Air filter

■ Components for air preparation and pressure adjustment / main line unit

CONTENTS

		Medium type			Medium type			
Series		AF2000P	AF2000M	AF2000X	AF4000P	AF4000S	AF4000M	AF4000X
Specifications / Applicable air compressor kW (references)	Treated flow rate m³/min.	• Dust 1μm	• Dust 0.01μm • Oil content 0.01mg/m³	• Oil content 0.003mg/m³ • Deodorization	• Dust 5μm	• Dust 1μm	• Dust 0.01μm • Oil content 0.01mg/m³	• Oil content 0.003mg/m³ • Deodorization
0.75	0.15							
1.5	0.22							
2.2	0.35							
3.7	0.5							
5.5	0.825							
7.5	1.0							
11	1.5							
15	3.7	●	●	●				
22	3.7	●	●	●	● (3.7)	● (3.7)	● (3.7)	● (3.7)
37	6.6/8	● (6.6)	● (6.6)	● (6.6)	● (6.2)	● (6.2)	● (6.2)	● (6.2)
55	9.6/10	● (9.6)	● (9.6)	● (9.6)	● (10)	● (10)	● (10)	● (10)
75	13/13.2	● (13.2)	● (13.2)	● (13.2)	● (13)	● (13)	● (13)	● (13)
95	16/18.8/19.8	● (19.8)	● (19.8)	● (19.8)		● (18.8)	● (18.8)	● (18.8)
120	25.8							
150	32							
200								
250	48							
300	64							
400	80							
480	96							
-	128							
710	160							
960	192							
1450	256							
Differential pressure gauge		● Standard equipment	● Standard equipment	—	● Option	● Option	● Option	● Option
Differential pressure alarm output		—	—	—	—	—	—	—
Automatic drain		Float type	Float type	—	Float type	Float type	Float type	—
Low pressure loss element		● Standard equipment	● Standard equipment	● Standard equipment	● Standard equipment	● Standard equipment	● Standard equipment	● Standard equipment
Shut-off valve		● Standard equipment	● Standard equipment	● Standard equipment	● Included in automatic drain	● Included in automatic drain	● Included in automatic drain	—
Optional color		X	X	X	—	—	—	—
Coupling flange attached		X	X	X	—	—	—	—
Anchor bolt, nut attached		X	X	X	—	—	—	—
Anchor bolt, nut attached (SUS)		X	X	X	—	—	—	—
Outdoors specifications		X	X	X	—	—	—	—
IN-OUT reverse direction		—	—	—	—	—	—	—
Product photo		X	X	X	—	—	—	—
Appearance								
Page		168	168	168	178			

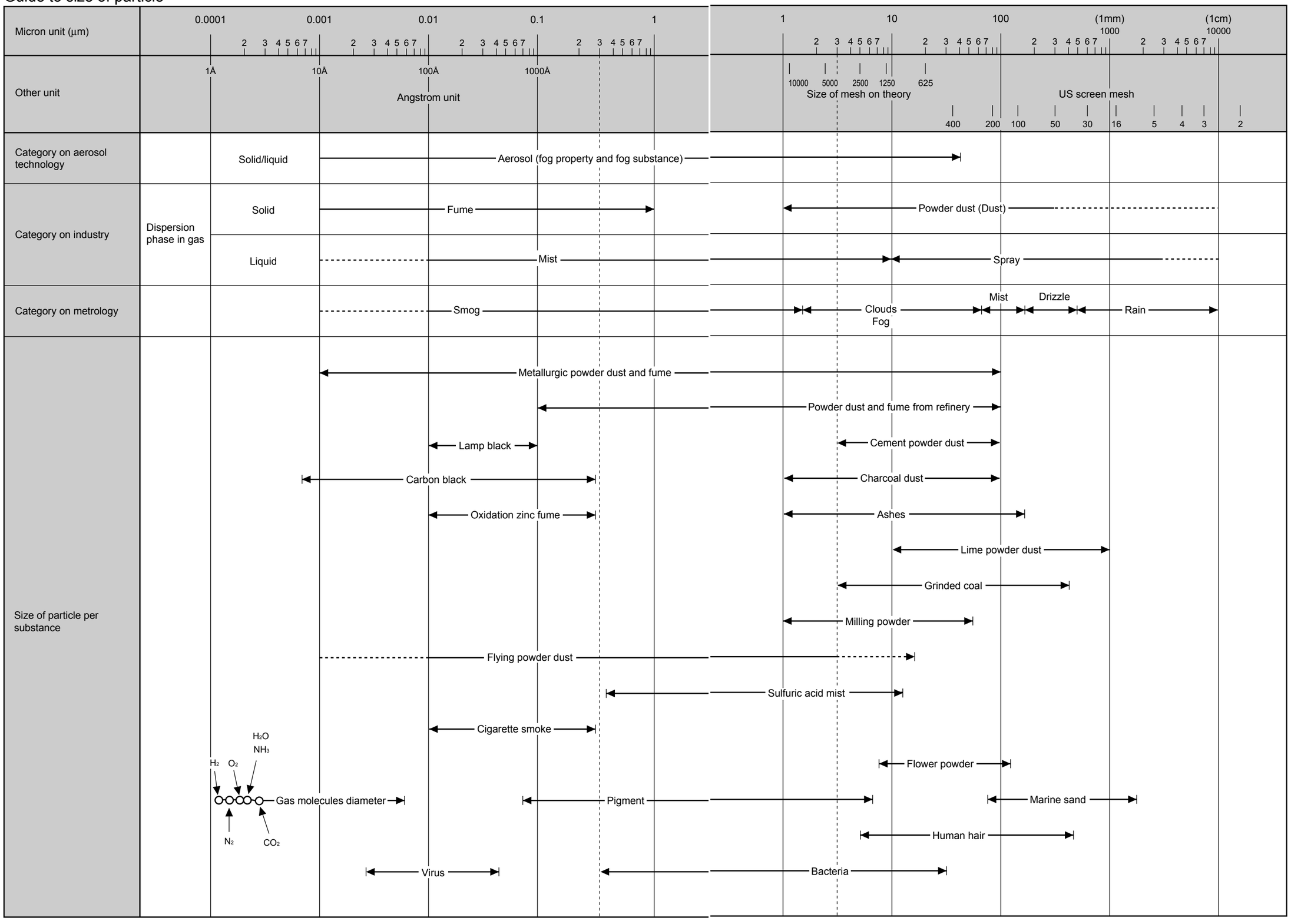
Note) This list is for selection guide.
Refer to the page for selection, and select a model after checking installation and operating conditions.

		Large type				Large type			
Series		AF3000P	AF3000S	AF3000M	AF3000X	AF5000P	AF5000S	AF5000M	AF5000X
Features						Stainless steel vessel (vessel)			
kW (references)	m³/min.	• Dust 3μm	• Dust 0.3μm • Oil content 0.5mg/m³	• Dust 0.01μm • Oil content 0.01mg/m³	• Oil content 0.03mg/m³ • Deodorization	• Dust 3μm	• Dust 0.3μm • Oil content 0.5mg/m³	• Dust 0.01μm • Oil content 0.01mg/m³	• Oil content 0.003mg/m³ • Deodorization
0.75	0.15								
1.5	0.22								
2.2	0.35								
3.7	0.5								
5.5	0.825								
7.5	1.0								
11	1.5								
15	3								
22	3.7/4.5								
37	6.2/8								
55	10/12								
75	13/13.2								
95	16/17/18.8	● (16)	● (16)	● (16)	● (16)	● (16)	● (16)	● (16)	● (16)
120									
150	32	●	●	●	●	●	●	●	●
200									
250	48	●	●	●	●	●	●	●	●
300	64	●	●	●	●	●	●	●	●
400	80	●	●	●	●	●	●	●	●
480	96	●	●	●	●	●	●	●	●
-	128	●	●	●	●	●	●	●	●
710	160	●	●	●	●	●	●	●	●
960	192	●	●	●	●	●	●	●	●
1450	256	●	●	●	●	●	●	●	●
Differential pressure gauge		● Standard equipment	● Standard equipment	● Standard equipment	—	● Standard equipment	● Standard equipment	● Standard equipment	—
Differential pressure alarm output		▲ Custom order	▲ Custom order	▲ Custom order	—	● Standard equipment	● Standard equipment	● Standard equipment	—
Automatic drain		Float type	Float type	Float type	—	Electronic (with alarm output)	Electronic (with alarm output)	Float type	—
Low pressure loss element		● Standard equipment	● Standard equipment	● Standard equipment	● Standard equipment	● Standard equipment	● Standard equipment	● Standard equipment	● Standard equipment
Shut-off valve		● Included in automatic drain	● Included in automatic drain	● Included in automatic drain	X	● Included in automatic drain	● Included in automatic drain	● Included in automatic drain	● Standard equipment
Optional color		● Option	● Option	● Option	● Option	—	—	—	—
Coupling flange attached		● Option	● Option	● Option	● Option	● Option	● Option	● Option	● Option
Anchor bolt, nut attached		● Option	● Option	● Option	● Option	● Option	● Option	● Option	● Option
Anchor bolt, nut attached (SUS)		● Option	● Option	● Option	● Option	● Option	● Option	● Option	● Option
Outdoors specifications		● Option	● Option	● Option	● Option	▲ Custom order	▲ Custom order	▲ Custom order	▲ Custom order
IN-OUT reverse direction		● Option	● Option	● Option	● Option	● Option	● Option	● Option	● Option
Product photo		● Option	● Option	● Option	● Option	● Option	● Option	● Option	● Option
Appearance									
Page		188	190	192	194	204	208	212	216

Air filter

Guide to size of particle

Guide to size of particle



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 conf. 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

Air filter

Replacing the element

1 ⚠ Spent element must be disposed properly as industrial waste.
The filter cannot be regenerated and used again.
If the filter contains toxic or harmful substances, dispose of substances based on local laws.

2 Replace the element based on the following replacement standards.

P type: Replace when the differential pressure indicator in the filter body indicates the red zone or after one year of use, whichever is sooner.
If use is continued while the indicator is in the red zone, the filter element could be damaged by the pressure difference, or pressure required for device operation may not be attained at the end.

S type, M type:
Replace when the differential pressure indicator in the filter body indicates the red zone or after one year of use, whichever is sooner.
If use is continued while the indicator is in the red zone, the filter element could be damaged by the pressure difference, or pressure required for device operation may not be attained at the end.
When using the filter to remove oil, and use is continued while the indicator is in the red zone, oil captured by the element may flow into the are again, and be carried to the secondary side. This inhibits oil removal.

X type: Replace the element after 1000 hours of use, or when the odor removing effect is lost.
The X type filter absorbs odorous molecules with absorbent, so the life span cannot be detected by the element's pressure difference. Judge the state by order control the life span based on usage time.

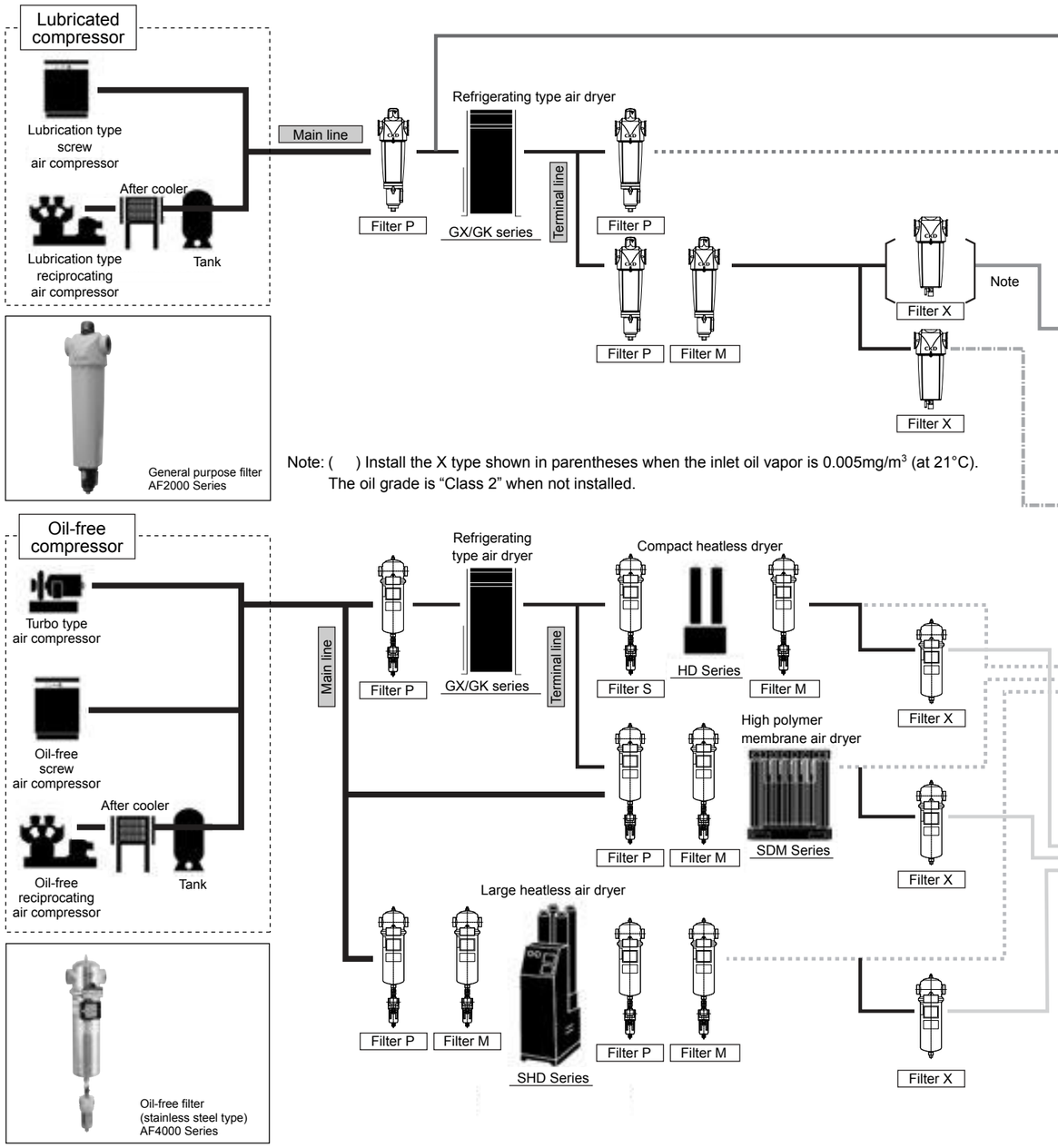
⚠ Valve operation at start and end of daily operations

If the large ball valve, etc., is opened when starting and ending operations, pay attention to the following and open the valve slowly.

- If the large bore size valve is opened suddenly, an excessive flow rate several-fold larger than set device specifications may flow and damage the internal structure.
- If the large bore size valve is opened suddenly to discharge any residual pressure from the air line at the end of daily operations, excessive flow may flow as above and reverse flow could occur. That could damage devices.
- Note that the differential pressure gauge can be easily damaged by increase of pressure loss in excessive flow (equivalent to the square of the flow rate), and reverse pressure caused by reverse flow.

MEMO

Medium main line filter device recommended system configuration



Note: ( ) Install the X type shown in parentheses when the inlet oil vapor is 0.005mg/m³ (at 21°C).
The oil grade is “Class 2” when not installed.

Air quality	Applications	Impurities in compressed air			Grade
		Solid particles	Moisture	Oil content	
Water drip removal air Coarse dust removal air	Construction, Civil engineering machine Air blow for cleaning (dry air not required)	5μm	–	–	4. – . –
General dry air	General-purpose pneumatic devices General-purpose pneumatic tool Labor saving mechanisms Pneumatic jigs and tools Air chuck Air vice Precision part cleaning air blow	1μm	Pressure dew point 10°C	0.6mg/m³	3.6.3
			Pressure dew point 7°C		3.5.3
Dry air (oil free)	Instrumentation Measurement Logic control Luxury painting	0.01μm	Pressure dew point 10°C	0.01mg/m³ (0.003mg/m³)	2.6.1
			Pressure dew point 7°C		2.5.1
Dry air (odorless)	Food processing industry (Where air is not directly blown onto food) Pharmaceutical industry Agitation, Transportation, Dry, Package, Air for brewing	0.01μm	Pressure dew point 10°C	0.003mg/m³	2.6.1
			Pressure dew point 7°C		2.5.1
Ultra dry air (oil free)	Ozone generator Powder transfer Drying furnace gas Drying high tension generator insulation gas Drying in computer room Central control instrumentation	0.01μm	Pressure dew point -20°C	0.01mg/m³	2.3.1
			Pressure dew point -40°C		2.2.1
			Pressure dew point -60°C		2.2.1
Ultra dry air (odorless)	Food processing industry (Where air is not directly blown onto food) Pharmaceutical industry Agitation, Transportation, Dry, Package, Air for brewing	0.01μm	Pressure dew point -20°C	0.003mg/m³	2.3.1
			Pressure dew point -40°C		2.2.1
			Pressure dew point -60°C		2.2.1

Cautions on system selection

Note 1. Check catalog specifications for different conditions before selecting a model.
Note 2. This example of system selection is based on air cooling refrigerating type air dryer. When selecting based on air cooling refrigerating type air dryer, since standard treating flow rate may differ, model no. of filter may vary. Consult with CKD for details.
Note 3. Air filter is to be used where inlet air temperature is 60°C or less, and oil mist filter is where inlet air temperature is 30°C or less.
If air temperature from the secondary side of refrigerating type air dryer is high, keep enough distance from a refrigerating type air dryer to maintain the temperature not greater than the inlet air temperature.
Note 4. This system can not be used for high pressure specifications (1 to 1.6 MPa). In that case, consult with CKD.
Note 5. Use rust proof (zinc plating pipe, lining tube, stainless steel tube, etc.) for pipe material.
Note 6. If treating air flow rate, larger than refrigerating air dryer supplies, could be used instantaneously, install a tank to the secondary side of refrigerating type air dryer. Installing a tank supplies stable moisture removed air.
Note 7. An air filter at the secondary side of refrigerating air dryer can be used as a pre-filter before an oil mist filter.
Note 8. Depending on working conditions, refrigerating type air dryer may dew inside of a dryer, dew condensation may drip to the floor. To prevent drips from flowing out, install a drain-pan, etc., before installing a dryer.
Note 9. Consult with CKD for energy saving system.
Note 10. Install a filter to remove impurities and contaminants generated in the pipe to just before pneumatic components.

Compressor air quality class according to JIS B 8392-1: 2003

Grade	Solid particles						Temperature and moisture		Oil
	Max. number of particles per 1m³				Particle diameter μm	concentration mg/m³	Pressure dew point °C	Water concentration Cw g/m³	Total oil concentration mg/m³
	Particle diameter d μm								
	d≦0.10	0.10<d≦0.5	0.5<d≦1.0	1.0<d≦5.0					
0	Conditions stricter than Class 1 to be determined by user or supplier.								
1	–	100	1	0	–	–	≦-70	–	≦0.01
2	–	100,000	1,000	10	–	–	≦-40	–	≦0.1
3	–	–	10,000	500	–	–	≦-20	–	≦1
4	–	–	–	1,000	–	–	≦+3	–	≦5
5	–	–	–	20,000	–	–	≦+7	–	–
6	–	–	–	–	≦5	≦5	≦+10	–	–
7	–	–	–	–	≦40	≦10	–	Cw≦≦0.5	–
8	–	–	–	–	–	–	–	0.5<Cw≦5	–
9	–	–	–	–	–	–	–	5<Cw≦10	–

Details have changed due to revision of JIS B 8392-1:2000 to JIS B 9392-1: 2003

"For example"
"Grade 2.2.1" shows the grade that
- Solid particles 0.1 to 0.5μm are 100,000 particles or less, 0.5 to 1.0μm are 1,000 particles or less, and 1.0 to 5.0μm are 10 particles or less
- Pressure dew point -40°C or less.
- Oil concentration 0.01mg/m³ or less

Medium main line filter
AF2000

■ Components for air preparation and pressure adjustment /main line unit / air filter

Overview

A low pressure loss, long life and compact size have been realized by adopting new materials and new structure. This advanced energy-saving filter reduces running costs.

Features

(1) Advanced energy-saving element
The new pleated structure provides a large filtration area. The capacity for catching impurities is increased and the running costs are reduced (long life with low pressure loss). This has also contributed to a compact element.

(2) Simple module connections for further space saving
The filters can be connected with the module kit, enabling space-saving installation. The reviewed connection structure has improved work efficiency.

(3) Easy element replacement
The element can be replaced without touching the dirty element surface.

(4) Reliable drain separater
Snap drain with long service life / high reliable is provided as standard for drain separator.

(5) Incorporated differential pressure indicator
Differential pressure indiator provided as standard to easily control element service life.

CONTENTS

Evolutionary energy saving filter

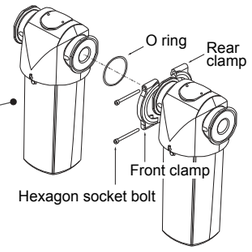
New materials and new structure realize lower pressure losses, longer life and smaller size.
Medium main line filter AF2000 Series helps reduce running costs.

Differential indicator

A differential pressure, required to check the life, is provided as a standard. (P/M type)

New Module connection saves space

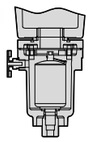
The filters can be coupled with a module kit thus enabling space saving installation.
The work efficiency is improved by reviewing the filter's coupling structure.



New Easy element replacement

Replace the element without touching the dirtied surface.

Highly reliable drain separator mounted as standard



Side gauge

The drain level can be visually confirmed.

Energy release valve

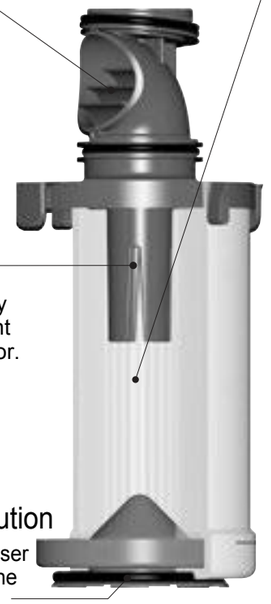
Residual air is released.

New

Internal filter structure

Efficiency separate the air flow

The branched impeller efficiency guides the air flow into the element.

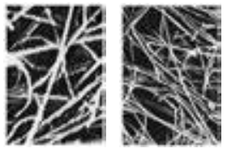


Minimize pressure losses

The nano fiber filter media* constantly separates oil and water, thus minimizing pressure losses.
* The filter media repels water and suppresses moisture absorption.

*: Different density nano fiber filter media

Media with different densities are set in a stepped format to increase the filter life.



Uniform air flow

The air flow is uniformly sent to the filter element by the air flow distributor.

Efficient air distribution

The conical air flow diffuser settles disturbances in the air flow and efficiently distributes the air flow.

New

New energy saving, space saving structure

A pleated structure is used. With the large filtration area, the capacity to collect impurities increases and running costs are reduced (longer life with low pressure).
The element has also been downsized.

AF2000 Series

Water drop removal
Oil mist removal
Solid particle removal

Protect your expensive air compressor

* Removes particles 1μm or larger
* Secondary oil concentration
  Removes oil up to 0.6mg/m^3 (at 21°C)

PType

High-performance removal of oil mist
High-performance removal of solids

Suitable for pneumatic pressure circuits which are susceptible to oil

* Removes particles 0.01μm or larger
* Secondary oil concentration
  Removes oil up to 0.01mg/m^3 (at 21°C)

MType

Oil vapor removal
Odor removal

Suitable for pneumatic pressure circuits which are susceptible to odors

* Absorption with active carbon fibers
* Secondary oil concentration
  Removes oil up to 0.003mg/m^3 (at 21°C)

XType

Pneumatic components (main line filter)

Safety precautions

Always read this section before starting use.
Refer to Intro 67 for general precautions.

Medium main line filter AF2000 Series.

Design & Selection

⚠WARNING

■ The manufacturer cannot be held liable in the following cases:
- Serious errors in use occur due to the operator.
- Illegal modifications or repairs using nonstandard parts by user.

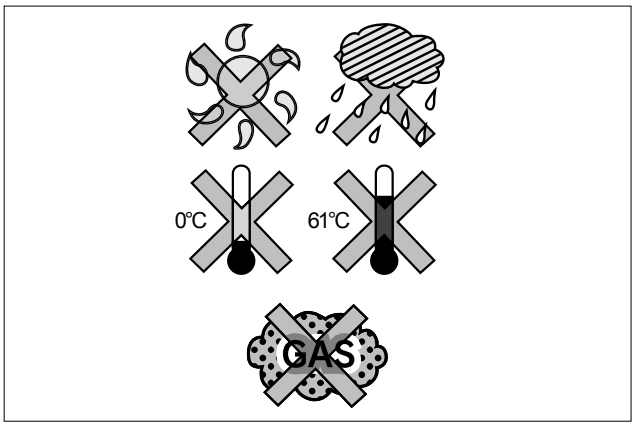
Design & Selection

⚠WARNING

■ Do not use for applications other than compressed air.
■ Do not use this product for caisson shields, medical apparatuses used for breathing, or for direct air blow onto food stuffs.
- There is a risk of personal injury.

■ Do not mount and use this device onto transportation equipment such as vehicles or ships.
- The internal devices could be damaged by vibration, etc.

■ Avoid direct sunlight and rain water. The resin parts, etc., could deteriorate and break.
■ Avoid use in the area containing corrosive gas.
■ Use this product within the range of working temperature.



■ Do not use the product where it could freeze.The accumulated drainage could freeze and damage the product.
■ Do not use in dangerous places (atmosphere with risk of explosions, etc.).
■ The inlet temperature should be kept as low as possible. The oil removing rate will drop if the temperature is high.
■ Do not use this product in an ozone generating environment.
■ Avoid using this product where vibration and impact are present.
■ Do not use this product in areas containing dust, etc.
■ Do not use this product in an environment in which the compressed air contains the following type of gas substances.
- Sulfurous acid gas, chlorine gas
- Aromatic hydrocarbon compounds (Example, Benzene, toluene, phenol, cyclohexane, etc.)
- Chlorinated hydrocarbon compounds (Example, Trichloroethylene, chloroform, etc.)
- Ketones (Example, Acetone, etc.)
- Aldehydes (Example, formaldehyde or acetaldehyde etc..)
- Amines (Example, Ethyl-amine, methyl-amine, etc.)

■ Always set the air flow to within the working pressure range, and use treated air.
- Failure to observe this may prevent proper removal of water, dust and oil.

■ Install this product indoors.

Installation & Adjustment

⚠CAUTION

■ Do not step onto this product.
■ When piping, remove cutting oil and rust proof oil, etc.
■ Secure enough space for maintenance and inspection.
■ Do not mount directly after a valve which opens/closes suddenly. Do not install in a system where a back flow could occur, or where the product could be subject to impact. Do not install this filter in a system where a reverse flow could occur or where impact could be applied easily.
■ Flash the drain piping before installing to remove any foreign matter from inside.
■ Use an inner diameter ø5.7 to 6.0 pipe within 5m long for the P, S or M type drain separator piping. Avoid laying the pipe with an upward slope.
■ Drainage is discharged with pressure, so securely fix the piping at the drain port so that drainage does not splatter.

Installation & Adjustment

- Mount the bowl vertically facing downward. Failure to do so could cause drainage discharge faults.
  Lay the drain pipe so that it is not pressurized. Laying several pipes together or attaching a check valve will create a pressurized state. Do not lay the pipes in this state.
- Ensure that the product's weight can be sufficiently withstood when installing. Fix the inlet and outlet piping to the floor or ceiling with a holder or supporter, etc.
- When connecting pipes, make sure that the front and back pipes are straight.
- Do not apply excessive force on the connected pipes. Excessive force could deform or damage the connection port threads or the joint.
- Use an inner diameter ø5.7 to 6.0 pipe within 5m long for the P or M type drain separator piping. Avoid laying the pipe with an upward slope.
  The drain outlet is processed with female threads. Use that section when piping.
  When connecting the pipe, fix the nut with a spanner, etc. Do not apply excessive force on the threads.

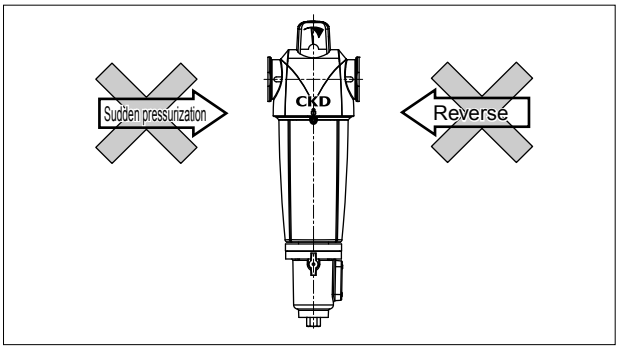
During Use & Maintenance

⚠WARNING

- Before removing the bowl, stop the compressed air and completely discharge the pressure in the bowl and confirm that there is no residual pressure.

⚠CAUTION

- Do not flow air in reverse. Do not pressurize suddenly. Otherwise, original performance may not be attained. There is a risk of damage.

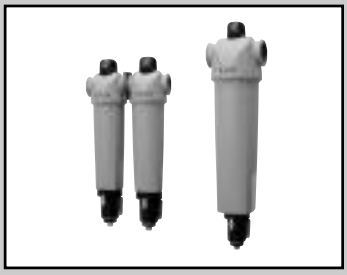


- The drain separator is a normal open type. The applicable compressor capacity is 0.75kW and over (discharge flow rate 90/min. and over).
- The life of the air filter is one year or when the differential pressure indicator's needle is in the red range, whichever is faster.
  Change the element when the life span is reached.
  (Note that X type must be replaced after 650 hours (at 21°C) or when the deodorizing effect is lost.)
- The drain separator is air purged with the initially generated drainage until the pressure rises to 0.1MPa.
- Release the air in the filter before servicing the drain separator for a drain fault, etc. Wash the drain unit with water and then blow compressed air with an air gun, etc.
  Wash the drain unit with water, and then remove all moisture with an air gun.
- An air release valve is provided on the bottom of the filter. Use this to release the air.

● Chemical resistance of drain separator's plastic bowl.

Types of chemicals	Category of chemicals	Main products of chemicals	General usage examples	Polycarbonate	Nylon
Inorganic compound	Acid	Hydrochloric acid, sulfuric acid, fluorine, phosphoric acid, chromic acid, etc.	Acid washing of metals, acidic degreasing solution, film treatment liquid, film treatment liquid	×	×
	Alkaline	Caustic soda, caustic potash, calcium hydroxide, aqueous ammonia, sodium carbonate, etc.	Alkaline degreasing of metals	×	○
	Inorganic salt	Sodium sulfide, nitric acid potash, potassium bichromate, sodium sulfide, etc.		×	○
Organic compound	Aromatic hydrocarbon	Benzene, toluene, xylene, ethyl benzen, stylene, etc.	Contained in paint thinner (benzene, toluene, xylene)	×	×
	Chlorinated aliphatic hydrocarbons	Methyl chloride, ethylene chloride, methylene chloride, acethlene chloride, chloroform, trichlene, perchlene, carbon tetrachloride	Organic solvent-based washing solution for metals (trichlene, perchlene, carbon tetrachloride, etc.)	×	○
	Chlorinated aromatic hydrocarbons	Chlorobenzene, dichlorobenzene, benzene hexachloride (B/H/C), etc.	Agricultural chemicals	×	○
	Petroleum components	Solvent, naphtha, gasoline		×	○
	Alcohol	Methyl alcohol, ethyl alcohol, cyclohexanol, benzyl alcohol	Anti-freeze	×	×
	Phenol	Carbolic acid, cresol, naphthol, etc.	Liquid disinfectant	×	×
	Ether	Methyl ether, methyl ethyl ether, ethyl ether	Brake fluid additive	×	○
	Ketone	Acetone, methyl ethyl keton, cyclohexanone, acetophenone, etc.		×	×
	Carboxylic acid	Formic acid, acetic acid, butyl acid, acrylic acid, oxalic acid, phthalic acid, etc.	Dyes; oxalic acid for aluminum processing, phthalic acid for paint base	×	×
	Phosphate ester	Dimethyl phthalate (DMP), diethyl phthalate (DEP), dibutyl phthalate (DBP), dioctyl phthalate (DOP)	Lubricant, synthetic hydraulic fluid, rust-preventing agent, additive plasticizer for synthetic resin	×	○
	Oxyacid	Glycocholic acid, lactic acid, malic acid, citric acid, tartrate		×	×
	Nitro compound	Nitro methane, nitro ethane, nitro ethylene, nitro benzene, etc.		×	○
	Amine	Methylamine, diethylamine, ethylamine, aniline, acetoanilide, etc.	Brake fluid additive	×	×
	Nitrile	Acetnitrile, achrylonitrile, benznitrile, acetoylidyne nitrile, etc.	Raw material for nitryl rubber	×	○

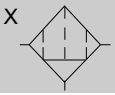
○: Available ×: Not available



Main line filter

AF2000P/M/X Series

Perfect for solid particle removing, oil removing and deodorizing applications.
Treating air flow rate: 3.7 to 25.8m³/min. (ANR) (0.7MPa)

JIS symbol P  M  X 

RoHS

Specifications

Descriptions		AF2004□-25	AF2007□-40	AF2010□-40	AF2013□-50	AF2020□-50	AF2026□-65
Treating air flow rate	m³/min. (ANR)	3.7	6.6	9.6	13.2	19.8	25.8
Working fluid		Compressed air					
Working pressure range	MPa	0.1 to 1.0					
Withstanding pressure	MPa	1.5					
Port size	Rc	1	1 1/2		2		2 1/2
Product weight X type shown in parentheses	kg	2.6 (2.2)	3.0 (2.6)	4.9 (4.5)	5.6 (5.25)	5.65 (5.25)	11.1 (10.7)
Differential pressure indicator		Standard equipment (Excluding X type)					
Automatic drain		Integrated (NO type: discharge when not pressurized. Excluding X type)					
Drain outlet diameter	Rc	1/8 (Excluding X type)					

Indicate series on*.

Descriptions		P type	M type	X type
Ambient temperature range	°C	5 to 60		5 to 30
Filtration rating	μm	1	0.01	Absorption by activated charcoal
Secondary side oil concentration	mg/m³	0.6	0.01	0.003
Initial pressure drop	MPa	0.007	0.01	0.02
Regular pressure drop	MPa	0.014	0.02	–

Note 1: Treating air flow rate is the atmospheric pressure conversion value where inlet pressure is 0.7MPa.
Note 2. ANR shows conditions where 20°C atmospheric pressure and relative humidity 65%.
Note 3: The secondary side oil concentration is the value when the inlet air temperature is 21°C.
Note 4: The drain separator is a NO type. The drain separator is air purged with the initially generated drainage until the pressure rises to 0.1MPa.
Note 5: The P/M type element must be replaced after one year or when the differential pressure indicator's needle reaches the red range, whichever is faster.
Note 6: Replace the X type after 650 hours (at 21°C) or when the deodorizing effect is lost.
Note 7: The X type has a ball valve (Rc1/2) at the discharge outlet.

How to order

AF2 004 P - 25

Ⓐ Flow rate code
Ⓑ Element type
Ⓒ Port size

Symbol	Descriptions
Ⓐ Flow rate code	
004	3.7m³/min. (ANR)
007	6.6m³/min. (ANR)
010	9.6m³/min. (ANR)
013	13.2m³/min. (ANR)
020	19.8m³/min. (ANR)
026	25.8m³/min. (ANR)
Ⓑ Element type	
P	P type (solid/oil removing filter)
M	M type (high-performance solid/oil removing filter)
X	X type (deodorizing filter)
Ⓒ Port size	
25	Rc1
40	Rc1 1/2
50	Rc2
65	Rc2 1/2

Precautions for selection

The required performance may not be attained if using at a level less than the selected pressure. Always select the model with the working pressure.

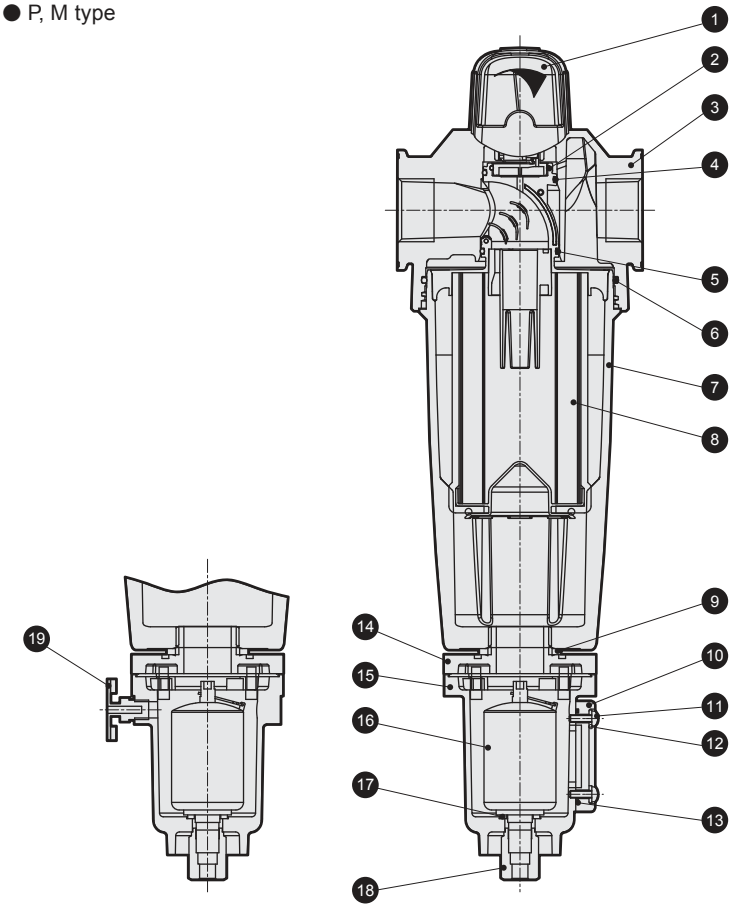
Flow rate compensation coefficient

Pressure (MPa)	Compensation coefficient
0.1	0.38
0.2	0.53
0.3	0.65
0.4	0.76
0.5	0.85
0.6	0.93
0.7	1.0
0.8	1.07
0.9	1.13
1.0	1.18

If working pressure is other than 0.7MPa, multiply treated air flow rate by the above coefficient.

Internal structure and parts list

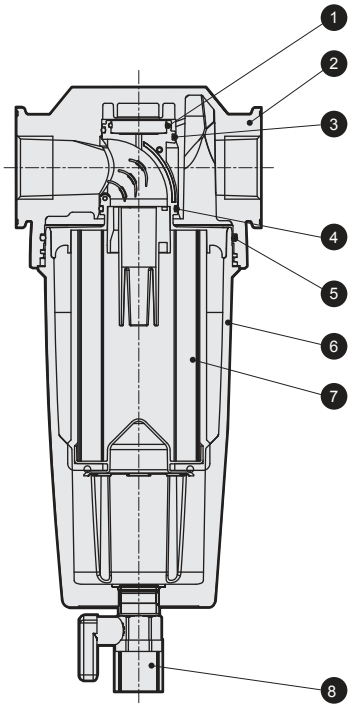
● P, M type



Parts list

No.	Part name	Material
1	Differential pressure indicator	
2	O ring	NBR
3	Guard	Aluminum
4	O ring	NBR
5	O ring	NBR
6	O ring	NBR
7	Bowl	Aluminum
8	Element	
9	Seal washer	Steel, NBR
10	Side gauge	Sulfone
11	Small screw	Steel
12	Washer	PA
13	Packing	NBR
14	Cap	Aluminum
15	Case	Aluminum
16	Automatic drain	
17	Packing	NBR
18	Adaptor nut	C3604
19	Valve	

● X type

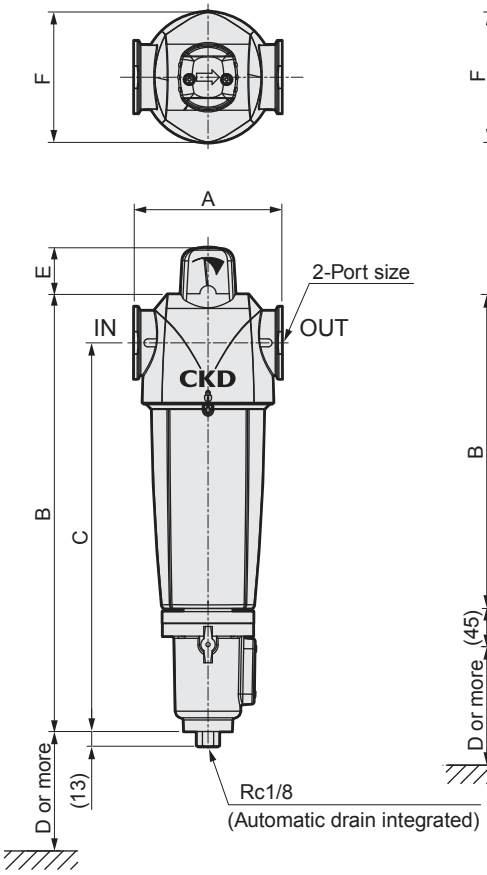


Parts list

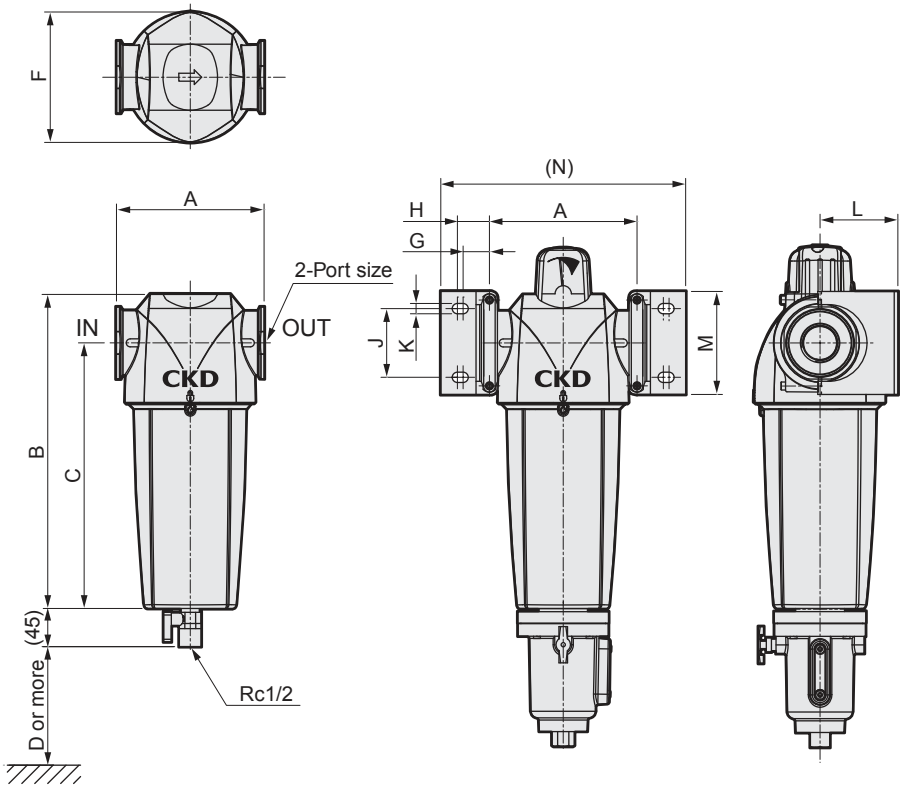
No.	Part name	Material
1	O ring	NBR
2	Guard	Aluminum
3	O ring	NBR
4	O ring	NBR
5	O ring	NBR
6	Bowl	Aluminum
7	Element	
8	Ball valve	

Dimensions

● AF2004P/M to AF2026P/M



● AF2004X to AF2026X



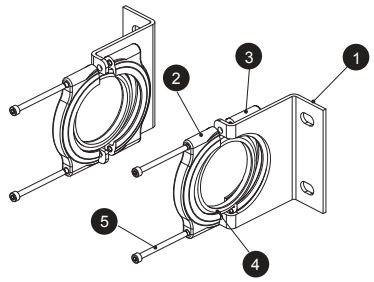
Model no.	Port size	A	B	C	D	E	F	G	H	J	K	L	M	N
AF2004P/M-25	Rc1	129	383	340	70	43	114	23	28	60	9	68	90	214
AF2004X-25	Rc1	129	274	232	70	–	114	23	28	60	9	68	90	214
AF2007P/M-40	Rc1 1/2	129	473	430	70	43	114	23	28	60	9	68	90	214
AF2007X-40	Rc1 1/2	129	364	322	70	–	114	23	28	60	9	68	90	214
AF2010P/M-40	Rc1 1/2	170	541	491	100	46	155	32	39	84	11	92	120	291
AF2010X-40	Rc1 1/2	170	433	383	100	–	155	32	39	84	11	92	120	291
AF2013P/M-50	Rc2	170	633	583	100	46	155	32	39	84	11	92	120	291
AF2013X-50	Rc2	170	525	475	100	–	155	32	39	84	11	92	120	291
AF2020P/M-50	Rc2	170	633	583	100	46	155	32	39	84	11	92	120	291
AF2020X-50	Rc2	170	525	475	100	–	155	32	39	84	11	92	120	291
AF2026P/M-65	Rc2 1/2	205	750	690	120	49	180	35.5	42.5	100	11	135	150	332
AF2026X-65	Rc2 1/2	205	642	582	120	–	180	35.5	42.5	100	11	135	150	332

The X type does not have a differential pressure indicator.
The D dimensions show the minimum dimensions required to remove the element. Allow for the auto drain piping dimensions when actually laying the pipe.

Configurations table

Bracket kit

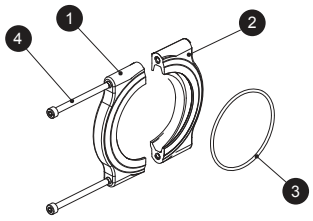
Model	Model no.
AF2004 to AF2007	AF2004-KD4-162775
AF2010 to AF2020	AF2010-KD4-162776
AF2026	AF2026-KD4-168281



No.	Part name	Quantity
1	Mounting bracket	2
2	Front clamp	2
3	Rear clamp	2
4	Mounting spacer	2
5	Hexagon socket bolt	4

Module kit

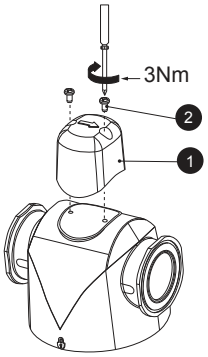
Model	Model no.
AF2004 to AF2007	AF2004-KD4-162773
AF2010 to AF2020	AF2010-KD4-162774
AF2026	AF2026-KD4-168280



No.	Part name	Quantity
1	Front clamp	1
2	Rear clamp	1
3	O ring	1
4	Hexagon socket bolt	2

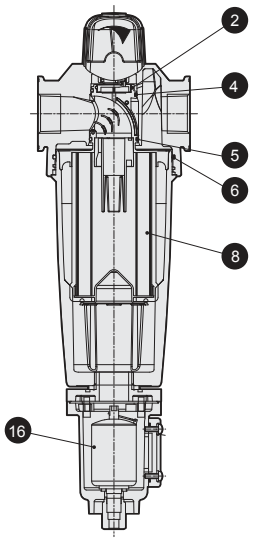
Differential pressure indicator

Model	Model no.
AF2004 to AF2026	AF2004-KD4-162778



No.	Part name	Quantity
1	Differential pressure indicator	1
2	Mounting screw	2

Repair parts list



Repair part kit No. / Model	O Ring ②③④⑤	Automatic drain ⑯
AF2004*-25	AF2004-KD4-162779	AF2004-KFL-391722
AF2007*-40		
AF2010*-40	AF2010-KD4-162780	
AF2013*-50		
AF2020*-50		
AF2026*-65	AF2026-KD4-168282	

The P/M/X type name is indicated with *.
The O ring kit consists of O rings for three elements and one bowl.
The auto drain kit consists of a float section, hexagon nut and packing.
The drain separator cannot be mounted on the X type.

Element

Repair part kit No. / Model	P Type element	M Type element	X Type element
AF2004*-25	AF2004P-KD4-162758	AF2004M-KD4-162759	AF2004X-KD4-162760
AF2007*-40	AF2007P-KD4-162761	AF2007M-KD4-162762	AF2007X-KD4-162763
AF2010*-40	AF2010P-KD4-162764	AF2010M-KD4-162765	AF2010X-KD4-162766
AF2013*-50	AF2013P-KD4-162767	AF2013M-KD4-162768	AF2013X-KD4-162769
AF2020*-50	AF2020P-KD4-162770	AF2020M-KD4-162771	AG2020X-KD4-162772
AF2026*-65	AF2026P-KD4-168277	AF2026M-KD4-168278	AF2026X-KD4-168279

The P/M/X type name is indicated with *.
The element kit consists of the O ring ②④⑤⑥ and element ⑧.