



Oil mist filter standard white Series  
**M1000/M3000/M4000**  
**M6000/M8000-W Series**

Ideal for circuits susceptible to oil, including measuring, and instrumentation circuits  
 Port size: 1/8 to 1

JIS symbol



### Specifications

Descriptions	M1000-W	M3000-W	M4000-W	M6000-W	M8000-W
Appearance					
Working fluid	Compressed air				
Working pressure range MPa	0.1 to 1.0 Note 7, 8				
Withstanding pressure MPa	1.5 Note 7				
Drain capacity cm <sup>3</sup>	3	45	80	80	80
Port size Rc, NPT, G	1/8, 1/4 (3/8 uses an adapter)	1/4, 3/8 (1/2 uses an adapter)	1/4, 3/8, 1/2 (3/4 uses an adapter)	3/4, 1 (1 1/4 uses an adapter)	3/4, 1 (1 1/4 uses an adapter)
Product weight kg	0.096	0.28	0.52	0.95	1.35
Standard accessories	Bowl guard				

Mantle option name	Blank (M type)	S (S type)	X (X type)
Maximum flow rate Note 1 ℓ/min. (ANR)	M1000*-W 150 note 7	M3000*-W 360	M4000*-W 825
Primary side pressure 0.7MPa	M6000*-W 1270	M8000*-W 2600	S type 150 note 7
Pressure drop 0.01MPa			X type 150
Ambient temperature range °C	5~60		5~30
Filtration rating μm	0.01 (nominal)		0.3
Secondary side oil concentration mg/m <sup>3</sup>	0.01 or less Note 2, Note 3		0.5 or less Note 2
Mantle (element) change	1 year (6000 hours) or pressure drop 0.1MPa		0.003 or less Note 5
			- Note 6

Note 1: Use within the maximum processing flow rate.

If the maximum processing flow is exceeded temporarily, or if the filter is installed at a place with high levels of pulsation, the mantle could be damaged or oil or drainage, etc., could splatter to the secondary side and result in faults at the terminal.

Note 2: The secondary oil density is the value when the primary oil density is 30 mg/m<sup>3</sup> and inlet air temperature is 21°C.

Note 3: Install an oil mist filter (S type) as a prefilter on the primary side to prevent early clogging.

Note 4: Activated charcoal particles could flow to the secondary side, so install an air filter (F Series) or oil mist filter (M Series M type or S type) on the secondary side.

Note 5: When an oil mist filter (M Series M type) is installed on the primary side.

Note 6: The mantle (element) replacement period differs with the odor density in compressed air, and thus cannot be clearly indicated.

Consider the total period from initial installation to when the smell of oil is confirmed as the effective deodorizing period, and replace at the same time as the M type or control with usage time. (When the inlet temperature is 21°C, replace at the control time or 1,000 hours, whichever is sooner)

Keep the primary air temperature at 30°C or less. The deodorizing effect will drop if the temperature is high, so provide heat dissipation measures.

Note 7: With M1000-W-F1 automatic drain, minimum operating pressure is 0.2 MPa, maximum operation pressure is 0.7 MPa and the guaranteed pressure resistance is 1.05 MPa. Refer to the maximum processing flow graph (page 93) for the maximum working flow.

Note 8: Min. operating pressure is 0.15MPa for "F1" with automatic drain.

### Clean room specifications

(Catalog No. CB-033SA)

● Dust generation preventing structure for use in cleanrooms

**M\*000-..... - P7\***

### How to order



**A** Model no.

**B** Port size

**C** Port thread type

**D** Option

**E** Display unit

**F** Piping adapter set (attached)

**G** Bracket (attached)

\* Refer to page 9 for explanation of an option.

A Model no.				
M	M	M	M	M
1	3	4	6	8
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

Symbol	Descriptions					
<b>B Port size</b>						
6	1/8	●				
8 <b>Note 8</b>	1/4	●	●	●		
10	3/8		●	●		
15	1/2			●		
20	3/4				●	●
25	1				●	●

C Port thread type		Note 1				
Blank	Rc thread	●	●	●	●	●
N	NPT thread	●	●	●	●	●
G	G thread	●	●	●	●	●

D Option			Note 2				
Drainage <small>Note 3, Note 4</small>	Blank	With manual drain cock	●	●	●	●	●
	F1	Automatic drain with manual override (NC type; No exhaust without pressurized)	●	●	●	●	●
Bowl material	Blank	Polycarbonate bowl	●	●	●	●	●
	Z	Nylon bowl	●	●	●	●	●
	M <b>Note 6</b>	Metal bowl		●	●	●	●
Mantle (element)	M1	Metal bowl with manual drain cock		●	●	●	●
	Blank	M type (nominal 0.01µm; remaining oil 0.01mg/m <sup>3</sup> )	●	●	●	●	●
	S	S type (0.3µm; remaining oil 0.5mg/m <sup>3</sup> )	●	●	●	●	●
Differential pressure detection	X <b>Note 5</b>	X type (deodorization; remaining oil 0.003mg/m <sup>3</sup> )	●	●	●	●	●
	Blank	Without differential pressure detection port	●	●	●	●	●
Differential pressure indicator	Q	With differential pressure detection port (Rc1/4)				●	●
	Blank	Without differential pressure indicator	●	●	●	●	●
Flow direction	Q1 <b>Note 5, Note 6</b>	Differential pressure with indicator			●		
	Blank	Standard flow (left → right)	●	●	●	●	●
X1	Reverse flow (right → left)	●	●	●	●	●	

E Display unit						
Blank	MPa display, Rc thread	●	●	●	●	●
J1	MPa display, NPT, G thread	●	●	●	●	●

F Piping adapter set (attached)		Note 7 Pages 151 to 153				
Blank	Not attached	●	●	●	●	●
A6*W	1/8 piping adapter set	●				
A8*W	1/4 piping adapter set	●	●	●		
A10*W	3/8 piping adapter set	●	●	●		
A15*W	1/2 piping adapter set		●	●		
A20*W	3/4 piping adapter set			●	●	●
A25*W	1 piping adapter set				●	●
A32*W	1 1/4 piping adapter set				●	●

* Adaptor screw type						
Blank	Rc thread	●	●	●	●	●
N	NPT thread	●	●	●	●	●
G	G thread	●	●	●	●	●

G Bracket (attached)		Page 148				
Blank	Not attached	●	●	●	●	●
BW	C type bracket	●	●	●	●	●

### ⚠ Note on model no. selection

Note 1: When G threads or NPT threads are selected, the IN, OUT, and drain port (metal bowl automatic drain) are available.

Note 2: Select options for each drainage, bowl material and differential pressure detection.

When selecting options for several items, list options in order from the top.

Note 3: Automatic drain of NO type can not be selected.

Note 4: Refer to page 11 for the automatic drain use conditions.

Note 5: Combination with option F1 or "Q1" with differential pressure indicator is not possible.

Note 6: "Q1" with differential pressure indicator cannot be selected for bowl material "M".

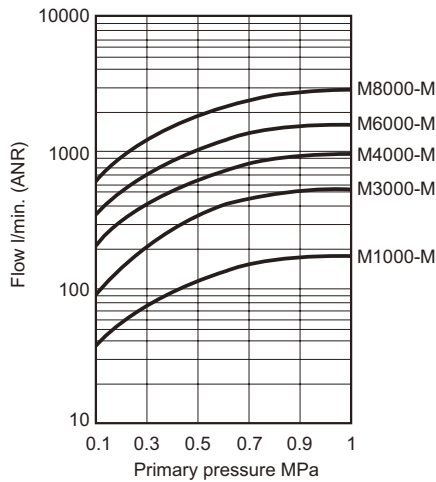
Note 7: The piping adapter set and C type bracket cannot be used together.

Note 8: "Q1" with differential pressure indicator cannot be selected for port size "8".

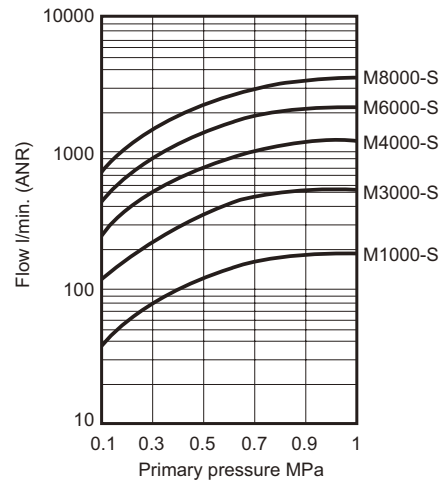
# Oil Mist Filter Series

## Flow characteristics (maximum flow rate)

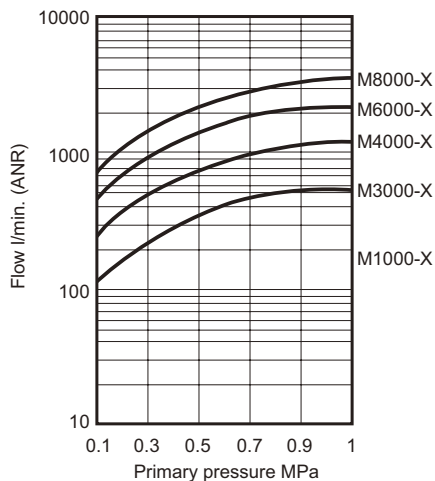
● M\*000-W-M



● M\*000-W-S

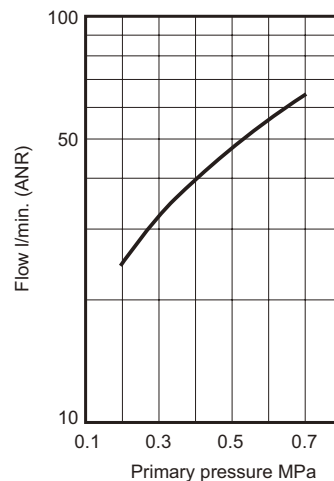


● M\*000-W-X



● M1000-W-F1

With automatic drain (M type, S type)



### Oil mist filter: Using optional mantle

Major recommended circuit  
\* S type



#### Applications

- General industrial air
- Air tool
  - Air drill, air screw driver
  - air grinder
- Labor saving device and components
- Pneumatic jigs and tools
- Air chuck
- Air vice
- Precision part cleaning air blow

\* M type



#### Oil free air

- Instrumentation
- Measurement
- Logic control
- Movable element, pure fluid element
- Luxury painting
- Precise industry

\* X type



#### Deodorization air

- Food industry
- Pharmaceutical industry
- Agitation
- Transportation
- Dry
- Package
- Air for brewing

### Option symbol and shape of mantle

Option symbol	Appearance
Blank (M type)	
S (S type)	
X (X type)	

CAUTION: Changes for product upgrades may be made without prior notice.  
When placing an order, confirm the option symbol for the part model given here.

### Oil indicator

Use the oil indicator for measuring oil content density.

Oil indicator model no.  
With needle valve 6509  
Without needle valve 6510



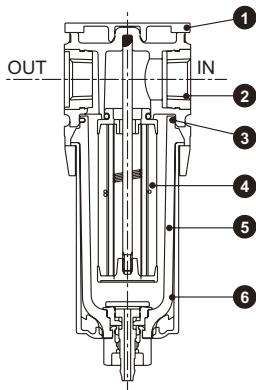
Note: Consult with CKD for details.

# Oil Mist Filter Series

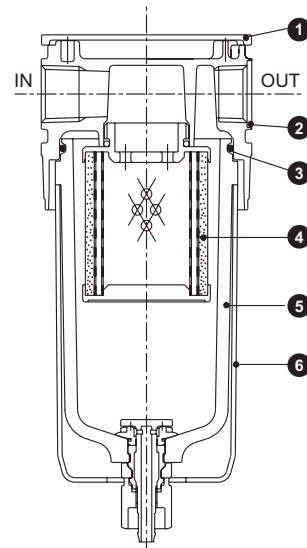
Internal structure and parts list

## Internal structure and parts list

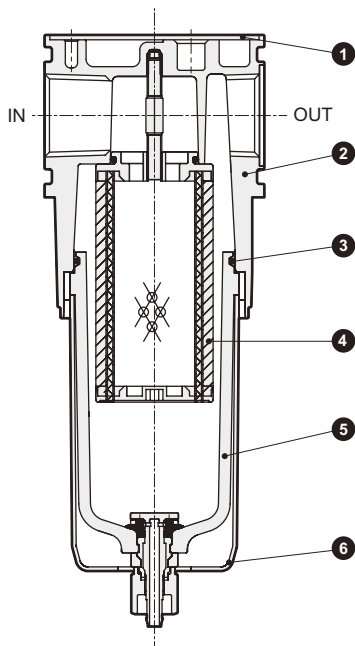
● M1000-W



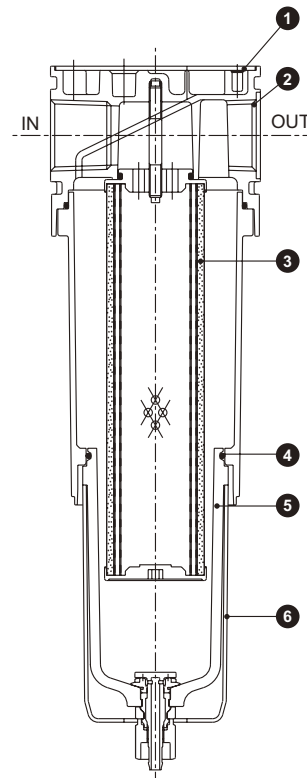
● M3000-W/M4000-W



● M6000-W



● M8000-W



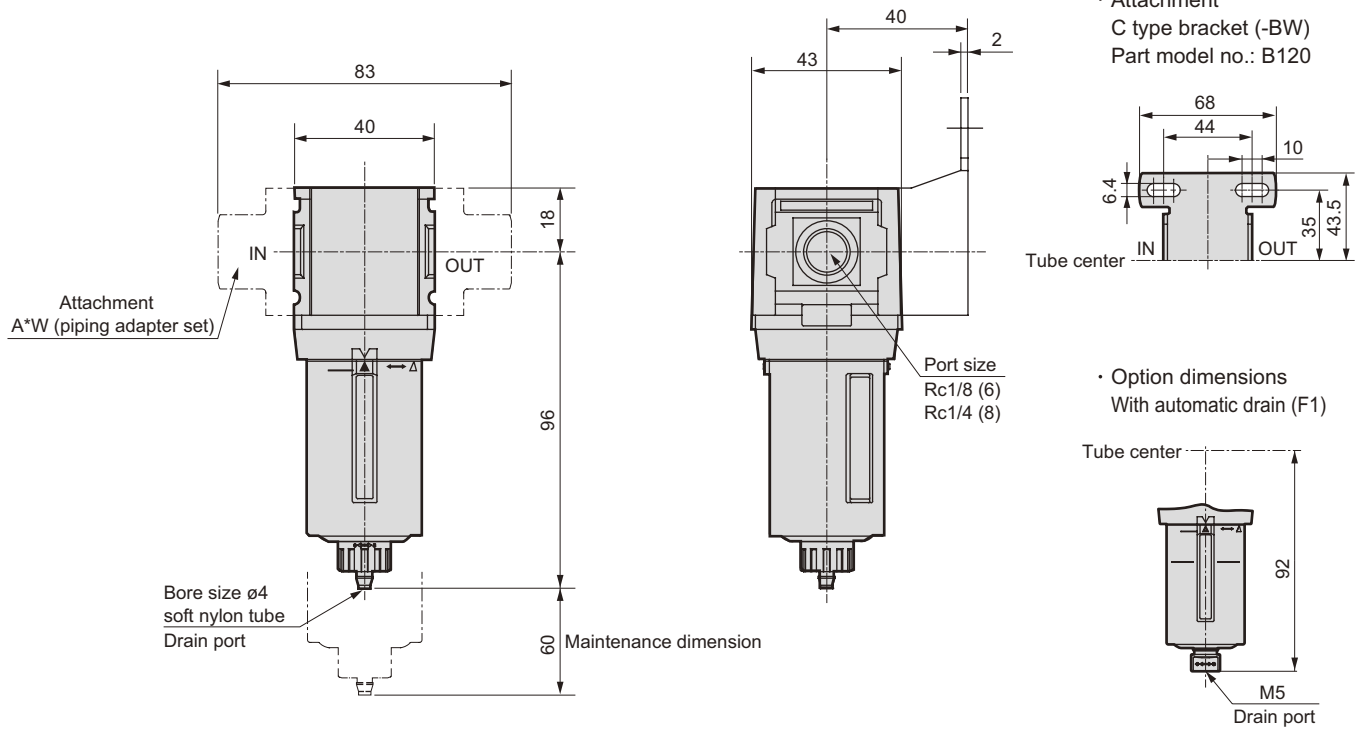
No.	Part name	Material				
		M1000-W	M3000-W	M4000-W	M6000-W	M8000-W
1	Plate cover	ABS resin				
2	Body	Polyamide resin	Aluminum alloy die-casting			
3	O ring Note 1	Special nitrile rubber				
4	Mantle assembly	-				
5	Bowl assembly	Polycarbonate resin, polyacetal resin, urethane rubber resin				
6	Bowl guard	Polyamide resin	Polyamide resin, steel			

Note 1: The M1000-W O ring has a special shape.

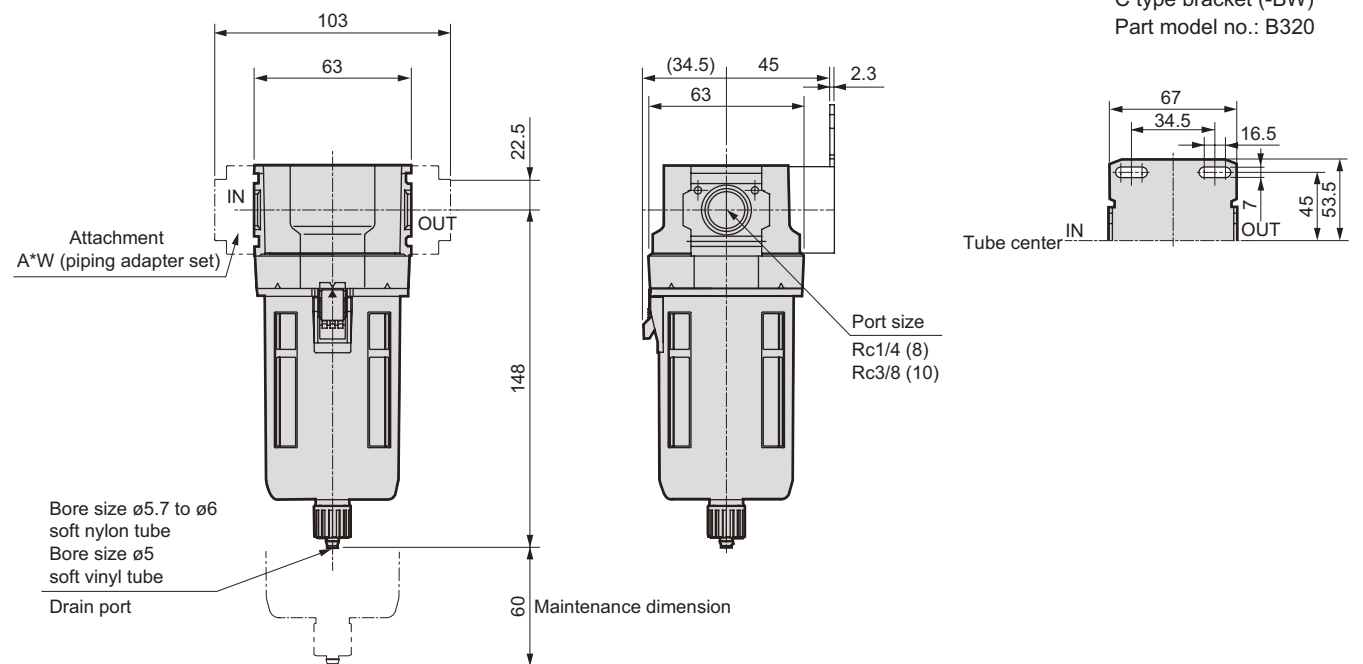
# Oil Mist Filter Series

## Dimensions

### ● M1000-W



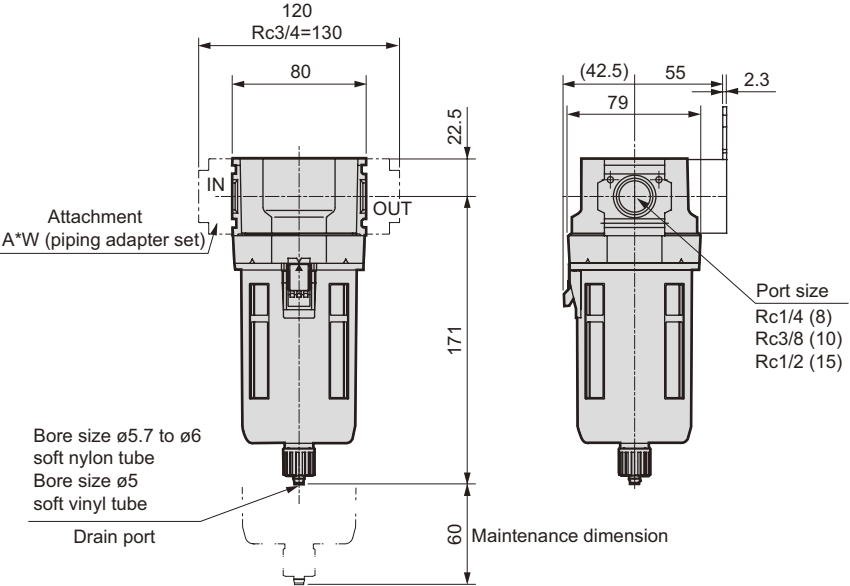
### ● M3000-W



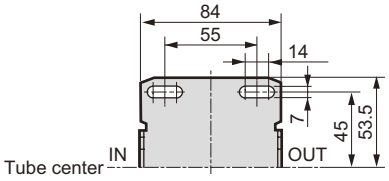
● For the plastic bowl, the dimensions are the same regardless of whether the manual cock or automatic drain is installed.  
Note: The C-type bracket and piping adapter set attachments cannot be used at the same time.

### Dimensions

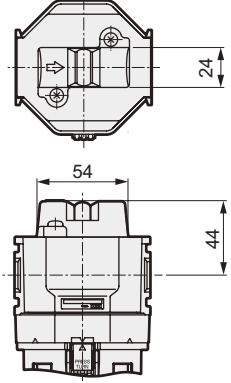
● M4000-W



• Attachment  
C type bracket (-BW)  
Part model no.: B420

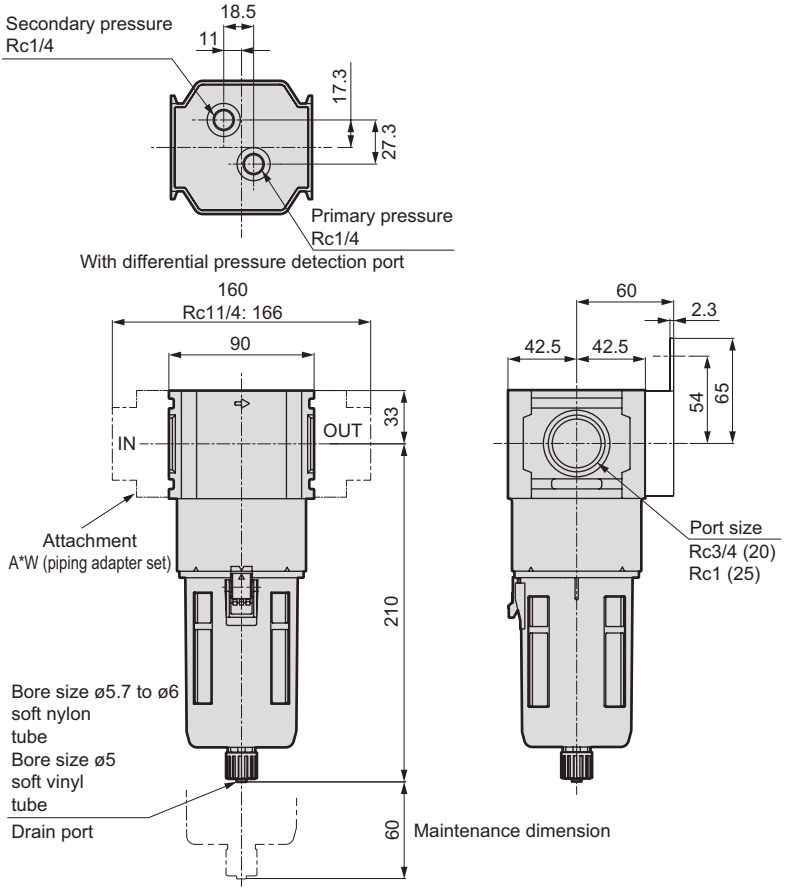


• Option dimensions  
Differential pressure with indicator (Q1)

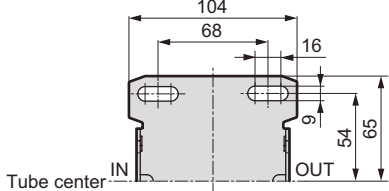


● For the plastic bowl, the dimensions are the same regardless of whether the manual cock or automatic drain is installed.

● M6000-W



• Attachment  
C type bracket (-BW)  
Part model no.: B620

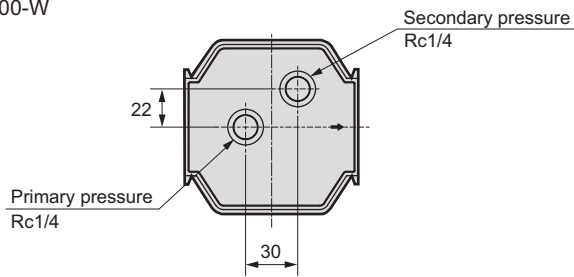


● For the plastic bowl, the dimensions are the same regardless of whether the manual cock or automatic drain is installed.  
Note: The C-type bracket and piping adapter set attachments cannot be used at the same time.

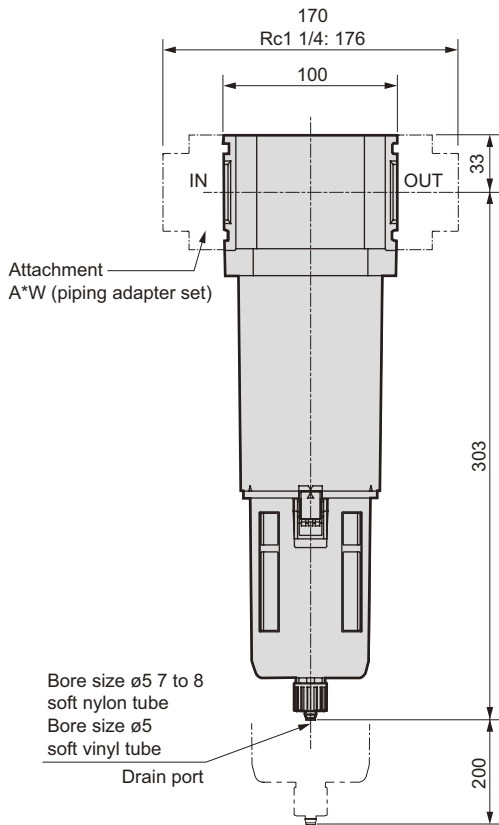
# Oil Mist Filter Series

## Dimensions

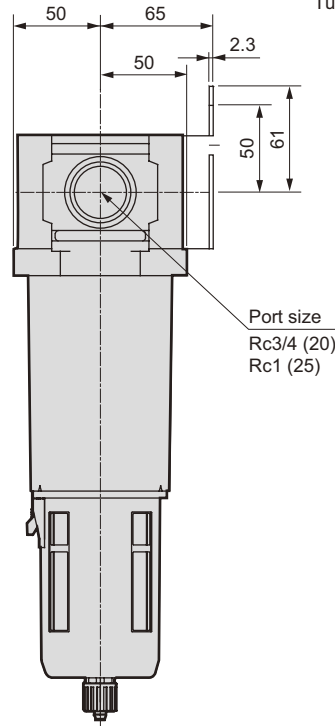
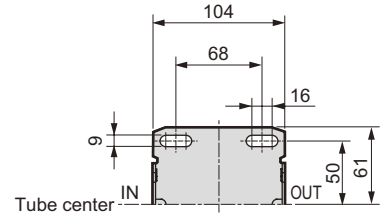
### ● M8000-W



Option  
(With differential pressure detection port)



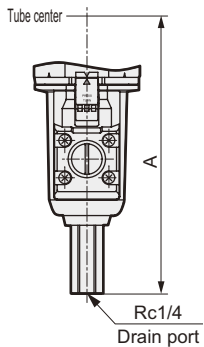
● Attachment  
C type bracket (-BW)  
Part model no.: B820



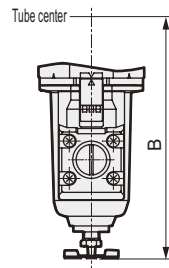
● For the plastic bowl, the dimensions are the same regardless of whether the manual cock or automatic drain is installed.

### ● Metal bowl (option) (M3000-W, M4000-W, M6000-W, M8000-W)

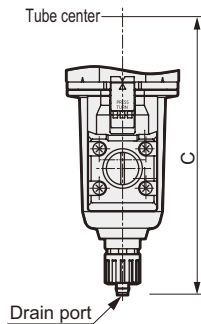
Metal manual cock  
with automatic drain (F1M)



With petcock (M)



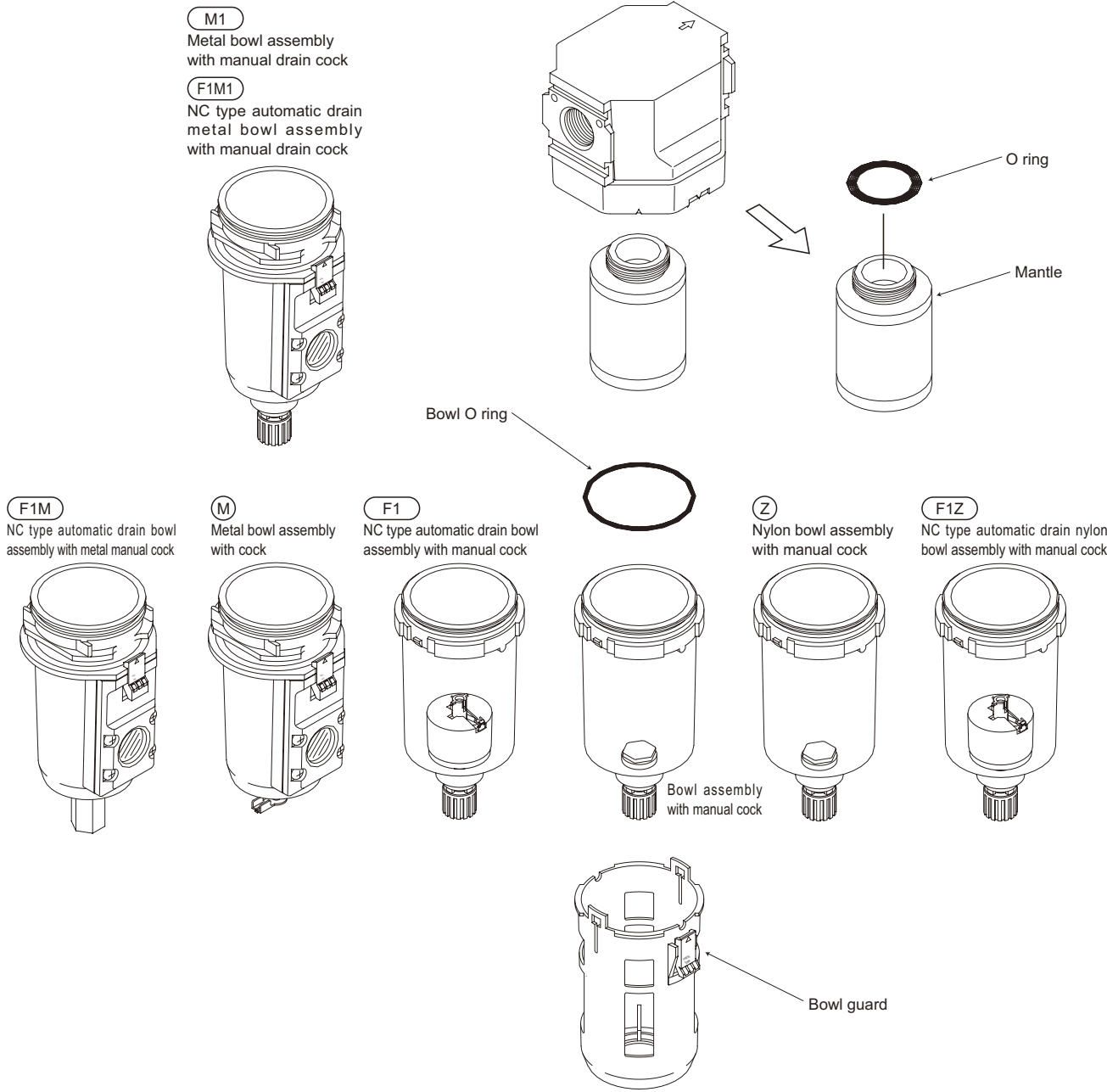
Standard manual drain cock  
(M1)



## Dimensions table

Model no.	F1M	M	M1
	A	B	C
M3000-W	164	143.5	154
M4000-W	187	166.5	177
M6000-W	226	205	216
M8000-W	319	298	309

## Optional parts table - Oil mist filter



### Repair kits model no. (Set consisting of O ring, mantle, bowl O ring)

Model	M type	S type	X type
M1000-W	M1000-KIT	M1000-KIT-S	M1000-KIT-X
M1000-W-F1	M1000-KIT-F1	M1000-KIT-F1S	-
M3000-W, MM3000-W	M3000-KIT	M3000-KIT-S	M3000-KIT-X
M4000-W, MM4000-W	M4000-KIT	M4000-KIT-S	M4000-KIT-X
M6000-W, MM6000-W	M6000-KIT	M6000-KIT-S	M6000-KIT-X
M8000-W, MM8000-W	M8000-KIT	M8000-KIT-S	M8000-KIT-X

### Repair kits model no. (Set consisting of O ring, mantle)

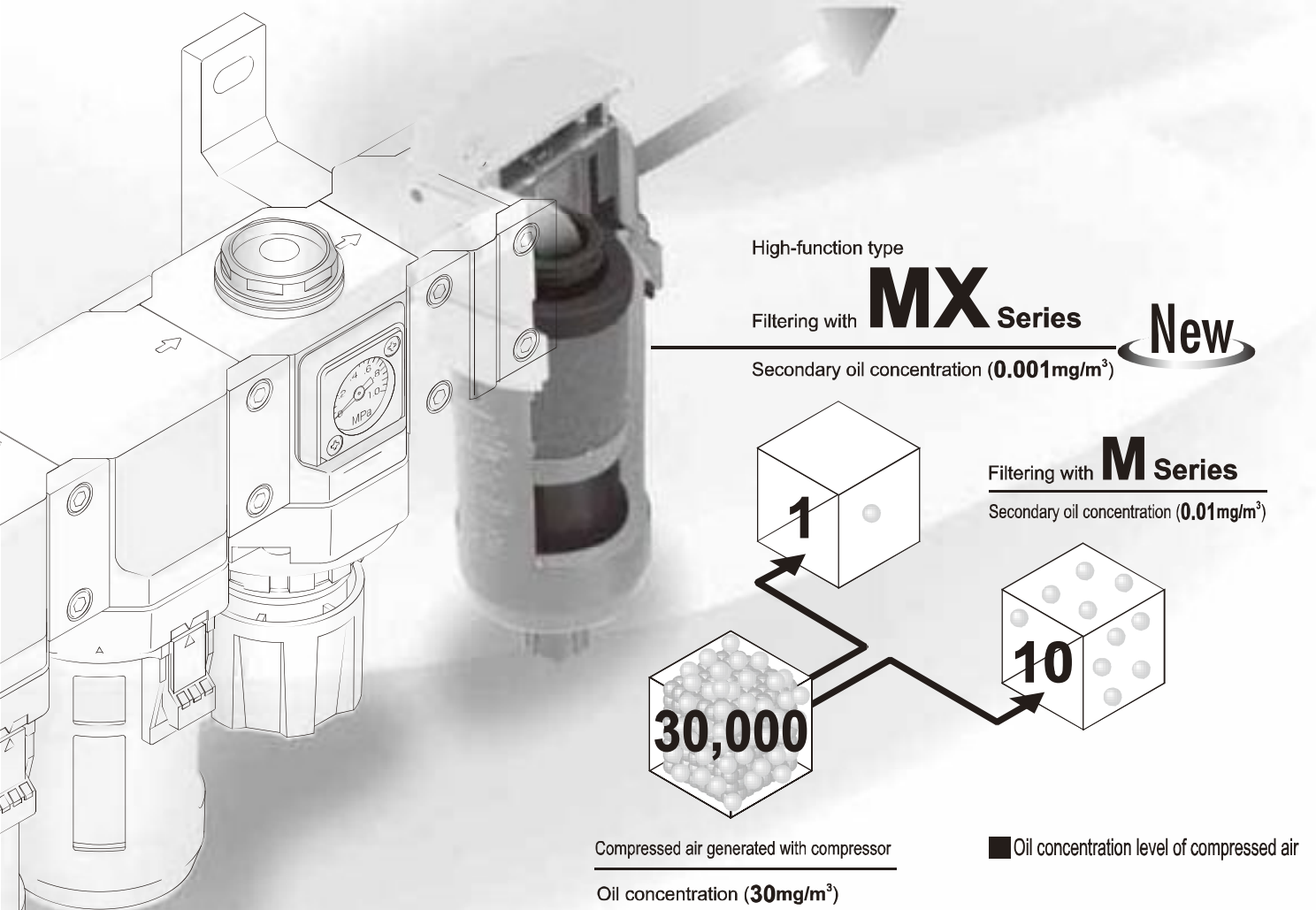
Model	M type	S type	X type
M1000-W	M1000-MANTLE-ASSY	M1000-MANTLE-ASSY-S	M1000-MANTLE-ASSY-X
M1000-W-F1	M1000-MANTLE-ASSY-F1	M1000-MANTLE-ASSY-F1S	-
M3000-W, MM3000-W	M3000-MANTLE-ASSY	M3000-MANTLE-ASSY-S	M3000-MANTLE-ASSY-X
M4000-W, MM4000-W	M4000-MANTLE-ASSY	M4000-MANTLE-ASSY-S	M4000-MANTLE-ASSY-X
M6000-W, MM6000-W	M6000-MANTLE-ASSY	M6000-MANTLE-ASSY-S	M6000-MANTLE-ASSY-X
M8000-W, MM8000-W	M8000-MANTLE-ASSY	M8000-MANTLE-ASSY-S	M8000-MANTLE-ASSY-X

\* M1000-W, 3000-W, 4000-W, and 8000-W Series products released before May 1998 are compatible with M parts, so select M parts.  
 \* Refer to the air filter options and parts table for details on the bowl assembly and bowl guard.



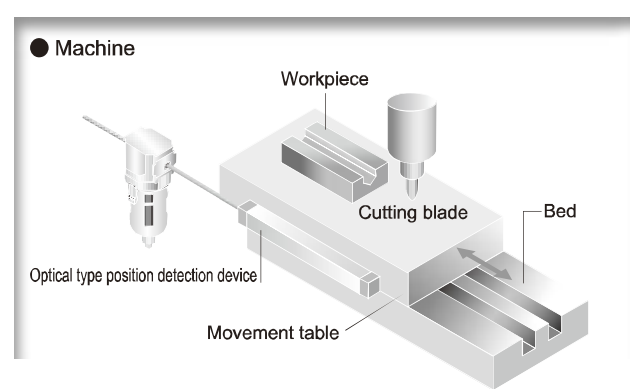
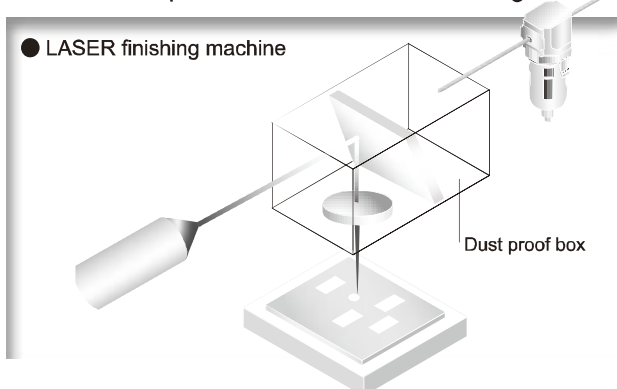
# High-performance with x10 oil removal.

Highly efficient oil removing mantle removes oil up to a secondary oil concentration  $0.001 \text{ mg/m}^3$ .  
 MX Series high-performance oil mist filter with x10 (compared to oil mist filter M Series) oil removal.



## Further expanding high-purity oilless air applications

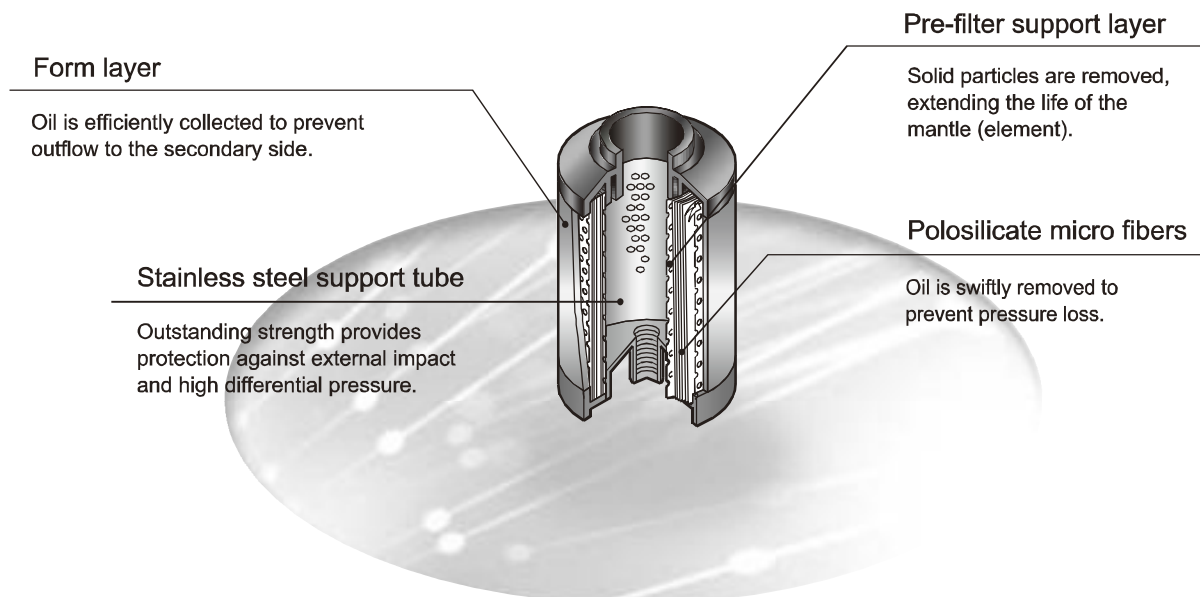
This series is ideal for applications requiring high-purity oilless air, including laser processing systems, optical positioning units, and foodstuff and pharmaceutical manufacturing lines.



High performance oil mist filter

# MX Serie

## ■ Mantle structural explanation



## Secondary side oil concentration 0.001mg/m<sup>3</sup> or less

The highly efficient oil removing mantle removes oil up to the secondary oil concentration of 0.001 mg/m<sup>3</sup> at 21°C. This series is compatible with the JIS Standards Oil Class 1.

## High accuracy filtration

Impurities up to 0.01 μm are removed.

## Long life, low pressure loss

The gap rate within the mantle (element) fibers is high at 94%, suppressing pressure loss and extending life.

## Module connections

A system is configured with module connections in the same manner as the conventional filter F Series and oil mist filter M Series.

## Diverse models

Five types: MX1000, 3000, 4000, 6000, and 8000 are used to match the flow.

## Cleanroom-compatible

The P70 Series is used.  
(3000, 4000, and 6000 Series are used.)

## High performance oil mist filter MX Series variations

	Filtration rating μm	Secondary oil concentration mg/m <sup>3</sup> (21°C)	Treating flow rate ℓ/min.					Ambient temperature range °C	
			1000 Series	3000 Series	4000 Series	6000 Series	8000 Series		
<b>MX Series</b>	0.01	0.001 or less	75	180	370	670	1490	5 to 60	
<b>M Series</b>	<b>M Type</b>	0.01	0.01 or less	150	360	825	1270	2600	5 to 60
	<b>S Type</b>	0.3	0.5 or less	150	450	1000	1400	2900	5 to 60
	<b>X Type</b>	Activated charcoal suction	0.003 or less	150	450	1000	1400	2900	5 to 30

Read Safety Precautions to ensure correct, safe product use.



High performance oil mist filter standard white Series

# MX1000/MX3000/MX4000 MX6000/MX8000-W Series

Secondary side oil concentration 0.001mg/m<sup>3</sup>

This is appropriate for optical device such as optical type positioning device, LASER finishing machine, etc.,

Port size: 1/8 to 1

JIS symbol



## Specifications

Descriptions	MX1000-W	MX3000-W	MX4000-W	MX6000-W	MX8000-W
Appearance					
Working fluid	Compressed air				
Working pressure range MPa	0.1 to 1.0 Note 4, Note 5				
Withstanding pressure MPa	1.5 Note 4				
Ambient temperature range °C	5 to 60				
Filtration rating μm	0.01 (nominal)				
Secondary oil concentration mg/m <sup>3</sup>	0.001 or less Note 2, Note 3				
Maximum flow rate /min. (ANR) Note 1	75 Note 4	180	370	670	1480
Drain capacity cm <sup>3</sup>	3	45	80	80	80
Port size Rc, NPT, G	1/8, 1/4 (3/8 uses an adapter)	1/4, 3/8 (1/2 uses an adapter)	1/4, 3/8, 1/2 (3/4 uses an adapter)	3/4, 1 (1 1/4 uses an adapter)	3/4, 1 (1 1/4 uses an adapter)
Product weight kg	0.096	0.28	0.52	0.95	1.35
Mantle (element) change	1 year (6000 hours) or pressure drop 0.1MPa				
Standard accessories	Bowl guard				

Note 1: Values for primary pressure 0.7 MPa and pressure drop 0.01 MPa. Use within the maximum flow rate.

If the maximum flow rate is exceeded temporarily, or if the filter is installed at a place with high levels of pulsation, s

Note 2: The secondary oil concentration is the value when the primary oil concentration is 30 mg/m<sup>3</sup>, the inlet air temperature is 21°C and before the oil is saturated. Note 3: Install an oil mist filter (S type) as a prefilter on the primary side to prevent early clogging.

Note 4: When MX1000-W-F1 with an automatic drain is selected, the minimum operation pressure is 0.2 MPa, the maximum operation pressure is 0.7 MPa, and the guaranteed pressure resistance is 1.05 MPa. Refer to the maximum flow rate graph (next page) for maximum flow rate.

Note 5: Min. operating pressure is 0.15MPa for "F1" with automatic drain.

### Clean room specifications (Catalog No. CB-033SA)

- Dust generation preventing structure for use in cleanrooms

MX\*000-..... - P7\*

# Super Oil Mist Filter Series

How to order

## How to order



\* Refer to page 9 for explanation of an option.

A Model no.				
M	M	M	M	M
X	X	X	X	X
1	3	4	6	8
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

A Model no.

B Port size

C Port thread type

D Option

E Display unit

F Piping adapter set (Attached)

G Bracket (attached)

Symbol	Descriptions					
<b>B Port size</b>						
6	1/8	●				
8	1/4	●	●	●		
10	3/8		●	●		
15	1/2			●		
20	3/4				●	●
25	1				●	●

C Port thread type		Note 1				
Blank	Rc thread	●	●	●	●	●
N	NPT thread	●	●	●	●	●
G	G thread	●	●	●	●	●

D Option		Note 2					
Drainage	Blank	With manual drain cock	●	●	●	●	●
	F1 Note 3, Note 4	Automatic drain with manual override (NC type: No exhaust; without pressurized)	●	●	●	●	●
Bowl material	Blank	Polycarbonate bowl	●	●	●	●	●
	Z	Nylon bowl	●	●	●	●	●
	M	Metal bowl		●	●	●	●
Differential pressure detection	Blank	Without differential pressure detection port	●	●	●	●	●
	Q	With differential pressure detection port (Rc1/4)				●	●
Flow direction	Blank	Standard flow (left → right)	●	●	●	●	●
	X1	Reverse flow (right → left)	●	●	●	●	●

E Display unit						
Blank	MPa display, Rc thread	●	●	●	●	●
J1	MPa display, NPT, G thread	●	●	●	●	●

F Piping adapter set (attached)		Note 5 Pages 151 to 153				
Blank	Not attached	●	●	●	●	●
A6*W	1/8 piping adapter set	●				
A8*W	1/4 piping adapter set	●	●	●		
A10*W	3/8 piping adapter set	●	●	●		
A15*W	1/2 piping adapter set		●	●		
A20*W	3/4 piping adapter set			●	●	●
A25*W	1 piping adapter set				●	●
A32*W	1 1/4 piping adapter set				●	●

* Adaptor screw type						
Blank	Rc thread	●	●	●	●	●
N	NPT thread	●	●	●	●	●
G	G thread	●	●	●	●	●

G Bracket (attached)		Page 148				
Blank	Not attached	●	●	●	●	●
BW	C type bracket	●	●	●	●	●

### ⚠ Note on model no. selection

Note 1: When G threads or NPT threads are selected, the IN, OUT, and drain port (metal bowl automatic drain) are available.

Note 2: Select options for each drainage, bowl material and differential pressure detection.

When selecting options for several items, list options in order from the top.

Note 3: Automatic drain of NO type can not be selected.

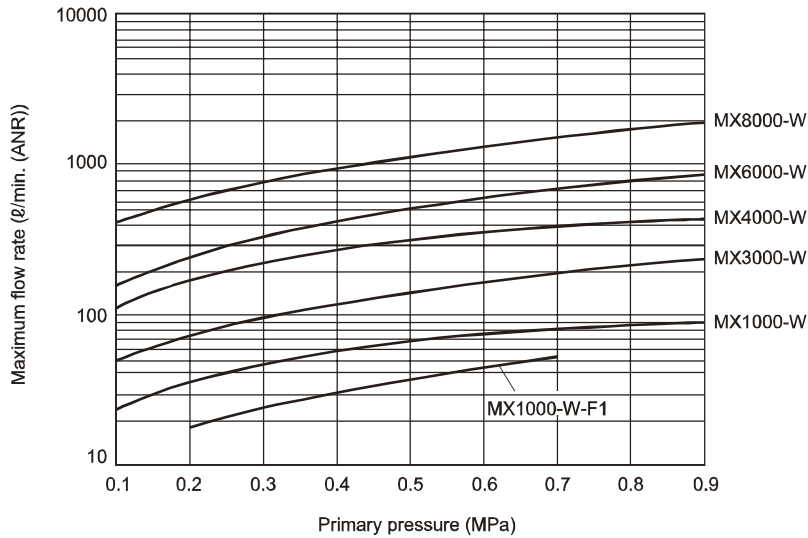
Note 4: Refer to page 11 for the automatic drain use conditions.

Note 5: The piping adapter set and C bracket cannot be used together.

# Super Oil Mist Filter Series

## Flow characteristics (maximum flow rate)

● MX\*000-W



## Oil mist filter: Using optional mantle

Major recommended circuit

Applications

\* S type



General industrial air  
(Secondary oil concentration  
0.5mg/m<sup>3</sup> or less)

- Air tool  
Air drill, air screw driver  
air grinder
- Labor saving device and components
- Pneumatic jigs and tools
- Air chuck
- Air vice
- Precision part cleaning air blow

\* M type



Oil free air  
(Secondary oil concentration  
0.01mg/m<sup>3</sup> or less)

- Instrumentation
- Measurement
- Logic control
- Movable element and pure fluid element
- Luxury painting
- Precise industry

\* X type



Deodorization air  
(Secondary oil concentration  
0.003mg/m<sup>3</sup> or less)

- Food industry
- Pharmaceutical industry
- Agitation
- Transportation
- Dry
- Package
- Air for brewing

\* MX type



Super oilless air  
(Secondary oil concentration  
0.001mg/m<sup>3</sup> or less)

- Optical type positioning device
- LASER finishing machine

## Option symbol and shape of mantle

	Option symbol	Appearance
	Blank (M type)	End plate black Plastic form red
M*000-W	S (S type)	End plate green Plastic form red
	X (X type)	End plate black Punching metal
MX*000-W		black End plate green Plastic form red

CAUTION: Changes for product upgrades may be made without prior notice.

When placing an order, confirm the option symbol for the part model given here.

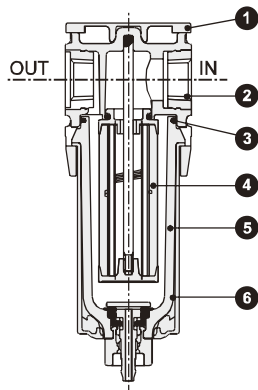
CAUTION The secondary oil concentration is the value when the primary oil concentration is 30 mg/m<sup>3</sup>, the inlet air temperature is 21°C and before the oil is saturated.

# Super Oil Mist Filter Series

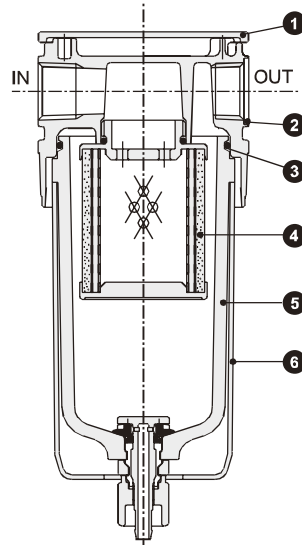
Internal structure and parts list

## Internal structure and parts list

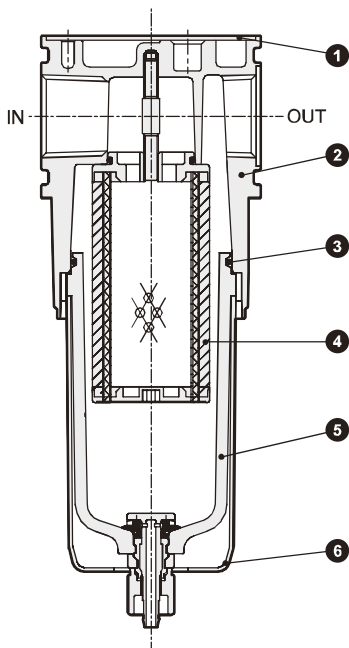
● MX1000-W



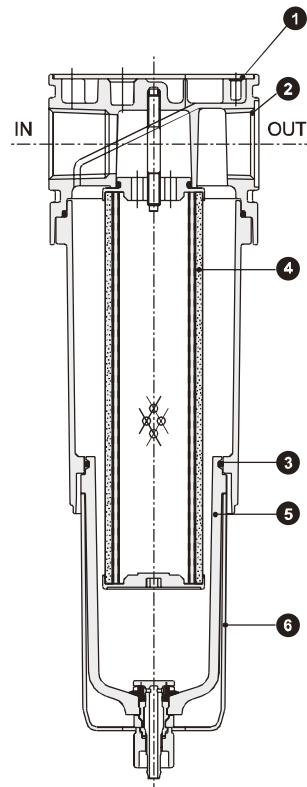
● MX3000-W/MX4000-W



● MX6000-W



● MX8000-W



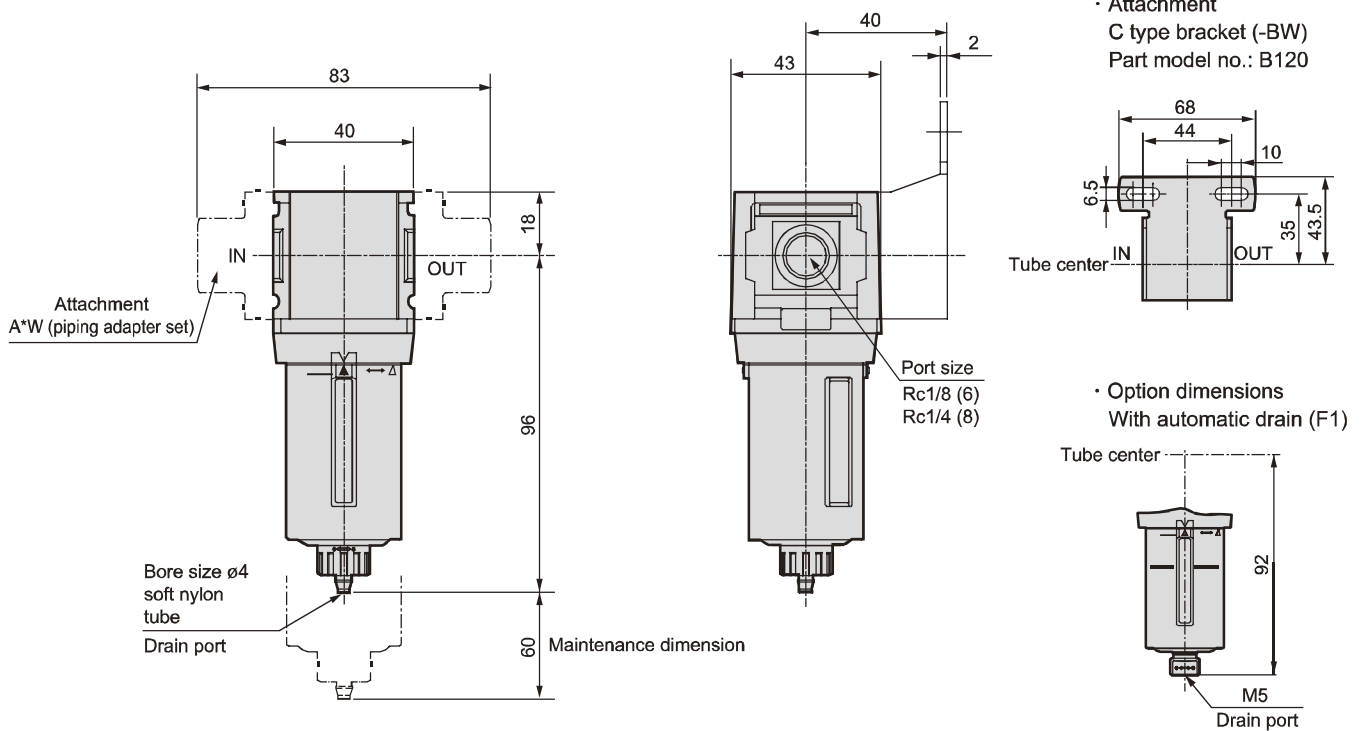
No.	Part name	Material				
		MX1000-W	MX3000-W	MX4000-W	MX6000-W	MX8000-W
1	Plate cover	ABS resin				
2	Body	Polyamide resin	Aluminum alloy die-casting			
3	O ring Note 1	Special nitrile rubber				
4	Mantle assembly	-				
5	Bowl assembly	Polycarbonate resin, polyacetal resin, urethane rubber resin				
6	Bowl guard	Polyamide resin	Polyamide resin, steel			

Note 1: The MX1000-W O ring has a special shape.

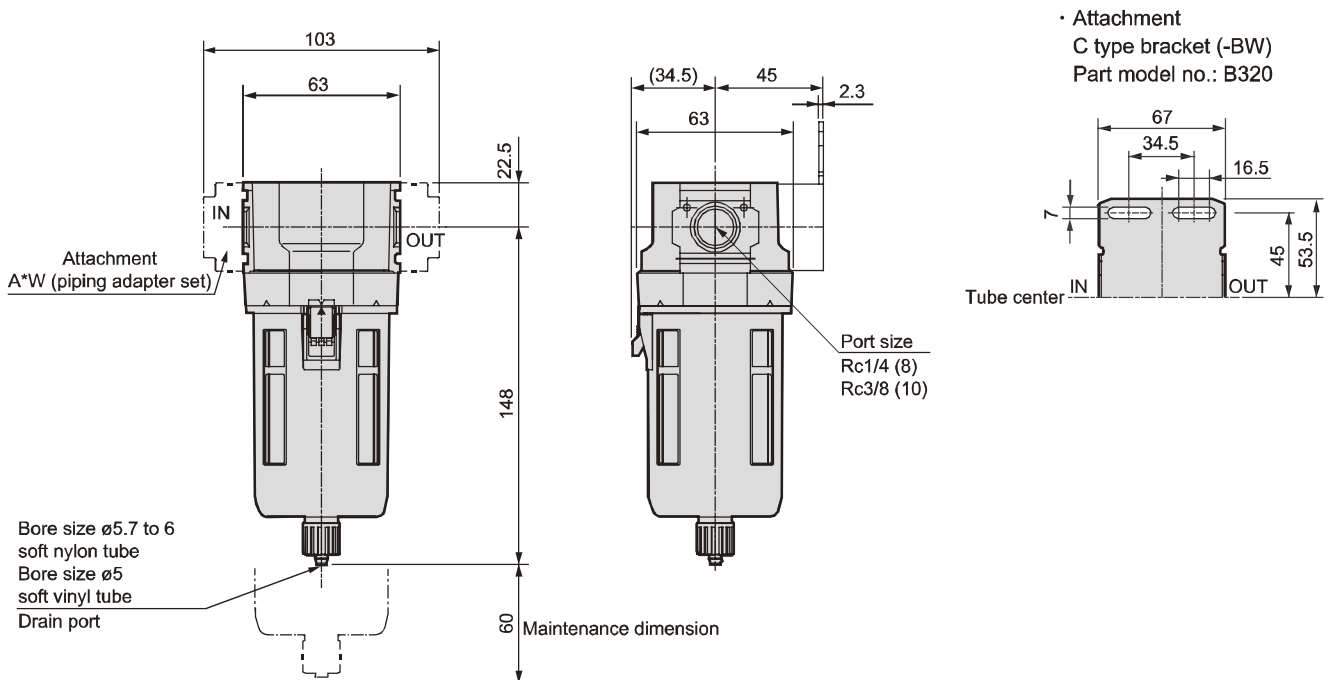
# Super Oil Mist Filter Series

## Dimensions

### ● MX1000-W



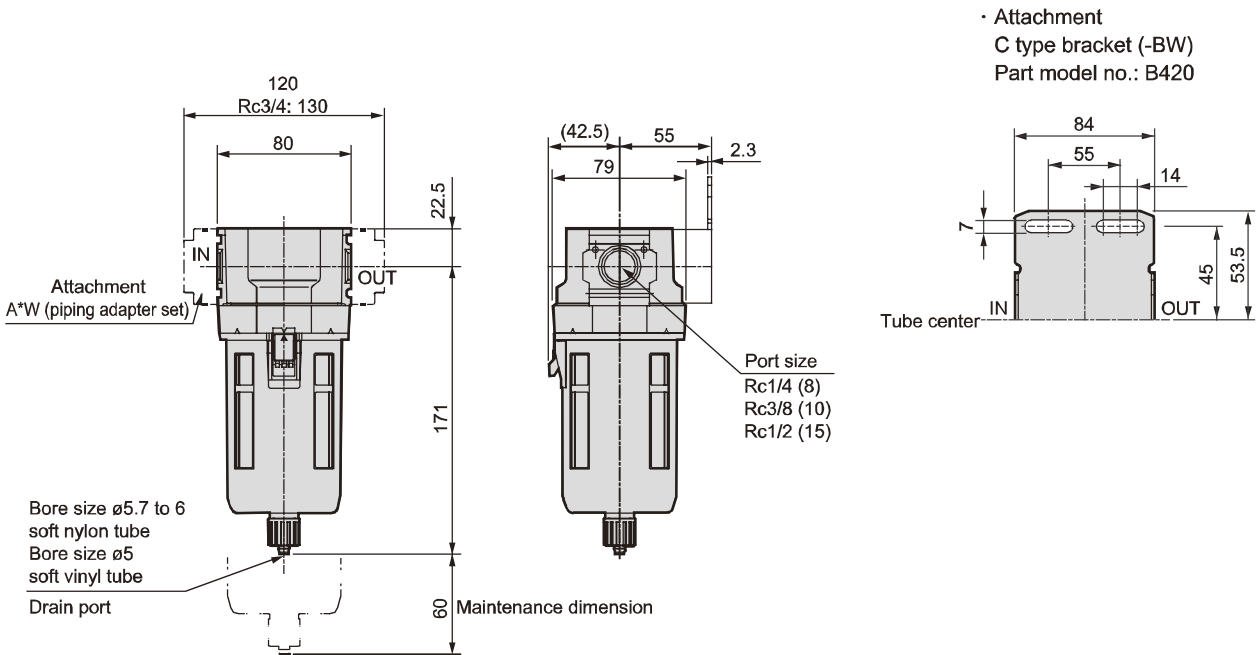
### ● MX3000-W



● For the plastic bowl, the dimensions are the same regardless of whether the manual cock or automatic drain is installed.  
Note: The C-type bracket and piping adapter set attachments cannot be used at the same time.

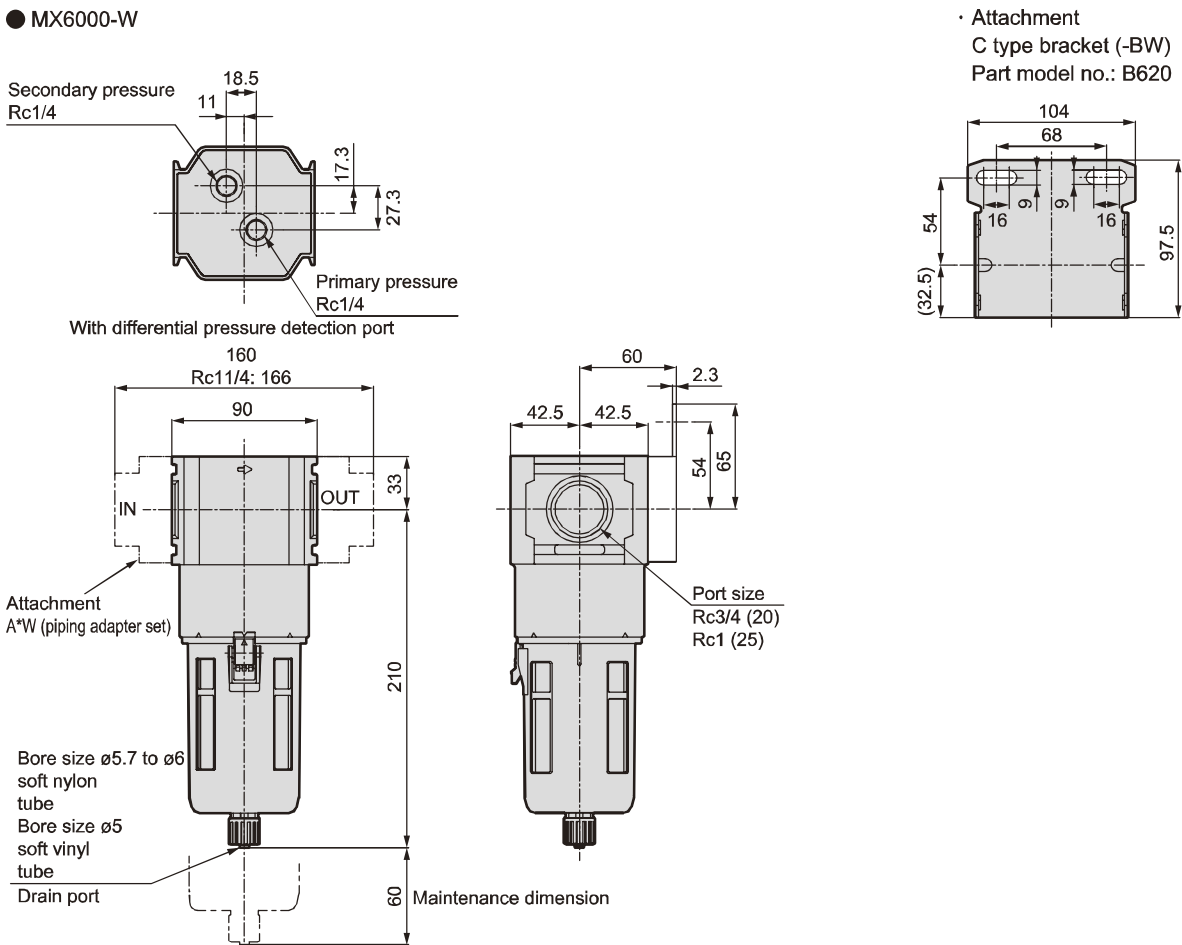
### Dimensions

● MX4000-W



● For the plastic bowl, the dimensions are the same regardless of whether the manual cock or automatic drain is installed.

● MX6000-W



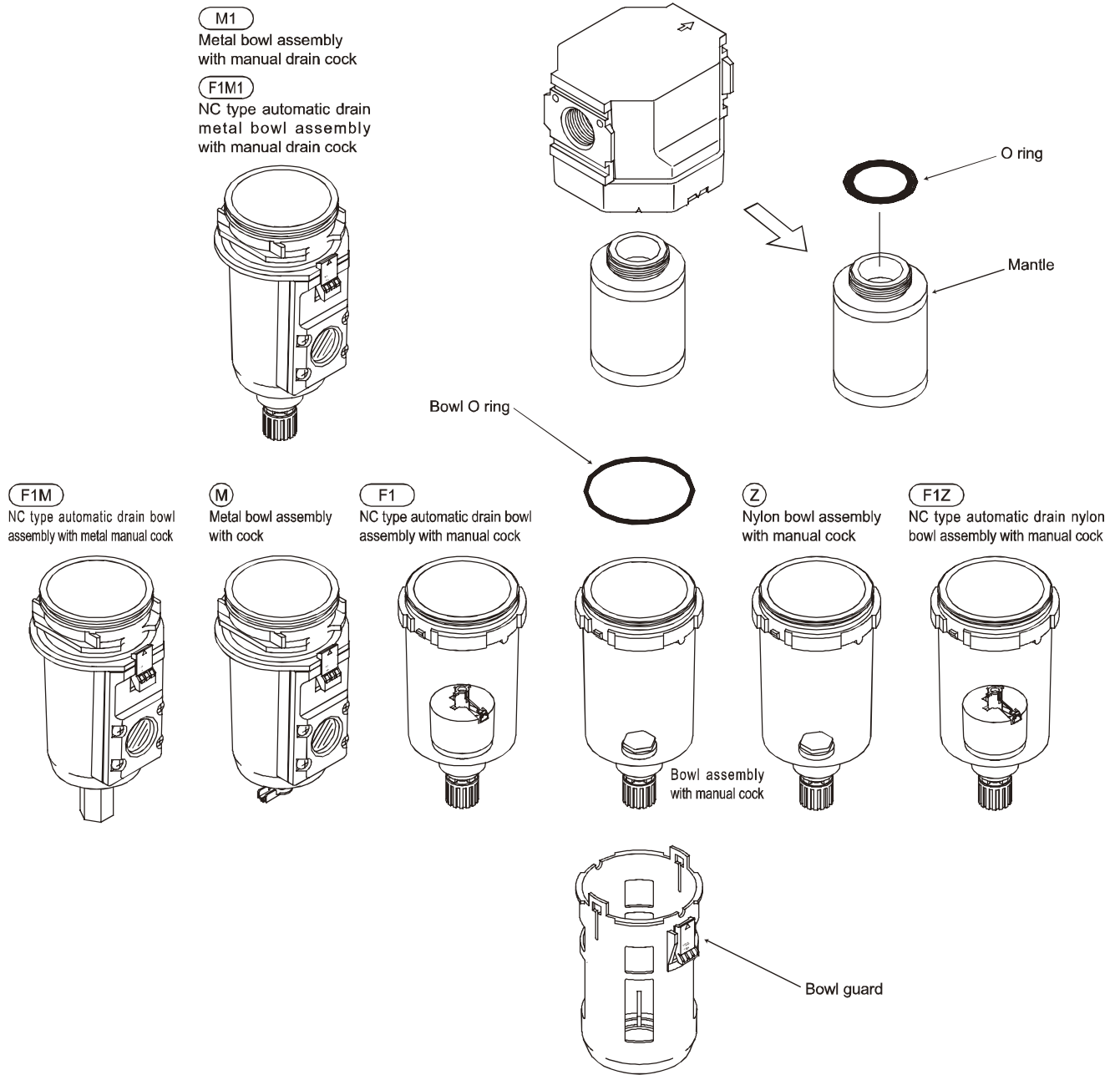
● For the plastic bowl, the dimensions are the same regardless of whether the manual cock or automatic drain is installed.

Note: The C-type bracket and piping adapter set attachments cannot be used at the same time.





### Optional parts table - Oil mist filter



### Repair kits model no. (Set consisting of O ring, mantle, bowl O ring)

Model	
MX1000-W	MX1000-KIT
MX1000-W-F1	MX1000-KIT-F1
MX3000-W	MX3000-KIT
MX4000-W	MX4000-KIT
MX6000-W	MX6000-KIT
MX8000-W	MX8000-KIT

### Repair kits model no. (Set consisting of O ring, mantle)

Model	
MX1000-W	MX1000-MANTLE-ASSY
MX1000-W-F1	MX1000-MANTLE-ASSY-F1
MX3000-W	MX3000-MANTLE-ASSY
MX4000-W	MX4000-MANTLE-ASSY
MX6000-W	MX6000-MANTLE-ASSY
MX8000-W	MX8000-MANTLE-ASSY

\* Refer to the air filter options and parts table on pages 89 and 90 for the bowl assembly and bowl guard.



Oil mist filter/medium pressure

# MM3000-W/MM4000-W/MM6000-W/MM8000-W Series

M3000 to 8000 Series medium pressure specifications

● Port size: 1/4 to 1

JIS symbol



## Specifications

Model No.	MM3000-W	MM4000-W	MM6000-W	MM8000-W
Appearance				
Working fluid	Compressed air			
Max. working pressure MPa	0.1 (≈15 psi, 1 bar) to 1.6 (≈230 psi, 16 bar) *2			
Proof pressure MPa	2.4 (≈350 psi, 24 bar) *2			
Drain capacity cm <sup>3</sup>	45	80	80	80
Port size Rc,NPT,G	1/4,3/8	1/4,3/8,1/2	3/4,1	3/4,1
Weight kg	0.35	0.55	1.0	1.48

Mantle option name	Blank (M type)	S (S type)	X (X type)
Flow rate *1	MM3000-□-W 490	610	610
ℓ/min. (ANR)	MM4000-□-W 1130	1370	1370
Primary pressure	MM6000-□-W 1740	1920	1920
1.4 MPa	MM8000-□-W 3560	3980	3980
Ambient temperature °C	-5 (23°F) to 60 (140°F) (no freezing) *2		-5 (23°F) to 30 (86°F) (no freezing)
Fluid temperature °C	5 (41°F) to 60 (140°F) *2		5 (41°F) to 30 (86°F)
Filtration rating μm	0.01 (nominal)		Suction by activated charcoal *3
Secondary side oil concentration mg/m <sup>3</sup>	0.01 or less (0.1 or less after oil saturation) *4, *5		0.003 or less *4, *6
Mantle (element) change	1 year (6000 hours) or pressure drop 0.1 MPa (≈14.6 psi, 1 bar)		- *7

\*1: Use within the max. processing flow rate.

If the max. processing flow rate is exceeded temporarily, or if the filter is installed at a location with high levels of pulsation, the mantle could be damaged or oil or drainage, etc., could splatter to the secondary side and result in a terminal malfunction.

\*2: In the case of "F1" with auto-drain, the min. working pressure of auto-drain is 0.15 MPa. The max. working pressure is 1.5 MPa, the proof pressure is 2.25 MPa, the ambient temperature is -5 to 45°C, and the fluid temperature is 5 to 45°C.

\*3: Activated charcoal particles could flow to the secondary side, so install an air filter (F Series) or oil mist filter (M Series M type or S type) on the secondary side.

\*4: When primary side oil concentration is 30 mg/m<sup>3</sup>, and inlet air temperature is 21°C.

\*5: Install an oil mist filter (S type) as a pre-filter on the primary side to prevent early clogging.

\*6: When an oil mist filter (M Series M type) is installed on the primary side.

\*7: The time to replace the "X" type mantle (element) cannot be clearly stated since it depends on the odor density in the compressed air.

Consider the total period from the initial installation to when the smell of oil can be confirmed as the effective deodorizing period, and regularly replace the mantle (element). Keep the primary air temperature at 30°C or less. The deodorizing effect will drop if temperature is high, so provide heat dissipation measures.

## Option weight

\* Add to the weight of the standard accessories.

Unit: kg

Code	Drain discharge	Attachment						Bracket
	F1	A8*W	A10*W	A15*W	A20*W	A25*W	A32*W	BW
MM3000	0.02	0.16	0.16	0.16				0.17
MM4000	0.02	0.16	0.16	0.16	0.16			0.21
MM6000	0.02				0.53	0.53	0.53	0.34
MM8000	0.02				0.53	0.53	0.53	0.36

# Oil Mist Filter Series

How to order

How to order

**MM3000** - **8** - **W** - **F1** - **A8W**

**A** Model No.

(White type)

**B** Port size

**C** Port thread

**D** Option

**E** Display unit

**F** Other attachments

**G** Bracket (attachment)

\* Refer to page 28 for the explanation of the option.

**A** Model No.

Code		Content				
		MM3000	MM4000	MM6000	MM8000	
<b>B Port size</b>						
<b>8</b>	1/4	●	●			
<b>10</b>	3/8	●	●			
<b>15</b>	1/2		●			
<b>20</b>	3/4			●	●	
<b>25</b>	1			●	●	
<b>C Port thread</b> *1						
<b>Blank</b>	Rc thread	●	●	●	●	
<b>N</b>	NPT thread	●	●	●	●	
<b>G</b>	G thread	●	●	●	●	
<b>D Option</b> *2						
<b>Drain discharge</b> *3, *4	<b>Blank</b>	With manual drain cock	●	●	●	●
	<b>F1</b>	NC auto-drain (no press—no exhaust) drain outlet Rc1/8 Max. working press 1.5 MPa, max. operating amb temp 45°C	●	●	●	●
<b>Bowl material</b>	<b>Blank</b>	Metal bowl	●	●	●	●
<b>Element</b>	<b>Blank</b>	M type (nominal 0.01 μm; remaining oil 0.01 mg/m <sup>3</sup> )	●	●	●	●
	<b>S</b>	S type (nominal 0.3 μm; remaining oil 0.5 mg/m <sup>3</sup> )	●	●	●	●
	<b>X</b>	X type (deodorization; remaining oil 0.003 mg/m <sup>3</sup> ) *5	●	●	●	●
<b>Diff press detect</b>	<b>Blank</b>	Without differential pressure detection port	●	●	●	●
	<b>Q</b>	With differential pressure detection port (Rc1/4)			●	●
<b>Flow direction</b>	<b>Blank</b>	Standard flow (left → right)	●	●	●	●
	<b>X1</b>	Reverse flow (right → left)	●	●	●	●
<b>E Display unit</b>						
<b>Blank</b>	MPa display, Rc thread	●	●	●	●	
<b>J1</b>	MPa display, NPT/G thread	●	●	●	●	
<b>F Other attachments</b> *6, *7 Page 270						
<b>Blank</b>	Not attached	●	●	●	●	
<b>A8*W</b>	1/4 pipe adaptor set	●	●			
<b>A10*W</b>	3/8 pipe adaptor set	●	●			
<b>A15*W</b>	1/2 pipe adaptor set	●	●			
<b>A20*W</b>	3/4 pipe adaptor set		●	●	●	
<b>A25*W</b>	1 pipe adaptor set			●	●	
<b>A32*W</b>	1 1/4 pipe adaptor set			●	●	
<b>* Adaptor thread</b>						
<b>Blank</b>	Rc thread	●	●	●	●	
<b>N</b>	NPT thread	●	●	●	●	
<b>G</b>	G thread	●	●	●	●	
<b>G Bracket (attachment)</b> Page 267						
<b>Blank</b>	Not attached	●	●	●	●	
<b>BW</b>	C type bracket	●	●	●	●	

## ⚠ Precautions for model No. selection

- \*1: NPT and G threads are available for IN, OUT, and drain ports.
- \*2: Select options for the drainage, bowl material, element and differential pressure detection. When selecting options for several items, list options in order from the top.
- \*3: NO auto-drain cannot be selected.
- \*4: Refer to page 280 for the auto-drain usage conditions.
- \*5: Combination with option F1 is not possible.
- \*6: The pipe adaptor set and C type bracket cannot be used together.
- \*7: The joiner set is enclosed with the pipe adaptor set.

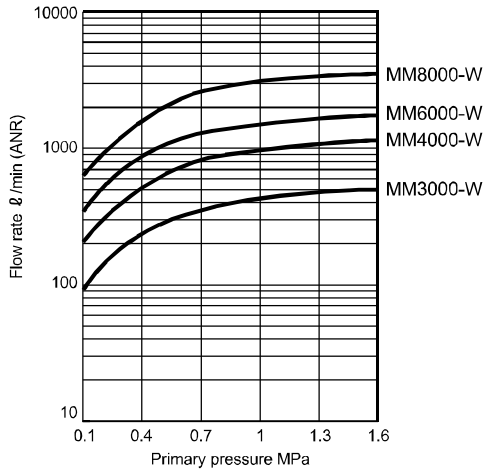
F.R.L
F (Filtr)
R (Reg)
L (Lub)
PresSW
Shutoff
SlowStart
FmResistFR
Oil-ProhR
MedPresFR
No Cu/PTFE FRL
Outdrs FR
F.R.L (Related)
CompFRL
LgFRL
PrecsR
VacF/R
Clean FR
ElecPneuR
AirBoost
SpdContr
Silncr
CheckV/other
Jnt/tube
AirUnt
PresCompn
Mech/ElecPresSW
ContactSW
AirSens
PresSW Cool
AirFloSens/Contr
WaterRtSens
TotAirSys (Total Air)
TotAirSys (Gamma)
RefrDry
DesicDry
HiPolymDry
MainFiltr
Dischrg etc
Ending

# Oil Mist Filter Series

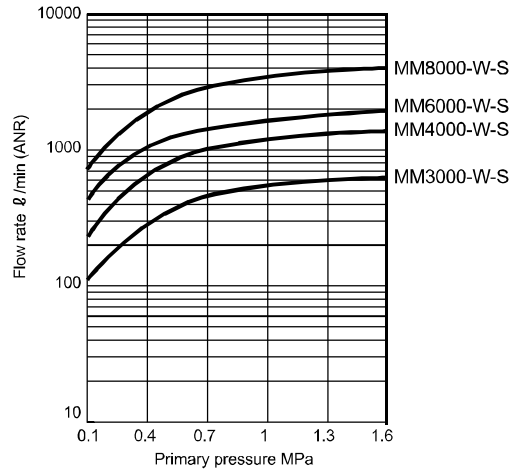
- F.R.L
- F (Filtr)
- R (Reg)
- L (Lub)
- PresSW
- Shutoff
- SlowStart
- FlmResistFR
- Oil-ProhR
- MedPresFR
- No Cu/PTFE FRL
- Outdrs FR
- F.R.L (Related)
- CompFRL
- LgFRL
- PrecsR
- VacF/R
- Clean FR
- ElecPneuR
- AirBoost
- SpdContr
- Silncr
- CheckV/other
- Jnt/tube
- AirUnt
- PrecsCompn
- Mech/ElecPresSw
- ContactSW
- AirSens
- PresSW Cool
- AirFloSens/Contr
- WaterRtSens
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- RefrDry
- DesicDry
- HiPolymDry
- MainFiltr
- Dischrg etc
- Ending

## Flow characteristics (max. processing flow rate)

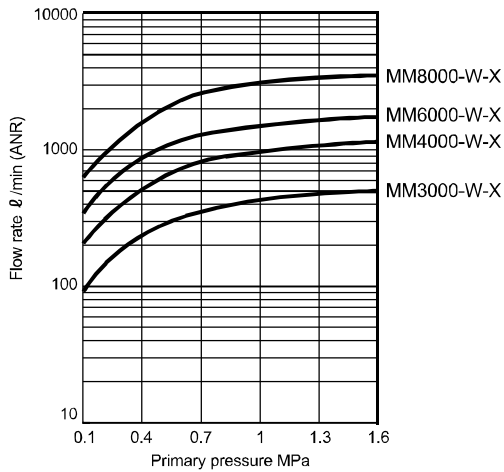
● MM\*000-W



● MM\*000-W-S



● MM\*000-W-X



## How to select oil mist filter and optional mantle

Major recommended circuit

◆ S type



Applications

General industrial air

- Air tool
- Air drill/air screw driver
- Pneumatic grinder
- Labor-saving device
- Pneumatic jigs and tools
- Air chuck
- Air vice
- Precision part cleaning air blow

◆ M type



Oil-free air

- Instrumentation
- Measurement
- For sequence control
- Movable element/pure fluid element
- Luxury painting
- Precision industry

◆ X type



Odorless air

- Food industry
- Pharmaceutical industry
- Mixing
- Transportation
- Drying
- Packaging
- Brewing air

## Option code of mantle and shape

Option code	Appearance
Blank (M type)	End plate Black Plastic foam
S (S type)	End plate Green Plastic foam
X (X type)	End plate Black Perforated metal

Note: Changes for product upgrades may be made without prior notice. When placing an order, confirm the option code of the part model No. displayed on the body.

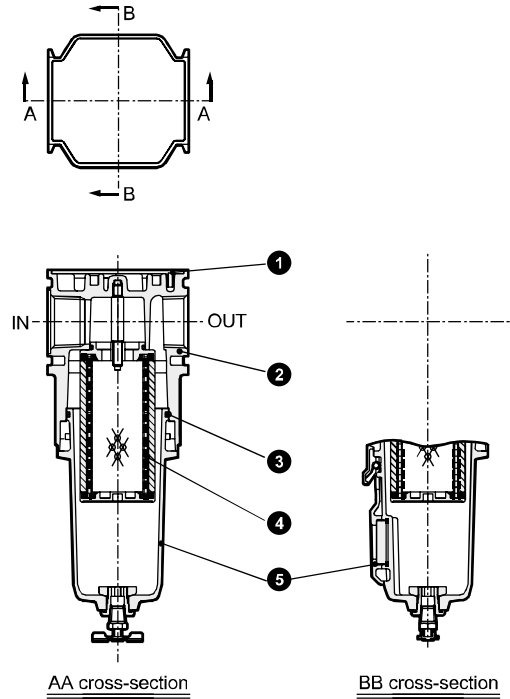
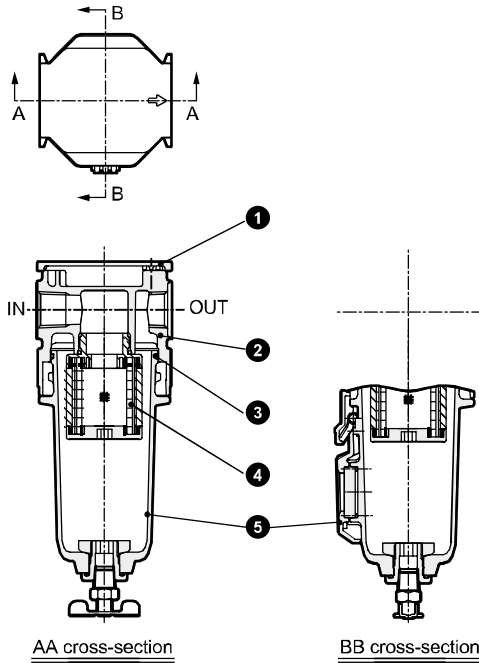
# Oil Mist Filter Series

Internal structure and parts list

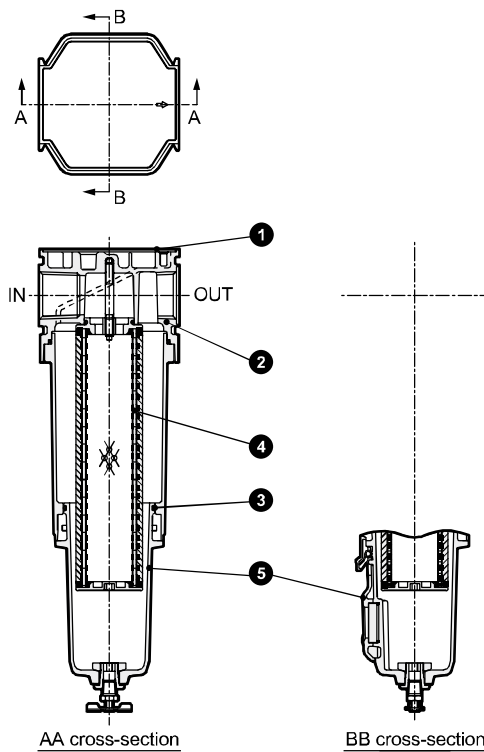
## Internal structure and parts list

● MM3000-W/MM4000-W

● MM6000-W



● MM8000-W



No.	Part name	Material
(1)	Plate cover	ABS resin
(2)	Body	Aluminum alloy die-casting
(3)	O-ring	Special nitrile rubber
(4)	Mantle assembly	-
(5)	Metal bowl assembly	Aluminum alloy die-casting, copper alloy, glass, nitrile rubber, steel, stainless steel

\*1: Repair mantle and repair kit are common for M\*000-W. Refer to repair parts on page 113.

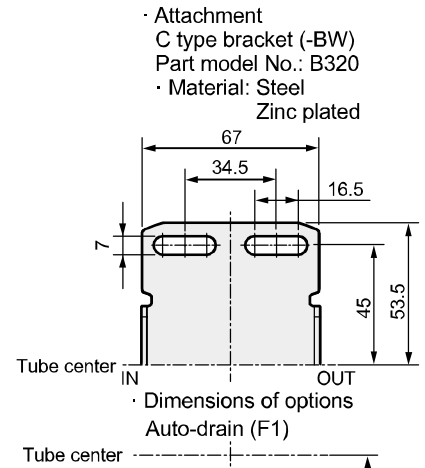
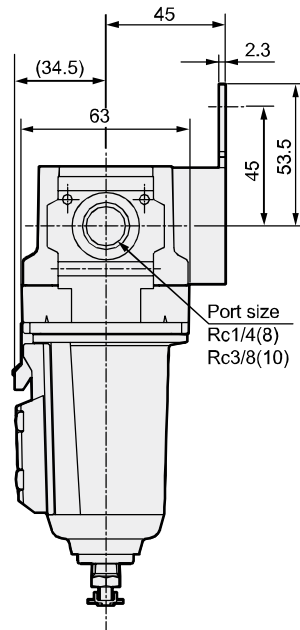
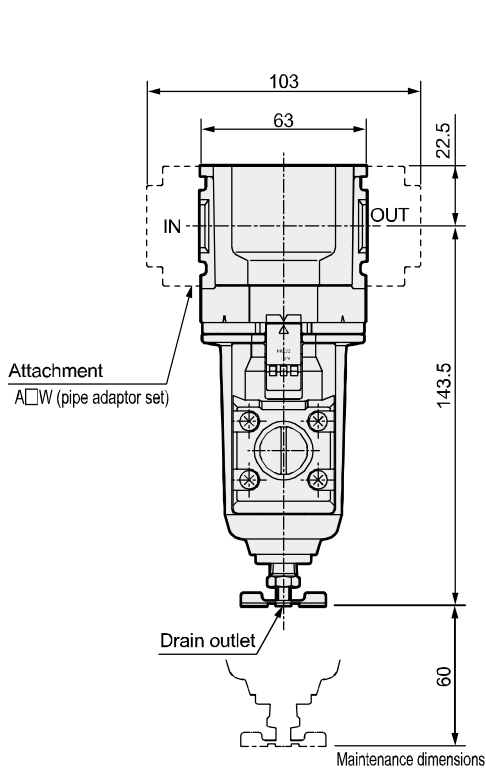
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F (Filtr)
R (Reg)
L (Lub)
PresSW
Shutoff
SlowStart
FmResistFR
Oil-ProhR
MedPresFR
No Cu/ PTFE FRL
Outdrs FR
F.R.L (Related)
CompFRL
LgFRL
PrecsR
VacF/R
Clean FR
ElecPneuR
AirBoost
SpdContr
Silncr
CheckV/ other
Jnt/tube
AirUnt
PresCompn
Mech/ ElecPresSw
ContactSW
AirSens
PresSW Cool
AirFloSens/ Contr
WaterRtSens
TotAirSys (Total Air)
TotAirSys (Gamma)
RefrDry
DesicDry
HiPolymDry
MainFiltr
Dischrg etc
Ending

# Oil Mist Filter Series

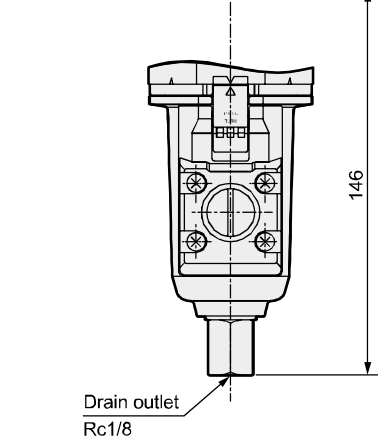
F.R.L
F (Filtr)
R (Reg)
L (Lub)
PresSW
Shutoff
SlowStart
FlmResistFR
Oil-ProhR
MedPresFR
No Cu/ PTFE FRL
Outdrs FR
F.R.L (Related)
CompFRL
LgFRL
PrecsR
VacF/R
Clean FR
ElecPneuR
AirBoost
SpdContr
Silncr
CheckV/ other
Jnt/tube
AirUnt
PrecsCompn
Mech/ ElecPresSw
ContactSW
AirSens
PresSW Cool
AirFloSens/ Contr
WaterRtSens
TotAirSys (Total Air)
TotAirSys (Gamma)
RefrDry
DesicDry
HiPolymDry
MainFiltr
Dischrg etc
Ending

## Dimensions

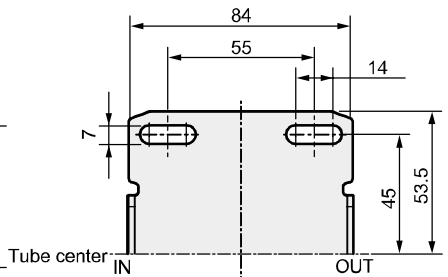
### ● MM3000-W



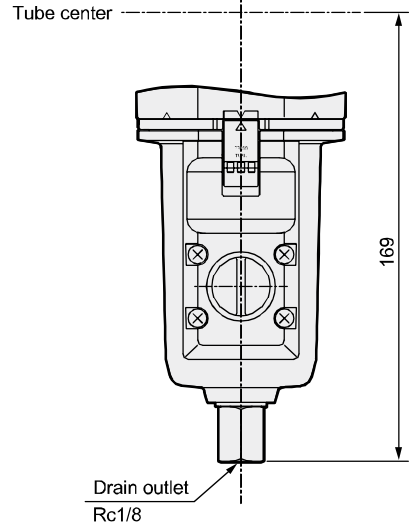
· Attachment  
C type bracket (-BW)  
Part model No.: B320  
· Material: Steel  
Zinc plated



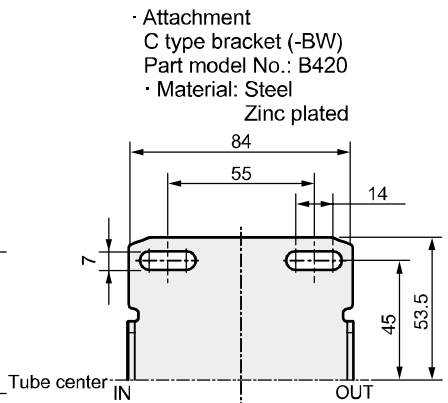
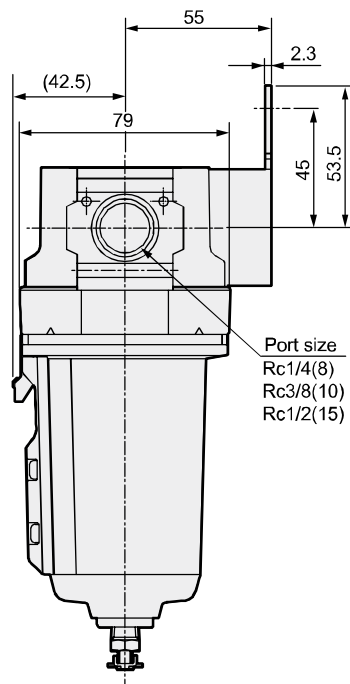
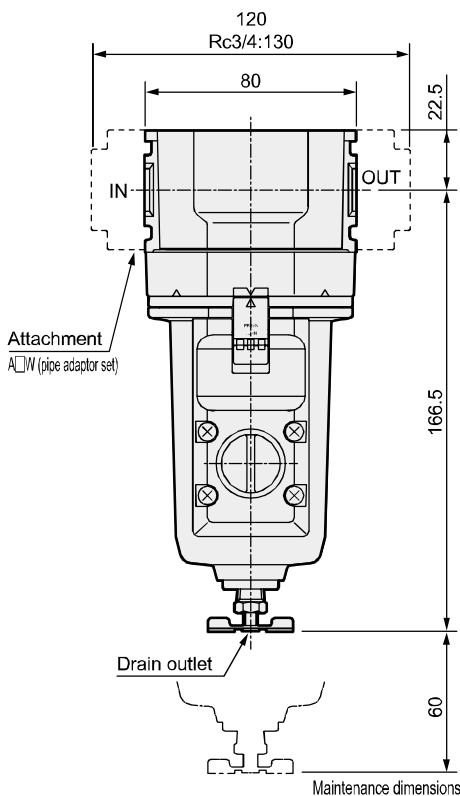
· Attachment  
C type bracket (-BW)  
Part model No.: B420  
· Material: Steel  
Zinc plated



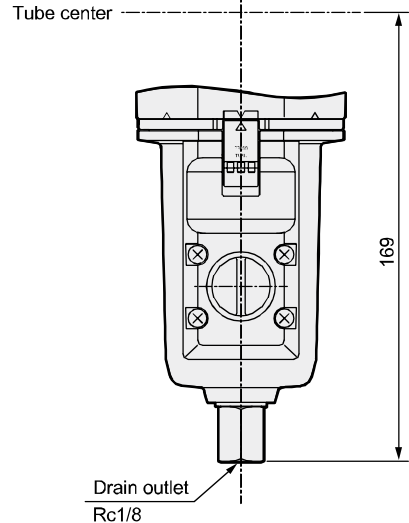
· Dimensions of options  
Auto-drain (F1)



### ● MM4000-W



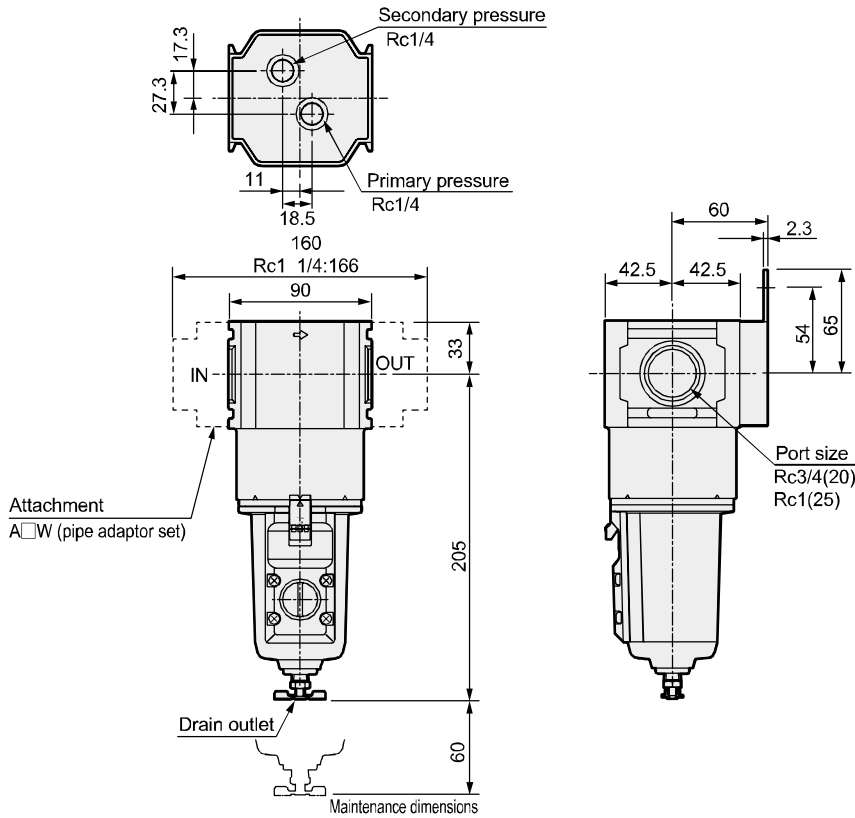
· Dimensions of options  
Auto-drain (F1)



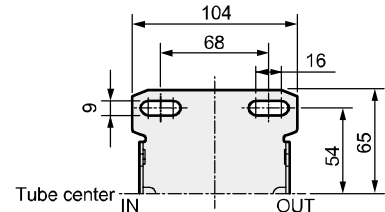
## Dimensions

### ● MM6000-W

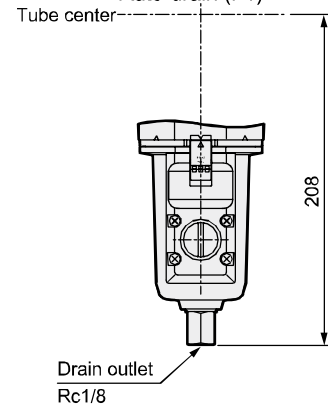
· Dimensions of options  
With differential pressure detection port (Q)



· Attachment  
C type bracket (-BW)  
Part model No.: B620  
· Material: Steel  
Zinc plated

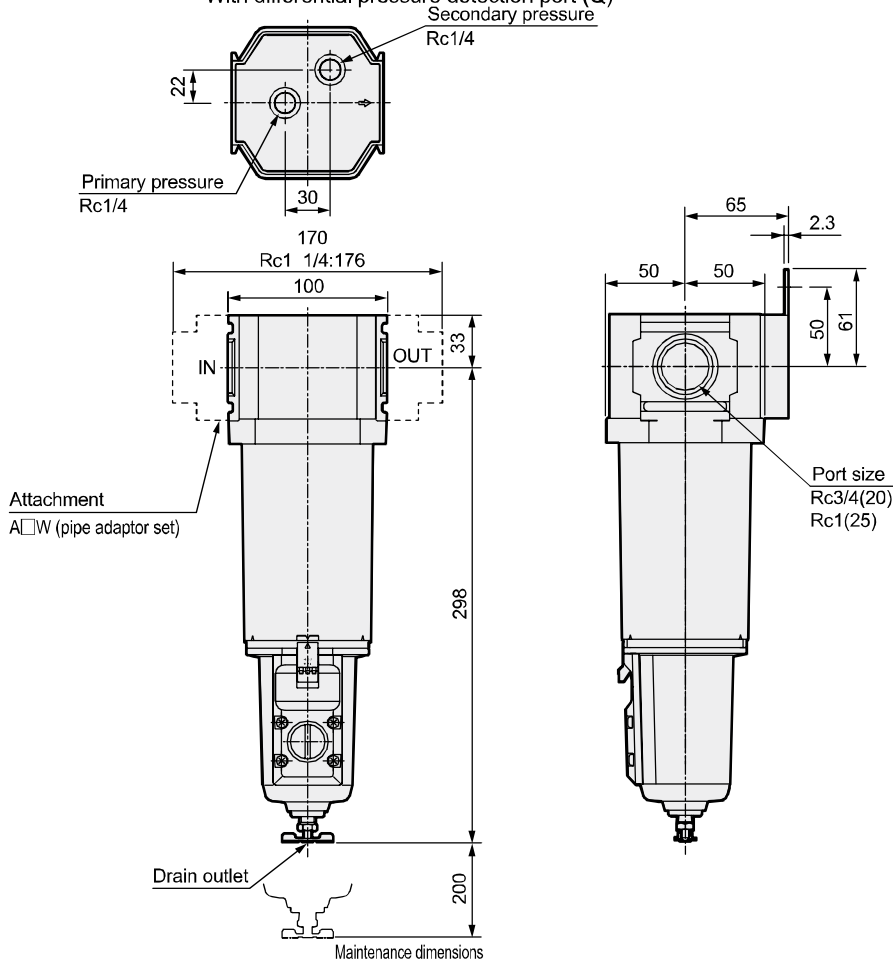


· Dimensions of options  
Auto-drain (F1)

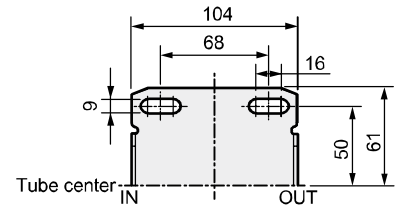


### ● MM8000-W

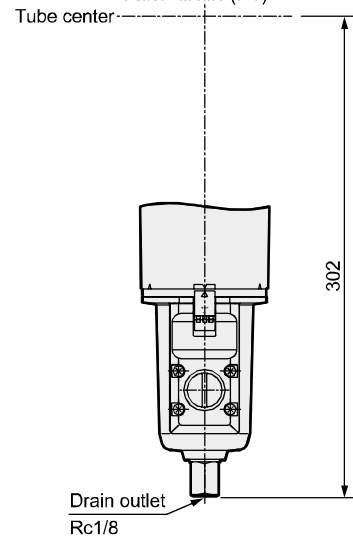
· Dimensions of options  
With differential pressure detection port (Q)



· Attachment  
C type bracket (-BW)  
Part model No.: B820  
· Material: Steel  
Zinc plated



· Dimensions of options  
Auto-drain (F1)



F.R.L
F (Filtr)
R (Reg)
L (Lub)
PresSW
Shutoff
SlowStart
FlnResistFR
Oil-ProhR
MedPresFR
No Cu/ PTFE FRL
Outdrs FR
F.R.L (Related)
CompFRL
LgFRL
PrecsR
VacF/R
Clean FR
ElecPneuR
AirBoost
SpdContr
Silncr
CheckV/ other
Jnt/tube
AirUnt
PresCompn
Mech/ ElecPresSw
ContactSW
AirSens
PresSW Cool
AirFloSens/ Contr
WaterRtSens
TotAirSys (Total Air)
TotAirSys (Gamma)
RefrDry
DesicDry
HiPolymDry
MainFiltr
Dischrg etc
Ending