

Modular F.R.L. Units

RoHS

Modular Design with Uniform Body Style

Better visibility & environmental resistance



The bowl is covered with a transparent bowl guard!

* Body sizes 30 and larger

- The inside is visible from 360°.
- The inner bowl is protected from the environment, allowing for improved safety.

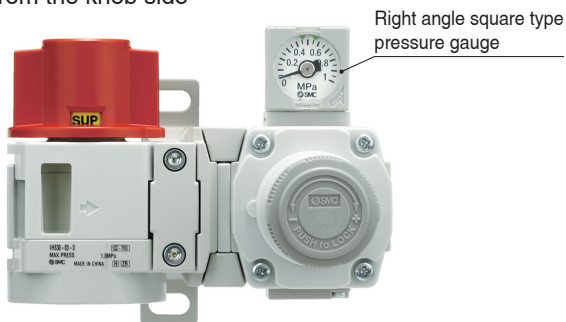
- Inner bowl**
Material: Polycarbonate
- Transparent bowl guard**
Material: Polycarbonate



New A right angle square type pressure gauge and various attachments have been added.

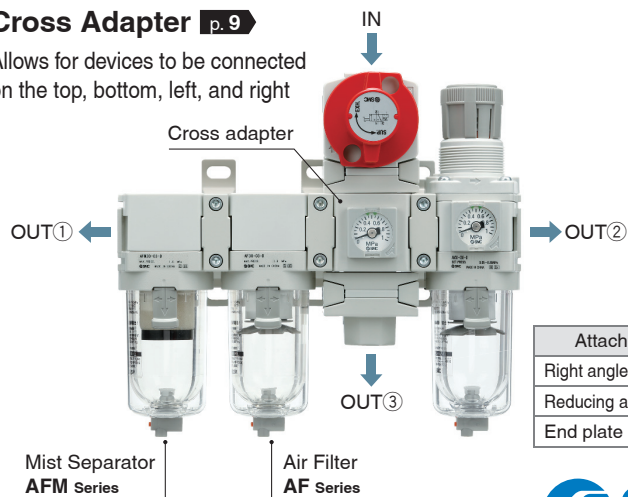
Right Angle Square Type Pressure Gauge **p. 8**

Allows for pressure confirmation from the knob side



Cross Adapter **p. 9**

Allows for devices to be connected on the top, bottom, left, and right



Attachment	Page
Right angle adapter	7
Reducing adapter	10
End plate	70

AC Series



CAT.EUS40-69D-UK

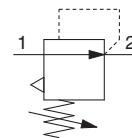
Regulator

AR20-D to AR60-D

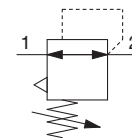
Regulator with Backflow Function

AR20K-D to AR60K-D

Symbol
Regulator



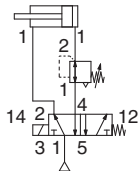
Regulator with Backflow Function



- Models with the backflow function include a mechanism which allows for the air pressure in the outlet side to be released to the inlet side.

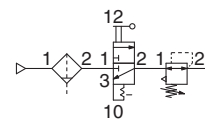
Example 1)

When the pressure in the rear and the front of the cylinder differs:



Example 2)

When the air supply is cut off and releasing the inlet pressure to the atmosphere, the residual pressure release of the outlet side can be ensured for a safety purpose.



How to Order

AR 30 - 03 BE - - D

1
 2
 3
 4
 5
 6

Option and Semi-standard Symbol Selection

- Select one each for a to g.
- When more than one specification is required, indicate in alphanumeric order.
- Example) AR30K-F03BE-1NR-D

	Symbol	Description	① Body size						
			20	30	40	50	60		
② With backflow function	—	Without backflow function	●	●	●	●	●		
	K* ¹	With backflow function	●	●	●	●	●		
+									
③ Pipe thread type	—	Rc	●	●	●	●	●		
	N	NPT	●	●	●	●	●		
	F	G	●	●	●	●	●		
+									
④ Port size	01	1/8	●	—	—	—	—		
	02	1/4	●	●	●	—	—		
	03	3/8	—	●	●	—	—		
	04	1/2	—	—	●	—	—		
	06	3/4	—	—	●	●	—		
	10	1	—	—	—	●	●		
+									
a	Mounting	—	Without mounting option	●	●	●	●	●	
		B* ³	With bracket	●	●	●	●	●	
		H	With set nut (for panel mount)	●	●	●	—	—	
+									
⑤ Option* ²	b	Pressure gauge* ⁴	—	Without pressure gauge	●	●	●	●	●
			E	Square embedded type pressure gauge (with limit indicator)	●	●	●	●	●
			G	Round type pressure gauge (with limit indicator)	●	●	●	●	●
			J* ^{5,6}	Right angle square type pressure gauge (with limit indicator)	●	●	●	—	—
			M	Round type pressure gauge (with colour zone)	●	●	●	●	●
	Digital pressure switch* ⁷	E1	Output: NPN output, Electrical entry: Wiring bottom entry	●	●	●	●	●	
		E2	Output: NPN output, Electrical entry: Wiring top entry	●	●	●	●	●	
		E3	Output: PNP output, Electrical entry: Wiring bottom entry	●	●	●	●	●	
		E4	Output: PNP output, Electrical entry: Wiring top entry	●	●	●	●	●	

Regulator **AR20-D to AR60-D Series**

Regulator with Backflow Function **AR20K-D to AR60K-D Series**



AR30-D

		Symbol	Description	①						
				Body size						
				20	30	40	50	60		
⑥	Semi-standard	c	—	0.05 to 0.85 MPa setting	●	●	●	●	●	
			1	0.02 to 0.2 MPa setting	●	●	●	●	●	
				+						
		d	—	Relieving type	●	●	●	●	●	
			N	Non-relieving type	●	●	●	●	●	
				+						
	e	Flow direction	—	Flow direction: Left to right	●	●	●	●	●	
			R	Flow direction: Right to left	●	●	●	●	●	
			+							
	f	Knob	—	Downward	●	●	●	●	●	
			Y	Upward	●	●	●	●	●	
			+							
g	Unit	—	Unit on product label: MPa, Pressure gauge in SI units: MPa	●	●	●	●	●		
		Z*9	Unit on product label: psi, Pressure gauge: MPa/psi dual scale	○*11	○*11	○*11	○*11	○*11		
		ZA*10	Digital pressure switch: With unit selection function	△*12	△*12	△*12	△*12	△*12		

- *1 Set the inlet pressure to at least 0.05 MPa higher than the set pressure.
- *2 Options B, G, H, and M are not assembled and supplied loose at the time of shipment.
- *3 The assembly consists of a bracket and set nuts (applicable to the AR20(K)-D to AR40(K)-D).
For the AR50(K)-D and AR60(K)-D, the assembly consists of 2 types of the bracket and 2 mounting screws.
- *4 When the pressure gauge is attached, a 1.0 MPa pressure gauge will be fitted for standard (0.85 MPa) type. 0.4 MPa pressure gauge for 0.2 MPa type.
- *5 Cannot be selected for the type with a set nut (option "H")
- *6 The direction the pressure gauge scale plate faces is from the knob side.
- *7 When choosing with H (panel mount), the installation space for lead wires will not be secured. In this case, select "wiring top entry" for the electrical entry. (Select "wiring bottom entry" when the semi-standard Y is chosen simultaneously.)
- *8 Pressure can be set higher than the specification pressure in some cases, but use pressure within the specification range.
- *9 For the pipe thread type: NPT
This product is for overseas use only according to the New Measurement Act. (The SI unit type is provided for use in Japan.) Cannot be used with M: Round type pressure gauge (with colour zone). Available by request for special. The digital pressure switch will be equipped with the unit selection function, setting to psi initially.
- *10 For options: E1, E2, E3, E4
This product is for overseas use only according to the New Measurement Act. (The SI unit type is provided for use in Japan.)
- *11 ○: For the pipe thread type: NPT only
- *12 △: Select with options: E1, E2, E3, E4.

AR20-D to AR60-D Series

AR20K-D to AR60K-D Series

Standard Specifications

Model	AR20(K)-D	AR30(K)-D	AR40(K)-D	AR40(K)-06-D	AR50(K)-D	AR60(K)-D
Port size	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1	1
Pressure gauge port size*1	1/8					
Fluid	Air					
Ambient and fluid temperatures*2	-5 to 60 °C (No freezing)					
Proof pressure	1.5 MPa					
Max. operating pressure	1.0 MPa					
Set pressure range	0.05 to 0.85 MPa					
Construction	Relieving type					
Weight	0.14 kg	0.27 kg	0.48 kg	0.51 kg	1.13 kg	1.25 kg

*1 Pressure gauge connection threads are not available for F.R.L. unit with a square embedded type pressure gauge or with a digital pressure switch.

*2 -5 to 50 °C for the products with the digital pressure switch

Option/Part Nos.

Optional specifications			Model					
			AR20(K)-D	AR30(K)-D	AR40(K)-D	AR40(K)-06-D	AR50(K)-D	AR60(K)-D
Bracket assembly*1			AR23P-270AS	AR33P-270AS	AR43P-270AS		AR54P-270AS	
Set nut			AR23P-260S	AR33P-260S	AR43P-260S		—*2	
Pressure gauge*3	Round type	Standard	G36-10-□01		G46-10-□01			
		0.02 to 0.2 MPa setting	G36-4-□01		G46-4-□01			
	Round type (with colour zone)	Standard	G36-10-□01-L		G46-10-□01-L			
		0.02 to 0.2 MPa setting	G36-4-□01-L		G46-4-□01-L			
	Square embedded type*4	Standard	GC3-10AS-D [136150A (Pressure gauge cover only)]					
		0.02 to 0.2 MPa setting	GC3-4AS-D [136150A (Pressure gauge cover only)]					
	Right angle square type*5	Standard	GC3-10AS-J-D [GC3-10AS-JA-D]				—	
		0.02 to 0.2 MPa setting	GC3-4AS-J-D [GC3-4AS-JA-D]				—	
Digital pressure switch	NPN output, Wiring bottom entry		ISE35-N-25-MLA-X523 [ISE35-N-25-M (Switch body only)]*6					
	NPN output, Wiring top entry		ISE35-R-25-MLA-X523 [ISE35-R-25-M (Switch body only)]*6					
	PNP output, Wiring bottom entry		ISE35-N-65-MLA-X523 [ISE35-N-65-M (Switch body only)]*6					
	PNP output, Wiring top entry		ISE35-R-65-MLA-X523 [ISE35-R-65-M (Switch body only)]*6					

*1 The assembly consists of a bracket and set nuts. For the AR50(K)-D and AR60(K)-D, the assembly consists of a bracket A/B and 2 mounting screws.

*2 Please contact SMC regarding the set nuts for the AR50(K)-D and AR60(K)-D.

*3 □ in part numbers for a round pressure gauge indicates a pipe thread type. No indication is necessary for R; however, indicate N for NPT. Please contact SMC regarding the pressure gauge supply for both MPa and psi unit specifications.

*4 Including one O-ring and 2 mounting screws. []: Pressure gauge cover only

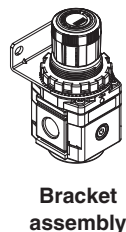
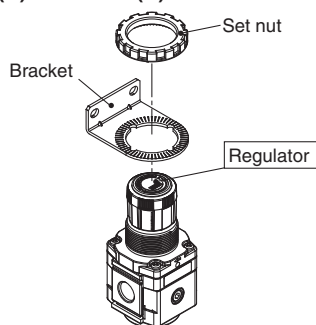
*5 The right angle square type pressure gauge only includes the pressure gauge body. The pressure gauge body comes with 1 O-ring and 2 mounting screws.

In addition, the part number in brackets includes a pressure gauge with a right angle adapter as well as an adapter, lock pin, 1 O-ring, and 2 mounting screws.

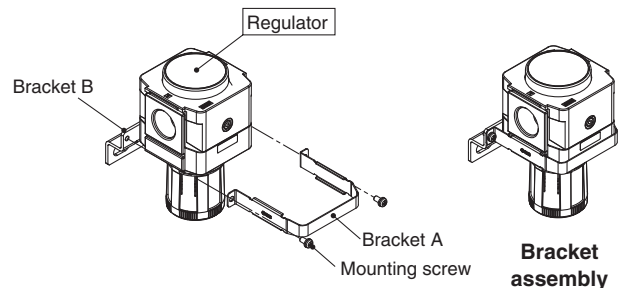
*6 In addition to the pressure switch body, lead wire with connector (2 m), adapter, lock pin, O-ring (1 pc.), mounting screws (2 pcs.) are attached.

[]: Switch body only (For the digital pressure switch specifications, refer to page 130.)

AR20(K)-D to AR40(K)-06-D



AR50(K)-D/AR60(K)-D



Replacement Parts

Description		Part no.					
		AR20(K)-D	AR30(K)-D	AR40(K)-D	AR40(K)-06-D	AR50(K)-D	AR60(K)-D
Valve assembly		AR24P-060AS	AR34P-060AS	AR44P-060AS	AR49P-060AS	AR54P-060AS	AR64P-060AS
Diaphragm assembly	Relieving type	AR24P-150AS	AR34P-150AS	AR44P-150AS		AR54P-150AS	
	Non-relieving type	AR24P-150AS-N	AR34P-150AS-N	AR44P-150AS-N		AR54P-150AS-N	
Valve guide assembly		AR24P-050AS	AR34P-050AS	AR44P-050AS		AR54P-050AS	
Check valve assembly*1		AR24KP-020AS					

*1 The check valve assembly is applicable for a regulator with backflow function (AR20K-D to AR60K-D) only. The assembly consists of a check valve cover, check valve body assembly, and 2 mounting screws.

Regulator **AR20-D to AR60-D Series**

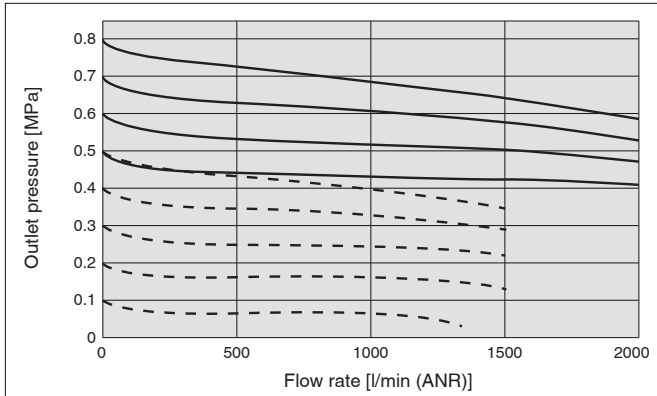
Regulator with Backflow Function **AR20K-D to AR60K-D Series**

Flow Rate Characteristics (Representative values)

— Inlet pressure: 1.0 MPa
 - - - Inlet pressure: 0.7 MPa

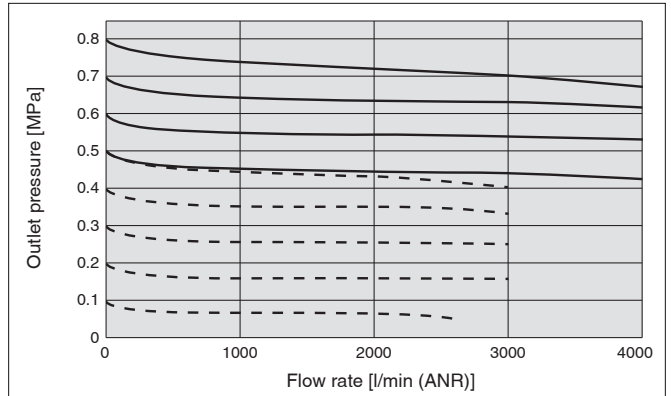
AR20(K)-D

Rc1/4



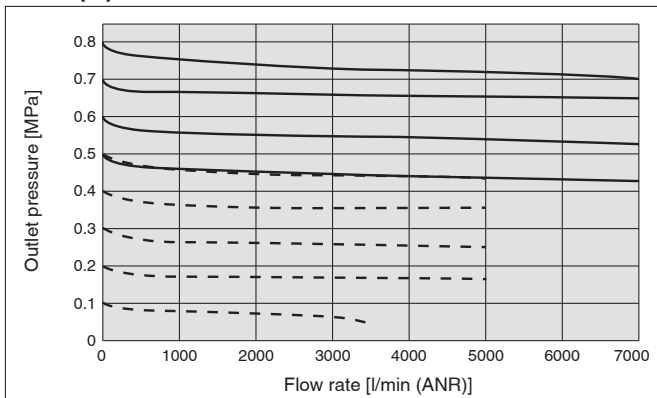
AR30(K)-D

Rc3/8



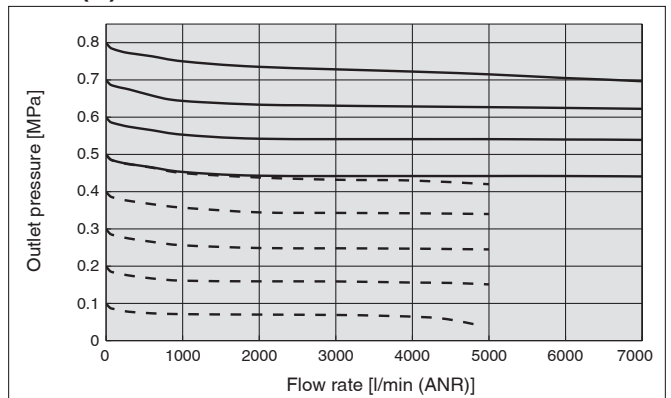
AR40(K)-D

Rc1/2



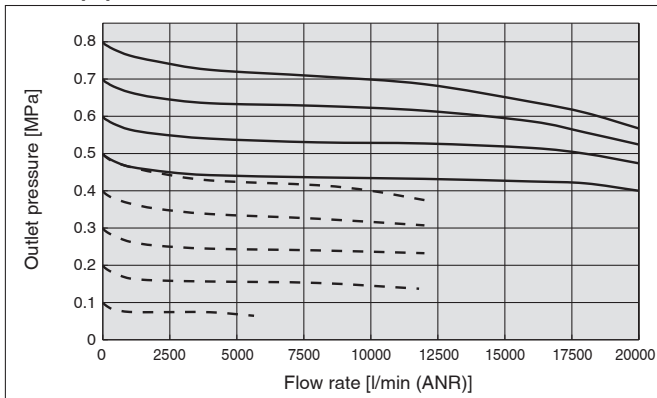
AR40(K)-06-D

Rc3/4



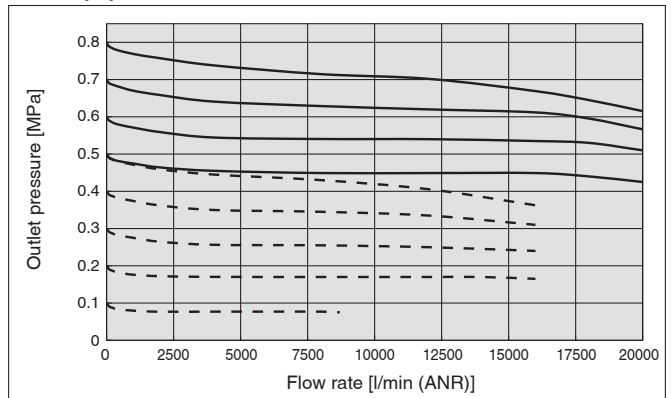
AR50(K)-D

Rc1



AR60(K)-D

Rc1



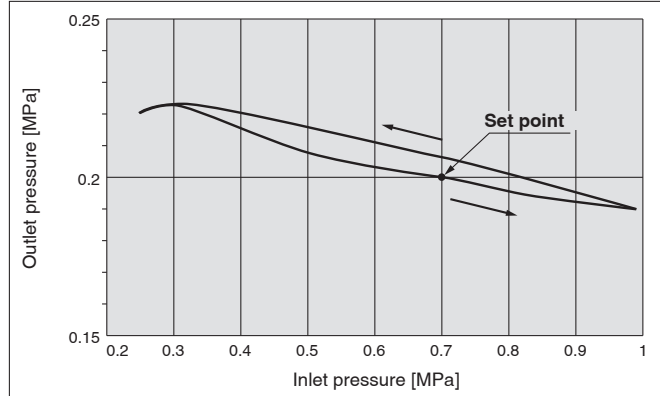
AR20-D to AR60-D Series

AR20K-D to AR60K-D Series

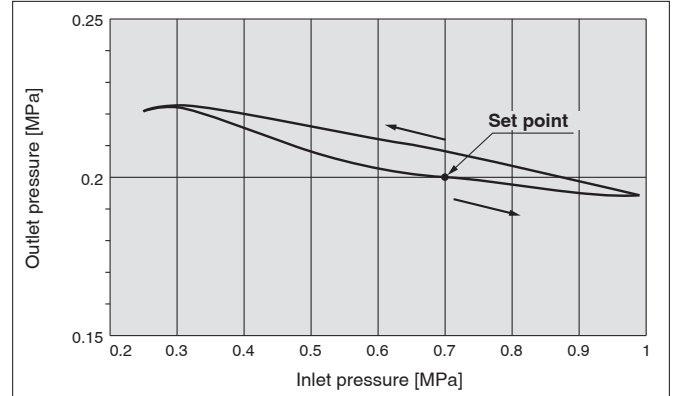
Pressure Characteristics (Representative values)

Conditions: Inlet pressure of 0.7 MPa, Outlet pressure of 0.2 MPa, Flow rate 20 l/min (ANR)

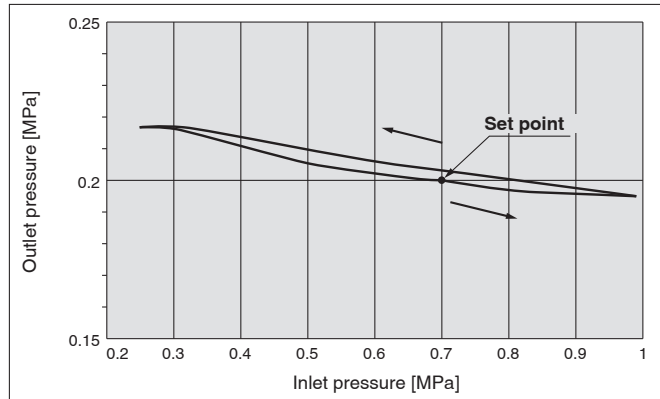
AR20(K)-D



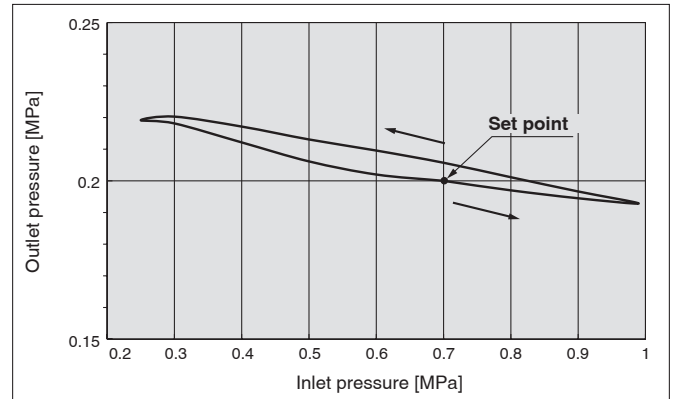
AR30(K)-D



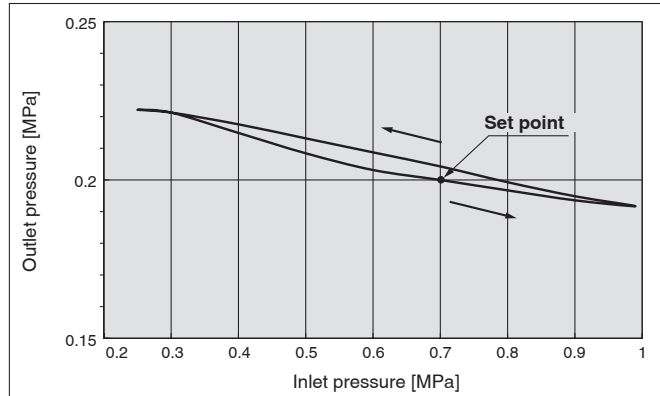
AR40(K)-D



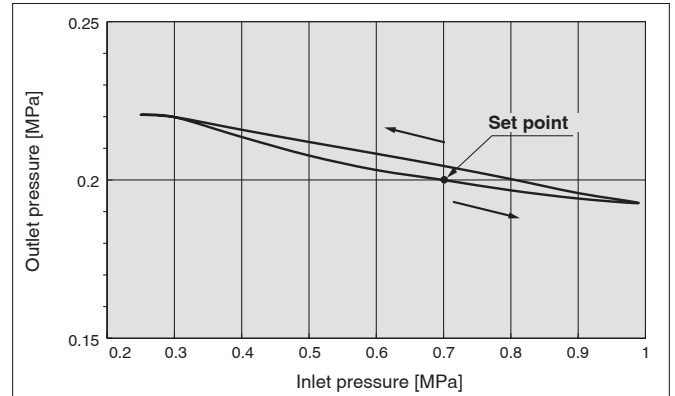
AR40(K)-06-D



AR50(K)-D



AR60(K)-D

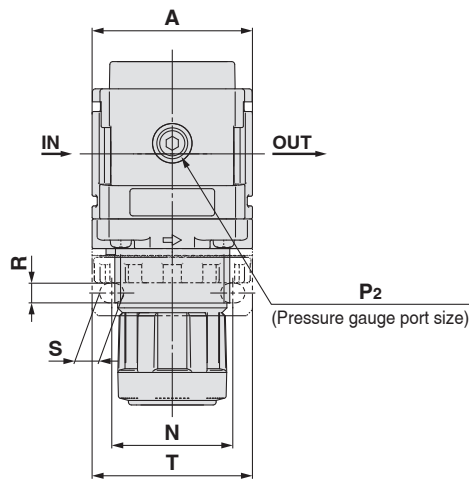
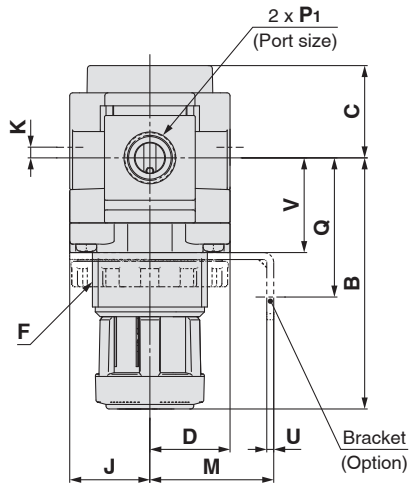


Regulator **AR20-D to AR60-D Series**

Regulator with Backflow Function **AR20K-D to AR60K-D Series**

Dimensions

Standard (Round Type Pressure Gauge) AR20-D to AR40-06-D



Panel cutout dimensions

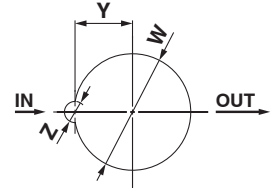
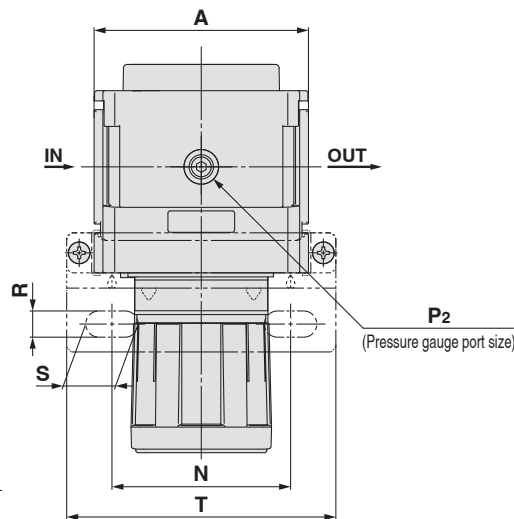
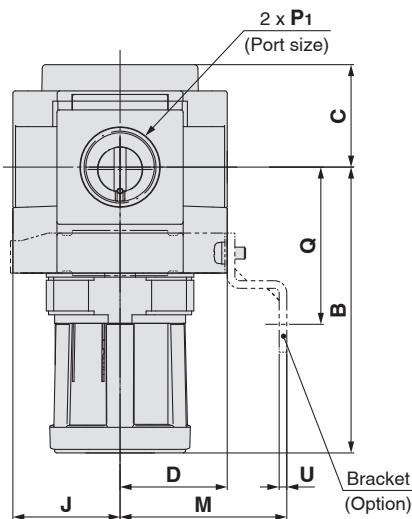
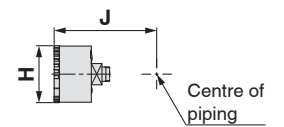


Plate thickness
AR20-D to AR30-D : Max. 3.5
AR40-D to AR40-06-D: Max. 5

AR50-D to AR60-D



Round type pressure gauge



Model	Standard specifications									Optional specifications					
	P ₁	P ₂	A	B*1	C	D	F	J	K	Round type pressure gauge		Round type pressure gauge (Semi-standard: Z)		Round type pressure gauge (with colour zone)	
										H	J	H	J	H	J
AR20-D	1/8, 1/4	1/8	40	66.8	26.5	21	M28 x 1	21	2	○ 37.5	57.5	○ 37.5	58.5	○ 37.5	58.5
AR30-D	1/4, 3/8	1/8	53	86.5	30.5	26.5	M38 x 1.5	26.5	3.5	○ 37.5	63	○ 37.5	64	○ 37.5	64
AR40-D	1/4, 3/8, 1/2	1/8	70	91.5	35.5	35.5	M42 x 1.5	35.5	—	○ 42.5	73	○ 42.5	73	○ 42.5	73
AR40-06-D	3/4	1/8	75	93	35.5	35.5	M42 x 1.5	35.5	—	○ 42.5	73	○ 42.5	73	○ 42.5	73
AR50-D	3/4, 1	1/8	90	125	43	45	—	45	—	○ 42.5	82.5	○ 42.5	82.5	○ 42.5	82.5
AR60-D	1	1/8	95	155	45	45	—	45	—	○ 42.5	82.5	○ 42.5	82.5	○ 42.5	82.5

Model	Optional specifications										
	Bracket mount							Panel mount			
	M	N	Q	R	S	T	U	V	W	Y	Z
AR20-D	30	34	43.9	5.4	15.4	55	2.3	24.7	28.5	14	6
AR30-D	41	40	46	6.5	8	53	2.3	31.3	38.5	19	7
AR40-D	50	54	54	8.5	10.5	70	2.3	35.5	42.5	21	7
AR40-06-D	50	54	55.5	8.5	10.5	70	2.3	37	42.5	21	7
AR50-D	70	75	66	11	22	113	3.2	—	—	—	—
AR60-D	70	75	66	11	22	113	3.2	—	—	—	—

*1 The dimension of B is the length when the regulator knob is unlocked.

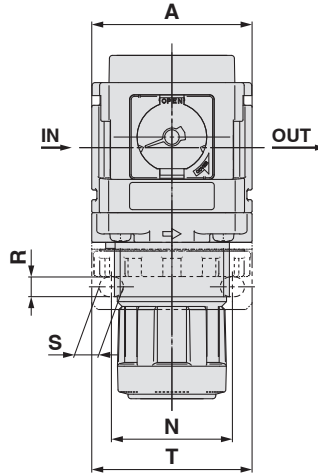
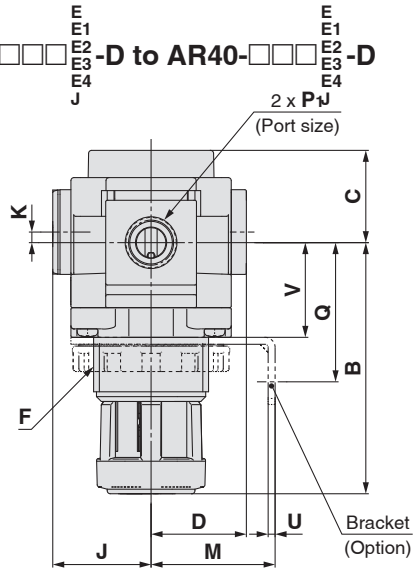
AR20-D to AR60-D Series

AR20K-D to AR60K-D Series

Dimensions

Standard (Square Embedded Type Pressure Gauge, Right Angle Square Type Pressure Gauge, Digital Pressure Switch)

AR20-□□□-D to AR40-□□□-D



Panel cutout dimensions

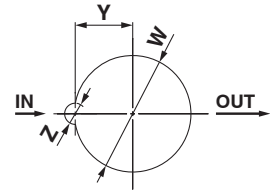
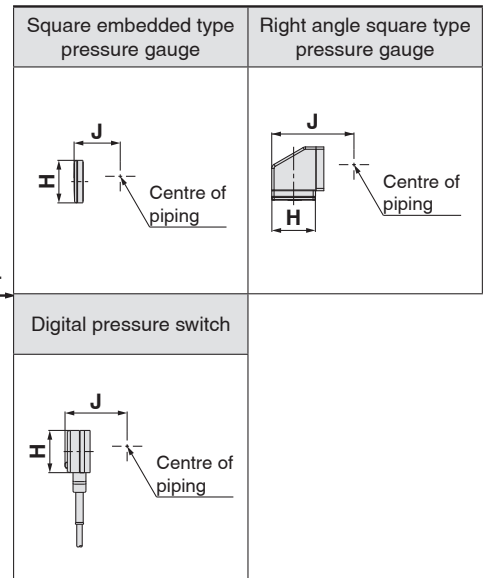
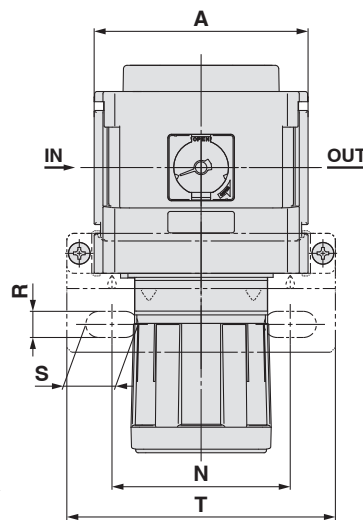
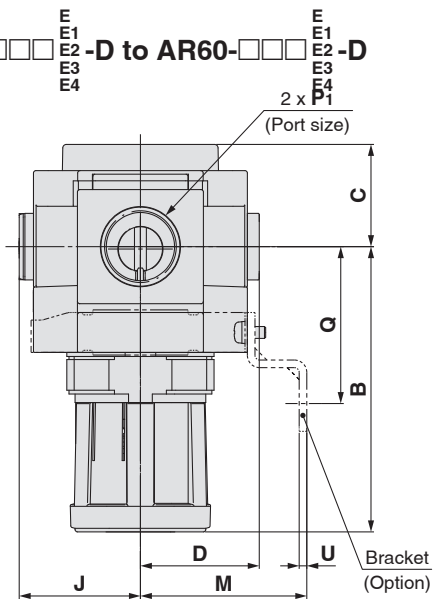


Plate thickness
 AR20-D to AR30-D : Max. 3.5
 AR40-D to AR40-06-D: Max. 5

AR50-□□□-D to AR60-□□□-D



Model	Standard specifications							Optional specifications					
	P ₁	A	B*1	C	D	F	K	H	J	H	J	H	J
AR20-D	1/8, 1/4	40	66.8	26.5	26	M28 x 1	2	□28	27	□28	54.3	□27.8	37.5
AR30-D	1/4, 3/8	53	86.5	30.5	31.5	M38 x 1.5	3.5	□28	32.5	□28	59.8	□27.8	43
AR40-D	1/4, 3/8, 1/2	70	91.5	35.5	40.5	M42 x 1.5	—	□28	41.5	□28	68.8	□27.8	52
AR40-06-D	3/4	75	93	35.5	40.5	M42 x 1.5	—	□28	41.5	□28	68.8	□27.8	52
AR50-D	3/4, 1	90	125	43	50	—	—	□28	51	—	—	□27.8	61.5
AR60-D	1	95	155	45	50	—	—	□28	51	—	—	□27.8	61.5

Model	Optional specifications										
	Bracket mount							Panel mount			
	M	N	Q	R	S	T	U	V	W	Y	Z
AR20-D	30	34	43.9	5.4	15.4	55	2.3	24.7	28.5	14	6
AR30-D	41	40	46	6.5	8	53	2.3	31.3	38.5	19	7
AR40-D	50	54	54	8.5	10.5	70	2.3	35.5	42.5	21	7
AR40-06-D	50	54	55.5	8.5	10.5	70	2.3	37	42.5	21	7
AR50-D	70	75	66	11	22	113	3.2	—	—	—	—
AR60-D	70	75	66	11	22	113	3.2	—	—	—	—

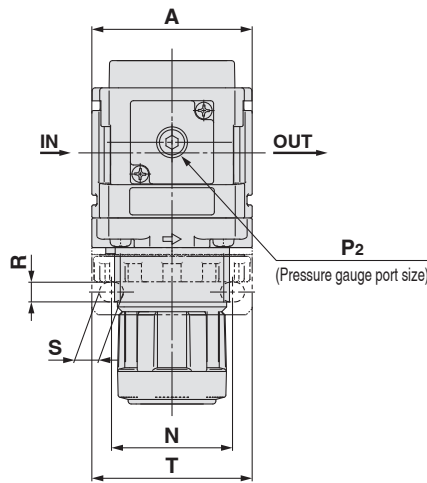
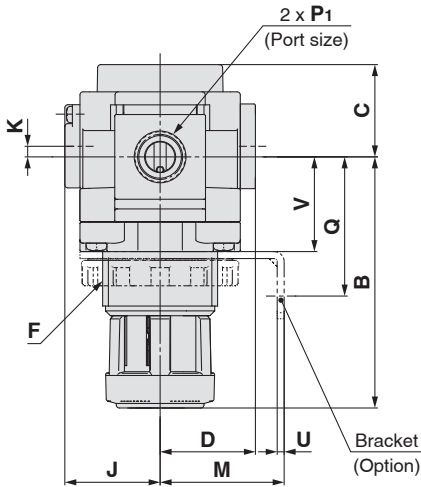
*1 The dimension of B is the length when the regulator knob is unlocked.

Regulator **AR20-D to AR60-D Series**

Regulator with Backflow Function **AR20K-D to AR60K-D Series**

Dimensions

With Backflow Function (Round Type Pressure Gauge, Square Embedded Type Pressure Gauge, Right Angle Square Type Pressure Gauge, Digital Pressure Switch)
AR20K-D to AR40K-06-D



Panel cutout dimensions

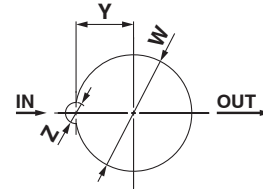
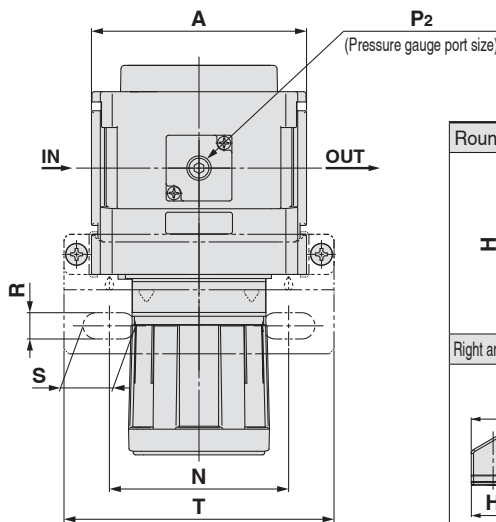
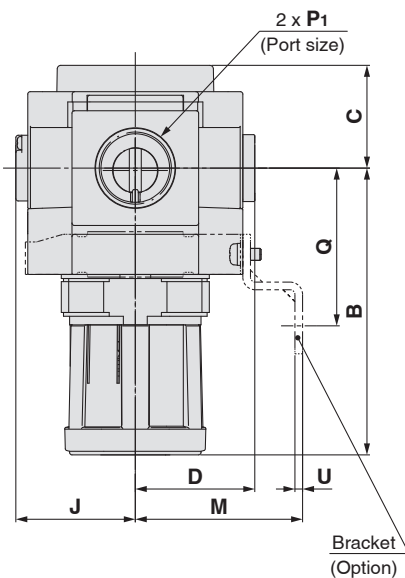


Plate thickness

AR20K-D to AR30K-D : Max. 3.5
 AR40K-D to AR40K-06-D: Max. 5

AR50K-D to AR60K-D



Round type pressure gauge	Square embedded type pressure gauge
Right angle square type pressure gauge	Digital pressure switch

Model	Standard specifications									Optional specifications					
	P1	P2	A	B*1	C	D	F	J	K	Round type pressure gauge H	Round type pressure gauge (Semi-standard: Z) J	Round type pressure gauge (Semi-standard: Z) H	Round type pressure gauge (Semi-standard: Z) J	Round type pressure gauge (with colour zone) H	Round type pressure gauge (with colour zone) J
AR20K-D	1/8, 1/4	1/8	40	66.8	26.5	26	M28 x 1	26	2	○ 37.5	62.5	○ 37.5	63.5	○ 37.5	63.5
AR30K-D	1/4, 3/8	1/8	53	86.5	30.5	31.5	M38 x 1.5	31.5	3.5	○ 37.5	68	○ 37.5	69	○ 37.5	69
AR40K-D	1/4, 3/8, 1/2	1/8	70	91.5	35.5	40.5	M42 x 1.5	40.5	—	○ 42.5	78	○ 42.5	78	○ 42.5	78
AR40K-06-D	3/4	1/8	75	93	35.5	40.5	M42 x 1.5	40.5	—	○ 42.5	78	○ 42.5	78	○ 42.5	78
AR50K-D	3/4, 1	1/8	90	125	43	50	—	50	—	○ 42.5	87.5	○ 42.5	87.5	○ 42.5	87.5
AR60K-D	1	1/8	95	155	45	50	—	50	—	○ 42.5	87.5	○ 42.5	87.5	○ 42.5	87.5

Model	Optional specifications																		
	Square embedded type pressure gauge			Right angle square type pressure gauge		Digital pressure switch		Bracket mount							Panel mount				
	H	J		H	J	H	J	M	N	Q	R	S	T	U	V	W	Y	Z	
AR20K-D	□28	27		□28	54.3	□27.8	37.5	30	34	43.9	5.4	15.4	55	2.3	24.7	28.5	14	6	
AR30K-D	□28	32.5		□28	59.8	□27.8	43	41	40	46	6.5	8	53	2.3	31.3	38.5	19	7	
AR40K-D	□28	41.5		□28	68.8	□27.8	52	50	54	54	8.5	10.5	70	2.3	35.5	42.5	21	7	
AR40K-06-D	□28	41.5		□28	68.8	□27.8	52	50	54	55.5	8.5	10.5	70	2.3	37	42.5	21	7	
AR50K-D	□28	51		—	—	□27.8	61.5	70	75	66	11	22	113	3.2	—	—	—	—	
AR60K-D	□28	51		—	—	□27.8	61.5	70	75	66	11	22	113	3.2	—	—	—	—	

*1 The dimension of B is the length when the regulator knob is unlocked.

Regulator/AR20-D to AR60-D

Regulator with Backflow Function/AR20K-D to AR60K-D

Made to Order

Please contact SMC for detailed dimensions, specifications, and lead times.

① 0.4 MPa Setting

The setting specification is 0.4 MPa. When a pressure gauge is included, the display will show a range from 0 to 0.7 MPa.

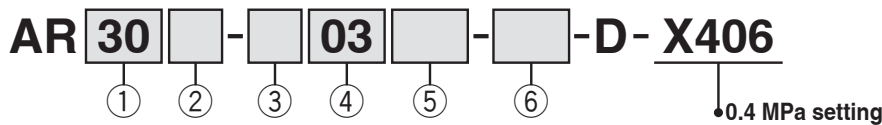
Specifications

Made-to-order part no.	-X406
Proof pressure [MPa]	1.5
Max. operating pressure [MPa]	1.0
Set pressure range [MPa]*1	0.05 to 0.4

*1 Pressure can be set higher than the specification pressure in some cases, but use pressure within the specification range.

Applicable Models

Model	AR20(K)-D	AR30(K)-D	AR40(K)-D	AR40(K)-06-D	AR50(K)-D	AR60(K)-D
Port size	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1	1



Option and Semi-standard Symbol Selection

- Select one each for a to f.
- When more than one specification is required, indicate in alphabetical order.
- Example) AR30K-F03BE-NR-D-X406

	Symbol	Description	① Body size						
			20	30	40	50	60		
②	—	Without backflow function	●	●	●	●	●		
	K*1	With backflow function	●	●	●	●	●		
③	—	Rc	●	●	●	●	●		
	N	NPT	●	●	●	●	●		
	F	G	●	●	●	●	●		
④	01	1/8	●	—	—	—	—		
	02	1/4	●	●	●	—	—		
	03	3/8	—	●	●	—	—		
	04	1/2	—	—	●	—	—		
	06	3/4	—	—	—	●	—		
	10	1	—	—	—	●	●		
⑤	a	—	Without mounting option	●	●	●	●	●	
		B*3	With bracket	●	●	●	●	●	
		H	With set nut (for panel mount)	●	●	●	—	—	
	b	Pressure gauge*4	—	Without pressure gauge	●	●	●	●	●
			E	Square embedded type pressure gauge (with limit indicator)	●	●	●	●	●
			G	Round type pressure gauge (with limit indicator)	●	●	●	●	●
			J*5,*6	Right angle square type pressure gauge (with limit indicator)	●	●	●	—	—
		M	Round type pressure gauge (with colour zone)	●	●	●	●	●	
		Digital pressure switch*7	E1	Output: NPN output, Electrical entry: Wiring bottom entry	●	●	●	●	●
			E2	Output: NPN output, Electrical entry: Wiring top entry	●	●	●	●	●
E3	Output: PNP output, Electrical entry: Wiring bottom entry		●	●	●	●	●		
E4	Output: PNP output, Electrical entry: Wiring top entry	●	●	●	●	●			
⑥	c	—	Relieving type	●	●	●	●	●	
		N	Non-relieving type	●	●	●	●	●	
	d	—	Flow direction: Left to right	●	●	●	●	●	
		R	Flow direction: Right to left	●	●	●	●	●	
	e	—	Downward	●	●	●	●	●	
		Y	Upward	●	●	●	●	●	
f	—	Unit on product label: MPa, Pressure gauge in SI units: MPa	○*10	○*10	○*10	○*10	○*10		
	Z*8	Unit on product label: psi, Pressure gauge: MPa/psi dual scale	○*10	○*10	○*10	○*10	○*10		
	ZA*9	Digital pressure switch: With unit selection function	△*11	△*11	△*11	△*11	△*11		

*1 Set the inlet pressure to at least 0.05 MPa higher than the set pressure.

*2 Options B, G, H, and M are not assembled and supplied loose at the time of shipment.

*3 The assembly consists of a bracket and set nuts (applicable to the AR20(K)-D to AR40(K)-D). The AR50(K)-D and AR60(K)-D assemblies include 2 types of brackets and 2 mounting screws.

*4 A 0.7 MPa pressure gauge will be fitted.

*5 Cannot be selected for the type with a set nut (option "H")

*6 The direction the pressure gauge scale plate faces is from the knob side.

*7 When choosing with H (panel mount), the installation space for lead wires will not be secured. In this case, select "wiring top entry" for the electrical entry. (Select "wiring bottom entry" when the semi-standard Y is chosen simultaneously.)

*8 For the pipe thread type: NPT

This product is for overseas use only according to the New Measurement Act. (The SI unit type is provided for use in Japan.) Cannot be used with M: Round type pressure gauge (with colour zone). Available by request for special. The digital pressure switch will be equipped with the unit selection function, setting to psi initially.

*9 For options: E1, E2, E3, E4. This product is for overseas use only according to the New Measurement Act. (The SI unit type is provided for use in Japan.)

*10 ○: For the pipe thread type: NPT only

*11 △: Select with options: E1, E2, E3, E4.

Regulator/AR20-D to AR60-D Regulator with Backflow Function/AR20K-D to AR60K-D Made to Order

Please contact SMC for detailed dimensions, specifications, and lead times.

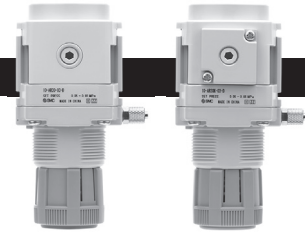


② Clean Series

For details, refer to the Clean Series/Low Particle Generation section of the **Web Catalogue**.

10 - Standard model no.

• Clean Series



Without backflow
function

With backflow
function

③ Copper, Fluorine and Silicone-free + Low Particle Generation

For details, refer to the Clean Series/Low Particle Generation section of the **Web Catalogue**.

21 - Standard model no.

• Copper, Fluorine and Silicone-free + Low Particle Generation



AR(K)-D Series Specific Product Precautions

Be sure to read this before handling the products. Refer to the back cover for safety instructions. For F.R.L. units precautions, refer to the “Handling Precautions for SMC Products” and the “Operation Manual” on the SMC website: <https://www.smc.eu>

Design / Selection

⚠ Warning

1. Residual pressure disposal (outlet pressure removal) is not possible for the AR20-D to AR60-D even though the inlet pressure is exhausted. When the residual pressure disposal is performed, use the regulator with a backflow function (AR20K-D to AR60K-D).

⚠ Caution

1. When operating at an inlet pressure lower than the inlet pressure used in the flow rate characteristics graph, the pressure drop on the outlet side may be greater. Therefore, be sure to conduct testing using the actual equipment.
For pressure control equipment selection, refer to the “Product Selection Guide.”

Maintenance

⚠ Warning

1. When using the regulator with backflow function between a solenoid valve and an actuator, check the pressure gauge periodically. Sudden pressure fluctuations may shorten the durability of the pressure gauge. A digital pressure gauge is recommended for such situation or as deemed necessary.

Mounting / Adjustment

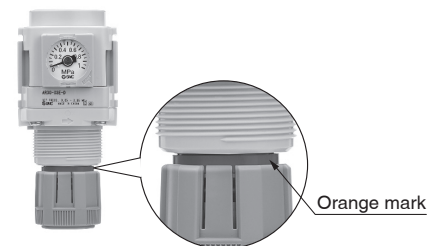
⚠ Warning

1. Set the regulator while verifying the displayed values of the inlet and outlet pressure gauges. Turning the regulator knob excessively can cause damage to the internal parts.
2. Do not use tools on the pressure regulator knob as this may cause damage. It must be operated manually.
3. **Before replacing or changing the mounting direction of the pressure gauge, or changing the direction of the scale plate, be sure to release the inlet and outlet pressure completely.**

It is dangerous to replace or change the mounting direction of the pressure gauge, or change the direction of the scale plate, while it is under pressure.

⚠ Caution

1. Be sure to unlock the knob before adjusting the pressure and lock it after setting the pressure. Failure to follow this procedure can cause damage to the knob and the outlet pressure may fluctuate.
 - Pull the pressure regulator knob to unlock. (You can visually verify this with the “orange mark” that appears in the gap.)
 - Push the pressure regulator knob to lock. When the knob is not easily locked, turn it left and right a little and then push it (when the knob is locked, the “orange mark”, i.e., the gap will disappear).



Piping

⚠ Warning

1. To screw the pressure gauge and piping materials into the pressure gauge port on the product, tighten to the recommended torque (3 to 5 N·m) while securely holding the AR(K)-D in place. Additionally, when mounting a One-touch fitting to the pressure gauge port, refer to the Fittings and Tubing Precautions.