

Water Separator

Series AMG

The AMG series water separator is installed on the air pressure line to remove water drops in the compressed air. It is suitable for use in cases where "water must be removed, but the air does not have to be as dry as when an air dryer is used" or "an air dryer cannot be used because an electric power supply is not available".

Through the adoption of an element that is used exclusively for removing water drops and the provision of ample housing interior space, a 99%* water removal rate** has been achieved.

⚠ Caution

Water separator can remove water droplets, but it cannot remove moisture.

*Condition of inlet air

Pressure: 0.7MPa

Temperature: 25°C

Relative humidity: 100%

Liquid water content (Water droplet content): 1.5g/m³ (ANR)

Compressed air flow: Rated flow of each model

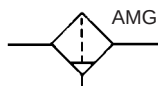
**Removed rate of water % =

$$\frac{\text{Removed water (Water droplet) g}}{\text{Inflow water (Water droplet) g}} \times 100$$

Various equipment for drain discharge



Symbol



Model

Model	AMG150	AMG250	AMG350	AMG450	AMG550	AMG650	AMG850
Flow rate (ℓ/min (ANR)) ⁽¹⁾	300	750	1500	2200	3500	6000	12000
Port size (Nominal size B)	1/8, 1/4, 3/8	1/4, 3/8, 1/2	3/8, 1/2, 3/4	1/2, 3/4, 1	3/4, 1	1, 1 1/2	1 1/2, 2
Weight (kg)	0.38	0.55	0.9	1.4	2.1	4.2	10.5



Note 1) Max. flow is at 0.7MPa.

Max. flow depends on operating pressure. Please refer to p.4.3-2 for flow rate and to p.4.3-3 for graph of max. flow.

Specifications

Fluid	Compressed air
Max. operating pressure	1.0MP
Min. operating pressure*	0.05MPa
Proof pressure	1.5MPa
Ambient/Fluid temperature	5 to 60°C
Removal rate of water	99%
Element life	2 years or when pressure drop reaches 0.1MPa

*With N.O. auto drain: 0.15MPa

Accessories (Options)

Applicable model	AMG150	AMG250	AMG350	AMG450	AMG550	AMG650	AMG850
Bracket assembly (With cap bolt With spring washer)	BM51	BM52	BM53	BM54	BM55	BM56	BM57

How to Order

E **AMG** **250** — **F** **03** **B** — **J**

Body size

150	1/8
250	1/4
350	3/8
450	1/2
550	3/4
650	1
850	1 1/2

Thread

—	Rc (PT)
F	G(PF)
N	NPT

Port size

01	1/8 ^B	06	3/4 ^B
02	1/4 ^B	10	1 ^B
03	3/8 ^B	14	1 1/2 ^B
04	1/2 ^B	20	2 ^B

Options*

J	Drain guide 1/4 ^B female thread
R	IN-OUT reverse direction

Accessories (Options)*

Symbol	Description
—	No accessories
B	Bracket
C	N.C. auto drain
D	N.O. auto drain

*Please refer to the following table for combinations of accessories and options.

Note) Please refer to p.4.7-6 about "How to Order" case assembly.

Option combinations

Option combinations						⊙ Available				■ Not available			
Accessories/Optional specification			Accessories		Options		Applicable model						
			C	D	J	R	AMG150	AMG250	AMG350	AMG450	AMG550	AMG650	AMG850
Accessories	N.C. auto drain	C				⊙	⊙	⊙	⊙	⊙			
	N.O. auto drain	D				⊙	⊙	⊙	⊙	⊙	⊙	⊙	
Options	Drain guide 1/4 B	—J				⊙	⊙	⊙	⊙	⊙	⊙		
	IN-OUT reverse direction	—R	⊙	⊙	⊙		⊙	⊙	⊙	⊙	⊙	⊙	

Series AMG

Flow Rate

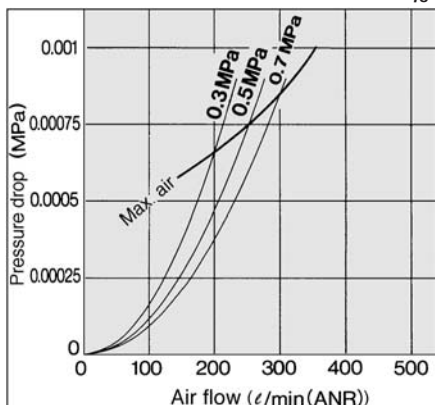
Initial condition of element



Note) If compressed air is above max. flow, water separator cannot operate well.

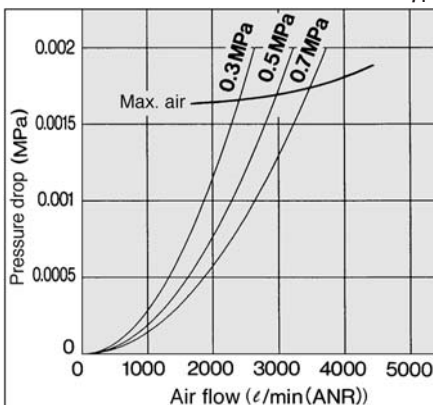
AMG150

1/8B



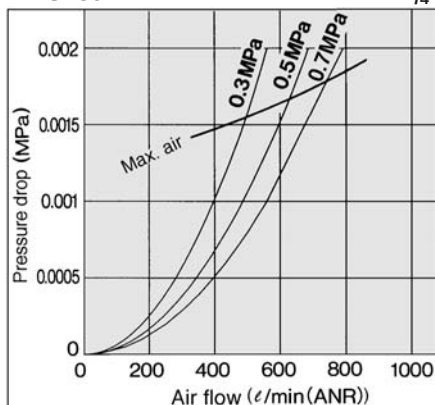
AMG550

3/4B



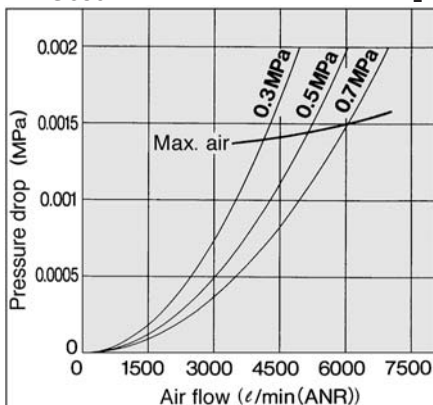
AMG250

1/4B



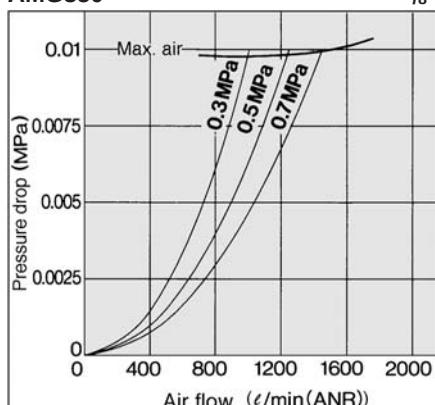
AMG650

1B



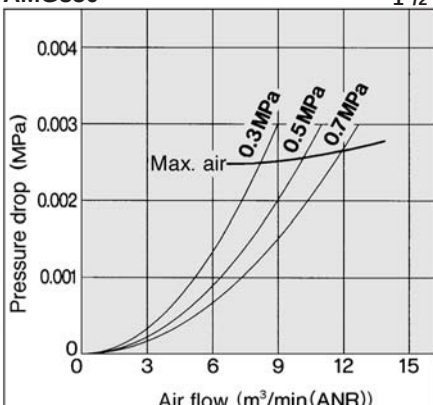
AMG350

3/8B



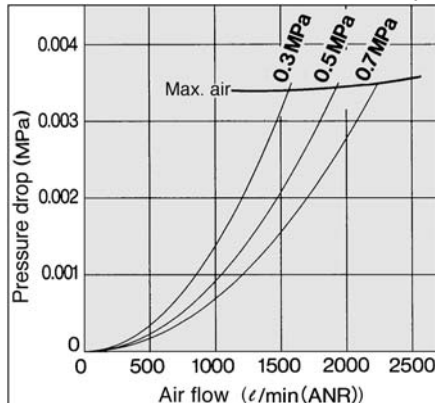
AMG850

1 1/2B



AMG450

1/2B



⚠ Precautions

Be sure to read before handling.
Refer to p.0-26 and 0-27 for Safety Instructions and common precautions on the products mentioned in this catalogue, and refer to p.4.0-5 to 4.0-7 for more detailed precautions of every series.

Design

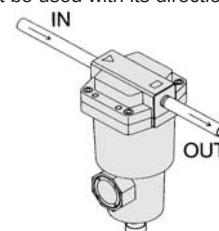
⚠ Caution

- Place this product in a location that is not likely to create pulsations. If the internal/external pressure difference exceeds 0.1 MPa, the element could break.
- When using an auto drain, drain pipes must be connected within the following range:
Normally closed (N.C.) }
Normally open (N.O.) }
Tube fittings are provided. Therefore, use a 10mm external tube, and keep the pipe length within 5m.
AMG850 type (N.O.)
Use a tube with a minimum bore of 9mm, and keep its length within 2.8m.
When using a normally open (N.O.) auto drain, because the valve does not close until the air pressure becomes higher than 0.15MPa, the air could keep discharging from the drain discharge section of an air compressor with a small air discharge volume. Therefore, make sure to use a normally closed (N.C.) auto drain with a compressor under 3.7kW.
- The bracket that is provided with the product is for supporting the product itself. Separate supports must be provided for piping and other connection devices.

Installation

⚠ Caution

- Verify the direction of the compressed air flow and the "▷" mark that indicates the inlet side of the product before connecting. It cannot be used with its direction reversed.



- Make sure to install this product horizontally. If it is installed diagonally, sideways, or upside down, the drainage that was separated by the element will splash to the secondary side.

Maintenance

⚠ Caution

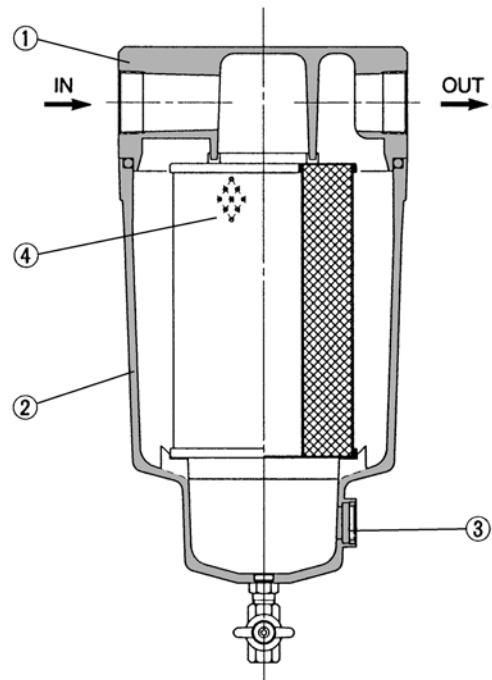
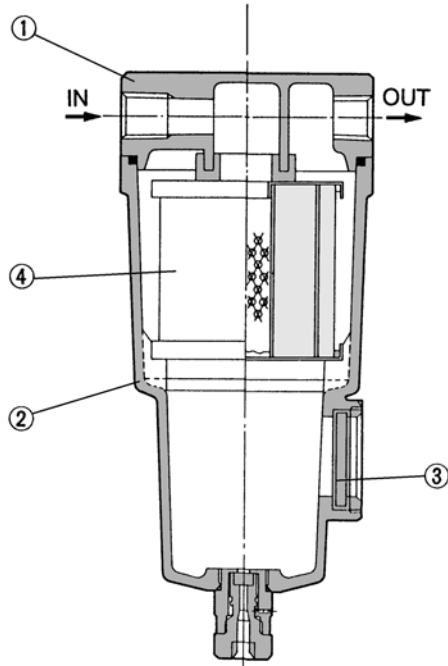
- The element replacement period is when the pressure drop has reached 0.1MPa or 2 years have elapsed after it has been put into use, whichever comes first.
- When it is time to replace the element, immediately replace it with a new element. Also replace the O ring and the gasket.
- When using a product equipped with a drain valve, drain guide, or a ball valve, discharge the drainage before the drain fluid surface reaches the center of the sight glass. If it is not discharged properly, the drainage will flow out to the secondary side.

Water Separator Series **AMG**

Construction

AMG150 to AMG650

AMG850



Component Parts

No.	Description	Material	Remark
①	Body	Aluminum die cast	Chromate treatment, Epoxy coating on inner surface
②	Housing	Aluminum die cast*	
③	Sight glass	Tempered glass	

* AMG850: Aluminum casting

Replacement Parts

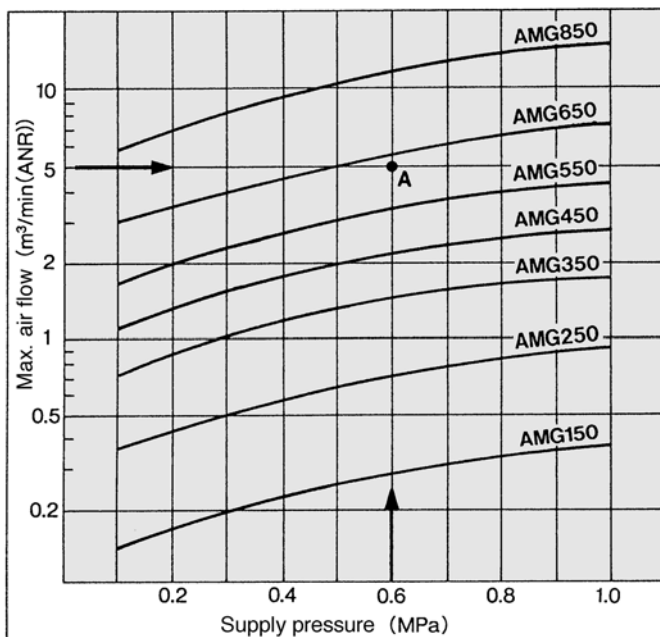
No.	Description	Material	Part No.						
			AMG150	AMG250	AMG350	AMG450	AMG550	AMG650	AMG850
④	Element assembly	Resin NBR	AMG-EL150	AMG-EL250	AMG-EL350	AMG-EL450	AMG-EL550	AMG-EL650	AMG-EL850

* With gasket, With O ring



Note: Constructions show sight glass, but mounting position is different from actual position. Please refer to p.4.3-4 and 4.3-5 about drawings for more detailed.

Max. Air Flow



How to Select Model

Follow the procedure given below to select the model in accordance with the inlet pressure and maximum air flow rate requirements.

(Example) Inlet pressure : 0.6 MPa

Maximum air flow rate: 5m³/min (ANR)

① Using the "Max. air flow", find point A, at which the input pressure and the maximum air flow rate intersect.

② To select one with the maximum air flow rate line that is located above the obtained intersecting point A, the model will be AMG650.



Note) Make sure to select a model with the maximum air flow rate line that is located above the obtained intersection point. A model with the maximum air flow rate line that is located below the obtained intersection point will have an excess flow rate, and will not satisfy the specifications.

HA□

IDG

AMG

AFF

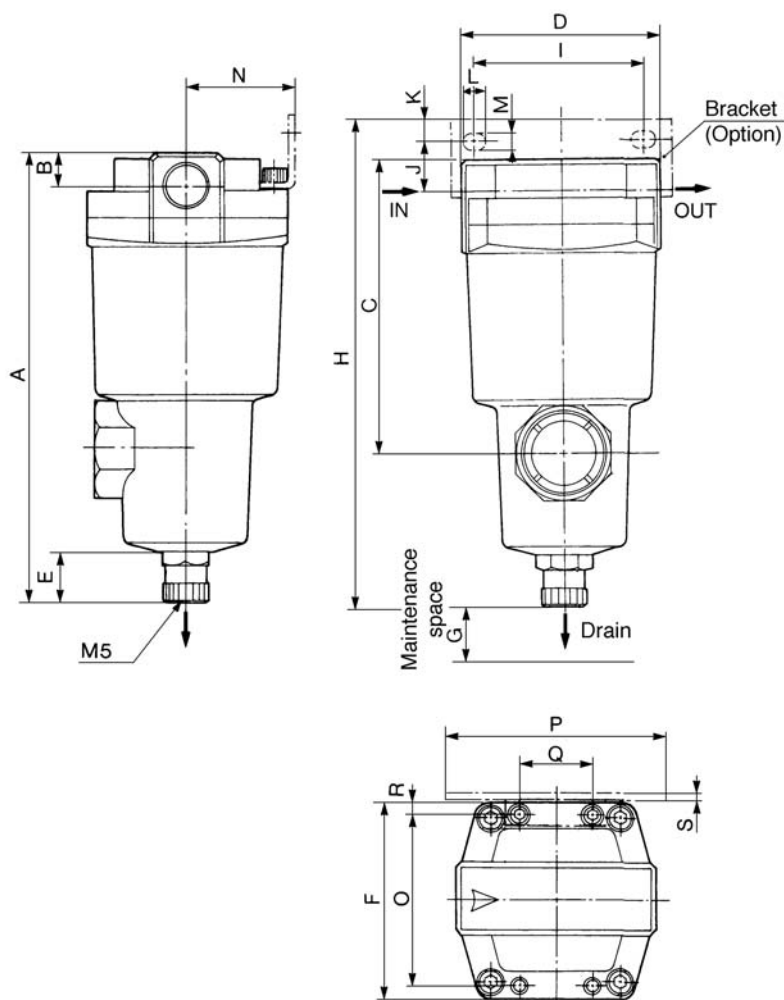
AM□

FQ1

Related products

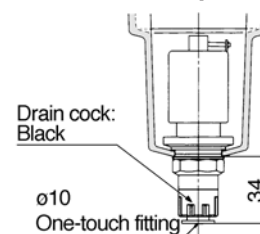
Series AMG

AMG150 to AMG650 Dimensions

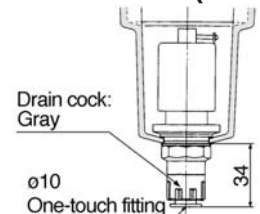


Accessories

D: With auto drain (N.O. Type)



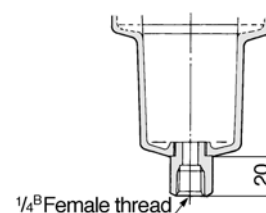
C: With auto drain (N.C. Type)



*N.C. type of AMG650 is not available.

Options

J: With drain guide



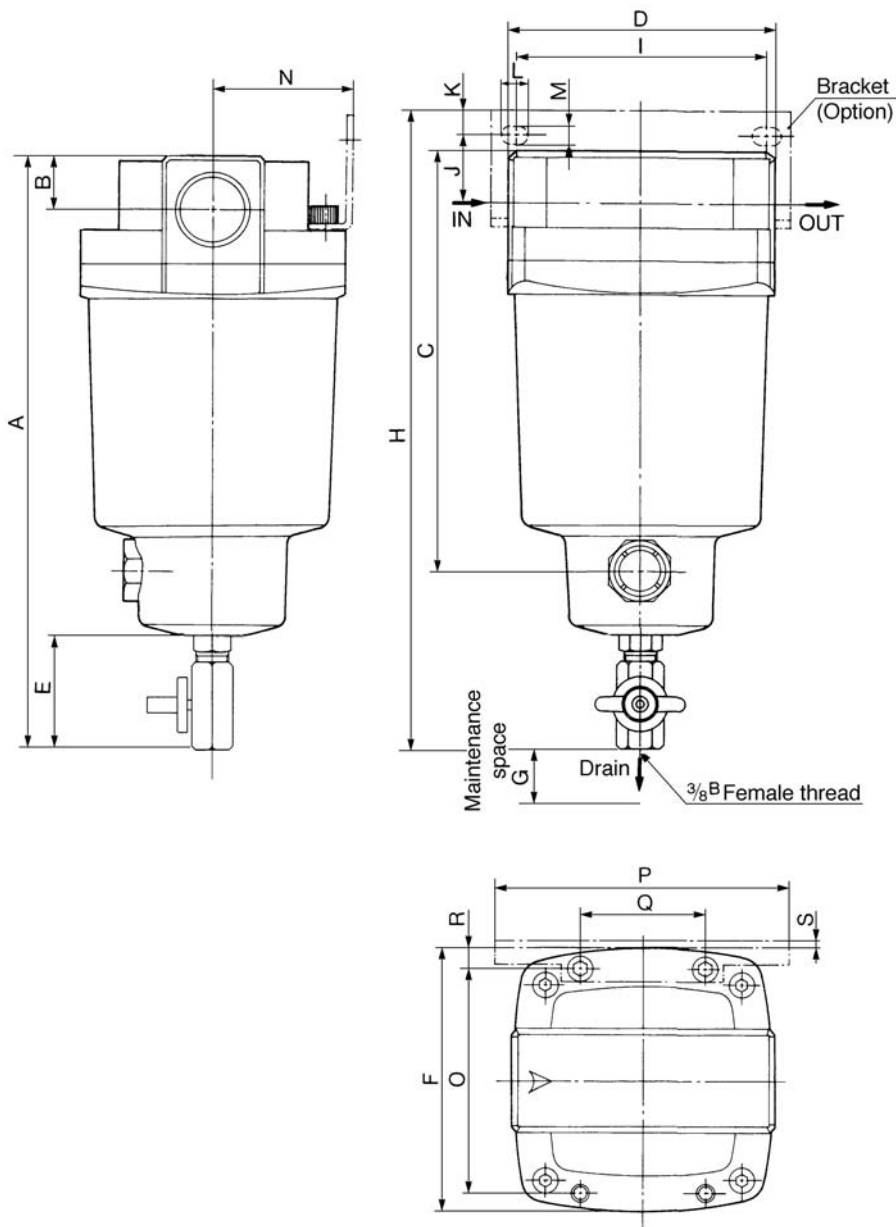
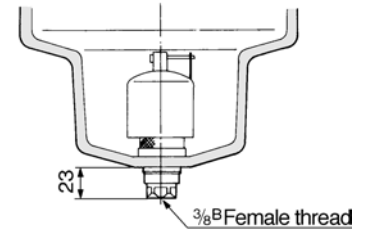
Model	Port Size (Nominal size B)	A	B	C	D	E	F	G	Mounting Dimensions											
									H	I	J	K	L	M	N	O	P	Q	R	S
AMG150	1/8, 1/4, 3/8	159	13	100	63	20	63	10	166	56	15	5	9	5.5	35	54	70	26	4.5	1.6
AMG250	1/4, 3/8	172	13	113	76	20	76	10	187	66	20	8	12	6	40	66	84	28	5	2.0
	1/2	178	16	119	76	20	76	10	187	66	17	8	12	6	40	66	84	28	5	2.0
AMG350	3/8, 1/2	204	16	145	90	20	90	10	218	80	22	8	14	7	50	80	100	34	5	2.3
	3/4	210	19	151	90	20	90	10	218	80	19	8	14	7	50	80	100	34	5	2.3
AMG450	1/2, 3/4	225	19	166	106	20	106	10	241	90	25	10	14	9	55	88	110	50	9	3.2
	1	232	22	173	106	20	106	10	241	90	21	10	14	9	55	88	110	50	9	3.2
AMG550	3/4, 1	259	22	200	122	20	122	10	277	100	30	10	16	9	65	102	130	60	10	4.5
AMG650	1, 1 1/2	311	32	253	160	20	160	10	334	150	40	15	20	11	85	136	180	76	12	4.5

Water Separator Series **AMG**

AMG850 Dimensions

Accessory

D: With auto drain (N.O. type) for AMG850



Model	Port size (Nominal size B)	A	B	C	D	E	F	G	Mounting Dimensions											
									H	I	J	K	L	M	N	O	P	Q	R	S
AMG850	1 ¹ / ₂ , 2	460.5	42	348	220	57.5	220	10	463.5	180	30	15	24	13	120	184	220	110	18	6.0

HA□

IDG

AMG

AFF

AM□

FQ1

Related
products

Consult SMC for detailed specifications, size and delivery.

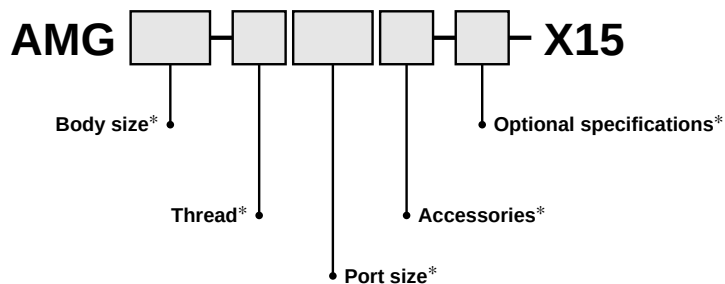
①With IN-OUT flange

Available for flange piping easily.

Specifications

Applicable Model	AMG450 to AMG850
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How to Order *: Refer to p.4.3-1 for "How to Order" standard specifications.



Dimensions

