



Oil mist filter standard white Series
M1000/M2000/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	M2000-W	M3000-W	M4000-W	M6000-W	M8000-W
Appearance						
Working fluid	Compressed air					
Working pressure range MPa	0.1 to 1.0 Notes 2, 3					
Withstanding pressure MPa	1.5 Note 2					
Drain capacity cm ³	3	25	45	80	80	80
Port size Rc, NPT, G	1/8, 1/4 (3/8 uses an adaptor)	1/4, 3/8 (1/2 uses an adaptor)		1/4, 3/8, 1/2 (3/4 uses an adaptor)	3/4, 1 (1 1/4 uses an adaptor)	3/4, 1 (1 1/4 uses an adaptor)
Product weight kg	0.096	0.25	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 2	M2000*-W 250	M3000*-W 360
Primary pressure 0.7 MPa	M4000*-W 825	M6000*-W 1270	M8000*-W 2600
Pressure drop 0.01 MPa	M1000*-W 150 Note 2	M2000*-W 250	M3000*-W 360
Ambient temperature range °C	5 to 60		5 to 30
Filtration rating μm	0.01 (nominal)		0.3
Secondary side oil concentration mg/m ³	0.01 or less Note 5, Note 6		0.5 or less Note 5
Mantle (element) change	1 year (6000 hours) or pressure drop 0.1 MPa		- Note 8

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: With M1000-W-F1 automatic drain, minimum operating pressure is 0.2 MPa, maximum operation pressure is 0.7 MPa and withstanding pressure is 1.05 MPa. Refer to the maximum processing flow graph (page 362) for the maximum working flow.

Note 3: When "F1" with an automatic drain is selected, minimum operation pressure must be 0.15MPa.

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: The secondary oil concentration is the value when the primary oil concentration is 30 mg/m³ and inlet air temperature is 21°C.

Note 6: Install an oil mist filter (S type) as a prefilter on the primary side to prevent early clogging.

Note 7: When an oil mist filter (M Series M type) is installed on the primary side.

Note 8: 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.

Clean room specifications (catalog No. CB-033S)

- Dust generation preventing structure for use in cleanrooms

Secondary battery compatible specifications (catalog No. CC-947)

- Structured for use in secondary battery manufacturing processes

M*000 - - **P7***

M*000 - - **P4***

Oil Mist Filter Series

How to order

How to order



A Model no.

B Port size

C Port thread type

D Option

E Display unit

F Piping adaptor set (attached)

G Bracket (attached)

*Refer to page 274 for the explanation of the option.

A Model no.					
M	M	M	M	M	M
1	2	3	4	6	8
0	0	0	0	0	0
0	0	0	0	0	0

Symbol	Descriptions	M	M	M	M	M	M
B Port size							
6	1/8	●					
8 Note 1	1/4	●	●	●	●		
10	3/8		●	●	●		
15	1/2				●		
20	3/4					●	●
25	1					●	●
C Port thread type							
Blank	Rc thread	●	●	●	●	●	●
N	NPT thread	●	●	●	●	●	●
G	G thread	●	●	●	●	●	●
D Option							
Drainage Note 4, Note 5	Blank	With manual drain cock	●	●	●	●	●
	F1	Auto. drain with manual override (NC type: No exhaust w/o pressurized)	●	●	●	●	●
Bowl material	Blank	Polycarbonate bowl	●	●	●	●	●
	Z	Nylon bowl	●	●	●	●	●
	M	Metal bowl Note 6			●	●	●
	M1	Metal bowl with manual drain cock		●	●	●	●
Mantle (Element)	Blank	M type (nominal 0.01µm; remaining oil 0.01mg/m ³)	●	●	●	●	●
	S	S type (0.3µm; remaining oil 0.5mg/m ³)	●	●	●	●	●
	X Note 7	X type (deodorization; remaining oil 0.003mg/m ³)	●	●	●	●	●
Differential pressure Detection	Blank	Without differential pressure detection port	●	●	●	●	●
	Q	With differential pressure detection port (Rc1/4)				●	●
Differential pressure detection Q1 Note 6, Note 7	Blank	Without differential pressure detection port	●	●	●	●	●
	Q1	With differential pressure indicator			●		
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 adaptor set (attached) Note 8, Note 9 page 428							
Blank	Not attached	●	●	●	●	●	●
A6*W	Rc1/8 piping adaptor set	●					
A8*W	Rc1/4 piping adaptor set	●	●	●	●		
A10*W	Rc3/8 piping adaptor set	●	●	●	●		
A15*W	Rc1/2 piping adaptor set		●	●	●		
A20*W	Rc3/4 piping adaptor set				●	●	●
A25*W	Rc1 piping adaptor set					●	●
A32*W	Rc1 1/4 piping adaptor set					●	●
*Adaptor screw type							
Blank	Rc thread	●	●	●	●	●	●
N	NPT thread	●	●	●	●	●	●
G	G thread	●	●	●	●	●	●
G Bracket (attached) page 425							
Blank	Not attached	●	●	●	●	●	●
BW	C type bracket	●	●	●	●	●	●

Note on model no. selection

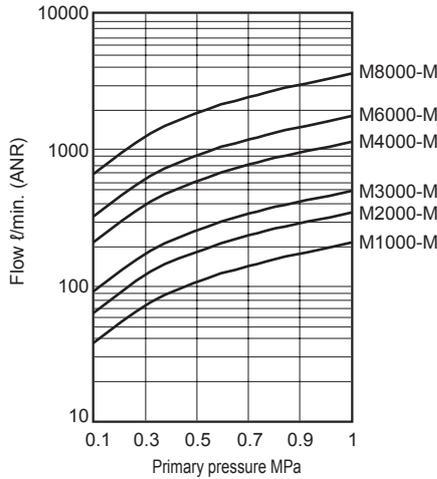
- Note 1: "Q1" with differential indicator cannot be selected for port size "8".
- Note 2: When G threads or NPT threads are selected, the IN, OUT, and drainage discharge port (metal bowl automatic drain) are the target.
- Note 3: Select options for each drainage, bowl material and differential pressure detection. When selecting options for several items, list options in order from the top.
- Note 4: NO automatic drain cannot be selected.
- Note 5: Refer to page 276 for the automatic drain use conditions.
- Note 6: "Q1" with differential indicator cannot be selected for bowl material "M".
- Note 7: Cannot be combined with option F1 or "Q1" with differential indicator.
- Note 8: The C-type bracket and piping adaptor set attachments cannot be used at the same time.
- Note 9: The joiner set is enclosed with the piping adaptor set.

Refrigerating type dryer
Desiccant type dryer
High polymer membrane type dryer
Air filter
Auto. drain / others
F.R.L. (Module unit)
F.R.L. (Separate)
Compact F.R.
Precise regulator
F.R.L. (Related products)
Clean F.R.
Electro pneumatic regulator
Air booster
Speed control valve
Silencer
Check valve / others
Joint / tube
Vacuum filter
Vacuum regulator
Suction plate
Magnetic spring buffer
Mechanical pressure SW
Electronic pressure SW
Contact / close contact cont. SW
Air sensor
Pressure SW for coolant
Small flow sensor
Small flow controller
Flow sensor for air
Flow sensor for water
Total air system
Total air system (Gamma)
Ending
Standard series
F.R.L. unit

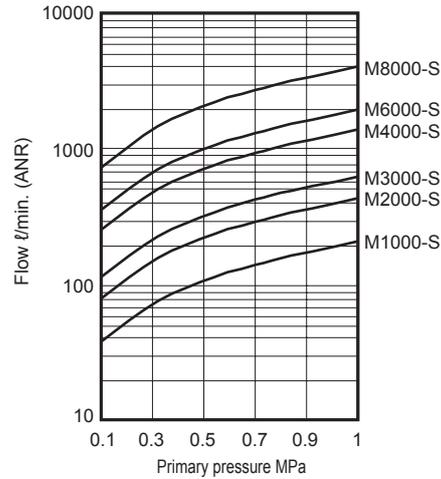
Oil Mist Filter Series

Flow characteristic (maximum flow rate)

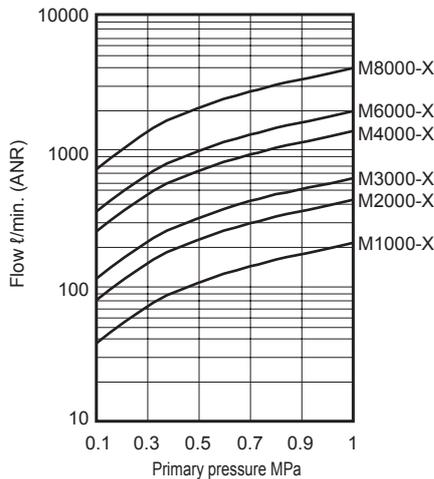
● M*000-W-M



● M*000-W-S

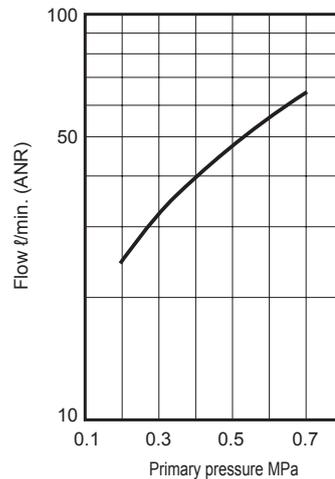


● M*000-W-X



● 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 of mantle and shape

Option symbol	Appearance
Blank (M type)	<p>End plate Black</p> <p>Plastic form Red</p>
S (S type)	<p>End plate Green</p> <p>Plastic form Red</p>
X (X type)	<p>End plate Black</p> <p>Punching metal</p>

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

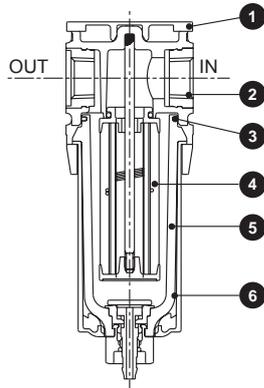
- Refrigerating type dryer
- Desiccant type dryer
- High polymer membrane type dryer
- Air filter
- Auto. drain / others
- F.R.L. (Module unit)
- F.R.L. (Separate)
- Compact F.R.
- Precise regulator
- F.R.L. (Related products)
- Clean F.R.
- Electro pneumatic regulator
- Air booster
- Speed control valve
- Silencer
- Check valve / others
- Joint / tube
- Vacuum filter
- Vacuum regulator
- Suction plate
- Magnetic spring buffer
- Mechanical pressure SW
- Electronic pressure SW
- Contact / close contact cont. SW
- Air sensor
- Pressure SW for coolant
- Small flow sensor
- Small flow controller
- Flow sensor for air
- Flow sensor for water
- Total air system
- Total air system (Gamma)
- Ending

Oil Mist Filter Series

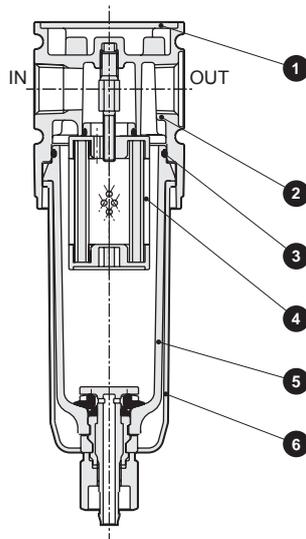
Internal structure and parts list

Internal structure and parts list

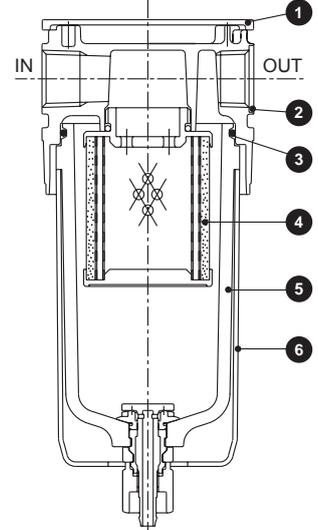
● M1000-W



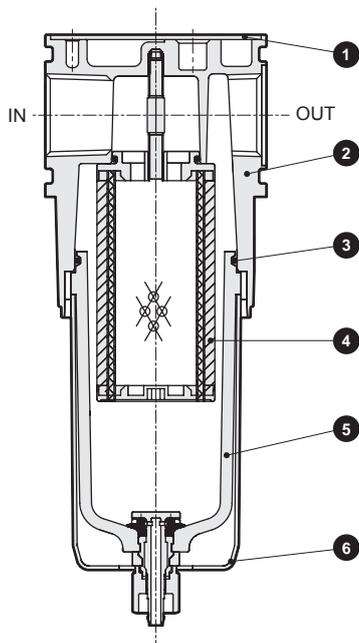
● M2000-W



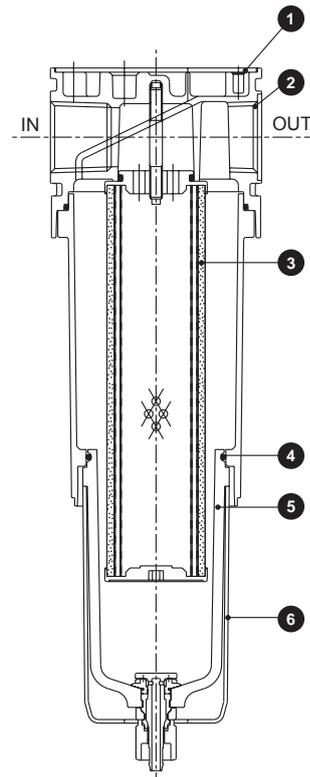
● M3000-W/M4000-W



● M6000-W



● M8000-W



No.	Parts name	Material					
		M1000-W	M2000-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 resin					
6	Bowl guard	Polyamide resin	Polyamide resin, steel				

Note 1: O-ring of M1000-W is special shaped.

Refrigerating type dryer
Desiccant type dryer
High polymer membrane type dryer
Air filter
Auto. drain / others
F.R.L. (Module unit)
F.R.L. (Separate)
Compact F.R.
Precise regulator
F.R.L. (Related products)
Clean F.R.
Electro pneumatic regulator
Air booster
Speed control valve
Silencer
Check valve / others
Joint / tube
Vacuum filter
Vacuum regulator
Suction plate
Magnetic spring buffer
Mechanical pressure SW
Electronic pressure SW
Contact / close contact cont. SW
Air sensor
Pressure SW for coolant
Small flow sensor
Small flow controller
Flow sensor for air
Flow sensor for water
Total air system
Total air system (Gamma)
Ending

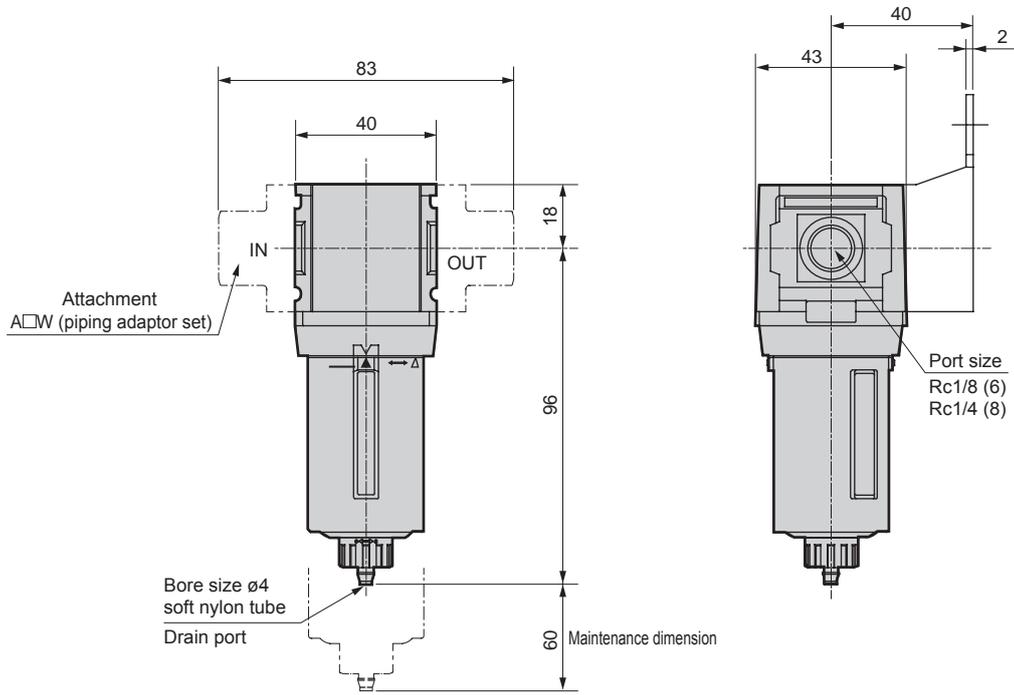
Standard series
F.R.L. unit

Oil Mist Filter Series

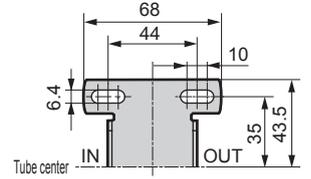
Dimensions



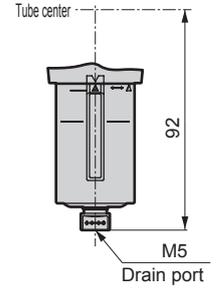
● M1000-W



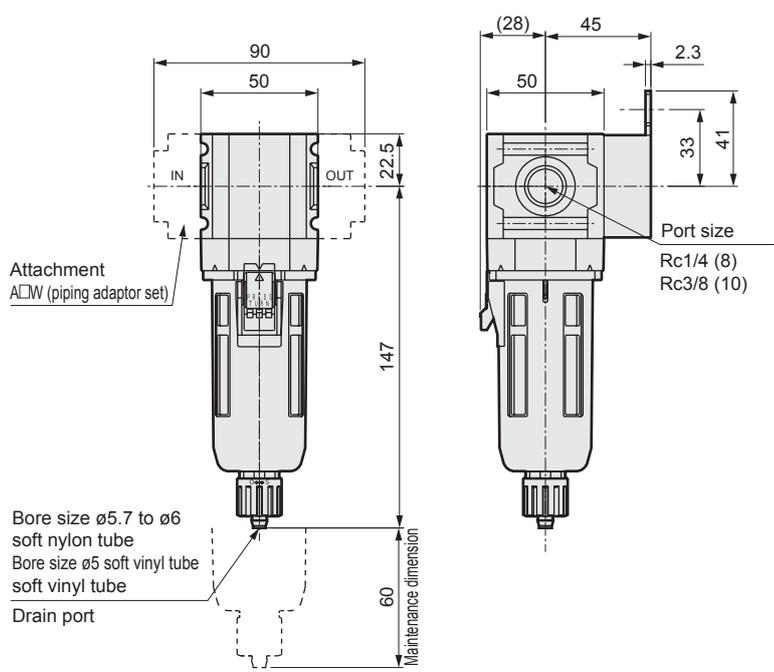
• Attachment
C type bracket (-BW)
Part model no.: B120



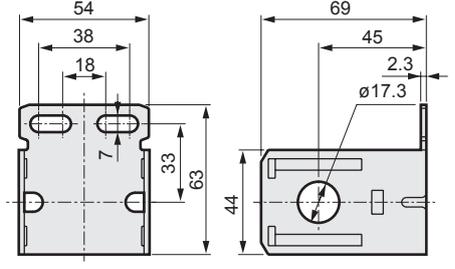
• Option dimensions
With automatic drain (F1)



● M2000-W



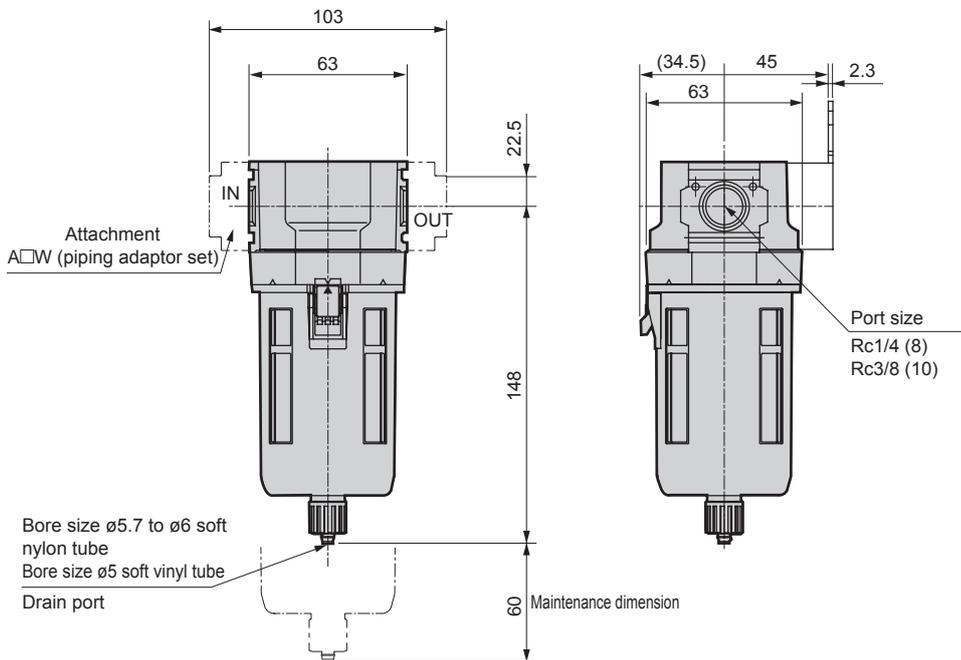
• Attachment
C type bracket (-BW)
Part model no.: B220



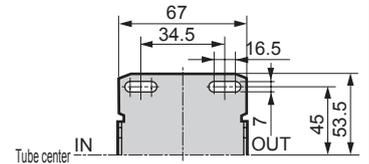
Dimensions



● M3000-W

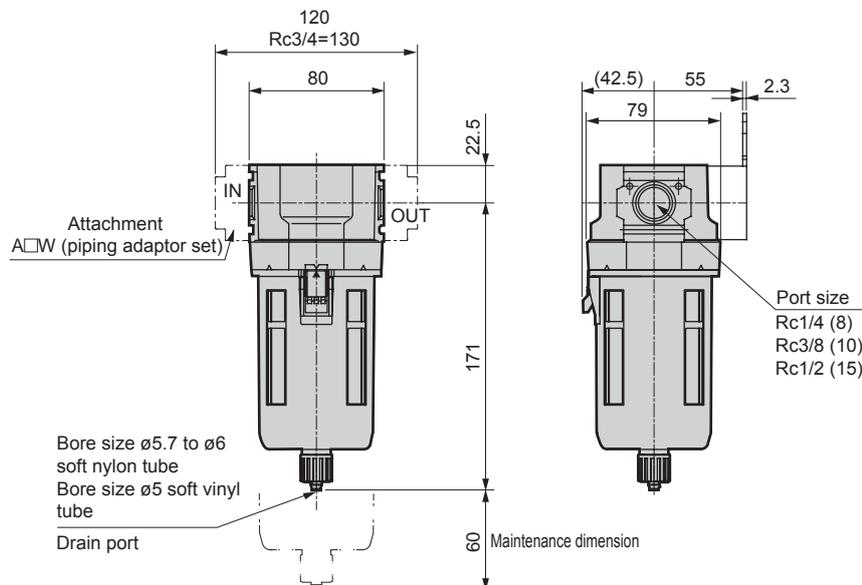


- Attachment
C type bracket (-BW)
Part model no.: B320

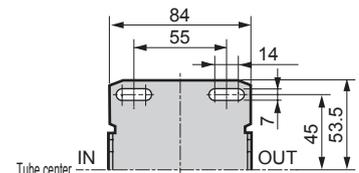


- For the plastic bowl, the dimensions are the same regardless of whether the manual cock or with automatic drain.
Note: The C-type bracket and piping adaptor set attachments cannot be used at the same time.

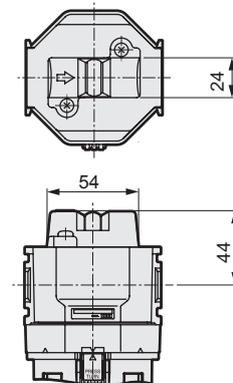
● M4000-W



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



- Option dimensions
with differential pressure indicator (Q1)



- For the plastic bowl, the dimensions are the same regardless of whether the manual cock or with automatic drain.

Refrigerating type dryer
Desiccant type dryer
High polymer membrane type dryer
Air filter
Auto. drain / others
F.R.L. (Module unit)
F.R.L. (Separate)
Compact F.R.
Precise regulator
F.R.L. (Related products)
Clean F.R.
Electro pneumatic regulator
Air booster
Speed control valve
Silencer
Check valve / others
Joint / tube
Vacuum filter
Vacuum regulator
Suction plate
Magnetic spring buffer
Mechanical pressure SW
Electronic pressure SW
Contact / close contact cont. SW
Air sensor
Pressure SW for coolant
Small flow sensor
Small flow controller
Flow sensor for air
Flow sensor for water
Total air system
Total air system (Gamma)
Ending

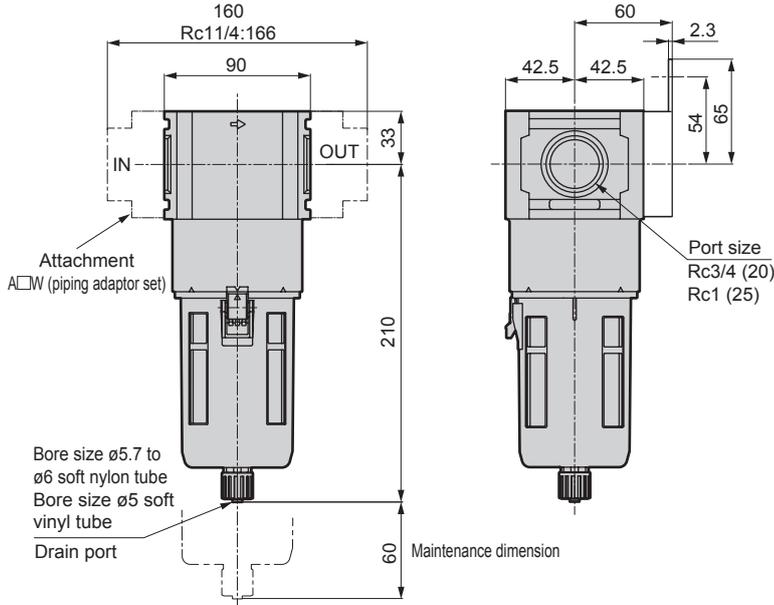
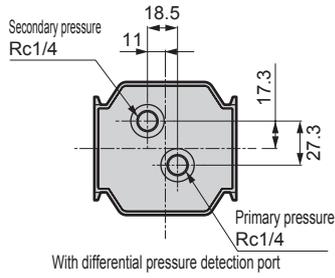
Standard series
F.R.L. unit

Oil Mist Filter Series

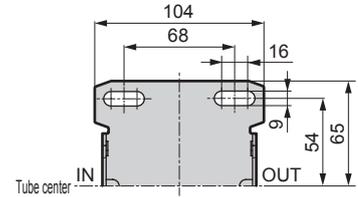
Dimensions



● M6000-W

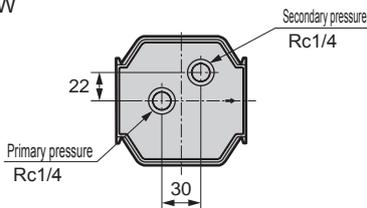


- Attachment
C type bracket (-BW)
Part model no.: B620

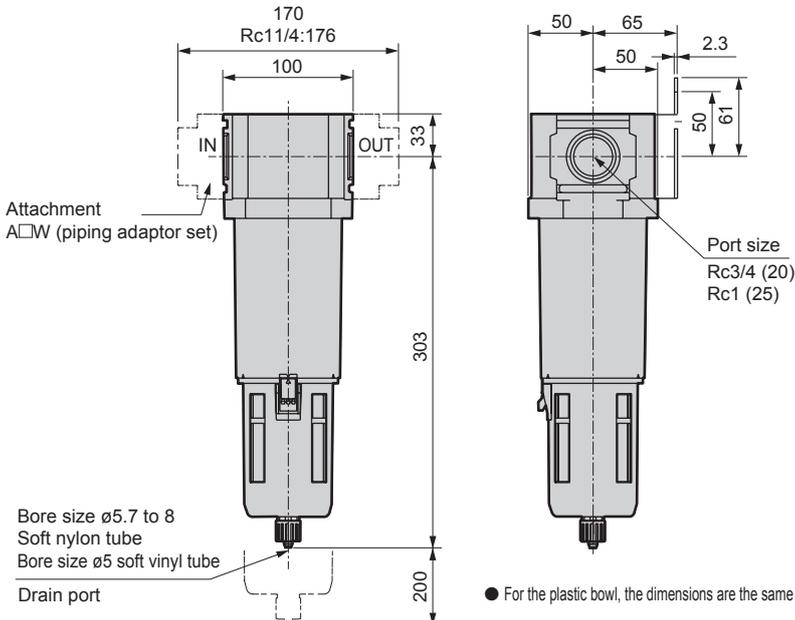


- For the plastic bowl, the dimensions are the same regardless of whether the manual cock or with automatic drain.
Note: The C-type bracket and piping adaptor set attachments cannot be used at the same time.

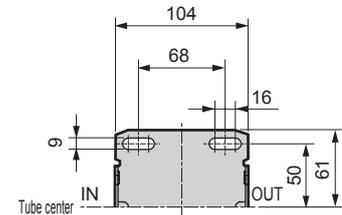
● M8000-W



Option
(With differential pressure detection port)



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

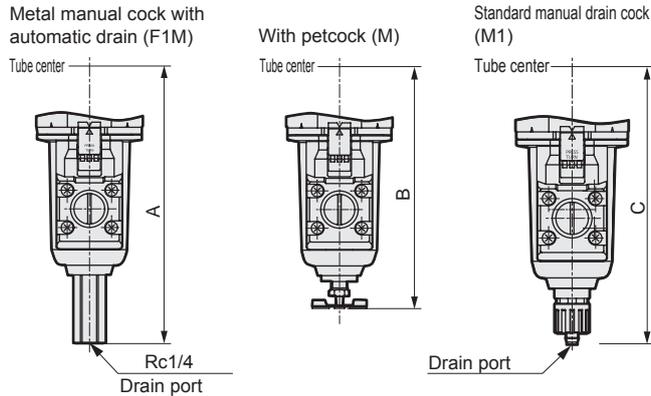


- For the plastic bowl, the dimensions are the same regardless of whether the manual cock or with automatic drain.

Optional dimensions



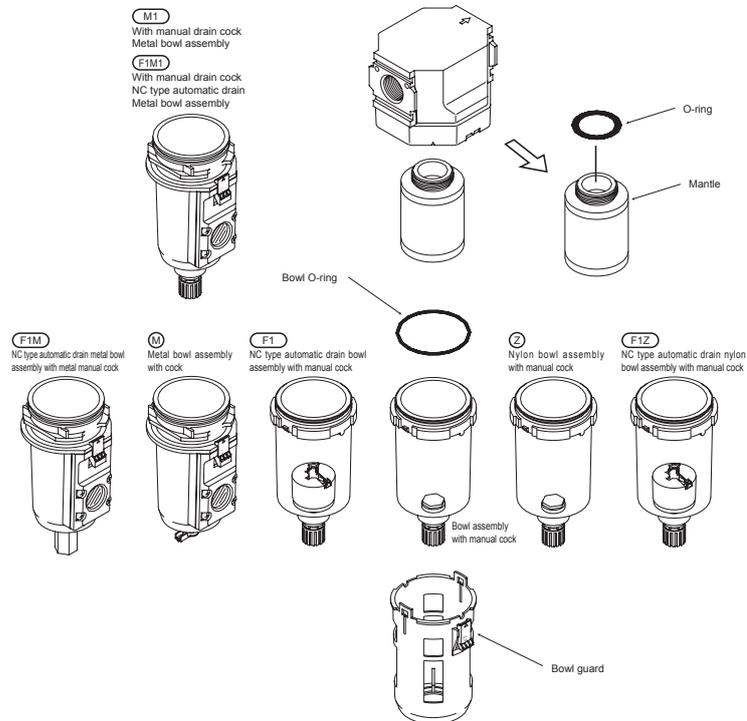
- Metal bowl (option)
(M2000-W, M3000-W, M4000-W, M6000-W, M8000-W)



Dimensions

Model no.	F1M	M	M1
	A	B	C
M2000-W	-	-	147
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 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	-
M2000-W	M2000-KIT	M2000-KIT-S	M2000-KIT-X
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 of O-ring, mantle)

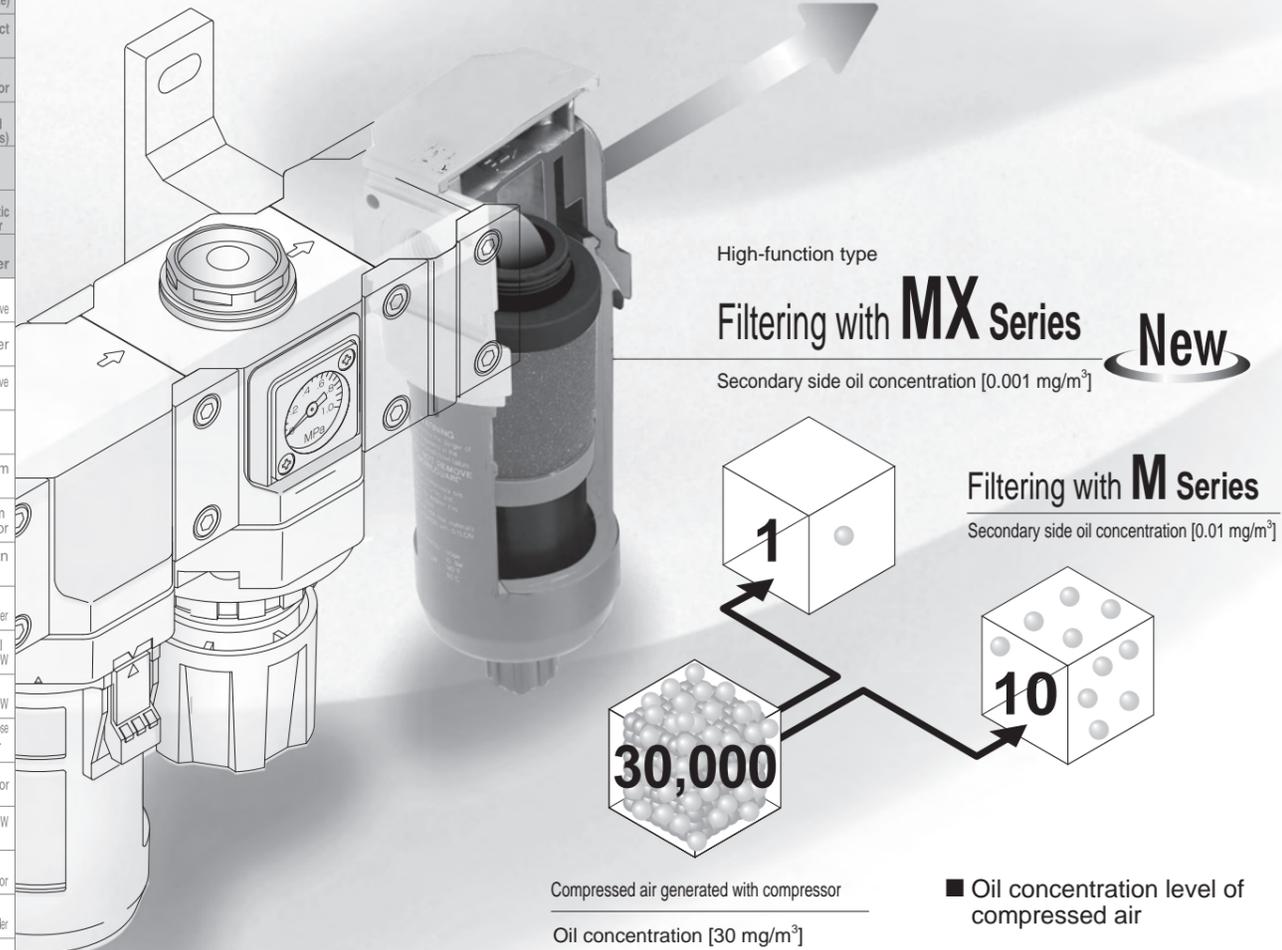
Model	M type	S type	X type
M1000-W	M1000-MANTLE-ASSY	M1000-MANTLE-ASSY-S	M1000-MANTLE-ASSY-X
M1000-W-F1	M1000-MANTLE-ASSY-F1	M1000-MANTLE-ASSY-F1S	-
M2000-W	M2000-MANTLE-ASSY	M2000-MANTLE-ASSY-S	M2000-MANTLE-ASSY-X
M3000-W, MM3000-W	M3000-MANTLE-ASSY	M3000-MANTLE-ASSY-S	M3000-MANTLE-ASSY-X
M4000-W, MM4000-W	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.

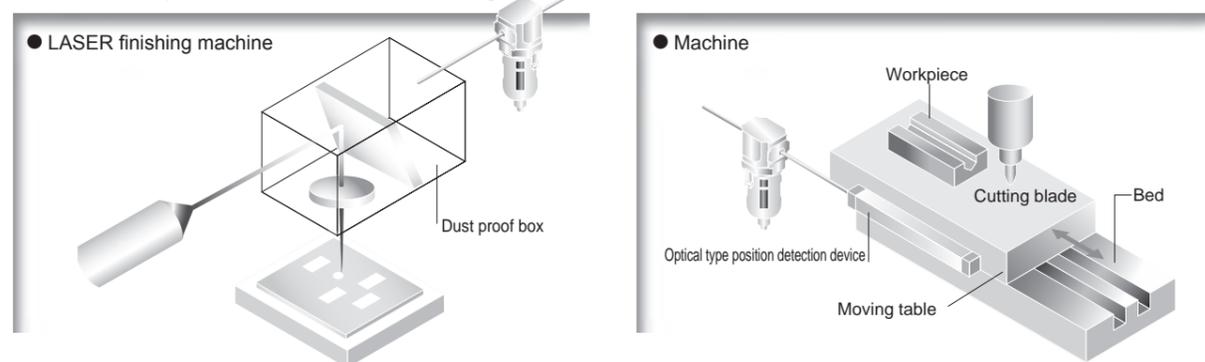
High-performance with x10 oil removal.

Highly efficient oil removing mantle removes oil up to a secondary oil concentration $0.001\text{mg}/\text{m}^3$.
 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 Series

Mantle structural explanation

Form layer

Oil is efficiently collected to prevent outflow to the secondary side.

Stainless steel support tube

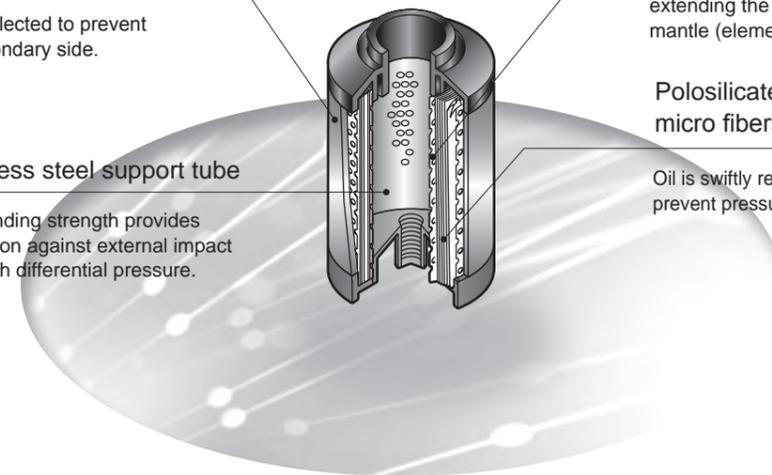
Outstanding strength provides protection against external impact and high differential pressure.

Pre-filter support layer

Solid particles are removed, extending the life of the mantle (element).

Polosilicate micro fibers

Oil is swiftly removed to prevent pressure loss.



Secondary side oil concentration $0.001\text{mg}/\text{m}^3$ or less

The highly efficient oil removing mantle removes oil up to the secondary oil concentration of $0.001\text{mg}/\text{m}^3$ at 21°C .
 This series is compatible with the JIS Standards Oil Class 1---1.

High accuracy filtration

Impurities up to $0.01\mu\text{m}$ 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

Dive types -- MX1000, 3000, 4000, 6000 and 8000 -- are used to match the flow.

Cleanroom-compatible

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

High performance oil mist filter MX Series variations

	Filtration rating μm	Secondary side oil concentration mg/m^3 (21°C)	Treating flow rate ℓ/min					Ambient temperature range $^\circ\text{C}$	
			1000 Series	3000 Series	4000 Series	6000 Series	8000 Series		
MX Series	0.01	0.001 or less	75	180	370	670	1490	5 to 60	
M Series	M Type	0.01	0.01 or less	150	360	825	1270	2600	5 to 60
	S Type	0.3	0.5 or less	150	450	1000	1400	2900	5 to 60
	X Type	Suction by activated charcoal	0.003 or less	150	450	1000	1400	2900	5 to 30

Read Safety Precautions to ensure correct, safe product use.

Refrigerating type dryer
 Desiccant type dryer
 High polymer membrane type dryer
 Air filter
 Auto, drain / others
 F.R.L. (Module unit)
 F.R.L. (Separate)
 Compact F.R.
 Precise regulator
 F.R.L. (Related products)
 Clean F.R.
 Electro pneumatic regulator
 Air booster
 Speed control valve
 Silencer
 Check valve / others
 Joint / tube
 Vacuum filter
 Vacuum regulator
 Suction plate
 Magnetic spring buffer
 Mechanical pressure SW
 Electronic pressure SW
 Contact / close contact cont. SW
 Air sensor
 Pressure SW for coolant
 Small flow sensor
 Small flow controller
 Flow sensor for air
 Flow sensor for water
 Total air system
 Total air system (Gamma)
 Ending

Refrigerating type dryer
 Desiccant type dryer
 High polymer membrane type dryer
 Air filter
 Auto, drain / others
 F.R.L. (Module unit)
 F.R.L. (Separate)
 Compact F.R.
 Precise regulator
 F.R.L. (Related products)
 Clean F.R.
 Electro pneumatic regulator
 Air booster
 Speed control valve
 Silencer
 Check valve / others
 Joint / tube
 Vacuum filter
 Vacuum regulator
 Suction plate
 Magnetic spring buffer
 Mechanical pressure SW
 Electronic pressure SW
 Contact / close contact cont. SW
 Air sensor
 Pressure SW for coolant
 Small flow sensor
 Small flow controller
 Flow sensor for air
 Flow sensor for water
 Total air system
 Total air system (Gamma)
 Ending

Standard series
 F.R.L. unit



High performance oil mist filter standard white Series

MX1000/MX3000/MX4000 MX6000/MX8000-W Series

Secondary side oil concentration 0.001mg/m³

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 2, Note 3				
Withstanding pressure MPa	1.5 Note 2				
Ambient temperature range °C	5 to 60				
Filtration rating μm	0.01(nominal)				
Secondary side oil concentration mg/m ³	0.001 or less Note 2, Note 3				
Maximum flow rate ℓ/min. (ANR) Note 1	75 Note 4	180	370	670	1480
Drain capacity cm ³	3	45	80	80	80
Port size Rc, NPT, G	1/8, 1/4 (3/8 uses an adaptor)	1/4, 3/8 (1/2 uses an adaptor)	1/4, 3/8, 1/2 (3/4 uses an adaptor)	3/4, 1 (1 1/4 uses an adaptor)	3/4, 1 (1 1/4 uses an adaptor)
Product weight kg	0.096	0.28	0.52	0.95	1.35
Mantle (element) change	1 year (6000 hours) or pressure drop 0.1 MPa				
Standard accessories	Bowl guard				

Note 1: Values for primary pressure 0.7 MPa and pressure drop 0.01 MPa. 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 drainage, etc., could splatter to the secondary side and result in faults at the terminal.

Note 2: 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 processing flow graph (next page) for maximum working flow.

Note 3: When "F1" with an automatic drain is selected, minimum operation pressure must be 0.15 MPa.

Note 4: The secondary oil concentration is the value when the primary oil concentration is 30 mg/m³, the inlet air temperature is 21°C and before the oil is saturated.

Note 5: Install an oil mist filter (S type) as a prefilter on the primary side to prevent early clogging.

Clean room specifications (catalog No. CB-033S)

- Dust generation preventing structure for use in cleanrooms

MX*000 - - **P7***

Super Oil Mist Filter series

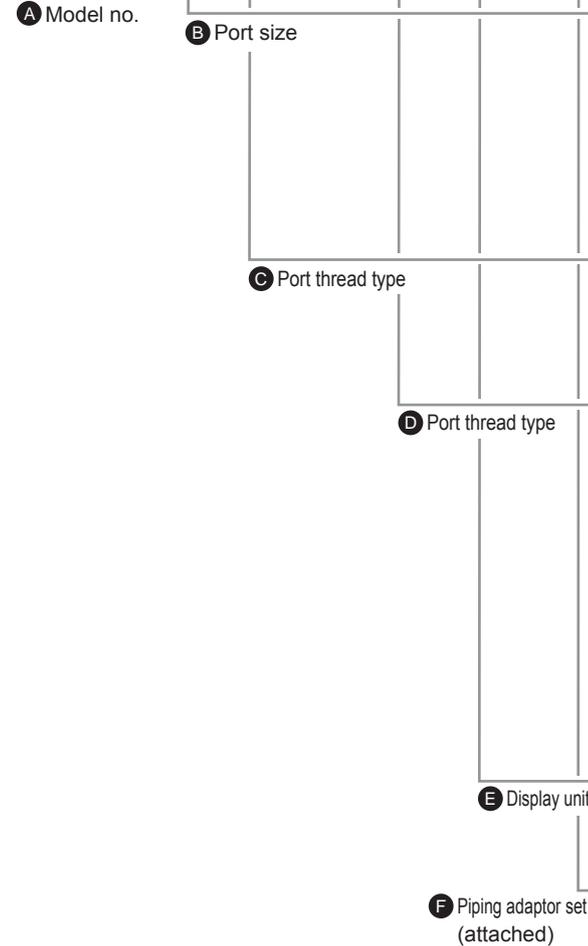
How to order

How to order



*Refer to page 274 for the explanation of the 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



Symbol	Descriptions	M	X	M	X	M	X
B Port size							
6	1/8	●					
8	1/4	●	●	●			
10	3/8		●	●			
15	1/2			●			
20	3/4				●	●	
25	1				●	●	
C Port thread type							
Blank	Rc thread	●	●	●	●	●	
N	NPT thread	●	●	●	●	●	
G	G thread	●	●	●	●	●	
D Option							
Drainage	Blank	With manual drain cock		●	●	●	●
	F1 Note 3, Note 4	Auto. drain with manual override (NC type: No exhaust w/o pressurized)		●	●	●	●
Bowl material	Blank	Polycarbonate bowl		●	●	●	●
	Z	Nylon bowl		●	●	●	●
	M	Metal bowl			●	●	●
	M1	Metal bowl with manual drain cock			●	●	●
Differential pressure detection	Blank	Without differential pressure detection port		●	●	●	●
	Q	With differential pressure detection port (Rc1/4)					●
Flow	Blank	Standard flow (left → right)		●	●	●	●
Direction	X1	Reverse flow (right → left)		●	●	●	●
E Display unit							
Blank	MPa display, Rc thread	●	●	●	●	●	
J1	MPa display, NPT, G thread	●	●	●	●	●	
F Piping adaptor set (attached)							
Blank	Not attached	●	●	●	●	●	
A6*W	Rc1/8 piping adaptor set	●					
A8*W	Rc1/4 piping adaptor set	●	●	●			
A10*W	Rc3/8 piping adaptor set	●	●	●			
A15*W	Rc1/2 piping adaptor set		●	●			
A20*W	Rc3/4 piping adaptor set			●	●	●	
A25*W	Rc1 piping adaptor set				●	●	
A32*W	Rc1 1/4 piping adaptor set				●	●	
*Adaptor screw type							
Blank	Rc thread	●	●	●	●	●	
N	NPT thread	●	●	●	●	●	
G	G thread	●	●	●	●	●	
G Bracket (attached)							
Blank	Not attached	●	●	●	●	●	
BW	C type bracket	●	●	●	●	●	

⚠ Note on model no. selection

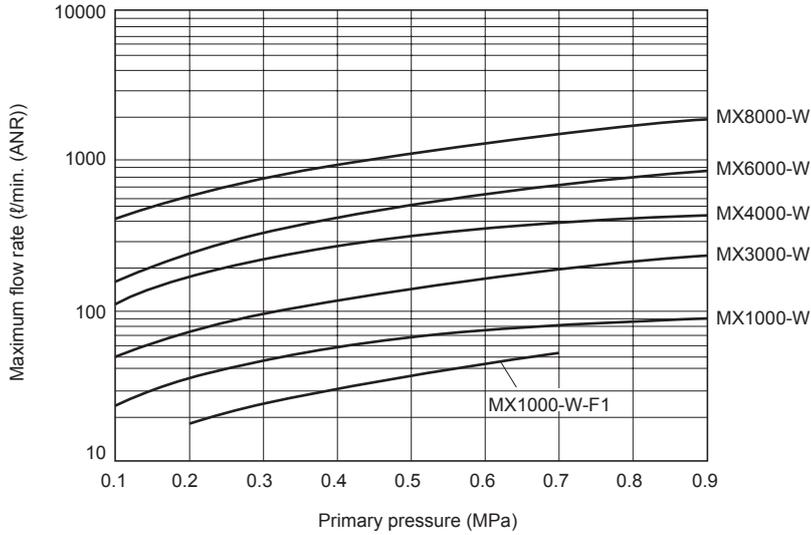
- Note 1: When G threads or NPT threads are selected, the IN, OUT, and drainage discharge port (metal bowl automatic drain) are the target.
- Note 2: Select options for each drainage, bowl material and differential pressure detection.
When selecting options for several items, list options in order from the top.
- Note 3: NO automatic drain cannot be selected.
- Note 4: Refer to page 276 for the automatic drain use conditions.
- Note 5: The C-type bracket and piping adaptor set attachments cannot be used at the same time.
- Note 6: The joiner set is enclosed with the piping adaptor set.

Refrigerating type dryer
Desiccant type dryer
High polymer membrane type dryer
Air filter
Auto. drain / others
F.R.L. (Module unit)
F.R.L. (Separate)
Compact F.R.
Precise regulator
F.R.L. (Related products)
Clean F.R.
Electro pneumatic regulator
Air booster
Speed control valve
Silencer
Check valve / others
Joint / tube
Vacuum filter
Vacuum regulator
Suction plate
Magnetic spring buffer
Mechanical pressure SW
Electronic pressure SW
Contact / close contact cont. SW
Air sensor
Pressure SW for coolant
Small flow sensor
Small flow controller
Flow sensor for air
Flow sensor for water
Total air system
Total air system (Gamma)
Ending
Standard series
F.R.L. unit

Super Oil Mist Filter Series

Flow characteristic (maximum flow rate)

● MX*000-W



Oil mist filter: Using optional mantle

Major recommended circuit

Applications

◆ S type



General industrial air
(Secondary side oil concentration
0.5mg/m³ 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 side oil concentration
0.01mg/m³ or less)

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

◆ X type



Deodorization air
(Secondary side oil concentration
0.003mg/m³ or less)

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

◆ MX type



Super oilless air
(Secondary side oil concentration
0.001mg/m³ or less)

- Optical type positioning device
- LASER finishing machine

Option symbol of mantle and shape

	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

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

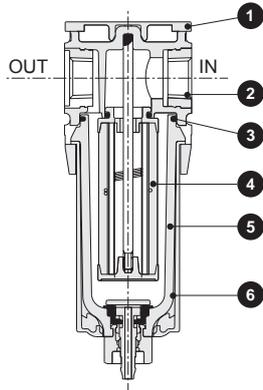
NOTE: The secondary oil density is the value when the primary oil density is 30 mg/m³, the inlet air temperature is 21°C and before the oil is saturated.

Super Oil Mist Filter Series

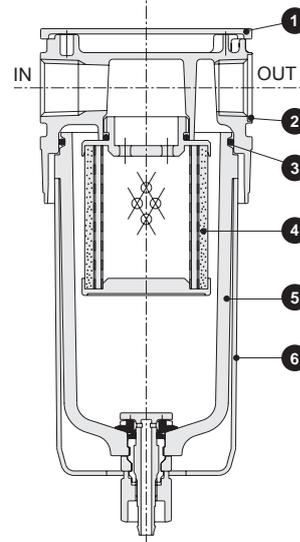
Internal structure and parts list

Internal structure and parts list

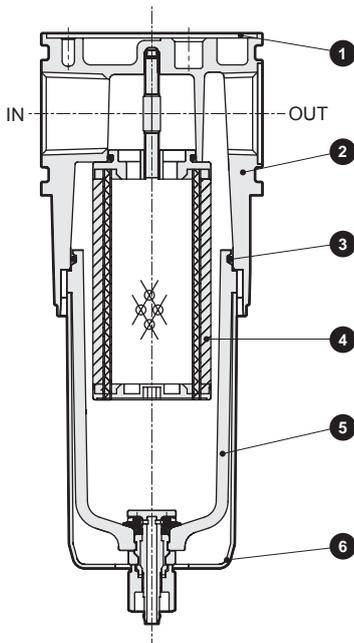
● MX1000-W



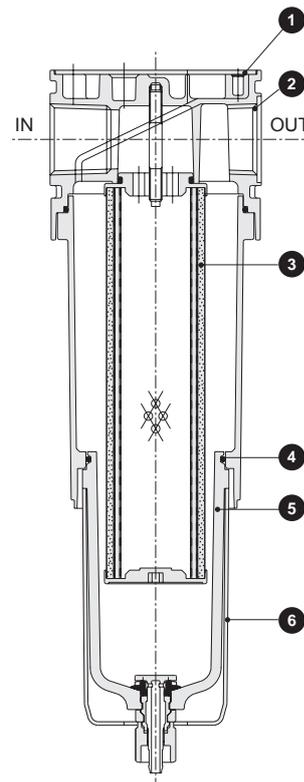
● MX3000-W/MX4000-W



● MX6000-W



● MX8000-W



No.	Parts 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 resin				
6	Bowl guard	Polyamide resin	Polyamide resin, steel			

Note 1: O-ring of MX1000-W is special shaped.

Refrigerating type dryer
Desiccant type dryer
High polymer membrane type dryer
Air filter
Auto. drain / others
F.R.L. (Module unit)
F.R.L. (Separate)
Compact F.R.
Precise regulator
F.R.L. (Related products)
Clean F.R.
Electro pneumatic regulator
Air booster
Speed control valve
Silencer
Check valve / others
Joint / tube
Vacuum filter
Vacuum regulator
Suction plate
Magnetic spring buffer
Mechanical pressure SW
Electronic pressure SW
Contact / close contact cont. SW
Air sensor
Pressure SW for coolant
Small flow sensor
Small flow controller
Flow sensor for air
Flow sensor for water
Total air system
Total air system (Gamma)
Ending

Standard series
F.R.L. unit

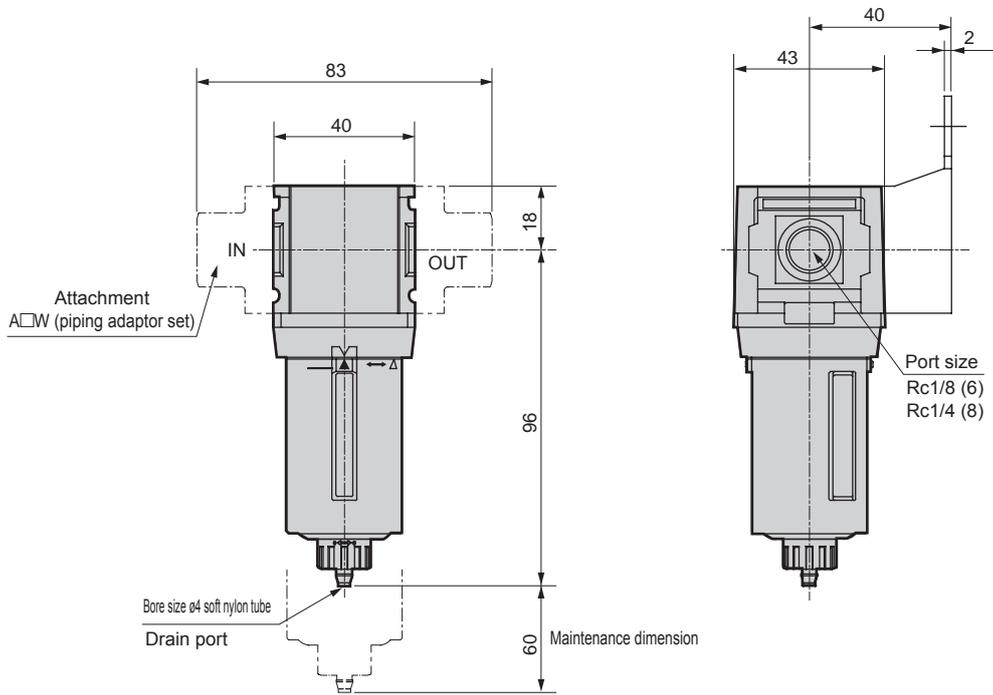
Super Oil Mist Filter Series

Dimensions

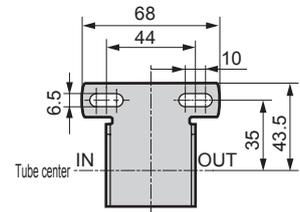


Refrigerating type dryer
Desiccant type dryer
High polymer membrane type dryer
Air filter
Auto. drain / others
F.R.L. (Module unit)
F.R.L. (Separate)
Compact F.R.
Precise regulator
F.R.L. (Related products)
Clean F.R.
Electro pneumatic regulator
Air booster
Speed control valve
Silencer
Check valve / others
Joint / tube
Vacuum filter
Vacuum regulator
Suction plate
Magnetic spring buffer
Mechanical pressure SW
Electronic pressure SW
Contact / close contact cont. SW
Air sensor
Pressure SW for coolant
Small flow sensor
Small flow controller
Flow sensor for air
Flow sensor for water
Total air system
Total air system (Gamma)
Ending

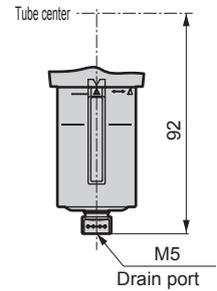
● MX1000-W



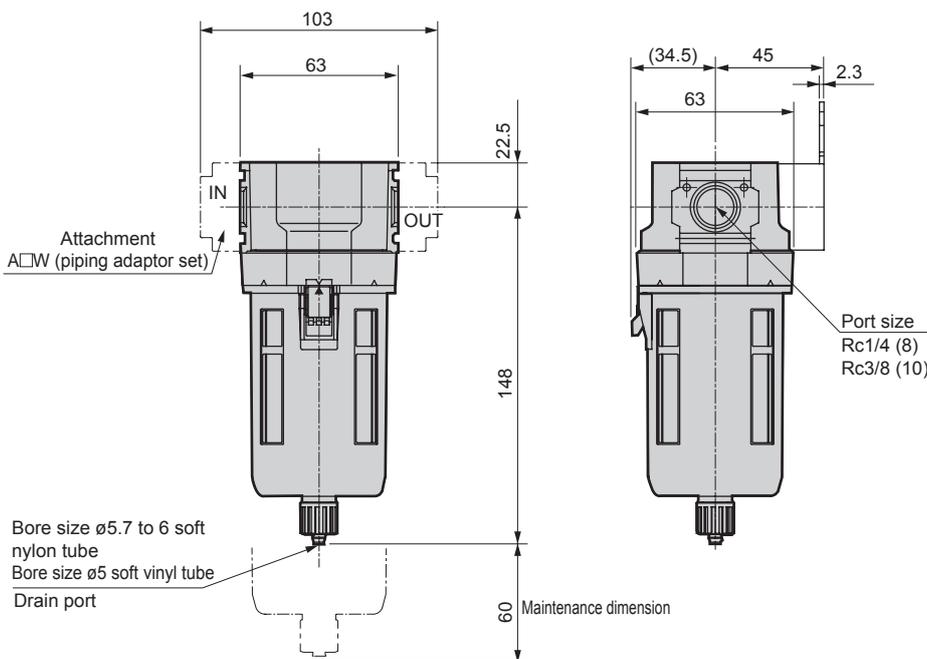
- Attachment
C type bracket (-BW)
Part model no.: B120



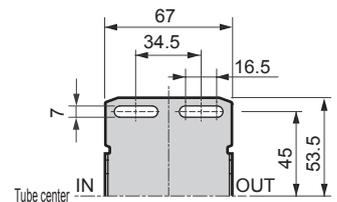
- Option dimensions with automatic drain (F1)



● MX3000-W



- Attachment
C type bracket (-BW)
Part model no.: B320



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

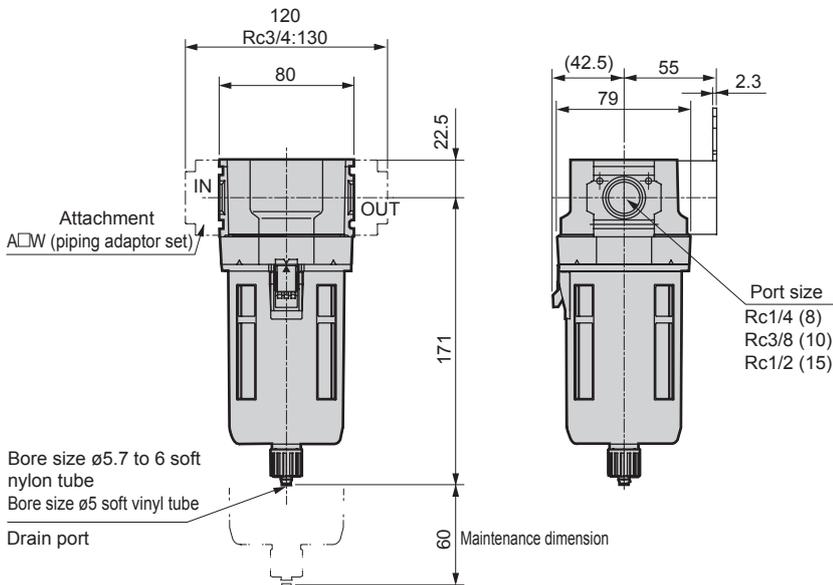
Super Oil Mist Filter Series

Dimensions

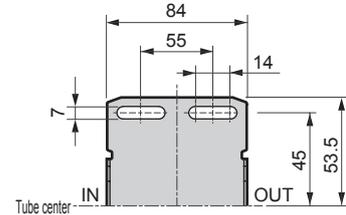
Dimensions



● MX4000-W

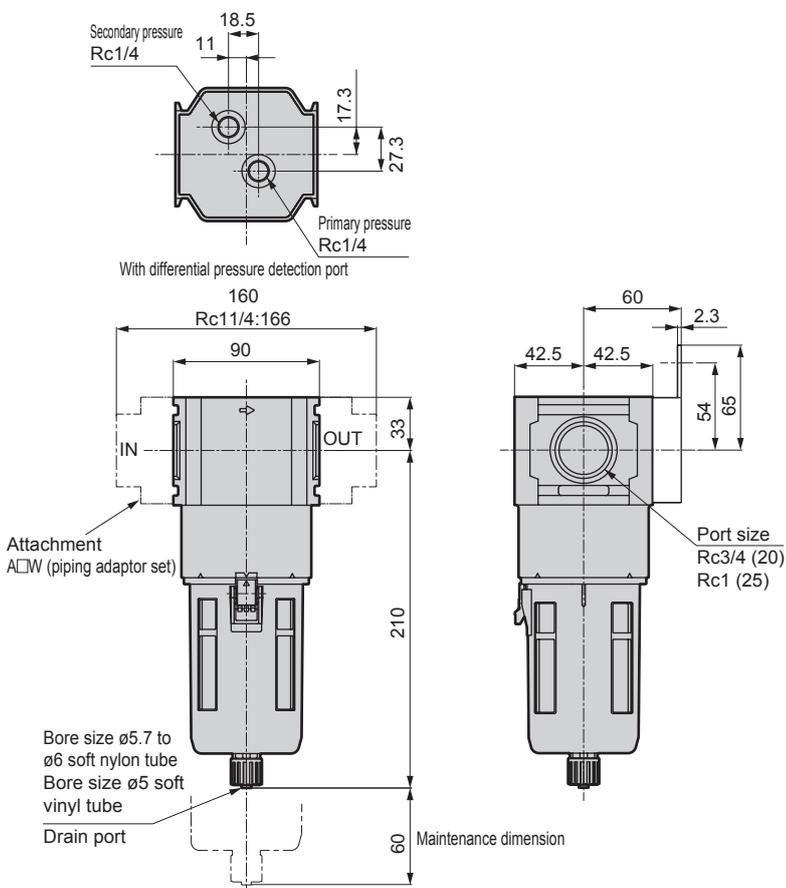


- Attachment
C type bracket (-BW)
Part model no.: B420

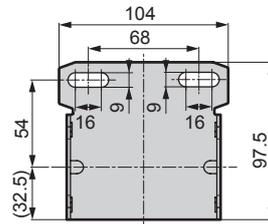


● For the plastic bowl, the dimensions are the same regardless of whether the manual cock or with automatic drain.

● MX6000-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 with automatic drain.
Note: The C-type bracket and piping adaptor set attachments cannot be used at the same time.

Refrigerating type dryer
Desiccant type dryer
High polymer membrane type dryer
Air filter
Auto. drain / others
F.R.L. (Module unit)
F.R.L. (Separate)
Compact F.R.
Precise regulator
F.R.L. (Related products)
Clean F.R.
Electro pneumatic regulator
Air booster
Speed control valve
Silencer
Check valve / others
Joint / tube
Vacuum filter
Vacuum regulator
Suction plate
Magnetic spring buffer
Mechanical pressure SW
Electronic pressure SW
Contact / close contact cont. SW
Air sensor
Pressure SW for coolant
Small flow sensor
Small flow controller
Flow sensor for air
Flow sensor for water
Total air system
Total air system (Gamma)
Ending

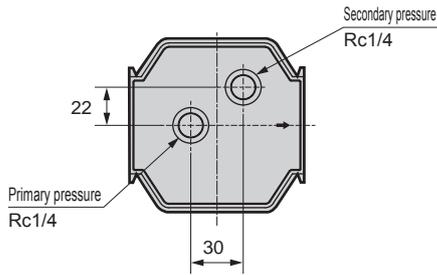
Standard series
F.R.L. unit

Super Oil Mist Filter Series

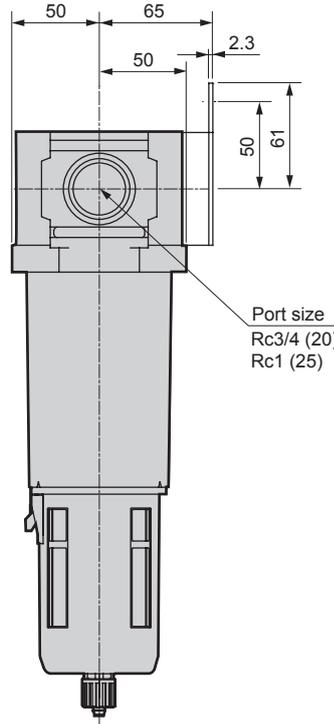
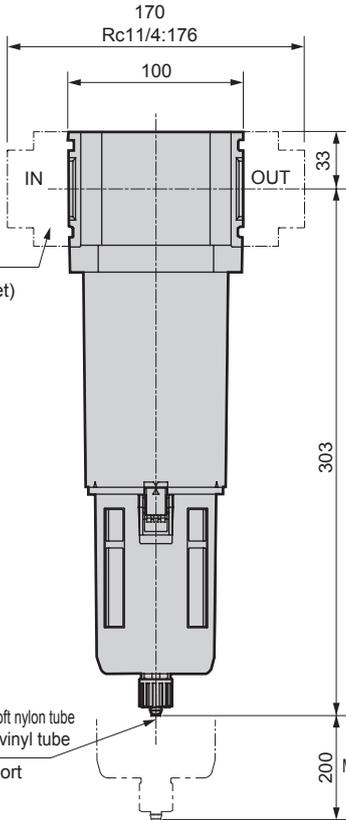
Dimensions



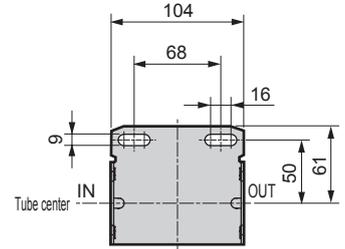
● MX8000-W



Option
(With differential pressure detection port)



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



Attachment
A□W (piping adaptor set)

Port size
Rc3/4 (20)
Rc1 (25)

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

● Metal bowl (option)

(MX3000-W, MX4000-W, MX6000-W, MX8000-W)

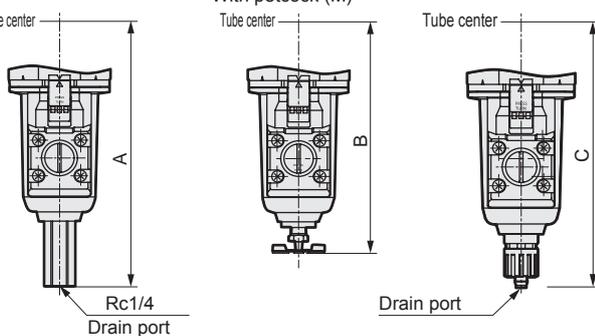
Metal manual cock

With automatic drain (F1M)

With petcock (M)

Standard manual drain cock

(M1)



Dimensions

Model no.	F1M	M	M1
	A	B	C
MX3000-W	164	143.5	154
MX4000-W	187	166.5	177
MX6000-W	226	205	216
MX8000-W	319	298	309

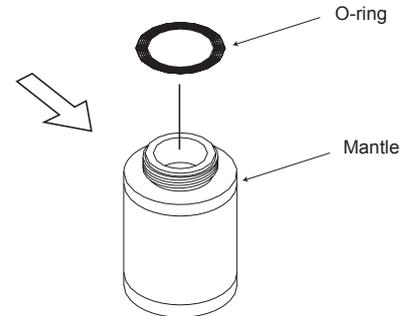
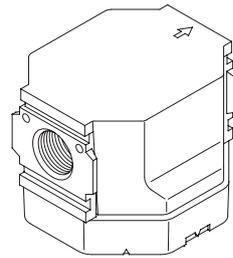
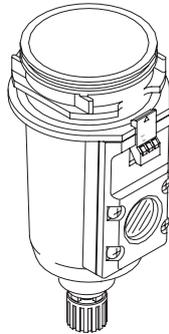
Optional parts table - oil mist filter

Refrigerating type dryer
Desiccant type dryer
High polymer membrane type dryer
Air filter
Auto. drain / others
F.R.L. (Module unit)
F.R.L. (Separate)
Compact F.R.
Precise regulator
F.R.L. (Related products)
Clean F.R.
Electro pneumatic regulator
Air booster
Speed control valve
Silencer
Check valve / others
Joint / tube
Vacuum filter
Vacuum regulator
Suction plate
Magnetic spring buffer
Mechanical pressure SW
Electronic pressure SW
Contact / close contact cont. SW
Air sensor
Pressure SW for coolant
Small flow sensor
Small flow controller
Flow sensor for air
Flow sensor for water
Total air system
Total air system (Gamma)
Ending

Standard series
F.R.L. unit

M1
With manual drain cock
Metal bowl assembly

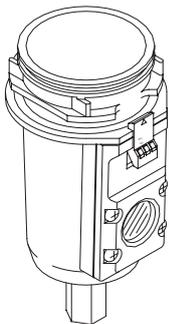
F1M1
With manual drain cock
NC type automatic drain
Metal bowl assembly



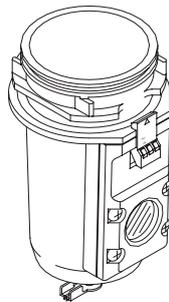
Bowl O-ring



F1M
NC type automatic drain metal bowl
assembly with metal manual cock



M
Metal bowl assembly
with cock



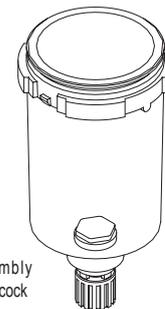
F1
NC type automatic drain bowl
assembly with manual cock



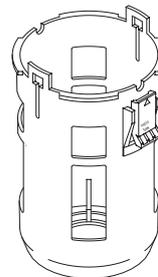
Z
Nylon bowl assembly with
manual cock



F1Z
NC type automatic drain nylon bowl
assembly with manual cock



Bowl assembly
with manual cock



Bowl guard

Repair kits model no. (Set 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 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 358, 359 for the bowl assembly and bowl guard.

Air Filter Series

Optional parts diagram

Element

Element model no.	5µm Element	0.3µm Element (Y)
F1000-W	F1000-ELEMENT-ASSY	-
W1000-W, W1100-W	W1000-ELEMENT-ASSY	-
F2000-W	F2000-ELEMENT	-
W2000-W, W2100-W	W2000-ELEMENT	-
F3000-W, FM3000-W	F3000-ELEMENT	F3000-ELEMENT-Y
W3000-W, W3100-W	W3000-ELEMENT	W3000-ELEMENT-Y
F4000-W, FM4000-W	F4000-ELEMENT	F4000-ELEMENT-Y
W4000-W, W4100-W	W4000-ELEMENT	W4000-ELEMENT-Y
F6000-W, FM6000-W	F6000-ELEMENT	F6000-ELEMENT-Y
F8000-W, FM8000-W	F8000-ELEMENT	F8000-ELEMENT-Y
W8000-W, W8100-W	W8000-ELEMENT	W8000-ELEMENT-Y

Note: For the F1000-W and W1000-W, the baffle and element are assembly parts.

- (M1) Metal bowl assembly with manual drain cock
- (FM1) Automatic drain NO type metal bowl assembly with manual drain cock
- (F1M1) Automatic drain NC type metal bowl assembly with manual drain cock



- *8000 series large emission
- (FFM1) High discharge automatic drain NO type metal bowl assembly with manual drain cock
- (FF1M1) High discharge automatic drain NC type metal bowl assembly with manual drain cock

- (FM) NO type automatic drain bowl assembly with metal manual cock

- (F1M) NC type automatic drain bowl assembly with metal manual cock



- *8000 series large emission
- (FFM) NO type large automatic drain bowl assembly with metal manual cock
- (FF1M) NC type large automatic drain bowl assembly with metal manual cock

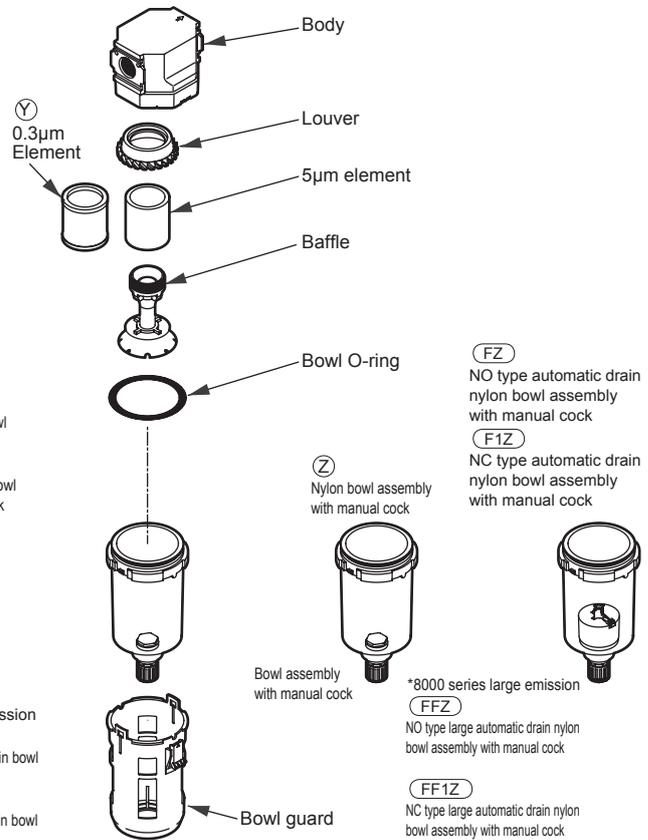
- (M) Metal bowl assembly with cock



- (F) NO type automatic drain bowl assembly with manual cock
- (F1) NC type automatic drain bowl assembly with manual cock



- *8000 series large emission
- (FF) NO type large automatic drain bowl assembly with manual cock
- (FF1) NC type large automatic drain bowl assembly with manual cock



Repair kits model no.

(Set of louver, baffle, element, bowl O-ring)

Repair kits model no.	5µm Element	0.3µm Element (Y)
F1000-W Note 1	F1000-KIT	-
F2000-W	F2000-KIT	-
F3000-W, FM3000-W	F3000-KIT	F3000-KIT-Y
F4000-W, FM4000-W	F4000-KIT	F4000-KIT-Y
F6000-W, FM6000-W	F6000-KIT	F6000-KIT-Y
F8000-W, FM8000-W Note 2	F8000-KIT	F8000-KIT-Y

Note 1: For the F1000-W, the baffle and element are assembly parts, so the set consists of the element assembly and bowl O-ring.

Note 2: For the F8000-W, the set consists of the baffle, element, and bowl O-ring.

Bowl guard

Bowl guard model no.	Polycarbonate bowl	Nylon bowl
F1000-W, W1000-W, W1100-W	F1000-W-BOWL-GUARD	F1000-W-BOWL-GUARD-Z
L1000-W	L1000-W-BOWL-GUARD	L1000-W-BOWL-GUARD-Z
M1000-W	M1000-W-BOWL-GUARD	M1000-W-BOWL-GUARD-Z
F2000-W, W2000-W, W2100-W	F2000-W-BOWL-GUARD	F2000-W-BOWL-GUARD-Z
W3100-W, F3000-W, W3000-W, M3000-W	F3000-W-BOWL-GUARD	F3000-W-BOWL-GUARD-Z
L3000-W	L3000-W-BOWL-GUARD	L3000-W-BOWL-GUARD-Z
F4000-W, W4000-W, M4000-W, W4100-W, F6000-W, M6000-W, W8100-W, F8000-W, W8000-W, M8000-W	F4000-W-BOWL-GUARD	F4000-W-BOWL-GUARD-Z
L4000-W, L8000-W	L4000-W-BOWL-GUARD	L4000-W-BOWL-GUARD-Z
W8100-W, F8000-W, W8000-W-FF, FF1	DT4000-W-BOWL-GUARD	DT4000-W-BOWL-GUARD-Z

Note: The bowl guard for the 1000 Series F1 is sold as a set with the bowl assembly. The model is "F1000-W-BOWL-BOWL-GUARD-F1".

Bowl assembly (set of bowl assembly and bowl O-ring)

Bowl assembly Model	With manual cock PC bowl assembly	With manual cock PA bowl assembly	With manual cock Metal bowl assembly	With standard manual cock Metal bowl assembly	With manual cock NO type Automatic drain PC bowl assembly Note 1	With manual cock NC type Automatic drain PC bowl assembly
F1000-W, W1000-W M1000-W, W1100-W	F1000-W-BOWL	F1000-W-BOWL-Z	-	-	-	F1000-W-BOWL-BOWL GUARD-F1 Note 3
F2000-W, W2000-W M2000-W, W2100-W	F2000-W-BOWL	F2000-W-BOWL-Z	-	F2000-W-BOWL-M1	-	M2000-W-BOWL-F1
F3000-W, M3000-W W3000-W, W3100-W	F3000-W-BOWL	F3000-W-BOWL-Z	F3000-W-BOWL-M	F3000-W-BOWL-M1	F3000-W-BOWL-F	M3000-W-BOWL-F1
FM3000-W, MM3000-W	-	-	-	-	-	-
F4000-W, F6000-W M4000-W, M6000-W F8000-W, M8000-W W4000-W, W4100-W W8000-W, W8100-W	F4000-W-BOWL	F4000-W-BOWL-Z	F4000-W-BOWL-M	F4000-W-BOWL-M1	F4000-W-BOWL-F	M4000-W-BOWL-F1
FM4000-W, FM6000-W FM8000-W, MM4000-W MM6000-W, MM8000-W	-	-	-	-	-	-

Bowl assembly Model	With manual cock NO type Automatic drain PA bowl assembly Note 1	With manual cock NC type Automatic drain PA bowl assembly	With metal manual cock NO type Automatic drain Metal bowl assembly Note 1	With standard manual cock NO type Automatic drain Metal bowl assembly	With metal manual cock NC type Automatic drain Metal bowl assembly	With standard manual cock NC type Automatic drain Metal bowl assembly	For medium pressure NO type Automatic drain Bowl assembly Note 1	For medium pressure NC type Automatic drain Bowl assembly
F1000-W, W1000-W M1000-W, W1100-W	-	F1000-W-BOWL- BOWL GUARD- F1Z Note 3	-	-	-	-	-	-
F2000-W, W2000-W M2000-W, W2100-W	-	M2000-W-BOWL-F1Z	-	-	-	M2000-W-BOWL-F1M1	-	-
F3000-W, M3000-W W3000-W, W3100-W	F3000-W-BOWL-FZ	M3000-W-BOWL-F1Z	F3000-W-BOWL-FM	F3000-W-BOWL-FM1	M3000-W-BOWL-F1M	M3000-W-BOWL-F1M1	-	-
FM3000-W, MM3000-W	-	-	-	-	-	-	FM3000-W-BOWL-F	MM3000-W-BOWL-F1
F4000-W, F6000-W M4000-W, M6000-W F8000-W, M8000-W W4000-W, W4100-W W8000-W, W8100-W	F4000-W-BOWL-FZ	M4000-W-BOWL-F1Z	F4000-W-BOWL-FM	F4000-W-BOWL-FM1	M4000-W-BOWL-F1M	M4000-W-BOWL-F1M1	-	-
FM4000-W, FM6000-W FM8000-W, MM4000-W MM6000-W, MM8000-W	-	-	-	-	-	-	FM4000-W-BOWL-F	MM4000-W-BOWL-F1

Bowl assembly Model	With manual cock NO type Large automatic drain PC bowl assembly	With manual cock NC type Large automatic drain PC bowl assembly	With manual cock NO type Large automatic drain PA bowl assembly	With manual cock NC type Large automatic drain PA bowl assembly	With metal manual cock NO type Large automatic drain Metal bowl assembly	With metal manual cock NC type Large automatic drain Metal bowl assembly	With standard manual cock NO type Large automatic drain Metal bowl assembly	With standard manual cock NC type Large automatic drain Metal bowl assembly
F8000-W, W8000-W W8100-W	F8000-W-BOWL-FF	F8000-W-BOWL-FF1	F8000-W-BOWL-FFZ	F8000-W-BOWL-FF1Z	F8000-W-BOWL-FFM	F8000-W-BOWL-FF1M	F8000-W-BOWL-FFM1	F8000-W-BOWL-FF1M1

Note 1: The NO automatic drain cannot be selected for the oil Mist filter M1000-W, M3000-W, M4000-W, M6000-W, or M-8000W and oil Mist filter for Medium pressure MM3000-W, MM4000-W, MM6000-W, MM8000-W.

Note 2: The large discharge automatic drain cannot be installed on the M8000-W.

Note 3: The bowl assembly for the 1000 Series F1 is sold as a set with the bowl guard.

Refrigerating type dryer
Desiccant type dryer
High polymer membrane type dryer
Air filter
Auto. drain / others
F.R.L. (Module unit)
F.R.L. (Separate)
Compact F.R.
Precise regulator
F.R.L. (Related products)
Clean F.R.
Electro pneumatic regulator
Air booster
Speed control valve
Silencer
Check valve / others
Joint / tube
Vacuum filter
Vacuum regulator
Suction plate
Magnetic spring buffer
Mechanical pressure SW
Electronic pressure SW
Contact / close contact cont. SW
Air sensor
Pressure SW for coolant
Small flow sensor
Small flow controller
Flow sensor for air
Flow sensor for water
Total air system
Total air system (Gamma)
Ending

Standard series
F.R.L. unit