# **Modular F.R.L. Units**

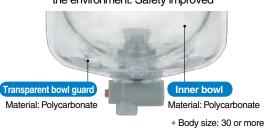






# The bowl is covered with a transparent bowl guard!

- The inside is visible from 360°.
- The bowl is completely protected from the environment. Safety improved



# Energy saving regulator

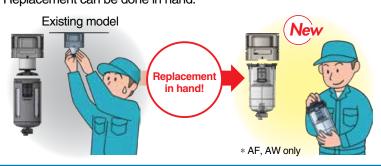
Pressure drop: Max. 50% improvement

Set pressure: 7.3 to 102 psi (0.05 to 0.7 MPa)

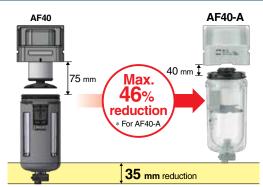
2.9 to 29 psi (0.02 to 0.2 MPa)

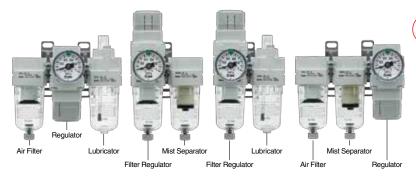
### Easy replacement of the element

The element and the bowl are in one piece. Replacement can be done in hand.

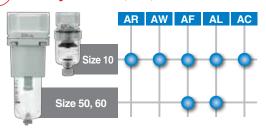


# ► Reduced required maintenance space





#### New Body size 10, 50, 60 added!





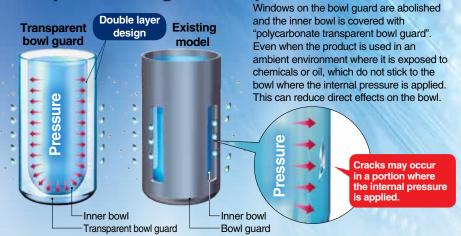


# Series AC

### Transparent bowl guard

Better environmental resistance:

Transparent bowl guard can protect the inner bowl!





#### Better visibility: 360°

Use of transparent bowl guard makes it possible to check the condensate inside the filter case and the remaining oil amount in the lubricator from the entire periphery.



Light weight:
Max. 90g reduction

\* Except AW

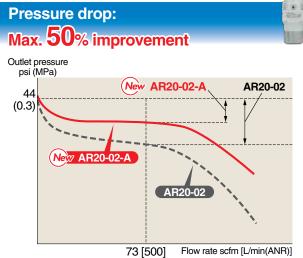
AF40-A
Weight
360 g
Weight
450 g

# Metal related corrosion does not occur.



Resin body does not rust.





◆ Flow rate: 17.7 scfm [500 L/min(ANR)]

♦ Inlet pressure: 73 psi (0.5 MPa ♦ Outlet pressure: 44 psi (0.3 MPa)

#### **New Spacer**

AR

#### **Modular connection**

#### Step 1

- Mount the product by lining up the mating surface of the new spacer with bracket.
- Insert the retainer into the spacer bolt and tighten the nut. (temporary assembling)

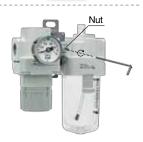
# Spacer with bracket Retainer Tentative tightening by fingers is possible.

#### Step (2)

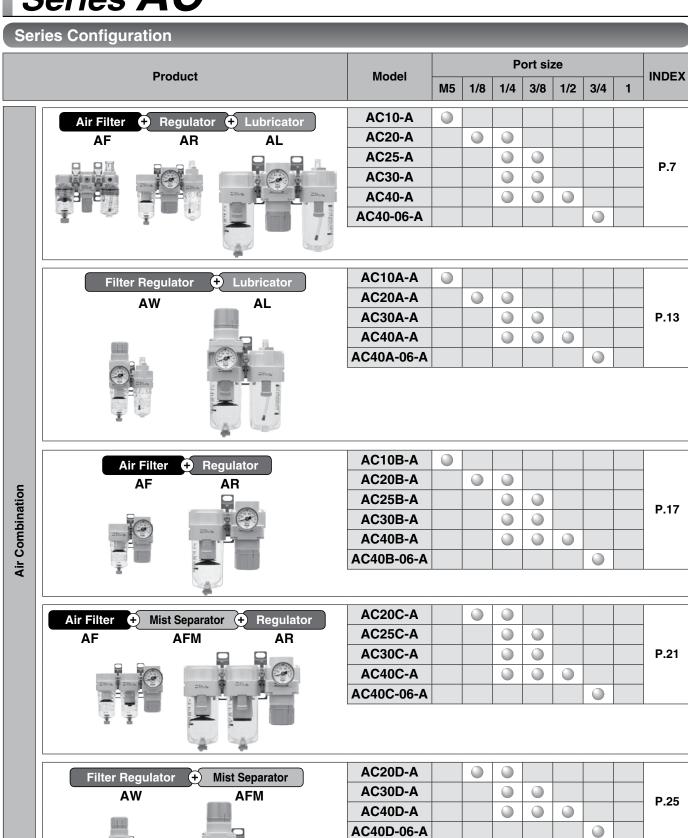
• Tighten the nut with the hexagon wrench.

#### Interchangeable with existing model

- New spacer can be connected to existing AF, AR, AL, AW series.
- Existing spacer cannot be used for new AR
   A, AW
   A series.







# Series **AC**

# Series Configuration

		<b>D</b> 1					F	ort siz	е			MDEV
		Produ	CT	Model	M5	1/8	1/4	3/8	1/2	3/4	1	INDEX
	AF			AF10-A	0							
				AF20-A		0	0					
e.		MIN. D. L	and the second	AF30-A			0	0				
Air Filter			2 1	AF40-A			0	0	0			P.34
Aii		OW.		AF40-06-A						0		
				AF50-A						0	0	
			-	AF60-A							0	
	AFM			AFM20-A		0	0					
				AFM30-A			0	0				
ator		Section (Section )	COMPANY OF THE STATE OF THE STA	AFM40-A			0	0	0			P.34
Mist Separator			14	AFM40-06-A						0		
	AFD			AFD20-A			•					
	ΛED			AED20-A								
ţo				AFD30-A			0	0				
para		STO ST. A. STORY S	and the same	AFD40-A			0	0	0			P.34
st Se				AFD40-06-A						0		Ī
Micro Mist Separator												
	AR			AR10-A	0							
				AR20-A		0	0					
Į.		AND SE do SE DE SERVICION DE SE	02 03 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	AR25-A			0	0				P.54
Regulator				AR30-A			0	•				1 .54
Reg				AR40-A			0	•	0			
				AR40-06-A						•		

	Dura	dual	Madel			F	ort siz	е			INDEX
	Pro	oduct	Model	M5	1/8	1/4	3/8	1/2	3/4	1	INDEX
	AL	a.	AL10-A	0							
	F94		AL20-A		0	0					
tor		NO STATE OF	AL30-A			0	0				
Lubricator	*** **********************************	1	AL40-A			0	0	0			P.64
LE	The state of the s		AL40-06-A						0		
	Ook B		AL50-A						0		
		The state of the s	AL60-A							0	
	AW		AW10-A	0							
			AW20-A		0	0					-
		63	AW30-A			0	0				P.72
tor		- CANAGO	AW40-A			0	0	0			
gula	200 25 A 100 EE	MP2 Open	AW40-06-A						0		
Filter Regulator	Transaction (1)	+ 100 II									
證	One of the state o										
		A D									

# **Simple Specials System**

A system designed to respond quickly and easily to your special ordering needs



#### Short lead times

This system enables us to respond to your special needs, such as additional machining, accessory assembly, or modular unit, and deliver such special products as quickly as standard products.

#### Repeat orders

Once we receive a Simple Special part number from your previous order, we will process the order, manufacture the product, and deliver it to you.



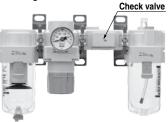
The simple specials specification sheets can be downloaded from SMC website. For details, refer to the SMC website. (http://www.smcworld.com)

#### **Attachment List**

#### **Check valve**

Page 28

■ A check valve with intermediate branch port can be easily installed to prevent a backflow of lubricant when branching the air flow and releasing the air on the outlet side of the regulator.

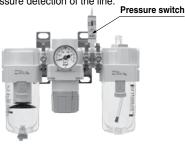


- · Air Filter + Regulator + Lubricator (AC20-A to AC40-A)
- · Filter Regulator + Lubricator (AC20A-A to AC40A-A)
  - \* Port size: Except 06

#### **Pressure switch**

Page 29

■ A compact integrated pressure switch can be easily installed and facilitates the pressure detection of the line.



- · Air Filter + Regulator + Lubricator (AC20-A to AC40-A)
- · Filter Regulator + Lubricator (AC20A-A to AC40A-A)
- · Air Filter + Regulator (AC20B-A to AC40B-A)
  - · Air Filter + Mist Separator + Regulator (AC20C-A to AC40C-A)
  - · Filter Regulator + Mist Separator (AC20D-A to AC40D-A)

#### T-spacer

Applicable

Page 29

■ Using a T-shaped spacer facilitates the branching of air flow.

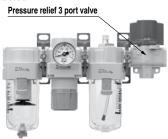


- · Air Filter + Regulator + Lubricator (AC10-A to AC40-A)
- · Air Filter + Regulator (AC10B-A to AC40B-A)
- · Air Filter + Mist Separator + Regulator (AC20C-A to AC40C-A)

#### Pressure relief 3 port valve

Page 30

■ With the use of a pressure relief 3 port valve, pressure left in the line can be easily exhausted.



- · Air Filter + Regulator + Lubricator (AC20-A to AC40-A)
- · Filter Regulator + Lubricator (AC20A-A to AC40A-A)
- · Air Filter + Regulator (AC20B-A to AC40B-A)
- · Air Filter + Mist Separator + Regulator (AC20C-A to AC40C-A)
- · Filter Regulator + Mist Separator (AC20D-A to AC40D-A)

#### **Cross spacer**

Page 30

■ Pipings are possible in all 4 directions.



\* Needs to be ordered separately.

#### Piping adapter

Page 31

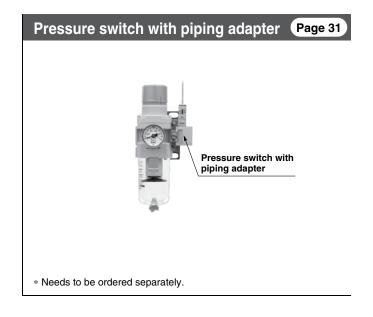
■ A piping adapter allows installation/removal of the component without removing the piping and thus makes maintenance easier.

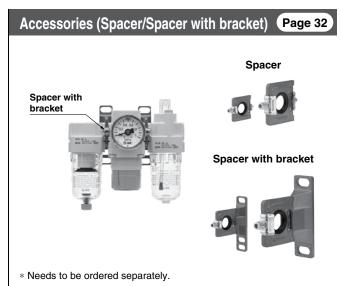


\* Needs to be ordered separately.

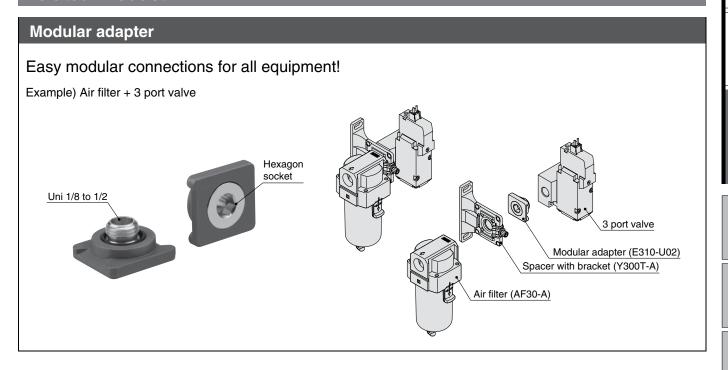


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#### **Related Product**

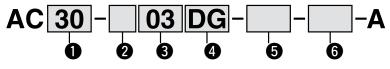


# Air Filter + Regulator + Lubricator *AC10-A to AC40-A*

#### Symbol



#### **How to Order**



- Option/Semi-standard: Select one each for a to m.
- Option/Attachment/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order.
   Example) AC30-F03DM-KSTV-13NR-A

	_							0		
				Symbol	Description			Body size		
						10	20	25	30	40
					Metric thread (M5)	•	_	T	_	_
				Nil	Rc		•		•	
2		Pipe	e thread type	N Note 1)	NPT	_	•		•	
				F Note 2)	G	_	•	•	•	•
				+			1			
				M5	M5	•	_	I —	_	_
				01	1/8	_	•	_	_	_
•			Port size	02	1/4	_	•	•	•	•
3			Port Size	03	3/8	_	_	•	•	•
				04	1/2	_	_	T —	_	•
				06	3/4	_	_	I —	_	•
	•			+						
			<b>5</b> 1	Nil	Without auto drain	•	•	•	•	•
		а	Float type auto drain	C Note 4)	N.C. (Normally closed) Drain port is closed when pressure is not applied.	•	•	•	•	•
	e 3)		auto urairi	D Note 5)	N.O. (Normally open) Drain port is open when pressure is not applied.	_	_	•	•	•
	Option Note 3)			+						
4	tiol			Nil	Without pressure gauge	•	•	•	•	
	ဝြ	L .	Pressure		Round type pressure gauge (without limit indicator)	•	_		_	_
		b	gauge Note 6)	G	Round type pressure gauge (with limit indicator)	_	•	•	•	•
				М	Round type pressure gauge (with color zone)	_	•	•	•	•
			,	+						
			Charleyalva	Nil	Without attachment	•	•	•	•	•
		С	Check valve	K	Mounting position: AF+AR+K+AL	_	•	•	•	Note 7)
				+						
	ا ــ ا	d	Pressure	Nil	Without attachment		•	•		
	lel	u	switch	S Note 8)	Mounting position: AF+AR+S+AL	_	•	•	•	•
6	Attachment			+						
	\tta	е	T-spacer	Nil	Without attachment		•			
			1-spacei	T Note 8)	Mounting position: AF+T+AR+AL				•	
				+						
		f	Pressure relief	Nil	Without attachment	•	•		•	
			3 port valve	V	Mounting position: AF+AR+AL+V	_	•		•	
				+						
		~	Set	Nil	7.3 to 102 psi (0.05 to 0.7 MPa) setting	•	•	•	•	
		g	pressure Note 9)	1	2.9 to 29 psi (0.02 to 0.2 MPa) setting	•	•	•	•	
	ard			+						
	Semi-standard			Nil	Polycarbonate bowl	•	•	•	•	
6	sta			2	Metal bowl	•	•	•	•	
	Ë	h	Bowl Note 10)	6	Nylon bowl	•	•	•	•	
	Se	"	DOWI ,	8	Metal bowl with level gauge		_	•	•	
				С	With bowl guard		•	Note 11)	Note 11)	Note 11)
				6C	With bowl guard (Nylon bowl)	_	•	Note 12)	Note 12)	Note 12)
7					@SMC					

# Air Combination Series AC10-A to AC40-A



	\								0		
				Symbol	Description				Body size		
						1	0	20	25	30	40
				Nil	With drain cock			•	•	•	•
			Air filter	Note 14)	Drain guide 1/8	_	_	•	_	_	_
		•	drain port Note 13)	J Note 14)	Drain guide 1/4	_	_	_	•	•	•
				<b>W</b> Note 15)	Drain cock with barb fitting (for ø6 x ø4 nylon tube)	_	_		•	•	•
				+							
	5		Lubricator lubricant	Nil	Without drain cock			•	•	•	•
	Semi-standard	J	exhaust port	3 Note 16)	Lubricator with drain cock			•	•	•	•
6	tan			+							
U	i-S	k	Exhaust	Nil	Relieving type			•	•	•	•
	Ser	^	mechanism	N	Non-relieving type			•	•		•
	(0)			+							
			Flow direction	Nil	Flow direction: Left to right			•	•		•
			1 low direction	R	Flow direction: Right to left			•	•		•
				+							
		m	Pressure unit	Nil	Name plate and pressure gauge in imperial units: MPa			•	•	•	•
		***	i icoouic uiii	<b>Z</b> Note 17)	Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F	ON	ote 18)	Note 18)	Note 18)	Note 18)	O Note 18)

- Note 1) Drain guide is NPT1/8 (applicable to the AC20-A) and NPT1/4 (applicable to the AC25-A to AC40-A). The auto drain port comes with ø3/8" One-touch fitting (applicable to the AC25-A to AC40-A).
- Note 2) Drain guide is G1/8 (applicable to the AC20-A) and G1/4 (applicable to the AC25-A to AC40-A).
- Note 3) Option G, M are not assembled and supplied loose at the time of shipment.
- Note 4) 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.
- Note 5) If the compressor is small (0.75 kW, discharge flow is less than 3.5 scfm (100 L/min[ANR]), air

- leakage from the drain cock may occur during start of operations. N.C. type is recommended.
- Note 6) When the pressure gauge is attached, a 145 psi (145 psi [1.0 MPa]) pressure gauge will be fitted for standard (102 psi [0.7 MPa]) type. 58 psi (0.4 MPa) pressure gauge for 29 psi (0.2 MPa) type (145 psi [1.0 MPa]) pressure gauge only for the AC10-A).
- Note 7) Not available with piping port size: 06 Note 8) The bracket position varies depending on the T-spacer or pressure switch mounting.
- Note 9) Pressure can be set higher than the specification pressure in some cases, but use pressure within the specification range.
- Note 10) Refer to Chemical data on page 38 for chemical resistance of the bowl.
- Note 11) A bowl guard is provided as standard equipment (polycarbonate).

- Note 12) A bowl guard is provided as standard equipment (nylon).
- Note 13) Float type auto drain: The combination of C and D is not possible.
- Note 14) Without a valve function
- Note 15) The combination of metal bowl: 2 and 8 is not available.
- Note 16) When choosing with W: Filter drain port, the drain cock of a lubricator will be with barb fittings.
- Note 17) For pipe thread type: M5, NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.) MPa and psi are shown together on the pressure unit. Cannot be used with M: Round pressure gauge (with color zone). Available by request for special.
- Note 18) O: For pipe thread type: M5, NPT only

#### Standard Specifications

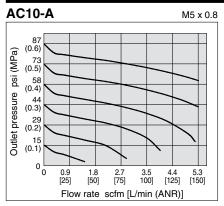
M	lodel	AC10-A	AC20-A	AC25-A	AC30-A	AC40-A	AC40-06-A							
	Air Filter [AF]	AF10-A	AF20-A	AF30-A	AF30-A	AF40-A	AF40-06-A							
Component	Regulator [AR]	AR10-A	AR20-A	AR25-A	AR30-A	AR40-A	AR40-06-A							
	Lubricator [AL]	AL10-A	AL20-A	AL30-A	AL30-A	AL40-A	AL40-06-A							
Port size		M5 x 0.8	1/8, 1/4	1/4, 3/8	1/4, 3/8	1/4, 3/8, 1/2	3/4							
Pressure gauge port size [AR]		1/16												
Fluid		Air												
Ambient and	fluid temperature	23 to 140°F (-5 to 60°C) (with no freezing)												
Proof pre	essure		218 psi (1.5 MPa)											
Max. opera	ting pressure	145 psi (1.0 MPa)												
Set pressu	re range [AR]	7.3 to 102 psi (0.05 to 0.7 MPa)												
Nominal filtr	ation rating [AF]			5 μr	n									
Recommend	ed lubricant [AL]			Class 1 turbine	oil (ISO VG32)									
Bowl mat	erial [AF/AL]	Polycarbonate												
Bowl guard [AF/AL]		_	Semi-standard (Steel)		Standard (Po	olycarbonate)								
Construc	tion [AR]			Relievi	ng type									
Weight (I	kg)	0.27	0.40	0.68	0.83	1.53	1.66							

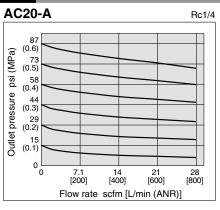


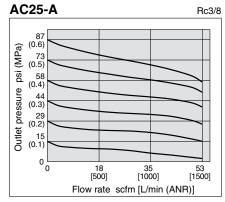
# Series AC10-A to AC40-A

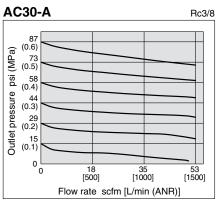
#### Flow-rate Characteristics (Representative values)

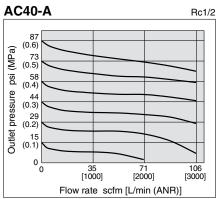
Condition: Inlet pressure 102 psi (0.7 MPa)

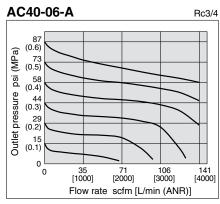




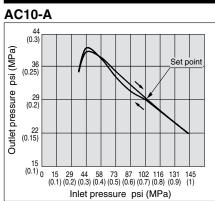


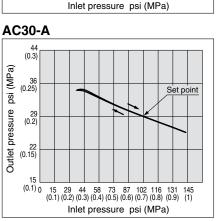


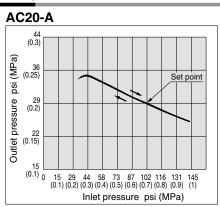


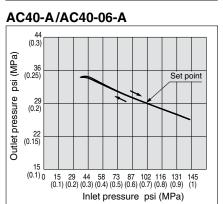


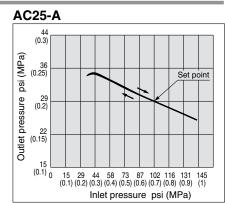
Pressure Characteristics (Representative values) Conditions: Inlet pressure 102 psi (0.7 MPa), Outlet pressure 29 psi (0.2 MPa), Flow rate 0.71 [scfm 20 L/min] (ANR)











# Specific Product Precautions

Be sure to read this before handling. Refer to the back cover for Safety Instructions, "Handling Precautions for I SMC Products" and the Operation Manual for F.R.L. Precautions, http://www.smcworld.com

#### **Piping**

# ∕!\ Warning

1. When mounting a check valve, make sure the arrow (IN side) points in the correct direction of air flow.

#### Air Supply

### **∕** Caution

1. Use an air filter with 5  $\mu m$  or less filtration rating on the inlet side of the valve to avoid any damage to the seat caused by dust when mounting a pressure relief 3 port valve on the inlet side.

#### **Mounting/Adjustment**

### **∕** Caution

1. When the bowl is installed on the air filter, filter regulator, lubricator, mist separator, or micro mist separator (AC25-A to AC40-A), 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.



#### Selection

# 🗥 Warning

1. Float type auto drain

Operate under the following conditions to avoid malfunction.

<N.O. type>

· Operating compressor: 0.75 kW (3.5 scfm [100 L/min] (ANR)) or more.

When using 2 or more auto drains, multiply the value above by the number of auto drains to find the capacity of the compressors you will need.

For example, when using 2 auto drains, 1.5 kW (7.1 scfm [200 L/min] (ANR)) of the compressor capacity is required.

- · Operating pressure: 15 psi (0.1 MPa) or more
- <N.C. type>
- · Operating pressure for AD27-A: 15 psi (0.1 MPa) or more Operating pressure for AD37-A/AD47-A: 22 psi (0.15 MPa) or
- 2. When a pressure release 3 port valve is mounted on the inlet side of the regulator or filter regulator, the residual pressure can be released to the inlet side. However, if the set pressure is 22 psi (0.15 MPa) or less, the residual pressure may not be released. When using the pressure release 3 port valve at a set pressure

level of 22 psi (0.15 MPa) or less, it is recommended to use a regulator with backflow function.

### ∕!\ Caution

1. When releasing air at the intermediate position using a T-spacer on the inlet side of the lubricator, lubricant may back flow. Therefore, releasing air that does not contain traces of lubricant is not possible

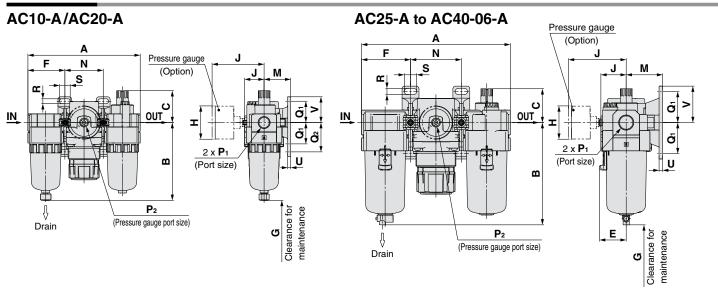
To release air that does not contain traces of lubricant, use a check valve (Series AKM) on the inlet side of the lubricator to prevent a backflow of the lubricant.

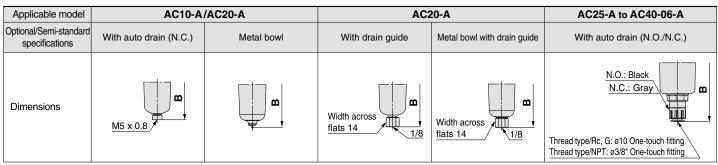
- 2. If a pressure relief 3 port valve is mounted on the inlet side of the lubricator, causing a backflow of air, it can result in a backflow of oil or damage to internal parts. Do not use it in this fashion.
- 3. An F.R.L. unit shipped from the plant has its model number labeled. However, components that are combined together during the distribution process do not have a label on them.



# Series AC10-A to AC40-A

#### **Dimensions**





Applicable model			AC2	25-A to AC40-06-A		
Optional/Semi-standard specifications	Metal bowl	Metal bowl with drain guide	Metal bowl with level gauge	Metal bowl with level gauge, with drain guide	With drain guide	Drain cock with barb fitting
Dimensions	B	Width across flats 17	<b>a</b>	Width across flats 17	Width across flats 17	Barb fitting applicable tubing: T0604

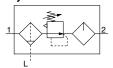
	Standard specifications																
Model	P <sub>1</sub>	P <sub>2</sub>		В	С	Е	_	G					Bracke	t mount			
	Pi	P2	A	В	C	_	Г	G	J	M	N	Q1	Q2	R	S	U	V
AC10-A	M5 x 0.8	1/16	87	59.9	25.5	_	28	35	12.5	25	31	20	27	4.5	6.8	3	24.5
AC20-A	1/8, 1/4	1/8	126.4	87.6	35.9	_	41.6	60	23.4	30	43.2	24	33	5.5	12	3.5	29
AC25-A	1/4, 3/8	1/8	167.4	115.1	38.1	30	55.1	80	30.5	41	57.2	35	_	7	14	4	41
AC30-A	1/4, 3/8	1/8	167.4	115.1	38.1	30	55.1	80	30.5	41	57.2	35	_	7	14	4	41
AC40-A	1/4, 3/8, 1/2	1/8	220.4	147.1	39.8	38.4	72.6	110	36.1	50	75.2	40	_	9	18	5	48
AC40-06-A	3/4	1/8	235.4	149.1	37.8	38.4	77.6	110	39.6	50	80.2	40	_	9	18	5	48

		Optio	nal specifica	ations		Semi-standard specifications							
Model	Round	d type e gauge	Round type pressure gauge (with color zone)		With auto drain	With With barb fitting drain guide Metal bow		Metal bowl	Metal bowl with drain guide	Metal bowl with level gauge	Metal bowl with level gauge, with drain guide		
	Н	J	Н	J	В	В	В	В	В	В	В		
AC10-A	ø26	26	_	_	77.9	_	_	59.3	_	_	_		
AC20-A	ø37.5	58.5	ø37.5	59.5	104.9	_	91.4	87.4	93.9	_	_		
AC25-A	ø37.5	58.5	ø37.5	59.5	156.8	123.6	121.9	117.6	122.1	137.6	142.1		
AC30-A	ø37.5	65	ø37.5	66	156.8	123.6	121.9	117.6	122.1	137.6	142.1		
AC40-A	ø42.5	72	ø42.5	72	186.9	155.6	153.9	149.6	154.1	169.6	174.1		
AC40-06-A	ø42.5	72	ø42.5	72	188.9	157.6	155.9	151.6	156.1	171.6	176.1		

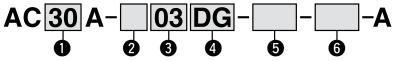
# Filter Regulator + Lubricator

# AC10A-A to AC40A-A

Symbol



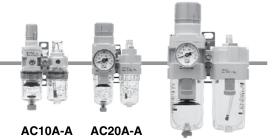
#### **How to Order**



- Option/Semi-standard: Select one each for a to I.
- Option/Attachment/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order.
   Example) AC30A-F03DM-KSV-13NR-A

	_	_						D	
		_		Symbol	Description		Body	/ size	
						10	20	30	40
				Nil	Metric thread (M5)	•	_	_	_
0		Dino	throad type		Rc	_		•	
U		ripe	thread type	N Note 1)	NPT	_	•		•
				F Note 2)	G	_	•		•
				+					
				M5	M5	•	_	_	_
				01	1/8	_	•	_	_
A			Port size	02	1/4	_	•	•	•
8			FUIT SIZE	03	3/8	_	_		•
				04	1/2	_	_		•
				06	3/4	_	_	_	•
				+					
			Float type	Nil	Without auto drain	•	•		•
		a	Float type auto drain	C Note 4)	N.C. (Normally closed) Drain port is closed when pressure is not applied.	•	•	•	•
	te 3)		auto diam	<b>D</b> Note 5)	N.O. (Normally open) Drain port is open when pressure is not applied.	_	_		•
4	Nol			+					
•	Option Note 3)			Nil	Without pressure gauge			•	
	ဝြ	b	Pressure	G	Round type pressure gauge (without limit indicator)	•	_	_	_
			gauge Note 6)	G	Round type pressure gauge (with limit indicator)	_	•		•
				M	Round type pressure gauge (with color zone)	_	•		•
				+					
		С	Check valve	Nil	Without attachment	•	•	•	•
			Officer valve	K	Mounting position: AW+K+AL	_	•		Note 7)
	eut			+					
6	Ĕ	d	Pressure	Nil	Without attachment	•	•	•	•
•	Attachment		switch	S Note 8)	Mounting position: AW+S+AL	_	•		•
	¥			+					
		е	Pressure relief	Nil	Without attachment	•	•	•	•
			3 port valve	V	Mounting position: AW+AL+V	_			
				+		ſ			
		f	Set	Nil	7.3 to 102 psi (0.05 to 0.7 MPa) setting	•	•	•	•
			pressure Note 9)	1	2.9 to 29 psi (0.02 to 0.2 MPa) setting		•		
				+		_			_
				Nil	Polycarbonate bowl	•	•	•	•
	٦			2	Metal bowl	•	•	•	•
	Semi-standard	g	Bowl Note 10)	6	Nylon bowl	•	•	•	•
6	star	9		8	Metal bowl with level gauge		_	• Note 440	No. 10
	ni-s			С	With bowl guard		•	Note 11)	Note 11)
	Ser			6C	With bowl guard (Nylon bowl)	_	•	Note 12)	Note 12)
				+					
			Filter Note 13)	Nil	With drain cock	•	•	•	•
		h	regulator	J Note 14)	Drain guide 1/8		•	_	
			drain port		Drain guide 1/4		_	•	•
				<b>W</b> Note 15)	Drain cock with barb fitting (for ø6 x ø4 nylon tube)				•
12									

### Air Combination Series AC10A-A to AC40A-A



AC40A-A

	_	_					(				
				Symbol	Description	Body size					
						10	20	30	40		
			Lubricator lubricant	Nil	Without drain cock	•	•	•	•		
		•	exhaust port	3 Note 16)	Lubricator with drain cock		•	•	•		
				+							
	힏		Exhaust	Nil	Relieving type	•	•	•	•		
	월	J	mechanism	N	Non-relieving type	•	•	•	•		
6	sta			+					_		
	Semi-standard	k	Flow direction	Nil	Flow direction: Left to right	•	•	•	•		
	Sel		riow direction	R	Flow direction: Right to left	•	•	•			
				+							
			Pressure unit	Nil	Name plate and pressure gauge in imperial units: MPa	•		•	•		
		Z Note 17) Name plate, caution plate for bowl, and pressure gauge in imperial units: ps		Note 18)	O Note 18)	Note 18)	Note 18)				

- Note 1) Drain guide is NPT1/8 (applicable to the AC20A-A) and NPT1/4 (applicable to the AC30A-A to AC40A-A). The auto drain port comes with ø3/8" One-touch fitting (applicable to the AC30A-A to AC40A-A).
- Note 2) Drain guide is G1/8 (applicable to the AC20A-A) and G1/4 (applicable to the AC30A-A to AC40A-A).
- Note 3) Option G, M are not assembled and supplied loose at the time of shipment.
- Note 4) 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.
- Note 5) If the compressor is small (0.75 kW, discharge flow is less than 3.5 scfm100 L/min[ANR]), air leakage from the drain cock may occur during start of operations. N.C. type is recommended.
- Note 6) When the pressure gauge is attached, a 145 psi (1.0 MPa) pressure gauge will be fitted for standard (102psi [0.7 MPa]) type. 58 psi [0.4 MPa] pressure gauge for 29 psi (0.2 MPa) type (145 psi [1.0 MPa] pressure gauge only for the AC10A-A).
- Note 7) Not available with piping port size: 06
- Note 8) The bracket position varies depending on the pressure switch mounting.
- Note 9) Pressure can be set higher than the specification pressure in some cases, but use pressure within the specification range.
- Note 10) Refer to Chemical data on page 38 for chemical resistance of the bowl.
- Note 11) A bowl guard is provided as standard equipment (polycarbonate).
- Note 12) A bowl guard is provided as standard equipment (nylon).

- Note 13) Float type auto drain: The combination of C and D is not possible.
- Note 14) Without a valve function
- Note 15) The combination of metal bowl: 2 and 8 is not available.
- Note 16) When choosing with W: Filter regulator drain port, the drain cock of a lubricator will be with barb fitting.
- Note 17) For pipe thread type: M5, NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.) MPa and psi are shown together on the pressure unit. Cannot be used with M: Round pressure gauge (with color zone). Available by request for special.
- Note 18) O: For pipe thread type: M5, NPT only

#### Standard Specifications

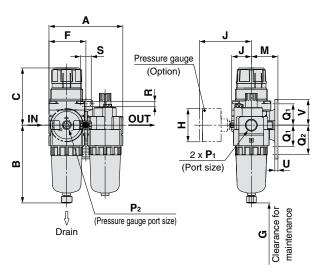
	Model	AC10A-A	AC20A-A	AC30A-A	AC40A-A	AC40A-06-A			
0	Filter Regulator [AW]	AW10-A	AW20-A	AW30-A	AW40-A	AW40-06-A			
Component	Lubricator [AL]	AL10-A	AL20-A	AL30-A	AL40-A	AL40-06-A			
Port size		M5 x 0.8	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4			
Pressure ga	uge port size [AW]	1/16		1,	/8				
Fluid				Air					
Ambient and	d fluid temperature		23 to 140°	F (–5 to 60C°) (with no	freezing)				
Proof press	ure	218 psi (1.5 MPa)							
Maximum o	perating pressure	145 psi (1.0 MPa)							
Set pressur	e range [AW]	7.3 to 102 psi (0.05 to 0.7 MPa)							
Nominal filt	ration rating [AW]			5 μm					
Recommend	ded lubricant [AL]		Clas	s 1 turbine oil (ISO V	G32)				
Bowl materi	ial [AW/AL]			Polycarbonate					
Bowl guard	[AW/AL]	_	Semi-standard (Steel)	St	andard (Polycarbona	te)			
Constructio	n [AW]			Relieving type					
Weight (kg)		0.20	0.34	0.67	1.24	1.35			

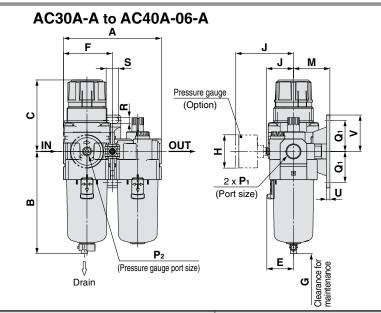


# Air Combination AC10A-A to AC40A-A

#### **Dimensions**

#### AC10A-A/AC20A-A





Applicable model	AC10A-A	AC20A-A	AC2	0A-A	AC30A-A to AC40A-06-A		
Optional/Semi-standard specifications	With auto drain (N.C.)	Metal bowl	With drain guide	Metal bowl with drain guide	With auto drain (N.O./N.C.)		
Dimensions	M5 x 0.8	<b>B</b>	Width across flats 14 1/8	Width across flats 14	N.O.: Black N.C.: Gray  Thread type/Rc, G: ø10 One-touch fitting Thread type/NPT: ø3/8" One-touch fitting		

Applicable model			AC30/	A-A to AC40A-06-A		
Optional/Semi-standard specifications	Metal bowl	Metal bowl with drain guide	Metal bowl with level gauge	Metal bowl with level gauge, with drain guide	With drain guide	Drain cock with barb fitting
Dimensions	B	Width across flats 17	B	Width across flats 17	Width across flats 17	Barb fitting applicable tubing: T0604

		Standard specifications														
Model	P1	P <sub>2</sub>	Α	В	C Note)	Е	F	G				Br	acket mou	ınt		
	P1	F2	Α	В	C Noic)	_	_	G	J	M	Q1	Q2	R	S	U	V
AC10A-A	M5 x 0.8	1/16	56	59.9	47.4	_	28	25	12.5	25	20	27	4.5	6.8	3	24.5
AC20A-A	1/8, 1/4	1/8	83.2	87.6	67.4	_	41.6	60	23.4	30	24	33	5.5	12	3.5	29
AC30A-A	1/4, 3/8	1/8	110.2	115.1	83.5	30	55.1	80	30.5	41	35	_	7	14	4	41
AC40A-A	1/4, 3/8, 1/2	1/8	145.2	147.1	100	38.4	72.6	110	36.1	50	40	_	9	18	5	48
AC40A-06-A	3/4	1/8	155.2	149.1	101.5	38.4	77.6	110	39.6	50	40	_	9	18	5	48

		Optio	nal specifica	ations					Semi-standard spe	ecifications	
Model	Round pressure	d type e gauge	Round type pr (with col	ressure gauge lor zone)	With auto drain	With barb fitting	With drain guide	Metal bowl	Metal bowl with drain guide	Metal bowl with level gauge	Metal bowl with level gauge, with drain guide
	H J		Н	J	В	В	В	В	В	В	В
AC10A-A	ø26	26	_	_	77.9	_	_	59.3	_	_	_
AC20A-A	ø37.5	58.5	ø37.5	59.5	104.9	_	91.4	87.4	93.9	_	_
AC30A-A	ø37.5	65	ø37.5	66	156.8	123.6	121.9	117.6	122.1	137.6	142.1
AC40A-A	ø42.5	72	ø42.5	72	186.9	155.6	153.9	149.6	154.1	169.6	174.1
AC40A-06-A	ø42.5	72	ø42.5	72	188.9	157.6	155.9	151.6	156.1	171.6	176.1

Note) The dimension of C is the length when the filter regulator knob is unlocked.



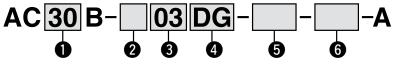
# Air Filter + Regulator

# AC10B-A to AC40B-A

Symbol



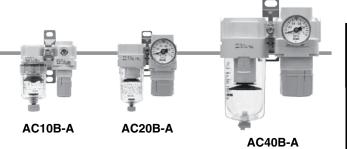
#### **How to Order**



- $\bullet$  Option/Semi-standard: Select one each for  $\boldsymbol{a}$  to  $\boldsymbol{j}.$
- Option/Attachment/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order.
   Example) AC30B-F03DM-SV-1NR-A

			•							
								0		
		\		Symbol	Description			Body size		
				,	_ 5551.p.151.	10	20	25	30	40
				J	11.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1	_				10
				Nil	Metric thread (M5)		_		_	
2		Pipe	e thread type	B I Note 1)	Rc		•	•	•	_
				N Note 1)	NPT		•		•	•
				ļ -	G	_	•	•	•	
				+	MG					
				M5	M5		_	+	_	
				01	1/8		•	_	_	
3			Port size	02	1/4		•	•	•	•
				03	3/8			•	•	•
				04	1/2				_	•
				06  -	3/4				_	•
				Nil	Without outo drain					
			Float type	C Note 4)	Without auto drain					
	<u></u>	а	auto drain	D Note 5)	N.C. (Normally closed) Drain port is closed when pressure is not applied.					
	lote 3			+	N.O. (Normally open) Drain port is open when pressure is not applied.					
4	Option Note 3)			Nil	Without propure gouge		•	•		
	Ĭġ∥		Duasavus	INII	Without pressure gauge  Round type pressure gauge (without limit indicator)	•				•
		b	Pressure gauge Note 6)	G	Round type pressure gauge (with limit indicator)  Round type pressure gauge (with limit indicator)		•	-	_	_
			gauge	М	Round type pressure gauge (with infin indicator)  Round type pressure gauge (with color zone)					
				+	Hourid type pressure gauge (with color zone)					
			Pressure	Nil	Without attachment					
		С	switch	S Note 7)	Mounting position: AF+S+AR					
	ar l		T-spacer	T Note 7)	Mounting position: AF+T+AR					
6	Attachment		1-эрасеі	+	Modifiling position. At FIFAIT					
v	tac			Nil	Without attachment		•			•
	₹	d	Pressure relief	V	Mounting position: AF+AR+V		•			•
		<u> </u>	3 port valve	V1 Note 8)	Mounting position: V+AF+AR					
				+			_			
			Set	Nil	7.3 to 102 psi (0.05 to 0.7 MPa) setting					•
		е	pressure Note 9)	1	2.9 to 29 psi (0.02 to 0.2 MPa) setting			•	•	•
				+	k - (					
				Nil	Polycarbonate bowl		•	•		•
				2	Metal bowl	•	•	•	•	•
	lard		D (Nets 10)	6	Nylon bowl	•	•	•	•	•
	and	f	Bowl Note 10)	8	Metal bowl with level gauge	_	_	•	•	•
6	Semi-standard			С	With bowl guard	_	•	Note 11)	Note 11)	Note 11)
	em			6C	With bowl guard (Nylon bowl)	_	•	Note 12)	Note 12)	Note 12)
	S			+				1	· · · · · · · · · · · · · · · · · · ·	
			Note 13)	Nil	With drain cock	•	•	•	•	•
			Air filter	Note 14)	Drain guide 1/8	_	•	T —	_	_
		g	drain port	J Note 14)	Drain guide 1/4	_	_	•	•	•
				<b>W</b> Note 15)	Drain cock with barb fitting (for ø6 x ø4 nylon tube)	_	_	•	•	•
							•	•		

# Air Combination Series AC10B-A to AC40B-A



	_	_							0		
		_		Symbol	Description				Body size		
							10	20	25	30	40
		h	Exhaust	Nil	Relieving type		•	•	•	•	•
	5	"	mechanism	N	Non-relieving type		•	•	•	•	•
	ar			+							
A	standard		Flow direction	Nil	Flow direction: Left to right		•	•	•	•	•
6	i-st	•	riow direction	R	Flow direction: Right to left		•	•	•	•	•
	Semi-			+							
	0)		Pressure unit	Nil	Name plate and pressure gauge in imperial units: MPa		•	•	•	•	•
		J	Fiessure unit	<b>Z</b> Note 16)	Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F	C	Note 17)	Note 17)	O Note 17)	Note 17)	O Note 17)

- Note 1) Drain guide is NPT1/8 (applicable to the AC20B-A) and NPT1/4 (applicable to the AC25B-A to AC40B-A). The auto drain port comes with ø3/8" One-touch fitting (applicable to the AC25B-A to AC40B-A).
- Note 2) Drain guide is G1/8 (applicable to the AC20B-A) and G1/4 (applicable to the AC25B-A to AC40B-A).
- Note 3) Option G, M are not assembled and supplied loose at the time of shipment.
- Note 4) 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.
- Note 5) If the compressor is small (0.75 kW, discharge flow is less than 3.5 scfm (100 L/min [ANR]), air leakage from the drain cock may occur during start of operations. N.C. type is recommended.
- Note 6) When the pressure gauge is attached, a 145 psi (1.0 MPa) pressure gauge will be fitted for standard (102 psi [0.7 MPa]) type. 58 psi [0.4 MPa] pressure gauge for 29 psi (0.2 MPa) type (145 psi [1.0 MPa] pressure gauge only for the AC10B-A).
- Note 7) The bracket position varies depending on the T-spacer or pressure switch mounting.
- Note 8) Make sure that the outlet pressure is released to atmospheric pressure using a pressure gauge. For V1 specification, use the regulator with a set pressure of 22 psi (0.15 MPa) or more to ensure the pressure release.
- Note 9) Pressure can be set higher than the specification pressure in some cases, but use pressure within the specification range.

- Note 10) Refer to Chemical data on page 38 for chemical resistance of the bowl.
- Note 11) A bowl guard is provided as standard equipment (polycarbonate).
- Note 12) A bowl guard is provided as standard equipment (nylon).
- Note 13) Float type auto drain: The combination of C and D is not possible.
- Note 14) Without a valve function
- Note 15) The combination of metal bowl: 2 and 8 is not available.
- Note 16) For pipe thread type: M5, NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.) MPa and psi are shown together on the pressure unit. Cannot be used with M: Round pressure gauge (with color zone). Available by request for special.
- Note 17) O: For pipe thread type: M5, NPT only

#### Standard Specifications

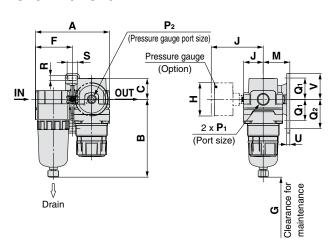
	Model	AC10B-A	AC20B-A	AC25B-A	AC30B-A	AC40B-A	AC40B-06-A					
0	Air Filter [AF]	AF10-A	AF20-A	AF30-A	AF30-A	AF40-A	AF40-06-A					
Component	Regulator [AR]	AR10-A	AR20-A	AR25-A	AR30-A	AR40-A	AR40-06-A					
Port size		M5 x 0.8	1/8, 1/4	1/4, 3/8	1/4, 3/8	1/4, 3/8, 1/2	3/4					
Pressure ga	auge port size [AR]	1/16			1/8							
Fluid		Air										
Ambient an	d fluid temperature	23 to 140°F (–5 to 60C°) (with no freezing)										
Proof press	ure	218 psi (1.5 MPa)										
Maximum o	perating pressure	145 psi (1.0 MPa)										
Set pressur	e range [AR]			7.3 to 102 psi (	0.05 to 0.7 MPa)							
Nominal filt	ration rating [AF]			5	μm							
Bowl mater	ial [AF]			Polyca	rbonate							
Bowl guard	[AF]	_	Semi-standard (Steel)		Standard (Po	olycarbonate)						
Construction	on [AR]			Relievi	ng type							
Weight (kg)		0.16	0.28	0.43	0.58	1.05	1.12					



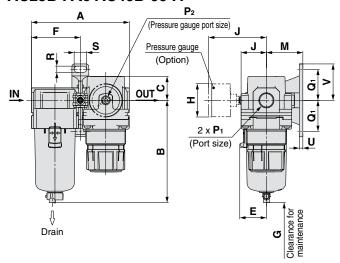
# Series AC10B-A to AC40B-A

#### **Dimensions**

#### AC10B-A/AC20B-A



#### AC25B-A to AC40B-06-A



Applicable model	AC10B-A	AC20B-A	AC2	0B-A	AC25B-A to AC40B-06-A
Optional/Semi-standard specifications	With auto drain (N.C.)	Metal bowl	With drain guide	Metal bowl with drain guide	With auto drain (N.O./N.C.)
Dimensions	M5 x 0.8	B	Width across flats 14 1/8	Width across flats 14	N.O.: Black N.C.: Gray  Thread type/Rc, G: ø10 One-touch fitting Thread type/NPT: ø3/8" One-touch fitting

Applicable model			AC25	B-A to AC40B-06-A		
Optional/Semi-standard specifications	Metal bowl	Metal bowl with drain guide	Metal bowl with level gauge	Metal bowl with level gauge, with drain guide	With drain guide	Drain cock with barb fitting
Dimensions	<b>a</b>	Width across flats 17	B	Width across flats 17	Width across flats 17	Barb fitting applicable tubing: T0604

							S	tandard	specifica	tions						
Model	P <sub>1</sub>	P <sub>2</sub>		В	•	Е	F	G				Br	acket mou	ınt		
	Pı	P2	Α	В	C	_ =	F	G	J	M	Q <sub>1</sub>	Q2	R	S	U	٧
AC10B-A	M5 x 0.8	1/16	56	59.9	11	_	28	25	12.5	25	20	27	4.5	6.8	3	24.5
AC20B-A	1/8, 1/4	1/8	83.2	87.6	23.5	_	41.6	25	23.4	30	24	33	5.5	12	3.5	29
AC25B-A	1/4, 3/8	1/8	110.2	115.1	23.5	30	55.1	35	30.5	41	35	_	7	14	4	41
AC30B-A	1/4, 3/8	1/8	110.2	115.1	27	30	55.1	35	30.5	41	35	_	7	14	4	41
AC40B-A	1/4, 3/8, 1/2	1/8	145.2	147.1	33.5	38.4	72.6	40	36.1	50	40	_	9	18	5	48
AC40B-06-A	3/4	1/8	155.2	149.1	33.5	38.4	77.6	40	39.6	50	40	_	9	18	5	48

		Optio	nal specifica	ations					Semi-standard spe	ecifications	
Model	Round type pressure gauge		Round type pr (with col	essure gauge or zone)	With auto drain	With barb fitting	With drain guide	Metal bowl	Metal bowl with drain guide	Metal bowl with level gauge	Metal bowl with level gauge, with drain guide
	Н	J	Н	J	В	В	В	В	В	В	В
AC10B-A	ø26	26	_	_	77.9	_	_	59.3	_	_	_
AC20B-A	ø37.5	58.5	ø37.5	59.5	104.9	_	91.4	87.4	93.9	_	_
AC25B-A	ø37.5	58.5	ø37.5	59.5	156.8	123.6	121.9	117.6	122.1	137.6	142.1
AC30B-A	ø37.5	65	ø37.5	66	156.8	123.6	121.9	117.6	122.1	137.6	142.1
AC40B-A	ø42.5	72	ø42.5	72	186.9	155.6	153.9	149.6	154.1	169.6	174.1
AC40B-06-A	ø42.5	72	ø42.5	72	188.9	157.6	155.9	151.6	156.1	171.6	176.1

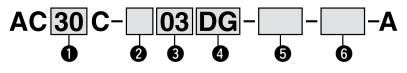
# Air Filter + Mist Separator + Regulator

# AC20C-A to AC40C-A

Symbol



#### **How to Order**



- Option/Semi-standard: Select one each for a to j.
- Option/Attachment/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order.
   Example) AC30C-F03DM-SV-1NR-A

	_	_						D	
				Symbol	Description		Body	size	
						20	25	30	40
				Nil	Rc	•	•	•	•
2		Pipe	e thread type	N	NPT	•	•	•	•
				F	G	•	•	•	•
				+					
				01	1/8	•	_	_	_
				02	1/4	•	•	•	•
8		I	Port size	03	3/8	_	•	•	•
				04	1/2		_		•
				06	3/4		_		•
				+		_	_		_
			Float type	Nil	Without auto drain	•	•	•	•
	<del>-</del>	а	auto drain	CNote 2)	N.C. (Normally closed) Drain port is closed when pressure isnot applied.	•	•	•	•
	Note 1)			D <sup>Note 3)</sup>	N.O. (Normally open) Drain port is open when pressure is not applied.			•	
4	Option		I	+	NAPU.				
	do		Pressure	Nil	Without pressure gauge	•	•	•	•
		b	gauge Note 4)	G	Round type pressure gauge (with limit indicator)	•	•	•	•
				M	Round type pressure gauge (with color zone)	•	•	•	•
			5	+   NI:1	Mildo and adda alamand				
			Pressure switch	Nil S Note 5)	Without attachment				
	Ħ	С		T Note 5)	Mounting position: AF+AFM+S+AR	•			
A	me		T-spacer	+	Mounting position: AF+AFM+T+AR				
6	Attachment			Nil	Without attachment				
	ΑĦ	d	Pressure relief	V	Mounting position: AF+AFM+AR+V	•			
		ď	3 port valve	V1 Note 6)	Mounting position: V+AF+AFM+AR				
				+	Woulding position: \$174 174 W1741				
			Set	Nil	7.3 to 102 psi (0.05 to 0.7 MPa) setting	•		•	
		е	pressure Note 7)	1	2.9 to 29 psi (0.02 to 0.2 MPa) setting	•	•	•	•
				+	, , ,				
				Nil	Polycarbonate bowl	•	•	•	•
				2	Metal bowl	•	•	•	•
			DI	6	Nylon bowl	•	•	•	•
	<u>r</u>	f	Bowl	8	Metal bowl with level gauge	_	•	•	•
	nda			С	With bowl guard	•	_	_	_
6	standard			6C	With bowl guard (Nylon bowl)	•	_	_	_
	Semi-			+					
	Se		F:11	Nil	With drain cock	•	•	•	•
			Filter Mist separator	J Note 8)	Drain guide 1/8	•	_	_	_
		g	drain port		Drain guide 1/4	_	•	•	•
				<b>W</b> Note 11)	Drain cock with barb fitting (for ø6 x ø4 nylon tube)	_		•	•
				+					
		h	Exhaust	Nil	Relieving type	•	•	•	•
		•	mechanism	N	Non-relieving type	•	•	•	•
					COLO				



# Air Combination Series AC20C-A to AC40C-A



#### AC20C-A

#### AC40C-A

				Symbol	Description	Body size							
						20	25	30	40				
	ırd		Flow direction	Nil	Flow direction: Left to right	•	•	•	•				
	standard	•	Flow direction	R	Flow direction: Right to left	•	•	•	•				
6	sta			+									
	Semi-		Pressure unit	Nil	Name plate and pressure gauge in imperial units: MPa	•	•	•	•				
	Se	J	Fressure unit	Z Note 9)	Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F	Note 10)	Note 10)	Note 10)	Note 10)				

- Note 1) Option G, M are not assembled and supplied loose at the time of shipment.
- Note 2) 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.
- Note 3) If the compressor is small (0.75 kW, discharge flow is less than 3.5 scfm (100 L/min[ANR])), air leakage from the drain cock may occur during start of operations. N.C. type is recommended.
- Note 4) When the pressure gauge is attached, a 145 psi (1.0 MPa) pressure gauge will be fitted for standard (102 psi [0.7 MPa]) type. 58 psi (0.4 MPa) pressure gauge for 29 psi (0.2 MPa) type.
- Note 5) The bracket position varies depending on the T-spacer or pressure switch mounting.
- Note 6) Make sure that the outlet pressure is released to atmospheric pressure using a pressure gauge.
  - For V1 specification, use the regulator with a set pressure of 22 psi (0.15 MPa) or more to ensure the pressure release.
- Note 7) Pressure can be set higher than the specification pressure in some cases, but use pressure within the specification range.

- Note 8) Without a valve function
- Note 9) For pipe thread type: NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.)
  - MPa and psi are shown together on the pressure unit.
  - Cannot be used with M: Round pressure gauge (with color zone). Available by request for special.
- Note 10)  $\bigcirc$ : For pipe thread type: NPT only
- Note 11) The combination of metal bowl: 2 and 8 is not available.

#### **Standard Specifications**

	Model	AC20C-A	AC25C-A	AC30C-A	AC40C-A	AC40C-06-A					
	Air Filter [AF]	AF20-A	AF30-A	AF30-A	AF40-A	AF40-06-A					
Component	Mist Separator [AFM]	AFM20-A	AFM30-A	AFM30-A	AFM40-A	AFM40-06-A					
	Regulator [AR]	AR20-A	AR25-A	AR30-A	AR40-A	AR40-06-A					
Port size		1/8, 1/4	1/4, 3/8	1/4, 3/8	1/4, 3/8, 1/2	3/4					
Pressure gau	ge port size [AR]			1/8							
Fluid				Air							
Ambient and	fluid temperature	23 to 140°F (-5 to 60C°) (with no freezing)									
Proof pressu	re			218 psi (1.5 MPa)							
Maximum ope	erating pressure	145 psi (1.0 MPa)									
Minimum ope	erating pressure	7.3 psi (0.05 MPa)									
Set pressure	range [AR]	7.3 to 102 psi (0.05 to 0.7 MPa)									
Nominal filtra	tion rating [AF/AFM]		AF: 5 μm, AFM	: 0.3 μm (99.9% filtere	ed particle size)						
Outlet side oil m	nist concentration [AFM]		MAX 1.0 mg	g/m³ (ANR) (≈ 0.8 ppn	n) Note 2) Note 3)						
Rated flow scfm	(L/min (ANR)) [AFM] Note 1)	7.06 (200)	15.9 (450)	15.9 (450)	38.8 (1100)	38.8 (1100)					
Bowl materia	I [AF/AFM]	Polycarbonate									
Bowl guard [/	AF/AFM]	Semi-standard (Steel) Standard (Polycarbonate)									
Construction	[AR]	Relieving type									
Weight (kg)		0.39	0.67	0.82	1.53	1.66					

Note 1) Conditions: Mist separator inlet pressure: 102 psi (0.7 MPa); The rated flow varies depending on the inlet pressure.

Keep the air flow within the rated flow to prevent an outflow of lubricant to the outlet side.

Note 2) When the compressor oil mist discharge concentration is 30 mg/m³ (ANR).

Note 3) Bowl seal and other O-rings are slightly lubricated.

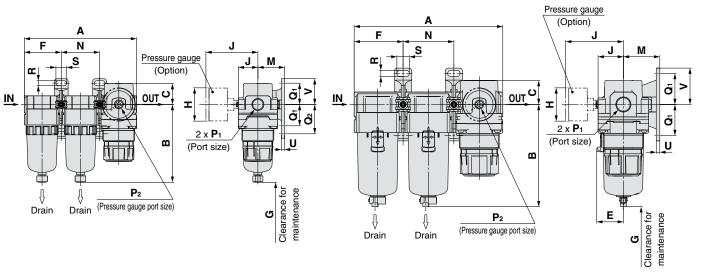


# Series AC20C-A to AC40C-A

#### **Dimensions**

#### AC20C-A

#### AC25C-A to AC40C-06-A



Applicable model		AC2	OC-A	AC25C-A to AC40C-06-A						
Optional/Semi-standard specifications	With auto drain (N.C.)	With drain guide	Metal bowl	Metal bowl with drain guide	With auto drain (N.O./N.C.)					
Dimensions	M5 × 0.8	Width across flats 14 1/8	B	Width across flats 14	N.O.: Black N.C.: Gray  Thread type/Rc, G: ø10 One-touch fitting Thread type/NPT: ø3/8" One-touch fitting					

Applicable model			AC25	C-A to AC40C-06-A		
Optional/Semi-standard specifications	Metal bowl	Metal bowl with drain guide	Metal bowl with level gauge	Metal bowl with level gauge, with drain guide	With drain guide	Drain cock with barb fitting
Dimensions	<b>a</b>	Width across flats 17	B	Width across flats 17	Width across flats 17	Barb fitting applicable tubing: T0604

							S	tandard	specifica	tions							
Model	P <sub>1</sub>	P <sub>2</sub>	_	В	С	Е	F	G					Bracke	t mount			
	P1	F2	A	В		_	F	G	J J	M	N	Q1	Q2	R	S	U	V
AC20C-A	1/8, 1/4	1/8	126.4	87.6	23.5	_	41.6	40	23.4	30	43.2	24	33	5.5	12	3.5	29
AC25C-A	1/4, 3/8	1/8	167.4	115.1	23.5	30	55.1	50	30.5	41	57.2	35	_	7	14	4	41
AC30C-A	1/4, 3/8	1/8	167.4	115.1	27	30	55.1	50	30.5	41	57.2	35	_	7	14	4	41
AC40C-A	1/4, 3/8, 1/2	1/8	220.4	147.1	33.5	38.4	72.6	75	36.1	50	75.2	40	_	9	18	5	48
AC40C-06-A	3/4	1/8	235.4	149.1	33.5	38.4	77.6	75	39.6	50	80.2	40	_	9	18	5	48

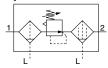
		Optio	nal specific	ations		Semi-standard specifications								
Model		d type e gauge	Round type pressure gauge (with color zone)		With auto drain			Metal bowl	Metal bowl with drain guide	Metal bowl with level gauge	Metal bowl with level gauge, with drain guide			
	Н	J	Н	J	В	В	В	В	В	В	В			
AC20C-A	ø37.5	58.5	ø37.5	59.5	104.9	_	91.4	87.4	93.9	_	_			
AC25C-A	ø37.5	58.5	ø37.5	59.5	156.8	123.6	121.9	117.6	122.1	137.6	142.1			
AC30C-A	ø37.5	65	ø37.5	66	156.8	123.6	121.9	117.6	122.1	137.6	142.1			
AC40C-A	ø42.5	72	ø42.5	72	186.9	155.6	153.9	149.6	154.1	169.6	174.1			
AC40C-06-A	ø42.5	72	ø42.5	72	188.9	157.6	155.9	151.6	156.1	171.6	176.1			



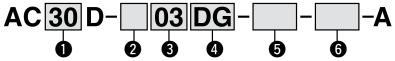
# Filter Regulator + Mist Separator

# AC20D-A to AC40D-A

Symbol



#### **How to Order**



- Option/Semi-standard: Select one each for a to j.
- Option/Attachment/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order.
   Example) AC30D-F03DM-SV-1NR-A

_						0	
			Symbol	Description		Body size	
					20	30	40
			Nil	Rc	•	•	•
2	Pipe	e thread type	N	NPT	•	•	•
			F	G	•	•	•
			+	·			
			01	1/8	•		_
			02	1/4	•	•	•
)		Port size	03	3/8	_	•	•
			04	1/2	_	_	•
			06	3/4	_	_	•
			+				
		Float type	Nil	Without auto drain	•	•	•
F	.    a	Float type auto drain	C Note 2)	N.C. (Normally closed) Drain port is closed when pressure is not applied.	•	•	•
Note 1)		uuto urum	D Note 3)	N.O. (Normally open) Drain port is open when pressure is not applied.	_	•	•
	Option 2		+				
3	토	Pressure	Nil	Without pressure gauge	•	•	•
`	b	gauge Note 4)	G	Round type pressure gauge (with limit indicator)	•	•	•
		gaage	M	Round type pressure gauge (with color zone)	•	•	•
		1	+				
	. II c	Pressure	Nil	Without attachment	•	•	•
1		switch	S Note 5)	Mounting position: AW+S+AFM	•	•	
	Attachment <b>p</b>		+	Trem			
	E	Pressure relief	Nil	Without attachment	•	•	
	₹    d	3 port valve	V	Mounting position: AW+AFM+V		•	
			V1 Note 6)	Mounting position: V+AW+AFM			•
T		Set	Nil	7.3 to 102 psi (0.05 to 0.7 MPa) setting	•		•
	e	pressure Note 7)	1	2.9 to 29 psi (0.02 to 0.2 MPa) setting		•	<u> </u>
		I -	+				
			Nil	Polycarbonate bowl	•	•	•
			2	Metal bowl	•	•	•
		ъ.	6	Nylon bowl	•	•	•
	f	Bowl	8	Metal bowl with level gauge	_	•	•
	_		С	With bowl guard	•	_	_
1	) ar		6C	With bowl guard (Nylon bowl)	•	_	_
	standard		+				
	<u>-</u>	Filtor recordates	Nil	With drain cock	•	•	•
		Filter regulator Mist separator	J Note 8)	Drain guide 1/8	•	_	
	ກັ     <b>g</b>	drain port		Drain guide 1/4	<u> </u>	•	•
			<b>W</b> Note 11)	Drain cock with barb fitting (for ø6 x ø4 nylon tube)		•	•
			+				
	h	Exhaust	Nil	Relieving type	•	•	•
		mechanism	N	Non-relieving type	•		•
			+	<u></u>			
	l	Flow direction	Nil	Flow direction: Left to right		•	•
			R	Flow direction: Right to left	•	•	•

# Air Combination Series AC20D-A to AC40D-A





#### AC20D-A

#### AC40D-A

	_	_	_		Symbol	Description		Body size	
					Cymbol	Боолрава	20	30	40
C	2	andard		Broonire unit	Nil	Name plate and pressure gauge in imperial units: MPa	•	•	•
U	7	Semi-st	J	Pressure unit	Z Note 9)	Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F	Note 10)	Note 10)	Note 10)

- Note 1) Option G, M are not assembled and supplied loose at the time of shipment.
- Note 2) 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.
- Note 3) If the compressor is small (0.75 kW, discharge flow is less than 3.5 scfm (100 L/min[ANR])), air leakage from the drain cock may occur during start of operations. N.C. type is recommended.
- Note 4) When the pressure gauge is attached, a 145 psi (1.0 MPa) pressure gauge will be fitted for standard (102 psi [0.7 MPa]) type. 58 psi (0.4 MPa) pressure gauge for 29 psi (0.2 MPa) type.
- Note 5) The bracket position varies depending on the pressure switch mounting.
- Note 6) Make sure that the outlet pressure is released to atmospheric pressure using a pressure

For V1 specification, use the regulator with a set pressure of 22 psi (0.15 MPa) or more to ensure the pressure release.

Note 7) Pressure can be set higher than the specification pressure in some cases, but use pressure within the specification range.

- Note 8) Without a valve function
- Note 9) For pipe thread type: NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.) MPa and psi are shown together on the pressure unit. Cannot be used with M: Round pressure gauge (with color zone). Available by request for

Note 10) : For pipe thread type: NPT only Note 11) The combination of metal bowl: 2 and 8 is not available

#### Standard Specifications

	Model	AC20D-A	AC30D-A	AC40D-A	AC40D-06-A					
0	Filter Regulator [AW]	AW20-A	AW30-A	AW40-A	AW40-06-A					
Component	Mist Separator [AFM]	AFM20-A	AFM30-A	AFM40-A	AFM40-06-A					
Port size	•	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4					
Pressure gauç	ge port size [AW]	1/8								
Fluid		Air								
Ambient and f	luid temperature	23 to 140°F (–5 to 60C°) (with no freezing)								
Proof pressure	е	218 psi (1.5 MPa)								
Maximum ope	rating pressure	145 psi (1.0 MPa)								
Minimum oper	rating pressure	7.3 psi (0.05 MPa)								
Set pressure r	ange [AW]	7.3 to 102 psi (0.05 to 0.7 MPa)								
Nominal filtrati	ion rating [AW/AFM]		AW: 5 μm, AFM: 0.3 μm (9	99.9% filtered particle size)						
Rated flow scfm	(L/min (ANR)) [AFM] Note 1)	5.3 (150)	11.7 (330)	28.3 (800)	28.3 (800)					
Outlet side oil mist	concentration [AFM] Note 2) 3)		MAX 1.0 mg/m <sup>3</sup> (	ANR) (≈ 0.8 ppm)						
Bowl material	[AW/AFM]		Polyca	rbonate						
Bowl guard [A	W/AFM]	Semi-standard (Steel) Standard (Polycarbonate)								
Construction	[AW]	Relieving type								
Weight (kg)		0.33	0.66	1.24	1.35					

Note 1) Conditions: Mist separator inlet pressure: 73 psi (0.5 MPa); The rated flow varies depending on the inlet pressure. Keep the air flow within the rated flow to prevent an outflow of lubricant to the outlet side.

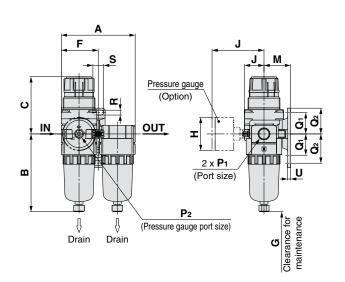
Note 2) When the compressor oil mist discharge concentration is 30 mg/m³ (ANR).

Note 3) Bowl seal and other O-rings are slightly lubricated.

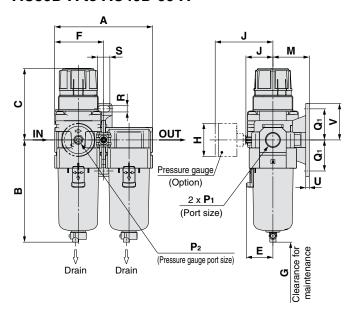
# Sereis AC20D-A to AC40D-A

### **Dimensions**

#### AC20D-A



#### AC30D-A to AC40D-06-A



Applicable model		AC20		AC30D-A to AC40D-06-A	
Optional/Semi-standard specifications	With auto drain (N.C.)	With drain guide	Metal bowl	Metal bowl with drain guide	With auto drain (N.O./N.C.)
Dimensions	M5 x 0.8	Width across flats 14 1/8	<b>a</b>	Width across flats 14	N.O.: Black N.C.: Gray  Thread type/Rc, G: ø10 One-touch fitting Thread type/NPT: ø3/8" One-touch fitting

Applicable model		AC30D-A to AC40D-06-A											
Optional/Semi-standard specifications	Metal bowl	Metal bowl with drain guide	Metal bowl with level gauge	Metal bowl with level gauge, with drain guide	With drain guide	Drain cock with barb fitting							
Dimensions	<b>a</b>	Width across flats 17	B	Width across flats 17	Width across	Barb fitting applicable tubing: T0604							

							S	tandard	specifica	tions						
Model	P1	P <sub>2</sub>	^	В	C Note)	Е	E	G				Br	acket mou	unt		
	P1	F2	Α	В	Citoto	_	_ F	"	3	M	Q1	Q2	R	S	U	V
AC20D-A	1/8, 1/4	1/8	83.2	87.6	67.4	_	41.6	40	23.4	30	24	33	5.5	12	3.5	29
AC30D-A	1/4, 3/8	1/8	110.2	115.1	83.5	30	55.1	50	30.5	41	35	_	7	14	4	41
AC40D-A	1/4, 3/8, 1/2	1/8	145.2	147.1	100	38.4	72.6	75	36.1	50	40	_	9	18	5	48
AC40D-06-A	3/4	1/8	155.2	149.1	101.5	38.4	77.6	75	39.6	50	40	_	9	18	5	48

		Optio	nal specific	ations					Semi-standard spe	ecifications	
Model		d type e gauge	Round type pressure gauge (with color zone)		With auto drain	With barb fitting	With With barb fitting drain guide		Metal bowl with drain guide	Metal bowl with level gauge	Metal bowl with level gauge, with drain guide
	Н	J	Н	J	В	В	В	В	В	В	В
AC20D-A	ø37.5	58.5	ø37.5	59.5	104.9	_	91.4	87.4	93.9	_	_
AC30D-A	ø37.5	65	ø37.5	66	156.8	123.6	121.9	117.6	122.1	137.6	142.1
AC40D-A	ø42.5	72	ø42.5	72	186.9	155.6	153.9	149.6	154.1	169.6	174.1
AC40D-06-A	ø42.5	72	ø42.5	72	188.9	157.6	155.9	151.6	156.1	171.6	176.1

Note) The dimension of  $\boldsymbol{C}$  is the length when the filter regulator knob is unlocked.



# **Air Combination** Series AC **Options/Attachments**

#### Options/Attachments/Part No.

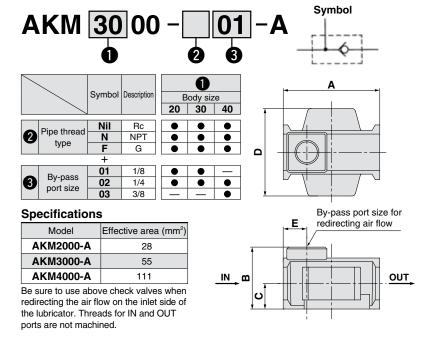
					Part	t no.				
_			For AC10-A	For AC20-A	For AC25-A	For AC30-A	For AC40-A	For AC40-06-A		
ij		Model	For AC10A-A	For AC20A-A	_	For AC30A-A	For AC40A-A	For AC40A-06-A		
Section			For AC10B-A	For AC20B-A	For AC25B-A	For AC30B-A	For AC40B-A	For AC40B-06-A		
0,	Туре		_	For AC20C-A	For AC25C-A	For AC30C-A	For AC40C-A	For AC40C-06-A		
			_	For AC20D-A	_	For AC30D-A	For AC40D-A	For AC40D-06-A		
_	Roun	d Standard	G27-10-R1		G36-10-□01		G46-10-□01			
.₫	type *0.02 to 0.2 MPa setting Round type Standard with color cone) *0.02 to 0.2 MPa setting		G27-10-R1 Note 2)		G36-4-□01		G46-4			
S E			_		G36-10-□01-L		G46-10			
			_		G36-4-□01-L		G46-4-	·□01-L		
	Spacer		Y100-A	Y200-A	Y30		Y400-A	Y500-A		
	Spacer w	ith bracket	Y100T-A	Y200T-A		OT-A	Y400T-A	Y500T-A		
	Check valve Note 3) Note 4)		_	AKM2000-□01-A	AKM3000	' '	AKM4000-(□02)-A	_		
				(□02)-A		□02-A	□03-A			
	Pressure	switch Note 4)	_	IS10M-20-A	IS10M		IS10M-40-A	IS10M-50-A		
	T-enacer	Note 3) Note 4)	Y110-M5-A	Y210-□01-A	Y310-(	□01)-A	Y410-(□02)-A	Y510-(□02)-A		
	. ориос.		1110 MIO 71	(□02)-A		□02-A	□03-A	□03-A		
_	Pressure	relief		VHS20-□01A	VHS30	)-□02A	□02A			
5	3 port va		_	□02A	***************************************	□03A	VHS40-□03A	VHS40-□06A		
Attachment							□04A			
a				□01-A		□02-A	□02-A			
۱¥	Piping ac	lapter Note 4)	E100-M5-A	E200-□02-A	E300-	□03-A	E400-□03-A	E500-□06-A		
				□03-A		□04-A	□04-A			
							□06-A			
		and the boundary		□01-A		□02-A	□02-A			
		switch with	_	IS10E-20□02-A	IS10E-3	0□03-A	IS10E-40□03-A	_		
	piping ac	lapter Note 4)		□03-A		□04-A	□04-A			
				V04 = 04 A	\/O.4.5	704.4	□06-A	V54 500 4		
	Cross sp	acer Note 4)	Y14-M5-A	Y24-□01-A	Y34-		Y44-□02-A	Y54-□03-A		
	_			□02-A	L	□02-A	□03-A	□04-A		

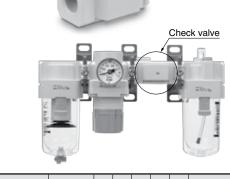
#### \* 2.9 to 29 psi (0.02 to 0.2 MPa)

- Note 1) in round pressure gauge part numbers indicates a pipe thread type. No indication is necessary for R; however, indicate N for NPT. Please contact SMC regarding the pipe thread type NPT and the supply of pressure gauge with psi unit display specifications.
- Note 3) For F.R.L. units, port sizes without ( ) are standard specifications.
- Note 4) Separate interfaces are required for modular unit.

#### Check Valve: (K) 1/8, 1/4, 3/8

A check valve with intermediate air release port can be easily installed to prevent a backflow of lubricant when redirecting the air flow and releasing the air on the outlet side of the regulator.





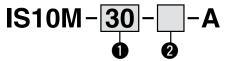
Model	By-pass port size	A	В	С	D	E	Applicable model
AKM2000-A	1/8, 1/4	40	28	11	40	11	AC20-A, AC20A-A
AKM3000-A	1/8, 1/4	53	34	14	48	13	AC25-A AC30-A, AC30A-A
AKM4000-A	1/4, 3/8	70	42	18	54	15	AC40-A, AC40A-A <sup>Note)</sup>

Note) Cannot be mounted on the AC40 □-06-A.

\* Refer to the attachment table above for standard by-pass port sizes applicable to the AC.

#### **Pressure Switch: (S)**

A compact integrated pressure switch can be easily installed and facilitates the pressure detection of the line.



- Semi-standard: Select one each for a to c.
- ullet Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order. Example) IS10M-30-6LP

	_	_		Symbol	Description	20	Body <b>30</b>	1 size 40	50
	7	а	Set pressure range	Nil 6 Note 1)	15 to 58 psi (0.1 to 0.4 MPa) 15 to 87 psi (0.1 to 0.6 MPa)	•	•	•	•
	standard			+					
_	일		Lead wire	Nil	0.5 m				•
2	sta	b	length	L	3 m				
	Semi-		lengui	Z	5 m				
	e l			+					
	တ	С	Pressure unit of	Nil	MPa				
		L	the scale plate	P Note 2)	MPa/psi dual scale				

Note 1) Set pressure range of 6P (L, Z) is 0.2 to 0.6 MPa (30 to 90 psi).

Note 2) This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.)

#### **Specifications**

<u> </u>	
Fluid	Air
Ambient and fluid temperature	23 to 140°F (-5 to 60C°) (with no freezing)
Proof pressure	145 psi (1.0 MPa)
Maximum operating pressure	102 psi (0.7 MPa)
Set pressure range (when OFF)	15 to 58 psi (0.1 to 0.4 MPa)
Hysteresis	12 psi (0.08 MPa) or less

#### **Switch Characteristics**

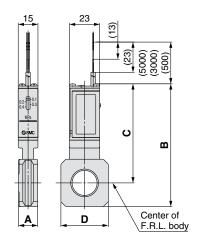
Contact point configuration	1a
Maximum contact point capacity	2 VA (AC), 2 W (DC)
Operating voltage: AC, DC	100 V or less
Maximum operating current	12 V to 24 VAC, DC: 50 mA 48 VAC, DC: 40 mA 100 VAC, DC: 20 mA

Note) For detailed specifications on the IS10 series, refer to the section of our website IS10 series, http://www.smcworld.com

#### **Symbol**





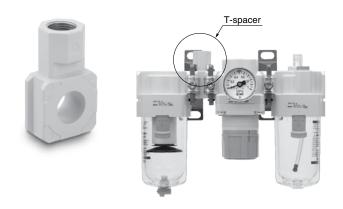


Model	Α	В	С	D	Applicable model
IS10M-20-A	10.6	74.2	64.4	28	AC20□-A
IS10M-30-A	12.6	84.5	70.5	30	AC25□-A, AC30□-A
IS10M-40-A	14.6	93.3	75.3	36	AC40□-A
IS10M-50-A	16.6	97.3	77.3	44	AC40□-06-A

<sup>\*</sup> Separate spacers are required for modular unit.

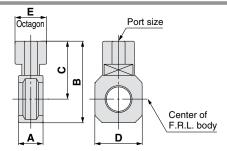
#### T-Spacer: (T) 1/8, 1/4, 3/8

Using a T-spacer facilitates the branching of air flow.



#### **Caution on Mounting**

If a T-spacer is used on the inlet side of the lubricator, lubricant may be mixed. Use the AKM series check valve to avoid such possibility.



Model Note)	Port size	Α	В	С	D	E	Applicable model
Y110-M5-A	M5 x 0.8	11.2	19	12	14	8	AC10-A, AC10B-A
Y210-□01-A	1/8	14.6	41.8	32	28	19	AC20-A, AC20B-A
Y210-□02-A	1/4	14.0	41.0	32	20	19	AC20C-A
Y310-□01-A	1/8	14.6	52.7	38.7	30	19	AC25-A, AC25B-A
Y310-□02-A	1/4	14.0	JZ.1	30.7	30	13	AC25C-A, AC30-A AC30B-A, AC30C-A
Y410-□02-A	1/4	18.6	62	44	36	24	AC40-A, AC40B-A
Y410-□03-A	3/8	10.0	02	44	30	24	AC40C-A
Y510-□02-A	1/4	18.6	66	46	44	24	AC40-06-A, AC40B-06-A
Y510-□03-A	3/8	10.0	00	40	44	24	AC40C-06-A

Note)  $\Box$  in model numbers indicates a pipe thread type. No indication is necessary for Rc; however,

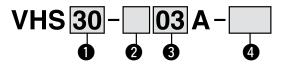
- indicate N for NPT, and F for G.

  \* Separate interfaces are required for modular unit.
- \* Refer to the attachment table on page 28 for standard port sizes when using with the AC.



#### **Pressure Relief 3 Port Valve: (V)**

With the use of a pressure relief 3 port valve, pressure left in the line can be easily exhausted.



- Semi-standard: Select one each for a to b.
- · Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order.

Example) VHS30-03A-RZ

			-					
	\		Symbol	Description	Body size 20   30   40			
			Nil	Rc				
Pipe	threa	d type	N Note)	NPT		Ť	Ť	
		. 71	F Note)	G	Ŏ	Ŏ	Ŏ	
			01	1/8		_	_	
			02	1/4		•	•	
<b>3</b> P	ort s	ize	03	3/8	_	•	•	
			04	1/2	_	-	•	
			06	3/4	_	_	•	
			+					
		Flow	Nil	Flow direction: Left to right		•	•	
Semi-	а	direction	R	Flow direction: Right to left		•	•	
standard			+					
Standard	b	Pressure	Nil	Name plate in imperial units: MPa		•	•	
	D	unit	Z Note)	Name plate in imperial units: psi				
Note) For pine	thre	and type: N	IDT only	This product is for overseas u	co onl	1 2000	rdina	

Note) For pipe thread type: NPT only. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.)

#### **Specifications**

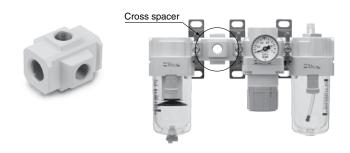
	Port s	size	Specifications									
Model	IN, OUT	EXH	IN -	→ OUT		OUT → EXH						
	IIN, OUT		C(dm3/s·bar)	b	Cv	C(dm3/s-bar)	b	Cv				
VHS20	1/8	1/8	2.4	0.43	0.65	2.5	0.39	0.69				
VH320	1/4	1/0	3.3	0.40	0.88	3.1	0.51	0.84				
VHS30	1/4	1/4	6.4	0.45	1.7	6.2	0.38	1.7				
VII330	3/8	1/4	8.3	0.41	2.3	7.0	0.41	1.9				
	1/4		7.3	0.49	2.0	8.5	0.35	2.3				
VHS40	3/8	3/8	10.9	0.45	3.0	11.6	0.40	3.1				
	1/2		14.2	0.39	3.8	13.3	0.43	3.6				
VHS40-06	3/4	1/2	18.3	0.31	5.0	17.7	0.37	4.8				

### Note) Use an air filter on the IN side for operating protection. Cross Spacer: 1/8, 1/4, 3/8, 1/2

Pipings are possible in all 4 directions.

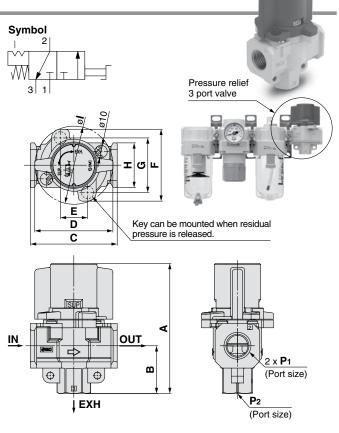
IN/OUT ports are not machined for threads.

Please contact SMC if threaded (machined) ports are required.

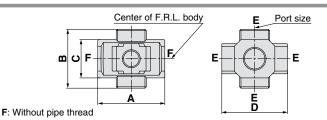


#### **Caution on Mounting**

- 1. When mounting a cross spacer directly on the inlet side of the lubricator, be sure to use the AKM series check valve between the lubricator and cross spacer.
- 2. Factory mounting of a cross spacer on the AC model is available as a special order.



Model		Standard specifications											
Model	P <sub>1</sub>	P <sub>2</sub>	Α	В	С	D	Е	F	G	Н	ı		
VHS20	1/8, 1/4	1/8	66.4	22.3	40	37.5	14	46.6	33.6	28	37.5		
VHS30	1/4, 3/8	1/4	80.3	29.4	53	49	19	52	38	30	49		
VHS40	1/4, 3/8, 1/2	3/8	104.9	38.5	70	63	22	58	44	36	63		
VHS40-06	3/4	1/2	110.4	42	75	63	22	58	44	44	63		



Model Note)	E (Port size)	Α	В	С	D	Applicable model		
Y14-M5-A	M5 x 0.8	23	16	14	25	AC10□-A		
Y24-□01-A	1/8	40	40	22	40	AC20□-A		
Y24-□02-A	1/4	40	40	22	40	ACZULI-A		
Y34-□01-A	1/8	49	43	28	48	AC25□-A, AC30□-A		
Y34-□02-A	1/4	49	43	20	40	ACZULIA, ACSULIA		
Y44-□02-A	1/4	60	48	36	54	AC40□-A		
Y44-□03-A	3/8	60	40	30	34	AC40U-A		
Y54-□03-A	3/8	72	62	40	62	AC40□-06-A		
Y54-□04-A	1/2	12	02	40	02	AC40		

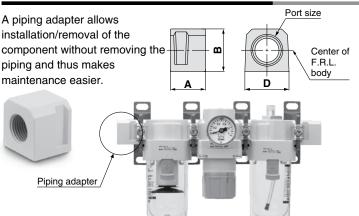
Note)  $\square$  in model numbers indicates a pipe thread type. No indication is necessary for Rc; however, indicate N for NPT, and F for G.

- \* If threaded IN/OUT ports are required, they are available as a special order. Please contact SMC
- \* Two hexagon socket head plugs are included in the package.



#### Sereis AC

#### Piping Adapter: 1/8, 1/4, 3/8, 1/2, 3/4



Model Note)	Port size	Α	В	D	Applicable model		
E100-M5-A	M5 x 0.8	10	14	14	AC10□-A		
E200-□01-A	1/8						
E200-□02-A	1/4	29.8	23.5	28	AC20□-A		
E200-□03-A	3/8						
E300-□02-A	1/4						
E300-□03-A	3/8	31.8	30	30	AC25□-A, AC30□-A		
E300-□04-A	1/2	1					
E400-□02-A	1/4						
E400-□03-A	3/8	31.8	36	36	AC40□-A		
E400-□04-A	1/2	31.8	30	30	AC40LI-A		
E400-□06-A	3/4	1					
E500-□06-A	3/4	31.8	40	44	AC40□-06-A		

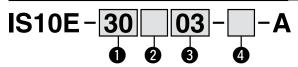
Note) I in model numbers indicates a pipe thread type. No indication is necessary for Rc; however, indicate N for NPT, and F for G.

- \* Separate interfaces are required for modular unit.
- \* Factory mounting of a piping adapter on the AC models is available as a special order.

**Symbol** 

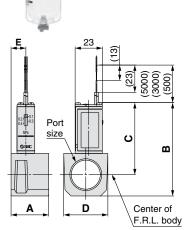
Left

#### **Pressure Switch with Piping Adapter**



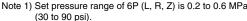
- Semi-standard: Select one each for a to d.
- Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order.
   Example) IS10E-30N03-6PRZ

		_		Symbol	Description	20	ody siz	ze <b>40</b>	
				Nil	Rc		•	•	1
2		Pipe	thread type	N Note)	NPT		•	•	1
				F Note)	G		•	•	1
				+					_
				01	1/8		_	_	]
				02	1/4		•		]
<b>3</b>		F	Port size	03	3/8		•		1
				04	1/2	_	•	•	1
				06	3/4	_	_		]
				+					_
		а	Set pressure	Nil	15 to 58 psi (0.1 to 0.4 MPa)				]
		а	range	6 Note 1)	15 to 87 psi (0.1 to 0.6 MPa)		•		
				+					_
	ا م		Lead wire	Nil	0.5 m				]
	dar	b	length	L	3 m				1
4	Semi-standard		lengui	Z	5 m		•		]
	<u></u>			+					
	e l	С	Pressure unit of	Nil	MPa		•		1
	တ	C	the scale plate	P Note 2)	MPa/psi dual scale		•		]
				+					
		d	Mounting	Nil	Right				]
		u	position	R	Left				
Note	1) S	Set p	ressure range of	6P (L, R, Z	) is 0.2 to 0.6 MPa				



Right

Pressure switch with piping adapter



Note 2) For pipe thread type: NPT only. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.)

#### **Specifications**

Fluid	Air
Ambient and fluid temperature	23 to 140°F (-5 to 60C°) (with no freezing)
Proof pressure	145 psi (1.0 MPa)
Maximum operating pressure	102 psi (0.7 MPa)
Set pressure range (when OFF)	15 to 58 psi (0.1 to 0.4 MPa)
Hysteresis	12 psi (0.08 MPa) or less

#### **Switch Characteristics**

Contact point configuration	1a
Maximum contact point capacity	2 VA (AC), 2 W (DC)
Operating voltage: AC, DC	100 V or less
	12 V to 24 V AC, DC: 50 mA
Maximum operating current	48 V AC, DC: 40 mA
	100 V AC, DC: 20 mA

Model Note 1)	Port size	Α	В	С	D	E	Applicable model
IS10E-20□01-A	1/8						
IS10E-20□02-A	1/4	29.8	66.3	55.3	28	16	AC20□-A
IS10E-20□03-A	3/8						
IS10E-30□02-A	1/4						
IS10E-30□03-A	3/8	31.8	72.8	58.8	30	13	AC25□-A, AC30□-A
IS10E-30□04-A	1/2						
IS10E-40□02-A	1/4						
IS10E-40□03-A	3/8	31.8	78.8	60.8	37	12.5	Note 2)
IS10E-40□04-A	1/2	31.8	70.8	00.8	3/	12.5	AC40□-A
IS10E-40□06-A	3/4						

Note 1) □ in the model numbers indicates a pipe thread type. No indication is necessary for Rc; however, indicate N for NPT, and F for G.

Note 2) Cannot be mounted on the AC40□-06-A.

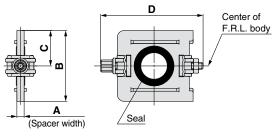
- \* Separate interfaces are required for modular unit.
- \* The pressure switch on the AC40□-06-A can be mounted by screwing IS10-01S into the piping adapter E500-□06-A-X501 (with top-face thread Rc1/8). Products with a premounted switch are available as a special order. Please contact SMC regarding their availability.



# Series AC

# **Accessories** (Spacers/Brackets)

#### **Spacer**



ı	Model	Α	В	С	D	Applicable model
	Y100-A	6	17.9	9	35.4	AC10□-A
	Y200-A	3.2	31.2	15.6	44.9	AC20□-A
_	Y300-A	4.2	43.4	21.7	57.9	AC25□-A, AC30□-A
	Y400-A	5.2	53	26.5	68.5	AC40□-A
	Y500-A	5.2	57	28.5	75.6	AC40□-06-A

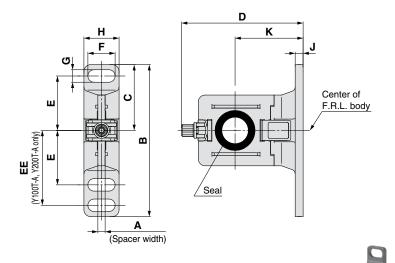


**Replacement Parts** 

Description	Material			Part no.		
Description	iviateriai	Y100-A	Y200-A	Y300-A	Y400-A	Y500-A
Seal	HNBR (NBR) Note 1)	Y120P-050AS Note 2)	Y220P-050S	Y320P-050S	Y420P-050S	Y520P-050S

Note 1) ( ): Size 10 Note 2) Assembly of 2 O-rings

#### **Spacer with Bracket**



Model	Α	В	С	D	E	EE	F	G	Н	J	K	Applicable model
Y100T-A	6	56	24.5	43.6	20	27	6.8	4.5	13	3	25	AC10□-A
Y200T-A	3.2	67	29	53.4	24	33	12	5.5	15.5	3.5	30	AC20□-A
Y300T-A	4.2	82	41	71.5	35	_	14	7	19	4	41	AC25□-A, AC30□-A
Y400T-A	5.2	96	48	86.1	40	_	18	9	26	5	50	AC40□-A
Y500T-A	5.2	96	48	89.6	40	_	18	9	26	5	50	AC40□-06-A



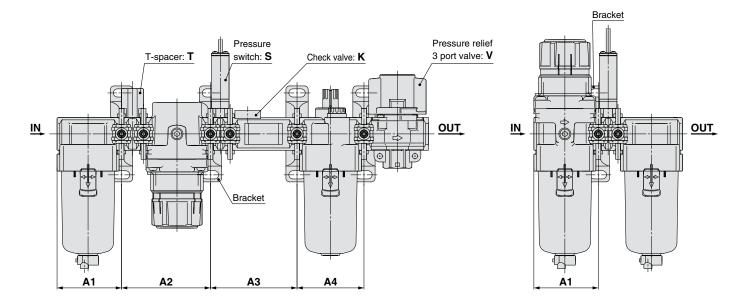
#### **Replacement Parts**

Description	Material			Part no.		
Description	ivialeriai	Y100T-A	Y200T-A	Y300T-A	Y400T-A	Y500T-A
Seal	HNBR (NBR) Note 1)	Y120P-050AS Note 2)	Y220P-050S	Y320P-050S	Y420P-050S	Y520P-050S



# Sereis AC

#### **Mounting Position for Spacer with Bracket**



Attachment		K			3	1			٧			KS			KT			K	V			KST	
Model	A1	A2	A3	A1	A2	A1	A2	A1	A2	А3	A1	A2	А3	A1	A2	A3	A1	A2	A3	A4	A1	A2	A3
AC10-A	_	_	_	_	_	28	48.2	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
AC20-A	41.6	43.2	43.2	41.6	43.2	41.6	61	41.6	43.2	43.2	41.6	43.2	57	41.6	61	43.2	41.6	43.2	43.2	43.2	41.6	61	57
AC25-A	55.1	57.2	57.2	55.1	57.2	55.1	76	55.1	57.2	57.2	55.1	57.2	74	55.1	76	57.2	55.1	57.2	57.2	57.2	55.1	76	74
AC30-A	55.1	57.2	57.2	55.1	57.2	55.1	76	55.1	57.2	57.2	55.1	57.2	74	55.1	76	57.2	55.1	57.2	57.2	57.2	55.1	76	74
AC40-A	72.6	75.2	75.2	72.6	75.2	72.6	99	72.6	75.2	75.2	72.6	75.2	95	72.6	99	75.2	72.6	75.2	75.2	75.2	72.6	99	95
AC40-06-A	_	_		77.6	80.2	77.6	104	77.6	80.2	80.2	-	_	_	_	_	_		—		_			_

Attachment		KS	SV			K.	ΤV			KS	TV		S	Т		SV			STV			TV	
Model	A1	A2	A3	A4	A1	A2	A3	A4	A1	A2	А3	A4	A1	A2	A1	A2	A3	A1	A2	A3	A1	A2	A3
AC10-A	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
AC20-A	41.6	43.2	57	43.2	41.6	61	43.2	43.2	41.6	61	57	43.2	41.6	61	41.6	43.2	57	41.6	61	57	41.6	61	43.2
AC25-A	55.1	57.2	74	57.2	55.1	76	57.2	57.2	55.1	76	74	57.2	55.1	76	55.1	57.2	74	55.1	76	74	55.1	76	57.2
AC30-A	55.1	57.2	74	57.2	55.1	76	57.2	57.2	55.1	76	74	57.2	55.1	76	55.1	57.2	74	55.1	76	74	55.1	76	57.2
AC40-A	72.6	75.2	95	75.2	72.6	99	75.2	75.2	72.6	99	95	75.2	72.6	99	72.6	75.2	95	72.6	99	95	72.6	99	75.2
AC40-06-A	_	_	_	_	_	_	_	_	_	_	_	_	77.6	104	77.6	80.2	102	77.6	104	102	77.6	104	80.2

Attachment	ŀ	<u> </u>	S	1	7	K	S		ΚV			KSV		S	$\overline{v}$
Model	A1	A2	A1	A1	A2	A1	A2	A1	A2	А3	A1	A2	A3	A1	A2
AC10A-A	<b>—</b>	_	_	_	_	_	_	_	_	_	_	_	_	_	
AC20A-A	41.6	43.2	41.6	41.6	43.2	41.6	57	41.6	43.2	43.2	41.6	57	43.2	41.6	57
AC30A-A	55.1	57.2	55.1	55.1	57.2	55.1	74	55.1	57.2	57.2	55.1	74	57.2	55.1	74
AC40A-A	72.6	75.2	72.6	72.6	75.2	72.6	95	72.6	75.2	75.2	72.6	95	75.2	72.6	95
AC40A-06-A	I —		77.6	77.6	80.2			_	_		_			77.6	102

Attachment	S	T	<b>\</b>	/	V	1	S	V	S	/1	Т	V	T\	<del>/</del> 1
Model	A1	A1	A1	A2	A1	A2	A1	A2	A1	A2	A1	A2	A1	A2
AC10B-A	_	28	_	_	_	_	_	_	_	_	_	_	_	_
AC20B-A	41.6	41.6	41.6	43.2	41.6	43.2	41.6	57	41.6	43.2	41.6	61	41.6	43.2
AC25B-A	55.1	55.1	55.1	57.2	55.1	57.2	55.1	74	55.1	57.2	55.1	76	55.1	57.2
AC30B-A	55.1	55.1	55.1	57.2	55.1	57.2	55.1	74	55.1	57.2	55.1	76	55.1	57.2
AC40B-A	72.6	72.6	72.6	75.2	72.6	75.2	72.6	95	72.6	75.2	72.6	99	72.6	75.2
AC40B96-A	77.6	77.6	77.6	80.2	77.6	80.2	77.6	102	77.6	80.2	77.6	104	77.6	80.2

Attachment		3	1	Г		٧			V1			SV			SV1			TV			TV1	
Model	A1	A2	A1	A2	A1	A2	A3	A1	A2	А3	A1	A2	А3	A1	A2	A3	A1	A2	A3	A1	A2	A3
AC20C-A	41.6	43.2	41.6	43.2	41.6	43.2	43.2	41.6	43.2	43.2	41.6	43.2	57	41.6	43.2	43.2	41.6	43.2	61	41.6	43.2	43.2
AC25C-A	55.1	57.2	55.1	57.2	55.1	57.2	57.2	55.1	57.2	57.2	55.1	57.2	74	55.1	57.2	57.2	55.1	57.2	76	55.1	57.2	57.2
AC30C-A	55.1	57.2	55.1	57.2	55.1	57.2	57.2	55.1	57.2	57.2	55.1	57.2	74	55.1	57.2	57.2	55.1	57.2	76	55.1	57.2	57.2
AC40C-A	72.6	75.2	72.6	75.2	72.6	75.2	75.2	72.6	75.2	75.2	72.6	75.2	95	72.6	75.2	75.2	72.6	75.2	99	72.6	75.2	75.2
AC40C-06-A	77.6	80.2	77.6	80.2	77.6	80.2	80.2	77.6	80.2	80.2	77.6	80.2	102	77.6	80.2	80.2	77.6	80.2	104	77.6	80.2	80.2

Attachment	S	1	/	V	1	S	٧	S	/1
Model	A1	A1	A2	A1	A2	A1	A2	A1	A2
AC20D-A	41.6	41.6	43.2	41.6	43.2	41.6	57	41.6	43.2
AC30D-A	55.1	55.1	57.2	55.1	57.2	55.1	74	55.1	57.2
AC40D-A	72.6	72.6	75.2	72.6	75.2	72.6	95	72.6	75.2
AC40D-06-A	77.6	77.6	80.2	77.6	80.2	77.6	102	77.6	80.2

- A1: Dimension from the end of the IN side to the center of the mounting hole for the first bracket.
- A2: Mounting hole pitch between the first and the second brackets.
- A3: Mounting hole pitch between the second and the third brackets.
- A4: Mounting hole pitch between the third and the fourth brackets.



# AC

AF+AR+AL

# **Modular Type Air Filters**

# Series AF/AFM/AFD

Air Filter Series AF	Model	Port size	Filtration μm	Options		
	AF10-A	M5 x 0.8				
	AF20-A	1/8, 1/4				
	AF30-A	1/4, 3/8		Bracket (Except AF10-A)		
	AF40-A	1/4, 3/8, 1/2	5			
	AF40-06-A	3/4		Float type auto drain		
-	AF50-A	3/4, 1				
P.35 to 43	AF60-A	1				
Mist Separator Series AFM	AFM20-A	1/8, 1/4				
COM-to	AFM30-A	1/4, 3/8	0.3	Bracket		
	AFM40-A	1/4, 3/8, 1/2	0.5	Float type auto drain		
P.45 to 52	AFM40-06-A	3/4				
Micro Mist Separator Series AFD	AFD20-A	1/8, 1/4				
COL.	AFD30-A	1/4, 3/8	0.01	Bracket		
	AFD40-A	1/4, 3/8, 1/2	0.01	Float type auto drain		
P.45 to 52	AFD40-06-A	3/4				

# Air Filter AF10-A to AF60-A

**Symbol** Air Filter

Air Filter with Auto Drain









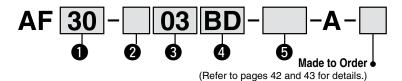


**How to Order** 

AF10-A

AF20-A

AF40-A



- Option/Semi-standard: Select one each for a to f.
- Option/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order.

Example) AF30-03BD-R-A

	_									D		
				Symbol	Description				Body	size		
						1	10	20	30	40	50	60
				Nil	Metric thread (M5)		•	_	_	_	_	_
2		Dina	throad tupo		Rc	-	_		•	•		
9	<b>→</b>		N Note 1)	NPT	-	_	•	•	•	•	•	
				F Note 2)	G	-	_	•	•	•	•	•
				+				,				
				M5	M5 x 0.8		•	_	_	_	_	_
				01	1/8	-	_	•	_	_	_	_
				02	1/4	-	_	•	•	•	_	_
8		ı	Port size	03	3/8	-	_	_	•	•	_	_
				04	1/2	-	_	_	_	•	_	_
				06	3/4	-	_	_	_	•	•	_
				10	1	-	_	_	_	_	•	•
				+								
			Manuatina	Nil	Without mounting option	(	•	•		•		
		<b>a</b> Mounting		B Note 3)	With bracket	-	_	•	•	•	•	•
	Option			+								
4	현미			Nil	Without auto drain		•	•	•	•		
	۱۱ ۲	b	Float type	C Note 4)	N.C. (Normally closed) Drain port is closed when pressure is not applied.	(	•	•	•	•		•
			auto drain	D Note 5)	N.O. (Normally open) Drain port is open when pressure is not applied.	-	_	_	•	•	•	•
				+								,
				Nil	Polycarbonate bowl	(	•			•		
				2	Metal bowl	(	•	•	•	•	•	•
			D I Note 6)	6	Nylon bowl	(	•		•	•	•	•
		C	Bowl Note 6)	8	Metal bowl with level gauge	-	_	_	•	•	•	•
				С	With bowl guard	-	_	•	Note 7)	Note 7)	Note 7)	Note 7)
				6C	With bowl guard (Nylon bowl)	-	_	•	Note 8)	Note 8)	Note 8)	Note 8)
3	ard .			+				,				,
3	Semi-standard			Nil	With drain cock	(	•	•	•	•		
6	sta		Duration and Note (1)	Note 10)	Drain guide 1/8	-	_	•	_	_	_	_
	÷	<b>d</b> Drain port Not	Drain port Note 9)	J Note 10)	Drain guide 1/4	_	_	_	•	•	•	•
5	je II			W Note 11)	Drain cock with barb fitting	_	_	_				
	ווע			+					-		_	
				Nil	Flow direction: Left to right		•	•		•		
		е	Flow direction	R	Flow direction: Right to left		Ŏ	•	•	•	•	•
				+	<b>y</b>							
				Nil	Name plate and caution plate for bowl in imperial units: MPa		•			•		
		f	Pressure unit	<b>Z</b> Note 12)	Name plate and caution plate for bowl in imperial units: psi, °F		Note 13)					

Note 1) Drain guide is NPT1/8 (applicable to the AF20-A) and NPT1/4 (applicable to the AF30-A to AF60-A).

The auto drain port comes with ø3/8" One-touch fitting (applicable to the AF30-A to AF60-A).

Note 2) Drain guide is G1/8 (applicable to the AF20-A) and G1/4 (applicable to the AF30-A to AF60-A).

The auto drain port comes with ø10 One-touch fitting (applicable to the AF30-A to AF60-A).

Note 3) Option B is not assembled and supplied loose at the time of shipment. Assembly of a bracket and 2 mounting screws.

Note 4) 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.

Note 5) 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 start of operations. N.C. type is recommended.

Note 6) Refer to Chemical data on page 38 for chemical resistance of the bowl.

Note 7) A bowl guard is provided as standard equipment (polycarbonate).

Note 8) A bowl guard is provided as standard equipment (nylon).

Note 9) The combination of float type auto drain: C and D is not available.

Note 10) Without a valve function

Note 11) The combination of metal bowl: 2 and 8 is not available.

Note 12) For pipe thread type: M5, NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.)

Note 13) O: For pipe thread type: M5, NPT only



# Air Filters Series AF10-A to AF60-A

#### **Standard Specifications**

Model	AF10-A	AF20-A	AF30-A	AF40-A	AF40-06-A	AF50-A	AF60-A					
Port size	M5 x 0.8	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 temperature		23 to 140°F (–5 to 60°C) (with no freezing)										
Proof pressure		218 psi (1.5 MPa)										
Maximum operating pressure		145 psi (1.0 MPa)										
Nominal filtration rating		5 μm										
Drain capacity (cm³)	2.5	8	25		4	5						
Bowl material		Polycarbonate										
Bowl guard	— Semi-standard (Steel) Standard (Polycarbonate)											
Weight (kg)	0.06	0.08	0.18	0.36	0.41	0.87	1.00					

#### Options/Part No.

Optional specifications		Model								
Optional specifications	AF10-A	AF20-A	AF30-A	AF40-A	AF40-06-A	AF50-A	AF60-A			
Bracket assembly Note)	_	AF22P-050AS	AF32P-050AS	AF42P-050AS	AF42P-070AS	AF52P	-050AS			

Note) Assembly of a bracket and 2 mounting screws

#### **Bowl Assembly/Part No.**

Bowl	Drain					Mode	el			
material	discharge mechanism	Drain port	Other	AF10-A	AF20-A	AF30-A	AF40-A	AF40-06-A	AF50-A	AF60-A
		With drain cock	_	C1SF-A	C2SF-A	_	_			
		With drain cock	With bowl guard	_	C2SF-C-A	C3SF-A	C4SF-A			
	Manual discharge	Drain cock with barb fitting	With bowl guard	_	_	C3SF-W-A	C4SF-W-A			
Polycarbonate	discriarge	With drain guide	_	_	C2SF□-J-A	_		_	_	
bowl	(without valve function)	With bowl guard	_	C2SF□-CJ-A	C3SF□-J-A					
	Automatic	Normally closed (N.C.)	_	AD17-A	AD27-A	_		_	_	
	discharge Note)	Normally closed (N.C.)	With bowl guard	_	AD27-C-A	AD37□-A	AD47□-A			
	(Auto drain)	Normally open (N.O.)	With bowl guard	_	_	AD38□-A		AD48	3□-A	
	Manual	With drain cock	_	C1SF-6-A	C2SF-6-A	_	_			
		With drain cock	With bowl guard	_	C2SF-6C-A	C3SF-6-A		C4SF	-6-A	
	Manual discharge	Drain cock with barb fitting	With bowl guard	_	_	C3SF-6W-A	C4SF-6W-A			
Nylon bowl	discriarge	With drain guide	_	_	C2SF□-6J-A	_	_			
INVIOLI DOMI		(without valve function)	With bowl guard	_	C2SF□-6CJ-A	C3SF□-6J-A	C4SF□-6J-A			
	Automatic	Normally closed (N.C.)	_	AD17-6-A	AD27-6-A	_	_			
	discharge Note)		With bowl guard	_	AD27-6C-A	AD37□-6-A		AD47	⊒-6-A	
	(Auto drain)	Normally open (N.O.)	With bowl guard	_	_	AD38□-6-A		AD48	⊒-6-A	
		With drain cock	_	C1SF-2-A	C2SF-2-A	C3SF-2-A		C4SF	-2-A	
	Manual	Willi dialii cock	With level gauge	_	_	C3LF-8-A	C4LF-8-A			
	discharge	With drain guide	_	_	C2SF□-2J-A	C3SF□-2J-A		C4SF	]-2J-A	
Metal bowl		(without valve function)	With level gauge	_	_	C3LF□-8J-A		C4LF	]-8J-A	
IVICIAI DOWI	A	Normally closed (N.C.)		AD17-2-A	AD27-2-A	AD37□-2-A		AD47	□-2-A	
	Automatic discharge Note)		With level gauge			AD37□-8-A		AD47	□-8-A	
	(Auto drain)	Normally open (N.O.)		_	_	AD38□-2-A		AD48	□-2-A	
	(, late diam)	Normally open (N.O.)	With level gauge		_	AD38□-8-A		AD48	□-8-A	

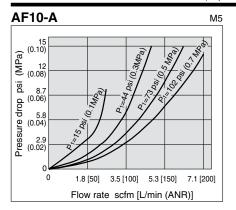
Note) Minimum operating pressure: N.O. type–15 psi (0.1 MPa) (AD38-A, AD48-A); N.C. type–15 psi (0.1 MPa) (AD17-A, AD27-A) and 22 psi (0.15 MPa) (AD37-A, AD47-A). Bowl assembly for the AF20-A to AF60-A models comes with a bowl seal.

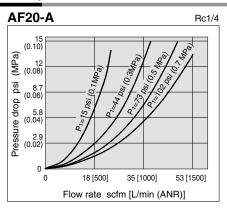
No indication is necessary for Rc thread; however, indicate N for NPT thread, and F for G thread. (For auto drain, Nil: ø10, N: ø3/8")

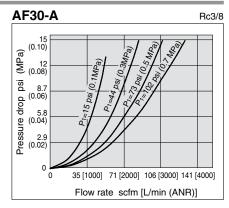
Please consult with SMC separately for psi and °F unit display specifications.

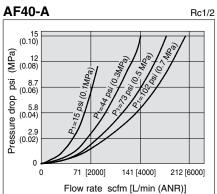
# Series AF10-A to AF60-A

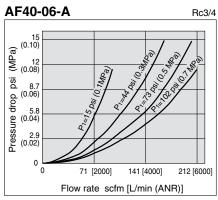
#### Flow-rate Characteristics (Representative values)

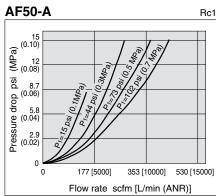


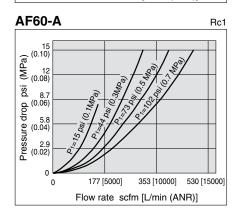












# ⚠ Specific Product Precautions

Be sure to read this before handling. Refer to the back cover for Safety Instructions, "Handling Precautions for I SMC Products" and the Operation Manual for F.R.L. Precautions, http://www.smcworld.com

#### **Design/Selection**

# 

1. The standard bowl for the air filter, filter regulator, and lubricator, as well as the sight dome for the lubricator are made of 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.

Effects of atmosphere of organic solvents and chemicals, and where these elements are likely to adhere to the equipment. Chemical data for substances causing degradation (Reference)

			Material			
Туре	Chemical name	Application examples	Polycar- bonate	Nylon		
Acid	Hydrochloric acid Sulfuric acid, Phosphoric acid Chromic acid	Acid washing liquid for metals	Δ	×		
Alkaline	Sodium hydroxide (Caustic soda) Potash Calcium hydroxide (Slack lime) Ammonia water Carbonate of soda	Degreasing of metals Industrial salts Water-soluble cutting oil	×	0		
Inorganic salts	Sodium sulfide Sulfate of potash Sulfate of soda	_	×	Δ		
Chlorine solvents	Carbon tetrachloride Chloroform Ethylene chloride Methylene chloride	Cleansing liquid for metals Printing ink Dilution	×	Δ		
Aromatic series	Benzene Toluene Paint thinner	Coatings Dry cleaning	×	Δ		
Ketone	Acetone Methyl ethyl ketone Cyclohexane	Photographic film Dry cleaning Textile industries	×	×		
Alcohol	Ethyl alcohol IPA Methyl alcohol	Antifreeze Adhesives	Δ	×		
Oil	Gasoline Kerosene	_	×	0		
Ester	Phthalic acid dimethyl Phthalic acid diethyl Acetic acid	Synthetic oil Anti-rust additives	×	0		
Ether	Methyl ether Ethyl ether	Brake oil additives	×	0		
Amino	Methyl amino	Cutting oil Brake oil additives Rubber accelerator	×	×		
Others	Thread-lock fluid Seawater		×	Δ		

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

#### **Maintenance**

# ∕**N Warnin**ɑ

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

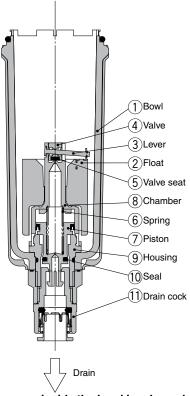
1. When the bowl is installed on the air filter (AF30-A to AF60-A), install them so that the lock button lines up to the groove of the front (or the back) of the body to avoid drop or damage of the bowl.



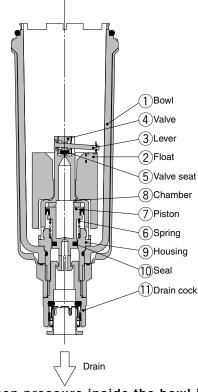
#### Series AF10-A to AF60-A

#### Working Principle: Float Type Auto Drain

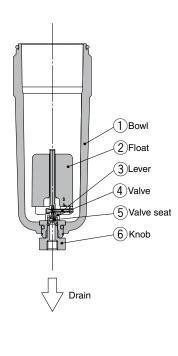
#### N.O. type: AD38-A, AD48-A



#### N.C. type: AD37-A, AD47-A



#### Compact auto drain N.C. type: AD17-A, AD27-A



When pressure is released from the bowl ①, the piston (7) is lowered by the spring (6).

The sealing action of the seal 10 is interrupted, and the outside air flows inside the bowl 1 through the housing hole (9) and the drain cock (11).

Therefore, if there is an accumulation of condensate in the bowl ①, it will drain out through the drain cock.

#### When pressure is applied inside the bowl:

When pressure is 0.1 MPa or more, the force of the • When pressure is applied inside the bowl: piston 7 surpasses the force of the spring 6, and the piston goes up.

This pushes seal 10 up so that it creates a seal, and the inside of the bowl ①, is shut off from the outside air.

If there is no accumulation of condensate in the bowl ① at this time, the float  $\ensuremath{ \textcircled{2}}$  will be pulled down by its own weight, causing the valve 4, which is connected to the lever 3, to seal the valve seat 5.

#### • When there is an accumulation of condensate in the bowl:

The float ② rises due to its own buoyancy and the seal at the valve seat (5) is interrupted.

This allows the pressure inside the bowl ① to enter the chamber ®. The result is that the combined pressure inside the chamber ® and the force of the spring 6 lowers the piston (7).

This causes the sealing action of the seal 10 to be interrupted, and the accumulated condensate in the bowl ① drains out through the drain cock ①.

Turning the drain cock (1) manually counterclockwise lowers the piston 7, and causes the seal created by the seal 10 to be interrupted, thus allowing the condensate to drain out.

#### • When pressure inside the bowl is released: • When pressure inside the bowl is • When pressure inside the bowl is released:

Even when pressure inside the bowl ① is released, spring 6 keeps the piston 7 in its upward position.

This keeps the seal created by the seal 10 in place; thus, the inside of the bowl 1 is shut off from the outside air.

Therefore, even if there is an accumulation of condensate in the bowl 1, it will not drain out.

Even when pressure is applied inside the bowl q, the combined force of the spring 6 and the pressure inside the bowl q keeps the piston 7 in its upward

This maintains the seal created by the seal 10 in place; thus, the inside of the bowl (1) is shut off from the outside air.

If there is no accumulation of condensate in the bowl 1 at this time, the float 2 will be pulled down by its own weight, causing the valve 4, which is connected to the lever (3), to seal the valve seat (5).

#### When there is an accumulation of condensate in the bowl:

The float ② rises due to its own buoyancy and the seal at the valve seat (5) is interrupted. This allows the pressure inside the bowl 1 to enter the chamber 8.

The result is that the pressure inside the chamber ® surpasses the force of the spring 6 and pushes the piston 7 downward.

This causes the sealing action of the seal 10 to be interrupted and the accumulated condensate in the bowl 1 drains out through the drain cock 11.

Turning the drain cock (1) manually counterclockwise lowers the piston 7, and causes the seal created by the seal 10 to be interrupted, thus allowing the condensate to drain out.

# released:

Even when pressure inside the bowl (1) is released, the weight of the float 2 causes the valve 4, which is connected to the lever 3, to seal the valve seat (5). As a result, the inside of the bowl (1) is shut off from the outside air.

Therefore, even if there is an accumulation of condensate in the bowl 1, it will not drain out.

# When pressure is applied inside the

Even when pressure is applied inside the bowl ①, the weight of the float 2 and the differential pressure that is applied to the valve 2 cause the valve 4 to seal the valve seat 5, and the outside air is shut off from the inside of the bowl 1

#### When there is an accumulation of condensate in the bowl:

The float ② rises due to its own buoyancy and the seal at the valve seat 5 is interrupted.

The condensate inside the bowl ① drains out through the knob 6.

Turning the knob 6 manually counterclockwise lowers it and causes the sealing action of the valve seat 5 to be interrupted, which allows the condensate to drain out.

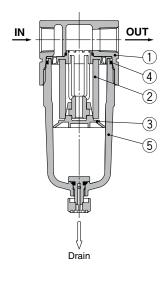


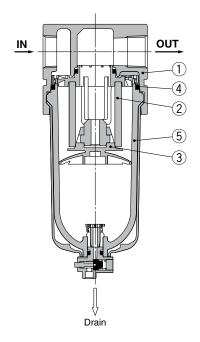
#### Construction

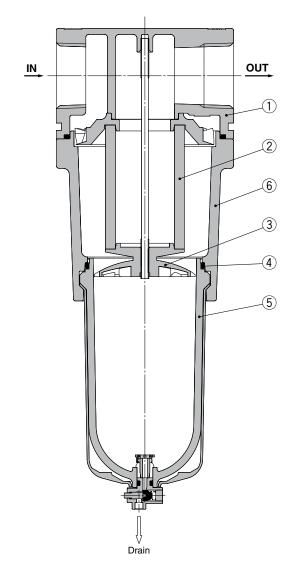
#### AF10-A/AF20-A

#### AF30-A to AF40-06-A

#### AF50-A/AF60-A







#### **Component Parts**

No.	Description	Material	Model	Color	
4	Body	Zinc die-cast	AF10-A	White	
'	Войу	Aluminum die-cast		vviille	
6	Housing	Aluminum die-cast	AF50-A/AF60-A	White	

#### **Replacement Parts**

No.	Description	Material				Part no.			
INO.	Description	Material	AF10-A	AF20-A	AF30-A	AF40-A	AF40-06-A	AF50-A	AF60-A
2	Filter element	Non-woven fabric	AF10P-060S	AF20P-060S	AF30P-060S	AF40F	P-060S	AF50P-060S	AF60P-060S
3	Baffle	PBT	AF10P-040S Note 2)	AF22P-040S	AF32P-040S	AF42F	P-040S	AF50P-040S	AF60P-040S
4	Bowl seal	NBR	C1SFP-260S	C2SFP-260S	C32FP-260S		C42FF	P-260S	
5	Bowl assembly Note 1)	Polycarbonate	C1SF-A	C2SF-A	C3SF-A		C49	SF-A	

Note 1) Bowl seal is included for the AF20-A to AF60-A. Please contact SMC regarding the supply of bowl assembly with psi and °F unit display specifications. Note 2) The baffle material for the AF10-A (AF10P-040S) only is polyacetal.

AC

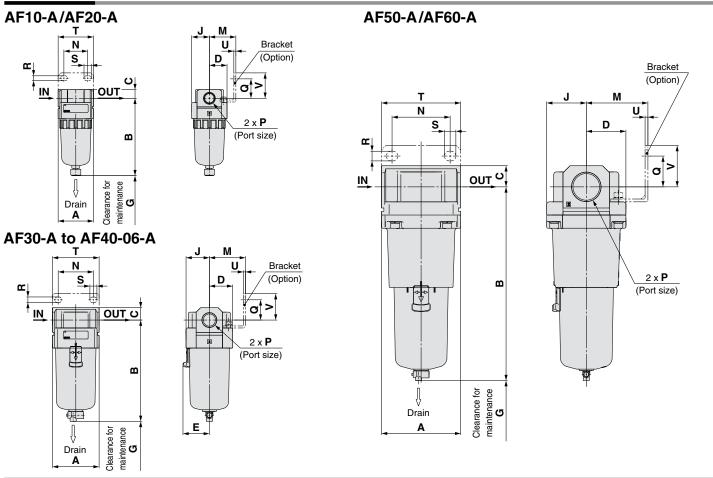
AW+AL AF+AR+AL

AF+AR

AF+AFM+AR

## Series AF10-A to AF60-A

#### **Dimensions**



Applicable model	AF10-A	/AF20-A	AF2	20-A	AF30-A to AF60-A
Optional/Semi-standard specifications	With auto drain (N.C.)	Metal bowl	With drain guide	Metal bowl with drain guide	With auto drain (N.O./N.C.)
Dimensions	M5 x 0.8	<b>B</b>	Width across flats 14 1/8	Width across flats 14	N.O.: Black N.C.: Gray  Thread type/Rc, G: ø10 One-touch fitting Thread type/NPT: ø3/8" One-touch fitting

Applicable model			AF	F30-A to AF60-A		
Optional/Semi-standard specifications	Metal bowl	Metal bowl with drain guide	Metal bowl with level gauge	Metal bowl with level gauge, with drain guide	With drain guide	Drain cock with barb fitting
Dimensions	B	Width across flats 17 1/4		Width across flats 17	Width across flats 17	Barb fitting applicable tubing: T0604

												Option	al spe	cifica	tions				Ser	ni-stand	ard specifi	ications	
Model	Standard specifications					Bracket mount au				With auto drain	With barb fitting	With drain guide	Metal bowl	Metal bowl with drain guide	with level	Metal bowl with level gauge, with drain guide							
	Р	Α	В	С	D	Е	G	J	M	N	Q	R	S	Т	U	٧	В	В	В	В	В	В	В
AF10-A	M5 x 0.8	25	59.9	7	12.5	_	25	12.5	_	_	_	_	_	_	_	_	77.9	_	_	59.3	_	_	_
AF20-A	1/8, 1/4	40	87.6	9.8	20	_	25	20	30	27	22	5.4	8.4	40	2.3	28	104.9	_	91.4	87.4	93.9	_	_
AF30-A	1/4, 3/8	53	115.1	14	26.7	30	35	26.7	41	40	23	6.5	8	53	2.3	30	156.8	123.6	121.9	117.6	122.1	137.6	142.1
AF40-A	1/4, 3/8, 1/2	70	147.1	18	35.5	38.4	40	35.5	50	54	26	8.5	10.5	70	2.3	35	186.9	155.6	153.9	149.6	154.1	169.6	174.1
AF40-06-A	3/4	75	149.1	20	35.5	38.4	40	35.5	50	54	25	8.5	10.5	70	2.3	34	188.9	157.6	155.9	151.6	156.1	171.6	176.1
AF50-A	3/4, 1	90	220.1	24	45	_	30	45	70	66	35	11	13	90	3.2	47	259.9	228.6	226.9	222.6	227.1	242.6	247.1
AF60-A	1	95	234.1	24	47.5	_	30	47.5	70	66	35	11	13	90	3.2	47	273.9	242.6	240.9	236.6	241.1	256.6	261.1

## Air Filter/AF20-A to AF40-06-A Made to Order



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

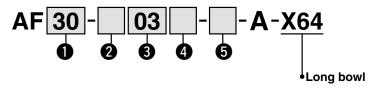
#### 1 Long Bowl

Drain capacity is greater than that of standard models.

#### Applicable Model/Drain Capacity

Model	AF20-A	AF30-A	AF40-A	AF40-06-A
Port size	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4
Drain capacity (cm <sup>3</sup> )	19	43	8	8

Note) Please consult with SMC for dimensions.



- Semi-standard: Select one each for a to d.
- Option/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order. Example) AF30-03B-2R-A-X64

	_	_		Symbol	Description		O Dadu sina	
				Symbol	Description	20	Body size	40
				Nil	Rc	•	•	•
2	ı	Pipe	thread type	N Note 1)	NPT	•	•	•
				F Note 2)	G	•	•	•
				+				
				01	1/8	•	_	_
				02	1/4	•	•	•
3		ı	Port size	03	3/8	_	•	•
				04	1/2	_	_	•
				06	3/4	_	_	•
				+			1	
	_	\t:_	· · · (Marratina)	Nil	Without mounting option	•	•	•
•	C	ptic	on (Mounting)	B Note 3)	With bracket	•	•	•
				+			•	
				Nil	Polycarbonate bowl	•	•	•
				2	Metal bowl	•	•	•
		а	Bowl Note 4)	6	Nylon bowl	•	•	•
				С	With bowl guard	•	Note 5)	Note 5)
				6C	With bowl guard (Nylon bowl)	•	Note 6)	Note 6)
	~			+				
	Jar			Nil	With drain cock	•	•	•
_	anc	b	Drain port	Note 7)	Drain guide 1/8	•	_	_
3	Semi-standard	0	·		Drain guide 1/4	_	•	•
	em			W Note 8)	Drain cock with barb fitting (for ø6 x ø4 nylon tube)	_	•	•
	0)			+				
			Flow direction	Nil	Flow direction: Left to right	•	•	•
		C	Flow direction	R	Flow direction: Right to left	•	•	•
				+				
		4	Proceure unit	Nil	Name plate and caution plate for bowl in imperial units: MPa	•	•	•
		d	Pressure unit	Z Note 9)	Name plate and caution plate for bowl in imperial units: psi, °F	Note 10)	Note 10)	Note 10)

Note 1) Drain guide is NPT1/8 (applicable to the AF20-A) and NPT1/4 (applicable to the AF30-A to AF40-06-A).

Note 2) Drain guide is G1/8 (applicable to the AF20-A) and G1/4 (applicable to the AF30-A to AF40-06-A).

Note 3) A bracket is not assembled and supplied loose at the time of shipment. Including 2 mounting screws.

Note 4) Refer to Chemical data on page 38 for chemical resistance of the bowl.

Note 5) A bowl guard is provided as standard equipment (polycarbonate).

Note 6) A bowl guard is provided as standard equipment (nylon).

Note 7) Without a valve function

Note 8) The combination of metal bowl: 2 is not available.

Note 9) For pipe thread type: NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.)

Note 10) O: For pipe thread type: NPT only



AC

AF+AR+AL

AF+AFM+AR

Attachment | AW+AFM |

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# Air Filter/AF20-A to AF40-06-A

# **Made to Order**



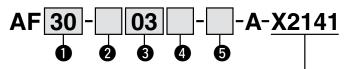


#### 2 With Element Service Indicator

Clogging status of elements can be checked visually.

#### **Applicable Model**

Model	AF20-A	AF30-A	AF40-A	AF40-06-A
Port size	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4



- Option/Semi-standard: Select one each for a to f.
- Option/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order.

Example) AF30-03BD-2R-A-X2141

#### With element service indicator

A special body type is required to mount the element service indicator. It cannot be mounted on a standard body.

						0	
			Symbol	Description		Body size	
					20	30	40
			Nil	Rc	•	•	•
	Pipe	thread type	N Note 1)	NPT		•	•
			F Note 2)	G		•	•
			+				
			01	1/8		_	_
			02	1/4		•	•
		Port size	03	3/8	_	•	•
			04	1/2	_	_	•
			06	3/4	_	_	
	_		+				
	а	Mounting	Nil	Without mounting option		•	•
_	u	Wiodriting	B Note 3)	With bracket		•	•
Option			+				
ୀ ଚି		Float type	Nil	Without auto drain		•	•
-	b	auto drain	C Note 4)	N.C. (Normally closed) Drain port is closed when pressure is not applied.		•	•
		auto urani	D Note 5)	N.O. (Normally open) Drain port is open when pressure is not applied.	_	•	•
			+				
			Nil	Polycarbonate bowl		•	•
			2	Metal bowl		•	•
	c	Bowl Note 6)	6	Nylon bowl	•	•	•
		DOWI ,	8	Metal bowl with level gauge		•	•
			С	With bowl guard		Note 7)	Note 7)
			6C	With bowl guard (Nylon bowl)		Note 8)	Note 8)
Semi-standard			+				
l g			Nil	With drain cock		•	•
sta	А	Drain port Note 12)	J Note 9)	Drain guide 1/8		_	_
ΙĖ	u	Diam port		Drain guide 1/4	_	•	•
Se			<b>W</b> Note 13)	Drain cock with barb fitting (for ø6 x ø4 nylon tube)	_	•	•
			+				
	е	Flow direction	Nil	Flow direction: Left to right		•	•
		I low direction	R	Flow direction: Right to left	•	•	•
			+				
	f	Pressure unit	Nil	Name plate and caution plate for bowl in imperial units: MPa	•	•	•
		i ressure utili	<b>Z</b> Note 10)	Name plate and caution plate for bowl in imperial units: psi, °F	Note 11)	Note 11)	Note 11)

Note 1) Drain guide is NPT1/8 (applicable to the AF20-A) and NPT1/4 (applicable to the AF30-A to AF40-06-A).

The auto drain port comes with ø3/8" One-touch fitting (applicable to the AF30-A to AF40-06-A).

- Note 2) Drain guide is G1/8 (applicable to the AF20-A) and G1/4 (applicable to the AF30-A to AF40-06-A).
- Note 3) A bracket is not assembled and supplied loose at the time of shipment. Including 2 mounting screws.
- Note 4) 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.

- Note 5) 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 start of operations. N.C. type is recommended.
- Note 6) Refer to Chemical data on page 38 for chemical resistance of the bowl.
- Note 7) A bowl guard is provided as standard equipment (polycarbonate).
- Note 8) A bowl guard is provided as standard equipment (nylon).

Note 9) Without a valve function

- Note 10) For pipe thread type: NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.)
- Note 11) O: For pipe thread type: NPT only
- Note 12) The combination of float type auto drain: C and D is not available.
- Note 13) The combination of metal bowl: 2 and 8 is not available.



## **Mist Separator** AFM20-A to AFM40-A **Micro Mist Separator** AFD20-A to AFD40-A







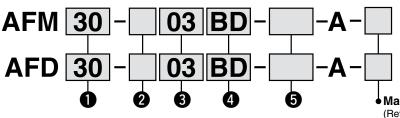
Micro Mist Separator







**How to Order** 



• Series AFM Nominal filtration rating: 0.3 μm • Series AFD Nominal filtration rating: 0.01 μm

- · Option/Semi-standard: Select one each for a to f.
- · Option/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order. Example) AFM30-03BD-R-A

Made to Order (Refer to pages 51 and 52 for details.)

Symbol Description Body size 20 30 40 Nil Rc 0 Note 1) NPT Pipe thread type Note 2) G 01 1/8 1/4 02 8 03 3/8 Port size • 04 1/2 06 3/4 + Nil Without mounting option Mounting B Note 3) With bracket Option + 4 Nil Without auto drain Float type C Note 4) b N.C. (Normally closed) Drain port is closed when pressure is not applied. auto drain D Note 5) N.O. (Normally open) Drainport is open when pressure is not applied. Nil Polycarbonate bowl Metal bowl 2 6 Nylon bowl Bowl Note 6) C 8 Metal bowl with level gauge \_ Note 7) \_ Note 7) C With bowl guard \_ Note 8) \_ Note 8) 6C With bowl guard (Nylon bowl) Semi-standard Nil With drain cock 6 Drain guide 1/8 d Drain port Note 12) Drain guide 1/4 Drain cock with barb fitting (for ø6 x ø4 nylon tube) W Note 13) • + Nil Flow direction: Left to right • Flow direction Flow direction: Right to left R + Nil Name plate and caution plate for bowl in imperial units: MPa Pressure unit Note 11) O Note 11) O Note 11) Name plate and caution plate for bowl in imperial units: psi, °F

Note 1) Drain guide is NPT1/8 (applicable to the AFM20-A, AFD20-A) and NPT1/4 (applicable to the AFM30-A/40-A, AFD30-A/40-A).

The auto drain port comes with ø3/8" One-touch fitting (applicable to the AFM30-A/40-A, AFD30-A/40-A).

Note 2) Drain guide is G1/8 (applicable to the AFM20-A, AFD20-A) and G1/4 (applicable to the AFM30-A/40-A, AFD30-A/40-A).

Note 3) A bracket is not assembled and supplied loose at the time of shipment. Including 2 mounting

Note 4) 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.

Note 5) 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 start of operations. N.C. type is recommended.

Note 6) Refer to Chemical data on page 48 for chemical resistance of the bowl.

Note 7) A bowl guard is provided as standard equipment (polycarbonate).

Note 8) A bowl guard is provided as standard equipment (nylon). Note 9) Without a valve function

Note 10) For pipe thread type: NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.)

Note 11) O: For pipe thread type: NPT only

Note 12) The combination of float type auto drain: C and D is not available.

Note 13) The combination of metal bowl: 2 and 8 is not available.



## Mist Separator Series AFM20-A to AFM40-A Micro Mist Separator Series AFD20-A to AFD40-A

#### **Standard Specifications**

Model		AFM20-A AFD20-A	AFM30-A AFD30-A	AFM40-A AFD40-A	AFM40-06-A AFD40-06-A		
Port size		1/8, 1/4	1/8, 1/4 1/4, 3/8 1/4, 3/8, 1/2 3/4				
Fluid		Air					
Ambient and fluid temperature	•	2	23 to 140 °F (- 5 to 60	0°C) (with no freezing)			
Proof pressure			218 psi (	1.5 MPa)			
Maximum operating pressure			145 psi (	1.0 MPa)			
Minimum operating pressure			7.3 psi (0	.05 MPa)			
Nominal filtration rating	AFM20-A to AFM40-06-A	0.3 μm (99.9% filtered particle size)					
Nominal intration rating	AFD20-A to AFD40-06-A						
Outlet side oil mist	AFM20-A to AFM40-06-A						
concentration	AFD20-A to AFD40-06-A	Max. 0.1 mg/m³ (ANR) (Before saturated with oil 0.01 mg/m³ (ANR) or less ≈ 0.008 ppm) Note 2) Note 3)					
Rated flow (L/min (ANR)) Note 1)	AFM20-A to AFM40-06-A	200	450	11	00		
hateu now (Linin (ANA))	AFD20-A to AFD40-06-A	120	240	6	00		
Drain capacity (cm³)		8 25 45					
Bowl material		Polycarbonate					
Bowl guard		Semi-standard (Steel) Standard (Polycarbonate)					
Weight (kg)		0.09	0.19	0.38	0.43		

Note 1) Conditions: Inlet pressure: 102 psi (0.7MPa); The rated flow varies depending on the inlet pressure.

#### Options/Part No.

			Mo	odel	
Optional specifications		AFM20-A AFD20-A	AFM30-A AFD30-A	AFM40-A AFD40-A	AFM40-06-A AFD40-06-A
Bracket assembly Note 1)		AF22P-050AS	AF32P-050AS	AF42P-050AS	AF42P-070AS
Float type auto drain Note 2) Note 3)  N.C.  N.O.		AD27-A	AD37-A	AD4	17-A
		_	AD38-A	AD4	18-A

Note 1) Assembly of a bracket and 2 mounting screws

#### **Bowl Assembly/Part No.**

Bowl	Drain				Mod	del		
material	discharge mechanism	Drain port	Other	AFM20-A AFD20-A	AFM30-A AFD30-A	AFM40-A AFD40-A	AFM40-06-A AFD40-06-A	
		With drain cock	_	C2SF-A	<u>—</u>		_	
	Manual	With drain cock	With bowl guard	C2SF-C-A	C3SF-A	C4	SF-A	
	' I	Drain cock with barb fitting	With bowl guard	_	C3SF-W-A	C4S	F-W-A	
olycarbonate		With drain guide	_	C2SF□-J-A	_			
bowl		(without valve function)	With bowl guard	C2SF□-CJ-A	C3SF□-J-A	C4SI	=□-J-A	
	Automatic Note)	Normally closed (N.C.)	_	AD27-A	_			
	discharge	Normany closed (N.C.)	With bowl guard	AD27-C-A	AD37□-A	AD4	7□-A	
	(Auto drain)	Normally open (N.O.)	With bowl guard	_	AD38□-A	AD4	-A-□8	
		With drain cock	_	C2SF-6-A	_			
	Manual	Willi diaili cock	With bowl guard	C2SF-6C-A	C3SF-6-A	C4SF-6-A		
	discharge	Drain cock with barb fitting	With bowl guard	_	C3SF-6W-A	C4SF	-6W-A	
lylon bowl	uiscriarge	With drain guide	_	C2SF□-6J-A	_			
Nylon bowi		(without valve function)	With bowl guard	C2SF□-6CJ-A	C3SF□-6J-A	C4SF□-6J-A		
	Automatic Note)	Normally closed (N.C.)	_	AD27-6-A	_			
	discharge	Normally closed (N.C.)	With bowl guard	AD27-6C-A	AD37□-6-A	AD47□-6-A		
	(Auto drain)	Normally open (N.O.)	With bowl guard	_	AD38□-6-A	AD48	3□-6-A	
		With drain cock	_	C2SF-2-A	C3SF-2-A	C4S	F-2-A	
	Manual	Willi dialii cock	With level gauge	_	C3LF-8-A	C4L	F-8-A	
	discharge	With drain guide	_	C2SF□-2J-A	C3SF□-2J-A	C4SF	□-2J-A	
Actal bowl		(without valve function)	With level gauge	_	C3LF□-8J-A	C4LF	□-8J-A	
Metal bowl	Automatic Note)	Normally closed (N.C.)	_	AD27-2-A	AD37□-2-A	AD47	7□-2-A	
	discharge	Normany Gosed (N.C.)	With level gauge	_	AD37□-8-A	AD47	7□-8-A	
	(Auto drain)	Normally open (N.O.)		_	AD38□-2-A	AD48	3□-2-A	
	(Auto diairi)	Normally open (N.O.)	With level gauge	_	AD38□-8-A	AD48	AD48□-8-A	

Note) Minimum operating pressure: N.O. type-15 (0.1 MPa) (AD38-A, AD48-A); N.C. type-15 psi (0.1 MPa) (AD17-A, AD27-A) and 22 psi (0.15 MPa) (AD37-A, AD47-A). Bowl assembly for the AFM20-A to AFM40-06-A, AFD20-A to AFD40-06-A models comes with a bowl seal.

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



Keep the air flow within the rated flow to prevent an outflow of lubricant to the outlet side. Note 2) When the compressor oil mist discharge concentration is 30 mg/m³ (ANR).

Note 3) Bowl seal and other O-rings are slightly lubricated.

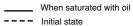
Note 2) Minimum operating pressure: N.O. type-15 psi (0.1 MPa); N.C. type-15 psi (0.1 MPa) (AD27-A) and 22 psi (0.15 MPa) (AD37-A/AD47-A). Please consult with SMC separately for psi and °F unit display specifications.

Note 3) Please consult with SMC for details on drain piping to fit NPT or G port sizes.

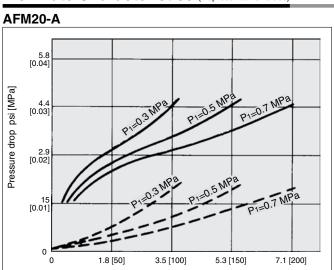
<sup>🗆</sup> in bowl assembly part numbers indicates a pipe thread type (applicable tubing for auto drain). No indication is necessary for Rc thread; however, indicate N for NPT thread, and F for G thread. (For auto drain, Nil: ø10, N: ø3/8")

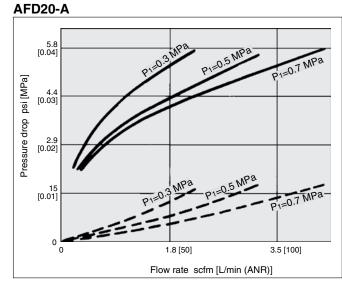
## Series AFM20-A to AFM40-A Series AFD20-A to AFD40-A

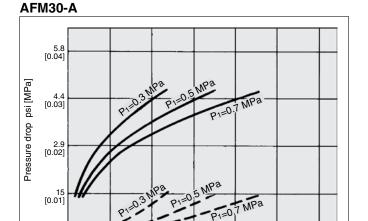
#### Flow-rate Characteristics (Representative values)



P1 = 44 psi (0.3 MPa) P1 = 73 psi (0.5 Mpa) P1 = 102 psi (0.7 MPa)







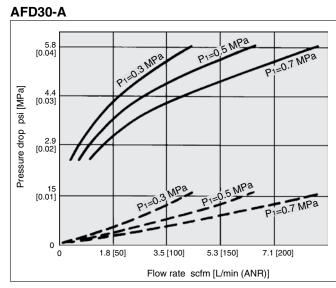
11 [300]

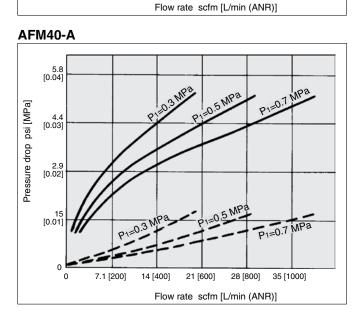
Flow rate scfm [L/min (ANR)]

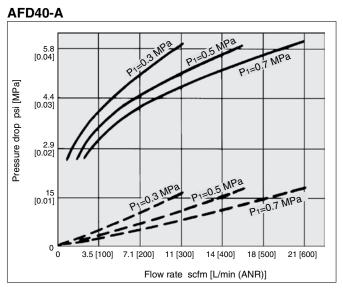
14 [400]

18 [500]

21 [600]







Be sure to read this before handling. Refer to the back cover for Safety Instructions, "Handling Precautions for I SMC Products" and the Operation Manual for F.R.L. Precautions, http://www.smcworld.com

#### Design/Selection

## **⚠** Warning

1. The standard bowl for the air filter, filter regulator, and lubricator, as well as the sight dome for the lubricator are made of 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.

Effects of atmosphere of organic solvents and chemicals, and where these elements are likely to adhere to the equipment. Chemical data for substances causing degradation (Reference)

			Mate	erial
Туре	Chemical name	Application examples	Polycar- bonate	Nylon
Acid	Hydrochloric acid Sulfuric acid, Phosphoric acid Chromic acid	Acid washing liquid for metals	Δ	×
Alkaline	Sodium hydroxide (Caustic soda) Potash Calcium hydroxide (Slack lime) Ammonia water Carbonate of soda	Degreasing of metals Industrial salts Water-soluble cutting oil	×	0
Inorganic salts	Sodium sulfide Sulfate of potash Sulfate of soda	×	Δ	
Chlorine solvents	Carbon tetrachloride Chloroform Ethylene chloride Methylene chloride	Cleansing liquid for metals Printing ink Dilution	×	Δ
Aromatic series	Benzene Toluene Paint thinner	Coatings Dry cleaning	×	Δ
Ketone	Acetone Methyl ethyl ketone Cyclohexane	Photographic film Dry cleaning Textile industries	×	×
Alcohol	Ethyl alcohol IPA Methyl alcohol	Antifreeze Adhesives	Δ	×
Oil	Gasoline Kerosene	_	×	0
Ester	Phthalic acid dimethyl Phthalic acid diethyl Acetic acid	Synthetic oil Anti-rust additives	×	0
Ether	Methyl ether Ethyl ether	Brake oil additives	×	0
Amino	Methyl amino	Cutting oil Brake oil additives Rubber accelerator	×	×
Others	Thread-lock fluid Seawater Leak tester	_	×	Δ

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

#### Air Supply

## **⚠** Caution

- 1. Install an air filter (Series AF) as a pre-filter on the inlet side of the mist separator to prevent premature clogging.
- 2. Install a mist separator (Series AFM) 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 15 psi (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-A/AFM40-A), or micro mist separator (AFD30-A/ AFD40-A), 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 is installed in a pulsation-free location. The difference between internal and external pressure inside the element should be kept within 15 psi (0.1 MPa), as exceeding this value could cause damage.

#### Selection

## **∕** Caution

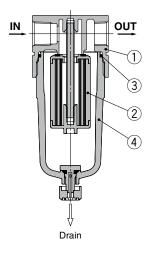
- 1. Do not allow air flow that exceeds the rated flow. If the air flow is allowed outside the range of the rated flow even momentarily, drainage and lubricant may splash at the outlet side or cause damage to the component.
- 2. Do not use in a low pressure application (such as a blower). An F.R.L. unit 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.



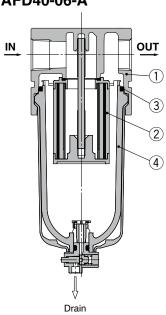
## Series AFM20-A to AFM40-A Series AFD20-A to AFD40-A

#### Construction

#### AFM20-A AFD20-A



#### AFM30-A to AFM40-06-A AFD30-A to AFD40-06-A



#### **Component Parts**

No.	Description	Material	Model	Color
1	Body	Aluminum die-cast	AFM20-A to AFM40-06-A AFD20-A to AFD40-06-A	White

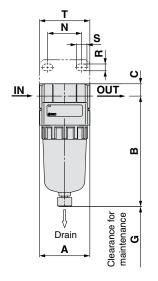
#### **Replacement Parts**

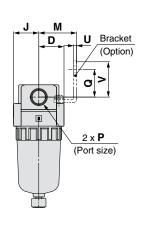
- 10	opiacomoni i arc													
				Part no.										
No.	Description	on	Material	AFM20-A AFD20-A	AFM30-A AFD30-A	AFM40-A AFD40-A	AFM40-06-A AFD40-06-A							
2		AFM20 to 40	_	AFM20P-060AS	AFM30P-060AS	AFM40P-060AS								
2	Element assembly	AFD20 to 40	_	AFD20P-060AS	AFD30P-060AS	AFD40F	P-060AS							
3	Bowl seal		NBR	C2SFP-260S	C32FP-260S	C42FP-260S								
4	Bowl assembly Note)		Polycarbonate	C2SF-A	C3SF-A	C45	F-A							

Note) Bowl seal is included. Please contact SMC regarding the supply of bowl assembly with psi and °F unit display specifications.

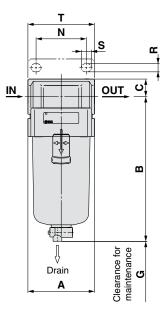


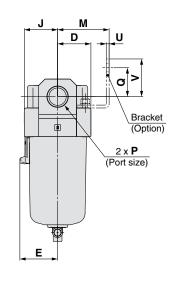
#### AFM20-A AFD20-A

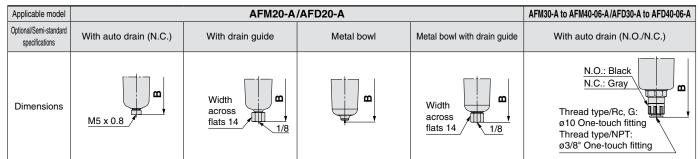


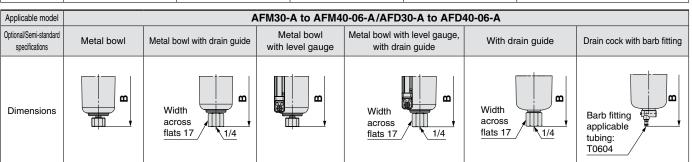


#### AFM30-A to AFM40-06-A AFD30-A to AFD40-06-A









			Standa	rd enac	ification							Optio	nal spe	cificatio	ns		
Model			Otariua	lard specifications Bracket mount							With auto drain						
	Р	Α	В	С	D	E	G	J	М	N	Q	R	S	Т	U	٧	В
AFM20-A/AFD20-A	1/8, 1/4	40	87.6	9.8	20	_	40	20	30	27	22	5.4	8.4	40	2.3	28	104.9
AFM30-A/AFD30-A	1/4, 3/8	53	115.1	14	26.7	30	50	26.7	41	40	23	6.5	8	53	2.3	30	156.8
AFM40-A/AFD40-A	1/4, 3/8, 1/2	70	147.1	18	35.5	38.4	75	35.5	50	54	26	8.5	10.5	70	2.3	35	186.9
AFM40-06-A/AFD40-06-A	3/4	75	149.1	20	35.5	38.4	75	35.5	50	54	25	8.5	10.5	70	2.3	34	188.9

		Semi-standard specifications											
Model	With barb fitting	With drain guide	Metal bowl	Metal bowl with drain guide	Metal bowl with level gauge	Metal bowl with level gauge, with drain guide							
	В	В	В	В	В	В							
AFM20-A/AFD20-A	_	91.4	87.4	93.9	_	_							
AFM30-A/AFD30-A	123.6	121.9	117.6	122.1	137.6	142.1							
AFM40-A/AFD40-A	155.6	153.9	149.6	154.1	169.6	174.1							
AFM40-06-A/AFD40-06-A	157.6	155.9	151.6	156.1	171.6	176.1							

## Mist Separator/AFM20-A to AFM40-06-A Micro Mist Separator/AFD20-A to AFD40-06-A







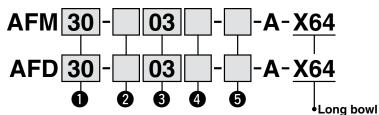
#### 1 Long Bowl

Drain capacity is greater than that of standard models.

#### Applicable Model/Drain Capacity

Model	AFM20-A, AFD20-A	AFM30-A, AFD30-A	AFM40-A, AFD40-A	AFM40-06-A, AFD40-06-A
Port size	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4
Drain capacity (cm <sup>3</sup> )	19	43		88

Note) Please consult with SMC for dimensions.



- Semi-standard: Select one each for a to d.
- · Option/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order. Example) AFM30-03B-2R-A-X64

Note 10)

O Note 10)

Note 10)

0 Symbol Description Body size 20 40 30 Nil • Rc Note 1 **NPT** 2 Pipe thread type • F Note 2) G 01 1/8 02 1/4 0 Port size 03 3/8 04 1/2 06 3/4 Nil Without mounting option Option (Mounting) B Note 3) With bracket Nil Polycarbonate bowl 2 Metal bowl Bowl Note 4) 6 Nylon bowl C Note 5) Note 5) With bowl guard \_\_ Note 6) \_\_ Note 6) 6C With bowl guard (Nylon bowl) Semi-standard Nil With drain cock Drain guide 1/8 6 b Note 7) Drain port Drain guide 1/4 W Note 8) Drain cock with barb fitting (for ø6 x ø4 nylon tube)

Note 1) Drain guide is NPT1/8 (applicable to the AFM20-A, AFD20-A) and NPT1/4 (applicable to the AFM30-A/40-A, AFD30-A/40-A).

Note 2) Drain guide is G1/8 (applicable to the AFM20-A, AFD20-A) and G1/4 (applicable to the AFM30-A/40-A, AFD30-A/40-A).

Flow direction: Left to right

Flow direction: Right to left

Note 3) A bracket is not assembled and supplied loose at the time of shipment. Including 2 mounting screws.

Note 4) Refer to Chemical data on page 48 for chemical resistance of the bowl.

Nil

R

Nil

Note 5) A bowl guard is provided as standard equipment (polycarbonate).

Note 6) A bowl guard is provided as standard equipment (nylon).

Note 7) Without a valve function

Note 8) The combination of metal bowl: 2 is not available.

Flow direction

Pressure unit

Note 9) For pipe thread type: NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.)

Name plate and caution plate for bowl in imperial units: MPa

Name plate and caution plate for bowl in imperial units: psi, °F



Made to Order

# Mist Separator/AFM20-A to AFM40-06-A Micro Mist Separator/AFD20-A to AFD40-06-A ade to Order

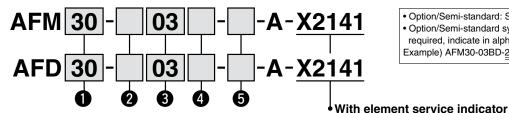
Please contact SMC for detailed dimensions, specifications and lead times.

#### 2With Element Service Indicator

Clogging status of elements can be checked visually.

#### **Applicable Model**

Model	AFM20-A, AFD20-A	AFM30-A, AFD30-A	AFM40-A, AFD40-A	AFM40-06-A, AFD40-06-A
Port size	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4



- Option/Semi-standard: Select one each for a to f.
- Option/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order. Example) AFM30-03BD-2R-A-X2141

						0	
		_	Symbol	Description		Body size	
				·	20	30	40
ĺ			Nil	Rc	•	•	•
	Pipe	thread type	N Note 1)	NPT	•	•	•
	•	,,	Note 2)	G	•	•	•
			+				
			01	1/8	•	_	_
			02	1/4	•	•	•
		Port size	03	3/8		•	•
			04	1/2	_		Ŏ
	06			3/4	_	_	•
			+				
			Nil	Without mounting option	•		•
	а	Mounting	B Note 3)	With bracket	<u> </u>		
Option			+				
			Nil	Without auto drain	•		_
0	b	Float type	C Note 4)	N.C. (Normally closed) Drain port is closed when pressure is not applied.			
		auto drain	D Note 5)	N.O. (Normally open) Drain port is open when pressure is not applied.			
			+	N.O. (Normally open) Drain port is open when pressure is not applied.			
			Nil	Polycarbonate bowl			
			2	Metal bowl			
			6	Nylon bowl			
	С	Bowl Note 6)	8	Metal bowl with level gauge			
			Č	With bowl guard		Note 7)	Note 7)
			6C	With bowl guard (Nylon bowl)		Note 8)	Note 8)
5			+	That both gaard (Hylen both)			
Semi-standard			Nil	With drain cock	•		
tar				Drain guide 1/8			
i-S	d	Drain port Note 12)	J Note 9)	Drain guide 1/4			
em			<b>W</b> Note 13)	Drain cock with barb fitting (for ø6 x ø4 nylon tube)	_		
S			+				
			Nil	Flow direction: Left to right	•		•
	е	Flow direction	R	Flow direction: Right to left			
			+				
			Nil	Name plate and caution plate for bowl in imperial units: MPa			
	f	Pressure unit	<b>7</b> Note 10)	Name plate and caution plate for bowl in imperial units: Nra  Name plate and caution plate for bowl in imperial units: psi, °F	Note 11)	Note 11)	Note 11)

Note 1) Drain guide is NPT1/8 (applicable to the AFM20-A, AFD20-A) and NPT1/4 (applicable to the AFM30-A/40-A, AFD30-A/40-A).

The auto drain port comes with ø3/8" One-touch fitting (applicable to the AFM30-A/40-A, AFD30-A/40-A),

Note 2) Drain guide is G1/8 (applicable to the AFM20-A, AFD20-A) and G1/4 (applicable to the AFM30-A/40-A, AFD30-A/40-A).

Note 3) A bracket is not assembled and supplied loose at the time of shipment. Including 2 mounting screws

Note 4) 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.

Note 5) If the compressor is small (0.75 kW, discharge flow is less than 3.5 scfm (100 L/min [ANR])), air leakage from the drain cock may occur during start of operations. N.C.

type is recommended.

Note 6) Refer to Chemical data on page 48 for chemical resistance of the bowl.

Note 7) A bowl guard is provided as standard equipment (polycarbonate).

Note 8) A bowl guard is provided as standard equipment (nylon).

Note 9) Without a valve function

Note 10) For pipe thread type: NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.)

Note 11) O: For pipe thread type: NPT only

Note 12) The combination of float type auto drain: C and D is not available.

Note 13) The combination of metal bowl: 2 and 8 is not available.



# **Modular Type** Regulator Series AR

Regulator Series AR	Model	Port size	Options
	AR10-A	M5 x 0.8	
1000 17 c. 1 c	AR20-A	1/8, 1/4	Bracket
	AR25-A	1/4 2/9	
1	AR30-A	1/4, 3/8	Round type pressure gauge
	AR40-A	1/4, 3/8, 1/2	Set nut (for panel mount)*
P.55 to 62	AR40-06-A	3/4	* The AR20-A to AR40-06-A are not compatible with existing AR series.

## Regulator

# AR10-A to AR40-A







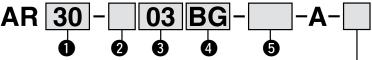


#### How to order

AR10-A

AR20-A

AR30-A



Option/Semi-standard: Select one each for a to g.
 Option/Semi-standard symbol: When more than one s

 Option/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order.
 Example) AR30-03BG-1N-A

Example) Anso-osbo-in-A

#### Made to Order

(Refer to pages 61 and 62 for details.)

_					(Heier to pages of and	oz ioi detaii	s. <i>)</i>			
	\							0		
				Symbol	Description			Body size		
						10	20	25	30	40
				NI:I	Metric thread (M5)	•	_	_	_	_
		D:	Alessa e al Arma e	NII	Rc		•	•	•	•
0	Port size  a Mounting  Pressure	triread type	N	NPT		•	•	•	•	
	Pipe thread type    Ni				G		•	•	•	•
				+						
				M5	M5		_	_	_	_
				01	1/8		•	_	_	_
A	3		Port size	02	1/4		•	•	•	•
<b>U</b>			OIL SIZE		3/8		_	•	•	
				04	1/2		_			
					3/4		_	_	_	•
							•	•	•	
		а	Mounting				•	•	•	•
	ote 1)				With set nut (for panel mount) Note 3)		•	•	•	
4	ž								T	
9	oitc	b		Nil			•	•	•	
	ő			G	Round type pressure gauge (without limit indicator)		_		_	
			gauge Note 4)		, , , , ,		•	•	•	
					Round type pressure gauge (with color zone)					
			_							
		С					•	•		
			pressure (10te 5)	1	2.9 to 29 psi (0.02 to 0.2 MPa) setting		•			
				+						
		d	Exhaust	Nil	Relieving type					
	5		mechanism	N	Non-relieving type					
	Jda			+	Electrical and a state					
6	star	е	Flow direction	Nil	Flow direction: Left to right		•			
	Semi-standard			R	Flow direction: Right to left					
	Sel			+	Downward					
		f	Knob	Nil	Downward					
				<b>Y</b>	Upward					
					Name plate and procedure gauge in imperial units MD-					
		g	Pressure unit	Nil Z Note 6)	Name plate and pressure gauge in imperial units: MPa	Note 7)	Note 7)	Note 7)	Note 7)	Note 7)
	1\0			<b>Z</b> ((0,000)	Name plate and pressure gauge in imperial units: psi		O'1010 //	( ) Note 1)	01401077	01101077

Note 1) Option B, G, H, M are not assembled and supplied loose at the time of shipment.

Note 2) Assembly of a bracket and set nuts

Note 3) Only for the AR20-A to 40-A

Note 4) When the pressure gauge is attached, a 145 psi (1.0 MPa) pressure gauge will be fitted for standard (102 psi [0.7 MPa]) type. 58 psi (0.4 MPa) pressure gauge for 29 psi (0.2 MPa) type (145 psi [1.0 MPa] pressure gauge only for the AR10-A).

Note 5) Pressure can be set higher than the specification pressure in some cases, but use pressure within the specification range.

Note 6) For pipe thread type: NPT

This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.) Cannot be used with M: Round pressure gauge (with color zone). Available by request for special.

Note 7) O: For pipe thread type: M5, NPT only



#### **Standard Specifications**

Model	AR10-A	AR20-A	AR25-A	AR30-A	AR40-A	AR40-06-A					
Port size	M5 x 0.8	1/8, 1/4	1/4, 3/8	1/4, 3/8	1/4, 3/8, 1/2	3/4					
Pressure gauge port size	1/16 Note)			1/8							
Fluid		Air									
Ambient and fluid temperature		23 to 140°F (- 5 to 60°C) (with no freezing)									
Proof pressure			218 psi (	1.5 MPa)							
Maximum operating pressure			145 psi (	1.0 MPa)							
Set pressure range			7.3 to 102 psi (	0.05 to 0.7 MPa)							
Construction		Relieving type									
Weight (kg)	0.06	0.17	0.19	0.34	0.58	0.60					

Note) Use a bushing (part no: 131368) when connecting the R1/8 pressure gauge to the Rc1/16.

#### Options/Part No.

	Ontional	specifications		Model									
	Optional	specifications	AR10-A	AR20-A	AR25-A	AR40-A	AR40-06-A						
В	racket assemi	bly Note 1)	AR12P-270AS	AR22P-270AS	AR27P-270AS	AR32P-270AS	AR42P-270AS	AR42P-270AS					
S	et nut		AR12P-260S	AR22P-260S	AR22P-260S	AR42P-260S	AR42P-260S						
e	Round	Standard	G27-10-R1		G36-10-□01	G46-10-□01							
ega	type	*0.02 to 0.2 MPa setting	G27-10-R1 Note 3)		G36-4-□01		G46-4-□01						
lss	Round type	Standard	_		G36-10-□01-L		G46-10-□01-L						
P		*0.02 to 0.2 MPa setting	_		G36-4-□01-L		G46-4-□01-L						

\* 2.9 to 29 psi (0.02 to 0.2 MPa) setting

Note 1) Assembly of a bracket and set nuts

Note 2) I in round pressure gauge part numbers indicates a pipe thread type. No indication is necessary for R; however, indicate N for NPT.

Please contact SMC regarding the pipe thread type NPT and the supply of pressure gauge with psi unit display specifications.

Note 3) Standard pressure gauge

## **↑** Specific Product Precautions

Be sure to read this before handling. Refer to the back cover for Safety Instructions, "Handling Precautions for I SMC Products" and the Operation Manual for F.R.L. Precautions, http://www.smcworld.com

#### Selection

## \land Warning

1. Although exhaust of the residual pressure to the inlet side is possible when eliminating the inlet pressure, exhaust is not possible when the set pressure is 22 psi (0.15 MPa) or less. Use the regulator with backflow function.

#### Maintenance

## **⚠** Warning

1. When using the regulator 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.

## ∖ Caution

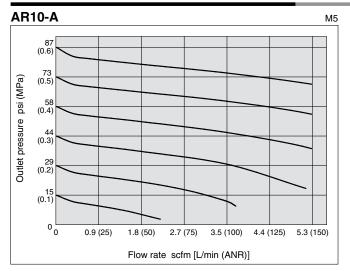
- 1. Be sure to unlock the knob before adjusting the pressure and lock it after setting the pressure. Failure to follow this procedure can cause damage to the knob and the outlet pressure may fluctuate.
  - Pull the pressure regulator knob to unlock. (You can visually verify this with the "orange mark" 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 disap-
- 2. Pulsation will be generated when the difference between the inlet and the outlet pressure is large. In this case, reduce the pressure difference between the inlet and the outlet. Please consult with SMC if the pulsation problem is not resolved.

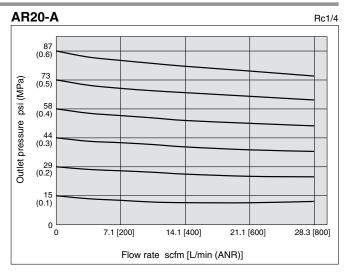


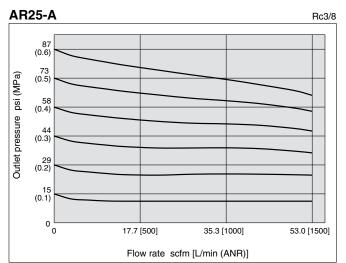
## Series AR10-A to AR40-A

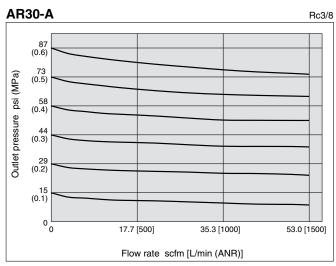
#### Flow-rate Characteristics (Representative values)

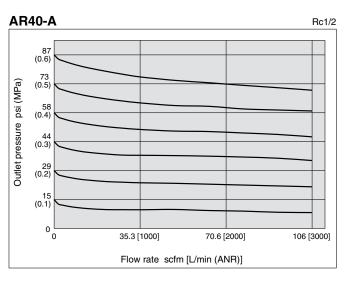
Condition: Inlet pressure 102 psi (0.7 MPa)

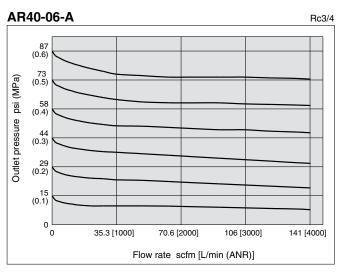






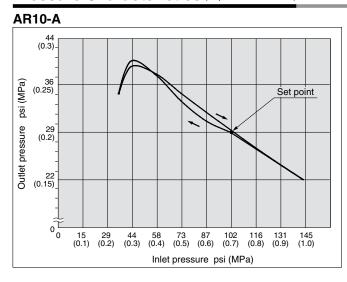


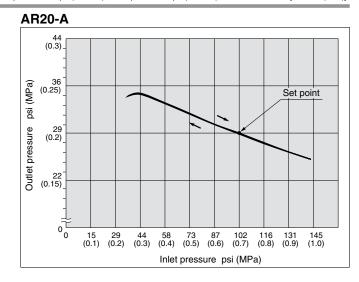




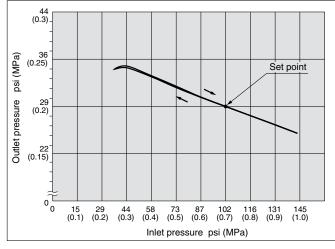
## Regulator Series AR10-A to AR40-A

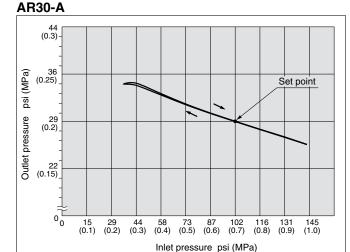
Pressure Characteristics (Representative values) Conditions: Inlet pressure 102 psi (0.7 MPa), Outlet pressure 29 psi (0.2 MPa), Flow rate 0.71 scfm [20 L/min (ANR)]



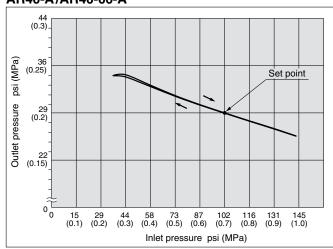








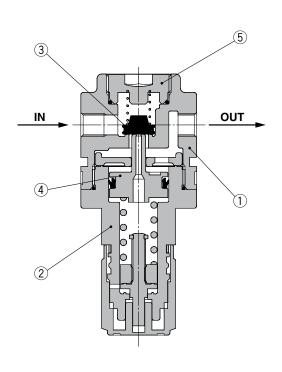
#### AR40-A/AR40-06-A



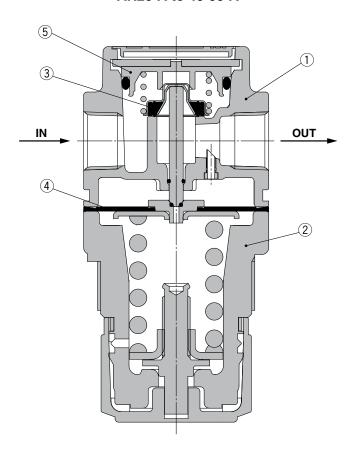


## Construction

AR10-A



AR20-A to 40-06-A



#### **Component Parts**

No.	Description	Material	Model	Color
4	Body	Zinc die-cast	AR10-A	White
٠	Войу	Aluminum die-cast	AR20-A to AR40-A	vviiite
2	Bonnet	Polyacetal AR10-A to AR40-A		White

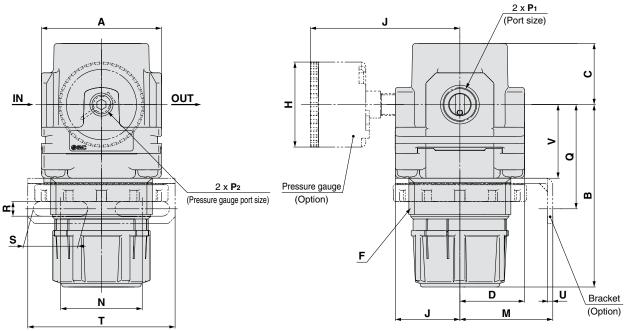
#### **Replacement Parts**

No.	Description	Material	Part no.								
NO.	Description	Waterial	AR10-A	AR20-A	AR25-A	AR30-A	AR40-A	AR40-06-A			
3	Valve assembly	Stainless steel, HNBR	AR10P-090S	S AR22P-060AS		AR32P-060AS	AR42P-060AS				
4	Diaphragm assembly	Weatherable NBR	AR10P-150AS Note)	AR22P	-150AS	AR32P-150AS	AR42P-150AS				
5	Valve guide assembly	Polyacetal	131329	AR22P-050AS		AR32P-050AS	AR42P	-050AS			

Note) The AR10-A is a piston type. Assembly of a piston and a seal (KSYP-13).



#### AR10-A to AR40-06-A



Note)

#### Panel fitting dimensions

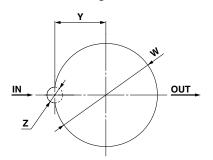


Plate thickness

AR10-A : Max. 3.5 : Max. 4 AR20-A to AR25-A AR30-A to AR40-06-A: Max. 8

														Opt	ional s	pecifi	ication	s					
Model		Standard specifications							Round type pressure gauge (with color zone)									Panel mount					
	P <sub>1</sub>	P <sub>2</sub>	Α	В	С	D	F	J	Н	J	Н	J	М	N	Q	R	S	Т	U	٧	W	Y	Z
AR10-A	M5 x 0.8	1/16	25	47.4	11	12.5	M18 x 1	12.5	ø26	26	_	_	25	28	30	4.5	6.5	40	2	18	18.5	$\lceil - \rceil$	$\overline{}$
AR20-A	1/8, 1/4	1/8	40	67.4	23.5	22	M36 x 1.5	22	ø37.5	58.5	ø37.5	59.5	30	34	43.9	5.4	15.4	55	2.3	27.3	36.5	17.5	6
AR25-A	1/4, 3/8	1/8	53	70.4	23.5	22	M36 x 1.5	22	ø37.5	58.5	ø37.5	59.5	30	34	44.3	5.4	15.4	55	2.3	30.3	36.5	17.5	6
AR30-A	1/4, 3/8	1/8	53	83.5	27	28.5	M45 x 1.5	28.5	ø37.5	65	ø37.5	66	41	36	46	6.5	24	65	2.3	32.5	45.5	22.5	7
AR40-A	1/4, 3/8, 1/2	1/8	70	100	33.5	34.5	M52 x 1.5	34.5	ø42.5	72	ø42.5	72	50	38	54	8.5	26.5	70	2.3	38.4	52.5	26	7
AR40-06-A	3/4	1/8	75	101.5	33.5	34.5	M52 x 1.5	34.5	ø42.5	72	ø42.5	72	50	38	55.5	8.5	26.5	70	2.3	39.9	52.5	26	7

Note) The dimension of B is the length when the filter regulator knob is unlocked.



AC

AF+AR AW+AL AF+AR+AL

Attachment | AW+AFM | AF+AFM+AR

AF

AB

A



## Regulator/AR20-A to AR40-06-A **Made to Order**



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

#### 1 0.4 MPa Setting

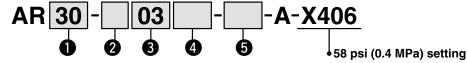
The maximum set pressure is 58 psi (0.4 MPa. When a pressure gauge is included, the display will show a range from 0 to 102 psi (0.7 MPa).

#### **Specifications**

Proof pressure	218 psi (1.5 MPa)
Maximum operating pressure	145 psi (1.0 MPa)
Set pressure range	7.3 to 58 psi (0.05 to 0.4 MPa)

#### **Applicable Model**

Model	AR20-A	AR25-A	AR30-A	AR40-A	AR40-06-A
Port siz	1/8, 1/4	1/4, 3/8	1/4, 3/8	1/4, 3/8, 1/2	3/4



- $\bullet$  Option/Semi-standard: Select one each for  $\boldsymbol{a}$  to  $\boldsymbol{f}.$
- Option/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order.

Example) AR30-03BG-NR-A-X406

	_	_						D	
		,		Symbol	Description			/ size	
						20	25	30	40
				Nil	Rc	•	•	•	•
2		Pipe	thread type	N	NPT	•	•	•	•
				F	G	•	•	•	•
				+					
				01	1/8	•	_	_	_
				02	1/4	•	•	•	•
8			Port size	03	3/8		•	•	•
				04	1/2		_	_	•
				06	3/4		_	_	•
				+					
				Nil	Without mounting option				•
	=   a	а	Mounting	<b>B</b> Note 2)	With bracket			•	
	Note			Н	With set nut (for panel mount) Note 3)		•	•	
4	Option Note 1)			+					
	þ			Nil	Without pressure gauge		•	•	•
		b	Pressure gauge	G	Round type pressure gauge (with limit indicator)		•	•	•
				M	Round type pressure gauge (with color zone)		•	•	
		_		+					
		С	Exhaust	Nil	Relieving type	•	•	•	•
			mechanism	N	Non-relieving type		•	•	•
				+					
	ard	d	Flow direction	Nil	Flow direction: Left to right		•	•	•
	and			R	Flow direction: Right to left			•	
6	Semi-standard			+				_	
	emi	е	Knob	Nil	Downward		•		
	ű			Y	Upward		•	•	
				+		7			
		f	Pressure unit	Nil	Name plate and caution plate for bowl in imperial units: MPa	O No	● (C) Note 5)	O Note 5	● Note 5
				Z Note 4)	Name plate and caution plate for bowl in imperial units: psi	Note 5)	Note 5)	Note 5)	Note 5)

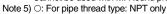
Note 1) Option B, G, H, M are not assembled and supplied loose at the time of shipment.

Note 2) Assembly of a bracket and set nuts

Note 3) Only for the AR20-A to 40-A

Note 4) For pipe thread type: NPT

This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.) Cannot be used with M: Round pressure gauge (with color zone). Available by request for special.





## Regulator/AR20-A to AR40-06-A **Made to Order**

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

#### 2 0.85 MPa Setting

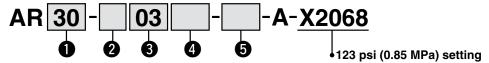
The maximum set pressure is 123 psi (0.85 MPa. When a pressure gauge is included, the display will show a range from 0 to 145 psi (1.0 MPa).

#### **Specifications**

Proof pressure	218 psi (1.5 MPa)				
Maximum operating pressure	145 psi (1.0 MPa)				
Set pressure range	7.3 to 58 psi (0.05 to 0.85 MPa)				

#### **Applicable Model**

Model	AR20-A	AR25-A	AR30-A	AR40-A	AR40-06-A
Port size	1/8, 1/4	1/4, 3/8	1/4, 3/8	1/4, 3/8, 1/2	3/4



- Option/Semi-standard: Select one each for a to f.
- Option/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order. Example) AR30-03BG-NR-A-X2068

							D	
			Symbol	Description		Body	size	
					20	25	30	40
			Nil	Rc	•	•	•	•
9	Pipe	thread type	N	NPT	•	•	•	•
			F	G	•	•	•	•
			+					
			01	1/8	•	_	_	_
			02	1/4	•	•	•	•
3		Port size	03	3/8	_	•	•	•
			04	1/2	_	_	_	•
			06	3/4	_	_	_	•
,			+				,	
			Nil	Without mounting option	•	•	•	•
Option Note 1)	а	Mounting	B Note 2)	With bracket	•	•	•	•
			Н	With set nut (for panel mount) Note 3)	•	•	•	•
٦			+				,	
ptie			Nil	Without pressure gauge	•	•	•	•
0	b	Pressure gauge	G	Round type pressure gauge (with limit indicator)	•	•	•	•
			М	Round type pressure gauge (with color zone)	•	•	•	•
			+				,	
		Exhaust	Nil	Relieving type	•	•	•	•
	С	mechanism	N	Non-relieving type	•	•	•	•
			+					
5			Nil	Flow direction: Left to right	•	•	•	•
Semi-standard	d	Flow direction	R	Flow direction: Right to left	•	•	•	•
star			+				Į.	
ij		l/l-	Nil	Downward	•	•	•	•
Sei	е	Knob	Υ	Upward	•	•	•	•
			+				I.	
		D	Nil	Name plate and caution plate for bowl in imperial units: MPa	•	•	•	•
	f	Pressure unit	Z Note 4)	Name plate and caution plate for bowl in imperial units: psi	Note 5)	Note 5)	Note 5)	Note 5

Note 1) Option B, G, H, M are not assembled and supplied loose at the time of shipment.

Note 2) Assembly of a bracket and set nuts

Note 3) Only for the AR20-A to 40-A

Note 4) For pipe thread type: NPT

This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.) Cannot be used with M: Round pressure gauge (with color zone). Available by request for special.

Note 5) O: For pipe thread type: NPT only



AC

AF+AR+AL

AW+AL

AF+AR

AF+AFM+AR

Attachment AW+AFM

## AC

AW+AL AF+AR+AL

AF+AR

## **Modular Type** Lubricator

# Series AL

Lubricator Series AL		Model	Port size	Option
		AL10-A	M5 x 0.8	
	Ō.	AL20-A	1/8, 1/4	
п	Marie de de la companya de la compan	AL30-A	1/4, 3/8	
	410 410 410 410 410 410 410 410 410 410	AL40-A	1/4, 3/8, 1/2	Bracket (Except AL10-A)
ox s		AL40-06-A	3/4	
		AL50-A	3/4, 1	
P.65 to 70		AL60-A	1	

## Lubricator

# AL10-A to AL60-A

Symbol



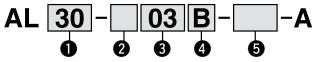






AL40-A

#### **How to Order**



- Option/Semi-standard: Select one each for a to d.
- Option/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order.

Example) AL30-03B-3RW-A

									<del>D</del>		
				Symbol	Description				size		
						10	20	30	40	50	60
					Metric thread (M5)		_	_	_	_	_
_		ς.		Nil	Rc	_	•	•	•	•	•
0		Pipe	thread type	N	NPT	_	•	•	•	•	•
				F	G	_	•	•	•	•	•
				+				1	ı		
				M5	M5 x 0.8	•	_	_	_	_	_
				01	1/8	_	•	_	_	_	
				02	1/4	_	•	•	•	_	_
8			Port size	03	3/8	_	_	•	•	_	_
			04		1/2	_	_	_	•	_	
				06	3/4	_	_	<u> </u>	•	•	_
				10	1	_	_	_	_	•	•
				+							
	,	)ntin	an (Mounting)	Nil	Without mounting option	•	•	•	•	•	•
4		Jptic	n (Mounting)	B Note 1)	With bracket	_	•	•	•	•	•
				+		-			-		
				Nil	Polycarbonate bowl	•	•	•	•	•	•
				2	Metal bowl	•	•	•	•	•	•
			Bowl Note 2)	6	Nylon bowl	•	•	•	•	•	•
		а	DOWI	8	Metal bowl with level gauge	_	_	•	•	•	•
				С	With bowl guard	_	•	Note 3)	Note 3)	Note 3)	Note 3)
	_			6C	With bowl guard (Nylon bowl)	_	•	Note 4)	Note 4)	Note 4)	Note 4)
	Semi-standard			+							
A	and		Lanks's sort	Nil	Without drain cock	•	•	•	•	•	•
6	ii-st	b	Lubricant exhaust port	3	With drain cock	•	•		_	_	
	em		exilaust pult	3W Note 5)	Drain cock with barb fitting	_	_	•	•	•	•
	(0)			+							
			Flow direction	Nil	Flow direction: Left to right	•	•	•	•	•	•
		С	riow direction	R	Flow direction: Right to left	•	•	•	•	•	•
				+	_						
		4	Proceure unit	Nil	Name plate and caution plate: MPa		•	•	•	•	•
		d	Pressure unit	Z Note 6)	Name plate and caution plate: psi, °F	Note 7)	Note 7)	Note 7)	Note 7)	Note 7)	Note 7)

Note 1) Option is not assembled and supplied loose at the time of shipment.

Note 2) Refer to Chemical data on page 68 for chemical resistance of the bowl.

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

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

Note 5) The combination of metal bowl: 2 and 8 is not available.

Note 6) For pipe thread type: M5, NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.) Note 7) O: For pipe thread type: M5, NPT only



## Lubricator Series AL10-A to AL60-A

#### **Standard Specifications**

Model	AL10-A	AL20-A	AL30-A	AL40-A	AL40-06-A	AL50-A	AL60-A			
Port size	M5 x 0.8	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 temperature	23 to140°F (-5 to 60°C) (with no freezing)									
Proof pressure	218 psi (1.5 MPa)									
Maximum operating pressure			1	45 psi (1.0 MPa)	)					
			1/4: 1.06 [30]	1/4: 1.06 [30]						
Minimum dripping flow rate scfm [L/min (ANR)] Note)	0.14 [4] 0.53 [15]		3/8: 1.41 [40]	3/8: 1.41 [40]	1.77 [50]	6.71 [190]	7.77 [220]			
Schii [Billin (ANN)]			3/6: 1.41 [40]	1/2: 1.77 [50]						
Oil capacity (cm³)	7	25	55		13	35				
Recommended lubricant			Class ·	turbine oil (ISO	VG32)					
Bowl material				Polycarbonate						
Bowl guard	_	Semi-standard (Steel)		Stan	dard (Polycarbor	nate)				
Weight (kg)	0.07	0.10	0.20	0.38	0.43	0.94	1.09			

Note) • The flow rate is 5 drops or greater/min under the following conditions: Inlet pressure of 73 psi (0.5 MPa); Class 1 turbine oil (ISO VG3); Temperature at 68°F (20°C); Oil adjustment valve fully open.

#### Option/Part No.

Optional specifications	Model								
Optional specifications	AL10-A	AL20-A	AL30-A	AL40-A	AL40-06-A	AL50-A	AL60-A		
Bracket assembly Note)	_	AF22P-050AS	AF32P-050AS	AF42P-050AS	AF42P-070AS	AF52P	-050AS		

Note) Assembly of a bracket and 2 mounting screws

#### Bowl Assembly/Part No.

David	Lubricant					Model				
Bowl material	Lubricant exhaust port	Other	AL10-A	AL20-A	AL30-A	AL40-A	AL40-06-A	AL50-A	AL60-A	
	Without drain cock	_	C1SL-A	C2SL-A	_					
Dalvaarhanata	Williout drain cock	With bowl guard	_	C2SL-C-A	C3SL-A	C4SL-A				
Polycarbonate bowl	With drain cock	_	C1SL-3-A	C2SL-3-A	_		_	_		
Down	Willi dialii cock	With bowl guard		C2SL-3C-A	C3SL-3-A	C4SL-3-A				
	Drain cock with barb fitting	With bowl guard	_	_	C3SL-3W-A		C4SL-3W-A			
	Without drain cock	_	C1SL-6-A	C2SL-6-A	_	_				
	Williout drain cock	With bowl guard	_	C2SL-6C-A	C3SL-6-A	C4SL-6-A				
Nylon bowl	With drain cock	_	C1SL-36-A	C2SL-36-A	_		_	_		
	Willi dialii cock	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		
	Without drain cock	_	C1SL-2-A	C2SL-2-A	C3SL-2-A		C4SI	2-A		
Metal bowl	Williout drain cock	With level gauge		_	C3LL-8-A		C4LL	8-A		
INICIAI DOWI	With drain cock	_	C1SL-23-A	C2SL-23-A	C3SL-23-A		C4SL	-23-A		
	Willi dialli cock	With level gauge	_	_	C3LL-38-A		C4LL	-38-A		

Note) · Bowl assembly for the AL20-A to AL60-A models comes with a bowl seal.

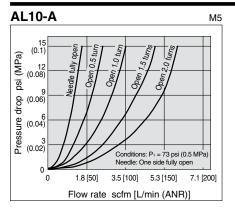
For a circuit that repeatedly turns ON and OFF on the outlet side, make the adjustment so that the average air consumption per minute becomes the minimum dripping flow rate or more.

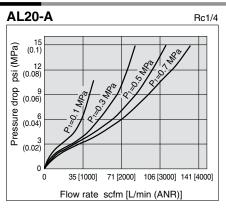
<sup>·</sup> Please consult with SMC separately for psi and °F unit display specifications.

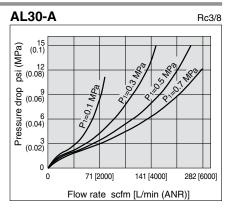
### Series AL10-A to AL60-A

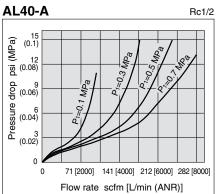
#### Flow-rate Characteristics (Representative values)

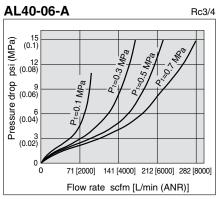
P1 = 44 psi (0.3 MPa) P1 = 73 psi (0.5 Mpa) P1 = 102 psi (0.7 MPa)

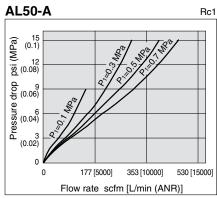


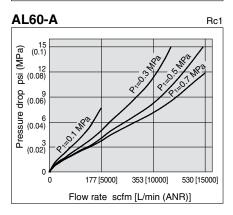




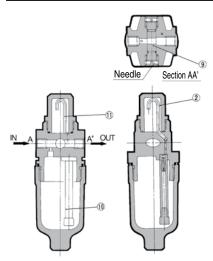








#### **Working Principle: AL10 Type**



A portion of the air introduced from the IN side pressurizes the lubricant inside the bowl. The remainder of the air passes through the needle (a), and flows to the OUT side. The differential pressure between the inside of the bowl and the inside of the sight dome (a), causes the lubricant inside the bowl into the oil passage (b). The lubricant drips from the dripping tube (d), and lubricates the OUT side. The amount of lubricant is adjusted by the needle (a) on the front face. Turning the needle clockwise increases the amount of the lubricant, and turning it counterclockwise until fully open shuts off the lubricant. The needle on the side that is not used should be left fully open.



Be sure to read this before handling. Refer to the back cover for Safety Instructions, "Handling Precautions for I SMC Products" and the Operation Manual for F.R.L. Precautions, http://www.smcworld.com

#### Selection

## **∕**∖\Warning

- 1. Do not introduce air from the outlet side as this can damage the bumper.
- 2. The standard bowl for the air filter, filter regulator, and lubricator, as well as the sight dome for the lubricator are made of 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.

Effects of atmosphere of organic solvents and chemicals, and where these elements are likely to adhere to the equipment. Chemical data for substances causing degradation (Reference)

				!1
Type	Chemical name	Application examples	Mate Polycarbonate	
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 Carbonate of soda	Degreasing of metals Industrial salts Water-soluble cutting oil	×	0
Inorganic salts	Sodium sulfide Sulfate of potash Sulfate of soda	_	×	Δ
Chlorine solvents	Carbon tetrachloride Chloroform Ethylene chloride Methylene chloride	Cleansing liquid for metals Printing ink Dilution	×	Δ
Aromatic series	Benzene Toluene Paint thinner	Coatings Dry cleaning	×	Δ
Ketone	Acetone Methyl ethyl ketone Cyclohexane	Photographic film Dry cleaning Textile industries	×	×
Alcohol	Ethyl alcohol IPA Methyl alcohol	Antifreeze Adhesives	Δ	×
Oil	Gasoline Kerosene	_	×	0
Ester	Phthalic acid dimethyl Phthalic acid diethyl Acetic acid	Synthetic oil Anti-rust additives	×	0
Ether	Methyl ether Ethyl ether	Brake oil additives	×	0
Amino	Methyl amino	Cutting oil Brake oil additives Rubber accelerator	×	×
Others	Thread-lock fluid Seawater Leak tester	_	×	Δ
O: Essential	ly safe $\triangle$ : Some effective	cts may occur. X: Effe	cts will o	ccur.

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

#### Selection

## **.** Caution

1. Use a check valve (Series AKM) to prevent back flow of the lubricant when redirecting the air flow before the lubricator.

#### Maintenance

## ∕!\Warning

- 1. For the AL10-A/AL20-A type, replenish the lubricant after releasing the inlet pressure. Lubrication cannot take place under a pressurized condition.
- 2. Adjustment of the oil regulating valve for models from the AL20-A to AL60-A should be carried out manually. Turning it counterclockwise increases the dripping amount, and turning it clockwise reduces the dripping amount. The use of tools etc. 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.

## ∕.\Caution

1. Check the dripping amount once a day. Drip failure can cause damage to the components that need lubrication.

#### Mounting/Adjustment

#### **∕∖**\Caution

1. When the bowl is installed on the AL30-A to AL60-A, 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.

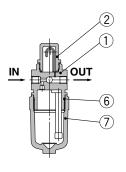


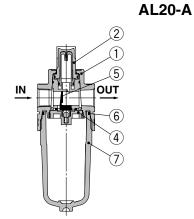


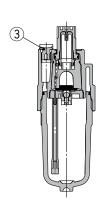
## Series AL10-A to AL60-A

#### Construction

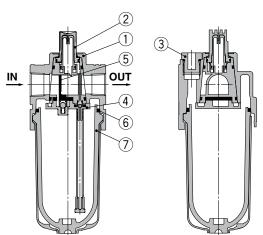
AL10-A



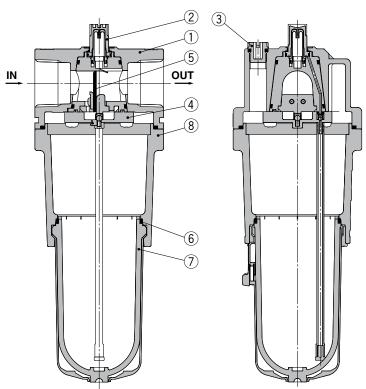




#### AL30-A/AL40-A







#### **Component Parts**

No.	Description	Material	Model	Color
4	Body	Zinc die-cast	AL10-A	White
'	Войу	Aluminum die-cast	AL20-A to AL60-A	vviiite
8	Housing	Aluminum die-cast	AL50-A/AL60-A	White

#### **Replacement Parts**

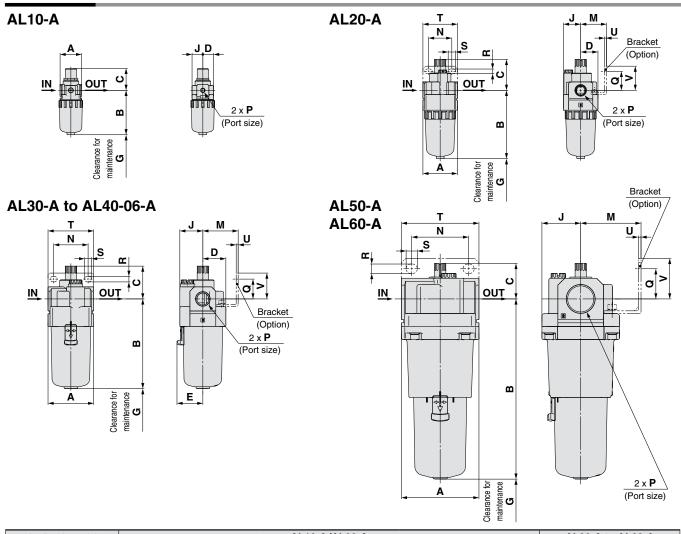
No.	Description	Material		Part no.								
INO.	Description	ivialeriai	AL10-A	AL20-A	AL30-A	AL40-A	AL40-06-A	AL50-A	AL60-A			
2	Sight dome assembly	Polycarbonate	AL10P-080AS			AL20P-080AS						
3	Lubrication plug assembly	_	_	AL22P-060AS	AL32P-060AS	AL42P-060AS						
4	Bumper retainer assembly	_	_	AL20P-030AS	AL30P-030AS	AL40P	-030AS	AL50P-030AS	AL60P-030AS			
5	Bumper (assembly)	Synthetic resin	_	AL20P-040S	AL30P-040S	AL40F	P-040S	AL50P-040AS	AL60P-040AS			
6	Bowl seal	NBR	C1SFP-260S	C2SFP-260S	C32FP-260S	S C42FP-260S						
7	Bowl assembly Note)	Polycarbonate	C1SL-A	C2SL-A	C3SL-A	C4SL-A						

Note) · Bowl seal is included for the AL20-A to AL60-A. Please consult with SMC separately for psi and °F unit display specifications.

<sup>·</sup> Bowl assembly for the AL30-A to AL60-A models comes with a bowl guard (Material: Polycarbonate).



AF



Applicable model		AL10-A/AL20-A		AL30-A to AL60-A
Optional/Semi-standard specifications	With drain cock	Metal bowl	Metal bowl with drain cock	Metal bowl
Dimensions	<b>a</b>	<b>a</b>	8	<b>a</b>
Applicable model		AL30-A t	o AL60-A	

Applicable model			AL30-A to AL60-	-A	
Optional/Semi-standard specifications	With drain cock	Metal bowl with level gauge	Metal bowl with drain cock	Metal bowl with level gauge, with drain cock	Drain cock with barb fitting
Dimensions	8	<b>a</b>	<b>a</b>	B	Barb fitting applicable tubing: T0604

											Opti	onal sp	ecifica	tion	s			Sem	-standar	d specific	cations	
Model							Bracket mount					With drain cock	With barb fitting	Metal bowl	Metal bowl with drain cock	with level	Metal bowl with level gauge, with drain cock					
	P	Α	В	С	D	Е	G	J	M	N	Q	R	S	Т	U	٧	В	В	В	В	В	В
AL10-A	M5 x 0.8	25	51.5	25.5	12.5	_	35	12.5	_	_	_	_	_	_	_	_	59.9	_	56.3	59.3	_	
AL20-A	1/8, 1/4	40	79.3	35.9	20	_	60	20	30	27	22	5.4	8.4	40	2.3	28	87.7	_	84.5	87.5	_	_
AL30-A	1/4, 3/8	53	104.1	38.1	26.7	30	80	26.7	41	40	23	6.5	8	53	2.3	30	115.1	123.6	104.1	117.6	124.1	137.6
AL40-A	1/4, 3/8, 1/2	70	136.1	39.8	35.5	38.4	110	35.5	50	54	26	8.5	10.5	70	2.3	35	147.1	155.6	136.1	149.6	156.1	169.6
AL40-06-A	3/4	75	138.1	37.8	35.5	38.4	110	35.5	50	54	25	8.5	10.5	70	2.3	34	149.1	157.6	138.1	151.6	158.1	171.6
AL50-A	3/4, 1	90	209.1	41.2	45	_	110	45	70	66	35	11	13	90	3.2	47	220.1	228.6	209.1	222.6	229.1	246.2
AL60-A	1	95	223.1	44.7	47.5	_	110	47.5	70	66	35	11	13	90	3.2	47	234.1	242.6	223.1	236.6	243.1	256.6

## AC

AF+AR+AL

# **Modular Type** Filter Regulator

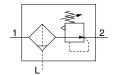
# Series AW

Filter Regulator Series AW	Model	Port size	Options
	AW10-A	M5 x 0.8	Bracket
	AW20-A	1/8, 1/4	Float type auto drain
	AW30-A	1/4, 3/8	Round type pressure gauge
	AW40-A	1/4, 3/8, 1/2	Set nut (for panel mount)*
P.73 to 84	AW40-06-A	3/4	* For the AW20-A to AW40-06-A, mounting pitch is different from existing AW series.

## Filter Regulator

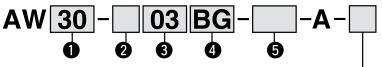
# AW10-A to AW40-A

#### **Symbol** Filter Regulator



• Integrated filter and regulator units save space and require less piping.

#### **How to Order**



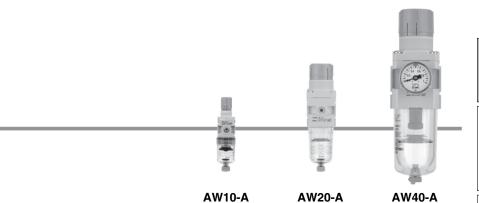
- Option/Semi-standard: Select one each for a to i.
- Option/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order.
   Example) AW30-03BG-1N-A

#### Made to Order

(Refer to pages 81 to 84 for details.)

					(Refer to pages 81 to 84 for	r details.)			
								0	
				Symbol	Description			y size	
					· ·	10	20	30	40
				l	Metric thread (M5)	•	_		_
				Nil	Rc		•	•	•
2		Pipe	thread type	N Note 1)	NPT		•	•	
				F Note 2)	G	_	•	•	•
				+					
				M5	M5	•	_	_	_
				01	1/8	_	•	_	_
8			Port size	02	1/4	_	•	•	
v			FUIT SIZE	03	3/8	_	_	•	
				04	1/2	_		_	
				06	3/4	_		_	•
				+					_
				Nil	Without mounting option	•	•	•	•
		а	Mounting	B Note 4)	With bracket	<u> </u>	•	•	
				H	With set nut (for panel mount)	<u> </u>	•		
	_			+	Name of the Control o				
	Note 3)		Float type	Nil C Note 5)	Without auto drain	•	•	•	
4	z	b	auto drain	D Note 6)		•	•		
	Option <sup>1</sup>			+ +	N.O. (Normally open) Drain port is open when pressure is not applied.	<u> </u>	_		
	0			Nil	Without pressure gauge	•	•	•	
			Pressure		Round type pressure gauge (without limit indicator)	•			
		С	gauge Note 7)	G	Round type pressure gauge (with limit indicator)		•	-	_
			gauge	M	Round type pressure gauge (with color zone)				
				+	Tiouria type pressure gauge (with color zone)	<u> </u>			
			Set	Nil	7.3 to 102 psi (0.05 to 0.7 MPa) setting	•	•	•	•
		d	pressure Note 8)	1	2.9 to 29 psi (0.02 to 0.2 MPa) setting	•	•	•	•
	5			+	, , ,		<u> </u>		
	Semi-standard			Nil	Polycarbonate bowl	•	•	•	•
6	star			2	Metal bowl	•	•	•	•
	Ë		Bowl Note 9)	6	Nylon bowl	•	•	•	•
	Sel	е	DOMI	8	Metal bowl with level gauge	_	_	•	•
				С	With bowl guard	_	•	Note 10)	Note 10)
				6C	With bowl guard (Nylon bowl)	_	•	Note 11)	Note 11)

## Filter Regulator Series AW 10-A to AW40-A



Symbol Description Body size 10 20 40 30 Nil With drain cock Drain guide 1/8 • Drain port Note 12) J Note 13) Drain guide 1/4 W Note 14) Drain cock with barb fitting (for ø6 x ø4 nylon tube) + Nil Relieving type Non-relieving type Ν Flow direction: Left to right Nil

Note 1) Drain guide is NPT1/8 (applicable to the AW20-A) and NPT1/4 (applicable to the AW30-A to AW40-A). The auto drain port comes with ø3/8" One-touch fitting (applicable to the AW30-A to AW40-A).

Exhaust

mechanism

Flow direction

Pressure unit

R

+

Nil

**Z** Note 15)

Flow direction: Right to left

- Note 2) Drain guide is G1/8 (applicable to the AW20-A) and G1/4 (applicable to the AW30-A to AW40-A)
- Note 3) Option B, G, H, M are not assembled and supplied loose at the time of shipment.
- Note 4) Assembly of a bracket and set nuts

Semi-standard

g

h

- Note 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.
- Note 6) If the compressor is small (0.75 kW, discharge flow is less than 3.5 scfm (100 L/min[ANR])), air leakage from the drain cock may occur during start of operations. N.C. type is recommended.

Name plate, caution plate for bowl, and pressure gauge in imperial units: MPa

Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F

- Note 7) When the pressure gauge is attached, a 145 psi (1.0 MPa) pressure gauge will be fitted for standard (102 psi [0.7 MPa]) type. 58 psi (0.4 MPa) pressure gauge for 29 psi (0.2 MPa) type (145 psi [1.0 MPa] pressure gauge only for the AW10-A).
- Note 8) Pressure can be set higher than the specification pressure in some cases, but use pressure within the specification range.
- Note 9) Refer to Chemical data on page 76 for chemical resistance of the bowl.
- Note 10) A bowl guard is provided as standard

O Note 16) equipment (polycarbonate).

O Note 16)

- Note 11) A bowl guard is provided as standard equipment (nylon).
- Note 12) The combination of float type auto drain: C and D is not available.

Note 16)

O Note 16)

- Note 13) Without a valve function
- Note 14) The combination of metal bowl: 2 and 8 is not available.
- Note 15) For pipe thread type: NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.) Cannot be used with M: Round pressure gauge (with color zone). Available by request for special.
- Note 16) O: For pipe thread type: M5, NPT only

#### **Standard Specifications**

Model	AW10-A	AW20-A	AW30-A	AW40-A	AW40-06-A			
Port size	M5 x 0.8	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4			
Pressure gauge port size	1/16 Note)		1	/8				
Fluid			Air					
Ambient and fluid temperature		23 to 140°F (-5 to 60	°C) (with no freezing	)				
Proof pressure		218 psi (1	.5 MPa)					
Maximum operating pressure		145 psi (1	.0 MPa)					
Set pressure range		7.3 to 102 (0.0	5 to 0.7 MPa)					
Nominal filtration rating			5 μm					
Drain capacity (cm³)	2.5	8	25	4:	5			
Bowl material			Polycarbonate					
Bowl guard	Semi-standard (Steel)  Standard (Polycarbonate)							
Construction		<u>.</u>	Relieving type					
Weight (kg)	0.09	0.09 0.21 0.41 0.75 0.81						

Note) Use a bushing (part no: 131368) when connecting the R1/8 pressure gauge to the Rc1/16.



## Series AW10-A to AW40-A

#### Options/Part No.

	Optional specifica	tions			Model		
	Optional specifica	IIIONS	AW10-A	AW20-A	AW30-A	AW40-A	AW40-06-A
Bracket a	ssembly Note 1)		AR12P-270AS	AR22P-270AS	R22P-270AS AR32P-270AS		-270AS
Set nut		AR12P-260S	AR22P-260S AR32P-260S		AR42P-260S		
	Standard Standard		G27-10-R1	G36-1	0-□01	G46-1	0-□01
Note 2)	Round type	2.9 to 29 psi	Note 3)				
Pressure		(0.02 to 0.2 MPa) setting	G27-10-R1	G36-4	1- 01	G46-4- 01	
gauge	e Round type Standard		_	G36-10	-□01-L	G46-10-□01-L	
	(with color zone)	2.9 to 29 psi (0.02 to 0.2 MPa) setting	_	— G36-4-□01-L		G46-4-	.□01-L

Note 1) Assembly of a bracket and set nuts

#### Bowl Assembly/Part No.

Bowl Drain						Model		
material	discharge mechanism	Drain port	Other	AW10-A	AW20-A	AW30-A	AW40-A	AW40-06-A
		With drain cock	_	C1SF-A	C2SF-A	_	_	_
Polycarbonate bowl Adisc (A	Manual	With drain cock	With bowl guard	_	C2SF-C-A	C3SF-A	C4S	F-A
	discharge	Drain cock with barb fitting	With bowl guard	_	_	C3SF-W-A	C4SF	-W-A
	discriarge	With drain guide		_	C2SF□-J-A	_	_	_
		(without valve function)	With bowl guard	_	C2SF□-CJ-A	C3SF□-J-A	C4SF	□-J-A
	Automatic	Normally closed (N.C.)		AD17-A	AD27-A	_	_	_
	discharge Note)	inormally closed (N.C.)	With bowl guard	_	AD27-C-A	AD37□-A	AD47	′□-A
	(Auto drain)	Normally open (N.O.)	With bowl guard	_	_	AD38□-A	AD48	B□-A
		With drain cock		C1SF-6-A	C2SF-6-A	_	_	_
	Manual discharge	With drain cock	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
Nylon bowl	discriarge	With drain guide		_	C2SF□-6J-A	_	_	
INVIOLI DOWL		(without valve function)	With bowl guard	_	C2SF□-6CJ-A	C3SF□-6J-A	C4SF	]-6J-A
	Automatic	Normally closed (N.C.)		AD17-6-A	AD27-6-A	_	_	_
	discharge Note)	inormally closed (N.C.)	With bowl guard	_	AD27-6C-A	AD37□-6-A	AD47	⊒-6-A
	(Auto drain)	Normally open (N.O.)	With bowl guard	_	_	AD38□-6-A	AD48	□-6-A
		With drain cock		C1SF-2-A	C2SF-2-A	C3SF-2-A	C4SF	-2-A
	Manual	Willi dialii cock	With level gauge		_	C3LF-8-A	C4LF	
	discharge	With drain guide		_	C2SF□-2J-A	C3SF□-2J-A	C4SF	]-2J-A
Metal howl		(without valve function)	With level gauge		_	C3LF□-8J-A	C4LF	]-8J-A
Metal bowl	A t t' .	Normally closed (N.C.)	_	AD17-2-A	AD27-2-A	AD37□-2-A	AD47[	□-2-A
	Automatic discharge Note)		With level gauge		_	AD37□-8-A	AD47	□-8-A
	(Auto drain)	Normally open (N.O.)	_		_	AD38□-2-A	AD48	□-2-A
	(* 12.12 & 14.11)	Normany open (N.O.)	With level gauge		_	AD38□-8-A	AD48[	□-8-A

Note) Minimum operating pressure: N.O. type–15 psi (0.1 MPa) (AD38-A, AD48-A); N.C. type–15 psi (0.1 MPa) (AD17-A, AD27-A) and 22 psi (0.15 MPa) (AD37-A, AD47-A). Bowl assembly for the AW10-A to AW40-06-A models comes with a bowl seal.



Note 2) 🗌 in round pressure gauge part numbers indicates a pipe thread type. No indication is necessary for R; however, indicate N for NPT.

Please contact SMC regarding the pipe thread type NPT and the supply of pressure gauge with psi unit display specifications.

Note 3) Standard pressure gauge

<sup>☐</sup> 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, Nil: ø10, N: ø3/8") Please consult with SMC separately for psi and °F unit display specifications.

Be sure to read this before handling. Refer to the back cover for Safety Instructions, "Handling Precautions for I SMC Products" and the Operation Manual for F.R.L. Precautions, http://www.smcworld.com

#### **Design/Selection**

## 🕂 Warning

- 1. Although exhaust of the residual pressure to the inlet side is possible when eliminating the inlet pressure, exhaust is not possible when the set pressure is 22 psi (0.15 MPa) or less. Use the regulator with backflow function.
- 2. The standard bowl for the air filter, filter regulator, and lubricator, as well as the sight dome for the lubricator are made of 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.

Effects of atmosphere of organic solvents and chemicals, and where these elements are likely to adhere to the equipment. Chemical data for substances causing degradation (Reference)

T. 05 -	Chamia-Lu-	Application	Mate	erial
Type	Chemical name	Application examples	Polycarbonate	Nylon
Acid	Hydrochloric acid Sulfuric acid, Phosphoric acid Chromic acid	Acid washing liquid for metals	Δ	×
Alkaline	Sodium hydroxide (Caustic soda) Potash Calcium hydroxide (Slack lime) Ammonia water Carbonate of soda	Degreasing of metals Industrial salts Water-soluble cutting oil	×	0
Inorganic salts	Sodium sulfide Sulfate of potash Sulfate of soda	_	×	Δ
Chlorine solvents	Carbon tetrachloride Chloroform Ethylene chloride Methylene chloride	Cleansing liquid for metals Printing ink Dilution	×	Δ
Aromatic series	Benzene Toluene Paint thinner	Coatings Dry cleaning	×	Δ
Ketone	Acetone Methyl ethyl ketone Cyclohexane	Photographic film Dry cleaning Textile industries	×	×
Alcohol	Ethyl alcohol IPA Methyl alcohol	Antifreeze Adhesives	Δ	×
Oil	Gasoline Kerosene	_	×	0
Ester	Phthalic acid dimethyl Phthalic acid diethyl Acetic acid	Synthetic oil Anti-rust additives	×	0
Ether	Methyl ether Ethyl ether	Brake oil additives	×	0
Amino	Methyl amino	Cutting oil Brake oil additives Rubber accelerator	×	×
Others	Thread-lock fluid Seawater Leak tester	_	×	Δ

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

#### Maintenance

## 🗥 Warning

1. Replace the element every 2 years or when the pressure drop becomes 15 psi (0.1 MPa), whichever comes first, to prevent damage to the element.

#### Mounting/Adjustment

## ∕!\ Warninɑ

- 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.

## **∕**∖∖ 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).
- 2. Pulsation will be generated when the difference between the inlet and the outlet pressure is large. In this case, reduce the pressure difference between the inlet and the outlet. Please consult with SMC if the pulsation problem is not resolved.
- 3. When the bowl is installed on the AW30-A/AW40-A, 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.



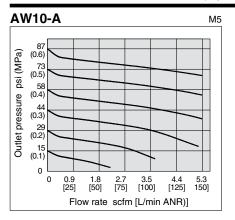


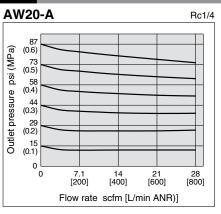


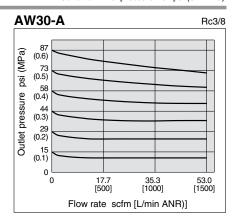
## Series AW10-A to AW40-A

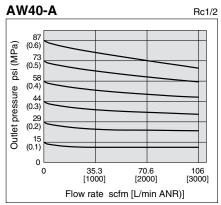
#### Flow-rate Characteristics (Representative values)

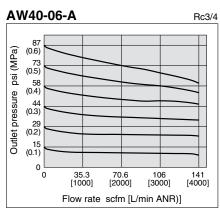
Condition: Inlet pressure 102 psi (0.7 MPa)





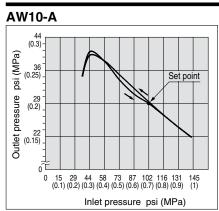


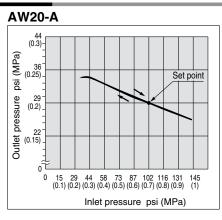


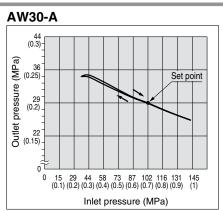


#### Pressure Characteristics (Representative values)

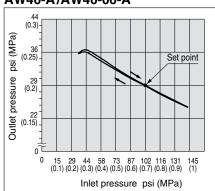
Conditions: Inlet pressure 102 psi (0.7 MPa), Outlet pressure 29 psi (0.2 MPa), Flow rate 0.71 scfm [20 L/min (ANR)]







#### AW40-A/AW40-06-A



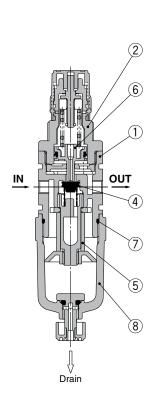
AC

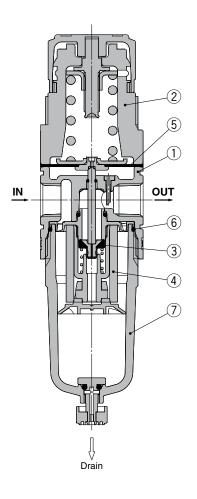
#### Construction

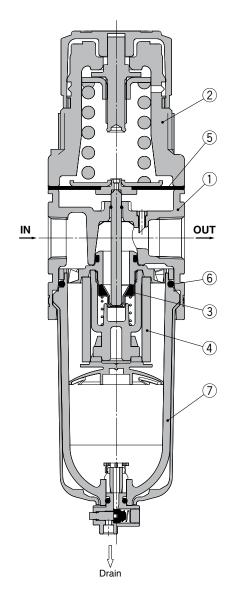
#### **AW10-A**



#### AW30-A to AW40-06-A







#### **Component Parts**

No.	Description	Material	Model	Color
-1	Body	Zinc die-cast	AW10-A	White
•	Войу	Aluminum die-cast	AW20-A to AW40-06-A	vviille
2	Bonnet	Polyacetal	AW10-A to AW40-06-A	White

#### **Replacement Parts**

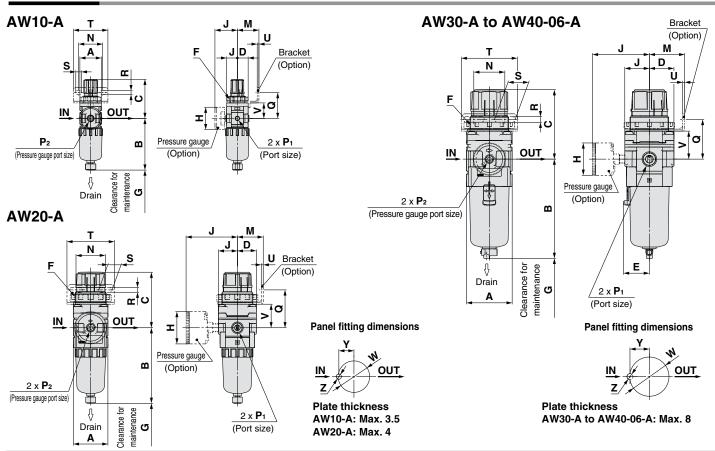
No.	Description	Material		Part no.								
NO.	Description	Material	AW10-A	AW20-A	AW30-A	AW40-A	AW40-06-A					
3	Valve assembly	Stainless steel, HNBR	AR10P-090S	AW22P-060AS	AW32P-060AS	AW42P	-060AS					
4	Filter element	Non-woven fabric	AF10P-060S	AF20P-060S	AF30P-060S	AF40F	P-060S					
5	Diaphragm assembly	Weatherable NBR	AR10P-150AS Note 1)	AR22P-150AS	AR32P-150AS	AR42P	-150AS					
6	Bowl seal	NBR	C1SFP-260S	C2SFP-260S	C32FP-260S	C42FF	P-260S					
7	Bowl assembly Note 2)	Polycarbonate	C1SF-A	C2SF-A	C3SF-A	C4SF-A						

Note 1) The AW10-A is a piston type. Assembly of a piston and a seal (KSYP-13).

Note 2) Bowl seal is included for the AW20-A to AW40-06-A. Please contact SMC regarding the supply of bowl assembly with psi and °F unit display specifications.

## Series AW10-A to AW40-A

#### **Dimensions**

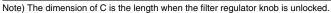


Applicable model	AW10-A/A	W20-A	AW	20-A	AW30-A to AW40-06-A		
Optional/Semi-standard specifications	With auto drain (N.C.)	Metal bowl	With drain guide	Metal bowl with drain guide	With auto drain (N.O./N.C.)		
Dimensions	M5 x 0.8	B	Width across flats 14 1/8	Width across flats 14	N.O.: Black N.C.: Gray  Thread type/Rc, G: Ø10 One-touch fitting Thread type/NPT: Ø3/8" One-touch fitting		

Applicable model			AV	V30-A to AW40-06-A		
Optional/Semi-standard specifications	Metal bowl	Metal bowl with drain guide	Metal bowl with level gauge	Metal bowl with level gauge, with drain guide	With drain guide	Drain cock with barb fitting
Dimensions	B	Width across flats 17 1/4	<b>B</b>	Width across flats 17 1/4	Width across flats 17	Barb fitting applicable tubing: T0604

				St/	andard en	ocificatio	nc				Optional specifications					
Model		Standard specifications									Round type pressure gauge Round type pressure gauge (with color zone)					
	P <sub>1</sub>	P1										J	Н	J		
AW10-A	M5 x 0.8	1/16	25	59.9	47.4	12.5	_	M18 x 1	25	12.5	ø26	26	_	_		
AW20-A	1/8, 1/4	1/8	40	87.6	67.4	22	_	M36 x 1.5	25	22	ø37.5	58.5	ø37.5	59.5		
AW30-A	1/4, 3/8	1/8	53	115.1	83.5	28.5	30	M45 x 1.5	35	28.5	ø37.5	65	ø37.5	66		
AW40-A	1/4, 3/8, 1/2	1/8	70	147.1	100	34.5	38.4	M52 x 1.5	40	34.5	ø42.5	72	ø42.5	72		
AW40-06-A	3/4	1/8	75	149.1	101.5	34.5	38.4	M52 x 1.5	40	34.5	ø42.5	72	ø42.5	72		

					Opti	onal	specif	catior	ıs				Semi-standard specifications					
Model			Brac	ket m	ount				Panel	mour	nt	With auto drain	With barb fitting	With drain guide	Metal bowl	Metal bowl with drain guide	Metal bowl with level gauge	Metal bowl with level gauge, with drain guide
	М						U	٧	W	Υ	Z	В	В	В	В	В	В	В
AW10-A	<b>/10-A</b> 25 28 30 4.5 6.5 40 2		2	18	18.5	_	_	77.9	_	_	59.3	_	_	_				
AW20-A	30	34	43.9	5.4	15.4	55	2.3	27.3	36.5	17.5	6	104.9	_	91.4	87.4	93.9	_	_
AW30-A	41	36	46	6.5	24	65	2.3	32.5	45.5	22.5	7	156.8	123.6	121.9	117.6	122.1	137.6	142.1
AW40-A	50 38 54 8.5 26.5 70 2.3		38.4	52.5	26	7	186.9	155.6	1539	149.6	154.1	169.6	174.1					
AW40-06-A	50					2.3	39.9	52.5	26	7	188.9	157.6	155.9	151.6	156.1	171.6	176.1	





# Filter Regulator/AW20-A to AW40-06-A Made to Order



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

#### 1 0.4 MPa Setting

The maximum set pressure is 58 psi (0.4 MPa). When a pressure gauge is included, the display will show a range from 0 to 102 psi (0.7 MPa).

#### **Specifications**

<u> </u>	
Proof pressure	218 psi (1.5 MPa)
Maximum operating pressure	145 psi (1.0 MPa)
Set pressure range	7.3 to 58 psi (0.05 to 0.4 MPa)

#### **Applicable Model**

Model	AW20-A	AW30-A	AW40-A	AW40-06-A
Port size	1/8. 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4

#### 2 Long Bowl

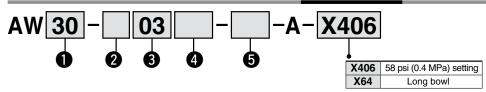
Drain capacity is greater than that of standard models.

#### **Applicable Model/Drain Capacity**

Model	AW20-A	AW30-A	AW40-A	AW40-06-A
Port size	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4
Drain capacity (cm <sup>3</sup> )	19	43	8	8

Note) Please consult with SMC for dimensions.

#### **How to Order**



• Opt	ion/S	Semi-	standard: Select one ea standard symbol: When V30-03BG- <u>2N</u> -A-X4	more than	one specification is required, indicate in alphanumeric order.	58 բ	osi (0.4 Settino		L	ong Bo	wl
	_						0			0	
				Symbol	Description		Body size			Body size	
						20	30	40	20	30	40
				Nil	Rc	•	•	•	•	•	•
2		Pipe	e thread type	N Note 1)	NPT	•	•	•	•	•	•
				F Note 2)	G	•	•	•	•	•	•
				+				,			
				01	1/8		_	_		_	_
				02	1/4	•	•	•	•	•	•
8			Port size	03	3/8	_	•	•	_	•	•
				04	1/2	_	_	•	_	_	•
				06	3/4	_	_	•	_	_	•
				+							
				Nil	Without mounting option		•	•			•
		а	Mounting	<b>B</b> Note 4)	With bracket		•	•			•
				Н	With set nut (for panel mount)			•			•
	<u>6</u>			+							
	Sote		Eleat tupe	Nil	Without auto drain		•	•	_	_	_
4	o	b	Float type auto drain	C Note 5)	Float type auto drain (N.C.)		•	•	_	_	_
	Option		adio didiri	D Note 6)	Float type auto drain (N.O.)		•	•		— <u></u>	_
				+		1					
				Nil	Without pressure gauge		•	•		•	•
		С	Pressure gauge	G	Round type pressure gauge (with limit indicator)		•	•	Note 7)	Note 7)	Note 7)
				M	Round type pressure gauge (with color zone)				Note 7)	Note 7)	Note 7)

Note 1) Drain guide is NPT1/8 (applicable to the AW20-A) and NPT1/4 (applicable to the AW30-A to AW40-A).

The auto drain port comes with  $\emptyset 3/8$ " One-touch fitting (applicable to the AW30-A to AW40-A).

Note 2) Drain guide is G1/8 (applicable to the AW20-A) and G1/4 (applicable to the AW30-A to AW40-A).

Note 3) Option B, G, H, M are not assembled and supplied loose at the time of shipment.

Note 4) Assembly of a bracket and set nuts

Note 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

Note 6) If the compressor is small (0.75 kW, discharge flow is less than 3.5 scfm (100 L/min [ANR]), air leakage from the drain cock may occur during start of operations. N.C. type is recommended.

Note 7) When the pressure gauge is attached, a 145 psi (1.0 MPa) pressure gauge will be fitted for standard (102 psi [0.7 MPa]) type. 58 psi (0.4 MPa) pressure gauge for 29 psi (0.2 MPa) type.



						58 p	si (0.4 I Setting		L	ong Bo	wl
	_	_					0			0	
		Symbol	Description	Body size			Body size				
					20	30	40	20	30	40	
		-1	Set	Nil	7.3 to 102 psi (0.05 to 0.7 MPa) setting	_	_	_		•	•
		d	pressure Note 8)	1	2.9 to 29 psi (0.02 to 0.2 MPa) setting	_	_	_		•	•
				+							
				Nil	Polycarbonate bowl	•	•	•		•	•
				2	Metal bowl	•	•	•	•	•	•
			Bowl Note 9)	6	Nylon bowl	•	•	•	•	•	•
	Semi-standard	е		8	Metal bowl with level gauge	_	•	•	_	_	_
				С	With bowl guard	•	_	_		Note 11)	Note 11)
6				6C	With bowl guard (Nylon bowl)	•	_	_		Note 12)	Note 12)
				+						'	
			Note 10)	Nil	With drain cock	•	•	•	•	•	•
				Note 13)	Drain guide 1/8	•	_	_	•	_	_
		f	Drain port	J Note 13)	Drain guide 1/4	_	•	•	_	•	•
				<b>W</b> Note 14)	Drain cock with barb fitting (for ø6 x ø4 nylon tube)	_	•	•	_	•	•
				+							
		_	Exhaust	Nil	Relieving type	•	•	•	•	•	•
		g	mechanism	N	Non-relieving type	•	•	•		•	•
				+			•				
		<b>L</b>	Flow direction	Nil	Flow direction: Left to right	•	•	•		•	•
		h		R	Flow direction: Right to left	•	•	•	•	•	•
				+			,				
			Dunna	Nil	Name plate and caution plate for bowl in imperial units: MPa	•	•	•	•	•	•
		i	Pressure unit	<b>Z</b> Note 15)	Name plate and caution plate for bowl in imperial units: psi, °F	Note 16)	Note 16)	Note 16)	Note 16)	Note 16)	Note 16)

Note 8) Pressure can be set higher than the specification pressure in some cases, but use pressure within the specification range.

Note 9) Refer to Chemical data on page 76 for chemical resistance of the bowl.

Note 10) The combination of float type auto drain: C and D is not available.

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

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

Note 13) Without a valve function

Note 14) The combination of metal bowl: 2 and 8 is not available.

Note 15) For pipe thread type: NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.) Cannot be used with M: Round pressure gauge (with color zone). Available by request for special.

Note 16) O: For pipe thread type: NPT only



## Filter Regulator/AW20-A to AW40-06-A **Made to Order**



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

#### 3 0.85 MPa Setting

The maximum set pressure is 123 psi (0.85 MPa). When a pressure gauge is included, the display will show a range from 0 to 145 psi (1.0 MPa).

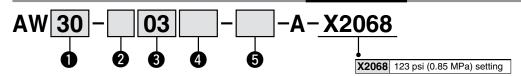
#### **Specifications**

Proof pressure	218 psi (1.5 MPa)
Maximum operating pressure	145 psi (1.0 MPa)
Set pressure range	7.3 to 123 p[si (0.05 to 0.85 MPa)

#### **Applicable Model**

Model	AW20-A	AW30-A	AW40-A	AW40-06-A	
Port size	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4	

#### **How to Order**



- Option/Semi-standard: Select one each for a to i.
- Option/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order. Example) AW30-03BG-<u>2N</u>-A-X2068

## 123 psi (0.85 MPa)

Symbol   Description   Body size   20   30   40	Examp	ipie)	AV	V3U-U3BG- <u>ZIN</u> -A-XZ		Octung			
Nil		\	_		Symbol	Description	20	Body size	
Pipe thread type    N Note 1)					J				
F Note 2   G		Pipe thread type N				Rc		•	
+	<b>2</b>							•	
3   Port size					F Note 2)	G		•	
O2					+				
O3   3/8					01	1/8	•	_	_
04					02	1/4		•	
a Mounting   Mil   Without mounting option	8	Port size			03	3/8	_	•	
+   Nil   Without mounting option					04	1/2	_	_	•
A Mounting  Nil Without mounting option  B Note 4) With bracket  H With set nut (for panel mount)		06				3/4	_	_	•
a Mounting B Note 4) With bracket  H With set nut (for panel mount)					+			,	
H With set nut (for panel mount)					Nil	Without mounting option	•	•	•
+			а	Mounting	<b>B</b> Note 4)	With bracket		•	•
+ Nil Without auto drain					Н	With set nut (for panel mount)	•	•	
Nil Without auto drain		,   -			+			,	
	lote 3			Float type auto drain	Nil	Without auto drain	•	•	
C Note 5  Float type auto drain (N.C.)	4 5	-	b		C Note 5)	Float type auto drain (N.C.)		•	•
D Note 6) Float type auto drain (N.O.)		1			D Note 6)	Float type auto drain (N.O.)		•	
+		- ا د						'	
Nil Without pressure gauge ● ● ●					Nil	Without pressure gauge	•	•	
c Pressure gauge G Round type pressure gauge (with limit indicator)			С	Pressure gauge	G		•	•	•
M Round type pressure gauge (with color zone) ● ●					M			•	•

Note 1) Drain guide is NPT1/8 (applicable to the AW20-A) and NPT1/4 (applicable to the AW30-A to AW40-A).

The auto drain port comes with ø3/8" One-touch fitting (applicable to the AW30-A to AW40-A).

Note 2) Drain guide is G1/8 (applicable to the AW20-A) and G1/4 (applicable to the AW30-A to AW40-A).

Note 3) Option B, G, H, M are not assembled and supplied loose at the time of shipment.

Note 4) Assembly of a bracket and set nuts

Note 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.

Note 6) If the compressor is small (0.75 kW, discharge flow is less than 3.5 scfm (100 L/min [ANR]), air leakage from the drain cock may occur during start of operations. N.C. type is recommended.



# 123 psi (0.85 MPa) Setting

Sy				Cumbal	Symbol Description		0			
				Symbol			Body size	40		
				Nil	Polygorhonoto houd					
	Semi-standard				Polycarbonate bowl  Metal bowl					
				2						
		d	Bowl Note 7)	6	Nylon bowl	•	•	•		
				8	Metal bowl with level gauge		•	•		
				С	With bowl guard	•	_	_		
				6C	With bowl guard (Nylon bowl)		_	_		
			+							
			Note 8)  Drain port	Nil	With drain cock	•	•			
		е		. Note 9)	Drain guide 1/8	•	_	_		
6				J Holo of	Drain guide 1/4	_	•	•		
				<b>W</b> Note 10)	Drain cock with barb fitting (for ø6 x ø4 nylon tube)	_	•	•		
		+					,			
		f	Exhaust	Nil	Relieving type	•	•	•		
			mechanism	N	Non-relieving type	•	•	•		
		g	Flow direction	Nil	Flow direction: Left to right	•	•			
				R	Flow direction: Right to left	•	•	•		
				+						
			D	Nil	Name plate and caution plate for bowl in imperial units: MPa	•	•	•		
		h	Pressure unit	<b>Z</b> Note 11)	Name plate and caution plate for bowl in imperial units: psi, °F	Note 12)	Note 12)	Note 12)		

Note 7) Refer to Chemical data on page 76 for chemical resistance of the bowl.

Note 8) The combination of float type auto drain: C and D is not available.

Note 9) Without a valve function

Note 10) The combination of metal bowl: 2 and 8 is not available.

Note 11) For pipe thread type: NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.) Cannot be used with M: Round pressure gauge (with color zone). Available by request for special.

Note 12) O: For pipe thread type: NPT only

## **⚠** 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 indicates a hazard with a low level of risk Caution: which, if not avoided, could result in minor or moderate injury

Э.

Warning indicates a hazard with a medium level of Warning: 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.

#### **⚠** 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 catalog information, with a view to giving due consideration to any possibility of equipment failure when configuring the

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

- 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
  - 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 catalog.
  - 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 catalog 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.

Nafety Instructions Be sure to read "Handling Precautions for SMC Products" (M-E03-3) before using.



# Revision history Edition B • Metal bowl, Metal bowl with level gauge, With bowl guard added. • Made to Order (Long bowl, With element service indicator) added. • Number of pages increased from 76 to 80. RU Edition C • Nylon bowl added. • The construction drawings of the AW replaced. Body size 10 added. (AR, AW, AF, AL, AC) • Body size 50, 60 added. (AF, AL) • Spacer changed. • Number of pages increased from 80 to 88. SW



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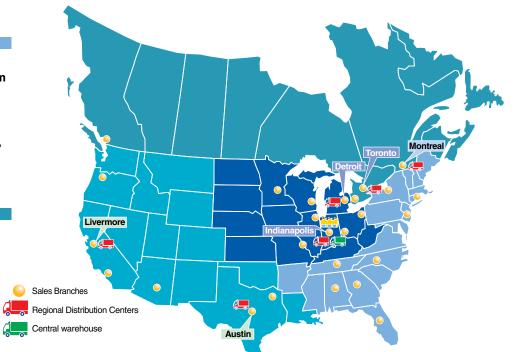
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