

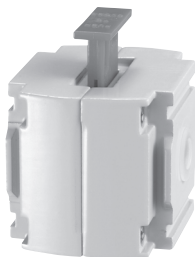
Series *PLV*

Accessories Modular Lock Out Valve

This valve provides a safety lockout to prevent accidental machine start-up.

When the slider is shifted into the lockout position, inlet air is blocked and downstream air is exhausted to the atmosphere.

□ PLV2



□ PLV3



□ PLV4



□ PLV5



■ Standard Specifications

Specifications	PLV2	PLV3	PLV4	PLV5
Port Size	1/8", 1/4"	1/4", 3/8"	3/8", 1/2"	3/4", 1"
Rc(PT), NPT, G(PF)				
Type of Exhaust	Silencer Exhaust			
Proof Pressure (MPa)	1.5(200psi)			
Max. Operating Pressure (MPa)	1.0(140psi)			
Regulating Range (MPa)	0.05~1.0(7~140psi)			
Ambient and Media Temperature (°C)	-5~60(23~140°F) (Non-freezing)			
Weight (kg)	0.1 (0.22lb)	0.24(0.53lb)	0.38(0.84lb)	0.88(1.94lb)

■ How to Order

PLV 4 — * 04 — *

Series (Lock-out V/V) — **PLV**

Type of Series — **4**

2	PC2 Series	4	PC4 Series
3	PC3 Series	5	PC5 Series

Thread — *****

Blank	Rc(PT)
N	NPT
G	G(PF)

Option — **04**

Blank	None
B	Clamp spacer kit

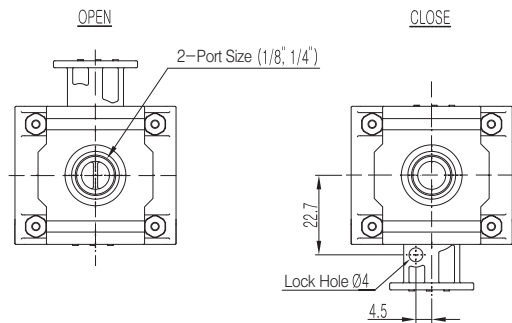
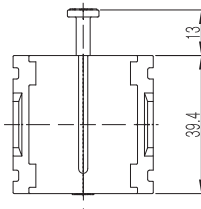
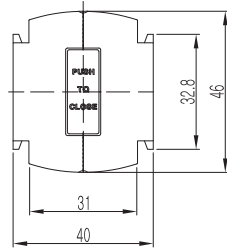
Note1) Separately packed, Not assembled.

Port Size — *****

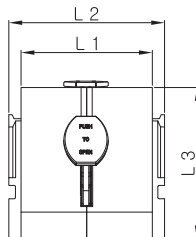
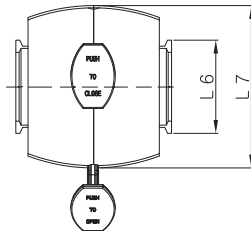
01	1/8	PC2 Series
02	1/4	PC2, 3 Series
03	3/8	PC3, 4 Series
04	1/2	PC4 Series
06	3/4	PC5 Series
10	1	PC5 Series

Series PLV

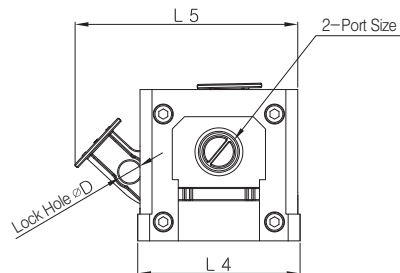
■ PLV2 Dimensions



■ PLV3, 4, 5 Dimensions



Series	Port Size Rc(P.T), NPT, G(PF)	Main Dimensions								Remarks
		L 1	L 2	L 3	L 4	L 5	L 6	L 7	D	
PLV3	1/4, 3/8	46	56	49	56	70.2	33	56	7.5	
PLV4	3/8, 1/2	59	70	68	73	100	41.9	71	10	
PLV5	3/4, 1	74	89	90	98	131.9	49.6	98	10	



PC2

PF2

PR2

PL2

PP2

PC3

PF3

PR3

PL3

PP3

PC4

PF4

PR4

PL4

PP4

PC5

PF5

PR5

PL5

PP5

PEH(U)2~
PEH(U)5PPH(U)3~
PPH(U)4

PLV

PSH

PCV

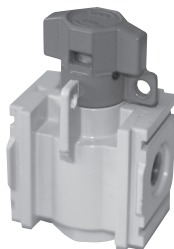
MB

Series PSH

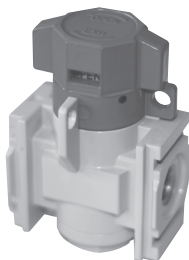
Accessories Modular Shut-off Valve

- Modular type, easy combination with F.R.L units
- Prevents a mistakes by lock function in exhaust
- Improved exhausting time

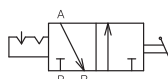
□ PSH2



□ PSH3



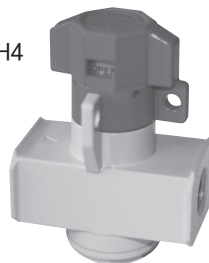
Symbol



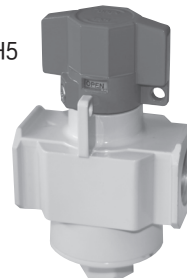
Standard Specifications

Type	PSH2		PSH3		PSH4		PSH5	
Tube Port Size	1/8"	1/4"	1/4"	3/8"	3/8"	1/2"	3/4"	1"
Rc(PT), NPT, G(PF)								
Exhaust Port Size	1/8"		1/4"		3/8"		1/2"	
Rc(PT), NPT, G(PF)								
Supply Effective Area (mm ²)	12	14	30	57	63	106	267	370
Exhaust Effective Area (mm ²)	11	16	16	30	32	51	98	120
Proof Pressure (MPa)	1.5							
Max. Operating Pressure (MPa)	1.0							
Ambient Temperature (°C)	-5 ~ 60 (Non-Freezing)							
Angle of Knob Operation	90°							
Weight (g)	324		312		406		990	

□ PSH4



□ PSH5



How to Order

PSH 4 — * 04 — *

Series (Shut-out V/V) — **PSH**

Type of Series — **4**

2	PC2 Series	4	PC4 Series
3	PC3 Series	5	PC5 Series

Thread — *****

Blank	Rc(PT)
N	NPT
G	G(PF)

Option — **04**

Blank	None
B	Clamp spacer kit

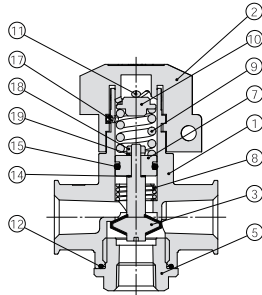
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Port Size — *****

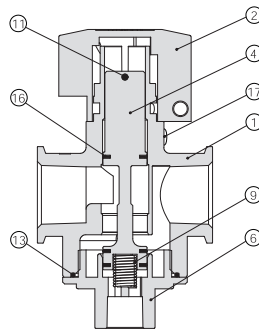
01	1/8	PC2 Series
02	1/4	PC2, 3 Series
03	3/8	PC3, 4 Series
04	1/2	PC4 Series
06	3/4	PC5 Series
10	1	PC5 Series

Series PSH

Construction



PSH 2, 3, 4 Series

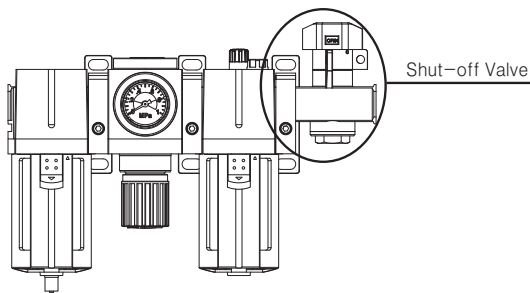


PSH 5 Series

Main Parts List

NO.	Description	Material	Note
①	Body	Zinc	PSH2
		Aluminum	PSH3,4,5
②	Handle	Zinc	
③	Poppet Valve	Brass+NBR	
④	Spool	Aluminum	
⑤	Poppet Valve Guide	Zinc	
⑥	Spool Guide	Zinc	
⑦	Piston	Brass	
⑧	Poppet Valve Spring	Stainless Steel	
⑨	Spring	Piano Wire	
⑩	Spring Holder	Free Cutting Steel	
⑪	Parallel Pin	Free Cutting Steel	
⑫	Poppet Valve Guide Gasket	NBR	
⑬	Spool Guide Gasket	NBR	
⑭	Washer	NBR	
⑮	Piston Packing	NBR	
⑯	Spool Packing	NBR	
⑰	Handle Stopping Screw	Carbon Steel	
⑱	Poppet Valve Nut	Carbon Steel	
⑲	Poppet Valve Washer	Stainless Steel	

Combination



※ A Shut-off Valve has to be connected to the outlet side of FRL units.

Cautions

- ① "P" of "▷" mark which refers to input of compressed air is a inlet, and A port of oppsite side is outlet.
- ② Do not add pressure except P port, It causes a malfunction, R port which is right-angled direction is a outlet port, Please connect them with caution. It causes a malfunction.
- ③ A malfunton and air leak might be caused unless a handle will be stopped halfway, so conversion has to be done immediately. Please change the handle surely.
- ④ Do not remove attached screw on the handle. It causes a malfunton by omission off the screw.

PC2

PF2

PR2

PL2

PP2

PC3

PF3

PR3

PL3

PP3

PC4

PF4

PR4

PL4

PP4

PC5

PF5

PR5

PL5

PP5

PFH(U)2~
PFH(U)5PPH(U)3~
PPH(U)4

PLV

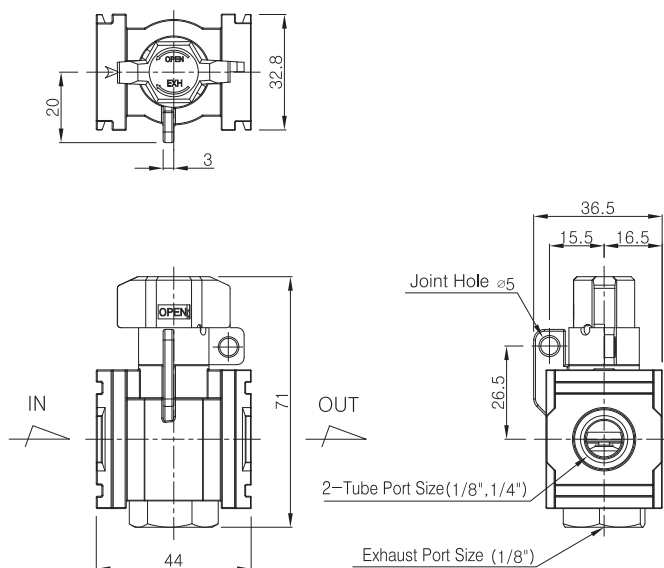
PSH

PCV

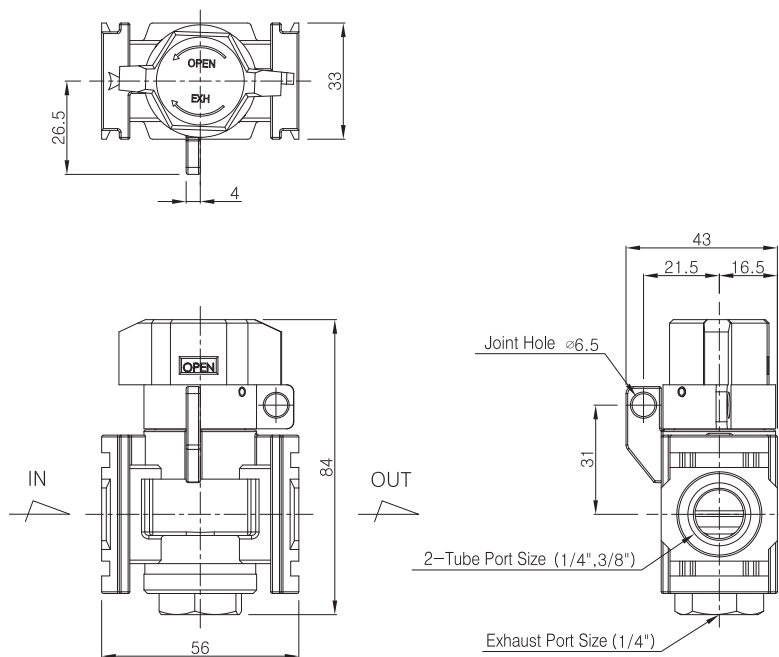
MB

Series PSH

■ PSH2 Dimensions

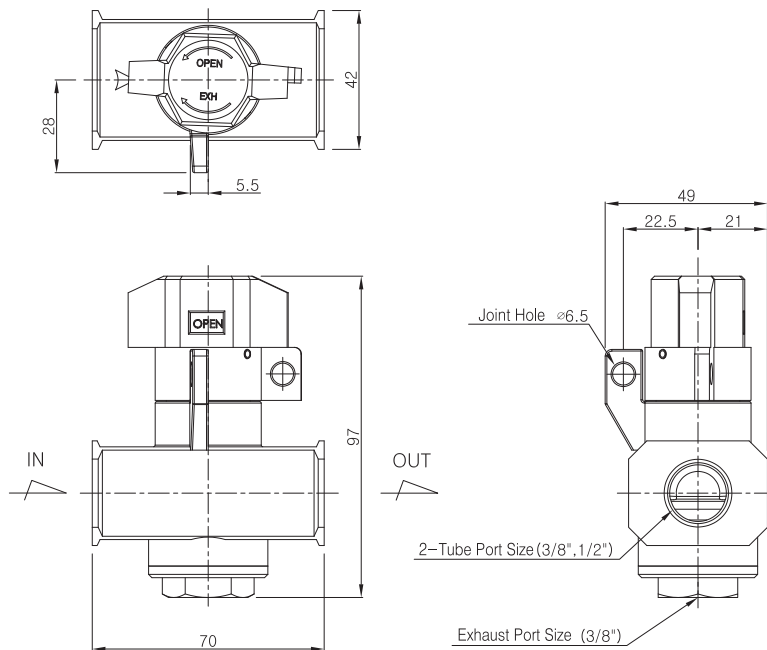


■ PSH3 Dimensions

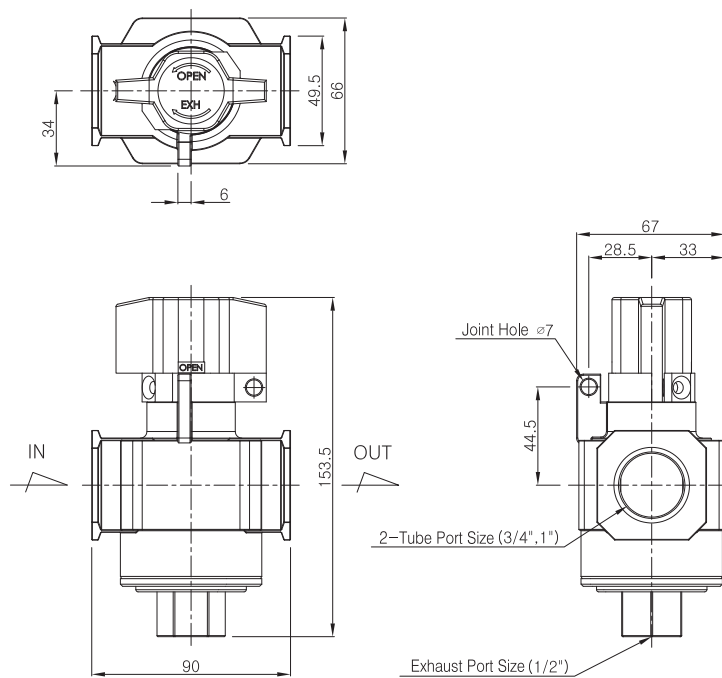


Series PSH

■ PSH4 Dimensions



■ PSH5 Dimensions



PC2

PF2

PR2

PL2

PP2

PC3

PF3

PR3

PL3

PP3

PC4

PF4

PR4

PL4

PP4

PC5

PF5

PR5

PL5

PP5

PEH(U)2~
PEH(U)5PPH(U)3~
PPH(U)4

PLV

PSH

PCV

MB

Series PCV

Accessories Modular Check Valve

The modular check valve is used to prevent downstream pressure loss.

Acting as a one-way directional flow valve, this device is generally installed downstream of the regulator.

□ PCV2



■ Standard Specifications

Specifications	PCV2	PCV3	PCV4
Port Size (No Threads)	1/4" Hole	3/8" Hole	1/2" Hole
Top Port Size Rc(PT), NPT, G(PF)	1/8", 1/4"	1/8", 1/4"	1/4", 3/8"
Max. Flow Capacity (Nℓ/min)	1,200(42scfm)	3,500(124scfm)	5,000(177scfm)
Weight(kg)	0.01(0.02lb)	0.23(0.51lb)	0.43(0.95lb)

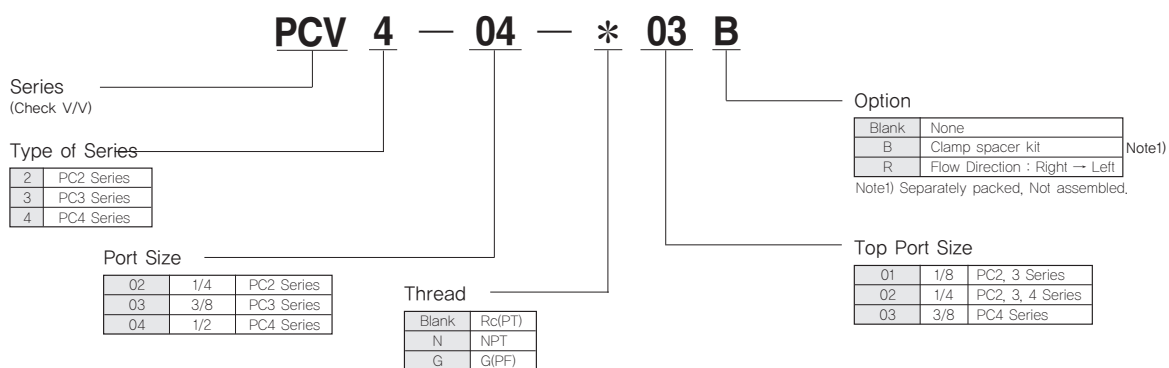
□ PCV3



□ PCV4

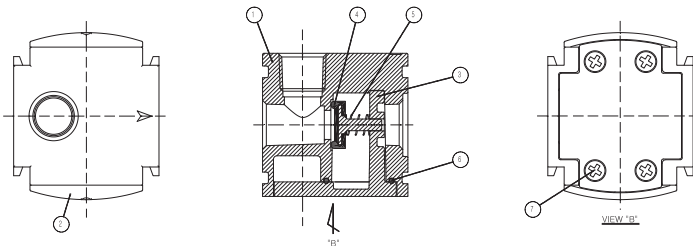


■ How to Order



Series PCV

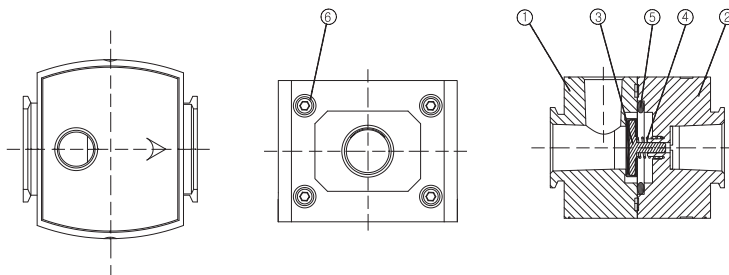
■ PCV2 Construction



Main Parts List

NO.	Description	Material	Remark
①	Body	Aluminum	
②	F-Body Cover	Nylon	
③	Body Cover	Aluminum	
④	Valve Assembly	Brass+NBR	
⑤	Spring	Stainless Steel	
⑥	Gasket of Body Cover	NBR	
⑦	Bolt of Cover	Rolled Steel	

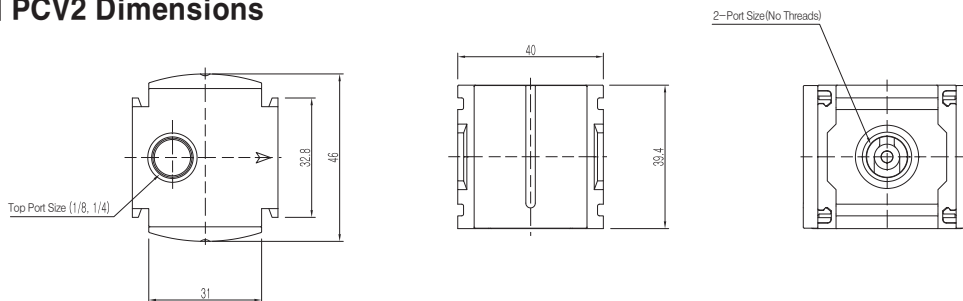
■ PCV3, 4 Construction



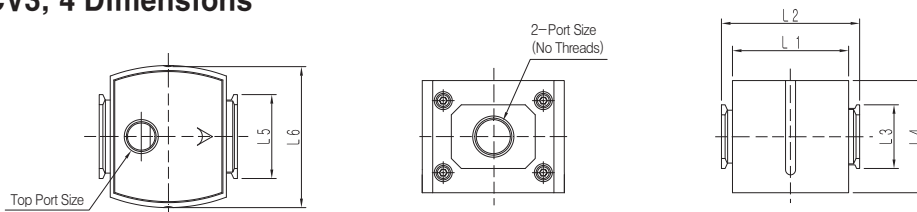
Main Parts List

NO.	Description	Material	Remark
①	Body R	Aluminum	
②	Body L	Aluminum	
③	Valve Assembly	Brass+NBR	
④	Return Spring	Stainless Steel	
⑤	Gasket	NBR	
⑥	Wrench Bolt	Rolled Steel	

■ PCV2 Dimensions



■ PCV3, 4 Dimensions



Series	Main Dimensions							Remarks
	Port Size (No Threads)	Top Port Size Rc(PT), NPT, G(PF)	L 1	L 2	L 3	L 4	L 5	
PCV3	3/8"	1/8" 1/4"	46	56	45	49	33	56
PCV4	1/2"	1/4", 3/8"	58	69	31.8	56	41.9	71

PC2

PF2

PR2

PL2

PP2

PC3

PF3

PR3

PL3

PP3

PC4

PF4

PR4

PL4

PP4

PC5

PF5

PR5

PL5

PP5

PPH(U)2~
PPH(U)5PPH(U)3~
PPH(U)4

PLV

PSH

PCV

MB

Series **MB**

Modular Manifold Block

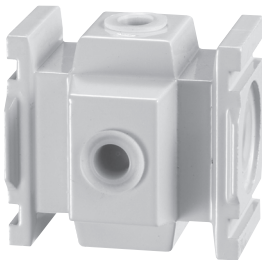
□ MB2



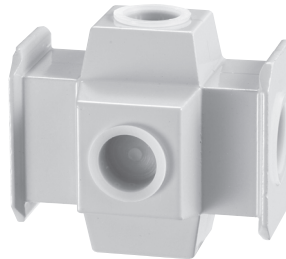
■ Standard Specifications

Specifications	MB2	MB3	MB4
Port Size (No Threads)	1/4"	1/4", 3/8"	3/8", 1/2"
Top Port Size Rc(PT), NPT, G(PF)	1/8", 1/4"	1/8", 1/4"	1/4", 3/8"
Weight(kg)	0.09(0.2lb)	0.14(0.31lb)	0.17(0.37lb)

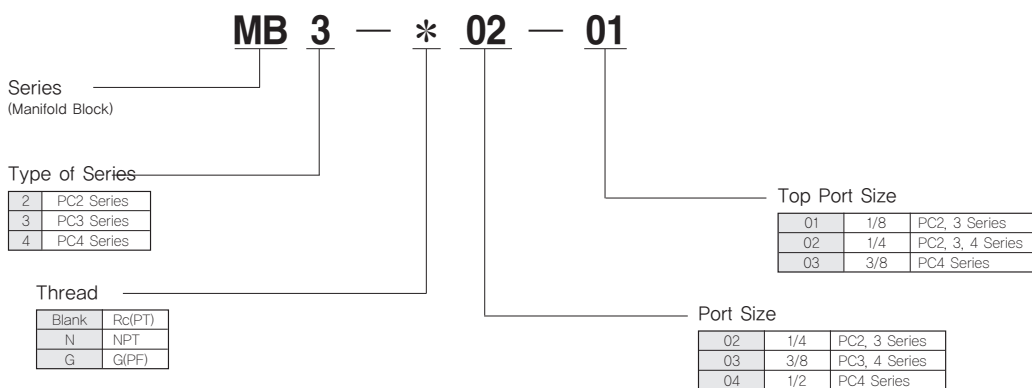
□ MB3



□ MB4

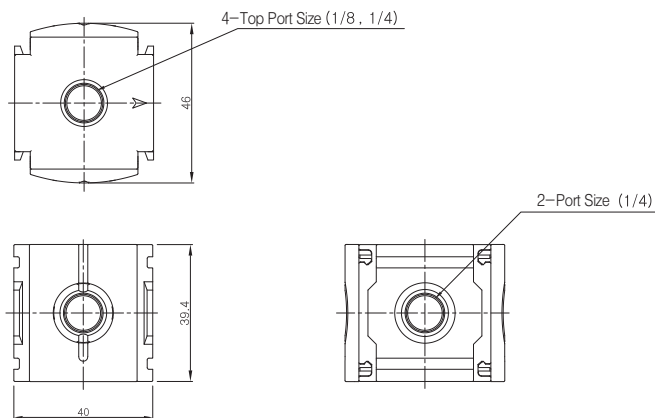


■ How to Order

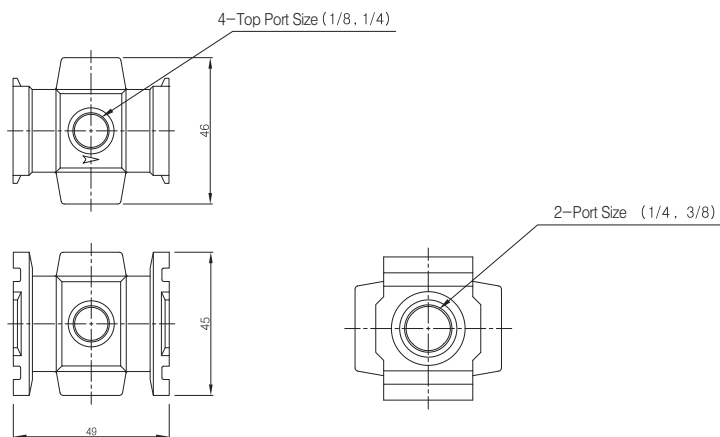


Series MB

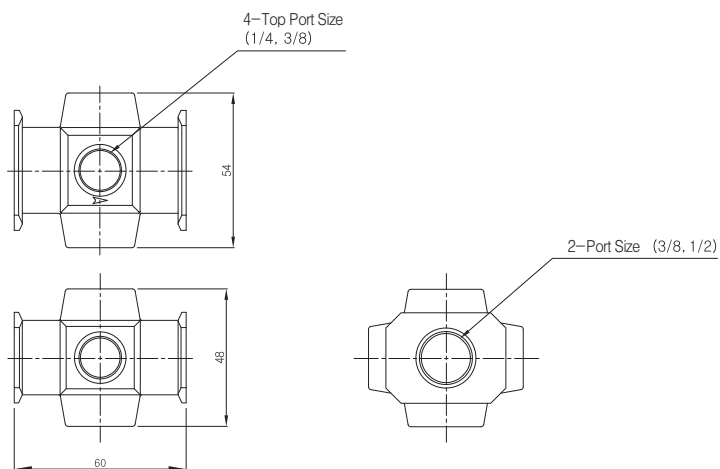
■ MB2 Dimensions



■ MB3 Dimensions



■ MB4 Dimensions



PC2

PF2

PR2

PL2

PP2

PC3

PF3

PR3

PL3

PP3

PC4

PF4

PR4

PL4

PP4

PC5

PF5

PR5

PL5

PP5

PEH(U)2~
PEH(U)5PPH(U)3~
PPH(U)4

PLV

PSH

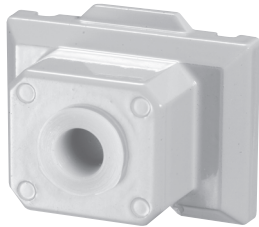
PCV

MB

Series PA

Modular Pipe Adapter

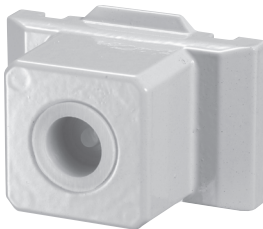
□ PA2



■ Standard Specifications

Specifications	PA2	PA3	PA4	PA5
Port Size	1/8 ~, 1/4 ~	1/4 ~, 3/8 ~	3/8 ~, 1/2 ~	3/4 ~, 1 ~
Rc(PT), NPT, G(PF)	3/8 ~	1/2 ~	3/4 ~	
Weight (kg)	0.03(0.07lb)	0.04(0.09lb)	0.07(0.15lb)	0.13(0.29lb)

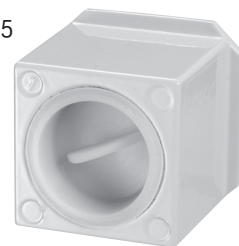
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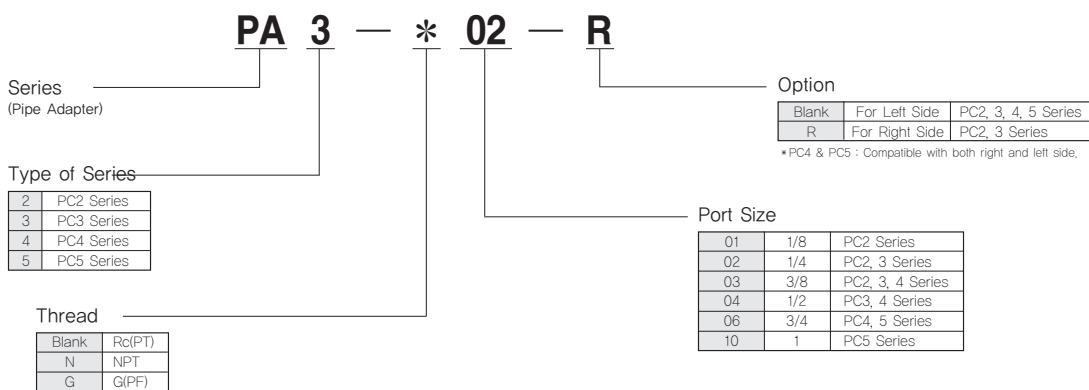
□ PA4



□ PA5



■ How to Order



Series PA

PA

SSV

SMS1000

Accessories

OPTION

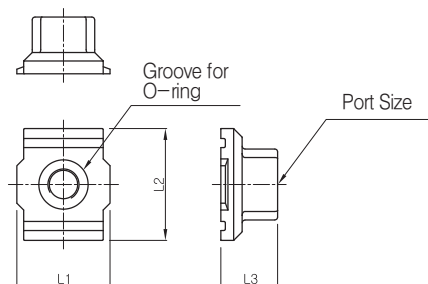
PER2000,
3000

PVR3000

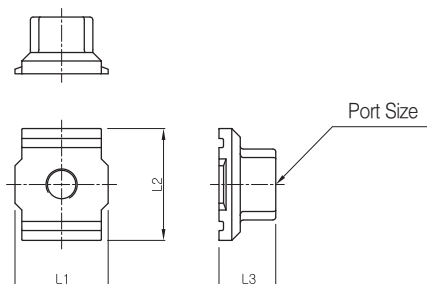
PNR4000

■ PA2, 3 Dimensions

(For Left Side)



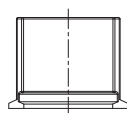
(For Right Side)



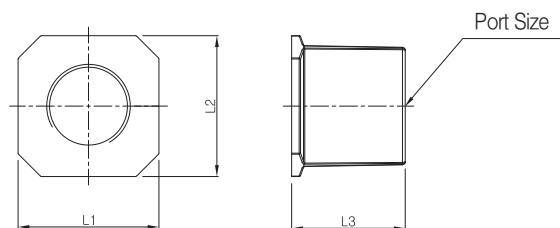
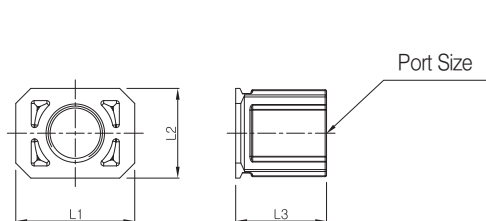
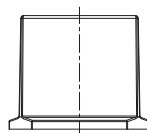
Series	Main Dimensions			
	Port Size Rc(PT), NPT, G(PF)	L1	L2	L3
PA2	1/8, 1/4, 3/8	32.8	39.4	20
PA3	1/4, 3/8, 1/2	33	45	25

■ PA4, 5 Dimensions

(PA4)



(PA5)



Series	Main Dimensions			
	Port Size Rc(PT), NPT, G(PF)	L1	L2	L3
PA4	3/8, 1/2, 3/4	41.9	31.6	32
PA5	3/4, 1	49.6	49.6	40

Series SSV

Slow-Start Valve



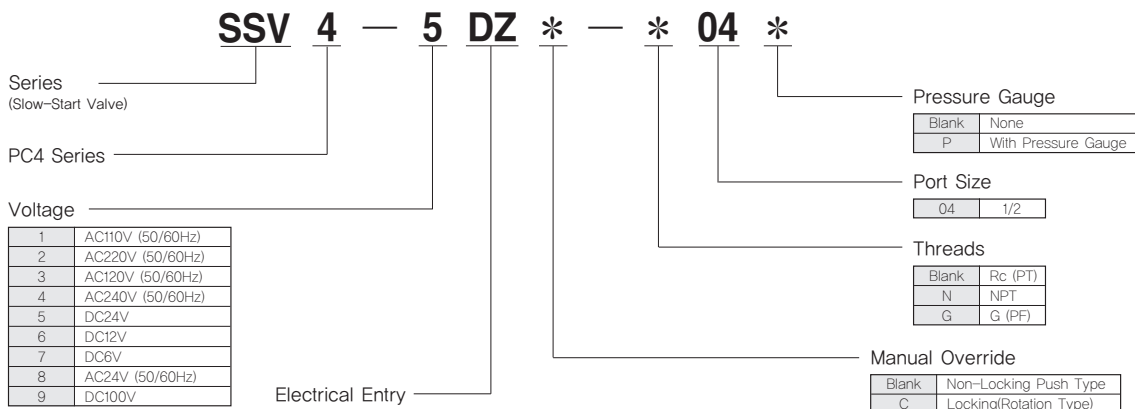
<Grommet Type>

<DIN Type>

Standard Specifications

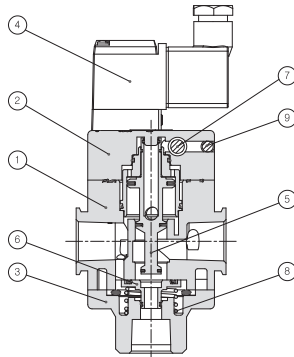
Fluid	Air	
Operating Pressure Range	0.3~10MPa(44~140psi) (3~10 kgf/cm ²)	
Port Size for Gauge(Rc(PT),NPT,G(PF))	1/2"	
Max. Fluid and Ambient Temperature	Max. 50°C (122°F)	
Allowable Voltage	-15 ~ +10 % of Rated Voltage	
Max. Operating Frequency	2 Positions	5 c/s
	3 Positions	3 c/s
Min. Operating Frequency	1 Time per 30 Days (Based on KS B6356)	
Lubrication	Non Lube	
Impact/Vibration Resistance	30G / 5G (8.3~200 Hz)	
Protection Structure	Dust Proof	
Attached	Free	
Manual Operation	Non-locking, Lock	
Lead Wire	Grommet, Din Terminal	
Voltage	24V DC, 12V DC	
Effective Cross Section (Cv)	Over 63 mm ² (3.5) (0.098 in ²)	
Power Consumption (AC)	Inrush	5.6 VA(50 Hz), 5.0 VA(60 Hz)
	Holding	3.3 VA(50 Hz), 2.3 VA(60 Hz)
Power Consumption (DC)	1.8W / 2W(Lamp)	

How to Order



Series SSV

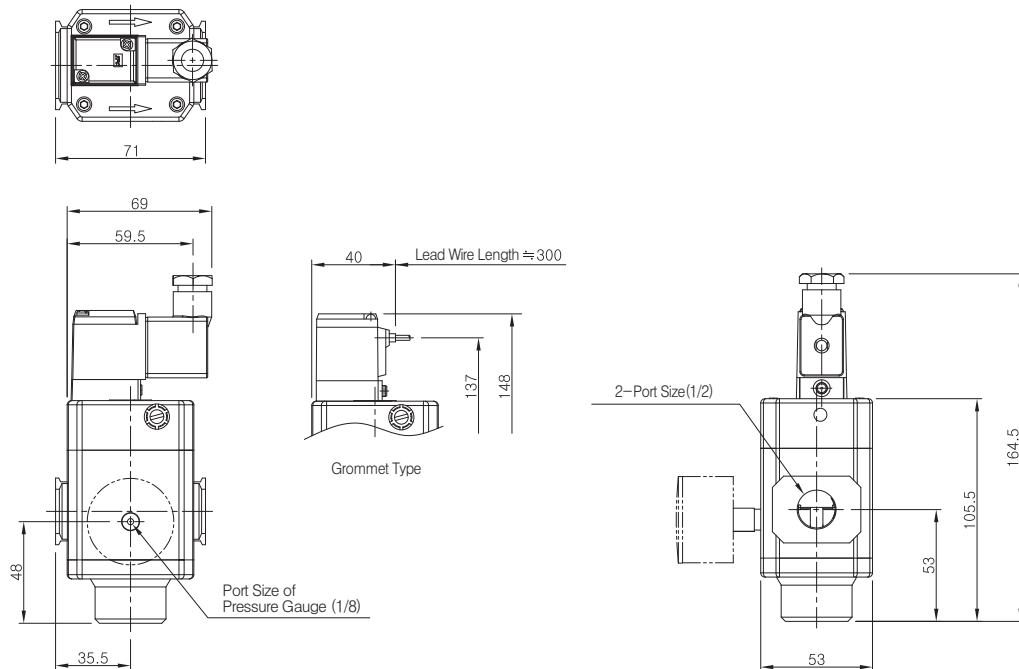
Construction



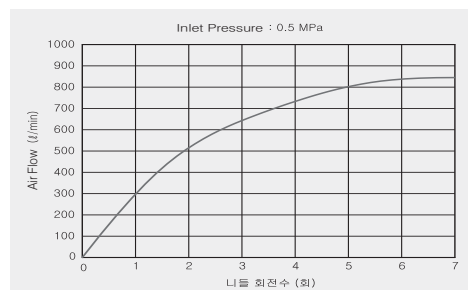
Main Parts List

NO.	Description	Material	Remark
①	Body	Aluminum	
②	T-Cover	Aluminum	
③	B-Cover	Aluminum	
④	Pilot Ass'y	—	
⑤	Piston	Aluminum	
⑥	Poppet	Brass	
⑦	Needle	Brass	
⑧	Poppet Spring	Stainless Steel	
⑨	Steel Ball	Stainless Steel	

Dimensions



Flow Characteristics



PA

SSV

SMS1000

Accessories

OPTION

PER2000,
3000

PVR3000

PNR4000

Series SMS1000

Pressure Switch

- Compact and unified pressure switch.



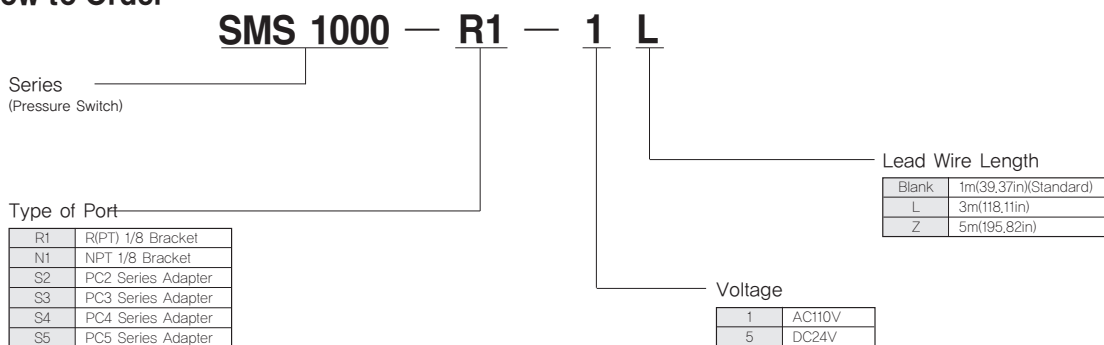
■ Standard Specifications

Fluid	Air
Ambient and Fluid Temperature (°C)	-5~60(23~140°F)(Non-Freezing)
Operating Pressure Range (MPa)	0.1~0.4(15~60psi)
Proof Pressure (MPa)	1.0(140psi)
Max. Pressure (MPa)	0.7(100psi)
Hysteresis (MPa)	0.16(24psi)
Scale Variation (MPa)	±0.05(7psi)
Repeatability (MPa)	±0.05(7psi)
Contact	1a
Lead Wire Length	1m(39.7in)Standard(Grommet Type)
Port Size (R(PT), NPT)	1/8"
Weight (kg)	0.042(0.09lb)

■ Auto-Switch Specification

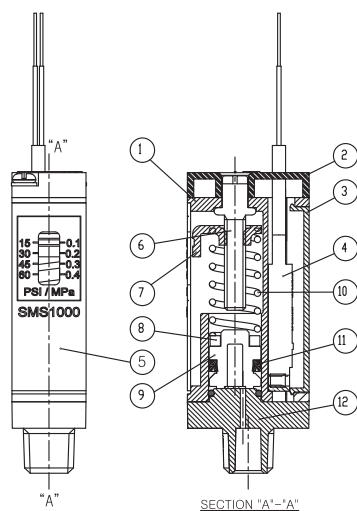
Applied Model	W8H	
Voltage	DC24V	AC110V
Electric Current	5~40mA	5~20mA

■ How to Order



Series SMS

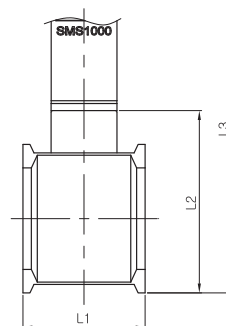
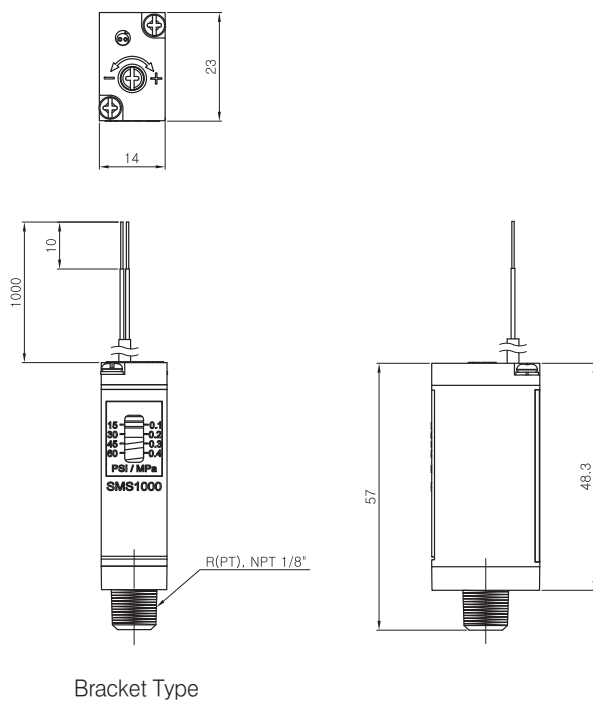
Construction



Main Parts List

NO.	Description	Material	Remark
①	Body	Nylon	
②	Top Cover	Resin	
③	Body Back Cover	Resin	
④	Auto Switch Ass'y	—	
⑤	Name Plate	Resin/Aluminum	
⑥	Adjustment Screw	Rolled Steel	
⑦	Pointer	Rolled Steel	
⑧	Magnet	Rare Earth Magnet	
⑨	Piston	Polycacetal	
⑩	Spring	SUS304	
⑪	Miniseal Y Type	NBR	
⑫	PT Fittings	Zinc Die Cast	

▣ Dimensions



Adapter Type

Series	Dimension of Main Parts			Remarks
	L1	L2	L3	
PC2 Series	14	44.5	88	
PC3 Series	13	51	94.5	
PC4 Series	26	39	82	
PC5 Series	31	57.5	101	

PA

SSV

SMS1000

Accessories

OPTION

	PER2000, 3000
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PVR3000

PNR4000