Mist Separator

AFM20-A to AFM40-A **Micro Mist Separator** AFD20-A to AFD40-A

Symbol Mist Separator





AFM40-A

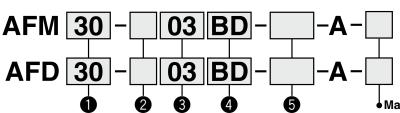
- Series AFM Nominal filtration rating: 0.3 μ m
- Series AFD Nominal filtration rating: 0.01 μm

How to Order









 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) AFM30-03BD-R-A

Made to Order

(Refer to pages 51 and 52 for details.)

				(Refer to pages 51	and 52 for deta	iis.)	
						0	
			Symbol	Description		Body size	
					20	30	40
			Nil	Rc	•	•	•
2	Pipe	e thread type	N Note 1)	NPT	•	•	•
			F Note 2)	G	•	•	•
			+				
			01	1/8	•	_	
			02	1/4	•	•	•
3		Port size	03	3/8	_	•	•
			04	1/2	_	_	•
			06	3/4	_	_	•
			+				
		Mounting	Nil	Without mounting option	•	•	•
	а	Mounting	B Note 3)	With bracket	•	•	•
Option	_		+				
) ita		Floot turns	Nil	Without auto drain	•	•	•
-	b	Float type auto drain	C Note 4)	N.C. (Normally closed) Drain port is closed when pressure is not applied.	•	•	•
		auto diairi	D Note 5)	N.O. (Normally open) Drain port is open when pressure is not applied.	_	•	•
			+				
			Nil	Polycarbonate bowl	•	•	•
			2	Metal bowl	•	•	•
		Bowl Note 6)	6	Nylon bowl	•	•	•
	C	DOWI ****	8	Metal bowl with level gauge	_	•	•
			С	With bowl guard	•	Note 7)	Note 7)
			6C	With bowl guard (Nylon bowl)	•	Note 8)	Note 8)
교			+				
Semi-standard			Nil	With drain cock	•	•	•
sta	d	Drain port Note 12)	Note 9)	Drain guide 1/8	•	_	_
ij	"	Diaili poit	J ·····/	Drain guide 1/4	_	•	•
ျပ္ပ			W Note 13)	Drain cock with barb fitting (for ø6 x ø4 nylon tube)	_	•	•
			+				
	l e	Flow direction	Nil	Flow direction: Left to right	•	•	•
		1 low direction	R	Flow direction: Right to left	•	•	•
			+				1
	l f	Pressure unit	Nil	Name plate and caution plate for bowl in imperial units: MPa	•	•	•
	'	1 1000uic uill	Z Note 10)	Name plate and caution plate for bowl in imperial units: psi, °F	Note 11)	Note 11)	O Note 11)

Note 1) Drain guide is NPT1/8 (applicable to the AFM20-A, AFD20-A) and NPT1/4 (applicable to the AFM30-A/40-A, AFD30-A/40-A).

The auto drain port comes with ø3/8" One-touch fitting (applicable to the AFM30-A/40-A, AFD30-A/40-A) Note 2) Drain guide is G1/8 (applicable to the AFM20-A, AFD20-A) and G1/4 (applicable to the AFM30-A/40-A, AFD30-A/40-A).

Note 3) A bracket is not assembled and supplied loose at the time of shipment. Including 2 mounting screws

Note 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.

Note 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 start of operations. N.C. type is recommended.

Note 6) Refer to Chemical data on page 48 for chemical resistance of the bowl.

Note 7) A bowl guard is provided as standard equipment (polycarbonate).

Note 8) A bowl guard is provided as standard equipment (nylon).

Note 9) Without a valve function

Note 10) For pipe thread type: NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.)

Note 11) O: For pipe thread type: NPT only

Note 12) The combination of float type auto drain: C and D is not available.

Note 13) The combination of metal bowl: 2 and 8 is not available.

Mist Separator Series AFM20-A to AFM40-A Micro Mist Separator Series AFD20-A to AFD40-A

Standard Specifications

Model		AFM20-A AFD20-A	AFM30-A AFD30-A	AFM40-A AFD40-A	AFM40-06-A AFD40-06-A		
Port size		1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4		
Fluid			Α	ir			
Ambient and fluid temperature	9		– 5 to 60°C (wi	th no freezing)			
Proof pressure			1.5 l	MРа			
Maximum operating pressure			1.01	MРа			
Minimum operating pressure		0.05 MPa					
Nominal filtration rating	AFM20-A to AFM40-06-A	0.3 μm (99.9% filtered particle size)					
Nominal mitration rating	AFD20-A to AFD40-06-A						
Outlet side oil mist	AFM20-A to AFM40-06-A						
concentration	AFD20-A to AFD40-06-A						
Rated flow (L/min (ANR)) Note 1)	AFM20-A to AFM40-06-A	200	450	11	00		
hated flow (L/IIIII (ANN))	AFD20-A to AFD40-06-A	120	240	6	000		
Drain capacity (cm³)		8	25	45			
Bowl material		Polycarbonate					
Bowl guard		Semi-standard (Steel) Standard (Polycarbonate)					
Weight (kg)		0.09	0.19	0.38	0.43		

Note 1) Conditions: Inlet pressure: 0.7 MPa; The rated flow varies depending on the inlet pressure. Keep the air flow within the rated flow to prevent an outflow of lubricant to the outlet side.

Options/Part No.

			Model						
Optional specifications		AFM20-A AFD20-A	AFM30-A AFD30-A	AFM40-A AFD40-A	AFM40-06-A AFD40-06-A				
Bracket assembly Note 1)		AF22P-050AS	AF32P-050AS	AF42P-050AS AF42P-070A					
Float type auto drain Note 2) Note 3)	N.C.	AD27-A	AD37-A	AD47-A					
Float type auto drain	N.O.	_	AD38-A	AD4	18-A				

Note 1) Assembly of a bracket and 2 mounting screws

Bowl Assembly/Part No.

Bowl	Drain				Mod	del	
material	discharge mechanism	Drain port	Other	AFM20-A AFD20-A	AFM30-A AFD30-A	AFM40-A AFD40-A	AFM40-06-A AFD40-06-A
		With drain cock	_	C2SF-A	_	-	_
	Manual	With drain cock	With bowl guard	C2SF-C-A	C3SF-A	C4:	SF-A
	discharge	Drain cock with barb fitting	With bowl guard	_	C3SF-W-A	C4S	F-W-A
Polycarbonate	uiscriarge	With drain guide	_	C2SF□-J-A	_	-	_
bowl		(without valve function)	With bowl guard	C2SF□-CJ-A	C3SF□-J-A	C4SF	-□-J-A
	Automatic Note)	Normally closed (N.C.)	_	AD27-A	_	-	_
ı	discharge	Normany closed (N.C.)	With bowl guard	AD27-C-A	AD37□-A	AD4	.7□-A
	(Auto drain)	Normally open (N.O.)	With bowl guard	_	AD38□-A	AD4	8□-A
		With drain cock	_	C2SF-6-A	_	-	_
	Manual	Willi dialii cock	With bowl guard	C2SF-6C-A	C3SF-6-A	C4S	F-6-A
	discharge	Drain cock with barb fitting	With bowl guard	_	C3SF-6W-A	C4SF	-6W-A
Nylon bowl	uiscriarge	With drain guide	_	C2SF□-6J-A	_	_	
Nylon bowi		(without valve function)	With bowl guard	C2SF□-6CJ-A	C3SF□-6J-A	C4SF□-6J-A	
	Automatic Note)	Normally aloned (N.C.)	_	AD27-6-A	_	-	_
	discharge	Normally closed (N.C.)	With bowl guard	AD27-6C-A	AD37□-6-A	AD47	′□-6-A
	(Auto drain)	Normally open (N.O.)	With bowl guard	_	AD38□-6-A	AD48	B□-6-A
		With drain cock	_	C2SF-2-A	C3SF-2-A	C4S	F-2-A
	Manual	Willi dialii cock	With level gauge	_	C3LF-8-A	C4L	F-8-A
	discharge	With drain guide	_	C2SF□-2J-A	C3SF□-2J-A	C4SF	□-2J-A
Metal bowl		(without valve function)	With level gauge	_	C3LF□-8J-A	C4LF	□-8J-A
IVI C IAI DOWI	Automatic Note)	Normally closed (N.C.)	_	AD27-2-A	AD37□-2-A	AD47	′□-2-A
	discharge	L. L	With level gauge		AD37□-8-A	AD47	′□-8-A
	(Auto drain)	Normally open (N.O.)	_	_	AD38□-2-A	AD48	3□-2-A
	(Auto diairi)	inormally open (N.O.)	With level gauge		AD38□-8-A	AD48	B□-8-A

Note) Minimum operating pressure: N.O. type-0.1 MPa (AD38-A, AD48-A); N.C. type-0.1 MPa (AD17-A, AD27-A) and 0.15 MPa (AD37-A, AD47-A). Bowl assembly for the AFM20-A to AFM40-06-A, AFD20-A to AFD40-06-A models comes with a bowl seal.

Note 2) When the compressor oil mist discharge concentration is 30 mg/m³ (ANR).

Note 3) Bowl seal and other O-rings are slightly lubricated.

Note 2) Minimum operating pressure: N.O. type-0.1 MPa; N.C. type-0.1 MPa (AD27-A) and 0.15 MPa (AD37-A/AD47-A). Please consult with SMC separately for psi and °F unit display specifications.

Note 3) Please consult with SMC for details on drain piping to fit NPT or G port sizes.

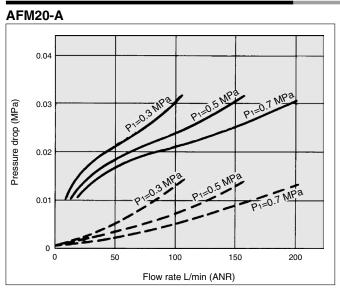
[🗆] in bowl assembly part numbers indicates a pipe thread type (applicable tubing for auto drain). No indication is necessary for Rc thread; however, indicate N for NPT thread, and F for G thread. (For auto drain, Nil: ø10, N: ø3/8")

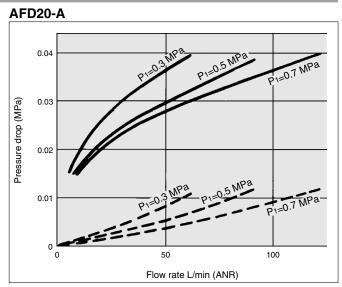
Please consult with SMC separately for psi and °F unit display specifications.

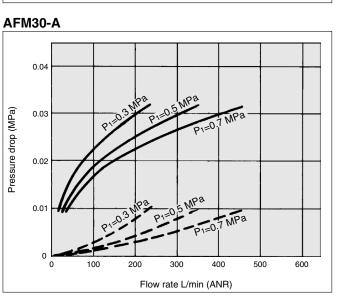
Series AFM20-A to AFM40-A Series AFD20-A to AFD40-A

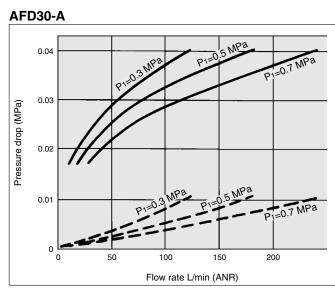
Flow-rate Characteristics (Representative values)

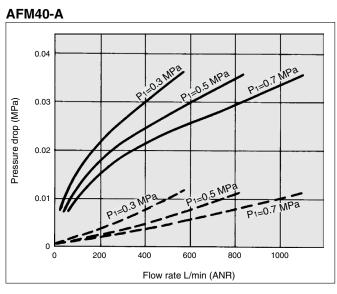
When saturated with oil Initial state

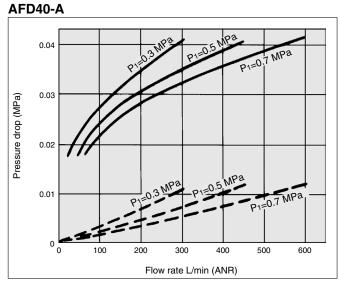












Mist Separator Series AFM20-A to AFM40-A Micro Mist Separator Series AFD20-A to AFD40-A

I Be sure to read this before handling. Refer to the back cover for Safety Instructions, "Handling Precautions for I SMC Products" and the Operation Manual for F.R.L. Precautions, http://www.smcworld.com

Design/Selection

⚠ Warning

1. The standard bowl for the air filter, filter regulator, and lubricator, as well as the sight dome for the lubricator are made of polycarbonate. Do not use in an environment where they are exposed to or come in contact with organic solvents, chemicals, cutting oil, synthetic oil, alkali, and thread lock solutions.

Effects of atmosphere of organic solvents and chemicals, and where these elements are likely to adhere to the equipment. Chemical data for substances causing degradation (Reference)

			Mat	erial
Type	Chemical name	Application examples	Polycar- bonate	Nylon
Acid	Hydrochloric acid Sulfuric acid, Phosphoric acid Chromic acid	Acid washing liquid for metals	Δ	×
Alkaline	Sodium hydroxide (Caustic soda) Potash Calcium hydroxide (Slack lime) Ammonia water Carbonate of soda	Degreasing of metals Industrial salts Water-soluble cutting oil	×	0
Inorganic salts	Sodium sulfide Sulfate of potash Sulfate of soda	_	×	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 Acetic acid	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

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

Air Supply

∕! Caution

- 1. Install an air filter (Series AF) as a pre-filter on the inlet side of the mist separator to prevent premature clogging.
- 2. Install a mist separator (Series AFM) as a pre-filter on the inlet side of the micro mist separator to prevent premature clogging.
- 3. Do not install on the inlet side of the dryer as this can cause premature clogging of the element.

Maintenance

🛝 Warning

1. Replace the element every 2 years or when the pressure drop becomes 0.1 MPa, whichever comes first, to prevent damage to the element.

Mounting/Adjustment

∖ Caution

1. When the bowl is installed on the mist separator (AFM30-A/AFM40-A), or micro mist separator (AFD30-A/AFD40-A), install them so that the lock button lines up to the groove of the front (or the back) of the body to avoid drop or damage of the bowl.



Design

∕∖∖ Caution

1. Design the system so that the mist separator is installed in a pulsation-free location. The difference between internal and external pressure inside the element should be kept within 0.1 MPa, as exceeding this value could cause damage.

Selection

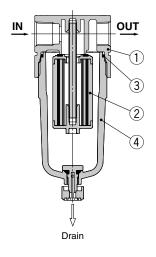
⚠ Caution

- 1. Do not allow air flow that exceeds the rated flow. If the air flow is allowed outside the range of the rated flow even momentarily, drainage and lubricant may splash at the outlet side or cause damage to the component.
- 2. Do not use in a low pressure application (such as a blower). An F.R.L. unit has its own minimum operating pressure depending on the equipment and is designed specifically to function with compressed air. If used below the minimum operating pressure, a loss of performance and malfunction can occur. Please contact SMC if an application under such conditions cannot be avoided.

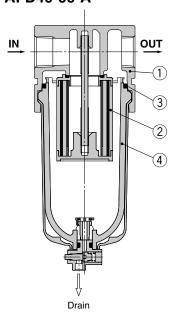
Series AFM20-A to AFM40-A Series AFD20-A to AFD40-A

Construction

AFM20-A AFD20-A



AFM30-A to AFM40-06-A AFD30-A to AFD40-06-A



Component Parts

No.	Description	Material	Model	Color
1	Body	Aluminum die-cast	AFM20-A to AFM40-06-A AFD20-A to AFD40-06-A	White

Replacement Parts

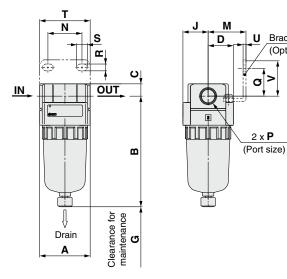
ricp	naccincin i arts								
				Part no.					
No.	Description	on	Material	AFM20-A	AFM30-A	AFM40-A	AFM40-06-A		
				AFD20-A	AFD30-A	AFD40-A	AFD40-06-A		
	Flowant accombly	AFM20 to 40	_	AFM20P-060AS	AFM30P-060AS	AFM40P-060AS			
2	Element assembly	AFD20 to 40	_	AFD20P-060AS	AFD30P-060AS	AFD40F	P-060AS		
3	3 Bowl seal		NBR	C2SFP-260S	C32FP-260S	C42FP-260S			
4	Bowl assembly Note)	Polycarbonate	C2SF-A	C3SF-A	C4SF-A				

Note) Bowl seal is included. Please contact SMC regarding the supply of bowl assembly with psi and °F unit display specifications.

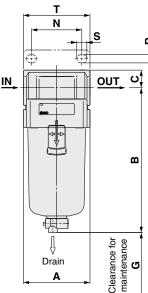
Mist Separator Series AFM20-A to AFM40-A Micro Mist Separator Series AFD20-A to AFD40-A

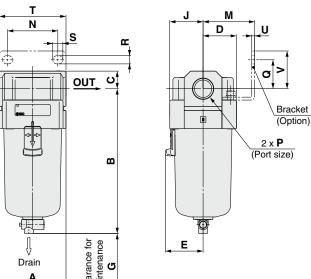
Dimensions

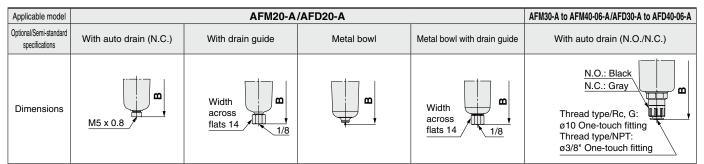




AFM30-A to AFM40-06-A AFD30-A to AFD40-06-A







Bracket

(Option)



			Standa	rd enac	ification							Optio	nal spe	cificatio	ns		
Model	Standard specifications						Bracket mount						With auto drain				
	Р	Α	В	С	D	E	G	J	М	N	Q	R	S	Т	U	٧	В
AFM20-A/AFD20-A	1/8, 1/4	40	87.6	9.8	20	_	40	20	30	27	22	5.4	8.4	40	2.3	28	104.9
AFM30-A/AFD30-A	1/4, 3/8	53	115.1	14	26.7	30	50	26.7	41	40	23	6.5	8	53	2.3	30	156.8
AFM40-A/AFD40-A	1/4, 3/8, 1/2	70	147.1	18	35.5	38.4	75	35.5	50	54	26	8.5	10.5	70	2.3	35	186.9
AFM40-06-A/AFD40-06-A	3/4	75	149.1	20	35.5	38.4	75	35.5	50	54	25	8.5	10.5	70	2.3	34	188.9

		Semi-standard specifications									
Model	With barb fitting	With drain guide	Metal bowl	Metal bowl with drain guide	Metal bowl with level gauge	Metal bowl with level gauge, with drain guide					
	В	В	В	В	В	В					
AFM20-A/AFD20-A	_	91.4	87.4	93.9	_	_					
AFM30-A/AFD30-A	123.6	121.9	117.6	122.1	137.6	142.1					
AFM40-A/AFD40-A	155.6	153.9	149.6	154.1	169.6	174.1					
AFM40-06-A/AFD40-06-A	157.6	155.9	151.6	156.1	171.6	176.1					

Mist Separator/*AFM20-A to AFM40-06-A*Micro Mist Separator/*AFD20-A to AFD40-06-A*

Made to Order



Please contact SMC for detailed dimensions, specifications and lead times.

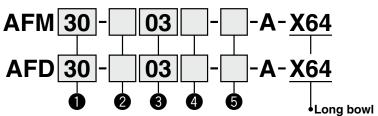
1 Long Bowl

Drain capacity is greater than that of standard models.

Applicable Model/Drain Capacity

Model	AFM20-A, AFD20-A	AFM30-A, AFD30-A	AFM40-A, AFD40-A	AFM40-06-A, AFD40-06-A
Port size	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4
Drain capacity (cm ³)	19	88		

Note) Please consult with SMC for dimensions



- 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) AFM30-03B-2R-A-X64

					Long Dom			
	_	_					0	
				Symbol	Description		Body size	
						20	30	40
				Nil	Rc	•	•	•
2	Pipe thread type		thread type	N Note 1)	NPT	•	•	•
			,,	Note 2)	G	•	•	•
				+				
				01	1/8	•	_	
				02	1/4	•	•	•
8			Port size	03	3/8	_	•	•
				04	1/2	_	_	•
				06	3/4	_	_	•
				+				
	4 Option (Mounting) Nil B Note		on (Mounting)		Without mounting option	•	•	•
U			B Note 3)	With bracket	•	•	•	
				+				
				Nil	Polycarbonate bowl	•	•	•
				2	Metal bowl	•	•	•
		а	Bowl Note 4)	6	Nylon bowl	•	•	•
				С	With bowl guard	•	Note 5)	Note 5)
				6C	With bowl guard (Nylon bowl)	•	Note 6)	Note 6)
	ام			+				
	dar			Nil	With drain cock	•	•	•
6	tan	b	Drain port	_ Note 7)	Drain guide 1/8	•	_	_
•	ni-s		·	•	Drain guide 1/4		•	•
	Semi-standard			W Note 8)	Drain cock with barb fitting (for ø6 x ø4 nylon tube)		•	•
				+			T	
		С	Flow direction	Nil	Flow direction: Left to right	•	•	•
		T low direction		R	Flow direction: Right to left	•		•
				+				
		d	Pressure unit	Nil	Name plate and caution plate for bowl in imperial units: MPa	•	•	•
				Z Note 9)	Name plate and caution plate for bowl in imperial units: psi, °F	Note 10)	Note 10)	Note 10)

Note 1) Drain guide is NPT1/8 (applicable to the AFM20-A, AFD20-A) and NPT1/4 (applicable to the AFM30-A/40-A, AFD30-A/40-A).

Note 2) Drain guide is G1/8 (applicable to the AFM20-A, AFD20-A) and G1/4 (applicable to the AFM30-A/40-A, AFD30-A/40-A).

Note 3) A bracket is not assembled and supplied loose at the time of shipment. Including 2 mounting screws.

Note 4) Refer to Chemical data on page 48 for chemical resistance of the bowl.

Note 5) A bowl guard is provided as standard equipment (polycarbonate). Note 6) A bowl guard is provided as standard equipment (nylon).

Note 7) Without a valve function Note 8) The combination of metal bowl: 2 is not available.

Note 9) For pipe thread type: NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.)

Note 10) O: For pipe thread type: NPT only

Mist Separator/AFM20-A to AFM40-06-A Micro Mist Separator/AFD20-A to AFD40-06-A

Made to Order

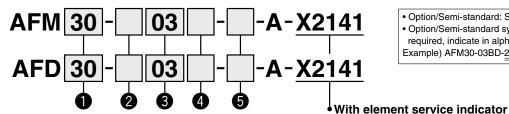
Please contact SMC for detailed dimensions, specifications and lead times.

2 With Element Service Indicator

Clogging status of elements can be checked visually.

Applicable Model

Model	Model AFM20-A, AFD20-A		AFM40-A, AFD40-A	AFM40-06-A, AFD40-06-A	
Port size	Port size 1/8, 1/4		1/4, 3/8, 1/2	3/4	



- 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) AFM30-03BD-2R-A-X2141

A special body type is required to mount the element service indicator. It cannot be mounted on a standard body

\				Description	Body size		
			Symbol				
					20	30	40
			Nil	Rc	•	•	•
	Pipe thread type		N Note 1)	NPT	•		
			F Note 2)	G	•	•	•
			+				
			01	1/8	•	_	_
			02	1/4	•	•	•
		Port size	03	3/8		•	•
			04	1/2	_	<u> </u>	
			06	3/4	_	<u> </u>	•
			+				
Option		Mounting	Nil	Without mounting option	•	•	•
	а		B Note 3)	With bracket	•	•	•
			+				
		Float type auto drain	Nil	Without auto drain	•	•	
	b		C Note 4)	N.C. (Normally closed) Drain port is closed when pressure is not applied.	•	•	
			D Note 5)	N.O. (Normally open) Drain port is open when pressure is not applied.		•	
			+				
	С	Bowl Note 6)	Nil	Polycarbonate bowl	•	•	
			2	Metal bowl	•	•	
			6	Nylon bowl	Ŏ	ě	Ŏ
			8	Metal bowl with level gauge		•	•
			С	With bowl guard	•	Note 7)	Note 7
			6C	With bowl guard (Nylon bowl)	•	Note 8)	Note 8
ard			+		-	-	
ng			Nil	With drain cock	•	•	•
stal		Drain port Note 12)	Note 9)	Drain guide 1/8	•	_	_
Semi-standard	d	Drain port 100 127	_	Drain guide 1/4	_	•	•
			W Note 13)	Drain cock with barb fitting (for ø6 x ø4 nylon tube)	_	•	•
0,			+				
	е	Flow direction	Nil	Flow direction: Left to right	•	•	•
			R	Flow direction: Right to left	•	•	•
			+	-			
	f	Dragoura urait	Nil	Name plate and caution plate for bowl in imperial units: MPa	•	•	•
		Pressure unit	Z Note 10)	Name plate and caution plate for bowl in imperial units: psi, °F	Note 11)	(Note 11)	Note 11

- Note 1) Drain guide is NPT1/8 (applicable to the AFM20-A, AFD20-A) and NPT1/4 (applicable to the AFM30-A/40-A, AFD30-A/40-A). The auto drain port comes with ø3/8" One-touch fitting (applicable to the AFM30-A/40-A, AFD30-A/40-A).
- Note 2) Drain guide is G1/8 (applicable to the AFM20-A, AFD20-A) and G1/4
- (applicable to the AFM30-A/40-A, AFD30-A/40-A).

 Note 3) A bracket is not assembled and supplied loose at the time of shipment. Including 2 mounting screws
- Note 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.
- Note 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 start of operations. N.C. type is recommended.
- Note 6) Refer to Chemical data on page 48 for chemical resistance of the bowl.
- Note 7) A bowl guard is provided as standard equipment (polycarbonate).
- Note 8) A bowl guard is provided as standard equipment (nylon).
- Note 9) Without a valve function
- Note 10) For pipe thread type: NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.)
- Note 11) O: For pipe thread type: NPT only
- Note 12) The combination of float type auto drain: C and D is not available.
- Note 13) The combination of metal bowl: 2 and 8 is not available.