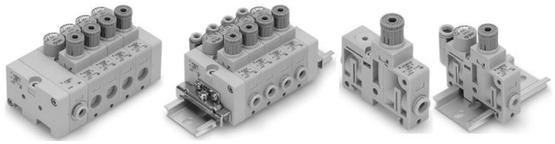
ORIGINAL INSTRUCTIONS

Instruction Manual
Compact Manifold Regulator
Series ARM5



Manifold Single unit

The intended use of this product is to control the pressure of air line.

Validated according to ISO 13849, see section 2.

1 Safety Instructions

These safety instructions are intended to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard with the labels of “Caution”, “Warning” or “Danger”. They are all important notes for safety and must be followed in addition to International Standards (ISO/IEC) *1), and other safety regulations.

*1) ISO 4414: Pneumatic fluid power - - General rules relating to systems.
ISO 4413: Hydraulic fluid power - - General rules relating to systems.
IEC 60204-1: Safety of machinery - -Electrical equipment of machines. (Part 1: General requirements)
ISO 10218-1: Manipulating industrial robots -Safety.etc.

This manual contains essential information for the protection of users and others from possible injury and/or equipment damage.

- Read this manual before using the product, to ensure correct handling, and read the manuals of related apparatus before use.
- Keep this manual in a safe place for future reference.
- To ensure safety of personnel and equipment the safety instructions in this manual must be observed, along with other relevant safety practices.

⚠ **Caution**	Caution indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.
⚠ **Warning**	Warning indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.
⚠ **Danger**	Danger indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

⚠ Warning

- **The compatibility of the product is the responsibility of the person who designs the equipment or decides its specifications.**
- Since the product specified here is used under various operating conditions, its compatibility with specific equipment must be decided by the person who designs the equipment or decides its specifications based on necessary analysis and test results. The expected performance and safety assurance of the equipment will be the responsibility of the person who has determined its compatibility with the product. This person should also continuously review all specifications of the product referring to its latest catalogue information, with a view to giving due consideration to any possibility of equipment failure when configuring the equipment.

1 Safety Instructions - continued

- **Only personnel with appropriate training should operate machinery and equipment.**
  The product specified here may become unsafe if handled incorrectly.
  The assembly, operation and maintenance of machines or equipment including our products must be performed by an operator who is appropriately trained and experienced.
- **Do not service or attempt to remove product and machinery/equipment until safety is confirmed.**
  1) The inspection and maintenance of machinery/equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.
  2) When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.
  3) Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.
- **Contact SMC beforehand and take special consideration of safety measures if the product is to be used in any of the following conditions.**
  1) Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
  2) Installation on equipment in conjunction with atomic energy, railways, air navigation, space, shipping, vehicles, military, medical treatment, combustions and recreation, or equipment in contact with food and beverages, emergency stop circuits, clutch and brake circuits in press applications, safety equipment or other applications unsuitable for the standard specification described in the product catalogue.
  3) An application which could have negative effects on people, property, or animals requiring special safety analysis outside the scope of ISO 13849 described in this document.
  4) Use in an interlock circuit, which requires the provision of double interlock for possible failure by using a mechanical protective function, and periodical checks to confirm proper operation.
- **Always ensure compliance with relevant safety laws and standards.**
  All electrical work must be carried out in a safe manner by a qualified person in compliance with applicable national regulations.

⚠ Caution

- **The product is provided for use in manufacturing industries.**
  The product herein described is basically provided for peaceful use in manufacturing industries.
  If considering using the product in other industries, consult SMC beforehand and exchange specifications or a contract if necessary.
  If anything is unclear, contact your nearest sales branch.

2 Specifications

2.1 Standard Specifications

Model		ARM5A	ARM5B	ARM5S
Regulator construction		Direct acting		
Working principle		Piston type		
Relief mechanism	Standard	Relieving type		
	Semi-standard	Non-relieving type		
Backflow function		Within (Unbalanced type)		
IN side tubing O.D.		Ø6, Ø8,Ø1/4”, Ø5/16”	Ø4, Ø6, Ø5/32”, Ø1/4”	
OUT side tubing O.D.		Ø4, Ø6, Ø5/32”, Ø1/4”		
Proof pressure		1.5 MPa		
Maximum operating pressure		1.0 MPa		
Set pressure range Note 1)	Standard	0.05 to 0.7 MPa		
	Semi-standard	0.05 to 0.35 MPa (Low pressure type)		
Fluid		Air		
Ambient and fluid temperature		5 to 60 °C		
Flow characteristics		Refer to 2.3		
Filtration		5 µm filtration or smaller		
Lubrication		Not required (Refer to 3.4)		
Standards		Complies with the basic and well-tried safety principles of ISO 13849-2:2012		

2 Specifications – continued

B_{10} Note 2)	3.7 million cycles
B_{10D} Note 2)	7.4 million cycles

Table 1

Notes:
Note 1) 0.1 MPa or greater set pressure is required when used in the reverse flow.
Note 2) Under SMC test conditions. The B_{10} figure is estimated from SMC life tests. The B_{10D} figure is derived from B_{10} using the assumption in EN ISO 13849-1:2015 Annex C. Contact SMC for details.

2.2 Symbols

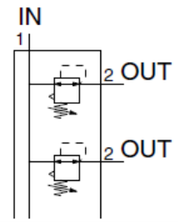
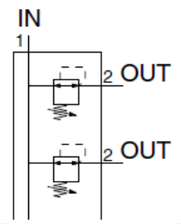
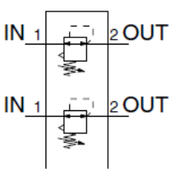
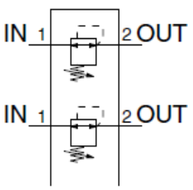
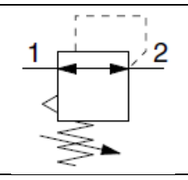
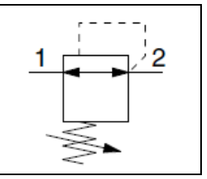
Model \ Relief type	Relieving type	Non-relieving type
ARM5A		
ARM5B		
ARM5S		

Table 2

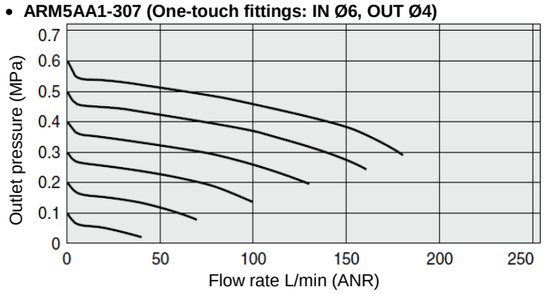
Note) A standard model is equipped with a backflow function. A main valve opens when the inlet pressure is released, and then an outlet pressure backflows into the inlet side.

2.3 Flow characteristics (Representative Value)

2.3.1 ARM5A

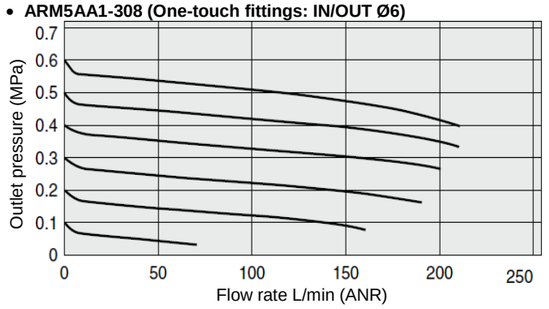
Condition: Inlet Pressure: 0.7 MPa

- **ARM5AA1-307 (One-touch fittings: IN Ø6, OUT Ø4)**

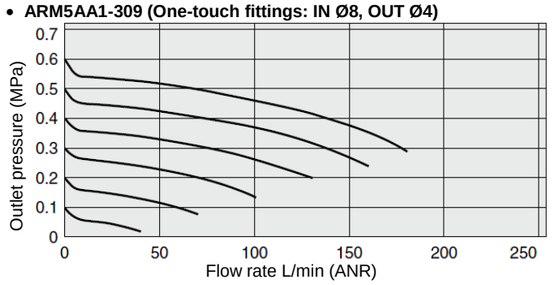


2 Specifications – continued

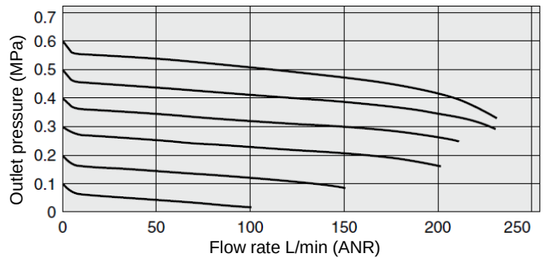
- **ARM5AA1-308 (One-touch fittings: IN/OUT Ø6)**



- **ARM5AA1-309 (One-touch fittings: IN Ø8, OUT Ø4)**

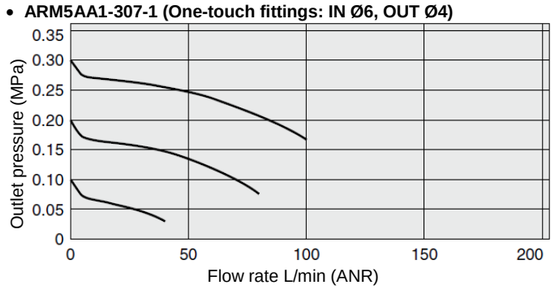


- **ARM5AA1-310 (One-touch fittings: IN Ø8, OUT Ø6)**



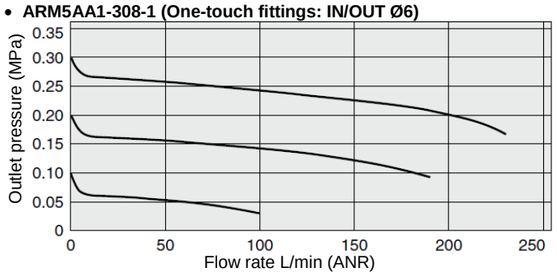
Condition: Inlet Pressure: 0.5 MPa

- **ARM5AA1-307-1 (One-touch fittings: IN Ø6, OUT Ø4)**

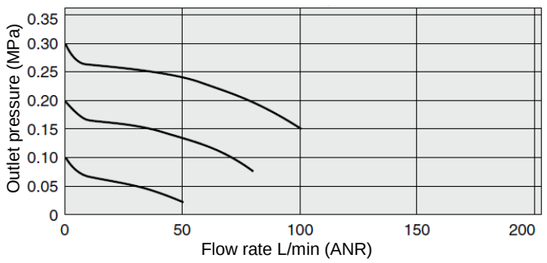


2 Specifications – continued

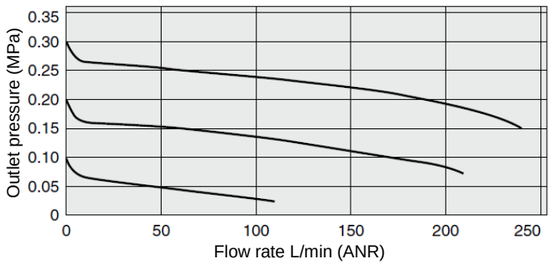
- **ARM5AA1-308-1 (One-touch fittings: IN/OUT Ø6)**



- **ARM5AA1-309-1 (One-touch fittings: IN Ø8, OUT Ø4)**



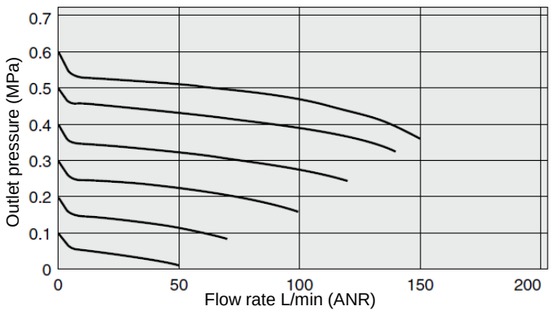
- **ARM5AA1-310-1 (One-touch fittings: IN Ø8, OUT Ø6)**



2.3.2 ARM5B

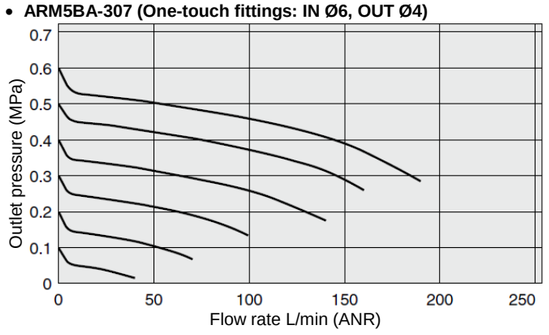
Condition: Inlet Pressure: 0.7 MPa

- **ARM5BA-306 (One-touch fittings: IN/OUT Ø4)**

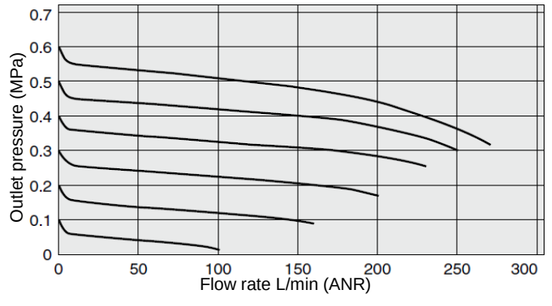


2 Specifications – continued

- **ARM5BA-307 (One-touch fittings: IN Ø6, OUT Ø4)**

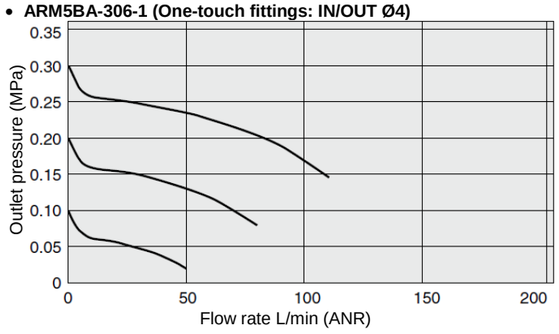


- **ARM5BA-308 (One-touch fittings: IN/OUT Ø6)**

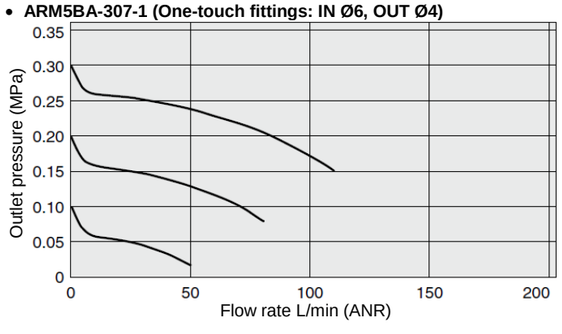


Condition: Inlet Pressure: 0.5 MPa

- **ARM5BA-306-1 (One-touch fittings: IN/OUT Ø4)**

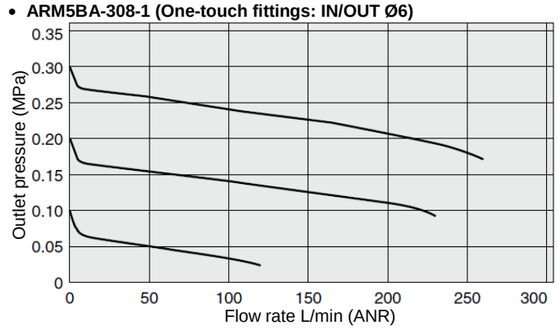


- **ARM5BA-307-1 (One-touch fittings: IN Ø6, OUT Ø4)**



2 Specifications – continued

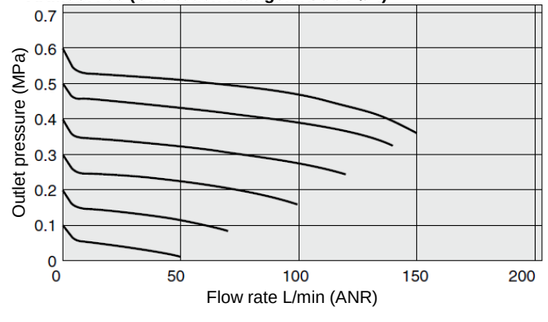
- **ARM5BA-308-1 (One-touch fittings: IN/OUT Ø6)**



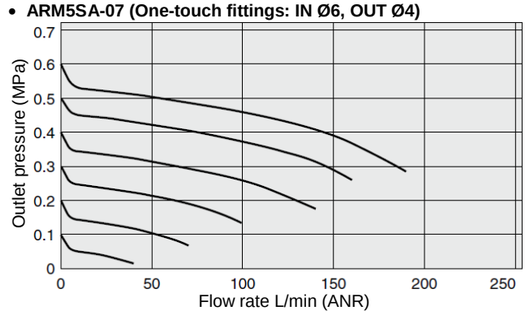
2.3.3 ARM5S

Condition: Inlet Pressure: 0.7 MPa

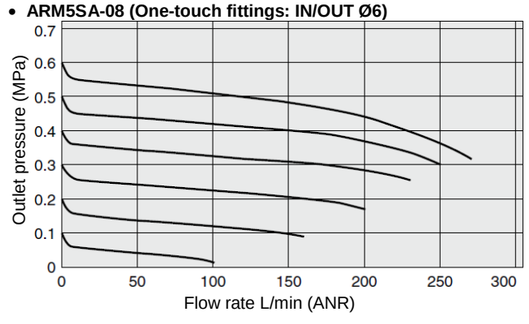
- **ARM5SA-06 (One-touch fittings: IN/OUT Ø4)**



- **ARM5SA-07 (One-touch fittings: IN Ø6, OUT Ø4)**



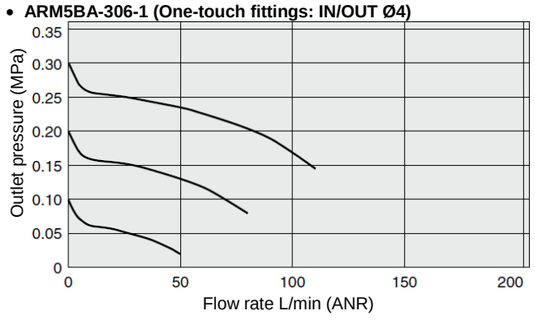
- **ARM5SA-08 (One-touch fittings: IN/OUT Ø6)**



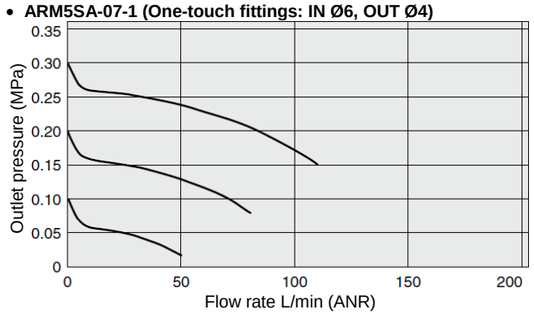
2 Specifications – continued

Condition: Inlet Pressure: 0.5 MPa

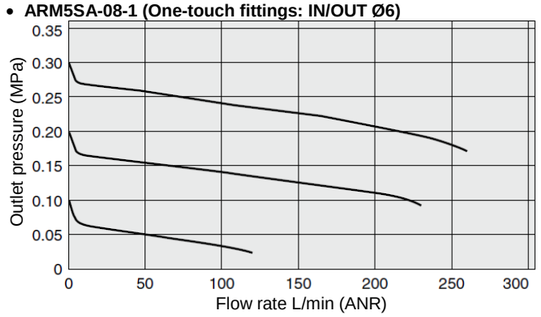
- **ARM5BA-306-1 (One-touch fittings: IN/OUT Ø4)**



- **ARM5SA-07-1 (One-touch fittings: IN Ø6, OUT Ø4)**



- **ARM5SA-08-1 (One-touch fittings: IN/OUT Ø6)**

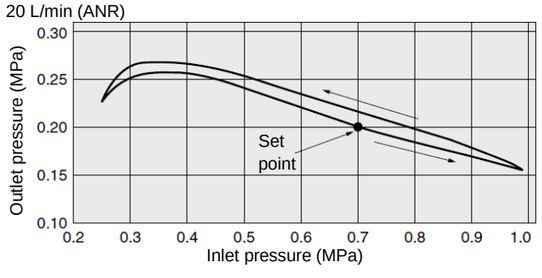


2.4 Pressure Characteristics (Representative Value)

2.4.1 ARM5A

- **ARM5AA1-308**

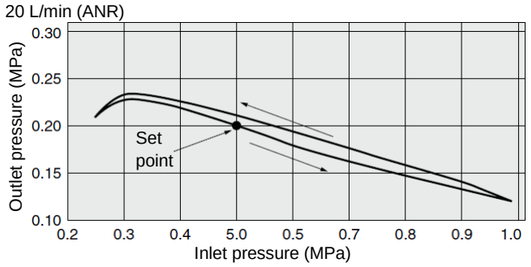
Condition: Inlet Pressure: 0.7 MPa, Outlet pressure 0.2 MPa, Flow rate 20 L/min (ANR)



2 Specifications – continued

- **ARM5AA1-308-1**

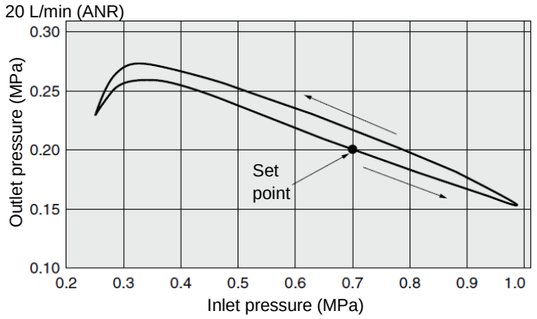
Condition: Inlet Pressure: 0.5 MPa, Outlet pressure 0.2 MPa, Flow rate 20 L/min (ANR)



2.4.2 ARM5B

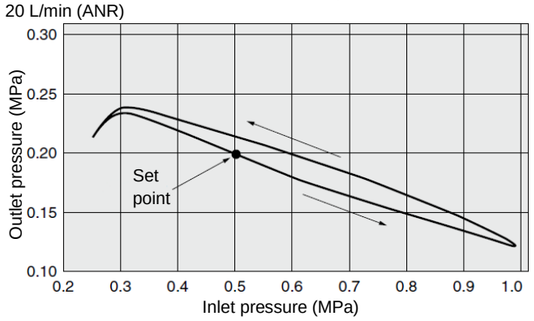
- **ARM5BA-306**

Condition: Inlet Pressure: 0.7 MPa, Outlet pressure 0.2 MPa, Flow rate 20 L/min (ANR)



- **ARM5BA-306-1**

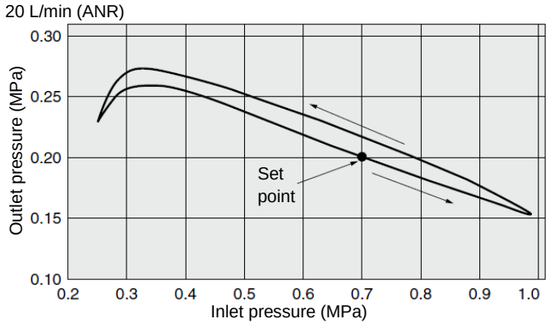
Condition: Inlet Pressure: 0.5 MPa, Outlet pressure 0.2 MPa, Flow rate 20 L/min (ANR)



2.4.3 ARM5S

- **ARM5SA-08**

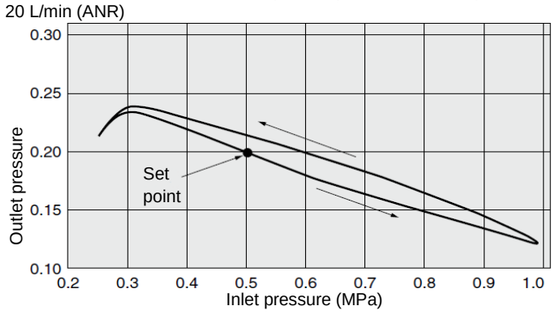
Condition: Inlet Pressure: 0.7 MPa, Outlet pressure 0.2 MPa, Flow rate 20 L/min (ANR)



2 Specifications – continued

- **ARM5SA-08-1**

Condition: Inlet Pressure: 0.5 MPa, Outlet pressure 0.2 MPa, Flow rate 20 L/min (ANR)



⚠ Caution

Special products might have specifications different from those shown in this section. Contact SMC for specific drawings. These drawings will give the appropriate specification details and compliance with the safety principles of ISO 13849, if applicable.

3 Installation

3.1 Installation

⚠ Warning

- Do not install the product unless the safety instructions have been read and understood.

3.2 Environment

⚠ Warning

- Do not use in an environment where corrosive gases, chemicals, salt water or steam are present.
- Do not use in an explosive atmosphere.
- Do not expose to direct sunlight. Use a suitable protective cover.
- Do not install in a location subject to vibration or impact. Check the product specifications.
- Do not mount in a location exposed to radiant heat.

3.3 Piping

⚠ Caution

- Before piping make sure to clean up chips, cutting oil, dust etc.
- When installing piping or fittings, ensure sealant material does not enter inside the port. When using seal tape, leave 1.5 to 2 threads exposed on the end of the pipe/fitting.
- Tighten fittings to the specified tightening torque.

⚠ Caution

- Tube insertion and removal from one-touch fittings.

1) Installing tube
   1. Cut the tube perpendicularly, being careful not to damage the outside surface. Use SMC tube cutter "TK-1","TK-2","TK-3" or "TK-6". Do not cut the tube with peelers, nippers, scissors, etc. otherwise, the tube will be deformed and troubles may result.
   2. Grasp the tube, push it slowly into the one-touch fittings until it stops.
   3. Pull the tubing back gently to make sure it has a positive seat. Insufficient installation may cause air leakage or tube releasing.
2) Removing tube
   1. Push in evenly on the release button.
   2. Pull out the tube while keeping the release button depressed. If the release button is not held down, the tube cannot be withdrawn.
   3. To ensure the tubing, cut off the previously lodged portion of the tube.

3 Installation – continued

⚠ Caution

- Use of tubing other than SMC's brand

When using a brand of tubing other than SMC, be careful of the tolerance of the tube's O.D. shown below.

1) Soft nylon tubing ≤ +/-0.1mm
2) Polyurethane tubing ≤ +0.15mm
   ≤ -0.2mm

When the tolerance of the tube's O.D. is out of range mentioned above, do not use the tubing. Tubing cannot be connected and it causes air leakage or tubing may come out.

3.4 Lubrication

⚠ Caution

- SMC products have been lubricated for life at manufacture, and do not require lubrication in service.
- If a lubricant is used in the system, use turbine oil Class 1 (no additive), ISO VG32. Once lubricant is used in the system, lubrication must be continued because the original lubricant applied during manufacturing will be washed away.

3.5 Handling

⚠ Warning

Observe the proper screw tightening torque in installation.

Tightening beyond the proper tightening torque may damage the mounting screws, blocks or switches.

If the force is below the tightening torque range, the threaded joint can come loose.

- **Tightening torque for round head Phillips screws for tie-rods of the regulator manifold.**

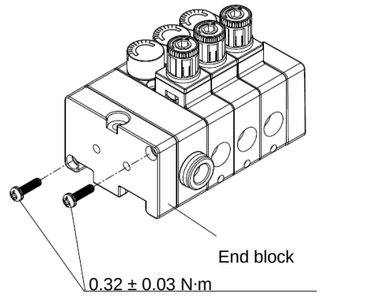


Figure 1

- **Tightening torque for round head combination screws for DIN rail of the regulator manifold**

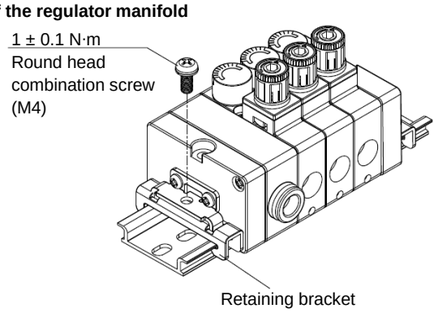
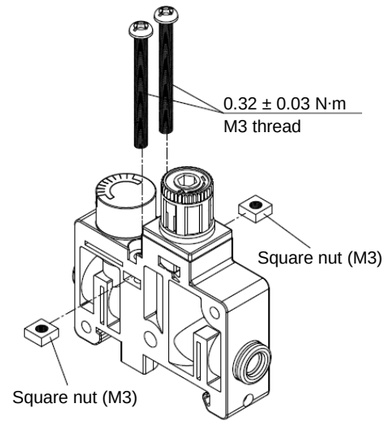


Figure 2

3 Installation – continued

- **Tightening torque for set screws for direct mounting regulator manifold**



Note) M3 threads and square nut s are not included.

Figure 3

- **Tightening torque for hexagon socket set screws for DIN rail of the regulator manifold**

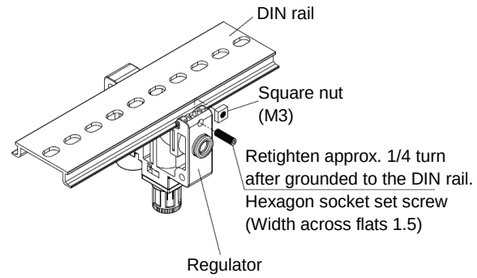


Figure 4

3 Installation – continued

3.6 How to Add Manifold (Series ARM5A/B)

3.6.1 In case of the centralized air supply type

It is possible to add the centralized air supply block or regulator block and also alter the position.

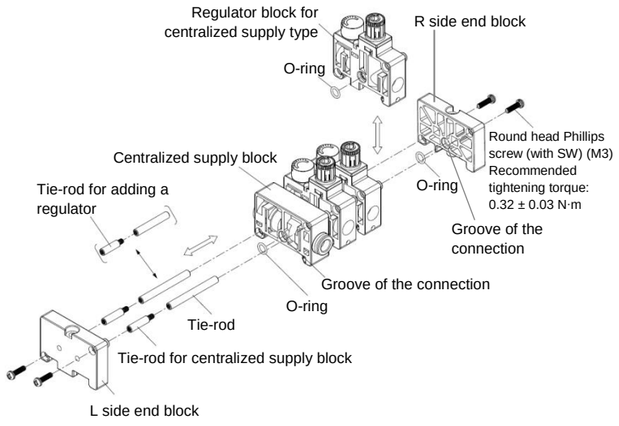


Figure 5

(1) Disassembly

1. Loosen the 4 round head Phillips screws at the corners of the end block. (Each 2 locations on both the right and left side)
2. Remove the tie-rod from the end block, centralized air supply block, and regulator block.

(2) Additional parts (Please prepare separately)

1. Centralized supply block, Regulator block
2. Tie-rod

Note) A tie-rod, which is corresponding to the regulator block stations, or additional tie-rod for increasing the station will be required.

(3) Assembly

1. Connect the tie rods.
2. Insert the tie-rod to the end block on the L side, and temporarily tighten the round head Phillips screws (2 screws).
3. Check the O-ring is fitted in the groove of the connection on each manifold block and then insert each block to the tie-rod.
4. Temporarily tighten the round head Phillips screws on the R side (2 screws).
5. Additionally tighten the round head Phillips screws on both sides of the manifold with the recommended tightening torque.

⚠ Caution

- Before disassembly, be sure that no inlet or outlet pressure is applied and exhaust the internal pressure thoroughly before starting the job.
- After assembly, if the connection between each block, or the tightened tie-rod screws are insufficient, air leakage may occur. Before use, only connect the air after confirming that all the components are securely fixed and that there is no air leakage.

3 Installation – continued

3.6.2 How to remove DIN rail for DIN rail mount type

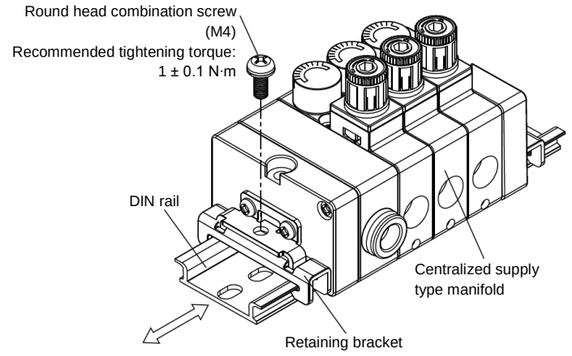


Figure 6

(1) Disassembly

1. Loosen the round head combination screws (located on both the right and left side).
2. Remove the DIN rail, sliding it horizontally.
3. Remove the retaining bracket.

(2) Assembly

1. Set the retaining bracket to the original position.
2. Insert the DIN rail.
3. Tighten the round head combination screw with the recommended tightening torque (located on both the right and left side).

3.6.3 In case of the Individual air supply type

It is possible to add the regulator block and also alter the position.

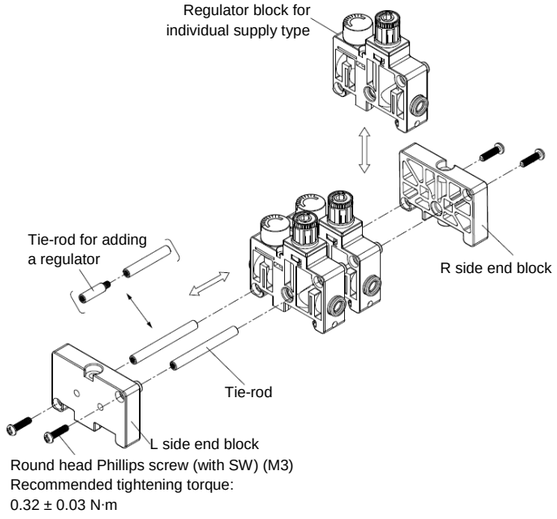


Figure 7

(1) Disassembly

1. Loosen the 4 round head Phillips screws at the corners of the end block. (Each 2 locations on both the right and left side)
2. Remove the tie-rod from the end block and regulator block.

(2) Additional parts (Please prepare separately)

1. Regulator block
2. Tie-rod

3 Installation – continued

Note) A tie-rod, which is corresponding to the regulator block stations, or additional tie-rod for increasing the station will be required.

(3) Assembly

1. Connect the tie-rods.
2. Insert the tie-rod to the end block on the L side, and temporarily tighten the round head Phillips screws (2 screws).
3. Insert each block to the tie-rod.
4. Temporarily tighten the round head Phillips screws on the R side (2 screws).
5. Additionally tighten the round head Phillips screws on both sides of the manifold with the recommended tightening torque.

⚠ Caution

- Before disassembly, be sure to check that no inlet or outlet pressure is applied and exhaust the internal pressure thoroughly before starting the job.

3.6.4 How to remove DIN rail for DIN rail mount type

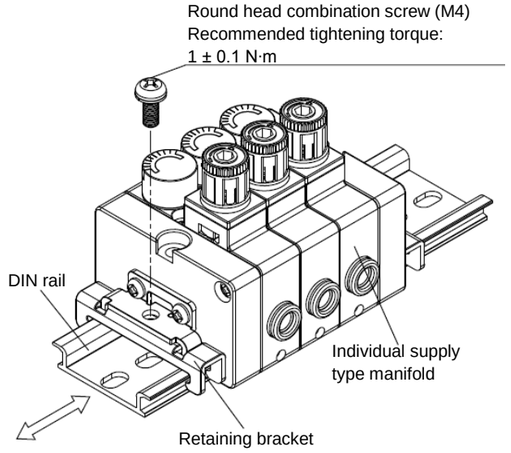


Figure 8

(1) Disassembly

1. Loosen the round head combination screws (located on both the right and left side).
2. Remove the DIN rail, sliding it horizontally.
3. Remove the retaining bracket.

(2) Assembly

1. Set the retaining bracket to the original position.
2. Insert the DIN rail.
3. Tighten the round head combination screw with the recommended tightening torque (located on both the right and left side).

4 Settings

4.1 Adjustment

4.1.1 Regulators

⚠ Warning

- Set the regulator while confirming the inlet pressure and the outlet pressure displayed on the pressure gauge. Rotating the handle excessively may damage internal parts.
- Rotate the pressure adjustment handle only after unlocking. If rotated while locked, the connecting part between the body and the bonnet may be damaged.
- For pressure adjustment handle operation, a hexagon wrench can be used in the direction of the pressure increase. If it is used in the direction of pressure decrease, the handle may be damaged. Operate the handle manually.

⚠ Caution

- Set the regulator while carefully confirming the inlet pressure.
- The outlet pressure range must be 85% or less than the inlet pressure. However, it must be within the set pressure range.
- Release the lock to adjust the pressure. After the adjustment, engage the lock. Failure to observe this procedure could damage the handle or cause the outlet pressure to fluctuate.
- Turn the pressure adjustment handle clockwise to increase the outlet pressure and counterclockwise to decrease the pressure. (To set the pressure, do so in the direction of pressure increase.)

4.1.2 Pressure gauge and One-touch fittings

⚠ Caution

- Both the pressure gauge and the One-touch fittings are a cassette type, so that it is possible to rotate them freely.
  Rotate them after confirming that there is no pressure inside and exhausting air completely.

5 How to Order

5.1 ARM5A

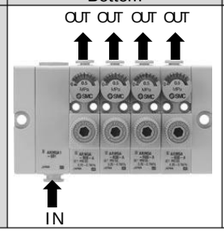
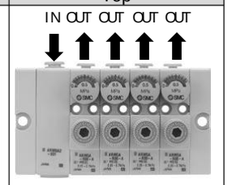
ARM5 A [A] [1] – [4] [07] – [A] [ ] [ ]

Centralized supply type ● — 1 2 3 4 5 6 7

1. Manifold Mounting

Symbol	A	B
How to mount	Direct mount	DIN rail mount
Appearance		

2. Centralized Supply (IN) Piping Position

Symbol	1	2
Piping position	Bottom	Top
Appearance		

3. Regulator Block Stations

Symbol	Stations
1	1 station
2	2 stations
3	3 stations
4	4 stations
5	5 stations
6	6 stations
7	7 stations
8	8 stations
9	9 stations
M	10 stations

4. IN/OUT Fitting Type (Refer to the figure below)

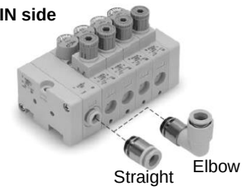
Metric size

Mounting position	IN side				OUT side			
Fitting type	Straight		Elbow		Straight		Elbow	
Symbol	Ø6	Ø8	Ø6	Ø8	Ø4	Ø6	Ø4	Ø6
07	●				●			
08	●					●		
09		●			●			
10		●				●		
19			●				●	
20			●					●
21				●			●	
22				●				●
26	●						●	
27	●							●
28		●					●	
29		●						●
33			●		●			
34			●			●		
35				●	●			
36				●		●		

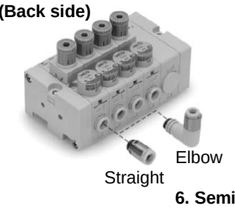
Inch size

Mounting position	IN side				OUT side			
Fitting type	Straight		Elbow		Straight		Elbow	
Symbol	Ø1/4	Ø5/16	Ø1/4	Ø5/16	Ø5/32	Ø1/4	Ø5/32	Ø1/4
57	●				●			
58	●					●		
59		●			●			
60		●				●		
69			●				●	
70			●					●
71				●			●	
72				●				●
76	●						●	
77	●							●
78		●					●	
79		●						●
83			●		●			
84			●			●		
85				●	●			
86				●		●		

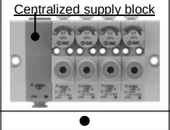
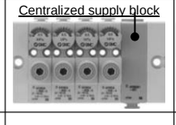
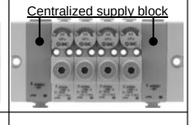
IN side



OUT side (Back side)



5. Accessories

Symbol	Pressure gauge Note)		Centralized supply block mounting position		
	Yes	None	L side (Left)	R side (Right)	B side (Both)
					
A	●		●		
B	●			●	
C	●				●
D		●	●		
E		●		●	
F		●			●

Note) Pressure gauges are not compatible with copper-free and fluorine-free specifications.

6. Semi-standard

Symbol	None	0.35 MPa setting Note)	Non-relieving
Nil	●		
1		●	
2			●
3		●	●

Note) A pressure gauge with a full span of 0.8 MPa is attached.

7. Unit Representation

Symbol	Description
Nil	Display unit for product name plate and pressure gauge: MPa
Z Note)	Display unit for product name plate and pressure gauge: psi

Note) This option is available for use outside Japan only (The SI units must be used in Japan)

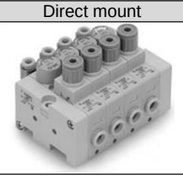
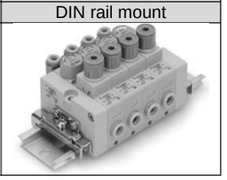
5 How to Order – continued

5.2 ARM5B

ARM5 B [A] – [4] [07] – [ ] [ ] [ ]

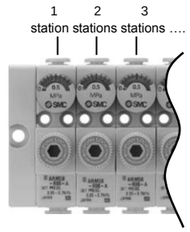
Individual supply type ● — 1 2 3 4 5 6

1. Manifold Mounting

Symbol	A	B
How to mount	Direct mount	DIN rail mount
Appearance		

2. Regulator Block Stations

Symbol	Stations
1	1 station
2	2 stations
3	3 stations
4	4 stations
5	5 stations
6	6 stations
7	7 stations
8	8 stations
9	9 stations
M	10 stations



3. IN/OUT Piping Position

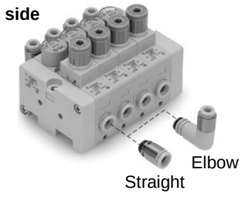
Metric size

Mounting position	IN side				OUT side			
Fitting type	Straight		Elbow		Straight		Elbow	
Symbol	Ø4	Ø6	Ø4	Ø6	Ø4	Ø6	Ø4	Ø6
06	●				●			
07		●			●			
08		●				●		
18			●				●	
19				●			●	
20				●				●
25	●						●	
26		●					●	
27		●						●
32			●		●			
33				●	●			
34				●		●		

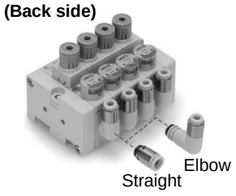
Inch size

Mounting position	IN side				OUT side			
Fitting type	Straight		Elbow		Straight		Elbow	
Symbol	Ø5/32	Ø1/4	Ø5/32	Ø1/4	Ø5/32	Ø1/4	Ø5/32	Ø1/4
56	●				●			
57		●			●			
58		●				●		
68			●				●	
69				●			●	
70				●				●
75	●						●	
76		●					●	
77		●						●
82			●		●			
83				●	●			
84				●		●		

IN side



OUT side (Back side)



4. Accessory

Symbol	Pressure gauge Note)	Configuration
Nil	None	
A	Yes	

Note) Pressure gauges are not compatible with copper-free and fluorine-free specifications.

5. Semi-standard

Symbol	None	0.35 MPa setting Note)	Non-relieving
Nil	●		
1		●	
2			●
3		●	●

Note) A pressure gauge with a full span of 0.8 MPa is attached.

6. Unit Representation

Symbol	Description
Nil	Display unit for product name plate and pressure gauge: MPa
Z Note)	Display unit for product name plate and pressure gauge: psi

Note) This option is available for use outside Japan only (The SI units must be used in Japan)

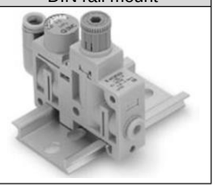
5 How to Order – continued

5.3 ARM5S

ARM5 S A – 07 – □ □ □

Single unit type ● 1 2 3 4 5

1. Regulator Mounting

Symbol	A	B
How to mount	Direct mount	DIN rail mount
Appearance		

Note) Both, the square nut and the hexagon socket head screw are attached for the DIN rail mount type (DIN rail is not attached)

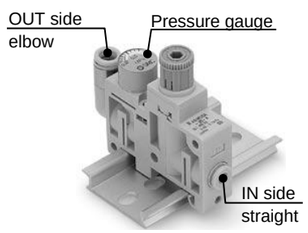
2. IN/OUT Fitting Type

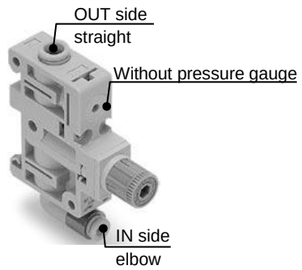
Metric size

Mounting position	IN side				OUT side			
Fitting type	Straight		Elbow		Straight		Elbow	
Symbol	Ø4	Ø6	Ø4	Ø6	Ø4	Ø6	Ø4	Ø6
06	●				●			
07		●			●			
08		●				●		
18			●				●	
19				●			●	
20				●				●
25	●						●	
26		●					●	
27		●						●
32			●		●			
33				●	●			
34				●		●		

Inch size

Mounting position	IN side				OUT side			
Fitting type	Straight		Elbow		Straight		Elbow	
Symbol	Ø5/32	Ø1/4	Ø5/32	Ø1/4	Ø5/32	Ø1/4	Ø5/32	Ø1/4
56	●				●			
57		●			●			
58		●				●		
68			●				●	
69				●			●	
70				●				●
75	●						●	
76		●					●	
77		●						●
82			●		●			
83				●	●			
84				●		●		





3. Accessory

Symbol	Accessory
Nil	Without pressure gauge
A	With pressure gauge

4. Semi-standard

Symbol	None	0.35 MPa setting Note)	Non-relieving
Nil	●		
1		●	
2			●
3		●	●

Note) A pressure gauge with a full span of 0.8 MPa is attached.

5. Unit Representation

Symbol	Description
Nil	Display unit for product name plate and pressure gauge: MPa
Z Note)	Display unit for product name plate and pressure gauge: psi

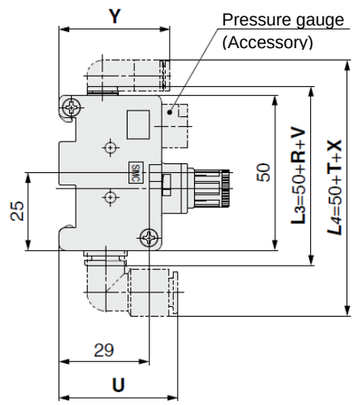
Note) This option is available for use outside Japan only (The SI units must be used in Japan)

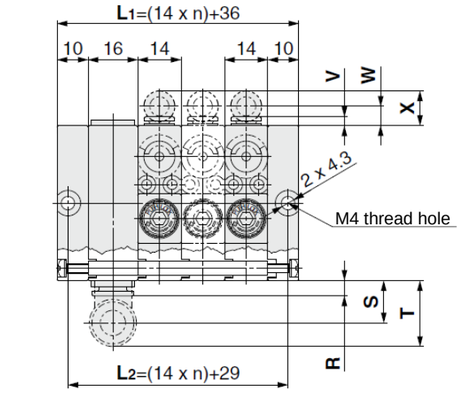
6 Outline Dimensions (mm)

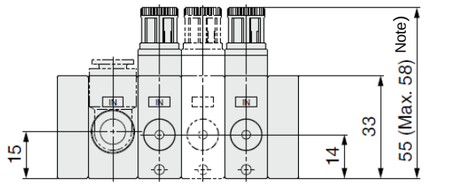
6.1 ARM5A

6.1.1 ARM5AA□ Centralized supply type (Direct mount)

* n = Number of stations for regulator block





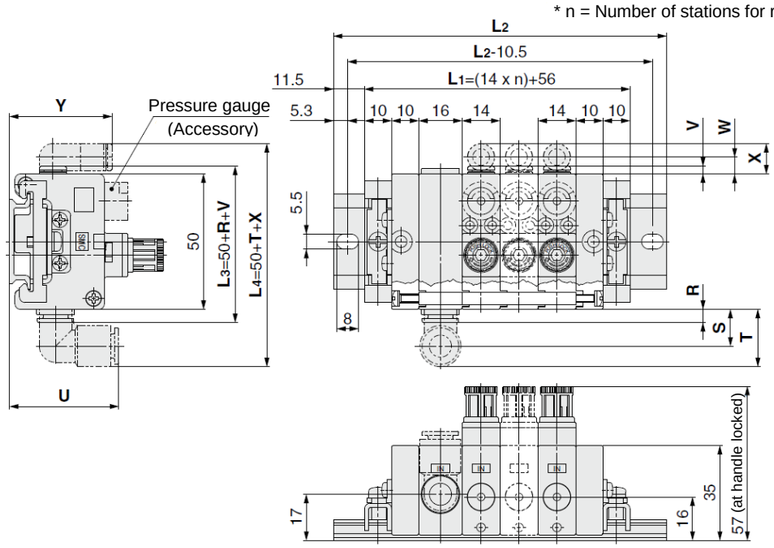


Note) Max. dimension is the size when the handle is unlocked.

Fitting size	IN side				OUT side			
	Straight	Elbow	Elbow	Elbow	Straight	Elbow	Elbow	Elbow
	R	**S**	**T**	**U**	**V**	**W**	**X**	**Y**
Ø4, Ø5/32	–	–	–	–	2.5	6	11	35.5
Ø6	3	12.5	19	35.5	3	6.5	11	36
Ø1/4	3	12.5	19	35.5	6.5	6	11.5	38.5
Ø8, Ø5/16	5	13.5	21	38.5	–	–	–	–

6.1.2 ARM5AB□ Centralized supply type (DIN rail mount)

* n = Number of stations for regulator block



Stations	DIN rail part no.	L2 dimension
1	VVQ1000-90-7	98
2	VVQ1000-90-8	110.5
3	VVQ1000-90-9	123
4	VVQ1000-90-11	148
5	VVQ1000-90-12	160.5
6	VVQ1000-90-13	173
7	VVQ1000-90-14	185.5
8	VVQ1000-90-15	198
9	VVQ1000-90-16	210.5
M	VVQ1000-90-17	223

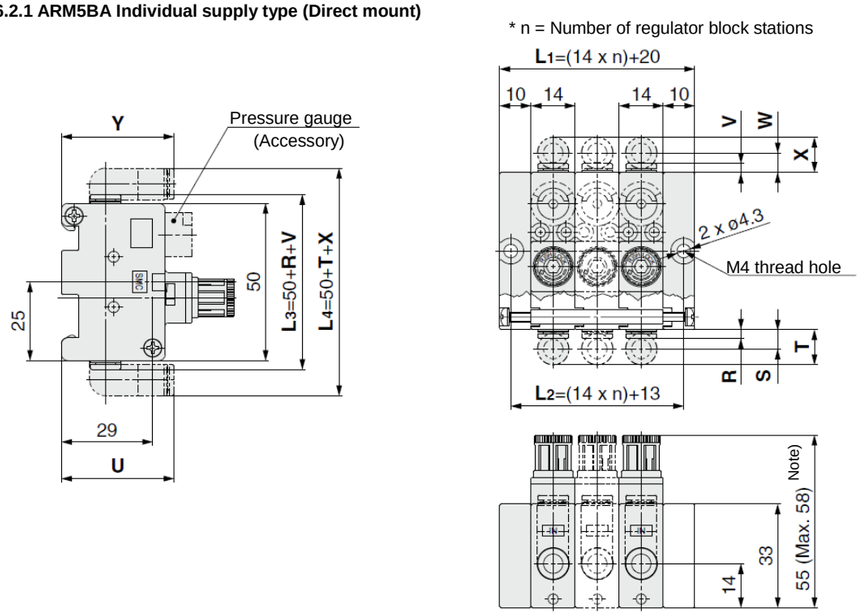
Fitting size	IN side				OUT side			
	Straight	Elbow	Elbow	Elbow	Straight	Elbow	Elbow	Elbow
	R	**S**	**T**	**U**	**V**	**W**	**X**	**Y**
Ø4, Ø5/32	–	–	–	–	2.5	6	11	37.5
Ø6	3	12.5	19	37.5	3	6.5	11	38
Ø1/4	3	12.5	19	37.5	6.5	6	11.5	40.5
Ø8, Ø5/16	5	13.5	21	40.5	–	–	–	–

6 Outline Dimensions (mm) – continued

6.2 ARM5B

6.2.1 ARM5BA Individual supply type (Direct mount)

* n = Number of regulator block stations

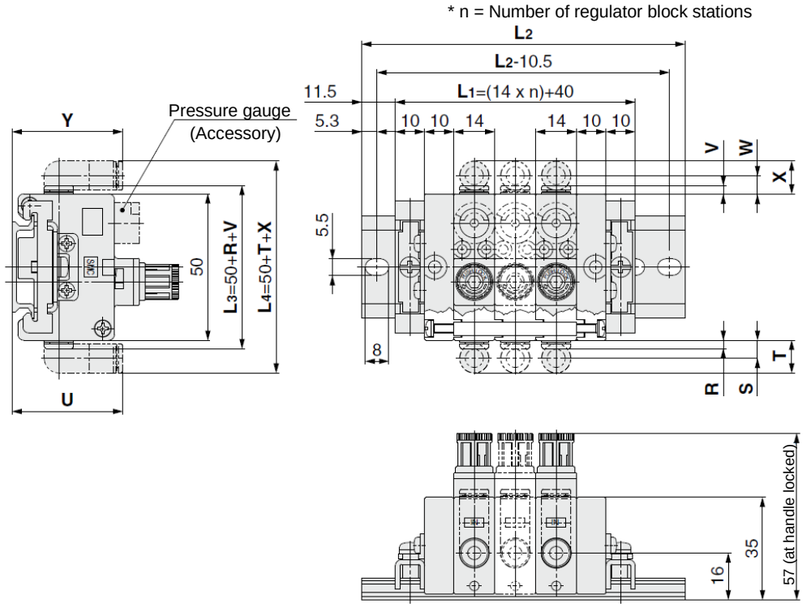


Note) Max. dimension is the size when the handle is unlocked.

Fitting size	IN side				OUT side			
	Straight	Elbow	Elbow	Elbow	Straight	Elbow	Elbow	Elbow
	R	**S**	**T**	**U**	**V**	**W**	**X**	**Y**
Ø4, Ø5/32	2.5	6	11	35.5	2.5	6	11	35.5
Ø6	3	6.5	11	36	3	6.5	11	36
Ø1/4	6.5	6	11.5	38.5	6.5	6	11.5	38.5

6.2.2 ARM5BB Individual supply type (DIN rail mount)

* n = Number of regulator block stations



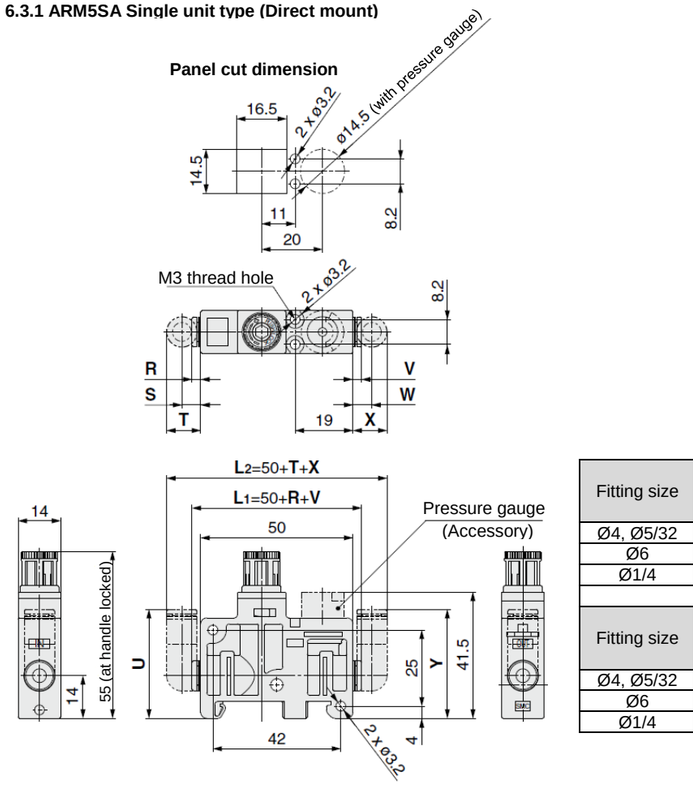
Stations	DIN rail part no.	L2 dimension
1	VVQ1000-90-6	85.5
2	VVQ1000-90-7	98
3	VVQ1000-90-8	110.5
4	VVQ1000-90-9	123
5	VVQ1000-90-10	135.5
6	VVQ1000-90-12	160.5
7	VVQ1000-90-13	173
8	VVQ1000-90-14	185.5
9	VVQ1000-90-15	198
M	VVQ1000-90-16	210.5

Fitting size	IN side				OUT side			
	Straight	Elbow	Elbow	Elbow	Straight	Elbow	Elbow	Elbow
	R	**S**	**T**	**U**	**V**	**W**	**X**	**Y**
Ø4, Ø5/32	2.5	6	11	37.5	2.5	6	11	37.5
Ø6	3	6.5	11	38	3	6.5	11	38
Ø1/4	6.5	6	11.5	40.5	6.5	6	11.5	40.5

6 Outline Dimensions (mm) – continued

6.3 ARM5S

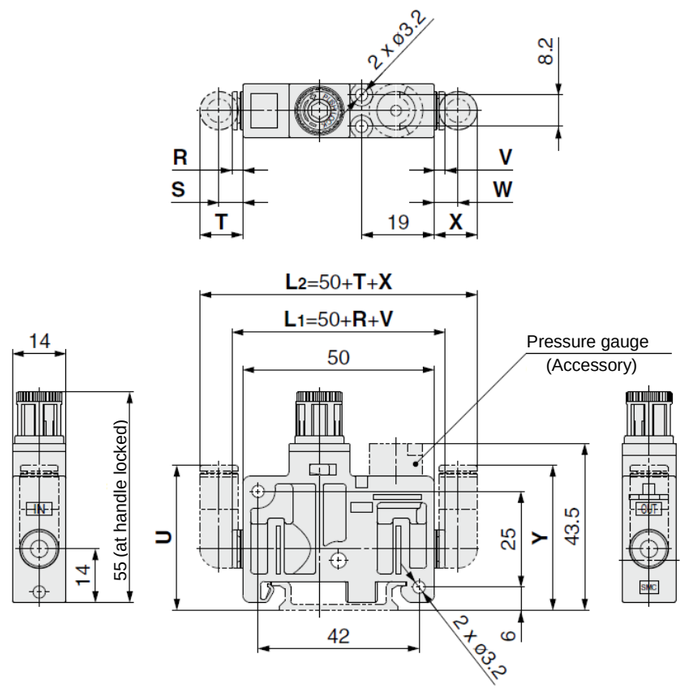
6.3.1 ARM5SA Single unit type (Direct mount)



Fitting size	IN side			
	Straight	Elbow	Elbow	Elbow
	R	**S**	**T**	**U**
Ø4, Ø5/32	2.5	6	11	35.5
Ø6	3	6.5	11	36
Ø1/4	6.5	6	11.5	38.5

Fitting size	OUT side			
	Straight	Elbow	Elbow	Elbow
	V	**W**	**X**	**Y**
Ø4, Ø5/32	2.5	6	11	35.5
Ø6	3	6.5	11	36
Ø1/4	6.5	6	11.5	38.5

6.3.2 ARM5SB Single unit type (DIN rail mount)



Fitting size	IN side			
	Straight	Elbow	Elbow	Elbow
	R	**S**	**T**	**U**
Ø4, Ø5/32	2.5	6	11	37.5
Ø6	3	6.5	11	38
Ø1/4	6.5	6	11.5	40.5

Fitting size	OUT side			
	Straight	Elbow	Elbow	Elbow
	V	**W**	**X**	**Y**
Ø4, Ø5/32	2.5	6	11	37.5
Ø6	3	6.5	11	38
Ø1/4	6.5	6	11.5	40.5

7 Maintenance

7.1 General Maintenance

⚠ Caution

- Not following proper maintenance procedures could cause the product to malfunction and lead to equipment damage.
- If handled improperly, compressed air can be dangerous. Maintenance of pneumatic systems should be performed only by qualified personnel.
- Before performing maintenance, turn off the power supply and be sure to cut off the supply pressure. Confirm that the air is released to atmosphere.
- After installation and maintenance, apply operating pressure and power to the equipment and perform appropriate functional and leakage tests to make sure the equipment is installed correctly.
- If any electrical connections are disturbed during maintenance, ensure they are reconnected correctly and safety checks are carried out as required to ensure continued compliance with applicable national regulations.
- Do not make any modification to the product.
- Do not disassemble the product, unless required by installation or maintenance instructions.

7.2 One-touch fitting replacement

⚠ Caution

For the ease of replacement, One-touch fittings are installed as the cassette type. One-touch fittings are retained with clips inserted from the directions illustrated below. Remove the clips with a flat head screw driver to replace the One-touch fittings. When installing, insert each One-touch fitting deeply to the end and reinsert the clip to the specified position.

- **Regulator block**

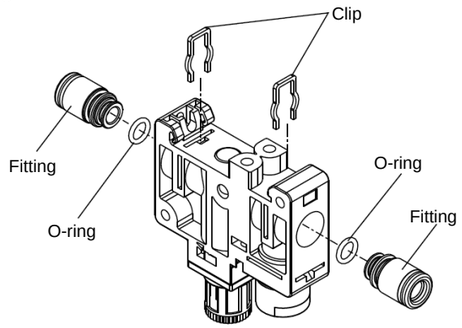


Figure 9

- **Centralized supply block**

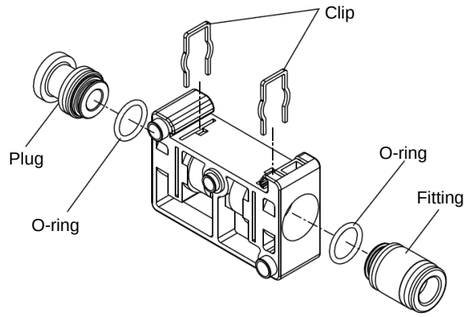


Figure 10

7 Maintenance – continued

Note 1) Before replacing, be sure to confirm that no inlet or outlet pressure is applied and that the internal pressure is fully exhausted. Replacing with the pressure kept inside is dangerous.

Note 2) Gently remove the clip by hand. Pulling forcibly may cause the clip to pop out, resulting in dangerous replacement.

Note 3) When removing the straight type One-touch fitting from each block, remove the clip, connect a tube or plug (KQ2P-□□) with the One-touch fitting, and pull out by supporting the tube (or plug).
The bushing may be damaged, if released by supporting the release bushing of the One-touch fitting.

Note 4) insert the clip thoroughly after replacement parts are inserted completely. If using with the clip inserted insufficiently, it may cause the clip to be released, resulting in dangerous operation.

Note 5) When inserting a tube into the elbow type One-touch fitting, hold the fitting body in your hand and insert the tube. If the tube is inserted without support, an unreasonable force may be applied on the blocks or One-touch fittings, resulting in air leakage or product failure.

7.3 Pressure gauge and port plug replacement

⚠ Caution

It is possible to replace the pressure gauge and port plug the same as the One-touch fitting replacement.

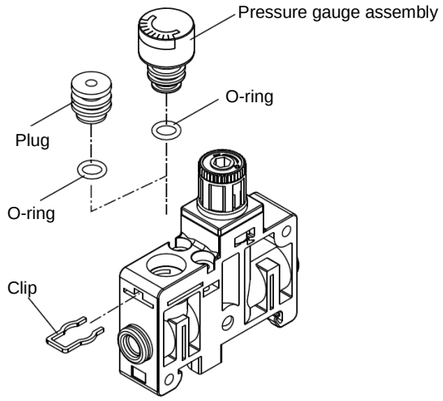


Figure 11

Note 1) Before replacing, be sure to confirm that no inlet or outlet pressure is applied and that the internal pressure is fully exhausted. Replacing with the pressure kept inside is dangerous.

Note 2) Gently remove the clip by hand. Pulling forcibly may cause the clip to pop out, resulting in dangerous replacement.

Note 3) Lightly screw a M3 screw, etc. in the port plug hole and pull it to remove the port plug.

Note 4) Insert the clip thoroughly after replacement parts are inserted completely. If using with the clip inserted insufficiently, it may cause the clip to be released, resulting in dangerous operation.

8 Limitations of Use

8.1 Limited warranty and Disclaimer/Compliance Requirements

- **The product used is subject to the following "Limited warranty and Disclaimer" and "Compliance Requirements". Read and accept them before using the product**.

- **Limited warranty and Disclaimer**

  1) The warranty period of the product is 1 year in service or 1.5 years after the product is delivered, whichever is first[(1)]. Also, the product may have specified durability, running distance or replacement parts. Please consult your nearest sales branch.

  2) For any failure or damage reported within the warranty period which is clearly our responsibility, a replacement product or necessary parts will be provided.

  This limited warranty applies only to our product independently, and not to any other damage incurred due to the failure of the product.

  3) Prior to using SMC products, please read and understand the warranty terms and disclaimers noted in the specified catalogue for the particular products.

  [(1)] Vacuum pads are excluded from this 1 year warranty.

  A vacuum pad is a consumable part, so it is warranted for a year after it is delivered. Also, even within the warranty period, the wear of a product due to the use of the vacuum pad or failure due to the deterioration of rubber material are not covered by the limited warranty.

- **Compliance Requirements**

  1) The use of SMC products with production equipment for the manufacture of weapons of mass destruction (WMD) or any other weapon is strictly prohibited.

  2) The exports of SMC products or technology from one country to another are governed by the relevant security laws and regulations of the countries involved in the transaction. Prior to the shipment of a SMC product to another country, assure that all local rules governing that export are known and followed.

⚠ Caution

- **SMC products are not intended for use as instruments for legal metrology.**

  Measurement instruments that SMC manufactures or sells have not been qualified by type approval tests relevant to the metrology (measurement) laws of each country.

  Therefore, SMC products cannot be used for business or certification ordained by the metrology (measurement) laws of each country.

⚠ Warning

Any use in an ISO 13849 system must be within the specified limits and application conditions. The user is responsible for the specification, design, implementation, validation and maintenance of the safety system (SRP/CS)

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Template DKP50047-F-085D