

Water Separator for Vacuum

New

RoHS

Removes water droplets in the vacuum line

Prevents vacuum equipment failures

Weight

Max. 30% reduction

New AMJ40-D: 0.42 kg ← AMJ4000: 0.6 kg

Water drop removal ratio

99% or more

(Based on SMC's measuring conditions)

Better environmental resistance with 2-layer construction

The bowl is covered with a transparent bowl guard.

Instead of windows on the bowl guard, the inner bowl is covered with a polycarbonate transparent bowl guard. Now, even if the environment changes and the bowl is exposed to corrosive chemical or oil splash, the foreign matter will not stick directly to the pressurized bowl. This reduces the risk of bowl breakage.

Transparent bowl guard

Inner bowl

Material: Polycarbonate

Superior visibility: 360°

Use of a transparent bowl guard makes it possible to check the element inside the case from the entire periphery.

Bowl guard options

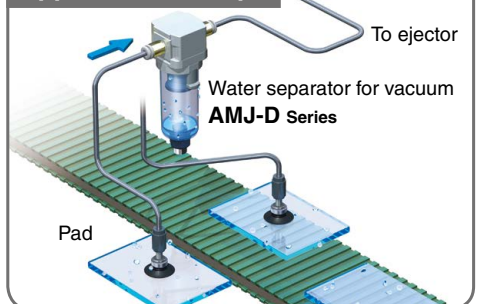
Polycarbonate

Nylon

Metal

Model	Port size					Flow capacity [L/min (ANR)]					Bowl capacity [cm ³]
	1/4	3/8	1/2	3/4	1	100	200	300	400	500	
AMJ30-D	●	●				Max. 200					45
AMJ40-D		●	●			Max. 350					96
AMJ50-D				●	●	Max. 500					96

Application example



AMJ-D Series



CAT.ES100-132A

Water Separator for Vacuum

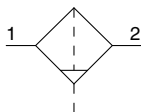
RoHS

AMJ30-D to AMJ50-D



Symbol

Water separator for vacuum



How to Order

AMJ **30** - **03** - **03** - **03** - **D**

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) AMJ30-N03B-2R-D

	Symbol	Description	① Body size			
			30	40	50	
② Pipe thread type	+					
	Nil	Rc	●	●	●	
	N	NPT	●	●	●	
③ Port size	+					
	02	1/4	●	—	—	
	03	3/8	●	●	—	
	04	1/2	—	●	—	
	06	3/4	—	—	●	
④ Bracket	+					
	Nil	Without mounting option	●	●	●	
⑤ Semi-standard	a Bowl*2	Nil	Polycarbonate bowl	●	●	●
		2	Metal bowl	●	●	●
		6	Nylon bowl	●	●	●
	b Drain port	+				
		Nil	With drain cock (1/8 female thread)	●	●	●
		J*3	With drain guide (1/4 female thread)	●	●	●
	c Flow direction	+				
		Nil	Flow direction: Left to right	●	●	●
		R	Flow direction: Right to left	●	●	●
	d Pressure unit	+				
		Nil	Unit on product label: kPa, °C	●	●	●
		Z*4	Unit on product label: psi, °F	○*5	○*5	○*5

- *1 Option B is not assembled, it is supplied loose at the time of shipment. The assembly consists of 2 types of the bracket and 2 mounting screws.
- *2 For chemical resistance of the bowl, refer to chemical data in the Specific Product Precautions on page 3.
- *3 Without a valve function. The mounting screws are the same as the thread of ②.

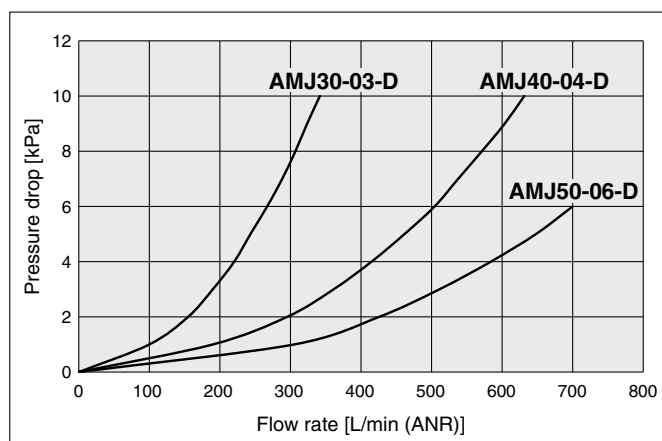
- *4 For pipe thread type NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.)
- *5 ○: For pipe thread type NPT only

Standard Specifications

Model	AMJ30-D		AMJ40-D		AMJ50-D	
Port size	1/4	3/8	3/8	1/2	3/4	1
Fluid	Air					
Ambient and fluid temperatures	-5 to 60°C (No freezing)					
Proof pressure	0.5 MPa					
Operating pressure range	-100 to 0 kPa					
Max. flow capacity [L/min (ANR)]	200		350		500	
Drain capacity [cm ³]	45		96		96	
Water drop removal ratio*1	99%					
Weight [kg]	0.22		0.42		1.01	

*1 Based on SMC's measuring conditions. A water droplet means condensed (liquified) content of water, and does not include water vapor which is not a form of condensation.

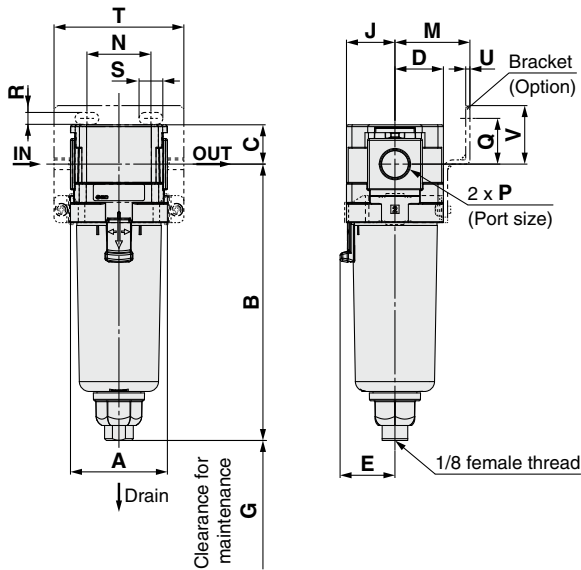
Flow Rate Characteristics (Representative Value)



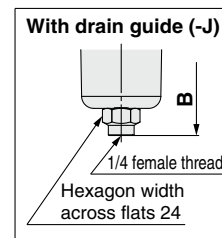
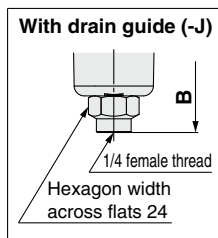
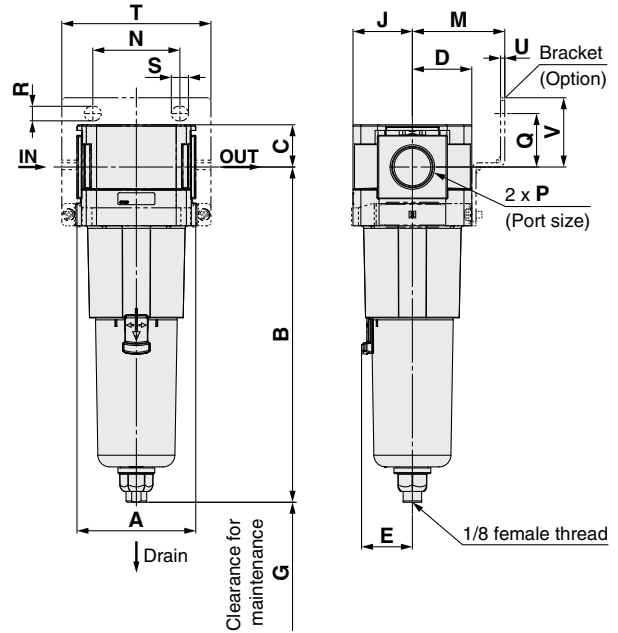
Water Separator for Vacuum **AMJ30-D to AMJ50-D Series**

Dimensions

AMJ30-D, AMJ40-D



AMJ50-D



[mm]

Model	P	A	B*1		C	D	E	G	J	Bracket mounting dimensions							
			With drain cock	With drain guide						M	N	Q	R	S	T	U	V
AMJ30-D	1/4, 3/8	53	151.2 (151.1)	144.4 (144.3)	21.5	26.5	30	45	26.5	41	35	25	6.5	13	71	2.3	32
AMJ40-D	3/8, 1/2	70	181 (182.8)	174.2 (176)	25.5	35.5	38.4	70	35.5	50	52	30	8.5	12.5	88	2.3	39
AMJ50-D	3/4, 1	90	254 (255.8)	247.2 (249)	32	45	38.4	80	45	70	66	40.5	11	13	113	3.2	52.5

*1 () is the case for metal bowl.

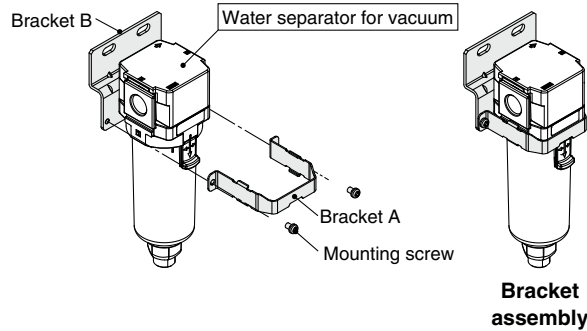
AMJ30-D to AMJ50-D Series Accessories (Optional Parts)

Bracket Assembly

AF **34** P - 070AS

● **Body size**

34	Size 30
44	Size 40
54	Size 50



* The assembly consists of a bracket A/B and 2 mounting screws.

Element

AMJ-EL **30** 00

● **Body size**

30	Size 30
40	Size 40
50	Size 50

Refer to the operation manual for bowl assembly part numbers.

Design

⚠ Caution

1. The material of the standard bowl of the water separator for vacuum is 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 Potassium nitrate 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	×	×


Type	Chemical name	Application examples	Material	
			Polycarbonate	Nylon
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.


2. When vacuum (negative pressure) and vacuum release (positive pressure) is applied in turn repeatedly, and repeating is frequent, make sure that the vacuum release pressure is 0.1 MPa or less and the bowl temperature is less than the maximum operating temperature.

Safety Instructions

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

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

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

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

*1) ISO 4414: Pneumatic fluid power - General rules and safety requirements for systems and their components
ISO 4413: Hydraulic fluid power - General rules and safety requirements for systems and their components
IEC 60204-1: Safety of machinery - Electrical equipment of machines - Part 1: General requirements
ISO 10218-1: Robots and robotic devices - Safety requirements for industrial robots - Part 1: Robots etc.

Warning

1. The compatibility of the product is the responsibility of the person who designs the equipment or decides its specifications.

Since the product specified here is used under various operating conditions, its compatibility with specific equipment must be decided by the person who designs the equipment or decides its specifications based on necessary analysis and test results. The expected performance and safety assurance of the equipment will be the responsibility of the person who has determined its compatibility with the product. This person should also continuously review all specifications of the product referring to its latest catalog information, with a view to giving due consideration to any possibility of equipment failure when configuring the equipment.

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

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

3. Do not service or attempt to remove product and machinery/equipment until safety is confirmed.

1. The inspection and maintenance of machinery/equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.
2. When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.
3. Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.

4. SMC products cannot be used beyond their specifications. They are not developed, designed, and manufactured to be used under the following conditions or environments. Use under such conditions or environments is not allowed.

1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
2. Use for nuclear power, railways, aviation, space equipment, ships, vehicles, military application, equipment affecting human life, body, and property, combustion equipment, entertainment equipment, emergency shut-off circuits, press clutches, brake circuits, safety equipment, etc., and use for applications that do not conform to standard specifications such as catalogs and operation manuals.
3. Use for interlock circuits, except for use with double interlock such as installing a mechanical protection function in case of failure. Please periodically inspect the product to confirm that the product is operating properly.

Caution

SMC develops, designs, and manufactures products to be used for automatic control equipment, and provides them for peaceful use in manufacturing industries.

Use in non-manufacturing industries is not allowed.

Products SMC manufactures and sells cannot be used for the purpose of transactions or certification specified in the Measurement Act of each country. The new Measurement Act prohibits use of any unit other than SI units in Japan.

Limited warranty and Disclaimer/ Compliance Requirements

The product used is subject to the following “Limited warranty and Disclaimer” and “Compliance Requirements”.

Read and accept them before using the product.

Limited warranty and Disclaimer

1. The warranty period of the product is 1 year in service or 1.5 years after the product is delivered, whichever is first.*2)
Also, the product may have specified durability, running distance or replacement parts. Please consult your nearest sales branch.
2. For any failure or damage reported within the warranty period which is clearly our responsibility, a replacement product or necessary parts will be provided.
This limited warranty applies only to our product independently, and not to any other damage incurred due to the failure of the product.
3. Prior to using SMC products, please read and understand the warranty terms and disclaimers noted in the specified catalog for the particular products.

*2) **Suction cups (Vacuum pads) are excluded from this 1 year warranty.**

A suction cup (vacuum pad) is a consumable part, so it is warranted for a year after it is delivered.

Also, even within the warranty period, the wear of a product due to the use of the suction cup (vacuum pad) or failure due to the deterioration of rubber material are not allowed by the limited warranty.

Compliance Requirements

1. The use of SMC products with production equipment for the manufacture of weapons of mass destruction (WMD) or any other weapon is strictly prohibited.
2. The exports of SMC products or technology from one country to another are governed by the relevant security laws and regulations of the countries involved in the transaction. Prior to the shipment of a SMC product to another country, assure that all local rules governing that export are known and followed.

Safety Instructions

Be sure to read the “Handling Precautions for SMC Products” (M-E03-3) and “Operation Manual” before use.