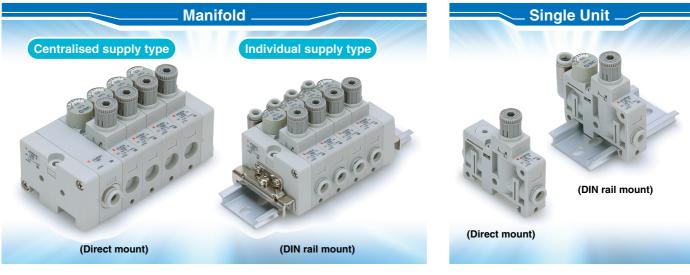
in 14 mm	The one-	touch fitting s	size	can	be	chai	nge
		OUT side					
0 0.5 0.7 0.5 0.5 0.5 0.5 0.7 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	0			A Co			Elboy
ARM58 -R09-A SET PRESS. 0.05-0.7MP2 JAPAN ED -R09-A SET PRESS. 0.05-0.7MP2 JAPAN ED -R09-A SET PRESS. 0.05-0.7MP2 JAPAN ED -R09-A SET PRESS. 0.05-0.7MP2 JAPAN ED -R09-A SET PRESS. 0.05-0.7MP2 JAPAN ED -R09-A SET PRESS. 0.05-0.7MP2 JAPAN ED	-			aight			side
Actual size	Single U	nit / Individual S			-		
	Port location	Fitting type		Appli Metric 6		tubing 5/32	g O.D Inch 1/4
	IN side	Straight / Elbow	•	•	—	•	0
2 mounting types are available.	OUT side	Straight / Elbow	0	0	-	0	0
	Centralis	sed Supply Type	e				
				Appli	cable	tubin	q O.D
Direct mount				Metric			Inch
	Port	Fitting type		weun			
Direct mount DIN rail mount	Port location	Fitting type Straight / Elbow	4	6	8	5/32	1/4

Compact Manifold Regulator

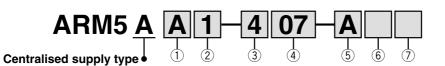




CAT.EUS40-47B-UK

Compact Manifold Regulator Centralised Supply Type Series ARM5A

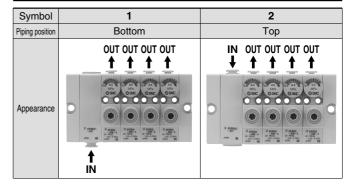
How to Order



1. Manifold Mounting

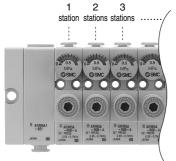
Symbol	Α	В
How to mount	Direct mount	DIN rail mount
Appearance		

2. Centralised Supply (IN) Piping Position



3. Regulator Block Stations

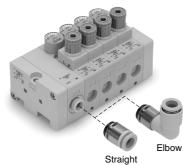
Symbol	Stations			
1	1 station			
2	2 stations			
3	3 stations			
4	4 stations			
5	5 5 stations			
6	6 stations			
7	7 stations			
8	8 stations			
9	9 stations			
М	10 stations			

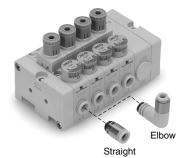


4. IN/OUT Fitting Type (Refer to the figure below.)

Metric size							
IN side			OUT side				
Stra	light	Elb	wo	Stra	aight	Elb	ow
ø6	ø8	ø6	ø8	ø4	ø6	ø4	ø6
•						•	
•							
			•				
			•				
	Stra	IN s Straight	IN side Straight Elb	IN side Straight Elbow	IN side Straight Elbow Stra	IN side OUT Straight Elbow Straight	IN side OUT side Straight Elbow Straight Elb

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





OUT side (Back side)

IN side

Compact Manifold Regulator Centralised Supply Type Series ARM5A

5. Accessories

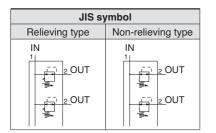
	Dressure	Noto)	Cantra	liced events block measuring a			
	Pressure	gauge Note)	Centralised supply block mounting position				
	Yes	None	L side	R side	B side		
	165	None	(Left)	(Right)	(Both)		
Symbol			Centralised supply block	Centralised supply block	Centralised supply block		
Α	•		•				
В	•			•			
С	•				•		
D							
E							
F		•					

Note) Pressure gauges are not available with a copper-free specification.

6. Options

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

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



Standard Specifications

Model		ARM5A	
Regulator construction		Direct acting	
Working principle		Piston type	
Relief mechanism	Standard	Relieving type	
Relier mechanism	Optional	Non-relieving type	
Backflow function		Built-in (Unbalanced type)	
IN side tubing O.D.		ø6, ø8, ø1/4", ø5/16"	
OUT side tubing O.D.		ø4, ø6, ø5/32", ø1/4"	
Proof pressure		1.5 MPa	
Maximum operating pressure		1.0 MPa	
0-1	Standard	0.05 to 0.7 MPa	
Set pressure range Optional		0.05 to 0.35 MPa (Low pressure type)	
Fluid		Air	
Ambient and fluid temperature		5 to 60°C	

Note) 0.1 MPa or greater set pressure is required when used in the reverse flow.

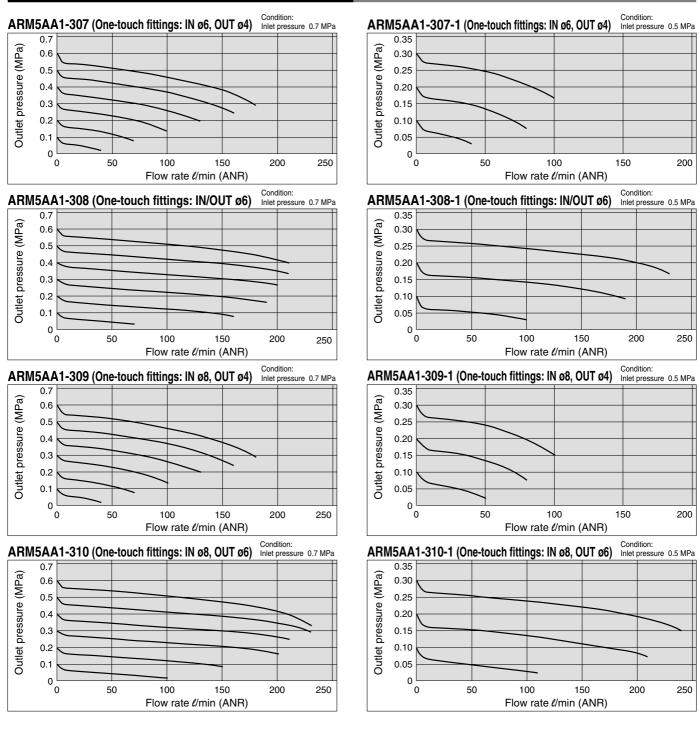
7. Unit Representation

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

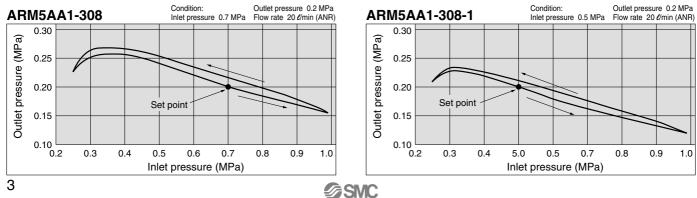
Note) This option is available for use outside Japan only. (The SI units must be used in Japan.)

Series ARM5A

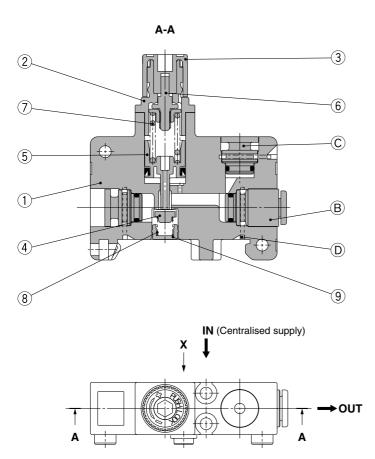
Flow Characteristics (Representative Values)

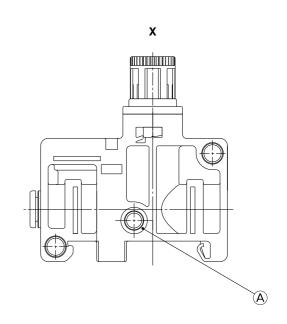


Pressure Characteristics (Representative Values)



Construction (Centralised Supply Type Regulator Block)





Component Parts

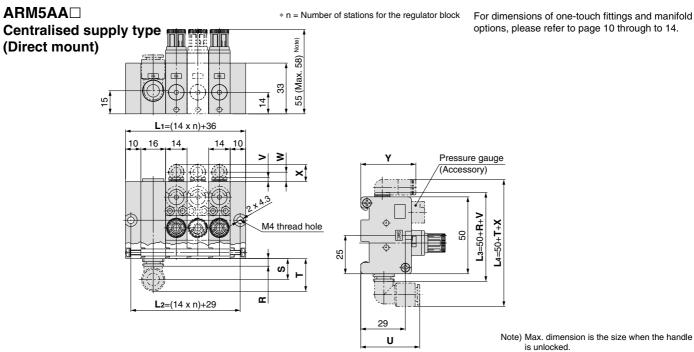
No.	Description	Material
1	Body (for centralised supply)	PBT
2	Bonnet	PBT
3	Handle	POM
4	Valve	HNBR, Aluminum alloy
5	Piston assembly	POM, NBR
6	Adjusting screw assembly	—
7	Adjusting spring	Stainless steel
8	Valve spring	Stainless steel
9	Valve guide	Brass

Replacement Parts

No.	Description Material		Part no.
Α	O-ring	NBR	136019
В	Fitting assembly	—	Refer to page 13.
С	Port plug	PBT, HNBR	Refer to page 14.
D	Clip	Stainless steel	136010

Series ARM5A

Dimensions

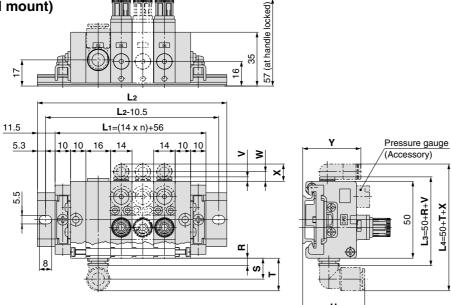


* n = Number of stations for the regulator block

		IN s	side			OUT	side	
Fitting size	Straight	Elbow	Elbow	Elbow	Straight	Elbow	Elbow	Elbow
	R	S	Т	U	V	W	Х	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	—	_	—	—

Note) Max. dimension is the size when the handle

ARM5AB Centralised supply type (DIN rail mount)



	Stations	DIN rail part no.	L2 dimension
Ļ	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
	М	VVQ1000-90-17	223

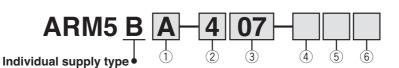
L4=50+T+X

						-	U	
		IN :	side		OUT side			
Fitting size	Straight	Elbow	Elbow	Elbow	Straight	Elbow	Elbow	Elbow
	R	S	Т	U	V	W	Х	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	—		—	—
5	C ashr							



Compact Manifold Regulator Individual Supply Type Series ARM5B

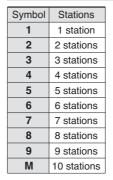
How to Order



1. Manifold Mounting

Symbol	Α	В
How to mount	Direct mount	DIN rail mount
Appearance		

2. Regulator Block Stations



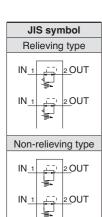


3. IN/OUT Piping Position

Metric size

Methic 3	120								
Mounting position		IN s	side		OUT side				
Fitting type	Stra	light	Elb	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 siz	е							
Mounting position		IN s	side		OUT side			
Fitting type	Stra	light	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								





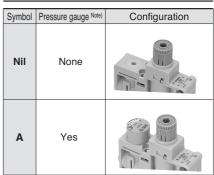
IN side



Straight

OUT side (Back side)

4. Accessory



Note) Pressure gauges are not available with the copper-free specification.

6. Options

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

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

7. Unit Representation

Symbol	Description
-	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.)



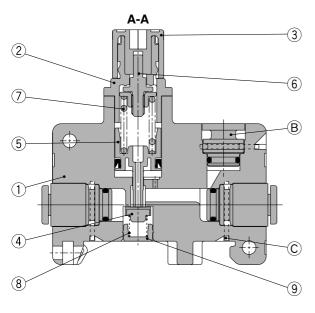
Series ARM5B

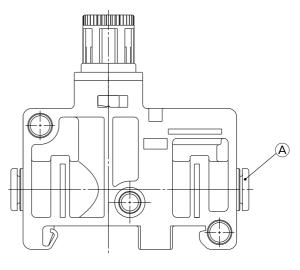
Standard Specifications

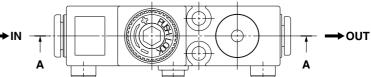
Model		ARM5B	
Regulator construction		Direct acting	
Working principle		Piston type	
Relief mechanism	Standard	Relieving type	
Relief mechanism	Optional	Non-relieving type	
Backflow function		Built-in (Unbalanced type)	
IN side tubing O.D.		ø4, ø6, ø5/32", ø1/4"	
OUT side tubing O.D.		ø4, ø6, ø5/32", ø1/4"	
Proof pressure		1.5 MPa	
Maximum operating pressure		1.0 MPa	
0-4	Standard	0.05 to 0.7 MPa	
Set pressure range	Optional	0.05 to 0.35 MPa (Low pressure type)	
Fluid		Air	
Ambient and fluid temperature		5 to 60°C	

Note) 0.1 MPa or greater set pressure is required when used in the reverse flow.

Construction (Individual Supply Type Regulator Block)







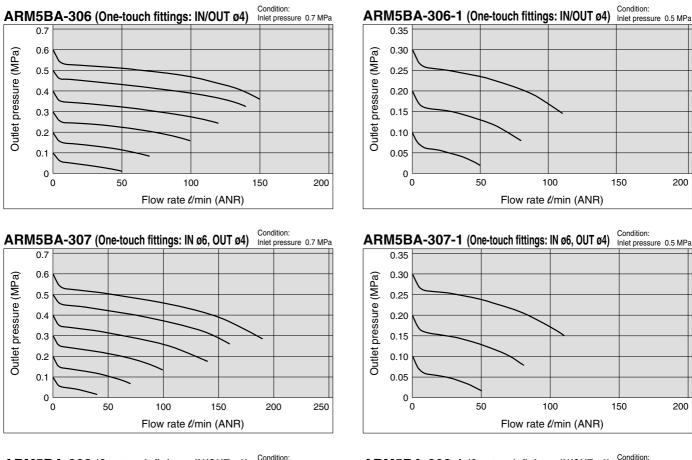
Component Parts

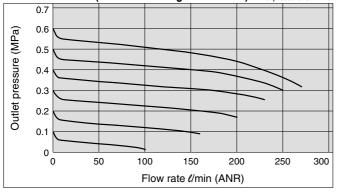
No.	Description	Material
1	Body (for individual supply)	PBT
2	Bonnet	PBT
3	Handle	POM
4	Valve	HNBR, Aluminum alloy
5	Piston assembly	POM, NBR
6	Adjusting screw assembly	_
7	Adjusting spring	Stainless steel
8	Valve spring	Stainless steel
9	Valve guide	Brass
		•

Replacement Parts

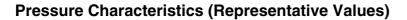
No.	Description	Material	Part no.
Α	Fitting assembly	—	Refer to page 13.
В	Port plug	PBT, HNBR	Refer to page 14.
С	Clip	Stainless steel	136010

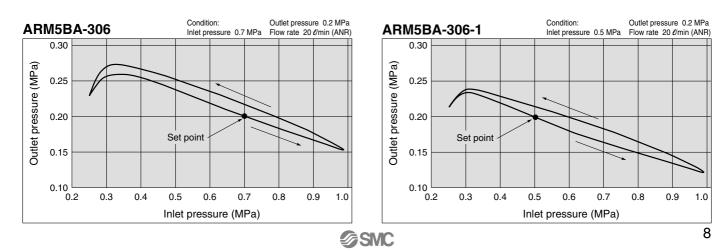
Flow Characteristics (Representative Values)





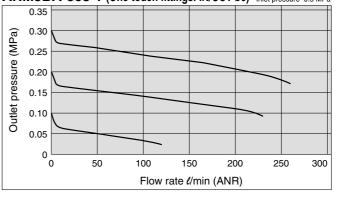






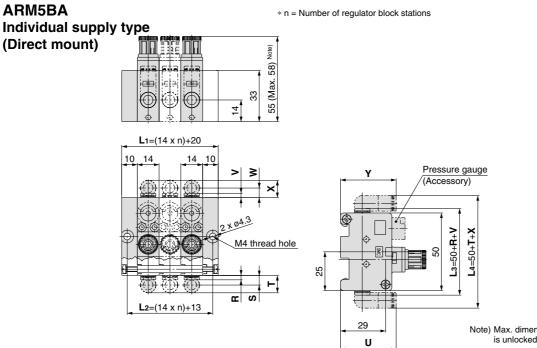
200





Series ARM5B

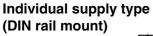
Dimensions

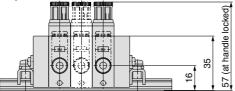


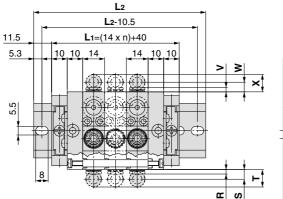
Note) Max. dimension is the size when the handle is unlocked.

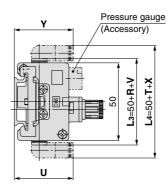
	IN side				OUT side			
Fitting size	Straight	Elbow	Elbow	Elbow	Straight	Elbow	Elbow	Elbow
	R	S	Т	U	V	W	X	Y
ø4, ø5/32	2.5	6	11	35.5	2.5	6	11	35.5
ø6	3	6.5	11	36	3	6.5	11	36
ø1/4	6.5	6	11.5	38.5	6.5	6	11.5	38.5

ARM5BB









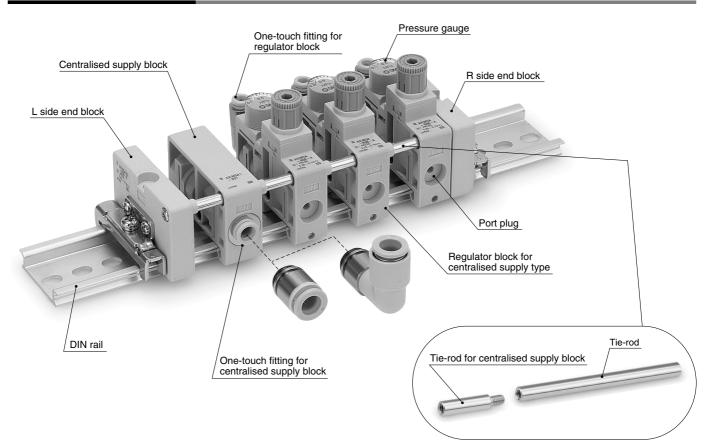
Stations	DIN rail part no.	L2 dimension
1	VVQ1000-90-6	85.5
2	VVQ1000-90-7	98
3	VVQ1000-90-8	110.5
4	VVQ1000-90-9	123
5	VVQ1000-90-10	135.5
6	VVQ1000-90-12	160.5
7	VVQ1000-90-13	173
8	VVQ1000-90-14	185.5
9	VVQ1000-90-15	198
М	VVQ1000-90-16	210.5

	IN side				OUT side			
Fitting size	Straight	Elbow	Elbow	Elbow	Straight	Elbow	Elbow	Elbow
	R	S	Т	U	V	W	Х	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
0								

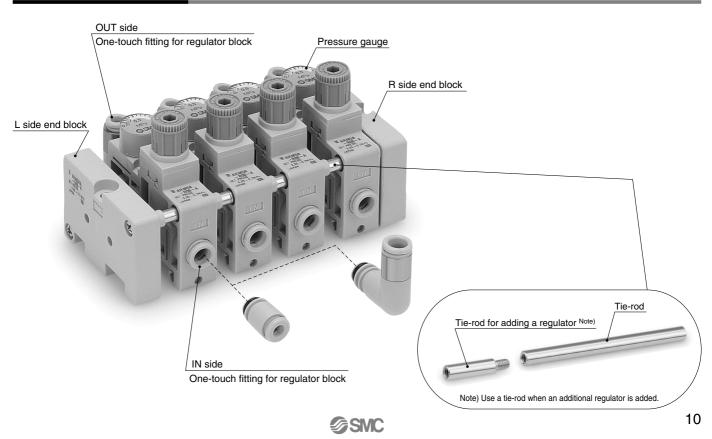
* n = Number of regulator block stations

Compact Manifold Regulator Options

Centralised Supply Type



Individual Supply Type



Series **ARM5A/B**

Regulator Block

Centralised Supply Type ARM5A-R 04



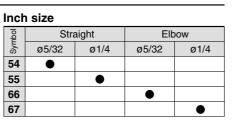
1. OUT Fitting Type

Metric size						
Symbol	Straight		Elbow			
Syn	ø4	ø6	ø4	ø6		
04	•					
05						
16						
17						

2. Accessories

	Pressure	gauge Note)	Extension tie-rod		
Symbol	Yes	None	Yes	None	
Α	•				
В	•			\bullet	
С					
D					

Note) Pressure gauges are not available with a copper-free specification.



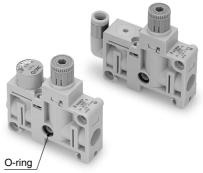
3. Options

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.

4. Unit Representation

Symbol	Description			
-	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.)				



Note) An O-ring is attached to the manifold connection.

Individual Supply Type **ARM5B**-**R** 06 1 (1)3

1. IN/OUT Fitting Type

Ме	tric s	size							Inc	h siz	е
0		IN :	side			OUT	side		0		
Symbol	Str	aight	Elb	woo	Stra	aight	Elt	woo	Symbol	Stra	ig
Ś	ø4	ø6	ø4	Ø6	ø4	Ø6	ø4	ø6	s,	ø5/32	ø
06	; •								56		
07	,								57		
08	5								58		
18	5								68		
19)								69		
20)								70		
25									75		
26	;								76		
27	,								77		
32	2		•						82		
33	;								83		
34	Ļ								84		

IN side OUT side Symbol Straight Elbow Straight Elbow ø5/32 ø1/4 ø5/32 ø1/4 ø5/32 ø1/4 ø5/32 ø1/4 56 \bullet • 57 0 58 • • 68 • • 69 0 70 • • 75 • 0 76 0 0 77 • • 82 • • 83 • 84

SMC

3. Options

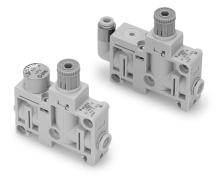
Symbol	None	0.35 MPa setting Note 1)	Non- relieving		
-	•				
1		•			
2			•		
3		•			
Note) A pressure gauge with a full span of 0.8 MPa is					

attached.

4. Unit Representation

Symbol	Description			
-	Display unit for product name plate and pressure gauge: MPa			
Z Note)	Display unit for product name plate and pressure gauge: PSI			
late) This antion is sucilable for use sutside lanen				

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



Note) Pressure gauges are not available with a copper-free specification.

Yes

•

Pressure gauge Note)

None

.

Extension tie-rod

None

•

•

Yes

•

•

2. Accessories

Symbol

Α

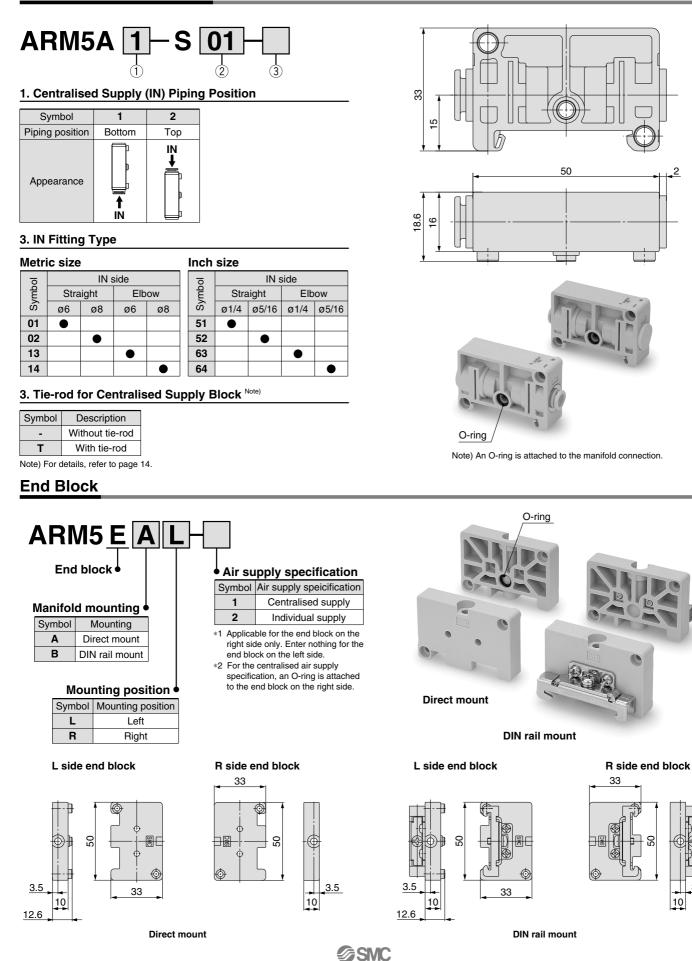
в

С

D

Compact Manifold Regulator Series ARM5A/B

Centralised Supply Block



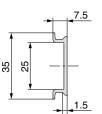
3.5

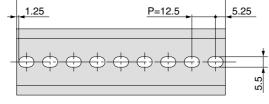
Series **ARM5A/B**

DIN Rail

VVQ1000-90-n

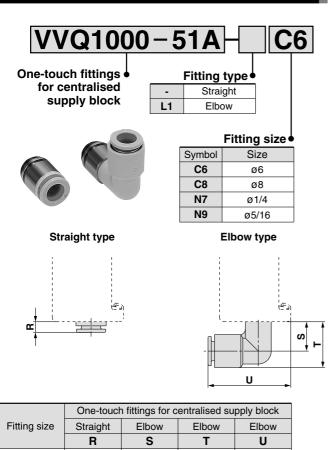
Note) Put an appropriate No. from the table below in the place of "n." For the L dimension, please refer to "Dimensions."



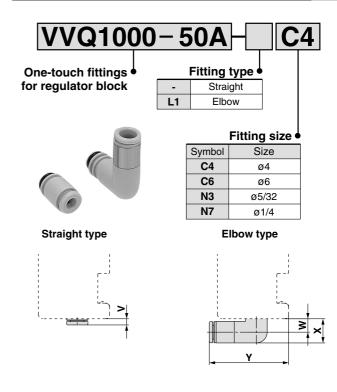


L Dimensio	n								L	=12.5 x n+10.5
No.	1	2	3	4	5	6	7	8	9	10
L dimension	23	35.5	48	60.5	73	85.5	98	110.5	123	135.5
No.	11	12	13	14	15	16	17	18	19	20
L dimension	148	160.5	173	185.5	198	210.5	223	235.5	248	260.5
No.	21	22	23	24	25	26	27	28	29	30
L dimension	273	285.5	298	310.5	323	335.5	348	360.5	373	385.5
No.	31	32	33	34	35	36	37	38	39	40
L dimension	398	410.5	423	435.5	448	460.5	473	485.5	498	510.5

One-touch Fittings for Centralised Supply Block



One-touch Fittings for Regulator Block



	One-touch fittings for regulator block						
Fitting size	Straight	Elbow	Elbow	Elbow			
	V	W	Х	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			
ø8, ø5/16	_	_	_	_			

Note) An O-ring is attached.

For details on how to replace, refer to back page 4.

ø4, ø5/32 12.5 ø6 3 19 ø1/4 З 12.5 19 ø8, ø5/16 5 13.5 21

Note) An O-ring is attached.

For details on how to replace, refer to back page 4.



35.5

35.5

38.5

Compact Manifold Regulator Series ARM5A/B

Port Plug

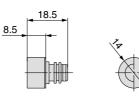
Pressure Gauge



Indication unit

Symbol	Indication unit	Pressure gauge indication range			
-	MPa	0 to 0.8 MPa			
P PSI		0 to 120 PSI			
Noto) An O ring is attached					

Note) An O-ring is attached. For details on how to replace, refer to back page 5.



VVQ0000-58A Single unit regulator / Port plug for regulator block



Note) An O-ring is attached. For details on how to replace, refer to back page 5.

Tie-rod

The length of tie-rod will vary, corresponding to the number of stations.

For Regulator Block

Regulator block stations	Tie-rod part no.	Length
1	136016-1A	14
2	136016-2A	28
3	136016-3A	42
4	136016-4A	56
5	136016-5A	70
6	136016-6A	84
7	136016-7A	98
8	136016-8A	112
9	136016-9A	126
10	136016-10A	140

For adding a regulator	Tie-rod part no.	Length
For adding 1 station	136020A	14

Note 1) When adding a regulator block, please use the correct length of tie-rod that corresponds to the number of required stations, or add the extension tie-rod.

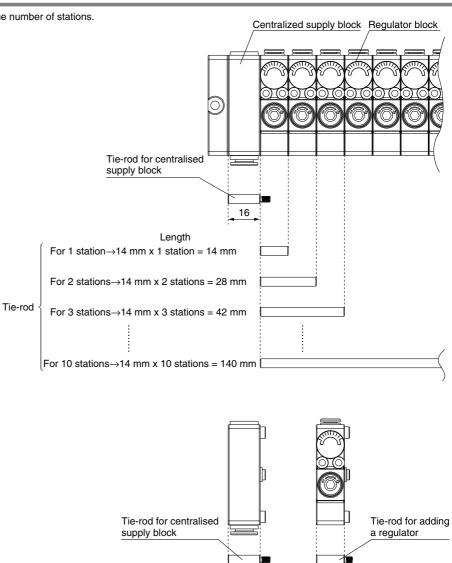
Note 2) The part number is for a pair of pieces (2).

For Centralised Supply Block

Centralised supply block qty.	Tie-rod part no.	Length		
1	136017-1A	16		
2 136017-2A 32				
Note 1) When adding the centralised air supply				

Note 1) When adding the centralised air supply block, add the tie-rod for centralised air supply to the regulator block tie-rod. Please pay special attention to its length as this differs from the length of the regulator extension tie-rod. Note 2) The part is for a pair of pieces (2).





16

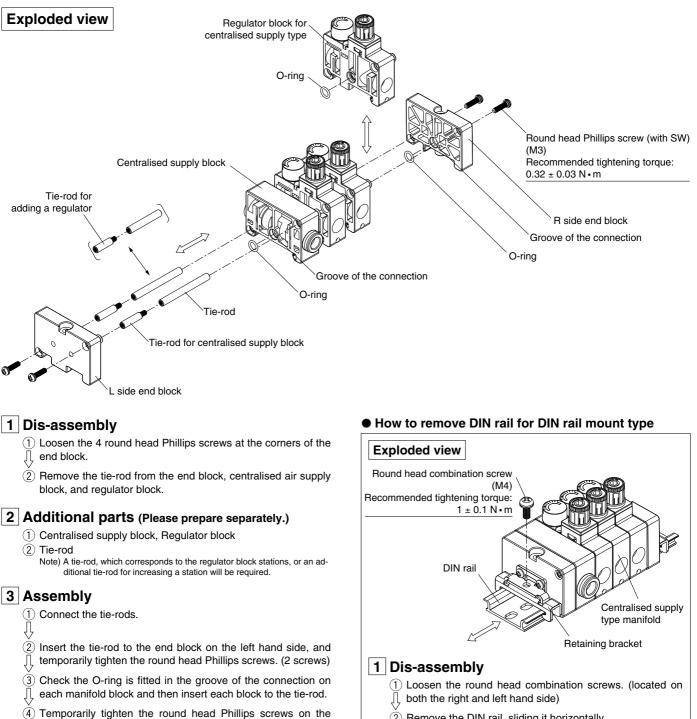
14

Series ARM5A/B

How to Add a Manifold Station

In case of the centralised air supply type

It's possible to add the centralised air supply block or regulator block and also alter its position.

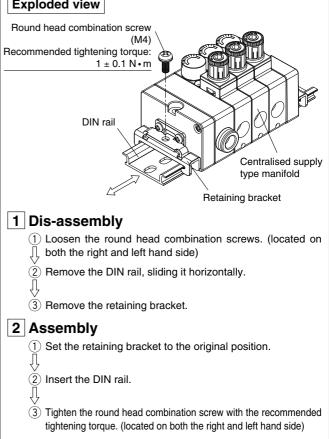


SMC

- Π right hand side. (2 screws)
- (5) Additionally tighten the round head Phillips screws on both sides of the manifold with the recommended tightening torque.

A Caution

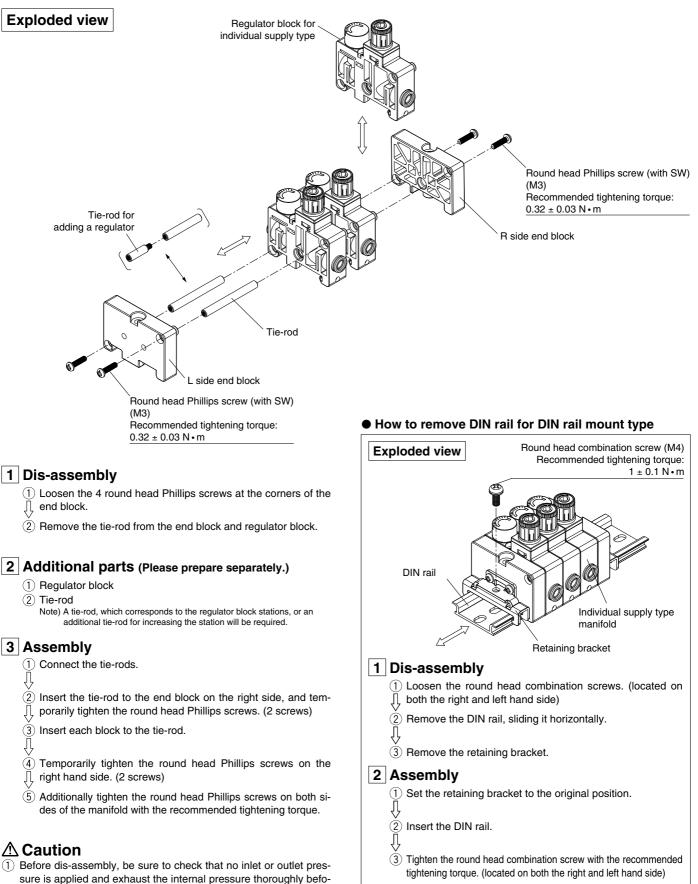
- (1) Before dis-assembly, be sure to check that no inlet or outlet pressure is applied and exhaust the internal pressure thoroughly before starting work.
- 2 After assembly, if the connection between each block, or the tightened tie-rod screws is insufficient, air leakage may occur. Before use, only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



In case of the Individual air supply type

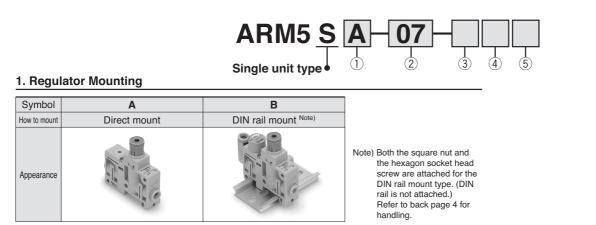
re starting the job.

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



Regulator Single Unit Type Series ARM55

How to Order



JIS symbol Relieving type

 \leq

Non-relieving type

 \leq

;²

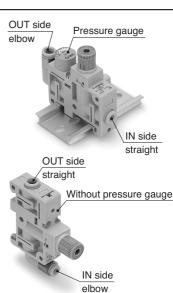
2^{, ل}

2. IN/OUT Fitting Type

M	etri	c s	ize

Mounting position	IN side				OUT	side		
Fitting type	Stra	light	Elb	woo	Stra	light	Elbow	
Symbol	ø4	ø6	ø4	ø6	ø4	Ø6	ø4	ø6
06								
07								
08								
18								
19								
20								
25								
26								
27								
32								
33								
34								

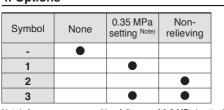
Inch size elbow Mounting position IN side OUT side Straight Elbow Straight Elbow Fitting type ø5/32 ø1/4 ø5/32 ø1/4 ø5/32 ø1/4 ø5/32 ø1/4 Symbol 56 57 58 68 69 70 • 75 9 76 77 82 • 83 84



3. Accessory

Symbol	Accessory
-	Without pressure gauge
A With pressure gauge	

4. Options



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

5. Unit Representation

Symbol	Description
-	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.)

Standard Specifications

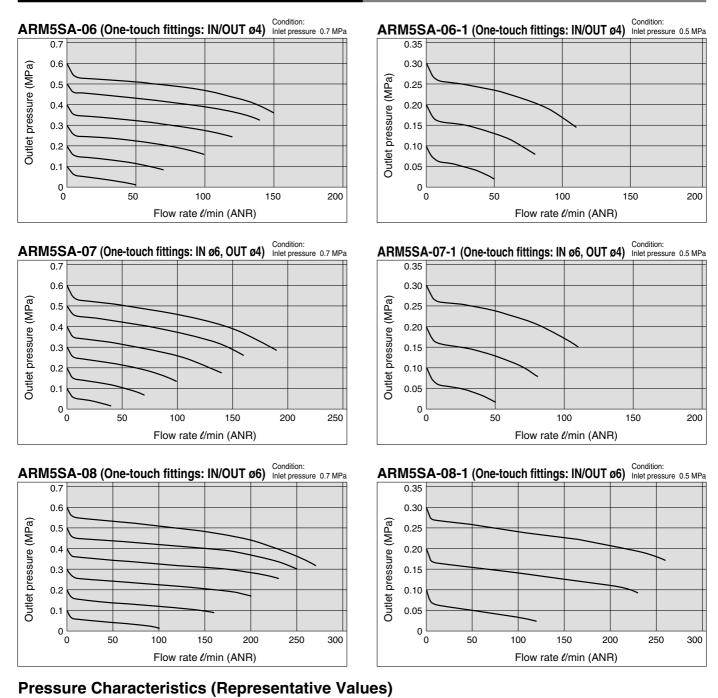
Model		ARM5S	
Regulator construction		Direct acting	
Working principle		Piston type	
Relief mechanism	Standard	Relieving type	
Relief mechanism	Optional	Non-relieving type	
Backflow function		Built-in (Unbalanced type)	
IN side tubing O.D.		ø4, ø6, ø5/32", ø1/4"	
OUT side tubing O.D.		ø4, ø6, ø5/32", ø1/4"	
Proof pressure		1.5 MPa	
Maximum operating p	ressure	1.0 MPa	
Cot processo report	Standard	0.05 to 0.7 MPa	
Set pressure range	Optional	0.05 to 0.35 MPa (Low pressure type)	
Fluid		Air	
Ambient and fluid tem	perature	5 to 60°C	
Weight (at ARM5SA-08	3-A)	33 g	

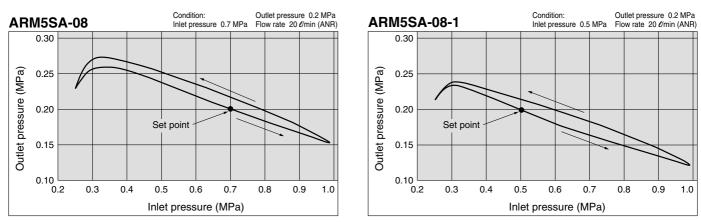
Note) 0.1 MPa or greater set pressure is required when used in the reverse flow.





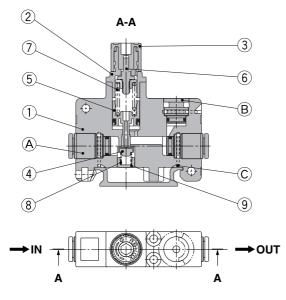






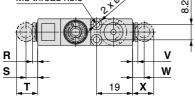
Series ARM5S

Construction (Regulator)



Dimensions

ARM5SA Single unit type (Direct mount) o14.5 with prest Panel cut dimension 1.00°. 16.5 14.5 11 8.2 20 Pressure gauge L2=50+T+X (Accessory) L1=50+R+V 14 50 55 (at handle locked) lih d -007)-41.5 i-cik-= 25 > Ð \oplus 4 -2+03:2 42 4 \$^{3.2} M3 thread hole 8.2



	IN side OUT side							
Fitting size	Straight	Elbow	Elbow	Elbow	Straight	Elbow	Elbow	Elbow
	R	S	Т	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

Component Parts

<u>oomp</u>					
No.	Description	Material			
1	Body (for single unit)	PBT			
2	Bonnet	PBT			
3	Handle	POM			
4	Valve	HNBR, Aluminum alloy			
5	Piston assembly	POM, NBR			
6	Adjusting screw assembly				
7	Adjusting spring	Stainless steel			
8	Valve spring	Stainless steel			
9	Valve guide	Brass			
10	Clip	Stainless steel			

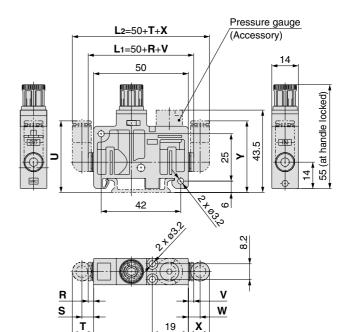
Replacement Parts

No.	Description	Material	Part no.
Α	Fitting assembly	—	Refer to page 20.
В	Port plug	PBT, HNBR	Refer to page 14.
С	Clip	Stainless steel	136010

ARM5SB

Single unit type (DIN rail mount)

For dimensions of one-touch fittings and accessories, please refer to page 20.



		IN s	side		OUT side			
Fitting size	Straight	Elbow	Elbow	Elbow	Straight	Elbow	Elbow	Elbow
	R	S	Т	U	V	W	Х	Υ
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



Regulator/Single Unit Type Options

Pressure Gauge

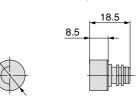
G14--8-JA



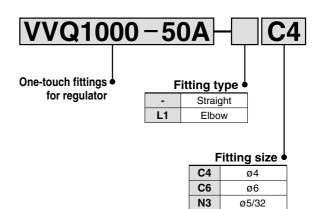
Indication unit

Symbol	Indication unit	Pressure gauge indication range
-	MPa	0 to 0.8 MPa
Р	PSI	0 to 120 PSI

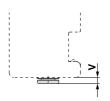
Note) An O-ring is attached. For details on how to replace, refer to back page 5.



One-touch Fittings for Regulator





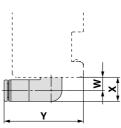




N7

ø1/4

Elbow type



One-touch fittings for regulator Fitting size Elbow Straight Elbow Elbow ٧ W Υ Х ø4, ø5/32 35.5 2.5 6 11 ø6 6.5 11 36 3 ø1/4 6.5 38.5 6 11.5 ø8, ø5/16 _ ____ _

Note) An O-ring is attached.

For details on how to replace, refer to back page 5.

Series ARM5 Safety Instructions

These safety instructions are intended to prevent a hazardous situation and/or equipment damage. These instructions indicate the level of potential hazard by labels of **"Caution"**, **"Warning"** or **"Danger"**. To ensure safety, be sure to observe ISO 4414 ^{Note 1}, JIS B 8370 ^{Note 2} and other safety practices.

Explanation of the Labels

Labels	Explanation of the labels
\land Danger	In extreme conditions, there is a possible result of serious injury or loss of life.
\land Warning	Operator error could result in serious injury or loss of life.
A Caution	Operator error could result in injury Note 3) or equipment damage. Note 4)

Note 1) ISO 4414: Pneumatic fluid power - General rules relating to systems

Note 2) JIS B 8370: General Rules for Pneumatic Equipment

Note 3) Injury indicates light wounds, burns and electrical shocks that do not require hospitalisation or hospital visits for long-term medical treatment. Note 4) Equipment damage refers to extensive damage to the equipment and surrounding devices.

■ Selection/Handling/Applications

1. The compatibility of the pneumatic equipment is the responsibility of the person who designs the pneumatic system or decides its specifications. Since the products specified here are used in various operating conditions, their compatibility for the specific pneumatic system

Since the products specified here are used in various operating conditions, their compatibility for the specific pneumatic system must be based on specifications or post analysis and/or tests to meet the specific requirements. The expected performance and safety assurance are the responsibility of the person who has determined the compatibility of the system. This person should continuously review the suitability of all items specified, referring to the latest catalogue information with a view to giving due consideration to any possibility of equipment failure when configuring a system.

- 2. Only trained personnel should operate pneumatic machinery and equipment. Compressed air can be dangerous if handled incorrectly. Assembly, handling or repair of the systems using pneumatic equipment should be performed by trained and experienced operators. (Understanding JIS B 8370 General Rules for Pneumatic Equipment, and other safety rules are included.)
- 3. Do not service the machinery/equipment or attempt to remove components until safety is confirmed.
 - 1. Inspection and maintenance of the machinery/equipment should only be performed once measures to prevent falling or runaway of the driven objects have been confirmed.
 - If the equipment must be removed, confirm the safety process as mentioned above. Turn off the supply pressure for the equipment and exhaust all residual compressed air in the system, and release all the energy (liquid pressure, spring, condenser, gravity).
 Before the machinery/equipment is restarted, take measures to prevent quick extension of a cylinder piston rod, etc.
- 4. If the equipment will be used in the following conditions or environment, please contact SMC first and be sure to take all necessary safety precautions.
 - 1. Conditions and environments beyond the given specifications, or if product is used outdoors.
 - 2. Installation on equipment in conjunction with atomic energy, railway, air navigation, vehicles, medical equipment, food and beverages, recreation equipment, emergency stop circuits, clutch and brake circuits in press applications, or safety equipment.
 - An application which has the possibility of having negative effects on people, property, requiring special safety analysis.
 If the products are used in an interlock circuit, prepare a double interlock style circuit with a mechanical protection function for the prevention of a breakdown. And, examine the devices periodically if they function normally or not.

■ Exemption from Liability

- 1. SMC, its officers and employees shall be exempted from liability for any loss or damage arising out of earthquakes or fire, action by a third person, accidents, customer error with or without intention, product misuse, and any other damages caused by abnormal operating conditions.
- 2. SMC, its officers and employees shall be exempted from liability for any direct or indirect loss or damage, including consequential loss or damage, loss of profits, or loss of chance, claims, demands, proceedings, costs, expenses, awards, judgments and any other liability whatsoever including legal costs and expenses, which may be suffered or incurred, whether in tort (including negligence), contract, breach of statutory duty, equity or otherwise.
- 3. SMC is exempted from liability for any damages caused by operations not contained in the catalogues and/or instruction manuals, and operations outside of the specification range.
- 4. SMC is exempted from liability for any loss or damage whatsoever caused by malfunctions of its products when combined with other devices or software.



Series ARM5 **Compact Manifold Regulator Precautions 1**

Be sure to read this before handling.

Design and Selection

\land Warning

1. Confirm the specifications.

The products appearing in this catalogue are designed for use only in compressed air systems.

Do not use outside the specified ranges of pressure, temperature, etc., as this may cause damage or faulty operation. Please consult with SMC if fluid other than compressed air is to be used.

2. Do not use the products in this catalogue as "safety accessories" stipulated in Art. 1, paragraph 2.1.3 and Art. 3, paragraph 1.4 of Pressure Equipment Directive (97/23/EC).

The Pressure Equipment Directive defines a safety accessory as a device which is designed to prevent pressure equipment from exceeding the allowable limit values.

3. Confirm the set pressure range.

Be sure to install safety devices as output pressure above the set range can lead to damage or malfunction of equipment on the outlet side.

4. Residual pressure relief when the inlet pressure has been released.

In cases where the inlet pressure has been released while the outlet pressure is in a low-pressure setting state, it may not be possible to exhaust the outlet pressure (residual pressure relief). Provide a residual pressure relief circuit if reliable outlet pressure relief must be performed.

When used with a closed downstream circuit and balance circuit.

Please contact SMC as there are cases in which the product cannot be used.

Mounting

\land Warning

1. Read the instruction manual carefully.

The product should be mounted and operated with a good understanding of its contents. Also, keep the manual where it can be easily referred to at any time.

- 2. Ensure space for maintenance. Ensure the necessary space for maintenance activities.
- 3. Strictly observe the tightening torque of the screws.

Tighten the screws at the recommended torque during installation.

Piping

∧Caution

Precautions in use of one-touch fittings

1) Tubing installation

- 1. Take a tubing with no flaws on its periphery and cut it off at a right angle. Use a TK-1, 2 or 3 tubing cutter to cut the tubing. Do not use pinchers, nippers or scissors, etc. The tubing might be cut diagonally or flattened, making installation impossible or causing problems such as disconnection and leakage. Also, ensure sufficient tubing length.
- 2. Hold the tubing and push it in slowly, inserting it securely all the way into the fitting.

Piping

Caution

- 3. After inserting the tubing, pull it lightly to confirm that it will not come out. If the tubing is not inserted to the end, air leakage or disconnection may occur.
- 4. When piping, increase the length of the tubing to allow for any possible warping, increased tension or moment load, etc. to the fittings and tubing

2) Tubing removal

- 1. Push both the release bushing and flange.
- 2. Pull out the tubing while holding the release bushing so that it will not be locked again. Insufficient pressure on the release bushing will result in increased biting force that will impede the tubing removal.
- 3. When re-using a removable tubing, cut off the deformed part. If the deformed part of the tubing is used, it can cause air leakage or impede the tubing removal.

In cases where a tubing brand other than SMC is used, confirm that the tubing outside diameter accuracy satisfies the following specifications.

- 1. Nylon tubing
 - ±0.1 mm or less ±0.1 mm or less
- 2. Soft nylon tubing

3. Polyurethane tubing +0.15 mm or less/-0.2 mm or less Do not use the tubing if it does not satisfy the outside diameter accuracy. Tubing connection may be impossible or air leakage or tubing disconnection may occur after connection.

Air Supply

\land Warning

1. Use clean air.

Do not use the regulator if the compressed air contains synthetic oil including chemicals or organic solvents, salt or corrosive gas. It may lead to damage or malfunction.

A Caution

1. Install an air filter.

Install an air filter on the inlet side in close proximity with the regulator. Select a type with 5 µm or smaller filtration.

2. Install an after-cooler, air dryer or water separator to remove drainage.

Compressed air containing excessive drainage may cause malfunction of the regulator, pressure switch or other pneumatic equipment.

3. If an excessive amount of carbon powder is generated, install a mist separator as a measure.

If an excessive amount of carbon powder is generated from the compressor, it may adhere to the interior of the regulator and cause malfunction.

Refer to the Best Pneumatics catalogue for further details on compressed air quality.





Series ARM5 Compact Manifold Regulator Precautions 2

Be sure to read this before handling.

Operating Environment

Warning

- 1. Do not operate in locations having an atmosphere of corrosive gases, chemicals, sea water, fresh water or water vapour, or where there will be contact with the same.
- 2. In locations which receive direct sunlight, the sunlight should be blocked .
- 3. Do not operate in locations where vibration or impact occurs.
- 4. Do not operate in a location near a heat source or where radiated heat will be received.

Adjustment

A Warning

Regulator

- 1. Set up the regulator while verifying the pressure that is indicated on the inlet side and outlet side pressure gauges. Turning the handle excessively could damage the internal parts.
- 2. Turn the adjustment handle after unlocking. If you attempt to turn the handle when locked, the connecting part, between the body and the bonnet, may be damaged.
- 3. The adjustment handle must be operated manually. The use of a hexagon wrench to increase pressure is allowable, but using it to decrease pressure could lead to damage.

A Caution

Regulator

- 1. Set up the regulator after carefully verifying the pressure that is indicated on the inlet side pressure gauge.
- 2. Set the outlet pressure in a range that is within 85% of the inlet pressure. Also, it should not exceed the set pressure range.
- 3. 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.
- 4. Turning the pressure adjustment handle clockwise increases the outlet pressure and turning it counterclockwise decreases the pressure. (To achieve the final set pressure, gradually increase from low pressure until the desired pressure is reached.)

Adjustment

▲Caution

Pressure guage and one-touch fittings

1. The pressure gauge and one-touch fittings are cassette type, which enable them to be rotated and adjusted at the desired angle. But you must check that no pressure is applied internally and that the air is fully exhausted beforehand.

Maintenance

ACaution

1. Maintenance should be performed according to the procedure indicated in the instruction manual.

Improper handling can cause damage and malfunction of equipment and machinery.

2. Maintenance operations

Improper handling of compressed air is dangerous. Therefore, in addition to observing the product specifications, replacement of elements and other maintenance activities should be performed by personnel having sufficient knowledge and experience pertaining to pneumatic equipment.

3. Pre-maintenance inspection

When removing this product, turn off the electric power, and be certain to shut off the supply pressure and exhaust the compressed air in the system. Proceed only after confirming that all pressure has been released to the atmosphere.

4. Post maintenance inspection

After installation or repair, re-connect compressed air and electricity and conduct appropriate inspections to confirm proper operation. If there is an audible air leakage, or if the equipment does not operate properly, stop operation and confirm that the equipment is installed correctly.

5. Modification is prohibited.

Do not modify or re-construct the unit.

Series **ARM5**

Blocks Specific Product Precautions 1

Be sure to read this before handling.

Handling

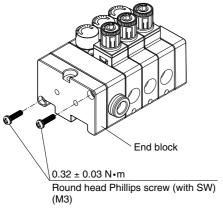
A Warning

Observe the proper screw tightening torque during installation.

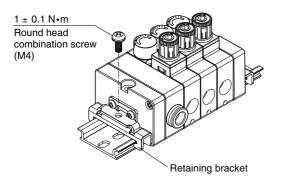
Tightening beyond the proper tightening torque may damage the mounting screws, blocks or switches.

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

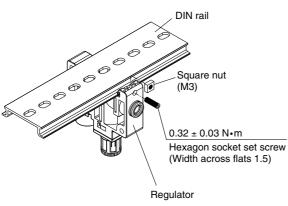
1. Tightening torque for round head Phillips screws for tie-rods of the regulator manifold.



2. Tightening torque for round head combination screws for DIN rail of the regulator manifold



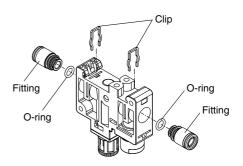
3. Tightening torque for hexagon socket set screws for DIN rail of the regulator manifold



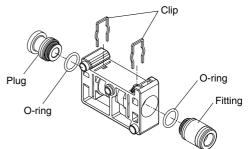
One-touch fitting replacement

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 blow. 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.

1. Regulator block



2. Centralised supply block



- 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 (KQP-□□) 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.

Series ARM5 Blocks Specific Product Precautions 2

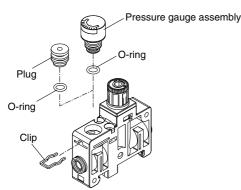
Be sure to read this before handling.

Handling

▲Caution

Pressure gauge and port plug replacement

Possible to replace the pressure gauge and port plug the same as the one-touch fitting replacement.



- 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) 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.



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