#### **Modular Connection Type**

### Compressed Air Preparation Filter/

**Activated Carbon Filter** 

**Compressed Air Purity Class** 

**ISO 8573** 

Mist Separator AM Series Micro Mist Separator AMD Series

Line Filter AFF Series

droplet

Oil mist

and odor

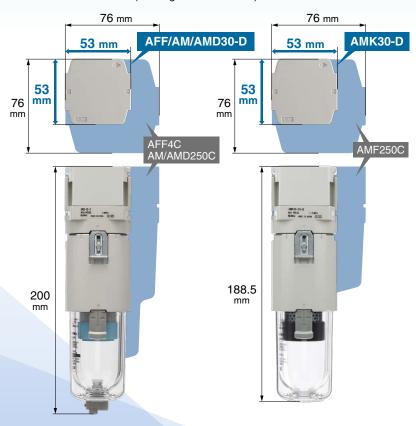
Activated Carbon Filter AMK Series

Weight reduced by 50%

AFF/AM/AMD20-D: 0.19 kg (Existing model: 0.38 kg)

#### Face-to-face and depth dimensions reduced by 30%

AFF/AM□30-D: □53 mm (Existing model: □76 mm)



#### Modular connection is possible.

Removes odor in the compressed air **Activated carbon filter** 

AMK Series

(RoHS)





AFF/AM/AMD/AMK Series



#### The increased air flow capacity due to a reduced pressure drop contributes to energy saving.

#### Flow capacity

#### 1500 L/min (ANR)

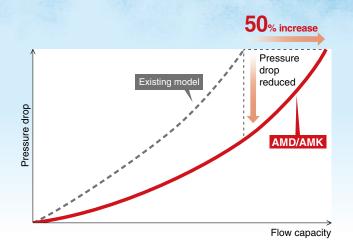


Micro mist separator AMD Series Activated carbon filter AMK Series

#### **Pressure drop**

#### Max. 50% reduction

AMD40: 6.8 kPa (Existing model AMD350C: 13.6 kPa) AMK40: 4.7 kPa (Existing model AMF350C: 9.4 kPa)



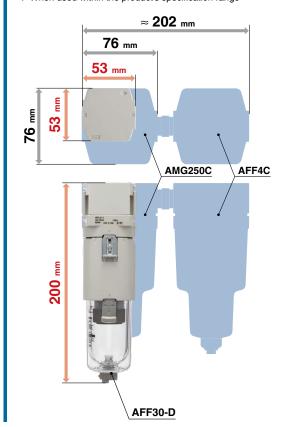
#### Space-saving design and reduced piping labor

#### **AFF** Series



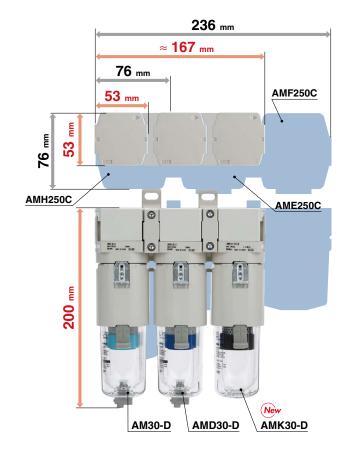
The AFF series line filter removes both water droplets and solid particles. It eliminates\*1 the need for a separate filter for removing water droplets (water separator, AMG series), thus greatly reducing the face-to-face dimension and also reducing the required installation space and piping work.

\*1 When used within the product's specification range



#### Modular connection

	AMH250C + AME250C + AMF250C	AM30-D + AMD30-D + AMK30-D	
Face-to-face dimension	<b>236</b> mm	≈ <b>167</b> mm	Approx. 69 mm reduction
Weight	<b>1.51</b> kg	1.17 kg	23% reduction
Flow capacity	<b>500</b> L/min (ANR)	<b>750</b> L/min (ANR)	50% increase





#### Lightweight

#### Weight

#### Max. 50% lighter\*1

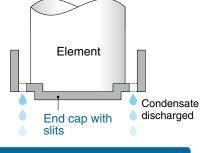
**0.19** kg **=** 0.38 kg

*1	Compared with existing products (AFF□C, AM□C, and
	AMD□C series)

<sup>\*2</sup> Compared with existing products (AMF series)

Series	Size	Weight	Reduction rate
AFF/AM/AMD*1	20	<b>0.19 kg</b> ← 0.38 kg	50%
	30	<b>0.39 kg</b> ← 0.55 kg	29%
	40	<b>0.79 kg</b> ← 0.9 kg	12%
AMK*2	20	<b>0.19 kg</b> ← 0.3 kg	37%
	30	<b>0.39 kg</b> ← 0.48 kg	19%
	40	<b>0.79 kg</b> ← 0.8 kg	1.3%

# Color-identifiable elements This eliminates the accumulation of condensate. Even high-velocity fluid is not spattered. The result is a compact bowl design.



Condensate is not accumulated, so no water flows to the downstream side.



3 models (AFF/AM/AMD) with an end cap with slits

#### **Transparent bowl guard (2-layer construction)**

- The inside is visible from 360°.
- The bowl is completely protected from the environment, allowing for improved safety.



#### No tools are required.

Easy replacement of the element is possible as the element and the bowl are in one piece. Replacement can be done in hand.



#### **Variations**





#### **Compliant with ISO 8573 Compressed Air Purity Class** Systems which are in compliance with the degree of purity required for compressed air (For details → page 18) System example 1) System example 2) Particles Liquid water Oil 5 4 4 Particles Liquid water Oil 7 2 3 4 4 Line Filter Compressed air [7:4:4] Compressed air Line Filte Separato **AM** 7 3 4 2 [6:8:4] Separato AM AMD Micro Mist 7 2 4 1 1 ÀMD

#### Certified by a third party organization ISO 12500: ISO 8573: **Contaminants** Filters for compressed air - test methods Compressed air ISO 12500-3:2009 ISO 8573-4:2001 **Particles** Filters for compressed air - test methods Compressed air - Test methods **Particulates** for solid particle content ISO 12500-4:2009 ISO 8573-9:2004 Liquid water Filters for compressed air - test methods -Compressed air - Test methods Water for liquid water content ISO 12500-1:2007 ISO 8573-2:2007 Oil Filters for compressed air - test methods Compressed air - Test methods Oil aerosols for oil aerosol content

#### **Simple Specials System**

A system designed to respond quickly and easily to your special ordering needs

For modular connection units (shipped assembled), the simple specials system can be used.



#### **Short lead times**

This system enables us to respond to your special needs (additional machining, accessory assembly, or the designing of a modular unit) and deliver your personalized products as quickly as standard products.

#### Repeat orders

Once we receive a simple special part number from one of your previous orders, we will process the order, manufacture the product, and deliver it to you as quickly as possible.

Please contact your local sales representative for more details.

#### CONTENTS

#### Modular Connection Type Compressed Air Preparation Filter/Activated Carbon Filter AFF/AM/AMD/AMK Series



#### **Compressed Air Preparation Filter AFF/AM/AMD** Series

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#### **Activated Carbon Filter AMK** Series

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Construction	
Modular Connection Example      Accessories Sold Separately	 p. 17
· International Standard ISO 8573-1:2010	•
Specific Product Precautions	 n 19



#### **Compressed Air Preparation Filter**



### AFF/AM/AMD Series

#### Symbol

Line Filter

Mist Separator Micro Mist Separator

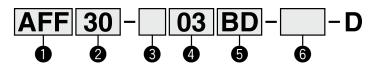






#### **How to Order**

AMD



- Option/Semi-standard: Select one each for a to f.
- Option/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order.

Example)	AM30-N03BD-6RZ-D

					2						
				Symbol	Description						
						20	Body size 30	40			
				455	Nominal filtration rating: 1 μm			_			
			AFF	Water droplet removal ratio: 99%	1  •	•	•				
•			<b>-</b>	4.54	Nominal filtration rating: 0.1 μm		_	_			
U			Filter type	AM	Oil mist concentration on the outlet side: 1 mg/m <sup>3</sup>	1  •	•	•			
				4140	Nominal filtration rating: 0.01 μm		_	_			
				AMD	Oil mist concentration on the outlet side: 0.1 mg/m <sup>3</sup>	11 • I	•	•			
				+	Ÿ						
				Nil	Rc		•	•			
8			Thread type	N*1	NPT	•	•	•			
			,,	F*2	G	•	•	•			
				+			- 1	_			
				01	1/8		_	_			
•		Port size		02	1/4	•	•	•			
4	4			03	3/8		•	•			
				04	1/2		_	•			
				+	·						
			N		Without mounting option	•	•	•			
		<b>a</b> Mounting		<b>B</b> *3	With bracket	•	•	•			
	l e			+							
6	Option			Nil	Without auto drain	•	•	•			
		b	b Float type	C*4	N.C. (Normally closed)	•	•	•			
			auto drain	<b>D</b> *5	N.O. (Normally open)		•	•			
				+							
				Nil	Polycarbonate bowl		•	•			
				2	Metal bowl	•	•	•			
			- 1±6	6	Nylon bowl	•	•	•			
		C	C	С	Bowl*6	8	Metal bowl with level gauge		•	•	
										С	With bowl guard
				6C	With bowl guard/Nylon bowl	•	*8	*8			
	힏			+	,						
	Semi-standard			Nil	With drain cock	•	•	•			
6	stal		D : .*9	J*10	Drain guide 1/8	•	_	_			
	<u>=</u>	d	d Drain port*9	J*10	Drain guide 1/4		•	•			
	Še			W*11	Drain cock, Barb fitting (ø6)		•	•			
				+							
			F	Nil	Flow direction: Left to right	•	•	•			
		е	Flow direction	R	Flow direction: Right to left	•	•	•			
				+	V						
			11	Nil	Name plate and caution plate for bowl in SI unit: MPa	•	•	•			
		f	Unit	<b>Z</b> *12	Name plate and caution plate for bowl in imperial units: psi, °F	O*13	O*13	O*13			
				_	The second secon						

- \*1 Drain guide is NPT1/8 (applicable to the AFF20, AM20, and AMD20) and NPT1/4 (applicable to the AFF30, AFF40, AM30, AM40, AMD30, and AMD40). The auto drain port comes with a ø3/8" One-touch fitting (applicable to the AFF30, AFF40, AM30, AM40, AMD30, and AMD40).
- \*2 Drain guide is G1/8 (applicable to the AFF20, AM20, and AMD20) and G1/4 (applicable to the AFF30, AFF40, AM30, AM40, AMD30, and AMD40).
- \*3 A bracket is not assembled and supplied loose at the time of shipment. Including 2 mounting screws
- \*4 When pressure is not applied, condensate which does not start the auto drain mechanism will be left in the bowl. Releasing the residual condensate before ending operations for the day is recommended.
- \*5 If the compressor is small (0.75 kW, discharge flow is less than 100 L/min

- (ANR)), air leakage from the drain cock may occur during the start of operations. N.C. type is recommended.
- \*6 Refer to the chemical data on page 19 for chemical resistance of the bowl.
- \*7 A bowl guard is provided as standard equipment (polycarbonate).
- \*8 A bowl guard is provided as standard equipment (nylon).
- \*9 The combination of float type auto drain C and D is not available.
- \*10 Without a valve function
  - The mounting screws are the same as the thread of 3.
- The combination of metal bowl 2 and 8 is not available.
- \*12 For pipe thread type: NPT This product is for overseas use only according to the new Measurement Act. (The SI unit type is provided for use in Japan.)
- \*13 O: For pipe thread type: NPT only



#### Line Filter AFF Series

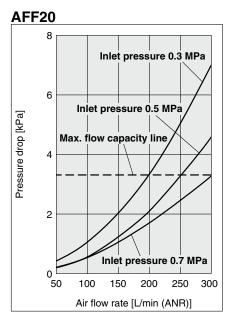
#### Standard Specifications

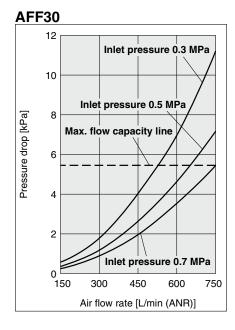
Mode			AFF20	AFF30	AFF40	
Fluid			Compressed air			
Ambient and fluid temperat	ures	°C		-5 to 60 (No freezing)		
Proof pressure		MPa		1.5		
Max. operating pressure		MPa		1.0		
Min. operating pressure		MPa	0.05			
Auto drain minimum (N.C.)		MPa	0.1	0.	15	
operating pressure	(N.O.)	MPa	_	0	.1	
Nominal filtration rating*1		μ <b>m</b>	1 (99% filtered particle size)			
Water droplet removal ratio	*2, *3	%	99			
Compressed air purity class	s*4	_	ISO 8573-1:2010 [ 4 : 7 : 4 ]*5			
Max. flow capacity*6		L/min (ANR)	300	750	1500	
Port size		_	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	
Weight kg		kg	0.19	0.39	0.79	
Bowl material			Polycarbonate			
Bowl guard			Semi-standard (Steel) Standard (Polycarbonate)			
Drain capacity		cm <sup>3</sup>	8	25	45	

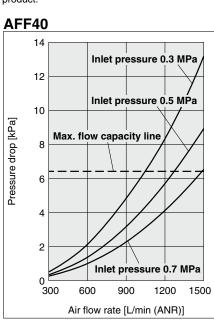
- \*1 For the following conditions in accordance with [Test condition: ISO 8573-4:2001, Test method ISO 12500-3:2009 compliant] in addition to the conditions above
  - · When the air flow capacity, inlet pressure, and the amount of solid bodies on the filter inlet side are stable
  - · When a new element is used
- \*2 For the following conditions in accordance with [Test condition: ISO 12500-4:2009 compliant] in addition to the conditions above
  - · Water droplet on the filter inlet side = 33 g/m3
  - (Water droplet indicates condensed moisture. Water vapor which is not condensed is not included.)
  - · Inlet temperature = 25°C
  - · When the air flow capacity, inlet pressure, and the amount of water droplets on the filter inlet side are stable
  - · When a new element is used
- \*3 The bowl seal and other O-rings are slightly lubricated.
- \*4 The compressed air purity class is indicated based on ISO 8573-1:2010 Compressed air Part 1: Contaminants and purity classes. For details on this standard, refer to page 18.
- \*5 The compressed air quality class on the inlet side is [ 6:8:4 ].
- \*6 Inlet pressure: 0.7 MPa

Flow at 20°C, atmospheric pressure, and 65% of the relative humidity

#### Flow Rate Characteristics (Representative values)







#### AFF/AM/AMD Series

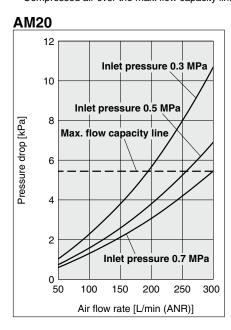
#### Mist Separator AM Series

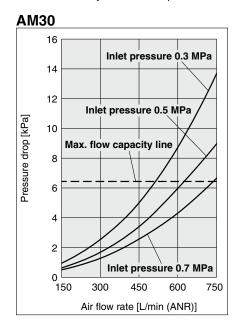
#### **Standard Specifications**

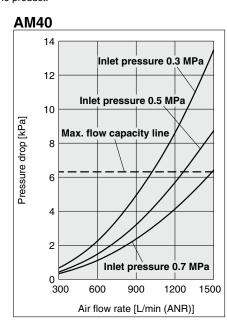
Model			AM20	AM30	AM40	
Fluid			Compressed air			
Ambient and fluid temperat	ures	°C		-5 to 60 (No freezing)		
Proof pressure		MPa		1.5		
Max. operating pressure		MPa		1.0		
Min. operating pressure		MPa	0.05			
Auto drain minimum (N.C.)		MPa	0.1	0.15		
operating pressure	(N.O.)	MPa	_	0.	1	
Nominal filtration rating*1		μ <b>m</b>	0.1 (99% filtered particle size)			
Oil mist concentration on the outlet	side*2, *3	mg/m <sup>3</sup>	1 (≈ 0.8 ppm) or less			
Compressed air purity class	s*4	_	ISO 8573-1:2010 [ 2 : 7 : 3 ]*5			
Max. flow capacity*6		L/min (ANR)	300	750	1500	
Port size		_	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	
Weight kg		kg	0.19	0.39	0.79	
Bowl material			Polycarbonate			
Bowl guard			Semi-standard (Steel) Standard (Polycarbonate)		olycarbonate)	
Drain capacity		cm <sup>3</sup>	8	25	45	

- \*1 For the following conditions in accordance with [Test condition: ISO 8573-4:2001, Test method ISO 12500-3:2009 compliant] in addition to the conditions above
  - · When the air flow capacity, inlet pressure, and the amount of solid bodies on the filter inlet side are stable
  - · When a new element is used
- \*2 For the following conditions in accordance with [Test condition: ISO 8573-2:2007, Test method ISO 12500-1:2007 compliant] in addition to the conditions above
  - · Oil mist concentration on the filter inlet side = 10 mg/m<sup>3</sup>
  - · When the air flow capacity, inlet pressure, and the oil mist concentration on the filter inlet side are stable
  - · When a new element is used
- \*3 The bowl seal and other O-rings are slightly lubricated.
- \*4 The compressed air purity class is indicated based on ISO 8573-1:2010 Compressed air Part 1: Contaminants and purity classes. For details on this standard, refer to page 18.
- \*5 The compressed air quality class on the inlet side is [ 4:7:4 ].
- \*6 Inlet pressure: 0.7 MPa
  - Flow at 20°C, atmospheric pressure, and 65% of the relative humidity

#### Flow Rate Characteristics (Representative values)







#### Micro Mist Separator AMD Series

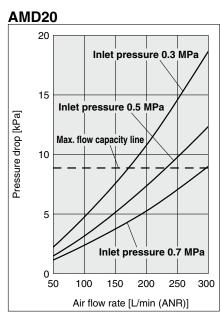
#### Standard Specifications

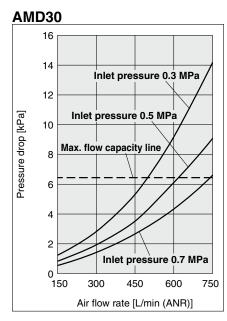
Mode			AMD20	AMD30	AMD40
Fluid				Compressed air	
Ambient and fluid temperat	ures	°C		-5 to 60 (No freezing)	
Proof pressure		MPa		1.5	
Max. operating pressure		MPa		1.0	
Min. operating pressure		MPa	0.05		
Auto drain minimum (N.C.)		MPa	0.1	0.1 0.15	
operating pressure	(N.O.)	MPa	_	0.	1
Nominal filtration rating*1		μ <b>m</b>	0.01 (99.9% filtered particle size)		
Oil mist concentration on the outlet	side*2, *3	mg/m <sup>3</sup>	0.1 (≈ 0.08 ppm) or less*4		
Compressed air purity class	<b>s</b> *5	_	ISO 8573-1:2010 [ 1 : 7 : 2 ]*6		
Max. flow capacity*7		L/min (ANR)	300	750	1500
Port size		_	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2
Weight kg		kg	0.19	0.39	0.79
Bowl material			Polycarbonate		
Bowl guard			Semi-standard (Steel) Standard (Polycarbonate)		lycarbonate)
Drain capacity		cm <sup>3</sup>	8	25	45

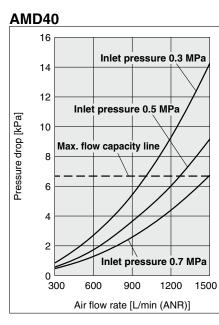
- \*1 For the following conditions in accordance with [Test condition: ISO 8573-4:2001, Test method ISO 12500-3:2009 compliant] in addition to the conditions above
  - · When the air flow capacity, inlet pressure, and the amount of solid bodies on the filter inlet side are stable
  - · When a new element is used
- \*2 For the following conditions in accordance with [Test condition: ISO 8573-2:2007, Test method ISO 12500-1:2007 compliant] in addition to the conditions above
  - · Oil mist concentration on the filter inlet side = 1 mg/m<sup>3</sup>
  - · When the air flow capacity, inlet pressure, and the oil mist concentration on the filter inlet side are stable
  - · When a new element is used
- \*3 The bowl seal and other O-rings are slightly lubricated.
- \*4 0.01 ( $\approx$  0.008 ppm) or less in the initial state
- \*5 The compressed air purity class is indicated based on ISO 8573-1:2010 Compressed air Part 1: Contaminants and purity classes. For details on this standard, refer to page 18.
- \*6 The compressed air quality class on the inlet side is [2:7:3].
- \*7 Inlet pressure: 0.7 MPa

Flow at 20°C, atmospheric pressure, and 65% of the relative humidity

#### Flow Rate Characteristics (Representative values)



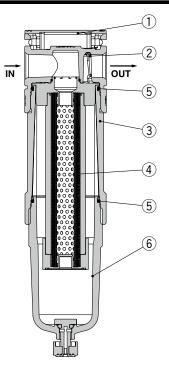






#### AFF/AM/AMD Series

#### Construction: AFF, AM, AMD



#### **Component Parts**

No.	Description	Material
1	Body cover	Resin
2	Body	Aluminum die-cast
3	Joint	Aluminum die-cast

#### **Replacement Parts**

No.	Door	rintion	Part number				
INO.	Description		20	30	40		
		AFF	AFF24P-060AS	AFF34P-060AS	AFF44P-060AS		
4	Element	AM	AM24P-060AS	AM34P-060AS	AM44P-060AS		
					AMD	AMD24P-060AS	AMD34P-060AS
5	Bowl seal		C2SFP-260S	C32FP-260S	C42FP-260S		
6	Bowl assem	nbly	Refer to	o "Bowl Assembly/Pa	rt Nos."		

<sup>\*</sup> The guideline for the element replacement is within 2 years of operation or when pressure drop exceeds 0.1 MPa, whichever comes first.

#### **Bowl Assembly/Part Nos.**

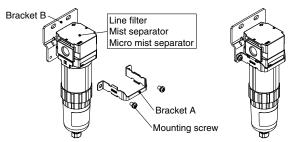
Bowl material	Drain discharge	Duning and	045		Model	
Bowi material	mechanism	Drain port	Other	20	30	40
		With drain cock	_	C2SF-D	_	_
		With drain cock	With bowl guard	C2SF-C-D	C3SF-D	C4SF-D
	Manual	Drain cock with barb fitting	With bowl guard	_	C3SF-W-D	C4SF-W-D
Polycarbonate		With drain guide	_	C2SF□-J-D	_	_
Polycarbonate		(without valve function)	With bowl guard	C2SF□-CJ-D	C3SF□-J-D	C4SF□-J-D
	A*1	Normally closed (N.C.)	_	AD27-D	_	_
	Automatic*1 (Auto drain)	Normally closed (N.C.)	With bowl guard	AD27-C-D	AD37□-D	AD47□-D
	(Auto diairi)	Normally open (N.O.)	With bowl guard	_	AD38□-D	AD48□-D
		With drain cock	_	C2SF-6-A	_	_
		Willi drain cock	With bowl guard	C2SF-6C-A	C3SF-6-A	C4SF-6-A
	Manual	Drain cock with barb fitting	With bowl guard	_	C3SF-6W-A	C4SF-6W-A
Nulon		With drain guide	_	C2SF□-6J-A	_	_
Nylon		(without valve function)	With bowl guard	C2SF□-6CJ-A	C3SF□-6J-A	C4SF□-6J-A
	A *1	Normally closed (N.C.)		AD27-6-A	_	_
	Automatic*1 (Auto drain)	Normally closed (N.C.)	With bowl guard	AD27-6C-A	AD37□-6-A	AD47□-6-A
	(Auto diairi)	Normally open (N.O.)	With bowl guard	_	AD38□-6-A	AD48□-6-A
		With drain cock	_	C2SF-2-A	C3SF-2-A	C4SF-2-A
	Manual	With drain cock	With level gauge	_	C3LF-8-A	C4LF-8-A
	iviariuai	With drain guide	_	C2SF□-2J-A	C3SF□-2J-A	C4SF□-2J-A
Metal		(without valve function)	With level gauge	_	C3LF□-8J-A	C4LF□-8J-A
ivietai		Normally closed (N.C.)	_	AD27-2-A	AD37□-2-A	AD47□-2-A
	Automatic*1	Normally closed (N.C.)	With level gauge	_	AD37□-8-A	AD47□-8-A
	(Auto drain)	Normally open (N.O.)	_	_	AD38□-2-A	AD48□-2-A
		Normany open (N.O.)	With level gauge	_	AD38□-8-A	AD48□-8-A

<sup>\*1</sup> The bowl assembly comes with a bowl seal.  $\square$  in bowl assembly part numbers indicates a pipe thread type (applicable tubing for auto drain). No indication is necessary for Rc thread; however, indicate N for NPT thread, and F for G thread. (For auto drain, Nil: ø10, N: ø3/8") Please contact SMC separately for psi and °F unit display specifications.

#### Option/Part Nos.

Description		Part number					
Description	20	30	40				
Bracket assembly	AF24P-070AS	AF34P-070AS	AF44P-070AS				
Auto drain	Refer to "Bowl Assembly/Part Nos."						

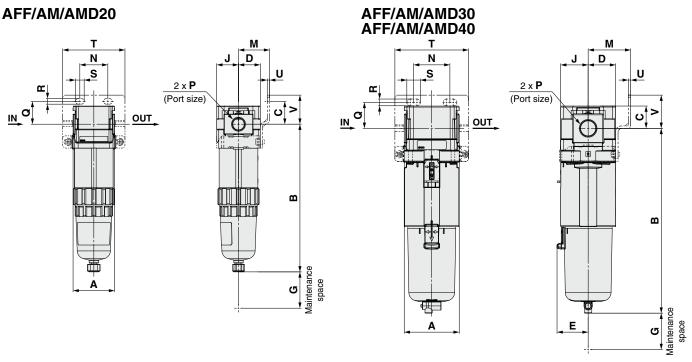
<sup>\*</sup> The assembly consists of a bracket A/B and 2 mounting screws.





#### Compressed Air Preparation Filter AFF/AM/AMD Series

#### **Dimensions**



	1	Υ					
	Optional specifications			Semi-stan	dard		
Applicable		PC/PA bo	owl	Me	tal bowl	Metal bowl	with level gauge
model	With auto drain	Drain cock with barb fitting	With drain guide	With drain cock	With drain guide	With drain cock	With drain guide
AFF/AM/ AMD20	M5 x 0.8		1/8 Width across flats 14	<b>a</b>	1/8 Width across flats 14		
AFF/AM/ AMD30 AFF/AM/ AMD40	N.O.: Black N.C.: Gray  Thread type/Rc, G: ø10 One-touch fitting Thread type/NPT: ø3/8" One-touch fitting	Barb fitting applicable tubing:	Width across flats 17		1/4 Width across flats 17		width across flats 17

								Optional specifications									
Model	Standard specifications				Bracket mount						With auto drain						
	Р	Α	В	С	D	Е	G	J	M	N	Q	R	S	Т	U	٧	В
AFF20-D/AM20-D/AMD20-D	1/8, 1/4	40	142.3	17.5	21	_	25	21	30	27	22	5.4	8.4	60	2.3	28	159.6
AFF30-D/AM30-D/AMD30-D	1/4, 3/8	53	178.1	21.5	26.5	30	35	26.5	41	35	25	6.5	13	71	2.3	32	219.8
AFF40-D/AM40-D/AMD40-D	1/4, 3/8, 1/2	/8, 1/2 70 223.7 25.5 35.5 38.4 40 35.5				35.5	50	52	30	8.5	12.5	88	2.3	39	263.5		

		Semi-standard specifications							
	PC/PA	A bowl	Metal	bowl	Metal bowl with level gauge				
Model	With With barb fitting drain guide		With With drain cock drain guide		With drain cock	With drain guide			
	В	В	В	В	В	В			
AFF20-D/AM20-D/AMD20-D	_	146.1	142.1	148.6	_	_			
AFF30-D/AM30-D/AMD30-D	186.6	184.9	180.6	185.1	200.6	205.1			
AFF40-D/AM40-D/AMD40-D	232.2	230.5	226.1	230.6	246.1	250.6			

# Activated Carbon Filter ANK Series

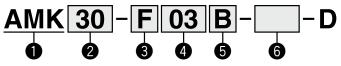


#### **Symbol**





#### **How to Order**



Option/Semi-standard: Select one each for a to d.

Option/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order.

Example) AMK30-N03B-6RZ-D

	_					2	
			Symbol	Description		Body size	
					20	30	40
D		Filter type	AMK	Activated carbon filter	•	•	•
			+				
			Nil	Rc		•	•
<b>3</b>		Thread type	N	NPT	•	•	•
			F	G		•	•
			+				
			01	1/8		_	_
4		Port size	02	1/4		•	•
		1 011 5126	03	3/8		•	•
			04	1/2		_	•
			+				
<b>O</b> ption		Marintina	Nil	Without mounting option	•	•	•
<b>9</b> otto	a	Mounting	B*1	With bracket	•	•	•
			+				'
			Nil	Polycarbonate bowl	•	•	•
			2	Metal bowl	•	•	•
	b	Bowl*2	6	Nylon bowl	•	•	•
2			С	With bowl guard	•	*3	*3
g			6C	With bowl guard/Nylon bowl	•	_*4	*4
Semi-standard			+				
Ë	C	Flow direction	Nil	Flow direction: Left to right	•	•	•
တိ		Tiow direction	R	Flow direction: Right to left	•	•	•
			+				
	4	Proceuro unit	Nil	Name plate and caution plate in imperial units: MPa/°C	•	•	•
	d Pressure unit  Z*5 Name plate and caution plate in imperial units: psi/°F		○*6	○*6	○*6		

<sup>\*1</sup> A bracket is not assembled and supplied loose at the time of shipment. Including 2 mounting screws



<sup>\*2</sup> Refer to the chemical data on page 19 for chemical resistance of the bowl.

<sup>\*3</sup> A bowl guard is provided as standard equipment (polycarbonate).

<sup>\*4</sup> A bowl guard is provided as standard equipment (nylon).

<sup>\*5</sup> For pipe thread type: NPT

This product is for overseas use only according to the new Measurement Act. (The SI unit type is provided for use in Japan.)

<sup>\*6</sup> O: For pipe thread type: NPT only

#### **Activated Carbon Filter AMK Series**

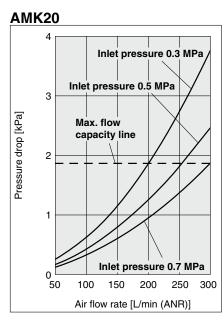
#### Standard Specifications

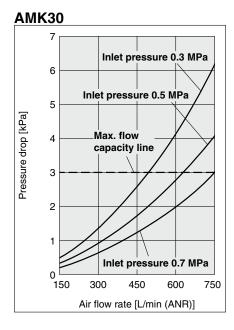
Model		AMK20	AMK20 AMK30 AMK40					
Fluid		Compressed air						
Ambient and fluid temperatures	°C		-5 to 60 (No freezing)					
Proof pressure	MPa		1.5					
Max. operating pressure	MPa		1.0					
Min. operating pressure	MPa	0.05						
Oil concentration on the outlet side*1, *2	mg/m³		0.003 (≈ 0.0025 ppm) or less					
Compressed air purity class*3	_		ISO 8573-1: 2010 [ 1 : 4 : 1 ]*4					
Max. flow capacity*5	L/min (ANR)	300	750	1500				
Port size	_	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2				
Bowl material		Polycarbonate						
Bowl guard		Semi-standard (Steel) Standard (Polycarbonate)						
Weight	kg	0.19 0.39 0.79						

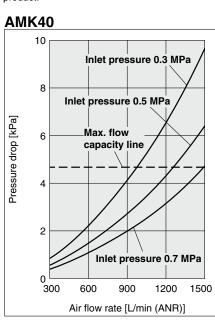
- \*1 For the following conditions in addition to the conditions above
  - · When a micro mist separator (AMD series) is installed on the inlet side
  - · When the air flow capacity, upstream pressure, and oil concentration on the filter inlet side are stable
  - · When a new element is used
- \*2 The bowl seal and other O-rings are slightly lubricated.
- \*3 The compressed air purity class is indicated based on ISO 8573-1:2010 Compressed air Part 1: Contaminants and purity classes. For details on this standard, refer to page 18.
- \*4 The compressed air quality class on the inlet side is [1:4:2].
- \*5 Inlet pressure: 0.7 MPa

Flow at 20°C, atmospheric pressure, and 65% of the relative humidity

#### Flow Rate Characteristics (Representative values)

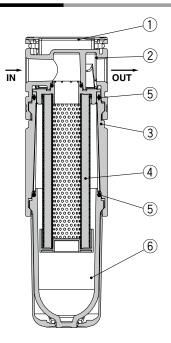






#### **AMK** Series

#### Construction



**Component Parts** 

No.	Description	Material
INO.	Description	Ivialciiai
1	Body cover	Resin
2	Body	Aluminum die-cast
3	Joint	Aluminum die-cast

**Replacement Parts** 

No	Description		Part number						
No.	Description	AMK20	AMK30	AMK40					
4	Element	AMK24P-060AS	AMK34P-060AS	AMK44P-060AS					
5	Bowl seal	C2SFP-260S	C32FP-260S	C42FP-260S					
6	Bowl assembly	Refer to "Bowl Assembly/Part Nos."							

<sup>\*</sup> When it is time to replace the element, refer to the maintenance instructions in the specific product precautions (page 20).

#### **Bowl Assembly/Part Nos.**

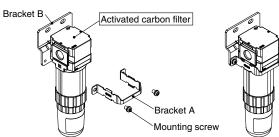
	••••••••••••••••••••••••••••••••••••••							
David masterial	Other	Model						
Bowl material	Other	AMK20	AMK30	AMK40				
Dolygorhonoto	_	C2SF-D-X401	C3SK-D	C4SK-D				
Polycarbonate	With bowl guard	C2SK-C-D	_	_				
Nylon	_	C2SF-6-A-X401	C3SK-6-D	C4SK-6-D				
INVIORI	With bowl guard	C2SK-6C-D	_	_				
Metal	_	C2SF-2-A-X401	C3SF-2-A-X401	C4SF-2-A-X401				

<sup>\*</sup> The bowl assembly comes with a bowl seal. Please contact SMC separately for psi and °F unit display specifications.

#### Option/Part Nos.

Description		Part number						
Description	AMK20	AMK30	AMK40					
Bracket assembly	AF24P-070AS	AF34P-070AS	AF44P-070AS					

 $<sup>\</sup>ast\,$  The assembly consists of a bracket A/B and 2 mounting screws.



**Bracket mounting view** 

Ε

#### **Dimensions**

#### AMK20 AMK30 AMK40 N D. Ν D s s U 2 x **P** 2 x **P** (Port size) (Port size) IN O OUT OUT В Δ Maintenance space Maintenance space

Applicable model	Semi-standard
Applicable model	Metal bowl
AMK20-D	B
AMK30-D AMK40-D	B

			Ctandard a	nacifica	tiono						Opt	ional sp	ecificati	ons		
Model	del Standard specifications											Bracke	t mount			
	Р	Α	В	С	D	E	G	J	M	N	Q	R	S	Т	U	V
AMK20-D	1/8, 1/4	40	133.9	17.5	21	_	25	21	30	27	22	5.4	8.4	60	2.3	28
AMK30-D	1/4, 3/8	53	167	21.5	26.5	30	35	26.5	41	35	25	6.5	13	71	2.3	32
AMK40-D	1/4, 3/8, 1/2	70	212.7	25.5	35.5	38.4	40	35.5	50	52	30	8.5	12.5	88	2.3	39

Semi-standard specifications
Metal bowl
В
139.1
167
212.6

# AFF/AM/AMD/AMK Series Modular Connection Example (Dimensions)

Products do not come assembled. They should be ordered separately and assembled by the customer.

For modular connection units (shipped assembled), the simple specials system can be used. For details, refer to page 4.

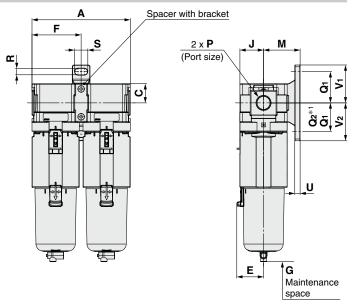
#### Combination example 1

 Line Filter AFF30-03-D
 1 pc.

 Mist Separator AM30-03-D
 1 pc.

 Spacer with Bracket Y300T-D
 1 pc.





\*1 Q2 (Sizes 20, 40) Q1 (Size 30)

#### Combination example 2

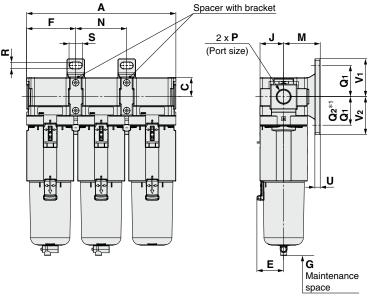
 Mist Separator AM30-03-D
 1 pc.

 Micro Mist Separator AMD30-03-D
 1 pc.

 Activated Carbon Filter AMK30-03-D
 1 pc.

 Spacer with Bracket Y300T-D
 2 pcs.





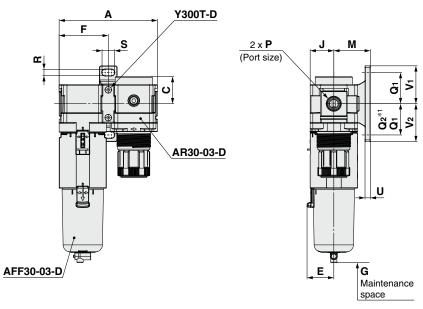
\*1 Q2 (Sizes 20, 40) Q1 (Size 30)

	of	Standard specifications								Optional specifications							
Model	Number of components	Standard specifications						Bracket mount									
	2 6	P	Α	С	E	F	G	L	M	N	Q1	Q2	R	S	U	V <sub>1</sub>	V <sub>2</sub>
Size 20	2	1/0 1/4	83.2	175		41.6	25	21	20	_	24	33		11 5	2.5	29	38
Size 20	3	1/8, 1/4	126.4	17.5 –	_	41.6	25	21	30	43.2	24	33	5.5	11.5	3.5	29	38
Sizo 20	2	1/4, 3/8	110.2	01.5	30	55.1	25	26.5	41 - 57.2	_	35		7	1.1	6	42.5	42.5
Size 30	3		167.4	21.5			35			57.2	33		′	14	6		
Size 40	2	1/4 0/0 1/0	145.2	05.5	00.4	70.0	40	25.5		—	40			10	7		C.F.
	3	1/4, 3/8, 1/2	220.4	25.5	38.4	72.6	40	35.5	50	75.2	40	55	9	18	/	50	65

#### Modular Connection Example (Dimensions) AFF/AM/AMD/AMK Series

#### Combination example 3

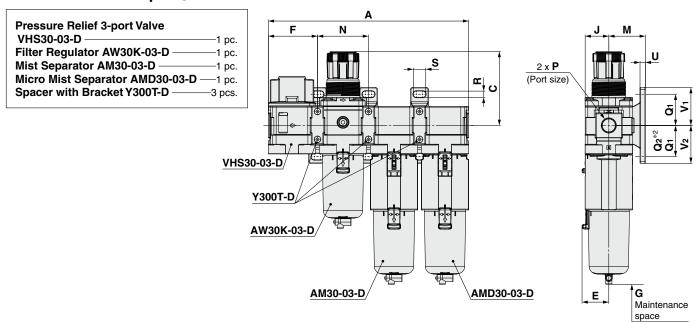
Line Filter AFF30-03-D	—1 pc.
Regulator AR30-03-D	—1 pc.
Spacer with Bracket Y300T-D ———	—1 pc.



\*1 Q2 (Sizes 20, 40) Q1 (Size 30)

Model	umber of mponents		Standard specifications							Optional specifications  Bracket mount							
	Nur	Р	Α	С	Е	F	G	J	М	Q1	Q2	R	S	U	V <sub>1</sub>	V <sub>2</sub>	
Size 20	2	1/8, 1/4	83.2	26.5	_	41.6	25	21	30	24	33	5.5	11.5	3.5	29	38	
Size 30	2	1/4, 3/8	110.2	30.5	30	55.1	35	26.5	41	35	_	7	14	6	42.5	42.5	
Size 40	2	3/8, 1/2	145.2	35.5	38.4	72.6	40	35.5	50	40	55	9	18	7	50	65	

#### Combination example 4



\*2 Q2 (Sizes 20, 40) Q1 (Size 30)

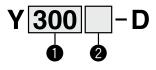
Model	mber of ponents	Standard specifications							Optional specifications  Bracket mount								
	Num	Р	Α	С	Е	F	G	J	М	N	Q <sub>1</sub>	Q2	R	S	U	V <sub>1</sub>	V <sub>2</sub>
Size 20	4	1/8, 1/4	169.6	71.8	_	41.6	25	21	30	43.2	24	33	5.5	11.5	3.5	29	38
Size 30	4	1/4, 3/8	224.6	86.5	30	55.1	35	26.5	41	57.2	35	_	7	14	6	42.5	42.5
Size 40	4	3/8, 1/2	295.6	91.5	38.4	72.6	40	35.5	50	75.2	40	55	9	18	7	50	65

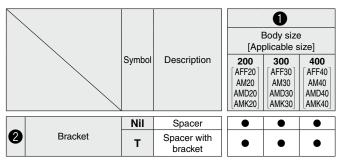


#### AFF/AM/AMD/AMK Series

### Accessories Sold Separately (for Individual Parts)

#### Spacer / Spacer with Bracket





Spacer (Y□-D) Spacer with bracket (Y□T-D)





**Standard Specifications** 

Fluid	Air
Ambient and fluid temperatures	−5 to 60°C (No freezing)
Proof pressure	1.5 MPa
Max. operating pressure	1.0 MPa

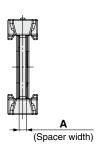
**Replacement Parts** 

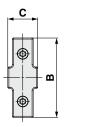
			Part number	
Description	Material	Y200-D Y200T-D	Y300-D Y300T-D	Y400-D Y400T-D
Seal	HNBR	Y220P-050S	Y320P-050S	Y420P-050S

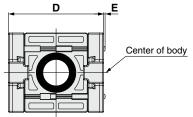
#### **Dimensions**

#### **Spacer**

17

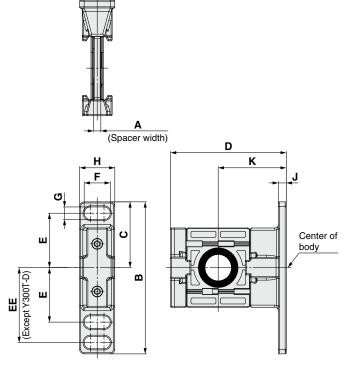






Applicable model	E	D	С	В	Α	Part no.
AFF/AM/AMD/AMK20	0.6	42	13.2	35	3.2	Y200-D
AFF/AM/AMD/AMK30	_	53	16.2	43	4.2	Y300-D
AFF/AM/AMD/AMK40	_	71	19.2	51	5.2	Y400-D

#### Spacer with bracket



Part no.	Α	В	С	D	Ε	EE	F	G	Н	J	K	Applicable model
Y200T-D	3.2	67	29	51	24	33	11.5	5.5	15.5	3.5	30	AFF/AM/AMD/AMK20
Y300T-D	4.2	85	42.5	67.5	35	_	14	7	20	6	41	AFF/AM/AMD/AMK30
Y400T-D	5.2	115	50	85.5	40	55	18	9	26	7	50	AFF/AM/AMD/AMK40

# International Standard ISO 8573-1:2010 Compressed Air Purity Classes

Compressed air is used in a variety of manufacturing processes. In this age, compressed air with a high degree of purity is becoming increasingly necessary.

For this reason, it is necessary to remove contaminants from systems which supply compressed air and to secure the quality. The standard which stipulates the class according to the quantities of contaminants in compressed air is ISO 8573-1.

#### [Outline]

Stipulates the purity class of contaminants (particles, water, oil) mixed in with the compressed air

#### [Scope]

Can be used in various places in compressed air systems

#### [Terms and Definitions]

- Purity class: An index assigned for each classification obtained by dividing the concentration of each contaminant into ranges
- · Particle: Small discrete mass of solid or liquid matter
- Humidity and liquid water: Water vapor (gas), Water droplets
- · Oil: Liquid oil, Oil mist, Vapor

[Pur	ity	Classes]

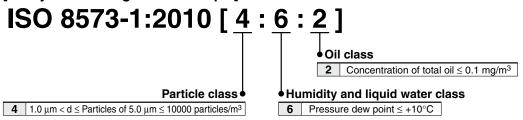
	,													
		Part	icles		Humidity and	d liquid water	Oil							
Class	Maximum number of partic	les per cubic meter as a fun	ction of particle size d [µm]	Mass concentration Cp	Pressure dew point	Concentration of liquid water Cw	Concentration of total oil							
	$0.1 < d \le 0.5$	$0.5 < d \le 1.0$	$1.0 < d \le 5.0$	[mg/m <sup>3</sup> ]	[°C]	[g/m <sup>3</sup> ]	[mg/m³]							
0		As spec	cified by the equipme	nt user or supplier and	d more stringent than	class 1								
1	≤ 20000	≤ 400	≤ –70	_	≤ 0.01									
2	≤ 400000	≤ 6000	≤ 100	_	≤ −40	_	≤ 0.1							
3	_	≤ 90000	≤ 1000	_	≤ –20	_	≤ 1							
4	_	_	≤ 10000	_	≤ +3	_	≤ 5							
5	_	_	≤ 100000	_	≤ +7	_	_							
6	_	_	_	0 < Cp ≤ 5	≤ +10	_	_							
7	_	_	_	5 < Cp ≤ 10	_	Cw ≤ 0.5	_							
8	_	_	_	_	_	0.5 < Cw ≤ 5	_							
9	_	_	_	_	_	5 < Cw ≤ 10	_							
Х	_	_	_	Cp > 10	_	Cw > 10	> 5							

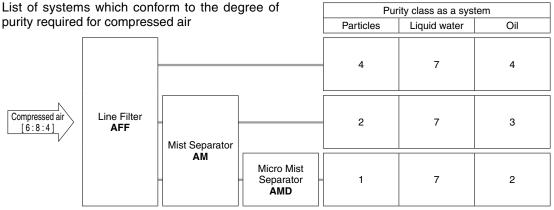
#### [How to Perform a Test to Check the Performance]

ISO 12500, which sets out the test method to be used in order to check the filter performance for each of the three kinds of contaminants, is indicated below.

- Particle: ISO 12500-3:2009
- · Liquid water: ISO 12500-4:2009
- · Oil: ISO 12500-1:2007
- \* Measured using a dedicated evaluation system which has been certified according to ISO 12500-□ and also by a third party (Certified)

#### [Purity Class Designation Example]





The class indicates the compressed air purity according to ISO 8573-1:2010 (JIS B 8392-1:2012) and indicates the maximum purity class which can be obtained using that system. Note, however, that this value will differ according to the inlet air conditions.





# AFF/AM/AMD/AMK Series Specific Product Precautions 1

Be sure to read this before handling the products. Refer to the back cover for safety instructions. For air preparation equipment precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website: https://www.smcworld.com

Design

#### **∆**Warning

1. Resin is used for some of the external parts such as the bowl (Material: polycarbonate).

Do not use the product when the following organic solvents are present in the atmosphere: synthetic fluid, chemicals including acetone, alcohol, ethylene chloride, sulphuric acid, nitrate, hydrochloric acid, cutting oil, kerosene, gasoline, and thread lock adhesive

Effects of organic solvents and chemicals on the equipment. Shown below is the chemical data of substances which cause degradation for reference.

Type	Chemical name	Application	Material	
Туре		examples	Polycarbonate	Nylon
Acid	Hydrochloric acid Sulfuric acid Phosphoric acid Acetic acid Chromic acid	Acid washing liquid for metals	Δ	×
Alkaline	Sodium hydroxide (Caustic soda) Potash Calcium hydroxide (Slack lime) Ammonia water Sodium carbonate	Degreasing of metals Industrial salts Water-soluble cutting oil	×	0
Inorganic salts	Sodium sulfide Potassium nitrate Sodium sulfate	_	×	Δ
Chlorine solvents	Carbon tetrachloride Chloroform Ethylene chloride Methylene chloride	Cleansing liquid for metals Printing ink Dilution	×	Δ
Aromatic series	Benzene Toluene Paint thinner	Coatings Dry cleaning	×	Δ
Ketone	Acetone Methyl ethyl ketone Cyclohexane	Photographic film Dry cleaning Textile industries	×	×
Alcohol	Ethyl alcohol IPA Methyl alcohol	Antifreeze Adhesives	Δ	×
Oil	Gasoline Kerosene	_	×	0
Ester	Phthalic acid dimethyl Phthalic acid diethyl	Synthetic oil Anti-rust additives	×	0
Ether	Methyl ether Ethyl ether	Brake oil additives	×	0
Amino	Methyl amino	Cutting oil Brake oil additives Rubber accelerator	×	×
Others	Thread-lock fluid Seawater Leak tester	_	×	Δ
O: Essentially safe △: Some effects may occur. ×: Effects will occur.				

When the above factors are present, or there is some doubt, use a metal bowl for safety.

Design

#### **△Warning**

- 2. Applications in which the difference between the inlet and outlet pressure exceeds 0.1 MPa must be avoided. Failure to do so may result in element breakage.
- For air blow applications, prevent airborne particles from the operating environment from entering into the compressed air stream. Foreign matter may adhere to workpieces during air blow as a result.
- 4. If air equipment is installed on the outlet side of the product, particles may be generated from the equipment and thus the required cleanliness may not be obtained. Please consider installing air equipment on the inlet side of the product.

#### **⚠**Caution

 The activated carbon filter (AMK series) adsorbs the oil vapor contained in compressed air and removes the odor derived from it, but it does not remove all odor.

#### Selection

#### **\_**Marning

- Select a model so that the max. discharge (instantaneous) flow rate value does not exceed the rated air capacity.
- 2. Use the N.O. type auto drain under the following conditions to avoid a malfunction.

Output of compressor: 0.75 kW or more

Discharged flow rate: 100 L/min (ANR) or more

If multiple auto drains are to be used, confirm whether the compressor has a sufficient capacity by multiplying the above capacity by the number of auto drains to be used. { For example, in order to use 2 auto drains, the compressor needs a capacity of 1.5 kW [200 L/min (ANR)] or more. } Set the operating pressure at 0.1 MPa or more.

3. Use the N.C. type auto drain under the following conditions to avoid a malfunction.

Operating pressure for the AD27-D: 0.1 MPa or more Operating pressure for the AD37-D/AD47-D: 0.15 MPa or more

#### Mounting

#### **\_**Warning

- 1. Connect the product according to the "1"(IN) and "2"(OUT) indications or the arrows for air direction. Incorrect connection may result in a malfunction.
- 2. Install with adequate space for maintenance beneath the product. Refer to the dimensions of each part for the necessary amount of space.
- 3. Install vertically so that the drain outlet turns downward. Using with the drain outlet turned horizontal or upward may result in a malfunction.





# AFF/AM/AMD/AMK Series Specific Product Precautions 2

Be sure to read this before handling the products. Refer to the back cover for safety instructions. For air preparation equipment precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website: https://www.smcworld.com

**Piping** 

#### **∆**Warning

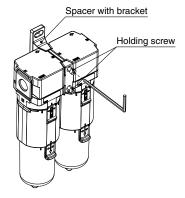
1. Tighten the 2 holding screws on the spacer with bracket or spacer evenly.

Tighten them to the recommended tightening torque. Insufficient tightening torque may result in loosening or sealing failure. Excessive tightening torque may damage the thread, etc.

#### **Recommended Torque**

Unit: N

Ticooniniciaca Forque					
Applicable model	AFF20 AM20 AMD20 AMK20	AFF30 AM30 AMD30 AMK30	AFF40 AM40 AMD40 AMK40		
Spacer with bracket part number	Y200T-D	Y300T-D	Y400T-D		
Spacer part number Y200-D		Y300-D	Y400-D		
Torque	0.36 ±0.036	1.2 ±0.05	1.2 <u>+</u> 0.05		



#### 2. Piping load and moment

Avoid any torsional or bending moments other than those caused by the equipment's own weight as failure to do so may result in damage.

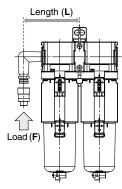
Support external piping separately. If moment application is unavoidable during operation, the moment should be lower than the max. moment shown below.

Piping materials without flexibility, such as steel tube piping, are prone to being affected by excess moment loads or vibrations from the piping side. Use flexible tubing in between to avoid such effects.

Unit: N·m

Applicable model	AFF20 AM20 AMD20 AMK20	AFF30 AM30 AMD30 AMK30	AFF40 AM40 AMD40 AMK40
Max. moment (M)	14.5	16	19.5

Max. moment (M) = Length (L) x Load (F)



**Piping** 

#### **≜**Warning

3. Connect piping/fittings using the recommended torque while holding the female thread side tightly.

Insufficient tightening torque can result in loose piping or sealing failure. Over tightening may break the thread. If the female side is not held while tightening, excessive force will be applied to the bracket directly, resulting in breakage.

Recommended Tightening Torque Unit:				
Connection thread	1/8	1/4	3/8	1/2
Torque	7 to 9	12 to 14	22 to 24	28 to 30

4. When an SMC One-touch fitting is used, refer to the operation manual for the One-touch fitting.

**Air Supply** 

#### **△Warning**

1. Air containing too much moisture may deteriorate product performance. Install a refrigerated air dryer or an aftercooler on the inlet side of the product.

#### **△**Caution

1. Install a micro mist separator (AMD series) on the inlet side of the activated carbon filter (AMK series) to avoid performance degradation.

#### Maintenance

#### **\_** Warning

- Replace the element according to the replacement timing explained below. Failure to do so may result in element breakage.
  - a. AFF20 to 40-D, AM20 to 40-D, and AMD20 to 40-D Within 2 years from the start of use or prior to a product pressure drop (difference in outlet pressure in relation to the inlet pressure) of 0.1 MPa
  - b. AMK20 to 40-D

1 year from the start of use or before the service life reaches 2000 hours (The replacement timing of the element varies depending on the operating conditions. Even before the above replacement timing is reached, if an oil smell is emitted from the outlet, replace the element periodically thereafter.)

#### **⚠**Caution

 For the N.C. type auto drain, when there is no pressure, condensate, which is not enough to activate the auto drain mechanism, will remain in the bowl. It is recommended that the residual condensate be released manually at the end of each work day.



#### **⚠** Safety Instructions

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

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

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

⚠ Danger: Danger if not avoided, will result in death or serious injury. **Danger** indicates a hazard with a high level of risk which, \*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 10218-1: Manipulating industrial robots - Safety.

#### **⚠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.

#### **⚠** Caution

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

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

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

#### Compliance Requirements

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

#### **⚠** Caution

#### SMC products are not intended for use as instruments for legal metrology.

Measurement instruments that SMC manufactures or sells have not been qualified by type approval tests relevant to the metrology (measurement) laws of each country. Therefore, SMC products cannot be used for business or certification ordained by the metrology (measurement) laws of each country.

#### **Revision History**

- Edition B \* The AMK series activated carbon filter has been added.
  - \* Number of pages has been increased from 16 to 24.

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↑ Safety Instructions Be sure to read the "Handling Precautions for SMC Products" (M-E03-3) and "Operation Manual" before use.