

Modular F.R.L. Units

AC Series

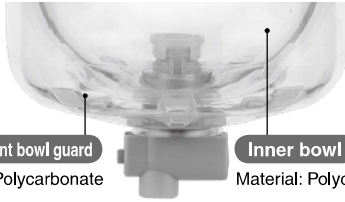
RoHS

Better visibility and environmental resistance

Double layer design

The bowl is covered with a transparent bowl guard!

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



Transparent bowl guard

Material: Polycarbonate

Inner bowl

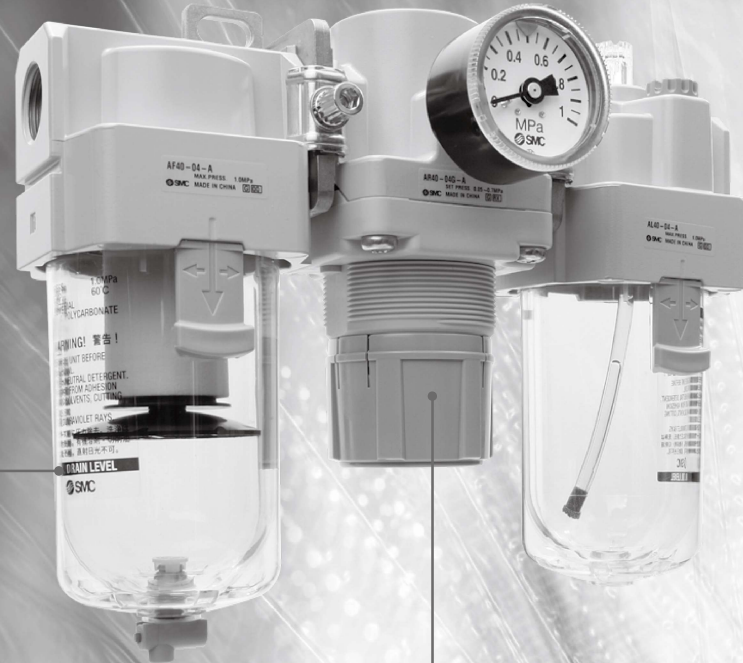
Material: Polycarbonate

* Body size: 30 or more

Energy saving regulator

Pressure drop: Max. **50%** improvement

Set pressure: **0.05 to 0.7 MPa**
0.02 to 0.2 MPa



Easy replacement of the element

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

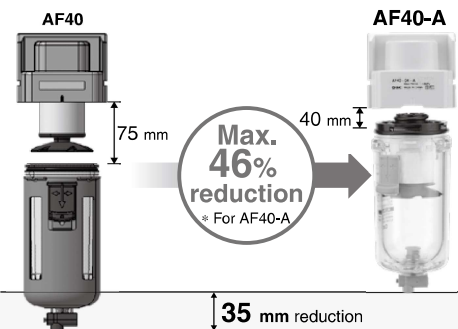
Current model



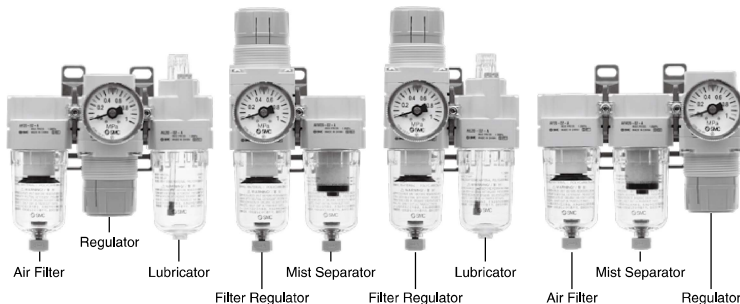
Replacement in hand!

* AF, AW only
(Except AF10-A, AF50-A, AF60-A, AW10-A)

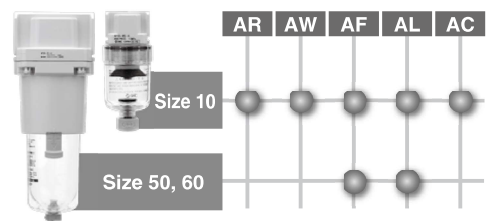
Reduced required maintenance space



Max. **46%** reduction
* For AF40-A



Body size 10, 50, 60 added!

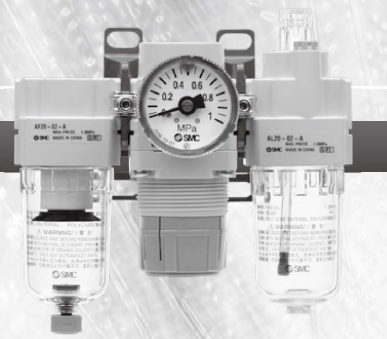
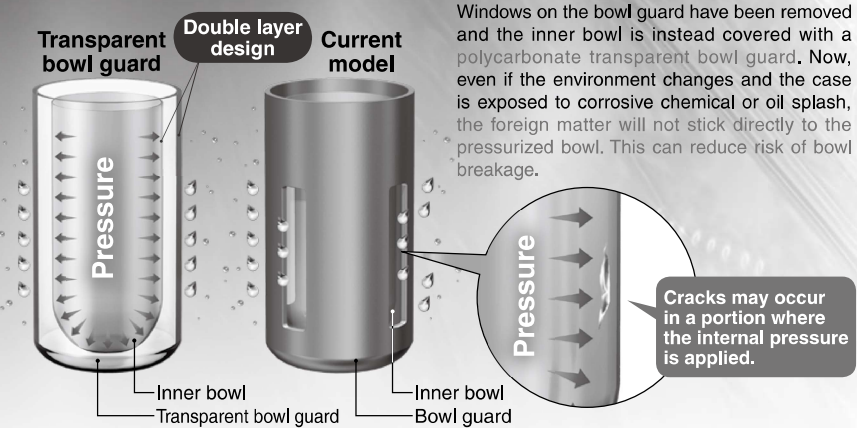


- AC-A
- AF-A
- AF□-A
- AR-A
- AL-A
- AW-A
- AC-B
- AF-A
- AF□-A
- AR-A^B
- AL-A
- AW-A^B
- AW□
- A□G
- E□
- AV
- AF

AC Series

▶ Transparent bowl guard

Better environmental resistance:
Transparent bowl guard can protect the inner bowl!

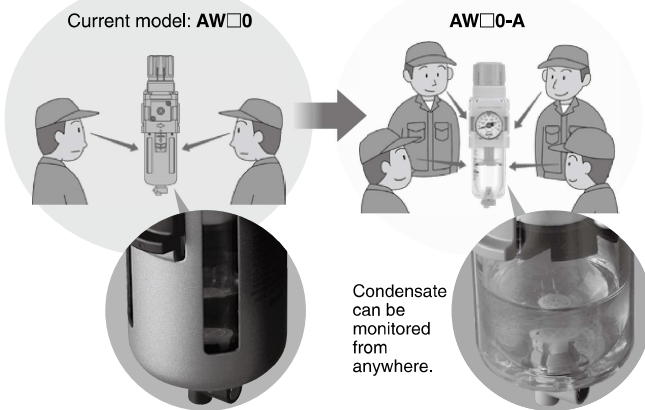


| Applicable model | |
|------------------------------------|-------------------------------|
| Air Filter AF | Filter Regulator AW |
| Mist Separator AFM | Lubricator AL |
| Micro Mist Separator AFD | |

* Body size: 30 or more

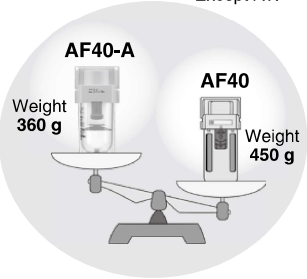
Better visibility: 360°

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

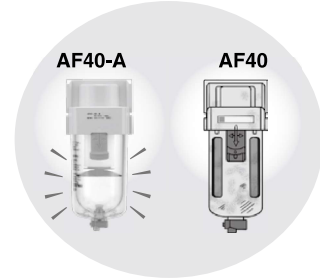


Light weight: Max. 90 g reduction

* Except AW



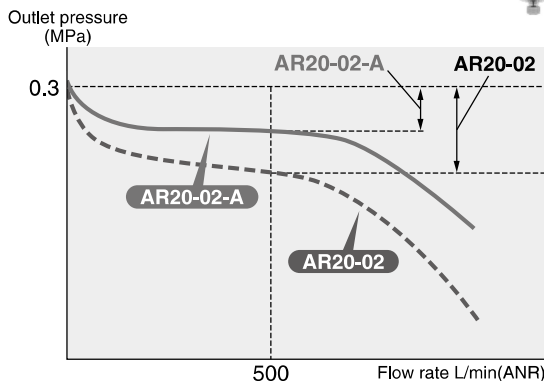
Metal related corrosion does not occur.



Resin body does not rust.

Regulator/AR Filter Regulator/AW

Pressure drop:
Max. 50% improvement



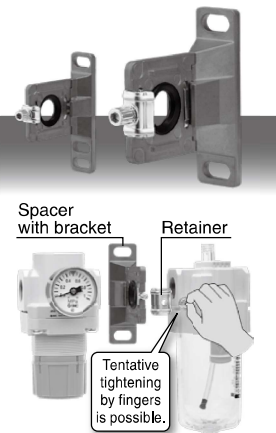
Conditions
◆ Inlet pressure: 0.5 MPa ◆ Outlet pressure: 0.3 MPa
◆ Flow rate: 500 L/min(ANR)

New Spacer

Modular connection

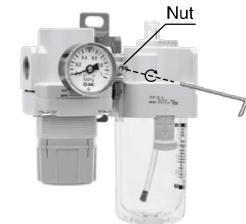
Step ①

- 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)



Step ②

- Tighten the nut with the hexagon wrench.


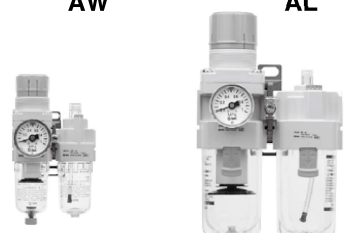


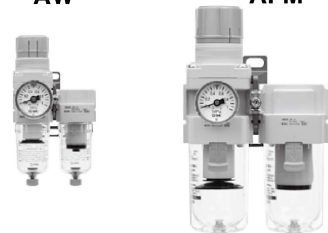


Interchangeable with current model

- New spacer can be connected to current AF, AR, AL, AW series.
- Current spacer cannot be used for new AR □-A, AW□-A series.

AC Series





Series Configuration



| Product | Model | Port size | | | | | | | INDEX |
|---|------------|-----------|-----|-----|-----|-----|-----|-------|-------|
| | | M5 | 1/8 | 1/4 | 3/8 | 1/2 | 3/4 | 1 | |
| Air Filter + Regulator + Lubricator AF AR AL  | AC10-A | ● | | | | | | | P.402 |
| | AC20-A | | ● | ● | | | | | |
| | AC25-A | | | ● | ● | | | | |
| | AC30-A | | | ● | ● | | | | |
| | AC40-A | | | ● | ● | ● | | | |
| | AC40-06-A | | | | | | ● | | |
| Filter Regulator + Lubricator AW AL  | AC10A-A | ● | | | | | | P.408 | |
| | AC20A-A | | ● | ● | | | | | |
| | AC30A-A | | | ● | ● | | | | |
| | AC40A-A | | | ● | ● | ● | | | |
| | AC40A-06-A | | | | | | ● | | |
| Air Filter + Regulator AF AR  | AC10B-A | ● | | | | | | P.412 | |
| | AC20B-A | | ● | ● | | | | | |
| | AC25B-A | | | ● | ● | | | | |
| | AC30B-A | | | ● | ● | | | | |
| | AC40B-A | | | ● | ● | ● | | | |
| | AC40B-06-A | | | | | | ● | | |
| Air Filter + Mist Separator + Regulator AF AFM AR  | AC20C-A | | ● | ● | | | | P.416 | |
| | AC25C-A | | | ● | ● | | | | |
| | AC30C-A | | | ● | ● | | | | |
| | AC40C-A | | | ● | ● | ● | | | |
| | AC40C-06-A | | | | | | ● | | |
| Filter Regulator + Mist Separator AW AFM  | AC20D-A | | ● | ● | | | | P.420 | |
| | AC30D-A | | | ● | ● | | | | |
| | AC40D-A | | | ● | ● | ● | | | |
| | AC40D-06-A | | | | | | ● | | |

Air Combination

- AC-A**
- AF-A
- AF-A
- AR-A
- AL-A
- AW-A
- AC-B
- AF-A
- AF-A
- AR-A
- AL-A
- AW-A
- AW
- AC-G
- E
- AV
- AF

Series Configuration

| Product | Model | Port size | | | | | | | INDEX |
|--|------------|-----------|-----|-----|-----|-----|-----|-------|-------|
| | | M5 | 1/8 | 1/4 | 3/8 | 1/2 | 3/4 | 1 | |
| Air Filter  | AF10-A | ● | | | | | | | P.429 |
| | AF20-A | | ● | ● | | | | | |
| | AF30-A | | | ● | ● | | | | |
| | AF40-A | | | ● | ● | ● | | | |
| | AF40-06-A | | | | | | ● | | |
| | AF50-A | | | | | | ● | ● | |
| | AF60-A | | | | | | | ● | |
| Mist Separator  | AFM20-A | | ● | ● | | | | P.429 | |
| | AFM30-A | | | ● | ● | | | | |
| | AFM40-A | | | ● | ● | ● | | | |
| | AFM40-06-A | | | | | | ● | | |
| Micro Mist Separator  | AFD20-A | | ● | ● | | | | P.429 | |
| | AFD30-A | | | ● | ● | | | | |
| | AFD40-A | | | ● | ● | ● | | | |
| | AFD40-06-A | | | | | | ● | | |
| Regulator  | AR10-A | ● | | | | | | P.449 | |
| | AR20-A | | ● | ● | | | | | |
| | AR25-A | | | ● | ● | | | | |
| | AR30-A | | | ● | ● | | | | |
| | AR40-A | | | ● | ● | ● | | | |
| | AR40-06-A | | | | | | ● | | |

| Product | Model | Port size | | | | | | | INDEX |
|---|-----------|-----------|-----|-----|-----|-----|-----|-------|-------|
| | | M5 | 1/8 | 1/4 | 3/8 | 1/2 | 3/4 | 1 | |
| Lubricator  | AL10-A | ● | | | | | | | P.459 |
| | AL20-A | | ● | ● | | | | | |
| | AL30-A | | | ● | ● | | | | |
| | AL40-A | | | ● | ● | ● | | | |
| | AL40-06-A | | | | | | ● | | |
| | AL50-A | | | | | | ● | ● | |
| | AL60-A | | | | | | | ● | |
| Filter Regulator  | AW10-A | ● | | | | | | P.467 | |
| | AW20-A | | ● | ● | | | | | |
| | AW30-A | | | ● | ● | | | | |
| | AW40-A | | | ● | ● | ● | | | |
| | AW40-06-A | | | | | | ● | | |

- AC-A
- AF-A
- AF□-A
- AR-A
- AL-A
- AW-A
- AC-B
- AF-A
- AF□-A
- AR-A-B
- AL-A
- AW-A-B
- AW□
- A□G
- E□
- AV
- AF

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.



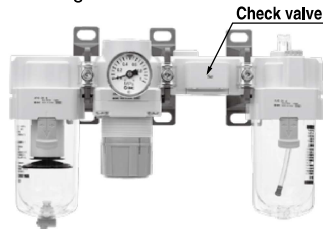
Please contact your local sales representative for more details.

Attachment List

Check valve

Page 423

■ 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.



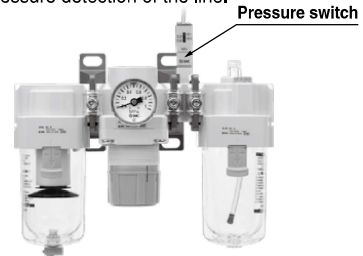
Applicable series

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

Pressure switch

Page 424

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



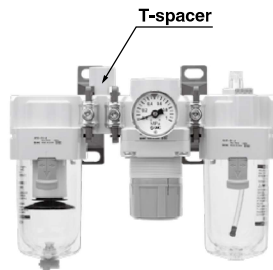
Applicable series

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

T-spacer

Page 424

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



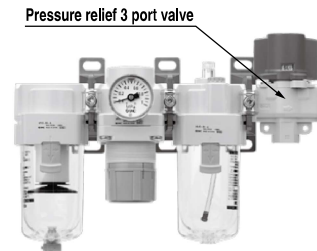
Applicable series

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

Pressure relief 3 port valve

Page 425

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



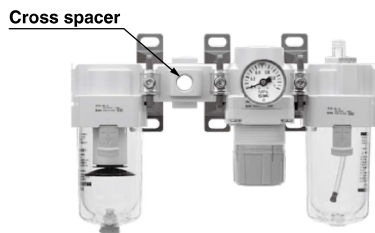
Applicable series

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

Cross spacer

Page 425

■ Piping is possible in all 4 directions.

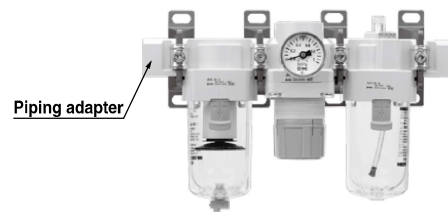


* Needs to be ordered separately.

Piping adapter

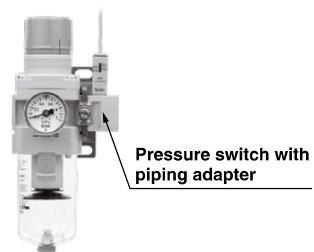
Page 426

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



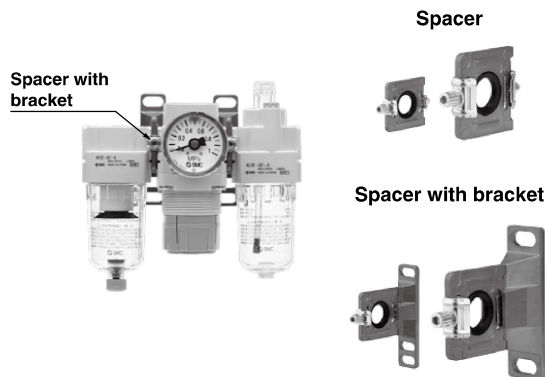
* Needs to be ordered separately.

Pressure switch with piping adapter Page 426



* Needs to be ordered separately.

Accessories (Spacer/Spacer with bracket) Page 427



* Needs to be ordered separately.

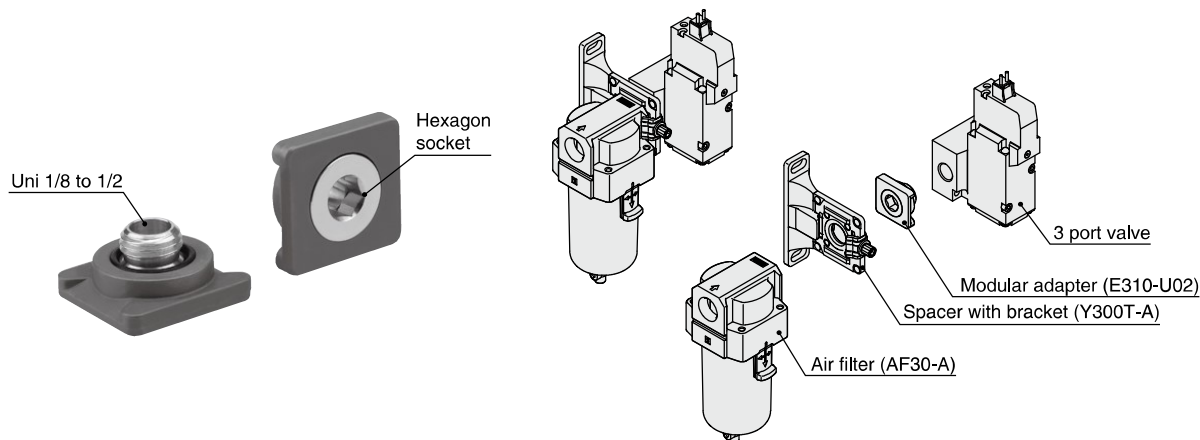
Related Product

Modular adapter

Page 643

Easy modular connections for all equipment!

Example) Air filter + 3 port valve



AC-A

AF-A

AF-A

AR-A

AL-A

AW-A

AC-B

AF-A

AF-A

AR-B

AL-A

AW-B

AW

AG

E

AV

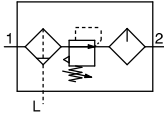
AF

Air Combination

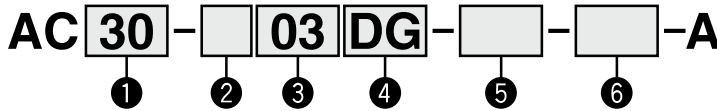
Air Filter + Regulator + Lubricator

AC10-A to AC40-A

Symbol



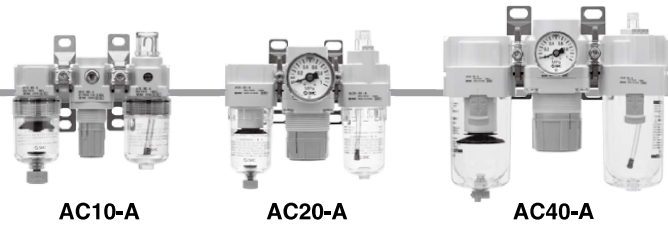
How to Order



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

| | Symbol | Description | ① | | | | | |
|----|------------------------------|-----------------------------------|---|---|----|----|----|--|
| | | | Body size | | | | | |
| | | | 10 | 20 | 25 | 30 | 40 | |
| ② | Pipe thread type | Nil | Metric thread (M5) | | | | | |
| | | N ^{Note 1)} | Rc | | | | | |
| | | F ^{Note 2)} | 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 ^{Note 4)} | N.C. (Normally closed) Drain port is closed when pressure is not applied. | | | | | |
| | | D ^{Note 5)} | N.O. (Normally open) Drain port is open when pressure is not applied. | | | | | |
| | + | | | | | | | |
| | b | Pressure gauge ^{Note 6)} | 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 | Pressure switch | Nil | Without attachment | | | | |
| | | | S ^{Note 8)} | Mounting position: AF+AR+S+AL | | | | |
| | + | | | | | | | |
| e | T-spacer | Nil | Without attachment | | | | | |
| | | T ^{Note 8)} | 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 ^{Note 10)} | 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 **AC10-A to AC40-A Series**



- AC-A**
- AF-A
- AF□-A
- AR-A
- AL-A
- AW-A
- AC-B
- AF-A
- AF□-A
- AR-B
- AL-A
- AW-B
- AW□
- AF□G
- E□
- AV
- AF

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

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

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

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

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

Note 5) If the compressor is small (0.75 kW, discharge flow is less than 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 433 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

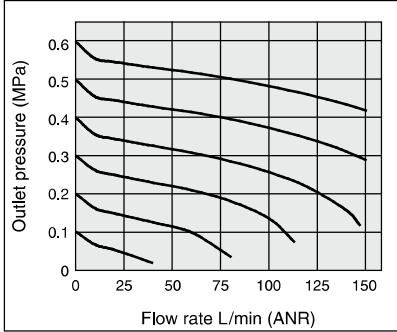
| Model | AC10-A | AC20-A | AC25-A | AC30-A | AC40-A | AC40-06-A |
|--------------------------------|--------------------------------|-----------------------|--------------------------|----------|---------------|-----------|
| Component | Air Filter [AF] | AF10-A | AF20-A | AF30-A | AF30-A | AF40-A |
| | Regulator [AR] | AR10-A | AR20-A | AR25-A | AR30-A | AR40-A |
| | Lubricator [AL] | AL10-A | AL20-A | AL30-A | AL30-A | AL40-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 |

AC10-A to AC40-A Series

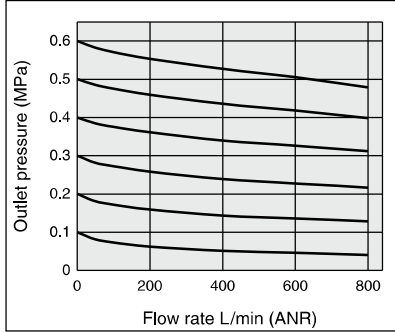
Flow Rate Characteristics (Representative values)

Condition: Inlet pressure 0.7 MPa

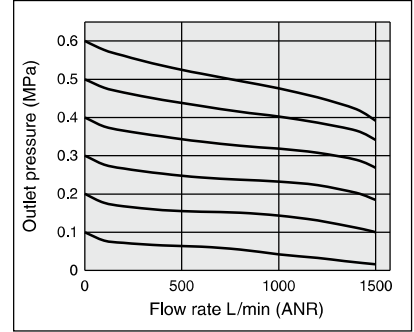
AC10-A M5 x 0.8



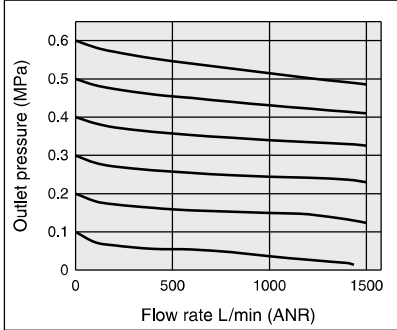
AC20-A Rc1/4



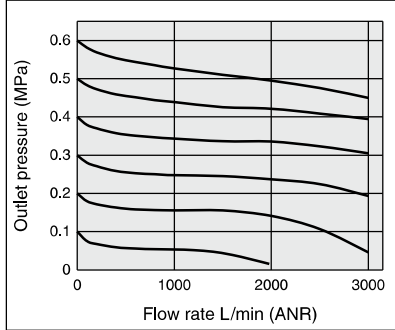
AC25-A Rc3/8



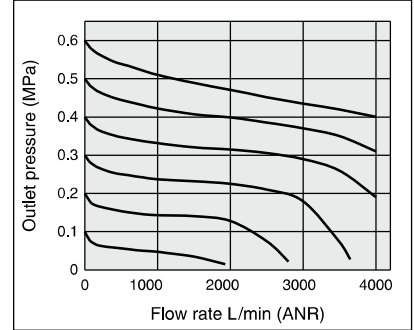
AC30-A Rc3/8



AC40-A Rc1/2



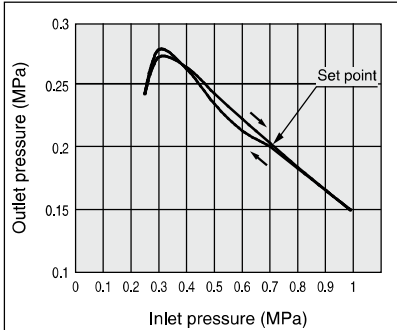
AC40-06-A Rc3/4



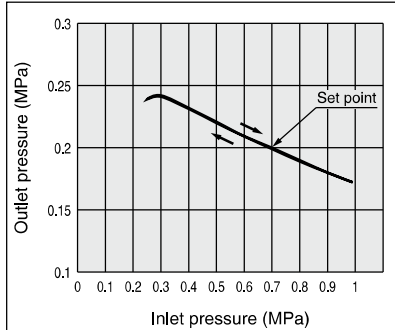
Pressure Characteristics (Representative values)

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

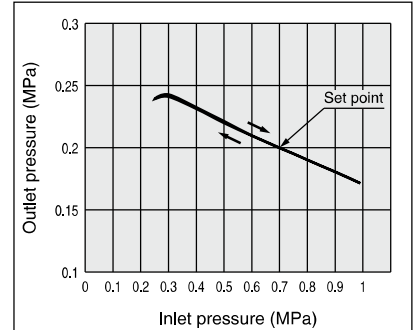
AC10-A



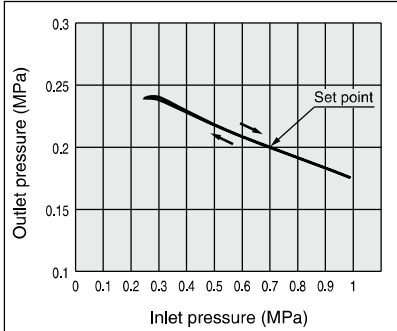
AC20-A



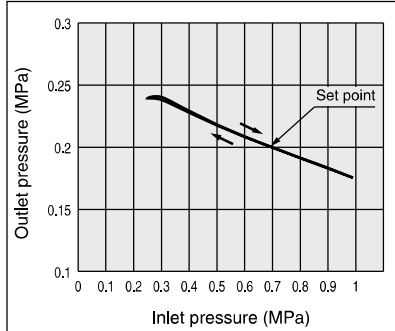
AC25-A



AC30-A



AC40-A/AC40-06-A



⚠ Specific Product Precautions

Be sure to read this before handling the products. Refer to back page 50 for Safety Instructions and pages 387 to 391 for F.R.L. Precautions.

Piping

⚠ Warning

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

Air Supply

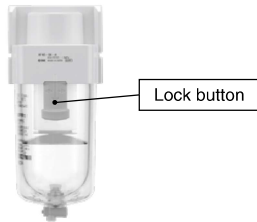
⚠ Caution

- 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

Selection

⚠ Warning

- 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

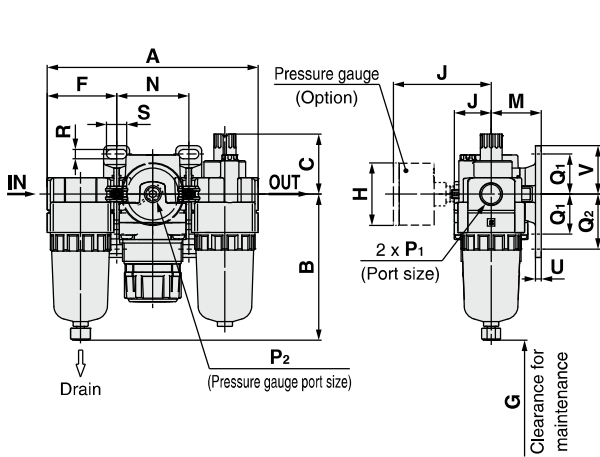
- When releasing air at the intermediate position using a T-spacer on the inlet side of the lubricator, lubricant may back flow. Therefore, releasing air that does not contain traces of lubricant is not possible.
 - To release air that does not contain traces of lubricant, use a check valve (AKM series) 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.
- 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.
- When operating at an inlet pressure lower than the inlet pressure used in the flow rate characteristics graph, the pressure drop on the outlet side may be greater. Therefore, be sure to conduct testing using the actual equipment.
 - For air combination selection, refer to page 99 in the "Product Selection Guide."

- AC-A**
- AF-A
- AF□-A
- AR-A
- AL-A
- AW-A
- AC-B
- AF-A
- AF□-A
- AR-B
- AL-A
- AW-B
- AW□
- AG□
- E□
- AV
- AF

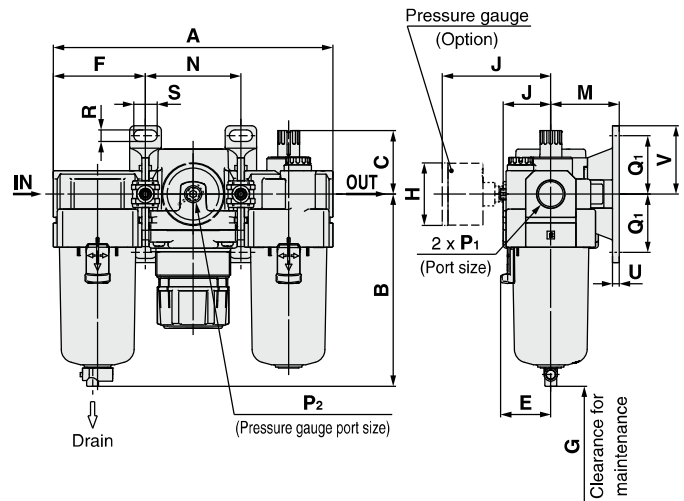
AC10-A to AC40-A Series

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 ₁ | P ₂ | A | B | C | E | F | G | J | Bracket mount | | | | | | | |
| | | | | | | | | | | 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-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 | |

AC-A

AF-A

AF□-A

AR-A

AL-A

AW-A

AC-B

AF-A

AF□-A

AR^A_B

AL-A

AW^A_B

AW□

A□G

E□

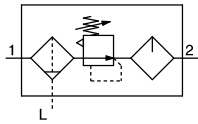
AV

AF

Filter Regulator + Lubricator

AC10A-A to AC40A-A

Symbol



How to Order

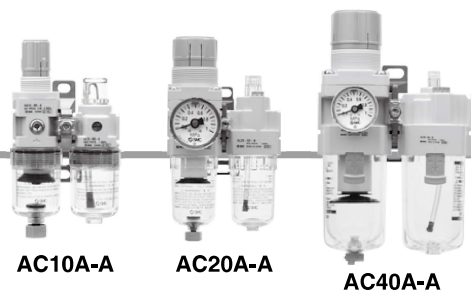
AC **30** A - **03** **DG** - - - A

①
②
③
④
⑤
⑥

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

| | Symbol | Description | ① | | | |
|---------------------------|------------------|---|---|----|----|----|
| | | | Body size | | | |
| | | | 10 | 20 | 30 | 40 |
| ② | Pipe thread type | Nil | Metric thread (M5) | | | |
| | | N <small>Note 1)</small> | Rc | | | |
| | | F <small>Note 2)</small> | 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 <small>Note 4)</small> | N.C. (Normally closed) Drain port is closed when pressure is not applied. | | | |
| | | D <small>Note 5)</small> | N.O. (Normally open) Drain port is open when pressure is not applied. | | | |
| | b | 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: AW+K+AL | | | |
| | d | Nil | Without attachment | | | |
| | | S <small>Note 8)</small> | Mounting position: AW+S+AL | | | |
| | e | Nil | Without attachment | | | |
| | | V | Mounting position: AW+AL+V | | | |
| ⑥ | f | Nil | 0.05 to 0.7 MPa setting | | | |
| | | 1 | 0.02 to 0.2 MPa setting | | | |
| | g | 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) | | | |
| | h | 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) | | | | |

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



- AC-A**
- AF-A**
- AF□-A**
- AR-A**
- AL-A**
- AW-A**
- AC-B**
- AF-A**
- AF□-A**
- AR-B**
- AL-A**
- AW-B**
- AW□**
- A□G**
- E□**
- AV**
- AF**

| | | Symbol | Description | ① Body size | | | | |
|-----------------------|---|-----------------------------------|---|--|-----------------------|-----------------------|-----------------------|---|
| | | | | 10 | 20 | 30 | 40 | |
| ⑥ Semi-standard | i | Lubricator lubricant exhaust port | Nil | Without drain cock | ● | ● | ● | ● |
| | | | 3 ^{Note 16)} | Lubricator with drain cock | ● | ● | ● | ● |
| | + | | | | | | | |
| | j | Exhaust mechanism | Nil | Relieving type | ● | ● | ● | ● |
| | | | N | Non-relieving type | ● | ● | ● | ● |
| | + | | | | | | | |
| | k | Flow direction | Nil | Flow direction: Left to right | ● | ● | ● | ● |
| | | | R | Flow direction: Right to left | ● | ● | ● | ● |
| | + | | | | | | | |
| | l | Pressure unit | Nil | Name plate and pressure gauge in imperial units: MPa | ● | ● | ● | ● |
| Z ^{Note 17)} | | | Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F | ○ ^{Note 18)} | ○ ^{Note 18)} | ○ ^{Note 18)} | ○ ^{Note 18)} | |

Note 1) Drain guide is NPT1/8 (applicable to the AC20A-A) and NPT1/4 (applicable to the AC30A-A to AC40A-A). The auto drain port comes with ø3/8" One-touch fitting (applicable to the AC30A-A to AC40A-A).

Note 2) Drain guide is G1/8 (applicable to the AC20A-A) and G1/4 (applicable to the AC30A-A to AC40A-A).

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

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

Note 5) If the compressor is small (0.75 kW, discharge flow is less than 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 AC10A-A).

Note 7) Not available with piping port size: 06

Note 8) The bracket position varies depending on the pressure switch mounting.

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

Note 10) Refer to Chemical data on page 433 for chemical resistance of the bowl.

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

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

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

Note 14) Without a valve function

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

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

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

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

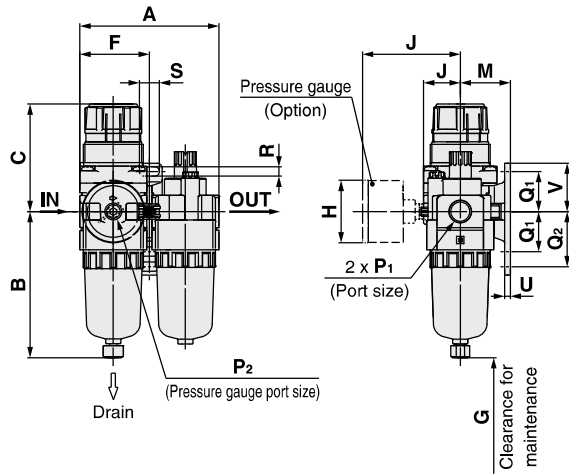
Standard Specifications

| Model | | AC10A-A | AC20A-A | AC30A-A | AC40A-A | AC40A-06-A |
|--------------------------------|-----------------------|--------------------------------|-----------------------|--------------------------|---------------|------------|
| Component | Filter Regulator [AW] | AW10-A | AW20-A | AW30-A | AW40-A | AW40-06-A |
| | Lubricator [AL] | AL10-A | AL20-A | AL30-A | AL40-A | AL40-06-A |
| Port size | | M5 x 0.8 | 1/8, 1/4 | 1/4, 3/8 | 1/4, 3/8, 1/2 | 3/4 |
| Pressure gauge port size [AW] | | 1/16 | | | 1/8 | |
| 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 rating [AW] | | 5 μm | | | | |
| Recommended lubricant [AL] | | Class 1 turbine oil (ISO VG32) | | | | |
| Bowl material [AW/AL] | | Polycarbonate | | | | |
| Bowl guard [AW/AL] | | — | Semi-standard (Steel) | Standard (Polycarbonate) | | |
| Construction [AW] | | Relieving type | | | | |
| Weight (kg) | | 0.20 | 0.34 | 0.67 | 1.24 | 1.35 |

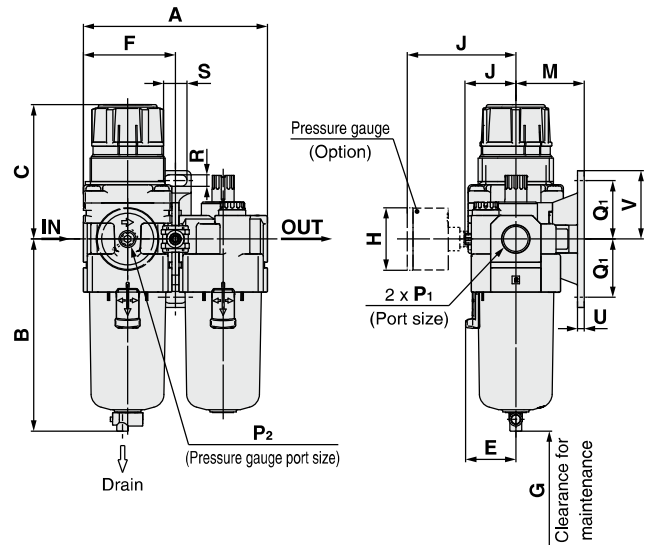
AC10A-A to AC40A-A Series

Dimensions

AC10A-A/AC20A-A



AC30A-A to AC40A-06-A



| Applicable model | AC10A-A/AC20A-A | | AC20A-A | | AC30A-A to AC40A-06-A | | |
|---------------------------------------|------------------------|------------|------------------|-----------------------------|---|--|--|
| Optional/Semi-standard specifications | With auto drain (N.C.) | Metal bowl | With drain guide | Metal bowl with drain guide | With auto drain (N.O./N.C.) | | |
| Dimensions | | | | | Thread type/Rc, G: $\phi 10$ One-touch fitting Thread type/NPT: $\phi 3/8$ One-touch fitting | | |

| Applicable model | AC30A-A to AC40A-06-A | | | | | |
|---------------------------------------|-----------------------|-----------------------------|-----------------------------|---|------------------|------------------------------|
| Optional/Semi-standard specifications | Metal bowl | Metal bowl with drain guide | Metal bowl with level gauge | Metal bowl with level gauge, with drain guide | With drain guide | Drain cock with barb fitting |
| Dimensions | | | | | | |

| Model | Standard specifications | | | | | | | | | | | | | | | |
|------------|-------------------------|----------------|-------|-------|----------|------|------|-----|------|---------------|----------------|----------------|-----|-----|-----|------|
| | P ₁ | P ₂ | A | B | C (Note) | E | F | G | J | Bracket mount | | | | | | |
| | | | | | | | | | | M | Q ₁ | Q ₂ | R | S | U | V |
| AC10A-A | M5 x 0.8 | 1/16 | 56 | 59.9 | 47.4 | — | 28 | 25 | 12.5 | 25 | 20 | 27 | 4.5 | 6.8 | 3 | 24.5 |
| AC20A-A | 1/8, 1/4 | 1/8 | 83.2 | 87.6 | 67.4 | — | 41.6 | 60 | 23.4 | 30 | 24 | 33 | 5.5 | 12 | 3.5 | 29 |
| AC30A-A | 1/4, 3/8 | 1/8 | 110.2 | 115.1 | 83.5 | 30 | 55.1 | 80 | 30.5 | 41 | 35 | — | 7 | 14 | 4 | 41 |
| AC40A-A | 1/4, 3/8, 1/2 | 1/8 | 145.2 | 147.1 | 100 | 38.4 | 72.6 | 110 | 36.1 | 50 | 40 | — | 9 | 18 | 5 | 48 |
| AC40A-06-A | 3/4 | 1/8 | 155.2 | 149.1 | 101.5 | 38.4 | 77.6 | 110 | 39.6 | 50 | 40 | — | 9 | 18 | 5 | 48 |

| 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 | |
| AC10A-A | $\phi 26$ | 26 | — | — | 77.9 | — | — | 59.3 | — | — | — | |
| AC20A-A | $\phi 37.5$ | 58.5 | $\phi 37.5$ | 59.5 | 104.9 | — | 91.4 | 87.4 | 93.9 | — | — | |
| AC30A-A | $\phi 37.5$ | 65 | $\phi 37.5$ | 66 | 156.8 | 123.6 | 121.9 | 117.6 | 122.1 | 137.6 | 142.1 | |
| AC40A-A | $\phi 42.5$ | 72 | $\phi 42.5$ | 72 | 186.9 | 155.6 | 153.9 | 149.6 | 154.1 | 169.6 | 174.1 | |
| AC40A-06-A | $\phi 42.5$ | 72 | $\phi 42.5$ | 72 | 188.9 | 157.6 | 155.9 | 151.6 | 156.1 | 171.6 | 176.1 | |

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

AC-A

AF-A

AF□-A

AR-A

AL-A

AW-A

AC-B

AF-A

AF□-A

AR^A_B

AL-A

AW^A_B

AW□

A□G

E□

AV

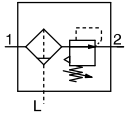
AF

Air Combination

Air Filter + Regulator

AC10B-A to AC40B-A

Symbol



How to Order

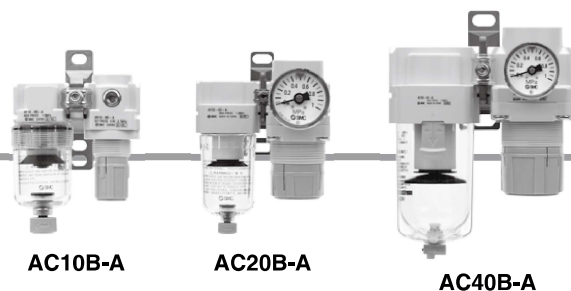
AC **30** B- **03** **DG** - - -A

① ② ③ ④ ⑤ ⑥

• 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-F03DM-SV-1NR-A

| | Symbol | Description | ① | | | | |
|----|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----|
| | | | Body size | | | | |
| | | | 10 | 20 | 25 | 30 | 40 |
| ② | Pipe thread type | Nil | Metric thread (M5) | | | | |
| | | N ^{Note 1)} | Rc | | | | |
| | | F ^{Note 2)} | NPT | | | | |
| | | | G | | | | |
| ③ | Port size | M5 | ● | — | — | — | — |
| | | 01 | — | ● | — | — | — |
| | | 02 | — | ● | ● | ● | ● |
| | | 03 | — | — | ● | ● | ● |
| | | 04 | — | — | — | — | ● |
| | | 06 | — | — | — | — | ● |
| ④ | a | Nil | ● | ● | ● | ● | ● |
| | | C ^{Note 4)} | ● | ● | ● | ● | ● |
| | | D ^{Note 5)} | — | — | ● | ● | ● |
| | b | Nil | ● | ● | ● | ● | ● |
| | | G | ● | — | — | — | — |
| | | M | — | ● | ● | ● | ● |
| ⑤ | c | Nil | ● | ● | ● | ● | ● |
| | | S ^{Note 7)} | — | ● | ● | ● | ● |
| | T ^{Note 7)} | ● | ● | ● | ● | ● | |
| | d | Nil | ● | ● | ● | ● | ● |
| | | V | — | ● | ● | ● | ● |
| | | V1 ^{Note 8)} | — | ● | ● | ● | ● |
| ⑥ | e | Nil | ● | ● | ● | ● | ● |
| | | 1 | ● | ● | ● | ● | ● |
| | f | Nil | ● | ● | ● | ● | ● |
| | | 2 | ● | ● | ● | ● | ● |
| | | 6 | ● | ● | ● | ● | ● |
| | | 8 | — | — | ● | ● | ● |
| C | | — | ● | — ^{Note 11)} | — ^{Note 11)} | — ^{Note 11)} | |
| 6C | — | ● | — ^{Note 12)} | — ^{Note 12)} | — ^{Note 12)} | | |
| g | Nil | ● | ● | ● | ● | ● | |
| | J ^{Note 14)} | — | ● | — | — | — | |
| | W ^{Note 15)} | — | — | ● | ● | ● | |

Air Combination **AC10B-A to AC40B-A Series**



- AC-A
- AF-A
- AF□-A
- AR-A
- AL-A
- AW-A
- AC-B
- AF-A
- AF□-A
- AR-A^B
- AL-A
- AW-A^B
- AW□
- A□G
- E□
- AV
- AF

| | | Symbol | Description | ① | | | | | | |
|---|---------------|-----------------------|---|-------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|---|--|
| | | | | Body size | | | | | | |
| | | | | 10 | 20 | 25 | 30 | 40 | | |
| 6 | h | Exhaust mechanism | Nil | Relieving type | ● | ● | ● | ● | ● | |
| | | | N | Non-relieving type | ● | ● | ● | ● | ● | |
| | | | + | | | | | | | |
| | i | Flow direction | Nil | Flow direction: Left to right | ● | ● | ● | ● | ● | |
| | | | R | Flow direction: Right to left | ● | ● | ● | ● | ● | |
| | | | + | | | | | | | |
| j | Pressure unit | Nil | Name plate and pressure gauge in imperial units: MPa | ● | ● | ● | ● | ● | | |
| | | Z ^{Note 16)} | Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F | ○ ^{Note 17)} | ○ ^{Note 17)} | ○ ^{Note 17)} | ○ ^{Note 17)} | ○ ^{Note 17)} | | |

- Note 1) Drain guide is NPT1/8 (applicable to the AC20B-A) and NPT1/4 (applicable to the AC25B-A to AC40B-A). The auto drain port comes with ø3/8" One-touch fitting (applicable to the AC25B-A to AC40B-A).
- Note 2) Drain guide is G1/8 (applicable to the AC20B-A) and G1/4 (applicable to the AC25B-A to AC40B-A).
- Note 3) Option G, M are not assembled and supplied loose at the time of shipment.
- Note 4) When pressure is not applied, condensate which does not start the auto drain mechanism will be left in the bowl. Releasing the residual condensate before ending operations for the day is recommended.
- Note 5) If the compressor is small (0.75 kW, discharge flow is less than 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 AC10B-A).
- Note 7) The bracket position varies depending on the T-spacer or pressure switch mounting.
- Note 8) Make sure that the outlet pressure is released to atmospheric pressure using a pressure gauge. For V1 specification, use the regulator with a set pressure of 0.15 MPa or more to ensure the pressure release.
- Note 9) Pressure can be set higher than the specification pressure in some cases, but use pressure within the specification range.
- Note 10) Refer to Chemical data on page 433 for chemical resistance of the bowl.

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

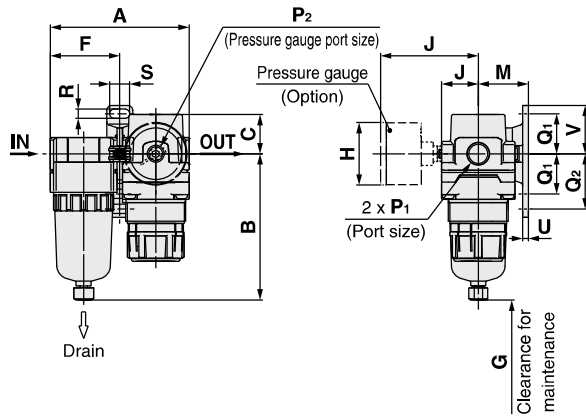
Standard Specifications

| Model | | AC10B-A | AC20B-A | AC25B-A | AC30B-A | AC40B-A | AC40B-06-A | |
|--------------------------------|-----------------|--------------------------------|-----------------------|--------------------------|----------|---------------|------------|-----|
| Component | Air Filter [AF] | AF10-A | AF20-A | AF30-A | AF30-A | AF40-A | AF40-06-A | |
| | Regulator [AR] | AR10-A | AR20-A | AR25-A | AR30-A | AR40-A | AR40-06-A | |
| Port size | | M5 x 0.8 | 1/8, 1/4 | 1/4, 3/8 | 1/4, 3/8 | 1/4, 3/8, 1/2 | 3/4 | |
| Pressure 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 | | | | | | |
| Maximum operating pressure | | 1.0 MPa | | | | | | |
| Set pressure range [AR] | | 0.05 to 0.7 MPa | | | | | | |
| Nominal filtration rating [AF] | | 5 μm | | | | | | |
| Bowl material [AF] | | Polycarbonate | | | | | | |
| Bowl guard [AF] | | — | Semi-standard (Steel) | Standard (Polycarbonate) | | | | |
| Construction [AR] | | Relieving type | | | | | | |
| Weight (kg) | | 0.16 | 0.28 | 0.43 | 0.58 | 1.05 | 1.12 | |

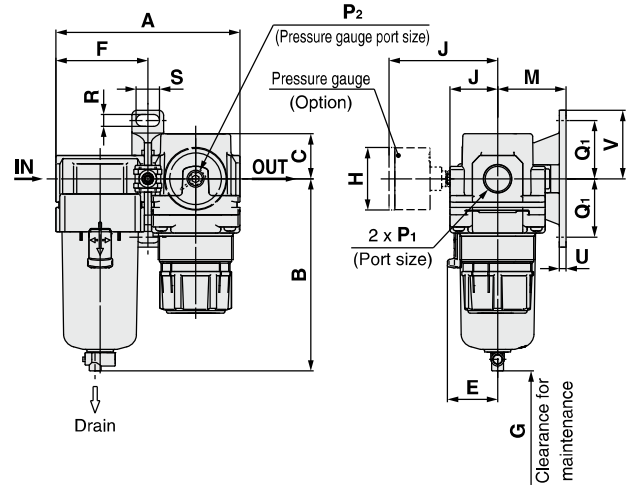
AC10B-A to AC40B-A Series

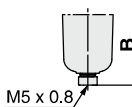
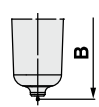
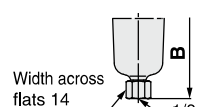
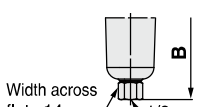
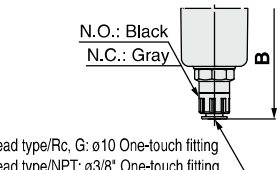
Dimensions

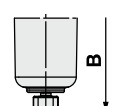
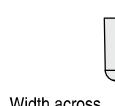
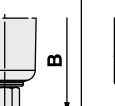
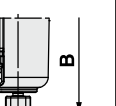

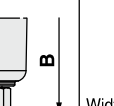
AC10B-A/AC20B-A



AC25B-A to AC40B-06-A



| Applicable model | AC10B-A/AC20B-A | | AC20B-A | | AC25B-A to AC40B-06-A | |
|---------------------------------------|--|--|--|---|---|--|
| Optional/Semi-standard specifications | With auto drain (N.C.) | Metal bowl | With drain guide | Metal bowl with drain guide | With auto drain (N.O./N.C.) | |
| Dimensions |  M5 x 0.8 |  |  Width across flats 14 1/8 |  Width across flats 14 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 | AC25B-A to AC40B-06-A | | | | | |
|---------------------------------------|---|---|---|---|---|---|
| Optional/Semi-standard specifications | Metal bowl | Metal bowl with drain guide | Metal bowl with level gauge | Metal bowl with level gauge, with drain guide | With drain guide | Drain cock with barb fitting |
| Dimensions |  |  Width across flats 17 1/4 |  |  Width across flats 17 1/4 |  Width across flats 17 1/4 |  Barb fitting applicable tubing: T0604 |

| Model | Standard specifications | | | | | | | | | | | | | | | |
|------------|-------------------------|----------------|-------|-------|------|------|------|----|------|---------------|----------------|----------------|-----|-----|-----|------|
| | P ₁ | P ₂ | A | B | C | E | F | G | J | Bracket mount | | | | | | |
| | | | | | | | | | | M | Q ₁ | Q ₂ | 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-A | 1/8, 1/4 | 1/8 | 83.2 | 87.6 | 23.5 | — | 41.6 | 25 | 23.4 | 30 | 24 | 33 | 5.5 | 12 | 3.5 | 29 |
| AC25B-A | 1/4, 3/8 | 1/8 | 110.2 | 115.1 | 23.5 | 30 | 55.1 | 35 | 30.5 | 41 | 35 | — | 7 | 14 | 4 | 41 |
| AC30B-A | 1/4, 3/8 | 1/8 | 110.2 | 115.1 | 27 | 30 | 55.1 | 35 | 30.5 | 41 | 35 | — | 7 | 14 | 4 | 41 |
| AC40B-A | 1/4, 3/8, 1/2 | 1/8 | 145.2 | 147.1 | 33.5 | 38.4 | 72.6 | 40 | 36.1 | 50 | 40 | — | 9 | 18 | 5 | 48 |
| AC40B-06-A | 3/4 | 1/8 | 155.2 | 149.1 | 33.5 | 38.4 | 77.6 | 40 | 39.6 | 50 | 40 | — | 9 | 18 | 5 | 48 |

| 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 | |
| AC10B-A | ø26 | 26 | — | — | 77.9 | — | — | — | 59.3 | — | — | |
| AC20B-A | ø37.5 | 58.5 | ø37.5 | 59.5 | 104.9 | — | — | 91.4 | 87.4 | 93.9 | — | |
| AC25B-A | ø37.5 | 58.5 | ø37.5 | 59.5 | 156.8 | 123.6 | 121.9 | 117.6 | 122.1 | 137.6 | 142.1 | |
| AC30B-A | ø37.5 | 65 | ø37.5 | 66 | 156.8 | 123.6 | 121.9 | 117.6 | 122.1 | 137.6 | 142.1 | |
| AC40B-A | ø42.5 | 72 | ø42.5 | 72 | 186.9 | 155.6 | 153.9 | 149.6 | 154.1 | 169.6 | 174.1 | |
| AC40B-06-A | ø42.5 | 72 | ø42.5 | 72 | 188.9 | 157.6 | 155.9 | 151.6 | 156.1 | 171.6 | 176.1 | |

AC-A

AF-A

AF□-A

AR-A

AL-A

AW-A

AC-B

AF-A

AF□-A

AR^A_B

AL-A

AW^A_B

AW□

A□G

E□

AV

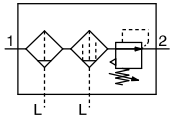
AF

Air Combination

Air Filter + Mist Separator + Regulator

AC20C-A to AC40C-A

Symbol



How to Order

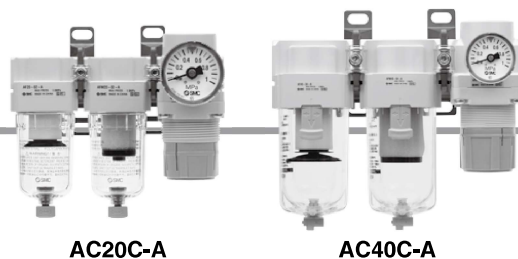
AC **30** C- **03** **DG** - - -A

① ② ③ ④ ⑤ ⑥

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

| | Symbol | Description | ① | | | | | | |
|-----------------------|---|--|---|---|--------------------|----|---|---|---|
| | | | Body size | | | | | | |
| | | | 20 | 25 | 30 | 40 | | | |
| ② | Pipe thread type | Nil | Rc | ● | ● | ● | ● | | |
| | | N | NPT | ● | ● | ● | ● | | |
| | | F | G | ● | ● | ● | ● | | |
| + | | | | | | | | | |
| ③ | Port size | 01 | 1/8 | ● | — | — | — | | |
| | | 02 | 1/4 | ● | ● | ● | ● | | |
| | | 03 | 3/8 | — | ● | ● | ● | | |
| | | 04 | 1/2 | — | — | — | ● | | |
| | | 06 | 3/4 | — | — | — | ● | | |
| + | | | | | | | | | |
| ④ | Option Note 1) | a | Float type auto drain | Nil | Without auto drain | ● | ● | ● | ● |
| | | | C ^{Note 2)} | N.C. (Normally closed) Drain port is closed when pressure is not applied. | ● | ● | ● | ● | |
| | | | D ^{Note 3)} | N.O. (Normally open) Drain port is open when pressure is not applied. | — | ● | ● | ● | |
| | + | | | | | | | | |
| | b | Pressure gauge ^{Note 4)} | Nil | Without pressure gauge | ● | ● | ● | ● | |
| | | | G | Round type pressure gauge (with limit indicator) | ● | ● | ● | ● | |
| M | | | Round type pressure gauge (with color zone) | ● | ● | ● | ● | | |
| + | | | | | | | | | |
| ⑤ | Attachment | c | Pressure switch | Nil | Without attachment | ● | ● | ● | ● |
| | | | S ^{Note 5)} | Mounting position: AF+AFM+S+AR | ● | ● | ● | ● | |
| | | T ^{Note 5)} | Mounting position: AF+AFM+T+AR | ● | ● | ● | ● | | |
| | | d | Pressure relief 3 port valve | Nil | Without attachment | ● | ● | ● | ● |
| V | Mounting position: AF+AFM+AR+V | | ● | ● | ● | ● | | | |
| V1 ^{Note 6)} | Mounting position: V+AF+AFM+AR | ● | ● | ● | ● | | | | |
| + | | | | | | | | | |
| ⑥ | e | Set pressure ^{Note 7)} | Nil | 0.05 to 0.7 MPa setting | ● | ● | ● | ● | |
| | | | 1 | 0.02 to 0.2 MPa setting | ● | ● | ● | ● | |
| | + | | | | | | | | |
| | f | Bowl | 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) | ● | — | — | — | |
| | + | | | | | | | | |
| | g | Filter Mist separator drain port ^{Note 12)} | Nil | With drain cock | ● | ● | ● | ● | |
| J ^{Note 8)} | | | Drain guide 1/8 | ● | — | — | — | | |
| J | | | Drain guide 1/4 | — | ● | ● | ● | | |
| W ^{Note 11)} | Drain cock with barb fitting (for ø6 x ø4 nylon tube) | — | ● | ● | ● | | | | |
| + | | | | | | | | | |
| h | Exhaust mechanism | Nil | Relieving type | ● | ● | ● | ● | | |
| | | N | Non-relieving type | ● | ● | ● | ● | | |

Air Combination **AC20C-A to AC40C-A Series**



- AC-A**
- AF-A**
- AF□-A**
- AR-A**
- AL-A**
- AW-A**
- AC-B**
- AF-A**
- AF□-A**
- AR-B**
- AL-A**
- AW-B**
- AW□**
- A□G**
- E□**
- AV**
- AF**

| | | Symbol | Description | ① | | | | |
|---|---|----------------------|---|--|-----------------------|-----------------------|-----------------------|---|
| | | | | Body size | | | | |
| | | | | 20 | 25 | 30 | 40 | |
| ⑥ | i | Flow direction | Nil | Flow direction: Left to right | ● | ● | ● | ● |
| | | | R | Flow direction: Right to left | ● | ● | ● | ● |
| | + | | | | | | | |
| | j | Pressure unit | Nil | Name plate and pressure gauge in imperial units: MPa | ● | ● | ● | ● |
| | | Z ^{Note 9)} | Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F | ○ ^{Note 10)} | ○ ^{Note 10)} | ○ ^{Note 10)} | ○ ^{Note 10)} | |

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

Note 2) When pressure is not applied, condensate which does not start the auto drain mechanism will be left in the bowl. Releasing the residual condensate before ending operations for the day is recommended.

Note 3) If the compressor is small (0.75 kW, discharge flow is less than 100 L/min[ANR]), air leakage from the drain cock may occur during start of operations. N.C. type is recommended.

Note 4) When the pressure gauge is attached, a 1.0 MPa pressure gauge will be fitted for standard (0.7 MPa) type. 0.4 MPa pressure gauge for 0.2 MPa type.

Note 5) The bracket position varies depending on the T-spacer or pressure switch mounting.

Note 6) Make sure that the outlet pressure is released to atmospheric pressure using a pressure gauge. For V1 specification, use the regulator with a set pressure of 0.15 MPa or more to ensure the pressure release.

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

Note 8) Without a valve function

Note 9) For pipe thread type: NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.) MPa and psi are shown together on the pressure unit. Cannot be used with M: Round pressure gauge (with color zone). Available by request for special.

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

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

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

Standard Specifications

| Model | | AC20C-A | AC25C-A | AC30C-A | AC40C-A | AC40C-06-A |
|---|----------------------|--|--------------------------|----------|---------------|------------|
| Component | Air Filter [AF] | AF20-A | AF30-A | AF30-A | AF40-A | AF40-06-A |
| | Mist Separator [AFM] | AFM20-A | AFM30-A | AFM30-A | AFM40-A | AFM40-06-A |
| | Regulator [AR] | AR20-A | AR25-A | AR30-A | AR40-A | AR40-06-A |
| Port size | | 1/8, 1/4 | 1/4, 3/8 | 1/4, 3/8 | 1/4, 3/8, 1/2 | 3/4 |
| Pressure gauge port size [AR] | | 1/8 | | | | |
| Fluid | | Air | | | | |
| Ambient and fluid temperature | | - 5 to 60°C (with no freezing) | | | | |
| Proof pressure | | 1.5 MPa | | | | |
| Maximum operating pressure | | 1.0 MPa | | | | |
| Minimum operating pressure | | 0.05 MPa | | | | |
| Set pressure range [AR] | | 0.05 to 0.7 MPa | | | | |
| Nominal filtration rating [AF/AFM] | | AF: 5 μm, AFM: 0.3 μm (99.9% filtered particle size) | | | | |
| Outlet side oil mist concentration [AFM] | | MAX 1.0 mg/m ³ (ANR) (≈ 0.8 ppm) ^{Note 2) Note 3)} | | | | |
| Rated flow (L/min (ANR)) [AFM] ^{Note 1)} | | 200 | 450 | 450 | 1100 | 1100 |
| Bowl material [AF/AFM] | | Polycarbonate | | | | |
| Bowl guard [AF/AFM] | | Semi-standard (Steel) | Standard (Polycarbonate) | | | |
| Construction [AR] | | Relieving type | | | | |
| Weight (kg) | | 0.39 | 0.67 | 0.82 | 1.53 | 1.66 |

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

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

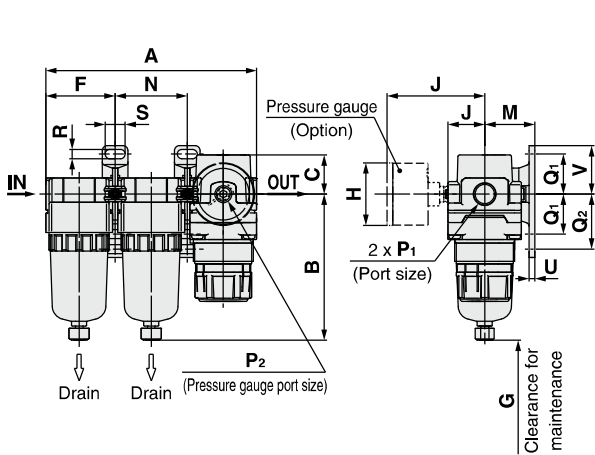
Note 2) When the compressor oil mist discharge concentration is 30 mg/m³ (ANR).

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

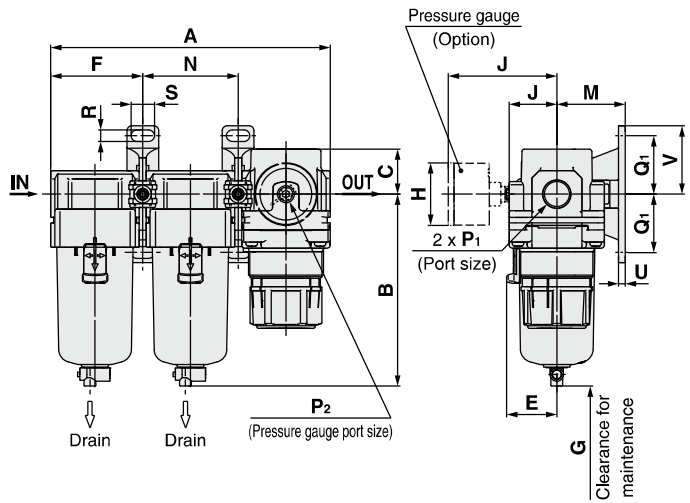
AC20C-A to AC40C-A Series

Dimensions

AC20C-A



AC25C-A to AC40C-06-A



| Applicable model | AC20C-A | | | | AC25C-A to AC40C-06-A |
|---------------------------------------|------------------------|----------------------------------|------------|----------------------------------|---|
| Optional/Semi-standard specifications | With auto drain (N.C.) | With drain guide | Metal bowl | Metal bowl with drain guide | With auto drain (N.O./N.C.) |
| Dimensions | M5 x 0.8 | Width across flats 14 1/8 | B | Width across flats 14 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 | AC25C-A to AC40C-06-A | | | | | |
|---------------------------------------|-----------------------|----------------------------------|-----------------------------|---|----------------------------------|---|
| Optional/Semi-standard specifications | Metal bowl | Metal bowl with drain guide | Metal bowl with level gauge | Metal bowl with level gauge, with drain guide | With drain guide | Drain cock with barb fitting |
| Dimensions | B | Width across flats 17 1/4 | B | Width across flats 17 1/4 | Width across flats 17 1/4 | Barb fitting applicable tubing: T0604 |

| Model | Standard specifications | | | | | | | | | | | | | | | | |
|------------|-------------------------|----------------|-------|-------|------|------|------|----|------|---------------|------|----------------|----------------|-----|----|-----|----|
| | P ₁ | P ₂ | A | B | C | E | F | G | J | Bracket mount | | | | | | | |
| | | | | | | | | | | M | N | Q ₁ | Q ₂ | R | S | U | V |
| AC20C-A | 1/8, 1/4 | 1/8 | 126.4 | 87.6 | 23.5 | — | 41.6 | 40 | 23.4 | 30 | 43.2 | 24 | 33 | 5.5 | 12 | 3.5 | 29 |
| AC25C-A | 1/4, 3/8 | 1/8 | 167.4 | 115.1 | 23.5 | 30 | 55.1 | 50 | 30.5 | 41 | 57.2 | 35 | — | 7 | 14 | 4 | 41 |
| AC30C-A | 1/4, 3/8 | 1/8 | 167.4 | 115.1 | 27 | 30 | 55.1 | 50 | 30.5 | 41 | 57.2 | 35 | — | 7 | 14 | 4 | 41 |
| AC40C-A | 1/4, 3/8, 1/2 | 1/8 | 220.4 | 147.1 | 33.5 | 38.4 | 72.6 | 75 | 36.1 | 50 | 75.2 | 40 | — | 9 | 18 | 5 | 48 |
| AC40C-06-A | 3/4 | 1/8 | 235.4 | 149.1 | 33.5 | 38.4 | 77.6 | 75 | 39.6 | 50 | 80.2 | 40 | — | 9 | 18 | 5 | 48 |

| 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 | |
| AC20C-A | ø37.5 | 58.5 | ø37.5 | 59.5 | 104.9 | — | 91.4 | 87.4 | 93.9 | — | — | |
| AC25C-A | ø37.5 | 58.5 | ø37.5 | 59.5 | 156.8 | 123.6 | 121.9 | 117.6 | 122.1 | 137.6 | 142.1 | |
| AC30C-A | ø37.5 | 65 | ø37.5 | 66 | 156.8 | 123.6 | 121.9 | 117.6 | 122.1 | 137.6 | 142.1 | |
| AC40C-A | ø42.5 | 72 | ø42.5 | 72 | 186.9 | 155.6 | 153.9 | 149.6 | 154.1 | 169.6 | 174.1 | |
| AC40C-06-A | ø42.5 | 72 | ø42.5 | 72 | 188.9 | 157.6 | 155.9 | 151.6 | 156.1 | 171.6 | 176.1 | |

AC-A

AF-A

AF□-A

AR-A

AL-A

AW-A

AC-B

AF-A

AF□-A

AR^A_B

AL-A

AW^A_B

AW□

A□G

E□

AV

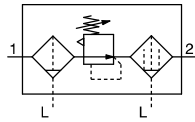
AF

Air Combination

Filter Regulator + Mist Separator

AC20D-A to AC40D-A

Symbol



How to Order

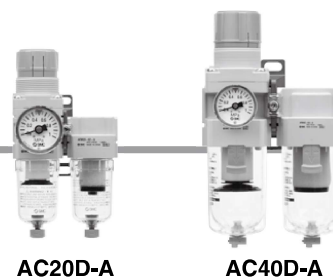
AC **30** D- **03** **DG** - - -A

①
②
③
④
⑤
⑥

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

| | Symbol | Description | ① | | | | | |
|-----------------------|-------------------|--|---|---|--------------------|---|---|---|
| | | | Body size | | | | | |
| | | | 20 | 30 | 40 | | | |
| ② | Pipe thread type | Nil | Rc | ● | ● | ● | | |
| | | N | NPT | ● | ● | ● | | |
| | | F | G | ● | ● | ● | | |
| | + | | | | | | | |
| | ③ | Port size | 01 | 1/8 | ● | — | — | |
| | | | 02 | 1/4 | ● | ● | ● | |
| 03 | | | 3/8 | — | ● | ● | | |
| 04 | | | 1/2 | — | — | ● | | |
| 06 | | | 3/4 | — | — | ● | | |
| + | | | | | | | | |
| ④ | Option Note 1) | a | Float type auto drain | Nil | Without auto drain | ● | ● | ● |
| | | | C ^{Note 2)} | N.C. (Normally closed) Drain port is closed when pressure is not applied. | ● | ● | ● | |
| | | | D ^{Note 3)} | N.O. (Normally open) Drain port is open when pressure is not applied. | — | ● | ● | |
| | + | | | | | | | |
| | b | Pressure gauge ^{Note 4)} | Nil | Without pressure gauge | ● | ● | ● | |
| | | | G | Round type pressure gauge (with limit indicator) | ● | ● | ● | |
| M | | | Round type pressure gauge (with color zone) | ● | ● | ● | | |
| + | | | | | | | | |
| ⑤ | Attachment | c | Pressure switch | Nil | Without attachment | ● | ● | ● |
| | | | S ^{Note 5)} | Mounting position: AW+S+AFM | ● | ● | ● | |
| | | + | | | | | | |
| | d | Pressure relief 3 port valve | Nil | Without attachment | ● | ● | ● | |
| | | | V | Mounting position: AW+AFM+V | ● | ● | ● | |
| | | | V1 ^{Note 6)} | Mounting position: V+AW+AFM | ● | ● | ● | |
| + | | | | | | | | |
| ⑥ | e | Set pressure ^{Note 7)} | Nil | 0.05 to 0.7 MPa setting | ● | ● | ● | |
| | | | 1 | 0.02 to 0.2 MPa setting | ● | ● | ● | |
| | + | | | | | | | |
| | f | Bowl | 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) | ● | — | — | |
| | + | | | | | | | |
| | g | Filter regulator Mist separator drain port ^{Note 12)} | Nil | With drain cock | ● | ● | ● | |
| | | | J ^{Note 8)} | Drain guide 1/8 | ● | — | — | |
| J | | | Drain guide 1/4 | — | ● | ● | | |
| W ^{Note 11)} | | | Drain cock with barb fitting (for ø6 x ø4 nylon tube) | — | ● | ● | | |
| + | | | | | | | | |
| h | Exhaust mechanism | Nil | Relieving type | ● | ● | ● | | |
| | | N | Non-relieving type | ● | ● | ● | | |
| + | | | | | | | | |
| i | Flow direction | Nil | Flow direction: Left to right | ● | ● | ● | | |
| | | R | Flow direction: Right to left | ● | ● | ● | | |

Air Combination **AC20D-A to AC40D-A Series**



- AC-A**
- AF-A
- AF□-A
- AR-A
- AL-A
- AW-A
- AC-B
- AF-A
- AF□-A
- AR-B
- AL-A
- AW-B
- AW□
- AG□
- E□
- AV
- AF

| | Symbol | Description |
|--|--------|-------------|
|--|--------|-------------|

| ① | | |
|-----------|----|----|
| Body size | | |
| 20 | 30 | 40 |

| 6 Semi-standard | j | Pressure unit | Nil | Name plate and pressure gauge in imperial units: MPa |
|--------------------|---|---------------|----------------------|---|
| | | | Z ^{Note 9)} | Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F |

| ● | ● | ● |
|-----------------------|-----------------------|-----------------------|
| ○ ^{Note 10)} | ○ ^{Note 10)} | ○ ^{Note 10)} |

Note 1) Option G, M are not assembled and supplied loose at the time of shipment.
 Note 2) When pressure is not applied, condensate which does not start the auto drain mechanism will be left in the bowl. Releasing the residual condensate before ending operations for the day is recommended.
 Note 3) If the compressor is small (0.75 kW, discharge flow is less than 100 L/min[ANR]), air leakage from the drain cock may occur during start of operations. N.C. type is recommended.

Note 4) When the pressure gauge is attached, a 1.0 MPa pressure gauge will be fitted for standard (0.7 MPa) type. 0.4 MPa pressure gauge for 0.2 MPa type.
 Note 5) The bracket position varies depending on the pressure switch mounting.
 Note 6) Make sure that the outlet pressure is released to atmospheric pressure using a pressure gauge.
 For V1 specification, use the regulator with a set pressure of 0.15 MPa or more to ensure the pressure release.
 Note 7) Pressure can be set higher than the specification pressure in some cases, but use pressure within the specification range.

Note 8) Without a valve function
 Note 9) For pipe thread type: NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.) MPa and psi are shown together on the pressure unit. Cannot be used with M: Round pressure gauge (with color zone). Available by request for special.
 Note 10) ○: For pipe thread type: NPT only
 Note 11) The combination of metal bowl: 2 and 8 is not available.
 Note 12) The combination of float type auto drain: C and D is not available.

Standard Specifications

| Model | | AC20D-A | AC30D-A | AC40D-A | AC40D-06-A |
|--|-----------------------|--|--------------------------|---------------|------------|
| Component | Filter Regulator [AW] | AW20-A | AW30-A | AW40-A | AW40-06-A |
| | Mist Separator [AFM] | AFM20-A | AFM30-A | AFM40-A | AFM40-06-A |
| Port size | | 1/8, 1/4 | 1/4, 3/8 | 1/4, 3/8, 1/2 | 3/4 |
| Pressure gauge port size [AW] | | 1/8 | | | |
| Fluid | | Air | | | |
| Ambient and fluid temperature | | - 5 to 60°C (with no freezing) | | | |
| Proof pressure | | 1.5 MPa | | | |
| Maximum operating pressure | | 1.0 MPa | | | |
| Minimum operating pressure | | 0.05 MPa | | | |
| Set pressure range [AW] | | 0.05 to 0.7 MPa | | | |
| Nominal filtration rating [AW/AFM] | | AW: 5 μm, AFM: 0.3 μm (99.9% filtered particle size) | | | |
| Rated flow (L/min (ANR)) [AFM] ^{Note 1)} | | 150 | 330 | 800 | 800 |
| Outlet side oil mist concentration [AFM] ^{Note 2) 3)} | | MAX 1.0 mg/m ³ (ANR) (= 0.8 ppm) | | | |
| Bowl material [AW/AFM] | | Polycarbonate | | | |
| Bowl guard [AW/AFM] | | Semi-standard (Steel) | Standard (Polycarbonate) | | |
| Construction [AW] | | Relieving type | | | |
| Weight (kg) | | 0.33 | 0.66 | 1.24 | 1.35 |

Note 1) Conditions: Mist separator inlet pressure: 0.5 MPa; The rated flow varies depending on the inlet pressure.

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

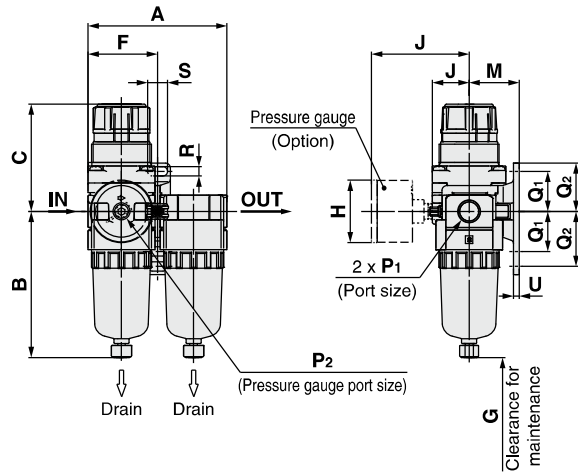
Note 2) When the compressor oil mist discharge concentration is 30 mg/m³ (ANR).

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

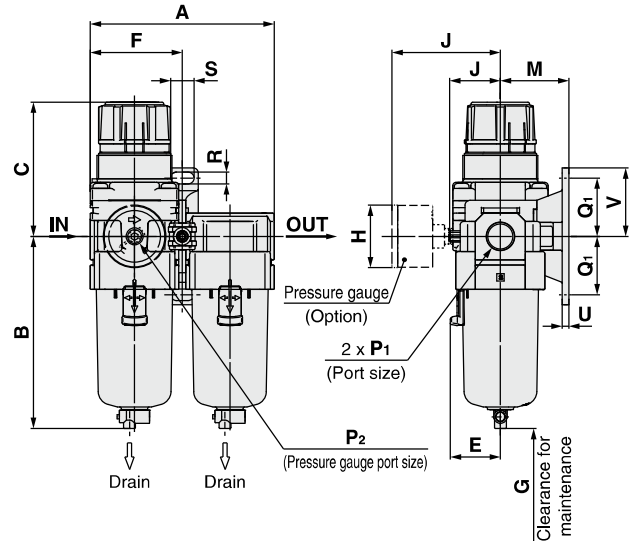
AC20D-A to AC40D-A Series

Dimensions

AC20D-A



AC30D-A to AC40D-06-A



| Applicable model | AC20D-A | | | | AC30D-A to AC40D-06-A | |
|---------------------------------------|------------------------|------------------|------------|-----------------------------|---|--|
| Optional/Semi-standard specifications | With auto drain (N.C.) | With drain guide | Metal bowl | Metal bowl with drain guide | With auto drain (N.O./N.C.) | |
| Dimensions | | | | | <p>N.O.: Black N.C.: Gray</p> <p>Thread type/Rc, G: $\phi 10$ One-touch fitting Thread type/NPT: $\phi 3/8$ One-touch fitting</p> | |

| Applicable model | AC30D-A to AC40D-06-A | | | | | |
|---------------------------------------|-----------------------|-----------------------------|-----------------------------|---|------------------|------------------------------|
| Optional/Semi-standard specifications | Metal bowl | Metal bowl with drain guide | Metal bowl with level gauge | Metal bowl with level gauge, with drain guide | With drain guide | Drain cock with barb fitting |
| Dimensions | | | | | | |

| Model | Standard specifications | | | | | | | | | | | | | | | |
|------------|-------------------------|----------------|-------|-------|----------|------|------|----|------|---------------|----------------|----------------|-----|----|-----|----|
| | P ₁ | P ₂ | A | B | C (Note) | E | F | G | J | Bracket mount | | | | | | |
| | | | | | | | | | | M | Q ₁ | Q ₂ | R | S | U | V |
| AC20D-A | 1/8, 1/4 | 1/8 | 83.2 | 87.6 | 67.4 | — | 41.6 | 40 | 23.4 | 30 | 24 | 33 | 5.5 | 12 | 3.5 | 29 |
| AC30D-A | 1/4, 3/8 | 1/8 | 110.2 | 115.1 | 83.5 | 30 | 55.1 | 50 | 30.5 | 41 | 35 | — | 7 | 14 | 4 | 41 |
| AC40D-A | 1/4, 3/8, 1/2 | 1/8 | 145.2 | 147.1 | 100 | 38.4 | 72.6 | 75 | 36.1 | 50 | 40 | — | 9 | 18 | 5 | 48 |
| AC40D-06-A | 3/4 | 1/8 | 155.2 | 149.1 | 101.5 | 38.4 | 77.6 | 75 | 39.6 | 50 | 40 | — | 9 | 18 | 5 | 48 |

| 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 |
| AC20D-A | $\phi 37.5$ | 58.5 | $\phi 37.5$ | 59.5 | 104.9 | — | 91.4 | 87.4 | 93.9 | — | — |
| AC30D-A | $\phi 37.5$ | 65 | $\phi 37.5$ | 66 | 156.8 | 123.6 | 121.9 | 117.6 | 122.1 | 137.6 | 142.1 |
| AC40D-A | $\phi 42.5$ | 72 | $\phi 42.5$ | 72 | 186.9 | 155.6 | 153.9 | 149.6 | 154.1 | 169.6 | 174.1 |
| AC40D-06-A | $\phi 42.5$ | 72 | $\phi 42.5$ | 72 | 188.9 | 157.6 | 155.9 | 151.6 | 156.1 | 171.6 | 176.1 |

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

Air Combination AC Series Options/Attachments

Options/Attachments/Part No.

| Section | Model | | Part no. | | | | | | | |
|-------------------------|---|-------------------|-------------|---------------------------------|---------------------------------|--|-----------------------|---------------|-------------|--|
| | | | For AC10-A | For AC20-A | For AC25-A | For AC30-A | For AC40-A | For AC40-06-A | | |
| Type | For AC10A-A | | For AC20A-A | | For AC25B-A | | For AC30B-A | | For AC40B-A | |
| | For AC10B-A | | For AC20B-A | | For AC25C-A | | For AC30C-A | | For AC40C-A | |
| Standard | | G27-10-R1 | | G36-10-□01 | | G46-10-□01 | | | | |
| 0.02 to 0.2 MPa setting | | G27-10-R1 Note 2) | | G36-4-□01 | | G46-4-□01 | | | | |
| Standard | | — | | G36-10-□01-L | | G46-10-□01-L | | | | |
| 0.02 to 0.2 MPa setting | | — | | G36-4-□01-L | | G46-4-□01-L | | | | |
| Attachment | Spacer | | Y100-A | Y200-A | Y300-A | Y400-A | Y500-A | | | |
| | Spacer with bracket | | Y100T-A | Y200T-A | Y300T-A | Y400T-A | Y500T-A | | | |
| | Check valve Note 3) Note 4) | | — | AKM2000-□01-A □02-A | AKM3000-(□01)-A □02-A | AKM4000-(□02)-A □03-A | — | | | |
| | Pressure switch Note 4) | | — | IS10M-20-A | IS10M-30-A | IS10M-40-A | IS10M-50-A | | | |
| | T-spacer Note 3) Note 4) | | Y110-M5-A | Y210-□01-A □02-A | Y310-(□01)-A □02-A | Y410-(□02)-A □03-A | Y510-(□02)-A □03-A | | | |
| | Pressure relief 3 port valve Note 4) | | — | VHS20-□01A □02A | VHS30-□02A □03A | VHS40-□03A □04A | VHS40-□06A | | | |
| | Piping adapter Note 4) | | E100-M5-A | □01-A E200-□02-A □03-A | □02-A E300-□03-A □04-A | □02-A E400-□03-A □04-A □06-A | E500-□06-A | | | |
| | Pressure switch with piping adapter Note 4) | | — | □01-A IS10E-20□02-A □03-A | □02-A IS10E-30□03-A □04-A | □02-A IS10E-40□03-A □04-A □06-A | — | | | |
| | Cross spacer Note 4) | | Y14-M5-A | Y24-□01-A □02-A | Y34-□01-A □02-A | Y44-□02-A □03-A | Y54-□03-A □04-A | | | |

Note 1) □ in round pressure gauge part numbers indicates a pipe thread type. No indication is necessary for R; however, indicate N for NPT.

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

Note 2) Standard pressure gauge

Note 3) For F.R.L. units, port sizes without () are standard specifications.

Note 4) Separate interfaces are required for modular unit.

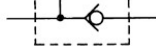
Check Valve: (K) 1/8, 1/4, 3/8

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

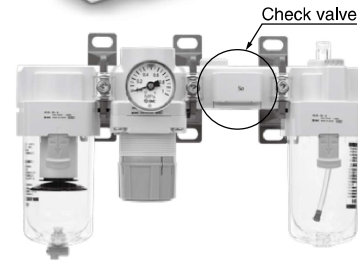
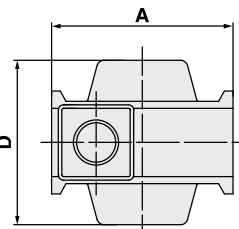
AKM 30 00 - □ 01 - A

① Body size
② Pipe thread type
③ By-pass port size

Symbol



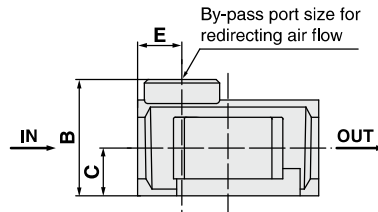
| | | Symbol | Description | ① Body size | | | |
|---|-------------------|--------|-------------|-------------|----|----|----|
| | | | | | 20 | 30 | 40 |
| ② | Pipe thread type | Nil | Rc | ● | ● | ● | |
| | | N | NPT | ● | ● | ● | |
| | | F | G | ● | ● | ● | |
| | | + | | | | | |
| ③ | By-pass port size | 01 | 1/8 | ● | ● | — | |
| | | 02 | 1/4 | ● | ● | ● | |
| | | 03 | 3/8 | — | — | ● | |



Specifications

| Model | Effective area (mm ²) |
|-----------|-----------------------------------|
| AKM2000-A | 28 |
| AKM3000-A | 55 |
| AKM4000-A | 111 |

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.



| Model | By-pass port size | A | B | C | D | E | Applicable model |
|-----------|-------------------|----|----|----|----|----|----------------------------------|
| AKM2000-A | 1/8, 1/4 | 40 | 28 | 11 | 40 | 11 | AC20-A, AC20A-A |
| AKM3000-A | 1/8, 1/4 | 53 | 34 | 14 | 48 | 13 | AC25-A AC30-A, AC30A-A |
| AKM4000-A | 1/4, 3/8 | 70 | 42 | 18 | 54 | 15 | AC40-A, AC40A-A ^{Note)} |

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

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

AC-A
AF-A
AF-□-A
AR-A
AL-A
AW-A
AC-B
AF-A
AF-□-A
AR-B
AL-A
AW-B
AW-□
A□G
E□
AV
AF

AC Series

Pressure Switch: (S)

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

IS10M-30- -A

① ②

- 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 | ① | | | |
|---|----------------------------------|-------------|-----------|----|----|----|
| | | | Body size | | | |
| | | | 20 | 30 | 40 | 50 |
| a | Set pressure range | Nil | ● | ● | ● | ● |
| | | 6 (Note 1) | ● | ● | ● | ● |
| b | Lead wire length | + | ● | ● | ● | ● |
| | | Nil | ● | ● | ● | ● |
| | | L | ● | ● | ● | ● |
| | | Z | ● | ● | ● | ● |
| c | Pressure unit of the scale plate | Nil | ● | ● | ● | ● |
| | | P (Note 2) | ● | ● | ● | ● |

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

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

Specifications

| | |
|-------------------------------|-------------------------------|
| 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 |

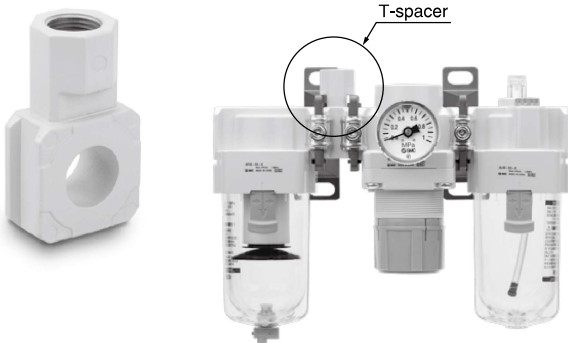
Switch Characteristics

| | |
|--------------------------------|---------------------------|
| 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 |

Note) For detailed specifications, refer to the IS10 series in Best Pneumatics No. 8.

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

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



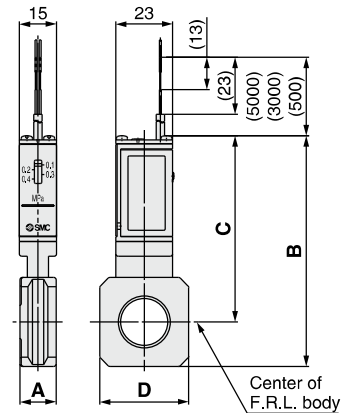
Caution on Mounting

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

Symbol

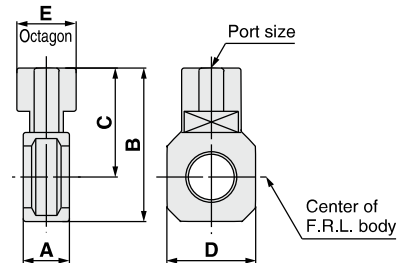


Pressure switch



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

* Separate spacers are required for modular unit.



| Model (Note) | Port size | A | B | C | D | E | Applicable model |
|--------------|-----------|------|------|------|----|----|-----------------------|
| Y110-M5-A | M5 x 0.8 | 11.2 | 19 | 12 | 14 | 8 | AC10-A, AC10B-A |
| Y210-□01-A | 1/8 | 14.6 | 41.8 | 32 | 28 | 19 | AC20-A, AC20B-A |
| Y210-□02-A | 1/4 | | | | | | AC20C-A |
| Y310-□01-A | 1/8 | 14.6 | 52.7 | 38.7 | 30 | 19 | AC25-A, AC25B-A |
| Y310-□02-A | 1/4 | | | | | | AC25C-A, AC30-A |
| Y410-□02-A | 1/4 | 18.6 | 62 | 44 | 36 | 24 | AC30B-A, AC30C-A |
| Y410-□03-A | 3/8 | | | | | | AC40-A, AC40B-A |
| Y510-□02-A | 1/4 | 18.6 | 66 | 46 | 44 | 24 | AC40C-A |
| Y510-□03-A | 3/8 | | | | | | AC40-06-A, AC40B-06-A |

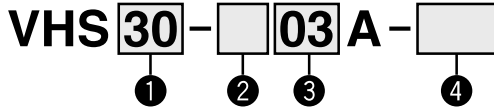
Note) □ in model numbers indicates a pipe thread type. No indication is necessary for Rc; however, indicate N for NPT, and F for G.

* Separate interfaces are required for modular unit.

* Refer to the attachment table on page 423 for standard port sizes when using with the AC.

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

| | Symbol | Description | ① | | | |
|--------------------|------------------|-------------|-----------------------------------|----|----|---|
| | | | 20 | 30 | 40 | |
| ② Pipe thread type | Nil | Rc | ● | ● | ● | |
| | N (Note) | NPT | ● | ● | ● | |
| | F (Note) | G | ● | ● | ● | |
| ③ Port size | 01 | 1/8 | ● | — | — | |
| | 02 | 1/4 | ● | ● | ● | |
| | 03 | 3/8 | — | ● | ● | |
| | 04 | 1/2 | — | — | ● | |
| | 06 | 3/4 | — | — | ● | |
| ④ Semi-standard | a Flow direction | Nil | Flow direction: Left to right | ● | ● | ● |
| | | R | Flow direction: Right to left | ● | ● | ● |
| | b Pressure unit | Nil | Name plate in imperial units: MPa | ● | ● | ● |
| | | Z (Note) | Name plate in imperial units: psi | ● | ● | ● |

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

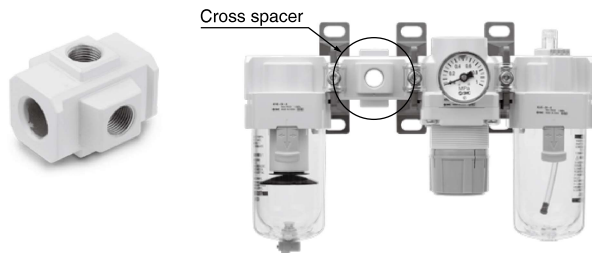
Specifications

| Model | Port size | | Specifications | | | | | | | | |
|----------|-----------|-----|----------------------------|------|------|----------------------------|------|------|----|----|----|
| | IN, OUT | EXH | IN → OUT | | | OUT → EXH | | | G | H | I |
| | | | C (dm ³ /s·bar) | b | Cv | C (dm ³ /s·bar) | b | Cv | | | |
| VHS20 | 1/8 | 1/8 | 2.4 | 0.43 | 0.65 | 2.5 | 0.39 | 0.69 | 28 | 30 | 43 |
| | 1/4 | 1/4 | 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 | 36 | 44 | 63 |
| | 3/8 | 3/8 | 8.3 | 0.41 | 2.3 | 7.0 | 0.41 | 1.9 | | | |
| VHS40 | 1/4 | 3/8 | 7.3 | 0.49 | 2.0 | 8.5 | 0.35 | 2.3 | 44 | 54 | 63 |
| | 3/8 | 3/8 | 10.9 | 0.45 | 3.0 | 11.6 | 0.40 | 3.1 | | | |
| VHS40-06 | 1/2 | 1/2 | 14.2 | 0.39 | 3.8 | 13.3 | 0.43 | 3.6 | 44 | 44 | 63 |
| VHS40-06 | 3/4 | 1/2 | 18.3 | 0.31 | 5.0 | 17.7 | 0.37 | 4.8 | 44 | 44 | 63 |

Note) Use an air filter on the IN side for operating protection.

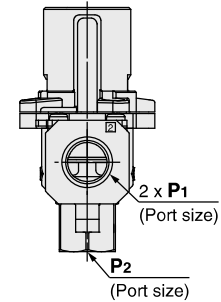
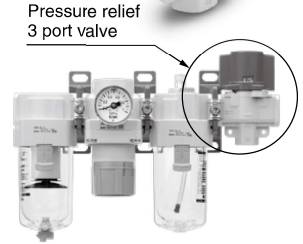
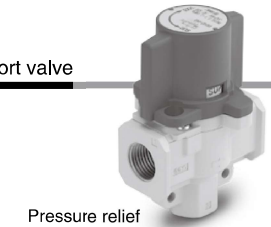
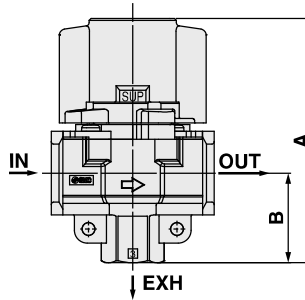
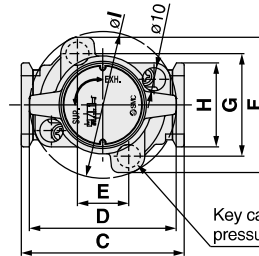
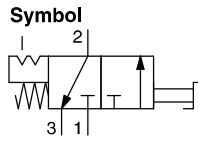
Cross Spacer: 1/8, 1/4, 3/8, 1/2

Pipings are possible in all 4 directions.
IN/OUT ports are not machined for threads.
Please contact SMC if threaded (machined) ports are required.

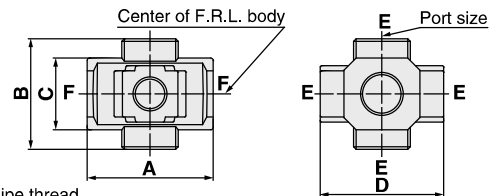


Caution on Mounting

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



| Model | Standard specifications | | | | | | | | | | |
|----------|-------------------------|-----|-------|------|----|------|----|------|------|----|----|
| | P1 | P2 | A | B | C | D | E | F | G | H | I |
| 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 |



F: Without pipe thread

| Model (Note) | E (Port size) | A | B | C | D | Applicable model |
|--------------|---------------|----|----|----|----|------------------|
| Y14-M5-A | M5 x 0.8 | 23 | 16 | 14 | 25 | AC10□-A |
| Y24-□01-A | 1/8 | 40 | 40 | 22 | 40 | AC20□-A |
| Y24-□02-A | 1/4 | | | | | |
| Y34-□01-A | 1/8 | 49 | 43 | 28 | 48 | AC25□-A, AC30□-A |
| Y34-□02-A | 1/4 | | | | | |
| Y44-□02-A | 1/4 | 60 | 48 | 36 | 54 | AC40□-A |
| Y44-□03-A | 3/8 | | | | | |
| Y54-□03-A | 3/8 | 72 | 62 | 40 | 62 | AC40□-06-A |
| Y54-□04-A | 1/2 | | | | | |

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

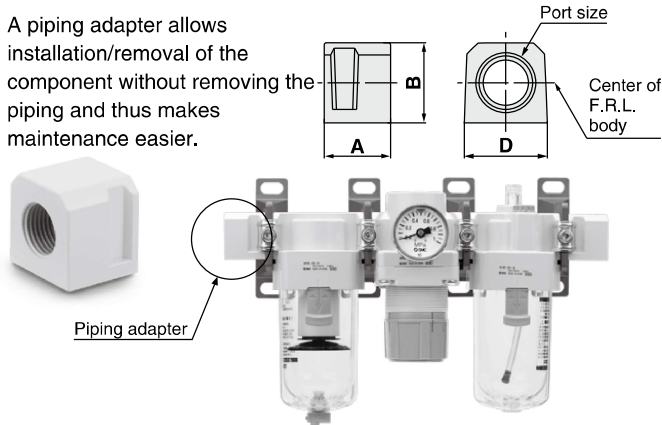
* If threaded IN/OUT ports are required, they are available as a special order. Please contact SMC.

* Two hexagon socket head plugs are included in the package.

AC Series

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

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



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

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

* Separate interfaces are required for modular unit.

* Factory mounting of a piping adapter on the AC models is available as a special order.

Pressure Switch with Piping Adapter

IS10E - **30** - **03** - **□** - **A**

① ② ③ ④

- 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 | ① Body size | | | |
|---------------------|------------------------------------|----------------------|--------------------|----|----|---|
| | | | 20 | 30 | 40 | |
| ② Pipe thread type | Nil | Rc | ● | ● | ● | |
| | N ^{Note)} | NPT | ● | ● | ● | |
| | F ^{Note)} | G | ● | ● | ● | |
| ③ Port size | + | | ● | ● | ● | |
| | 01 | 1/8 | ● | — | — | |
| | 02 | 1/4 | ● | ● | ● | |
| | 03 | 3/8 | ● | ● | ● | |
| | 04 | 1/2 | — | ● | ● | |
| ④ Semi-standard | a Set pressure range | Nil | 0.1 to 0.4 MPa | ● | ● | ● |
| | | 6 ^{Note 1)} | 0.1 to 0.6 MPa | ● | ● | ● |
| | | + | | ● | ● | ● |
| | b Lead wire length | Nil | 0.5 m | ● | ● | ● |
| | | L | 3 m | ● | ● | ● |
| | | Z | 5 m | ● | ● | ● |
| | | + | | ● | ● | ● |
| | c Pressure unit of the scale plate | Nil | MPa | ● | ● | ● |
| | | P ^{Note 2)} | MPa/psi dual scale | ● | ● | ● |
| | | + | | ● | ● | ● |
| d Mounting position | Nil | Right | ● | ● | ● | |
| | R | Left | ● | ● | ● | |

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

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

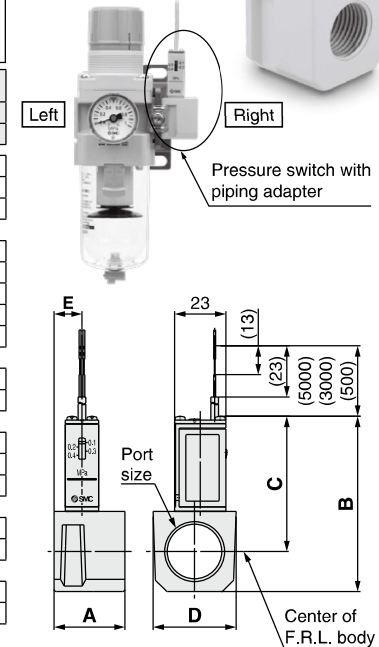
Specifications

| | |
|-------------------------------|-------------------------------|
| Fluid | Air |
| Ambient and fluid temperature | -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 V AC, DC: 50 mA 48 V AC, DC: 40 mA 100 V AC, DC: 20 mA |

Symbol



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

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

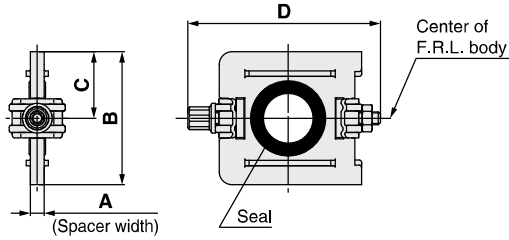
Note 2) Cannot be mounted on the AC40□-06-A.

* Separate interfaces are required for modular unit.

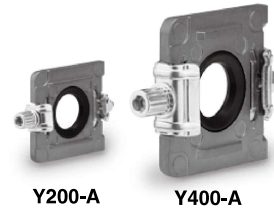
* The pressure switch on the AC40□-06-A can be mounted by screwing IS10-01S into the piping adapter E500-□06-A-X501 (with top-face thread Rc1/8). Products with a premounted switch are available as a special order. Please contact SMC regarding their availability.

AC Series Accessories (Spacers/Brackets)

Spacer



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



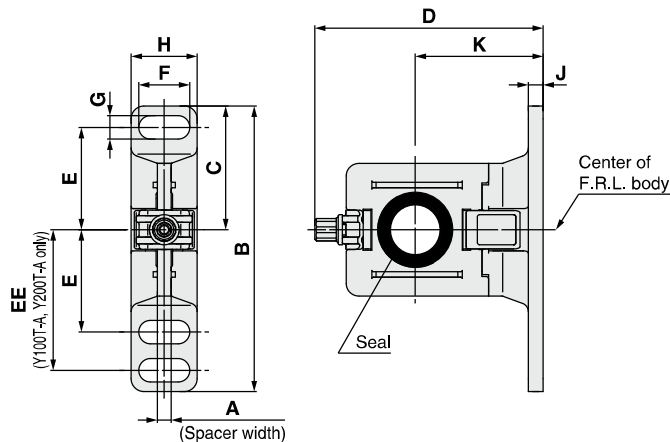
Replacement Parts

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

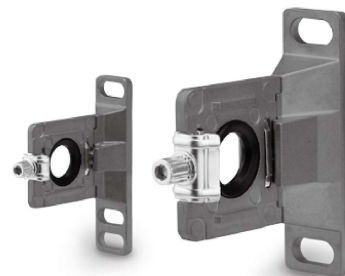
Note 1) (): Size 10

Note 2) Assembly of 2 O-rings

Spacer with Bracket



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



Replacement Parts

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

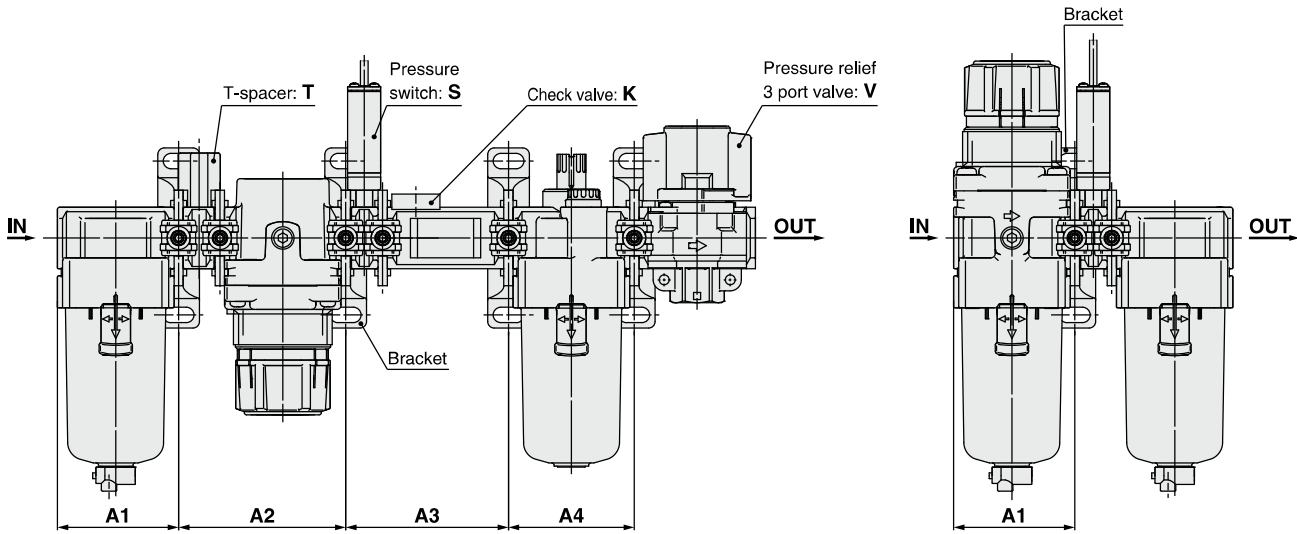
Note 1) (): Size 10

Note 2) Assembly of 2 O-rings

- AC-A
- AF-A
- AF□-A
- AR-A
- AL-A
- AW-A
- AC-B
- AF-A
- AF□-A
- AR-A
- AL-A
- AW-A
- AW□
- AC□G
- E□
- AV
- AF

AC Series

Mounting Position for Spacer with Bracket



| Attachment Model | K | | | S | | | T | | | V | | | KS | | | KT | | | KV | | | | KST | | | |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|----|------|----|------|------|------|------|------|------|------|------|------|----|----|
| | A1 | A2 | A3 | A1 | A2 | A1 | A2 | A1 | A2 | A3 | A1 | A2 | A3 | A1 | A2 | A3 | A1 | A2 | A3 | A1 | A2 | A3 | A4 | A1 | A2 | A3 |
| AC10-A | — | — | — | — | — | 28 | 48.2 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| AC20-A | 41.6 | 43.2 | 43.2 | 41.6 | 43.2 | 41.6 | 61 | 41.6 | 43.2 | 43.2 | 41.6 | 43.2 | 57 | 41.6 | 61 | 43.2 | 41.6 | 43.2 | 43.2 | 41.6 | 43.2 | 43.2 | 43.2 | 41.6 | 61 | 57 |
| AC25-A | 55.1 | 57.2 | 57.2 | 55.1 | 57.2 | 55.1 | 76 | 55.1 | 57.2 | 57.2 | 55.1 | 57.2 | 74 | 55.1 | 76 | 57.2 | 55.1 | 57.2 | 57.2 | 55.1 | 57.2 | 57.2 | 57.2 | 55.1 | 76 | 74 |
| AC30-A | 55.1 | 57.2 | 57.2 | 55.1 | 57.2 | 55.1 | 76 | 55.1 | 57.2 | 57.2 | 55.1 | 57.2 | 74 | 55.1 | 76 | 57.2 | 55.1 | 57.2 | 57.2 | 55.1 | 57.2 | 57.2 | 57.2 | 55.1 | 76 | 74 |
| AC40-A | 72.6 | 75.2 | 75.2 | 72.6 | 75.2 | 72.6 | 99 | 72.6 | 75.2 | 75.2 | 72.6 | 75.2 | 95 | 72.6 | 99 | 75.2 | 72.6 | 75.2 | 75.2 | 72.6 | 75.2 | 75.2 | 75.2 | 72.6 | 99 | 95 |
| AC40-06-A | — | — | — | — | — | 77.6 | 104 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| Attachment Model | KSV | | | | KTV | | | | KSTV | | | | ST | | SV | | STV | | | TV | | | | | |
|---------------------|------|------|----|------|------|----|------|------|------|----|----|------|------|----|------|------|------|------|-----|------|------|-----|------|------|------|
| | A1 | A2 | A3 | A4 | A1 | A2 | A3 | A4 | A1 | A2 | A3 | A4 | A1 | A2 | A1 | A2 | A1 | A2 | A3 | A1 | A2 | A3 | A1 | A2 | A3 |
| AC10-A | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| AC20-A | 41.6 | 43.2 | 57 | 43.2 | 41.6 | 61 | 43.2 | 43.2 | 41.6 | 61 | 57 | 43.2 | 41.6 | 61 | 41.6 | 43.2 | 57 | 41.6 | 61 | 57 | 41.6 | 61 | 57 | 41.6 | 61 |
| AC25-A | 55.1 | 57.2 | 74 | 57.2 | 55.1 | 76 | 57.2 | 57.2 | 55.1 | 76 | 74 | 57.2 | 55.1 | 76 | 55.1 | 57.2 | 74 | 55.1 | 76 | 74 | 55.1 | 76 | 74 | 55.1 | 76 |
| AC30-A | 55.1 | 57.2 | 74 | 57.2 | 55.1 | 76 | 57.2 | 57.2 | 55.1 | 76 | 74 | 57.2 | 55.1 | 76 | 55.1 | 57.2 | 74 | 55.1 | 76 | 74 | 55.1 | 76 | 74 | 55.1 | 76 |
| AC40-A | 72.6 | 75.2 | 95 | 75.2 | 72.6 | 99 | 75.2 | 75.2 | 72.6 | 99 | 95 | 75.2 | 72.6 | 99 | 72.6 | 75.2 | 95 | 72.6 | 99 | 95 | 72.6 | 99 | 95 | 72.6 | 99 |
| AC40-06-A | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 77.6 | 104 | 77.6 | 80.2 | 102 | 77.6 | 104 | 102 | 77.6 | 104 | 80.2 |

| Attachment Model | K | | S | | V | | KS | | KV | | | KSV | | | SV | |
|---------------------|------|------|------|------|------|------|----|------|------|------|------|-----|------|------|----|--|
| | A1 | A2 | A1 | A1 | A2 | A1 | A2 | A1 | A2 | A3 | A1 | A2 | A3 | A1 | A2 | |
| AC10A-A | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| AC20A-A | 41.6 | 43.2 | 41.6 | 41.6 | 43.2 | 41.6 | 57 | 41.6 | 43.2 | 43.2 | 41.6 | 57 | 43.2 | 41.6 | 57 | |
| AC30A-A | 55.1 | 57.2 | 55.1 | 55.1 | 57.2 | 55.1 | 74 | 55.1 | 57.2 | 57.2 | 55.1 | 74 | 57.2 | 55.1 | 74 | |
| AC40A-A | 72.6 | 75.2 | 72.6 | 72.6 | 75.2 | 72.6 | 95 | 72.6 | 75.2 | 75.2 | 72.6 | 95 | 75.2 | 72.6 | 95 | |
| AC40A-06-A | — | — | 77.6 | 77.6 | 80.2 | — | — | — | — | — | — | — | 77.6 | 102 | | |

| Attachment Model | S | | T | | V | | V1 | | SV | | SV1 | | TV | | TV1 | |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|------|
| | A1 | A1 | A1 | A2 | A1 | A2 | A1 | A2 | A1 | A2 | A1 | A2 | A1 | A2 | A1 | A2 |
| AC10B-A | — | 28 | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| AC20B-A | 41.6 | 41.6 | 41.6 | 43.2 | 41.6 | 43.2 | 41.6 | 57 | 41.6 | 43.2 | 41.6 | 61 | 41.6 | 43.2 | 41.6 | 43.2 |
| AC25B-A | 55.1 | 55.1 | 55.1 | 57.2 | 55.1 | 57.2 | 55.1 | 74 | 55.1 | 57.2 | 55.1 | 76 | 55.1 | 57.2 | 55.1 | 57.2 |
| AC30B-A | 55.1 | 55.1 | 55.1 | 57.2 | 55.1 | 57.2 | 55.1 | 74 | 55.1 | 57.2 | 55.1 | 76 | 55.1 | 57.2 | 55.1 | 57.2 |
| AC40B-A | 72.6 | 72.6 | 72.6 | 75.2 | 72.6 | 75.2 | 95 | 72.6 | 72.6 | 75.2 | 72.6 | 99 | 72.6 | 75.2 | 72.6 | 75.2 |
| AC40B-06-A | 77.6 | 77.6 | 77.6 | 80.2 | 77.6 | 80.2 | 77.6 | 102 | 77.6 | 80.2 | 77.6 | 104 | 77.6 | 80.2 | 77.6 | 80.2 |

| Attachment Model | S | | T | | V | | | V1 | | | SV | | | SV1 | | | TV | | | TV1 | | |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|------|------|-----|------|------|------|
| | A1 | A2 | A1 | A2 | A1 | A2 | A3 | A1 | A2 | A3 | A1 | A2 | A3 | A1 | A2 | A3 | A1 | A2 | A3 | A1 | A2 | A3 |
| AC20C-A | 41.6 | 43.2 | 41.6 | 43.2 | 41.6 | 43.2 | 43.2 | 41.6 | 43.2 | 43.2 | 41.6 | 43.2 | 57 | 41.6 | 43.2 | 43.2 | 41.6 | 43.2 | 61 | 41.6 | 43.2 | 43.2 |
| AC25C-A | 55.1 | 57.2 | 55.1 | 57.2 | 55.1 | 57.2 | 57.2 | 55.1 | 57.2 | 57.2 | 55.1 | 57.2 | 74 | 55.1 | 57.2 | 57.2 | 55.1 | 57.2 | 76 | 55.1 | 57.2 | 57.2 |
| AC30C-A | 55.1 | 57.2 | 55.1 | 57.2 | 55.1 | 57.2 | 57.2 | 55.1 | 57.2 | 57.2 | 55.1 | 57.2 | 74 | 55.1 | 57.2 | 57.2 | 55.1 | 57.2 | 76 | 55.1 | 57.2 | 57.2 |
| AC40C-A | 72.6 | 75.2 | 72.6 | 75.2 | 72.6 | 75.2 | 75.2 | 72.6 | 75.2 | 75.2 | 72.6 | 75.2 | 95 | 72.6 | 75.2 | 75.2 | 72.6 | 75.2 | 99 | 72.6 | 75.2 | 75.2 |
| AC40C-06-A | 77.6 | 80.2 | 77.6 | 80.2 | 77.6 | 80.2 | 80.2 | 77.6 | 80.2 | 80.2 | 77.6 | 80.2 | 102 | 77.6 | 80.2 | 80.2 | 77.6 | 80.2 | 104 | 77.6 | 80.2 | 80.2 |

| Attachment Model | S | | V | | V1 | | SV | | SV1 | |
|---------------------|------|------|------|------|------|------|-----|------|------|------|
| | A1 | A1 | A2 | A1 | A2 | A1 | A2 | A1 | A2 | A1 |
| AC20D-A | 41.6 | 41.6 | 43.2 | 41.6 | 43.2 | 41.6 | 57 | 41.6 | 43.2 | 43.2 |
| AC30D-A | 55.1 | 55.1 | 57.2 | 55.1 | 57.2 | 55.1 | 74 | 55.1 | 57.2 | 57.2 |
| AC40D-A | 72.6 | 72.6 | 75.2 | 72.6 | 75.2 | 72.6 | 95 | 72.6 | 75.2 | 75.2 |
| AC40D-06-A | 77.6 | 77.6 | 80.2 | 77.6 | 80.2 | 77.6 | 102 | 77.6 | 80.2 | 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 |
|---|------------|---------------|------------------|--|
|  <p>P.430 to 438</p> | AF10-A | M5 x 0.8 | 5 | Bracket (Except AF10-A) Float type auto drain |
| | AF20-A | 1/8, 1/4 | | |
| | AF30-A | 1/4, 3/8 | | |
| | AF40-A | 1/4, 3/8, 1/2 | | |
| | AF40-06-A | 3/4 | | |
| | AF50-A | 3/4, 1 | | |
| | AF60-A | 1 | | |
| Mist Separator AFM Series  <p>P.440 to 447</p> | AFM20-A | 1/8, 1/4 | 0.3 | Bracket Float type auto drain |
| | AFM30-A | 1/4, 3/8 | | |
| | AFM40-A | 1/4, 3/8, 1/2 | | |
| | AFM40-06-A | 3/4 | | |
| Micro Mist Separator AFD Series  <p>P.440 to 447</p> | AFD20-A | 1/8, 1/4 | 0.01 | Bracket Float type auto drain |
| | AFD30-A | 1/4, 3/8 | | |
| | AFD40-A | 1/4, 3/8, 1/2 | | |
| | AFD40-06-A | 3/4 | | |

- AC-A
- AF-A
- AF□-A
- AR-A
- AL-A
- AW-A
- AC-B
- AF-A
- AF□-A
- AR-A^B
- AL-A
- AW-A^B
- AW□
- A□G
- E□
- AV
- AF

Made to Order

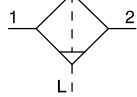
| | | |
|---|--|---|
| ① | Long Bowl (-X64) Drain capacity is greater than that of standard models. | AF: P.437 to 439-1 AFM/AFD: P.446, 448 |
| ② | With Element Service Indicator (-X2141) Clogging status of elements can be checked visually. | |
| ③ | Special Temperature Environment (-X430/-X440) Special 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-) | |

Air Filter

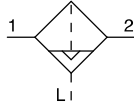
AF10-A to AF60-A

Symbol

Air Filter



Air Filter with Auto Drain

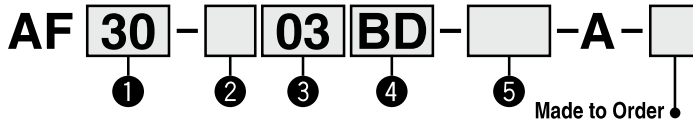


AF10-A

AF20-A

AF40-A

How to Order



(Refer to pages 437 and 438 for details.)

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

| | | Symbol | Description | ① Body size | | | | | |
|-----------------------|---------------------------------|--|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 |
| ② | Pipe thread type | Nil | Metric thread (M5) | ● | — | — | — | — | — |
| | | N ^{Note 1)} | Rc | — | ● | ● | ● | ● | ● |
| | | F ^{Note 2)} | NPT | — | ● | ● | ● | ● | ● |
| | | | G | — | ● | ● | ● | ● | ● |
| ③ | Port size | M5 | M5 x 0.8 | ● | — | — | — | — | — |
| | | 01 | 1/8 | — | ● | — | — | — | — |
| | | 02 | 1/4 | — | ● | ● | — | — | — |
| | | 03 | 3/8 | — | — | ● | ● | — | — |
| | | 04 | 1/2 | — | — | — | ● | ● | — |
| | | 06 | 3/4 | — | — | — | — | ● | ● |
| | | 10 | 1 | — | — | — | — | ● | ● |
| ④ Option | a Mounting | Nil | Without mounting option | ● | ● | ● | ● | ● | ● |
| | | B ^{Note 3)} | With bracket | — | ● | ● | ● | ● | ● |
| | b Float type auto drain | Nil | Without auto drain | ● | ● | ● | ● | ● | ● |
| | | C ^{Note 4)} | N.C. (Normally closed) Drain port is closed when pressure is not applied. | ● | ● | ● | ● | ● | ● |
| | | D ^{Note 5)} | N.O. (Normally open) Drain port is open when pressure is not applied. | — | — | ● | ● | ● | ● |
| | | | | — | — | — | — | ● | ● |
| ⑤ Semi-standard | c Bowl ^{Note 6)} | Nil | Polycarbonate bowl | ● | ● | ● | ● | ● | ● |
| | | 2 | Metal bowl | ● | ● | ● | ● | ● | ● |
| | | 6 | Nylon bowl | ● | ● | ● | ● | ● | ● |
| | | 8 | Metal bowl with level gauge | — | — | ● | ● | ● | ● |
| | | C | With bowl guard | — | ● | — ^{Note 7)} | — ^{Note 7)} | — ^{Note 7)} | — ^{Note 7)} |
| | | 6C | With bowl guard (Nylon bowl) | — | ● | — ^{Note 8)} | — ^{Note 8)} | — ^{Note 8)} | — ^{Note 8)} |
| | d Drain port ^{Note 9)} | Nil | With drain cock | ● | ● | ● | ● | ● | ● |
| | | J ^{Note 10)} | Drain guide 1/8 | — | ● | — | — | — | — |
| | | | Drain guide 1/4 | — | — | ● | ● | ● | ● |
| | | W ^{Note 11)} | Drain cock with barb fitting | — | — | ● | ● | ● | ● |
| | e Flow direction | Nil | Flow direction: Left to right | ● | ● | ● | ● | ● | ● |
| | | R | Flow direction: Right to left | ● | ● | ● | ● | ● | ● |
| | f Pressure unit | Nil | Name plate and caution plate for bowl in imperial units: MPa | ● | ● | ● | ● | ● | ● |
| Z ^{Note 12)} | | Name plate and caution plate for bowl in imperial units: psi, °F | ○ ^{Note 13)} | ○ ^{Note 13)} | ○ ^{Note 13)} | ○ ^{Note 13)} | ○ ^{Note 13)} | ○ ^{Note 13)} | |

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

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

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

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

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

Note 4) When pressure is not applied, condensate which does not start the auto drain mechanism will be left in the bowl.

Releasing the residual condensate before ending operations for the day is recommended.

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

Note 6) Refer to Chemical data on page 433 for chemical resistance of the bowl.

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

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

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

Note 10) Without a valve function

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

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

Note 13) ○: 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 | 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 (cm ³) | 2.5 | 8 | 25 | 45 | | | |
| Bowl material | Polycarbonate | | | | | | |
| Bowl guard | — | Semi-standard (Steel) | Standard (Polycarbonate) | | | | |
| Weight (kg) | 0.06 | 0.08 | 0.18 | 0.36 | 0.41 | 0.87 | 1.00 |

Options/Part No.

| Optional specifications | Model | | | | | | |
|-----------------------------------|--------|-------------|-------------|-------------|-------------|-------------|--------|
| | AF10-A | AF20-A | AF30-A | AF40-A | AF40-06-A | AF50-A | AF60-A |
| Bracket assembly ^{Note)} | — | AF22P-050AS | AF32P-050AS | AF42P-050AS | AF42P-070AS | AF52P-050AS | |

Note) Assembly of a bracket and 2 mounting screws

Bowl Assembly/Part No.

| Bowl material | Drain discharge mechanism | Drain port | Other | Model | | | | | |
|--------------------|---|---|------------------|-----------|------------|------------|------------|-----------|--------|
| | | | | AF10-A | AF20-A | AF30-A | AF40-A | AF40-06-A | AF50-A |
| Polycarbonate bowl | Manual discharge | With drain cock | — | C1SF-A | C2SF-A | — | — | | |
| | | Drain cock with barb fitting | With bowl guard | — | C2SF-C-A | C3SF-A | C4SF-A | | |
| | | With drain guide (without valve function) | With bowl guard | — | — | C3SF-W-A | C4SF-W-A | | |
| | Automatic discharge ^{Note)} (Auto drain) | Normally closed (N.C.) | — | AD17-A | AD27-A | — | — | | |
| | | With bowl guard | — | AD27-C-A | AD37□-A | AD47□-A | | | |
| | | Normally open (N.O.) | With bowl guard | — | — | AD38□-A | AD48□-A | | |
| Nylon bowl | Manual discharge | With drain cock | — | C1SF-6-A | C2SF-6-A | — | — | | |
| | | Drain cock with barb fitting | With bowl guard | — | C2SF-6C-A | C3SF-6-A | C4SF-6-A | | |
| | | With drain guide (without valve function) | With bowl guard | — | — | C3SF-6W-A | C4SF-6W-A | | |
| | Automatic discharge ^{Note)} (Auto drain) | Normally closed (N.C.) | — | AD17-6-A | AD27-6-A | — | — | | |
| | | With bowl guard | — | AD27-6C-A | AD37□-6-A | AD47□-6-A | | | |
| | | Normally open (N.O.) | With bowl guard | — | — | AD38□-6-A | AD48□-6-A | | |
| Metal bowl | Manual discharge | With drain cock | — | C1SF-2-A | C2SF-2-A | C3SF-2-A | C4SF-2-A | | |
| | | With drain guide (without valve function) | With level gauge | — | — | C3LF-8-A | C4LF-8-A | | |
| | | With level gauge | — | — | C3SF□-2J-A | C3SF□-2J-A | C4SF□-2J-A | | |
| | Automatic discharge ^{Note)} (Auto drain) | Normally closed (N.C.) | — | AD17-2-A | AD27-2-A | AD37□-2-A | AD47□-2-A | | |
| | | With level gauge | — | — | — | AD37□-8-A | AD47□-8-A | | |
| | | Normally open (N.O.) | With level gauge | — | — | AD38□-2-A | AD48□-2-A | | |
| With level gauge | — | — | — | AD38□-8-A | AD48□-8-A | | | | |

Note) 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.

□ 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.

AC-A

AF-A

AF□-A

AR-A

AL-A

AW-A

AC-B

AF-A

AF□-A

AR-^B

AL-A

AW-^B

AW□

A□G

E□

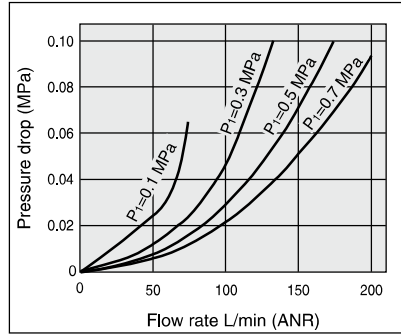
AV

AF

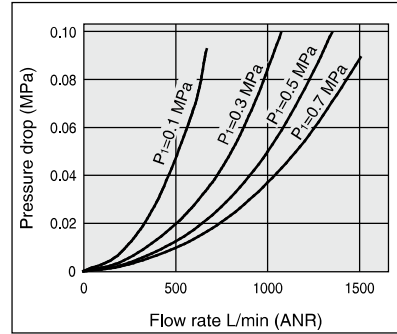
AF10-A to AF60-A Series

Flow Rate Characteristics (Representative values)

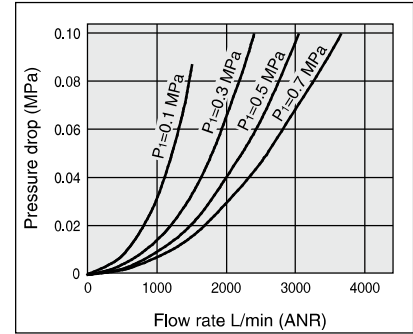
AF10-A M5



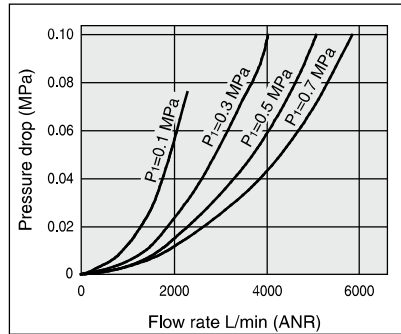
AF20-A Rc1/4



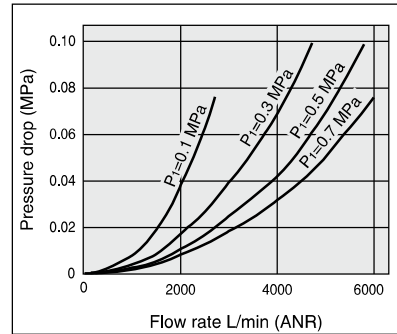
AF30-A Rc3/8



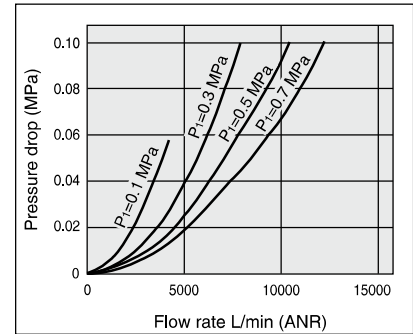
AF40-A Rc1/2



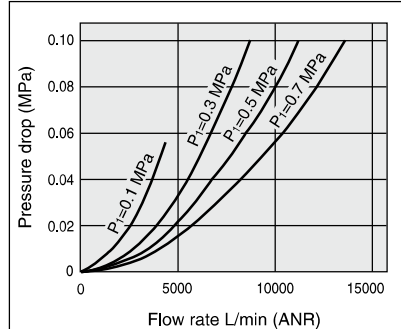
AF40-06-A Rc3/4



AF50-A Rc1



AF60-A Rc1



⚠ Specific Product Precautions

Be sure to read this before handling the products. Refer to back page 50 for Safety Instructions and pages 387 to 391 for F.R.L. Precautions.

Design/Selection

⚠ Warning

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

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

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

Maintenance

⚠ Warning

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

Mounting/Adjustment

⚠ Caution

- When the bowl is installed on the air filter (AF30-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.



AC-A

AF-A

AF-A

AR-A

AL-A

AW-A

AC-B

AF-A

AF-A

AR-B

AL-A

AW-B

AW

AQ

E

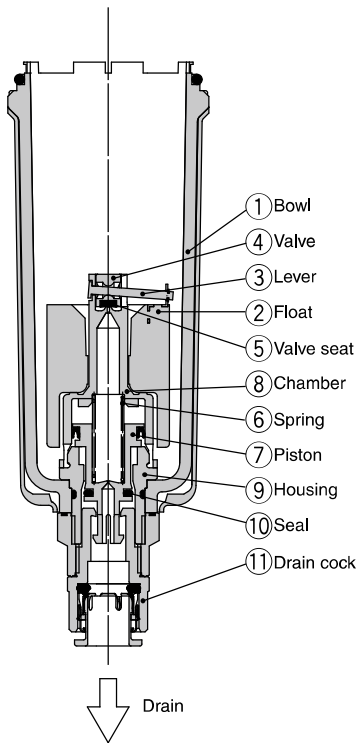
AV

AF

AF10-A to AF60-A Series

Working Principle: Float Type Auto Drain

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



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

When pressure is released from the bowl ①, the piston ⑦ is lowered by the spring ⑥. The sealing action of the seal ⑩ is interrupted, and the outside air flows inside the bowl ① through the housing hole ⑨ and the drain cock ⑪.

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

• **When pressure is applied inside the bowl:**

When pressure is 0.1 MPa or more, the force of the piston ⑦ surpasses the force of the spring ⑥, and the piston goes up. This pushes seal ⑩ up so that it creates a seal, and the inside of the bowl ①, is shut off from the outside air.

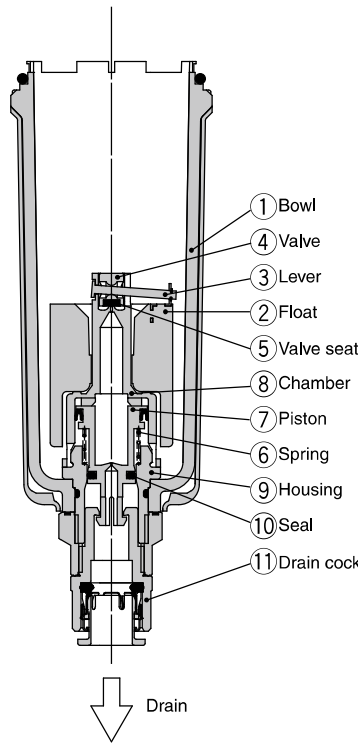
If there is no accumulation of condensate in the bowl ① at this time, the float ② will be pulled down by its own weight, causing the valve ④, which is connected to the lever ③, to seal the valve seat ⑤.

• **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 ⑩ to be interrupted, and the accumulated condensate in the bowl ① drains out through the drain cock ⑪.

Turning the drain cock ⑪ manually counterclockwise lowers the piston ⑦, and causes the seal created by the seal ⑩ to be interrupted, thus allowing the condensate to drain out.

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



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

Even when pressure inside the bowl ① is released, spring ⑥ keeps the piston ⑦ in its upward position. This keeps the seal created by the seal ⑩ in place; thus, the inside of the bowl ① is shut off from the outside air.

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

• **When pressure is applied inside the bowl:**

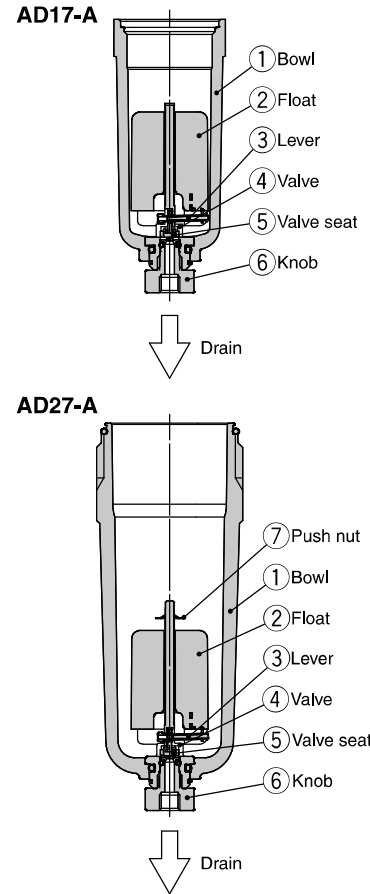
Even when pressure is applied inside the bowl ①, the combined force of the spring ⑥ and the pressure inside the bowl ① keeps the piston ⑦ in its upward position. This maintains the seal created by the seal ⑩ in place; thus, the inside of the bowl ① is shut off from the outside air.

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

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

The float ② rises due to its own buoyancy and the seal at the valve seat ⑤ is interrupted. This allows the pressure inside the bowl ① to enter the chamber ⑧. The result is that the pressure inside the chamber ⑧ surpasses the force of the spring ⑥ and pushes the piston ⑦ downward. This causes the sealing action of the seal ⑩ to be interrupted and the accumulated condensate in the bowl ① drains out through the drain cock ⑪. Turning the drain cock ⑪ manually counterclockwise lowers the piston ⑦, and causes the seal created by the seal ⑩ to be interrupted, thus allowing the condensate to drain out.

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



• **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.

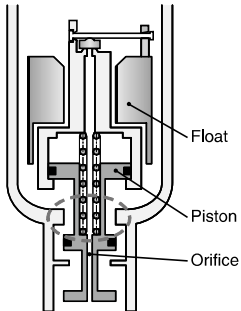
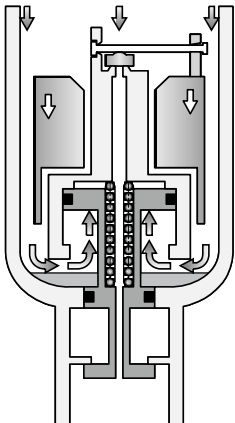
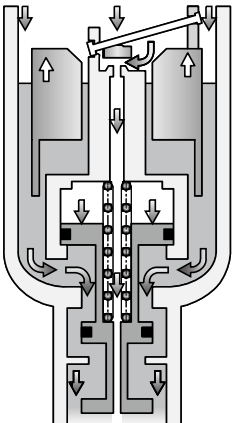
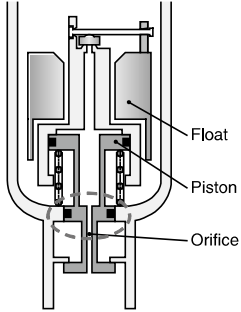
• **When pressure is applied inside the bowl:**

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

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

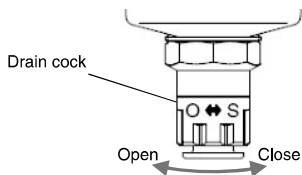
The float ② rises due to its own buoyancy and the seal at the valve seat ⑤ is interrupted. The condensate inside the bowl ① drains out through the knob ⑥. Turning the knob ⑥ manually counterclockwise lowers it and causes the sealing action of the valve seat ⑤ to be interrupted, which allows the condensate to drain out.

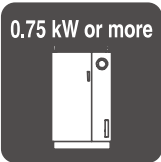
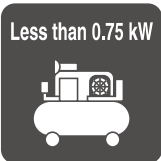
Operating State and Proper Use of Float Type Auto Drain

| Auto drain | When pressure is not applied (After exhausting residual pressure) | When pressure is applied | | Minimum operating pressure |
|-----------------------|---|--|--|--|
| | | Before drain accumulates | When drain accumulates | |
| N.O. Normally open | Drain discharged (Open)  | Drain not discharged (Close)  | Drain discharged (Open)  | 0.1 MPa or more AF30-A to AF60-A |
| | Drain not discharged (Close)  | | | |

- AC-A
- AF-A**
- AF-A
- AR-A
- AL-A
- AW-A
- AC-B
- AF-A
- AF-A
- AR-B
- AL-A
- AW-B
- AW
- AG
- E
- AV
- AF

◆ For both N.O. and N.C., the drain can be discharged manually by turning the drain cock to the "O" position.



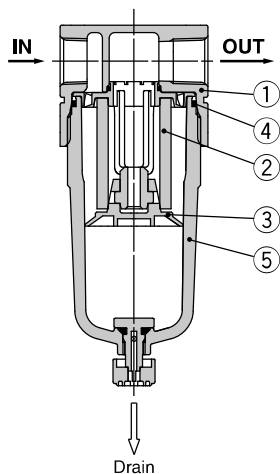
| Proper Use | | | Recommended auto drain |
|---|--|--|---|
| Compressor | When pressure is not applied (After exhausting residual pressure) | Cold climates | |
|  <p>0.75 kW or more</p> | <p>Drain not accumulated</p> <p>Do not want to accumulate drain generated at the inlet side when pressure is not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

*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.

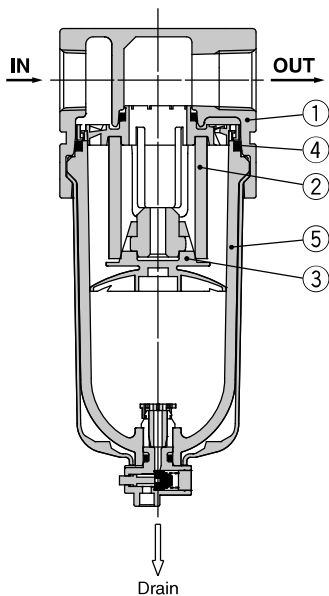
Air Filter **AF10-A to AF60-A Series**

Construction

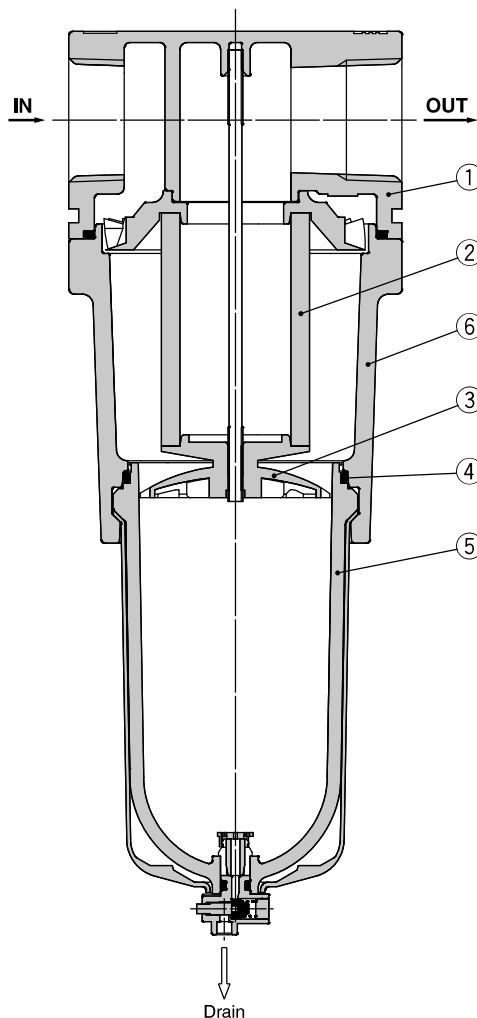
AF10-A/AF20-A



AF30-A to AF40-06-A



AF50-A/AF60-A



| |
|-------------|
| AC-A |
| AF-A |
| AF□-A |
| AR-A |
| AL-A |
| AW-A |
| AC-B |
| AF-A |
| AF□-A |
| AR-A |
| AL-A |
| AW-A |
| AW□ |
| A□G |
| E□ |
| AV |
| AF |

Component Parts

| No. | Description | Material | Model | Color |
|-----|-------------|-------------------|------------------|-------|
| 1 | Body | Zinc die-cast | AF10-A | White |
| | | Aluminum die-cast | AF20-A to AF60-A | |
| 6 | Housing | Aluminum die-cast | AF50-A/AF60-A | White |

Replacement Parts

| No. | Description | Material | Part no. | | | | | | |
|-----|----------------------------------|------------------|-------------------------------|------------|------------|------------|-----------|------------|------------|
| | | | 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 ^{Note 2)} | AF22P-040S | AF32P-040S | AF42P-040S | | AF50P-040S | AF60P-040S |
| 4 | Bowl seal | NBR | C1SFP-260S | C2SFP-260S | C32FP-260S | C42FP-260S | | | |
| 5 | Bowl assembly ^{Note 1)} | Polycarbonate | C1SF-A | C2SF-A | C3SF-A | C4SF-A | | | |

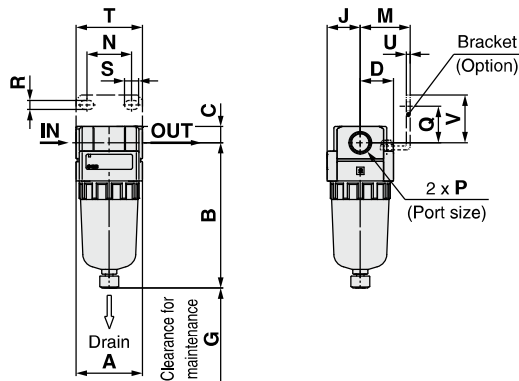
Note 1) Bowl seal is included for the AF20-A to AF60-A. Please contact SMC regarding the supply of bowl assembly with psi and °F unit display specifications.

Note 2) The baffle material for the AF10-A (AF10P-040S) only is polyacetal.

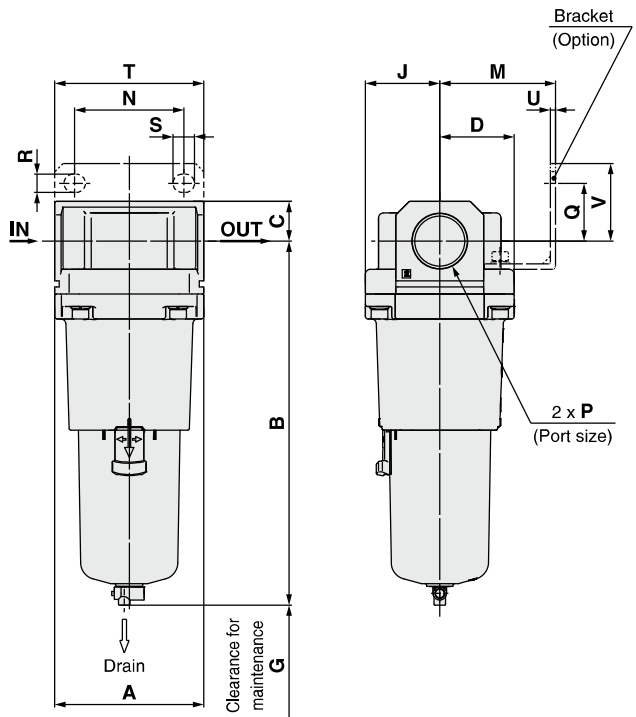
AF10-A to AF60-A Series

Dimensions

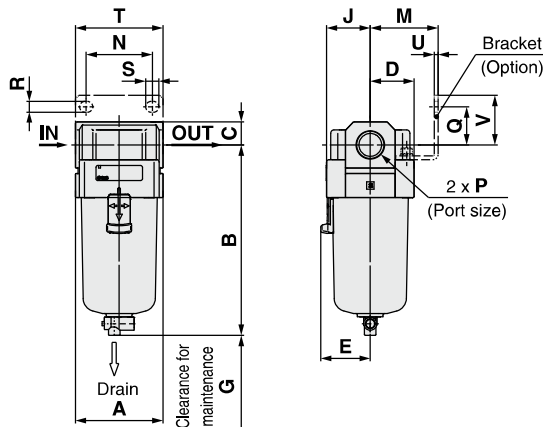
AF10-A/AF20-A



AF50-A/AF60-A



AF30-A to AF40-06-A



| Applicable model | AF10-A/AF20-A | | AF20-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 | | Width across 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 | AF30-A to AF60-A | | | | | |
|---------------------------------------|------------------|-----------------------------|--|---|-----------------------|---------------------------------------|
| Optional/Semi-standard specifications | Metal bowl | Metal bowl with drain guide | Metal bowl with level gauge with level gauge | Metal bowl with level gauge, with drain guide | With drain guide | Drain cock with barb fitting |
| Dimensions | | Width across flats 17 | | Width across flats 17 | Width across flats 17 | Barb fitting applicable tubing: T0604 |

| Model | Standard specifications | | | | | | | | | | | | | | | | Optional specifications | | | | Semi-standard specifications | | | | | | |
|-----------|-------------------------|----|-------|-----|------|------|----|------|----|----|----|-----|------|----|-----|------|-------------------------|-------|-------|-------|------------------------------|-------------------|------------------|------------|-----------------------------|-----------------------------|---|
| | | | | | | | | | | | | | | | | | 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 |
| | P | A | B | C | D | E | G | J | M | N | Q | R | S | T | U | V | B | B | B | B | B | B | B | B | | | |
| 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 | | | | |

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

Made to Order

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



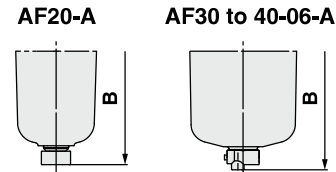
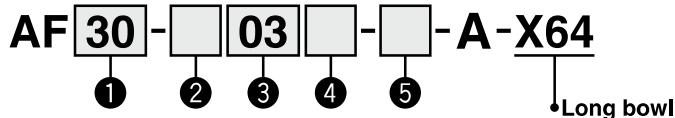
① Long Bowl

Drain capacity is greater than that of standard models.

Applicable Model/Drain Capacity

| Model | AF20-A | AF30-A | AF40-A | AF40-06-A |
|-----------------------------------|----------|----------|---------------|-----------|
| Port size | 1/8, 1/4 | 1/4, 3/8 | 1/4, 3/8, 1/2 | 3/4 |
| Drain capacity (cm ³) | 19 | 43 | 88 | |
| B dimension (mm) ^{Note)} | 108.6 | 137.1 | 167.2 | 169.2 |

Note) For polycarbonate bowls. Please contact SMC for other bowl materials.



- 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 | ① | | | | |
|---------------------|----------------------|-------------------------|--|------------------------------|-----------------------|-----------------------|----------------------|
| | | | Body size | | | | |
| | | | 20 | 30 | 40 | | |
| ② Pipe thread type | Nil | Rc | ● | ● | ● | | |
| | N ^{Note 1)} | NPT | ● | ● | ● | | |
| | F ^{Note 2)} | G | ● | ● | ● | | |
| + | | | | | | | |
| ③ Port size | 01 | 1/8 | ● | — | — | | |
| | 02 | 1/4 | ● | ● | ● | | |
| | 03 | 3/8 | — | ● | ● | | |
| | 04 | 1/2 | — | — | ● | | |
| | 06 | 3/4 | — | — | ● | | |
| + | | | | | | | |
| ④ Option (Mounting) | Nil | Without mounting option | ● | ● | ● | | |
| | B ^{Note 3)} | With bracket | ● | ● | ● | | |
| + | | | | | | | |
| ⑤ Semi-standard | a | Bowl ^{Note 4)} | Nil | Polycarbonate bowl | ● | ● | ● |
| | | | 2 | Metal bowl | ● | ● | ● |
| | | | 6 | Nylon bowl | ● | ● | ● |
| | | | C | With bowl guard | ● | — ^{Note 5)} | — ^{Note 5)} |
| | | | 6C | With bowl guard (Nylon bowl) | ● | — ^{Note 6)} | — ^{Note 6)} |
| + | | | | | | | |
| b | Drain port | Nil | With drain cock | ● | ● | ● | |
| | | J ^{Note 7)} | Drain guide 1/8 | ● | — | — | |
| | | W ^{Note 8)} | Drain cock with barb fitting (for ø6 x ø4 nylon tube) | — | ● | ● | |
| + | | | | | | | |
| c | 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 imperial units: MPa | ● | ● | ● | |
| | | Z ^{Note 9)} | Name plate and caution plate for bowl in imperial units: psi, °F | ○ ^{Note 10)} | ○ ^{Note 10)} | ○ ^{Note 10)} | |

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

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

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

Note 4) Refer to Chemical data on page 433 for chemical resistance of the bowl.

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

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

Note 7) Without a valve function

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

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

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

AC-A

AF-A

AF□-A

AR-A

AL-A

AW-A

AC-B

AF-A

AF□-A

AR-B

AL-A

AW-B

AW□

A□G

E□

AV

AF

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

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 |
|-----------|----------|----------|---------------|-----------|
| Port size | 1/8, 1/4 | 1/4, 3/8 | 1/4, 3/8, 1/2 | 3/4 |

AF **30** - **03** - **03** - **03** - **03** - A - X2141

① ② ③ ④ ⑤

- Option/Semi-standard: Select one each for a to f.
- Option/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order.
Example) AF30-03BD-2R-A-X2141

• With element service indicator

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

| | Symbol | Description | ① Body size | | | |
|----------------------|----------------------------------|---|---|-----------------------|-----------------------|----------------------|
| | | | 20 | 30 | 40 | |
| ② Pipe thread type | Nil | Rc | ● | ● | ● | |
| | N ^{Note 1)} | NPT | ● | ● | ● | |
| | F ^{Note 2)} | G | ● | ● | ● | |
| + | | | | | | |
| ③ Port size | 01 | 1/8 | ● | — | — | |
| | 02 | 1/4 | ● | ● | ● | |
| | 03 | 3/8 | — | ● | ● | |
| | 04 | 1/2 | — | — | ● | |
| | 06 | 3/4 | — | — | ● | |
| + | | | | | | |
| ④ Option | a Mounting | Nil | Without mounting option | ● | ● | ● |
| | | B ^{Note 3)} | With bracket | ● | ● | ● |
| | + | | | | | |
| | b Float type auto drain | Nil | Without auto drain | ● | ● | ● |
| C ^{Note 4)} | | N.C. (Normally closed) Drain port is closed when pressure is not applied. | ● | ● | ● | |
| D ^{Note 5)} | | N.O. (Normally open) Drain port is open when pressure is not applied. | — | ● | ● | |
| + | | | | | | |
| ⑤ Semi-standard | c Bowl ^{Note 6)} | Nil | Polycarbonate bowl | ● | ● | ● |
| | | 2 | Metal bowl | ● | ● | ● |
| | | 6 | Nylon bowl | ● | ● | ● |
| | | 8 | Metal bowl with level gauge | — | ● | ● |
| | | C | With bowl guard | ● | — ^{Note 7)} | — ^{Note 7)} |
| | | 6C | With bowl guard (Nylon bowl) | ● | — ^{Note 8)} | — ^{Note 8)} |
| | + | | | | | |
| | d Drain port ^{Note 12)} | Nil | With drain cock | ● | ● | ● |
| | | J ^{Note 9)} | Drain guide 1/8 | ● | — | — |
| | | W ^{Note 13)} | Drain cock with barb fitting (for ø6 x ø4 nylon tube) | — | ● | ● |
| + | | | | | | |
| e Flow direction | Nil | Flow direction: Left to right | ● | ● | ● | |
| | R | Flow direction: Right to left | ● | ● | ● | |
| + | | | | | | |
| f Pressure unit | Nil | Name plate and caution plate for bowl in imperial units: MPa | ● | ● | ● | |
| | Z ^{Note 10)} | Name plate and caution plate for bowl in imperial units: psi, °F | ○ ^{Note 11)} | ○ ^{Note 11)} | ○ ^{Note 11)} | |

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

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

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

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

Note 4) When pressure is not applied, condensate which does not start the auto drain mechanism will be left in the bowl.

Releasing the residual condensate before ending operations for the day is recommended.

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

Note 6) Refer to Chemical data on page 433 for chemical resistance of the bowl.

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

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

Note 9) Without a valve function

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

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

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

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

AF20-A to AF60-A Air Filter

Made to Order

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



③ Special Temperature Environment

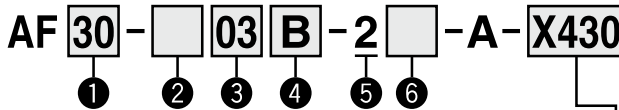
Special materials are used in the manufacturing of seals and resin parts to allow them to withstand various temperature conditions in cold or tropical (hot) climates.

Specifications

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

| | |
|------|------------------|
| X430 | Low temperature |
| X440 | High temperature |

| | Symbol | Description | ① Body size | | | | |
|---------------------|------------------|-------------------------|--|-----|-----|-----|-----|
| | | | 30 | 40 | 50 | 60 | |
| ② Pipe thread type | Nil | Rc | ● | ● | ● | ● | |
| | N*1 | NPT | ● | ● | ● | ● | |
| | F*2 | G | ● | ● | ● | ● | |
| ③ Port size | + | | | | | | |
| | 02 | 1/4 | ● | ● | — | — | |
| | 03 | 3/8 | ● | ● | — | — | |
| | 04 | 1/2 | — | ● | — | — | |
| | 06 | 3/4 | — | ● | ● | — | |
| 10 | 1 | — | — | ● | ● | | |
| ④ Option (Mounting) | Nil | Without mounting option | ● | ● | ● | ● | |
| | B*3 | With bracket | ● | ● | ● | ● | |
| ⑤ Bowl*4 | 2 | Metal bowl | ● | ● | ● | ● | |
| ⑥ Semi-standard | a Drain port | Nil | With drain cock | ● | ● | ● | ● |
| | | J*5 | Drain guide 1/4 | ● | ● | ● | ● |
| | b Flow direction | Nil | Flow direction: Left to right | ● | ● | ● | ● |
| | | R | Flow direction: Right to left | ● | ● | ● | ● |
| | c Pressure unit | Nil | Name plate and caution plate for bowl in SI units: MPa | ● | ● | ● | ● |
| | | Z*6 | Name plate and caution plate for bowl in imperial units: psi, °F | ○*7 | ○*7 | ○*7 | ○*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 ○: For pipe thread type: NPT only

④ High Pressure

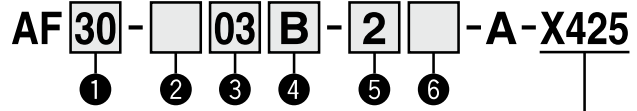
Strong materials are used in the manufacturing of air filters intended for high pressure operation.

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 |



For high pressure

- 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 Body size | | | | |
|---------------------|------------------|-----------------------------|--|-----|-----|-----|-----|
| | | | 20 | 30 | 40 | 50 | 60 |
| ② Pipe thread type | Nil | Rc | ● | ● | ● | ● | |
| | N*1 | NPT | ● | ● | ● | ● | |
| | F*2 | G | ● | ● | ● | ● | |
| ③ Port size | + | | | | | | |
| | 01 | 1/8 | ● | — | — | — | |
| | 02 | 1/4 | ● | ● | — | — | |
| | 03 | 3/8 | — | ● | — | — | |
| | 04 | 1/2 | — | — | ● | — | |
| | 06 | 3/4 | — | — | ● | — | |
| 10 | 1 | — | — | — | ● | | |
| ④ Option (Mounting) | Nil | Without mounting option | ● | ● | ● | ● | |
| | B*3 | With bracket | ● | ● | ● | ● | |
| ⑤ Bowl*4 | 2 | Metal bowl | ● | ● | ● | ● | |
| | 8 | Metal bowl with level gauge | — | ● | ● | ● | |
| ⑥ Semi-standard | a Drain port | Nil | With drain cock | ● | ● | ● | ● |
| | | J*5 | Drain guide 1/8 Drain guide 1/4 | ● | — | — | — |
| | b Flow direction | Nil | Flow direction: Left to right | ● | ● | ● | ● |
| | | R | Flow direction: Right to left | ● | ● | ● | ● |
| | c Pressure unit | Nil | Name plate and caution plate for bowl in SI units: MPa | ● | ● | ● | ● |
| | | Z*6 | Name plate and caution plate for bowl in imperial units: psi, °F | ○*7 | ○*7 | ○*7 | ○*7 |

- *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 ○: For pipe thread type: NPT only

- AC-A
- AF-A
- AF□-A
- AR-A
- AL-A
- AW-A
- AC-B
- AF-A
- AF□-A
- AR-B
- AL-A
- AW-B
- AW□
- A□G
- E□
- AV
- AF

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**.

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

Mist Separator

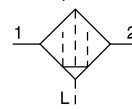
AFM20-A to AFM40-A

Micro Mist Separator

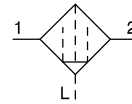
AFD20-A to AFD40-A

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

Symbol
Mist Separator



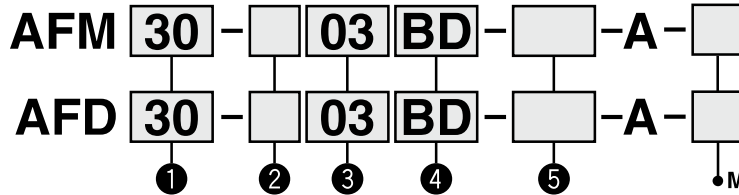
Micro Mist Separator



AFM20-A

AFD40-A

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

• Made to Order
(Refer to pages 446 and 447 for details.)

| | | Symbol | Description | ① | | | |
|---|------------------|--------------------------------|--|---|-----------------------|-----------------------|----------------------|
| | | | | Body size | | | |
| | | | | 20 | 30 | 40 | |
| ② | Pipe thread type | Nil | Rc | ● | ● | ● | |
| | | N ^{Note 1)} | NPT | ● | ● | ● | |
| | | F ^{Note 2)} | G | ● | ● | ● | |
| + | | | | | | | |
| ③ | Port size | 01 | 1/8 | ● | — | — | |
| | | 02 | 1/4 | ● | ● | ● | |
| | | 03 | 3/8 | — | ● | ● | |
| | | 04 | 1/2 | — | — | ● | |
| | | 06 | 3/4 | — | — | ● | |
| + | | | | | | | |
| ④ | a | Mounting | Nil | Without mounting option | ● | ● | ● |
| | | | B ^{Note 3)} | With bracket | ● | ● | ● |
| | + | | | | | | |
| | b | Float type auto drain | Nil | Without auto drain | ● | ● | ● |
| | | | C ^{Note 4)} | N.C. (Normally closed) Drain port is closed when pressure is not applied. | ● | ● | ● |
| | | | D ^{Note 5)} | N.O. (Normally open) Drain port is open when pressure is not applied. | — | ● | ● |
| + | | | | | | | |
| ⑤ | c | Bowl ^{Note 6)} | Nil | Polycarbonate bowl | ● | ● | ● |
| | | | 2 | Metal bowl | ● | ● | ● |
| | | | 6 | Nylon bowl | ● | ● | ● |
| | | | 8 | Metal bowl with level gauge | — | ● | ● |
| | | | C | With bowl guard | ● | — ^{Note 7)} | — ^{Note 7)} |
| | | | 6C | With bowl guard (Nylon bowl) | ● | — ^{Note 8)} | — ^{Note 8)} |
| | + | | | | | | |
| | d | Drain port ^{Note 12)} | Nil | With drain cock | ● | ● | ● |
| | | | J ^{Note 9)} | Drain guide 1/8 | ● | — | — |
| | | | W ^{Note 13)} | Drain cock with barb fitting (for ø6 x ø4 nylon tube) | — | ● | ● |
| + | | | | | | | |
| e | Flow direction | Nil | Flow direction: Left to right | ● | ● | ● | |
| | | R | Flow direction: Right to left | ● | ● | ● | |
| + | | | | | | | |
| f | Pressure unit | Nil | Name plate and caution plate for bowl in imperial units: MPa | ● | ● | ● | |
| | | Z ^{Note 10)} | Name plate and caution plate for bowl in imperial units: psi, °F | ○ ^{Note 11)} | ○ ^{Note 11)} | ○ ^{Note 11)} | |

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

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

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

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

Note 4) When pressure is not applied, condensate which does not start the auto drain mechanism will be left in the bowl.

Releasing the residual condensate before ending operations for the day is recommended.

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

Note 6) Refer to Chemical data on page 443 for chemical resistance of the bowl.

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

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

Note 9) Without a valve function

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

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

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

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

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

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

Standard Specifications

| Model | AFM20-A AFD20-A | AFM30-A AFD30-A | AFM40-A AFD40-A | AFM40-06-A AFD40-06-A |
|---|--------------------------------|--|--------------------------|--------------------------|
| Port size | 1/8, 1/4 | 1/4, 3/8 | 1/4, 3/8, 1/2 | 3/4 |
| Fluid | Air | | | |
| Ambient and fluid temperature | - 5 to 60°C (with 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) | | |
| | AFD20-A to AFD40-06-A | 0.01 μm (99.9% filtered particle size) | | |
| Outlet side oil mist concentration | AFM20-A to AFM40-06-A | Max. 1.0 mg/m ³ (ANR) (≈ 0.8 ppm) ^{Note 2) Note 3)} | | |
| | AFD20-A to AFD40-06-A | Max. 0.1 mg/m ³ (ANR) (Before saturated with oil 0.01 mg/m ³ (ANR) or less ≈ 0.008 ppm) ^{Note 2) Note 3)} | | |
| Rated flow (L/min (ANR)) ^{Note 1)} | AFM20-A to AFM40-06-A | 200 | 450 | 1100 |
| | AFD20-A to AFD40-06-A | 120 | 240 | 600 |
| Drain capacity (cm ³) | 8 | 25 | 45 | 45 |
| Bowl material | Polycarbonate | | | |
| Bowl guard | Semi-standard (Steel) | | Standard (Polycarbonate) | |
| Weight (kg) | 0.09 | 0.19 | 0.38 | 0.43 |

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

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

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

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

Options/Part No.

| Optional specifications | Model | | | |
|--|--------------------|--------------------|--------------------|--------------------------|
| | AFM20-A AFD20-A | AFM30-A AFD30-A | AFM40-A AFD40-A | AFM40-06-A AFD40-06-A |
| Bracket assembly ^{Note 1)} | AF22P-050AS | AF32P-050AS | AF42P-050AS | AF42P-070AS |
| Float type auto drain ^{Note 2) Note 3)} | N.C. | AD27-A | AD37-A | AD47-A |
| | N.O. | — | AD38-A | AD48-A |

Note 1) Assembly of a bracket and 2 mounting screws

Note 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.

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

Bowl Assembly/Part No.

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

Note) 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.

□ 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.



AC-A
AF-A
AF□-A
AR-A
AL-A
AW-A
AC-B
AF-A
AF□-A
AR-B
AL-A
AW-B
AW□
A□G
E□
AV
AF

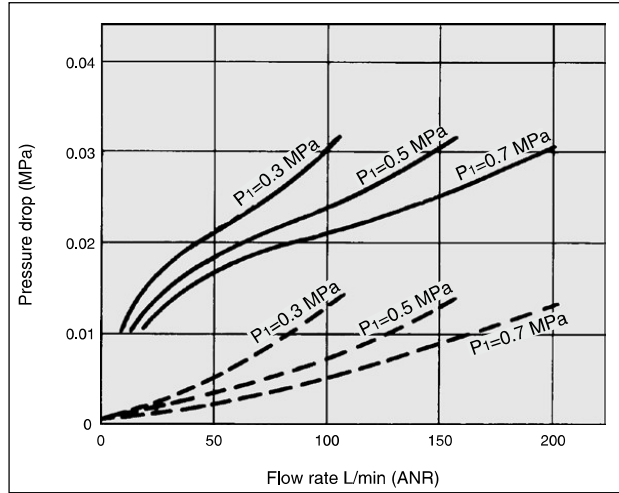
AFM20-A to AFM40-A Series

AFD20-A to AFD40-A Series

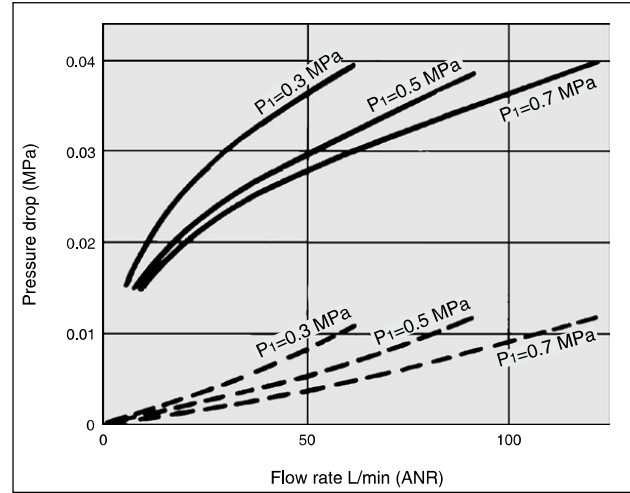
Flow Rate Characteristics (Representative values)

— When saturated with oil
 - - - Initial state

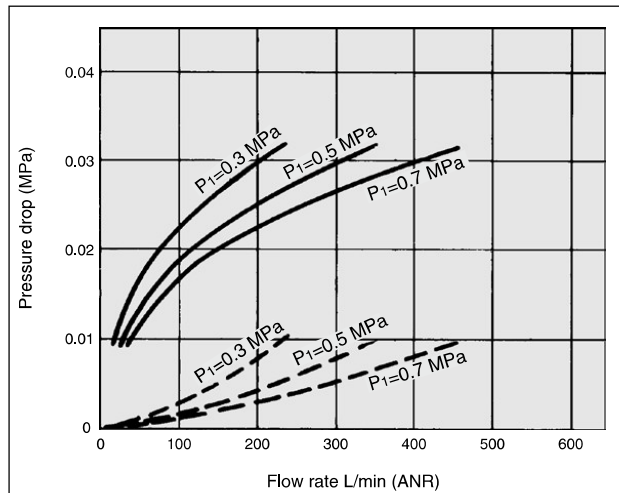
AFM20-A



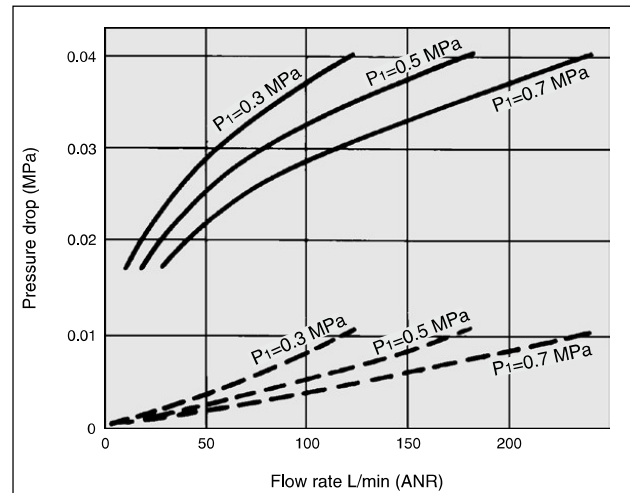
AFD20-A



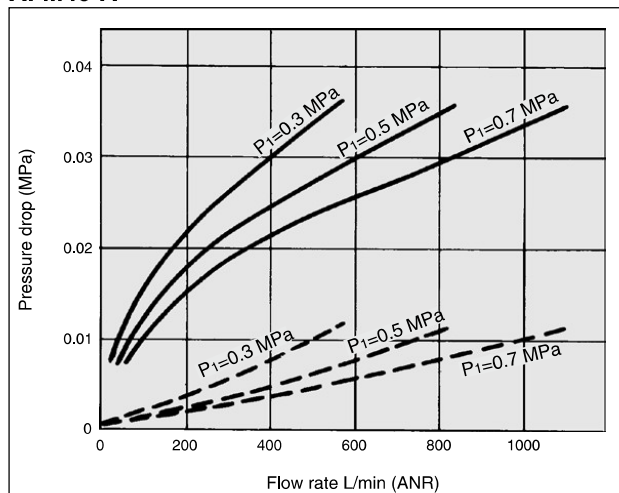
AFM30-A



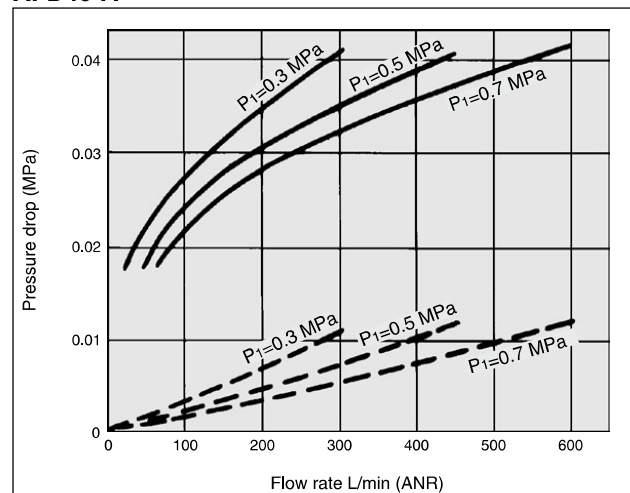
AFD30-A



AFM40-A



AFD40-A



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

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

⚠ Specific Product Precautions

Be sure to read this before handling the products. Refer to back page 50 for Safety Instructions and pages 387 to 391 for F.R.L. Precautions.

Design/Selection

⚠ Warning

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

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

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

Air Supply

⚠ Caution

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

Maintenance

⚠ Warning

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

Mounting/Adjustment

⚠ Caution

- When the bowl is installed on the 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

- 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

- 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.
- 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.

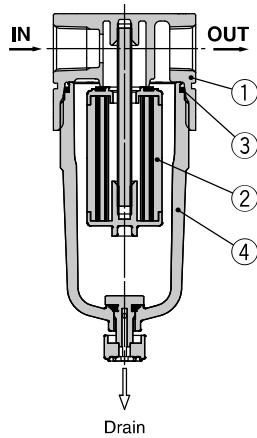
- AC-A
- AF-A
- AF-A
- AR-A
- AL-A
- AW-A
- AC-B
- AF-A
- AF-A
- AR-B
- AL-A
- AW-B
- AW
- AG
- E
- AV
- AF

AFM20-A to AFM40-A Series

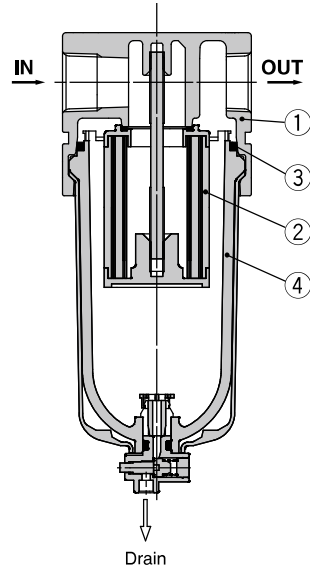
AFD20-A to AFD40-A Series

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

| No. | Description | Material | Part no. | | | |
|-----|--|---------------|--------------------|--------------------|--------------------|--------------------------|
| | | | AFM20-A AFD20-A | AFM30-A AFD30-A | AFM40-A AFD40-A | AFM40-06-A AFD40-06-A |
| 2 | Element assembly | AFM20 to 40 | AFM20P-060AS | AFM30P-060AS | AFM40P-060AS | |
| | | AFD20 to 40 | AFD20P-060AS | AFD30P-060AS | AFD40P-060AS | |
| 3 | Bowl seal | NBR | C2SFP-260S | C32FP-260S | C42FP-260S | |
| 4 | Bowl assembly ^(Note) | Polycarbonate | C2SF-A | C3SF-A | C4SF-A | |

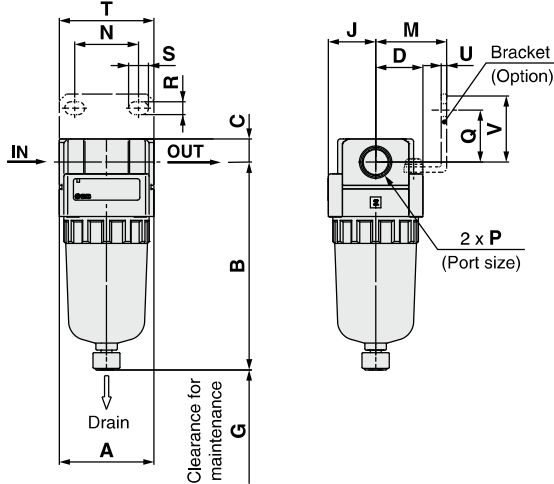
Note) Bowl seal is included. Please contact SMC regarding the supply of bowl assembly with psi and °F unit display specifications.

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

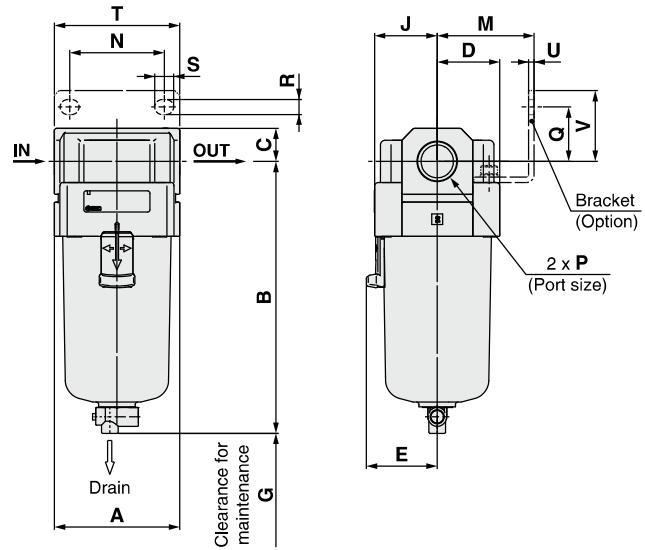
Micro Mist Separator **AFD20-A to AFD40-A Series**

Dimensions

AFM20-A
AFD20-A



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



- AC-A
- AF-A
- AF□-A**
- AR-A
- AL-A
- AW-A
- AC-B
- AF-A
- AF□-A
- AR-B
- AL-A
- AW-B
- AW□
- AF□G
- E□
- AV
- AF

| Applicable model | AFM20-A/AFD20-A | | | | AFM30-A to AFM40-06-A/AFD30-A to AFD40-06-A |
|---------------------------------------|------------------------|------------------|------------|-----------------------------|---|
| Optional/Semi-standard specifications | With auto drain (N.C.) | With drain guide | Metal bowl | Metal bowl with drain guide | With auto drain (N.O./N.C.) |
| Dimensions | | | | | |

| Applicable model | AFM30-A to AFM40-06-A/AFD30-A to AFD40-06-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 | | | | | | | | | | | | | | | | Optional specifications | | | | |
|------------------------------|-------------------------|----|-------|-----|------|------|----|------|----|----|----|-----|------|----|-----|----|-------------------------|--|--|--|-----------------|
| | | | | | | | | | | | | | | | | | Bracket mount | | | | With auto drain |
| | P | A | B | C | D | E | G | J | M | N | Q | R | S | T | U | V | B | | | | |
| AFM20-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 | | | | |

| Model | Semi-standard specifications | | | | | |
|------------------------------|------------------------------|------------------|------------|-----------------------------|-----------------------------|---|
| | 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 |
| | B | B | B | B | B | B |
| AFM20-A/AFD20-A | — | 91.4 | 87.4 | 93.9 | — | — |
| AFM30-A/AFD30-A | 123.6 | 121.9 | 117.6 | 122.1 | 137.6 | 142.1 |
| AFM40-A/AFD40-A | 155.6 | 153.9 | 149.6 | 154.1 | 169.6 | 174.1 |
| AFM40-06-A/AFD40-06-A | 157.6 | 155.9 | 151.6 | 156.1 | 171.6 | 176.1 |

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

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

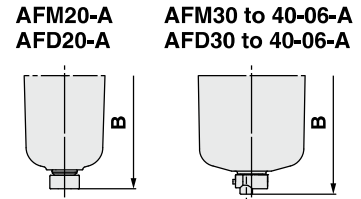
| Model | AFM20-A, AFD20-A | AFM30-A, AFD30-A | AFM40-A, AFD40-A | AFM40-06-A, AFD40-06-A |
|-----------------------------------|------------------|------------------|------------------|------------------------|
| Port size | 1/8, 1/4 | 1/4, 3/8 | 1/4, 3/8, 1/2 | 3/4 |
| Drain capacity (cm ³) | 19 | 43 | 88 | |
| B dimension (mm) ^{Note)} | 108.6 | 137.1 | 167.2 | 169.2 |

Note) For polycarbonate bowls. Please contact SMC for other bowl materials.

AFM 30 - 03 - **A** - **X64**

AFD 30 - 03 - **A** - **X64**

1
 2
 3
 4
 5
 • Long bowl



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

| | | Symbol | Description | ① | | | |
|---|-------------------|-------------------------|--|---|-----------------------|-----------------------|----------------------|
| | | | | Body size | | | |
| | | | | 20 | 30 | 40 | |
| ② | Pipe thread type | Nil | Rc | ● | ● | ● | |
| | | N ^{Note 1)} | NPT | ● | ● | ● | |
| | | F ^{Note 2)} | G | ● | ● | ● | |
| | | + | | | | | |
| ③ | Port size | 01 | 1/8 | ● | — | — | |
| | | 02 | 1/4 | ● | ● | ● | |
| | | 03 | 3/8 | — | ● | ● | |
| | | 04 | 1/2 | — | — | ● | |
| | | 06 | 3/4 | — | — | ● | |
| | | + | | | | | |
| ④ | Option (Mounting) | Nil | Without mounting option | ● | ● | ● | |
| | | B ^{Note 3)} | With bracket | ● | ● | ● | |
| | | + | | | | | |
| ⑤ | a | Bowl ^{Note 4)} | Nil | Polycarbonate bowl | ● | ● | ● |
| | | | 2 | Metal bowl | ● | ● | ● |
| | | | 6 | Nylon bowl | ● | ● | ● |
| | | | C | With bowl guard | ● | — ^{Note 5)} | — ^{Note 5)} |
| | | | 6C | With bowl guard (Nylon bowl) | ● | — ^{Note 6)} | — ^{Note 6)} |
| | | | + | | | | |
| | b | Drain port | Nil | With drain cock | ● | ● | ● |
| | | | J ^{Note 7)} | Drain guide 1/8 | ● | — | — |
| | | | W ^{Note 8)} | Drain cock with barb fitting (for ø6 x ø4 nylon tube) | — | ● | ● |
| | | | + | | | | |
| | c | 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 imperial units: MPa | ● | ● | ● | |
| | | Z ^{Note 9)} | Name plate and caution plate for bowl in imperial units: psi, °F | ○ ^{Note 10)} | ○ ^{Note 10)} | ○ ^{Note 10)} | |

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

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

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

Note 4) Refer to Chemical data on page 443 for chemical resistance of the bowl.

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

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

Note 7) Without a valve function

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

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

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

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

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 |

AFM **30** - **03** - **A-X2141**

AFD **30** - **03** - **A-X2141**

① ② ③ ④ ⑤

• With element service indicator

- 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.

| | Symbol | Description | ① Body size | | | |
|----------------------|---|---|---|-----------------------|-----------------------|----------------------|
| | | | 20 | 30 | 40 | |
| ② Pipe thread type | Nil | Rc | ● | ● | ● | |
| | N ^{Note 1)} | NPT | ● | ● | ● | |
| | F ^{Note 2)} | G | ● | ● | ● | |
| + | | | | | | |
| ③ Port size | 01 | 1/8 | ● | — | — | |
| | 02 | 1/4 | ● | ● | ● | |
| | 03 | 3/8 | — | ● | ● | |
| | 04 | 1/2 | — | — | ● | |
| | 06 | 3/4 | — | — | ● | |
| + | | | | | | |
| ④ Option | a Mounting | Nil | Without mounting option | ● | ● | ● |
| | | B ^{Note 3)} | With bracket | ● | ● | ● |
| | + | | | | | |
| | b Float type auto drain | Nil | Without auto drain | ● | ● | ● |
| C ^{Note 4)} | | N.C. (Normally closed) Drain port is closed when pressure is not applied. | ● | ● | ● | |
| D ^{Note 5)} | N.O. (Normally open) Drain port is open when pressure is not applied. | — | ● | ● | | |
| + | | | | | | |
| ⑤ Semi-standard | c Bowl ^{Note 6)} | Nil | Polycarbonate bowl | ● | ● | ● |
| | | 2 | Metal bowl | ● | ● | ● |
| | | 6 | Nylon bowl | ● | ● | ● |
| | | 8 | Metal bowl with level gauge | — | ● | ● |
| | | C | With bowl guard | ● | — ^{Note 7)} | — ^{Note 7)} |
| | | 6C | With bowl guard (Nylon bowl) | ● | — ^{Note 8)} | — ^{Note 8)} |
| | + | | | | | |
| | d Drain port ^{Note 12)} | Nil | With drain cock | ● | ● | ● |
| | | J ^{Note 9)} | Drain guide 1/8 | ● | — | — |
| | | W ^{Note 13)} | Drain cock with barb fitting (for ø6 x ø4 nylon tube) | — | ● | ● |
| + | | | | | | |
| e Flow direction | Nil | Flow direction: Left to right | ● | ● | ● | |
| | R | Flow direction: Right to left | ● | ● | ● | |
| + | | | | | | |
| f Pressure unit | Nil | Name plate and caution plate for bowl in imperial units: MPa | ○ ^{Note 11)} | ○ ^{Note 11)} | ○ ^{Note 11)} | |
| | Z ^{Note 10)} | Name plate and caution plate for bowl in imperial units: psi, °F | ○ ^{Note 11)} | ○ ^{Note 11)} | ○ ^{Note 11)} | |

Note 1) Drain guide is NPT1/8 (applicable to the AFM20-A, AFD20-A) and NPT1/4 (applicable to the AFM30-A/40-A, AFD30-A/40-A). The auto drain port comes with ø3/8" One-touch fitting (applicable to the AFM30-A/40-A, AFD30-A/40-A).

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

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

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

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

Note 6) Refer to Chemical data on page 443 for chemical resistance of the bowl.

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

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

Note 9) Without a valve function

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

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

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

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

AC-A

AF-A

AF□-A

AR-A

AL-A

AW-A

AC-B

AF-A

AF□-A

AR-B

AL-A

AW-B

AW□

A□G

E□

AV

AF

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**.

10 - 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**.

21 - Standard model no.

• Copper, fluorine and silicone-free + Low particle generation

Modular Type Regulator *AR Series*

| Regulator AR Series | Model | Port size | Options |
|---|------------------|---------------|---|
|  <p data-bbox="219 1176 381 1207">P.450 to 457</p> | AR10-A | M5 x 0.8 | <p data-bbox="1177 703 1258 735">Bracket</p> <p data-bbox="1079 840 1356 871">Round type pressure gauge</p> <p data-bbox="1088 966 1347 997">Set nut (for panel mount)*</p> <p data-bbox="1055 1155 1380 1218">* For AR20-A to AR40-06-A, panel fitting dimensions are different from those of the current AR series.</p> |
| | AR20-A | 1/8, 1/4 | |
| | AR25-A | 1/4, 3/8 | |
| | AR30-A | | |
| | AR40-A | 1/4, 3/8, 1/2 | |
| | AR40-06-A | 3/4 | |

- AC-A
- AF-A
- AF□-A
- AR-A**
- AL-A
- AW-A
- AC-B
- AF-A
- AF□-A
- AR-B
- AL-A
- AW-B
- AW□
- AL□G
- E□
- AV
- AF

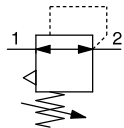
Made to Order

| | | |
|---|---|--------------------------|
| ① | <p>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.</p> | <p>P.456, 457</p> |
| ② | <p>0.85 MPa Setting (-X2068) The maximum set pressure is 0.85 MPa. When a pressure gauge is included, the display will show a range from 0 to 1.0 MPa.</p> | |

Regulator

AR10-A to AR40-A

Symbol
Regulator



How to order

AR **30** - **03** **BG** - **A** - **1**

① ② ③ ④ ⑤

• 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-1N-A

• Made to Order
(Refer to pages 456 and 457 for details.)

| | | Symbol | Description | ① | | | | | | |
|---|------------------|-----------------------------------|--|---|-------------------------|----------------------|----------------------|----------------------|---|---|
| | | | | Body size | | | | | | |
| | | | | 10 | 20 | 25 | 30 | 40 | | |
| ② | Pipe thread type | Nil | Metric thread (M5) | ● | — | — | — | — | | |
| | | | Rc | — | ● | ● | ● | ● | | |
| | | | NPT | — | ● | ● | ● | ● | | |
| | | | G | — | ● | ● | ● | ● | | |
| | | + | | | | | | | | |
| ③ | Port size | M5 | M5 | ● | — | — | — | — | | |
| | | 01 | 1/8 | — | ● | — | — | — | | |
| | | 02 | 1/4 | — | ● | ● | ● | ● | | |
| | | 03 | 3/8 | — | — | ● | ● | ● | | |
| | | 04 | 1/2 | — | — | — | — | ● | | |
| | | 06 | 3/4 | — | — | — | — | ● | | |
| | | + | | | | | | | | |
| ④ | a | Mounting | Nil | Without mounting option | ● | ● | ● | ● | ● | |
| | | | B ^{Note 2)} | With bracket | ● | ● | ● | ● | ● | |
| | | | H | With set nut (for panel mount) ^{Note 3)} | ● | ● | ● | ● | ● | |
| | | | + | | | | | | | |
| | b | Pressure gauge ^{Note 4)} | Nil | Without pressure gauge | ● | ● | ● | ● | ● | |
| | | | G | Round type pressure gauge (without limit indicator) | ● | — | — | — | — | |
| | | | M | Round type pressure gauge (with color zone) | — | ● | ● | ● | ● | |
| | | | + | | | | | | | |
| | ⑤ | c | Set pressure ^{Note 5)} | Nil | 0.05 to 0.7 MPa setting | ● | ● | ● | ● | ● |
| | | | | 1 | 0.02 to 0.2 MPa setting | ● | ● | ● | ● | ● |
| | | + | | | | | | | | |
| d | | Exhaust mechanism | Nil | Relieving type | ● | ● | ● | ● | ● | |
| | | | N | Non-relieving type | ● | ● | ● | ● | ● | |
| | | + | | | | | | | | |
| e | | Flow direction | Nil | Flow direction: Left to right | ● | ● | ● | ● | ● | |
| | | | R | Flow direction: Right to left | ● | ● | ● | ● | ● | |
| | | + | | | | | | | | |
| f | | Knob | Nil | Downward | ● | ● | ● | ● | ● | |
| | Y | | Upward | ● | ● | ● | ● | ● | | |
| | | + | | | | | | | | |
| g | Pressure unit | Nil | Name plate and pressure gauge in imperial units: MPa | ● | ● | ● | ● | ● | | |
| | | Z ^{Note 6)} | Name plate and pressure gauge in imperial units: psi | ○ ^{Note 7)} | ○ ^{Note 7)} | ○ ^{Note 7)} | ○ ^{Note 7)} | ○ ^{Note 7)} | | |

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

Note 2) Assembly of a bracket and set nuts

Note 3) Mounting pitch is different from that of the current AR20 to AR40 and AR20-B to AR40-B.

Note 4) 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 AR10-A).

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

Note 6) For pipe thread type: NPT

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

Cannot be used with M: Round pressure gauge (with color zone). Available by request for special.

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

Standard Specifications

| Model | AR10-A | AR20-A | AR25-A | AR30-A | AR40-A | AR40-06-A |
|-------------------------------|--------------------------------|----------|----------|----------|---------------|-----------|
| Port size | M5 x 0.8 | 1/8, 1/4 | 1/4, 3/8 | 1/4, 3/8 | 1/4, 3/8, 1/2 | 3/4 |
| Pressure gauge port size | 1/16 ^{Note)} | 1/8 | | | | |
| Fluid | Air | | | | | |
| Ambient and fluid temperature | - 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 | 0.17 | 0.19 | 0.34 | 0.58 | 0.60 |

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

Options/Part No.

| Optional specifications | | Model | | | | | |
|-------------------------------------|--|-------------------------|------------------------------|--------------|-------------|--------------|-------------|
| | | AR10-A | AR20-A | AR25-A | AR30-A | AR40-A | AR40-06-A |
| Bracket assembly ^{Note 1)} | | AR12P-270AS | AR22P-270AS | AR27P-270AS | AR32P-270AS | AR42P-270AS | AR42P-270AS |
| Set nut | | AR12P-260S | AR22P-260S | AR22P-260S | AR32P-260S | AR42P-260S | AR42P-260S |
| Pressure gauge | Round type ^{Note 2)} | Standard | G27-10-R1 | G36-10-□01 | | G46-10-□01 | |
| | | 0.02 to 0.2 MPa setting | G27-10-R1 ^{Note 3)} | G36-4-□01 | | G46-4-□01 | |
| | Round type ^{Note 2)} (with color zone) | Standard | — | G36-10-□01-L | | G46-10-□01-L | |
| | | 0.02 to 0.2 MPa setting | — | G36-4-□01-L | | G46-4-□01-L | |

Note 1) Assembly of a bracket and set nuts

Note 2) □ in round pressure gauge part numbers indicates a pipe thread type. No indication is necessary for R; however, indicate N for NPT.
Please contact SMC regarding the pipe thread type NPT and the supply of pressure gauge with psi unit display specifications.

Note 3) Standard pressure gauge

⚠ Specific Product Precautions

Be sure to read this before handling the products. Refer to back page 50 for Safety Instructions and pages 387 to 391 for F.R.L. Precautions.

Selection

⚠ Warning

- 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. Use the regulator with backflow function.

⚠ Caution

- When operating at an inlet pressure lower than the inlet pressure used in the flow rate characteristics graph, the pressure drop on the outlet side may be greater. Therefore, be sure to conduct testing using the actual equipment.
For pressure control equipment selection, refer to page 123 in the "Product Selection Guide."

Maintenance

⚠ Warning

- 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

- 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.
- 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).
- 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.

AC-A

AF-A

AF□-A

AR-A

AL-A

AW-A

AC-B

AF-A

AF□-A

AR-B

AL-A

AW-B

AW□

A□G

E□

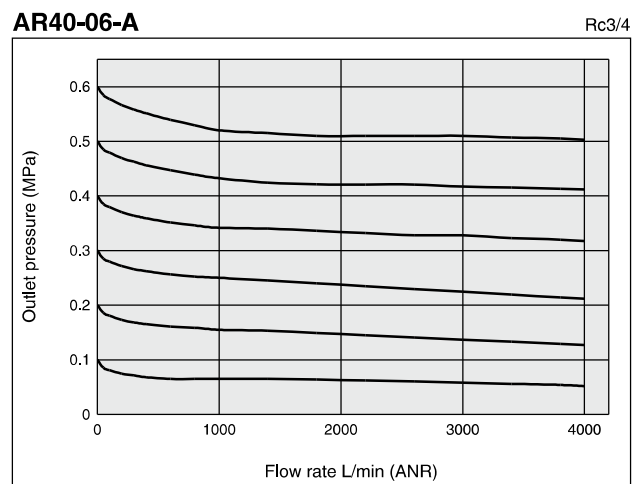
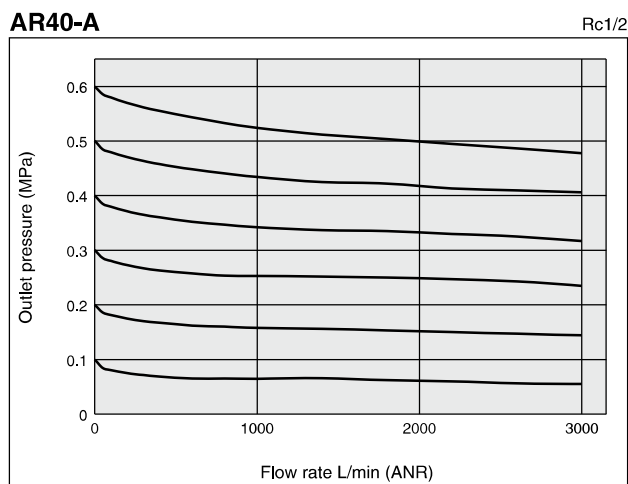
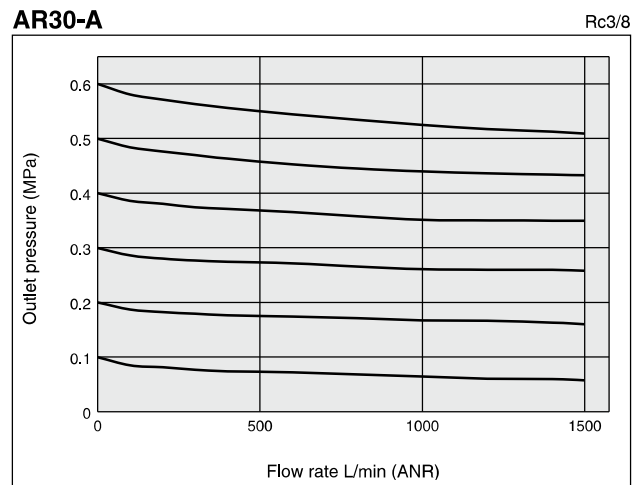
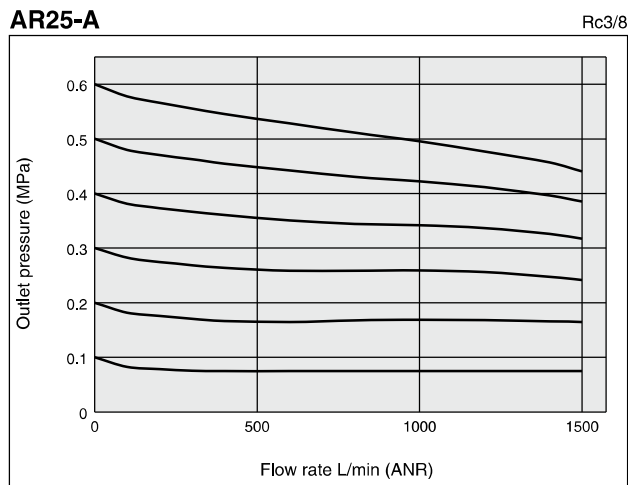
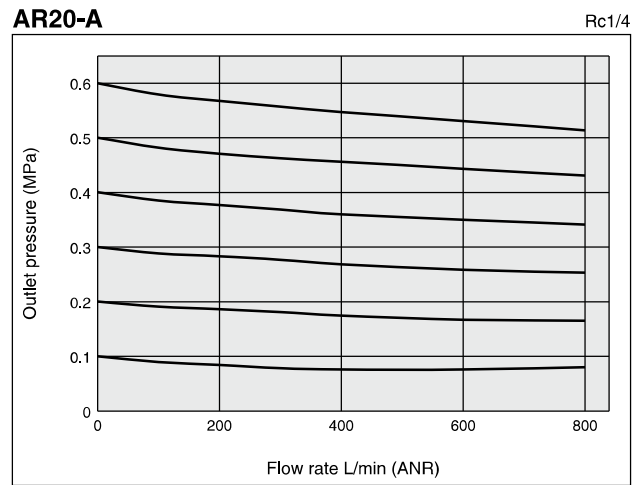
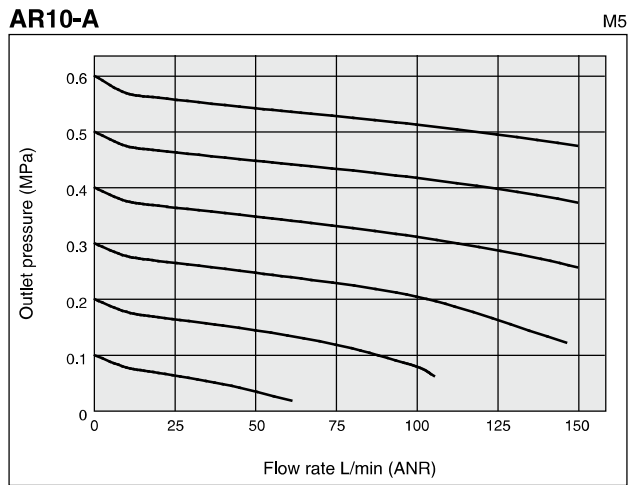
AV

AF

AR10-A to AR40-A Series

Flow Rate Characteristics (Representative values)

Condition: Inlet pressure 0.7 MPa

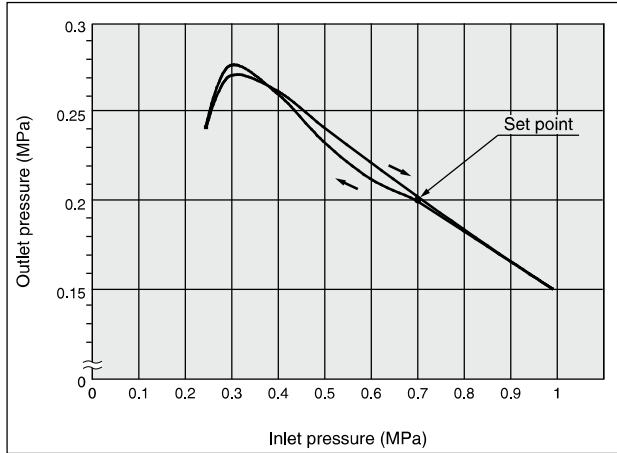


Regulator **AR10-A to AR40-A Series**

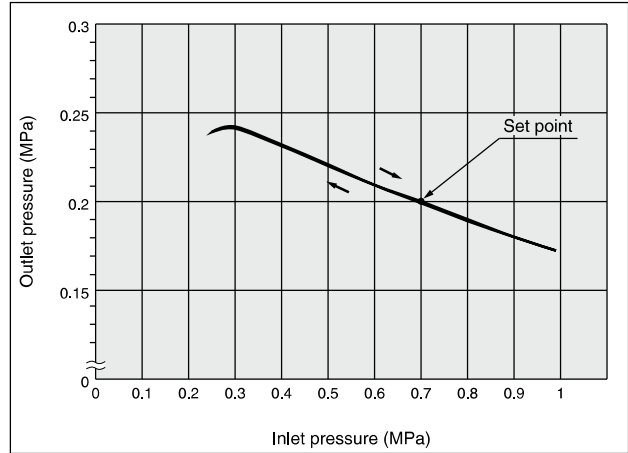
Pressure Characteristics (Representative values)

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

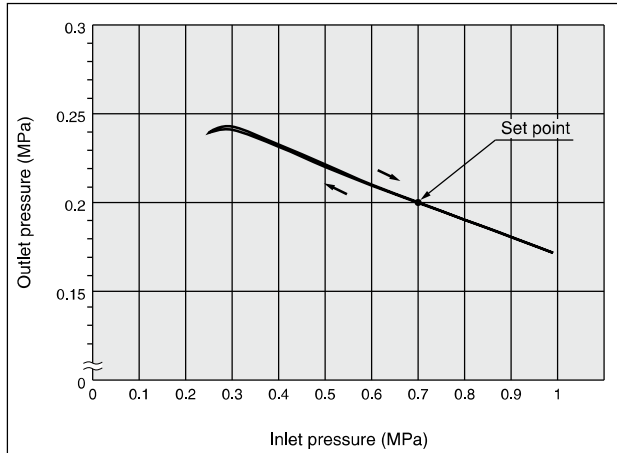
AR10-A



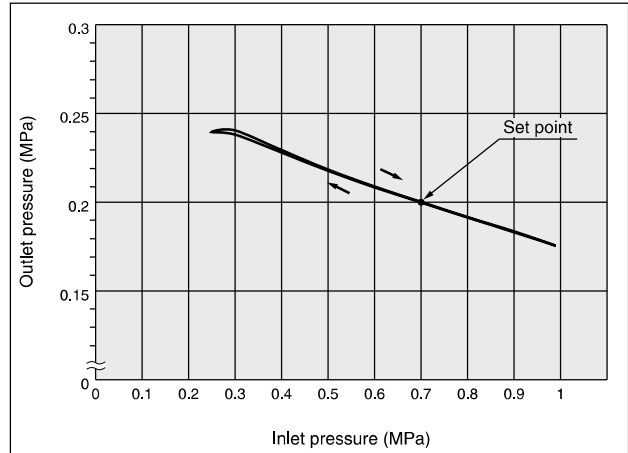
AR20-A



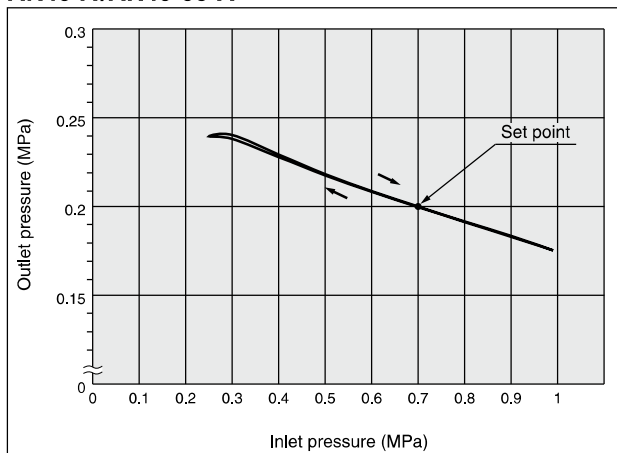
AR25-A



AR30-A



AR40-A/AR40-06-A



AC-A

AF-A

AF□-A

AR-A

AL-A

AW-A

AC-B

AF-A

AF□-A

AR^A-B

AL-A

AW^A-B

AW□

AL□G

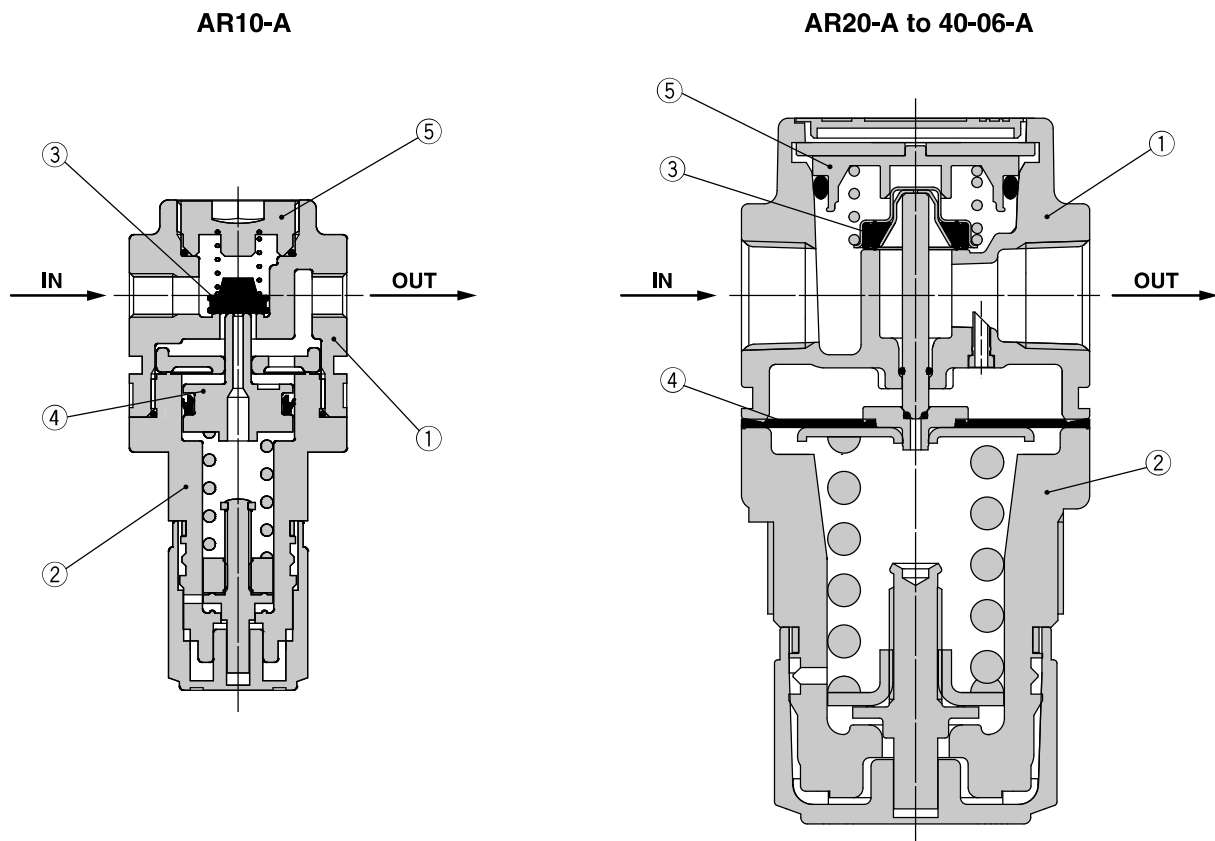
E□

AV

AF

AR10-A to AR40-A Series

Construction



Component Parts

| No. | Description | Material | Model | Color |
|-----|-------------|-------------------|------------------|-------|
| 1 | Body | Zinc die-cast | AR10-A | White |
| | | Aluminum die-cast | AR20-A to AR40-A | |
| 2 | Bonnet | Polyacetal | AR10-A to AR40-A | White |

Replacement Parts

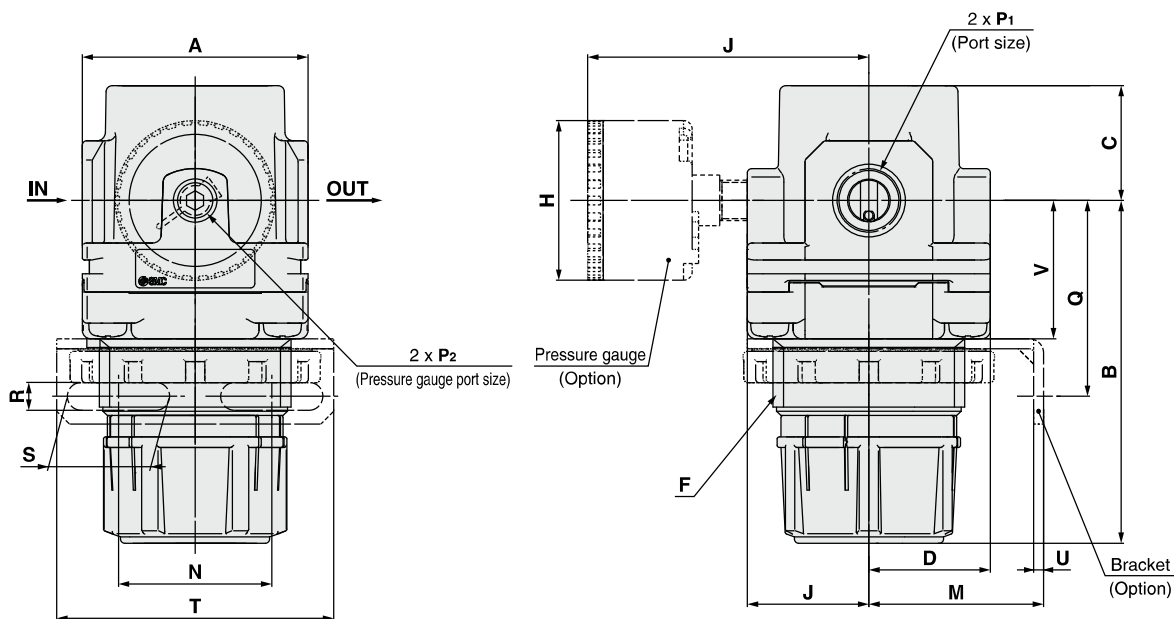
| No. | Description | Material | Part no. | | | | |
|-----|----------------------|-----------------------|------------------------------|-------------|-------------|-------------|-------------|
| | | | AR10-A | AR20-A | AR25-A | AR30-A | AR40-A |
| 3 | Valve assembly | Stainless steel, HNBR | AR10P-090S | AR22P-060AS | AR25P-060AS | AR32P-060AS | AR42P-060AS |
| 4 | Diaphragm assembly | Weatherable NBR | AR10P-150AS ^{Note)} | AR22P-150AS | AR25P-150AS | AR32P-150AS | AR42P-150AS |
| 5 | Valve guide assembly | Polyacetal | 131329 | AR22P-050AS | AR25P-050AS | AR32P-050AS | AR42P-050AS |

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

Regulator **AR10-A to AR40-A Series**

Dimensions

AR10-A to AR40-06-A



Panel fitting dimensions

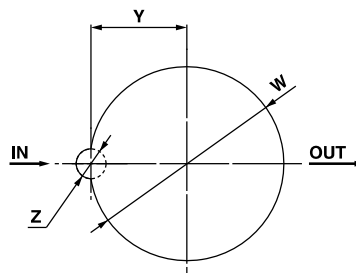


Plate thickness
 AR10-A : Max. 3.5
 AR20-A to AR25-A : Max. 4
 AR30-A to AR40-06-A : Max. 8

- AC-A
- AF-A
- AF-A
- AR-A
- AL-A
- AW-A
- AC-B
- AF-A
- AF-A
- AR-A
- AL-A
- AW-A
- AW
- AG
- E
- AV
- AF

| Model | Standard specifications | | | | | | | | Optional specifications | | | | | | | | | | | | | | |
|-----------|-------------------------|----------------|----|----------|------|------|-----------|------|---------------------------|------|---|------|---------------|----|------|-----|------|----|-------------|------|------|------|---|
| | | | | | | | | | Round type pressure gauge | | Round type pressure gauge (with color zone) | | Bracket mount | | | | | | Panel mount | | | | |
| | P ₁ | P ₂ | A | B (Note) | C | D | F | J | H | J | H | J | M | N | Q | R | S | T | U | V | W | Y | Z |
| AR10-A | M5 x 0.8 | 1/16 | 25 | 47.4 | 11 | 12.5 | M18 x 1 | 12.5 | ø26 | 26 | — | — | 25 | 28 | 30 | 4.5 | 6.5 | 40 | 2 | 18 | 18.5 | — | — |
| AR20-A | 1/8, 1/4 | 1/8 | 40 | 67.4 | 23.5 | 22 | M36 x 1.5 | 22 | ø37.5 | 58.5 | ø37.5 | 59.5 | 30 | 34 | 43.9 | 5.4 | 15.4 | 55 | 2.3 | 27.3 | 36.5 | 17.5 | 6 |
| AR25-A | 1/4, 3/8 | 1/8 | 53 | 70.4 | 23.5 | 22 | M36 x 1.5 | 22 | ø37.5 | 58.5 | ø37.5 | 59.5 | 30 | 34 | 44.3 | 5.4 | 15.4 | 55 | 2.3 | 30.3 | 36.5 | 17.5 | 6 |
| AR30-A | 1/4, 3/8 | 1/8 | 53 | 83.5 | 27 | 28.5 | M45 x 1.5 | 28.5 | ø37.5 | 65 | ø37.5 | 66 | 41 | 36 | 46 | 6.5 | 24 | 65 | 2.3 | 32.5 | 45.5 | 22.5 | 7 |
| AR40-A | 1/4, 3/8, 1/2 | 1/8 | 70 | 100 | 33.5 | 34.5 | M52 x 1.5 | 34.5 | ø42.5 | 72 | ø42.5 | 72 | 50 | 38 | 54 | 8.5 | 26.5 | 70 | 2.3 | 38.4 | 52.5 | 26 | 7 |
| AR40-06-A | 3/4 | 1/8 | 75 | 101.5 | 33.5 | 34.5 | M52 x 1.5 | 34.5 | ø42.5 | 72 | ø42.5 | 72 | 50 | 38 | 55.5 | 8.5 | 26.5 | 70 | 2.3 | 39.9 | 52.5 | 26 | 7 |

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

Regulator/AR20-A to AR40-06-A

Made to Order

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



① 0.4 MPa Setting

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

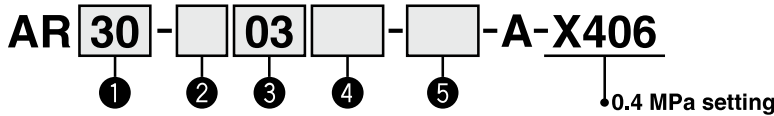
Specifications

| | |
|---------------------------------------|-----------------|
| Proof pressure | 1.5 MPa |
| Maximum operating pressure | 1.0 MPa |
| Set pressure range ^{Note 1)} | 0.05 to 0.4 MPa |

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

Applicable Model

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



- Option/Semi-standard: Select one each for a to f.
- Option/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order.
Example) AR30-03BG-NR-A-X406

| | | Symbol | Description | ① Body size | | | | | |
|----------------------|---------------------------|----------------|--|--|-------------------------|----------------------|----------------------|---|---|
| | | | | 20 | 25 | 30 | 40 | | |
| ② | Pipe thread type | Nil | Rc | ● | ● | ● | ● | | |
| | | N | NPT | ● | ● | ● | ● | | |
| | | F | G | ● | ● | ● | ● | | |
| | | + | | | | | | | |
| ③ | Port size | 01 | 1/8 | ● | — | — | — | | |
| | | 02 | 1/4 | ● | ● | ● | ● | | |
| | | 03 | 3/8 | — | ● | ● | ● | | |
| | | 04 | 1/2 | — | — | — | ● | | |
| | | 06 | 3/4 | — | — | — | ● | | |
| | | + | | | | | | | |
| ④ | Option ^{Note 2)} | a | Mounting | Nil | Without mounting option | ● | ● | ● | ● |
| | | | B ^{Note 3)} | With bracket | ● | ● | ● | ● | |
| | | | H | With set nut (for panel mount) ^{Note 4)} | ● | ● | ● | ● | |
| | | | + | | | | | | |
| | b | Pressure gauge | Nil | Without pressure gauge | ● | ● | ● | ● | |
| | | | G | Round type pressure gauge (with limit indicator) | ● | ● | ● | ● | |
| M | | | Round type pressure gauge (with color zone) | ● | ● | ● | ● | | |
| | | + | | | | | | | |
| ⑤ | Semi-standard | c | Exhaust mechanism | Nil | Relieving type | ● | ● | ● | ● |
| | | | N | Non-relieving type | ● | ● | ● | ● | |
| | | | + | | | | | | |
| | d | Flow direction | Nil | Flow direction: Left to right | ● | ● | ● | ● | |
| | | | R | Flow direction: Right to left | ● | ● | ● | ● | |
| | | | + | | | | | | |
| | e | Knob | Nil | Downward | ● | ● | ● | ● | |
| | | | Y | Upward | ● | ● | ● | ● | |
| | | | + | | | | | | |
| | f | Pressure unit | Nil | Name plate and caution plate for bowl in imperial units: MPa | ● | ● | ● | ● | |
| Z ^{Note 5)} | | | Name plate and caution plate for bowl in imperial units: psi | ○ ^{Note 6)} | ○ ^{Note 6)} | ○ ^{Note 6)} | ○ ^{Note 6)} | | |

Note 2) Option B, G, H, M are not assembled and supplied loose at the time of shipment.

Note 3) Assembly of a bracket and set nuts

Note 4) Only for the AR20-A to 40-A


Note 5) For pipe thread type: NPT

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

Cannot be used with M: Round pressure gauge (with color zone). Available by request for special.

Note 6) ○: For pipe thread type: NPT only

Modular Type Lubricator *AL Series*

| Lubricator AL Series | Model | Port size | Option |
|---|------------------|---------------|-------------------------|
|  <p data-bbox="219 1029 389 1060">P.460 to 465</p> | AL10-A | M5 x 0.8 | Bracket (Except AL10-A) |
| | AL20-A | 1/8, 1/4 | |
| | AL30-A | 1/4, 3/8 | |
| | AL40-A | 1/4, 3/8, 1/2 | |
| | AL40-06-A | 3/4 | |
| | AL50-A | 3/4, 1 | |
| | AL60-A | 1 | |

- AC-A
- AF-A
- AF□-A
- AR-A
- AL-A**
- AW-A
- AC-B
- AF-A
- AF□-A
- AR^A-_B
- AL-A
- AW^A-_B
- AW□
- A□G
- E□
- AV
- AF

Lubricator

AL10-A to AL60-A

Symbol



How to Order

AL **30** - **03** **B** - **A**

① ② ③ ④ ⑤

- 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 | ① | | | | | | |
|---|-------------------|----------------------------|-----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| | | | Body size | | | | | | |
| | | | 10 | 20 | 30 | 40 | 50 | 60 | |
| ② | Pipe thread type | Nil | Metric thread (M5) | | | | | | |
| | | | | | | | | | |
| | | Rc | ● | — | — | — | — | — | — |
| | | NPT | — | ● | ● | ● | ● | ● | ● |
| | F | — | ● | ● | ● | ● | ● | ● | |
| + | | | | | | | | | |
| ③ | Port size | M5 | ● | — | — | — | — | — | |
| | | 01 | — | ● | — | — | — | — | |
| | | 02 | — | ● | ● | ● | — | — | |
| | | 03 | — | — | ● | ● | — | — | |
| | | 04 | — | — | — | ● | — | — | |
| | | 06 | — | — | — | ● | ● | — | |
| | | 10 | — | — | — | — | ● | ● | |
| + | | | | | | | | | |
| ④ | Option (Mounting) | Nil | ● | ● | ● | ● | ● | ● | |
| | | B ^{Note 1)} | — | ● | ● | ● | ● | ● | |
| + | | | | | | | | | |
| ⑤ | a | Bowl ^{Note 2) 3)} | Nil | ● | ● | ● | ● | ● | ● |
| | | | 2 | ● | ● | ● | ● | ● | ● |
| | | | 6 | ● | ● | ● | ● | ● | ● |
| | | | 8 | — | — | ● | ● | ● | ● |
| | | | C | — | ● | — ^{Note 4)} | — ^{Note 4)} | — ^{Note 4)} | — ^{Note 4)} |
| | | | 6C | — | ● | — ^{Note 5)} | — ^{Note 5)} | — ^{Note 5)} | — ^{Note 5)} |
| | + | | | | | | | | |
| | b | Lubricant exhaust port | Nil | ● | ● | ● | ● | ● | ● |
| | | | 3 | ● | ● | ● | ● | ● | ● |
| | | | 3W ^{Note 6)} | — | — | ● | ● | ● | ● |
| | + | | | | | | | | |
| | c | Flow direction | Nil | ● | ● | ● | ● | ● | ● |
| | | | R | ● | ● | ● | ● | ● | ● |
| + | | | | | | | | | |
| d | Pressure unit | Nil | ● | ● | ● | ● | ● | ● | |
| | | Z ^{Note 7)} | ○ ^{Note 8)} | ○ ^{Note 8)} | ○ ^{Note 8)} | ○ ^{Note 8)} | ○ ^{Note 8)} | ○ ^{Note 8)} | |

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

Note 2) Refer to Chemical data on page 463 for chemical resistance of the bowl.

Note 3) Refer to page 465-1 for 1000 cm³ tanks.

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

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

Note 6) The combination of metal bowl: 2 and 8 is not available.

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

Note 8) ○: 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 freezing) | | | | | | |
| Proof pressure | 1.5 MPa | | | | | | |
| Maximum operating pressure | 1.0 MPa | | | | | | |
| Minimum dripping flow rate (L/min (ANR)) ^{Note)} | 4 | 15 | 1/4: 30 3/8: 40 | 1/4: 30 3/8: 40 1/2: 50 | 50 | 190 | 220 |
| Oil capacity (cm ³) | 7 | 25 | 55 | 135 | | | |
| 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 |

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

Option/Part No.

| Optional specifications | Model | | | | | | |
|-----------------------------------|--------|-------------|-------------|-------------|-------------|-------------|--------|
| | AL10-A | AL20-A | AL30-A | AL40-A | AL40-06-A | AL50-A | AL60-A |
| Bracket assembly ^{Note)} | — | AF22P-050AS | AF32P-050AS | AF42P-050AS | AF42P-070AS | AF52P-050AS | |

Note) Assembly of a bracket and 2 mounting screws

Bowl Assembly/Part No.

| Bowl material | Lubricant exhaust port | Other | Model | | | | | |
|------------------------------|------------------------|------------------|-----------|------------|------------|-----------|-----------|--------|
| | | | AL10-A | AL20-A | AL30-A | AL40-A | AL40-06-A | AL50-A |
| Polycarbonate bowl | Without drain cock | — | C1SL-A | C2SL-A | — | — | | |
| | | With bowl guard | — | C2SL-C-A | C3SL-A | C4SL-A | | |
| | With drain cock | — | C1SL-3-A | C2SL-3-A | — | — | | |
| | | 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 | | | |
| Nylon bowl | Without drain cock | — | C1SL-6-A | C2SL-6-A | — | — | | |
| | | With bowl guard | — | C2SL-6C-A | C3SL-6-A | C4SL-6-A | | |
| | With drain cock | — | C1SL-36-A | C2SL-36-A | — | — | | |
| | | With bowl guard | — | C2SL-36C-A | C3SL-36-A | C4SL-36-A | | |
| Drain cock with barb fitting | With bowl guard | — | — | C3SL-36W-A | C4SL-36W-A | | | |
| Metal bowl | Without drain cock | — | C1SL-2-A | C2SL-2-A | C3SL-2-A | C4SL-2-A | | |
| | | With level gauge | — | — | C3LL-8-A | C4LL-8-A | | |
| | With drain cock | — | C1SL-23-A | C2SL-23-A | C3SL-23-A | C4SL-23-A | | |
| | | With level gauge | — | — | C3LL-38-A | C4LL-38-A | | |

Note) · Bowl assembly for the AL20-A to AL60-A models comes with a bowl seal.
· Please consult with SMC separately for psi and °F unit display specifications.

AC-A

AF-A

AF□-A

AR-A

AL-A

AW-A

AC-B

AF-A

AF□-A

AR-B

AL-A

AW-B

AW□

A□G

E□

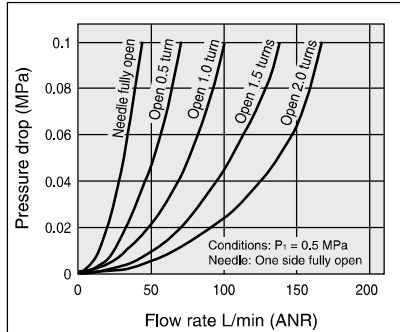
AV

AF

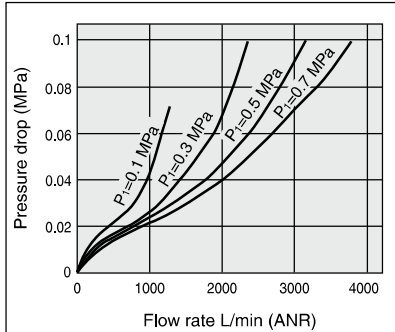
AL10-A to AL60-A Series

Flow Rate Characteristics (Representative values)

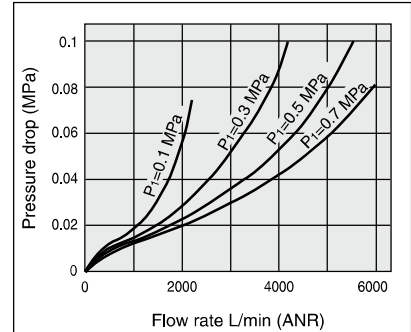
AL10-A M5



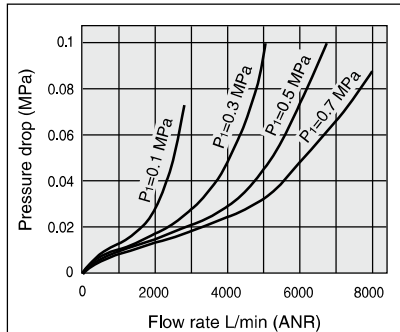
AL20-A Rc1/4



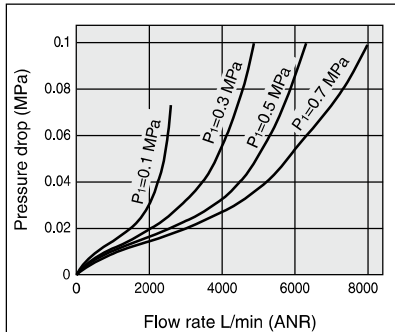
AL30-A Rc3/8



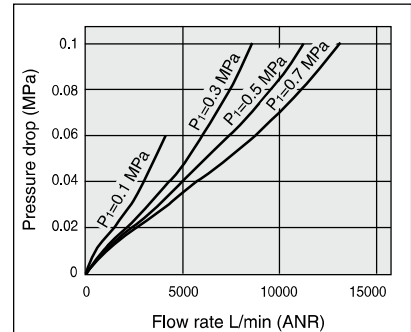
AL40-A Rc1/2



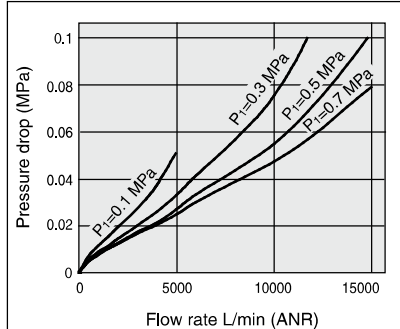
AL40-06-A Rc3/4



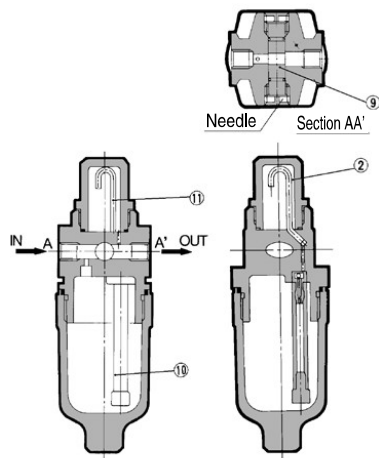
AL50-A Rc1



AL60-A Rc1



Working Principle: AL10 Type



A portion of the air introduced from the IN side pressurizes the lubricant inside the bowl. The remainder of the air passes through the needle ⑨, 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.

⚠ Specific Product Precautions

Be sure to read this before handling the products. Refer to back page 50 for Safety Instructions and pages 387 to 391 for F.R.L. Precautions.

Selection

⚠ Warning

- Do not introduce air from the outlet side as this can damage the bumper.
- 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 | Material | |
|-------------------|---|---|---------------|-------|
| | | | Polycarbonate | Nylon |
| Acid | Hydrochloric acid Sulfuric acid, Phosphoric acid Chromic acid | Acid washing liquid for metals | △ | × |
| Alkaline | Sodium hydroxide (Caustic soda) Potash Calcium hydroxide (Slack lime) Ammonia water Carbonate of soda | Degreasing of metals Industrial salts Water-soluble cutting oil | × | ○ |
| Inorganic salts | Sodium sulfide Sulfate of potash Sulfate of soda | — | × | △ |
| Chlorine solvents | Carbon tetrachloride Chloroform Ethylene chloride Methylene chloride | Cleansing liquid for metals Printing ink Dilution | × | △ |
| Aromatic series | Benzene Toluene Paint thinner | Coatings Dry cleaning | × | △ |
| Ketone | Acetone Methyl ethyl ketone Cyclohexane | Photographic film Dry cleaning Textile industries | × | × |
| Alcohol | Ethyl alcohol IPA Methyl alcohol | Antifreeze Adhesives | △ | × |
| Oil | Gasoline Kerosene | — | × | ○ |
| Ester | Phthalic acid dimethyl Phthalic acid diethyl Acetic acid | Synthetic oil Anti-rust additives | × | ○ |
| Ether | Methyl ether Ethyl ether | Brake oil additives | × | ○ |
| Amino | Methyl amino | Cutting oil Brake oil additives Rubber accelerator | × | × |
| Others | Thread-lock fluid Seawater Leak tester | — | × | △ |

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

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

Selection

⚠ Caution

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

Maintenance

⚠ Warning

- For the AL10-A/AL20-A type, replenish the lubricant after releasing the inlet pressure. Lubrication cannot take place under a pressurized condition.
- 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.

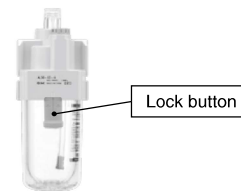
⚠ Caution

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

Mounting/Adjustment

⚠ Caution

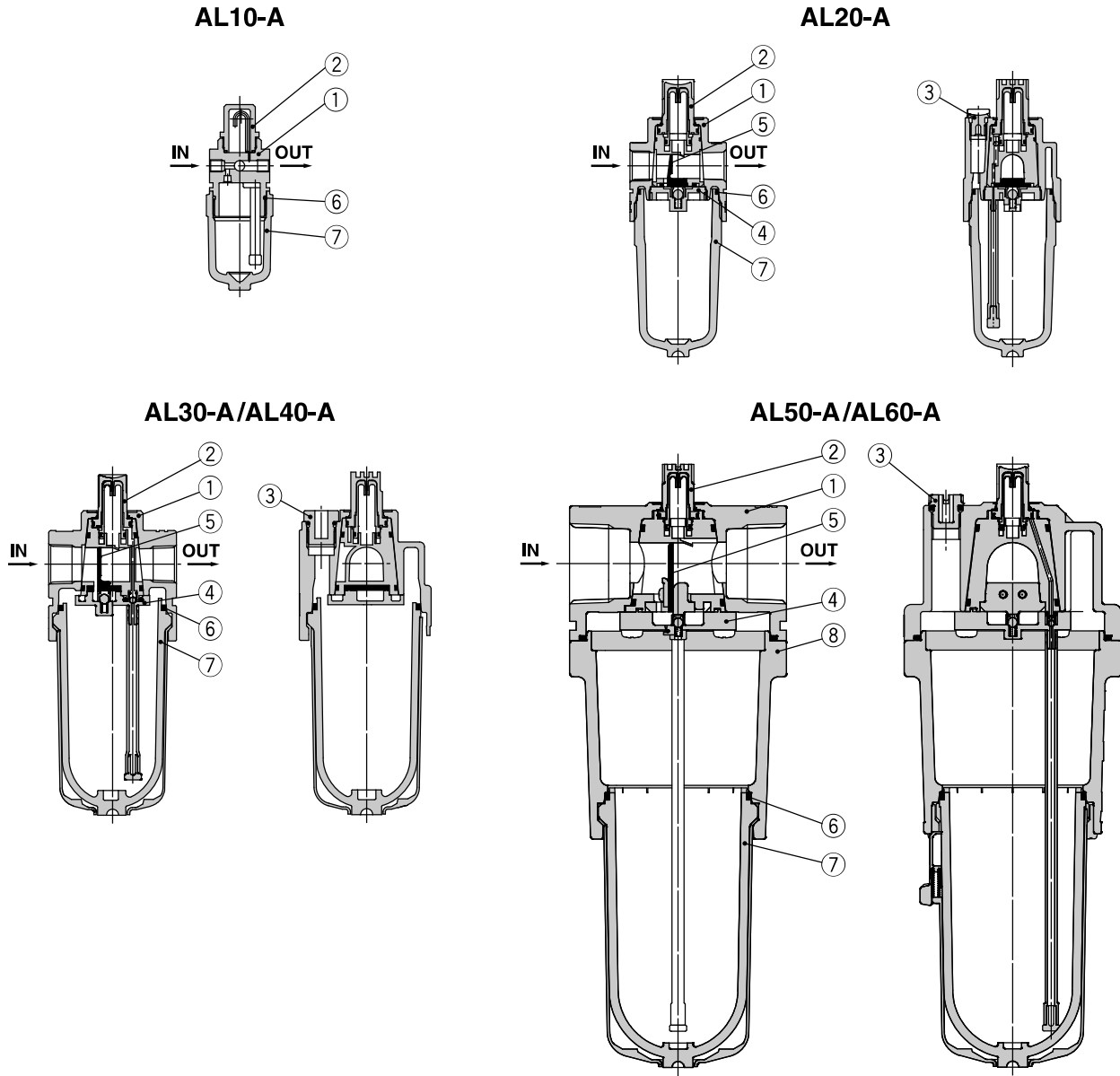
- When the bowl is installed on the AL30-A to AL60-A, install them so that the lock button lines up to the groove of the front (or the back) of the body to avoid drop or damage of the bowl.



- AC-A
- AF-A
- AF-A
- AR-A
- AL-A
- AW-A
- AC-B
- AF-A
- AF-A
- AR-B
- AL-A
- AW-B
- AW
- AG
- E
- AV
- AF

AL10-A to AL60-A Series

Construction



Component Parts

| No. | Description | Material | Model | Color |
|-----|-------------|-------------------|------------------|-------|
| 1 | Body | Zinc die-cast | AL10-A | White |
| | | Aluminum die-cast | AL20-A to AL60-A | |
| 8 | Housing | Aluminum die-cast | AL50-A/AL60-A | White |

Replacement Parts

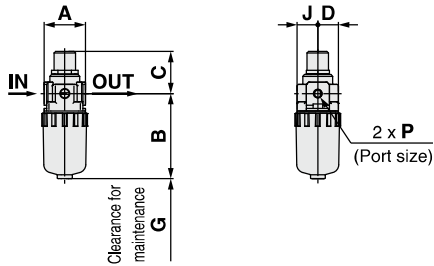
| No. | Description | Material | Part no. | | | | | | |
|-----|---------------------------------|-----------------|-------------|-------------|-------------|-------------|-------------|-------------|--------|
| | | | AL10-A | AL20-A | AL30-A | AL40-A | AL40-06-A | AL50-A | AL60-A |
| 2 | Sight dome assembly | 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 | AL40P-040S | AL50P-040AS | AL60P-040AS | |
| 6 | Bowl seal | NBR | C1SFP-260S | C2SFP-260S | C32FP-260S | C42FP-260S | | | |
| 7 | Bowl assembly ^(Note) | Polycarbonate | C1SL-A | C2SL-A | C3SL-A | C4SL-A | | | |

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

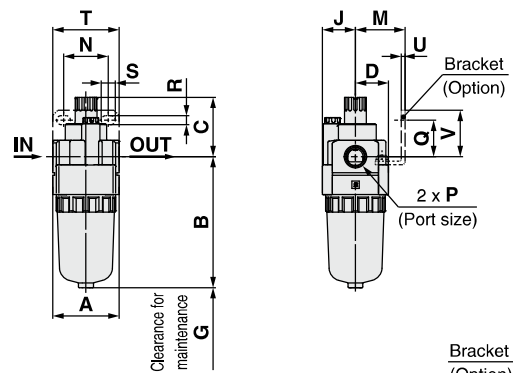
Lubricator AL10-A to AL60-A Series

Dimensions

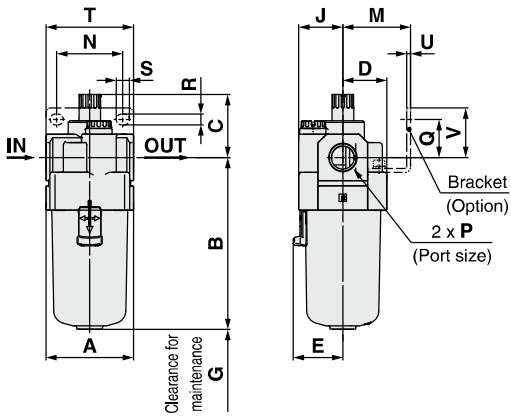
AL10-A



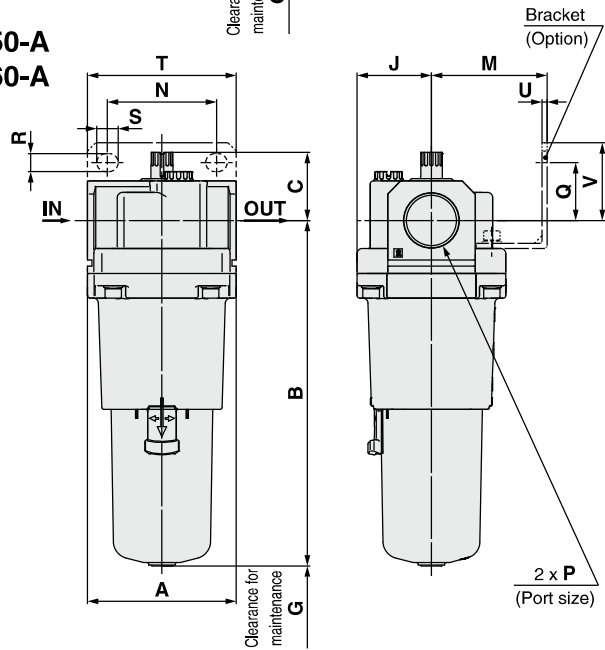
AL20-A



AL30-A to AL40-06-A



AL50-A AL60-A



- AC-A
- AF-A
- AF-A
- AR-A
- AL-A**
- AW-A
- AC-B
- AF-A
- AF-A
- AR-B
- AL-A
- AW-B
- AW
- A-G
- E
- AV
- AF

| Applicable model | AL10-A/AL20-A | | | AL30-A to AL60-A |
|---------------------------------------|-----------------|------------|----------------------------|------------------|
| Optional/Semi-standard specifications | With drain cock | Metal bowl | Metal bowl with drain cock | Metal bowl |
| Dimensions | | | | |

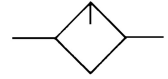
| Applicable model | AL30-A to AL60-A | | | | |
|---------------------------------------|------------------|-----------------------------|----------------------------|--|---|
| Optional/Semi-standard specifications | With drain cock | Metal bowl with level gauge | Metal bowl with drain cock | Metal bowl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

| Model | Standard specifications | | | | | | | Optional specifications | | | | | | | Semi-standard specifications | | | | | | | | |
|-----------|-------------------------|----|-------|------|------|------|-----|-------------------------|----|----|----|-----|------|----|------------------------------|----|-------|-------|-------|-------|-------|-------|---|
| | P | A | B | C | D | E | G | J | M | N | Q | R | S | T | U | V | B | B | B | B | B | B | B |
| 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

AL **30** - **03** **B** - **1**

① ② ③ ④ ⑤

- Option/Semi-standard: Select one each for **a** to **c**.
- Option/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order.
Example) AL30-03B-1R

| | Symbol | Description | ① Body size | | | | |
|---------------------|-------------------------------|--|--|--------------------------|--------------------------|--------------------------|---|
| | | | 30 | 40 | 50 | 60 | |
| ② Pipe thread type | Nil | Rc | ● | ● | ● | ● | |
| | N | NPT | ● | ● | ● | ● | |
| | F | G | ● | ● | ● | ● | |
| + | | | | | | | |
| ③ Port size | 02 | 1/4 | ● | ● | — | — | |
| | 03 | 3/8 | ● | ● | — | — | |
| | 04 | 1/2 | — | ● | — | — | |
| | 06 | 3/4 | — | ● | ● | — | |
| | 10 | 1 | — | — | ● | ● | |
| + | | | | | | | |
| ④ Option (Mounting) | Nil | Without mounting option | ● | ● | ● | ● | |
| | B <small>Note 1)</small> | With bracket | ● | ● | ● | ● | |
| + | | | | | | | |
| ⑤ Semi-standard | a Bowl <small>Note 2)</small> | 1 | 1000 cm ³ tank | ● | ● | ● | ● |
| | | 10 | 1000 cm ³ tank (with switch) Lowest limit ON | ● | ● | ● | ● |
| | | 11 | 1000 cm ³ tank (with switch) Lowest limit OFF | ● | ● | ● | ● |
| | + | | | | | | |
| | b Flow direction | Nil | Flow direction: Left to right | ● | ● | ● | ● |
| | | R | Flow direction: Right to left | ● | ● | ● | ● |
| + | | | | | | | |
| c Pressure unit | Nil | Name plate and caution plate for bowl in SI units: MPa | ● | ● | ● | ● | |
| | Z <small>Note 3)</small> | Name plate and caution plate for bowl in imperial units: psi, °F | ○ <small>Note 4)</small> | ○ <small>Note 4)</small> | ○ <small>Note 4)</small> | ○ <small>Note 4)</small> | |

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

Note 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.

Note 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.)

Note 4) ○: For pipe thread type: M5, NPT only

Semi-standard/Bowl Assembly Part No.

| Semi-standard specifications | | | Model | | | | |
|--|-----------------|------------------|--|------|---------|------|------|
| Bowl material | With switch | | AL30 | AL40 | AL40-06 | AL50 | AL60 |
| | Lowest limit ON | Lowest limit OFF | | | | | |
| 1000 cm ³ tank (Metal bowl with level gauge) | — | — | 121538-1A | | | | |
| | ● | — | 121538-1A-S1 [IS400-1 (Float switch only)] | | | | |
| | — | ● | 121538-1A-S2 [IS400-2 (Float switch only)] | | | | |

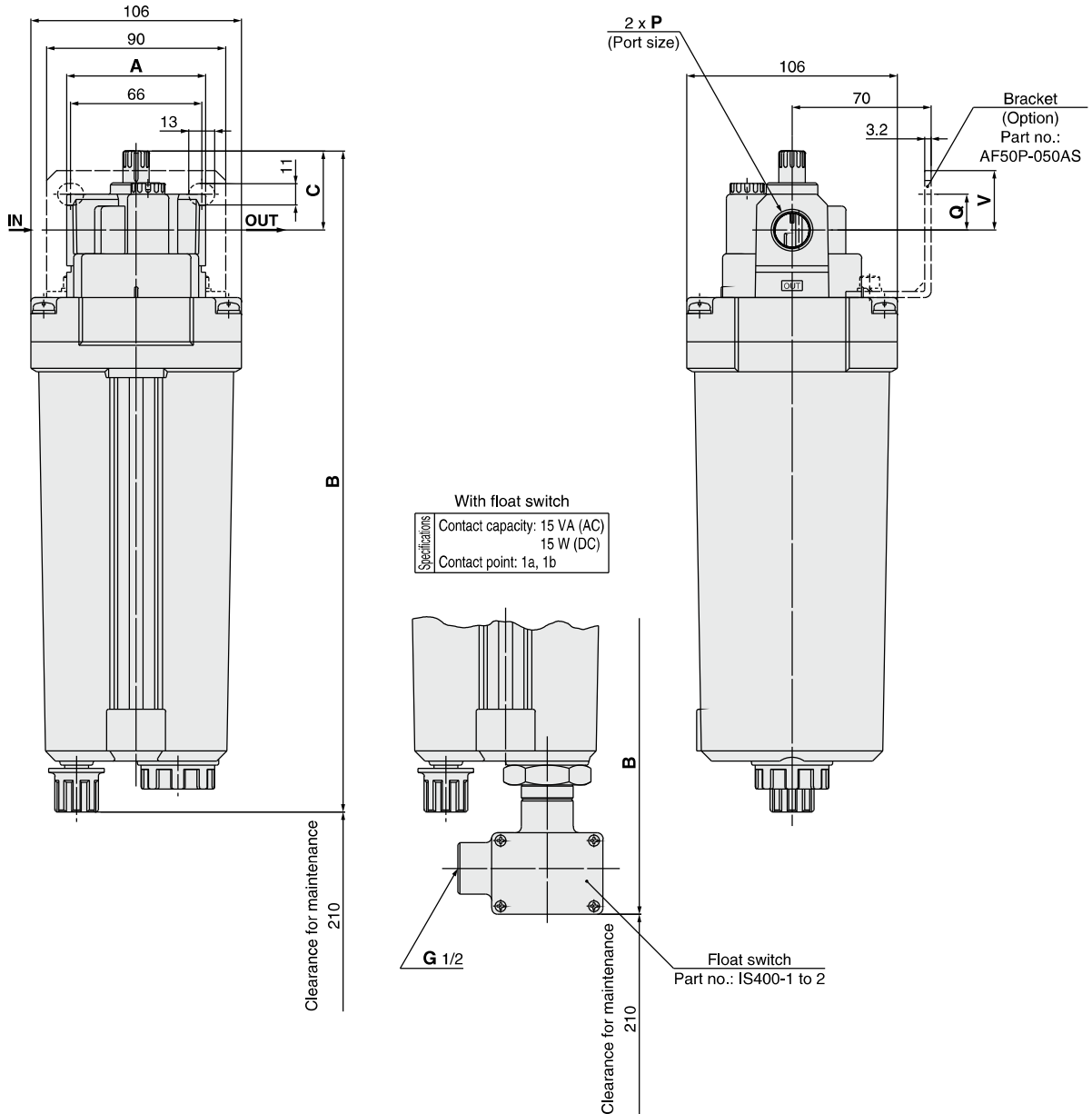
Note) • It is not possible to switch from a polycarbonate, nylon or metal bowl, or from a metal bowl with a level gauge to a 1000 cm³ tank. Please order the product separately.

• 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.

Dimensions


Semi-standard specifications: 1000 cm³ tank



- AC-A
- AF-A
- AF□-A
- AR-A
- AL-A**
- AW-A
- AC-B
- AF-A
- AF□-A
- AR-A
- AL-A
- AW-A
- AW□
- A□G
- E□
- AV
- AF

| Model | P | A | B | C | Bracket mount | | Float switch |
|---------|---------------|----|-----|----|---------------|----|--------------|
| | | | | | Q | V | B |
| 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  P.468 to 479 | Model | Port size | Options |
|---|------------------|---------------|--|
| | AW10-A | M5 x 0.8 | Bracket |
| | AW20-A | 1/8, 1/4 | Float type auto drain |
| | AW30-A | 1/4, 3/8 | Round type pressure gauge |
| | AW40-A | 1/4, 3/8, 1/2 | Set nut (for panel mount)* |
| | AW40-06-A | 3/4 | * For AW20-A to AW40-06-A, panel fitting dimensions are different from those of the current AW series. |

Made to Order

| | | |
|---|---|---------------------|
| ① | 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. | P.476 to 479 |
| ② | Long Bowl (-X64) Drain capacity is greater than that of standard models. | |
| ③ | 0.85 MPa Setting (-X2068) The maximum set pressure is 0.85 MPa. When a pressure gauge is included, the display will show a range from 0 to 1.0 MPa. | |

AC-A

AF-A

AF-A

AR-A

AL-A

AW-A

AC-B

AF-A

AF-A

AR-B

AL-A

AW-B

AW

AG

E

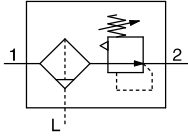
AV

AF

Filter Regulator

AW10-A to AW40-A

Symbol
Filter Regulator



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

How to Order

AW **30** - **03** **BG** - **A** - **1**

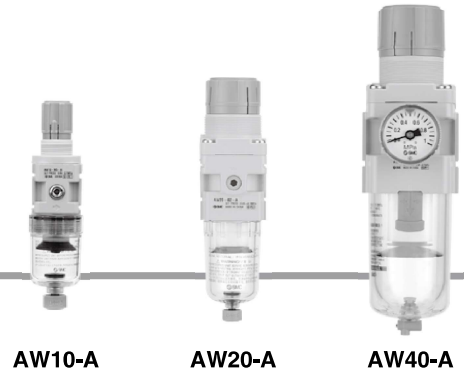
① ② ③ ④ ⑤

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

• Made to Order
(Refer to pages 476 to 479 for details.)

| | | Symbol | Description | ① | | | | |
|---|-------------------------------------|---------------------------------------|--------------------------|---|----|----|---------------------------|---------------------------|
| | | | | Body size | | | | |
| | | | | 10 | 20 | 30 | 40 | |
| ② | Pipe thread type | Nil | Metric thread (M5) | ● | — | — | — | |
| | | N <small>Note 1)</small> | Rc | — | ● | ● | ● | |
| | | F <small>Note 2)</small> | NPT | — | ● | ● | ● | |
| | | | G | — | ● | ● | ● | |
| + | | | | | | | | |
| ③ | Port size | M5 | M5 | ● | — | — | — | |
| | | 01 | 1/8 | — | ● | — | — | |
| | | 02 | 1/4 | — | ● | ● | ● | |
| | | 03 | 3/8 | — | — | ● | ● | |
| | | 04 | 1/2 | — | — | — | ● | |
| | | 06 | 3/4 | — | — | — | ● | |
| + | | | | | | | | |
| ④ | a | Mounting | Nil | Without mounting option | ● | ● | ● | ● |
| | | | B <small>Note 4)</small> | With bracket | ● | ● | ● | ● |
| | | | H | With set nut (for panel mount) | ● | ● | ● | ● |
| | + | | | | | | | |
| | b | Float type auto drain | Nil | Without auto drain | ● | ● | ● | ● |
| | | | C <small>Note 5)</small> | N.C. (Normally closed) Drain port is closed when pressure is not applied. | ● | ● | ● | ● |
| | | | D <small>Note 6)</small> | N.O. (Normally open) Drain port is open when pressure is not applied. | — | — | ● | ● |
| | + | | | | | | | |
| | c | Pressure gauge <small>Note 7)</small> | Nil | Without pressure gauge | ● | ● | ● | ● |
| | | | G | Round type pressure gauge (without limit indicator) | ● | — | — | — |
| | | | | Round type pressure gauge (with limit indicator) | — | ● | ● | ● |
| | | | M | Round type pressure gauge (with color zone) | — | ● | ● | ● |
| + | | | | | | | | |
| d | Set pressure <small>Note 8)</small> | Nil | 0.05 to 0.7 MPa setting | ● | ● | ● | ● | |
| | | 1 | 0.02 to 0.2 MPa setting | ● | ● | ● | ● | |
| + | | | | | | | | |
| ⑤ | e | Bowl <small>Note 9)</small> | Nil | Polycarbonate bowl | ● | ● | ● | ● |
| | | | 2 | Metal bowl | ● | ● | ● | ● |
| | | | 6 | Nylon bowl | ● | ● | ● | ● |
| | | | 8 | Metal bowl with level gauge | — | — | ● | ● |
| | | | C | With bowl guard | — | ● | — <small>Note 10)</small> | — <small>Note 10)</small> |
| | | | 6C | With bowl guard (Nylon bowl) | — | ● | — <small>Note 11)</small> | — <small>Note 11)</small> |

Filter Regulator **AW10-A to AW40-A Series**



- AC-A
- AF-A
- AF□-A
- AR-A
- AL-A
- AW-A**
- AC-B
- AF-A
- AF□-A
- AR-B
- AL-A
- AW-B
- AW□
- A□G
- E□
- AV
- AF

| | Symbol | Description | ① Body size | | | | |
|--------------------|--|--|---------------------------|---------------------------|---------------------------|----|--|
| | | | 10 | 20 | 30 | 40 | |
| ⑤ Semi-standard | f Drain port <small>Note 12)</small> | Nil With drain cock | ● | ● | ● | ● | |
| | | J <small>Note 13)</small> Drain guide 1/8 | — | ● | — | — | |
| | | Drain guide 1/4 | — | — | ● | ● | |
| | | W <small>Note 14)</small> Drain cock with barb fitting (for ø6 x ø4 nylon tube) | — | — | ● | ● | |
| | + | | | | | | |
| | g Exhaust mechanism | Nil Relieving type | ● | ● | ● | ● | |
| | | N Non-relieving type | ● | ● | ● | ● | |
| | + | | | | | | |
| | h Flow direction | Nil Flow direction: Left to right | ● | ● | ● | ● | |
| | | R Flow direction: Right to left | ● | ● | ● | ● | |
| + | | | | | | | |
| i Pressure unit | Nil Name plate, caution plate for bowl, and pressure gauge in imperial units: MPa | ● | ● | ● | ● | | |
| | Z <small>Note 15)</small> Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F | ○ <small>Note 16)</small> | ○ <small>Note 16)</small> | ○ <small>Note 16)</small> | ○ <small>Note 16)</small> | | |

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

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

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

Note 4) Assembly of a bracket and set nuts

Note 5) When pressure is not applied, condensate which does not start the auto drain mechanism will be left in the bowl. Releasing the residual condensate before ending operations for the day is recommended.

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

Note 7) When the pressure gauge is attached, a 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 AW10-A).

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

Note 9) Refer to Chemical data on page 471 for chemical resistance of the bowl.

Note 10) A bowl guard is provided as standard equipment (polycarbonate).

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

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

Note 13) Without a valve function

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

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

Note 16) ○: For pipe thread type: M5, NPT only

Standard Specifications

| Model | AW10-A | AW20-A | AW30-A | AW40-A | AW40-06-A |
|-------------------------------|-------------------------------|-----------------------|--------------------------|---------------|-----------|
| Port size | M5 x 0.8 | 1/8, 1/4 | 1/4, 3/8 | 1/4, 3/8, 1/2 | 3/4 |
| Pressure gauge port size | 1/16 <small>Note)</small> | 1/8 | | | |
| 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 | 8 | 25 | 45 | |
| Bowl material | Polycarbonate | | | | |
| Bowl guard | — | Semi-standard (Steel) | Standard (Polycarbonate) | | |
| Construction | Relieving type | | | | |
| Weight (kg) | 0.09 | 0.21 | 0.41 | 0.75 | 0.81 |

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

AW10-A to AW40-A Series

Options/Part No.

| Optional specifications | | | Model | | | | |
|-------------------------------------|------------------------------|-------------------------|------------------------------|--------------|-------------|--------------|-----------|
| | | | AW10-A | AW20-A | AW30-A | AW40-A | AW40-06-A |
| Bracket assembly ^{Note 1)} | | | AR12P-270AS | AR22P-270AS | AR32P-270AS | AR42P-270AS | |
| Set nut | | | AR12P-260S | AR22P-260S | AR32P-260S | AR42P-260S | |
| Pressure gauge ^{Note 2)} | Round type | Standard | G27-10-R1 | G36-10-□01 | | G46-10-□01 | |
| | | 0.02 to 0.2 MPa setting | G27-10-R1 ^{Note 3)} | G36-4-□01 | | G46-4-□01 | |
| | Round type (with color zone) | Standard | — | G36-10-□01-L | | G46-10-□01-L | |
| | | 0.02 to 0.2 MPa setting | — | G36-4-□01-L | | G46-4-□01-L | |

Note 1) Assembly of a bracket and set nuts

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

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

Note 3) Standard pressure gauge

Bowl Assembly/Part No.

| Bowl material | Drain discharge mechanism | Drain port | Other | Model | | | | |
|----------------------|---|---|------------------|-------------|------------|------------|------------|-----------|
| | | | | AW10-A | AW20-A | AW30-A | AW40-A | AW40-06-A |
| Polycarbonate bowl | Manual discharge | With drain cock | — | C1SF-A | C2SF-A | — | — | |
| | | Drain cock with barb fitting | With bowl guard | — | C2SF-C-A | C3SF-A | C4SF-A | |
| | | With drain guide (without valve function) | — | — | C2SF□-J-A | — | — | |
| | | With bowl guard | — | C2SF□-CJ-A | C3SF□-J-A | C4SF□-J-A | | |
| | Automatic discharge ^{Note)} (Auto drain) | Normally closed (N.C.) | — | AD17-A | AD27-A | — | — | |
| | | With bowl guard | — | AD27-C-A | AD37□-A | AD47□-A | | |
| Normally open (N.O.) | With bowl guard | — | — | AD38□-A | AD48□-A | | | |
| Nylon bowl | Manual discharge | With drain cock | — | C1SF-6-A | C2SF-6-A | — | — | |
| | | Drain cock with barb fitting | With bowl guard | — | C2SF-6C-A | C3SF-6-A | C4SF-6-A | |
| | | With drain guide (without valve function) | — | — | C2SF□-6J-A | — | — | |
| | | With bowl guard | — | C2SF□-6CJ-A | C3SF□-6J-A | C4SF□-6J-A | | |
| | Automatic discharge ^{Note)} (Auto drain) | Normally closed (N.C.) | — | AD17-6-A | AD27-6-A | — | — | |
| | | With bowl guard | — | AD27-6C-A | AD37□-6-A | AD47□-6-A | | |
| Normally open (N.O.) | With bowl guard | — | — | AD38□-6-A | AD48□-6-A | | | |
| Metal bowl | Manual discharge | With drain cock | — | C1SF-2-A | C2SF-2-A | C3SF-2-A | C4SF-2-A | |
| | | With drain guide (without valve function) | — | — | C2SF□-2J-A | C3SF□-2J-A | C4SF□-2J-A | |
| | | With level gauge | — | — | C3LF□-8J-A | C4LF□-8J-A | | |
| | | With bowl guard | — | AD17-2-A | AD27-2-A | AD37□-2-A | AD47□-2-A | |
| | Automatic discharge ^{Note)} (Auto drain) | Normally closed (N.C.) | With level gauge | — | — | AD37□-8-A | AD47□-8-A | |
| | | — | — | — | — | AD38□-2-A | AD48□-2-A | |
| Normally open (N.O.) | With level gauge | — | — | AD38□-8-A | AD48□-8-A | | | |

Note) 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 AW10-A to AW40-06-A models 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.

⚠ Specific Product Precautions

Be sure to read this before handling the products. Refer to back page 50 for Safety Instructions and pages 387 to 391 for F.R.L. Precautions.

Design/Selection

⚠ Warning

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

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

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

Design/Selection

⚠ Caution

- When operating at an inlet pressure lower than the inlet pressure used in the flow rate characteristics graph, the pressure drop on the outlet side may be greater. Therefore, be sure to conduct testing using the actual equipment.
For pressure control equipment selection, refer to page 123 in the "Product Selection Guide."

Maintenance

⚠ Warning

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

Mounting/Adjustment

⚠ Warning

- Set the regulator while verifying the displayed values of the inlet and outlet pressure gauges. Turning the regulator knob excessively can cause damage to the internal parts.
- Do not use tools on the pressure regulator knob as this may cause damage. It must be operated manually.

⚠ Caution

- Be sure to unlock the knob before adjusting the pressure and lock it after setting the pressure. Failure to follow this procedure can cause damage to the knob and the outlet pressure may fluctuate.
 - Pull the pressure regulator knob to unlock. (You can visually verify this with the "orange mark" that appears in the gap.)
 - Push the pressure regulator knob to lock. When the knob is not easily locked, turn it left and right a little and then push it (when the knob is locked, the "orange mark", i.e., the gap will disappear).
- 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.
- When the bowl is installed on the AW30-A/AW40-A, install them so that the lock button lines up to the groove of the front (or the back) of the body to avoid drop or damage of the bowl.



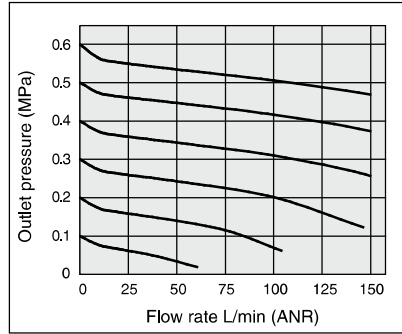
AC-A
AF-A
AF-A
AR-A
AL-A
AW-A
AC-B
AF-A
AF-A
AR-B
AL-A
AW-B
AW
AOG
E
AV
AF

AW10-A to AW40-A Series

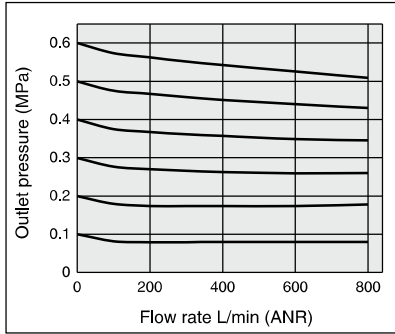
Flow Rate Characteristics (Representative values)

Condition: Inlet pressure 0.7 MPa

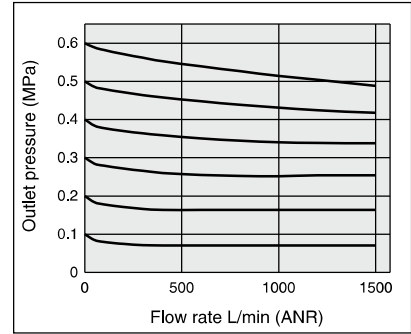
AW10-A M5



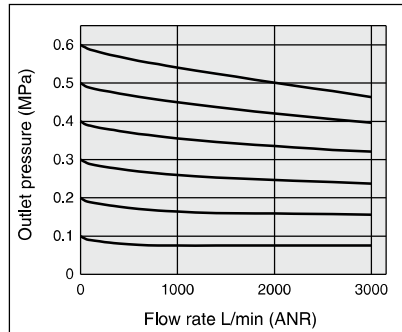
AW20-A Rc1/4



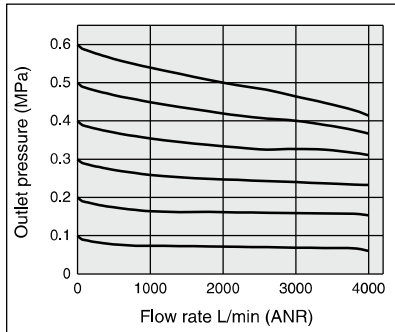
AW30-A Rc3/8



AW40-A Rc1/2



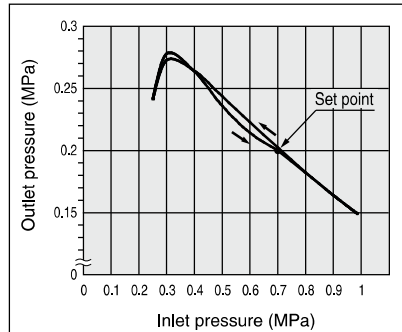
AW40-06-A Rc3/4



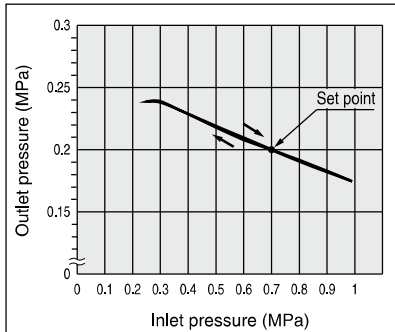
Pressure Characteristics (Representative values)

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

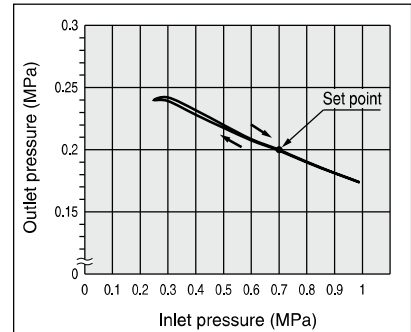
AW10-A



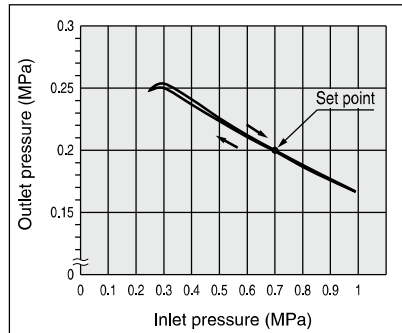
AW20-A



AW30-A

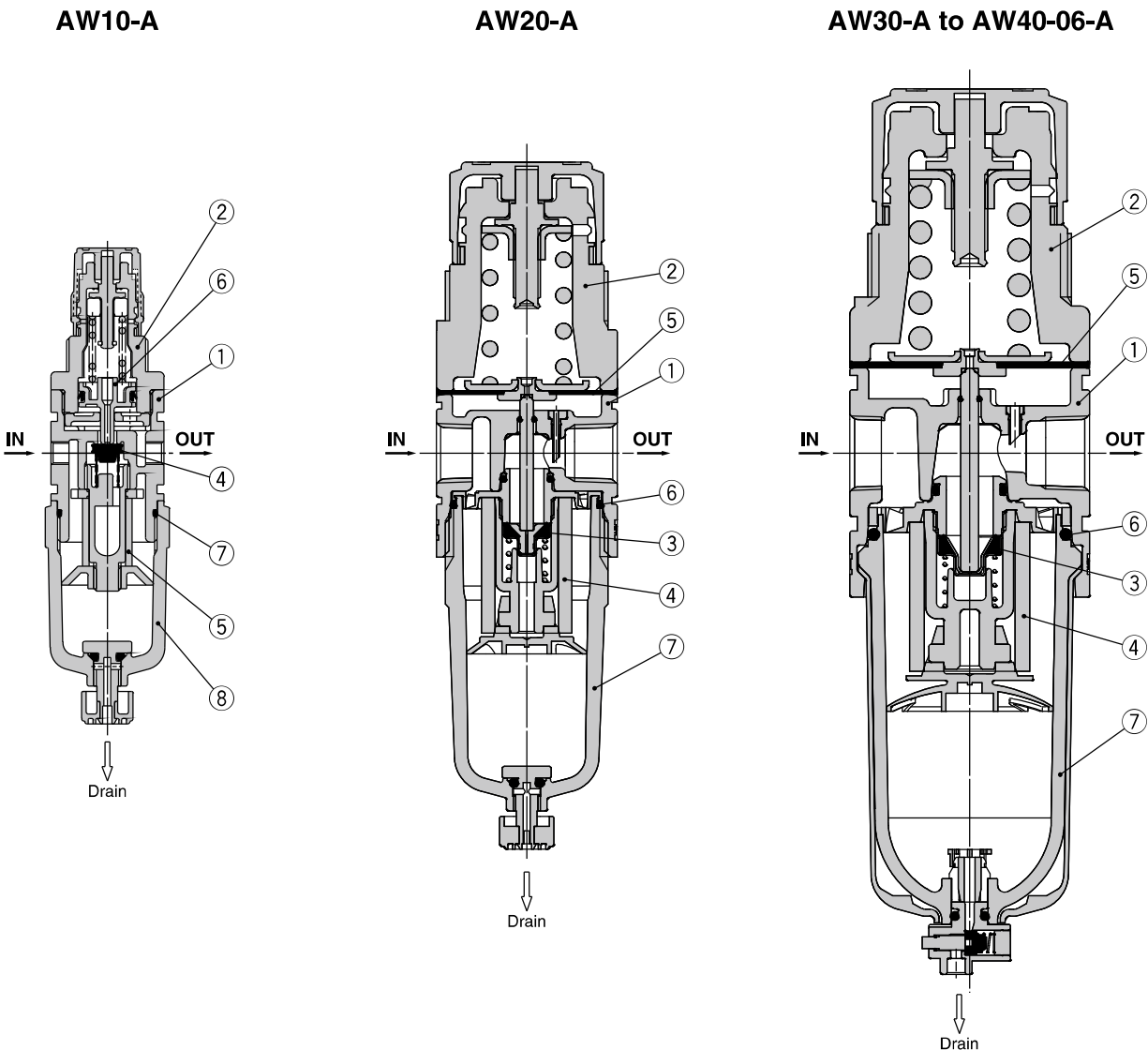


AW40-A/AW40-06-A



Filter Regulator **AW10-A to AW40-A Series**

Construction



- AC-A
- AF-A
- AF□-A
- AR-A
- AL-A
- AW-A**
- AC-B
- AF-A
- AF□-A
- AR-B
- AL-A
- AW-B
- AW□
- A□G
- E□
- AV
- AF

Component Parts

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

Replacement Parts

| No. | Description | Material | Part no. | | | | |
|-----|----------------------------------|-----------------------|--------------------------------|-------------|-------------|-------------|-----------|
| | | | AW10-A | AW20-A | AW30-A | AW40-A | AW40-06-A |
| 3 | Valve assembly | Stainless steel, HNBR | AR10P-090S | AW22P-060AS | AW32P-060AS | AW42P-060AS | |
| 4 | Filter element | Non-woven fabric | AF10P-060S | AF20P-060S | AF30P-060S | AF40P-060S | |
| 5 | Diaphragm assembly | Weatherable NBR | AR10P-150AS ^{Note 1)} | AR22P-150AS | AR32P-150AS | AR42P-150AS | |
| 6 | Bowl seal | NBR | C1SFP-260S | C2SFP-260S | C32FP-260S | C42FP-260S | |
| 7 | Bowl assembly ^{Note 2)} | Polycarbonate | C1SF-A | C2SF-A | C3SF-A | C4SF-A | |

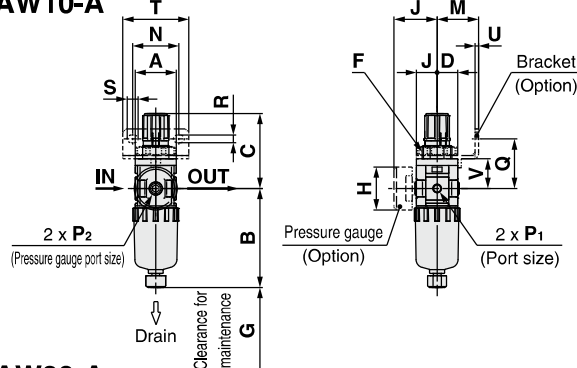
Note 1) The AW10-A is a piston type. Assembly of a piston and a seal (KSY-P-13).

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

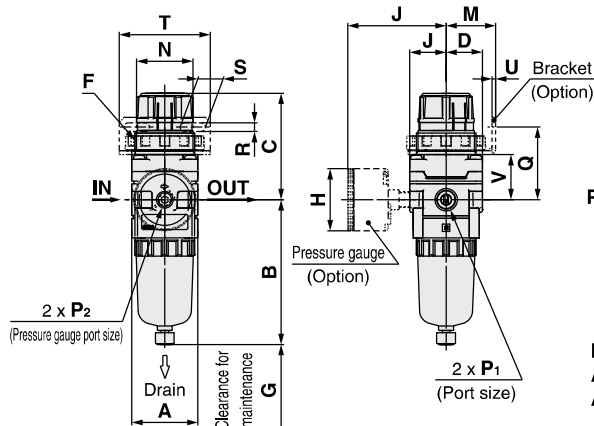
AW10-A to AW40-A Series

Dimensions

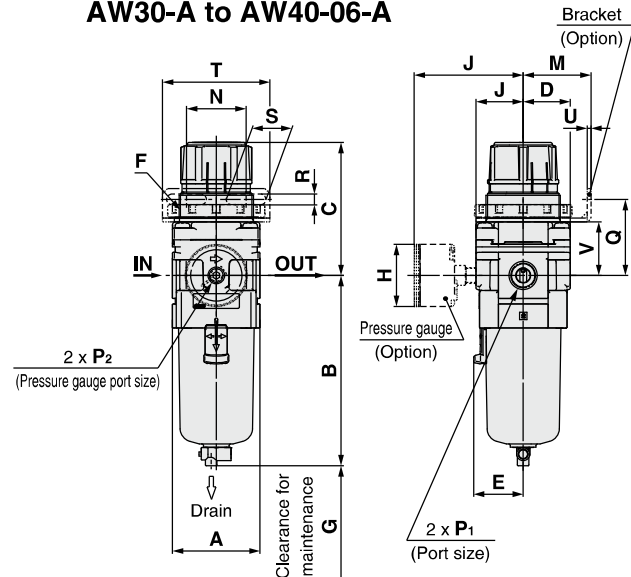
AW10-A



AW20-A



AW30-A to AW40-06-A



Panel fitting dimensions

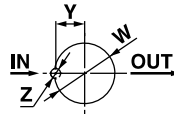


Plate thickness
AW10-A: Max. 3.5
AW20-A: Max. 4

Panel fitting dimensions

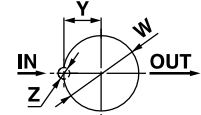


Plate thickness
AW30-A to AW40-06-A: Max. 8

| Applicable model | AW10-A/AW20-A | | AW20-A | | AW30-A to AW40-06-A |
|---------------------------------------|------------------------|------------|----------------------------------|----------------------------------|---|
| Optional/Semi-standard specifications | With auto drain (N.C.) | Metal bowl | With drain guide | Metal bowl with drain guide | With auto drain (N.O./N.C.) |
| Dimensions | M5 x 0.8 | | Width across flats 14 1/8 | Width across flats 14 1/8 | N.O.: Black N.C.: Gray Thread type/Rc: G: ϕ 10 One-touch fitting Thread type/NPT: ϕ 3/8" One-touch fitting |

| Applicable model | AW30-A to AW40-06-A | | | | | |
|---------------------------------------|---------------------|----------------------------------|-----------------------------|---|----------------------------------|---|
| Optional/Semi-standard specifications | Metal bowl | Metal bowl with drain guide | Metal bowl with level gauge | Metal bowl with level gauge, with drain guide | With drain guide | Drain cock with barb fitting |
| Dimensions | | Width across flats 17 1/4 | | Width across flats 17 1/4 | Width across flats 17 1/4 | Barb fitting applicable tubing: T0604 |

| Model | Standard specifications | | | | | | | | | | | Optional specifications | | | |
|-----------|-------------------------|----------------|----|-------|---------------------|------|------|-----------|----|------|-------------|-------------------------|-------------|------|--|
| | P ₁ | P ₂ | A | B | C ^(Note) | D | E | F | G | J | H | J | H | J | |
| AW10-A | M5 x 0.8 | 1/16 | 25 | 59.9 | 47.4 | 12.5 | — | M18 x 1 | 25 | 12.5 | ϕ 26 | 26 | — | — | |
| AW20-A | 1/8, 1/4 | 1/8 | 40 | 87.6 | 67.4 | 22 | — | M36 x 1.5 | 25 | 22 | ϕ 37.5 | 58.5 | ϕ 37.5 | 59.5 | |
| AW30-A | 1/4, 3/8 | 1/8 | 53 | 115.1 | 83.5 | 28.5 | 30 | M45 x 1.5 | 35 | 28.5 | ϕ 37.5 | 65 | ϕ 37.5 | 66 | |
| AW40-A | 1/4, 3/8, 1/2 | 1/8 | 70 | 147.1 | 100 | 34.5 | 38.4 | M52 x 1.5 | 40 | 34.5 | ϕ 42.5 | 72 | ϕ 42.5 | 72 | |
| AW40-06-A | 3/4 | 1/8 | 75 | 149.1 | 101.5 | 34.5 | 38.4 | M52 x 1.5 | 40 | 34.5 | ϕ 42.5 | 72 | ϕ 42.5 | 72 | |

| Model | Optional specifications | | | | | | | | | | | Semi-standard specifications | | | | | | |
|-----------|-------------------------|----|------|-----|------|-------------|-----|------|------|------|---|------------------------------|-------------------|------------------|------------|-----------------------------|-----------------------------|---|
| | Bracket mount | | | | | Panel 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 |
| | M | N | Q | R | S | T | U | V | W | Y | Z | B | B | B | B | B | B | B |
| AW10-A | 25 | 28 | 30 | 4.5 | 6.5 | 40 | 2 | 18 | 18.5 | — | — | 77.9 | — | — | 59.3 | — | — | — |
| AW20-A | 30 | 34 | 43.9 | 5.4 | 15.4 | 55 | 2.3 | 27.3 | 36.5 | 17.5 | 6 | 104.9 | — | 91.4 | 87.4 | 93.9 | — | — |
| AW30-A | 41 | 36 | 46 | 6.5 | 24 | 65 | 2.3 | 32.5 | 45.5 | 22.5 | 7 | 156.8 | 123.6 | 121.9 | 117.6 | 122.1 | 137.6 | 142.1 |
| AW40-A | 50 | 38 | 54 | 8.5 | 26.5 | 70 | 2.3 | 38.4 | 52.5 | 26 | 7 | 186.9 | 155.6 | 153.9 | 149.6 | 154.1 | 169.6 | 174.1 |
| AW40-06-A | 50 | 38 | 55.5 | 8.5 | 26.5 | 70 | 2.3 | 39.9 | 52.5 | 26 | 7 | 188.9 | 157.6 | 155.9 | 151.6 | 156.1 | 171.6 | 176.1 |

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

AC-A

AF-A

AF□-A

AR-A

AL-A

AW-A

AC-B

AF-A

AF□-A

AR^A_B

AL-A

AW^A_B

AW□

A□G

E□

AV

AF

Filter Regulator/AW20-A to AW40-06-A

Made to Order

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



① 0.4 MPa Setting

The 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

| | |
|---------------------------------------|-----------------|
| Proof pressure | 1.5 MPa |
| Maximum operating pressure | 1.0 MPa |
| Set pressure range ^{Note 1)} | 0.05 to 0.4 MPa |

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

Applicable Model

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

② Long Bowl

Drain capacity is greater than that of standard models.

Applicable Model/Drain Capacity

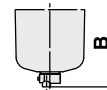
| Model | AW20-A | AW30-A | AW40-A | AW40-06-A |
|-----------------------------------|----------|----------|---------------|-----------|
| Port size | 1/8, 1/4 | 1/4, 3/8 | 1/4, 3/8, 1/2 | 3/4 |
| Drain capacity (cm ³) | 19 | 43 | 88 | |
| B dimension (mm) ^{Note)} | 108.6 | 137.1 | 167.2 | 169.2 |

Note) For polycarbonate bowls. Please contact SMC for other bowl materials.

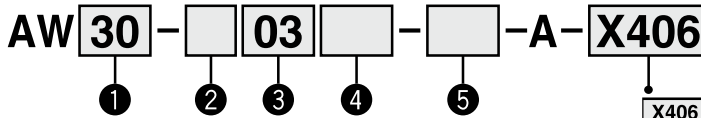
AW20-A



AW30 to 40-06-A



How to Order



| | |
|------|-----------------|
| X406 | 0.4 MPa setting |
| X64 | Long bowl |

- Option/Semi-standard: Select one each for a to i.
- Option/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order. Example) AW30-03BG-2N-A-X406

| | | Symbol | | Description | | 0.4 MPa Setting | | | Long Bowl | | |
|---|------------------|-----------------------|----------------------|--|--------------------------------|-----------------|----|----------------------|----------------------|----------------------|----|
| | | | | | | ① Body size | | | ① Body size | | |
| | | | | | | 20 | 30 | 40 | 20 | 30 | 40 |
| ② | Pipe thread type | Nil | | Rc | ● | ● | ● | ● | ● | ● | ● |
| | | N ^{Note 2)} | | NPT | ● | ● | ● | ● | ● | ● | ● |
| | | F ^{Note 3)} | | G | ● | ● | ● | ● | ● | ● | ● |
| | | + | | | | | | | | | |
| ③ | Port size | 01 | | 1/8 | ● | — | — | ● | — | — | — |
| | | 02 | | 1/4 | ● | ● | ● | ● | ● | ● | ● |
| | | 03 | | 3/8 | — | ● | ● | — | ● | ● | ● |
| | | 04 | | 1/2 | — | — | ● | — | — | — | ● |
| | | 06 | | 3/4 | — | — | ● | — | — | — | ● |
| | | + | | | | | | | | | |
| ④ | a | Mounting | Nil | | Without mounting option | ● | ● | ● | ● | ● | ● |
| | | | B ^{Note 5)} | | With bracket | ● | ● | ● | ● | ● | ● |
| | | | H | | With set nut (for panel mount) | ● | ● | ● | ● | ● | ● |
| | | | + | | | | | | | | |
| | b | Float type auto drain | Nil | | Without auto drain | ● | ● | ● | — | — | — |
| | | | C ^{Note 6)} | | Float type auto drain (N.C.) | ● | ● | ● | — | — | — |
| | | | D ^{Note 7)} | | Float type auto drain (N.O.) | — | ● | ● | — | — | — |
| | | | + | | | | | | | | |
| | c | Pressure gauge | Nil | | Without pressure gauge | ● | ● | ● | ● | ● | ● |
| G | | | | Round type pressure gauge (with limit indicator) | ● | ● | ● | ● ^{Note 8)} | ● ^{Note 8)} | ● ^{Note 8)} | |
| M | | | | Round type pressure gauge (with color zone) | ● | ● | ● | ● ^{Note 8)} | ● ^{Note 8)} | ● ^{Note 8)} | |

Note 2) Drain guide is NPT1/8 (applicable to the AW20-A) and NPT1/4 (applicable to the AW30-A to AW40-A).

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

Note 3) Drain guide is G1/8 (applicable to the AW20-A) and G1/4 (applicable to the AW30-A to AW40-A).

Note 4) Option B, G, H, M are not assembled and supplied loose at the time of shipment.

Note 5) Assembly of a bracket and set nuts

Note 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.

Note 7) 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 8) 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.

Made to Order **AW20-A to AW40-06-A Series**

- AC-A
- AF-A
- AF□-A
- AR-A
- AL-A
- AW-A**
- AC-B
- AF-A
- AF□-A
- AR-A
- AL-A
- AW-A
- AW□
- AF□G
- E□
- AV
- AF

| | | | 0.4 MPa Setting | | | Long Bowl | | | |
|--------------------|---------------|-------------------------------------|------------------------------|--|---|---------------------------|---------------------------|---------------------------|---------------------------|
| | | | ① | | | ① | | | |
| | | | Body size | | | Body size | | | |
| | | | 20 | 30 | 40 | 20 | 30 | 40 | |
| 5 Semi-standard | d | Set pressure <small>Note 9)</small> | Nil | 0.05 to 0.7 MPa setting | | ● | ● | ● | |
| | | | 1 | 0.02 to 0.2 MPa setting | | ● | ● | ● | |
| | + | | | | | | | | |
| | e | Bowl <small>Note 10)</small> | | Nil | Polycarbonate bowl | | ● | ● | ● |
| | | | | 2 | Metal bowl | | ● | ● | ● |
| | | | | 6 | Nylon bowl | | ● | ● | ● |
| | | | | 8 | Metal bowl with level gauge | | — | ● | ● |
| | | | | C | With bowl guard | | ● | — <small>Note 12)</small> | — <small>Note 12)</small> |
| | | 6C | With bowl guard (Nylon bowl) | | ● | — <small>Note 13)</small> | — <small>Note 13)</small> | | |
| | + | | | | | | | | |
| | f | Drain port <small>Note 11)</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) | | — | ● | ● |
| | + | | | | | | | | |
| | g | Exhaust mechanism | | Nil | Relieving type | | ● | ● | ● |
| | | | | N | Non-relieving type | | ● | ● | ● |
| | + | | | | | | | | |
| | h | Flow direction | | Nil | Flow direction: Left to right | | ● | ● | ● |
| | | | | R | Flow direction: Right to left | | ● | ● | ● |
| + | | | | | | | | | |
| i | Pressure unit | | Nil | Name plate and caution plate for bowl in imperial units: MPa | | ● | ● | ● | |
| | | | Z <small>Note 16)</small> | Name plate and caution plate for bowl in imperial units: psi, °F | | ○ <small>Note 17)</small> | ○ <small>Note 17)</small> | ○ <small>Note 17)</small> | |

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 471 for chemical resistance of the bowl.
 Note 11) The combination of float type auto drain: C and D is not available.
 Note 12) A bowl guard is provided as standard equipment (polycarbonate).
 Note 13) A bowl guard is provided as standard equipment (nylon).
 Note 14) Without a valve function
 Note 15) The combination of metal bowl: 2 and 8 is not available.
 Note 16) For pipe thread type: NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan).
 Cannot be used with M: Round pressure gauge (with color zone). Available by request for special.
 Note 17) ○: For pipe thread type: NPT only

Filter Regulator/AW20-A to AW40-06-A

Made to Order

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



③ 0.85 MPa Setting

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

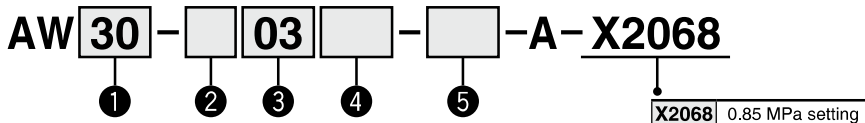
Specifications

| | |
|----------------------------|------------------|
| Proof pressure | 1.5 MPa |
| Maximum operating pressure | 1.0 MPa |
| Set pressure range | 0.05 to 0.85 MPa |

Applicable Model

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

How to Order



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

0.85 MPa Setting

| | Symbol | Description | ① Body size | | | |
|--------------------|-------------------------|--|--------------------------------|----|----|---|
| | | | 20 | 30 | 40 | |
| ② Pipe thread type | Nil | Rc | ● | ● | ● | |
| | N ^{Note 1)} | NPT | ● | ● | ● | |
| | F ^{Note 2)} | G | ● | ● | ● | |
| + | | | | | | |
| ③ Port size | 01 | 1/8 | ● | — | — | |
| | 02 | 1/4 | ● | ● | ● | |
| | 03 | 3/8 | — | ● | ● | |
| | 04 | 1/2 | — | — | ● | |
| | 06 | 3/4 | — | — | ● | |
| + | | | | | | |
| ④ Option (Note 3) | a Mounting | Nil | Without mounting option | ● | ● | ● |
| | | B ^{Note 4)} | With bracket | ● | ● | ● |
| | | H | With set nut (for panel mount) | ● | ● | ● |
| | + | | | | | |
| | b Float type auto drain | Nil | Without auto drain | ● | ● | ● |
| | | C ^{Note 5)} | Float type auto drain (N.C.) | ● | ● | ● |
| | | D ^{Note 6)} | Float type auto drain (N.O.) | — | ● | ● |
| | + | | | | | |
| | c Pressure gauge | Nil | Without pressure gauge | ● | ● | ● |
| G | | Round type pressure gauge (with limit indicator) | ● | ● | ● | |
| M | | Round type pressure gauge (with color zone) | ● | ● | ● | |

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

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

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

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

Note 4) Assembly of a bracket and set nuts

Note 5) When pressure is not applied, condensate which does not start the auto drain mechanism will be left in the bowl.

Releasing the residual condensate before ending operations for the day is recommended.

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

N.C. type is recommended.

- AC-A
- AF-A
- AF□-A
- AR-A
- AL-A
- AW-A**
- AC-B
- AF-A
- AF□-A
- AR-B
- AL-A
- AW-B
- AW□
- A□G
- E□
- AV
- AF

0.85 MPa Setting

| | | Symbol | Description | ① | | | |
|---|---------------------------|---|--|------------------------------|---------------------------|---------------------------|---|
| | | | | Body size | | | |
| | | | | 20 | 30 | 40 | |
| 5 | d | Bowl <small>Note 7)</small> | 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) | ● | — | — |
| | + | | | | | | |
| | e | Drain port <small>Note 8)</small> | Nil | With drain cock | ● | ● | ● |
| | | | J <small>Note 9)</small> | Drain guide 1/8 | ● | — | — |
| | | | | Drain guide 1/4 | — | ● | ● |
| | W <small>Note 10)</small> | Drain cock with barb fitting (for ø6 x ø4 nylon tube) | — | ● | ● | | |
| | + | | | | | | |
| | f | Exhaust mechanism | Nil | Relieving type | ● | ● | ● |
| | | | 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 and caution plate for bowl in imperial units: MPa | ● | ● | ● | |
| | | Z <small>Note 11)</small> | Name plate and caution plate for bowl in imperial units: psi, °F | ○ <small>Note 12)</small> | ○ <small>Note 12)</small> | ○ <small>Note 12)</small> | |

Note 7) Refer to Chemical data on page 471 for chemical resistance of the bowl.
 Note 8) The combination of float type auto drain: C and D is not available.
 Note 9) Without a valve function
 Note 10) The combination of metal bowl: 2 and 8 is not available.
 Note 11) For pipe thread type: NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.)
 Cannot be used with M: Round pressure gauge (with color zone). Available by request for special.
 Note 12) ○: For pipe thread type: NPT only