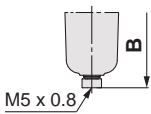
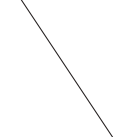
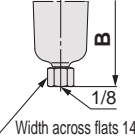
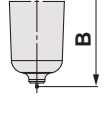
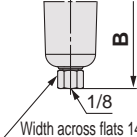
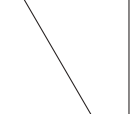
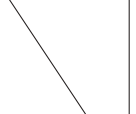
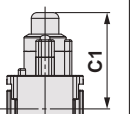
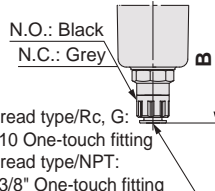
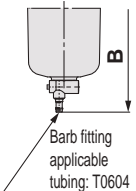
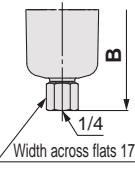
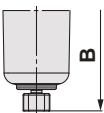
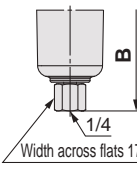
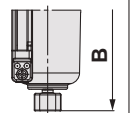
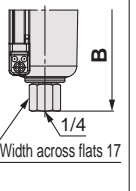
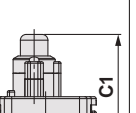


Air Filter **AF20-D to AF60-D Series**

Applicable model	Optional specifications	Semi-standard						With element service indicator
	With auto drain	PC/PA bowl		Metal bowl		Metal bowl with level gauge		
		Drain cock with barb fitting	With drain guide	With drain cock	With drain guide	With drain cock	With drain guide	
AF20-D								
AF30-D to AF60-D								

Model	Standard specifications																Optional specifications		
																	Bracket mount		With auto drain
	P	A	B	C	D	E	G	J	M	N	Q	R	S	T	U	V	B		
AF20-D	1/8, 1/4	40	87.6	17.5	21	—	25	21	30	27	22	5.4	8.4	60	2.3	28	104.9		
AF30-D	1/4, 3/8	53	115.4	21.5	26.5	30	35	26.5	41	35	25	6.5	13	71	2.3	32	157.1		
AF40-D	1/4, 3/8, 1/2	70	147.1	25.5	35.5	38.4	40	35.5	50	52	30	8.5	12.5	88	2.3	39	186.9		
AF40-06-D	3/4	75	149.1	27	35.5	38.4	40	35.5	50	52	34	8.5	12.5	88	2.3	43	188.9		
AF50-D	3/4, 1	90	220.1	32	45	—	30	45	70	66	40.5	11	13	113	3.2	52.5	259.9		
AF60-D	1	95	234.1	32	45	—	30	45	70	66	40.5	11	13	113	3.2	52.5	273.9		

Model	Semi-standard specifications							
	PC/PA bowl		Metal bowl		Metal bowl with level gauge		With element service indicator	
	With barb fitting	With drain guide	With drain cock	With drain guide	With drain cock	With drain guide		
	B	B	B	B	B	B	A	C1
AF20-D	—	91.4	87.4	93.9	—	—	40	50.6
AF30-D	123.9	122.2	117.8	122.3	137.8	142.3	53	54.3
AF40-D	155.6	153.9	149.5	154	169.5	174	70	58.3
AF40-06-D	157.6	155.9	151.5	156	171.5	176	—	—
AF50-D	228.6	226.9	222.5	227	242.5	247	90	64.3
AF60-D	242.6	240.9	236.5	241	256.5	261	90*1	64.3

*1 For the type with an element service indicator, the A dimension differs from that of the standard specification.

Air Filter/AF20-D to AF60-D

Made to Order

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



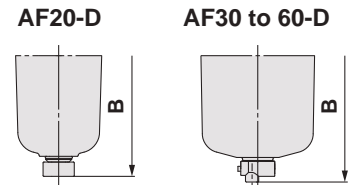
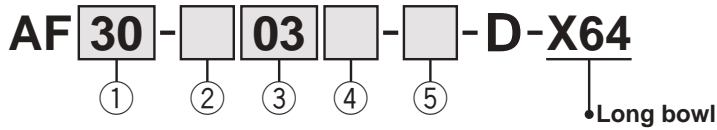
① Long Bowl

Drain capacity is greater than that of standard models.

Applicable Models/Drain Capacity

Model	AF20-D	AF30-D	AF40-D	AF40-06-D	AF50-D	AF60-D
Port size	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1	1
Drain capacity [cm ³]	19	43	88			
B dimension [mm]*1	108.1	137.4	167.2	169.2	240.2	254.2

*1 For polycarbonate bowls. Please contact SMC for other bowl materials.



Semi-standard Symbol Selection

- Select one each for **a** to **d**.
- When more than one specification is required, indicate in alphanumeric order.
- Example) AF30-F03B-2JR-D-X64

	Symbol	Description	① Body size						
			20	30	40	50	60		
② Pipe thread type	—	Rc	●	●	●	●	●		
	N	NPT	●	●	●	●	●		
	F	G	●	●	●	●	●		
+									
③ Port size	01	1/8	●	—	—	—	—		
	02	1/4	●	●	●	—	—		
	03	3/8	—	●	●	—	—		
	04	1/2	—	—	●	—	—		
	06	3/4	—	—	●	●	—		
	10	1	—	—	—	●	●		
+									
④ Option (Mounting)	—	Without mounting option	●	●	●	●	●		
	B*1	With bracket	●	●	●	●	●		
+									
⑤ Semi-standard	a	Bowl*2	—	Polycarbonate bowl	●	●	●	●	●
			2	Metal bowl	●	●	●	●	●
			6	Nylon bowl	●	●	●	●	●
			C	With bowl guard	●	—*3	—*3	—*3	—*3
			6C	With bowl guard (Nylon bowl)	●	—*4	—*4	—*4	—*4
+									
b	Drain port	—	With drain cock	●	●	●	●	●	
		J*5	Drain guide 1/8	●	—	—	—	—	
		W*6	Drain cock with barb fitting	—	●	●	●	●	
+									
c	Flow direction	—	Flow direction: Left to right	●	●	●	●	●	
		R	Flow direction: Right to left	●	●	●	●	●	
+									
d	Unit	—	Unit on product label: MPa, °C	●	●	●	●	●	
		Z*7	Unit on product label: psi, °F	○*8	○*8	○*8	○*8	○*8	

*1 Option B is included in the package with the product but does not come assembled. The assembly consists of 2 types of the bracket and 2 mounting screws.

*2 Refer to chemical data on page 83 for chemical resistance of the bowl.

*3 A bowl guard is provided as standard equipment (polycarbonate).

*4 A bowl guard is provided as standard equipment (nylon).

*5 Without a valve function. The mounting screws are the same as the thread of ②.

*6 The combination of metal bowl 2 is not available.

*7 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.)

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

Air Filter/*AF20-D to AF60-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

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



AF-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

- The bowl material of the standard air filter is polycarbonate. Do not use in an environment where they are exposed to or come in contact with organic solvents, chemicals, cutting oil, synthetic oil, alkali, and thread lock solutions.

Chemical resistance of polycarbonate or nylon bowl

Type	Chemical name	Application examples	Material	
			Polycarbonate	Nylon
Acid	Hydrochloric acid Sulfuric acid Phosphoric acid Chromic acid	Acid washing liquid for metals	△	×
Alkaline	Sodium hydroxide (Caustic soda) Potash Calcium hydroxide (Slack lime) Ammonia water Sodium carbonate	Degreasing of metals Industrial salts Water-soluble cutting oil	×	○
Inorganic salts	Sodium sulfide Potassium nitrate Sodium sulfate	—	×	△
Chlorine solvents	Carbon tetrachloride Chloroform Ethylene chloride Methylene chloride	Cleansing liquid for metals Printing ink Dilution	×	△
Aromatic series	Benzene Toluene Paint thinner	Coatings Dry cleaning	×	△
Ketone	Acetone Methyl ethyl ketone Cyclohexane	Photographic film Dry cleaning Textile industries	×	×
Alcohol	Ethyl alcohol IPA Methyl alcohol	Antifreeze Adhesives	△	×
Oil	Gasoline Kerosene	—	×	○
Ester	Phthalic acid dimethyl Phthalic acid diethyl Acetic acid	Synthetic oil Anti-rust additives	×	○
Ether	Methyl ether Ethyl ether	Brake oil additives	×	○
Amino	Methyl amino	Cutting oil Brake oil additives Rubber accelerator	×	c
Others	Thread-lock fluid Seawater Leak tester	—	×	△

○: Essentially safe △: Some effects may occur. ×: Effects will occur.

- * When the above factors are present, or there is some doubt, use a metal bowl for safety.
- * The display window material for the semi-standard type with an element service indicator is nylon.

Maintenance

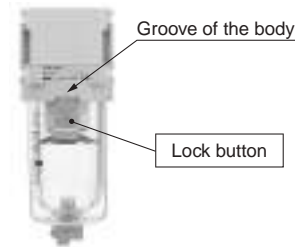
Warning

- Replace the element every 2 years or when the pressure drop becomes 0.1 MPa, whichever comes first, to prevent damage to the element.

Mounting / Adjustment

Caution

- When the bowl is installed on the air filter (AF30-D to AF60-D), install them so that the lock button lines up to the groove of the front (or the back) of the body to avoid drop or damage of the bowl.





Handling

Caution

- The element service indicator (Semi-standard: L) is used to check the pressure differential between the IN and OUT sides. When operating at a flow rate with a pressure differential exceeding 0.025 MPa, the element service indicator may operate even when the element is in its initial state.
- For models with an element service indicator, adjust the flow rate in the direction that increases the flow rate. If the designated flow rate is exceeded, reset the flow rate to zero and readjust it until the designated flow rate is reached.
- For models with an element service indicator, as the element becomes more clogged, the indicator will display an increasing level of red. Be sure to replace the element before the level of red reaches the top of the indicator.

Modular Type Mist Separator/Micro Mist Separator **AFM/AFD Series**

Mist Separator AFM Series	Model	Port size	Filtration [μm]	Options
 p. 85 to 91	AFM20-D	1/8, 1/4	0.3	Bracket Float type auto drain
	AFM30-D	1/4, 3/8		
	AFM40-D	1/4, 3/8, 1/2		
	AFM40-06-D	3/4		
 p. 85 to 91	AFD20-D	1/8, 1/4	0.01	Bracket Float type auto drain
	AFD30-D	1/4, 3/8		
	AFD40-D	1/4, 3/8, 1/2		
	AFD40-06-D	3/4		

Mist Separator

AFM20-D to AFM40-D

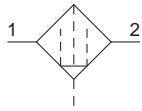
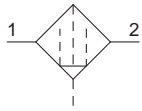
Micro Mist Separator

AFD20-D to AFD40-D

Symbol

Mist Separator

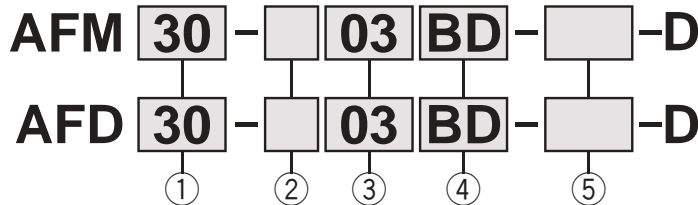
Micro Mist Separator



AFM30-D

AFD30-D

How to Order



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) AFM30-F03BD-2LR-D

	Symbol	Description	① Body size			
			20	30	40	
② Pipe thread type	—	Rc	●	●	●	
	N	NPT	●	●	●	
	F	G	●	●	●	
+						
③ Port size	01	1/8	●	—	—	
	02	1/4	●	●	●	
	03	3/8	—	●	●	
	04	1/2	—	—	●	
	06	3/4	—	—	●	
+						
④ Option	a Mounting	—	Without mounting option	●	●	●
		B*1	With bracket	●	●	●
	+					
	b Float type auto drain*2	—	Without auto drain	●	●	●
C*3		N.C. (Normally closed) Drain port is closed when pressure is not applied.	●	●	●	
D*4		N.O. (Normally open) Drain port is open when pressure is not applied.	—	●	●	
+						
⑤ Semi-standard	c Bowl*5	—	Polycarbonate bowl	●	●	●
		2	Metal bowl	●	●	●
		6	Nylon bowl	●	●	●
		8	Metal bowl with level gauge	—	●	●
		C	With bowl guard	●	—*6	—*6
		6C	With bowl guard (Nylon bowl)	●	—*7	—*7
	+					
	d Indicator	—	Without indicator	●	●	●
		L	With element service indicator*14	●	●	●*12
	+					
e Drain port*8	—	With drain cock	●	●	●	
	J*9	Drain guide 1/8	●	—	—	
	J*9	Drain guide 1/4	—	●	●	
	W*10	Drain cock with barb fitting	—	●	●	
+						
f Flow direction	—	Flow direction: Left to right	●	●	●	
	R	Flow direction: Right to left	●	●	●	
+						
g Unit	—	Unit on product label: MPa, °C	●	●	●	
	Z*11	Unit on product label: psi, °F	○*13	○*13	○*13	

*1 Option B is included in the package with the product but does not come assembled. The assembly consists of 2 types of the bracket and 2 mounting screws.
 *2 The auto drain port is Ø 10 One-touch fitting (② Pipe thread type: Rc, G) or Ø 3/8" One-touch fitting (② Pipe thread type: NPT)
 *3 When pressure is not applied, condensate which does not start the auto drain mechanism will be left in the bowl. Releasing the residual condensate before ending operations for the day is recommended.
 *4 If the compressor is small (0.75 kW, discharge flow is less than 100 l/min (ANR)), air leakage from the drain cock may occur during the start of operations. N.C. type is recommended.
 *5 Refer to chemical data on page 91 for chemical resistance of the bowl.
 *6 A bowl guard is provided as standard equipment (polycarbonate).
 *7 A bowl guard is provided as standard equipment (nylon).
 *8 The combination of float type auto drain C and D is not available.
 *9 Without a valve function. The mounting screws are the same as the thread of ②.
 *10 The combination of metal bowl 2 and 8 is not available.
 *11 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.)
 *12 Excludes port size "06"
 *13 ○: For the pipe thread type: NPT only
 *14 A special body type is required to mount the element service indicator. It cannot be mounted on a standard body.

Mist Separator **AFM20-D to AFM40-D Series**

Micro Mist Separator **AFD20-D to AFD40-D Series**

Standard Specifications

Model	AFM20-D/AFD20-D	AFM30-D/AFD30-D	AFM40-D/AFD40-D	AFM40-06-D/AFD40-06-D
Port size	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4
Fluid	Air			
Ambient and fluid temperatures	-5 to 60 °C (No freezing)			
Proof pressure	1.5 MPa			
Max. operating pressure	1.0 MPa			
Min. operating pressure	0.05 MPa			
Auto drain minimum operating pressure	N.C. 0.1 MPa		0.15 MPa	
	N.O. —		0.1 MPa	
Max. flow capacity*1	[AFM]	200 l/min (ANR)	450 l/min (ANR)	1100 l/min (ANR)
	[AFD]	120 l/min (ANR)	240 l/min (ANR)	600 l/min (ANR)
Nominal filtration rating*2	[AFM]	0.3 μm (Filtration efficiency 99.9 %)		
	[AFD]	0.01 μm (Filtration efficiency 99.9 %)		
Outlet side oil mist concentration*3, *4	[AFM]	Max. 1.0 mg/m ³ (= 0.8 ppm)		
	[AFD]	Max. 0.1 mg/m ³ (Before saturated with oil 0.01 mg/m ³ or less = 0.008 ppm)		
Compressed air purity class*5	[AFM]	ISO 8573-1:2010 [3 : 7 : 3]*6		
	[AFD]	ISO 8573-1:2010 [1 : 7 : 2]*7		
Drain capacity	8 cm ³	25 cm ³	45 cm ³	
Bowl material	Polycarbonate			
Bowl guard	Semi-standard (Steel)		Standard (Polycarbonate)	
Weight	0.10 kg	0.18 kg	0.37 kg	0.40 kg

- *1 Inlet pressure: 0.7 MPa. Flow at 20 °C, atmospheric pressure, and 65 % of the relative humidity. The maximum flow capacity varies depending on the inlet pressure. Keep the air flow within the maximum flow capacity to prevent an outflow of lubricant to the outlet side.
- *2 For the following conditions in accordance with [Test condition: ISO 8573-4:2001, Test method ISO 12500-3:2009 compliant] in addition to the conditions above. Conditions: When a new element is used, and the flow capacity, inlet pressure, and the amount of solid bodies on the filter inlet side are stable.
- *3 The outlet side oil mist concentration for the following conditions in accordance with [Test condition:

- ISO 8573-2:2007, Test method ISO 12500-1:2007 compliant] in addition to the conditions above. Conditions: When a new element is used, the oil mist concentration on the filter inlet side is 10 mg/m³, and the flow capacity, inlet pressure, and the oil mist concentration on the filter inlet side are stable.
- *4 The bowl seal and other O-rings are slightly lubricated.
- *5 The compressed air purity class is indicated based on ISO 8573-1:2010 Compressed air – Part 1: Contaminants and purity classes. For details on this standard, refer to page 131.
- *6 The compressed air quality class on the inlet side is [6 : 8 : 4].
- *7 The compressed air quality class on the inlet side is [3 : 7 : 3].

Bowl Assembly/Part Nos.

Bowl material	Drain discharge mechanism	Drain port	Other	Model			
				AFM20-D/AFD20-D	AFM30-D/AFD30-D	AFM40-D/AFD40-D	AFM40-06-D/AFD40-06-D
Polycarbonate	Manual	With drain cock	—	C2SF-D	—	—	—
		With bowl guard	—	C2SF-C-D	C3SF-D	—	C4SF-D
		Drain cock with barb fitting	With bowl guard	—	C3SF-W-D	—	C4SF-W-D
		With drain guide (without valve function)	With bowl guard	C2SF□-J-D	—	—	—
	Automatic*1 (Auto drain)	Normally closed (N.C.)	—	AD27-D	—	—	—
		Normally open (N.O.)	With bowl guard	AD27-C-D	AD37□-D	—	AD47□-D
Nylon	Manual	With drain cock	—	C2SF-6-A	—	—	—
		With bowl guard	—	C2SF-6C-A	C3SF-6-A	—	C4SF-6-A
		Drain cock with barb fitting	With bowl guard	—	C3SF-6W-A	—	C4SF-6W-A
		With drain guide (without valve function)	With bowl guard	C2SF□-6J-A	—	—	—
	Automatic*1 (Auto drain)	Normally closed (N.C.)	—	AD27-6-A	—	—	—
		Normally open (N.O.)	With bowl guard	AD27-6C-A	AD37□-6-A	—	AD47□-6-A
Metal	Manual	With drain cock	—	C2SF-2-A	C3SF-2-A	—	C4SF-2-A
		With level gauge	—	—	C3LF-8-A	—	C4LF-8-A
		With drain guide (without valve function)	With level gauge	C2SF□-2J-A	C3SF□-2J-A	—	C4SF□-2J-A
		With level gauge	—	C3LF□-8J-A	—	C4LF□-8J-A	
	Automatic*1 (Auto drain)	Normally closed (N.C.)	—	AD27-2-A	AD37□-2-A	—	AD47□-2-A
		Normally open (N.O.)	With level gauge	—	AD37□-8-A	—	AD47□-8-A
		With level gauge	—	AD38□-2-A	—	AD48□-2-A	
		With level gauge	—	AD38□-8-A	—	AD48□-8-A	

- *1 The bowl assembly comes with a bowl seal. □ in bowl assembly part numbers indicates a pipe thread type (applicable tubing for auto drain). No indication is necessary for Rc thread; however, indicate N for NPT thread, and F for G thread. (For auto drain, —: Ø 10, N: Ø 3/8") Please contact SMC separately for psi and °F unit display specifications.

Option/Part Nos.

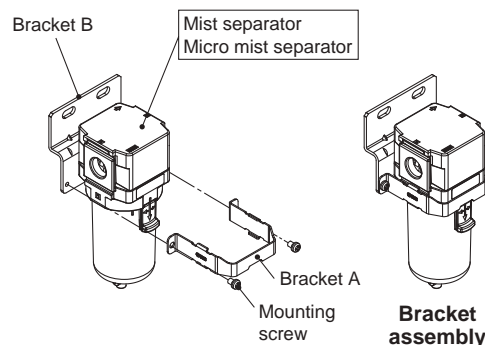
Optional specifications	Model			
	AFM20-D AFD20-D	AFM30-D AFD30-D	AFM40-D AFD40-D	AFM40-06-D AFD40-06-D
Bracket assembly*1	AF24P-070AS	AF34P-070AS	AF44P-070AS	AF49P-070AS
Auto drain	Refer to "Bowl Assembly/Part Nos."			

- *1 The assembly consists of a bracket A/B and 2 mounting screws.

Replacement Parts

Description	Part no.			
	AFM20-D AFD20-D	AFM30-D AFD30-D	AFM40-D AFD40-D	AFM40-06-D AFD40-06-D
Element assembly	AFM20P-060AS	AFM30P-060AS	AFM40P-060AS	
	AFD20P-060AS	AFD30P-060AS	AFD40P-060AS	
Bowl seal	C2SFP-260S	C32FP-260S	C42FP-260S	
Bowl assembly*1, *2	Refer to "Bowl Assembly/Part Nos."			

- *1 The bowl assembly comes with a bowl seal.
*2 Please contact SMC separately for psi and °F unit display specifications.



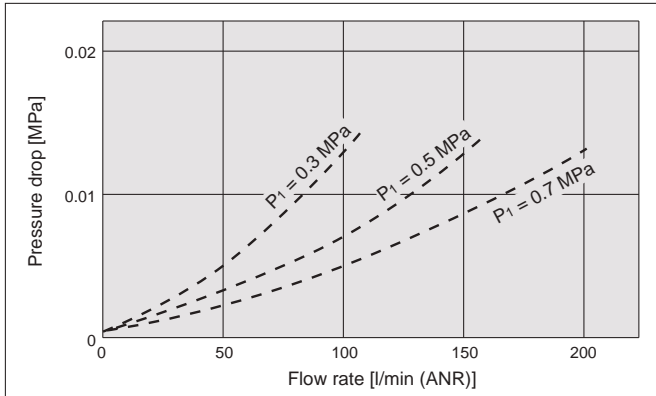
AFM20-D to AFM40-D Series

AFD20-D to AFD40-D Series

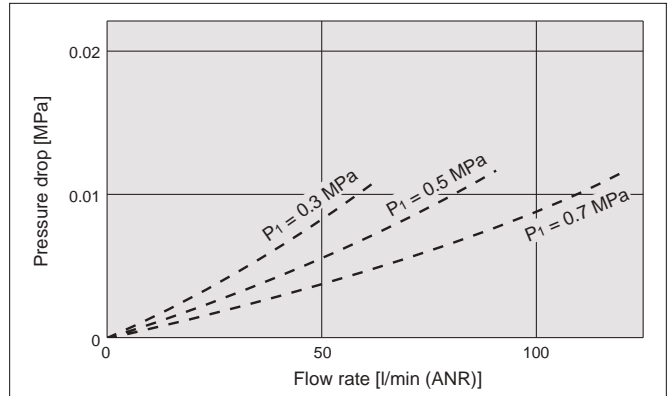
Flow Rate Characteristics (Representative values)

--- Initial state

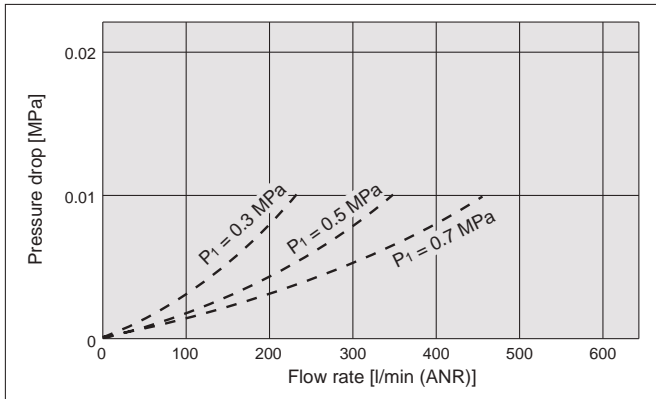
AFM20-D



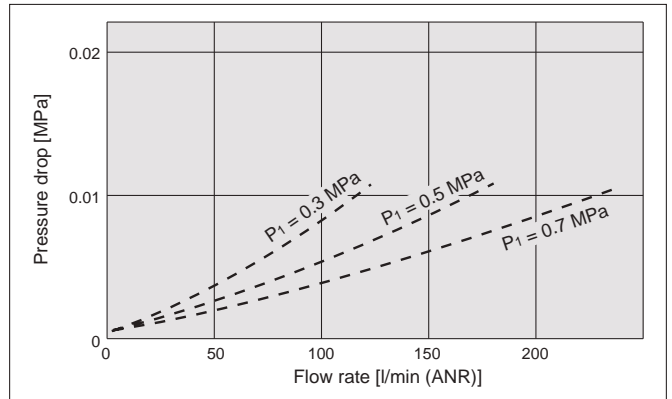
AFD20-D



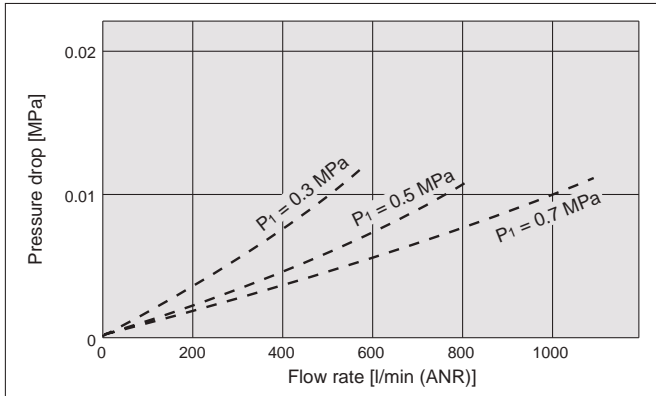
AFM30-D



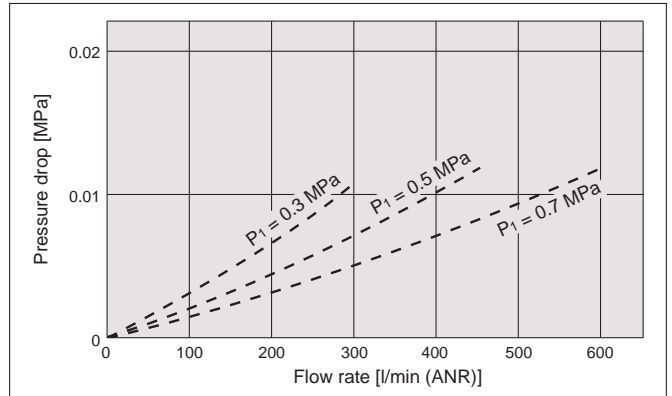
AFD30-D



AFM40-D



AFD40-D

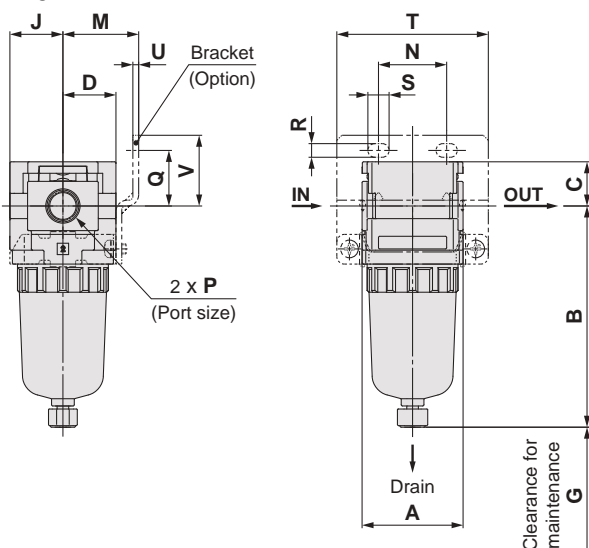


Mist Separator **AFM20-D to AFM40-D Series**

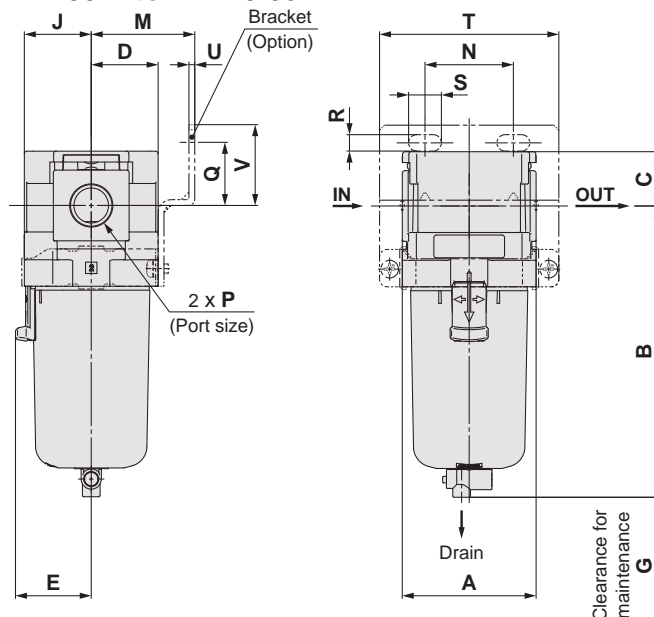
Micro Mist Separator **AFD20-D to AFD40-D Series**

Dimensions

AFM20-D
AFD20-D



AFM30-D to AFM40-06-D
AFD30-D to AFD40-06-D



Applicable model	Optional specifications		Semi-standard					
	With auto drain	PC/PA bowl		Metal bowl		Metal bowl with level gauge		With element service indicator
		Drain cock with barb fitting	With drain guide	With drain cock	With drain guide	With drain cock	With drain guide	
AFM20-D AFD20-D								
AFM30-D to AFM40-06-D AFD30-D to AFD40-06-D	N.O.: Black N.C.: Grey Thread type/Rc, G: Ø 10 One-touch fitting Thread type/NPT: Ø 3/8" One-touch fitting							

Model	Standard specifications																Optional specifications		
																	Bracket mount		With auto drain
	P	A	B	C	D	E	G	J	M	N	Q	R	S	T	U	V	B		
AFM20-D/AFD20-D	1/8, 1/4	40	87.6	17.5	21	—	45	21	30	27	22	5.4	8.4	60	2.3	28	104.9		
AFM30-D/AFD30-D	1/4, 3/8	53	115.4	21.5	26.5	30	50	26.5	41	35	25	6.5	13	71	2.3	32	157.1		
AFM40-D/AFD40-D	1/4, 3/8, 1/2	70	147.1	25.5	35.5	38.4	75	35.5	50	52	30	8.5	12.5	88	2.3	39	186.9		
AFM40-06-D/AFD40-06-D	3/4	75	149.1	27	35.5	38.4	75	35.5	50	52	34	8.5	12.5	88	2.3	43	188.9		

Model	Semi-standard specifications						
	PC/PA bowl		Metal bowl		Metal bowl with level gauge		With element service indicator
	With barb fitting	With drain guide	With drain cock	With drain guide	With drain cock	With drain guide	
	B	B	B	B	B	B	
AFM20-D/AFD20-D	—	91.4	87.4	93.9	—	—	50.6
AFM30-D/AFD30-D	123.9	122.2	117.8	122.3	137.8	142.3	54.3
AFM40-D/AFD40-D	155.6	153.9	149.5	154	169.5	174	58.3
AFM40-06-D/AFD40-06-D	157.6	155.9	151.5	156	171.5	176	—

Mist Separator/AFM20-D to AFM40-06-D Micro Mist Separator/AFD20-D to AFD40-06-D Made to Order

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



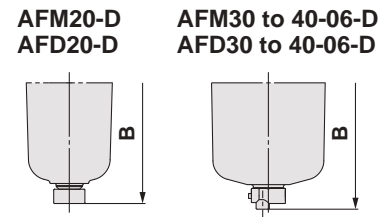
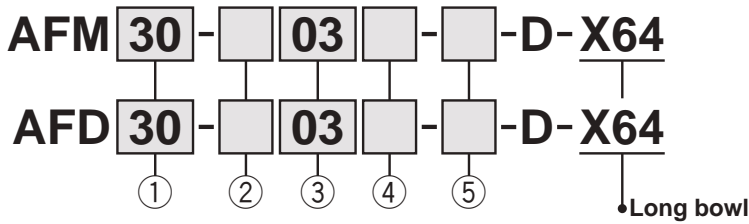
① Long Bowl

Drain capacity is greater than that of standard models.

Applicable Models/Drain Capacity

Model	AFM20-D/AFD20-D	AFM30-D/AFD30-D	AFM40-D/AFD40-D	AFM40-06-D/AFD40-06-D
Port size	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4
Drain capacity [cm ³]	19	43	88	
B dimension [mm] ^{*1}	108.1	137.4	167.2	169.2

*1 For polycarbonate bowls. Please contact SMC for other bowl materials.



Semi-standard Symbol Selection

- Select one each for a to d.
 - When more than one specification is required, indicate in alphanumeric order.
- Example) AFM30-F03B-2JR-D-X64

		Symbol	Description	① Body size			
				20	30	40	
②	Pipe thread type	—	Rc	●	●	●	
		N	NPT	●	●	●	
		F	G	●	●	●	
		+					
③	Port size	01	1/8	●	—	—	
		02	1/4	●	●	●	
		03	3/8	—	●	●	
		04	1/2	—	—	●	
		06	3/4	—	—	●	
		+					
④	Option (Mounting)	—	Without mounting option	●	●	●	
		B ^{*1}	With bracket	●	●	●	
		+					
⑤	a	Bowl ^{*2}	—	Polycarbonate bowl	●	●	●
			2	Metal bowl	●	●	●
			6	Nylon bowl	●	●	●
			C	With bowl guard	●	— ^{*3}	— ^{*3}
			6C	With bowl guard (Nylon bowl)	●	— ^{*4}	— ^{*4}
			+				
	b	Drain port	—	With drain cock	●	●	●
			J ^{*5}	Drain guide 1/8	●	—	—
			W ^{*6}	Drain cock with barb fitting	—	●	●
			+				
	c	Flow direction	—	Flow direction: Left to right	●	●	●
			R	Flow direction: Right to left	●	●	●
		+					
d	Unit	—	Unit on product label: MPa, °C	●	●	●	
		Z ^{*7}	Unit on product label: psi, °F	○ ^{*8}	○ ^{*8}	○ ^{*8}	

*1 Option B is included in the package with the product but does not come assembled. The assembly consists of 2 types of the bracket and 2 mounting screws.

*2 Refer to chemical data on page 91 for chemical resistance of the bowl.

*3 A bowl guard is provided as standard equipment (polycarbonate).

*4 A bowl guard is provided as standard equipment (nylon).

*5 Without a valve function. The mounting screws are the same as the thread of ②.

*6 The combination of metal bowl 2 is not available.

*7 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.)

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

Mist Separator/*AFM20-D to AFM40-06-D* Micro Mist Separator/*AFD20-D to AFD40-06-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



10-AFM

10-AFD

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



AFM-D/AFD-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. The bowl material of the standard mist separator and micro mist separator is polycarbonate. Do not use in an environment where they are exposed to or come in contact with organic solvents, chemicals, cutting oil, synthetic oil, alkali, and thread lock solutions.

Chemical resistance of polycarbonate or nylon bowl

Type	Chemical name	Application examples	Material	
			Polycarbonate	Nylon
Acid	Hydrochloric acid Sulfuric acid Phosphoric acid Chromic acid	Acid washing liquid for metals	△	×
Alkaline	Sodium hydroxide (Caustic soda) Potash Calcium hydroxide (Slack lime) Ammonia water Sodium carbonate	Degreasing of metals Industrial salts Water-soluble cutting oil	×	○
Inorganic salts	Sodium sulfide Potassium nitrate Sodium sulfate	—	×	△
Chlorine solvents	Carbon tetrachloride Chloroform Ethylene chloride Methylene chloride	Cleansing liquid for metals Printing ink Dilution	×	△
Aromatic series	Benzene Toluene Paint thinner	Coatings Dry cleaning	×	△
Ketone	Acetone Methyl ethyl ketone Cyclohexane	Photographic film Dry cleaning Textile industries	×	×
Alcohol	Ethyl alcohol IPA Methyl alcohol	Antifreeze Adhesives	△	×
Oil	Gasoline Kerosene	—	×	○
Ester	Phthalic acid dimethyl Phthalic acid diethyl Acetic acid	Synthetic oil Anti-rust additives	×	○
Ether	Methyl ether Ethyl ether	Brake oil additives	×	○
Amino	Methyl amino	Cutting oil Brake oil additives Rubber accelerator	×	×
Others	Thread-lock fluid Seawater Leak tester	—	×	△

○: Essentially safe △: Some effects may occur. ×: Effects will occur.

* When the above factors are present, or there is some doubt, use a metal bowl for safety.

* The display window material for the semi-standard type with an element service indicator is nylon.

Air Supply

Caution

1. Install an air filter (AF series) as a pre-filter on the inlet side of the mist separator to prevent premature clogging.
2. Install a mist separator (AFM series) as a pre-filter on the inlet side of the micro mist separator to prevent premature clogging.
3. Do not install on the inlet side of the dryer as this can cause premature clogging of the element.

Maintenance

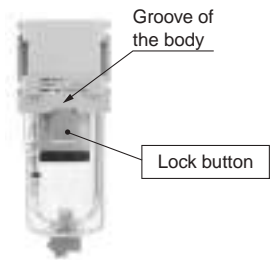
Warning

1. Replace the element every 2 years or when the pressure drop becomes 0.1 MPa, whichever comes first, to prevent damage to the element.

Mounting / Adjustment

Caution

1. When the bowl is installed on the mist separator (AFM30-D/AFM40-D), or micro mist separator (AFD30-D/AFD40-D), install them so that the lock button lines up to the groove of the front (or the back) of the body to avoid drop or damage of the bowl.



Design

Caution

1. Design the system so that the mist separator or micro mist separator is installed in a pulsation-free location. The difference between internal and external pressure inside the element should be kept within 0.1 MPa, as exceeding this value could cause damage.

Selection

Caution


1. Do not allow air flow that exceeds the rated flow. If the air flow is allowed outside the range of the rated flow even momentarily, drainage and lubricant may splash at the outlet side or cause damage to the component.
2. Do not use in a low pressure application (such as a blower). An F.R.L. unit has its own minimum operating pressure depending on the equipment and is designed specifically to function with compressed air. If used below the minimum operating pressure, a loss of performance and malfunction can occur. Please contact SMC if an application under such conditions cannot be avoided.

Handling

Caution

1. The element service indicator (Semi-standard: L) is used to check the pressure differential between the IN and OUT sides. When operating at a flow rate with a pressure differential exceeding 0.025 MPa, the element service indicator may operate even when the element is in its initial state.
2. For models with an element service indicator, adjust the flow rate in the direction that increases the flow rate. If the designated flow rate is exceeded, reset the flow rate to zero and readjust it until the designated flow rate is reached.
3. For models with an element service indicator, as the element becomes more clogged, the indicator will display an increasing level of red. Be sure to replace the element before the level of red reaches the top of the indicator.

Modular Type Regulator *AR Series*

Regulator AR Series	Model	Port size	Set pressure	Options
 <p data-bbox="142 1028 290 1061">p. 93 to 103</p>	AR20(K)-D	1/8, 1/4	0.05 to 0.85 MPa 0.02 to 0.2 MPa	Bracket Set nut (for panel mount) Square embedded type pressure gauge Right angle square type pressure gauge Digital pressure switch Round type pressure gauge
	AR30(K)-D	1/4, 3/8		Bracket Square embedded type pressure gauge Right angle square type pressure gauge
	AR40(K)-D	1/4, 3/8, 1/2		Digital pressure switch Round type pressure gauge
	AR40(K)-06-D	3/4		Bracket Square embedded type pressure gauge Digital pressure switch Round type pressure gauge
	AR50(K)-D	3/4, 1		
	AR60(K)-D	1		

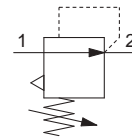
Regulator

AR20-D to AR60-D

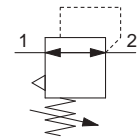
Regulator with Backflow Function

AR20K-D to AR60K-D

Symbol
Regulator

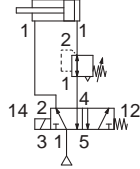


Regulator with Backflow Function

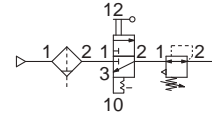


- Models with the backflow function include a mechanism which allows for the air pressure in the outlet side to be released to the inlet side.

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: Left to right	●	●	●	●	●		
		R	Flow direction: Right to left	●	●	●	●	●		
			+							
	f	—	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

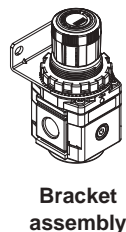
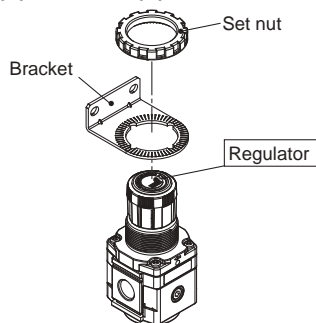
*5 The right angle square type pressure gauge only includes the pressure gauge body. The pressure gauge body comes with 1 O-ring and 2 mounting screws.

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.

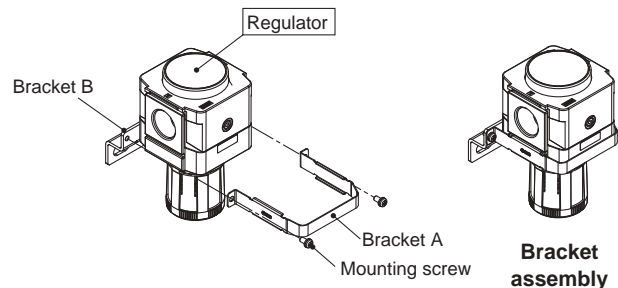
*6 In addition to the pressure switch body, lead wire with connector (2 m), adapter, lock pin, O-ring (1 pc.), mounting screws (2 pcs.) are attached.

[]: 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**

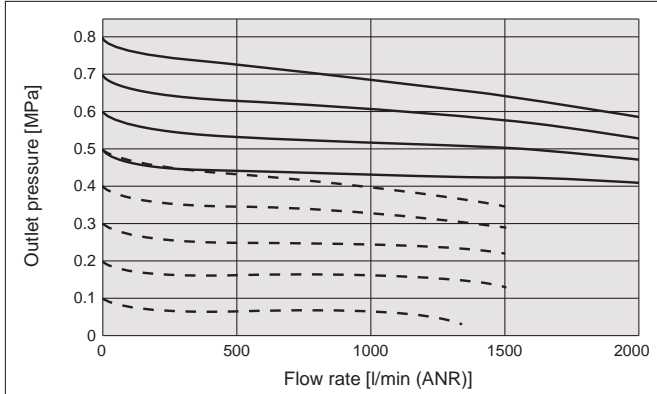
Regulator with Backflow Function **AR20K-D to AR60K-D Series**

Flow Rate Characteristics (Representative values)

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

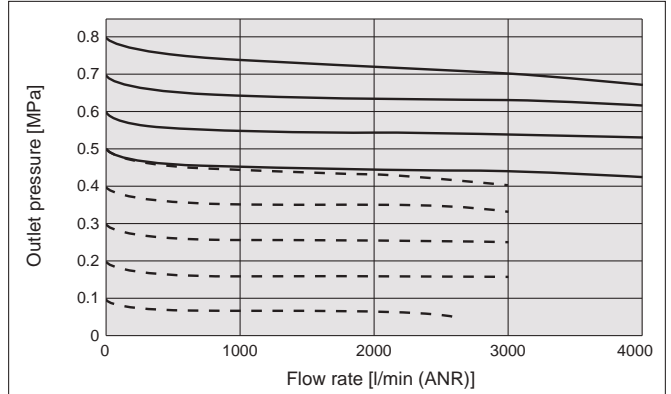
AR20(K)-D

Rc1/4



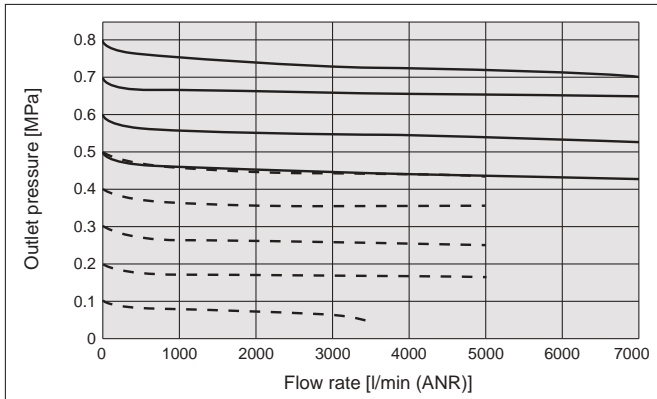
AR30(K)-D

Rc3/8



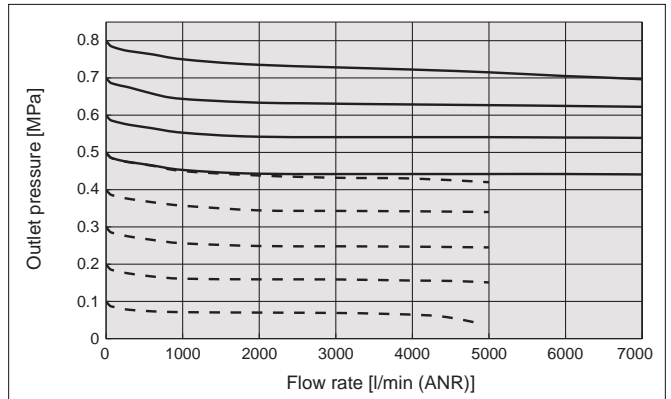
AR40(K)-D

Rc1/2



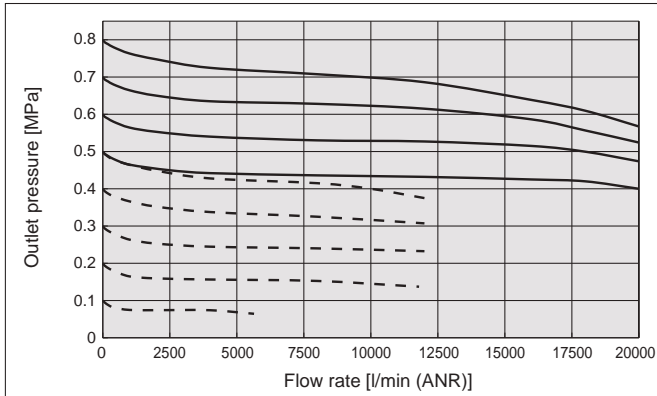
AR40(K)-06-D

Rc3/4



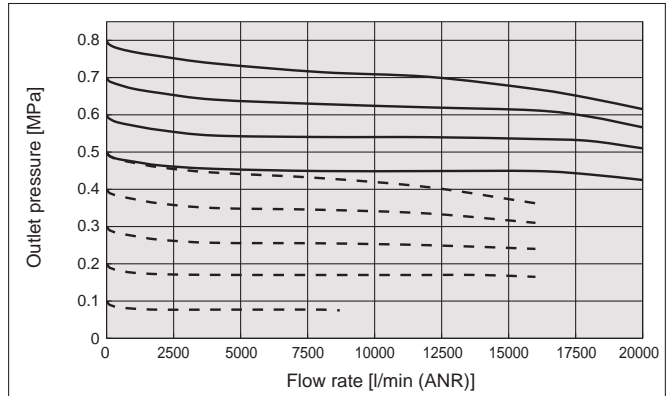
AR50(K)-D

Rc1



AR60(K)-D

Rc1



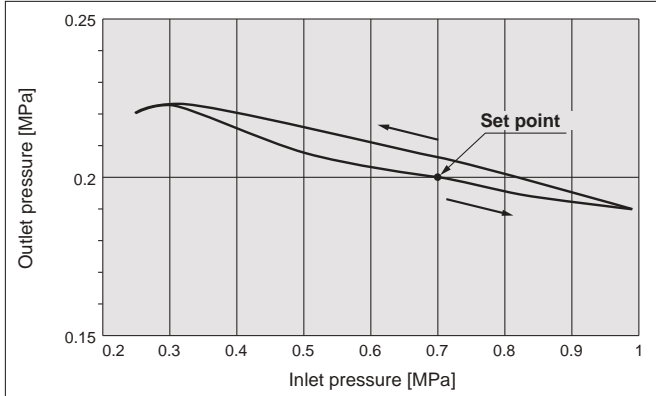
AR20-D to AR60-D Series

AR20K-D to AR60K-D Series

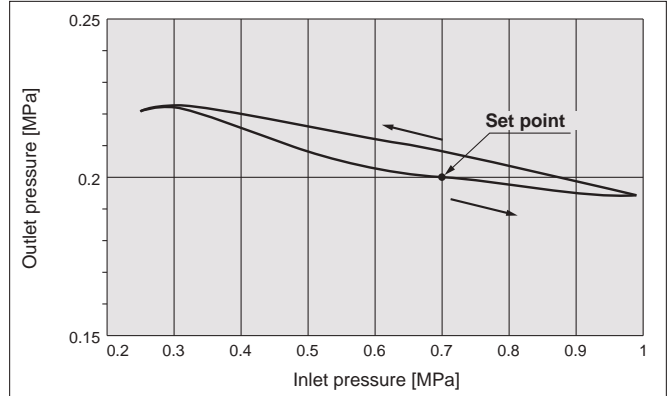
Pressure Characteristics (Representative values)

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

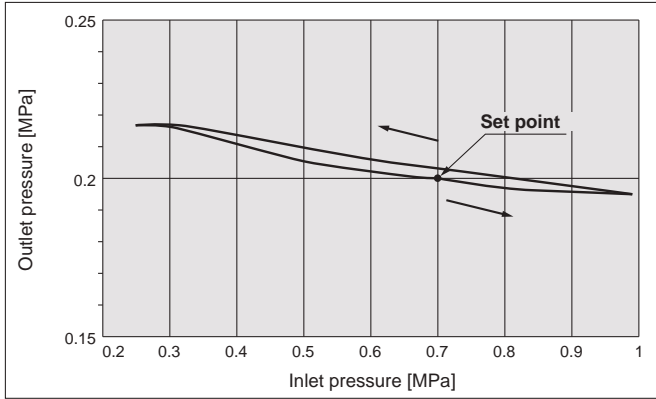
AR20(K)-D



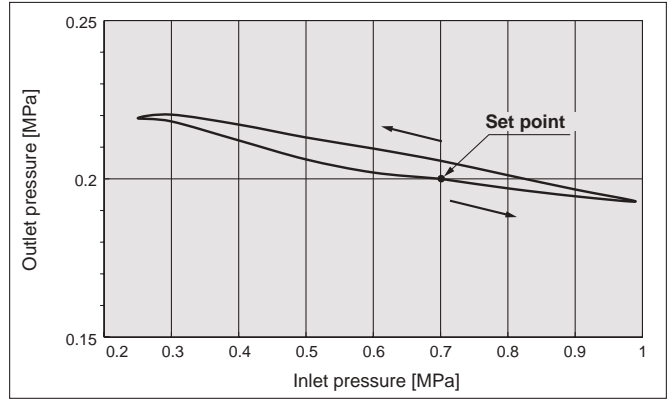
AR30(K)-D



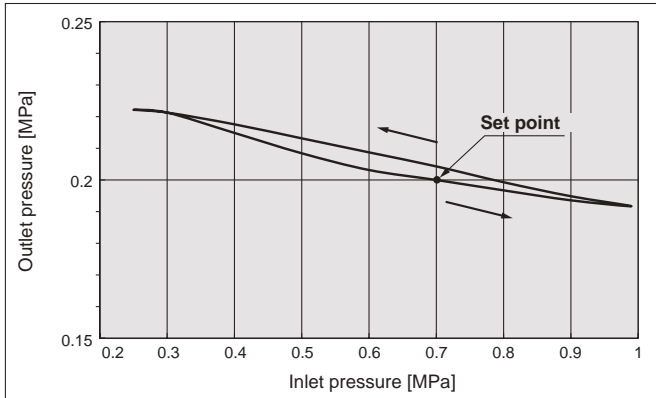
AR40(K)-D



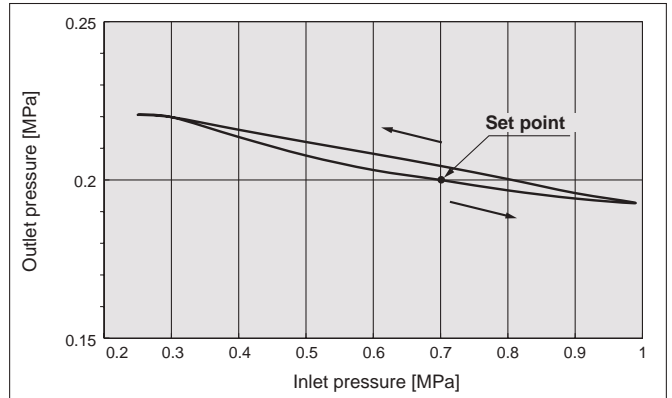
AR40(K)-06-D



AR50(K)-D



AR60(K)-D

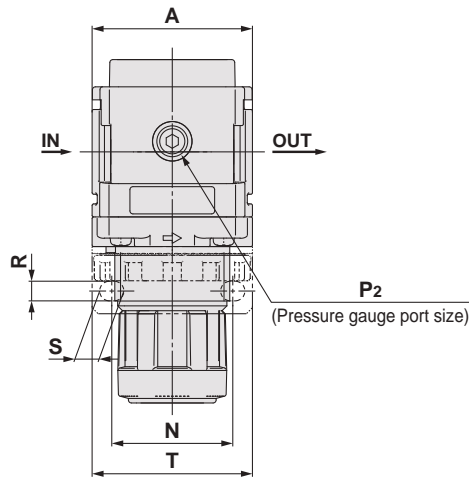
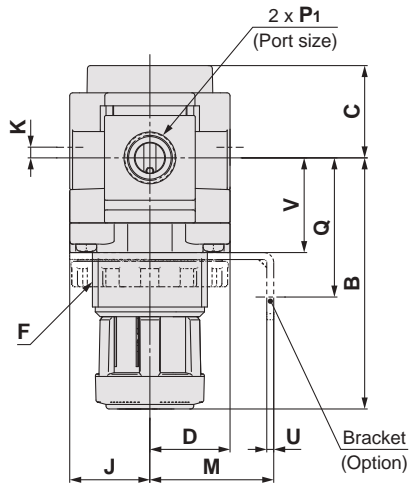


Regulator **AR20-D to AR60-D Series**

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

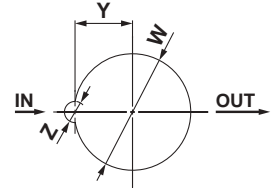
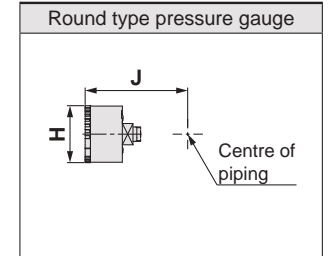
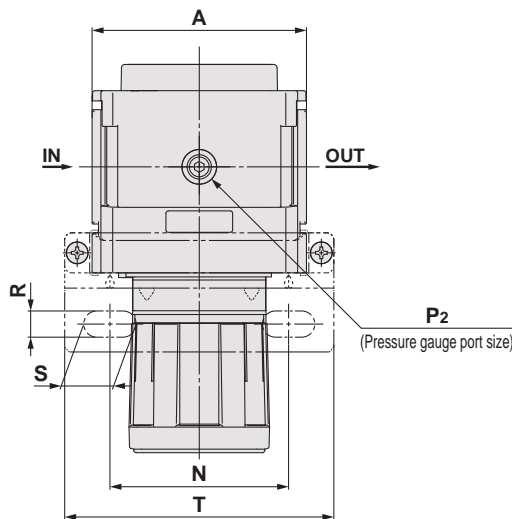
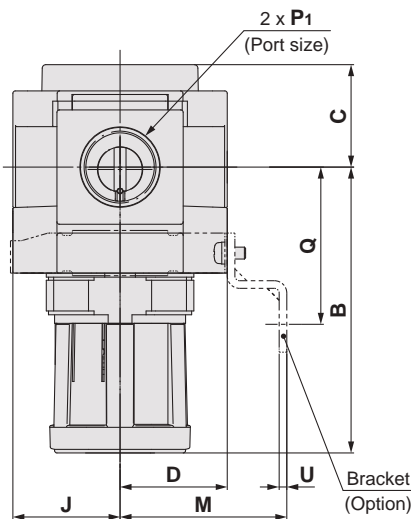


Plate thickness
AR20-D to AR30-D : Max. 3.5
AR40-D to AR40-06-D: Max. 5

AR50-D to AR60-D



Model	Standard specifications									Optional specifications					
	P ₁	P ₂	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 (with colour zone) H	Round type pressure gauge (with colour zone) J		
AR20-D	1/8, 1/4	1/8	40	66.8	26.5	21	M28 x 1	21	2	Ø 37.5	57.5	Ø 37.5	58.5	Ø 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	Ø 37.5	63	Ø 37.5	64	Ø 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	—	Ø 42.5	73	Ø 42.5	73	Ø 42.5	73
AR40-06-D	3/4	1/8	75	93	35.5	35.5	M42 x 1.5	35.5	—	Ø 42.5	73	Ø 42.5	73	Ø 42.5	73
AR50-D	3/4, 1	1/8	90	125	43	45	—	45	—	Ø 42.5	82.5	Ø 42.5	82.5	Ø 42.5	82.5
AR60-D	1	1/8	95	155	45	45	—	45	—	Ø 42.5	82.5	Ø 42.5	82.5	Ø 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.

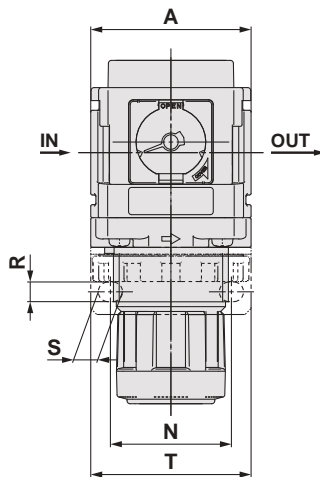
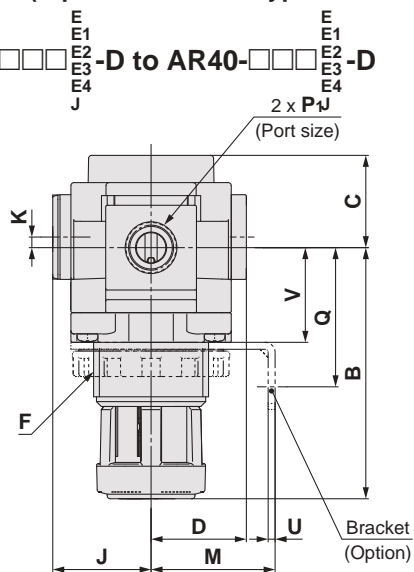
AR20-D to AR60-D Series

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

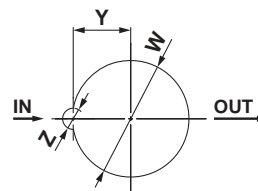
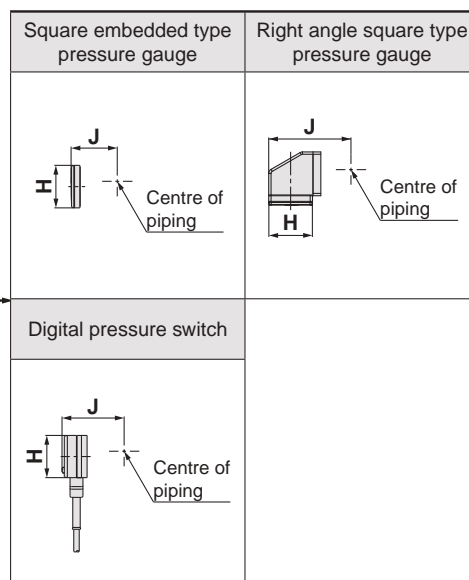
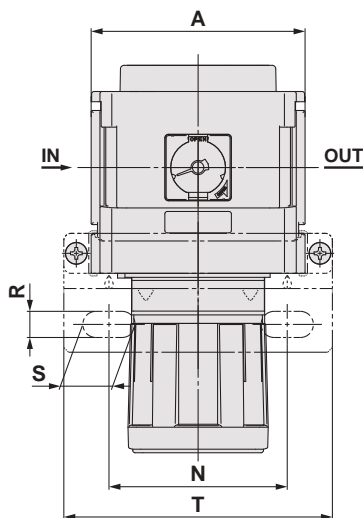
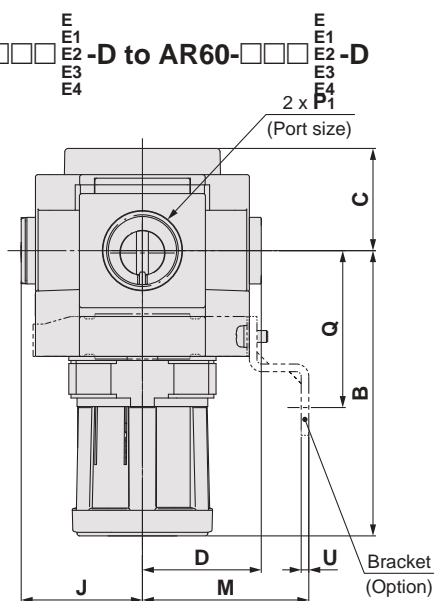


Plate thickness
 AR20-D to AR30-D : Max. 3.5
 AR40-D to AR40-06-D: Max. 5

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	—	—	—	—

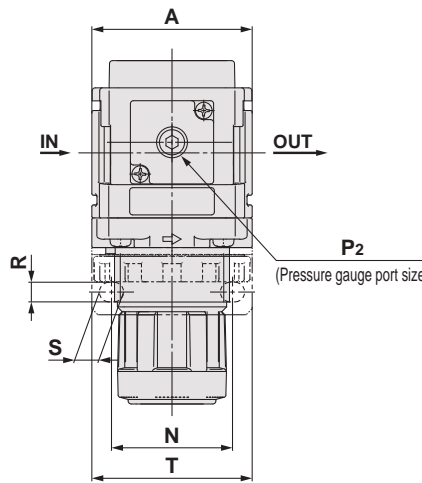
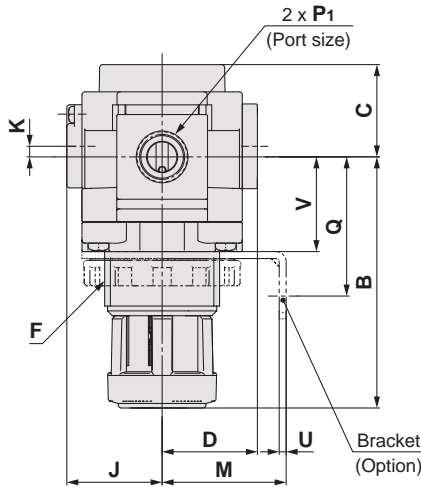
*1 The dimension of B is the length when the regulator knob is unlocked.

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

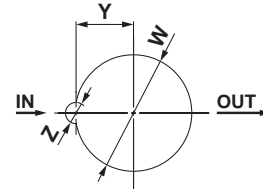
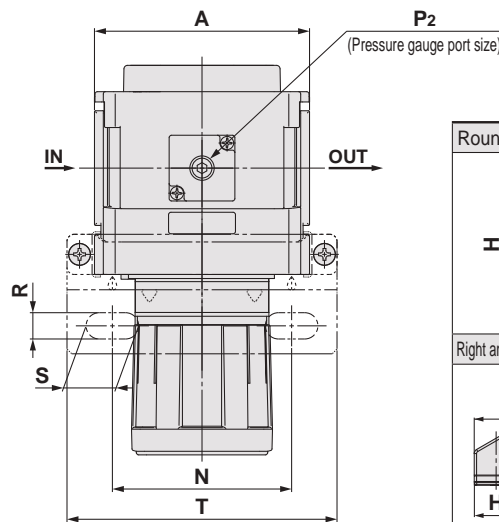
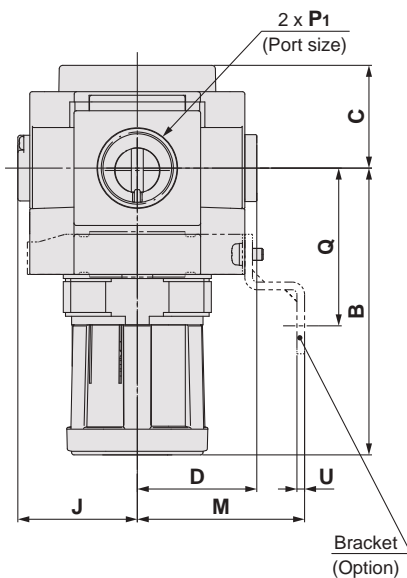


Plate thickness
 AR20K-D to AR30K-D : Max. 3.5
 AR40K-D to AR40K-06-D: Max. 5

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	Round type pressure gauge (Semi-standard: Z)	Round type pressure gauge (with colour zone)	H	J	H	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	∅ 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	∅ 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	∅ 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	∅ 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	∅ 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	∅ 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

AR **30** - **03** - **D** - **X406**

① ② ③ ④ ⑤ ⑥

① 0.4 MPa setting

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 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	—	—	—	●	●		
⑤ Option*2	a Mounting	—	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 Semi-standard	c Exhaust mechanism	—	Relieving type	●	●	●	●	●	
		N	Non-relieving type	●	●	●	●	●	
	d Flow direction	—	Flow direction: Left to right	●	●	●	●	●	
		R	Flow direction: Right to left	●	●	●	●	●	
	e Knob	—	Downward	●	●	●	●	●	
		Y	Upward	●	●	●	●	●	
f Unit	—	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.

Modular Type Lubricator *AL Series*

Lubricator AL Series	Model	Port size	Options
 <p data-bbox="140 891 304 925">p. 106 to 111</p>	AL20-D	1/8, 1/4	Bracket
	AL30-D	1/4, 3/8	
	AL40-D	1/4, 3/8, 1/2	
	AL40-06-D	3/4	
	AL50-D	3/4, 1	
	AL60-D	1	

Lubricator

AL20-D to AL60-D

Symbol



AL30-D

How to Order

AL **30** - **03** **B** - **—** -D

① ② ③ ④ ⑤

Semi-standard Symbol Selection

- Select one each for a to d.
- When more than one specification is required, indicate in alphanumeric order.
- Example) AL30-F03B-3RW-D

	Symbol	Description	①						
			Body size						
			20	30	40	50	60		
② Pipe thread type	—	Rc	●	●	●	●	●		
	N	NPT	●	●	●	●	●		
	F	G	●	●	●	●	●		
+									
③ Port size	01	1/8	●	—	—	—	—		
	02	1/4	●	●	●	—	—		
	03	3/8	—	●	●	—	—		
	04	1/2	—	—	●	—	—		
	06	3/4	—	—	●	●	—		
10	1	—	—	—	●	●			
+									
④ Option (Mounting)	—	Without mounting option	●	●	●	●	●		
	B *1	With bracket	●	●	●	●	●		
+									
⑤ Semi-standard	a	Bowl*2	—	Polycarbonate bowl	●	●	●	●	
			2	Metal bowl	●	●	●	●	
			6	Nylon bowl	●	●	●	●	
			8	Metal bowl with level gauge	—	●	●	●	
			C	With bowl guard	●	—*3	—*3	—*3	—*3
			6C	With bowl guard (Nylon bowl)	●	—*4	—*4	—*4	—*4
+									
b	Lubricant exhaust port	—	Without drain cock	●	●	●	●		
		3	With drain cock	●	●	●	●		
		3W *5	Drain cock with barb fitting	—	●	●	●		
+									
c	Flow direction	—	Flow direction: Left to right	●	●	●	●		
		R	Flow direction: Right to left	●	●	●	●		
+									
d	Unit	—	Unit on product label: MPa, °C	●	●	●	●		
		Z *6	Unit on product label: psi, °F	○*7	○*7	○*7	○*7		

*1 Option B is included in the package with the product but does not come assembled. The assembly consists of 2 types of the bracket and 2 mounting screws.

*2 Refer to chemical data on page 111 for chemical resistance of the bowl.

*3 A bowl guard is provided as standard equipment (polycarbonate).

*4 A bowl guard is provided as standard equipment (nylon).

*5 The combination of metal bowl 2 and 8 is not available.

*6 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.)

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

AL20-D to AL60-D Series

Standard Specifications

Model	AL20-D	AL30-D	AL40-D	AL40-06-D	AL50-D	AL60-D
Port size	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1	1
Fluid	Air					
Ambient and fluid temperatures	-5 to 60 °C (No freezing)					
Proof pressure	1.5 MPa					
Max. operating pressure	1.0 MPa					
Min. dripping flow rate*1	15 l/min (ANR)	Port size 1/4: 30 l/min (ANR) Port size 3/8: 40 l/min (ANR)	Port size 1/4: 30 l/min (ANR) Port size 3/8: 40 l/min (ANR) Port size 1/2: 50 l/min (ANR)	50 l/min (ANR)	190 l/min (ANR)	220 l/min (ANR)
Oil capacity	25 cm ³	55 cm ³	135 cm ³			
Recommended lubricant	Class 1 turbine oil (ISO VG32)					
Bowl material	Polycarbonate					
Bowl guard	Semi-standard (Steel)		Standard (Polycarbonate)			
Weight	0.10 kg	0.18 kg	0.37 kg	0.41 kg	0.92 kg	0.99 kg

*1 The flow rate is 5 drops or greater/min under the following conditions: Inlet pressure of 0.5 MPa; Class 1 turbine oil (ISO VG32); Temperature at 20 °C; Oil adjustment valve fully open. For a circuit that repeatedly turns ON and OFF on the outlet side, make the adjustment so that the average air consumption per minute becomes the minimum dripping flow rate or more.

Bowl Assembly/Part Nos.

Bowl material	Lubricant exhaust port	Other	Model					
			AL20-D	AL30-D	AL40-D	AL40-06-D	AL50-D	AL60-D
Polycarbonate	Without drain cock	—	C2SL-D	—	—			
		With bowl guard	C2SL-C-D	C3SL-D	C4SL-D			
	With drain cock	—	C2SL-3-D	—	—			
		With bowl guard	C2SL-3C-D	C3SL-3-D	C4SL-3-D			
Drain cock with barb fitting	With bowl guard	—	C3SL-3W-D	C4SL-3W-D				
Nylon	Without drain cock	—	C2SL-6-A	—	—			
		With bowl guard	C2SL-6C-A	C3SL-6-A	C4SL-6-A			
	With drain cock	—	C2SL-36-A	—	—			
		With bowl guard	C2SL-36C-A	C3SL-36-A	C4SL-36-A			
Drain cock with barb fitting	With bowl guard	—	C3SL-36W-A	C4SL-36W-A				
Metal	Without drain cock	—	C2SL-2-A	C3SL-2-A	C4SL-2-A			
		With level gauge	—	C3LL-8-A	C4LL-8-A			
	With drain cock	—	C2SL-23-A	C3SL-23-A	C4SL-23-A			
		With level gauge	—	C3LL-38-A	C4LL-38-A			

*1 The bowl assembly comes with a bowl seal. Please contact SMC separately for psi and °F unit display specifications.

Option/Part Nos.

Optional specifications	Model					
	AL20-D	AL30-D	AL40-D	AL40-06-D	AL50-D	AL60-D
Bracket assembly*1	AF24P-070AS	AF34P-070AS	AF44P-070AS	AF49P-070AS	AF54P-070AS	

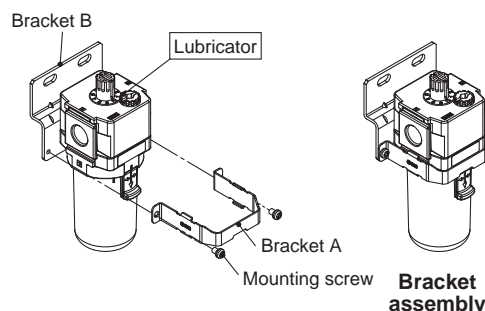
*1 The assembly consists of a bracket A/B and 2 mounting screws.

Replacement Parts

Description	Part no.					
	AL20-D	AL30-D	AL40-D	AL40-06-D	AL50-D	AL60-D
Sight dome assembly	AL20P-080AS					
Lubrication plug assembly	AL24P-060AS	AL34P-060AS	AL44P-060AS			
Damper retainer assembly	AL20P-030AS	AL30P-030AS	AL40P-030AS	AL54P-030AS	AL60P-030AS	
Damper assembly	AL20P-040S	AL30P-040S	AL44P-040S	AL60P-040AS		
Bowl seal	C2SFP-260S	C32FP-260S	C42FP-260S			
Bowl assembly*1, *2	Refer to "Bowl Assembly/Part Nos."					

*1 The bowl assembly comes with a bowl seal.

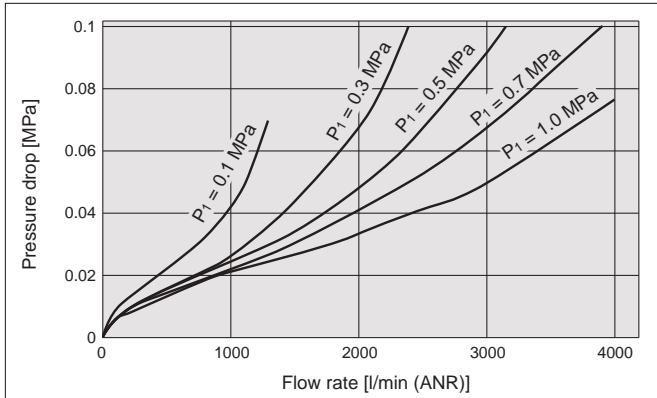
*2 Please contact SMC separately for psi and °F unit display specifications.



Flow Rate Characteristics (Representative values)

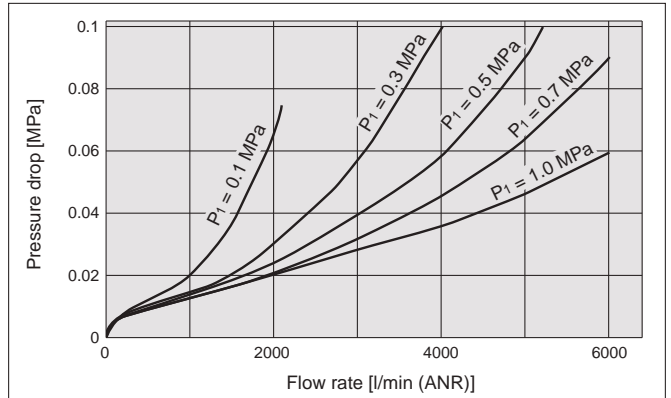
AL20-D

Rc1/4



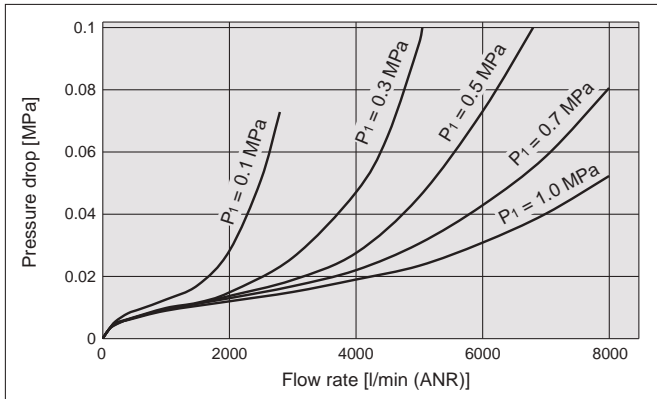
AL30-D

Rc3/8



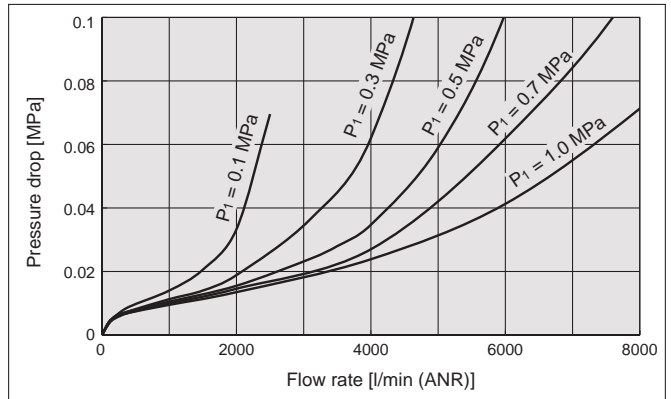
AL40-D

Rc1/2



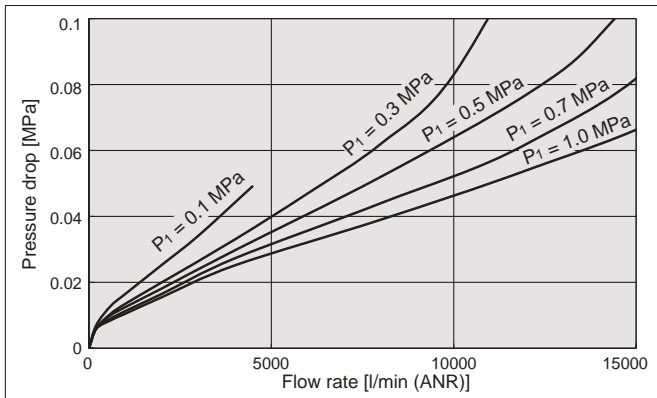
AL40-06-D

Rc3/4



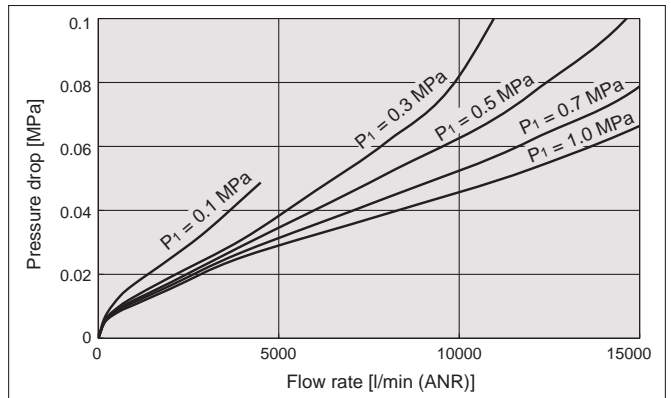
AL50-D

Rc1



AL60-D

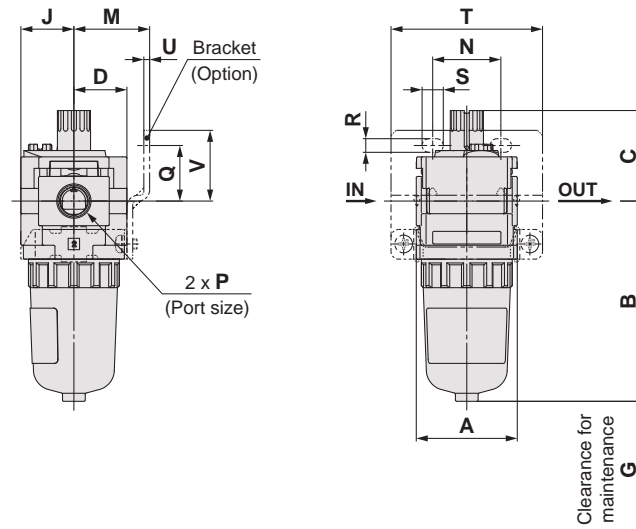
Rc1



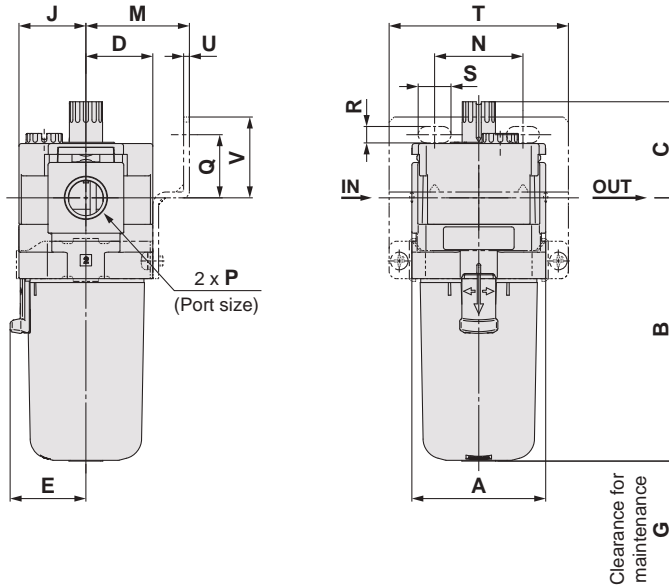
AL20-D to AL60-D Series

Dimensions

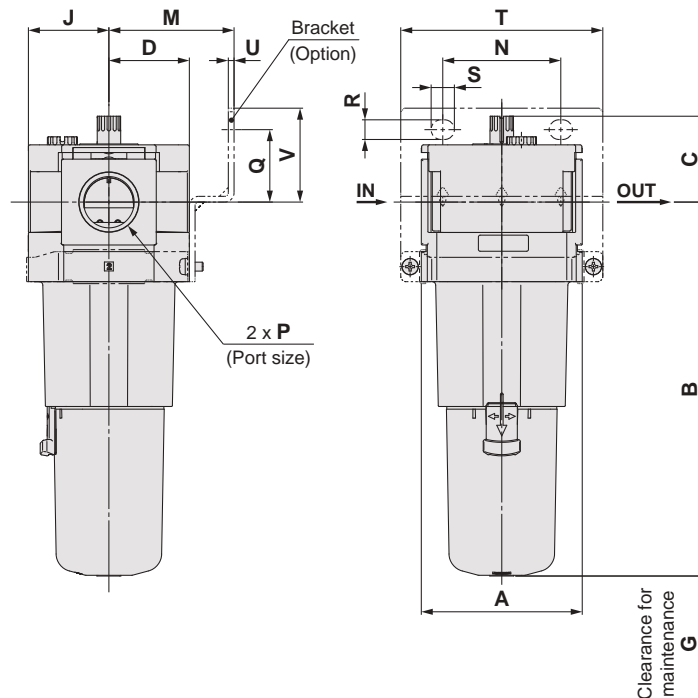
AL20-D



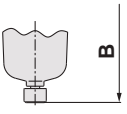
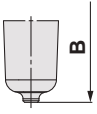
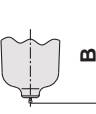
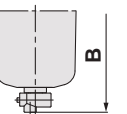
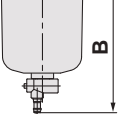
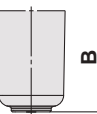
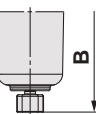

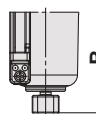
AL30-D to AL40-06-D



AL50-D to AL60-D



Lubricator *AL20-D to AL60-D Series*

Applicable model	Semi-standard					
	PC/PA bowl		Metal bowl		Metal bowl with level gauge	
	With drain cock	Drain cock with barb fitting	Without drain cock	With drain cock	Without drain cock	With drain cock
AL20-D						
AL30-D to AL60-D		 Barb fitting applicable tubing: T0604				

Model	Standard specifications								Optional specifications							
									Bracket mount							
	P	A	B	C	D	E	G	J	M	N	Q	R	S	T	U	V
AL20-D	1/8, 1/4	40	79.3	35.9	21	—	60	21	30	27	22	5.4	8.4	60	2.3	28
AL30-D	1/4, 3/8	53	104.3	38.1	26.5	30	80	26.5	41	35	25	6.5	13	71	2.3	32
AL40-D	1/4, 3/8, 1/2	70	136.1	44	35.5	38.4	110	35.5	50	52	30	8.5	12.5	88	2.3	39
AL40-06-D	3/4	75	138.1	44	35.5	38.4	110	35.5	50	52	34	8.5	12.5	88	2.3	43
AL50-D	3/4, 1	90	209.1	48	45	—	110	45	70	66	40.5	11	13	113	3.2	52.5
AL60-D	1	95	223.1	48	45	—	110	45	70	66	40.5	11	13	113	3.2	52.5

Model	Semi-standard specifications					
	PC/PA bowl		Metal bowl		Metal bowl with level gauge	
	With drain cock	With barb fitting	Without drain cock	With drain cock	Without drain cock	With drain cock
	B	B	B	B	B	B
AL20-D	87.6	—	84.5	87.4	—	—
AL30-D	115.4	123.9	104.3	117.8	124.3	137.8
AL40-D	147.1	155.6	136	149.5	156.1	169.5
AL40-06-D	149.1	157.6	138	151.5	158.1	171.5
AL50-D	220.1	228.6	209	222.5	229	242.5
AL60-D	234.1	242.6	223	236.5	243	256.5



AL-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

- Do not introduce air from the outlet side as this can damage the damper.
- The standard bowl and sight dome of the lubricator is polycarbonate. Do not use in an environment where they are exposed to or come in contact with organic solvents, chemicals, cutting oil, synthetic oil, alkali, and thread lock solutions.

Chemical resistance of polycarbonate bowl with sight dome and nylon bowl with sight dome

Type	Chemical name	Application examples	Material	
			Polycarbonate	Nylon
Acid	Hydrochloric acid Sulfuric acid Phosphoric acid Chromic acid	Acid washing liquid for metals	△	×
Alkaline	Sodium hydroxide (Caustic soda) Potash Calcium hydroxide (Slack lime) Ammonia water Sodium carbonate	Degreasing of metals Industrial salts Water-soluble cutting oil	×	○
Inorganic salts	Sodium sulfide Potassium nitrate Sodium sulfate	—	×	△
Chlorine solvents	Carbon tetrachloride Chloroform Ethylene chloride Methylene chloride	Cleansing liquid for metals Printing ink Dilution	×	△
Aromatic series	Benzene Toluene Paint thinner	Coatings Dry cleaning	×	△
Ketone	Acetone Methyl ethyl ketone Cyclohexane	Photographic film Dry cleaning Textile industries	×	×
Alcohol	Ethyl alcohol IPA Methyl alcohol	Antifreeze Adhesives	△	×
Oil	Gasoline Kerosene	—	×	○
Ester	Phthalic acid dimethyl Phthalic acid diethyl Acetic acid	Synthetic oil Anti-rust additives	×	○
Ether	Methyl ether Ethyl ether	Brake oil additives	×	○
Amino	Methyl amino	Cutting oil Brake oil additives Rubber accelerator	×	×
Others	Thread-lock fluid Seawater Leak tester	—	×	△

○: Essentially safe △: Some effects may occur. ×: Effects will occur.

When the above factors are present, or there is some doubt, use a metal bowl for safety.

Design / Selection

Caution

- When the piping is branched on the inlet side, install a check valve to prevent the lubricant from back flowing.

Maintenance

Warning

- For the AL20-D, replenish the lubricant after releasing the inlet pressure. Lubrication cannot take place under a pressurized condition.
- Tighten the lubrication plug to the recommended tightening torque. Insufficient tightening torque may cause loosening or defective sealing. Excessive tightening torque may damage the thread, etc.

Recommended Torque

Unit: N·m

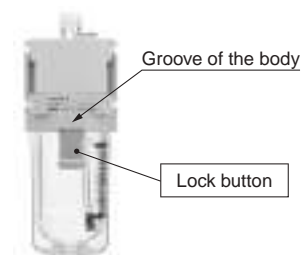
Model	AL20-D	AL30-D	AL40-D AL40-06-D AL50-D AL60-D
Torque	0.25 to 0.35	0.35 to 0.45	0.5 to 0.6

- Adjustment of the oil regulating valve (sight dome assembly) for models from the AL20-D to AL60-D should be carried out manually. Turning it counterclockwise increases the dripping amount, and turning it clockwise reduces the dripping amount. The use of tools can result in damage to the unit. From the fully closed position, three rotations will bring it to the fully open position. Do not rotate it any further than this. Note that the numbered scale markings are guidelines for adjusting the position, and not indicators of the dripping amount.


Mounting / Adjustment

Caution

- When the lubricator bowl is installed on the AL30-D to AL60-D, install them so that the lock button lines up to the groove of the front (or the back) of the body to avoid drop or damage of the bowl.



Modular Type Filter Regulator **AW Series**

Filter Regulator AW Series	Model	Port size	Set pressure	Options
	AW20(K)-D	1/8, 1/4	0.05 to 0.85 MPa 0.02 to 0.2 MPa	Bracket Set nut (for panel mount) Float type auto drain Square embedded type pressure gauge Digital pressure switch Round type pressure gauge
	AW30(K)-D	1/4, 3/8		
	AW40(K)-D	1/4, 3/8, 1/2		
	AW40(K)-06-D	3/4		
	AW60(K)-D	3/4, 1		

p. 113 to 129

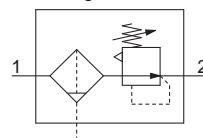
Filter Regulator

AW20-D to AW60-D

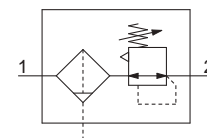
Filter Regulator with Backflow Function

AW20K-D to AW60K-D

Symbol
Filter Regulator



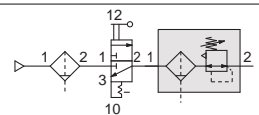
Filter Regulator with
Backflow Function



- Integrated filter and regulator units save space and require less piping.
- 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)

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

AW **30** **03** **BE** - **D**

① ② ③ ④ ⑤ ⑥

Option and Semi-standard Symbol Selection

- Select one each for a to i.
 - When more than one specification is required, indicate in alphanumeric order.
- Example) AW30K-F03BE-1NR-D

	Symbol	Description	① Body size				
			20	30	40	60	
② With backflow function	—	Without backflow function	●	●	●	●	
	K*1	With backflow function	●	●	●	●	
③ Pipe thread type	+						
	—	Rc	●	●	●	●	
	N	NPT	●	●	●	●	
④ Port size	F	G	●	●	●	●	
	+						
	01	1/8	●	—	—	—	
	02	1/4	●	●	●	—	
	03	3/8	—	●	●	—	
⑤ Option*2	04	1/2	—	—	●	—	
	06	3/4	—	—	●	●	
	10	1	—	—	—	●	
	+						
	⑥ Semi-standard	a Mounting	—	Without mounting option	●	●	●
B*3			With bracket	●	●	●	●
H			With set nut (for panel mount)	●	●	●	—
b Float type auto drain*4		+					
		—	Without auto drain	●	●	●	●
		C*5	N.C. (Normally closed) Drain port is closed when pressure is not applied.	●	●	●	●
c Pressure gauge*7 Digital pressure switch*8		D*6	N.O. (Normally open) Drain port is open when pressure is not applied.	—	●	●	●
		+					
		—	Without pressure gauge	●	●	●	●
		E	Square embedded type pressure gauge (with limit indicator)	●	●	●	●
		G	Round type pressure gauge (with limit indicator)	●	●	●	●
		M	Round type pressure gauge (with colour zone)	●	●	●	●
	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	●	●	●	●	
d Set pressure*9	+						
	—	0.05 to 0.85 MPa setting	●	●	●	●	
e Bowl*10	1	0.02 to 0.2 MPa setting	●	●	●	●	
	+						
	—	Polycarbonate bowl	●	●	●	●	
	2	Metal bowl	●	●	●	●	
	6	Nylon bowl	●	●	●	●	
	8	Metal bowl with level gauge	—	●	●	●	
	C	With bowl guard	●	—*11	—*11	—*11	
6C	With bowl guard (Nylon bowl)	●	—*12	—*12	—*12		
f Drain port*13	+						
	—	With drain cock	●	●	●	●	
	J*14	Drain guide 1/8	●	—	—	—	
	W*15	Drain cock with barb fitting	—	●	●	●	
	—	Drain guide 1/4	—	●	●	●	

Filter Regulator **AW20-D to AW60-D Series**

Filter Regulator with Backflow Function **AW20K-D to AW60K-D Series**



AW30-D

		Symbol	Description	①					
				Body size					
				20	30	40	60		
⑥	Semi-standard	g	Exhaust mechanism	—	Relieving type	●	●	●	●
				N	Non-relieving type	●	●	●	●
			+						
	h	Flow direction	—	Flow direction: Left to right	●	●	●	●	
			R	Flow direction: Right to left	●	●	●	●	
		+							
	i	Unit	—	Unit on product label: MPa, °C, Pressure gauge in SI units: MPa	●	●	●	●	
			Z*16	Unit on product label: psi, °F, Pressure gauge: MPa/psi dual scale	○*18	○*18	○*18	○*18	
			ZA*17	Digital pressure switch: With unit selection function	△*19	△*19	△*19	△*19	

- *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 AW20(K)-D to AW40(K)-D).
For the AW60(K)-D, the assembly consists of 2 types of the bracket and 2 mounting screws.
- *4 The auto drain port is \varnothing 10 One-touch fitting (③ Pipe thread type: Rc, G) or \varnothing 3/8" One-touch fitting (③ Pipe thread type: NPT)
- *5 When pressure is not applied, condensate which does not start the auto drain mechanism will be left in the bowl. Releasing the residual condensate before ending operations for the day is recommended.
- *6 If the compressor is small (0.75 kW, discharge flow is less than 100 l/min (ANR)), air leakage from the drain cock may occur during the start of operations. N.C. type is recommended.
- *7 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.
- *8 When choosing with H (panel mount), the installation space for lead wires will not be secured. In this case, select "wiring bottom entry" for the electrical entry.

- *9 Pressure can be set higher than the specification pressure in some cases, but use pressure within the specification range.
- *10 Refer to chemical data on page 129 for chemical resistance of the bowl.
- *11 A bowl guard is provided as standard equipment (polycarbonate).
- *12 A bowl guard is provided as standard equipment (nylon).
- *13 The combination of float type auto drain C and D is not available.
- *14 Without a valve function. The mounting screws are the same as the thread of ③.
- *15 The combination of metal bowl 2 and 8 is not available.
- *16 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.
- *17 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.)
- *18 ○: For the pipe thread type: NPT only
- *19 △: Select with options: E1, E2, E3, E4.

AW20-D to AW60-D Series

AW20K-D to AW60K-D Series

Standard Specifications

Model		AW20-D	AW30-D	AW40-D	AW40-06-D	AW60-D
Port size		1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 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				
Auto drain minimum operating pressure	N.C.	0.1 MPa	0.15 MPa			
	N.O.	—	0.1 MPa			
Set pressure range		0.05 to 0.85 MPa				
Nominal filtration rating*3		5 μm				
Compressed air purity class*4		ISO 8573-1:2010 [6 : 4 : 4]*5				
Drain capacity		8 cm ³	25 cm ³	45 cm ³		
Bowl material		Polycarbonate				
Bowl guard		Semi-standard (Steel)	Standard (Polycarbonate)			
Construction		Relieving type				
Weight		0.18 kg	0.34 kg	0.64 kg	0.69 kg	1.76 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

*3 For the following conditions in accordance with [Test condition: ISO 8573-4:2001 compliant, Test method ISO 12500-3:2009 compliant]

Conditions: When a new element is used, and the flow capacity, inlet pressure, and the amount of solid bodies on the filter inlet side are stable

*4 The compressed air purity class is indicated based on ISO 8573-1:2010 Compressed air – Part 1: Contaminants and purity classes.

For details on this standard, refer to page 131.

*5 The compressed air quality class on the inlet side is [7 : 4 : 4].

Bowl Assembly/Part Nos.

Bowl material	Drain discharge mechanism	Drain port	Other	Model				
				AW20-D	AW30-D	AW40-D	AW40-06-D	AW60-D
Polycarbonate	Manual	With drain cock	—	C2SF-D	—	—		
		With bowl guard	—	C2SF-C-D	C3SF-D	C4SF-D		
		Drain cock with barb fitting	With bowl guard	—	C3SF-W-D	C4SF-W-D		
	Automatic*1 (Auto drain)	With drain guide (without valve function)	—	C2SF□-J-D	—	—		
		With bowl guard	—	C2SF□-CJ-D	C3SF□-J-D	C4SF□-J-D		
		Normally closed (N.C.)	—	AD27-D	—	—		
With bowl guard	—	AD27-C-D	AD37□-D	AD47□-D				
Normally open (N.O.)	With bowl guard	—	AD38□-D	AD48□-D				
Nylon	Manual	With drain cock	—	C2SF-6-A	—	—		
		With bowl guard	—	C2SF-6C-A	C3SF-6-A	C4SF-6-A		
		Drain cock with barb fitting	With bowl guard	—	C3SF-6W-A	C4SF-6W-A		
	Automatic*1 (Auto drain)	With drain guide (without valve function)	—	C2SF□-6J-A	—	—		
		With bowl guard	—	C2SF□-6CJ-A	C3SF□-6J-A	C4SF□-6J-A		
		Normally closed (N.C.)	—	AD27-6-A	—	—		
With bowl guard	—	AD27-6C-A	AD37□-6-A	AD47□-6-A				
Normally open (N.O.)	With bowl guard	—	AD38□-6-A	AD48□-6-A				
Metal	Manual	With drain cock	—	C2SF-2-A	C3SF-2-A	C4SF-2-A		
		With level gauge	—	—	C3LF-8-A	C4LF-8-A		
		With drain guide (without valve function)	—	C2SF□-2J-A	C3SF□-2J-A	C4SF□-2J-A		
	Automatic*1 (Auto drain)	With level gauge	—	—	C3LF□-8J-A	C4LF□-8J-A		
		Normally closed (N.C.)	—	AD27-2-A	AD37□-2-A	AD47□-2-A		
		With level gauge	—	—	AD37□-8-A	AD47□-8-A		
Normally open (N.O.)	—	—	AD38□-2-A	AD48□-2-A				
With level gauge	—	—	AD38□-8-A	AD48□-8-A				

*1 The bowl assembly comes with a bowl seal.

□ in bowl assembly part numbers indicates a pipe thread type (applicable tubing for auto drain).

No indication is necessary for Rc thread; however, indicate N for NPT thread, and F for G thread. (For auto drain, —: Ø 10, N: Ø 3/8")

Please contact SMC separately for psi and °F unit display specifications.

Filter Regulator **AW20-D to AW60-D Series**

Filter Regulator with Backflow Function **AW20K-D to AW60K-D Series**

Option/Part Nos.

Optional specifications			Model				
			AW20(K)-D	AW30(K)-D	AW40(K)-D	AW40(K)-06-D	AW60(K)-D
Bracket assembly*1			AW23P-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)]				
Digital pressure switch	NPN output, Wiring bottom entry		ISE35-N-25-MLA-X523 [ISE35-N-25-M (Switch body only)]*5				
	NPN output, Wiring top entry		ISE35-R-25-MLA-X523 [ISE35-R-25-M (Switch body only)]*5				
	PNP output, Wiring bottom entry		ISE35-N-65-MLA-X523 [ISE35-N-65-M (Switch body only)]*5				
	PNP output, Wiring top entry		ISE35-R-65-MLA-X523 [ISE35-R-65-M (Switch body only)]*5				

*1 The assembly consists of a bracket and set nuts. For the AW60(K)-D, the assembly consists of a bracket A/B and 2 mounting screws.

*2 Please contact SMC regarding the set nuts for the AW60(K)-D.

*3 □ in part numbers for a round type 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.

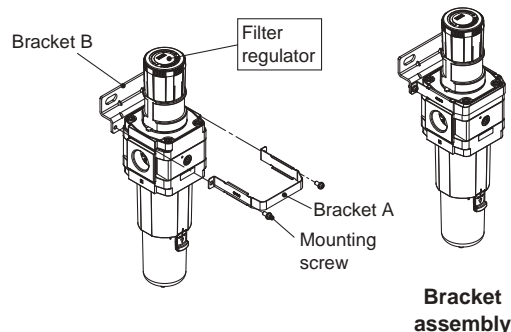
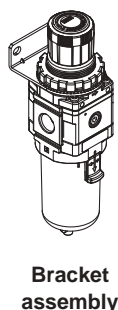
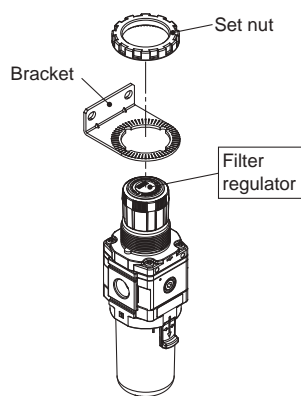
*4 Including one O-ring and 2 mounting screws. []: Pressure gauge cover only

*5 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 (Regarding how to order the digital pressure switch, refer to page 130.)

AW20(K)-D to AW40(K)-06-D

AW60(K)-D



Replacement Parts

Description		Part no.				
		AW20(K)-D	AW30(K)-D	AW40(K)-D	AW40(K)-06-D	AW60(K)-D
Valve assembly		AW24P-060AS	AW34P-060AS	AW44P-060AS	AW49P-060AS	AW64P-060AS
Filter element		AF20P-060S	AF30P-060S	AF40P-060S		AW60P-060S
Baffle		AF24P-040S	AF34P-040S	AF44P-040S		AW64P-030S
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
Bowl seal		C2SFP-260S	C32FP-260S	C42FP-260S		
Bowl assembly*1, *2		Refer to "Bowl Assembly/Part Nos."				
Check valve assembly*3		AR24KP-020AS				

*1 The bowl assembly comes with a bowl seal.

*2 Please contact SMC separately for psi and °F unit display specifications.

*3 The check valve assembly is applicable for a filter regulator with backflow function (AW20K-D to AW60K-D) only. The assembly consists of a check valve cover, check valve body assembly, and 2 mounting screws.

AW20-D to AW60-D Series

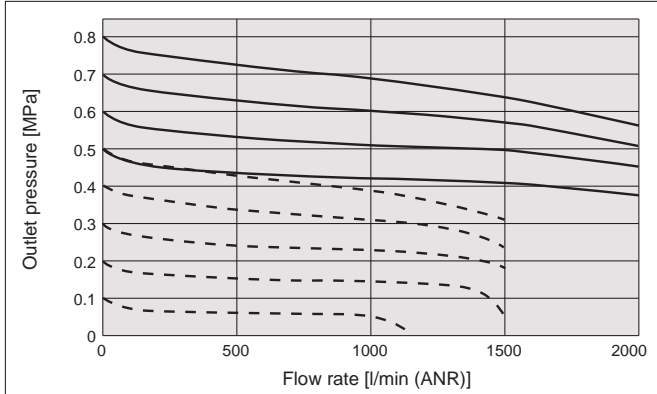
AW20K-D to AW60K-D Series

Flow Rate Characteristics (Representative values)

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

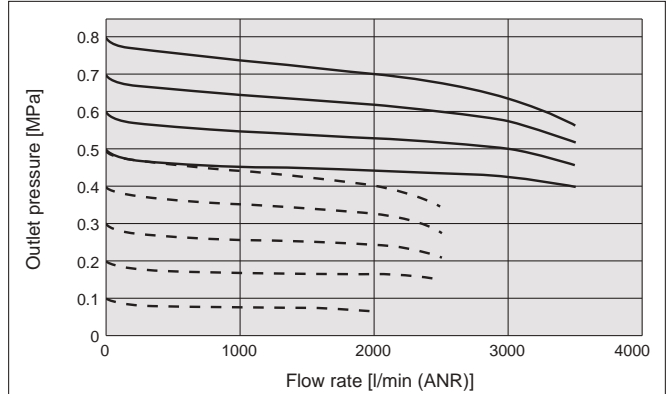
AW20(K)-D

Rc1/4



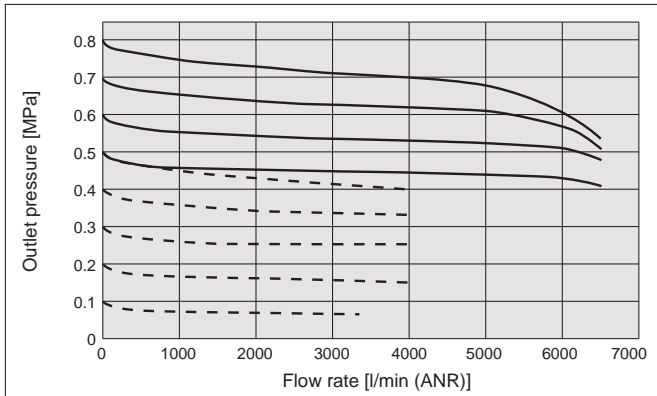
AW30(K)-D

Rc3/8



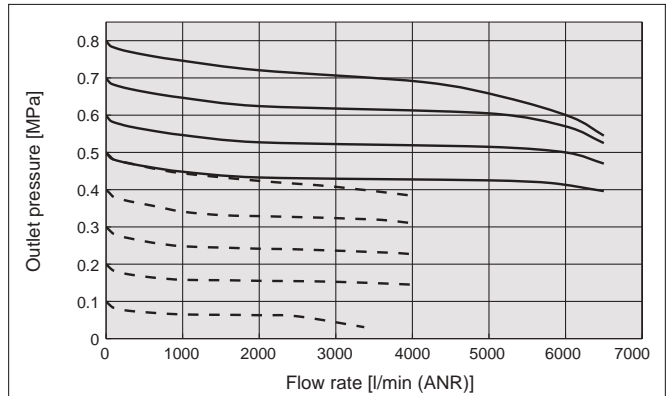
AW40(K)-D

Rc1/2



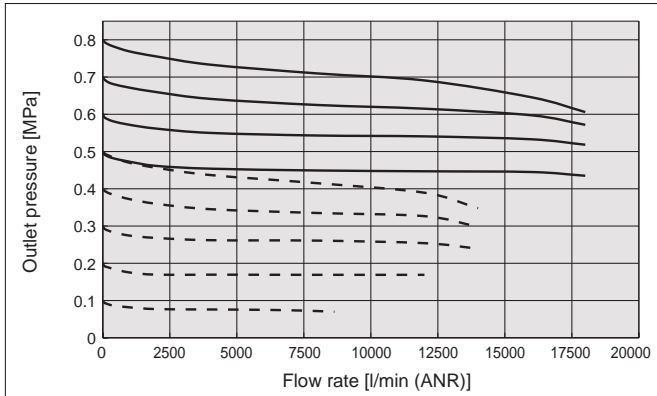
AW40(K)-06-D

Rc3/4



AW60(K)-D

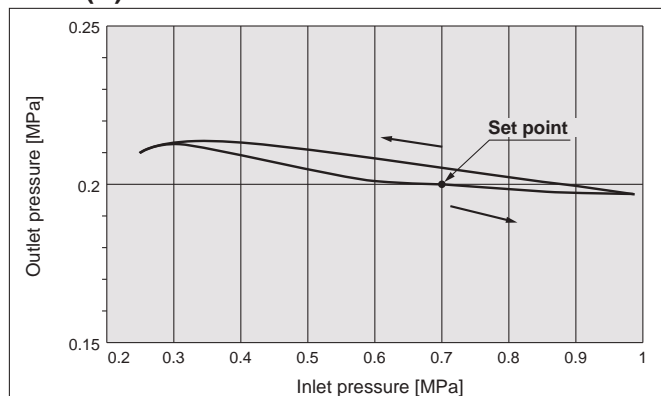
Rc1



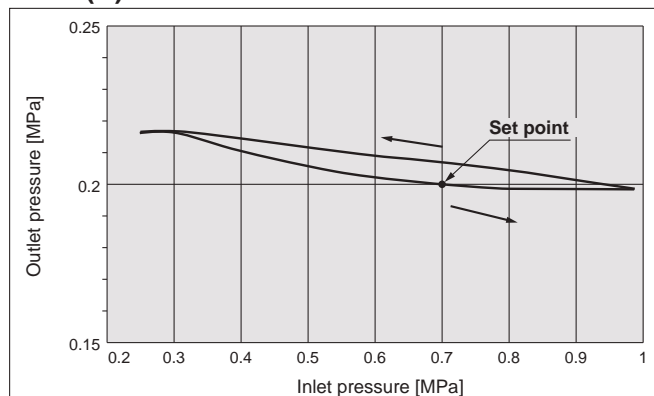
Pressure Characteristics (Representative values)

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

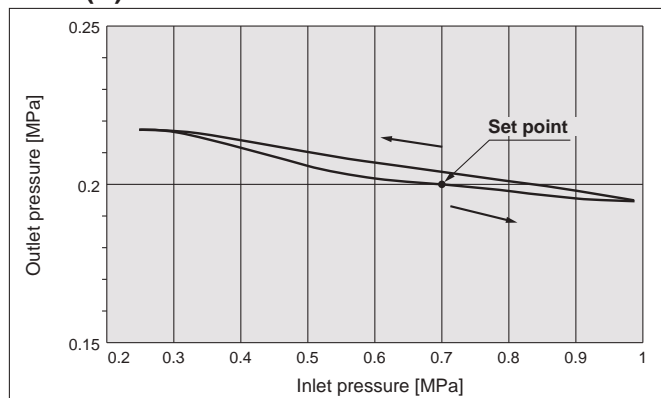
AW20(K)-D



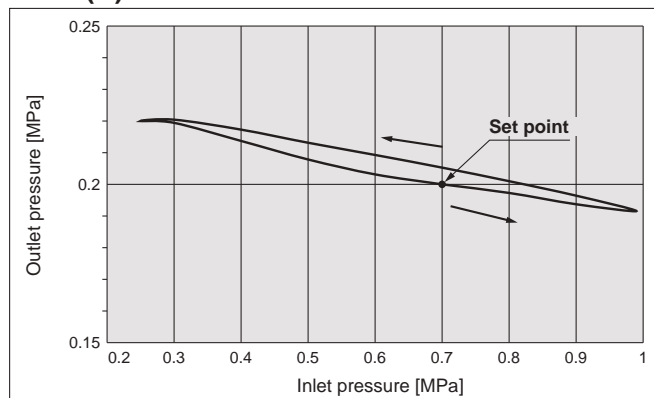
AW30(K)-D



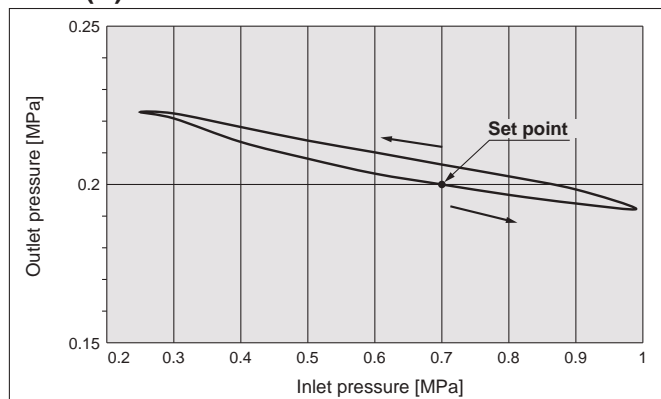
AW40(K)-D



AW40(K)-06-D



AW60(K)-D

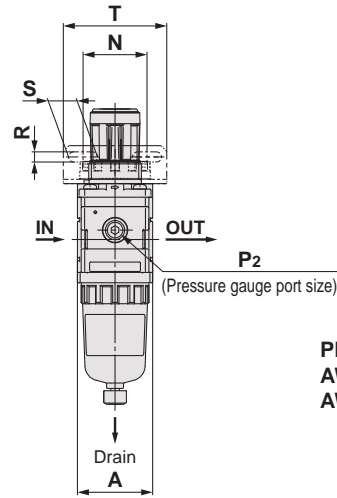
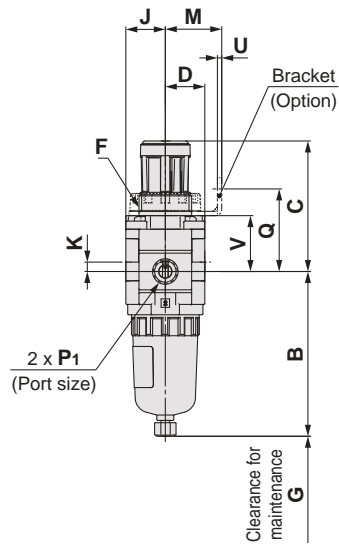


AW20-D to AW60-D Series

AW20K-D to AW60K-D Series

Dimensions

Standard (Round Type Pressure Gauge) AW20-D



Panel cutout dimensions

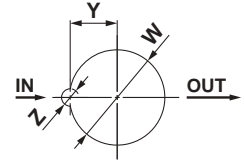
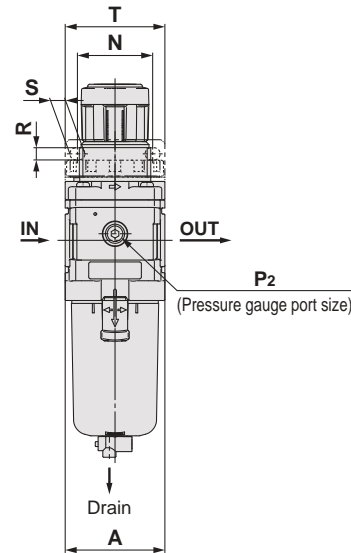
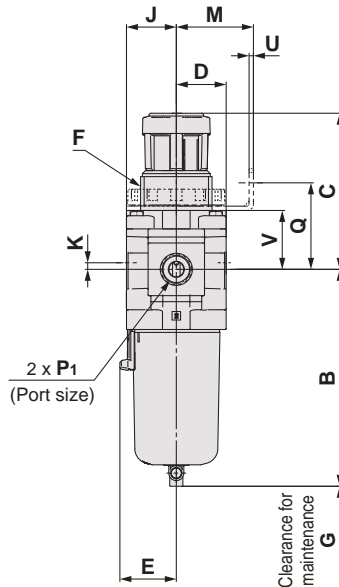
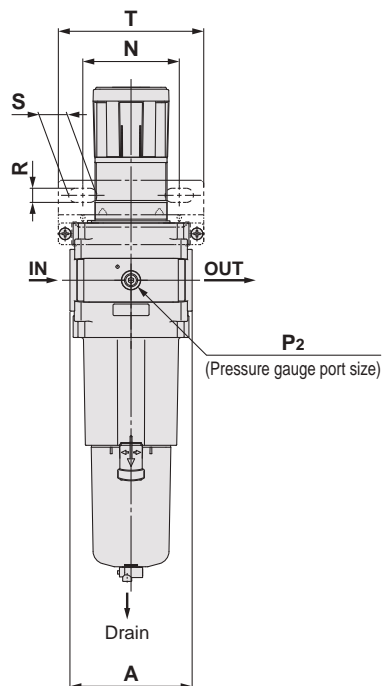
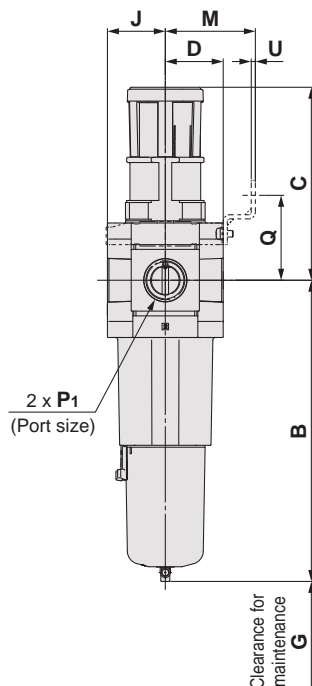


Plate thickness
 AW20-D to AW30-D : Max. 3.5
 AW40-D to AW40-06-D: Max. 5

AW30-D to AW40-06-D

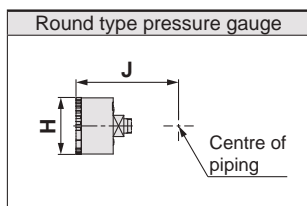


AW60-D



Filter Regulator **AW20-D to AW60-D Series**

Filter Regulator with Backflow Function **AW20K-D to AW60K-D Series**



Applicable model	Optional specifications		Semi-standard					
	With auto drain	With drain cock with barb fitting	PC/PA bowl		Metal bowl		Metal bowl with level gauge	
			With drain guide	With drain cock	With drain guide	With drain cock	With drain guide	With drain guide
AW20-D								
AW30-D to AW60-D	N.O.: Black N.C.: Grey Thread type/Rc, G: Ø 10 One-touch fitting Thread type/NPT: Ø 3/8" One-touch fitting 	Barb fitting applicable tubing: T0604 						

Model	Standard specifications												Optional specifications					
													Round type pressure gauge		Round type pressure gauge (Semi-standard: Z)		Round type pressure gauge (with colour zone)	
	P ₁	P ₂	A	B	C*1	D	E	F	G	J	K	H	J	H	J	H	J	
AW20-D	1/8, 1/4	1/8	40	87.6	71.8	21	—	M28 x 1	40	21	5	Ø 37.5	57.5	Ø 37.5	58.5	Ø 37.5	58.5	
AW30-D	1/4, 3/8	1/8	53	115.3	86.5	26.5	30	M38 x 1.5	55	26.5	3.5	Ø 37.5	63	Ø 37.5	64	Ø 37.5	64	
AW40-D	1/4, 3/8, 1/2	1/8	70	147.1	91.5	35.5	38.4	M42 x 1.5	80	35.5	—	Ø 42.5	73	Ø 42.5	73	Ø 42.5	73	
AW40-06-D	3/4	1/8	75	149.1	93	35.5	38.4	M42 x 1.5	80	35.5	—	Ø 42.5	73	Ø 42.5	73	Ø 42.5	73	
AW60-D	3/4, 1	1/8	95	234.1	155	45	—	—	30	45	—	Ø 42.5	82.5	Ø 42.5	82.5	Ø 42.5	82.5	

Model	Optional specifications												Semi-standard						
	Bracket mount						Panel mount						With auto drain B	PC/PA bowl		Metal bowl		Metal bowl with level gauge	
	With barb fitting		With drain guide		With drain cock		With drain guide		With drain cock		With drain guide			With drain cock		With drain guide			
	M	N	Q	R	S	T	U	V	W	Y	Z	B		B	B	B	B	B	
AW20-D	30	34	43.9	5.4	15.4	55	2.3	29.7	28.5	14	6	104.9	—	91.4	87.4	93.9	—	—	
AW30-D	41	40	46	6.5	8	53	2.3	31.3	38.5	19	7	157	123.9	122.2	117.8	122.3	137.8	142.3	
AW40-D	50	54	54	8.5	10.5	70	2.3	35.5	42.5	21	7	186.9	155.6	153.9	149.5	154	169.5	174	
AW40-06-D	50	54	55.5	8.5	10.5	70	2.3	37	42.5	21	7	188.9	157.6	155.9	151.5	156	171.5	176	
AW60-D	70	75	66	11	22	113	3.2	—	—	—	—	273.9	242.6	240.9	236.5	241	256.5	261	

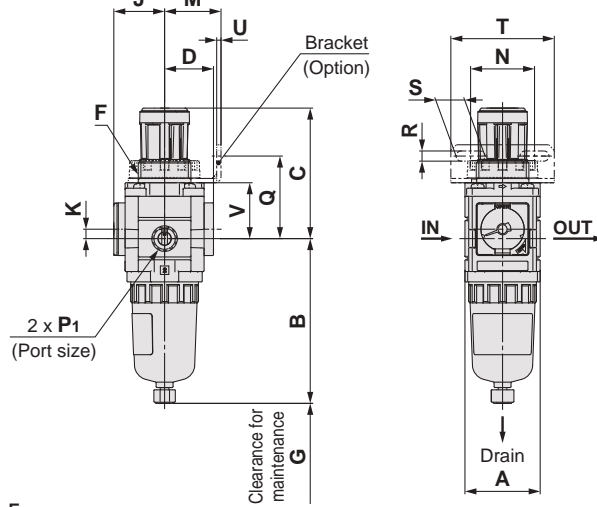
*1 The dimension of C is the length when the filter regulator knob is unlocked.

AW20-D to AW60-D Series AW20K-D to AW60K-D Series

Dimensions

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

AW20-□□□□^E_{E1}^{E2}_{E2}-D
□□□□^{E3}_{E3}^{E4}_{E4}



Panel cutout dimensions

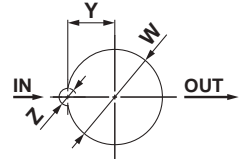
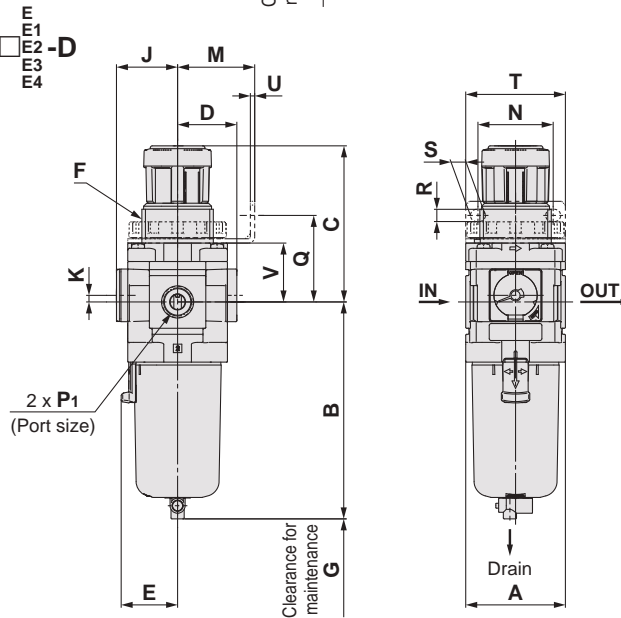
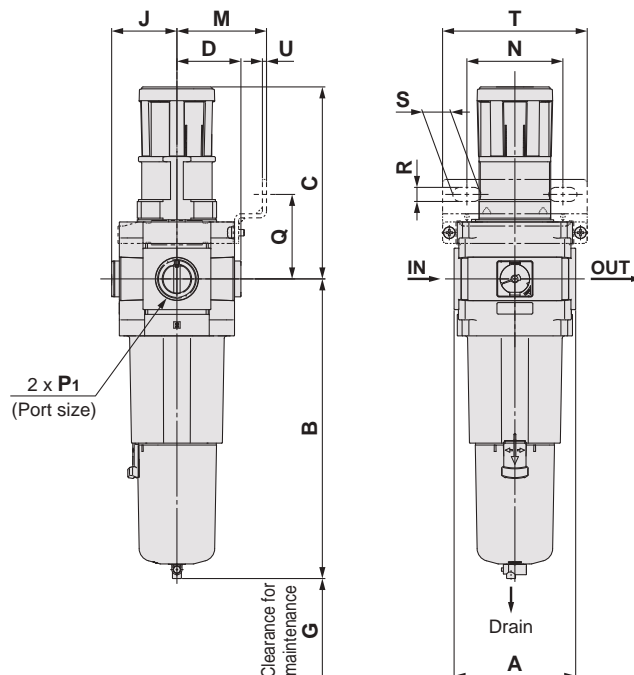


Plate thickness
AW20-D to AW30-D : Max. 3.5
AW40-D to AW40-06-D: Max. 5

AW30-□□□□^E_{E1}^{E2}_{E2}-D to AW40-□□□□^E_{E1}^{E2}_{E2}-D
□□□□^{E3}_{E3}^{E4}_{E4}

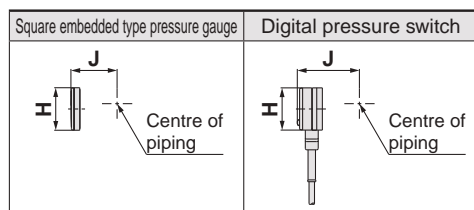


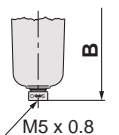
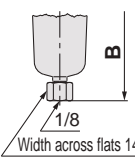
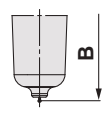
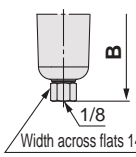
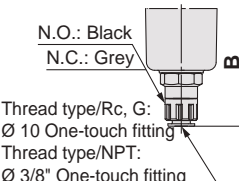
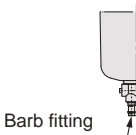
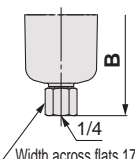
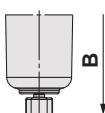
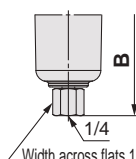
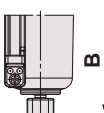
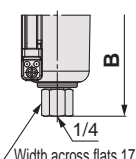
AW60-□□□□^E_{E1}^{E2}_{E2}-D
□□□□^{E3}_{E3}^{E4}_{E4}



Filter Regulator **AW20-D to AW60-D Series**

Filter Regulator with Backflow Function **AW20K-D to AW60K-D Series**



Applicable model	Optional specifications		Semi-standard					
	With auto drain		PC/PA bowl		Metal bowl		Metal bowl with level gauge	
			Drain cock with barb fitting	With drain guide	With drain cock	With drain guide	With drain cock	With drain guide
AW20-D								
AW30-D to AW60-D								

Model	Standard specifications										Optional specifications			
	P ₁	A	B	C*1	D	E	F	G	K	H	J	H	J	
AW20-D	1/8, 1/4	40	87.6	71.8	26	—	M28 x 1	40	5	□28	27	□27.8	37.5	
AW30-D	1/4, 3/8	53	115.3	86.5	31.5	30	M38 x 1.5	55	3.5	□28	32.5	□27.8	43	
AW40-D	1/4, 3/8, 1/2	70	147.1	91.5	40.5	38.4	M42 x 1.5	80	—	□28	41.5	□27.8	52	
AW40-06-D	3/4	75	149.1	93	40.5	38.4	M42 x 1.5	80	—	□28	41.5	□27.8	52	
AW60-D	3/4, 1	95	234.1	155	50	—	—	30	—	□28	51	□27.8	61.5	

Model	Optional specifications												Semi-standard						
	Bracket mount						Panel mount						With auto drain	PC/PA bowl		Metal bowl		Metal bowl with level gauge	
	M	N	Q	R	S	T	U	V	W	Y	Z	B		B	B	B	B	B	
AW20-D	30	34	43.9	5.4	15.4	55	2.3	29.7	28.5	14	6	104.9	—	91.4	87.4	93.9	—	—	
AW30-D	41	40	46	6.5	8	53	2.3	31.3	38.5	19	7	157	123.9	122.2	117.8	122.3	137.8	142.3	
AW40-D	50	54	54	8.5	10.5	70	2.3	35.5	42.5	21	7	186.9	155.6	153.9	149.5	154	169.5	174	
AW40-06-D	50	54	55.5	8.5	10.5	70	2.3	37	42.5	21	7	188.9	157.6	155.9	151.5	156	171.5	176	
AW60-D	70	75	66	11	22	113	3.2	—	—	—	—	273.9	242.6	240.9	236.5	241	256.5	261	

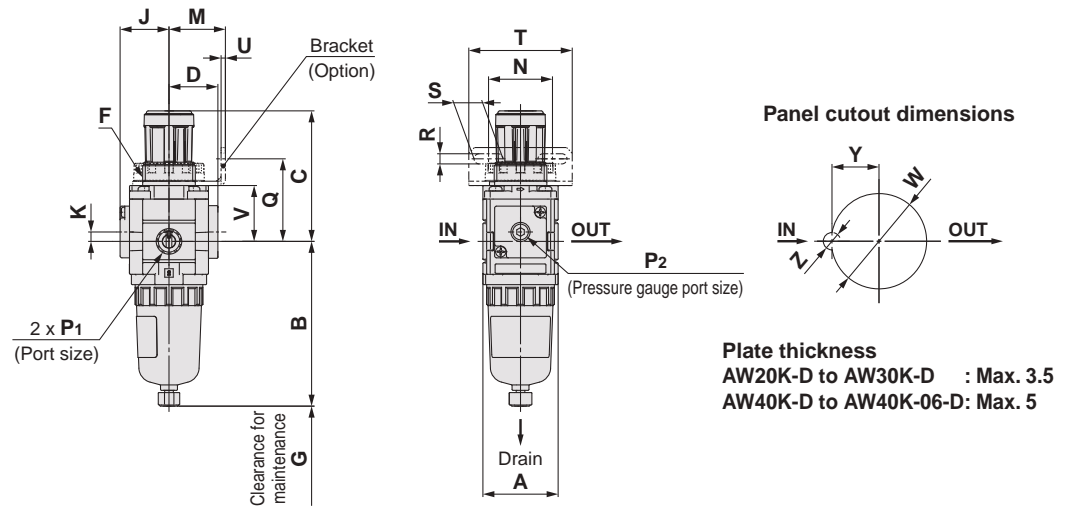
*1 The dimension of C is the length when the filter regulator knob is unlocked.

AW20-D to AW60-D Series

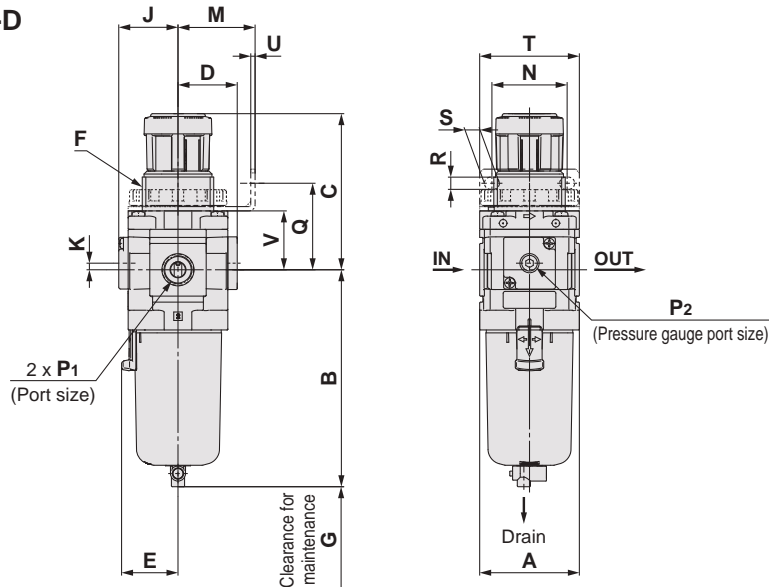
AW20K-D to AW60K-D Series

Dimensions

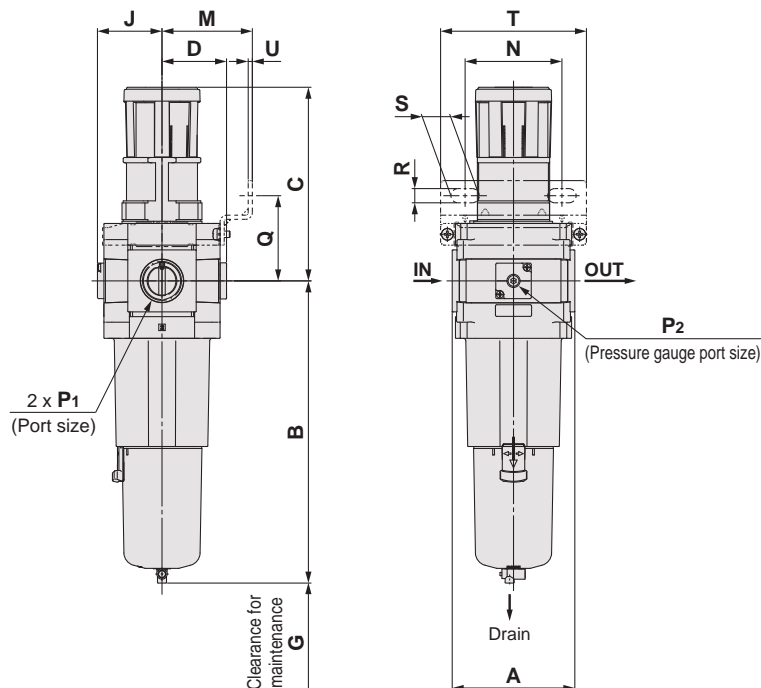
With Backflow Function (Round Type Pressure Gauge, Square Embedded Type Pressure Gauge, Digital Pressure Switch)
AW20K-D



AW30K-D to AW40K-06-D

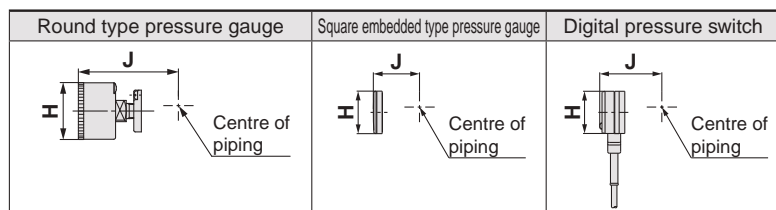


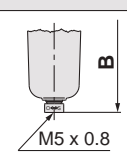
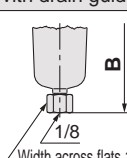
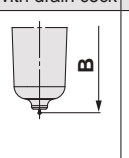
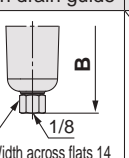
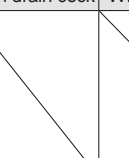
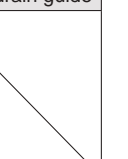
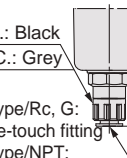
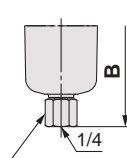
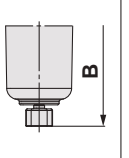
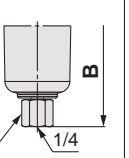
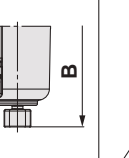
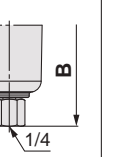
AW60K-D



Filter Regulator **AW20-D to AW60-D Series**

Filter Regulator with Backflow Function **AW20K-D to AW60K-D Series**



Applicable model	Optional specifications		Semi-standard					
	With auto drain	PC/PA bowl	Metal bowl		Metal bowl with level gauge			
			With drain cock	With drain guide	With drain cock	With drain guide		
AW20K-D								
AW30K-D to AW60K-D	N.O.: Black N.C.: Grey Thread type/Rc, G: Ø 10 One-touch fitting Thread type/NPT: Ø 3/8" One-touch fitting 	Barb fitting applicable tubing: T0604 						

Model	Standard specifications											Optional specifications							
	P ₁	P ₂	A	B	C*1	D	E	F	G	J	K	H	J	H	J	H	J	H	J
	AW20K-D	1/8, 1/4	1/8	40	87.6	71.8	26	—	M28 x 1	40	26	5	□28	27	□27.8	37.5	Ø 37.5	62.5	Ø 37.5
AW30K-D	1/4, 3/8	1/8	53	115.3	86.5	31.5	30	M38 x 1.5	55	31.5	3.5	□28	32.5	□27.8	43	Ø 37.5	68	Ø 37.5	69
AW40K-D	1/4, 3/8, 1/2	1/8	70	147.1	91.5	40.5	38.4	M42 x 1.5	80	40.5	—	□28	41.5	□27.8	52	Ø 42.5	78	Ø 42.5	78
AW40K-06-D	3/4	1/8	75	149.1	93	40.5	38.4	M42 x 1.5	80	40.5	—	□28	41.5	□27.8	52	Ø 42.5	78	Ø 42.5	78
AW60K-D	3/4, 1	1/8	95	234.1	155	50	—	—	30	50	—	□28	51	□27.8	61.5	Ø 42.5	87.5	Ø 42.5	87.5

Model	Optional specifications														Semi-standard						
	Round type pressure gauge (with colour zone)		Bracket mount							Panel mount					With auto drain	PC/PA bowl		Metal bowl		Metal bowl with level gauge	
	H	J	M	N	Q	R	S	T	U	V	W	Y	Z	B		B	B	B	B	B	
AW20K-D	Ø 37.5	63.5	30	34	43.9	5.4	15.4	55	2.3	29.7	28.5	14	6	104.9	—	91.4	87.4	93.9	—	—	
AW30K-D	Ø 37.5	69	41	40	46	6.5	8	53	2.3	31.3	38.5	19	7	157	123.9	122.2	117.8	122.3	137.8	142.3	
AW40K-D	Ø 42.5	78	50	54	54	8.5	10.5	70	2.3	35.5	42.5	21	7	186.9	155.6	153.9	149.5	154	169.5	174	
AW40K-06-D	Ø 42.5	78	50	54	55.5	8.5	10.5	70	2.3	37	42.5	21	7	188.9	157.6	155.9	151.5	156	171.5	176	
AW60K-D	Ø 42.5	87.5	70	75	66	11	22	113	3.2	—	—	—	—	273.9	242.6	240.9	236.5	241	256.5	261	

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

Filter Regulator/AW20-D to AW60-D

Filter Regulator with Backflow Function/AW20K-D to AW60K-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	AW20(K)-D	AW30(K)-D	AW40(K)-D	AW40(K)-06-D	AW60(K)-D
Port size	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1

② Long Bowl

Drain capacity is greater than that of standard models.

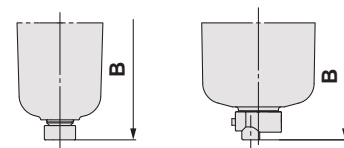
Applicable Models/Drain Capacity

Model	AW20(K)-D	AW30(K)-D	AW40(K)-D	AW40(K)-06-D	AW60(K)-D
Port size	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1
Drain capacity [cm ³]	19	43	88		
B dimension [mm]*1	108.1	137.3	167.2	169.2	254.2

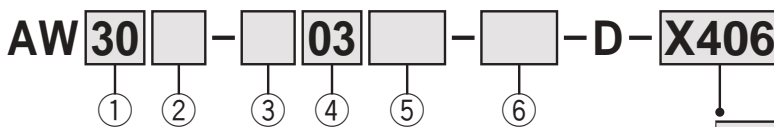
*1 For polycarbonate bowls. Please contact SMC for other bowl materials.

AW20-D

AW30 to 60-D



How to Order



X406	0.4 MPa setting
X64	Long bowl

Option and Semi-standard Symbol Selection

· Select one each for a to i.
· When more than one specification is required, indicate in alphanumeric order.
Example) AW30K-F03BE-2NR-D-X406

	Symbol	Description
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	Option*2	a	Mounting	Symbol	Description
			—	Without mounting option	
		B *3	With bracket		
		H	With set nut (for panel mount)		
		+			
		b	Float type auto drain*4	—	Without auto drain
			C *5	Float type auto drain (N.C.): Drain port is closed when pressure is not applied.	
			D *6	Float type auto drain (N.O.): Drain port is open when pressure is not applied.	
		+			
	c	Pressure gauge*7	—	Without pressure gauge	
			E	Square embedded type pressure gauge (with limit indicator)	
			G	Round type pressure gauge (with limit indicator)	
			M	Round type pressure gauge (with colour zone)	
		Digital pressure switch*8	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	

0.4 MPa Setting

Long Bowl

①					①				
Body size					Body size				
20	30	40	60	20	30	40	60		
●	●	●	●	●	●	●	●		
●	●	●	●	●	●	●	●		
●	●	●	●	●	●	●	●		
●	●	●	●	●	●	●	●		
●	●	●	●	●	●	●	●		
●	●	●	●	●	●	●	●		
●	●	●	●	●	●	●	●		
●	●	●	●	●	●	●	●		
●	●	●	●	●	●	●	●		
●	●	●	●	●	●	●	●		
●	●	●	●	●	●	●	●		

*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 AW20(K)-D to AW40(K)-D). The AW60(K)-D assembly includes 2 types of brackets and 2 mounting screws.
*4 The auto drain port is Ø 10 One-touch fitting (③ Pipe thread type: Rc, G) or Ø 3/8" One-touch fitting (③ Pipe thread type: NPT)
*5 When pressure is not applied, condensate which does not start the auto drain mechanism will be left in the bowl. Releasing the residual condensate before ending operations for the day is recommended.

*6 If the compressor is small (0.75 kW, discharge flow is less than 100 l/min (ANR)), air leakage from the drain cock may occur during the start of operations. N.C. type is recommended.
*7 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 0.4 MPa type. 0.7 MPa pressure gauge for 0.4 MPa type (-X406).
*8 When choosing with H (panel mount), the installation space for lead wires will not be secured. In this case, select "wiring bottom entry" for the electrical entry.

			0.4 MPa Setting				Long Bowl					
			①				①					
			Body size				Body size					
			20	30	40	60	20	30	40	60		
⑥	d	Set pressure*9	—	0.05 to 0.85 MPa setting	—	—	—	—	●	●	●	●
		1	0.02 to 0.2 MPa setting	—	—	—	—	●	●	●	●	
	+											
	e	Bowl*10	—	Polycarbonate bowl	●	●	●	●	●	●	●	●
			2	Metal bowl	●	●	●	●	●	●	●	●
			6	Nylon bowl	●	●	●	●	●	●	●	●
			8	Metal bowl with level gauge	—	—	—	—	—	—	—	—
			C	With bowl guard	●	—*11	—*11	—*11	●	—*11	—*11	—*11
	6C	With bowl guard (Nylon bowl)	●	—*12	—*12	—*12	●	—*12	—*12	—*12		
	+											
	f	Drain port*13	—	With drain cock	●	●	●	●	●	●	●	●
			J*14	Drain guide 1/8	●	—	—	—	●	—	—	—
			W*15	Drain cock with barb fitting	—	●	●	●	—	●	●	●
	+											
	g	Exhaust mechanism	—	Relieving type	●	●	●	●	●	●	●	●
			N	Non-relieving type	●	●	●	●	●	●	●	●
	+											
	h	Flow direction	—	Flow direction: Left to right	●	●	●	●	●	●	●	●
			R	Flow direction: Right to left	●	●	●	●	●	●	●	●
	+											
i	Unit	—	Unit on product label: MPa, °C, Pressure gauge in SI units: MPa	●	●	●	●	●	●	●	●	
		Z*16	Unit on product label: psi, °F, Pressure gauge: MPa/psi dual scale	○*18	○*18	○*18	○*18	○*18	○*18	○*18	○*18	
		ZA*17	Digital pressure switch: With unit selection function	△*19	△*19	△*19	△*19	△*19	△*19	△*19	△*19	

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

*10 Refer to chemical data on page 129 for chemical resistance of the bowl.

*11 A bowl guard is provided as standard equipment (polycarbonate).

*12 A bowl guard is provided as standard equipment (nylon).

*13 The combination of float type auto drain C and D is not available.

*14 Without a valve function. The mounting screws are the same as the thread of ③.

*15 The combination of metal bowl 2 and 8 is not available.

*16 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.

*17 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.)

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

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

Filter Regulator/*AW20-D to AW60-D* Filter Regulator with Backflow Function/*AW20K-D to AW60K-D* Made to Order

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



③ 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

④ 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-D/AW-D Series Option

Knob Cover

Can be mounted on the knob of a regulator or filter regulator in order to prevent the accidental operation of the knob

AR 34 P - 580AS

● Size

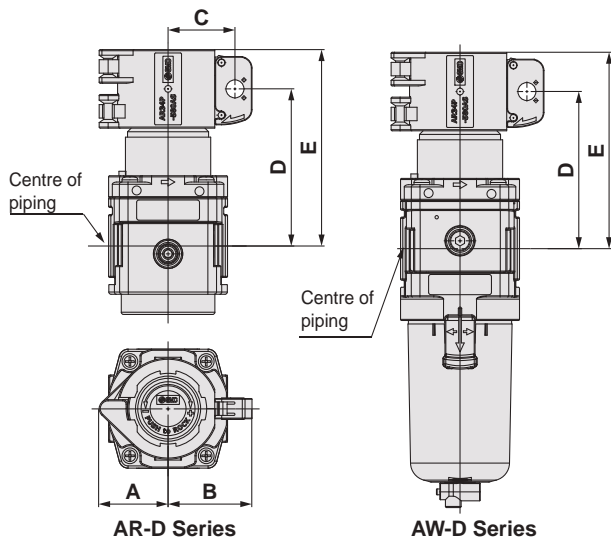
24
34
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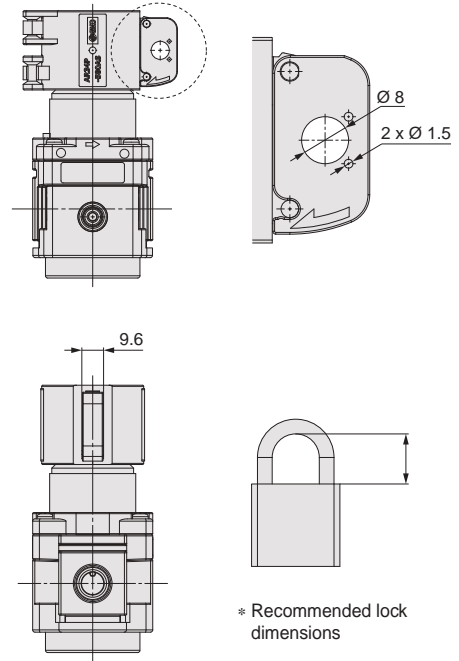
Standard Specifications

Ambient temperature	-5 to 60 °C
---------------------	-------------

Dimensions



Detailed dimensions of the lock hole



Part no.	A	B	C	D	E	Applicable model
AR24P-580AS	23.5	32.1	24.5	53.1	69.1	AR20-D
				58.1	74.1	AW20-D
AR34P-580AS	30.7	37.4	29.8	70	87.5	AR30-D, AW30-D
AR44P-580AS	32.8	39.4	31.8	74.5	97	AR40-D, AW40-D
				76	98.5	AR40-06-D, AW40-06-D
AR54P-580AS	42	48.9	41.3	99.6	133.6	AR50-D
				129.6	163.6	AR60-D, AW60-D

Mounting Precautions

Before mounting the knob cover, confirm that the knob is in the locked state (in which the orange line is not visible).

Mount the cover in accordance with the mounting instructions below.

1 Mount the knob cover on the knob.



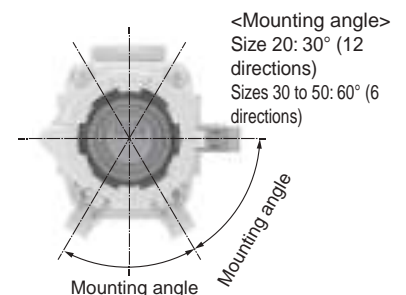
2 Close the lock cover.



3 Secure with a lock (provided by the customer).



The knob cover can be mounted facing each mounting angle in relation to the knob.





AW(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

- Residual pressure disposal (outlet pressure removal) is not possible for the AW20-D to AW60-D even though the inlet pressure is exhausted. When the residual pressure disposal is performed, use the filter regulator with backflow function (AW20K-D to AW60K-D).
- The bowl material of the standard filter regulator is polycarbonate. Do not use in an environment where they are exposed to or come in contact with organic solvents, chemicals, cutting oil, synthetic oil, alkali, and thread lock solutions.

Chemical resistance of polycarbonate or nylon bowl

Type	Chemical name	Application examples	Material	
			Polycarbonate	Nylon
Acid	Hydrochloric acid Sulfuric acid Phosphoric acid Chromic acid	Acid washing liquid for metals	△	×
Alkaline	Sodium hydroxide (Caustic soda) Potash Calcium hydroxide (Slack lime) Ammonia water Sodium carbonate	Degreasing of metals Industrial salts Water-soluble cutting oil	×	○
Inorganic salts	Sodium sulfide Potassium nitrate Sodium sulfate	—	×	△
Chlorine solvents	Carbon tetrachloride Chloroform Ethylene chloride Methylene chloride	×	×	△
Aromatic series	Benzene Toluene Paint thinner	Coatings Dry cleaning	×	△
Ketone	Acetone Methyl ethyl ketone Cyclohexane	Photographic film Dry cleaning Textile industries	×	×
Alcohol	Ethyl alcohol IPA Methyl alcohol	Antifreeze Adhesives	△	×
Oil	Gasoline Kerosene	—	×	○
Ester	Phthalic acid dimethyl Phthalic acid diethyl Acetic acid	Synthetic oil Anti-rust additives	×	○
Ether	Methyl ether Ethyl ether	Brake oil additives	×	○
Amino	Methyl amino	Cutting oil Brake oil additives Rubber accelerator	×	×
Others	Thread-lock fluid Seawater Leak tester	—	×	△

○: Essentially safe △: Some effects may occur. ×: Effects will occur.

When the above factors are present, or there is some doubt, use a metal bowl for safety.

Caution

- 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

- Replace the element every 2 years or when the pressure drop becomes 0.1 MPa, whichever comes first, to prevent damage to the element.

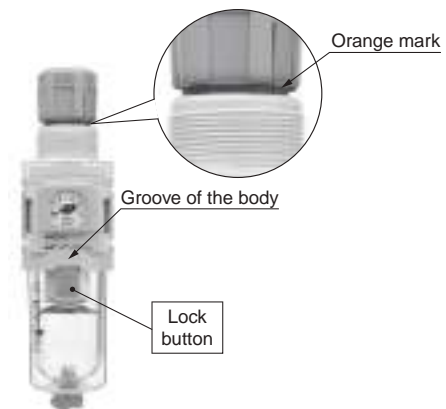
Mounting / Adjustment

Warning

- Set the filter 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.
- Do not use tools on the pressure regulator knob as this may cause damage. It must be operated manually.

Caution

- 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).



- When the bowl is installed on the AW30-D to AW60-D, install them so that the lock button lines up to the groove of the front (or the back) of the body to avoid drop or damage of the bowl.

Piping

Warning

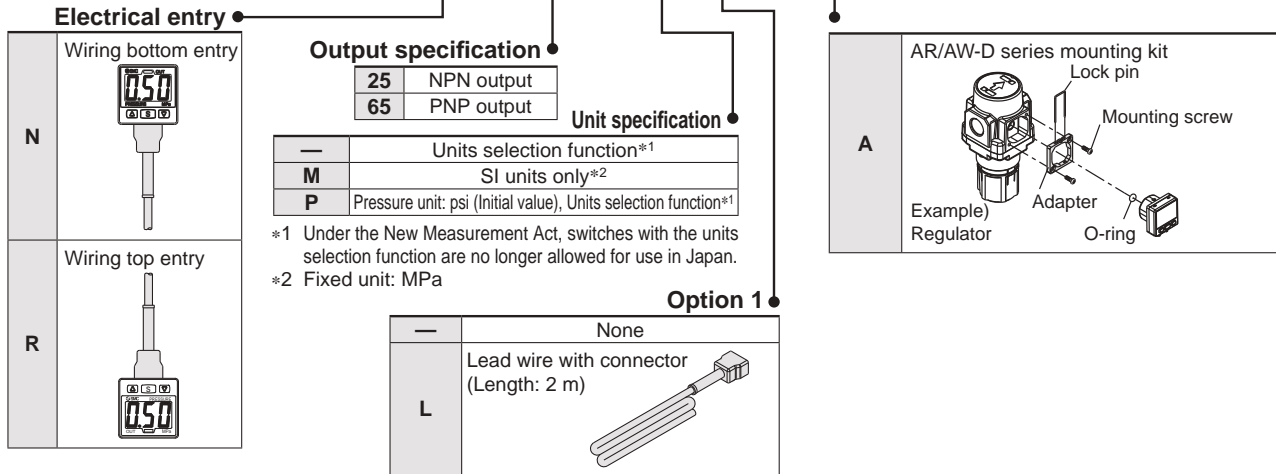
- To screw the pressure gauge and piping materials into the pressure gauge port on the product, tighten to the recommended torque (3 to 5 N·m) while securely holding the AW(K)-D in place. Additionally, when mounting a One-touch fitting to the pressure gauge port, refer to the Fittings and Tubing Precautions.

Digital Pressure Switch/ISE35-X523

Related Product

How to Order

ISE35 - N - 25 - M L A - X523



Options/Part Nos.

When only optional parts are required, order with the part numbers listed below.

Description	Part no.	Note
Lead wire with connector	ZS-32-A	Length: 2 m (With rubber cover)
Mounting kit	ZS-32-C-X473	For ISE35-□-A-X523 (AR/AW-D series) Set screw (3 x 8 L, 2 pcs.), adapter, lock pin, and O-ring are attached.

Applicable Series

Product series that this product can be installed in

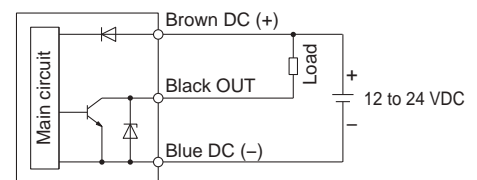
Product series	Model
F.R.L. units	AC20-D, AC30-D, AC40-D, AC50-D, AC60-D
	AC20A-D, AC30A-D, AC40A-D, AC50A-D, AC60A-D
	AC20B-D, AC30B-D, AC40B-D, AC50B-D, AC60B-D
Regulator	AC20C-D, AC30C-D, AC40C-D
	AC20D-D, AC30D-D, AC40D-D
Filter regulator	AR20(K)-D, AR30(K)-D, AR40(K)-D, AR50(K)-D, AR60(K)-D
Mist separator regulator	AWM20-D, AWM30-D, AWM40-D
Micro mist separator regulator	AWD20-D, AWD30-D, AWD40-D

Specifications

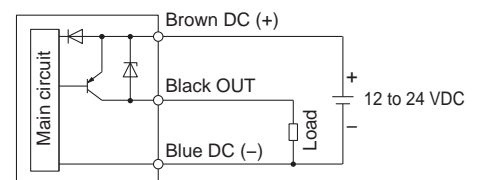
Rated pressure range	0 to 1 MPa
Display/Set pressure range	-0.1 to 1 MPa
Withstand pressure	1.5 MPa
Display/Smallest settable increment	0.01 MPa
Applicable fluid	Air, Non-corrosive gas, Non-flammable gas
Power supply voltage	12 to 24 VDC $\pm 10\%$, Ripple (p-p) 10% or less (With power supply polarity protection)
Current consumption	55 mA or less (at no load)
Switch output	NPN or PNP open collector output: 1 output
Max. load current	80 mA
Max. applied voltage	30 V (With NPN output)
Residual voltage	1 V or less (With load current of 80 mA)
Response time	1 s (0.25, 0.5, 2, 3 s selections)
Short circuit protection	Yes
Repeatability	$\pm 1\%$ F.S.
Hysteresis	Hysteresis mode : Adjustable (Can be set from 0) Window comparator mode
Display type	3-digit, 7-segment indicator, 2-colour display (Red/Green) A switch can be operated simultaneously.
Display accuracy	$\pm 2\%$ F.S. ± 1 digit (at 25 °C ± 3 °C ambient temperature)
Indicator light	Lights up when output is turned ON (Green)
Environmental resistance	Enclosure : IP40 Operating temperature range : -5 to 50 °C (No condensation or freezing)
Lead wire with connector (Option: L)	Oilproof heavy-duty vinyl cable 3 cores, $\varnothing 3.4$, 2 m Conductor cross section: 0.2 mm ² (AWG25) Insulator O.D.: 1.16 mm
Weight	Approx. 14 g (Body only), Approx. 38 g (Including lead wire with connector)
Standards	CE/UKCA marking, UL/CSA (E216656)

Internal Circuits and Wiring Examples

-25 NPN (1 output)



-65 PNP (1 output)



International Standard ISO 8573-1:2010

Compressed Air Purity Classes

Compressed air is used in a variety of manufacturing processes. In this age, compressed air with a high degree of purity is becoming increasingly necessary.

For this reason, it is necessary to remove contaminants from systems which supply compressed air and to secure the quality. The standard which stipulates the class according to the quantities of contaminants in compressed air is ISO 8573-1.

[Outline]

Stipulates the purity class of contaminants (particles, water, oil) mixed in with the compressed air

[Scope]

Can be used in various places in compressed air systems

[Purity Classes]

Class	Particles			Mass concentration Cp [mg/m ³]	Humidity and liquid water		Oil Concentration of total oil [mg/m ³]
	Maximum number of particles per cubic meter as a function of particle size d [μm]				Pressure dew point [°C]	Concentration of liquid water Cw [g/m ³]	
	0.1 < d ≤ 0.5	0.5 < d ≤ 1.0	1.0 < d ≤ 5.0				
0	As specified by the equipment user or supplier and more stringent than class 1						
1	≤ 20000	≤ 400	≤ 10	—	≤ -70	—	≤ 0.01
2	≤ 400000	≤ 6000	≤ 100	—	≤ -40	—	≤ 0.1
3	—	≤ 90000	≤ 1000	—	≤ -20	—	≤ 1
4	—	—	≤ 10000	—	≤ +3	—	≤ 5
5	—	—	≤ 100000	—	≤ +7	—	—
6	—	—	—	0 < Cp ≤ 5	≤ +10	—	—
7	—	—	—	5 < Cp ≤ 10	—	Cw ≤ 0.5	—
8	—	—	—	—	—	0.5 < Cw ≤ 5	—
9	—	—	—	—	—	5 < Cw ≤ 10	—
x	—	—	—	Cp > 10	—	Cw > 10	> 5

[Terms and Definitions]

- Purity class: An index assigned for each classification obtained by dividing the concentration of each contaminant into ranges
- Particle: Small discrete mass of solid or liquid matter
- Humidity and liquid water: Water vapor (gas), Water droplets
- Oil: Liquid oil, Oil mist, Vapor

[How to Perform a Test to Check the Performance]

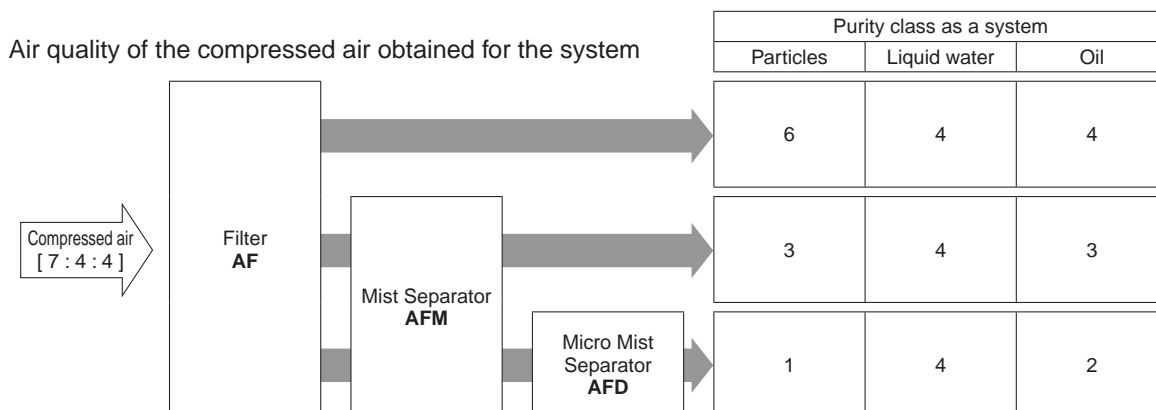
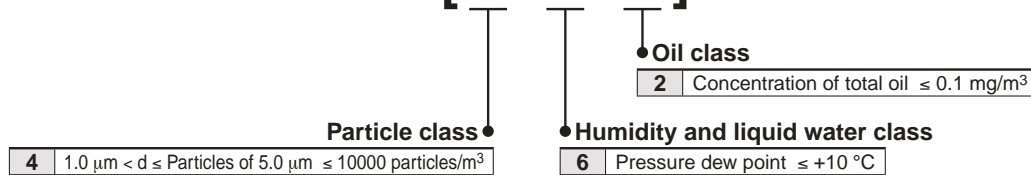
ISO 12500, which sets out the test method to be used in order to check the filter performance for each of the three kinds of contaminants, is indicated below.

- Particle: ISO 12500-3:2009
- Liquid water: ISO 12500-4:2009
- Oil: ISO 12500-1:2007

* Measured using a dedicated evaluation system which has been certified according to ISO 12500-□ and also by a third party (Certified)

[Purity Class Designation Example]

ISO 8573-1:2010 [4 : 6 : 2]



The class indicates the compressed air purity according to ISO 8573-1:2010 (JIS B 8392-1:2012) and indicates the maximum purity class which can be obtained using that system. Note, however, that this value will differ according to the inlet air conditions.

List of spacers for old and new modular connection and spacers with bracket

● **Connectable** ✖ **No connection**

Product name		Model	Spacer with bracket									
			FRL-D		FRL-A, -B		Former product					
			Y200-D	Y200T-D	Y200T-1-D	Y200T-2-D	Y200-A	Y200T-A	Y200	Y200T	Y200(-A)	Y200T(-A)
Air filter		AF(M,D)2000	●	●	●	●	●	●	●	●	●	●
		AF(M,D)20	●	●	●	●	●	●	●	●	●	●
		AF(M,D)20-A	●	●	●	●	●	●	●	●	●	●
		AF(M,D)20-D	●	●	●	●	✖	✖	✖	✖	✖	✖
Regulator		AR2000	●	●	●	●	●	●	✖	✖	●	●
		AR20	●	●	●	●	●	●	●	●	●	●
		AR20-A	✖	✖	✖	✖	●	●	✖	✖	●	●
		AR20-B	●	●	●	●	●	●	●	●	●	●
F.R.L.	Lubricator	AR20(M)-D	●	●	●	●	✖	✖	✖	✖	✖	✖
		AL2000	●	●	●	●	●	●	●	●	●	●
		AL20	●	●	●	●	●	●	●	●	●	●
	Filter Regulator	AL20-A	●	●	●	●	●	●	●	●	●	●
		AL20-D	●	●	●	●	✖	✖	✖	✖	✖	✖
AW(M,D)2000		●	●	●	●	●	●	●	●	●	●	
Pressure Relief 3-Port Valve	AW(M,D)20	●	●	●	●	●	●	●	●	●	●	
	AW20-A	✖	✖	✖	✖	●	●	✖	✖	●	●	
	AW20-B	●	●	●	●	●	●	●	●	●	●	
	AW20-D	●	●	●	●	✖	✖	✖	✖	✖	✖	
	VHS2000	●	●	●	●	●	●	●	●	●	●	
	VHS20	✖	✖	✖	✖	●	●	●	●	●	●	
	VHS20-A,B	✖	✖	✖	✖	●	●	●	●	●	●	
	VHS20-D	●	●	●	●	✖	✖	✖	✖	✖	✖	
Soft Start-up Valve	AV2000	●	●	●	●	●	●	●	●	●	●	
	AV2000-A	●	●	●	●	●	●	●	●	●	●	
	ARG20-B	●	●	●	●	●	●	●	●	●	●	
Regulator with Built-in Pressure Gauge	ARG30-B	●	●	●	●	●	●	●	●	●	●	
Filter Regulator with Built-in Pressure Gauge	AWG30-B	●	●	●	●	●	●	●	●	●	●	
Equipment/Regulators Direct Operated Precision Regulator/Modular Type	ARP20	●	●	●	●	●	●	●	●	●	●	
Check Valve	AKM2000-A	●	●	●	●	●	●	●	●	●	●	
Pressure Switches	IS10M-20-A	✖	✖	✖	✖	●	●	✖	✖	✖	✖	
	IS10M-20-D	●	●	●	●	✖	✖	✖	✖	✖	✖	
	IS10M-20-1-D	●	●	●	●	✖	✖	✖	✖	✖	✖	
	IS10E-20**A	●	●	●	●	●	●	●	●	●	●	
Pressure Switch with Piping Adapter	IS10E-20**D	●	●	●	●	✖	✖	✖	✖	✖	✖	
Pressure Switch with T-Spacer	IS10T-20**D	●	●	●	●	✖	✖	✖	✖	✖	✖	
Pressure Switch with L-Shaped Piping Adapter	IS10L-20**D	●	●	●	●	✖	✖	✖	✖	✖	✖	
Attachment	T-Spacer	IS10L-30**D	●	●	●	●	✖	✖	✖	✖	✖	✖
		Y210-A	✖	✖	✖	✖	●	●	✖	✖	●	●
		Y210-D	●	●	●	●	✖	✖	✖	✖	✖	✖
	Cross Spacer	Y210-1-D	●	●	●	●	✖	✖	✖	✖	✖	✖
		Y24-A	●	●	●	●	●	●	●	●	●	●
		Y24-D	●	●	●	●	✖	✖	✖	✖	✖	✖
	Piping Adapter	Y24-1-D	●	●	●	●	✖	✖	✖	✖	✖	✖
		E200-A	●	●	●	●	●	●	●	●	●	●
		E200**D	●	●	●	●	✖	✖	✖	✖	✖	✖
	L-shaped Piping Adapter	E200L**D	●	●	●	●	✖	✖	✖	✖	✖	✖
	T-shaped Piping Adapter	E200T**D	●	●	●	●	✖	✖	✖	✖	✖	✖
	Turn Adapter	E210T-D	●	●	●	●	✖	✖	✖	✖	✖	✖
	Size Conversion Adapter	E310R-D	●	✖	✖	✖	✖	✖	✖	✖	✖	✖
	Cross adapter	E410R-D	●	✖	✖	✖	✖	✖	✖	✖	✖	✖
	End plate	Y34M-D	●	●	●	●	●	●	●	●	●	●
Modular adapter	E300E-D	●	●	●	●	✖	✖	✖	✖	✖	✖	
Modular Plug	E310-U**	●	●	●	●	●	●	●	●	●	●	
	E310-P	●	●	●	●	●	●	●	●	●	●	
	E410-P	●	●	●	●	●	●	●	●	●	●	

Product name		Model	Spacer with bracket									
			FRL-D		FRL-A, -B		Former product					
			Y300-D	Y300T-D	Y300T-1-D	Y300T-2-D	Y300-A	Y300T-A	Y300	Y300T	Y300(-A)	Y300T(-A)
Air filter		AF(M,D)3000	●	●	●	●	●	●	●	●	●	●
		AF(M,D)30	●	●	●	●	●	●	●	●	●	●
		AF(M,D)30-A	●	●	●	●	●	●	●	●	●	●
		AF(M,D)30-D	●	●	●	●	✖	✖	✖	✖	✖	✖
Regulator		AR2500	●	●	●	●	●	●	✖	✖	●	●
		AR25	●	●	●	●	●	●	●	●	●	●
		AR25-A	●	●	●	●	●	●	✖	✖	●	●
		AR25-B	●	●	●	●	●	●	●	●	●	●
F.R.L.	Lubricator	AR3000	●	●	●	●	●	●	✖	✖	●	●
		AL3000	●	●	●	●	●	●	●	●	●	●
		AL30	●	●	●	●	●	●	●	●	●	●
	Filter Regulator	AL30-A	●	●	●	●	●	●	●	●	●	●
		AL30-D	●	●	●	●	✖	✖	✖	✖	✖	✖
AW(M,D)3000		●	●	●	●	●	●	●	●	●	●	
Pressure Relief 3-Port Valve	AW(M,D)30	●	●	●	●	●	●	●	●	●	●	
	AW30-A	✖	✖	✖	✖	●	●	✖	✖	●	●	
	AW30-B	●	●	●	●	●	●	●	●	●	●	
	AW30-D	●	●	●	●	✖	✖	✖	✖	✖	✖	
	VHS3000	●	●	●	●	●	●	●	●	●	●	
	VHS30	●	●	●	●	●	●	●	●	●	●	
	VHS30-A,B	●	●	●	●	●	●	●	●	●	●	
	VHS30-D	●	●	●	●	✖	✖	✖	✖	✖	✖	
Soft Start-up Valve	AV3000	●	●	●	●	●	●	●	●	●	●	
	AV3000-A	●	●	●	●	●	●	●	●	●	●	
	ARG30-B	●	●	●	●	●	●	●	●	●	●	
Regulator with Built-in Pressure Gauge	ARG30-B	●	●	●	●	●	●	●	●	●	●	
Filter Regulator with Built-in Pressure Gauge	AWG30-B	●	●	●	●	●	●	●	●	●	●	
Equipment/Regulators Direct Operated Precision Regulator/Modular Type	ARP30	●	●	●	●	●	●	●	●	●	●	
Check Valve	AKM3000-A	●	●	●	●	●	●	●	●	●	●	
Pressure Switches	IS10M-30-A	●	●	●	●	●	●	●	●	●	●	
	IS10M-30-D	●	●	●	●	✖	✖	✖	✖	✖	✖	
	IS10M-30-1-D	●	●	●	●	✖	✖	✖	✖	✖	✖	
	IS10E-30**A	●	●	●	●	●	●	●	●	●	●	
Pressure Switch with Piping Adapter	IS10E-30**D	●	●	●	●	✖	✖	✖	✖	✖	✖	
Pressure Switch with T-Spacer	IS10T-30**D	●	●	●	●	✖	✖	✖	✖	✖	✖	
Pressure Switch with L-Shaped Piping Adapter	IS10L-30**D	●	●	●	●	✖	✖	✖	✖	✖	✖	
Attachment	T-Spacer	IS10L-40**D	●	●	●	●	✖	✖	✖	✖	✖	✖
		Y410-A	●	●	●	●	●	●	●	●	●	●
		Y410-D	●	●	●	●	✖	✖	✖	✖	✖	✖
	Cross Spacer	Y410-1-D	●	●	●	●	✖	✖	✖	✖	✖	✖
		Y44-A	●	●	●	●	●	●	●	●	●	●
		Y44-D	●	●	●	●	✖	✖	✖	✖	✖	✖
	Piping Adapter	Y44-1-D	●	●	●	●	✖	✖	✖	✖	✖	✖
		E400-A	●	●	●	●	●	●	●	●	●	●
		E400**D	●	●	●	●	✖	✖	✖	✖	✖	✖
	L-shaped Piping Adapter	E400L**D	●	●	●	●	✖	✖	✖	✖	✖	✖
	T-shaped Piping Adapter	E400T**D	●	●	●	●	✖	✖	✖	✖	✖	✖
	Turn Adapter	E410T-D	●	●	●	●	✖	✖	✖	✖	✖	✖
	Size Conversion Adapter	E410R-D	●	●	●	●	✖	✖	✖	✖	✖	✖
	Cross adapter	Y44M-D	●	●	●	●	●	●	●	●	●	●
	End plate	E400E-D	●	●	●	●	✖	✖	✖	✖	✖	✖
Modular adapter	E410-U**	●	●	●	●	●	●	●	●	●	●	
Modular Plug	E410-P	●	●	●	●	●	●	●	●	●	●	
	E440-P	●	●	●	●	●	●	●	●	●	●	

Product name		Model	Spacer with bracket									
			FRL-D		FRL-A, -B		Former product					
			Y400-D	Y400T-D	Y400T-1-D	Y400-A	Y400T-A	Y400	Y400T	Y400(-A)	Y400T(-A)	
Air filter		AF(M,D)4000	●	●	●	●	●	●	●	●	●	●
		AF(M,D)40	●	●	●	●	●	●	●	●	●	●
		AF(M,D)40-A	●	●	●	●	●	●	●	●	●	●
		AF(M,D)40-D	●	●	●	●	✖	✖	✖	✖	✖	✖
Regulator		AR4000	●	●	●	●	●	●	✖	✖	●	●
		AR40	●	●	●	●	●	●	●	●	●	●
		AR40-A	✖	✖	✖	✖	●	●	✖	✖	●	

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.

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.

- 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.

Warning

1. 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.

2. 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.

3. 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.

4. 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, combustion 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 specifications described in the product catalogue.
3. An application which could have negative effects on people, property, or animals requiring special safety analysis.
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.

Caution

1. 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.

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.²⁾ 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.
- 2) 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.

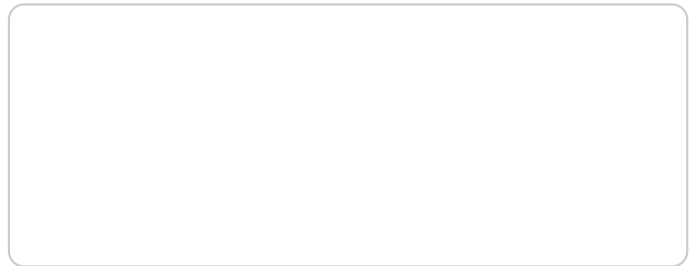
Measurement instruments that SMC manufactures or sells have not been qualified by type approval tests relevant to the metrology (measurement) laws of each country. Therefore, SMC products cannot be used for business or certification ordained by the metrology (measurement) laws of each country.

Safety Instructions

Be sure to read “Handling Precautions for SMC Products” (M-E03-3) before using.

Revision History

Edition B	- Attachments have been added. - Number of pages has been increased from 72 to 104.	YV
Edition C	- Sizes 40-06, 50, and 60 have been added to the AC series. - Sizes 40-06, 50, and 60 have been added to the AF, AR(K), and AL - The VHS40-06 and 50 have been added. - Size 40-06 has been added to the AFM/AFD. - Sizes 40-06 and 60 have been added to the AW(K). - Made to order options have been added. - Number of pages has been increased from 104 to 112.	ZQ
Edition D	- A right angle square type pressure gauge has been added. - Various attachments have been added: Right angle/ Reducing/Cross adapter, End plate - Made to order options have been added: Clean Series, Copper, fluorine and silicone-free + Low particle generation (AF, AR, AW) - A knob cover (option) has been added. - Connectable modular components have been added. - The number of pages has been increased from 112 to 135.	BT



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