Modular F.R.L. Units







Selection of pressure gauges



Square embedded type

pressure gauge



Round type

pressure gauge



Digital pressure

switch

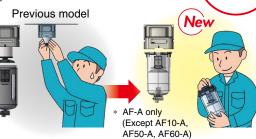
Interchangeable with the previous AR series by panel mounting

Interchangeability

* Body size: 30 or more

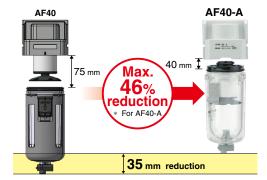
Easy replacement of the element

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



in hand!

Reduced required maintenance space



Replacement



AR□K regulator with backflow function added.

New Made to order added.

- Long bowl (-X64)
- 0.4 MPa setting (-X406)
- With element service indicator (-X2141)
- High pressure (-X425)
- Low temperature (-X430)
- High temperature (-X440)
- Clean series (10-)
- Copper, fluorine and silicone-free + Low particle generation (21-)

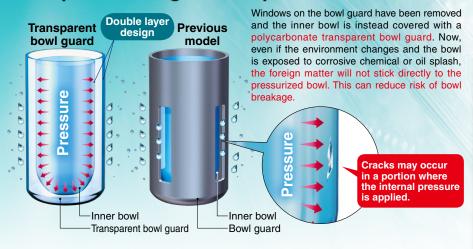
Regulator Lubricator Mist Separator Mist Separator Filter Regulator Filter Regulator



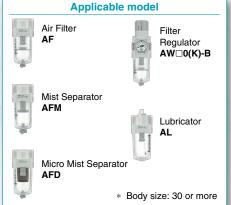


Transparent bowl guard

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 bowl and the remaining oil amount in the lubricator from the entire periphery.



Light weight: Max. 90 g reduction Except AW



Metal related corrosion does not occur.



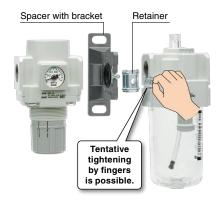
Resin body does not rust.

New Spacer

Modular connection

Step (1)

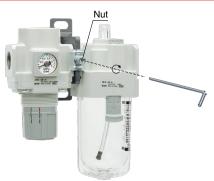
- Mount the product by lining up the mating surface of the new spacer with bracket.
- Insert the retainer into the spacer bolt and tighten the nut. (temporary assembling)



• Tighten the nut with the hexagon wrench.

Interchangeable with previous model

- New spacer can be connected to the previous AF, AR, AL, AW series. Previous spacer can be connected to the new AF□-A, AR□(K)-B, AL□-A,
 - AW□(K)-B series.





AC Series

Series Configuration

Serie	es Configuration									
	Product	Model			P	ort siz	ze			INDEX
	Product	Iviodei	M5	1/8	1/4	3/8	1/2	3/4	1	INDEX
	Air Filter • Regulator • Lubricator	AC10-A								
	AF AR AL	AC20-B		0	0					
		AC25-B			0	0				
		AC30-B			0	0				
	The state of the s	AC40-B			0	0	0			P.7
		AC40-06-B						0		
		AC50-B						0	0	
		AC55-B							0	
		AC60-B								
	Filter Regulator + Lubricator	AC10A-A	0							
	AW AL	AC20A-B		0	0					
		AC30A-B			0	0				
		AC40A-B			0	0	0			P.15
	The state of the s	AC40A-06-B						0		
		AC50A-B						0		
		AC60A-B								
	Air Filter + Regulator	AC10B-A	0							
Ę	AF AR	AC20B-B		0	0					
atic	0-	AC25B-B			0	0				
Air Combination		AC30B-B			0	0				
Con	The state of the s	AC40B-B								P.21
Ā		AC40B-06-B						0		
	*	AC50B-B						0		
		AC55B-B								
		AC60B-B							0	
	Air Filter + Mist Separator + Regulator	AC20C-B		0	0					
	AF AFM AR	AC25C-B			0	0				
	P 70	AC30C-B			0	0				P.27
	The Park of the Pa	AC40C-B			0	0	0			
		AC40C-06-B						0		
	Filter Regulator + Mist Separator	AC20D-B		0	0					
	AW AFM	AC30D-B			0	0				.
		AC40D-B			0	0	0			P.31
		AC40D-06-B						0		

Attachment AW+AFM AF+AFM+AR AF+AR AW+AL AF+AR+AL

ΑF

AFM / AFD

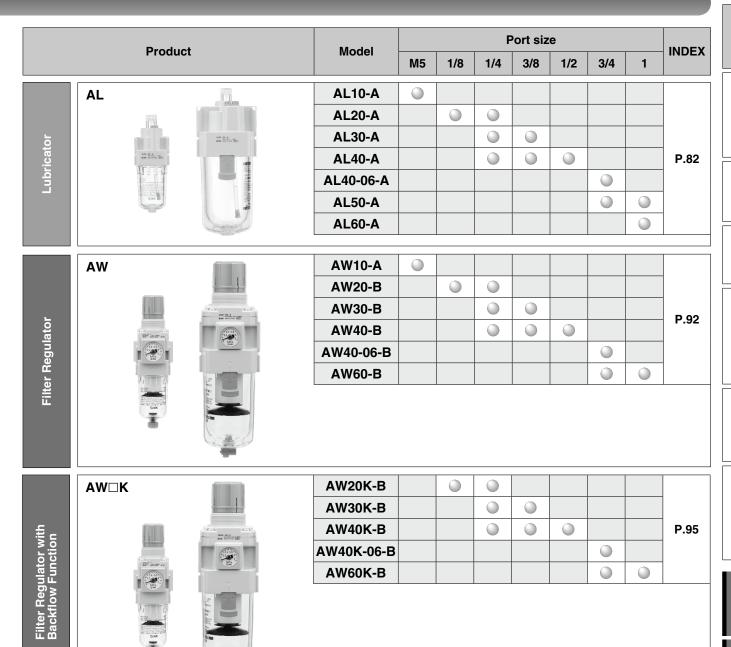
AB

AL

Series Configuration

							F	ort siz	е			
		Produ	ct	Model	M5	1/8	1/4	3/8	1/2	3/4	1	INDEX
	AF			AF10-A	0							
		(Marie Control		AF20-A		0	0					_
		#F20 - 027 - 8 (85)	## - 44-4 • ** *********************************	AF30-A			0	0				
ilter				AF40-A			0	0	0			P.43
Air Filter		The transport of the control of the		AF40-06-A						0		-
				AF50-A						0	0	
				AF60-A							0	
	AFM			AFM20-A		0	0					
_			##800-06-a 99K mar a ton (M)	AFM30-A			0	0				P.55
rato		O'RC mot a trans. (SEC)		AFM40-A			0	0	0			P.33
eba				AFM40-06-A						0		
Mist Separator		Сэмс										
Ē												
	AFD			AFD20-A								
<u> </u>	AFD					0	0	0				<u> </u>
ıratc		AVEN -0:-1 and the control of the co	MOND-(4-A) 9-60 max sizes (BC)	AFD40.A			0	0				P.55
eba		GM 400 1000	F male m	AFD40-A			0	0	0			<u> </u>
ist		was a large and of the second		AFD40-06-A						0		
Micro Mist Separator												
Micr												
			-									
	AR			AR10-A	0							
	7411			AR20-B		0	0					
		(100)		AR25-B			0	0				_
Regulator		TA OF A STANDARY WAS		AR30-B			0	0				-
Inge		OH FOR	March 180	AR40-B			0	0	0			P.64
Ä				AR40-06-B						0		
				AR50-B						0	0	
				AR60-B							0	
	AR□K			AR20K-B		0	0					
uc	AUUV			AR25K-B			0	0				
th nctie				AR30K-B			0	0				_
ı M				AR40K-B			0	0	0			P.67
lato				AR40K-06-B						0		,
Regulator with Backflow Function				AR50K-B						0	0	
т ш				AR60K-B							0	-
3				ØSMC								

AB



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.

Please contact your local sales representative for more details.



Attachment List

Check valve

Page 34

■ 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.

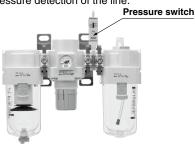


- · Air Filter + Regulator + Lubricator (AC20 to AC40-B)
- · Filter Regulator + Lubricator (AC20A to AC40A-B)
 - * Port size: Except 06

Pressure switch

Page 35

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



- · Air Filter + Regulator + Lubricator (AC20-B to AC60-B)
- · Filter Regulator + Lubricator (AC20A-B to AC60A-B)
- · Air Filter + Regulator (AC20B-B to AC60B-B)
- · Air Filter + Mist Separator + Regulator (AC20C-B to AC60C-B)
 - · Filter Regulator + Mist Separator (AC20D-B to AC60D-B)

T-spacer

Page 35

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



- · Air Filter + Regulator + Lubricator (AC10-A to AC60-B)
- · Air Filter + Regulator (AC10B-A to AC60B-B)
- · Air Filter + Mist Separator + Regulator (AC20C-B to AC40C-B)

Pressure relief 3 port valve

Page 36

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





- Air Filter + Regulator + Lubricator (AC20-B to AC50-B)
 - Filter Regulator + Lubricator (AC20A-B to AC50A-B)
- Air Filter + Regulator (AC20B-B to AC50B-B)
- Air Filter + Mist Separator + Regulator (AC20C-B to AC40C-B)
- Filter Regulator + Mist Separator (AC20D-B to AC40D-B)

Cross spacer

policable series

Page 36

■ Pipings are possible in all 4 directions.



Needs to be ordered separately.

Piping adapter

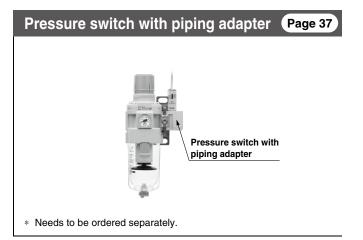
Page 37

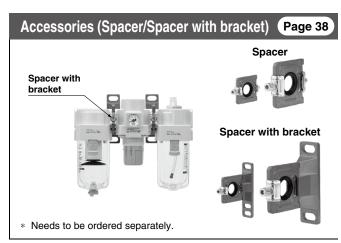
A piping adapter allows installation/removal of the component without removing the piping and thus makes maintenance easier.



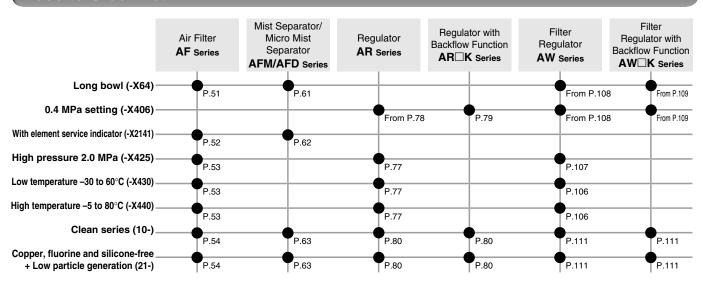
* Needs to be ordered separately.

AB

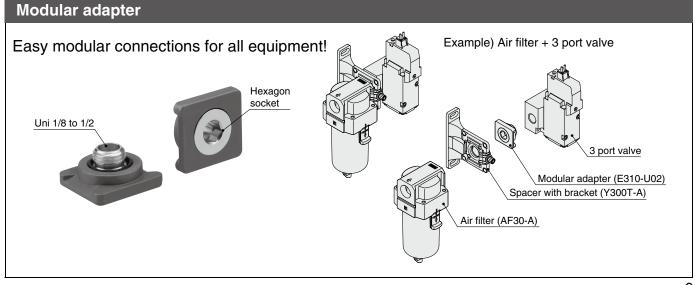




Made-to-Order List



Related Product

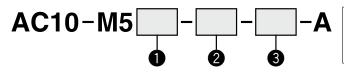


Air Filter + Regulator + Lubricator AC10-A



How to Order

Refer to page 9 for size 20 to 60.



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

Example) AC10-M5CG-T-12NR-A

	_			Symbol	Description
		а	Float type auto drain	Nil	Without auto drain
	ا	a	r loat type auto drain	C *1	N.C. (Normally closed) Drain port is closed when pressure is not applied.
Dį	Option			+	
`		b	Pressure gauge	Nil	Without pressure gauge
				G *2	Round type pressure gauge (without limit indicator)
				+	
2		ΔĦ	achment (T-spacer) *3	Nil	Without attachment
		7100	dominoni (1 opacci)	Т	Mounting position: AF+T+AR+AL
				+	
		С	Set pressure *4	Nil	0.05 to 0.7 MPa setting
				1	0.02 to 0.2 MPa setting
				+	
				Nil	Polycarbonate bowl
		d	Bowl *5	2	Metal bowl
				6	Nylon bowl
	١.			+	
	ard	е	Lubricator lubricant	Nil	Without drain cock
3	tanc		exhaust port	3	Lubricator with drain cock
۰ و	Semi-standard			+	
(S	f	Exhaust mechanism	Nil	Relieving type
			Exhaust mechanism	N	Non-relieving type
				+	
	g Flow direction	Nil	Flow direction: Left to right		
		R	Flow direction: Right to left		
				+	
		h	Pressure unit	Nil	Name plate, caution plate for bowl, and pressure gauge in SI units: MPa
		"	i iessuie uiii	Z *6	Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F

^{*1} 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.

*2 A 1.0 MPa pressure gauge will be fitted. It is not assembled and supplied loose at the time of shipment.

^{*3} The bracket position varies depending on the T-spacer mounting.

^{*4} Pressure can be set higher than the specification pressure in some cases, but use pressure within the specification range.

^{*5} Refer to chemical data on page 46 for chemical resistance of the bowl.

^{*6} This product is for overseas use only according to the new Measurement Act. (The SI unit type is provided for use in Japan.)



Standard Specifications

	Air Filter [AF]	AF10-A				
Component	Regulator [AR]	AR10-A				
	Lubricator [AL]	AL10-A				
Port size		M5 x 0.8				
Pressure gauge	port size [AR]	1/16				
Fluid		Air				
Ambient and flui	d temperature	-5 to 60°C (with no freezing)				
Proof pressure		1.5 MPa				
Maximum operat	ing pressure	1.0 MPa				
Set pressure ran	ge [AR]	0.05 to 0.7 MPa				
Nominal filtration	rating [AF]	5 μm				
Recommended Iu	ubricant [AL]	Class 1 turbine oil (ISO VG32)				
Bowl material [Al	F/AL]	Polycarbonate				
Construction [A	R]	Relieving type				
Weight [kg]		0.27				

sure to read this before handling the products. Refer to the back cover for safety instructions. For F.R.L. units I precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual", http://www.smcworld.com

Selection

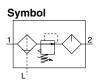
∕!∖ Caution

- 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.
- 2. 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.



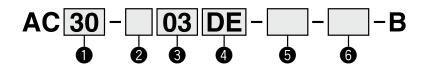
Air Filter + Regulator + Lubricator

AC20-B to AC60-B



How to Order

Refer to page 7 for size 10.



- 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-F03DE1-KSTV-136NR-B

	_	_							0				
				Symbol	Description			В	ody siz	ze			
						20	25	30	40	50	55	60	
				Nil	Rc	•	•	•	•	•	•	•	
2		Pipe	e thread type	N*1	NPT	•	•	•	•	•	•	•	
				F*2	G	•	•	•	•	•	•	•	
				+									
				01	1/8	•	<u> </u>	_	_	_	_	_	
				02	1/4	•	•	•	•	_	_	_	
8			Port size	03	3/8	_	- •	•	•	_	_		
•			1 011 0120	04	1/2	_	- —	-	•	_	_		
				06	3/4	_	- —	-	•	•	_		
				10	1		- —	_		•	•		
				+							_		
		Float type		Nil	Without auto drain		•	•	•	•	•		
		а	auto drain	C*4	N.C. (Normally closed) Drain port is closed when pressure is not applied.		•	•	•	•	•		
				D *5	N.O. (Normally open) Drain port is open when pressure is not applied.		- •	•		•			
				+	NAVALO COLLO DE COLLO	_							
	*3	_		Nil	Without pressure gauge			•	•	•	•		
4	Option *3	Pressure gauge *6		E G	Square embedded type pressure gauge (with limit indicator) Round type pressure gauge (with limit indicator)			•	•	•	•	•	
	ဝြ	S gauge		M	Round type pressure gauge (with infinit indicator) Round type pressure gauge (with color zone)								
		b		E1	Output: NPN output, Electrical entry: Wiring bottom entry			•					
			Digital	E2	Output: NPN output, Electrical entry: Wiring bottom entry Output: NPN output, Electrical entry: Wiring top entry		_						
			pressure	E3	Output: PNP output, Electrical entry: Wiring bottom entry								
			switch	E4	Output: PNP output, Electrical entry: Wiring bottom entry								
				+	Output: 1141 Output, Electrical critis, 1741ing top critis								
				Nil	Without attachment			•		•	•		
		С	Check valve	K	Mounting position: AF+AR+ K +AL) •	•	*7	_		_	
				+	meaning premium management						l		
	_		Pressure	Nil	Without attachment	•	•	•	•	•	•	•	
	ent	d	switch	S*8	Mounting position: AF+AR+S+AL	•) •	•	•	•	•	•	
6	Attachment			+									
	ıtta		Topasse	Nil	Without attachment		•	•	•	•	•	•	
	4	е	T-spacer	T *8	Mounting position: AF+ T +AR+AL	•	•	•	•	•	•	•	
				+									
		f	Pressure relief	Nil	Without attachment	•	•	•	•	•	•	•	
		•	3 port valve	V	Mounting position: AF+AR+AL+V		•	•	•	•	_	_	
				+			1						
		g	Set	Nil	0.05 to 0.85 MPa setting		•	•	•	•	•	•	
			pressure *9	1	0.02 to 0.2 MPa setting		•	•		•	•		
	ard			+							_		
	and	Semi-standard u		Nil	Polycarbonate bowl			•	•	•	•		
6	i-st			2	Metal bowl		•	•	•	•			
	em	h	Bowl *10	6	Nylon bowl			•	•	•	•	•	
	S			8	Metal bowl with level gauge		- • • · · · · · · · · · · · · · · · · ·	*11	*11	*11	*11	- *11	
				C	With bowl guard (Nylon bowl)		—*11 —*12	*11 *12	*11 *12	*11 *12	*11 *12	*11 *12	
			6C	With bowl guard (Nylon bowl)		*12	*12	*12	*12	*12	^*IZ		

AB

Air Combination AC20-B to AC60-B Series



	_								0			
				Symbol	Description			В	ody siz	:e		
						20	25	30	40	50	55	60
				Nil	With drain cock	•	•	•	•	•	•	•
			Air filter	J*14	Drain guide 1/8	•	-	_	_	-	_	_
		1	drain port *13	J	Drain guide 1/4	_	•	•	•	•	•	•
				W *15	Drain cock with barb fitting (for ø6 x ø4 nylon tube)		•	•	•	•	•	•
				+								
			Lubricator lubricant	Nil	Without drain cock	•	•	•	•	•	•	•
	ard	J	exhaust port	3 *16	Lubricator with drain cock	•	•	•	•	•	•	•
	nde			+								
6	-standard	k	Exhaust	Nil	Relieving type	•	•	•	•	•	•	•
	Semi-	_	mechanism	N	Non-relieving type	•	•	•	•	•	•	•
	Se			+								
			Flow direction	Nil	Flow direction: Left to right	•	•	•	•	•	•	•
		•	riow direction	R	Flow direction: Right to left	•	•	•	•	•	•	•
				+								
				Nil	Name plate, caution plate for bowl, and pressure gauge in SI units: MPa	•	•	•	•	•	•	•
		m	Pressure unit	Z *17	Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F	O*19	O*19	O*19	O*19	O*19	O*19	O*19
				ZA *18	Digital pressure switch: With unit selection function	△*20	△*20	△*20	△*20	△*20	△*20	△*20
*1 D	rain	عانات	is NPT1/8 (applicabl	a to the A	C20-B) and pressure gauge will be fitted for standard (0.85 MPa)	*15 T	he comi	nination	of met	al howl.	2 and	8 is not

- *1 Drain guide is NPT1/8 (applicable to the AC20-B) and NPT1/4 (applicable to the AC25-B to AC60-B).
- The auto drain port comes with $\emptyset3/8$ " One-touch fitting (applicable to the AC25-B to AC60-B). *2 Drain guide is G1/8 (applicable to the AC20-B) and
- G1/4 (applicable to the AC25-B to AC60-B). *3 Options G, M are not assembled and supplied loose at
- the time of shipment.
- *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.
- *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
- *6 When the pressure gauge is attached, a 1.0 MPa

- pressure gauge will be fitted for standard (0.85 MPa) type. 0.4 MPa pressure gauge for 0.2 MPa type.
- *7 Not available with piping port size: 06
- *8 The bracket position varies depending on the T-spacer or pressure switch mounting.
- *9 Pressure can be set higher than the specification pressure in some cases, but use pressure within the specification range.
- *10 Refer to chemical data on page 46 for chemical resistance of the bowl.
- A bowl guard is provided as standard equipment
- (polycarbonate). Ä bowl guard is provided as standard equipment
- (nylon). The combination of float type auto drain: C and D is not available
- *14 Without a valve function

- *15 The combination of metal bowl: 2 and 8 is not available
- *16 When choosing with W: Filter drain port, the drain cock of a lubricator will be with barb fittings.
- For pipe thread type: NPT.
 - This product is for overseas use only according to the new Measurement Act. (The SI unit type is provided for use in Japan.)
 - Cannot be used with M: Round type pressure gauge (with color zone). Available by request for special. The digital pressure switch will be equipped with the
- unit selection function, setting to psi initially. *18 For options: E1, E2, E3, E4. This product is for overseas use only according to the new Measurement Act. (The SI unit is provided for use in Japan.)
- *19 O: For pipe thread type: NPT only
- *20 \(\triangle:\) Select with options: E1, E2, E3, E4.

Standard Specifications

ı	Model	AC20-B	AC25-B	AC30-B	AC40-B	AC40-06-B	AC50-B	AC55-B	AC60-B						
	Air Filter [AF]	AF20-A	AF30-A	AF30-A	AF40-A	AF40-06-A	AF50-A	AF60-A	AF60-A						
Component	Regulator [AR]	AR20-B	AR25-B	AR30-B	AR40-B	AR40-06-B	AR50-B	AR50-B	AR60-B						
	Lubricator [AL]		AL30-A	AL30-A	AL40-A	AL40-06-A	AL50-A	AL60-A	AL60-A						
Port size	Port size		1/4, 3/8	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1	1	1						
Pressure gaug	ge port size [AR] *1	1/8													
Fluid		Air													
Ambient and	fluid temperature *2	−5 to 60°C (with no freezing)													
Proof pressu	re	1.5 MPa													
Maximum op	erating pressure	1.0 MPa													
Set pressure	range [AR]	0.05 to 0.85 MPa													
Nominal filtra	ation rating [AF]				5	μm									
Recommende	ed lubricant [AL]			C	class 1 turbine	oil (ISO VG32	2)								
Bowl materia	I [AF/AL]				Polyca	rbonate									
Bowl guard [AF/AL]	Semi-standard (Steel)			Stand	lard (Polycarbo	onate)								
Construction	[AR]				Relievi	ing type									
Weight [kg]	Neight [kg]		0.70	0.78	1.39	1.53	3.43	3.71	3.76						

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

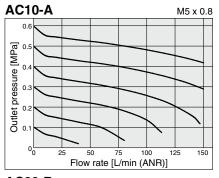


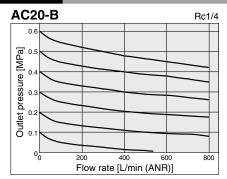
^{*2 -5} to 50°C for the products with the digital pressure switch

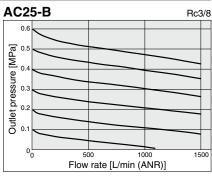
AC10-A Series AC20-B to AC60-B Series

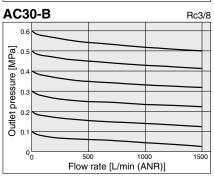
Flow Rate Characteristics (Representative values)

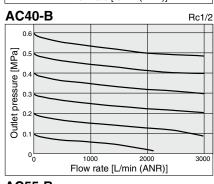
Condition: Inlet pressure of 0.7 MPa

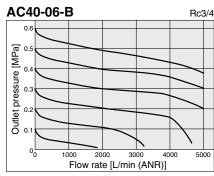


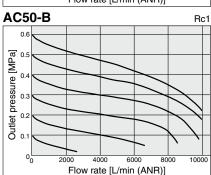


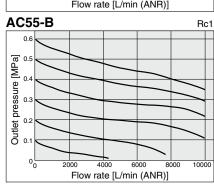


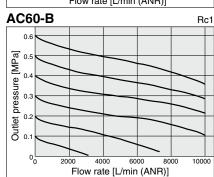






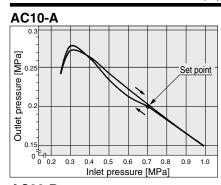


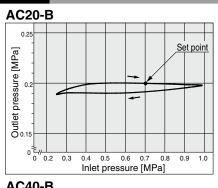


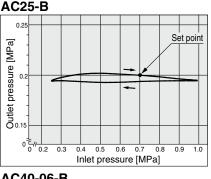


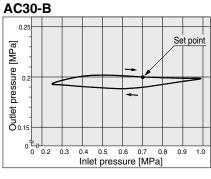
Pressure Characteristics (Representative values)

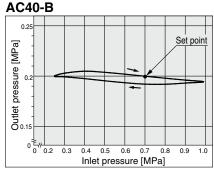
Conditions: Inlet pressure of 0.7 MPa, Outlet pressure of 0.2 MPa, Flow rate 20 L/min (ANR)

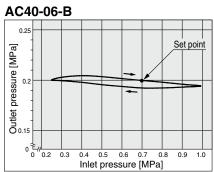








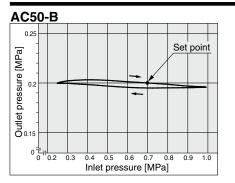


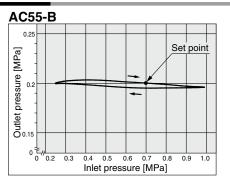


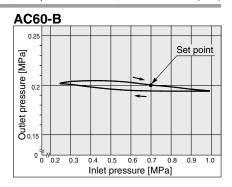
Air Combination AC10-A Series Air Combination AC20-B to AC60-B Series

Pressure Characteristics (Representative values)

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







⚠ Specific Product Precautions

I Be sure to read this before handling the products. Refer to the back cover for safety instructions. For F.R.L. units Ⅰ precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual", 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

Use an air filter with 5 µm 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. A knob cover is available to prevent careless operation of the knob. Refer to page 112 for details.
- 2. When the bowl is installed on the air filter, filter regulator, lubricator, mist separator, or micro mist separator (AC25-B to AC60-B), 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

Float type auto drain

Operate under the following conditions to avoid malfunction. <N.O. type>

Operating compressor: 0.75 kW (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 (200 L/min (ANR)) of the compressor capacity is required.

· Operating pressure: 0.1 MPa or more

<N.C. type>

- Operating pressure for AD27-A: 0.1 MPa or more Operating pressure for AD37-A/AD47-A: 0.15 MPa or more
- 2. Use a regulator or filter regulator with backflow function when mounting a pressure release 3 port valve on the inlet side to ensure the release of the residual pressure. Otherwise, residual pressure will not be fully released.

Caution

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 (AKM series) 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
- 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.
- 4. For AC10 series products with a pressure gauge, when connected to the modular unit, there will be interference preventing the use of tools; therefore, the pressure gauge cannot be mounted or removed in such a state.

Mount or remove the pressure gauge from the AR/AW10-A single unit product before connecting it to the modular unit. To screw in the pressure gauge, make sure to insert a wrench

into the wrench flats before turning the gauge.

If the pressure gauge is screwed in by holding some other part of it, air leakage or damage may result.

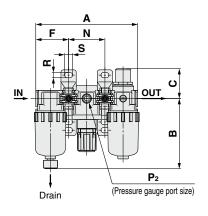
It is possible to have the product shipped with the pressure gauge already mounted. Please contact your local sales representative for more details.

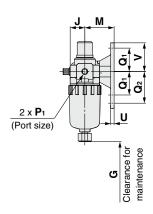


AC10-A Series AC20-B to AC60-B Series

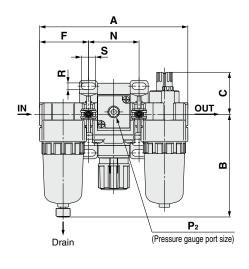
Dimensions

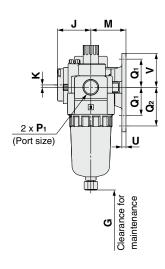
AC10-A



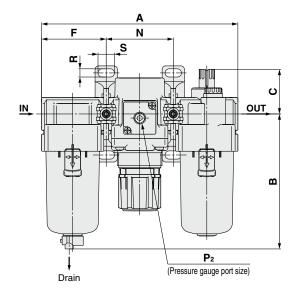


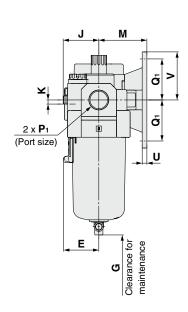
AC20-B



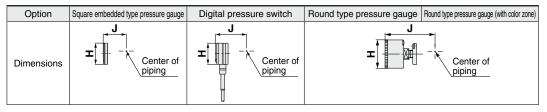


AC25-B to AC60-B





Air Combination AC10-A Series Air Combination AC20-B to AC60-B Series



Applicable model	AC10)-A		AC20-B									
Optional/Semi-standard specifications	With auto drain	Metal bowl	With auto drain	Metal bowl	With drain guide	Metal bowl with drain guide	With auto drain (N.O./N.C.)						
Dimensions	a		M5 × 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						

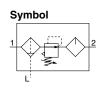
Applicable model			AC	25-B to AC60-B		
Optional/Semi-standard specifications	Metal bowl	Metal bowl with drain guide	Metal bowl with level gauge	Metal bowl with level gauge, with drain guide	With drain guide	Drain cock with barb fitting
Dimensions	a	Width across flats 17	B	Width across flats 17	Width across flats 17	Barb fitting applicable tubing: T0604

		Standard specifications																
Model	P ₁	P ₂	_	В	С	Е	F	G		К				Bracke	t mount			
	P1	F2	A				-	G	٦	, r	M	N	Q ₁	Q ₂	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-B	1/8, 1/4	1/8	126.4	87.6	35.9	_	41.6	60	28.5	2 *1	30	43.2	24	33	5.5	12	3.5	29
AC25-B	1/4, 3/8	1/8	167.4	115.1	38.1	30	55.1	80	27.5	0	41	57.2	35	_	7	14	4	41
AC30-B	1/4, 3/8	1/8	167.4	115.1	38.1	30	55.1	80	29.4	3.5	41	57.2	35	_	7	14	4	41
AC40-B	1/4, 3/8, 1/2	1/8	220.4	147.1	39.8	38.4	72.6	110	33.8	3.5	50	75.2	40	_	9	18	5	48
AC40-06-B	3/4	1/8	235.4	149.1	37.8	38.4	77.6	110	33.8	3	50	80.2	40	_	9	18	5	48
AC50-B	3/4, 1	1/8	282.4	220.1	41.2	_	93.1	110	43.3	3.2	70	96.2	50	_	11	20	6	60
AC55-B	1	1/8	292.4	234.1	44.7	_	98.1	110	43.3	3.2	70	96.2	50	_	11	20	6	60
AC60-B	1	1/8	297.4	234.1	44.7	_	98.1	110	43.3	3.2	70	101.2	50	_	11	20	6	60

				Option	al specific	cations						Semi-star	ndard specific	ations	
Model	Squ embedo pressur		Digital pressure switch		Round type pressure gauge		Round pressure (with col	e gauge	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	Н	J	Н	J	В	В	В	В	В	В	В
AC10-A	_	_	_	_	ø26	26	_	_	77.9	_	_	59.3	_	_	_
AC20-B	□28	29.5	□27.8	40	ø37.5	65	ø37.5	66	104.9	_	91.4	87.4	93.9	_	_
AC25-B	□28	28.5	□27.8	39	ø37.5	64	ø37.5	65	156.8	123.6	121.9	117.6	122.1	137.6	142.1
AC30-B	□28	30.4	□27.8	40.9	ø37.5	65.9	ø37.5	66.9	156.8	123.6	121.9	117.6	122.1	137.6	142.1
AC40-B	□28	34.8	□27.8	45.3	ø42.5	71.3	ø42.5	71.3	186.9	155.6	153.9	149.6	154.1	169.6	174.1
AC40-06-B	□28	34.8	□27.8	45.3	ø42.5	71.3	ø42.5	71.3	188.9	157.6	155.9	151.6	156.1	171.6	176.1
AC50-B	□28	44.3	□27.8	54.8	ø42.5	80.8	ø42.5	80.8	259.9	228.6	226.9	222.6	227.1	242.6	247.1
AC55-B	□28	44.3	□27.8	54.8	ø42.5	80.8	ø42.5	80.8	273.9	242.6	240.9	236.6	241.1	256.6	261.1
AC60-B	□28	44.3	□27.8	54.8	ø42.5	80.8	ø42.5	80.8	273.9	242.6	240.9	236.6	241.1	256.6	261.1

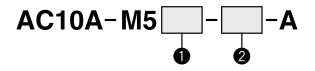
^{*1} For the AC20-B only, the position of the pressure gauge is above the center of the piping.

Filter Regulator + Lubricator AC10A-A



How to Order

Refer to page 17 for size 20 to 60.



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

Example) AC10-M5CG-12NR-A

				Symbol	Description
			Float type auto drain	Nil	Without auto drain
	_	а	Float type auto drain	C *1	N.C. (Normally closed) Drain port is closed when pressure is not applied.
0	Option			+	
		b	Pressure gauge	Nil	Without pressure gauge
			i ressure gauge	G *2	Round type pressure gauge (without limit indicator)
				+	
		С	Set pressure *3	Nil	0.05 to 0.7 MPa setting
			Oct pressure	1	0.02 to 0.2 MPa setting
				+	
				Nil	Polycarbonate bowl
		d	Bowl *4	2	Metal bowl
				6	Nylon bowl
				+	
	lard	е	Lubricator lubricant	Nil	Without drain cock
2	tanc		exhaust port	3	Lubricator with drain cock
9	Semi-standard			+	
	Se	f	Exhaust mechanism	Nil	Relieving type
		•	Exhaust modiumom	N	Non-relieving type
				+	
		g	Flow direction	Nil	Flow direction: Left to right
		9	Tiow direction	R	Flow direction: Right to left
				+	
		h	Pressure unit	Nil	Name plate, caution plate for bowl, and pressure gauge in SI units: MPa
			i ressure unit	Z *5	Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F

^{*1} 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.
*2 A 1.0 MPa pressure gauge will be fitted. It is not assembled and supplied loose at the time of shipment.

*4 Refer to chemical data on page 46 for chemical resistance of the bowl.

^{*3} Pressure can be set higher than the specification pressure in some cases, but use pressure within the specification range.

^{*5} This product is for overseas use only according to the new Measurement Act. (The SI unit type is provided for use in Japan.)

Air Combination AC10A-A Series



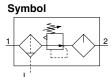
AC10A-A

Standard Specifications

Component	Filter Regulator [AW]	AW10-A
Component	Lubricator [AL]	AL10-A
Port size		M5 x 0.8
Pressure gauge port	t size [AW]	1/16
Fluid		Air
Ambient and fluid temperature		-5 to 60°C (with no freezing)
Proof pressure		1.5 MPa
Maximum operating	pressure	1.0 MPa
Set pressure range [[AW]	0.05 to 0.7 MPa
Nominal filtration rat	ting [AW]	5 μm
Recommended lubri	cant [AL]	Class 1 turbine oil (ISO VG32)
Bowl material [AW/A	AL]	Polycarbonate
Construction [AW]		Relieving type
Weight [kg]		0.2

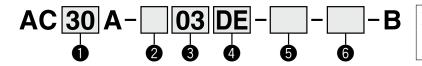
Filter Regulator + Lubricator

AC20A-B to AC60A-B



How to Order

Refer to page 15 for size 10.



- 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-F03DE1-KSV-136NR-B

`						0							
				Symbol	Description		E	Body size					
						20	30	40	50	60			
				Nil	Rc	•	•	•	•	•			
2		Pipe	thread type	N*1	NPT			•	•	•			
9		pc	a modul typo	F*2	G			•		_			
				+									
				01	1/8				_ 1				
				02	1/4	•	•	•	_				
_				03	3/8		•	•	_				
8			Port size	04	1/2		_	•	_				
				06	3/4		_	•	•				
				10	1					•			
				+	ı		_						
				Nil	Without auto drain	•	•	•	•				
		а	Float type	C*4	N.C. (Normally closed) Drain port is closed when pressure is not applied.		•			_			
		а	auto drain	D*5				•		_			
				+	N.O. (Normally open) Drain port is open when pressure is not applied.		•	•	•				
				Nil	Without process gouge			_					
	*3		D	E	Without pressure gauge Square embedded type pressure gauge (with limit indicator)		•	•	•				
4	Option *3		Pressure gauge *6				-						
_	ဝြ		gauge	G	Round type pressure gauge (with limit indicator)	•	•	•	•	•			
		b		M	Round type pressure gauge (with color zone)		•	•	•	_			
			Digital	E1	Output: NPN output, Electrical entry: Wiring bottom entry		•	•	•	_			
			pressure	E2	Output: NPN output, Electrical entry: Wiring top entry	•	•	•	•	_			
			switch	E3	Output: PNP output, Electrical entry: Wiring bottom entry		•	•	•	•			
				E4	Output: PNP output, Electrical entry: Wiring top entry			•	•	•			
				+				_					
		С	Check valve	Nil	Without attachment	•	•	•	•	•			
				K	Mounting position: AW+K+AL		•	●*7	_				
	Attachment			+				_					
6	Ř	d	Pressure	Nil	Without attachment	•	•	•	•	•			
	ttac		switch	S*8	Mounting position: AW+S+AL		•	•	•	•			
	A			+									
		е	Pressure relief	Nil	Without attachment	•	•	•	•	_			
			3 port valve	V	Mounting position: AW+AL+ V			•	•				
				+		_							
		f	Set *9	Nil	0.05 to 0.85 MPa setting	•	•	•	•	•			
			pressure *9	1	0.02 to 0.2 MPa setting			•	•	•			
				+									
				Nil	Polycarbonate bowl		•	•	•	•			
	ا ج			2	Metal bowl	•	•	•	•	•			
	Semi-standard	g	Bowl *10	6	Nylon bowl	•	•	•	•	•			
6	star	9		8	Metal bowl with level gauge		•	•	•	•			
9]-i-			С	With bowl guard	•	*11	*11	*11	*11			
	Ser			6C	With bowl guard (Nylon bowl)	•	*12	*12	*12	*12			
				+									
				Nil	With drain cock	•	•	•	•	•			
		h	Filter regulator	J*14	Drain guide 1/8	•	_	_	_				
		•	drain port *13		Drain guide 1/4	_	•	•	•	•			
				W *15	Drain cock with barb fitting: For ø6 x ø4 nylon tube	_	•	•	•	•			

AF

₹

AB

Air Combination AC20A-B to AC60A-B Series



AC20A-B

AC40A-B

	01						0							
				Symbol	Description	Body size								
						20	30	40	50	60				
		i	Lubricator lubricant	Nil	Without drain cock	•	•	•	•	•				
		'	exhaust port	3 *16	Lubricator with drain cock	•	•	•	•	•				
				+				-						
	_		Exhaust	Nil	Relieving type		•	•	•	•				
	gar	J	mechanism	N	Non-relieving type	•	•	•	•	•				
6	Semi-standard			+										
U	i-S	k	Flow direction	Nil	Flow direction: Left to right	•	•	•	•	•				
	Ser	^	riow direction	R	Flow direction: Right to left	•	•	•	•	•				
	0)			+										
				Nil	Name plate, caution plate for bowl, and pressure gauge in SI units: MPa	•	•	•	•	•				
		ı	Pressure unit	Z *17	Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F	○*19	○*19	○*19	○*19	○*19				
				ZA *18	Digital pressure switch: With unit selection function	△*20	△*20	△*20	△*20	△*20				

- *1 Drain guide is NPT1/8 (applicable to the AC20A-B) and NPT1/4 (applicable to the AC30A-B to AC60A-B). The auto drain port comes with ø3/8" One-touch fitting (applicable to the AC30A-B to AC60A-B).
- *2 Drain guide is G1/8 (applicable to the AC20A-B) and G1/4 (applicable to the AC30A-B to AC60A-B).
- *3 Options G, M are not assembled and supplied loose at the time of shipment.
- *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.
- *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
- *6 When the pressure gauge is attached, a 1.0 MPa

- pressure gauge will be fitted for standard (0.85 MPa) type. 0.4 MPa pressure gauge for 0.2 MPa type.
- *7 Not available with piping port size: 06
 *8 The bracket position varies depending on the pressure switch mounting.
- *9 Pressure can be set higher than the specification pressure in some cases, but use pressure within the specification range.
- *10 Refer to chemical data on page 46 for chemical resistance of the bowl
- A bowl guard is provided as standard equipment (polycarbonate).
- *12 A bowl guard is provided as standard equipment (nylon).
- The combination of float type auto drain: C and D is not available
- *14 Without a valve function

- *15 The combination of metal bowl: 2 and 8 is not available.
- *16 When choosing with W: Filter drain port, the drain cock of a lubricator will be with barb fittings.
- *17 For pipe thread type: NPT.

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

Cannot be used with M: Round type pressure gauge (with color zone). Available by request for special. The digital pressure switch will be equipped with the unit selection function, setting to psi initially. *18 For options: E1, E2, E3, E4. This product is for

- overseas use only according to the new Measurement Act. (The SI unit is provided for use in Japan.)
- *19 O: For pipe thread type: NPT only
- *20 \triangle : Select with options: E1, E2, E3, E4.

Standard Specifications

N	Model	AC20A-B	AC30A-B	AC40A-B	AC40A-06-B	AC50A-B	AC60A-B					
0	Filter Regulator [AW]	AW20-B	AW30-B	AW40-B	AW40-06-B	AW60-B	AW60-B					
Component	Lubricator [AL]	AL20-A	AL30-A	AL40-A	AL40-06-A	AL50-A	AL60-A					
Port size		1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1	1					
Pressure gaug	ge port size [AW] *1	1/8										
Fluid		Air										
Ambient and	fluid temperature *2	−5 to 60°C (with no freezing)										
Proof pressu	re	1.5 MPa										
Maximum op	erating pressure	1.0 MPa										
Set pressure	range [AW]	0.05 to 0.85 MPa										
Nominal filtra	ation rating [AW]			5	μm							
Recommende	ed lubricant [AL]			Class 1 turbine	oil (ISO VG32)							
Bowl materia	I [AW/AL]			Polyca	rbonate							
Bowl guard [AW/AL]	Semi-standard (Steel) Standard (Polycarbonate)										
Construction	[AW]			Relievi	ing type							
Weight [kg]		0.33	0.63	1.15	1.25	3.21	3.36					

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

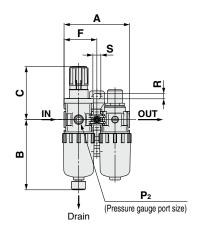


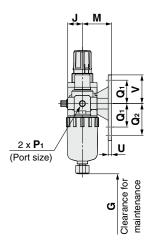
^{*2 -5} to 50°C for the products with the digital pressure switch

AC10A-A Series AC20A-B to AC60A-B Series

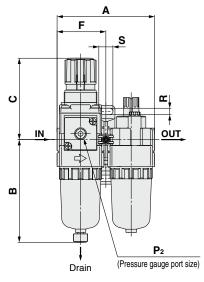
Dimensions

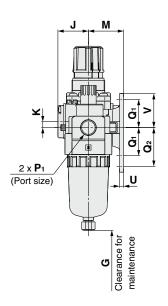
AC10A-A



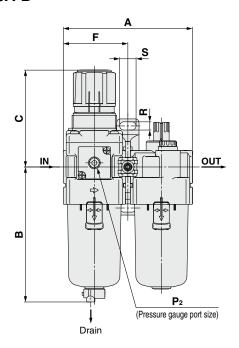


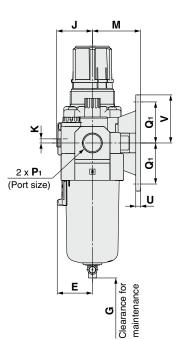
AC20A-B



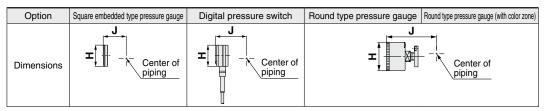


AC30A-B to AC60A-B





Air Combination AC10A-A Series Air Combination AC20A-B to AC60A-B Series



Applicable mod					AC20A-B		AC30A-B to AC60A-B			
Optional/Semi-standa specifications	With auto drain	Metal bowl	With auto drain	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	Width across of 1/8	N.O.: Black N.C.: Gray Thread type/Rc, G: ø10 One-touch fitting Thread type/NPT: ø3/8" One-touch fitting			

Applicable model			AC3	0A-B to AC60A-B		
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	•	Width across flats 17	a l	Width across flats 17	Width across flats 17	Barb fitting applicable tubing: T0604

		Standard specifications															
Model	D.	P ₂	_	В	C*1	E	F	G		V			Bra	acket mo	unt		
	P1	P2	A	В			•	G	J 3	K	М	Q1	Q2	R	S	U	V
AC10A-A	M5 x 0.8	1/16	56	59.9	47.4	I	28	25	12.5	_	25	20	27	4.5	6.8	3	24.5
AC20A-B	1/8, 1/4	1/8	83.2	87.6	72.4	-	41.6	60	28.5	5	30	24	33	5.5	12	3.5	29
AC30A-B	1/4, 3/8	1/8	110.2	115.1	85.6	30	55.1	80	29.4	3.5	41	35	_	7	14	4	41
AC40A-B	1/4, 3/8, 1/2	1/8	145.2	147.1	91.7	38.4	72.6	110	33.8	1.5	50	40	_	9	18	5	48
AC40A-06-B	3/4	1/8	155.2	149.1	93.2	38.4	77.6	110	33.8	1.2	50	40	_	9	18	5	48
AC50A-B	3/4, 1	1/8	191.2	220.1	175.5	-	93.1	110	43.3	3.2	70	50	_	11	20	6	60
AC60A-B	1	1/8	196.2	234.1	175.5	_	98.1	110	43.3	3.2	70	50	_	11	20	6	60

				Option	al specific	cations						Semi-star	dard specific	ations	
Model	Squ embedo pressure		Digital pressure switch		Round type pressure gauge		Round type pressure gauge (with color 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	Н	J	Н	J	В	В	В	В	В	В	В
AC10A-A	_	_	_	_	ø26	26	_	_	77.9	_	_	59.3	_	_	_
AC20A-B	□28	27	□27.8	37.5	ø37.5	62.5	ø37.5	63.5	104.9	_	91.4	87.4	93.9	_	_
AC30A-B	□28	30	□27.8	40.9	ø37.5	66.9	ø37.5	67.9	156.8	123.6	121.9	117.6	122.1	137.6	142.1
AC40A-B	□28	38.4	□27.8	48.8	ø42.5	75.7	ø42.5	75.7	186.9	155.6	153.9	149.6	154.1	169.6	174.1
AC40A-06-B	□28	38.4	□27.8	48.8	ø42.5	75.7	ø42.5	75.7	188.9	157.6	155.9	151.6	156.1	171.6	176.1
AC50A-B	□28	44.3	□27.8	61.3	ø42.5	80.8	ø42.5	80.8	259.9	228.6	226.9	222.6	227.1	242.6	247.1
AC60A-B	□28	44.3	□27.8	61.3	ø42.5	80.8	ø42.5	80.8	273.9	242.6	240.9	236.6	241.1	256.6	261.1

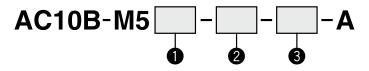
 $[\]ast 1$ The dimension of C is the length when the filter regulator knob is unlocked.

Air Combination Air Filter + Regulator AC10B-A



How to Order

Refer to page 23 for size 20 to 60.



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

Example) AC10B-M5CG-T-12NR-A

				Symbol	Description
			Floor thus a suite dusin	Nil	Without auto drain
	_	а	Float type auto drain	C*1	N.C. (Normally closed) Drain port is closed when pressure is not applied.
0	Option			+	
		b	Pressure gauge	Nil	Without pressure gauge
			riessule gauge	G*2	Round type pressure gauge (without limit indicator)
				+	
2		Δ	ttachment (T-spacer) *3	Nil	Without attachment
9			ttacimient (1-spacer)	Т	Mounting position: AF+ T +AR
				+	
		С	Set pressure *4	Nil	0.05 to 0.7 MPa setting
			Set pressure	1	0.02 to 0.2 MPa setting
				+	
				Nil	Polycarbonate bowl
		d	Bowl *5	2	Metal bowl
	g,			6	Nylon bowl
	ndaı			+	
8	Semi-standard	е	Exhaust mechanism	Nil	Relieving type
	emi		Exhaust mechanism	N	Non-relieving type
	0)			+	
		f	Flow direction	Nil	Flow direction: Left to right
		•	r low direction	R	Flow direction: Right to left
				+	
			Pressure unit	Nil	Name plate, caution plate for bowl, and pressure gauge in SI units: MPa
		g	Flessure unit	Z *6	Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F

^{*1} 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.
*2 A 1.0 MPa pressure gauge will be fitted. It is not assembled and supplied loose at the time of shipment.

^{*3} The bracket position varies depending on the T-spacer mounting.

^{*4} Pressure can be set higher than the specification pressure in some cases, but use pressure within the specification range.

^{*5} Refer to chemical data on page 46 for chemical resistance of the bowl.
*6 This product is for overseas use only according to the new Measurement Act. (The SI unit type is provided for use in Japan.)

Air Combination AC10B-A Series



AC10B-A

Standard Specifications

Component	Air Filter [AF]	AF10-A
Component	Regulator [AR]	AR10-A
Port size		M5 x 0.8
Pressure gauge po	rt size [AR]	1/16
Fluid		Air
Ambient and fluid t	temperature	-5 to 60°C (with no freezing)
Proof pressure		1.5 MPa
Maximum operating	g pressure	1.0 MPa
Set pressure range	[AR]	0.05 to 0.7 MPa
Nominal filtration r	ating [AF]	5 μm
Bowl material [AF]		Polycarbonate
Construction [AR]		Relieving type
Weight [kg]		0.16

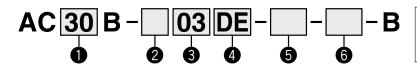
Air Filter + Regulator

AC20B-B to AC60B-B



How to Order

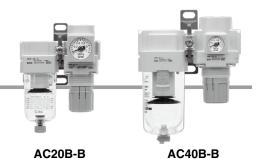
Refer to page 21 for size 10.



- 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) AC30B-F03DE1-SV-16NR-B

		_							0			
				Symbol	Description				ody si	ze		
						20	25	30	40	50	55	60
				Nil	Rc	•	•	•	•	•	•	•
2		Pipe	e thread type	N*1	NPT	•	•	•	•	•	•	•
				F*2	G	•	•	•	•	•	•	•
				+								
				01	1/8	•	_	_	_	_		_
				02	1/4	•	•	•	•	_	_	—
8			Port size	03	3/8	_	•	•	•	_		<u> </u>
•			1 011 3126	04	1/2				•	_		_
				06	3/4	_	_	_	•	•		<u> </u>
				10	1	_	_	_	_	•	•	•
				+								
			Float type	Nil	Without auto drain		•	•	•	•		•
		а	auto drain	C*4	N.C. (Normally closed) Drain port is closed when pressure is not applied.		•	•	•	•		•
				D *5	N.O. (Normally open) Drain port is open when pressure is not applied.	\sqsubseteq	•	•		•		
				+	MPH.							
	*_		D	Nil	Without pressure gauge	•	•	•	•	•	_	
4	Option *3		Pressure	E	Square embedded type pressure gauge (with limit indicator)	•	•	•	•	•	•	•
	ဝြ		gauge *6	G M	Round type pressure gauge (with limit indicator) Round type pressure gauge (with color zone)	•	•	•	•	•	•	•
		b		E1	Output: NPN output, Electrical entry: Wiring bottom entry	•	•	•	•	•	•	•
			Digital	E2				•	•			•
			pressure	E3	Output: NPN output, Electrical entry: Wiring top entry Output: PNP output, Electrical entry: Wiring bottom entry				•			
			switch	E4	Output: PNP output, Electrical entry: Willing bottom entry Output: PNP output, Electrical entry: Wiring top entry							
				+	Output. 1 Wi Output, Electrical entry. Willing top entry							
			Pressure	Nil	Without attachment	•	•	•	•	•		
		С	switch	S*7	Mounting position: AF+S+AR		•	•	•	•		•
	eut		T-spacer	T *7	Mounting position: AF+T+AR	•	•	•	•	•	•	•
6	Attachment			+	Jp							
	tac			Nil	Without attachment	•	•	•	•	•	•	•
	▼	d	Pressure relief 3 port valve	V	Mounting position: AF+AR+V	•	•	•	•	•	_	
			3 port vaive	V1*8	Mounting position: V+AF+AR□K	•	•	•	•	•	_	
				+								
		е	Set	Nil	0.05 to 0.85 MPa setting	•	•	•	•	•	•	•
			pressure *9	1	0.02 to 0.2 MPa setting		•	•	•	•	•	•
			ſ	+			1	1		ı		
				Nil	Polycarbonate bowl		•	•	•	•		•
	힏			2	Metal bowl	•	•	•	•	•	•	•
	da	f	Bowl *10	6	Nylon bowl		•	•	•	•	•	•
6	star			8	Metal bowl with level gauge		•	•	•	•	•	•
	Semi-standard			С	With bowl guard		*11	*11	*11	*11	*11	*11
	Se			6C	With bowl guard (Nylon bowl)		*12	*12	*12	*12	*12	*12
				+	With drain apply							
			A in filt .	Nil	With drain cock Drain guide 1/8		•	•	•	•		
		g	Air filter drain port *13	J*14	Drain guide 1/8 Drain guide 1/4			•	•		•	<u> </u>
			diam port	W *15	Drain guide 1/4 Drain cock with barb fitting: For Ø6 x Ø4 nylon tube		•		•	•	•	•
				VV	Drain Cock with Darb litting. FOI DO X D4 Hylon tube		_					

Air Combination AC20B-B to AC60B-B Series



								0						
		Symbo			Description	Body size								
						20	25	30	40	50	55	60		
		L	Exhaust	Nil	Relieving type	•	•	•	•	•	•	•		
		h	mechanism	N	Non-relieving type	•	•	•	•	•	•	•		
	힐			+										
	lge		Flow direction	Nil	Flow direction: Left to right	•	•	•	•	•	•	•		
6	-standard		riow direction	R	Flow direction: Right to left	•	•	•	•	•	•	•		
	Semi-			+										
	Se			Nil	Name plate, caution plate for bowl, and pressure gauge in SI units: MPa	•	•	•	•	•	•	•		
		j	Pressure unit	Z *16	Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F	O*18	O*18	O*18	O*18	O*18	O*18	O*18		
				ZA *17	Digital pressure switch: With unit selection function	△*19	△*19	△*19	△*19	△*19	△*19	△*19		
.4 F	roin c	امانان	ie NPT1/8 (applicable	o to the AC	20B-B) and pressure gauge will be fitted for standard (0.85 MPa)	14 \	lithout a	rohro fun	otion					

- rain guide is NPT1/8 (applicable to the A NPT1/4 (applicable to the AC25B-B to AC60B-B). The auto drain port comes with ø3/8" One-touch fitting (applicable to the AC25B-B to AC60B-B).
- *2 Drain guide is G1/8 (applicable to the AC20B-B) and G1/4 (applicable to the AC25B-B to AC60B-B).
- *3 Options G, M are not assembled and supplied loose at the time of shipment.
- *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.
- *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.
- *6 When the pressure gauge is attached, a 1.0 MPa

- pressure gauge will be fitted for standard (0.85 MPa) type. 0.4 MPa pressure gauge for 0.2 MPa type.
- *7 The bracket position varies depending on the T-spacer or pressure switch mounting.
- *8 Make sure that the outlet pressure is released to atmospheric pressure using a pressure gauge.
- *9 Pressure can be set higher than the specification pressure in some cases, but use pressure within the specification range.
- *10 Refer to chemical data on page 46 for chemical resistance of the bowl
- A bowl guard is provided as standard equipment (polycarbonate).
- A bowl guard is provided as standard equipment (nylon).
- *13 The combination of float type auto drain: C and D is not available.

- *15 The combination of metal bowl: 2 and 8 is not available
- *16 For pipe thread type: NPT.

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

Cannot be used with M: Round pressure gauge (with color zone). Available by request for special. The digital pressure switch will be equipped with the

- unit selection function, setting to psi initially. For options: E1, E2, E3, E4. This product is for overseas use only according to the new Measurement Act. (The SI unit is provided for use in Japan.)
- *18 O: For pipe thread type: NPT only
- *19 \(\text{: Select with options: E1, E2, E3, E4.} \)

Standard Specifications

N	Model	AC20B-B	AC25B-B	AC30B-B	AC40B-B	AC40B-06-B	AC50B-B	AC55B-B	AC60B-B				
Commonant	Air Filter [AF]	AF20-A	AF30-A	AF30-A	AF40-A	AF40-06-A	AF50-A	AF60-A	AF60-A				
Component	Regulator [AR]	AR20-B	AR25-B	AR30-B	AR40-B	AR40-06-B	AR50-B	AR50-B	AR60-B				
Port size		1/8, 1/4	1/4, 3/8	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1	1	1				
Pressure gaug	ge port size [AR] *1				1	/8							
Fluid		Air											
Ambient and	fluid temperature *2	−5 to 60°C (with no freezing)											
Proof pressu	re				1.5	MPa							
Maximum op	erating pressure	1.0 MPa											
Set pressure	range [AR]	0.05 to 0.85 MPa											
Nominal filtra	ation rating [AF]	5 μm											
Bowl materia	I [AF]	Polycarbonate											
Bowl guard [AF]	Semi-standard (Steel) Standard (Polycarbonate)											
Construction	[AR]				Relievi	ng type							
Weight [kg]		0.27	0.45	0.53	0.91	0.99	2.27	2.40	2.45				

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

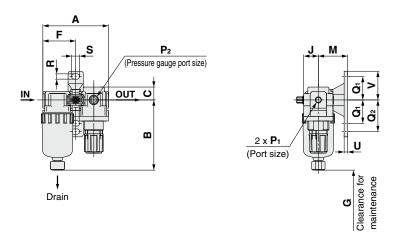


^{*2 -5} to 50°C for the products with the digital pressure switch

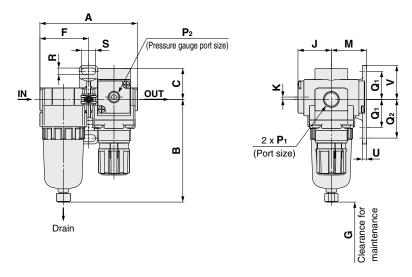
AC10B-A Series AC20B-B to AC60B-B Series

Dimensions

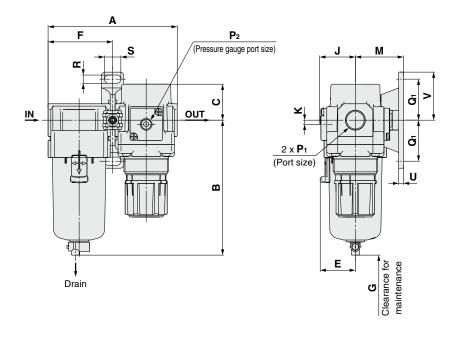
AC10B-A



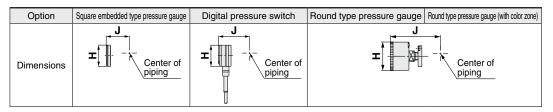
AC20B-B



AC25B-B to AC60B-B



Air Combination AC10B-A Series Air Combination AC20B-B to AC60B-B Series



Applicable model	AC10	B-A			AC20B-B		AC25B-B to AC60B-B
Optional/Semi-standard specifications	With auto drain	Metal bowl	With auto drain	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			AC2	5B-B to AC60B-B		
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	a	Width across flats 17	B	Width across flats 17	Width across flats 17	Barb fitting applicable tubing: T0604

							S	tandard	specifica	tions							
Model	P ₁	P ₂	_	В	С	Е	F	G		к			Bra	acket mo	unt		
	Pi	P2	A	В	C	_	F	G	٦	Γ.	M	Q1	Q2	R	S	U	V
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-B	1/8, 1/4	1/8	83.2	87.6	26.5	_	41.6	25	28.5	2 *1	30	24	33	5.5	12	3.5	29
AC25B-B	1/4, 3/8	1/8	110.2	115.1	28	30	55.1	35	27.5	0	41	35	_	7	14	4	41
AC30B-B	1/4, 3/8	1/8	110.2	115.1	30.7	30	55.1	35	29.4	3.5	41	35	_	7	14	4	41
AC40B-B	1/4, 3/8, 1/2	1/8	145.2	147.1	35.8	38.4	72.6	40	33.8	3.5	50	40		9	18	5	48
AC40B-06-B	3/4	1/8	155.2	149.1	35.8	38.4	77.6	40	33.8	3	50	40		9	18	5	48
AC50B-B	3/4, 1	1/8	186.2	220.1	43	_	93.1	30	43.3	3.2	70	50	_	11	20	6	60
AC55B-B	1	1/8	191.2	234.1	43		98.1	30	43.3	3.2	70	50	l	11	20	6	60
AC60B-B	1	1/8	196.2	234.1	46	_	98.1	30	43.3	3.2	70	50	_	11	20	6	60

				Option	al specific	cations						Semi-star	dard specific	ations	
Model	embedo	iare led type e gauge	Digital p	oressure itch	Round	,,		d type e 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	Н	J	Н	J	В	В	В	В	В	В	В
AC10B-A	_	_	_	_	ø26	26	_	_	77.9	_	_	59.3	_	_	_
AC20B-B	□28	29.5	□27.8	40	ø37.5	65	ø37.5	66	104.9	_	91.4	87.4	93.9	_	_
AC25B-B	□28	28.5	□27.8	39	ø37.5	64	ø37.5	65	156.8	123.6	121.9	117.6	122.1	137.6	142.1
AC30B-B	□28	30.4	□27.8	40.9	ø37.5	65.9	ø37.5	66.9	156.8	123.6	121.9	117.6	122.1	137.6	142.1
AC40B-B	□28	34.8	□27.8	45.3	ø42.5	71.3	ø42.5	71.3	186.9	155.6	153.9	149.6	154.1	169.6	174.1
AC40B-06-B	□28	34.8	□27.8	45.3	ø42.5	71.3	ø42.5	71.3	188.9	157.6	155.9	151.6	156.1	171.6	176.1
AC50B-B	□28	44.3	□27.8	54.8	ø42.5	80.8	ø42.5	80.8	259.9	228.6	226.9	222.6	227.1	242.6	247.1
AC55B-B	□28	44.3	□27.8	54.8	ø42.5	80.8	ø42.5	80.8	273.9	242.6	240.9	236.6	241.1	256.6	261.1
AC60B-B	□28	44.3	□27.8	54.8	ø42.5	80.8	ø42.5	80.8	273.9	242.6	240.9	236.6	241.1	256.6	261.1

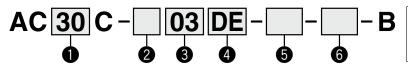
^{*1} For the AC20B-B only, the position of the pressure gauge is above the center of the piping.

Air Filter + Mist Separator + Regulator

AC20C-B to AC40C-B



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-F03DE1-SV-16NR-B

	_								
				Symbol	Description		Body	size	
						20	25	30	40
				Nil	Rc	•	•	•	•
2		Pine	thread type	N*1	NPT		•	•	•
		pc	anoua typo	F*2	G		•	•	•
				+					
				01	1/8	•	_	_	_
				02	1/4	•	•	•	•
8		ı	Port size	03	3/8	_	•	•	•
				04	1/2	_	_	_	•
				06	3/4	_	_	_	•
				+					
				Nil	Without auto drain	•	•	•	•
		а	Float type	C*4	N.C. (Normally closed) Drain port is closed when pressure is not applied.	•	•	•	•
			auto drain	D *5	N.O. (Normally open) Drain port is open when pressure is not applied.	_	•	•	•
				+					
	ဗ္			Nil	Without pressure gauge	•	•	•	•
	*uc		Pressure	Е	Square embedded type pressure gauge (with limit indicator)	•	•	•	•
4	Option *3		gauge *6	G	Round type pressure gauge (with limit indicator)	•	•	•	•
		b		M	Round type pressure gauge (with color zone)	•	•	•	•
		וט	5	E1	Output: NPN output, Electrical entry: Wiring bottom entry	•	•	•	•
			Digital pressure	E2	Output: NPN output, Electrical entry: Wiring top entry	•	•	•	•
			switch	E3	Output: PNP output, Electrical entry: Wiring bottom entry	•	•	•	•
				E4	Output: PNP output, Electrical entry: Wiring top entry	•	•	•	•
				+				•	
			Pressure	Nil	Without attachment	•	•	•	•
	اح ا	С	switch	S*7	Mounting position: AF+AFM+S+AR	•	•	•	•
	me		T-spacer	T *7	Mounting position: AF+AFM+ T +AR	•	•	•	•
6	Attachment			+			1	I	
	Atte	_	Pressure relief	Nil	Without attachment	•	•	•	•
		d	3 port valve	V	Mounting position: AF+AFM+AR+V	•	•	•	•
				V1*8	Mounting position: V +AF+AFM+AR□K		•	•	•
			Cod	+ Nil	0.05 to 0.85 MPa setting			•	
		е	Set pressure *9	1	0.02 to 0.2 MPa setting				
			p	+	order to ordering				
				Nil	Polycarbonate bowl	•	•	•	
				2	Metal bowl	•	•	•	•
				6	Nylon bowl	•	•	•	•
	ō	f	Bowl *10	8	Metal bowl with level gauge		•	•	•
	da			C	With bowl guard	•	_*11	*11	*11
6	star			6C	With bowl guard (Nylon bowl)	•	*12	*12	<u></u> *12
	Semi-standard			+			1	1	
	Se			Nil	With drain cock	•	•	•	•
		_	Air filter	J*14	Drain guide 1/8	•	_	_	
		g	Mist separator drain port *13	J	Drain guide 1/4		•	•	•
				W *15	Drain cock with barb fitting: For ø6 x ø4 nylon tube	_	•	•	•
				+					
		h	Exhaust	Nil	Relieving type	•	•	•	•
			mechanism	N	Non-relieving type	•	•	•	•

Air Combination AC20C-B to AC40C-B Series



AC20C-B

AC40C-B

	_								
				Symbol	Description		Body	/ size	
						20	25	30	40
	1_			Nil	Flow direction: Left to right	•	•	•	•
	standard	'	Flow direction	R	Flow direction: Right to left	•	•	•	•
6	au			+					
U	i-st			Nil	Name plate, caution plate for bowl, and pressure gauge in SI units: MPa	•	•	•	•
	Semi-	j	Pressure unit	Z *16	Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F	O*18	○*18	○*18	○*18
	0)			ZA *17	Digital pressure switch: With unit selection function	△*19	△*19	△*19	△*19

- *1 Drain guide is NPT1/8 (applicable to the AC20C-B) and NPT1/4 (applicable to the AC25C-B to AC40C-B).
- The auto drain port comes with ø3/8" One-touch fitting (applicable to the AC25C-B to AC40C-B).
- *2 Drain guide is G1/8 (applicable to the AC20C-B) and G1/4 (applicable to the AC25C-B to AC40C-B)
- *3 Options G, M are not assembled and supplied loose at the time of shipment.
- *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.
- *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.
- *6 When the pressure gauge is attached, a 1.0 MPa pressure gauge will be fitted for standard (0.85 MPa) type. 0.4 MPa pressure gauge for 0.2 MPa type.
- *7 The bracket position varies depending on the T-spacer or pressure switch mounting.
- *8 Make sure that the outlet pressure is released to atmospheric pressure using a pressure gauge.
- *9 Pressure can be set higher than the specification pressure in some cases, but use pressure within the specification range.
- *10 Refer to chemical data on page 46 for chemical resistance of the bowl.
- A bowl guard is provided as standard equipment (polycarbonate)
- A bowl guard is provided as standard equipment (nylon).
- *13 The combination of float type auto drain: C and D is

- not available.
- *14 Without a valve function
- *15 The combination of metal bowl: 2 and 8 is not available
- *16 For pipe thread type: NPT.

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

Cannot be used with M: Round type pressure gauge (with color zone). Available by request for special. The digital pressure switch will be equipped with the unit selection function, setting to psi initially. For options: E1, E2, E3, E4. This product is for over-

- seas use only according to the new Measurement Act. (The SI unit is provided for use in Japan.)
 - O: For pipe thread type: NPT only
 - *19 A: Select with options: E1, E2, E3, E4.

Standard Specifications

	Model	AC20C-B	AC25C-B	AC30C-B	AC40C-B	AC40C-06-B						
	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-B	AR25-B	AR30-B	AR40-B	AR40-06-B						
Port size		1/8, 1/4	1/4, 3/8	1/4, 3/8	1/4, 3/8, 1/2	3/4						
Pressure gau	uge port size [AR] *1			1/8								
Fluid		Air										
Ambient and	fluid temperature *2		–5 t	o 60°C (with no freez	ring)							
Proof pressu	ire			1.5 MPa								
Maximum op	erating pressure			1.0 MPa								
Set pressure	range [AR]	0.05 to 0.85 MPa										
Nominal filtra	ation rating [AF/AFM]		AF: 5 μm, AFM:	0.3 μm (99.9% filter	ed particle size)							
Rated flow [L	/min(ANR)] [AFM] *3	200	450	450	1100	1100						
Outlet side oil m	ist concentration [AFM] *4 *5	Max.1.0 mg/m³ (ANR) (≈0.8 ppm)										
Bowl materia	al [AF/AFM]	Polycarbonate										
Bowl guard [AF/AFM]	Semi-standard (Steel) Standard (Polycarbonate)										
Construction	n [AR]			Relieving type								
Weight [kg]		0.38	0.69	0.77	1.39	1.53						

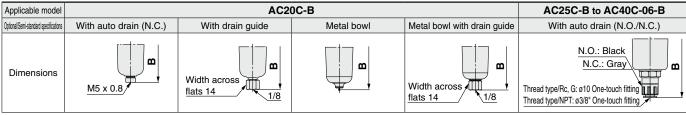
- *1 Pressure gauge connection threads are not available for F.R.L. unit with a square embedded type pressure gauge or with a digital pressure switch.
- *2 -5 to 50°C for the products with the digital pressure switch
- Conditions: Mist separator inlet pressure: 0.7 MPa; The rated flow varies depending on the inlet pressure. Keep the air flow within the rated flow to prevent an outflow of lubricant to the outlet side.
- *4 When the compressor oil mist discharge concentration is 30 mg/m³ (ANR).
- *5 Bowl seal and other O-rings are slightly lubricated.

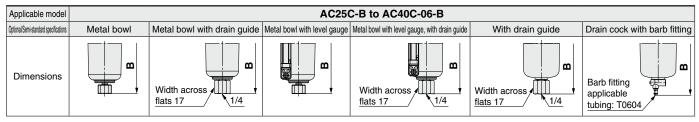


AC20C-B to AC40C-B Series

Dimensions

AC20C-B AC25C-B to AC40C-06-B P2 P_2 (Pressure gauge port size) N (Pressure gauge port size) s ō OUT <u>IN</u> Ω m 2 x **P**1 Clearance for (Port size) Drain Drain G 2 x **P**1 Ε Clearance for maintenance (Port size) Drain Drain G Option Square embedded type pressure gauge Digital pressure switch Round type pressure gauge | Round type pressure gauge (with color zone) Dimensions Center of Center of Center of piping piping piping Applicable model AC20C-B AC25C-B to AC40C-06-B





								Stand	ard spec	ification	s							
Model	P ₁	P ₂	_	В	_	Е	_	G		V				Bracke	t mount			
	P1	F2	A				-	G	"	N.	М	N	Q ₁	Q2	R	S	U	V
AC20C-B	1/8, 1/4	1/8	126.4	87.6	26.5	_	41.6	40	28.5	2 *1	30	43.2	24	33	5.5	12	3.5	29
AC25C-B	1/4, 3/8	1/8	167.4	115.1	28	30	55.1	50	27.5	0	41	57.2	35	_	7	14	4	41
AC30C-B	1/4, 3/8	1/8	167.4	115.1	30.7	30	55.1	50	29.4	3.5	41	57.2	35	_	7	14	4	41
AC40C-B	1/4, 3/8, 1/2	1/8	220.4	147.1	35.8	38.4	72.6	75	33.8	3.5	50	75.2	40	_	9	18	5	48
AC40C-06-B	3/4	1/8	235.4	149.1	35.8	38.4	77.6	75	33.8	3	50	80.2	40	_	9	18	5	48

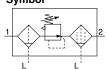
				Option	al specific	cations						Semi-star	dard specific	ations	
Model	Square embedded type pressure gauge		Digital pressure switch		Round type pressure gauge		Round type pressure gauge (with color zone)		With auto drain	With barb fitting	With drain guide	Metal bowl	Metal bowl with drain guide	Metal bowl with level gauge	Metal bowl with level gauge, with drain guide
	Н	J	Н	J	Н	J	Н	J	В	В	В	В	В	В	В
AC20C-B	□28	29.5	□27.8	40	ø37.5	65	ø37.5	66	104.9	_	91.4	87.4	93.9	_	_
AC25C-B	□28	28.5	□27.8	39	ø37.5	64	ø37.5	65	156.8	123.6	121.9	117.6	122.1	137.6	142.1
AC30C-B	□28	30.4	□27.8	40.9	ø37.5	65.9	ø37.5	66.9	156.8	123.6	121.9	117.6	122.1	137.6	142.1
AC40C-B	□28	34.8	□27.8	45.3	ø42.5	71.3	ø42.5	71.3	186.9	155.6	153.9	149.6	154.1	169.6	174.1
AC40C-06-B	□28	34.8	□27.8	45.3	ø42.5	71.3	ø42.5	71.3	188.9	157.6	155.9	151.6	156.1	171.6	176.1

^{*1} For the AC20C-B only, the position of the pressure gauge is above the center of the piping.

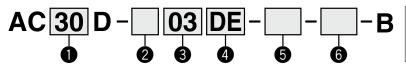


Filter Regulator + Mist Separator

AC20D-B to AC40D-B



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.

						0	
			Symbol	Description		Body size	
				·	20	30	40
			Nil	Rc	•	•	•
2	Pine	e thread type	N*1	NPT	•	•	•
9	p.	o unoda typo	F*2	G	•	•	
			+	<u> </u>			
			01	1/8	•		_
			02	1/4	•	•	•
8		Port size	03	3/8	_	•	•
			04	1/2	_	_	•
			06	3/4	_		•
			+				
			Nil	Without auto drain	•	•	•
	а	Float type	C*4	N.C. (Normally closed) Drain port is closed when pressure is not applied.	•	•	•
		auto drain	D *5	N.O. (Normally open) Drain port is open when pressure is not applied.	_	•	•
			+				
ო *			Nil	Without pressure gauge	•	•	•
*	5	Pressure	Е	Square embedded type pressure gauge (with limit indicator)	•	•	•
4 Option		gauge *6	G	Round type pressure gauge (with limit indicator)	•	•	•
0			М	Round type pressure gauge (with color zone)	•	•	•
	b		E1	Output: NPN output, Electrical entry: Wiring bottom entry	•	•	•
		Digital	E2	Output: NPN output, Electrical entry: Wiring top entry	•	•	•
		pressure switch	E3	Output: PNP output, Electrical entry: Wiring bottom entry	•	•	•
		SWILCIT	E4	Output: PNP output, Electrical entry: Wiring top entry	•	•	•
			+				
		Pressure	Nil	Without attachment	•	•	•
=	. C	switch	S *7	Mounting position: AW+S+AFM	•	•	•
Q Attachment			+				
6 5	3	5 ". (Nil	Without attachment	•	•	•
#	[d	Pressure relief 3 port valve	V	Mounting position: AW+AFM+V	•	•	•
		3 port vaive	V1*8	Mounting position: V +AW□K+AFM	•	•	•
			+				
		Set	Nil	0.05 to 0.85 MPa setting	•	•	•
	е	pressure *9	1	0.02 to 0.2 MPa setting	•	•	•
			+				
			Nil	Polycarbonate bowl	•	•	•
			2	Metal bowl	•	•	•
	f	Bowl *10	6	Nylon bowl	•	•	•
	'	Down	8	Metal bowl with level gauge	_	•	•
ح ا	,		С	With bowl guard	•	*11	*11
dar	3		6C	With bowl guard (Nylon bowl)	•	*12	*12
6			+				
Semi-standard	<u> </u>	Filter regulator	Nil	With drain cock	•	•	•
Sen	5 g	Mist separator	J*14	Drain guide 1/8	•		
		drain port *13		Drain guide 1/4		•	•
			W *15	Drain cock with barb fitting: For ø6 x ø4 nylon tube	_	•	•
			+				
	h	Exhaust	Nil	Relieving type	•	•	•
		mechanism	N	Non-relieving type	•	•	•
			+				
	Ηi	Flow direction	Nil	Flow direction: Left to right	•	•	•
			R	Flow direction: Right to left	•	•	•

Air Combination AC20D-B to AC40D-B Series



AC20D-B

AC40D-B

	_	_					0	
		_		Symbol	Description		Body size	
						20	30	40
	dard			Nil	Name plate, caution plate for bowl, and pressure gauge in SI units: MPa	•	•	•
6	Semi-standard	j	Pressure unit	Z *16	Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F	○*18	○*18	○*18
	l Se			ZA *17	Digital pressure switch: With unit selection function	△*19	△*19	△*19
∗1 D	rain a	uide i	is NPT1/8 (applicable	to the AC	20D-B) and pressure gauge will be fitted for standard (0.85 MPa)	*14 Without a valv	e function	

- NPT1/4 (applicable to the AC30D-B/AC40D-B). The auto drain port comes with ø3/8" One-touch fitting (applicable to the AC30D-B/AC40D-B).
- *2 Drain guide is G1/8 (applicable to the AC20D-B) and G1/4 (applicable to the AC30D-B/AC40D-B).
- *3 Options G, M are not assembled and supplied loose at the time of shipment.
- *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.
- *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
- *6 When the pressure gauge is attached, a 1.0 MPa

- type. 0.4 MPa pressure gauge for 0.2 MPa type.
- *7 The bracket position varies depending on the pressure switch mounting.
- *8 Make sure that the outlet pressure is released to atmospheric pressure using a pressure gauge.
- *9 Pressure can be set higher than the specification pressure in some cases, but use pressure within the specification range.
- *10 Refer to chemical data on page 46 for chemical resistance of the bowl.
- A bowl guard is provided as standard equipment (polycarbonate).
- A bowl guard is provided as standard equipment (nylon).
- *13 The combination of float type auto drain: C and D is not available.

- *15 The combination of metal bowl: 2 and 8 is not available.
- *16 For pipe thread type: NPT.

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

Cannot be used with M: Round type pressure gauge (with color zone). Available by request for special The digital pressure switch will be equipped with the unit selection function, setting to psi initially.

- *17 For options: E1, E2, E3, E4. This product is for overseas use only according to the new Measurement Act. (The SI unit is provided for use in Japan.)
- *18 O: For pipe thread type: NPT only
- *19 A: Select with options: E1, E2, E3, E4.

Standard Specifications

	Model	AC20D-B	AC30D-B	AC40D-B	AC40D-06-B					
0 1	Filter Regulator [AW]	AW20-B	AW30-B	AW40-B	AW40-06-B					
Component	Mist Separator [AFM]	AFM20-A	AFM30-A	AFM40-A	AFM40-06-A					
Port size		1/8, 1/4	3/4							
Pressure gau	uge port size [AW] *1	1/8								
Fluid			A	ir						
Ambient and	fluid temperature *2		−5 to 60°C (wi	th no freezing)						
Proof pressu	ire	1.5 MPa								
Maximum op	erating pressure	1.0 MPa								
Set pressure	range [AW]	0.05 to 0.85 MPa								
Nominal filtra	ation rating [AW/AFM]	AW: 5 μm, AFM: 0.3 μm (99.9% filtered particle size)								
Rated flow [L	_/min(ANR)] [AFM] *3	150	330	800	800					
Outlet side oil m	ist concentration [AFM] *4 *5	Max.1.0 mg/m³ (ANR) (≈0.8 ppm)								
Bowl materia	al [AW/AFM]	Polycarbonate								
Bowl guard [AW/AFM]	Semi-standard (Steel) Standard (Polycarbonate)								
Construction	n [AW]	Relieving type								
Weight [kg]		0.32 0.62 1.15 1.25								

- *1 Pressure gauge connection threads are not available for F.R.L. unit with a square embedded type pressure gauge or with a digital pressure switch.
- -5 to 50°C for the products with the digital pressure switch
- *3 Conditions: Mist separator inlet pressure: 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.
- *4 When the compressor oil mist discharge concentration is 30 mg/m³ (ANR).
- *5 Bowl seal and other O-rings are slightly lubricated.



AC20D-B to AC40D-B Series

Dimensions

AC20D-B AC30D-B to AC40D-06-B P_2 М (Pressure gauge port size) s М S ပ ō ō OUT IN OUT IN ō ō 2 x P1 2 x P1 (Port size) (Port size) m U P2 B (Pressure gauge port size) maintenance Clearance Drain Drain G Ε Clearance for G Drain Drain Option Square embedded type pressure gauge Digital pressure switch Round type pressure gauge Round type pressure gauge (with color zone) Center of Center of Center of Dimensions piping piping piping AC20D-B AC30D-B to AC40D-06-B Applicable model Ontional/Semi-standard With auto drain (N.C.) With drain guide Metal bowl Metal bowl with drain guide With auto drain (N.O./N.C.) specification N.O.: Black $\mathbf{\omega}$ N.C.: Gray m ш m m Dimensions Width across Width across Thread type/Rc, G: ø10 One-touch fitting M5 x 0.8 flats 14 flats 14 1/8 Thread type/NPT: ø3/8" One-touch fitting AC30D-B to AC40D-06-B Applicable model Optional/Semi-standard Metal bowl Metal bowl with level gauge, Metal bowl Metal bowl with drain guide With drain guide Drain cock with barb fitting specification with level gauge with drain guide ω B B B m m **Dimensions** Barb fitting Width across Width across Width across applicable flats 17 flats 17 1/4 flats 17 1/4 tubing: T0604 Standard specifications Model Bracket mount **C** *1 F P1 P2 Α В Ε G J Κ М O₁ O₂ R 41.6 AC20D-B 1/8, 1/4 87.6 1/8 83.2 72.4 40 26 5 30 24 33 5.5 12 3.5 29 AC30D-B 1/4, 3/8 41 41 1/8 110.2 115.1 85.6 30 55.1 50 30.4 3.5 35 14 4 AC40D-B 1/4, 3/8, 1/2 1/8 145.2 147.1 91.7 38.4 72.6 75 37.3 1.5 50 40 9 18 48 AC40D-06-B 3/4 1/8 155.2 149.1 93.2 38.4 77.6 75 39.8 1.2 50 40 9 18 5 48 Semi-standard specifications Optional specifications With With With Metal bowl Metal bowl Metal bowl with Square Round type Digital pressure Metal Round type embedded type Model pressure gauge auto barb drain with drain with level level gauge, pressure gauge with drain guide pressure gauge (with color zone) drain fitting guide guide gauge В В В В В Н Н н Н В В AC20D-B □28 □27.8 37.5 ø37.5 62.5 ø37.5 63.5 104.9 91.4 87.4 93.9 142.1 AC30D-B □28 30 □27.8 40.9 ø37.5 66.9 ø37.5 67.9 156.8 123.6 121.9 117.6 122.1 137.6 AC40D-B □28 38.4 □27.8 48.8 ø42.5 ø42.5 75.7 186.9 155.6 153.9 149.6 154.1 169.6 174.1 75.7

□27.8

48.8

ø42.5

75.7

ø42.5

38.4



75.7

188.9

157.6

155.9

151.6

156.1

171.6

176.1

AC40D-06-B

□28

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

AB

Air Combination AC Series **Options/Attachments**

Options/Attachments/Part No.

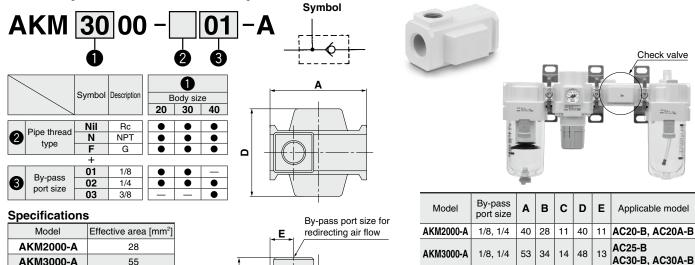
	·							Part no.							
				For AC10-A	For AC20-B	For AC25-B	For AC30-B		For AC40-06-B	For AC50-B	For AC55-B	For AC60-B			
Section			Model	For AC10A-A				For AC40A-B				For AC60A-B			
ecti					For AC20B-B	For AC25B-B					For AC55R-R				
Š	1	Descript	ion	—			For AC30C-B								
		2 000.1pt		_	For AC20D-B	—		For AC40D-B		_	_	_			
	*	Round	Standard	G27-10-R1		G36-10-□01	1 0 11000 =			G46-10-□01					
	8	type Round type	0.02 to 0.2 MPa setting	G27-10-R1		G36-4-□01				G46-4-□01					
İ	g	Round type (with color	Standard	_		G36-10-□01-L				G46-10-□01-L					
İ			0.02 to 0.2 MPa setting	_		G36-4-□01-L		G46-4-□01-L							
1_	essare	Square	Standard	_		GC3-10AS [GC3P-010AS (Pressure gauge cover only)]									
j.	4	embedded type *2	0.02 to 0.2 MPa setting	_		GC3-4AS [GC3P-010AS (Pressure gauge cover only)]									
Option			NPN output, Wiring bottom entry			ISE35-N-25-MLA [ISE35-N-25-M (Switch body only)] *3									
	10	igital	NPN output, Wiring top entry			ISE35-R-25-MLA [ISE35-R-25-M (Switch body only)] *3									
		ressure witch	PNP output, Wiring bottom entry	_		ISE35-N-65-MLA [ISE35-N-65-M (Switch body only)] *3									
	Ľ		PNP output, Wiring top entry				ISE35-R-65	-MLA [ISE35-R-	65-M (Switch bo	ody only)] *3					
		oat type	N.O.	_			38-A			AD48-A					
	-	ito drain *4	N.C.	AD17-A	AD27-A										
		pacer		Y100-A	Y200-A		00-A	Y400-A	Y500-A		Y600-A				
	S	pacer with	bracket	Y100T-A	Y200T-A		0T-A	Y400T-A	Y500T-A		Y600T-A				
	C	heck valv	a *5 *6	_	AKM2000-□01-A	AKM300	0-(□01)-A	AKM4000-(□02)-A	_	_	_	_			
			-		(□02)-A		□02-A	□03-A							
	Pi	ressure s	witch *6		IS10M-20-A		Л-30-A	IS10M-40-A	IS10M-50-A		IS10M-60-A				
	_{T-}	spacer *5	*6	Y110-M5-A	Y210-□01-A	,	□01)-A	Y410-(□02)-A			,	Y610-(□03)-A			
	Ŀ				(□02)-A		□02-A	□03-A	□03-A	(□04)-A		□04-A			
+	Pr	ressure re	lief		VHS20-□01A	VHS30)-□02A	□02A VHS40-□03A	<u>-</u>	VHS50-□06A					
le.	3	port valve		_	□02A		□03A		VHS40-□06A	□10A	_	-			
Attachment	Ľ.							□04A							
tac					□01-A		□02-A	□02-A							
∣¥	Pi	iping ada	oter *6	E100-M5-A	E200-□02-A	E300-	□03-A	E400-□03-A	E500-□06-A		E600-□06-A				
		. 5			□03-A		□04-A	□04-A			□10-A				
	\vdash							□06-A							
			la.a.lalala		□01-A		□02-A	□02-A IS10E-40□03-A							
	1		witch with	_	IS10E-20□02-A	IS10E-3	30□03-A		_	_	_	_			
	þi	ping adap	ner 🗝		□03-A	□04-A		□04-A							
	\vdash				Y24-□01-A	V04 F		□06-A Y44-□02-A	Y54-□03-A			+			
	Cı	ross spac	er *6	Y14-M5-A	Y24-⊔01-A □02-A				Y54-⊔03-A □04-A	_	_	_			
	O Coo opace				U2-A	l.	□02-A	□03-A	⊔04-A						

- *1 ☐ in part numbers for a round type pressure gauge indicates a pipe thread type. No indication is necessary for R; however, indicate N for NPT. Please contact SMC regarding the connection thread NPT and pressure gauge supply for psi unit specifications.
- *2 Including one O-ring and 2 mounting screws
 *3 Lead wire with connector (2 m), adapter, lock pin, O-ring (1 pc.), mounting screw (2 pcs.) are attached. []: Switch body only
- Regarding how to order the digital pressure switch, refer to the **Web Catalog**.

 *4 Minimum operating pressure: N.O. type–0.1 MPa; N.C. type–0.1 MPa (AD27-A) and 0.15 MPa (AD37-A/AD47-A). Please consult with SMC separately for psi and F unit display specifications.
- *5 For F.R.L. units, port sizes without () are standard specifications.
- *6 Separate spacers are required for modular unit.

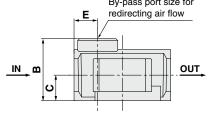
Check Valve: (K) 1/8, 1/4, 3/8

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.



AKM3000-A AKM4000-A

Be sure to use above check valves when redirecting the air flow on the inlet side of the lubricator. Threads for IN and OUT ports are not machined.



*1	Cannot h	e mounted		C40		
	Our in lot k	o inountou	011	 0.0	_ 00	υ.

1/4, 3/8

AKM4000-A

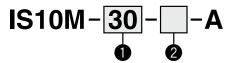
* Refer to the attachment table above for standard by-pass port sizes applicable to the AC.

70 | 42 | 18 | 54 | 15 | **AC40-B**, **AC40A-B***1

AC Series

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.
- Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order. Example) IS10M-30-6LP

		_		Symbol	Description	Body size 20 30 40 50				60
						20 30 40 50			60	
		а	Set pressure	Nil	0.1 to 0.4 MPa	•	•	•	•	•
	0	a	range	6* ¹	0.1 to 0.6 MPa	•	•	•	•	•
	standard			+		-				
_			b Lead wire	Nil	0.5 m		•	•	•	•
2	sta	b		L	3 m		•	•	•	•
			length	Z	5 m		•	•	•	•
	Semi			+						
	၂ တ		Pressure unit of	Nil	MPa		•	•	•	•
	c the sc		the scale plate	P *2	MPa/psi dual scale	•	•	•	•	•

- *1 Set pressure range of 6P (L, Z) is 0.2 to 0.6 MPa (30 to 90 psi).
- *2 This product is for overseas use only according to the new Measurement Act. (The SI unit type is provided for use in Japan.)

Specifications

Fluid	Air				
Ambient and fluid temperature	−5 to 60°C (with no freezing)				
Proof pressure	1.0 MPa				
Maximum operating pressure	0.7 MPa				
Set pressure range (when OFF)	0.1 to 0.4 MPa				
Hysteresis	0.08 MPa or less				

Switch Characteristics

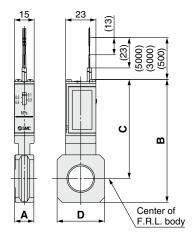
Contact point configuration	1a				
Maximum contact point capacity	2 VA (AC), 2 W (DC)				
Operating voltage: AC, DC	100 V or less				
Maximum operating current	12 V to 24 VAC, DC: 50 mA 48 VAC, DC: 40 mA 100 VAC, DC: 20 mA				

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

Symbol





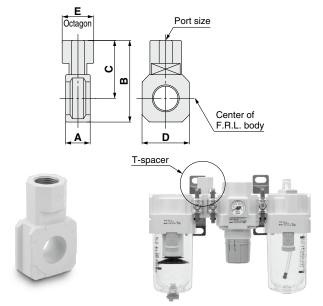


Model	Α	В	С	D	Applicable model
IS10M-20-A	10.6	74.2	64.4	28	AC20□-B
IS10M-30-A	12.6	84.5	70.5	30	AC25□-B, AC30□-B
IS10M-40-A	14.6	93.3	75.3	36	AC40□-B
IS10M-50-A	16.6	97.3	77.3	44	AC40□-06-B
IS10M-60-A	22	92.5	66.8	53	AC50□-B, AC55□-B, AC60□-B

^{*} Separate spacers are required for modular unit.

T-Spacer: (T) M5 x 0.8, 1/8, 1/4, 3/8, 1/2

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



Model *1	Port size	Α	В	С	D	Е	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-B, AC20B-B
Y210-□02-A	1/4	14.0	41.0	32	20	19	AC20C-B
Y310-□01-A	1/8	14.6	52.7	38.7	30	19	AC25-B, AC25B-B
Y310-□02-A	1/4	14.0	52.7	30.7	30	19	AC25C-B, AC30C-B
Y410-□02-A	1/4	18.6	62	44	36	24	AC40-B, AC40B-B
Y410-□03-A	3/8	10.0	02	44	30	24	AC40C-B
Y510-□02-A	1/4	18.6	66	46	44	24	AC40-06-B, AC40B-06-B
Y510-□03-A	3/8	10.0	00	40	44	24	AC40C-06-B
Y610-□03-A	3/8	22	81	57	53	30	AC50-B, AC55-B, AC60-B,
Y610-□04-A	1/2	22	01	57	53	30	AC50B-B, AC55B-B, AC60B-B
:							

- *1 □ in model numbers indicates a pipe thread type. No indication is necessary for Rc; however, indicate N for NPT, and F for G.
- Separate spacers are required for modular unit.
- Refer to the attachment table on page 34 for standard port sizes when using with the AC.

Caution on Mounting

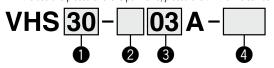
If a T-spacer is used on the inlet side of the lubricator, lubricant may be mixed. Use the AKM series check valve to avoid such possibility.



₹

Pressure Relief 3 Port Valve: (V) Refer to the Web Catalog for details on pressure relief 3 port valve

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

	\				Description		(
				Symbol	Description		Body	size	
						20	30	40	50
				Nil	Rc	•	•	•	•
2	Pipe thread type			N*1	NPT		•	•	•
				F*1	G	•	•	•	•
+									
				01	1/8		_	_	_
				02	1/4	•	•	•	_
A		Dort	size	03	3/8	_	•	•	_
3		FUIL	SIZE	04	1/2	_	_	•	_
				06	3/4	—	_	•	•
				10	1	_	_	_	•
				+					
	ırd		Flow	Nil	Flow direction: Left to right		•	•	•
_	pu	а	direction	R	Flow direction: Right to left		•	•	•
4	Semi-standard			+	-				
	Ë	ь	Pressure	Nil	Name plate in SI units: MPa		•	•	•
	Se	D	unit	Z *1	Name plate in imperial units: psi	•	•	•	•
				N.D.T.					

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

Flow Rate Characteristics

	Port size		Flow rate characteristics									
Model	IN. OUT	EXH	IN -	→ OUT		OUT → EXH						
			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				
VII 320	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				
V11330	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				
VHS50	3/4	1/2	23.8	0.41	6.4	21.8	0.41	5.9				
งกรอบ	1	1/2	31.9	0.33	8.6	23.5	0.44	6.4				

Symbol 2 3 1	Pressure relief 3 port valve
E D Key car pressur	n be mounted when residual e is released.
IN OUT OUT EXH	2 x P1 (Port size) P2 (Port size)

Model	Standard specifications										
Model	P ₁	P ₂	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	43
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
VHS50	3/4, 1	1/2	134.3	53	90	76	26	76	61	53	81

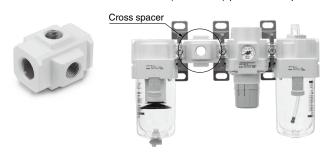
^{*} Use an air filter on the inlet side for operating protection.

Cross Spacer: M5 x 0.8, 1/8, 1/4, 3/8, 1/2

Pipings are possible in all 4 directions.

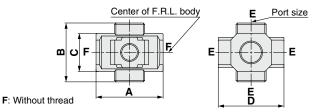
IN/OUT ports are not machined for threads.

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



Caution on Mounting

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



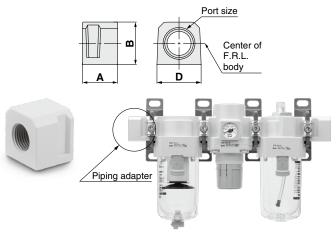
Model *1	E (Port size)	Α	В	С	D	Applicable model
Y14-M5-A	M5	23	16	14	25	AC10□-A
Y24-□01-A	1/8	40	40	22	40	AC20□-B
Y24-□02-A	1/4					
Y34-□01-A	1/8	49	43	28	48	AC25□-B, AC30□-B
Y34-□02-A	1/4					
Y44-□02-A	1/4	60	48	36	54	AC40□-B
Y44-□03-A	3/8					
Y54-□03-A	3/8	72	62	40	62	AC40□-06-B
Y54-□04-A	1/2					
A ST. III I TELEVISION IN THE RESERVE						

- *1 \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.



Piping Adapter: M5 x 0.8, 1/8, 1/4, 3/8, 1/2, 3/4, 1

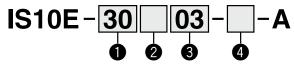
A piping adapter allows installation/removal of the component without removing the piping and thus makes maintenance easier.



Model *1	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□-B					
E200-□03-A	3/8									
E300-□02-A	1/4									
E300-□03-A	3/8	31.8	30	30	AC25□-B, AC30□-B					
E300-□04-A	1/2									
E400-□02-A	1/4									
E400-□03-A	3/8	31.8	36	36	AC40□-B					
E400-□04-A	1/2	31.0	36	36	AC40□-B					
E400-□06-A	3/4									
E500-□06-A	3/4	31.8	40	44	AC40□-06-B					
E600-□06-A	3/4	35	48	53	AC50-B, AC55-B, AC60-B, AC50A-B, AC60A-B, AC50B-B.					
E600-□10-A	1	33	40	33	AC55B-B, AC60B-B					

- *1 ☐ in model numbers indicates a pipe thread type. No indication is necessary for Rc; however, indicate N for NPT, and F for G.
- * Separate spacers are required for modular unit.
- Factory mounting of a piping adapter on the AC models is available as a special order.

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	80 20	ody si	ze 40
						20	30	40
				Nil	Rc	•	•	
2		Pipe	thread type	N*2	NPT	•	•	
				F*2	G	•	•	
				+				
				01	1/8	•	_	_
				02	1/4	•	•	•
3		F	Port size	03	3/8	•	•	•
				04	1/2	_	•	•
				06	3/4	_	_	•
				+	,			
		_	Set pressure	Nil	0.1 to 0.4 MPa	•	•	•
		а	range	6*1	0.1 to 0.6 MPa	•	•	•
				+	,			
	0			Nil	0.5 m	•	•	•
	Jan	b	Lead wire	L	3 m	•	•	•
	anc		length	Z	5 m	•	•	•
4	i-st			+				
	Semi-standard		Pressure unit of	Nil	MPa	•	•	
	Š	С	the scale plate	P*2	MPa/psi dual scale	•	•	•
				+				
			Mounting	Nil	Right	•	•	
		d	position	R	Left	•	•	•
					- 0.0 to 0.6 MDs /20 to 0		_	

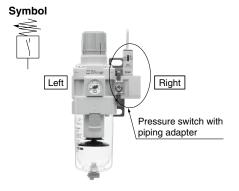
- *1 Set pressure range of 6P (L, R, Z) is 0.2 to 0.6 MPa (30 to 90 psi).
- *2 For pipe thread type: NPT only. This product is for overseas use only according to the new Measurement Act. (The SI unit type is provided for use in Japan.)

Specifications

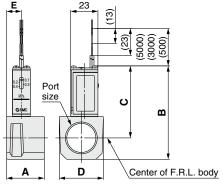
opoomounomo	
Fluid	Air
Ambient and fluid temperature	-5 to 60°C (with no freezing)
Proof pressure	1.0 MPa
Maximum operating pressure	0.7 MPa
Set pressure range (when OFF)	0.1 to 0.4 MPa
Hysteresis	0.08 MPa or less

Switch Characteristics

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 V AC, DC: 50 mA 48 V AC, DC: 40 mA
	100 V AC DC: 20 mA







Model *1	Port size	Α	В	С	D	Е	Applicable model
IS10E-20□01-A	1/8						
IS10E-20□02-A	1/4	29.8	66.3	55.3	28	16	AC20□-B
IS10E-20□03-A	3/8						
IS10E-30□02-A	1/4						4.005 D
IS10E-30□03-A	3/8	31.8	72.8	58.8	30	13	AC25□-B, AC30□-B
IS10E-30□04-A	1/2						A000-B
IS10E-40□02-A	1/4						
IS10E-40□03-A	3/8	31.8	78.8	60.8	37	12.5	*2
IS10E-40□04-A	1/2	31.8	70.8	00.8	3/	12.5	AC40□-B
IS10E-40□06-A	3/4						

- *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.
- *2 Cannot be mounted on the AC40□-06-B.
- * Separate spacers are required for modular unit.
- * The pressure switch can be mounted on the AC40□-06-B and above by screwing the IS10-01S into the piping adapter E500-□06-A-X501 or E600-□06 to 10-A-X501 (Rc1/8 threaded on top surface). Products with a premounted switch are available as a special order. Please contact SMC beforehand.

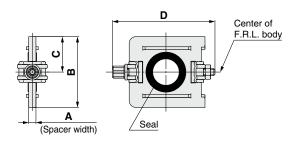


ΑF

AC Series

Accessories (Spacers/Brackets)

Spacer



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□-B
Y300-A	4.2	43.4	21.7	57.9	AC25□-B, AC30□-B
Y400-A	5.2	53	26.5	68.5	AC40□-B
Y500-A	5.2	57	28.5	75.6	AC40□-06-B
Y600-A	6.2	67.6	33.8	92.5	AC50□-B, AC55□-B, AC60□-B



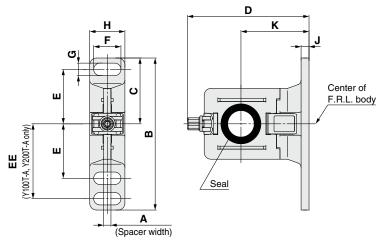
Y200-A

Y400-A

Replacement Parts

Description	Material			Par	t no.		
Description	ivialeriai	Y100-A	Y200-A	Y300-A	Y400-A	Y500-A	Y600-A
Seal	HNBR (NBR) *1	Y120P-050AS *2	Y220P-050S	Y320P-050S	Y420P-050S	Y520P-050S	Y620P-050S

Spacer with Bracket



Model	Α	В	С	D	Е	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□-B
Y300T-A	4.2	82	41	71.5	35	_	14	7	19	4	41	AC25□-B, AC30□-B
Y400T-A	5.2	96	48	86.1	40	_	18	9	26	5	50	AC40□-B
Y500T-A	5.2	96	48	89.6	40	_	18	9	26	5	50	AC40□-06-B
Y600T-A	6.0	120	60	110	50		00	44	31.2		70	AC50□-B, AC55□-B,
10001-A	6.2	120	60	118	50		20	11	31.2	6	70	AC60□-B



Y200T-A

Y400T-A

Replacement Parts

Description	Motorial		Part no.												
Description	Material	Y100T-A	Y200T-A	Y300T-A	Y400T-A	Y500T-A	Y600T-A								
Seal	HNBR (NBR) *1	Y120P-050AS *2	Y220P-050S	Y320P-050S	Y420P-050S	Y520P-050S	Y620P-050S								

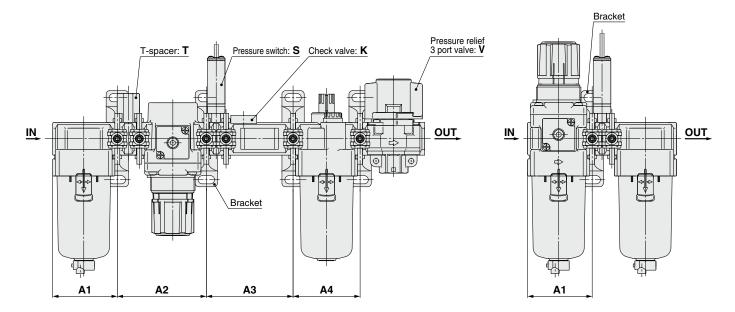


^{*1 ():} Size 10 *2 Assembly of 2 O-rings

^{*1 ():} Size 10 *2 Assembly of 2 O-rings

AC Series

Mounting Position for Spacer with Bracket



Attachment		K			3	1	Γ		٧			KS			KT			K	v			KST	
Model	A1	A2	А3	A1	A2	A1	A2	A1	A2	А3	A1	A2	АЗ	A1	A2	АЗ	A1	A2	АЗ	A4	A1	A2	A3
AC10-A	_	_	_	_	_	28	48.2	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
AC20-B	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-B	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-B	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-B	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-B	_	_	_	77.6	80.2	77.6	104	77.6	80.2	80.2	_	_	_	_	_	_	_	_	_	_	_	_	_
AC50-B	_	_	_	93.1	96.2	93.1	124	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
AC55-B	_	_	_	98.1	96.2	98.1	124	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
AC60-B	_	_	_	98.1	101.2	98.1	129	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_

Attachment		KS	SV			K'	ΓV		KSTV				ST			sv			STV			TV	
Model	A1	A2	А3	A4	A1	A2	А3	A4	A1	A2	A3	A4	A1	A2	A1	A2	А3	A1	A2	A3	A1	A2	A3
AC10-A	_	_	_	_		_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
AC20-B	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-B	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-B	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-B	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-B	_	_	_	_	_	_	_	_	_	_	_	_	77.6	104	77.6	80.2	102	77.6	104	102	77.6	104	80.2
AC50-B	_	_	_	_	_	_	_	_	_	_	_	_	93.1	124	93.1	189.3	124	93.1	124	124	93.1	124	96.2
AC55-B	_	_	_	_	_	_	_	_	_	_	_	_	98.1	124	_	_	_	_	_	_	_	_	_
AC60-B		_		_	_		_						98.1	129	_	_		_	_	_	_		

Attachment	ŀ	(S	V		KS		KV				KSV		sv		
Model	A1	A2	A1	A1	A2	A1	A2	A1	A2	А3	A1	A2	A3	A1	A2	
AC20A-B	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-B	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-B	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-B	_	_	77.6	77.6	80.2	_	_	_	_	_	_	_	_	77.6	102	
AC50A-B	_	_	93.1	93.1	96.2	_	_	_	_	_		_	_	93.1	124	
AC60A-B	_	_	98.1	_	_	_	_	_	_	_	_	_	_	_	_	

Attachment	S	Т	'	7	٧	1	S	v	S	V1	Т	v	T۱	/1
Model	A1	A1	A1	A2	A1	A2	A1	A2	A1	A2	A1	A2	A1	A2
AC10B-A	_	28	_	_	_	_	_	_	_	_	_	_	_	_
AC20B-B	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-B	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-B	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-B	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
AC40B-06-B	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
AC50B-B	93.1	93.1	93.1	189.3	93.1	96.2	93.1	124	93.1	96.2	93.1	124	93.1	96.2
AC55B-B	98.1	98.1	_	_	_	_	_	_	_	_	_	_	_	_
AC60B-B	98.1	98.1	_	_	_	_	_	_	_	_	_	_	_	

Attachment	5	3	7	Γ		V			V1			sv			SV1			TV			TV1	
Model	A1	A2	A1	A2	A1	A2	А3	A1	A2	А3	A1	A2	А3	A1	A2	А3	A1	A2	А3	A1	A2	A3
AC20C-B	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-B	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-B	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-B	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-B	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	V		٧	V1		<u>v </u>	SV1		
Model	A1	A1	A2	A1	A2	A1	A2	A1	A2	
AC20D-B	41.6	41.6	43.2	41.6	43.2	41.6	57	41.6	43.2	
AC30D-B	55.1	55.1	57.2	55.1	57.2	55.1	74	55.1	57.2	
AC40D-B	72.6	72.6	75.2	72.6	75.2	72.6	95	72.6	75.2	
AC40D-06-B	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.

Modular Type Air Filters AF/AFM/AFD Series

Air Filter AF Series	Model	Port size	Filtration µm	Options
Ai Jelles	AF10-A	M5 x 0.8		
	AF20-A	1/8, 1/4		
224	AF30-A	1/4, 3/8		Bracket (Except AF10-A)
The state of the s	AF40-A	1/4, 3/8, 1/2	5	
	AF40-06-A	3/4		Float type auto drain
4	AF50-A	3/4, 1		
Pages 43 to 54	AF60-A	1		
Mist Separator AFM Series	AFM20-A	1/8, 1/4		
metra.	AFM30-A	1/4, 3/8	0.3	Bracket
	AFM40-A	1/4, 3/8, 1/2	0.3	Float type auto drain
Pages 55 to 63	AFM40-06-A	3/4		
Micro Mist Separator AFD Series	AFD20-A	1/8, 1/4		
Cathan Cathan	AFD30-A	1/4, 3/8	0.01	Bracket
	AFD40-A	1/4, 3/8, 1/2	0.01	Float type auto drain
Pages 55 to 63	AFD40-06-A	3/4		

Made to Order

1	Long Bowl (-X64) Drain capacity is greater than that of standard models.
2	With Element Service Indicator (-X2141) Clogging status of elements can be checked visually.
3	Special Temperature Environment (-X430/-X440) Special materials are used in the manufacturing of seals and resin parts to allow them to withstand various temperature conditions in cold or tropical (hot) climates.
4	High Pressure (-X425) Strong materials are used in the manufacturing of air filters intended for high pressure operation.
(5)	Clean Series (10-)
6	Copper, Fluorine and Silicone-free + Low Particle Generation (21-)

AF: **P.51** to 54

AFM/AFD: **P.61, 63**

Air Filter

AF10-A to AF60-A

Symbol

Air Filter

Air Filter with Auto Drain









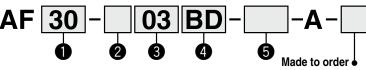


How to Order

AF10-A

AF20-A

AF40-A



required, indicate in alphanumeric order.

(Refer to pages 51 to 53 for details.)

- Option/Semi-standard: Select one each for a to f. Option/Semi-standard symbol: When more than one specification is
- Example) AF30-03BD-R-A

					(Herer to pages 31 to 30 for details.)						
		_						1			
		_		Symbol	Description			Body	size		
						10	20	30	40	50	60
					Metric thread (M5)		_	_ 1	_		_
				Nil	Rc		•	•	•	•	•
2		Pipe	thread type	N*1	NPT	_	•	•	•	•	•
				F *2	G	_	•	•	•	•	•
				+							
				M5	M5 x 0.8	•	_	_ [_	_ [_
				01	1/8	_	•	_	_	_	_
				02	1/4	_	•	•	•	_ [_
8			Port size	03	3/8	_	_	•	•	_	_
				04	1/2	_	_	_	•	_	_
				06	3/4				•	•	_
				10	1	_	_	_ [_	•	•
				+							
		а	Mounting	Nil	Without mounting option	•	•	•	•	•	•
	_	а	Wounting	B *3	With bracket	_	•	•	•	•	•
4	Option			+							
•	မြ		Float type	Nil	Without auto drain	•	•	•	•	•	•
		b	auto drain	C*4	N.C. (Normally closed) Drain port is closed when pressure is not applied.	•	•	•	•	•	•
			aato atani	D *5	N.O. (Normally open) Drain port is open when pressure is not applied.	_	_	•	•	•	•
				+				_	-	_	
				Nil	Polycarbonate bowl	•	•	•	•	•	•
				2	Metal bowl		•	•	•	•	•
		С	Bowl *6	6	Nylon bowl	•	•	•	•	•	•
				8	Metal bowl with level gauge		_	•	•	•	•
				C	With bowl guard	_	•	*7	*7	*7	*7 *8
	ا ج			6C	With bowl guard (Nylon bowl)	_		*8	*8	*8	*8
	Semi-standard			+ Nil	With drain cock		•				
6	la l				Drain guide 1/8	_		•	•	•	•
v	<u> </u>	d	Drain port *9	J*10	Drain guide 1/4			•	•	•	<u> </u>
	l El			W*11	Drain guide 1/4 Drain cock with barb fitting	_					
	\Q			+	Drain cock with barb litting						
				Nil	Flow direction: Left to right		•	•	•		
		е	Flow direction	R	Flow direction: Right to left						
				+	Tiow direction. Hight to lott	_	•	•	•	•	
			_	Nil	Name plate and caution plate for bowl in SI units: MPa		•	•	•	•	•
		f	Pressure unit	Z *12	Name plate and caution plate for bowl in imperial units: psi, °F	O*13	O*13	O*13	O*13	O*13	O*13
					The print and address place for both in imposint diffici poly	$\overline{}$	$\overline{}$	$\overline{}$	$\overline{}$	\sim $_{\perp}$	$\overline{}$

- *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).
- *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).
- *3 Option B is not assembled and supplied loose at the time of shipment. Assembly of a bracket and 2 mounting screws.
- *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.
- *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.
- *6 Refer to chemical data on page 46 for chemical resistance of the bowl.
- *7 A bowl guard is provided as standard equipment (polycarbonate).
- *8 A bowl guard is provided as standard equipment (nylon).
- *9 The combination of float type auto drain: C and D is not available.
- *10 Without a valve function
- *11 The combination of metal bowl: 2 and 8 is not available.
- *12 For pipe thread type: M5, NPT. This product is for overseas use only according to the new Measurement Act. (The SI unit type is provided for use in Japan.)
- *13 O: For pipe thread type: M5, NPT only





Air Filter AF10-A to AF60-A Series

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					
Fluid				Air					
Ambient and fluid temperature		−5 to 60°C (with no freezing)							
Proof pressure		1.5 MPa							
Maximum operating pressure		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		

Option/Part No.

Optional specifications	Model									
Optional specifications	AF10-A	AF20-A	AF30-A	AF40-A	AF40-06-A	AF50-A	AF60-A			
Bracket assembly *1	_	AF22P-050AS	AF32P-050AS	AF42P-050AS	AF42P-070AS	AF52P	-050AS			

^{*1} Assembly of a bracket and 2 mounting screws

Bowl Assembly/Part No.

David	Drain					Mode	el			
Bowl 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	_		<u> </u>		
		With drain cock	With bowl guard	_	C2SF-C-A	C3SF-A		C45	SF-A	
	Manual	Drain cock with barb fitting	With bowl guard	_	_	C3SF-W-A		C4SF	-W-A	
Polycarbonate		With drain guide	_	_	C2SF□-J-A	_		_	_	
Polycarbonale	(without valve function)	With bowl guard	_	C2SF□-CJ-A	C3SF□-J-A		C4SF	□-J-A		
	A	Normally closed (N.C.)	_	AD17-A	AD27-A	_		-	_	
	(Automatic *	Normany closed (N.C.)	With bowl guard	_	AD27-C-A	AD37□-A		AD4	7□-A	
	(Auto diairi)	Normally open (N.O.)	With bowl guard	_	_	AD38□-A	AD48□-A			
	With drain cock	_	C1SF-6-A	C2SF-6-A	_		_	_		
		With drain cock	With bowl guard	_	C2SF-6C-A	C3SF-6-A		C4SI	-6-A	
	Manual	Drain cock with barb fitting	With bowl guard	_	_	C3SF-6W-A		C4SF	-6W-A	
Nidon		With drain guide	_	_	C2SF□-6J-A	_	_			
Nylon		(without valve function)	With bowl guard	_	C2SF□-6CJ-A	C3SF□-6J-A	C4SF□-6J-A			
	A	Normally closed (N.C.)	_	AD17-6-A	AD27-6-A	_	_			
	(Auto drain)	Normany closed (N.C.)	With bowl guard	_	AD27-6C-A	AD37□-6-A		AD47	□-6-A	
	(Auto diairi)	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		C4SI	2-A	
	Manual	With drain cock	With level gauge	_	_	C3LF-8-A		C4LF	-8-A	
	Iviariuai	With drain guide	_	_	C2SF□-2J-A	C3SF□-2J-A		C4SF	2J-A	
Metal		(without valve function)	With level gauge	_	_	C3LF□-8J-A		C4LF	⊒-8J-A	
ivietai		Normally aloned (N.C.)	_	AD17-2-A	AD27-2-A	AD37□-2-A		AD47	□-2-A	
	Automatic *1	Normally closed (N.C.)	With level gauge	_	_	AD37□-8-A		AD47	□-8-A	
	(Auto drain)	in)	_	_	_	AD38□-2-A		AD48	□-2-A	
		Normally open (N.O.)	With level gauge	_	_	AD38□-8-A		AD48	□-8-A	

^{*1} Minimum operating pressure: N.O. type-0.1 MPa (AD38-A, AD48-A); N.C. type-0.1 MPa (AD17-A, AD27-A) and 0.15 MPa (AD37-A, AD47-A). Bowl assembly for the AF20-A to AF60-A models comes with a bowl seal.

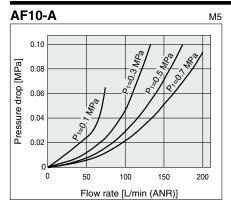
 $\hfill \square$ in bowl assembly part numbers indicates a pipe thread type (applicable tubing for auto drain).

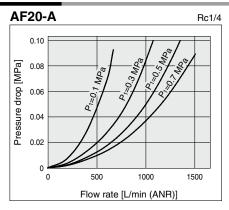
No indication is necessary for Rc thread; however, indicate N for NPT thread, and F for G thread. (For auto drain, Nil: ø10, N: ø3/8")

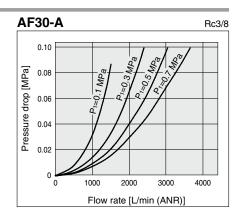
Please consult with SMC separately for psi and °F unit display specifications.

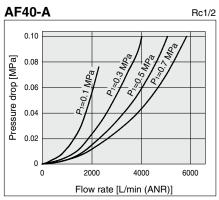
AF10-A to AF60-A Series

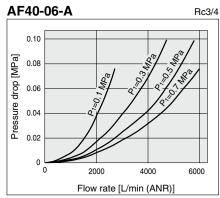
Flow Rate Characteristics (Representative values)

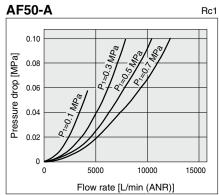


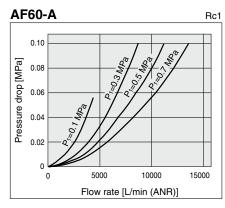












Specific Product Precautions

I Be sure to read this before handling the products. Refer to the back cover for safety instructions. For F.R.L. units I precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual", 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)

			Mat	erial
Type	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	vide (Slack lime) water Degreasing of metals Industrial salts Water-soluble cutting oil		
Inorganic salts	Sodium sulfide Potassium nitrate 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

\land Warning

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

Mounting/Adjustment

Caution

1. When the bowl is installed on the 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.



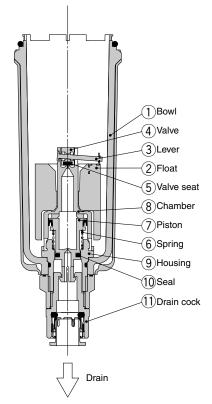
AF10-A to AF60-A Series

Working Principle: Float Type Auto Drain

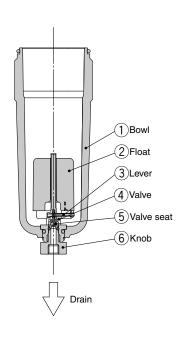
N.O. type: AD38-A, AD48-A

1 Bowl 4 Valve 3 Lever 2 Float 5 Valve seat 8 Chamber 6 Spring 7 Piston 9 Housing 10 Seal 11 Drain cock

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



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



When pressure inside the bowl is released:

Drain

When pressure is released from the bowl \bigcirc , the piston \bigcirc is lowered by the spring \bigcirc .

The sealing action of the seal 0 is interrupted, and the outside air flows inside the bowl 1 through the housing hole 9 and the drain cock 1

Therefore, if there is an accumulation of condensate in the bowl \bigcirc , 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 piston ⑦ surpasses the force of the spring ⑥, and the piston goes up.

This pushes seal $\widehat{\textcircled{0}}$ up so that it creates a seal, and the inside of the bowl $\widehat{\textcircled{1}}$, 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 combined pressure inside the chamber ⑧ and the force of the spring ⑥ lowers the piston ⑦.

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

Turning the drain cock ① manually counter-clockwise 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:

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 1 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.

When pressure is applied inside the bowl:

Even when pressure is applied inside the bowl 1, the combined force of the spring 6 and the pressure inside the bowl 1 keeps the piston 2 in its upward position.

This maintains the seal created by the seal 1 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 \circledR surpasses the force of the spring \circledR and pushes the piston \triangledown downward.

This causes the sealing action of the seal ① 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 ② to be interrupted, thus allowing the condensate to drain out.

When pressure inside the bowl is 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 howl:

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

When there is an accumulation of condensate in the bowl:

The float $\ensuremath{ \ @ \ }$ rises due to its own buoyancy and the seal at the valve seat $\ensuremath{ \ @ \ }$ is interrupted.

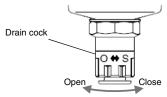
The condensate inside the bowl ① drains out through the knob ⑥.

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.



Auto drain	When pressure is not applied	When pressu	ure is applied	Minimum operating pressure
7 tato drain	(After exhausting residual pressure)	Before drain accumulates	When drain accumulates	(Outlet pressure)
	Drain discharged (Open)	Drain not discharged (Close)	Drain discharged (Open)	
N.O. Normally open	Piston			0.1 MPa or more AF30-A to AF60-A
N.C. Normally closed	Drain not discharged (Close) Float Piston Orifice			0.1 MPa or more AF10-A to AF20-A 0.15 MPa or more AF30-A to AF60-A

For both N.O. and N.C., the drain can be discharged manually by turning the drain cock to the "O" position. (Except for medium air pressure, AFF75B, AM□850, and free standing type)



			ı	
	Proper Use			Recommended
Compressor	When pressure is not applied (After exhausting residual pressure)	Cold climates		auto drain
0.75 kW or more	Drain not accumulated Do not want to accumulate drain generated at the inlet side when pressure is not applied.	Want to prevent troubles caused by freezing.	\Rightarrow	N.O.* ¹ Normally open
Less than 0.75 kW	Drain accumulated			N.C. Normally closed

^{*1} For N.O. (Normally open) type, the drain discharge passage is open when pressure is not applied. For this reason, the drain exhaust port is not closed completely in a compressor with a small supply amount (less than 0.75 kW) and the air will ceaselessly blow out.



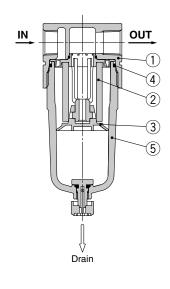
AF10-A to AF60-A Series

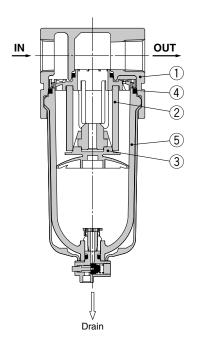
Construction

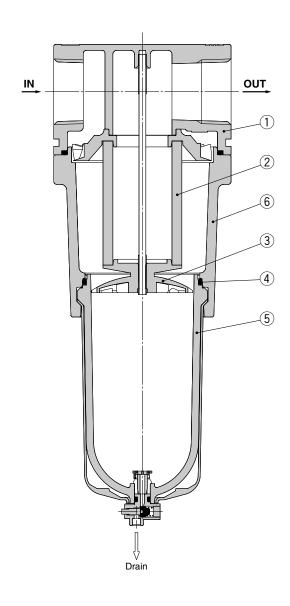
AF10-A/AF20-A

AF30-A to AF40-06-A

AF50-A/AF60-A







Component Parts

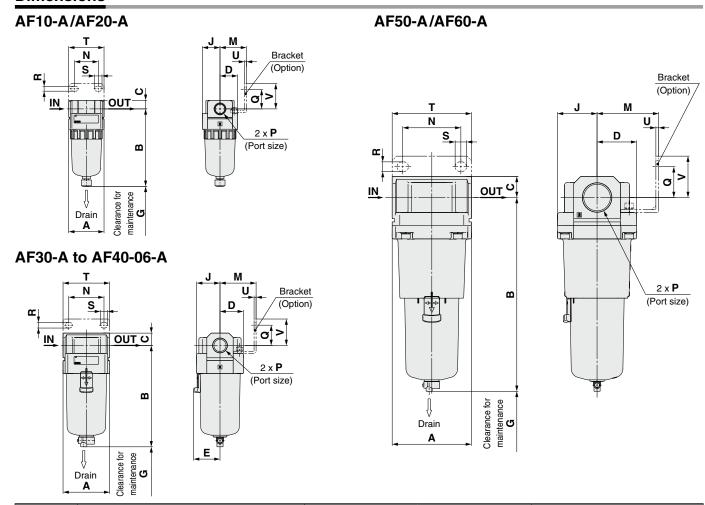
	ipononii anto			
No.	Description	Material	Model	Color
_	Body	Zinc die-cast	AF10-A	White
	Бойу	Aluminum die-cast	AF20-A to AF60-A	vvriite
6	Housing	Aluminum die-cast	AF50-A/AF60-A	White

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	AF40P-060S		AF50P-060S	AF60P-060S		
3	Baffle	PBT	AF10P-040S *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	5 Bowl assembly *1 Polycarb		C1SF-A	C2SF-A	C3SF-A		C45	SF-A			

^{*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 specifications.
*2 The baffle material for the AF10-A (AF10P-040S) only is polyacetal.





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	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	30-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	8	Width across flats 17	Width across flats 17	Barb fitting applicable tubing: T0604

											(Option	al spe	cifica	tions				Semi-	standar	d specifi	cations	
Model		\$	Standard	d speci	ificatio	ns				Bracket mount			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				
	Р	Α	В	С	D	Е	G	J	М	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	35	23	6.5	13	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	52	26	8.5	12.5	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	52	25	8.5	12.5	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

AF10-A to AF60-A Air Filter Made to Order



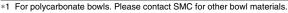
Please contact SMC for detailed dimensions, specifications and lead times.

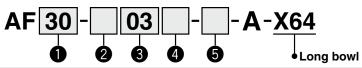
1 Long Bowl

Drain capacity is greater than that of standard models.

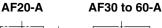
Applicable Model/Drain Capacity

Model	AF10-A	AF20-A	AF30-A	AF40-A	AF40-06-A	AF50-A	AF60-A
Port size	M5	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1	1
Drain capacity [cm ³]	9	19	43		8	8	
B dimension [mm] *1	81.6	108.6	137.1	167.2	169.2	240.2	254.2





- 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			Body	size		
						10	20	30	40	50	60
				Nil	Metric thread (M5)	•	_	_ [_	_	_
		Dina	throad tupo		Rc	_	•	•	•	•	•
2		ripe	thread type	N*1	NPT	_	•	•	•	•	•
				F *2	G	_	•	•	•	•	•
				+							
				M5	M5	•	_	_	_	_	_
				01	1/8	_	•	_	_	_	_
				02	1/4		•	•	•	_	
8			3/8		_	•	•	_			
	04 1/2		1/2	_	_	_	•	_ [_		
				06	3/4	_	_	_	•	•	_
				10	1	_	_	_	_	•	•
				+							
•	Ι,	O 4: -	(Married a)	Nil	Without mounting option	•	•	•	•	•	•
4	'	Optic	on (Mounting)	B *3	With bracket	_	•	•	•	•	•
				+							
				Nil	Polycarbonate bowl	•	•	•	•	•	•
				2	Metal bowl	•	•	•	•	•	•
		а	Bowl *4	6	Nylon bowl	•	•	•	•	•	•
				С	With bowl guard	_	•	<u>_*</u> *5	*5	*5	*5
				6C	With bowl guard (Nylon bowl)	_	•	*6	*6	*6	*6
				+			'				
	arc			Nil	With drain cock	•	•	•	•	•	•
	au		Duration or and	I ⇒7	Drain guide 1/8	_	•	_	_	_	
6	i-st	b	Drain port	J *7	Drain guide 1/4	_	_	•	•	•	•
	Semi-standard			W *8	Drain cock with barb fitting (for ø6 x ø4 nylon tube)	_	_	•	•	•	•
	S			+			,	,		'	
			Flancisco attaca	Nil	Flow direction: Left to right	•	•	•	•	•	•
		c Flow direction R		R							•
				+					<u> </u>		
			D	Nil	Name plate and caution plate for bowl in SI units: MPa	•	•	•	•	•	•
		d	Pressure unit	Z *9	Name plate and caution plate for bowl in imperial units: psi, °F	O*10	○*10	○*10	○*10	○*10	○*10

- *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).
- *2 Drain guide is G1/8 (applicable to the AF20-A) and G1/4 (applicable to the AF30-A to AF60-A).
- *3 Option B is not assembled and supplied loose at the time of shipment. Assembly of a bracket and 2 mounting screws.
- *4 Refer to chemical data on page 46 for chemical resistance of the bowl.
- *5 A bowl guard is provided as standard equipment (polycarbonate).
- *6 A bowl guard is provided as standard equipment (nylon).
- *7 Without a valve function
- *8 The combination of metal bowl: 2 is not available.
- *9 For pipe thread type: NPT. This product is for overseas use only according to the new Measurement Act. (The SI unit type is provided for use in lange.)
- *10 O: For pipe thread type: NPT only



AF20-A to AF60-A Air Filter **Made to Order**

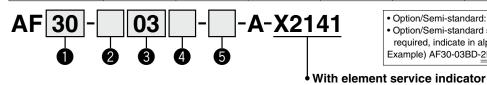
Please contact SMC for detailed dimensions, specifications and lead times.

(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	AF50-A	AF60-A
Port size	1/8. 1/4	1/4. 3/8	1/4. 3/8. 1/2	3/4	3/4. 1	1



- 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

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

	_	_	7 71		the element service indicator, it cannot be mounted on a standar			0		
				Symbol	Description			Body size		
						20	30	40	50	60
				Nil	Rc	•	•	•	•	•
2		Pipe	thread type	N*1	NPT	•	•	•	•	•
				F*2	G	•	•	•	•	•
				+						
				01	1/8	•	_	_	_	_
				02	1/4	•	•	•	_	_
A			Dout oizo	03	3/8		•	•	_	
8			Port size	04	1/2		_	•	_	
				06	3/4	_		•	•	_
				10	1	_	_	_	•	•
				+						
			Mounting	Nil	Without mounting option	•	•	•	•	•
	_	а	Mounting	B *3	With bracket	•	•	•	•	•
	Option			+						
4	히			Nil	Without auto drain	•	•	•	•	•
		b	Float type auto drain	C*4	N.C. (Normally closed) Drain port is closed when pressure is not applied.	•	•	•	•	•
			auto urani	D *5	N.O. (Normally open) Drain port is open when pressure is not applied.	_	•	•	•	•
				+						
				Nil	Polycarbonate bowl	•	•	•	•	•
			Bowl *6	2	Metal bowl	•	•	•	•	•
		С	DOWI	6	Nylon bowl	•	•	•	•	•
				8	Metal bowl with level gauge	_	•	•	•	•
				+						
	Semi-standard			Nil	With drain cock	_	•	•	•	•
	ğ	d	Drain port *7	J*8	Drain guide 1/8	•		_	_	_
6	sta	u	Diaili port	J	Drain guide 1/4	_	•	•	•	•
	=			W *9	Drain cock with barb fitting (for ø6 x ø4 nylon tube)	_	•	•	•	•
	Se			+						
		е	Flow direction	Nil	Flow direction: Left to right	•	•	•	•	•
		e	I low direction	R	Flow direction: Right to left	•	•	•	•	•
				+						
		f	Pressure unit	Nil	Name plate and caution plate for bowl in SI units: MPa	•	•	•	•	•
			riessure unit	Z *10	Name plate and caution plate for bowl in imperial units: psi, °F	O*11	O*11	○*11	○*11	○*11
		id	a ia NIDT1/0 /anniia	and a to the	Δ AF20- Δ) and NPT1/4 (applicable to the AF30- Δ to Δ F60- Δ)					

- *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).

 *2 Drain guide is G1/8 (applicable to the AF20-A) and G1/4 (applicable to the AF30-A to AF60-A).
- *3 Option B is not assembled and supplied loose at the time of shipment. Assembly of a bracket and 2 mounting screws.
- *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.
- *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.
- *6 Refer to chemical data on page 46 for chemical resistance of the bowl.
- *7 The combination of float type auto drain: C and D is not available.
- *8 Without a valve function
- *9 The combination of metal bowl: 2 and 8 is not available.
- *10 For pipe thread type: NPT. This product is for overseas use only according to the new Measurement Act. (The SI unit type is provided for use in Japan.)
- *11 O: For pipe thread type: NPT only



AF20-A to AF60-A Air Filter Made to Order

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



③ Special Temperature Environment

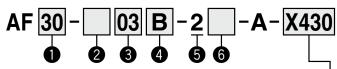
Special materials are used in the manufacturing of seals and resin parts to allow them to withstand various temperature conditions in cold or tropical (hot) climates.

Specifications

Made-to	-order part no.	-X430	-X440		
Environn	nent	Low temperature	High temperature		
Ambient t	emperature [°C]	-30 to 60	-5 to 80		
Fluid ten	perature [°C]	-5 to 60 (with no freezing)			
Matarial	Rubber parts	Special NBR	FKM		
Material	Main parts	Metal (Aluminui	m die-cast, etc.)		

Applicable Model

Model	AF30-A	AF40-A	AF40-06-A	AF50-A	AF60-A
Port size	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1	1



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

Example) AF30-03B-2R-A-X430

For high/low temperature

	Low temperature
X440	High temperature

	\	_		0	December				
				Symbol	Description			size	
						30	40	50	60
			41 al	Nil	Rc	•	•	•	•
2	P		thread	N*1	NPT	•	•	•	•
		ιy	rpe	F*2	G	•	•	•	•
				+					
				02	1/4	•	•	_	_
				03	3/8	•	•	—	_
8	Port size 0				1/2	_	•	_	_
					3/4	_	•	•	_
				10	1	_	_	•	•
				+				,	
		Op	tion	Nil	Without mounting option	•	•	•	•
U	1)	Mou	ınting)	B *3	With bracket	•	•	•	•
				+			•		
6		Bo	wl*4	2	Metal bowl	•	•	•	•
				+					
		а	Drain	Nil	With drain cock	•	•	•	•
		a	port	J *5	Drain guide 1/4	•	•	•	•
				+					
	dar	b	Flow	Nil	Flow direction: Left to right	•	•	•	•
A	an	b	direction	R	Flow direction: Right to left	•	•	•	•
6	i-st			+					
	Semi-standard	•	Pressure	Nil	Name plate and caution plate for bowl in SI units: MPa	•	•	•	•
		С	unit	Z *6	Name plate and caution plate for bowl in imperial units: psi, °F	O*7	O*7	0*7	O*7

- *1 Drain guide is NPT1/4.
- *2 Drain guide is G1/4.
- *3 A bracket is not assembled and supplied loose at the time of shipment. Including 2 mounting screws
- *4 Only metal bowl 2 is available.
- *5 Without a valve function
- *6 For pipe thread type: NPT. This product is for overseas use only according to the new Measurement Act. (The SI unit type is provided for use in Japan.)
- *7 O: For pipe thread type: NPT only

4 High Pressure

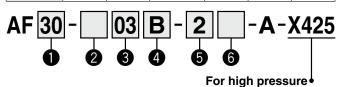
Strong materials are used in the manufacturing of air filters intended for high pressure operation.

Specifications

Made-to-order part no.	-X425
Proof pressure [MPa]	3.0
Maximum operating pressure [MPa]	2.0
Ambient and fluid temperature [°C]	-5 to 60 (with no freezing)

Applicable Model

Model	AF20-A	AF30-A	AF40-A	AF40-06-A	AF50-A	AF60-A
Port size	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1	1



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

Example) AF30-03B-2R-A-X425

		_		Symbol	Description			1 ody si		
						20	30	40	50	60
	_		ull	Nil	Rc	•	•	•	•	•
2			thread pe	N*1	NPT		•	•	•	•
		ιy	he	F *2	G	•	•	•	•	•
				+						
				01	1/8	•	_	_	_	_
				02	1/4	•	•	•	—	_
0		Dor	size	03	3/8		•	•	_	
8		17011	SIZE	04	1/2	_	_	•	_	_
	06				3/4		_	•	•	$\lfloor - ceil$
					1			_	•	•
				+						
		Op	tion	Nil	Without mounting option		•	•	•	•
U	(Mounting) B*3				With bracket		•	•	•	
				+						
6		Box	νl*4	2	Metal bowl	•	•	•	•	•
U		ВО	WI .	8	Metal bowl with level gauge		•	•	•	
				+						
			Drain	Nil	With drain cock	•	•	•	•	•
		а	port	J *5	Drain guide 1/8					
			Port		Drain guide 1/4	_	•	•	•	
	ard			+						
	ıngı	ь	Flow	Nil	Flow direction: Left to right	•	•	•	•	•
6	्र direction R				Flow direction: Right to left		•	•	•	
	ä			+						, , ,
	ő	С	Pressure	Nil	Name plate and caution plate for bowl in SI units: MPa	•	•	•	•	•
			unit	Z *6	Name plate and caution plate for bowl in imperial units: psi, °F	0*7	O*7	0*7	0*7	O* ⁷
		_		T1/0 /					٠	

- *1 Drain guide is NPT1/8 (applicable to the AF20-A) and NPT1/4 (applicable to the AF30-A to AF60-A).
- *2 Drain guide is G1/8 (applicable to the AF20-A) and G1/4 (applicable to the AF30-A to AF60-A).
- *3 A bracket is not assembled and supplied loose at the time of shipment. Including 2 mounting screws
- *4 Only metal bowl 2 and 8 are available.
- *5 Without a valve function
- *6 For pipe thread type: NPT. This product is for overseas use only according to the new Measurement Act. (The SI unit type is provided for use in Japan.)
- *7 O: For pipe thread type: NPT only



AF20-A to AF60-A Air Filter **Made to Order**

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



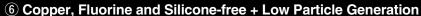
5 Clean Series

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



Please contact SMC if a product with pressure gauge is desired.

Clean series



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

Standard model no.

Copper, fluorine and silicone-free + Low particle generation

Mist Separator

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

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

Micro Mist Separator

Symbol Mist Separator







How to Order

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

AFM | 30 | -

Made to order

(Refer to pages 61 and 62 for details.)

							0	
			_	Symbol	Description		Body size	
						20	30	40
				Nil	Rc	•	•	•
2		Pipe	thread type	N*1	NPT	•	•	•
		•	,,	F *2	G	•	•	•
				+				-
				01	1/8	•	_	_
				02	1/4	•	•	•
8			Port size	03	3/8	_	•	•
				04	1/2	_	_	•
				06	3/4	_	_	•
				+				
			Mounting	Nil	Without mounting option	•	•	•
	_	а	wounting	B *3	With bracket	•	•	•
4	l ig			+				
U	Option		Float type	Nil	Without auto drain	•	•	•
		b	auto drain	C *4	N.C. (Normally closed) Drain port is closed when pressure is not applied.	•	•	•
			adio diani	D *5	N.O. (Normally open) Drain port is open when pressure is not applied.	_	•	•
				+				
				Nil	Polycarbonate bowl	•	•	•
				2	Metal bowl	•	•	•
		С	Bowl *6	6	Nylon bowl	•	•	•
			20111	8	Metal bowl with level gauge	_	•	•
				С	With bowl guard	•	*7	*7
	_			6C	With bowl guard (Nylon bowl)	•	*8	*8
	aro			+			1	
_	Semi-standard			Nil	With drain cock	•	•	•
6	i-ste	d	Drain port *12	J*9	Drain guide 1/8	•	_	
	eu	_	p		Drain guide 1/4	_	•	•
	\Q			W *13	Drain cock with barb fitting (for ø6 x ø4 nylon tube)	_	•	•
				+				
		е	Flow direction	Nil	Flow direction: Left to right		•	•
				R	Flow direction: Right to left			•
				+	Name plate and equition plate for haud in Clausite. MDs			
		f	Pressure unit	Nil 7*10	Name plate and caution plate for bowl in SI units: MPa	O*11	O*11	O*11
				Z *10	Name plate and caution plate for bowl in imperial units: psi, °F	O*11	0*11	O*11

- *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).
- *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).
- *3 A bracket is not assembled and supplied loose at the time of shipment. Including 2 mounting screws
- *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.
- *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.
- *6 Refer to chemical data on page 58 for chemical resistance of the bowl.
- *7 A bowl guard is provided as standard equipment (polycarbonate).
- *8 A bowl guard is provided as standard equipment (nylon).
- *9 Without a valve function
- *10 For pipe thread type: NPT. This product is for overseas use only according to the new Measurement Act. (The SI unit type is provided for use in Japan.)
- *11 O: For pipe thread type: NPT only
- *12 The combination of float type auto drain: C and D is not available.
- *13 The combination of metal bowl: 2 and 8 is not available.



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

Standard Specifications

•		AFM20-A	AFM30-A	AFM40-A	AFM40-06-A				
Model									
		AFD20-A	AFD30-A	AFD40-A	AFD40-06-A				
Port size		1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4				
Fluid			Α	ir					
Ambient and fluid temperatur	е		-5 to 60°C (wi	th no freezing)					
Proof pressure			1.5	MPa					
Maximum operating pressure			1.0	MPa					
Minimum operating pressure		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	0.01 μm (99.9% filtered particle size)							
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) *2 *3							
Rated flow [L/min (ANR)] *1	AFM20-A to AFM40-06-A	200	450	11	00				
hated flow [L/IIIII (ANH)]	AFD20-A to AFD40-06-A	120	240	6	00				
Drain capacity [cm³]		8 25 45							
Bowl material		Polycarbonate							
Bowl guard	·	Semi-standard (Steel)	St	Standard (Polycarbonate)					
Weight [kg]	-	0.09	0.19	0.38	0.43				

^{*1} Conditions: Inlet pressure: 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.

Options/Part No.

		Model							
Optional specifications		AFM20-A AFD20-A	AFM30-A AFD30-A	AFM40-A AFD40-A	AFM40-06-A AFD40-06-A				
Bracket assembly *1		AF22P-050AS	AF22P-050AS AF32P-050AS AF42P-050AS						
Float type outo drain *2 *3	N.C.	AD27-A	AD37-A	AD4	7-A				
Float type auto drain *2 *3	N.O.	_	AD38-A	AD4	l8-A				

^{*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	_	-	_		
		With drain cock	With bowl guard	C2SF-C-A	C3SF-A	C49	SF-A		
	Manual	Drain cock with barb fitting	With bowl guard		C3SF-W-A	C4SI	F-W-A		
Polycarbonate		With drain guide	_	C2SF□-J-A	_				
Folycalboliale		(without valve function)	With bowl guard	C2SF□-CJ-A	C3SF□-J-A	C4SF	-J-A		
	Automatic *1	Normally closed (N.C.)	_	AD27-A	_	-	_		
	(Auto drain)	Tronnally closed (IV.C.)	With bowl guard	AD27-C-A	AD37□-A	AD4	7□-A		
	(Auto diairi)	Normally open (N.O.)	With bowl guard	_	AD38□-A	AD4	8□-A		
		With drain cock	_	C2SF-6-A	_	-	_		
		With drain cock	With bowl guard	C2SF-6C-A	C3SF-6-A	C4SF-6-A			
	Manual	Drain cock with barb fitting	With bowl guard	_	C3SF-6W-A	C4SF	-6W-A		
Nylon		With drain guide	_	C2SF□-6J-A	_	-	_		
INVIOL		(without valve function)	With bowl guard	C2SF□-6CJ-A	C3SF□-6J-A	C4SF	□-6J-A		
	Automatic *1	Normally closed (N.C.)	_	AD27-6-A	_	-	_		
	(Auto drain)	Tronnally closed (IV.C.)	With bowl guard	AD27-6C-A	AD37□-6-A	AD47	'□-6-A		
	(Auto diairi)	Normally open (N.O.)	With bowl guard		AD38□-6-A	AD48	B□-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		
	Ivialiuai	With drain guide	_	C2SF□-2J-A	C3SF□-2J-A	C4SF	□-2J-A		
Metal		(without valve function)	With level gauge		C3LF□-8J-A	C4LF	□-8J-A		
IVICIAI		Normally closed (N.C.)	_	AD27-2-A	AD37□-2-A	AD47	'□-2-A		
	Automatic *1	INDITION OF CONTRACT (IN.C.)	With level gauge	_	AD37□-8-A	AD47	'□-8-A		
	(Auto drain)	Normally open (N.O.)	_	_	AD38□-2-A	AD48	AD48□-2-A		
		riormany open (N.O.)	With level gauge	<u> </u>	AD38□-8-A	AD48	3□-8-A		

^{*1} Minimum operating pressure: N.O. type-0.1 MPa (AD38-A, AD48-A); N.C. type-0.1 MPa (AD17-A, AD27-A) and 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.



^{*2} When the compressor oil mist discharge concentration is 30 mg/m³ (ANR).

^{*3} Bowl seal and other O-rings are slightly lubricated.

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

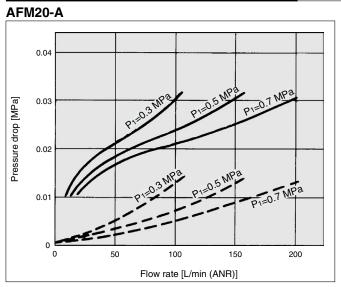
^{*3} Please consult with SMC for details on drain piping to fit NPT or G port sizes.

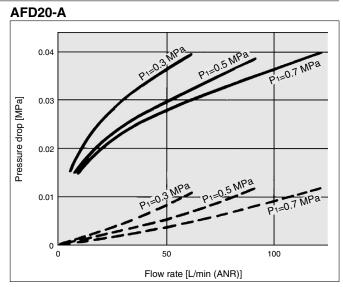
[🗆] in bowl assembly part numbers indicates a pipe thread type (applicable tubing for auto drain). No indication is necessary for Rc thread; however, indicate N for NPT thread, and F for G thread. (For auto drain, Nil: ø10, N: ø3/8")

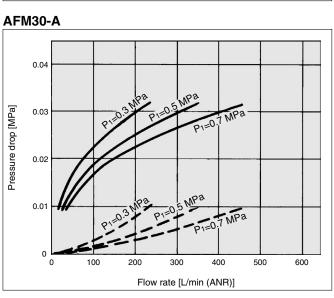
AFM20-A to AFM40-A Series AFD20-A to AFD40-A Series

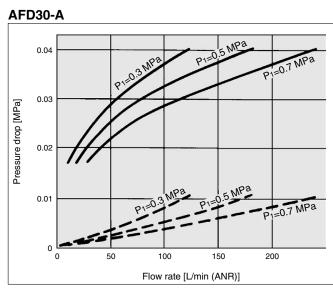
Flow Rate Characteristics (Representative values)

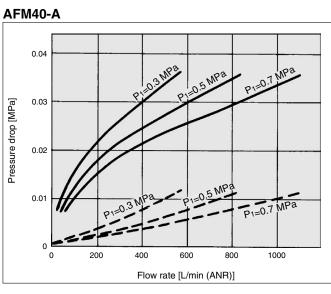
When saturated with oil

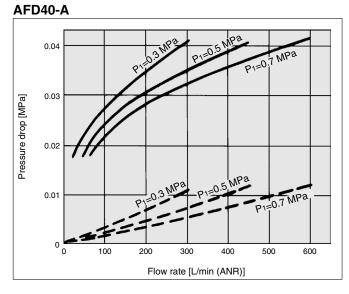












Mist Separator AFM20-A to AFM40-A Series Micro Mist Separator AFD20-A to AFD40-A Series

⚠ Specific Product Precautions

I Be sure to read this before handling the products. Refer to the back cover for safety instructions. For F.R.L. units I precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual", 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)

			Mat	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 Potassium nitrate 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	Ily 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.

Air Supply

∕! Caution

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

Maintenance

🕂 Warning

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

Mounting/Adjustment

Caution

1. When the bowl is installed on the mist separator (AFM30-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 0.1 MPa, as exceeding this value could cause damage.

Selection

∕!\ Caution

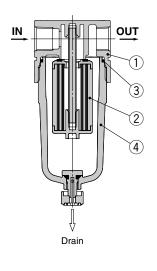
- 1. Do not allow air flow that exceeds the rated flow. If the air flow is allowed outside the range of the rated flow even momentarily, drainage and lubricant may splash at the outlet side or cause damage to the component.
- 2. Do not use in a low pressure application (such as a blower). An F.R.L. unit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

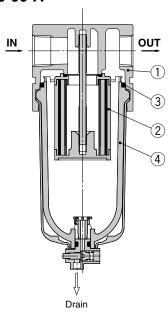
AFM20-A to AFM40-A Series AFD20-A to AFD40-A Series

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

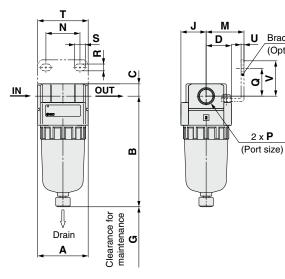
				Part no.							
No.	Description	on	Material	AFM20-A AFD20-A	AFM30-A AFD30-A	AFM40-A AFD40-A	AFM40-06-A AFD40-06-A				
_	Flowart accombly	AFM20 to 40	_	AFM20P-060AS	AFM30P-060AS	AFM40F	P-060AS				
2	Element assembly	AFD20 to 40	_	AFD20P-060AS	AFD30P-060AS	AFD40F	P-060AS				
3	3 Bowl seal		NBR	C2SFP-260S	C32FP-260S	C42FF	P-260S				
4	4 Bowl assembly *1		Polycarbonate	C2SF-A	C2SF-A C3SF-A		F-A				

^{*1} Bowl seal is included. Please contact SMC regarding the supply of bowl assembly with psi and °F unit display specifications.

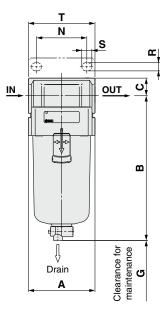
Mist Separator AFM20-A to AFM40-A Series Micro Mist Separator AFD20-A to AFD40-A Series

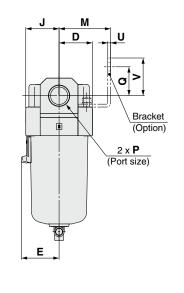
Dimensions

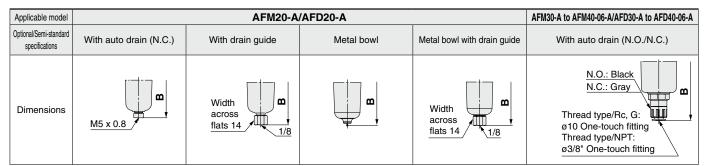




AFM30-A to AFM40-06-A AFD30-A to AFD40-06-A

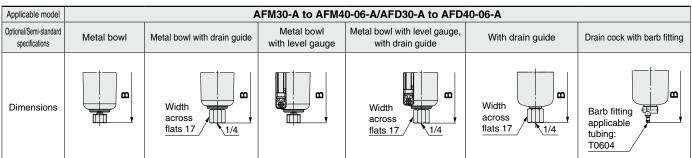






Bracket

(Option)



		Standard specifications								Optional specifications							
Model		Standard specifications										Bracke	t 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	35	23	6.5	13	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	52	26	8.5	12.5	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	52	25	8.5	12.5	70	2.3	34	188.9

				Semi-standard specification	ations	
Model	With barb fitting	With drain guide	Metal bowl	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

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

Made to Order

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

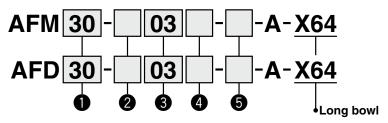
1 Long Bowl

Drain capacity is greater than that of standard models.

Applicable Model/Drain Capacity

Model	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 [cm³]	19	43		88
B dimension [mm]*1	108.6	137.1	167.2	169.2

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





AFM30 to 40-06-A AFD30 to 40-06-A





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

	_	_		Symbol	Description		O Davida di sa					
				Symbol	Description	20	Body size	40				
				Nil	Rc	•	•	•				
2		Pipe	thread type	N*1	NPT	•	•	•				
		•		F*2	G	•	•	•				
				+								
				01	1/8	•	_	_				
				02	1/4	•	•	•				
8			Port size	03	3/8	_	•	•				
				04	1/2	_	_	•				
				06	3/4	_	_	•				
				+								
)ntic	on (Mounting)	Nil	Without mounting option	•	•	•				
4	<u> </u>	Jplic	or (wourting)	B *3	With bracket	•	•	•				
				+								
				Nil	Polycarbonate bowl	•	•	•				
				2	Metal bowl	•	•	•				
		а	Bowl *4	6	Nylon bowl	•	•	•				
				С	With bowl guard	•	*5	*5				
				6C	With bowl guard (Nylon bowl)	•	*6	*6				
	ا ح			+								
	dar			Nil	With drain cock	•	•	•				
6	tan	b	Drain port	J*7	Drain guide 1/8	•	_	_				
•	ni-s	~	Brain port		Drain guide 1/4	_	•	•				
	Semi-standard			W *8	Drain cock with barb fitting (for ø6 x ø4 nylon tube)	_	•	•				
				+								
		С	Flow direction	Nil	Flow direction: Left to right	•	•	•				
				R	Flow direction: Right to left	•	•	•				
				+								
		d	Pressure unit	Nil	Name plate and caution plate for bowl in SI units: MPa	•	•	•				
		u ' '		u	u	u		Z *9	Name plate and caution plate for bowl in imperial units: psi, °F	O*10	○*10	○*10

- *1 Drain guide is NPT1/8 (applicable to the AFM20-A, AFD20-A) and NPT1/4
- (applicable to the AFM30-A to AFM40-06-A, AFD30-A to AFD40-06-A).

 *2 Drain guide is G1/8 (applicable to the AFM20-A, AFD20-A) and G1/4 (applicable to the AFM30-A to AFM40-06-A, AFD30-A to AFD40-06-A).
- *3 A bracket is not assembled and supplied loose at the time of shipment. Including 2 mounting screws
- *4 Refer to chemical data on page 58 for chemical resistance of the bowl.
- *5 A bowl guard is provided as standard equipment (polycarbonate).
- *6 A bowl guard is provided as standard equipment (nylon). *7 Without a valve function
- *8 The combination of metal bowl: 2 is not available.
- *9 For pipe thread type: NPT. This product is for overseas use only according to the new Measurement Act. (The SI unit type is provided for use in Japan.)
- *10 O: For pipe thread type: NPT only



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

Made to Order

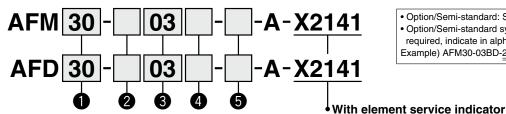
Please contact SMC for detailed dimensions, specifications and lead times.

2 With 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

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

ТОР			, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		the element service indicator. It cannot be mounted on a standa			
_		_					0	
			_	Symbol	Description		Body size	
				1	'	20	30	40
_]	_	-	-	-
				Nil	Rc	•	•	•
2		Pipe	thread type	N*1	NPT	•	•	•
				F*2	G	•	•	•
				+				
				01	1/8	•	_	
				02	1/4	•	•	•
3		F	Port size	03	3/8	_	•	•
				04	1/2	_	_	•
				06	3/4	_	_	•
				+				
			Mounting	Nil	Without mounting option	•	•	•
	_	а	Mounting	B *3	With bracket	•	•	•
	Option			+				
4			Floot time	Nil	Without auto drain	•	•	•
		b	Float type auto drain	C*4	N.C. (Normally closed) Drain port is closed when pressure is not applied.	•	•	•
			auto drain	D *5	N.O. (Normally open) Drain port is open when pressure is not applied.	_	•	•
				+				
				Nil	Polycarbonate bowl	•	•	•
				2	Metal bowl	•	•	•
			Bowl *6	6	Nylon bowl	•	•	•
		С	DOWL	8	Metal bowl with level gauge	_	•	•
				С	With bowl guard	•	— * ⁷	*7
	9			6C	With bowl guard (Nylon bowl)	•	<u>_*8</u>	*8
	Semi-standard			+				
3	tan			Nil	With drain cock	•	•	•
ש	<u></u>	d	Drain port *12	J *9	Drain guide 1/4	•	•	•
	em			W *13	Drain cock with barb fitting (for ø6 x ø4 nylon tube)	_	•	•
	Š			+				
		е	Flow direction	Nil	Flow direction: Left to right	•	•	•
		-	I IOW UITECTION	R	Flow direction: Right to left	•	•	•
				+				
			Drocouro unit	Nil	Name plate and caution plate for bowl in SI units: MPa	•	•	•
		f	Pressure unit	Z *10	Name plate and caution plate for bowl in imperial units: psi, °F	•	O*11	○*11

- *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).
- *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).
- *3 A bracket is not assembled and supplied loose at the time of shipment. Including 2 mounting screws
- *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.
- *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.
- *6 Refer to chemical data on page 58 for chemical resistance of the bowl.
- *7 A bowl guard is provided as standard equipment (polycarbonate).
- *8 A bowl guard is provided as standard equipment (nylon).
- *9 Without a valve function
- *10 For pipe thread type: NPT. This product is for overseas use only according to the new Measurement Act. (The SI unit type is provided for use in Japan.)
- O: For pipe thread type: NPT only
- *12 The combination of float type auto drain: C and D is not available.
- *13 The combination of metal bowl: 2 and 8 is not available.



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

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

③ Clean Series

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

Standard model no.

Please contact SMC if a product with pressure gauge is desired.

Clean series

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

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

Standard model no.

Copper, fluorine and silicone-free + Low particle generation

Modular Type Regulator AR Series

Regulator AR Series	Model	Port size	Set pressure	Options
	AR10-A	M5 x 0.8	0.05 to 0.7 MPa 0.02 to 0.2 MPa	Bracket Round type pressure gauge Set nut (for panel mount) *1
The state of the s	AR20(K)-B	1/8, 1/4		Bracket
	AR25(K)-B	1/4, 3/8		Set nut (for panel mount) *1
	AR30(K)-B	1/4, 3/6		Square embedded type pressure gauge
M. St. 1 and the state of the s	AR40(K)-B	1/4, 3/8, 1/2	0.05 to 0.85 MPa 0.02 to 0.2 MPa	Digital pressure switch
	AR40(K)-06-B	3/4		Round type pressure gauge
	AR50(K)-B	3/4, 1		Bracket Square embedded type pressure gauge
Pages 65 to 80	AR60(K)-B	1		Digital pressure switch Round type pressure gauge

*1 Interchangeable with the previous AR series and panel mounting dimensions.

Made to Order

4	0.7 MPa. Clean Series (10-) Copper, Fluorine and Silicone-free + Low Particle
3	0.4 MPa Setting (-X406) The maximum set pressure is 0.4 MPa. When a pressure gauge is included, the display will show a range from 0 to
2	High Pressure (-X425) Strong materials are used in the manufacturing of air filters intended for high pressure operation.
1	Special Temperature Environment (-X430/-X440) Special materials are used in the manufacturing of seals and resin parts to allow them to withstand various temperature conditions in cold or tropical (hot) climates.

P.77 to 80

Regulator AR10-A

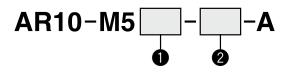
Symbol





How to Order

Refer to page 67 for size 20 to 60.



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

Example) AR10-M5BG-1NR-A

		_		Symbol	Description
				Nil	Without mounting option
	a		Mounting	B*2	With bracket
	*	_ u	Wounting	Н	With set nut (for panel mount)
0	Option *1			+	That cot flat (for parior mount)
	0			Nil	Without pressure gauge
		b	b Pressure gauge		Round type pressure gauge (without limit indicator)
				+	
			C-t*4	Nil	0.05 to 0.7 MPa setting
		С	Set pressure *4	1	0.02 to 0.2 MPa setting
				+	
		d	Exhaust mechanism	Nil	Relieving type
		u	Extraust mechanism	N	Non-relieving type
	lard			+	
2	Semi-standard	е	Flow direction	Nil	Flow direction: Left to right
9	mi-s		1 low direction	R	Flow direction: Right to left
	Sel			+	
		f	Knob	Nil	Downward
		_		Υ	Upward
				+	
		g	Pressure unit	Nil	Name plate and pressure gauge in SI units: MPa
		g Pressure unit		Z *5	Name plate and pressure gauge in imperial units: psi

- $\ast 1$ Options are not assembled and supplied loose at the time of shipment.
- *2 Assembly of a bracket and set nuts
- *3 A 1.0 MPa pressure gauge will be fitted. It is not assembled and supplied loose at the time of shipment.
- *4 Pressure can be set higher than the specification pressure in some cases, but use pressure within the specification range.
- *5 This product is for overseas use only according to the new Measurement Act. (The SI unit type is provided for use in Japan.)



Standard Specifications

Port size	M5 x 0.8				
Pressure gauge port size *1	1/16				
Fluid	Air				
Ambient and fluid temperature	−5 to 60°C (with no freezing)				
Proof pressure	1.5 MPa				
Maximum operating pressure	1.0 MPa				
Set pressure range	0.05 to 0.7 MPa				
Construction	Relieving type				
Weight [kg]	0.06				

^{*1} Use a bushing (part no.: 131368) when connecting the R1/8 pressure gauge to the Rc1/16.

Options/Part No.

Bracket assembly *1	AR12P-270AS
Set nut	AR12P-260S
Round type pressure gauge *2	G27-10-R1

- *1 Assembly of a bracket and set nuts
- *2 1.0 MPa pressure gauge

⚠ Specific Product Precautions

sure to read this before handling the products. Refer to the back cover for safety instructions. For F.R.L. units I precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual", http://www.smcworld.com

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 0.15 MPa or less.

Maintenance

∕**∖∖ Warnin**ɑ

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

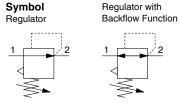
- 1. Be sure to unlock the knob before adjusting the pressure and lock it after setting the pressure. Failure to follow this procedure can cause damage to the knob and the outlet pressure may fluctuate.
 - Pull the pressure regulator knob to unlock. (You can visually verify this with the "orange mark" 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 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.



Regulator

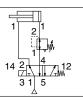
AR20-B to AR60-B **Regulator with Backflow Function**

AR20K-B to AR60K-B

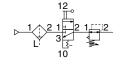


• Models with the backflow function include a mechanism which allows for the air pressure in the outlet side to be released to the inlet side.

Example 1) When the pressure in the rear and the front of the cylinder differs:

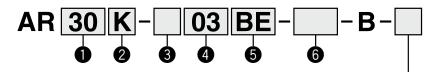


Example 2) When the air supply is cut off and releasing the inlet pressure to the atmosphere, the residual pressure release of the outlet side can be ensured for a safety purpose.



How to Order

Refer to page 65 for size 10.



- Option/Semi-standard: Select one each for a to g.
- · Option/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order. Example) AR30K-03BE-1NR-B

Made to order

(Refer to pages 77 to 79 for details.)

	_	_	_	Courselle al	Description			(
				Symbol	Description	20	25	Body 30	size 40	50	60
					Well-seal head flow for all an			00	-	00	00
2			h backflow	Nil	Without backflow function	•	•	•	•	•	•
		- 1	function	K *1	With backflow function		•		•	•	•
				+	D-						
		n:	Managard to see a	Nil	Rc		•	•	•	•	_
8	'	Pipe	thread type	N	NPT	-	•	•	•	•	•
				F	G		•		•	•	•
				+	4/0						
				01	1/8			_			
	Port size		02	1/4	•	•	•	•			
4			03	3/8		•	•	•			
			04	1/2			_	•			
				06	3/4			_	•	•	
				10	1			_		•	•
	_			+							
				Nil	Without mounting option	•	•	•	•	•	•
		а	Mounting	B *3	With bracket	•	•	•	•	•	•
				Н	With set nut (for panel mount)	•	•	•	•	_	_
				+							
	۲ *			Nil	Without pressure gauge	•	•	•	•	•	•
6	on		Pressure	Е	Square embedded type pressure gauge (with limit indicator)	•	•	•	•	•	•
9	Option		gauge *4	G	Round type pressure gauge (with limit indicator)	•	•	•	•	•	•
		b		M	Round type pressure gauge (with color zone)	•	•	•	•	•	•
		U	- · · ·	E1	Output: NPN output, Electrical entry: Wiring bottom entry	•	•	•	•	•	•
			Digital	E2	Output: NPN output, Electrical entry: Wiring top entry	•	•	•	•	•	•
			pressure switch *5	E3	Output: PNP output, Electrical entry: Wiring bottom entry	•	•	•	•	•	•
			SWILOIT	E4	Output: PNP output, Electrical entry: Wiring top entry		•	•	•	•	•

Regulator AR20-B to AR60-B Series Regulator with Backflow Function AR20K-B to AR60K-B Series





AR20-B. AR20K-B

AR40-B, AR40K-B

	S		0								
			Symbol	Description	Body size						
						20	25	30	40	50	60
			Set	Nil	0.05 to 0.85 MPa setting	•	•	•	•	•	•
		С	pressure *6	1	0.02 to 0.2 MPa setting	•	•	•	•	•	•
				+							
		٦	d Exhaust	Nil	Relieving type	•	•	•	•	•	•
		a	mechanism	N	Non-relieving type	•	•	•	•	•	•
	힏			+							
	l gel	е	Flow direction	Nil	Flow direction: Left to right	•	•	•	•	•	•
6	Semi-standard	е	riow direction	R	Flow direction: Right to left		•	•	•	•	•
	اغًا			+							
	Se	f	Knob	Nil	Downward		•	•	•	•	•
		•	KIIOD	Y	Upward		•	•	•	•	•
				+							
			<u> </u>	Nil	Name plate and pressure gauge in SI units: MPa		•	•	•	•	•
		g	Pressure unit	Z *7	Name plate and pressure gauge in imperial units: psi	○*9	○*9	○*9	○*9	○*9	○*9
				ZA*8	Digital pressure switch: With unit selection function	△*10	△*10	△*10	△*10	△*10	△*10

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

Standard Specifications

Model	AR20-B	AR25-B	AR30-B	AR40-B	AR40-06-B	AR50-B	AR60-B
Port size	1/8, 1/4	1/4, 3/8	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1	1
Pressure gauge port size *1	1/8						
Fluid	Air						
Ambient and fluid temperature *2	−5 to 60°C (with no freezing)						
Proof pressure	1.5 MPa						
Maximum operating pressure	1.0 MPa						
Set pressure range	0.05 to 0.85 MPa						
Construction	Relieving type						
Weight [kg]	0.16	0.21	0.29	0.44	0.47	1.17	1.22

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

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

AR20-B to AR60-B Series AR20K-B to AR60K-B Series

Options/Part No.

Model Option			AR20(K)-B	AR25(K)-B	AR30(K)-B	AR40(K)-B	AR40(K)-06-B	AR50(K)-B	AR60(K)-B	
Bracket assembly *1		AR23P-270AS	AR28P-270AS	AR33P-270AS	AR43P-270AS		AR52P-270AS			
Set nut			AR23P-260S	AR28P-260S	AR33P-260S	AR43P-260S			.*2	
l	Round	Standard	G36-10-□01			G46-10-□01				
	type *3	0.02 to 0.2 MPa setting		G36-4-□01		G46-4-□01				
Pressure	Round type *3	Standard	G36-10-□01-L			G46-10-□01-L				
gauge	(with color zone)	0.02 to 0.2 MPa setting	G36-4-□01-L			G46-4-□01-L				
	Square *4	Standard	GC3-10AS [GC3P-010AS (Pressure gauge cover only)]							
	embedded type	0.02 to 0.2 MPa setting	GC3-4AS [GC3P-010AS (Pressure gauge cover only)]							
Digital pressure switch *5		NPN output, Wiring bottom entry	ISE35-N-25-MLA [ISE35-N-25-M (Switch body only)]							
		NPN output, Wiring top entry	ISE35-R-25-MLA [ISE35-R-25-M (Switch body only)]							
		PNP output, Wiring bottom entry	ISE35-N-65-MLA [ISE35-N-65-M (Switch body only)]							
		PNP output, Wiring top entry	ISE35-R-65-MLA [ISE35-R-65-M (Switch body only)]							

- *1 Assembly of a bracket and set nuts. Including 2 mounting screws for the AR50(K)-B and AR60(K)-B
- *2 Please consult with SMC regarding the set nuts for the AR50(K)-B and AR60(K)-B.
- *3 in part numbers for a round pressure gauge indicates a pipe thread type. No indication is necessary for R; however, indicate N for NPT. Please contact SMC regarding the pressure gauge supply for psi unit specifications.
- *4 Including one O-ring and 2 mounting screws. []: Pressure gauge cover only
- *5 In addition to the pressure switch body, lead wire with connector (2 m), adapter, lock pin, O-ring (1 pc.), mounting screw (2 pcs.) are attached.

 []: Switch body only. (Regarding how to order the digital pressure switch, refer to the **Web Catalog**.)

Specific Product Precautions

Be sure to read this before handling the products. Refer to the back cover for safety instructions. For F.R.L. units precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual", http://www.smcworld.com

Selection

∧ Warning

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

Maintenance

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

Mounting/Adjustment

- **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

- 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).



A knob cover is available to prevent careless operation of the knob. Refer to page 112 for details.

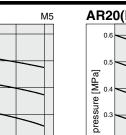


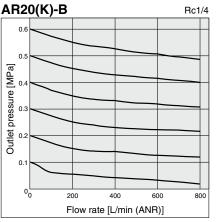
Regulator AR10-A Series Regulator AR20-B to AR60-B Series Regulator with Backflow Function AR20K-B to AR60K-B Series

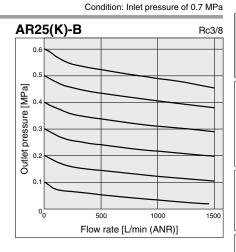


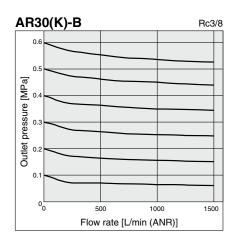
AR10-A

Outlet pressure [MPa]

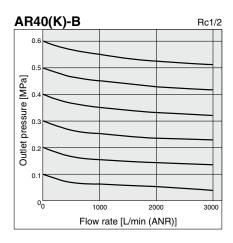


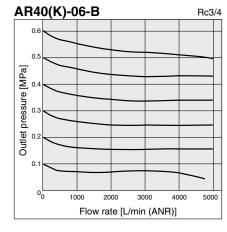


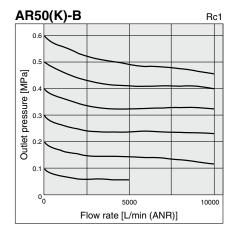


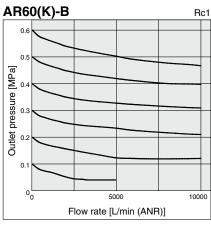


Flow rate [L/min (ANR)]





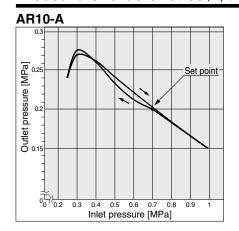


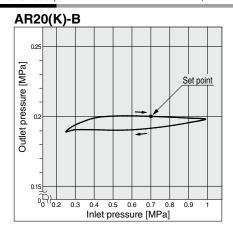


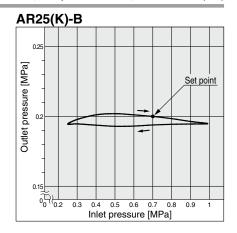
AR10-A Series AR20-B to AR60-B Series AR20K-B to AR60K-B Series

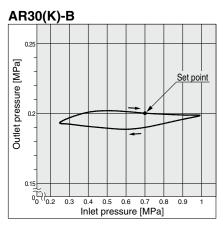
Pressure Characteristics (Representative values)

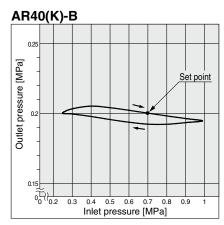
Conditions: Inlet pressure of 0.7 MPa, Outlet pressure of 0.2 MPa, Flow rate 20 L/min (ANR)

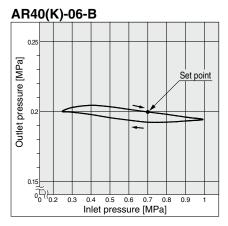


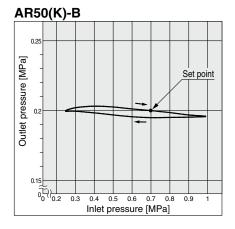


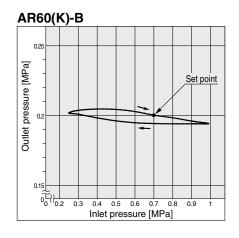








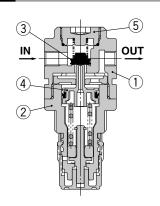




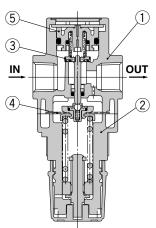
Regulator AR10-A Series Regulator AR20-B to AR60-B Series Regulator with Backflow Function AR20K-B to AR60K-B Series

Construction

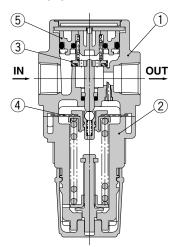
AR10-A



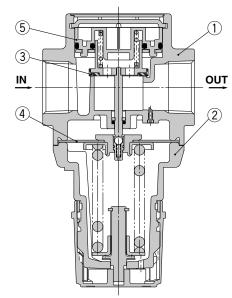
AR20(K)-B/AR25(K)-B



AR30(K)-B/AR40(K)-B



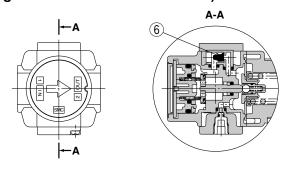
AR50(K)-B/AR60(K)-B



Component Parts

Component Faits								
No.	Description	Material	Model	Color				
1		Zinc die-cast	AR10-A	White				
	Body	Aluminum die-cast	AR20(K)-B to AR60(K)-B					
2			AR10-A					
	Bonnet	Polyacetal	AR20(K)-B to AR40(K)-B	White				
		Aluminum die-cast	AR50(K)-B/ AR60(K)-B					

AR20K-B to AR60K-B (Regulator with Backflow Function)



Replacement Parts [AR10-A]

No.	Description	Material	Part no.		
3	Valve	HNBR	AR10P-090S		
4	Piston assembly	Polyacetal	AR10P-150AS		
5	Valve guide assembly	Polyacetal	131329		

[AR20(K)-B to AR60(K)-B]

No.	Description	Material	Part no.						
			AR20(K)-B	AR25(K)-B	AR30(K)-B	AR40(K)-B	AR40(K)-06-B	AR50(K)-B	AR60(K)-B
3	Valve	Brass, HNBR	AR20P-410S	AR25P-410S	AR30P-410S	AR40P-410S		AR50P-410S	AR60P-410S
4	Diaphragm assembly	Weatherable NBR	AR20P-150AS	AR25P-150AS	AR30P-150AS	AR40P-150AS		AR50P-150AS	
5	Valve guide assembly	Polyacetal	AR20P-050AS	AR25P-050AS	AR30P-050AS	AR40P-050AS		AR50P-050AS	AR60P-050AS
6	Check valve assembly *1	_	AR23KP-020AS						

^{*1} Check valve assembly is applicable for a regulator with backflow function (AR20K-B to AR60K-B) only. Assembly of a check valve cover, check valve body assembly and 2 mounting screws



AR10-A Series AR20K-B to AR60K-B Series

Working Principle (Regulator with Backflow Function)

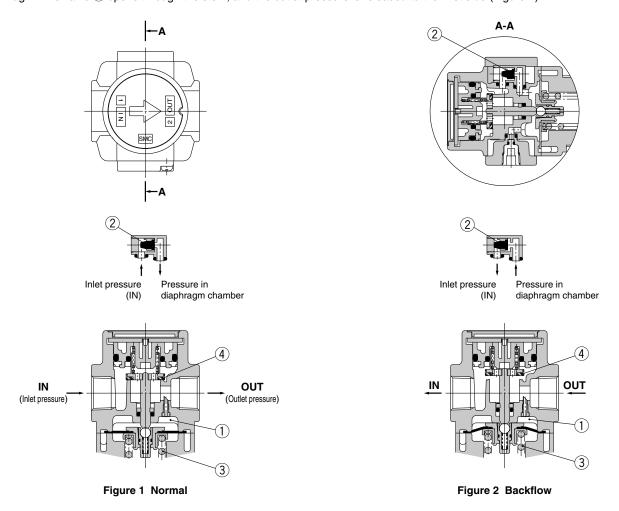
AR10-A

When the inlet pressure is higher than the regulating pressure, the check valve operates as a normal regulator (Figure 1). When the inlet pressure is shut off and exhausted, any inlet pressure applied to the valve ① will be lost. The force for seating the valve ① is the valve spring force ② only. When the valve ① is opened using the outlet force, the outlet pressure will be exhausted at the inlet side (Figure 2). When the set pressure is 0.15 MPa or less, the valve ① may not open due to the valve spring ② force.



AR20K-B to AR60K-B

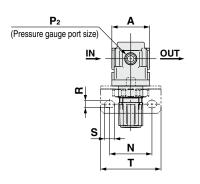
When the inlet pressure is higher than the regulating pressure, the check valve ② closes and operates as a normal regulator (Figure 1). When the inlet pressure is shut off and released, the check valve ② opens and the pressure in the diaphragm chamber ① is released into the inlet side (Figure 2). This lowers the pressure in the diaphragm chamber ① and the force generated by the spring ③ lifts the diaphragm. The valve ④ opens through the stem, and the outlet pressure is released to the inlet side (Figure 2).

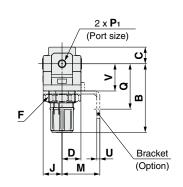


AR10-A Series AR20-B to AR60-B Series AR20K-B to AR60K-B Series

Dimensions

AR10-A



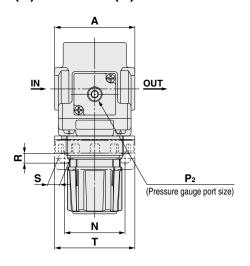


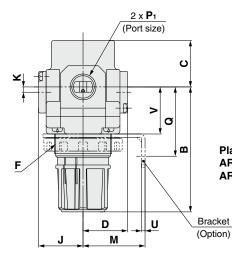
Panel mounting dimensions



Plate thickness AR10-A: Max. 3.5

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







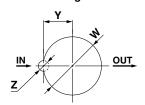
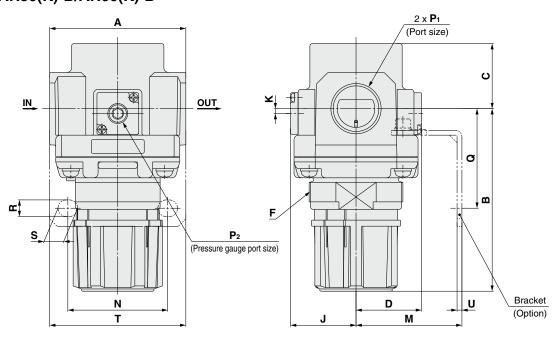


Plate thickness AR20(K)-B to AR30(K)-B: Max. 3.5 AR40(K)-B : Max. 5

AR50(K)-B/AR60(K)-B



Regulator AR10-A Series Regulator AR20-B to AR60-B Series Regulator with Backflow Function AR20K-B to AR60K-B Series

Option	Square embedded type pressure gauge	Round type pressure gauge Round type pressure gauge (with color zone)	
Dimensions	Center of piping	Center of piping	T Center of piping

												Ор	tional sp	ecificatio	ns		
Model	Standard specifications									pressure Round type witch pressure gauge		Round type pressure gauge (with color zone)					
	P 1	P ₂	Α	B*1	С	D	F	J	K	Н	J	Н	J	Н	J	Н	J
AR10-A	M5 x 0.8	1/16	25	47.4	11	12.5	M18 x 1	12.5	_	_	_	_	_	ø26	26	_	_
AR20(K)-B	1/8, 1/4	1/8	40	67.4	26.5	28.5	M28 x 1	28.5	2*2	□28	29.5	□27.8	40	ø37.5	65	ø37.5	66
AR25(K)-B	1/4, 3/8	1/8	53	71.9	28	27.5	M32 x 1.5	27.5	0	□28	28.5	□27.8	39	ø37.5	64	ø37.5	65
AR30(K)-B	1/4, 3/8	1/8	53	85.6	30.7	29.4	M38 x 1.5	29.4	3.5	□28	30.4	□27.8	40.9	ø37.5	65.9	ø37.5	66.9
AR40(K)-B	1/4, 3/8, 1/2	1/8	70	91.7	35.8	33.8	M42 x 1.5	33.8	3.5	□28	34.8	□27.8	45.3	ø42.5	71.3	ø42.5	71.3
AR40(K)-06-B	3/4	1/8	75	93.2	35.8	33.8	M42 x 1.5	33.8	3	□28	34.8	□27.8	45.3	ø42.5	71.3	ø42.5	71.3
AR50(K)-B	3/4, 1	1/8	90	125.2	43	43.3	M62 x 1.5	43.3	3.2	□28	44.3	□27.8	54.8	ø42.5	80.8	ø42.5	80.8
AR60(K)-B	1	1/8	95	129.6	46	43.3	M62 x 1.5	43.3	3.2	□28	44.3	□27.8	54.8	ø42.5	80.8	ø42.5	80.8

		Optional specifications									
Model			Bra	Panel mount							
	М	N	Q	R	S	Т	U	٧	W	Y	Z
AR10-A	25	28	30	4.5	6.5	40	2	18	18.5	_	_
AR20(K)-B	30	34	43.9	5.4	15.4	55	2.3	24.7	28.5	14	6
AR25(K)-B	30	34	43.9	5.4	15.4	55	2.3	25.7	32.5	16	6
AR30(K)-B	41	40	45.8	6.5	8	53	2.3	31.1	38.5	19	7
AR40(K)-B	50	54	54	8.5	10.5	70	2.3	35.5	42.5	21	7
AR40(K)-06-B	50	54	55.5	8.5	10.5	70	2.3	37	42.5	21	7
AR50(K)-B	70	66	65.8	11	13	90	3.2	_	_	_	_
AR60(K)-B	70	66	65.8	11	13	90	3.2	_	_	_	_

^{*1} The dimension of B is the length when the filter regulator knob is unlocked.
*2 For the AR20(K)-B only, the position of the pressure gauge is above the center of the piping.

AR20-B to AR60-B Regulator **Made to Order**

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



AR30-03-B-X430/440/425

① Special Temperature Environment

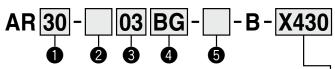
Special materials are used in the manufacturing of seals and resin parts to allow them to withstand various temperature conditions in cold or tropical (hot) climates.

Specifications

Made-to-order part no.		-X430	-X440			
Environment		Low temperature	High temperature			
Ambient t	emperature [°C]	-30 to 60	-5 to 80			
Fluid ten	perature [°C]	-5 to 60 (with no freezing)				
Makadal	Rubber parts	Special NBR	FKM			
Material	Main parts	Metal (Aluminum die-cast, etc.)				

Applicable Model

Model	AR25-B	AR30-B	AR40-B	AR40-06-B	AR50-B	AR60-B
Port size	1/4, 3/8	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1	1



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

Example) AR30-03BG-1NR-B-X430

For high/low • temperature

X430	Low temperature
X440	Low temperature High temperature

				Symbol	Description		R/	Ody si	70	
					·	25	30	40	50	60
				Nil	Rc	•	•	•	•	•
2	Pip	e thi	ead type	N	NPT		•	ě	•	Ť
9	O '		,	F	G		•	•	•	ě
				+						
				02	1/4	•	•	•	_	_
				03	3/8	•	•	•	_	_
3	ĺ	Por	t size	04	1/2	_	_	•	_	_
				06	3/4	_	_	•	•	_
				10	1	_	_	_	•	•
				+						
				Nil	Without mounting option	•	•	•	•	•
			Manuelina	B *2	With bracket	•	•	•	•	•
	*	а	Mounting		With set nut					
4	[일			Н	(for panel mount)	•	•	•	_	_
	Option *1			+						
	b Press		Pressure	G*3	Round type pressure gauge					
		D	gauge		(without limit indicator)					
				+						
		С	Set	Nil	0.05 to 0.85 MPa setting	•	•	•	•	•
		C	pressure	1*4	0.02 to 0.2 MPa setting		•	•	•	•
				+						
		d Exhaust		Nil	Relieving type	•	•	•	•	•
		ŭ	mechanism	N	Non-relieving type		•		•	•
	힏			+						
	g	е	Flow	Nil	Flow direction: Left to right	•	•	•	•	•
6	ta		direction	R	Flow direction: Right to left				•	
9	Semi-standard			+						
	l Sel	f	Knob	Nil	Downward	•	•	•	•	•
	0,	•	102	Y	Upward				•	
				+						
			Pressure	Nil	Name plate and pressure gauge in SI units: MPa	•	•	•	•	•
		g ressure unit		Z *5	Name plate and pressure gauge in imperial units: psi	O*6	○*6	O*6	○*6	○*6

- *1 Ontions B. G. H are not assembled and supplied loose at the time of shipment
- *2 Assembly of a bracket and set nuts (AR25-B to AR40-B) Including 2 mounting screws for the AR50-B and AR60-B
- *3 Mounting thread for pressure gauge: 1/8, Pressure gauge type: G43 *4 The only difference from the standard specifications is the spring for the regulator. It does not restrict the setting of 0.2 MPa or more. When the pressure gauge is
- attached, a 0.4 MPa pressure gauge will be fitted.

 *5 For pipe thread type: NPT. This product is for overseas use only according to the new Measurement Act. (The SI unit type is provided for use in Japan.)
- *6 O: For pipe thread type: NPT only

2 High Pressure

Stronger materials are used for the manufacturing of regulators intended for high-pressure operation.

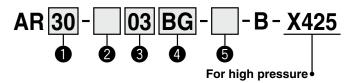
The modified construction also allows for a wider set pressure range.

Specifications

•	
Made-to-order part no.	-X425
Proof pressure [MPa]	3.0
Maximum operating pressure [MPa]	2.0
Set pressure range [MPa]	0.1 to 1.7
Ambient and fluid temperature [°C]	-5 to 60 (with no freezing)

Applicable Model

Model	AR20-B	AR25-B	AR30-B	AR40-B	AR40-06-B	AR50-B	AR60-B
Port size	1/8, 1/4	1/4, 3/8	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1	1



- Option/Semi-standard: Select one each for a to f.
- Option/Semi-standard symbol: When more than one specification is required, indicate in alphabetic order. NO ADOLOGO ND D VADE

Ex	an	ηpl	e) .	AR30-03	BG-NR	-B-X425							
	_	_							(
					Symbol	Description		_	Body				
						20	25	30	40	50	60		
	Π				Nil	Rc	•	•	•	•	•	•	
2	Pi	ре	thr	ead type	N	NPT	•	•	•	•	•	•	
			F	G	•	•	•	•	•	•			
					+								
					01	1/8	•	_	_	_	_	_	
					02	1/4	•	•	•	•	_	_	
6				!	03	3/8	_	•	•	•	_	_	
8		1	-or	t size	04	1/2	_	—	_	•	_	—	
					06	3/4	_	_	_	•	•	_	
					10	1	_	_	_	_	•	•	
					+								
					Nil	Without mounting option	•	•	•	•	•	•	
			Manuelina	B *2	With bracket	•	•	•	•	•	•		
	*	Mounting H		With set nut									
4	<u>.</u>		п	(for panel mount)	•	•	•	•	_	_			
	d	-			+						•		
	ľ			Pressure	G*3	Round type pressure switch							
			b	gauge		(with limit indicator)	•	•	•	•	•	•	
				•	+					•	•		
				Exhaust	Nil	Relieving type	•	•	•	•	•	•	
			С	mechanism	N	Non-relieving type		•	•	•	•	•	
					+								
			d	Flow	Nil	Flow direction: Left to right	•	•	•	•	•	•	
	ar		u	direction	R	Flow direction: Right to left		•	•	•	•	•	
_	Semi-standard				+								
6	sta		е	Knob	Nil	Downward	•	•	•	•	•	•	
	ΙĖ		٦	KIIOD	Υ	Upward		•	•	•	•	•	
	Se				+								
				Pressure	Nil	Name plate and pressure gauge in SI units: MPa	•	•	•	•	•	•	
			f	f	unit	Z *4	Name plate and pressure gauge in imperial units: psi	O*5	O*5	O*5	○*5	○*5	○*5

- *1 Options B, G, H are not assembled and supplied loose at the time of shipment. *2 Assembly of a bracket and set nuts (AR20-B to AR40-B)
- Including 2 mounting screws for the AR50-B and AR60-B
- *3 Mounting thread for pressure gauge: 1/8, Pressure gauge type: G46-20-□
 *4 For pipe thread type: NPT. This product is for overseas use only according to the new Measurement Act. (The SI unit type is provided for use in Japan.)
- *5 O: For pipe thread type: NPT only



AW+AL

AR10 Regulator **Made to Order**

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



3 0.4 MPa Setting

The setting specification is 0.4 MPa. When a pressure gauge is included, the display will show a range from 0 to 1.0 MPa.

Specifications

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

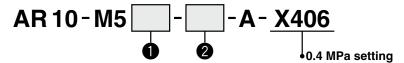
*1 Pressure can be set higher than the specification pressure in some cases, but use pressure within the specification range.

⚠ Caution

• The AR10 comes with a backflow function as a standard feature. When using the AR10 as with backflow function, backflow may not occur with the set pressure of 0.15 MPa or less.

Applicable Model

Model	AR10
Port size	M5



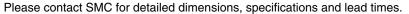
- Option/Semi-standard: Select one each for a to f.
- · Option/Semi-standard symbol: When more than one specification is required, indicate in alphabetic order. Example) AR10-M5BG-NR-A-X406

		_		Symbol	Description	Body size 10
				Nil	Without mounting option	•
	۲ *	а	Mounting	B *3	With bracket	•
•				Н	With set nut (for panel mount)	•
v	Option					
		b	Pressure gauge *4	Nil	Without pressure gauge	•
		D	Pressure gauge	G	Round type pressure gauge (without limit indicator)	•
				+		
		С	Exhaust mechanism	Nil	Relieving type	•
		C	LAHAUST MECHANISM	N	Non-relieving type	•
				+		
	ard	d	Flow direction	Nil	Flow direction: Left to right	•
_	ğ	u	1 low direction	R	Flow direction: Right to left	•
2	Semi-standard			+		,
	<u>=</u>	е	Knob	Nil	Downward	•
	&		KIIOD	Υ	Upward	•
				+		,
		f	Pressure unit	Nil	Name plate and pressure gauge in SI units: MPa	•
			i icasare unit	Z *5	Name plate and pressure gauge in imperial units: psi	•

- *2 Options B, G, H are not assembled and supplied loose at the time of shipment.
- *3 Assembly of a bracket and set nuts.
- *4 A 1.0 MPa pressure gauge will be fitted.
 *5 This product is for overseas use only according to the new Measurement Act. (The SI unit type is provided for use in Japan.)

AR20-B to AR60-B Regulator AR20K-B to AR60K-B Regulator with Backflow Function

Made to Order





3 0.4 MPa Setting

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

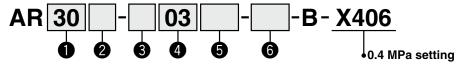
Specifications

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

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

Applicable Model

Model	AR20(K)-B	AR25(K)-B	AR30(K)-B	AR40(K)-B	AR40(K)-06-B	AR50(K)-B	AR60(K)-B
Port size	1/8, 1/4	1/4, 3/8	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1	1



- Option/Semi-standard: Select one each for a to f.
- Option/Semi-standard symbol: When more than one specification is required, indicate in alphabetic order. Example) AR30K-03BE-NR-B-X406

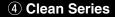
	_	_		Symbol	Description			0			
				Symbol	Description	20	25	Body :	size 40	50	60
				Nil	Without backflow function		•	•	•	•	•
2	١	Nith b	ackflow function	K*2	With backflow function		•			•	<u> </u>
				+	That backing farious.						
				Nil	Rc	•	•	•	•	•	•
8		Pin	e thread type	N	NPT	•	•	•	•	•	•
				F	G		•	•	•	•	•
				+							
				01	1/8		_		_	_	_
				02	1/4	•	•	•	•	_	_
				03	3/8		•	•	•	_	
4	Port size		04	1/2		_		•	_		
				06	3/4		_	_	•	•	_
				10	1		_		_	•	•
				+							
				Nil	Without mounting option	•	•	•	•	•	•
		а	Mounting	B*4	With bracket	•	•	•	•	•	•
				Н	With set nut (for panel mount)	•	•	•	•	_	
				+							
	ო *			Nil	Without pressure gauge	•	•	•	•	•	•
	Option *			E	Square embedded type pressure gauge (with limit indicator)	•	•	•	•	•	•
6			Pressure gauge*5	G	Round type pressure gauge (with limit indicator)	•	•	•	•	•	•
	ŏ			M	Round type pressure gauge (with color zone)	•	•	•	•	•	•
		b		E1*6	Output: NPN output, Electrical entry: Wiring bottom entry	•	•	•	•	•	•
			Digital pressure	E2*6	Output: NPN output, Electrical entry: Wiring top entry	•	•	•	•	•	•
			switch	E3*6	Output: PNP output, Electrical entry: Wiring bottom entry	•	•	•	•	•	•
				E4 *6	Output: PNP output, Electrical entry: Wiring top entry	•	•	•	•	•	•
				+						1	
			Exhaust	Nil	Relieving type	•	•	•	•	•	•
		С	mechanism	N	Non-relieving type	•	•	•	•	•	•
				+	· · ·				-		
	-	_		Nil	Flow direction: Left to right	•	•	•	•	•	•
	Jar	d	Flow direction	R	Flow direction: Right to left	•	•	•	•	•	•
	Semi-standard			+	<u> </u>			-	-		
6	-st			Nil	Downward	•	•	•	•	•	•
	i iii	е	Knob	Υ	Upward	•	•	•	•	•	•
	ű			+	•		-	-	-	-	
				Nil	Name plate and pressure gauge in SI units: MPa	•	•	•	•	•	•
		f	Pressure unit	Z *7	Name plate and pressure gauge in imperial units: psi	O*9	O*9	O*9	O*9	O*9	O*9
				ZA*8	Digital pressure switch: With unit selection function	△*10	△*10	△*10	△*10	△*10	△*10

- *2 Please set the inlet pressure to at least 0.05 MPa higher than the set pressure.
- *3 Options B, G, H are not assembled and supplied loose at the time of shipment.
- *4 Assembly of a bracket and set nuts. (AR20(K)-B to AR40(K)-B). Including 2 mounting screws for the AR50(K)-B and AR60(K)-B
- *5 A 0.7 MPa pressure gauge will be fitted.
- *6 When choosing with H (panel mount), the installation space for lead wires will not be secured. In this case, select "wiring top entry" for the electrical entry. (Select "wiring bottom entry" when the semi-standard Y is chosen simultaneously.)
- *7 For pipe thread type: NPT. This product is for overseas use only according to the new Measurement Act. (The SI unit type is provided for use in Japan.) The digital pressure switch will be equipped with the unit selection function, setting to psi ini-
- *8 For options: E1, E2, E3, E4. This product is for overseas use only according to the new Measurement Act. (The SI unit is provided for use in Japan.)
 *9 O: For pipe thread type: NPT only
- *10 A: Select with options: E1, E2, E3, E4.



AR20-B to AR60-B Regulator AR20K-B to AR60K-B Regulator with Backflow Function **Made to Order**

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



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



Please contact SMC if a product with pressure gauge is desired.

Clean series



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

Standard model no.

Copper, fluorine and silicone-free + Low particle generation

Modular Type Lubricator AL Series

Lubricator AL Series	Model	Port size	Option
	AL10-A	M5 x 0.8	
	AL20-A	1/8, 1/4	
	AL30-A	1/4, 3/8	
AND SAME TO SA	AL40-A	1/4, 3/8, 1/2	Bracket (Except AL10-A)
	AL40-06-A	3/4	
	AL50-A	3/4, 1	
Pages 83 to 90	AL60-A	1	

Lubricator

AL10-A to AL60-A

Symbol







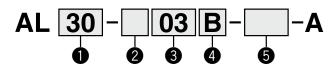


How to Order

AL10-A

AL20-A

AL40-A



- 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

	_	_						(
				Symbol	Description			Body			
						10	20	30	40	50	60
				Nil	Metric thread (M5)	•	_ [_	_	_	_
		D:	41a.u.a.a.al. 41.u.a.a	INII	Rc	_	•	•	•	•	•
2		Pipe	thread type	N	NPT	_	•	•	•	•	•
				F	G	_	•	•	•	•	•
				+							
				M5	M5 x 0.8	•	_	_	_	_	_
				01	1/8	_	•	_	_	_	_
	Port size			02	1/4	_	•	•	•	_	_
8				03	3/8	_	_	•	•	_	_
				04	1/2	_	_	_	•	_	_
	06			06	3/4	_	_	_	•	•	_
				10	1	_	_	_	_	•	•
				+							
	_)ntio	n (Mounting)	Nil	Without mounting option	•	•	•	•	•	•
4	4		ii (wouriiiig)	B *1	With bracket	_	•	•	•	•	•
				+							
			Bowl *2 *3	Nil	Polycarbonate bowl	•	•	•	•	•	•
				2	Metal bowl	•	•	•	•	•	•
		a		6	Nylon bowl	•	•	•	•	•	•
		a	DOMI	8	Metal bowl with level gauge	_	_	•	•	•	•
				С	With bowl guard	_	•	*4	*4	*4	*4
.	_			6C	With bowl guard (Nylon bowl)	_	•	*5	—* ⁵	—* ⁵	<u>_*</u> *5
	Semi-standard			+							
	and			Nil	Without drain cock	•	•	•	•	•	•
6	i-st	b	Lubricant exhaust port	3	With drain cock	•	•	•	•	•	•
	em		extiaust port	3W*6	Drain cock with barb fitting	_	_	•	•	•	•
	(0)			+			'				
			Flow direction	Nil	Flow direction: Left to right	•	•	•	•	•	•
		C	riow direction	R	Flow direction: Right to left	•	•	•	•	•	•
				+			ı		'	"	
		a	Dragoura unit	Nil	Name plate and caution plate: MPa	•	•	•	•	•	•
	d		Pressure unit	Z *7	Name plate and caution plate: psi, °F	O*8	O*8	O*8	○*8	O*8	O*8

- *1 Option is not assembled and supplied loose at the time of shipment.
- *2 Refer to chemical data on page 86 for chemical resistance of the bowl.
- *3 Refer to page 89 for 1000 cm3 tanks.
- *4 A bowl guard is provided as standard equipment (polycarbonate).
- *5 A bowl guard is provided as standard equipment (nylon).
- *6 The combination of metal bowl: 2 and 8 is not available.
- *7 For pipe thread type: M5, NPT. This product is for overseas use only according to the new Measurement Act. (The SI unit type is provided for use in Japan.)
- *8 O: For pipe thread type: M5, NPT only



Lubricator AL10-A to AL60-A Series

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			−5 to	60°C (with no fre	ezing)				
Proof pressure				1.5 MPa					
Maximum operating pressure				1.0 MPa					
Minimum dripping flow rate [L/min (ANR)] *1	4	15	1/4: 30 3/8: 40	1/4: 30 3/8: 40 1/2: 50	50	190	220		
Oil capacity [cm³]	7	25	55		13	35			
Recommended lubricant			Class	1 turbine oil (ISO	VG32)				
Bowl material				Polycarbonate					
Bowl guard	_	Semi-standard (Steel)	Standard (Polycarbonate)						
Weight [kg]	0.07	0.10	0.20 0.38 0.43		0.94	1.09			

[·] The flow rate is 5 drops or greater/min under the following conditions: Inlet pressure of 0.5 MPa; Class 1 turbine oil (ISO VG32); Temperature at 20°C; Oil adjustment valve fully open.

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 *1	_	AF22P-050AS	AF32P-050AS	AF42P-050AS	AF42P-070AS	AF52P	-050AS			

^{*1} 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	_		_	_		
	Williout drain cock	With bowl guard	_	C2SL-C-A	C3SL-A		C4S	SL-A		
Polycarbonate	With drain cock		C1SL-3-A	C2SL-3-A	_		_	_		
	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	_	_				
	vvitnout drain cock	With bowl guard	_	C2SL-6C-A	C3SL-6-A	C4SL-6-A				
Nylon	With drain cock	_	C1SL-36-A	C2SL-36-A	_	_				
	With drain 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		C4SL	2-A		
Metal	Williout dialii COCK	With level gauge	_	_	C3LL-8-A	C4LL-8-A				
ivietai	With drain cock		C1SL-23-A	C2SL-23-A	C3SL-23-A		C4SL	-23-A		
	Willi Ulaili COCK	With level gauge	_	_	C3LL-38-A		C4LL	-38-A		

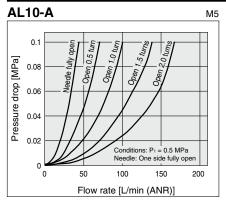
^{* ·} Bowl seal is included for the AL20-A to AL60-A.

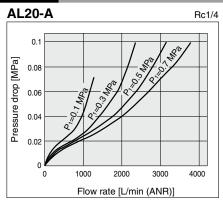
For a circuit that repeatedly turns ON and OFF on the outlet side, make the adjustment so that the average air consumption per minute becomes the minimum dripping flow rate or more.

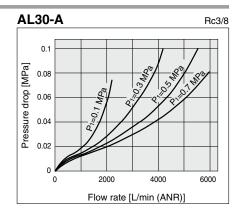
[·] Please consult with SMC separately for psi and °F unit display specifications.

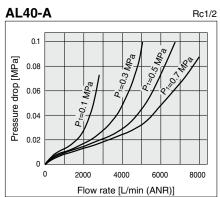
AL10-A to AL60-A Series

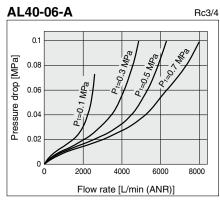
Flow Rate Characteristics (Representative values)

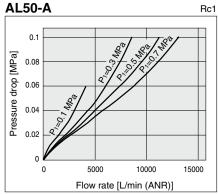


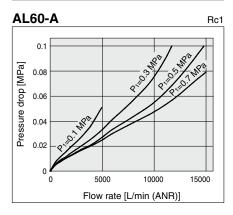




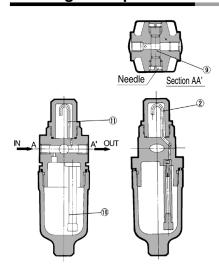








Working Principle: AL10



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 ③, and flows to the OUT side. The differential pressure between the inside of the bowl and the inside of the sight dome ②, causes the lubricant inside the bowl into the oil passage ⑩. The lubricant drips from the dripping tube ⑪, and lubricates the OUT side. The amount of lubricant is adjusted by the needle ⑨ 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.

riangle Specific Product Precautions

I Be sure to read this before handling the products. Refer to the back cover for safety instructions. For F.R.L. units I precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual", http://www.smcworld.com $lap{1}$

Selection

∕!**∖Warnin**q

- 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)

Type	Chemical name	Application examples	Mate	
i ype	Onemical 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 Potassium nitrate 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: Essentia	lly safe △: Some effec	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 (AKM series) to prevent back flow of the lubricant when redirecting the air flow before the lubricator.

Maintenance

∕!\Warning

- 1. For the AL10-A/AL20-A, 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

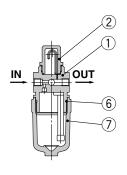
1. When the bowl is installed on the AL30-A to AL60-A, install them so that the lock button lines up to the groove of the front (or the back) of the body to avoid drop or damage of the bowl.

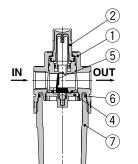


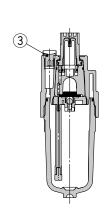
AL10-A to AL60-A Series

Construction

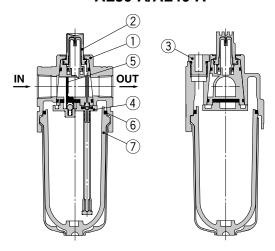
AL10-A





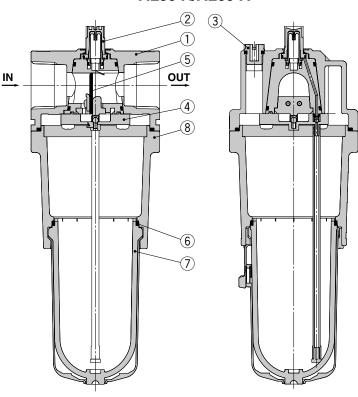


AL30-A/AL40-A



AL50-A/AL60-A

AL20-A



Component Parts

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

Replacement Parts

No.	Description	Material		Part no.								
INO.	Description		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	C42FP-260S						
7	Bowl assembly *1	Polycarbonate	C1SL-A	C2SL-A	C3SL-A	C4SL-A						

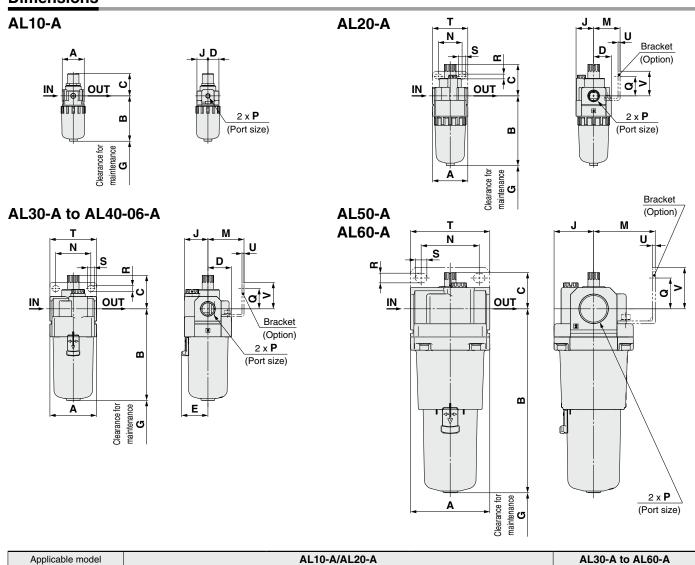
^{*1 ·} Bowl seal is included for the AL20-A to AL60-A. Please consult with SMC separately for psi and °F unit display specifications. · Bowl assembly for the AL30-A to AL60-A models comes with a bowl guard (Material: Polycarbonate).



Optional/Semi-standard specifications

AC

Metal bowl



Dimensions							
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	B	<u>a</u>	•		Barb fitting applicable tubing: T0604		

Metal bowl

Metal bowl with drain cock

With drain cock

											Optio	onal sp	ecifica	tion	s		Semi-standard specifications					
Model	Standard specifications						Bracket mount					With drain cock	With barb fitting	Metal bowl	Metal bowl with drain cock	Metal bowl with level gauge	Metal bowl with level gauge, with drain cock					
	P	Α	В	С	D	Е	G	J	М	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	35	23	6.5	13	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	52	26	8.5	12.5	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	52	25	8.5	12.5	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

Semi-standard Specifications: 1000 cm³ Tank

Lubricator

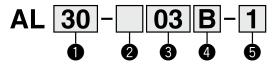
AL30 to AL60

Available for previous models (AL30 to 60).

Symbol



How to Order



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

Example) AL30-03B-1R

	_	_					0		
				Symbol	Description		Body	size	
						30	40	50	60
				Nil	Rc	•	•	•	•
2		Pipe	thread type	N	NPT	•	•	•	•
			F	G	•	•	•	•	
				+					
				02	1/4	•	•	_	_
				03	3/8	•	•	_	_
8	Port size		Port size 04		1/2	_	•	_	_
				06	3/4	_	•	•	_
				10	1	_	_	•	•
				+					
		Ontic	on (Mounting)	Nil	Without mounting option	•	•	•	•
U	`	Jplic	in (Mounting)	B *1	With bracket	•	•	•	•
				+					
				1	1000 cm ³ tank	•	•	•	•
		a	Bowl *2	10	1000 cm ³ tank (with switch) Lowest limit ON	•	•	•	•
	5			11	1000 cm ³ tank (with switch) Lowest limit OFF	•	•	•	•
_	nda			+			1		
6	-sta	b	Flow direction	Nil	Flow direction: Left to right	•	•	•	•
	Semi-standard		1 low direction	R	Flow direction: Right to left	•	•	•	•
	(0)			+					
		c	Pressure unit	Nil	Name plate in SI units: MPa	•	•	•	•
			i iossure unit	Z *3	Name plate in imperial units: psi	○*4	○*4	○*4	O*4

^{*1} Option B is not assembled and supplied loose at the time of shipment.

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

Semi-standard/Bowl Assembly Part No.

Semi-standard	Semi-standard specifications				Model						
	With	switch									
Bowl material	Lowest limit ON	Lowest limit OFF	AL30	AL40	AL40-06	AL50	AL60				
1000 cm ³ tank	_	_	121538-1A								
(Metal bowl with level gauge)	•	_	121538-1A-S1 [IS400-1 (Float switch only)]								
	_	•		121538-1A-S	2 [IS400-2 (Floa	t switch only)]					

t is not possible to switch from a polycarbonate, nylon or metal bowl, or from a metal bowl with a level gauge to a 1000 cm3 tank. Please order the product separately.

^{*2} The standard bowl is a metal bowl with level gauge and lubricant discharge function. The material of the sight dome is polycarbonate resin. For chemical resistance, refer to the chemical data on page 463.

^{*4} O: For pipe thread type: M5, NPT only

[·] When adding a float switch to the 1000 cm³ tank, select IS400-1 or IS400-2.

[·] For other replacement parts, refer to the Operation Manual.

Madal	Р	Α	В	С	Bracke	t mount	Float switch	
Model	F	A	Ь В		Q	V	В	
AL30	1/4, 3/8	53	324	38	25	_	374	
AL40	1/4, 3/8, 1/2	70	333	40	18	_	383	
AL40-06	3/4	75	333	38	16	_	383	
AL50	3/4, 1	90	332	41	35	47	382	
AL60	1	95	335	45	35	47	385	



Modular Type Filter Regulator AW Series

Filter Regulator AW Series		Model	Port size	Set pressure	Options
		AW10-A	M5 x 0.8	0.05 to 0.7 MPa 0.02 to 0.2 MPa	Bracket Round type pressure gauge Set nut (for panel mount)*1
	ma	AW20(K)-B	1/8, 1/4		Bracket Set nut (for panel mount)*1
Wiles		AW30(K)-B	1/4, 3/8		Float type auto drain
Tables On the second s	15,5 82.00	AW40(K)-B	1/4, 3/8, 1/2	0.05 to 0.85 MPa 0.02 to 0.2 MPa	Square embedded type pressure gauge Digital pressure switch
		AW40(K)-06-B	3/4		Round type pressure gauge
		AW60(K)-B	3/4, 1		Bracket Square embedded type pressure gauge Digital pressure switch
Pages 93 to 1	11				Round type pressure gauge

*1 Interchangeable with the previous AW series and panel mounting dimensions.

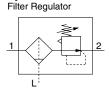
Made to Order

1	Special Temperature Environment (-X430/-X440) Special materials are used in the manufacturing of seals and resin parts to allow them to withstand various temperature conditions in cold or tropical (hot) climates.
2	High Pressure (-X425) Strong materials are used in the manufacturing of air filters intended for high pressure operation.
3	0.4 MPa Setting (-X406) The maximum set pressure is 0.4 MPa. When a pressure gauge is included, the display will show a range from 0 to 0.7 MPa.
4	Long Bowl (-X64) Drain capacity is greater than that of standard models.
(5)	Clean Series (10-)
6	Copper, Fluorine and Silicone-free + Low Particle Generation (21-)

P.106 to 111

Filter Regulator AW10-A

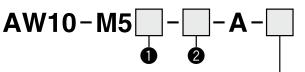
Symbol



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

How to Order

Refer to page 95 for size 20 to 60.



- Option/Semi-standard: Select one each for a to h.
- Option/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order. Example) AW10-M5CG-12NR-A

Made to order

(Refer to page 108 for details.)

				Symbol	Description
				Nil	Without mounting option
		а	Mounting	В	With bracket
				Н	With set nut (for panel mount)
	*			+	
0	Option *1	b	Float type auto drain	Nil	Without auto drain
	d		Tioat type auto drain	C*2	N.C. (Normally closed) Drain port is closed when pressure is not applied.
				+	
		С	Pressure gauge	Nil	Without pressure gauge
		C	r ressure gauge	G *3	Round type pressure gauge (without limit indicator)
				+	
		d Set pres	Set pressure *4	Nil	0.05 to 0.7 MPa setting
		ŭ	Cet pressure	1	0.02 to 0.2 MPa setting
				+	
			_	Nil	Polycarbonate bowl
		е	Bowl *5	2	Metal bowl
	grd			6	Nylon bowl
	l ğ			+	
2	sta	f	Exhaust mechanism	Nil	Relieving type
	Semi-standard	•	Extraust mechanism	N	Non-relieving type
	Se			+	
		_	Flow direction	Nil	Flow direction: Left to right
		g	Flow direction	R	Flow direction: Right to left
				+	
		h	Pressure unit	Nil	Name plate, caution plate, and pressure gauge in SI units: MPa
		h	Fiessure unit	Z *6	Name plate, caution plate, and pressure gauge in imperial units: psi, °F

- *1 Options B, G, H are not assembled and supplied loose at the time of shipment.
- *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.
- *3 A 1.0 MPa pressure gauge will be fitted. It is not assembled and supplied loose at the time of shipment.

- *4 Pressure can be set higher than the specification pressure in some cases, but use pressure within the specification range.
 *5 Refer to chemical data on page 98 for chemical resistance of the bowl.
 *6 This product is for overseas use only according to the new Measurement Act. (The SI unit type is provided for use in Japan.)



Filter Regulator AW10-A Series



AW10-A

Standard Specifications

Port size	M5 x 0.8				
Pressure gauge port size	1/16				
Fluid	Air				
Ambient and fluid temperature	-5 to 60°C (with no freezing)				
Proof pressure	1.5 MPa				
Maximum operating pressure	1.0 MPa				
Set pressure range	0.05 to 0.7 MPa				
Nominal filtration rating	5 μm				
Drain capacity [cm³]	2.5				
Bowl material	Polycarbonate				
Construction	Relieving type				
Weight [kg]	0.09				

Options/Part No.

•	
Bracket assembly *1	AR12P-270AS
Set nut	AR12P-260S
Round type pressure gauge *2	G27-10-R1

^{*1} Assembly of a bracket and set nuts

Bowl Assembly/Part No.

Bowl material	Drain discharge mechanism	Drain port	Bowl part no.
Dolygorhonata	Manual	With drain cock	C1SF-A
Polycarbonate	Automatic (Auto drain) *1	Normally closed (N.C.)	AD17-A
Nylon	Manual	With drain cock	C1SF-6-A
INVIOL	Automatic (Auto drain) *1	Normally closed (N.C.)	AD27-6-A
Motol	Manual	With drain cock	C1SF-2-A
Metal	Automatic (Auto drain) *1	Normally closed (N.C.)	AD17-2-A

^{*1} Minimum operating pressure: 0.1 MPa

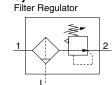
^{*2 1.0} MPa pressure gauge

 $[\]ast\,$ Please consult with SMC separately for psi and $^\circ\text{F}$ unit display specifications.

Filter Regulator

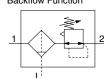
AW20-B to AW60-B Filter Regulator with Backflow Function

AW20K-B to AW60K-B



Symbol

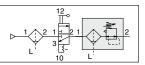
Filter Regulator with Backflow Function



- Integrated filter and regulator units save space and require less piping.
- Models with the backflow function include a mechanism which allows for the air pressure in the outlet side to be released to the inlet side.

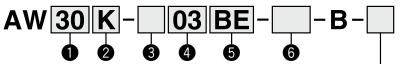
Example)

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



How to Order

Refer to page 93 for size 10.



- · 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) AW30K-03BE-1N-B

Made to order

				(Refer to pages 10		details.)		
						0)	
			Symbol	Description		Body	size	
					20	30	40	60
a	With backflow Nil			Without backflow function	•	•	•	•
2		function	K *1	With backflow function	•	•	•	•
			+		,		'	
			Nil	Rc	•	•	•	•
3	Pip	e thread type	N *2	NPT	•	•	•	•
			F *3	G	•	•	•	•
			+					
			01	1/8	•	_	_	
			02	1/4	•	•	•	
4		Port size	03	3/8		•	•	
		i Oit Size	04	1/2	_	_	•	_
			06	3/4	_	_	•	•
			10	1	_	-		•
			+					
			Nil	Without mounting option	•	•	•	•
	a	Mounting	B *5	With bracket	•	•	•	•
			Н	With set nut (for panel mount)	•	•	•	
			+					
		Float type	Nil	Without auto drain	•	•	•	•
	b	auto drain	C *6	N.C. (Normally closed) Drain port is closed when pressure is not applied.	•	•	•	•
*			D *7	N.O. (Normally open) Drain port is open when pressure is not applied.	_	•	•	
	5 _		+					
غ ا	5		Nil	Without pressure gauge	•	•	•	
-	١١.	Pressure	E	Square embedded type pressure gauge (with limit indicator)	•	•	•	
		gauge *8	G	Round type pressure gauge (with limit indicator)	•	•	•	•
	C		M	Round type pressure gauge (with color zone)	•	•	•	
		Digital	E1	Output: NPN output, Electrical entry: Wiring bottom entry	•	•	•	
		pressure	E2	Output: NPN output, Electrical entry: Wiring top entry	•	•	•	
		switch *9	E3	Output: PNP output, Electrical entry: Wiring bottom entry	•	•	•	
			E4	Output: PNP output, Electrical entry: Wiring top entry	•		•	
			+	0.051, 0.0514D			_	
	d	Set	Nil	0.05 to 0.85 MPa setting	•	•	•	
		pressure *10	1	0.02 to 0.2 MPa setting	•	•	•	_
			+ N::	Deliverable metalla suul				
			Nil	Polycarbonate bowl		•	•	_
7	5		2	Metal bowl	•		•	
2	≧ e	Bowl *11	6	Nylon bowl	•		•	
3 8) sig		8 C	Metal bowl with level gauge	_	● —*12	*12	*12
] - -				With bowl guard With bowl guard (Nylon bowl)		*12 *13	*12 *13	*12 *13
O O	Semi-stand e		6C	with bowl guard (rayion bowl)	•	*13	^*13	*10
			+	With drain cock				
			Nil			•	•	•
	f	Drain port *14	J*15	Drain guide 1/8	_	_		
			W*16	Drain guide 1/4		•	•	•
 95			VV 10	Drain cock with barb fitting	_		•	

Filter Regulator AW20-B to AW60-B Series Filter Regulator with Backflow Function AW20K-B to AW60K-B Series



AW20-B, AW20K-B AW40-B, AW40K-B

	\		Symbol	Description	U						
S				Description		Body	size				
					20	30	40	60			
		Exhaust	Nil	Relieving type	•	•	•	•			
	١	mechanism	N	Non-relieving type	•	•	•	•			
7	2 _		+								
3	Š	Flow direction	Nil	Flow direction: Left to right	•	•	•	•			
3 {	ן אַם י	Flow direction	R	Flow direction: Right to left	•	•	•	•			
3.	.		+								
0	5		Nil	Name plate, caution plate for bowl, and pressure gauge in SI units: MPa	•	•	•	•			
	i	Pressure unit	Z *17	Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F	○*19	○*19	○*19	○*19			
			ZA *18	Digital pressure switch: With unit selection function	△*20	△*20	△*20	△*20			

- *2 Drain guide is NPT1/8 (applicable to the AW20(K)-B) and NPT1/4 (applicable to the AW30(K)-B to AW60(K)-B). The auto drain port comes with ø3/8" One-touch fitting (applicable to the AW30(K)-B to AW60(K)-B).
- *3 Drain guide is G1/8 (applicable to the AW20(K)-B) and G1/4 (applicable to the AW30(K)-B to AW60(K)-B).
- *4 Options B, G, H, M are not assembled and supplied loose at the time of shipment.
- *5 Assembly of a bracket and set nuts (applicable to the AW20(K)-B to AW40(K)-B). Including 2 mounting screws for the AW60(K)-B
- *6 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.
- *7 If the compressor is small (0.75 kW, discharge flow is

- recommended.
- *8 When the pressure gauge is attached, a 1.0 MPa pressure gauge will be fitted for standard (0.85 MPa) type. 0.4 MPa pressure gauge for 0.2 MPa type.
- *9 When choosing with H (panel mount), the installation space for lead wires will not be secured. In this case, select "wiring bottom entry" for the electrical entry.
- *10 Pressure can be set higher than the specification pressure in some cases, but use pressure within the specification range.
- *11 Refer to chemical data on page 98 for chemical resistance of the bowl.
- *12 A bowl guard is provided as standard equipment (polycarbonate).
- *13 Å bowl guard is provided as standard equipment (nylon).

- *15 Without a valve function
- *16 The combination of metal bowl: 2 and 8 is not available.
- *17 For pipe thread type: NPT. This product is for overseas use only according to the new Measurement Act. (The SI unit type is provided for use in Japan.) Cannot be used with M: Round type pressure gauge (with color zone). Available by request for special. The digital pressure switch will be equipped with the unit selection function, setting to psi initially.
- *18 For options: E1, E2, E3, E4. This product is for overseas use only according to the new Measurement Act. (The SI unit is provided for use in Japan.)
- *19 O: For pipe thread type: NPT only
- *20 A: Select with options: E1, E2, E3, E4.

Standard Specifications

Model	AW20-B	AW30-B	AW40-B	AW40-06-B	AW60-B							
Port size	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1							
Pressure gauge port size *1			1/8									
Fluid			Air									
Ambient and fluid temperature *2		-5 to 60°C (with no freezing)										
Proof pressure		1.5 MPa										
Maximum operating pressure		1.0 MPa										
Set pressure range			0.05 to 0.85 MPa									
Nominal filtration rating			5 μm									
Drain capacity [cm³]	8	25		45								
Bowl material			Polycarbonate									
Bowl guard	Semi-standard (Steel)		Standard (Po	olycarbonate)								
Construction			Relieving type									
Weight [kg]	0.20											

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



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

AW20-B to AW60-B Series AW20K-B to AW60K-B Series

Options/Part No.

	Optional spe	oifications			Model						
	Optional spe	cincations	AW20(K)-B	AW30(K)-B	AW40(K)-B	AW40(K)-06-B	AW60(K)-B				
Bracket	t assembly *1		AW23P-270AS	AR33P-270AS	AR43P	-270AS	AW62P-270AS				
Set nut			AR23P-260S	AR33P-260S	AR43F	P-260S	—* ²				
	Round type *3	Standard	G36-1	0-□01		G46-10-□01					
	Hourid type	0.02 to 0.2 MPa setting	G36-4	4-□01		G46-4-□01					
Pressure	Round type *3	Standard)-□01-L		G46-10-□01-L					
gauge	(with color zone)	0.02 to 0.2 MPa setting	G36-4-	-□01-L		G46-4-□01-L					
	Square embedded	Standard	GC3-10AS [GC3P-010AS (Pressure gauge cover only)]								
	type *4	0.02 to 0.2 MPa setting									
		NPN output, Wiring bottom entry		ISE35-N-25-MLA	(SE35-N-25-M	Switch body only)]					
Digital	pressure	NPN output, Wiring top entry		ISE35-R-25-MLA	(SE35-R-25-M)	Switch body only)]					
switch	*5	PNP output, Wiring bottom entry		ISE35-N-65-MLA	(SE35-N-65-M	Switch body only)]					
		PNP output, Wiring top entry		ISE35-R-65-MLA [ISE35-R-65-M (Switch body only)]							

- *1 Assembly of a bracket and set nuts. Including 2 mounting screws for the AW60(K)-B
- *2 Please consult with SMC regarding the set nuts for the AW60(K)-B.
- *3 \square in part numbers for a round type pressure gauge indicates a pipe thread type. No indication is necessary for R; however, indicate N for NPT. Please contact SMC regarding the pressure gauge supply for psi unit specifications.
- *4 Including one O-ring and 2 mounting screws.
 - []: Pressure gauge cover only
- *5 In addition to the pressure switch body, lead wire with connector (2 m), adapter, lock pin, O-ring (1 pc.), mounting screw (2 pcs.) are attached.
 - []: Switch body only. (Regarding how to order the digital pressure switch, refer to the **Web Catalog**.)

A pressure switch can be mounted on the AW60(K)-B, with a special mounting adapter (Pressure switch adapter assembly: AW63P-310AS) and mounting screws (M3 x 0.5 x 14) which are delivered with the mounting adapter.

Bowl Assembly/Part No.

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

^{*1} Minimum operating pressure: N.O. type-0.1 MPa (AD38-A, AD48-A); N.C. type-0.1 MPa (AD27-A) and 0.15 MPa (AD37-A, AD47-A). Bowl assembly comes with a bowl seal.

□ in bowl assembly part numbers indicates a pipe thread type (applicable tubing for auto drain). No indication is necessary for Rc thread; however, indicate N for NPT thread, and F for G thread. (For auto drain, Nil: ø10, N: ø3/8") Please consult with SMC separately for psi and °F unit display specifications.



Filter Regulator AW20-B to AW60-B Series

⚠ Specific Product Precautions

I Be sure to read this before handling the products. Refer to the back cover for safety instructions. For F.R.L. units I precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual", http://www.smcworld.com 🏾

Design/Selection

∕∿ Warning

- 1. Residual pressure disposal (outlet pressure removal) is not possible for the AW20-B to AW60-B even though the inlet pressure is exhausted. When the residual pressure disposal is performed, use the filter regulator with backflow function (AW20K-B to AW60K-B).
- 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)

			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 Potassium nitrate 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 0.1 MPa, whichever comes first, to prevent damage to the element.

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 disappear).
- 2. A knob cover is available to prevent careless operation of the knob. Refer to page 112 for details.
- 3. When the bowl is installed on the AW30-B to AW60-B, 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.



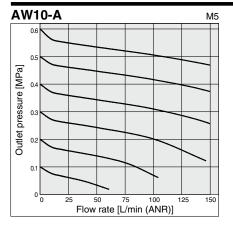


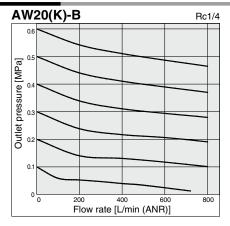


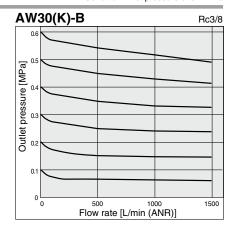
AW10-A Series AW20-B to AW60-B Series AW20K-B to AW60K-B Series

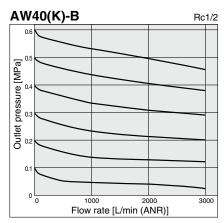
Flow Rate Characteristics (Representative values)

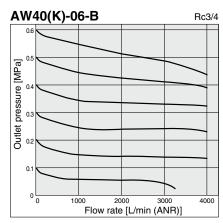
Condition: Inlet pressure of 0.7 MPa

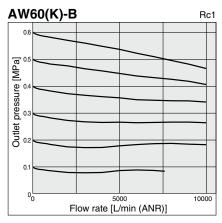






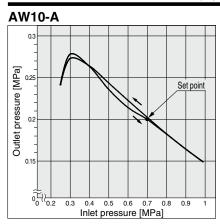


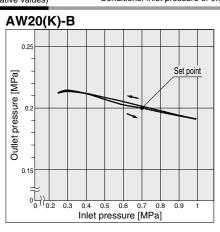


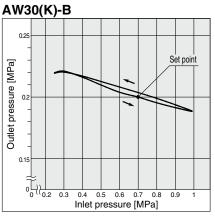


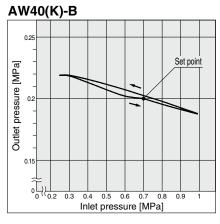
Pressure Characteristics (Representative values)

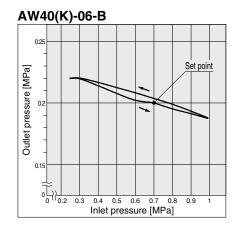
Conditions: Inlet pressure of 0.7 MPa, Outlet pressure of 0.2 MPa, Flow rate 20 L/min (ANR)

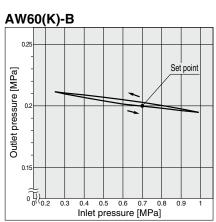




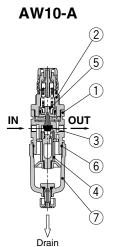








Construction



Component Parts

No.	Description	Material	Color
1	Body	Zinc die-cast	White
2	Bonnet	Polyacetal	White

Replacement Parts

No.	Description	Material	Part no.		
3	Valve	HNBR	AR10P-090S		
4	Filter element	Non-woven fabric	AF10P-060S		
5	Piston assembly	Polyacetal	AR10P-150AS		
6	Bowl O-ring	NBR	C1SFP-260S		
7	Bowl assembly	Polycarbonate	C1SF-A		

Working Principle (Filter Regulator with Backflow Function)

AW10-A



When the inlet pressure is higher than the regulating pressure, the check valve operates as a normal regulator (Figure 1). When the inlet pressure is shut off and exhausted, any inlet pressure applied to the valve ① will be lost. The force for seating the valve ① is the valve spring force ② only. When the valve ① is opened using the outlet force, the outlet pressure will be exhausted at the inlet side (Figure 2). When the set pressure is 0.15 MPa or less, the valve ① may not open due to the valve spring ② force.

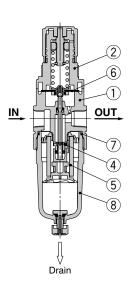
AW20-B to AW60-B Series AW20K-B to AW60K-B Series

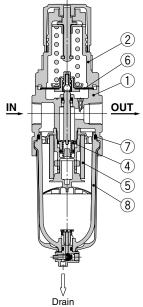
Construction

AW20(K)-B

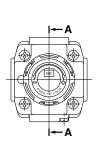
AW30(K)-B/AW40(K)-B

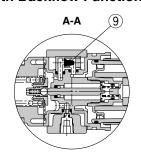
AW60(K)-B

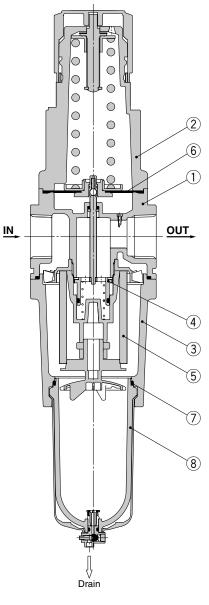




AW20K-B to AW60K-B (Filter Regulator with Backflow Function)







Component Parts

No.	Description	Material	Model	Color	
1	Body	Aluminum die-cast	White		
	Bonnet	Polyacetal	AW20-B to AW40-B	White	
2	Bonnet	Aluminum die-cast	AW60-B	White	
3	Housing	Aluminum die-cast	AW60-B	White	

Replacement Parts

No.	Description	Material			Part no.		
NO.	Description	Material	AW20(K)-B	AW30(K)-B	AW40(K)-B	AW40(K)-06-B	AW60(K)-B
4	Valve assembly	Brass, HNBR	AW20P-340AS	AW30P-340AS	AW40P-340AS		AW60P-090AS
5	Filter element Non-woven fab		AF20P-060S	AF30P-060S	AF40F	AW60P-060S	
6	Diaphragm assembly	Weatherable NBR	AR20P-150AS	AR30P-150AS	AR40P	-150AS	AR50P-150AS
7	Bowl seal	NBR	C2SFP-260S	C32FP-260S		C42FP-260S	
8	Bowl assembly *1	Polycarbonate	C2SF-A	C3SF-A*2		_	
9	Check valve assembly *3	_			AR23KP-020AS		

^{*1} Bowl assembly includes the bowl O-ring.

Please consult with SMC separately for psi and $^{\circ}\text{F}$ unit display specifications.

^{*3} Check valve assembly is applicable for a filter regulator with backflow function (AW20(K)-B to AW60(K)-B) only.

Assembly of a check valve cover, check valve body assembly and 2 mounting screws



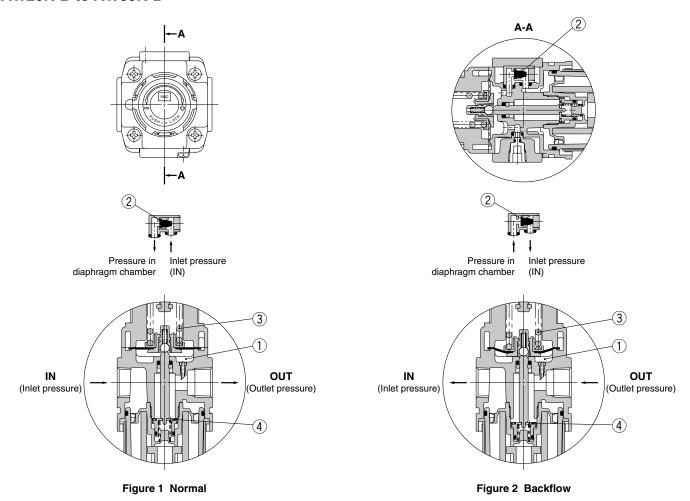
^{*2} Bowl assembly for the AW30(K)-B to AW60(K)-B models comes with a bowl guard (Material: Polycarbonate).

A

AB

Working Principle (Filter Regulator with Backflow Function)

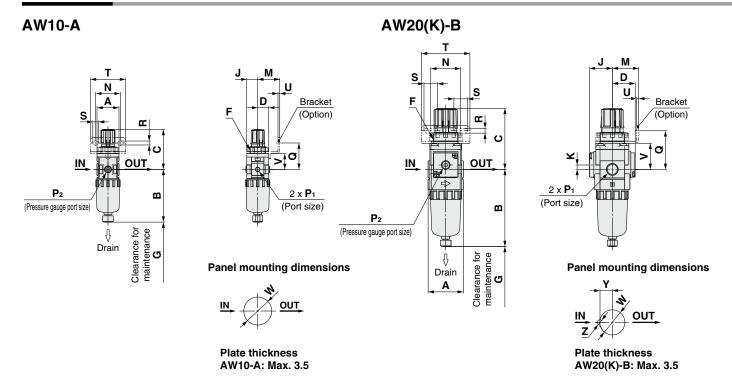
AW20K-B to AW60K-B

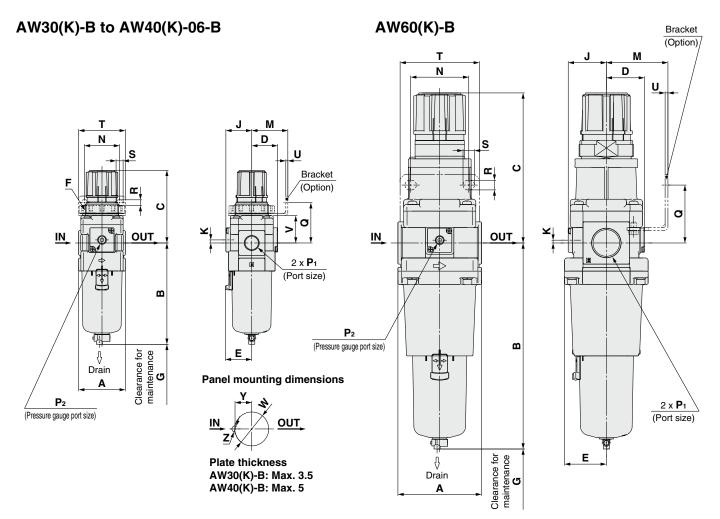


When the inlet pressure is higher than the regulating pressure, the check valve ② closes and operates as a normal regulator (Figure 1). When the inlet pressure is shut off and released, the check valve ② opens and the pressure in the diaphragm chamber ① is released into the inlet side (Figure 2). This lowers the pressure in the diaphragm chamber ① and the force generated by the spring ③ lifts the diaphragm. The valve 4 opens through the stem, and the outlet pressure is released to the inlet side (Figure 2).

AW10-A Series AW20-B to AW60-B Series AW20K-B to AW60K-B Series

Dimensions

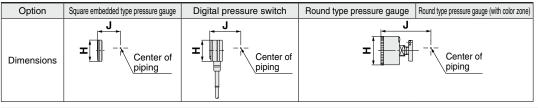




ΑF

A

Filter Regulator AW10-A Series Filter Regulator AW20-B to AW60-B Series Filter Regulator with Backflow Function AW20K-B to AW60K-B Series



Applicable model	AW10-A/A	W20(K)-B	AW20)(K)-B	AW30(K)-B to AW60(K)-B		
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	a	Width across 1/8 flats 14	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			AW30	(K)-B to AW60(K)-B			
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	<u> </u>	Width across flats 17		Width across flats 17	Width across flats 17	Barb fitting applicable tubing: T0604	

														Op	tional sp	ecificatio	ns		
Model		Standard specifications										Square embedded type pressure gauge		Digital pressure switch		Round type pressure gauge		Round type pressure gauge (with color zone)	
	P ₁	P ₂	Α	В	C*1	D	E	F	G	J	K	Н	J	Н	J	Н	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(K)-B	1/8, 1/4	1/8	40	87.6	72.4	26	_	M28 x 1	40	26	5	□28	27	□27.8	37.5	ø37.5	62.5	ø37.5	63.5
AW30(K)-B	1/4, 3/8	1/8	53	115.1	85.6	29.4	30	M38 x 1.5	55	29.4	3.5	□28	30.4	□27.8	40.9	ø37.5	65.9	ø37.5	66.9
AW40(K)-B	1/4, 3/8, 1/2	1/8	70	147.1	91.7	37.3	38.4	M42 x 1.5	80	37.3	1.5	□28	38.3	□27.8	48.8	ø42.5	74.8	ø42.5	74.8
AW40(K)-06-B	3/4	1/8	75	149.1	93.2	37.3	38.4	M42 x 1.5	80	37.3	1.2	□28	38.3	□27.8	48.8	ø42.5	74.8	ø42.5	74.8
AW60(K)-B	3/4, 1	1/8	95	234.1	175.5	43.3	47.5	_	30	43.3	3.2	□28	44.3	□27.8	61.3	ø42.5	80.8	ø42.5	80.8

					Opt	ional s	pecific	ations							Sem	i-standard sp	ecifications	
Model	Bracket mount					Panel mount With auto drain b			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				
	M	N	Q	R	S	Т	U	٧	W	Υ	Z	В	В	В	В	В	В	В
AW10-A	25	28	30	4.5	6.5	40	2	18	18.5	_	_	77.9	_	_	59.3	_	_	_
AW20(K)-B	30	34	43.9	5.4	15.4	55	2.3	29.7	28.5	14	6	104.9	-	91.4	87.4	93.9	_	_
AW30(K)-B	41	40	45.8	6.5	8	53	2.3	31.1	38.5	19	7	156.8	123.6	121.9	117.6	122.1	137.6	142.1
AW40(K)-B	50	54	54	8.5	10.5	70	2.3	35.5	42.5	21	7	186.9	155.6	153.9	149.6	154.1	169.6	174.1
AW40(K)-06-B	50	54	55.5	8.5	10.5	70	2.3	37	42.5	21	7	188.9	157.6	155.9	151.6	156.1	171.6	176.1
AW60(K)-B	70	66	65.8	11	13	90	3.2	_	_	_	_	273.9	240.9	242.6	236.6	241.1	256.6	261.1

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

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AW30-B to AW60-B Filter Regulator **Made to Order**



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

① Special Temperature Environment

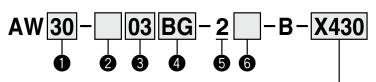
Special materials are used in the manufacturing of seals and resin parts to allow them to withstand various temperature conditions in cold or tropical (hot) climates.

Specifications

Made-to-	order part no.	-X430	-X440	
Environment		Low temperature	High temperature	
Ambient temperature [°C]		-30 to 60	-5 to 80	
Fluid tem	perature [°C]	-5 to 60 (with no freezing)		
Matarial	Rubber parts	Special NBR	FKM	
Material	Main parts	Metal (Aluminum die-cast, etc.)		

Applicable Model

Model AW30-B		AW40-B	AW40-06-B	AW60-B	
Port size	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1	



For high/low temperature •

X430	Low temperature
X440	High temperature

		-0-



AW30-03-2-B-X440

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

roquirou, irraioato irraipiraria
Evample) AW30-03RG-2N-R-X4

	_						0		
			Symbol	Description		Body size			
						30	40	60	
				Nil	Rc	•	•	•	
2		Pipe thread t	уре	N	NPT	•	•	•	
				F	G	•	•	•	
				+					
			02	1/4	•	•	_		
				03	3/8	•	•	_	
3		Port size		04	1/2	_	•	_	
				06	3/4	_	•	•	
				10	1	_	_	•	
				+					
				Nil	Without mounting option	•	•	•	
	<u>_ </u> a	a Mou	Mounting	unting	B *2	With bracket	•	•	•
4	Option*1			Н	With set nut (for panel mount)	•	•	_	
	ğ			+					
	b Pressure gauge		Nil	Without pressure gauge	•	•	•		
			G *3	Round type pressure gauge (without limit indicator)	•	•	•		
				+					
6		Bowl *4		2	Metal bowl	•	•	•	
				+	[_		
	c Set pressure		Nil 1*5	0.05 to 0.85 MPa setting	•	•	•		
					0.02 to 0.2 MPa setting	•	•	•	
				+			_		
		d Drai	n port	Nil	With drain cock	•	•	•	
	힏			J*6	Drain guide 1/4	•	•	•	
	g			+			_		
6	ig.	e Exhaust r	mechanism	Nil	Relieving type	•	•	•	
	÷			N	Non-relieving type	•	•	•	
	Semi-standard			+	[F				
	٠,	f Flow d	lirection	Nil	Flow direction: Left to right	•	•	•	
				R	Flow direction: Right to left	•	•	•	
				+	Name alsternes time alsternes hand and account assure in Clumite. MDs				
		g Press	ure unit	Nil	Name plate, caution plate for bowl, and pressure gauge in SI units: MPa	● ○*8	● ○*8	 ○*8	
				Z *7	Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F	0*0	()∻0	0*0	

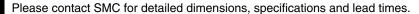
- *1 Options B. G. H are not assembled and supplied loose at the time of shipment.
- *2 Assembly of a bracket and set nuts (AW30-B to AW40-B)
- Including 2 mounting screws for the AW60-B

 *3 Mounting thread for pressure gauge: 1/8, Pressure gauge type: G43

 *4 Only metal bowl 2 is available.
- *5 The only difference from the standard specifications is the spring for the regulator. It does not restrict the setting of 0.2 MPa or more. When the pressure gauge is attached, a 0.4 MPa pressure gauge will be fitted
- *6 Without a valve function
- *7 For pipe thread type: NPT. This product is for overseas use only according to the new Measurement Act. (The SI unit type is provided for use in Japan.)
- *8 ○: For pipe thread type: NPT only



AW20-B to AW60-B Filter Regulator **Made to Order**



For high pressure



2 High Pressure

Strong materials are used in the manufacturing of filter regulators intended for high pressure operation. Also, construction modification allows a wider set pressure range.

Specifications

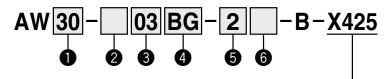
_ •			
Made-to-order part no.	-X425		
Proof pressure [MPa]	3.0		
Maximum operating pressure [MPa]	2.0		
Set pressure range [MPa]	0.1 to 1.7		
Ambient and fluid temperature [°C]	-5 to 60°C (with no freezing)		

Applicable Model

Model	AW20-B	AW30-B	AW40-B	AW40-06-B	AW60-B
Port size	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1



AW30-03-2-B-X425



• 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) AW30-03BG-2N-B-X425

			. og procou.o					
Sym		Symbol	Description		Body size			
				20	30	40	60	
		Nil	Rc	•	•	•	•	
	Pipe thread type	N	NPT	•	•	•	•	
		F	G	•	•	•	•	
		+						
		01	1/8	•	_	_	_	
		02	1/4	•	•	•	_	
	Port size	03	3/8	_	•	•	_	
3	Full Size	04	1/2	_	_	•	_	
		06	3/4	_	_	•	•	
		10	1	_	_	_	•	
		+						
		Nil	Without mounting option	•	•	•	•	
*	a Mounting	B*2	With bracket	•	•	•	•	
ا ۾ ا		Н	With set nut (for panel mount)	•	•	•	_	
Option		+						
0	h Drassura gauge	Nil	Without pressure gauge	•	•	•	•	
	b Pressure gauge	G *3	Round type pressure gauge (with limit indicator)	•	•	•	•	
		+						
	Bowl *4	2	Metal bowl	•	•	•	•	
	BOMI4	8	Metal bowl with level gauge	_	•	•	•	
		+						
	c Exhaust mechanism	Nil	Relieving type	•	•	•	•	
	c Exhaust mechanism	N	Non-relieving type	•	•	•	•	
		+						
٦		Nil	With drain cock	•	•	•	•	
dar	d Drain port	J *5	Drain guide 1/8	•	_	_	_	
and		J∗s	Drain guide 1/4		•	•	•	
Semi-standard		+	-					
E I	F	Nil	Flow direction: Left to right	•	•	•	•	
l m	e Flow direction		ter in its entire to	1	<u> </u>		<u> </u>	

*1 Options B, G, H are not assembled and supplied loose at the time of shipment *2 Assembly of a bracket and set nuts (AW20-B to AW40-B)

Flow direction: Right to left

- Including 2 mounting screws for the AW60-B
- *3 Mounting thread for pressure gauge: 1/8, Pressure gauge type: G46-20-□
 *4 Only metal bowl 2 and 8 are available.

Pressure unit

- *5 Without a valve function
- *6 For pipe thread type: NPT. This product is for overseas use only according to the new Measurement Act. (The SI unit type is provided for use in Japan.)

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

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

*7 ○: For pipe thread type: NPT only



₹

AB

AW10 Filter Regulator **Made to Order**

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

Refer to page 109 and after for size 20 or more.

3 0.4 MPa Setting

The setting specification is 0.4 MPa. When a pressure gauge is included, the display will show a range from 0 to 1.0 MPa.

Specifications

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

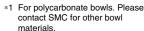
^{*1} Pressure can be set higher than the specification pressure in some cases, but use pressure within the specification range.

4 Long Bowl

Drain capacity is greater than that of standard models.

Applicable Model/Drain Capacity

Model	AW10
Port size	M5
Drain capacity [cm³]	9
B dimension [mm] *1	81.6

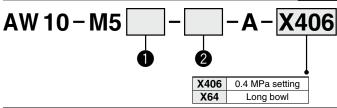




Applicable Model

Model	AW10
Port size	M5

How to Order



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

Example) AW10-M5BG-NR-A-X406

• The AW10 comes with a backflow function as a standard feature. When using the AW10 as with backflow function, backflow may not occur with the set pressure of 0.15 MPa or less. Please set the inlet pressure to at least 0.05 MPa higher than the set pressure.

0.4 MPa Setting

Long Bowl

	Example) AV 10 MODE 1417 A 400								
Symbol Description		Description	Body size	Body size					
				Nil	Without mounting option	•	•		
	a		Mounting	B *3	With bracket	•	•		
				Н	With set nut (for panel mount)	•	•		
_	*2			+					
0	Option	b	Float type	Nil	Without auto drain	•	_		
	l g	Б	auto drain	С	Float type auto drain (N.C.)	•	_		
				+					
			Pressure gauge *4	Nil	Without pressure gauge	•	•		
	c		riessule gauge	G	Round type pressure gauge (without limit indicator)	•	•		
	+								
				Nil	Polycarbonate bowl	•	•		
		d	Bowl *5	2	Metal bowl	•	•		
				6	Nylon bowl	•	•		
	ا م			+					
	dal	е	Exhaust mechanism	Nil	Relieving type	•	•		
2	Semi-standard		Exilaust illocitatiisiii	N	Non-relieving type	•	•		
9	i-S			+					
	e l	f	Flow direction	Nil	Flow direction: Left to right	•	•		
	0		1 low direction	R	Flow direction: Right to left	•	•		
		_		+					
		g	Pressure unit	Nil	Name plate, caution plate for bowl, and pressure gauge in SI units: MPa	•	•		
		9	i rossure unit	Z *6	Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F	•	•		

- *2 Options B, G, H are not assembled and supplied loose at the time of shipment.
- *3 Assembly of a bracket and set nuts.
- *4 A 1.0 MPa pressure gauge will be fitted.
- *5 Refer to chemical data on page 98 when selecting a bowl material.
- *6 This product is for overseas use only according to the new Measurement Act. (The SI unit type is provided for use in Japan.)

AW20-B to AW60-B Filter Regulator AW20K-B to AW60K-B Filter Regulator with Backflow Function

Made to Order

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



3 0.4 MPa Setting

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

Specifications

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

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

Applicable Model

Model	AW20(K)-B	AW30(K)-B	AW40(K)-B	AW40(K)-06-B	AW60(K)-B
Port size	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1

4 Long Bowl

Drain capacity is greater than that of standard models.

Applicable Model/Drain Capacity

Model	AW20(K)-B	AW30(K)-B	AW40(K)-B	AW40(K)-06-B	AW60(K)-B
Port size	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1
Drain capacity [cm³]	19	43			
B dimension [mm]*1	108.6	137.1	167.2	169.2	254.2

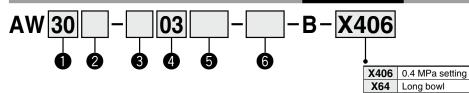
^{*1} For polycarbonate bowls. Please contact SMC for other bowl materials.

AW20-B





How to Order



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

0.4 MPa Setting

Example) AW30K-03BE-2N-B-X406					0.4 iiii d Octanig			Long Bown					
		Symbol	Description		0			0					
			Syllibol	Description				60					
						30	40	00	20	30	40	00	
						•	•	•	•	•	•	•	
	fu	nction		With backflow function		•	•		•	•			
				-				•		_	•	•	
F	Pipe t	hread type						•				•	
				G		•	•	•	•	•	•	•	
			+										
			01	1/8		_	_	_	•	_		<u> </u>	
			02	1/4	•	•	•	_	•	•	•	_	
3	ъ.		03	3/8	_	•	•	_	_	•	•		
	Port Size		04	1/2	_	_	•	_	_	_	•	_	
			06	3/4	_	_	•	•	_	_	•	•	
			10	1	_	_	_	•	_	_	_	•	
			+										
			Nil	Without mounting option	•	•	•	•	•	•	•	•	
	а	Mounting	B *5	With bracket	•	•	•	•	•	•	•	•	
		Ĭ	Н	With set nut (for panel mount)	•	•	•	_	•	•	•	_	
			+	, , , , , , , , , , , , , , , , , , , ,									
			Nil	Without auto drain	•	•	•	•	_	_	_		
	b		С	Float type auto drain (N.C.)	•	•	•	•	_	_	_	_	
4		auto drain	D			•	•	•	_	_	<u> </u>		
*			+										
			Nil	Without pressure gauge	•	•	•	•	•	•	•	•	
0		Pressure *6				•	•	•		•	•	•	
						•	•	•			•		
		390				•	•	•		•	•	•	
	C					•	•	•		•	•	•	
		Digital											
		pressure											
		switch	E4*7	Output: PNP output, Electrical entry: Wiring bottom entry									
		With fu	With backflow function Pipe thread type Port size a Mounting b Float type auto drain Pressure *6 gauge c Digital pressure	Symbol Symbol	Symbol Description	Myth backflow function With backflow function K With backflow function H Pipe thread type Nil Rc N*2 NPT F*3 G 1 01 1/8 02 1/4 03 3/8 04 1/2 06 3/4 10 1 10 1 H Without mounting option Aili Without mounting option B*5 With backflow function 1 H With set nut (for panel mount) + With with set nut (N.C.) D Float type auto drain (N.C.) D Float type auto drain (N.O.) + Pressure *6 gauge G Round type pressure gauge (with limit indicator) gauge (Mith limit indicator) M Round type pressure gauge (with color zone) E1*7 Output: NPN output, Electrical entry: Wiring bottom entry E2*7 Output: NPN output, Electrical entry: Wiring bottom entry E3*7 Output: NPN output, Electrical entry: Wiring bottom entry E3*7 Output: NPN output, Electrical entry: Wiring bottom entry E3*7 Output: NPN output, Electrical entry: Wiring bottom entry E3*7 Output: NPN output, Electrical entry: Wiring bottom entry E3*7 Output: NPN output, Electrical entry: Wiring bottom entry E3*7 Output: NPN output, Electrical entry: Wiring bottom entry	Symbol Description Bod 20 30	Symbol Description Body size 20 30 40	Symbol Description Body size 20 30 40 60	Symbol Description Body size 20 30 40 60 20	Symbol Description Body size 20 30 40 60 20 30	Symbol Description Body size Body size Body size 20 30 40 60	

- *2 Drain guide is NPT1/8 (applicable to the AW20(K)-B) and NPT1/4 (applicable to the AW30(K)-B to AW60(K)-B). The auto drain port comes with ø3/8" One-touch fitting (applicable to the AW30(K)-B to AW60(K)-B).
- *3 Drain guide is G1/8 (applicable to the AW20(K)-B) and G1/4 (applicable to the AW30(K)-B to AW60(K)-B)
- *4 Options B, G, H, M are not assembled and supplied loose at the time of shipment.
- *5 Assembly of a bracket and set nuts. (AW20(K)-B to AW40(K)-B). Including 2 mounting screws for the AW60(K)-B
- *6 A 0.7 MPa pressure gauge will be fitted for a 0.4 MPa setting (-X406).
- *7 When choosing with H (panel mount), the installation space for lead wires will not be secured. In this case, select "wiring down entry" for the electrical entry.



Filter Regulator AW20-B to AW60-B Series Filter Regulator with Backflow Function AW20K-B to AW60K-B Series

						0.4	1 МРа	Settin	g		Long	Bowl	
		Symbol		Symbol Description		Body size			Body size				
						20	30	40	60	20	30	40	60
		d	Set pressure	Nil	0.05 to 0.85 MPa setting	_	_	[_	•	•	•	•
		u	Set pressure	1*8	0.02 to 0.2 MPa setting	_		_	_	•	•	•	•
		_		+									
				Nil	Polycarbonate bowl	•	•	•	•	•	•	•	•
				2	Metal bowl	•	•	•	•	•	•	•	•
		е	Bowl *9	6	Nylon bowl	•	•	•	•	•	•	•	•
			DOWI	8	Metal bowl with level gauge		•	•	•		_	_	
				С	With bowl guard	•	_	-	_	•	_		
				6C	With bowl guard (Nylon bowl)	•					_		
	힏	_		+									
	g		*10	Nil	With drain cock	•	•	•	•	•	•	•	•
6	tar	f	Drain port	J*11	Drain guide 1/8	•				•	_	_	
	- <u>-</u> -				Drain guide 1/4	_	•	•	•		•	•	•
	Semi-standard			W*12	Drain cock with barb fitting: For ø6 x ø4 nylon tube	_	•	•	•		•	•	•
	0)			+									
		g	Exhaust	Nil	Relieving type	•	•	•	•		•	•	•
		_	mechanism	N	Non-relieving type	•	•	•	•		•	•	•
			1	+							1		
		h	Flow direction	Nil	Flow direction: Left to right	•	•	•	•	•	•	•	•
				R	Flow direction: Right to left	•	•	•	•	•	•	•	•
			1	+									
			_	Nil	Name plate, caution plate for bowl, and pressure gauge in SI units: MPa	0.045	0.045	0.045	0.045	0.045	0.015	0.045	0.015
		i	Pressure unit	Z*13	Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F	O*15	O*15	O*15	O*15	O*15	O*15	O*15	O*15
				ZA*14	Digital pressure switch: With unit selection function	△*16	△*16	△*16	△*16	△*16	△*16	△*16	△*16

- *8 The only difference from the standard specifications is the adjusting spring for the regulator. It does not restrict the setting of 0.2 MPa or more. When the pressure gauge is attached, a 0.4 MPa pressure gauge will be fitted.
- *9 Refer to chemical Data on page 98 when selecting a bowl material.
- *10 Float type auto drain: The combination of C and D is not possible.
- *11 Without a valve function
- *12 Metal bowl: The combination of 2 and 8 is not possible.
 *13 For pipe thread type: NPT. This product is for overseas use only according to the new Measurement Act. (The SI unit type is provided for use in Japan.) The digital pressure switch will be equipped with the unit selection function, setting to psi initially. *14 For options: E1, E2, E3, E4. This product is for overseas use only according to the
- new Measurement Act. (The SI unit is provided for use in Japan.)
- *15 ○: For pipe thread type: NPT only *16 △: Select with options: E1, E2, E3, E4.



AW20-B to AW60-B Filter Regulator AW20K-B to AW60K-B Filter Regulator with Backflow Function

Made to Order

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



5 Clean Series

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

10 - Standard model no.

* Please contact SMC if a product with pressure gauge is desired.

Clean Series



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

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

21 - Standard model no.

Copper, fluorine and silicone-free + Low particle generation

Option Knob Cover

Prevents careless knob operation.





Part no.	Applicable model
AR20P-580AS	AC20□-B, AR20(K)-B, AW20(K)-B
AR25P-580AS	AC25□-B, AR25(K)-B
AR30P-580AS	AC30□-B, AR30(K)-B, AW30(K)-B
AR40P-580AS	AC40□(-06)-B, AR40(K)(-06)-B, AW40(K)(-06)-B

⚠ Safety Instructions

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

Caution: Caution indicates a hazard with a low level of risk which, If not avoided, could result in minor or moderate injury.

Warning: Warning indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.

⚠ Danger: Danger if not avoided, will result in death or serious injury. **Danger** indicates a hazard with a high level of risk which, *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 equipment.

2. Only personnel with appropriate training should operate machinery and equipment.

The product specified here may become unsafe if handled incorrectly. The assembly, operation and maintenance of machines or equipment including our products must be performed by an operator who is appropriately trained and experienced.

- 3. Do not service or attempt to remove product and machinery/ equipment until safety is confirmed.
 - 1. The inspection and maintenance of machinery/equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.
 - 2. When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.
 - 3. Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.
- 4. Contact SMC beforehand and take special consideration of safety measures if the product is to be used in any of the following conditions.
 - 1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
 - 2. Installation on equipment in conjunction with atomic energy, railways, air navigation, space, shipping, vehicles, military, medical treatment, combustion and recreation, or equipment in contact with food and beverages, emergency stop circuits, clutch and brake circuits in press applications, safety equipment or other applications unsuitable for the standard specifications described in the product 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.

Revision History

(Long bowl, 0.4 MPa setting, With element service indicator, High pressure, Low temperature, High temperature, Clean series, and Copper, fluorine, and silicone-free + Low particle generation)

- * AL30 to 60 (1000 cm3 tank) added.
- * Number of pages increased from 100 to 116.

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↑ Safety Instructions Be sure to read the "Handling Precautions for SMC Products" (M-E03-3) and "Operation Manual" before use.