

# 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

Material: Polycarbonate

Inner bowl

Superior visibility: 360°

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

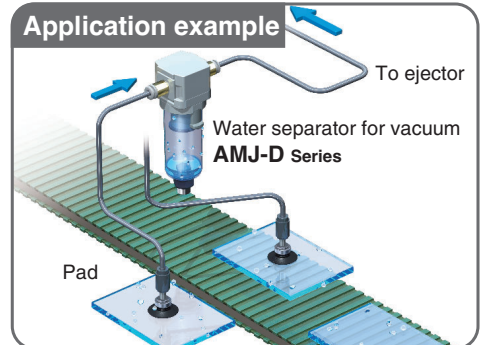
Bowl guard options

Polycarbonate

Nylon

Metal

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



AMJ-D Series



CAT.EUS100-132A-UK

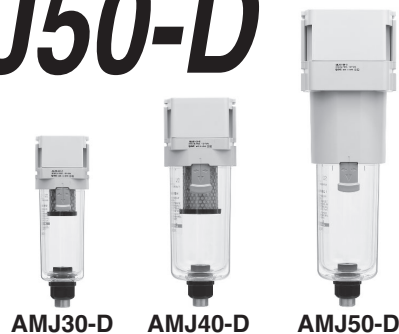
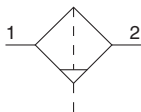
# Water Separator for Vacuum

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	-	Rc	●	●	●	
	N	NPT	●	●	●	
	F	G	●	●	●	
	+					
③ Port size	02	1/4	●	—	—	
	03	3/8	●	●	—	
	04	1/2	—	●	—	
	06	3/4	—	—	●	
	10	1	—	—	●	
	+					
④ Bracket	-	Without mounting option	●	●	●	
	B*1	With bracket	●	●	●	
	+					
⑤ Semi-standard	a Bowl*2	-	Polycarbonate bowl	●	●	●
		2	Metal bowl	●	●	●
		6	Nylon bowl	●	●	●
	b Drain port	-	With drain cock (1/8 female thread)	●	●	●
		J*3	With drain guide (1/4 female thread)	●	●	●
	c Flow direction	-	Flow direction: Left to right	●	●	●
		R	Flow direction: Right to left	●	●	●
	d Pressure unit	-	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.

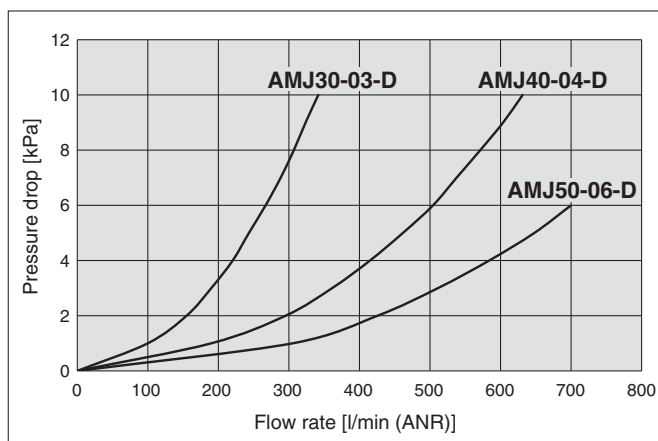
\*5 ○: For pipe thread type NPT only

## 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 <sup>3</sup> ]	45	96	96
Water drop removal ratio*1	99 %		
Weight [kg]	0.22	0.42	1.01

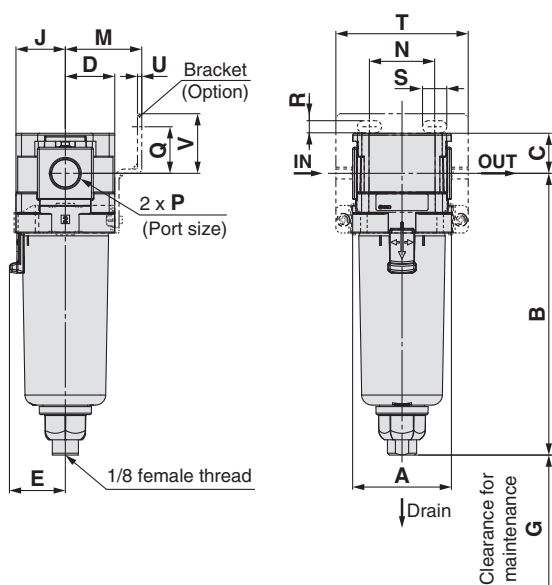
\*1 Based on SMC's measuring conditions. A water droplet means condensed (liquified) content of water, and does not include water vapor which is not a form of condensation.

## Flow Rate Characteristics (Representative Value)

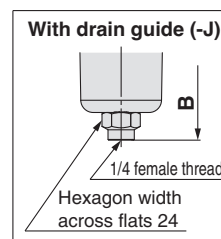
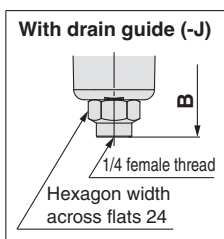
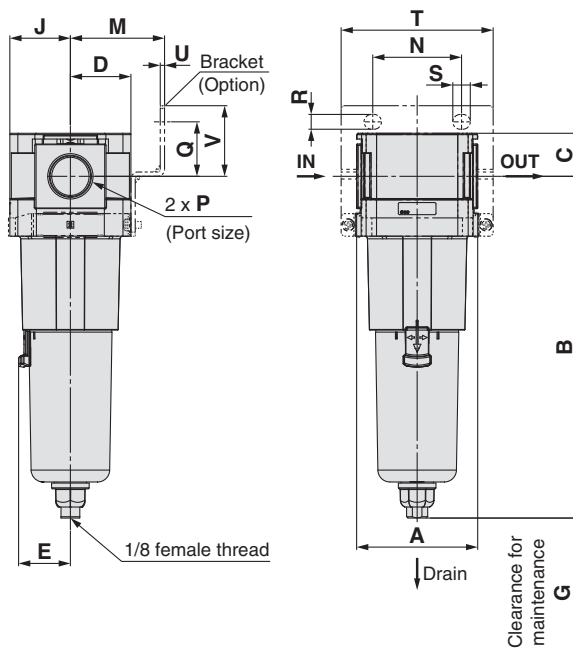


## Dimensions

### AMJ30-D, AMJ40-D



### AMJ50-D



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
			<b>AMJ30-D</b>	1/4, 3/8						53	151.2 (151.1)	144.4 (144.3)	21.5	26.5	30	45	26.5
<b>AMJ40-D</b>	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
<b>AMJ50-D</b>	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.

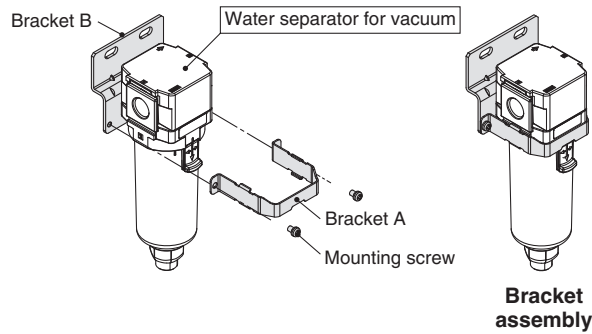
# AMJ30-D to AMJ50-D Series Accessories (Optional Parts)

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

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)<sup>1)</sup>, and other safety regulations.

 <b>Danger:</b>	<b>Danger</b> indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.
 <b>Warning:</b>	<b>Warning</b> indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.
 <b>Caution:</b>	<b>Caution</b> 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 catalogue 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. Our products cannot be used beyond their specifications. Our products are not developed, designed, and manufactured to be used under the following conditions or environments.

#### Use under such conditions or environments is not covered.

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, fuel 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 catalogues 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

**We develop, design, and manufacture our products to be used for automatic control equipment, and provide them for peaceful use in manufacturing industries.**

**Use in non-manufacturing industries is not covered.**

Products we manufacture and sell cannot be used for the purpose of transactions or certification specified in the Measurement Act.

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.<sup>2)</sup> 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 catalogue for the particular products.
- 2) Vacuum pads are excluded from this 1 year warranty.  
A vacuum pad is a consumable part, so it is warranted for a year after it is delivered. Also, even within the warranty period, the wear of a product due to the use of the vacuum pad or failure due to the deterioration of rubber material are not covered by the limited warranty.

### Compliance Requirements

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

## Safety Instructions

Be sure to read “Handling Precautions for SMC Products” (M-E03-3) before using.

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