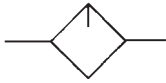


Lubricator

AL20-A to AL40-A

JIS Symbol



AL20-A

AL40-A

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-R-A

	Symbol	Description	①			
			Body size			
			20	30	40	
② 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 (Mounting)	Nil	Without mounting option	●	●	●	
	B ^{Note 1)}	With bracket	●	●	●	
+						
⑤ Semi-standard	a Bowl	Nil	Polycarbonate bowl	●	●	
		C	With bowl guard	●	— ^{Note 2)}	— ^{Note 2)}
	+					
	b Lubricant exhaust port	Nil	Without drain cock	●	●	●
		3	With drain cock	●	●	●
		3W	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 3)}	Name plate and caution plate for bowl in imperial units: psi, °F	○ ^{Note 4)}	○ ^{Note 4)}	○ ^{Note 4)}	

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

Note 2) Standard material (polycarbonate)

Note 3) For 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 4) ○: For thread type: NPT only

Lubricator *Series AL20-A to AL40-A*

Standard Specifications

Model	AL20-A	AL30-A	AL40-A	AL40-06-A
Port size	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4
Fluid	Air			
Proof pressure	1.5 MPa			
Maximum operating pressure	1.0 MPa			
Ambient and fluid temperature	- 5 to 60°C (with no freezing)			
Minimum dripping flow rate [L/min (ANR)] ^{Note)}	15	1/4: 30 3/8: 40	1/4: 30 3/8: 40 1/2: 50	50
Oil capacity (cm ³)	25	55	135	
Recommended lubricant	Class 1 turbine oil (ISO VG32)			
Bowl material	Polycarbonate			
Bowl guard	Semi-standard (Steel)	Standard (Polycarbonate)		
Weight (kg)	0.10	0.20	0.38	0.43

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 opened.

- Use air consumption flow rate for minimum dripping flow rate.

Option/Part No.

Optional specifications	Model			
	AL20-A	AL30-A	AL40-A	AL40-06-A
Bracket assembly ^{Note)}	AF22P-050AS	AF32P-050AS	AF42P-050AS	AF42P-070AS

Note) Assembly of a bracket and 2 mounting screws.

Semi-standard/Bowl Assembly Part No.

Semi-standard specifications				Model			
Bowl material	With drain cock	With barb fitting	With bowl guard	AL20-A	AL30-A	AL40-A	AL40-06-A
Polycarbonate	●	—	—	C2SL-3-A	C3SL-3-A	C4SL-3-A	
	—	—	●	C2SL-C-A	—	—	
	●	—	●	C2SL-3C-A	—	—	
	●	●	—	—	C3SL-3W-A	C4SL-3W-A	

Note) • The bowl assembly includes the bowl O-ring.

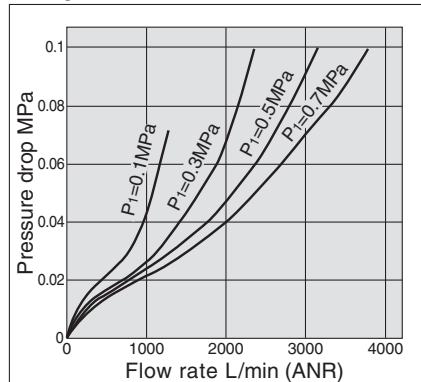
- Please consult with SMC separately for psi and °F unit display specifications.

AC
AF+AR+AL
AW+AL
AF+AR
AF+AFM+AR
AW+AFM
Attachment
AF
AFM / AFD
AR
AL
AW

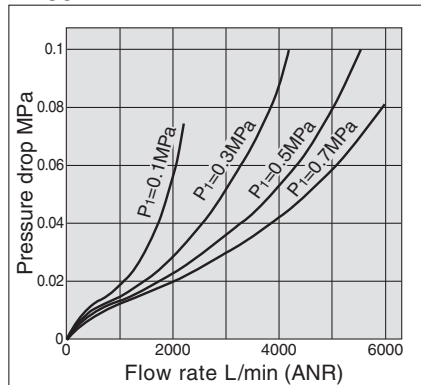
Series AL20-A to AL40-A

Flow Characteristics (Representative values)

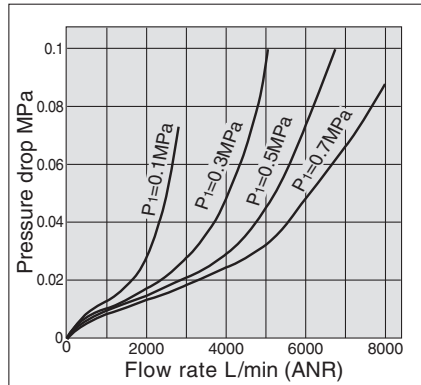
AL20-A Rc 1/4



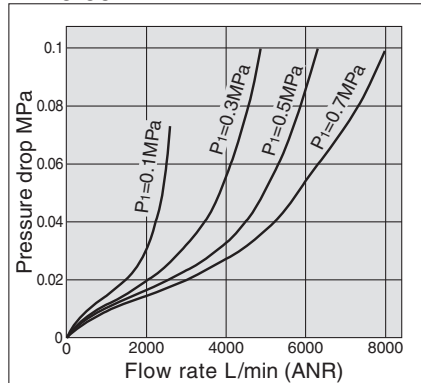
AL30-A Rc 3/8



AL40-A Rc 1/2



AL40-06-A Rc 3/4



⚠ Specific Product Precautions

Be sure to read before handling. Refer to back cover for Safety Instructions, "Handling Precautions for SMC Products" (M-E03-3) and the Operation Manual for F.R.L. Precautions. Please download it via our website, <http://www.smworld.com>

Selection

⚠ Warning

- Do not introduce air from the outlet side as this can damage the damper.
- The standard bowl for the air filter, filter regulator, and lubricator, as well as the sight dome for the lubricator and bowl guard 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
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 dimethyl 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	×
Other	Thread-lock fluid Seawater Leak tester	—	×

△ : Some effects may occur × : Effects will occur

⚠ Caution

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

Maintenance

⚠ Warning

- For the 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 AL40-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. Please 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 and Adjustment

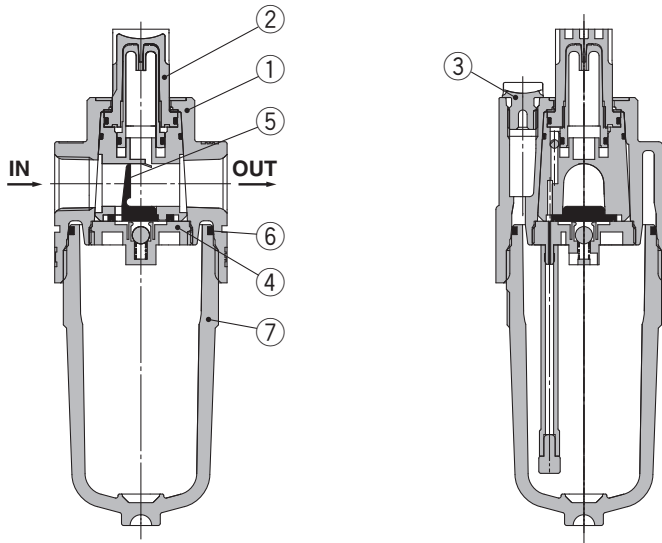
⚠ Caution

- When the bowl is installed, 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.

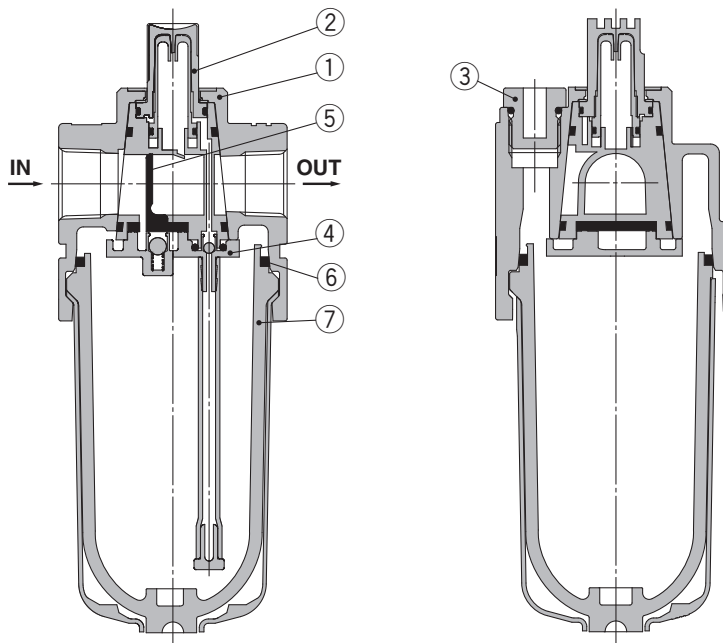


Construction

AL20-A



AL30-A, AL40-A



Component Parts

No.	Description	Material	Model	Color
1	Body	Aluminum die-cast	AL20-A to AL40-A	White

Replacement Parts

No.	Description	Material	Part no.			
			AL20-A	AL30-A	AL40-A	AL40-06-A
2	Sight dome assembly	Polycarbonate	AL20P-080AS			
3	Lubrication plug assembly	—	AL22P-060AS	AL32P-060AS	AL42P-060AS	
4	Damper retainer assembly	—	AL20P-030AS	AL30P-030AS	AL40P-030AS	
5	Damper (assembly)	Synthetic resin	AL20P-040S	AL30P-040S	AL40P-040S	
6	Bowl seal	NBR	C2SFP-260S	C32FP-260S	C42FP-260S	
7	Bowl assembly ^{Note)}	Polycarbonate	C2SL-A	C3SL-A	C4SL-A	

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

AC

AF+AR+AL

AW+AL

AF+AR

AF+AFM+AR

AW+AFM

Attachment

AF

AFM / AFD

AR

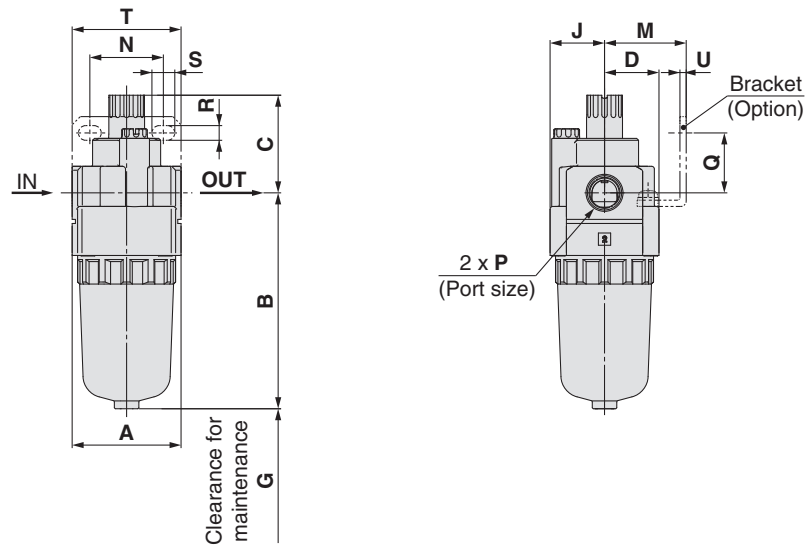
AL

AW

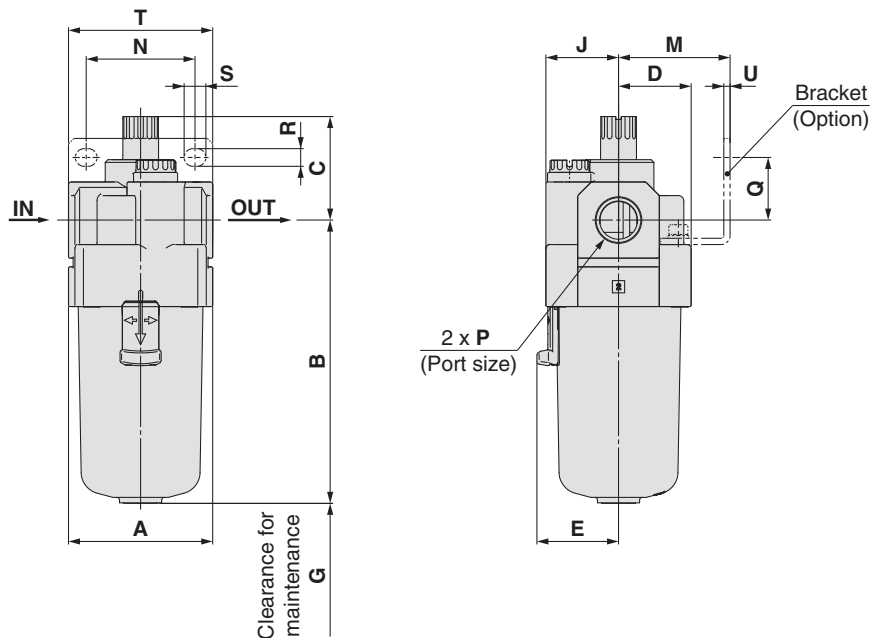
Series AL20-A to AL40-A

Dimensions

AL20-A



AL30-A, AL40-A



Applicable model	AL20-A		AL30-A to AL40-A	
	Optional/Semi-standard specifications	With drain cock	Metal bowl with drain cock	With drain cock
Dimensions				

Model	Standard specifications								Optional specifications						
	P	A	B	C	D	E	G	J	M	N	Q	R	S	T	U
AL20-A	1/8, 1/4	40	79.3	35.9	20	—	60	20	30	27	22	5.4	8.4	40	2.3
AL30-A	1/4, 3/8	53	104.1	38.1	26.7	30	80	26.7	41	40	23	6.5	8	53	2.3
AL40-A	1/4, 3/8, 1/2	70	136.1	39.8	35.5	38.4	110	35.5	50	54	26	8.5	10.5	70	2.3
AL40-06-A	3/4	75	138.1	37.8	35.5	38.4	110	35.5	50	54	25	8.5	10.5	70	2.3

Model	Semi-standard specifications	
	With drain cock	With barb fitting
AL20-A	B	B
AL20-A	87.7	—
AL30-A	115.1	123.6
AL40-A	147.1	155.6
AL40-06-A	149.1	157.6

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