# **Compressed Air Cleaning Filter Series**

# For Water, Solid/Oil Separation and Deodorization

Modular connection, Space-saving design, Labor-saving in piping! (AMGIC, AFFIC, AMCIC, AMDIC)







# Water droplet removal

## **Water Separator**

Water droplet separation rate: 99%





AMG150C to 550C

AMG650/850

Мо	del	Flow capacity /min (ANR)  Max. flow  capacity at  0.7 MPa  inlet pressure	Port size
	150C	300	1/8, 1/4
	250C	750	1/4, 3/8
	350C	1,500	3/8, 1/2
AMG	450C	2,200	1/2, 3/4
	550C	3,700	3/4, 1
	650	6,000	1, 1 1/2
	850	12,000	1 1/2, 2

# Large dust particle filtration, Oil droplet separation

## **Main Line Filter**

Nominal filtration rating: 3 µm

[Filtration efficiency: 99%]





AFF2C to 22C

AFF37B/75B

	2C	300	1/8, 1/4
	4C	750	1/4, 3/8
	8C	1,500	3/8, 1/2
AFF	11C	2,200	1/2, 3/4
	22C	3,700	3/4, 1
	37B	6,000	1, 1 1/2
	75B	12,000	1 1/2, 2

# **Dust filtration, Oil mist separation**

## **Mist Separator**

Nominal filtration rating: 0.3 µm [Filtration efficiency: 99.9%] Oil mist density at outlet: Max. 1.0 mg/m<sup>3</sup> (ANR) [≈0.8 ppm]



AM150C to 550C AM650/850

	150C	300	1/8, 1/4
	250C	750	1/4, 3/8
	350C	1,500	3/8, 1/2
AM	450C	2,200	1/2, 3/4
	550C	3,700	3/4, 1
	650	6,000	1, 1 1/2
	850	12,000	1 1/2, 2

# Dust filtration, Oil mist separation

#### **Micro Mist Separator**

Nominal filtration rating:  $0.01 \mu m$ [Filtration efficiency: 99.9%] Oil mist density at outlet: Max. 0.1 mg/m<sup>3</sup> (ANR) [≈0.08 ppm]





AMD150C to 550C

AMD650 to 850

	150C	200	1/8, 1/4
	250C	500	1/4, 3/8
	350C	1,000	3/8, 1/2
AMD	450C	2,000	1/2, 3/4
	550C	3,700	3/4, 1
	650	6,000	1, 1 1/2
	850	12,000	1 1/2, 2

# Series AM□/AFF

# Dust filtration, Oil mist separation

# Micro Mist Separator with Pre-filter

Built-in 0.3 µm pre-filter
The AM + AMD element have been integrated to achieve a space-saving design.
Nominal filtration rating: 0.01 µm
[Filtration efficiency: 99.9%]

Oil mist density at outlet: Max. 0.1 mg/m³ (ANR)

[≈0.08 ppm]



AMH150C to 550C AMH650/850

# **Dust filtration, Oil mist adsorption**

## **Super Mist Separator**

Colour change indicates when element is saturated.

Nominal filtration rating: 0.01 µm [Filtration efficiency: 99.9%] Oil mist density at outlet: Max. 0.01 mg/m³ (ANR) [≈0.008 ppm] Cleanliness at outlet:

Not more than 35 particles of size 0.3 μm or larger/10 *ϵ* (100 particles or less/ft<sup>3</sup>) AME150C to 550C



# Deodorization

#### Odour Removal Filter

Nominal filtration rating: 0.01 μm [Filtration efficiency: 99.9%] Oil mist density at outlet: Max. 0.004 mg/m³ (ANR) [≈0.0032 ppm]







AMF650 to 850

Мс	odel	Flow capacity     /min (ANR)  Max. flow  capacity at  0.7 MPa  inlet pressure	Port size
	150C	200	1/8, 1/4
	250C	500	1/4, 3/8
	350C	1,000	3/8, 1/2
AMH	450C	2,000	1/2, 3/4
	550C	3,700	3/4, 1
	650	6,000	1, 1 ½
	850	12,000	1 1/2, 2
	150C	200	1/8, 1/4
	250C	500	1/4, 3/8
	350C	1,000	3/8, 1/2
AME	450C	2,000	1/2, 3/4
	550C	3,700	3/4, 1
	650	6,000	1, 1 ½
	850	12,000	1 ½, 2
	150C	200	1/8, 1/4
	250C	500	1/4, 3/8
	350C	1,000	3/8, 1/2
AMF	450C	2,000	1/2, 3/4
	550C	3,700	3/4, 1
	650	6,000	1, 1 ½
	850	12,000	1 1/2, 2

# **Compressed Air Cleaning Filter Series**

# Series AM□/AFF

	Series	Water removal rate	Nominal filtration rating	Oil mist density at outlet	Smell	Page
	_		_	_	▼	
Water Separator     Eliminates water droplets in the compressed air.	Series AMG	99%	_		_	P.2
Main Line Filter     Eliminates impurities such as oil and foreign matter, etc. in compressed air.	Series AFF		3 μm (Filtration efficiency: 99%)	_		P.10
Mist Separator Eliminates oil mist in compressed air or rust sized 0.3 µm or more, and foreign matter such as carbon.	Series AM		0.3 μm (Filtration efficiency: 99.9%)	1 mg/m³ (ANR) (≈0.8 ppm) (after oil saturation)	_	P.18
matter such as carbon.  • Micro Mist Separator Eliminates foreign matter sized 0.01 μm or more, or oil particles in an aerosol state.	Series AMD		0.01 µm (Filtration efficiency: 99.9%)	0.1 mg/m³ (ANR) (≈0.08 ppm)		P.26
Micro Mist Separator with Pre-filter     Oil separator, which incorporates pre-filter (equivalent to the AM series) into micro mist separator.	Series AMH		0.3 + 0.01 µm (Filtration efficiency: 99.9%)	(after oil saturation)		P.34
• Super Mist Separator Captures foreign matter sized 0.01 µm or more and adsorbs oil particles in an aerosol state.	Series AME		0.01 μm (Filtration	0.01 mg/m³ (ANR) (≈0.008 ppm)	Reduces oil smell.	P.42
Odour Removal Filter     Eliminates odour from     compressed air.	Series AMF		efficiency: 99.9%)	0.004 mg/m³ (ANR) (≈0.0032 ppm)	Deodorizes oil smell.	P.50
Modular Connection Examples						P.58
How to Order Bowl Assembly						P.59
Options  • For med • With diff	terial: Fluororu lium air pressu erential pressu C, 30 VDC)	ıre • Draiı	´ ● With	threaded white vaseli	ne it service indicator	Refer to "How to Order" of respective models.
Possible by monit  Auto dra specific	ferential pressi to control produ- oring the clogge- ain type, drain ations bing is possible	uct's service li ed element. <b>guide</b>	ife L	<b>White vaseline specifica</b> Jsing white vaseline for lu		P.63
Applicable only to the AFF37B, 75B, AM□650 a						
Special Specifications Clean Se Usable in	e <b>ries</b> nside a clean ro	om.	• •	r, <b>Fluorine-free</b> ne effects on a colour CRT etc.	by copper ion or	P.63
Related Products Auto Dra	in Valve, Motor	r Operated Au	ıto Drain, Heavy Du	ıty Auto Drain, Differentia	al Pressure Gauge	P.67



Back page 7

**Discontinued Model and Equivalent Model** 

# Water Separator

# Series AMG

Can remove water droplets in compressed air. Use this product in cases where "water must be avoided, but not so dry as when an air dryer is used".

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

#### 

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

\* Condition of inlet air

Pressure: 0.7 MPa Temperature: 25°C Relative humidity: 100%

Liquid water content (Water droplet

content): 15 g/m3 (ANR)

Compressed air flow: Rated flow of each

model

\*\* Water removal rate (%) = Removed water (Water droplet) (g) x 100 Inflowed water (Water droplet) (g)

#### Modular connection is possible with AMG150C to 550C.

(For details, refer to page 58.)



AMG150C to 550C

AMG650/850







#### Model

Model	AMG150C	AMG250C	AMG350C	AMG450C	AMG550C	AMG650	AMG850
Note) Rated flow ( //min (ANR))	300	750	1500	2200	3700	6000	12000
Port size	1/8, 1/4	1/4, 3/8	3/8, 1/2	1/2, 3/4	3/4, 1	1, 1½	1 1/2, 2
Mass (kg)	0.38	0.55	0.9	1.4	2.1	4.2	10.5



Note) Max. flow at 0.7 MPa.

Max. flow varies depending on the operating pressure. Refer to "Flow Characteristics" (page 5) and "Maximum Air flow" (page 6).

**Specifications** 

Fluid	Compressed air
Max. operating pressure	1.0 MPa
Min. operating pressure*	0.05 MPa
Proof pressure	1.5 MPa
Ambient and fluid temperature	5 to 60°C
Water removal rate	99%
Element life	2 years or when pressure drop reached 0.1 MPa

<sup>\*</sup> With auto drain: 0.1 MPa (N.O. type) or 0.15 MPa (N.C. type)

**Accessory** 

Applicable model	AMG150C	AMG250C	AMG350C	AMG450C	AMG550C	AMG650	AMG850
Bracket assembly (with 2 mounting screws)	AM-BM101	AM-BM102	AM-BM103	AM-BM104	AM-BM105	BM56	BM57

# **⚠** Caution

Be sure to read this before handling.

Refer to back pages 1 and 2 for Safety Instructions, "Precautions for I Handling Pneumatic Devices" (M-03-E3A) for Common Precautions, and back pages 3 through to 7 for Specific Product Precautions.

#### How to Order **AMG150C to 550C AMG** 550C Made to Order Body size 150C ("How to Order" and the applicable models are different from those 250C shown on this page. Be sure to refer to "Made to Order".) 350C Symbol Description Page for details 450C 550C **X26** N.C., N.O. auto drain, drain piping type P.65 Thread type Option \*3 Symbol Type Rc Symbol Description G\*1 Ν NPT Rubber material: Fluororubber F Conforms to Н For medium air pressure (1.6 MPa) ISO1179-1. Drain guide 1/4 female threaded \*4 J R IN-OUT reversal direction Port size Degreasing wash,\*5 white vaseline Applicable body size Symbol Size \*4 Drain piping and piping for a stop valve such 150C 250C 350C 450C 550C as ball valve are required. 01 1/8 \*5 Only body/housing is degreasing washed. 02 1/4 03 3/8 1/2 04 Auto drain \*³ 06 3/4

Accessory

Symbol	Description
_	<u> </u>
В	Bracket *2

Symbol	mbol Description			
<ul> <li>Drain cock (Without auto drain)</li> </ul>				
C N.C. auto drain				
D N.O. auto drain				

<sup>\*3</sup> Refer to the table below for the combination between the draining specification and option. (Only one draining specification is selectable).

#### **Auto Drain Specifications/Option Combinations**

①: All draining specifications are available (including drain guide, J type).

△: N.C. auto drain (C type) is not available.

▼: N.C. auto drain (C type) and N.O. auto drain (D type) are not available.

	1	F	Н	R	V
_		0	$\triangle$	0	0
F	0		▼	0	•
Н	$\triangle$	•		Δ	•
H R	0	0	$\triangle$		0
V	0	•	•	0	

<sup>:</sup> Not available

## **Options**

10

1

#### Symbol F: Rubber material: Fluororubber

Fluororubber is used for the parts such as O-ring and gasket.

#### Symbol R: IN-OUT reversal direction

Air flow in the separator is changed to right to left.

(Air flow direction of the standard: Left to right.)

#### Symbol H: For medium air pressure (1.6 MPa)

Can be used up to 1.6 MPa at maximum.

#### Symbol V: Degreasing wash, white vaseline

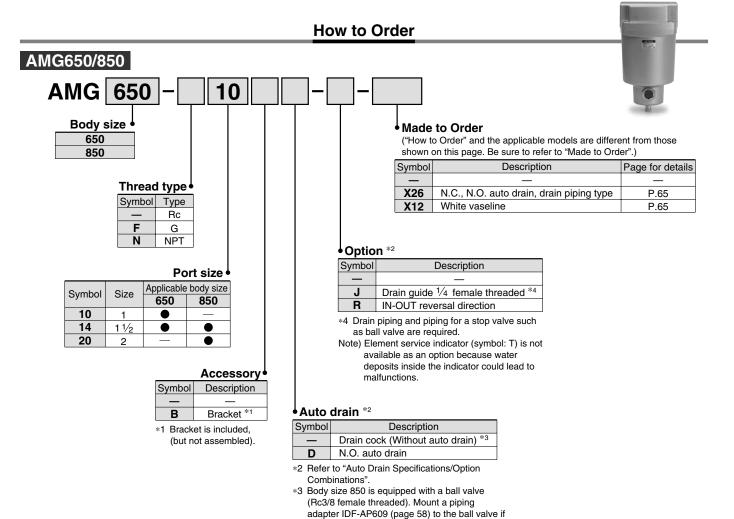
Body/housing is degreasing washed. The lubrication grease for O-ring and gasket is changed to white vaseline.

## Symbol J: Drain guide 1/4 female threaded Can be pipied to the drain exhaust port.

1/4 female threaded

<sup>\*2</sup> Bracket is included, (but not assembled).

# Water Separator Series AMG



Note) Refer to "How to Order Bowl Assembly" on page 63.

**Auto Drain Specifications/Option Combinations** 

NPT3/8 female threaded is required.

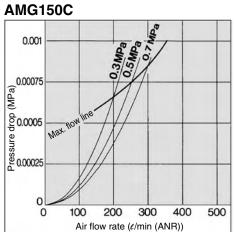
rate Brain opeon.		. Avana		iot available				
Auto drain specifi	actions/Ontion	Auto drain specifications	Op	tion	Applicable model			
Auto drain specin	cations/Option		D	J	R	AMG650	<b>AMG850</b>	
Auto drain specifications	N.O. auto drain	D			0	0	0	
	Drain guide 1/4	J			0	0		
Option	IN-OUT reversal direction	R	0	0		0	0	

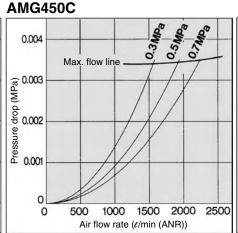


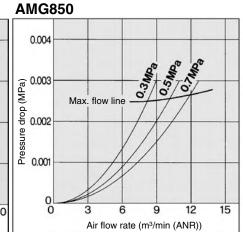
#### **Flow Characteristics**

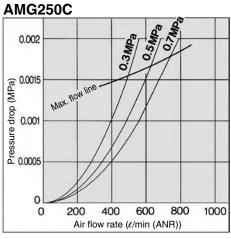


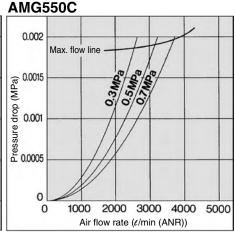
Note) Compressed air over max. flow line in the table below may not meet the specifications of the product. It may cause damage to the element.

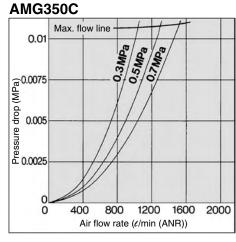


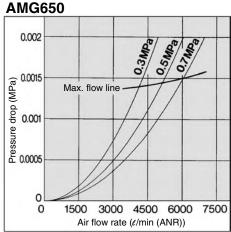












#### Construction

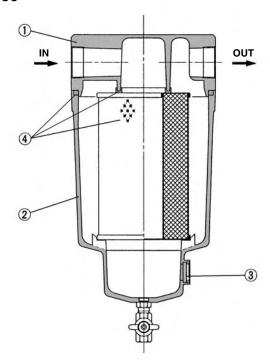
# AMG150C to 550C, AMG650

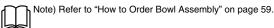
# 1 IN OUT nnonent Barte

COI	iiponeiii Paris							
No.	Description	Material	Note					
1	Body	Aluminum die-casted	Chrome treated Epoxy coating on					
2	Housing	Aluminum die-casted*	inner surface					
3	Sight glass	Tempered glass	_					

<sup>\*</sup> The AMG850 is aluminum casted.

#### **AMG850**







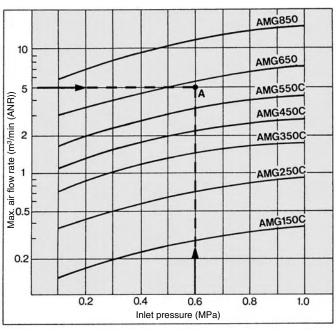
Note) Sight glass is indicated in the figure for easy understanding of component parts. However, it differs from the actual construction. Refer to dimensions on pages 7 through to 9

## Replacement Parts

	nopideoment i dite														
No	No. Description		Applicable		Model										
INO.		Material	model	AMG150C	AMG250C	AMG350C	AMG450C	AMG550C	AMG650	AMG850					
4	Element	Resin,	Except option F	AMG-EL150	AMG-EL250	AMG-EL350	AMG-EL450	AMG-EL550	AMG-EL650	AMG-EL850					
4	assembly	others	For option F	AMG-EL150-F	AMG-EL250-F	AMG-EL350-F	AMG-EL450-F	AMG-EL550-F	_	_					

- \* Element assembly: With gasket (1 pc.) and O-ring (1 pc.)
- \* Refer to back page 6 for replacement of auto drain.
- \* Element assemblies for Made to Order (X12, X20, X26) are same as those for standard (see the above table).

## **Maximum Air Flow**



## **Model Selection**

Select a model in accordance with the following procedure taking the inlet pressure and the max. air flow rate into consideration. (Example) Inlet pressure: 0.6 MPa

Max. air flow rate: 5 m³/min (ANR)

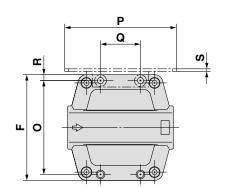
- 1. Obtain the intersecting point A of inlet pressure and max. air flow rate in the graph.
- 2. The AMG650 is obtained when the max. flow line is above the interecting point A in the graph.



Note) Make sure to select a model that has the max. flow line above the obtained intersecting point. With a model that has the max. flow line below the obtained intersecting point, the flow rate will be exceeded, thus leading to a problem such as being unable to satisfy the specifications.

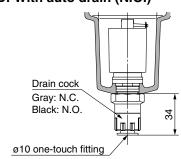
# **Dimensions**

#### AMG150C to 550C

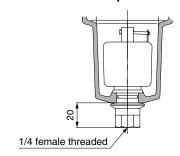


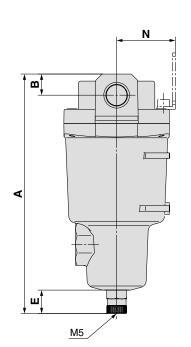
# Auto drain

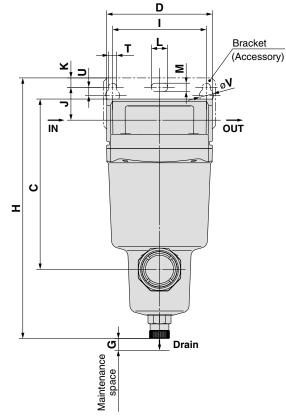
C: With auto drain (N.C.) D: With auto drain (N.O.)



Combination of D: With auto drain (N.O.) and H: For medium air pressure

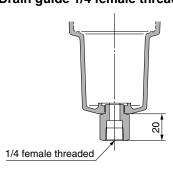






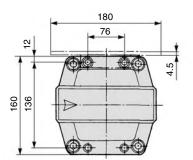
# Option

J: Drain guide 1/4 female threaded



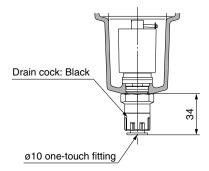
	(mm)																						
Model	Port size	_	В			Е	F	G						Brack	ket re	lated	dime	nsion	ıs				
Model	1 OIT SIZE	A	В				_ F	G	Н	ı	J	K	T	U	L	M	٧	N	0	Р	Q	R	S
AMG150C	1/8, 1/4	158	10	99	63	20	63	10	173	56	20	5	6	6	12	6	10	35	54	70	26	4.5	1.6
AMG250C	1/4, 3/8	172	14	113	76	20	76	10	190	66	24	8	6	6	12	6	10	40	66	80	28	5	2
AMG350C	3/8, 1/2	204	18	145	90	20	90	10	222	80	28	8	7	7	14	7	12	50	80	95	34	5	2.3
AMG450C	1/2, 3/4	225	20	166	106	20	106	10	246	90	31	10	9	9	18	9	15	55	88	111	50	9	3.2
AMG550C	3/4, 1	259	24	200	122	20	122	15	278	100	33	10	9	9	18	9	15	65	102	126	60	10	3.2

## **AMG650**



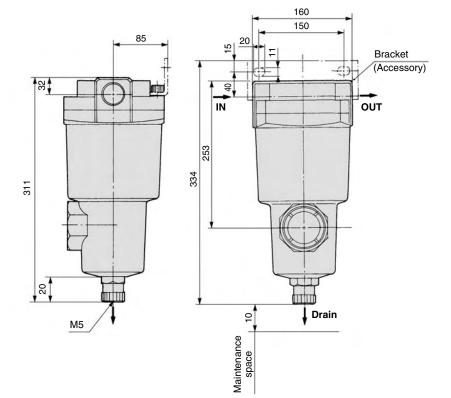
# Auto drain

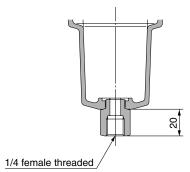
# D: With auto drain (N.O.)



# Option

## J: Drain guide 1/4 female threaded





# **Dimensions**

# AMG850

# Auto drain

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

