SOL.b 10	(-) (+)		-	Black
Station 6	SOL.a 11	(-) (+)	Orange	---	Red
	SOL.b 12	(-) (+)		---	Black
Station 7	SOL.a 13	(-) (+)	Light gray	---	Red
	SOL.b 14	(-) (+)		---	Black
Station 8	SOL.a 15	(-) (+)	White	---	Red
	SOL.b 16	(-) (+)		---	Black
Station 9	SOL.a 17	(-) (+)	Yellow	---	Red
	SOL.b 18	(-) (+)		---	Black
	COM. 19	(+) (-)	Pink	---	Red
	COM. 20	(+) (-)		---	Black

Positive Negative
common common

Note) • Electrical wiring specifications is double wiring.

• For negative common specification, a valve for negative common or a valve without polarity should be used.

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