

Compressed Air Preparation Filter

AFF/AM/AMD Series



How to Order

AFF 70D - 10 - -

Filter type

Symbol	Description	Specifications
AFF	Main line filter	Nominal filtration rating: 1 μm Water droplet removal ratio: 99% or more
AM	Mist separator	Nominal filtration rating: 0.1 μm Oil mist density at outlet: 1.0 mg/m ³
AMD	Micro mist separator	Nominal filtration rating: 0.01 μm Oil mist density at outlet: 0.1 mg/m ³

Accessory

Symbol	Description
Nil	None
B	Bracket*1, *2

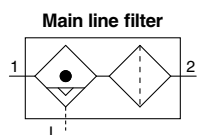
*1 Included in the same package but not assembled (It is the customer's responsibility to assemble the product.)

*2 Even when the accessory is selected, the product label does not include the accessory (body only).

Body size

Symbol	Flow capacity
70D	7 m ³ /min (ANR)
80D	11 m ³ /min (ANR)
90D	14.5 m ³ /min (ANR)

Symbol



Thread type

Symbol	Type
Nil	Rc
F	G
N	NPT

Port size

Symbol	Port size	Applicable body size		
		70D	80D	90D
10	1	●	—	—
14	1 1/2	●	●	●
20	2	—	—	●

Option

Symbol	Description	Max. operating pressure of the product [MPa]
Nil	Auto drain	1.0
H	Auto drain	1.6
J	Drain guide	1.6

* Options H and J cannot be selected simultaneously.

Accessory Part Nos.

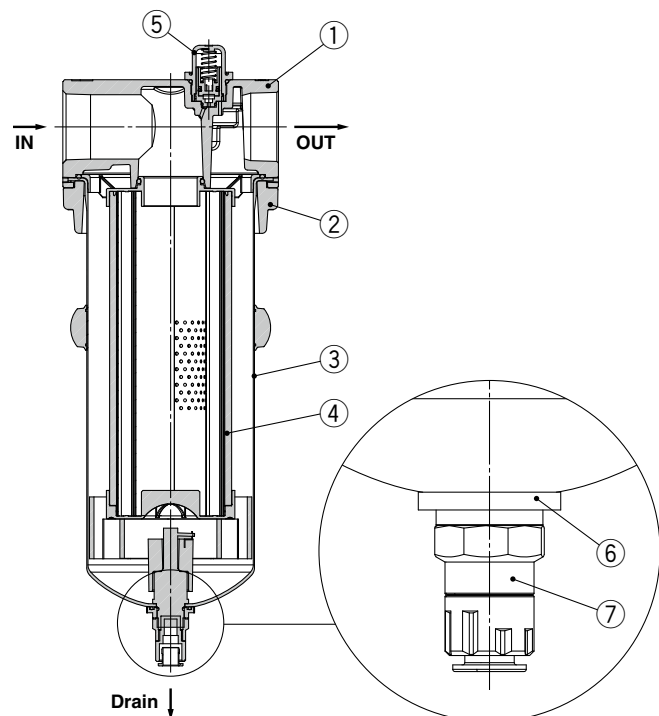
Description	Model		
	70D	80D	90D
Bracket	AM-BM70D	AM-BM90D	

* Includes mounting bolts (2 pcs.)

CE/UKCA-compliant

	Max. operating pressure	
	1.0 MPa	1.6 MPa
AFF/AM/AMD70D	—	—
AFF/AM/AMD80D	—	●
AFF/AM/AMD90D	●	●

Construction: AFF, AM, AMD



Component Parts

No.	Description	Material
1	Body	Aluminum die-cast
2	Flange	Aluminum die-cast
3	Bowl	Stainless steel

Replacement Parts

No.	Description	Order no.		
		70D	80D	90D
4	Element			
	For AFF	AFF-EL70D	AFF-EL80D	AFF-EL90D
	For AM	AM-EL70D	AM-EL80D	AM-EL90D
	For AMD	AMD-EL70D	AMD-EL80D	AMD-EL90D
5	Element service indicator	AM-SA072		
6	Drain port spacer	AM-SA075		
7	Auto drain *1	For Rc, G thread	AD43PA-D	
		For NPT thread	NAD43PA-D	

*1 The -H and -J specifications cannot be replaced.

AFF/AM/AMD Series

Main Line Filter AFF Series

Standard Specifications

Model	AFF70D	AFF80D	AFF90D
Fluid	Compressed air		
Operating pressure range [MPa]	0.1 to 1.0		
Ambient and fluid temperatures [°C]	-5 to 60 (No freezing)		
Proof pressure [MPa]	1.5		
Maximum flow capacity*1 [m ³ /min (ANR)]	7.0	11.0	14.5
Inlet pressure [MPa]	0.7		
Nominal filtration rating*3 [μm]	1.0 (Filtration efficiency: 99%)		
Water droplet removal ratio*4 [%]	99		
Compressed air purity class*5	ISO 8573-1:2010 [4 : 7 : 4]*6		
Float type auto drain	N.O. (Normally open), Drain port is open when pressure is not applied.		
Port size	1 or 1 1/2	1 1/2	1 1/2 or 2
Weight [kg]	3.4	4.7	5.0
Recommended element replacement interval (Guideline)	After 2 years of operation or when the element service indicator turns red, whichever comes first.		

Maximum Flow Capacity of the Compressor Intake Condition under Rated Conditions

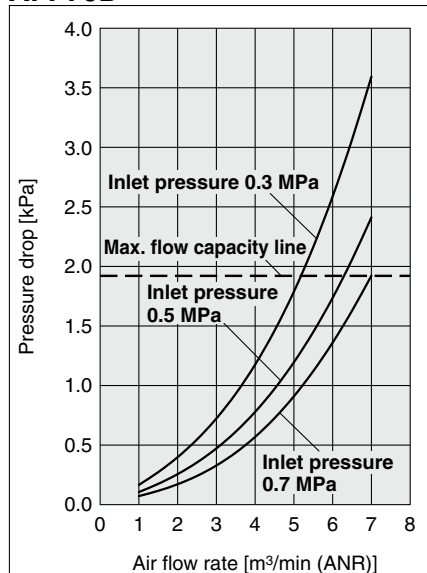
Model	AFF70D	AFF80D	AFF90D
Maximum flow capacity/Compressor intake condition*2 [m ³ /min]	7.3	11.5	15.1

- *1 Flow at 20°C, atmospheric pressure, and 65% of the relative humidity
- *2 32°C, flow rate when converted to atmospheric pressure
- *3 Filtration efficiency for the conditions below in addition to the rated conditions above [Test condition ISO 8573-4:2001, Test method ISO 12500-3:2009 compliant]
 - ** When the air flow capacity, inlet pressure, and the amount of solid particles on the filter inlet side are stable.
 - ** When a new element is used
- *4 Water droplet elimination rate for the conditions below in addition to the rated conditions above [Test method ISO 12500-4:2009 compliant]
 - ** 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
- *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 9.
- *6 The compressed air quality class on the inlet side is [6 : 8 : 4].
- * The surface finish of the outer surface of the container is equivalent to No. 2D**1.
(There may be scratches, rubbing, stains, or discoloration which do not affect the function or performance of the product.)
 - **1 A symbol for the surface finish of a cold rolled stainless steel sheet defined in JIS G 4305

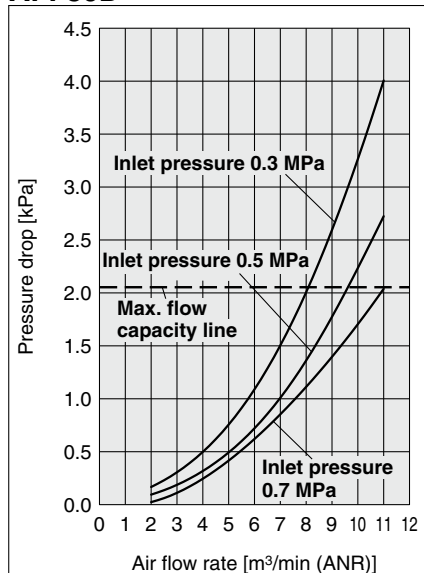
Flow Rate Characteristics/Select the model under the max. flow capacity line.

* Compressed air over the max. flow capacity line in the table below may not meet the specifications of the product.

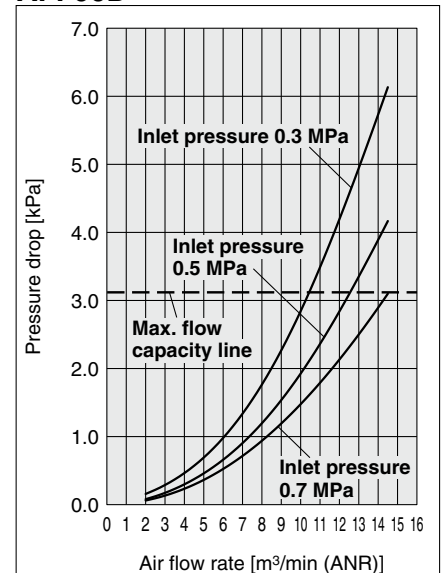
AFF70D



AFF80D



AFF90D



Mist Separator AM Series

Standard Specifications

Model	AM70D	AM80D	AM90D
Fluid	Compressed air		
Operating pressure range [MPa]	0.1 to 1.0		
Ambient and fluid temperatures [°C]	-5 to 60 (No freezing)		
Proof pressure [MPa]	1.5		
Maximum flow capacity*1 [m ³ /min (ANR)]	7.0	11.0	14.5
Inlet pressure [MPa]	0.7		
Nominal filtration rating*3 [μm]	0.1 (Filtration efficiency: 99%)		
Oil mist concentration on the outlet side*4 [mg/m ³ (ANR)]	1 (≈ 0.8 ppm) or less		
Compressed air purity class*5	ISO 8573-1:2010 [2 : 7 : 3]*6		
Float type auto drain	N.O. (Normally open), Drain port is open when pressure is not applied.		
Port size	1 or 1 1/2	1 1/2	1 1/2 or 2
Weight [kg]	3.4	4.7	5.0
Recommended element replacement interval (Guideline)	After 2 years of operation or when the element service indicator turns red, whichever comes first.		

Maximum Flow Capacity of the Compressor Intake Condition under Rated Conditions

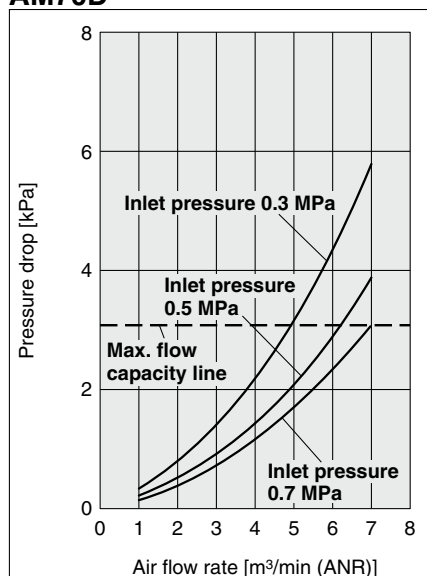
Model	AM70D	AM80D	AM90D
Maximum flow capacity/Compressor intake condition*2 [m ³ /min]	7.3	11.5	15.1

- *1 Flow at 20°C, atmospheric pressure, and 65% of the relative humidity
- *2 32°C, flow rate when converted to atmospheric pressure
- *3 Filtration efficiency for the conditions below in addition to the rated conditions above [Test condition ISO 8573-4:2001, Test method ISO 12500-3:2009 compliant]
 - ** When the air flow capacity, inlet pressure, and the amount of solid particles on the filter inlet side are stable.
 - ** When a new element is used
- *4 Oil mist concentration on the outlet side for the conditions below in addition to the rated conditions above [Test condition ISO 8573-2:2007, Test method ISO 12500-1: 2007 compliant]
 - ** Oil mist concentration on the filter inlet side = 10 mg/m³
 - ** 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
- *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 9.
- *6 The compressed air quality class on the inlet side is [4 : 7 : 4].
 - **1 The surface finish of the outer surface of the container is equivalent to No. 2D**1.
(There may be scratches, rubbing, stains, or discoloration which do not affect the function or performance of the product.)
 - **1 A symbol for the surface finish of a cold rolled stainless steel sheet defined in JIS G 4305

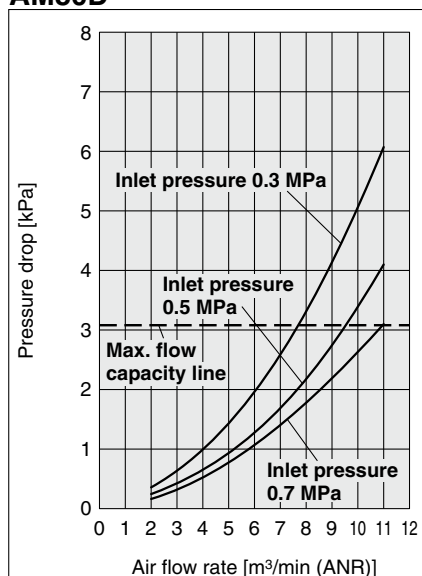
Flow Rate Characteristics/Select the model under the max. flow capacity line.

* Compressed air over the max. flow capacity line in the table below may not meet the specifications of the product.

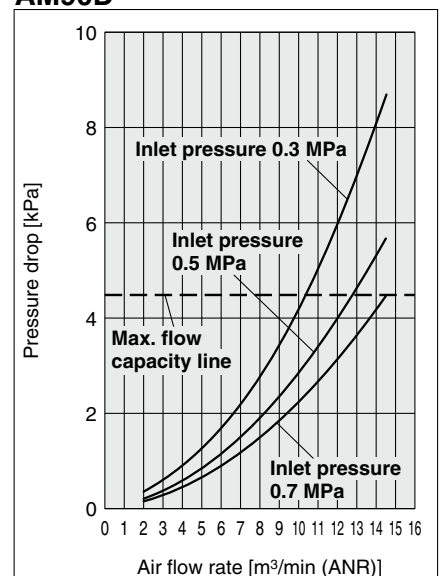
AM70D



AM80D



AM90D



AFF/AM/AMD Series

Micro Mist Separator AMD Series

Standard Specifications

Model	AMD70D	AMD80D	AMD90D
Fluid	Compressed air		
Operating pressure range [MPa]	0.1 to 1.0		
Ambient and fluid temperatures [°C]	-5 to 60 (No freezing)		
Proof pressure [MPa]	1.5		
Maximum flow capacity*1 [m ³ /min (ANR)]	7.0	11.0	14.5
Inlet pressure [MPa]	0.7		
Nominal filtration rating*3 [μm]	0.01 (Filtration efficiency: 99.9%)		
Oil mist concentration on the outlet side*4 [mg/m ³ (ANR)]	0.1 (≈ 0.08 ppm) or less*5		
Compressed air purity class*6	ISO 8573-1:2010 [1 : 7 : 2]*7		
Float type auto drain	N.O. (Normally open), Drain port is open when pressure is not applied.		
Port size	1 or 1 1/2	1 1/2	1 1/2 or 2
Weight [kg]	3.4	4.7	5.0
Recommended element replacement interval (Guideline)	After 2 years of operation or when the element service indicator turns red, whichever comes first.		

Maximum Flow Capacity of the Compressor Intake Condition under Rated Conditions

Model	AMD70D	AMD80D	AMD90D
Maximum flow capacity/Compressor intake condition*2 [m ³ /min]	7.3	11.5	15.1

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

*2 32°C, flow rate when converted to atmospheric pressure

*3 Filtration efficiency for the conditions below in addition to the rated conditions above [Test condition ISO 8573-4:2001, Test method ISO 12500-3:2009 compliant]

** When the air flow capacity, inlet pressure, and the amount of solid particles on the filter inlet side are stable.

** When a new element is used

*4 Oil mist concentration on the outlet side for the conditions below in addition to the rated conditions above [Test condition ISO 8573-2:2007, Test method ISO 12500-1: 2007 compliant]

** Oil mist concentration on the filter inlet side = 1 mg/m³

** 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

*5 0.01 (≈ 0.008 ppm) or less in the initial state

*6 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 9.

*7 The compressed air quality class on the inlet side is [2 : 7 : 3].

* The surface finish of the outer surface of the container is equivalent to No. 2D**1.

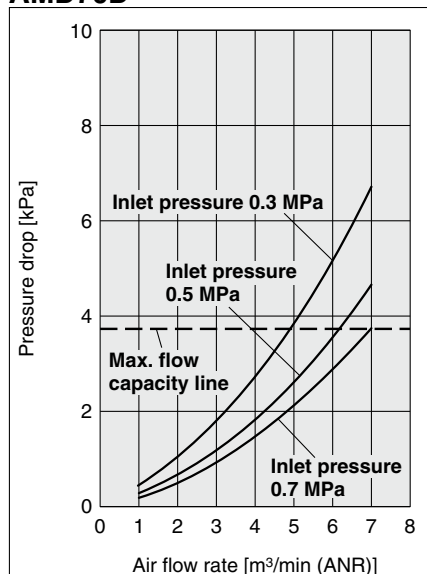
(There may be scratches, rubbing, stains, or discoloration which do not affect the function or performance of the product.)

**1 A symbol for the surface finish of a cold rolled stainless steel sheet defined in JIS G 4305

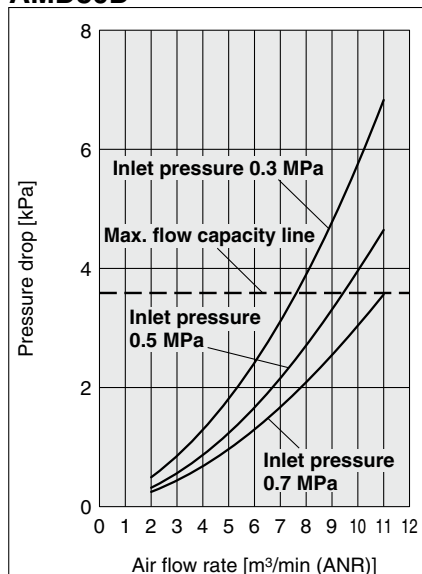
Flow Rate Characteristics/Select the model under the max. flow capacity line.

* Compressed air over the max. flow capacity line in the table below may not meet the specifications of the product.

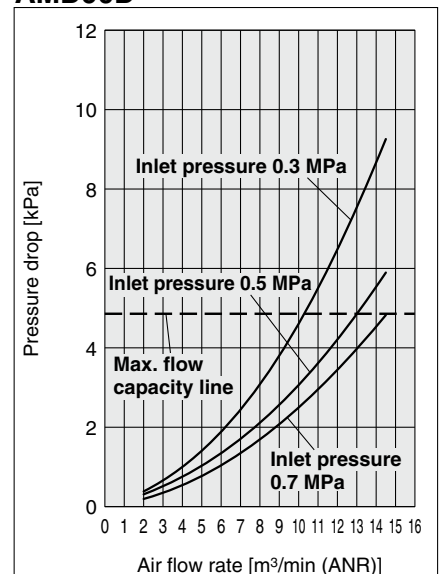
AMD70D



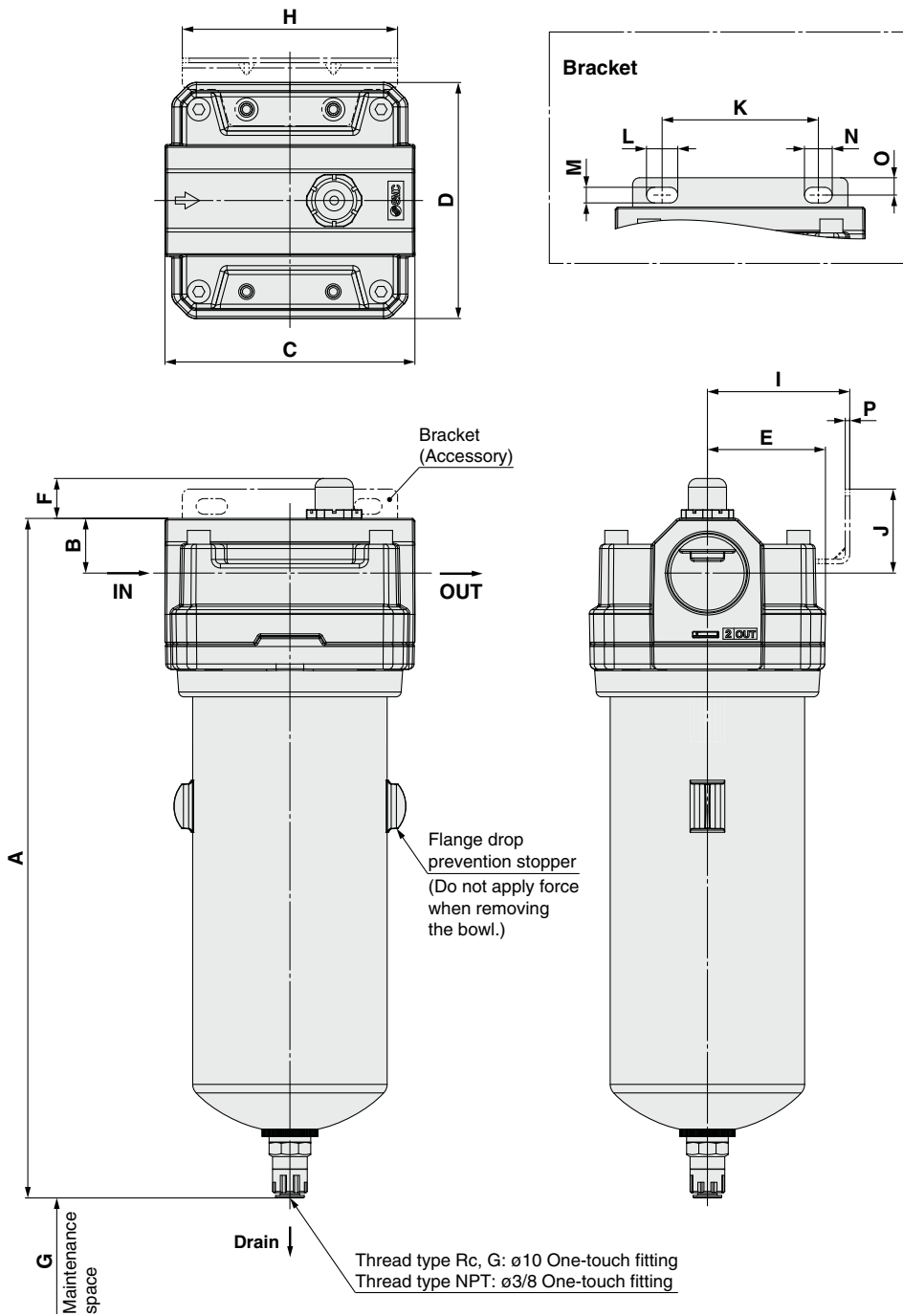
AMD80D



AMD90D

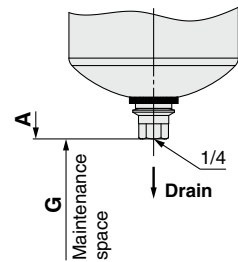


Dimensions: AFF, AM, AMD

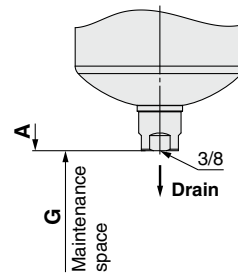


Option

H: Auto drain (1.6 MPa)



J: Drain guide



* Figures indicate the auto drain (1.0 MPa).

Dimensions

Model	Port size	Auto drain (1.0 MPa)	Auto drain (1.6 MPa)	Drain guide	B	C	D	E	F	G	Bracket related dimensions																
											A								H	I	J	K	L	M	N	O	P
											H	I	J	K	L	M	N	O	P								
AFF70D, AM70D, AMD70D	1, 1 1/2	391.5	379.5	382	31.5	144	136	68	23	40	124	82	48.4	90	18	9	16	10	2.6								
AFF80D, AM80D, AMD80D	1 1/2	404	392	394.5	38	170	160	80	23	40	148	93.5	58.5	110	22	11	20	12	3.2								
AFF90D, AM90D, AMD90D	1 1/2, 2	470	458	460.5	38	170	160	80	23	40	148	93.5	58.5	110	22	11	20	12	3.2								

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

[Purity Classes]

Class	Particles			Mass concentration Cp [mg/m ³]	Humidity and liquid water		Oil Concentration of total oil [mg/m ³]
	Maximum number of particles per cubic meter as a function of particle size d [μm]				Pressure dew point [°C]	Concentration of liquid water Cw [g/m ³]	
	0.1 < d ≤ 0.5	0.5 < d ≤ 1.0	1.0 < d ≤ 5.0				
0	As specified by the equipment user or supplier and more stringent than class 1						
1	≤ 20000	≤ 400	≤ 10	—	≤ -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	—
x	—	—	—	Cp > 10	—	Cw > 10	> 5

[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

[How to Perform a Test to Check the Performance]

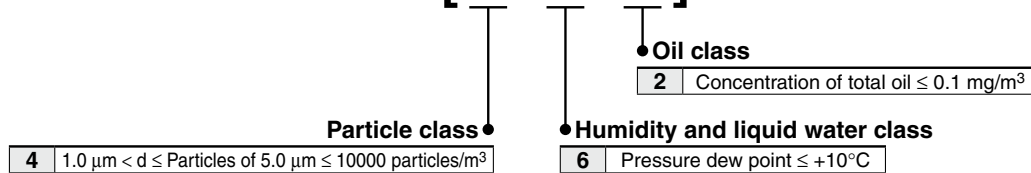
ISO 12500, which sets out the test method to be used in order to check the filter performance for each of the three kinds of contaminants, is indicated below.

- Particle: ISO 12500-3:2009
- Liquid water: ISO 12500-4:2009
- Oil: ISO 12500-1:2007

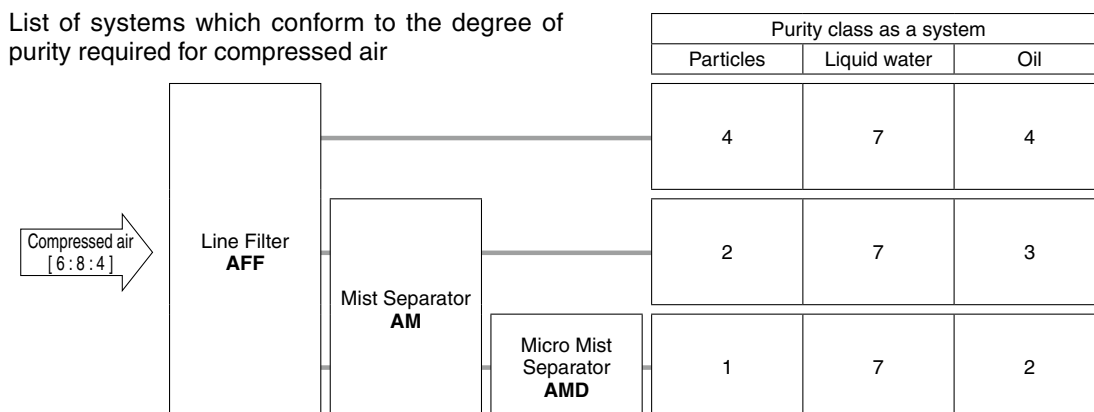
* Measured using a dedicated evaluation system which has been certified according to ISO 12500-□ and also by a third party (Certified)

[Purity Class Designation Example]

ISO 8573-1:2010 [4 : 6 : 2]



List of systems which conform to the degree of purity required for compressed air



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.