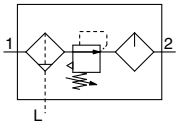


# AC10-A to AC40-A

Symbol



## How to Order

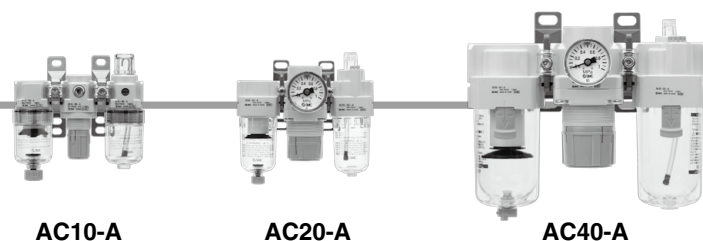
AC **30** - **03** **DG** - - - - **A**

①
②
③
④
⑤
⑥

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

	Symbol	Description	①					
			Body size					
			10	20	25	30	40	
②	Pipe thread type	Nil	Metric thread (M5)					
		N <sup>Note 1)</sup>	Rc					
		F <sup>Note 2)</sup>	NPT					
			G					
+								
③	Port size	M5	M5					
		01	1/8					
		02	1/4					
		03	3/8					
		04	1/2					
		06	3/4					
+								
④	a	Nil	Without auto drain					
		C <sup>Note 4)</sup>	N.C. (Normally closed) Drain port is closed when pressure is not applied.					
		D <sup>Note 5)</sup>	N.O. (Normally open) Drain port is open when pressure is not applied.					
	+							
	b	Pressure gauge <sup>Note 6)</sup>	Nil	Without pressure gauge				
			G	Round type pressure gauge (without limit indicator)				
M			Round type pressure gauge (with color zone)					
+								
⑤	c	Nil	Without attachment					
		K	Mounting position: AF+AR+K+AL					
	+							
	d	Nil	Without attachment					
		S <sup>Note 8)</sup>	Mounting position: AF+AR+S+AL					
	+							
e	T-spacer	Nil	Without attachment					
		T <sup>Note 8)</sup>	Mounting position: AF+T+AR+AL					
+								
f	Pressure relief 3 port valve	Nil	Without attachment					
		V	Mounting position: AF+AR+AL+V					
+								
⑥	g	Nil	0.05 to 0.7 MPa setting					
		1	0.02 to 0.2 MPa setting					
	+							
	h	Bowl <sup>Note 10)</sup>	Nil	Polycarbonate bowl				
			2	Metal bowl				
			6	Nylon bowl				
8			Metal bowl with level gauge					
C			With bowl guard					
6C	With bowl guard (Nylon bowl)							

# Air Combination Series AC10-A to AC40-A



	Symbol	Description	①					
			Body size					
			10	20	25	30	40	
6 Semi-standard	i Air filter drain port <small>Note 13</small>	Nil	With drain cock	●	●	●	●	●
		J <small>Note 14</small>	Drain guide 1/8	—	●	—	—	—
			Drain guide 1/4	—	—	●	●	●
		W <small>Note 15</small>	Drain cock with barb fitting (for ø6 x ø4 nylon tube)	—	—	●	●	●
	+							
	j Lubricator lubricant exhaust port	Nil	Without drain cock	●	●	●	●	●
		3 <small>Note 16</small>	Lubricator with drain cock	●	●	●	●	●
	+							
	k Exhaust mechanism	Nil	Relieving type	●	●	●	●	●
		N	Non-relieving type	●	●	●	●	●
+								
l Flow direction	Nil	Flow direction: Left to right	●	●	●	●	●	
	R	Flow direction: Right to left	●	●	●	●	●	
+								
m Pressure unit	Nil	Name plate and pressure gauge in imperial units: MPa	●	●	●	●	●	
	Z <small>Note 17</small>	Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F	○ <small>Note 18</small>	○ <small>Note 18</small>	○ <small>Note 18</small>	○ <small>Note 18</small>	○ <small>Note 18</small>	

Note 1) Drain guide is NPT1/8 (applicable to the AC20-A) and NPT1/4 (applicable to the AC25-A to AC40-A). The auto drain port comes with ø3/8" One-touch fitting (applicable to the AC25-A to AC40-A).

Note 2) Drain guide is G1/8 (applicable to the AC20-A) and G1/4 (applicable to the AC25-A to AC40-A).

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

Note 4) When pressure is not applied, condensate which does not start the auto drain mechanism will be left in the bowl. Releasing the residual condensate before ending operations for the day is recommended.

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

of operations. N.C. type is recommended.

Note 6) When the pressure gauge is attached, a 1.0 MPa pressure gauge will be fitted for standard (0.7 MPa) type. 0.4 MPa pressure gauge for 0.2 MPa type (1.0 MPa pressure gauge only for the AC10-A).

Note 7) Not available with piping port size: 06

Note 8) The bracket position varies depending on the T-spacer or pressure switch mounting.

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

Note 10) Refer to Chemical data on page 38 for chemical resistance of the bowl.

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

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

Note 13) Float type auto drain: The combination of C and D is not possible.

Note 14) Without a valve function

Note 15) The combination of metal bowl: 2 and 8 is not available.

Note 16) When choosing with W: Filter drain port, the drain cock of a lubricator will be with barb fittings.

Note 17) For pipe thread type: M5, NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.) MPa and psi are shown together on the pressure unit. Cannot be used with M: Round pressure gauge (with color zone). Available by request for special.

Note 18) ○: For pipe thread type: M5, NPT only

## Standard Specifications

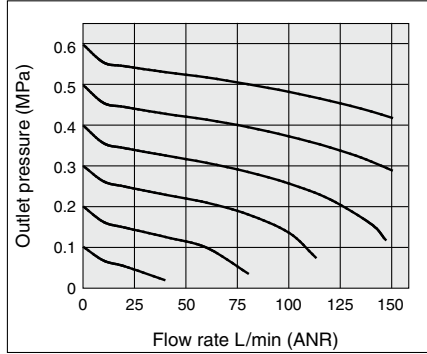
Model	AC10-A	AC20-A	AC25-A	AC30-A	AC40-A	AC40-06-A
Component	Air Filter [AF]	AF10-A	AF20-A	AF30-A	AF30-A	AF40-06-A
	Regulator [AR]	AR10-A	AR20-A	AR25-A	AR30-A	AR40-06-A
	Lubricator [AL]	AL10-A	AL20-A	AL30-A	AL30-A	AL40-06-A
Port size	M5 x 0.8	1/8, 1/4	1/4, 3/8	1/4, 3/8	1/4, 3/8, 1/2	3/4
Pressure gauge port size [AR]	1/16	1/8				
Fluid	Air					
Ambient and fluid temperature	-5 to 60 °C (with no freezing)					
Proof pressure	1.5 MPa					
Max. operating pressure	1.0 MPa					
Set pressure range [AR]	0.05 to 0.7 MPa					
Nominal filtration rating [AF]	5 µm					
Recommended lubricant [AL]	Class 1 turbine oil (ISO VG32)					
Bowl material [AF/AL]	Polycarbonate					
Bowl guard [AF/AL]	—	Semi-standard (Steel)	Standard (Polycarbonate)			
Construction [AR]	Relieving type					
Weight (kg)	0.27	0.40	0.68	0.83	1.53	1.66

# Series AC10-A to AC40-A

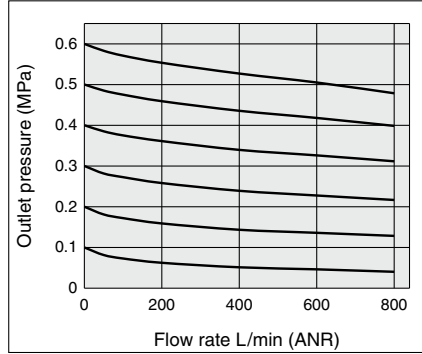
## Flow-rate Characteristics (Representative values)

Condition: Inlet pressure 0.7 MPa

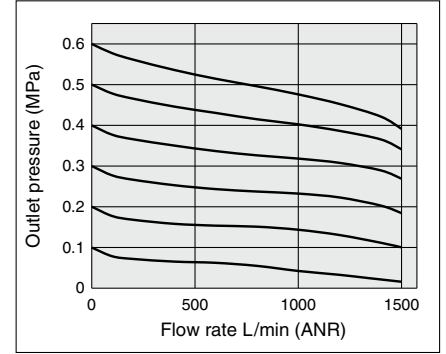
**AC10-A** M5 x 0.8



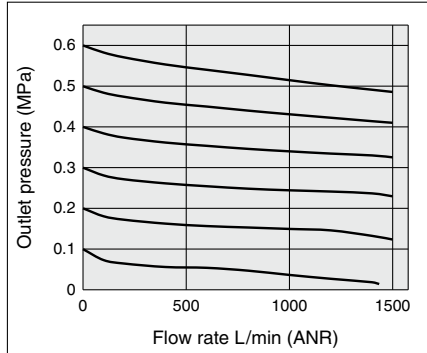
**AC20-A** Rc1/4



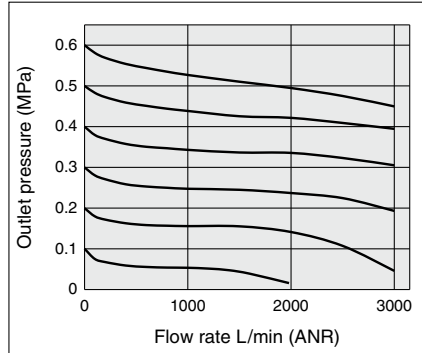
**AC25-A** Rc3/8



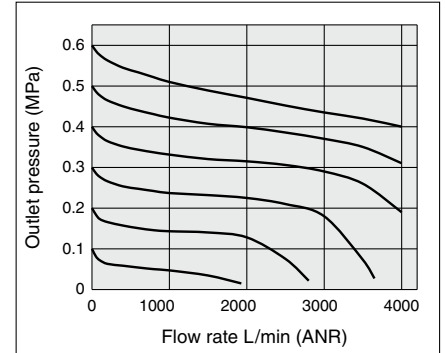
**AC30-A** Rc3/8



**AC40-A** Rc1/2



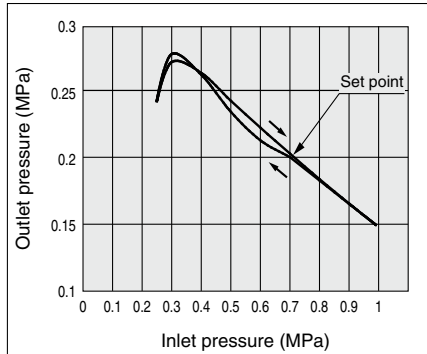
**AC40-06-A** Rc3/4



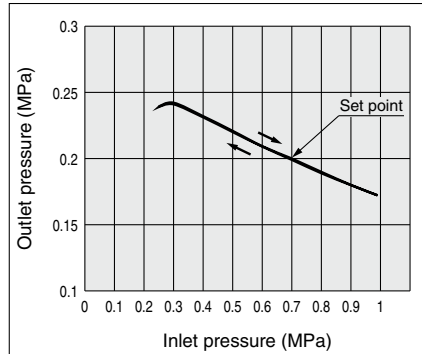
## Pressure Characteristics (Representative values)

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

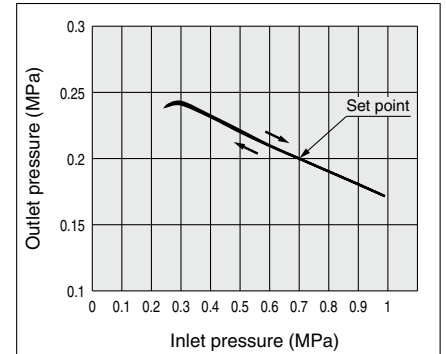
**AC10-A**



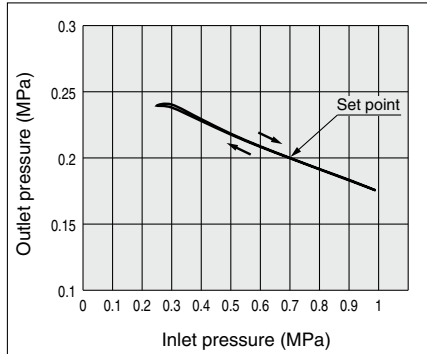
**AC20-A**



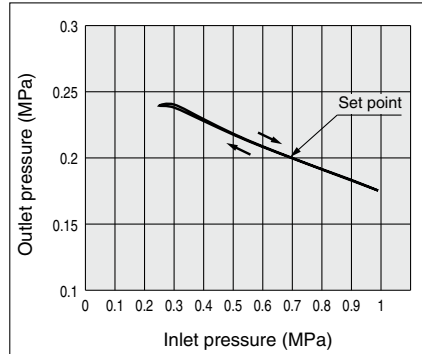
**AC25-A**



**AC30-A**



**AC40-A/AC40-06-A**



## ⚠ Specific Product Precautions

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

### Piping

#### ⚠ Warning

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

### Air Supply

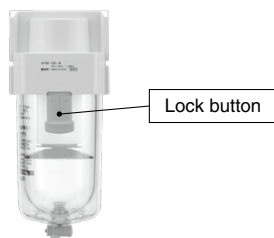
#### ⚠ Caution

- 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

- When the bowl is installed on the air filter, filter regulator, lubricator, mist separator, or micro mist separator (AC25-A to AC40-A), install them so that the lock button lines up to the groove of the front (or the back) of the body to avoid drop or damage of the bowl.



### Selection

#### ⚠ Warning

- 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
- When a pressure release 3 port valve is mounted on the inlet side of the regulator or filter regulator, the residual pressure can be released to the inlet side. However, if the set pressure is 0.15 MPa or less, the residual pressure may not be released. When using the pressure release 3 port valve at a set pressure level of 0.15 MPa or less, it is recommended to use a regulator with backflow function.

#### ⚠ 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 (Series AKM) on the inlet side of the lubricator to prevent a backflow of the lubricant.
- If a pressure relief 3 port valve is mounted on the inlet side of the lubricator, causing a backflow of air, it can result in a backflow of oil or damage to internal parts. Do not use it in this fashion.
- 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.

AC

AF+AR+AL

AW+AL

AF+AR

AF+AFM+AR

AW+AFM

Attachment

AF

AFM / AFD

AR

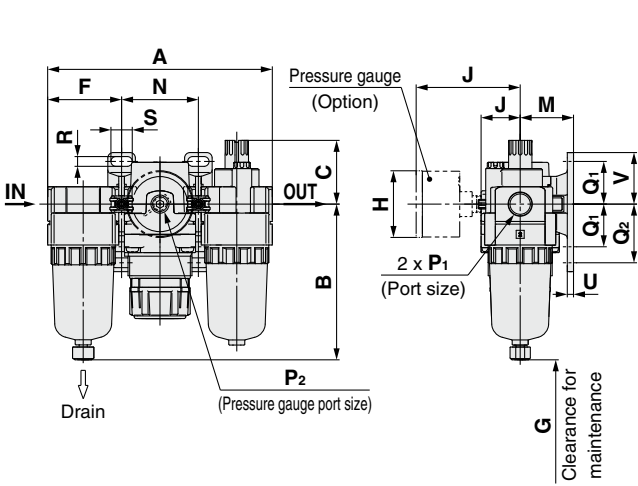
AL

AW

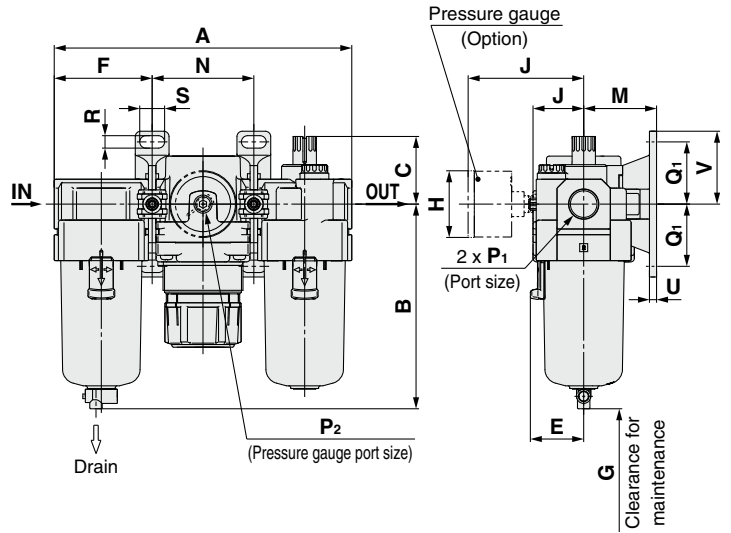
# Series AC10-A to AC40-A

## Dimensions

### AC10-A/AC20-A



### AC25-A to AC40-06-A



Applicable model	AC10-A/AC20-A		AC20-A		AC25-A to AC40-06-A
Optional/Semi-standard specifications	With auto drain (N.C.)	Metal bowl	With drain guide	Metal bowl with drain guide	With auto drain (N.O./N.C.)
Dimensions					

Applicable model	AC25-A to AC40-06-A					
Optional/Semi-standard specifications	Metal bowl	Metal bowl with drain guide	Metal bowl with level gauge	Metal bowl with level gauge, with drain guide	With drain guide	Drain cock with barb fitting
Dimensions						

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

Model	Optional specifications						Semi-standard specifications					
	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	
	H	J	H	J	B	B	B	B	B	B	B	
AC10-A	ø26	26	—	—	77.9	—	—	59.3	—	—	—	
AC20-A	ø37.5	58.5	ø37.5	59.5	104.9	—	91.4	87.4	93.9	—	—	
AC25-A	ø37.5	58.5	ø37.5	59.5	156.8	123.6	121.9	117.6	122.1	137.6	142.1	
AC30-A	ø37.5	65	ø37.5	66	156.8	123.6	121.9	117.6	122.1	137.6	142.1	
AC40-A	ø42.5	72	ø42.5	72	186.9	155.6	153.9	149.6	154.1	169.6	174.1	
AC40-06-A	ø42.5	72	ø42.5	72	188.9	157.6	155.9	151.6	156.1	171.6	176.1	