Odor Removal Filter Series AMF

Series AMF Odor Removal Filter efficiently removes odor in compressed air with an activated carbon element.

The unit is designed for use in food processing, pharmaceutical, brewing and breathing systems where odors must be removed.

Removes odor and gas ingredients in compressed air.

Activated carbon element with large filtration area (1420 m²/g)
Easy replacement of elements



JIS Symbol



Model

Model	AMF150	AMF250	AMF350	AMF450	AMF550	AMF650	AMF850
Note) Rated flow (∉/min (ANR))	200	500	1000	2000	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, 11/2	11/2, 2
Weight (kg)	0.38	0.55	0.9	1.4	2.1	4.2	10.5

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Note) Max. flow capacity at a pressure of 0.7 MPa. Max. flow varies depending on operating pressure. Refer to "Flow Characteristics" (page 14-20-44) and figure of "Max. Air Flow" (page 14-20-45).

Model/Self-standing Type

Model	AMF800	AMF900	AMF1000
Rated flow (/min (ANR))	8000	24000	40000
Port size (Nominal size B)	2 ^B flange	2 ^B , 3 ^B , 4 ^B flange	4 ^B , 6 ^B flange
Weight (kg)	90	200	410

Model/Piping Support Type

Model	AMF801	AMF901
Rated flow (//min (ANR))	8000	24000
Port size (Nominal size B)	2 ^B flange	2 ^B , 3 ^B , 4 ^B flange
Weight (kg)	40	120

Specifications

First	0
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
Filtration	0.01 μm (95% particle size collection)
Oil mist removal rate	Less than 3.5 particles 0.3 µm or larger per liter of air (100 particles or less per cubic foot) Series "AME" should be installed on the inlet side.)



Please refer to "Made to Order Specifications" on page 14-20-57.

Accessory (Option)

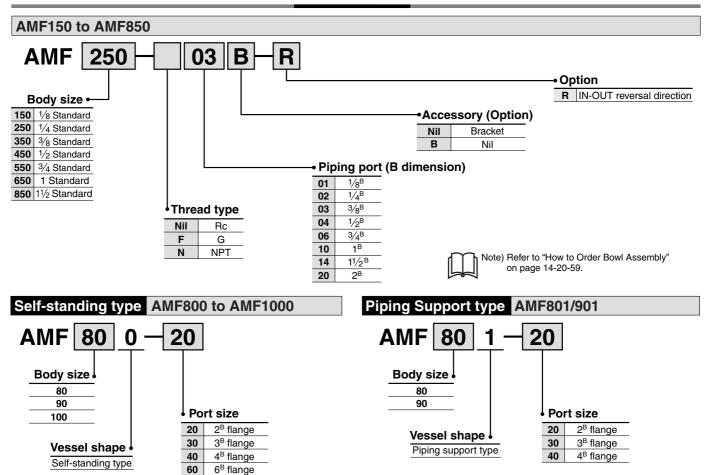
Applicable model	AMF150	AMF250	AMF350	AMF450	AMF550	AMF650	AMF850
Bracket assembly (With cap bolt and spring washer)	BM51	BM52	BM53	BM54	BM55	BM56	BM57

⚠ Caution

Be sure to read before handling. Refer to pages 14-21-3 to 4 for Safety Instructions and Common Precautions on the products mentioned in this catalog, and refer to pages 14-14-6 to 8 for Precautions on every series, and pages 14-20-62 to 64 for more detailed precautions on every series.



How to Order



Model Selection

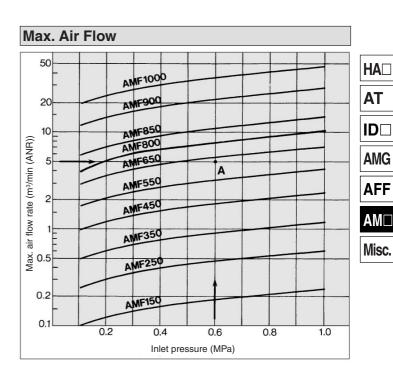
Select the model in accordance with the following procedure taking the inlet pressure and max. air flow into consideration. (Example) Inlet pressure: 0.6 MPa

Max. air flow capacity: 5 m³/min (ANR)

- Select the point of contact A of inlet pressure and max. air capacity in the graph.
- AMF650 is obtained when the max. flow line is above the point of intersection A in the graph.



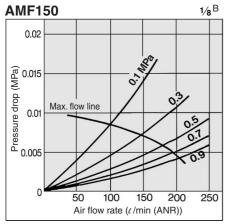
Note) Make sure to select a model that has the maximum flow rate line above the obtained intersecting point. With a model that has the maximum flow rate line below the obtained intersecting point, the flow rate will be exceeded, thus leading to a problem such as being unable to satisfy the specifications.

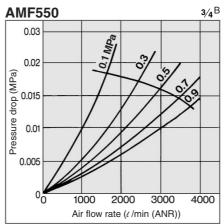


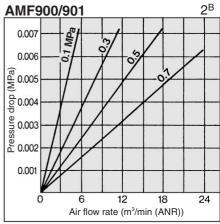
Flow Characteristics/Refer to "How to Select" on page 14-20-43 regarding model selection.

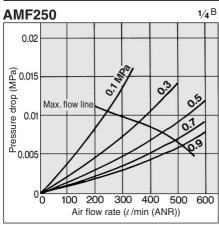
Element initial condition

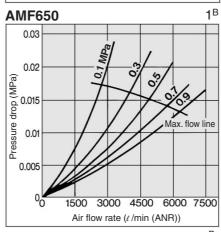
Note) Compressed air over max. flow line in the table below may not meet the specifications of the product. It may cause damage to the element.

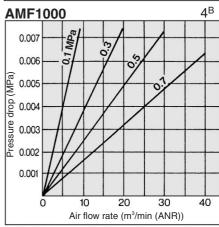


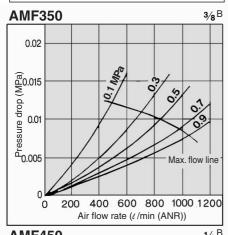


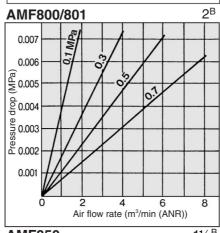


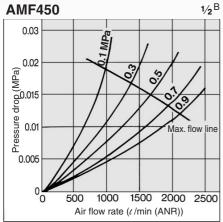


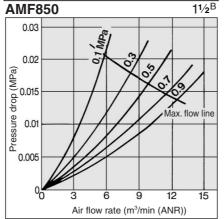






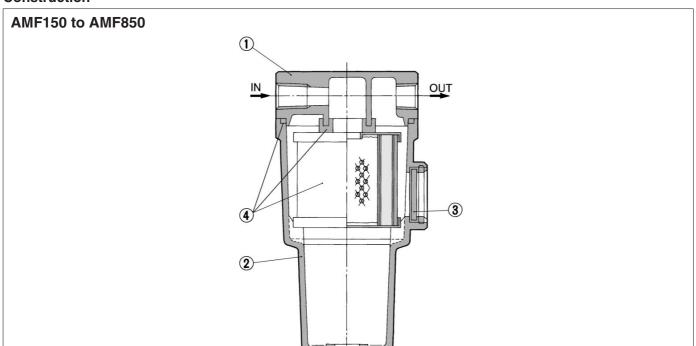






Odor Removal Filter Series AMF

Construction



Component parts

Replacement Parts

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



Note: Refer to page 14-20-59 for "How to Order Bowl Assembly".

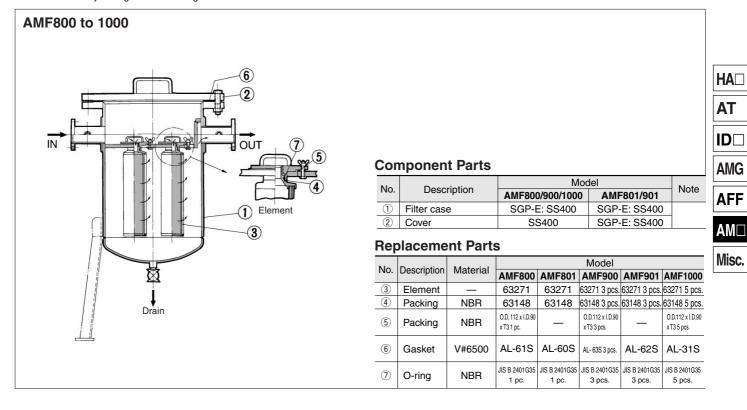


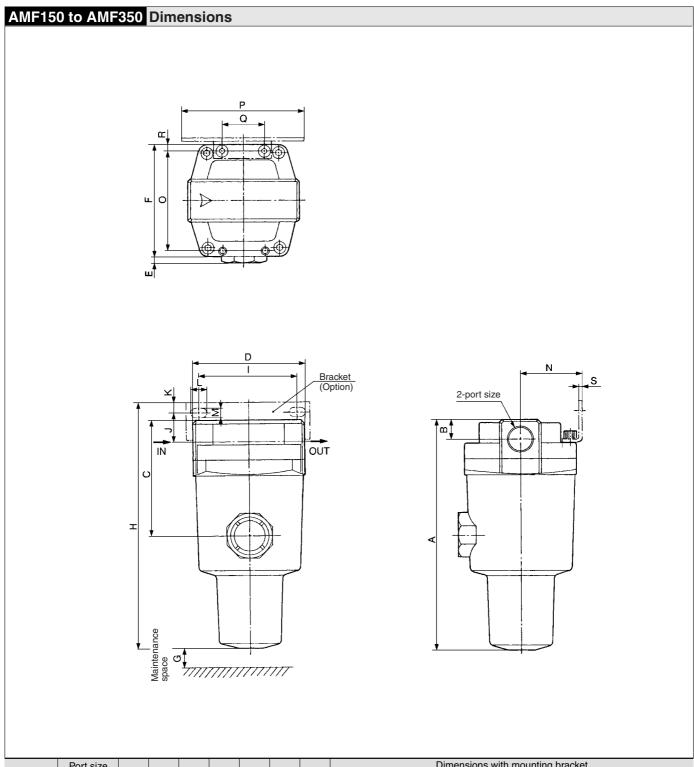
Note: Sight glass is indicated in the figure above for easy understanding of parts, however mounting position is different. Refer to dimensions on pages 14-20-46 to 14-20-47 for details.

No.	Description	Metaviel	Model									
INO.	Description	Material	AMF150	AMF250	AMF350	AMF450	AMF550	AMF650	AMF850			
4	Element assembly	Glass fiber, Others	AMF-EL150	AMF-EL250	AMF-EL350	AMF-EL450	AMF-EL550	AMF-EL650	AMF-EL850			

* AMF850 is aluminum casted.

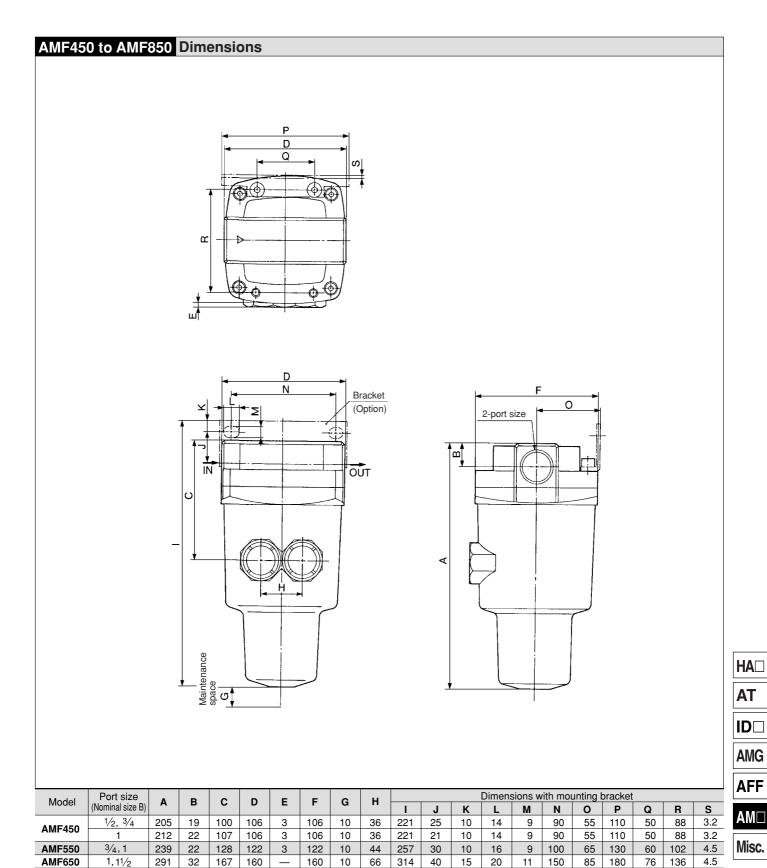
^{*} Element assembly: With gasket and O-ring





Model	Port size		_ D	_	_ n	_	_	G	Dimensions with mounting bracket											
Model	(Nominal size B)	A				_		G	Н	ı	J	K	L	M	N	0	Р	Q	R	S
AMF150	1/8, 1/4, 3/8	139	13	55	63	7.5	63	10	146	56	15	5	9	5.5	35	54	70	26	4.5	1.6
AMF250	1/4, 3/8	152	13	66	76	4	76	10	167	66	20	8	12	6	40	66	84	28	5	2.0
AIVIF250	1/2	158	16	72	76	4	76	10	167	66	17	8	12	6	40	66	84	28	5	2.0
AMF350	3/8, 1/2	184	16	92	90	5	90	10	198	80	22	8	14	7	50	80	100	34	5	2.3
AWIF350	3/4	190	19	98	90	5	90	10	198	80	19	8	14	7	50	80	100	34	5	2.3

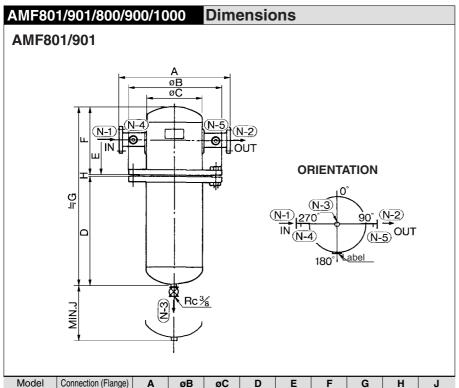
Odor Removal Filter Series AMF



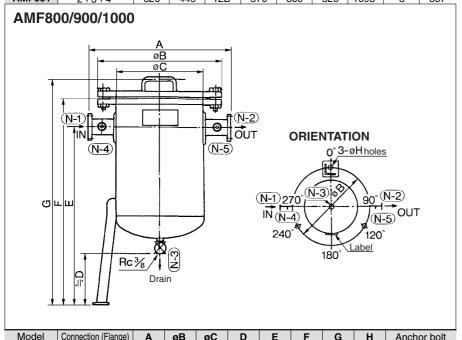
SMC

AMF850

11/2, 2



Model	Connection (Flange)	Α	øΒ	øС	D	E	F	G	Н	J
AMF801	2 ^B	400	280	6B	550	150	270	823	3	797
A MEOO1	OB OB 4B	600	445	100	F70	200	F00	1002	0	007



Model	Connection (Flange)	Α	øΒ	øС	D	E	F	G	Н	Anchor bolt
AMF800	2B	500	330	8B	300	1070	1200	1290	20	M16 x <i>l</i> 400
AMF900	2B, 3B, 4B	720	560	400	300	1070	1230	1335	24	M20 x £500
AMF1000	4B, 6B	870	745	550	300	1090	1320	1450	24	M20 x £500

Related Products: Auto Drain Valve AD402/600

Drainage is automatically discharged reliable in without requiring manner, human operators.

Highly resistant to dust and corrosion, operates reliably, and a bowl guard is provided as standard equipment.



JIS Symbol



Model/Specifications

Model	AD402	AD600
Proof pressure	1.5 MPa	1.5 MPa
Max. operating pressure	1.0 MPa	1.0 MPa
Operating pressure range Note)	0.1 to 1.0 MPa	0.3 to 1.0 MPa
Ambient and fluid temperature	-5 to 60°C (No freezing)	-5 to 60°C (No freezing)
Port size	Rc 1/4, 3/8, 1/2	Rc ³ / ₄ ,1
Drain discharge port size	3/8	3/4,1
Weight (g)	620	2100



Note) Use for air compressor with flow larger than 400 dmin (ANR).

Option Specifications

Metal bowl	AD402- □-2	_

Precautions

Be sure to read before handling. Refer to pages 14-21-3 to 4 for Safety Instructions and Common Precautions on the products mentioned in this catalog, and refer to pages 14-14-6 to 8 for Precautions on every series.

Selection

🕂 Warning

- 1. Use auto-drain under the following operating conditions, or it will lead to malfunctions.
 - 1) Operate the compressor above 3.7 kw {400 ℓ/min (ANR)}.
 - 2) Use AD402 at an operating pressure above 0.1 MPa and AD600 above 0.3

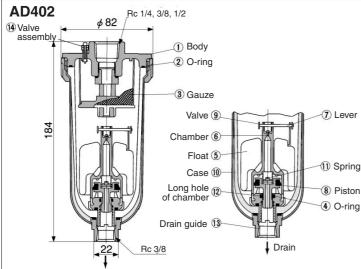
Piping

⚠ Warning

1. Use auto-drain under the following operating conditions, or it will lead to malfunctions.

To connect a drain discharge pipe, use a pipe with a minimum bore of ø10, and a maximum length of 5 m. Avoid using a riser pipe.

Construction/Dimensions



• Working principle (AD402)

When no pressure is applied internally to bowl 10, float 5 descends of its own weight and valve ⁽⁹⁾ closes chamber hole ⁽⁶⁾. Piston ⁽⁸⁾ is pushed down by spring ⁽¹⁾, and the drainage passes through the chamber's elongated hole 12 to enter the housing and is discharged.

• When pressure is applied internally to the bowl: When pressure is larger than 1 MPa, it overcomes the force of spring

①, allowing piston ® to ascend, and comes in contact with O-ring ④. Thus, the inside of bowl 10 is isolated from the outside.

• When drainage has accumulated:

Float 5 ascends due to flotation and opens the chamber's hole 6, allowing the pressure to enter chamber (6). Piston (8) descends due to the force of the internal pressure and spring 1, and the accumulated drainage is discharged through drain guide 13.

φ 112 **AD600** 48 Rc 3/4, 1 1 Body 183 2 O-ring 8 Piston assembly Rc 3/4, 1/

Component Parts

No.	Description	Material
(1)	Body	Aluminum die-casted

Replacement Parts

NIa	Description	Material	Model	
No.	Description		AD402	AD600
2	O-ring	NBR	113136	JIS B 2401G-100
3	Gauze	Stainless steel	20062	_
(1)	Internal assembly	_	AD34PA	_
8	Piston assembly	_	_	20025A
14)	Valve assembly	_	201037P	_

Note 1) Internal assembly: Assembly for parts (4) to (12) except (10).

Note 2) Part no. for bowl assembly: AD34

Note 3) Part no. for bowl 10: 201016

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Misc.

Related Products: Motor Operated Auto Drain Series ADM200

Reliably discharges even highly viscous drainage

Highly resistant to dust and highly viscous drainage, the valve opens and closes reliably to discharge the drainage.

Large drain discharge capacity

With a large discharge port, a large amount of drainage can be discharged in a single operation.

Elimination of residual drainage from inside of the tank and pipes prevents the generation of foreign matter as a result of dried rust or drainage, which could adversely affect the equipment located on the outlet side.

Low power consumption: 4 W

A long pipe can also be connected to the discharge port.

It can be connected directly to a compressor.



Model/Specifications

Model	ADM200-□□-□
Fluid	Air
Max. operating pressure	1.0 MPa
Proof pressure	1.5 MPa
Ambient and fluid temperature	−5 to 60°C (No freezing)
Operating cycle*	1 cycle in a minute (Standard)
Operating time	2 sec./cycle (Standard)
Power source	100, 200 VAC5% Hz, Other
Power consumption	4 W
Port size	IN: Rc 3/8, 1/2
1 011 3126	OUT: Rc 3/8
Weight	550 g

* If the operating cycle is twice in a minute (op. time 2 sec. x 2) operating time is 4 sec. each minute.

Precautions

Be sure to read before handling. Refer to pages 14-21-3 to 4 for Safety Instructions and Common Precautions on the products mentioned in this catalog, and refer to pages 14-14-6 to 8 for Precautions on every series.

Mounting

\Lambda Warning

1. Install this product after discharging the drainage that has already accumulated in the tank. Failure to observe this precaution could lead to malfunctions.

2. Install this product, so that its drain port faces down. Failure to observe precaution could lead to malfunctions.

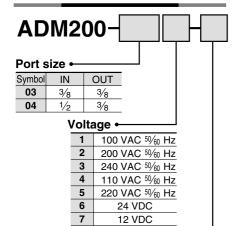
1. Provide a stop valve before ADM200 to facilitate maintenance and inspection.

Maintenance

∕ Caution

1. If the valve becomes clogged with debris, press the manual button to flush out the debris. Failure to observe this precaution could lead to malfunctions.

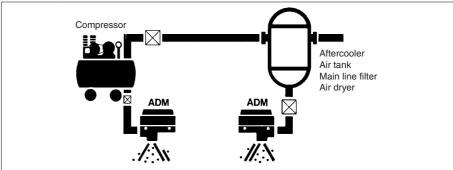
How to Order



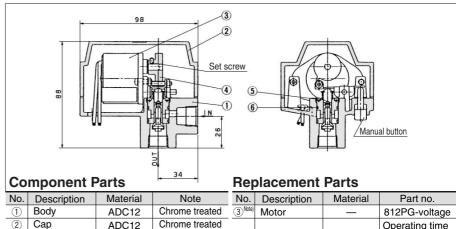
Operating time/ • Applicable compressor

	•	
Nil 2 sec/min (1 cycle/min) /3.7 to 37		
4	4 sec/min (2 cycle/min) /37 to 75 kW	
6	6 sec/min (3 cycle/min) /75 to 110 kW	
8	8 sec/min (4 cycle/min) /220 to 370 kW	

Mounting Example



Construction/Dimensions



No.	Description	Material	Part no.
3 Note)	Motor	_	812PG-voltage
4	Cam	SCS13	Operating time 201324 (Nil) 201325 (4) 201326 (6) 201327 (8)
(5)	Valve assembly	C3604B	20137-1A
6	O-ring	NBR	S-16

Note) Motor port no. in the case of 100 VAC: 812PG-100VAC

ADC12

Related Products: Heavy Duty Auto Drain Series ADH4000

Easy maintenance

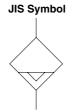
It is possible to maintain without changing existing piping.

No need for electric power and no waste of air.

Float style drain allows automatic drain discharge without electric power.

Aftercooler Air tank Air dryer Air compressor ADH4000 ADH4000





Specifications

Auto-drain type	Float type
Auto-drain valve type	N.O. (Normally open: Open in the case of pressure loss)
Proof pressure	2.5 MPa
Max. operating pressure	1.6 MPa
Operating pressure range Note)	0.05 to 1.6 MPa
Fluid Note)	Compressed air
Ambient and Fluid temperature	5 to 60°C (With no condensation) <corrosive allowed.="" and="" are="" flammable="" gas="" gas,="" not="" organic="" solvents=""></corrosive>
Max. drain discharge	400 cc/min (Pressure 0.7 MPa, in the case of water)
Weight	1.2 kg (With bracket: 1.3 kg)
Paint color	Light gray
Weight	1.2 kg (With bracket: 1.3 kg)

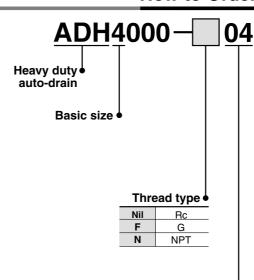
Note) Use for air compressor with flow more than 50 ℓ /min (ANR).

Accessory (Option)

Description	Part no.	Contents
Bracket set	BM58	Bracket
Ball valve piping set	ADH-C400	Ball valve/Rc 1/2

Note) The accessories (Option) are shipped unassembled, but packed in the same container.

How to Order



• Accessory (Option)

Nil	No option (Standard)
В	Bracket set
С	Ball valve piping set

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* Notes

- When more than one option is desired, list in alphabetical order.
- Accessories are not factory assembled.
- Refer to each drawing for details of dimensions and mounting methods.
- Accessory "C" is available only with Rc thread.

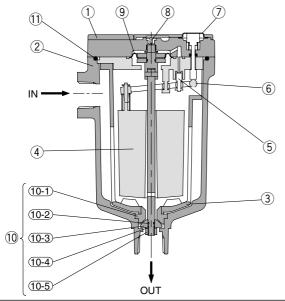
Port size •

1/2 (Female thread)



Series ADH4000

Construction



Component Parts

No.	Description	Material	Note
1	Body	Aluminum alloy	Baking finish
2	Housing	Aluminum alloy	Baking finish
3	Drain guard	Aluminum alloy	Baking finish
4	4 Float Foam rubber		
(5)	Pilot valve	Stainless steel + Rubber	
6	Lever	Resin	
7	Flushing button	Brass	
8	Orifice		
9	Diaphragm	Rubber	

Replacement Parts

No.	Description	Part no.	Note
10	Repair kit for main valve	ADH-D400	Kit includes parts from 10-1 to 10-5.
11)	O-ring	G85(B)	Material: NBR

Note) When changing parts, follow the instruction manual. Do not disassemble other parts.

APrecautions

Be sure to read before handling. Refer to pages 14-21-3 to 4 for Safety Instructions and Common Precautions on the products mentioned in this catalog, and pages 14-14-6 to 8 for Precautions on every series.

Caution on Design

⚠ Caution

- Operate this product in an area in which the air pressure does not exceed 1.6 MPa.
 - If this value is exceeded, it could lead to an accident or
- 2. An air pressure of 0.05 MPa and an air compressor's discharge flow rates higher than 50 dmin (ANR) are required
 - Below these values, the air will continue to be discharged from the drainage discharge port.
- **3.** Keep the compressed air temperature and the ambient temperature of the location in which this product is installed within the range of 5 to 60°C. Exceeding this range could lead to failure or malfunction.
- 4. Avoid operating this product in an area in which corrosive gases, flammable gases or organic solvents are contained in the compressed air or in the surrounding air.

Selection

⚠ Caution

1. The maximum dischargeable drainage rate is 400 cc/min.

If the product is operated in excess of this value, there is a risk of causing the drainage to flow over to the outlet side.

Piping

⚠ Caution

- 1. Use piping of 1/2B bore size or larger for drain inlet and allow for unobstructed flow-in for drain.
- 2. Drain line should be 8 mm or more in diameter and less than 10 m in length. Do not make any upward angles in drain line. Be sure to secure exhaust port piping since drain is under pressure.

Mounting

∴ Caution

- 1. Install with "out port" down in a vertical position. Inclination from the vertical line should be less than 5°.
- Install with at least 200 mm of free space above the unit to allow for maintenance.
- To place this product near the air compressor, install in such a way that the vibrations will not be transmitted.
- 4. Install a valve to drain inlet so that maintenance is possible.
 - Use a ball valve with a bore size of more than 15 mm to ensure proper flow-in of drain. (Ball valve piping set is available as optional accessory.)
- 5. When not draining sufficiently, adjust the open angle of its bleed valve to lower the pressure inside the case, so that drainage will run through easily.

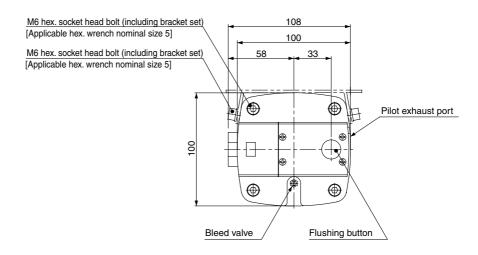
Maintenance

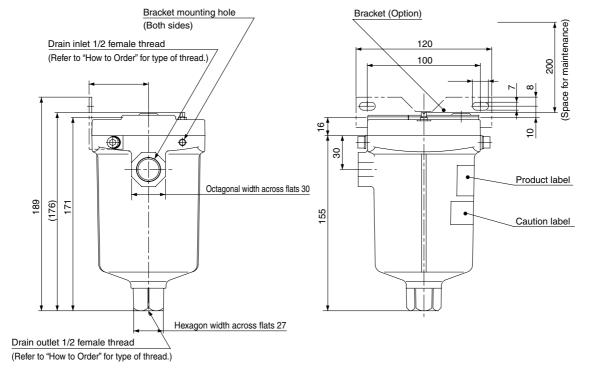
⚠ Caution

- 1. Check drain condition periodically (more than once a day).
- Then push flushing button to open exhaust valve.
- 2. Pilot air is exhausted from the exhaust port indicated in the "Dimensions" section. Do not cover this exhaust port. Clean exhaust port so that port is not blocked by dust, etc.
- 3. When solid foreign objects exceeding 1 mm comes in, the main valve may become blocked. After recovering the internal pressure of this product to 0 MPa (atmospheric pressure), remove the hexagon socket head bolt (M6) from the body part and wash inside with water to remove foreign solid particles blocking the main valve.
- **4.** While operating, there may be cases where drainage will not easily enter this product. In such a case, adjust the open angle of its bleed valve to lower the pressure a bit inside the bowl, so that drainage will run through easily.

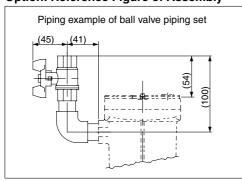
Heavy Duty Auto drain Series ADH4000

Dimensions





Option: Reference Figure of Assembly



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Misc.

Related Products: Pressure Differential Gauge GD40-2-01

The pressure differential at the inlet and the outlet of compressed air equipment can be viewed at a glance on the pressure differential gauge. It is ideal for the maintenance control of filters.

Compact and lightweight It can be installed easily by merely providing a bypass circuit. Provided with a protective cover to prevent hazards.



JIS Symbol



Model/Specifications

Model	GD40-2-01
Fluid	Compressed air
Max. operating pressure	1 MPa
Proof pressure	1.5 MPa
Ambient and fluid temperature	5 to 60°C
Port size Rc	1/8
Scale range	0 to 0.2 MPa
Accuracy	±0.006 MPa
Dial size	40
Weight (g)	300

Principal Parts Material

Case	Zinc die-casted
Internal part	Brass, Phosphor bronze
Window	Chloroethylene
Pointer scale	Stainless steel

Option Accessory

Nylon tube	T0425 (0.5 m)	
Half union	H04-01 (1 pc.)	
Elbow union	DL04-01 (1 pc.)	

♠ Precautions

Be sure to read before handling. Refer to pages 14-21-3 to 4 for Safety Instructions and Common Precautions on the products mentioned in this catalog, and refer to 14-14-6 to 8 for precautions on every series.

Caution on Design

⚠ Caution

1. This product cannot be operated in a location in which pulsations frequently occur.

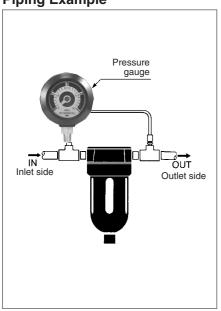
Mounting

⚠ Caution

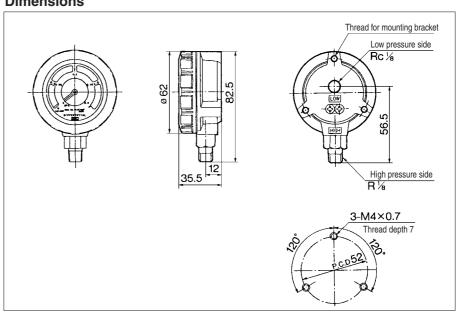
1. Mounting

- 1) The HIGH and LOW marks on the back of the differential pressure gauge indicate the high pressure and low pressure sides, respectively. Connect the HIGH side to the inlet side of the filter or other devices and the LOW side to their outlet side. Do not use a stop valve to prevent damage to the differential pressure gauge if the valve is inadvertently left open or closed.
- 2) Install the differential pressure gauge vertically.
- 3) The piping of the differential pressure gauge must be connected securely because it will break if it becomes detached.

Piping Example



Dimensions





Water Separator, Oil Mist Separator, Deodorizer Made to Order Specifications:

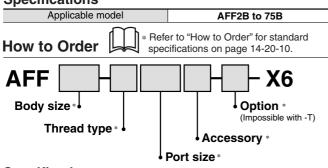
Please consult with SMC for detailed specifications, size and delivery.

1. With Differential Pressure Gauge (GD40-2-01)

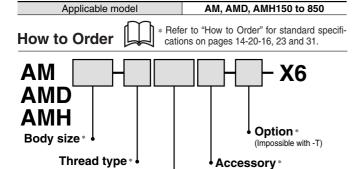
A differential pressure gauge that keeps track of the filter life is installed on the filter itself.

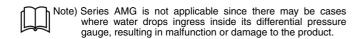
This facilitates piping and achieves a compact design.

Specifications



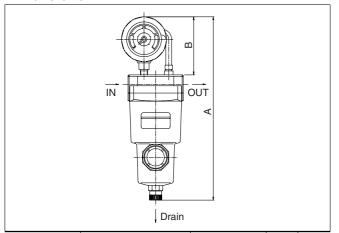
Specifications





Port size *

Dimensions

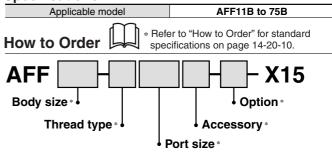


Series AM, AMD, AMH	Dt		_
Size	Port size	A	В
150	1/8, 1/4, 3/8	239	80
050	1/4, 3/8	252	80
250	1/2	258	
250	3/8, 1/2	284	80
330	3/4	290	00
11B 450		305	80
450	1	312	- 60
550	3/4, 1	339	80
650	1, 1 1/2	391	80
850	11/2, 2	540.5	80
	Size 150 250 350 450 550 650	Size Port size 150	Size Port size A 150 1/8, 1/4, 3/8 239 250 1/4, 3/8 252 1/2 258 3/8, 1/2 284 3/4 290 1/2, 3/4 305 1 312 550 3/4, 1 339 650 1, 1 ½ 391

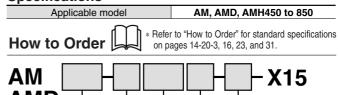
2. With IN-OUT Flange

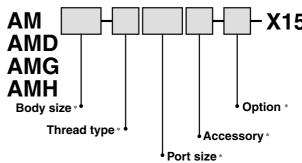
Makes flange piping easier. (Flange material: Carbon steel)

Specifications

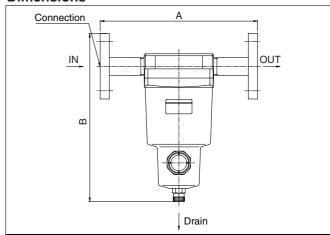


Specifications





Dimensions



Series AFF	Series AM, AMD, AMG, AMH	Commontion		_
Size	Size	Connection	Α	В
11B	450	3/4B, FF, 10K	240	256
22B	550	1B, FF, 10K	260	300
37B	650	11/2B, FF, 10K	300	349
75B	850	2B, FF, 10K	380	496.5



HA□

AT

 $ID\square$

AMG

 $AM\square$

Misc.



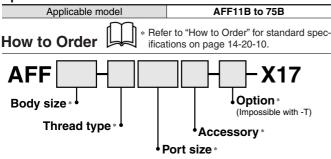
Water Separator, Oil Mist Separator, Deodorizer Made to Order Specifications:

Please consult with SMC for detailed specifications, size and delivery.

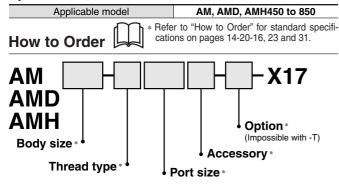
3. With Differential Gauge (GD40-2-01), IN/OUT Flange

This is the type, on which a differential pressure gauge is mounted on the main body to monitor the life of a filter by checking its clogging status. Ports on IN and OUT are of a flange connection type. (Flange material: Carbon steel)

Specifications

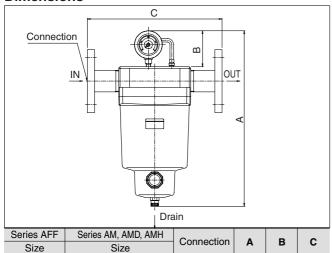


Specifications



Note) Series AMG is not applicable since there may be cases where water drops ingress inside its differential pressure gauge, resulting in malfunction or damage to the product.

Dimensions



450

550

650

850

3/4B, FF, 10K 305

1B, FF, 10K 339

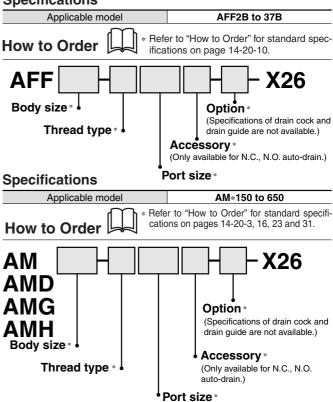
1½B, FF, 10K 391

2B, FF, 10K 540.5

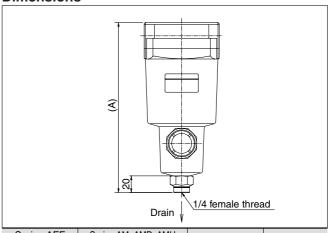
4. N.C., N.O. Auto-drain, Drain Piping Type

This is the drain piping type (drain guide specification), which can connect the drain piping on the part of discharging the drain from N.C. auto-drain and N.O. auto-drain.

Specifications



Dimensions



Series AFF	Series AM, AMD, AMH	Series AM, AMD, AMH Size Port size	
Size	Size		
2B	150	1/8B, 1/4B, 3/8B	159
4B	250	1/4B, 3/8B	172
40	250	1/2B	178
8B	8B 350		204
ОВ	330	3/4B	210
11B 450		1/2B, 3/4B	225
110	450	1B	232
22B	550	3/4B, 1B	259
37B	650	1B, 1 ½B	311

11B

22B

37B

75B

240

260

300

380



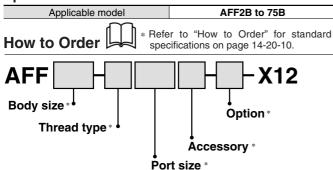
Water Separator, Oil Mist Separator, Deodorizer **Made to Order Specifications:**

Please consult with SMC for detailed specifications, size and delivery.

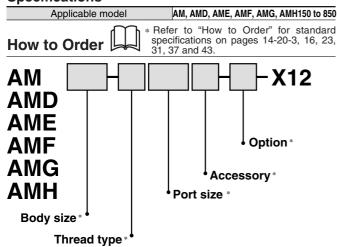
5. White Vaseline Specifications

This is the type which has changed the oil and grease used for O-rings and gaskets as lubricant to white vaseline.

Specifications



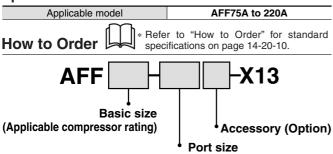
Specifications



7. Mist Separator for Large Flow (0.3 μm)

Use it when the conventional mist separator (Series AM) cannot dispose of a large flow rate. Specifications other than the filtration are all equivalent to that of AFF75A to 220A.

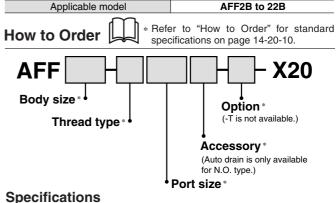
Specifications



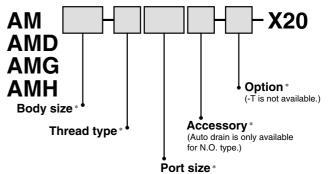
6. Middle Pressure (1.4 MPa) Specifications

Withstands up to 1.4 MPa of maximum operating pressure

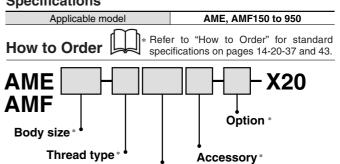
Specifications



Applicable model	AM, AMD, AMG, AMH150 to 550
How to Order * Refesped and	er to "How to Order" for standard iffications on pages 14-20-3, 16, 23 31.



Specifications



Port size

 $HA\square$

AΤ

 $ID\square$

AMG AFF

 $AM\square$

Misc.



Water Separator, Oil Mist Separator, Deodorizer Special Specifications:

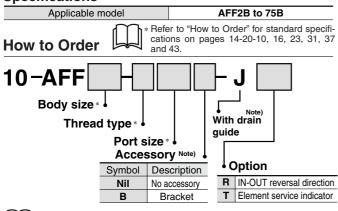
Please consult with SMC for detailed specifications, size and delivery.

Clean Series (10-Series)

Clean Series products are those which can be used in cleaner environments, such as in clean rooms, as compared to a general factory environment.

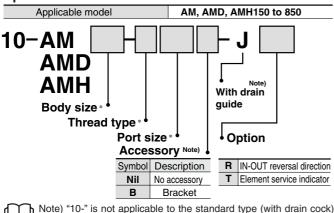
For further details, refer to the Clean Series catalog.

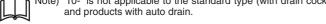
Specifications

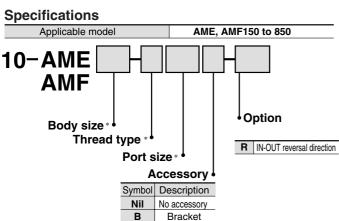


Note) "10-" is not applicable to the standard type (with drain cock) and products with auto drain.

Specifications





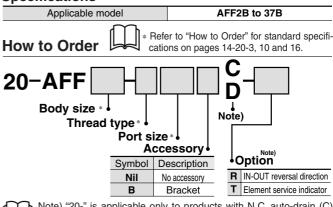


Copper-free Series (20-Series)

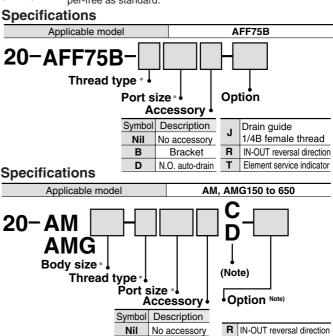
To eliminate effects on color CRTs, etc. by copper ion or fluorine resin, copper materials are electroless-nickel plated or changed to copper-free materials to prevent the generation of copper ions.

(It is not applicable to Series AMD, AME, AMF and AMH because they include fluorine resin in the filter material of the element.)

Specifications



Note) "20-" is applicable only to products with N.C. auto-drain (C) or N.O. auto-drain (D). Drain cock and drain guide are copper-free as standard.

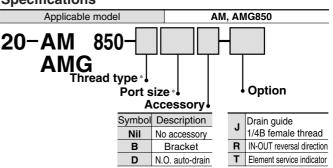


Note) "20-" is applicable only to products with N.C. auto-drain or N.O. auto-drain. Specifications of drain cock and drain guide are provided as standard to be copper-free.

Bracket

T | Element service indicator

Specifications



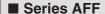


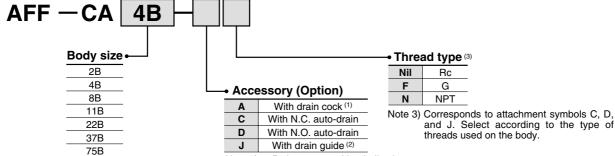
Bowl Assembly Series AFF-CA / AM - CA

Bowl Assembly

Bowl assembly for Series AFF and AM \square can be replaced without removing the main body from piping if the drain exhaust specification is to be changed from the drain cock type to the auto-drain type or if the bowl has been damaged.

How to Order Bowl Assembly



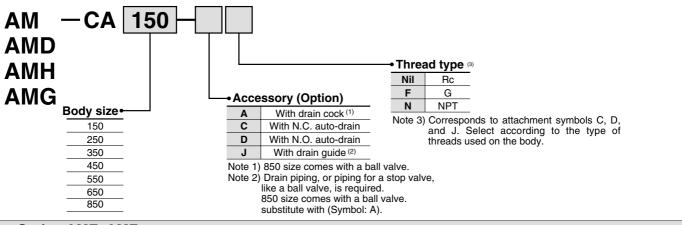


Note 1) 75B size comes with a ball valve.

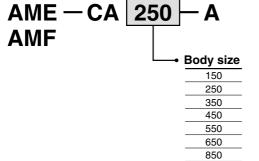
Note 2) Drain piping, or piping for a stop valve, like a ball valve, is required.

75B size comes with a ball valve. substitute with (Symbol: A).

■ Series AM, AMD, AMH, AMG



■ Series AME, AMF



HA□

AT

ID□

AMG

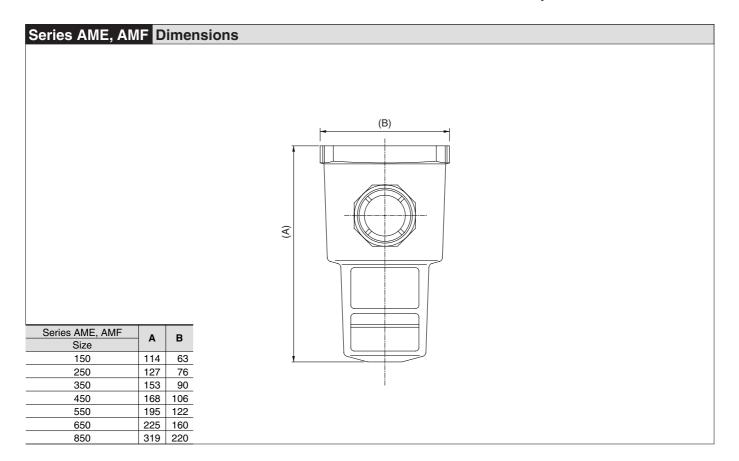
AFF

 $\mathsf{AM}\square$

Misc.



Bowl Assembly Series AFF-CA \square , AM \square -CA \square



HA□

AT ID ...

AMG

AFF

AM

Misc.

APrecautions

Be sure to read before handling. Refer to pages 14-21-3 to 4 for Safety Instructions and Common Precautions on the products mentioned in this catalog, and pages 14-14-6 to 8 for Precautions on each series.

Caution on Design

∧ Caution

 Design the layout so that the mist separator is installed in an area that is less susceptible to pulsations.

The element could be damaged if the difference in the inlet and outlet pressures exceeds 0.1 MPa.

2. Be careful of dust generation by the pneumatic equipment mounted on the outlet side.

When installing pneumatic equipment on the outlet side of Series AM \square , dust particles may come off from outlet equipment, which will lower the cleanliness of compressed air. Please consider this impact upon the cleanliness of compressed air when installing pneumatic equipment on the outlet side.

3. About when to use N.C. auto-drain and N.O. auto-drain.

If the normally open (N.O.) auto-drain is used on AFF2B to AFF75B or AM□150 to 850, air may ceaselessly blow out of the drainage discharge area in cases where an air compressor with a small air discharge volume is used since it is designed so that the valve will not close unless the air pressure is 0.15 MPa or higher. Therefore, when using a compressor for 3.7 kW or less, make sure to use the normally closed (N.C.) auto-drain. The minimum operating pressure is 0.15 MPa even with auto-drain.

4. When using the auto-drain, connect the drain piping in the following range:

When AFF2B to AFF37B, AM□150 to 650 with auto-drain are used:

Normally closed (N.C.) Use tubing O.D. 10 mm and keep the Normally open (N.O.) whole length within 5 meters.

When AFF75B and AM \square 850 with auto-drain are used:

Normally open (N.O.): Use a tube with a bore of 9 mm or more and keep the overall pipe length within 2.8 m.

Provide a design that prevents back pressure and back flow.

Back pressure or back flow may damage an element.

Design not to apply any load on piping of the main body.

In the case of AFF2B to AFF75B and AM□150 to 850

The bracket that is provided with the product is for supporting the product itself. Thus, it cannot support the piping or other items that are connected. If these items need to be supported, provide an additional support.

7. Keep the certificate of Class 2 Pressure Vessel in a safe place.

Products below are subject to Class 2 Pressure Vessel Act. Certificate will be sent 2 to 4 weeks after the shipment of the product.

Main line filter-----AFF220A

Micro mist separator AMD900, AMD1000, AMD901

Selection

⚠ Caution

1. About the system composition of purifying compressed air

Compressed air generally contains particulate contaminants as listed below, though there are some variations due to the compressor type and specifications. Please determine the system configuration according to the desired cleanliness of compressed air and application, while referring to the "Air Preparation Equipment Selection Guide" for Series AM \square on page 14-20-3.

[Particulate contaminants in compressed air]

- Water (drainage)
- Dust sucked from ambient air
- Degenerated oil from compressor
- Solid foreign matter such as rust inside piping and oil

2. Select according to the maximum flow consumption.

When compressed air is used for air blow, etc., find the maximum air consumption and then select the size of Series AM. (If compressed air exceeding the maximum flow rate is supplied, it can result in decline of the cleanliness of compressed air or element damage.)

Mounting

⚠ Caution

1. About the mounting orientation of the products

Make sure to install this product on horizontal piping. If it is installed diagonally, laterally, or upside down, the drainage that is separated by the element will splash to the outlet side.

Piping

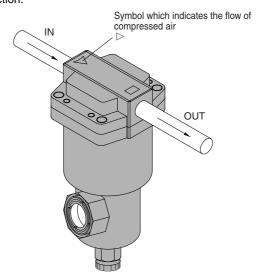
∧ Caution

1. Connect it with IN and OUT ports in proper location.

It does not work with the connection reversed.

In the case of AFF2B to AFF75B and AM□150 to 850

Verify the direction of the flow of the compressed air and the ">" mark that indicates the inlet of the product before connecting. It cannot be used if connected in the opposite direction.



In the case of AFF75A to AFF220A, AMD801, 901, 800, 900, and 1000

INLET and OUTLET of compressed air is labeled on the side of flange. Be sure to connect correctly.

2. Use an air blower to flush the piping before connecting the piping.

Use an air blower to thoroughly flush the piping, or wash the piping to remove any cutting chips, cutting oil, or debris from inside the piping before connecting them.

3. Wrapping of sealing tape

When screwing in the pipes or fittings, make sure to prevent cutting chips or the sealing material on the threaded portion of the pipe from entering the piping. If sealing tape is to be used, leave about 1.5 to 2 ridges of threads uncovered.



⚠ Precautions

Be sure to read before handling. Refer to pages 14-21-3 to 4 for Safety Instructions and Common Precautions on the products mentioned in this catalog, and pages 14-14-6 to 8 for Precautions on each series.

Air Supply

↑ Caution

 The mist separator is not applicable to gases other than compressed air.

The mist separator is not applicable to gases other than compressed air (example: oxygen, hydrogen, flammable gas, mixed gas).

2. Do not use compressed air that contains chemicals, organic solvents, salt, or corrosive gases.

Do not use compressed gas containing chemicals, organic solvents, salt or corrosive gas. This can cause rust, damage to rubber and resin parts, or malfunction.

3. Operate within the specified operating pressure range.

Damage, failure, or malfunction may occur if the mist separator is operated above the maximum operating pressure.

If the mist separator is used below the minimum operating pressure, increase in the air-flow resistance due to clogging will have such influence that the desired flow rate cannot be obtained.

Operating Environment

- Do not use in the following environments, as this can cause failure.
 - In locations having corrosive gases, organic solvents, and chemical solutions, or in locations in which these elements are likely to adhere to the equipment.
 - In locations in which salt water, water, or water vapor could come in contact with the equipment.
 - 3) In locations that is exposed to shocks and vibrations.
- 2. Be careful about the contamination of the workpieces due to entrainment of the ambient air.

If compressed air is used for air blow, compressed air blowing out from the blow nozzle may entrain foreign matter (solid particles and liquid particles) floating in the ambient air, blowing it against the workpieces and causing adhesion. Therefore, sufficient precautions must be taken about the ambient environment.

Maintenance

 Replace the element immediately when the time for its replacement has arrived.

To replace the element, please also replace the O-ring and the gasket. For the replacement procedure, please refer to the instruction manual.

(For the element dimensions, please refer to page 14-20-64.) <Element replacement>

In the case of AFF2B to AFF75B or AMI150 to 850

The replacement interval for the element is when the pressure drop reaches 0.1 MPa or after two years of operation, whichever comes first. A pressure drop can be verified with the type with a clogging checker (-T) or with the type with pressure differential gauge (Made to Order Specification).

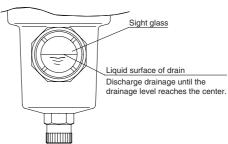
In the case of AFF75A to AFF220A, AMD800 to AMD1000, or AMD801, 901

The replacement interval for the element is when the pressure drop reaches 0.1 MPa or after one year of operation, whichever comes first. Please confirm the pressure drop with a pressure gauge. (Type with pressure gauge: -G)

2. Be sure to exhaust the drain accumulated in the filter container.

Failure to discharge the drainage will allow the accumulated drainage to flow over to the outlet side.

When using AFF2B to AFF75B or AM□150 to 850 with drain cock, drain guide or ball valve, discharge the drainage before the drainage level reaches the center of the sight glass. If the drainage is not discharged properly, it will flow over to the outlet side.

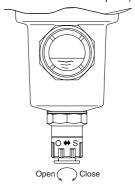


3. In the case of a type with auto drain, the drain can be discharged manually.

In the case of AFF2B to AFF37B and AM□150 to 650, **the drain is automatically** discharged with the knob tightened to the S side. Manual drain discharge, however, is also possible.

<Manual operation>

A manual knob attached to the auto-drain end is tightened to the "S" side in normal operation. The drainage can be discharged by loosening it to the "O" side. (Be careful, however, if pressure remains inside the filter when the drain is discharged, the drain will blow out from the drain port.)



4. It is not possible to replace the auto-drain alone. The entire bowl assembly must be replaced (except sizes 75B and 650).

Auto-drains of sizes 2B to 37B and 150 to 650 cannot be replaced alone since they cannot be assembled without dedicated assembly tools. The entire bowl assembly must be replaced. (Refer to "How to Order Bowl Assembly" on page 14-20-59.)

5. The drainage exhaust section can be replaced alone on the following types:

 Drain cock (2B to 37B, 150 to 650), drain guide (2B to 37B, 150 to 650), and ball valve set (75B, 850) can be replaced alone.

Please place an order using part numbers below.

Product name	Part no.	Applicable body size
Drain cock	AM-SA002	2B to 37B, 150 to 650
Drain guide	AM-SA003	2D 10 37B, 130 10 030
Ball valve set	AM-SA004	75B, 850

 The auto-drain can be replaced alone on sizes 75B and 850. However, auto-drain replacement requires dedicated tools.

Product name	Model	Applicable body size	
Auto-drain	AD43PA-D	75B. 850	
Jig for replacing auto-drain	AM-SA005	700,000	

HA□

AT ID□

AMG AFF

AM□

Misc.

Other

⚠ Caution

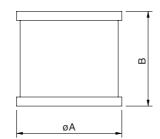
1. Element interchange

Following is the element dimensions for Series AFF and Series $AM\square$:

Since elements for the same body size has the same dimensions, they are interchangeable.

However, do not interchange them easily since it can cause various kinds of problems.

If interchanging the elements is unavoidable, please also replace the product label with the model number.



Dimensions of Element

Model	Dimensions of element (Reference value)				
Model	øΑ	В			
AFF2B, AM150 AMD150, AMH150	49	42			
AFF4B, AM250 AMD250, AMH250	58	52			
AFF8B, AM350 AMD350, AMH350	70	78			
AFF11B, AM450 AMD450, AMH450	82	88			
AFF22B, AM550 AMD550, AMH550	96	118			
AFF37B, AM650 AMD650, AMH650	122	144			
AFF75B, AM850 AMD850, AMH850	142	223			

2. About oil-free products

Series AFF and Series AM includes parts that does not allow degreasing wash (resin parts, rubber parts, and elements). Therefore, oil-free product with all parts degreased is not available.

3. Degreasing wash

Certain parts that allow degreasing wash, such as the body and housing, can be washed for degreasing. Please contact SMC after making explicit specifications (available as made-to-order specifications)

4. Change of oil

On Series AFF and Series AM, no oil such as grease is applied to parts exposed to compressed air. However, for certain specifications, there are some parts to which oil is applied.

It is possible to change the type of oil applied.

(Available as made-to-order)

5. Internal volume of filter container

The product can be used as a small capacity air tank by removing the element.

Following is the volume of filter containers of Series AFF and Series AM (when the element is removed).

Volume Inside Filter

Model	Volume inside filter (Reference value) (cm³)	
AFF2B, AM150 AMD150, AMH150	250	
AFF4B, AM250 AMD250, AMH250	300	
AFF8B, AM350 AMD350, AMH350	600	
AFF11B, AM450 AMD450, AMH450	1000	
AFF22B, AM550 AMD550, AMH550	1500	
AFF37B, AM650 AMD650, AMH650	3000	
AFF75B, AM850 AMD850, AMH850	9000	

Information on Items to be Discontinued and Equivalent Products

Series AFF and AM were remodeled to products introduced in this catalog in 1988.

Along with the new models, old models have also been provided mainly for the purpose of maintenance. However, due to the aging of metal dies and extreme decline in the quantity, the procurement of parts and consequently the maintenance of the production system have become difficult. For this reason, old parts were discontinued in 1994, as detailed in the table below. Please use the equivalent parts listed there.

Discontinued Products and Equivalent Products

			Discontinued			Product equivalent	
Product name	Model	Period of production discontinuance	Period of production discontinuance Component parts for maintenance	External dimension of a product Width x Depth x Height	Model	External dimension of a product Width x Depth x Height	Page
	AFF6	End of July '94	End of March '99	100 x 100 x 253	AFF4B	76 x 76 x 178	
Main Line Filter	AFF22	End of July '94	End of March '99	150 x 140 x 446	AFF22B	122 x 122 x 259	14-20-9
Wall Line I liter	AFF37	End of July '94	End of March '99	200 x 170 x 526	AFF37B	160 x 160 x 311	14-20-9
	AFF55	End of July '94	End of March '99	280 x 280 x 497	AFF75B	220 x 220 x 461	
	AM200	End of July '94	End of March '99	63 x 63 x 191	AM150	63 x 63 x 159	
	AM300	End of July '94	End of March '99	85 x 85 x 258	AM250	76 x 76 x 172 (178)	
Mist Separator	AM400	End of July '94	End of March '99	120 x 120 x 236	AM350	90 x 90 x 204 (210)	14-20-16
AM500		End of July '94	End of March '99	140 x 140 x 383	AM550	122 x 122 x 259	
	AM600	End of July '94	End of March '99	180 x 170 x 465	AM650	160 x 160 x 311	
	AMD100	End of July '94	End of March '99	63 x 63 x 136	AMD150	63 x 63 x 159	
	AMD200	End of July '94	End of March '99	80 x 82 x 170	AMD250	76 x 76 x 172 (178)	
Micro Mist Separator	AMD300	End of July '94	End of March '99	90 x 90 x 233	AMD350	90 x 90 x 204	14-20-22
viicio iviisi separator	AMD400	End of July '94	End of March '99	140 x 140 x 380	AMD450	106 x 106 x 225	14-20-22
	AMD500	End of July '94	End of March '99	140 x 140 x 490	AMD550	122 x 122 x 259	
	AMD600	End of July '94	End of March '99	140 x 140 x 590	AMD650	160 x 160 x 311	
	AMF200	End of July '94	End of March '99	80 x 80 x 153	AMF250	76 x 76 x 152 (158)	
	AMF300	End of July '94	End of March '99	90 x 90 x 216	AMF350	90 x 90 x 184	
Odor Removal Filter	AMF400	End of July '94	End of March '99	140 x 140 x 250	AMF450	106 x 106 x 205	14-20-42
	AMF500	End of July '94	End of March '99	140 x 140 x 360	AMF550	122 x 122 x 239	
	AMF600	End of July '94	End of March '99	140 x 140 x 460	AMF650	160 x 160 x 291	

Note: Some models have different heights depending on the port size. They are shown in parentheses.



Odor Removal Filter Series ANF

Efficiently can remove odor in compressed air with an activated carbon element. The unit is designed for use in the area such as a clean room where odors must be avoided.

Can remove odor and gas ingredients in compressed air.

Activated carbon element with large filtration area.

Easy replacement of elements.

Modular connection is possible with AMF150C to 550C.

(For details, refer to page 61.)



AMF150C to 350C AMF450C/550C



AMF650/850





Model

Model	AMF150C	AMF250C	AMF350C	AMF450C	AMF550C	AMF650	AMF850
Note) Rated flow (#min (ANR))	200	500	1000	2000	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, 1 ½	1 1/2, 2
Mass (kg)	0.3	0.48	0.8	1.3	2.0	4.2	10.5

 \bigcirc

Note) Max. flow at 0.7 MPa.

Max. flow varies depending on the operating pressure.

Refer to "Flow Characteristics" (page 55) and "Maximum Air Flow" (page 54).

Model/Free Standing Type

Model	AMF800	AMF900	AMF1000
Rated flow (e/min (ANR))	8000	24000	40000
Port size	50(2B)JIS 10K FF flange	50(2B), 80(3B),100(4B)JIS 10K FF flange	100(4B),150(6B)JIS 10K FF flange
Mass (kg)	90	200	410

Model/Piping Support Type

Model	AMF801	AMF901
Rated flow (e/min (ANR))	8000	24000
Port size	50(2B)JIS 10K FF flange	50(2B), 80(3B),100(4B)JIS 10K FF flange
Mass (kg)	40	120

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
Nominal filtration rating	0.01 μm (Filtration efficiency: 99.9%)
Cleanliness at outlet	Less than 100 particles of 0.3 μm or larger per cubic foot [Less than 35 particles per 10 liters (ANR)] (The "AME" series is required on the inlet side.)
Oil mist density at outlet	Max. 0.004 mg/m³ (ANR) (≈0.0032 ppm) (The "AME" series is required on the inlet side.)

Accessory (Option)

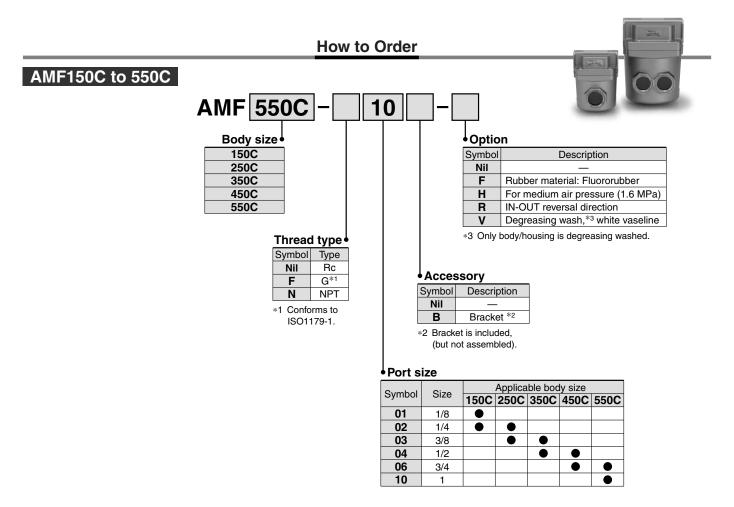
Applicable model	AMF150C	AMF250C	AMF350C	AMF450C	AMF550C	AMF650	AMF850
Bracket assembly (with 2 mounting screws)	AM-BM101	AM-BM102	AM-BM103	AM-BM104	AM-BM105	BM56	BM57

⚠ 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, I and back pages 3 through to 7 for Specific Product Precautions.





Options

Symbol F: Rubber material: Fluororubber

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

Symbol V: Degreasing wash, white vaseline

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

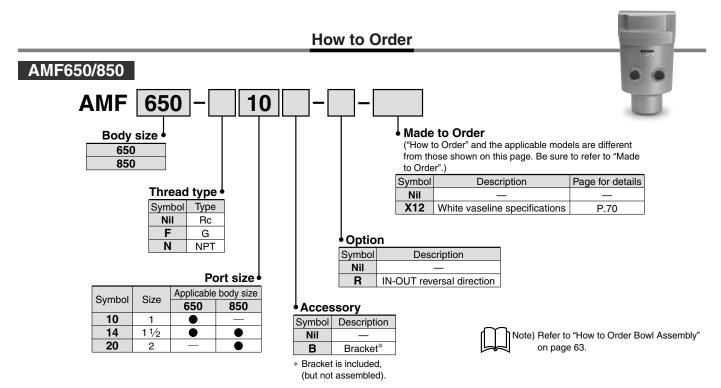
Symbol H: For medium air pressure (1.6 MPa)

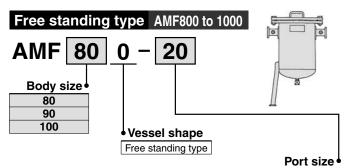
Can be used up to 1.6 MPa at maximum.

Symbol R: IN-OUT reversal direction

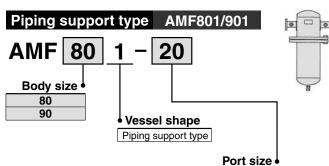
Air flow in the separator is changed to right to left.

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





Currente ed	Cina	Applicable body size									
Symbol	Size	800	900	1000							
20	50(2B)JIS 10K FF flange	•	•	_							
30	80(3B)JIS 10K FF flange	_	•	_							
40	100(4B)JIS 10K FF flange	_	•	•							
60	150(6B)JIS 10K FF flange	_									



Cumahal	C:	Applicable	body size
Symbol	Size	801	901
20	50(2B)JIS 10K FF flange	•	•
30	80(3B)JIS 10K FF flange	_	•
40	100(4B)JIS 10K FF flange	_	•

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

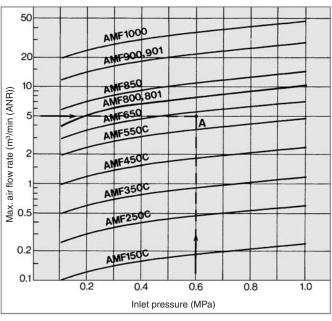
Max. air flow rate: 5 m³/min (ANR)

- Obtain the intersecting point A of inlet pressure and max. air flow rate in the graph.
- The AMF650 is obtained when the max. flow line is above the intersecting 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.

Maximum Air Flow



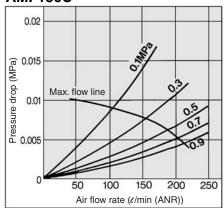


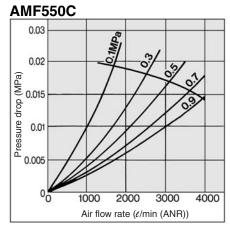
Flow Characteristics/Refer to "Model Selection" on page 54. (Element initial condition)



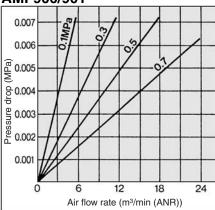
Note) Compressed air over max. flow line in the table below may not meet the specifications of the product. It may cause damage to the element.

AMF150C

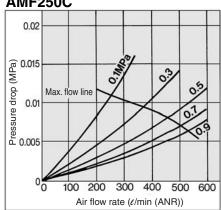




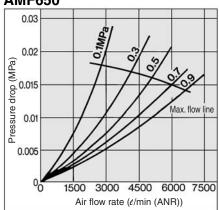
AMF900/901



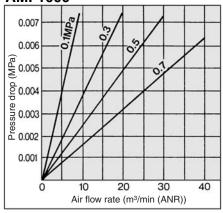
AMF250C



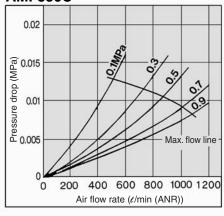
AMF650



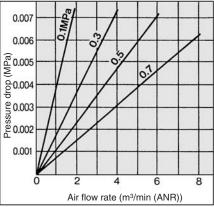
AMF1000



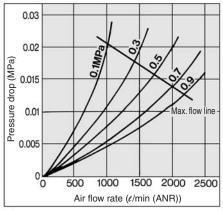
AMF350C



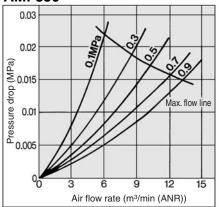
AMF800/801



AMF450C



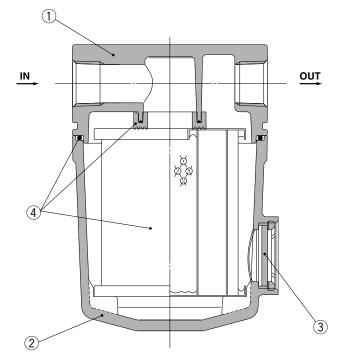
AMF850



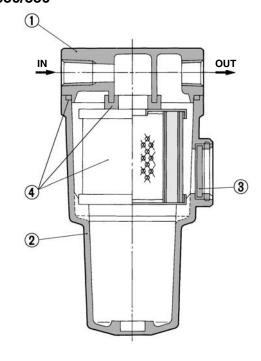


Construction

AMF150C to 550C



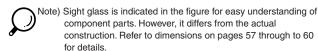
AMF650/850



Component Parts

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

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

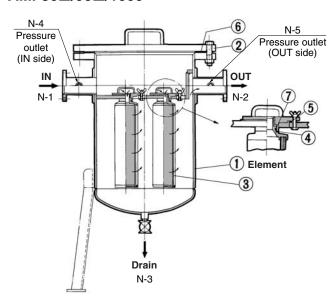


Replacement Parts

No	No. Description		Applicable		Model													
INO.	Description	Material	model	AMF150C	AMF250C	AMF350C	AMF450C	AMF550C	AMF650	AMF850								
4	Element	Glass fiber,	Except option F	AMF-EL150	AMF-EL250	AMF-EL350	AMF-EL450	AMF-EL550	AMF-EL650	AMF-EL850								
4	assembly	others	For option F	AMF-EL150-F	AMF-EL250-F	AMF-EL350-F	AMF-EL450-F	AMF-EL550-F	_	_								

^{*} Element assembly: With gasket (1 pc.) and O-ring (1 pc.)

AMF80□/90□/1000



Component Parts/Material

No	Description	Mod	Model									
No.	Description	AMF800/900/1000	AMF801/901	Note								
1	Filter case	SGP-E: SS400	SGP-E: SS400									
2	Cover	SS400 SGP										

Replacement Parts

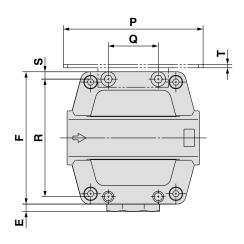
- 1							
No.	Decemination	Matarial			Model		
INO.	Description	Material	AMF800	AMF801	AMF900	AMF901	AMF1000
3	Element	_	63271	63271	63271 3 pcs.	63271 3 pcs.	63271 5 pcs.
4	Seal	NBR	63148	63148	63148 3 pcs.	63148 3 pcs.	63148 5 pcs.
5	Seal	NBR	O.D112 x I.D90 x T3 1 pc.	_	O.D112 x I.D90 x T3 3 pcs.	_	O.D112 x I.D90 x T3 5 pcs.
6	Gasket	V#6500	AL-61S	AL-60S	AL-63S 3 pcs.	AL-62S	AL-31S
7	O-ring	NBR	JIS B2401G35 1 pc.	JIS B2401G35 1 pc.	JIS B2401G35 3 pcs.	JIS B2401G35 3 pcs.	JIS B2401G35 5 pcs.

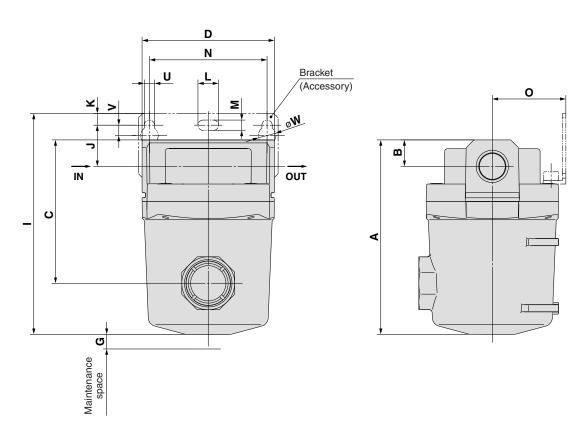
 $[\]ast$ The AMF850 is aluminum casted.

^{*} Element assemblies for Made to Order (X12, X20) are same as those for standard (see the above table).

Dimensions

AMF150C to 350C



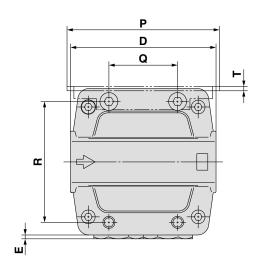


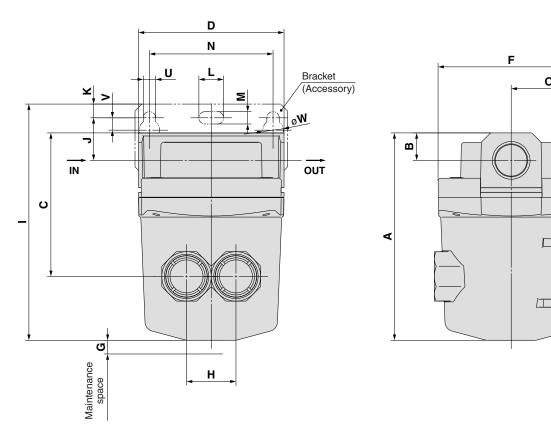
																							(111111)
Model	Port size	Α	ь	_	_	_	_	G					Br	acke	t relat	ed di	mens	ions					
Model	Port Size	A	-		שו	=		G	I	N	J	K	U	V	L	М	W	0	Р	Q	R	S	Т
AMF150C	1/8, 1/4	83	10	54	63	7.5	63	10	98.5	56	20	5	6	6	12	6	10	35	70	26	54	4.5	1.6
AMF250C	1/4, 3/8	103	14	73	76	5	76	10	121	66	24	8	6	6	12	6	10	40	80	28	66	5	2
AMF350C	3/8, 1/2	132	18	98	90	5	90	10	150	80	28	8	7	7	14	7	12	50	95	34	80	5	2.3

0

Dimensions

AMF450C/550C

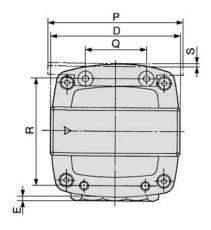


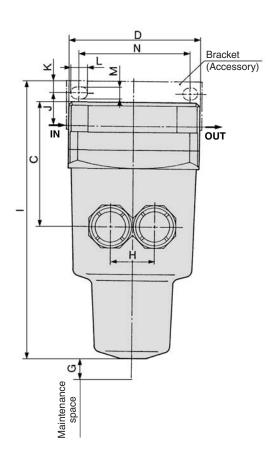


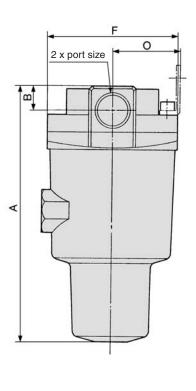
																							(mm)
Model	Dort oizo	_	ь	_	7	_	_		ш					Bra	cket ı	elate	d dim	nensi	ons				
Model	Port size	A	-		ט	_		G	п	ı	N	J	K	U	٧	L	M	W	0	Р	Q	R	Т
AMF450C	1/2, 3/4	151	20	105	106	3	106	10	36	172	90	31	10	9	9	18	9	15	55	111	50	88	3.2
AMF550C	3/4, 1	187	24	130	122	3	122	15	44	206	100	33	10	9	9	18	9	15	65	126	60	102	3.2

Dimensions

AMF650/850



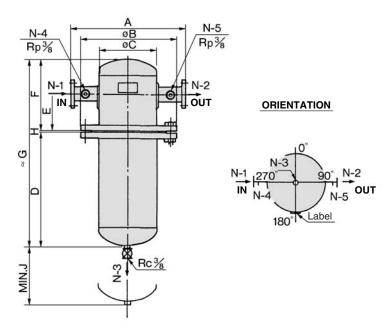




																				(mm)
Model	Port size	_	В	_	7	_	_	G	ы				Bra	cket re	lated d	imensi	ons			
Model	Port Size	A	_ D		ן ט			G	п	I	J	K	L	M	N	0	Р	Q	R	S
AMF650	1, 11/2	291	32	167	160	_	160	10	66	314	40	15	20	11	150	85	180	76	136	4.5
AMF850	11/2, 2	403	42	235	220	_	220	10	96	406	30	15	24	13	180	120	220	110	184	6

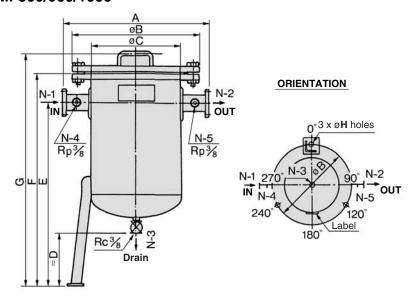
Dimensions

AMF801/901



										(mm)
Model	Connection (Flange)	Α	øΒ	øС	D	E	F	G	Н	J
AMF801	50(2B)JIS 10K FF flange	400	280	150(6B)	550	150	270	823	3	797
AMF901	50(2B), 80(3B), 100(4B)JIS 10K FF flange	620	445	300(12B)	570	300	520	1093	3	867

AMF800/900/1000



										(mm)
Model	Connection (Flange)	Α	øΒ	øС	D	E	F	G	Н	Anchor bolt
AMF800	50(2B)JIS 10K FF flange	500	330	200(8B)	300	1070	1200	1290	20	M16 x ℓ400
AMF900	50(2B), 80(3B), 100(4B)JIS 10K FF flange	720	560	400	300	1070	1230	1335	24	M20 x ℓ500
AMF1000	100(4B), 150(6B)JIS 10K FF flange	870	745	550	300	1090	1320	1450	24	M20 x ℓ500

Spacer for Modular Connection

Select a spacer from those listed below when combining modular type AFF2C to 22C, AM \square 150C to 550C. The spacer must be ordered separately. (Note: Spacer with bracket (Y200T to Y600T) cannot be used.)

⚠ Caution

Modular connection

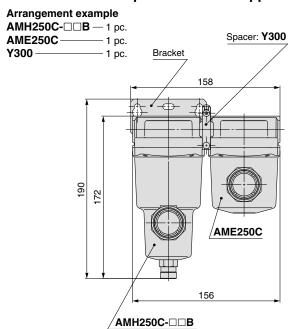
Mount the attached bracket on one side when connecting 2 sets.

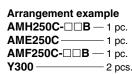
Mount the attached brackets on both sides when connecting 3 sets or more.

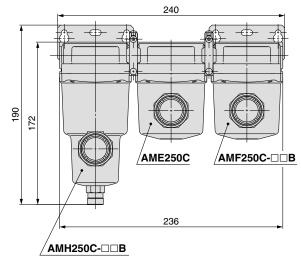
As a guideline for the number of brackets, one bracket should be mounted for every 2 products.



Combination examples of modular applicable products



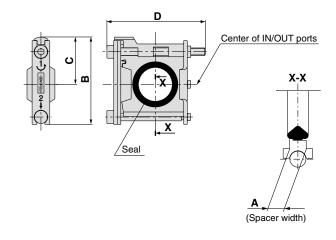




Spacer



Model	Α	В	С	D	Model
Y200	3	35.5	18.5	48	AFF2C, AM□150C
Y300	4	47	26	59	AFF4C, AM□250C
Y400	5	57	31	65	AFF8C, AM□350C
Y500	5	61	33	75	AFF11C, AM□450C
Y600	6	75.5	41	86	AFF22C, AM□550C



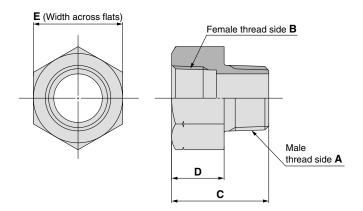
Replacement Parts

Description	Matarial	Part no.								
Description	Material	Y200	Y200 Y300 Y400		Y500	Y600				
Seal	HNBR	Y200P-061S	Y300P-060S	Y400P-060S	Y500P-060S	Y600P-060S				



Optional Accessory

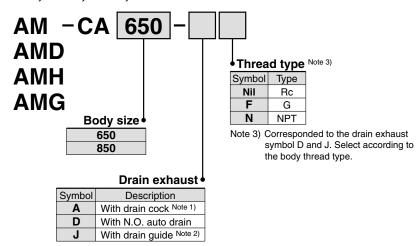
Piping Adapter



Dimensions (m										
	Thread type									
Part no.	Male thread side A	Female thread side B	C	D	Е	Material				
IDF-AP609	R 3/8	NPT 3/8	30	15	22	Brass				

How to Order Bowl Assembly

■ AM, AMD, AMH, AMG Series

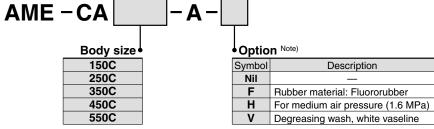


Note 1) Body size 850 is equipped with a ball valve (Rc3/8 female threaded). Mount a piping adapter IDF-AP609 (page 62) to the ball valve if NPT3/8 female threaded is required.

Note 2) Drain piping and piping for a stop valve such as a ball valve are required.

For body size 850, substitute with a ball valve. (symbol: A)

■ AME, AMF150C to 550C

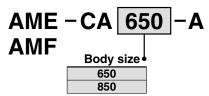


Note) Combination of FH is not available.

Applicable Model

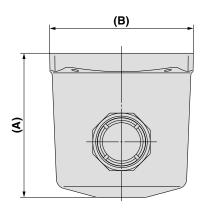
Bowl assembly model	Applicable model
AME-CA150C	AME150C, AMF150C
AME-CA250C	AME250C, AMF250C
AME-CA350C	AME350C, AMF350C
AME-CA450C	AME450C, AMF450C
AME-CA550C	AME550C, AMF550C

■ AME, AMF650/850



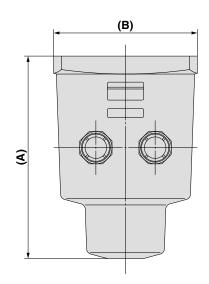
Dimensions: AME, AMF Series

■ AME150C to 550C, AMF150C to 550C



		(mm)
AME, AMF series	A	В
Size	A	В
150	60	63
250	70	76
350	90	90
450	104	106
550	130	122

■ AME650/850, AMF650/850



		(mm)
AME, AMF series	Α	В
Size] ^	-
650	225	160
850	319	120

Compressed Air Cleaning Filter Series

Made to Order/Special Specifications Please consult with SMC for detailed specifications, size and delivery.



Made to Order

Contents	Symbol	Applicable model								
Contents		AFF	АМ	AMD	AME	AMF	AMG	АМН	page	
1. With Differential Pressure Gauge (GD40-2-01)	Х6	•	•	•		_	_	•	D 60	
2. With Differential Pressure Switch (With Indicator)	X37	•	•	•	_	_	_	•	P.68	
3. With IN-OUT Flange	X15	•	•	•	_	_	•	•	D 00	
4. With Pressure Differential Gauge (GD40-2-01), IN-OUT Flange	X17	•	•	•		_		•	P.69	
5. N.C., N.O. Auto Drain, Drain Piping Type	X26	•	•	•	_	<u> </u>	•	•	P.70	
6. White Vaseline Specifications	X12	•	•	•	•	•	•	•	P.70	
7. Mist Separator for High Flow Rate (0.3 μm)	X13	•		_		_			P.71	

Special Specifications

- Production - Pro										
Contents		Applicable model								
Contents	AFF	АМ	AMD	AME	AMF	AMG	АМН	page		
Clean Series (10-Series)	•	•	•	•	•	_	•	D 70		
Copper-free, Fluorine-free (20-Series)	•	•	_	_	_	•	_	P.72		

Compressed Air Cleaning Filter Series

Made to Order 3



Please consult with SMC for detailed specifications, size and delivery.

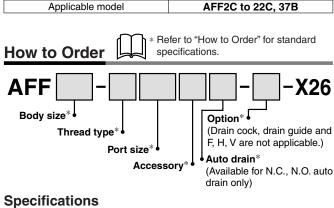
5. N.C., N.O. Auto Drain, Drain Piping Type

Drain piping type (drain guide specification) to the drain exhaust from N.C. auto drain and N.O. auto drain. N.C. type is not available for the AFF37B and AM□650.

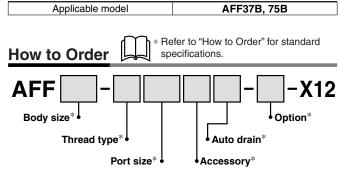
6. White Vaseline Specifications

Changed the grease for O-rings and gaskets as lubricant to white

Specifications



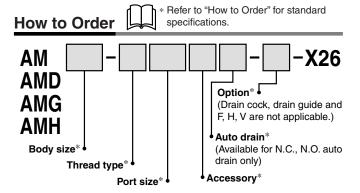
Specifications

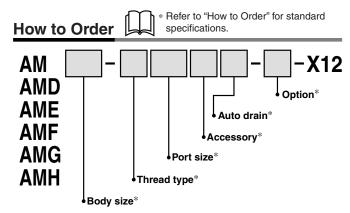


Applicable model AM□150 to 650

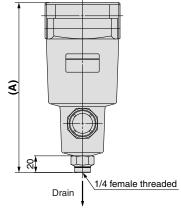
Specifications

Applicable	AM650, 850, AMD650, 850, AME650, 850,
model	AMF650, 850, AMG650, 850, AMH650, 850

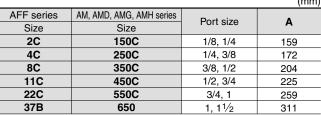




Dimensions



			(mm)
AFF series	AM, AMD, AMG, AMH series	Port size	
Size	Size	Port Size	A
2C	150C	1/8, 1/4	159
4C	250C	1/4, 3/8	172
8C	350C	3/8, 1/2	204
11C	450C	1/2, 3/4	225
22C	550C	3/4, 1	259
37B	650	1. 11/2	311



Compressed Air Cleaning Filter Series

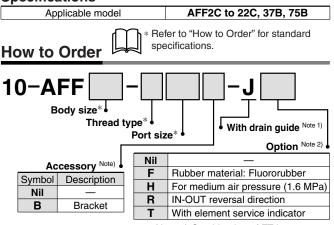
Special Specifications

Please consult with SMC for detailed specifications, size and delivery.

Clean Series (10-Series)

Clean Series products are used in cleaner environments such as in clean rooms as compared to a general factory environment. For further details, refer to the Clean Series catalog.

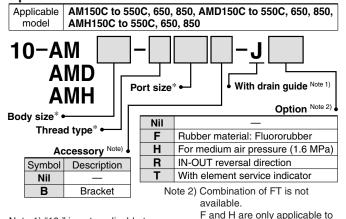
Specifications



Note 1) "10-" is not applicable to standard product (with drain cock) and with auto drain. Note 2) Combination of FT is not available. F and H are only applicable to the AFF2C to 22C.

the AM□150C to 550C.

Specifications



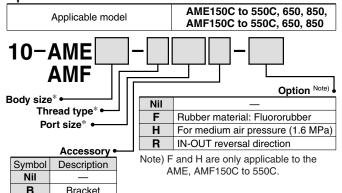
Specifications

auto drain.

Note 1) "10-" is not applicable to

standard product (with

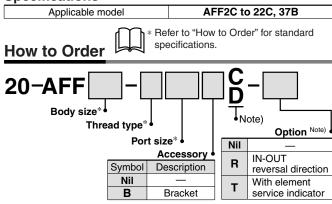
drain cock) and with



Copper-free, Fluorine-free (20-Series)

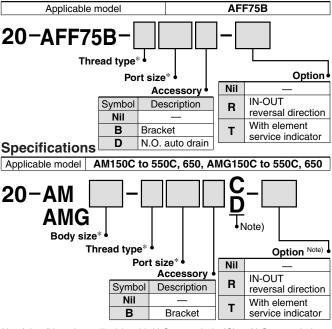
To eliminate effects on color CRTs, etc. by copper ion or fluorine resin, copper materials are electroless-nickel plated or changed to copper-free materials to prevent the generation of copper ions. (It is not applicable to the AMD, AME, AMF and AMH series because those include fluorine resin in the filter material of the element.)

Specifications



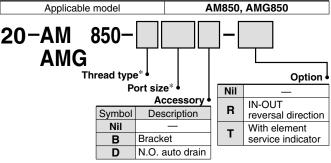
Note) "20-" is only applicable with N.C. auto drain (C) or N.O. auto drain (D). Drain cock and drain guide are copper-free, fluorine-free as

Specifications



Note) "20-" is only applicable with N.C. auto drain (C) or N.O. auto drain (D). Drain cock and drain guide are copper-free, fluorine-free as standard.

Specifications





Related Products: Auto Drain Valve

Series AD402/600

Drain is automatically discharged in a reliable manner, without requiring human operators.

Highly resistant to dust and corrosion, operates reliably, and a bowl guard is provided as standard equipment.





AD600

AD402



Model/Specifications

Model	AD402	AD600
Proof pressure	1.5 MPa	1.5 MPa
Max. operating pressure	1.0 MPa	1.0 MPa
Operating pressure range Note)	0.1 to 1.0 MPa	0.3 to 1.0 MPa
Ambient and fluid temperature	-5 to 60°C (No freezing)	-5 to 60°C (No freezing)
Port size	1/4, 3/8, 1/2	3/4, 1
Drain port size	3/8	3/4, 1
Mass (g)	620	2100



Note) 400 e/min (ANR) or more

⚠ Specific Product Precautions

Be sure to read this before handling.

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

Selection

⚠ Warning

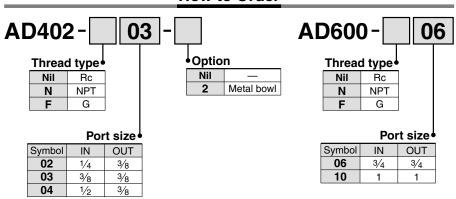
Use the auto drain under the following operating conditions in order to prevent malfunction

- 1) Operate the compressor above 3.7 kw {400 e/min (ANR)}.
- Use the AD402 at an operating pressure above 0.1 MPa and AD600 above 0.3 MPa.

Piping

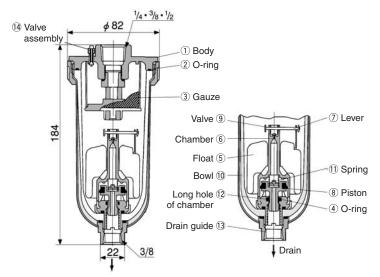
Piping should be done under the following conditions in order to prevent malfunction. For drain piping, use a pipe whose I.D. is not less than $\emptyset 10$ and length not more than 5 m. Avoid riser piping.

How to Order

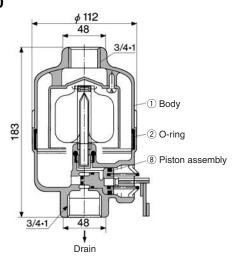


Construction/Dimensions

AD402



AD600



Working Principle (AD402)

- When no pressure is applied inside the bowl ①, float ⑤ descends of its own weight and valve ⑨ closes the chamber ⑥ hole. Piston ⑧ is pushed down by spring ①, and drain passes through the chamber's long hole ② to enter the housing and is discharged.
- When pressure is applied inside the bowl:
 When pressure is 0.1 MPa or more, it overcomes the force of spring ①, allowing the piston ® to ascend, and comes in contact with O-ring ④. Thus, the inside of the bowl ⑩ is isolated from the outside.
- When drain has accumulated:

Float $\[\widehat{\mathbb{S}} \]$ ascends due to flotation and opens the chamber hole $\[\widehat{\mathbb{S}} \]$, allowing the pressure to enter the chamber $\[\widehat{\mathbb{S}} \]$. Piston $\[\widehat{\mathbb{S}} \]$ descends due to internal pressure and the force of spring $\[\widehat{\mathbb{J}} \]$, and the accumulated drain is discharged through drain guide $\[\widehat{\mathbb{J}} \]$.

Component Parts

No.	Description	Material
1	Body	Aluminum die-casted

Replacement Parts

No	No. Description	Material	Model	
INO.			AD402	AD600
2	O-ring	NBR	113136	JIS B2401G-100
3	Gauze	Stainless steel	20062	_
Note 1)	Internal assembly	_	AD34PA	_
8	Piston assembly	_	-	20025A

Note 1) Internal assembly: Assembly for parts 4 to 12 except 10.

Note 2) Part no. for bowl assembly: AD34

Note 3) Part no. for bowl 10: 201016

Related Products: Motor Operated Auto Drain Series ADM200

Reliably discharges even highly viscous drain

 Highly resistant to dust and highly viscous drain, the valve opens and closes reliably to discharge the drain.

High drain discharge capacity

- With a large discharge port, a large amount of drain can be discharged in a single operation.
- Elimination of residual drain inside the tank and pipes prevents the generation of foreign matter such as dried rust or drain, which could adversely affect the equipment located on the outlet side.

Low power consumption: 4 W

- A long pipe can also be connected to the discharge port.
- Can be connected directly to a compressor.



Model/Specifications

Model	ADM200- □□-□
Fluid	Air
Max. operating pressure	1.0 MPa
Proof pressure	1.5 MPa
Ambient and fluid temperature	−5 to 60°C (No freezing)
Operating cycle*	1 time in a minute (Standard)
Operating time	2 sec./time (Standard)
Power source	100, 200 VAC 50/60 Hz, Other
Power consumption	4 W
Port size	IN: 3/8, 1/2
FUIT SIZE	OUT: 3/8
Mass	550 g

* If the operating cycle is twice in a minute (operating time 2 sec. x 2) operating time is 4 sec. each minute.

⚠ Specific Product Precautions

Be sure to read before handling.

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

Mounting

⚠ Warning

- Install this product after discharging the drainage that has already accumulated in the tank. Otherwise, it could lead to malfunction.
- 2. Install this product, so that the drain port could face downwards. Otherwise, it could lead to malfunction.

⚠ Caution

Provide a stop valve before the ADM200 to facilitate maintenance and inspection.

Piping

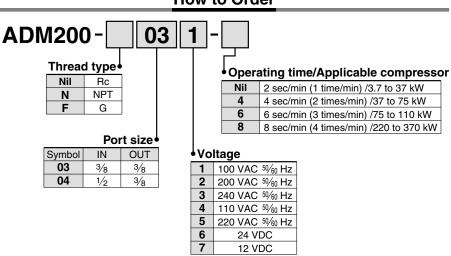
⚠ Warning

Piping should be done under the following conditions in order to prevent malfunction. For drain piping, use a pipe whose I.D. is not less than ø5 and length not more than 5 m. Avoid riser piping.

Maintenance

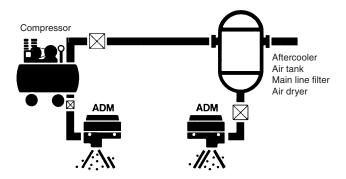
If the valve becomes clogged with debris, press the manual button to flush out the debris. Otherwise, it could lead to malfunction.

How to Order

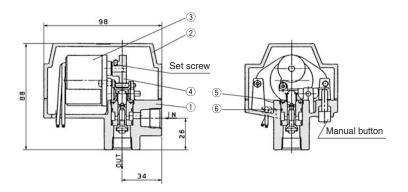


Related Products: Motor Operated Auto Drain Series ADM200

Mounting Example



Construction/Dimensions



Component Parts

No.	Description	Material	Note
1	Body	Aluminum die-casted	Chrome treated
2	Сар	Aluminum die-casted	Chrome treated

Replacement Parts

No.	Description	Material	Part no.
3 Note)	Motor	_	812PG-voltage
4	Cam	Cast steel	Operating time 201324 (NiI) 201325 (4) 201326 (6) 201327 (8)
5	Valve assembly	Brass, NBR	20137-1A
6	O-ring	NBR	S-16

Note) Motor part no. in the case of 100 VAC: 812PG-AC100V



Related Products: Heavy Duty Auto Drain

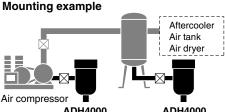
Series ADH4000

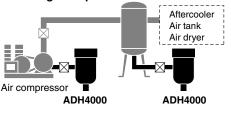
Easy maintenance

Can maintain without removing the existing

No need for electric power and no waste of air.

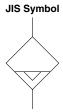
Float type auto drain allows automatic drain discharge without electric power.







Bracket set



Specifications

opeemeations		
Auto drain type	Float type	
Auto drain valve type	N.O. (Normally open: Open in the case of pressure loss)	
Proof pressure	2.5 MPa	
Max. operating pressure	1.6 MPa	
Operating pressure range Note)	0.05 to 1.6 MPa	
Fluid	Compressed air	
Ambient and fluid temperature	5 to 60°C (With no condensation) <corrosive and="" flammable="" gas="" gas,="" organic="" solvents<br="">are not allowed.></corrosive>	
Max. drain discharge	400 cc/min (Pressure 0.7 MPa, in the case of water)	
Mass	1.2 kg (With bracket: 1.3 kg)	
Paint color	White	

Note) Use for an air compressor with flow more than 50 ℓ /min (ANR).

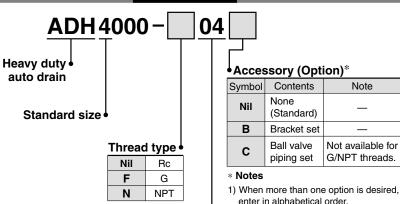
Accessory (Option)

Description	Part no.	Contents
Bracket set	BM58	Bracket
Ball valve piping set	ADH-C400	Ball valve/Rc 1/2 1 pc. Barrel nipple/R 1/2 2 pcs. Elbow/Rc 1/2 1 pc.



Note) Accessory (Option) is included, but not assembled.

How to Order

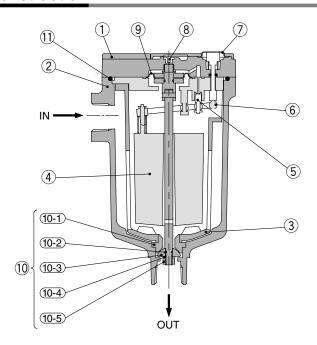


Thread type

04 1/2 (Female threaded)

- enter in alphabetical order.
- 2) Accessory is not assembled.
- 3) Refer to each drawing of dimensions and mounting methods for details.

Construction



Component Parts

No.	Description	Material	Note
1	Body	Aluminum alloy	Baking finish
2	Housing	Aluminum alloy	Baking finish
3	Drain guard	Aluminum alloy	Baking finish
4	Float	Foam rubber	
5	Pilot valve	Stainless steel + Rubber	
6	Lever	Resin	
7	Flushing button	Brass	
8	Orifice		
9	Diaphragm	Rubber	

Replacement Parts

No.	Description	Part no.	Note
10	Repair kit for main valve	ADH-D400	Kit includes parts from 10-1 to 10-5
11	O-ring	G85(B)	Material: NBR

Note) When changing parts, follow the operating manual.

Do not disassemble other parts.

▲Specific Product Precautions

Be sure to read this before handling. Refer to back pages 1 and 2 for Safety Instructions, "Precautions for Handling Pneumatic Devices" (M-03-E3A) for Common Precautions.

Design

⚠ Caution

1. Use this product in an area where the air pressure does not exceed 1.6 MPa.

If exceeding 1.6 MPa, it could lead to an accident or malfunction.

 An air pressure of 0.05 MPa and an air compressor's discharge flow rates higher than 50 dmin (ANR) are required.

Below these values, the air will be exhausted continuously from the drain exhaust port.

- Keep the compressed air and the ambient temperature of the location where this product is installed within the range of 5 to 60°C. Exceeding this range could lead to a failure or malfunction.
- 4. Avoid using this product in an area where corrosive gases, flammable gases or organic solvents are contained in the compressed air or in the surrounding air.

Selection

⚠ Caution

1. The maximum dischargeable drainage rate is 400 cc/min.

If using this product in excess of this value, there could be causing the drain to flow over to the outlet side.

Piping

⚠ Caution

- Use piping of 1/2^B or larger for drain inlet and avoid riser piping.
- 2. For drain piping, use a pipe whose I.D. is not less than 8 mm and length not more than 10 m. Do not make any upward angles in drain line. Be sure to secure exhaust port piping since drain is under pressure.

Mounting

⚠ Caution

1. Install with "out port" down in a vertical position.

Inclination from the vertical line should be less than 5°.

- Install with at least 200 mm of free space above the unit to allow for maintenance.
- 3. To place this product near the air compressor, install in such a way that the vibrations will not be transmitted.
- 4. Install a valve to drain inlet so that maintenance is possible.

Use a ball valve with a bore size of more than 15 mm. (Ball valve piping set is available as an accessory (option).)

Mounting

5. When not draining sufficiently, open the bleed valve so that drain could run through easily.

Maintenance

⚠ Caution

1. Check drain condition periodically (more than once a day).

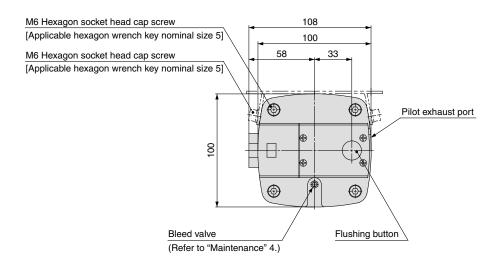
Also, push the flushing button to open the exhaust valve.

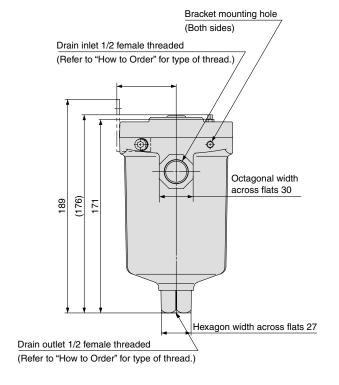
- Pilot air is exhausted from the exhaust port indicated in "Dimensions". Do not cover this exhaust port. Clean the exhaust port so that port is not blocked by dust, etc.
- 3. When solid foreign objects exceeding 1 mm come in, the main valve may become blocked. After recovering the internal pressure of this product to 0 MPa (atmospheric pressure), remove the hexagon socket head cap screw (M6) from the body part and wash inside with water to remove foreign solid objects blocking the main valve.
- 4. When using this product, drain may not easily enter the product. In such a case, adjust the open angle of its bleed valve to lower the pressure a bit inside the bowl so that drain could run through easily.

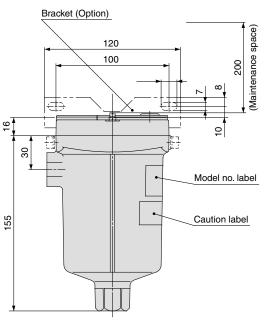


Series ADH4000

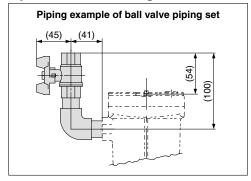
Dimensions







Option: Reference Figure of Assembly



Related Products: Differential Pressure Gauge

Series GD40-2-01

The pressure differential at the inlet and the outlet of compressed air equipment can be viewed at a glance on the differential pressure gauge. It is ideal for the maintenance control of filters.

Compact and lightweight Can be installed easily by merely providing a bypass circuit. Provided with a protective cover to prevent hazards.



JIS Symbol

Model/Specifications

Model	GD40-2-01
Fluid	Compressed air
Max. operating pressure	1 MPa
Proof pressure	1.5 MPa
Ambient and fluid temperature	5 to 60°C
Port size Rc	1/8
Scale range	0 to 0.2 MPa
Accuracy	±0.006 MPa
Dial size	ø40
Mass (g)	300

Main Parts Material

Case	Zinc die-casted			
Internal part	Brass, Phosphor bronze			
Window	Polyester			
Scale plate	Stainless steel			

Accessory

Nylon tube	T0425 (0.5 m)
Male connector	H04-01 (1 pc.)
Male elbow	DL04-01 (1 pc.)

⚠ Specific Product Precautions

Be sure to read this before handling

Refer to back pages 1 and 2 for Safety Instructions, "Precautions for Handling Pneumatic Devices" (M-03-E3A) for Common Precau-

Design

⚠ Caution

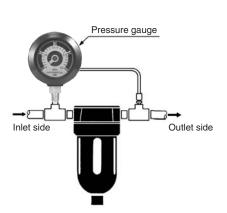
1. This product cannot be used in a location where pulsations could occur frequently.

Mounting

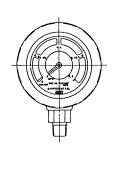
⚠ Caution

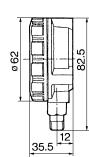
- 1. Mounting
 - 1) The HIGH and LOW marks on the back of the differential pressure gauge indicate the high pressure and low pressure sides respectively. Connect the HIGH side to the inlet side of the filter or other devices and the LOW side to their outlet side. Do not use a stop valve to prevent damage to the differential pressure gauge if the valve is inadvertently left open or closed.
 - 2) Install the differential pressure gauge vertically.
 - 3) The piping of the differential pressure gauge must be connected securely because it will break if it becomes detached.

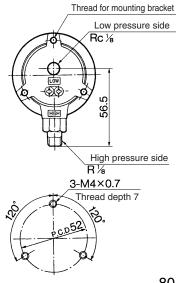
Piping Example



Dimensions











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), Japan Industrial Standards (JIS)*1) and other safety regulations*2).

* 1) ISO 4414: Pneumatic fluid power – General rules relating to systems.

ISO 4413: Hydraulic fluid power – General rules relating to systems.

IEC 60204-1: Safety of machinery - Electrical equipment of machines. (Part 1: General requirements)

ISO 10218-1992: Manipulating industrial robots -Safety.

JIS B 8370: General rules for pneumatic equipment.

JIS B 8361: General rules for hydraulic equipment.

JIS B 9960-1: Safety of machinery - Electrical equipment of machines. (Part 1: General requirements)

JIS B 8433-1993: Manipulating industrial robots - Safety.

etc.

* 2) Labor Safety and Sanitation Law, etc.

Caution: Operator error could result in injury or equipment damage.

Warning: Operator error could result in serious injury or loss of life.

Danger: In extreme conditions, there is a possibility of serious injury or loss of life.

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. Contact SMC beforehand and take special consideration of safety measures if the product is to be used in any of the following conditions.
 - 1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
 - 2. Installation on equipment in conjunction with atomic energy, railways, air navigation, space, shipping, vehicles, military, medical treatment, combustion and recreation, or equipment in contact with food and beverages, emergency stop circuits, clutch and brake circuits in press applications, safety equipment or other applications unsuitable for the standard specifications described in the product catalog.
 - 3. An application which could have negative effects on people, property, or animals requiring special safety analysis.
 - 4. Use in an interlock circuit, which requires the provision of double interlock for possible failure by using a mechanical protective function, and periodical checks to confirm proper operation.





ACaution

The product is provided for use in manufacturing industries.

The product herein described is basically provided for peaceful use in manufacturing industries.

If considering using the product in other industries, consult SMC beforehand and exchange specifications or a contract if necessary. If anything is unclear, contact your nearest sales branch.

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.*3)
 - 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.
 - * 3) 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

When the product is exported, strictly follow the laws required by the Ministry of Economy, Trade and Industry (Foreign Exchange and Foreign Trade Control Law).





Be sure to read this before handling. Refer to back pages 1 and 2 for Safety Instructions, and "Precautions for Handling Pneumatic Devices" (M-03-E3A) for Common Precautions.

Design

⚠ Caution

 Design the layout so that the mist separator should be installed in an area that is less susceptible to pulsations.

The element could be damaged if a difference between the inlet pressure and the outlet pressure exceeds 0.1 MPa.

2. Be careful of dust generation by the pneumatic equipment mounted on the outlet side.

When installing pneumatic equipment on the outlet side of the AMD series, dust particles may come off from outlet equipment, which will lower the cleanliness of compressed air. Consider this impact upon the cleanliness of compressed air when installing pneumatic equipment on the outlet side.

3. About when to use N.C. auto drain and N.O. auto drain.

When using the AFF2C to 22C, 37B, 75B, AM□150C to 550C, 650, 850 with normally open (N.O.) auto drain, air may ceaselessly blow out of the drain discharge area when an air compressor with a small air discharge volume is used since the valve does not close unless the air pressure is 0.1 MPa or higher. Therefore, when using a compressor for 3.7 kW or less, make sure to use the normally closed (N.C.) auto drain. The minimum operating pressure is 0.15 MPa even with N.C. auto drain.

4. Use a tubing with proper size and length for drain piping of auto drain.

When using the AFF2C to 22C, 37B, AM□150C to 550C, 650 with auto drain:

Normally closed (N.C.) $\}$ Use tubing O.D. 10 mm and keep Normally open (N.O.) $\}$ the whole length within 5 m.

When using the AFF75B and AM□850 with auto drain:

Normally open (N.O.): Use tubing I.D. 9 mm or more and keep the whole length within 2.8 m.

5. Provide a design that prevents back pressure and back flow.

Back pressure or back flow may damage an element.

Keep the certificate of Class 2 Pressure Vessel in a safe place.

Products below are subject to Class 2 Pressure Vessel Act. Certificate will be sent in 2 to 4 weeks later after the shipment of the product.

Main Line Filter AFF220A

Micro Mist Separator······ AMD9□0/10□0/9□1

⚠ Warning

 Hold the female thread side and tighten to the recommended torque when screwing in the piping material.

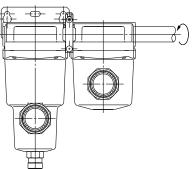
Insufficient tightening torque may cause loosening or defective sealing. Over-tightening torque may damage the thread etc. If it is tightened without holding the female thread side, excessive force will be directly applied to the piping bracket resulting in a product failure.

Recommended Torque

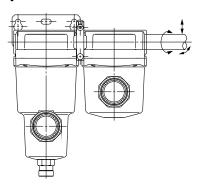
Unit: N⋅m

Connection thread	1/8	1/4	3/8	1/2	3/4	1	11/2	2
Torque	1.5 to 2	7 to 9	12 to 14	28 to 30	28 to 30	36 to 38	48 to 50	48 to 50

 After tightening manually, tighten additionally by about 1/6 turn with a tightening tool.



Do not apply torsional moment or bending moment (except the product's own weight) to the bracket. It may damage the bracket. Support external piping separately.



 Inflexible piping such as steel piping tends to be affected by spread of excessive moment load or vibration from the piping side. Lay flexible tubing between the steel pipe and the product to prevent such effects.



Be sure to read this before handling. Refer to back pages 1 and 2 for Safety Instructions, and "Precautions for Handling Pneumatic Devices" (M-03-E3A) for Common Precautions.

Selection

1. About the system composition of purifying compressed air

Compressed air generally contains particulate contaminants as listed below, though there are some variations due to the compressor type and specifications. Determine the system configuration according to the desired cleanliness of compressed air and application, while referring to the "Air Preparation Equipment Selection Guide" for the AM \square series (Best Pneumatics).

[Particulate contaminants in compressed air]

- Water (drainage)
- · Dust sucked from ambient air
- Degenerated oil from compressor
- Solid foreign matter such as rust inside piping and oil

2. Select according to the maximum flow consumption.

When compressed air is used for air blow, etc., find the maximum air consumption before selecting the size of the AM series. (If compressed air exceeding the maximum flow rate is supplied, it can result in decline of the cleanliness of compressed air or element damage.)

Mounting

⚠ Caution

1. About the mounting orientation of the products

Make sure to install this product on horizontal piping. If it is installed diagonally, laterally, or upside down, the drain separated by the element will splash to the outlet side.

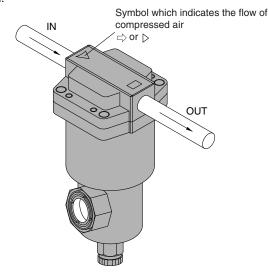
Piping

⚠ Caution

1. Connect it with IN and OUT ports in proper location. It does not work with the connection reversed.

In the case of the AFF2C to 22C, 37B, 75B, AM \square 150C to 550C, 650, 850

Verify the direction of the flow of the compressed air and the "⇒" or "⊳" mark that indicates the inlet of the product before connecting. It cannot be used if connected in the opposite direction.



In the case of the AFF75A to 220A, AMD801, 901, 800, 900, 1000

INLET and OUTLET of compressed air is labeled on the side of flange. Be sure to connect correctly.

2. Use an air blower to flush the piping before connecting the piping.

Use an air blower to thoroughly flush the piping, or wash the piping to remove any cutting chips, cutting oil, or debris from inside the piping before connecting them.

3. Wrapping of sealant tape

When screwing in the pipes or fittings, make sure to prevent cutting chips or the sealant material on the threaded portion of the pipe from entering the piping. If sealant tape is to be used, leave about 1.5 to 2 ridges of threads uncovered.

4. Modular connection

Mount the attached bracket on one side when connecting 2 sets. Mount the attached brackets on both sides when connecting 3 sets or more. As a guideline for the number of brackets, one bracket should be mounted for every 2 products.





Be sure to read this before handling. Refer to back pages 1 and 2 for Safety Instructions, and "Precautions for Handling Pneumatic Devices" (M-03-E3A) for Common Precautions.

Air Supply

1. The mist separator is not applicable to gases other than compressed air.

The mist separator is not applicable to gases other than compressed air (example: oxygen, hydrogen, flammable gas, mixed gas).

2. Do not use compressed air that contains chemicals, organic solvents, salt, or corrosive gases.

Do not use compressed gas containing chemicals, organic solvents, salt or corrosive gas. This can cause rust, damage to rubber and resin parts, or malfunction.

3. Operate within the specified operating pressure range.

Damage, failure, or malfunction may occur if the mist separator is operated above the maximum operating pressure.

If the mist separator is used below the minimum operating pressure, increase in the air-flow resistance due to clogging will have such influence that the desired flow rate cannot be obtained.

If the mist separator is used under a low pressure such as for a blower, conduct sufficient tests by users to confirm the specifications and performances.

Operating Environment

∧ Caution

- 1. Do not use in the following environments, as this can cause failure.
 - In locations having corrosive gases, organic solvents, and chemical solutions, or in locations where these elements are likely to adhere to the equipment.
 - 2) In locations where salt water, water, or water vapor could come in contact with the equipment.
 - 3) In locations that is exposed to shocks and vibrations.
- 2. Be careful about the contamination of the workpieces due to entrainment of the ambient air.

If compressed air is used for air blow, compressed air blowing out from the blow nozzle may entrain foreign matter (solid particles and liquid particles) floating in the ambient air, blowing it against the workpieces and causing adhesion. Therefore, sufficient precautions must be taken about the ambient environment

Maintenance

⚠ Caution

1. Replace the element immediately when the time for its replacement has arrived.

To replace the element, replace the O-ring and the gasket, too. For the replacement procedure, refer to the operating manual. (For element dimensions, refer to back page 6.)

<Element replacement>

In the case of the AFF2C to 22C, 37B, 75B, AM \square 150C to 550C, 650, 850

The replacement interval for the element is when the pressure drop reaches 0.1 MPa or after two years of operation, whichever comes first. A pressure drop can be verified with the element service indicator (-T) or with differential pressure gauge (Made to Order).

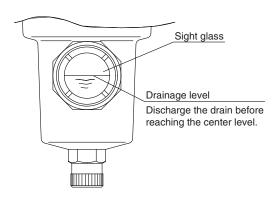
In the case of the AFF75A to 220A, AMD800 to 1000, AMD801, 901

The replacement interval for the element is when the pressure drop reaches 0.1 MPa or after one year of operation, whichever comes first. Confirm the pressure drop with a pressure gauge. (With pressure gauge: -G)

2. Be sure to exhaust the drain accumulated in the filter container.

Failure to discharge the drain will allow the accumulated drain to flow over to the outlet side.

When using the AFF2C to 22C, 37B, 75B, AM□150C to 550C, 650, 850 with drain cock, drain guide or ball valve, discharge the drain before the drainage level reaches the center of the sight glass. If the drain is not discharged properly, it will flow over to the outlet side.





Be sure to read this before handling. Refer to back pages 1 and 2 for Safety Instructions, and "Precautions for Handling Pneumatic Devices" (M-03-E3A) for Common Precautions.

Maintenance

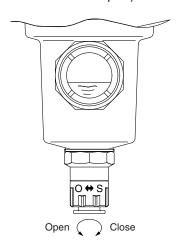
⚠ Caution

3. In the case of a type with auto drain

- The auto drain operates when the drainage level reaches the top of the sight glass, and the drain will be discharged.
- When using the AFF2C to 22C, 37B, AM□150C to 550C, 650 with auto drain, the drain is automatically discharged with the knob tightened to the "S" side. Manual drain discharge, however, is also possible.

<Manual operation>

A manual knob attached to the auto drain end is tightened to the "S" side in normal operation. The drain can be discharged by loosening it to the "O" side. (Be careful, however, if pressure remains inside the filter when the drain is discharged, the drain will blow out from the drain port.)



The drain exhaust parts replacement method and necessary parts are different depending on when it was manufactured.

	Necessa		
Description	Manufactured Dec. 2002 or before [Up to manufacturing lot No. GZ]	Dec. 2002 or before Jan. 2003 onwards Up to manufacturing [Manufacturing lot No.]	
Drain cock	AM-S	A002	
Drain guide	AM-S	A003	2C to 22C
N.O. auto drain	Auto drains cannot be replaced alone since those cannot be	AD43PA-D	2B to 37B 150C to 550C 150 to 650
N.C. auto drain	assembled without dedicated assembly tools. The entire bowl assembly must be replaced. (Refer to "How to Order Bowl Assembly" on page 63.)	AD53PA-D	2C to 22C 2B to 22B 150C to 550C 150 to 550
Ball valve set	AM-SA	75B, 850	
N.O. auto drain	AD34P	755, 656	

Note) Jig (AM-SA005) for replacing auto drain is necessary for the 75B or 850.

Others

⚠ Caution

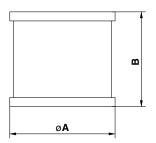
1. Element interchange

Following is the element dimensions for the AFF and AM series:

Since elements for the same body size has the same dimensions, they are interchangeable.

However, do not interchange them easily since it can cause various kinds of problems.

If interchanging the elements is unavoidable, replace the product model number label, too.



Element Dimensions

Model	Element dimensions (Reference value)		
	øΑ	В	
AFF2C, AFF2B, AM150C, AM150 AMD150C, AMD150, AMH150C, AMH150	49	42	
AFF4C, AFF4B, AM250C, AM250 AMD250C, AMD250, AMH250C, AMH250	58	52	
AFF8C, AFF8B, AM350C, AM350 AMD350C, AMD350, AMH350C, AMH350	70	78	
AFF11C, AFF11B, AM450C, AM450 AMD450C, AMD450, AMH450C, AMH450	82	88	
AFF22C, AFF22B, AM550C, AM550 AMD550C, AMD550, AMH550C, AMH550	96	118	
AFF37B, AM650 AMD650, AMH650	122	144	
AFF75B, AM850 AMD850, AMH850	142	223	

2. About oil-free products

The AFF and AM□ series includes parts (such as resin parts, rubber parts, and elements) that does not allow degreasing wash. Therefore, oil-free products with all parts degreasing washed is not available.

3. Degreasing wash

Certain parts such as the body and housing can be degreasing washed. Contact SMC after confirming the specifications. (available as Option or Made to Order)

4. Change of oil

On the AFF and AM series, no oil such as grease is applied to parts exposed to compressed air. However, for certain specifications, there are some parts to which oil is applied. It is possible to change the type of applied oil (as Option or Made to Order).





Be sure to read this before handling. Refer to back pages 1 and 2 for Safety Instructions, and "Precautions for Handling Pneumatic Devices" (M-03-E3A) for Common Precautions.

Others



5. Internal volume of filter container

The product can be used as a small capacity air tank by removing the element.

Following is the volume of filter containers of the AFF and AMD series (when the element is removed).

Volume Inside Filter

Model	Volume inside filter (Reference value) (cm³)
AFF2C, AFF2B, AM150C, AM150 AMD150C, AMD150, AMH150C, AMH150	250
AFF4C, AFF4B, AM250C, AM250 AMD250C, AMD250, AMH250C, AMH250	300
AFF8C, AFF8B, AM350C, AM350 AMD350C, AMD350, AMH350C, AMH350	600
AFF11C, AFF11B, AM450C, AM450 AMD450C, AMD450, AMH450C, AMH450	1000
AFF22C, AFF22B, AM550C, AM550 AMD550C, AMD550, AMH550C, AMH550	1500
AFF37B, AM650 AMD650, AMH650	3000
AFF75B, AM850 AMD850, AMH850	9000

Discontinued Model and Equivalent Model

The AFF and AM□ series were remodeled to products introduced in this catalog in 1988.

Along with the new models, old models were provided mainly for the purpose of maintenance. However, due to the aging of metal dies and extreme decline in the quantity, the procurement of parts and consequently the maintenance of the production system became difficult. For this reason, old models were discontinued in 1994, as detailed in the table below. Use the equivalent model listed there.

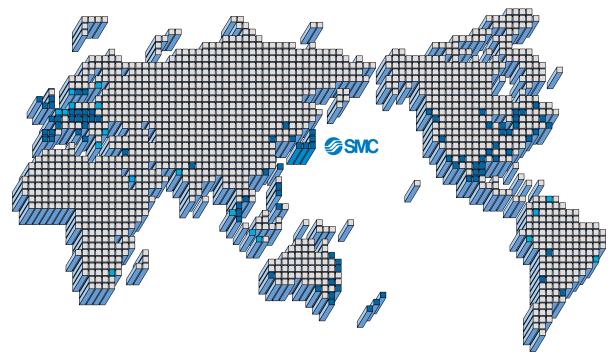
Discontinued Model and Equivalent Model

		Production discontinuance				Equivalent model		
Product name	Model	Period of production discontinuance for products	Period of production discontinuance for maintenance parts	External dimensions of product Width x Depth x Height	Model	External dimensions of product Width x Depth x Height	Page	
	AFF6			100 x 100 x 253	AFF4C	76 x 76 x 172		
Main Line Filter	AFF22		ļ	150 x 140 x 446	AFF22C	122 x 122 x 259	P.10	
Main Line Filler	AFF37			200 x 170 x 526	AFF37B	160 x 160 x 311	F.10	
	AFF55			280 x 280 x 497	AFF75B	220 x 220 x 461		
	AM200			63 x 63 x 191	AM150C	63 x 63 x 158	P.18	
	AM300	End of July '94	End of March '99	85 x 85 x 258	AM250C	76 x 76 x 172		
Mist Separator	AM400			120 x 120 x 236	AM350C	90 x 90 x 204		
	AM500			140 x 140 x 383	AM550C	122 x 122 x 259		
	AM600			180 x 170 x 465	AM650	160 x 160 x 311		
	AMD100			63 x 63 x 136	AMD150C	63 x 63 x 158		
	AMD200			80 x 82 x 170	AMD250C	76 x 76 x 172		
Micro Mist	AMD300			90 x 90 x 233	AMD350C	90 x 90 x 204		
Separator	AMD400			140 x 140 x 380	AMD450C	106 x 106 x 225		
	AMD500			140 x 140 x 490	AMD550C	122 x 122 x 259		
	AMD600			140 x 140 x 590	AMD650	160 x 160 x 311		
Odor Removal	AMF200			80 x 80 x 153	AMF250C	76 x 76 x 103	P.52	
	AMF300			90 x 90 x 216	AMF350C	90 x 90 x 132		
Filter	AMF400			140 x 140 x 250	AMF450C	106 x 106 x 151		
Filler	AMF500			140 x 140 x 360	AMF550C	122 x 122 x 187		
	AMF600			140 x 140 x 460	AMF650	160 x 160 x 291		

Note) Some models have different heights depending on the port size. They are shown in parentheses.



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▲ Safety Instructions Be sure to read "Precautions for Handling Pneumatic Devices" (M-03-E3A) before using.

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