KONAN®

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No.2309E

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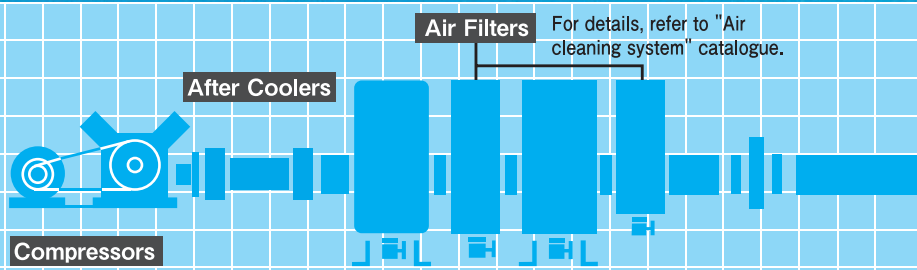
LINE COMPONENTS

KONAN ELECTRIC CO.,LTD.

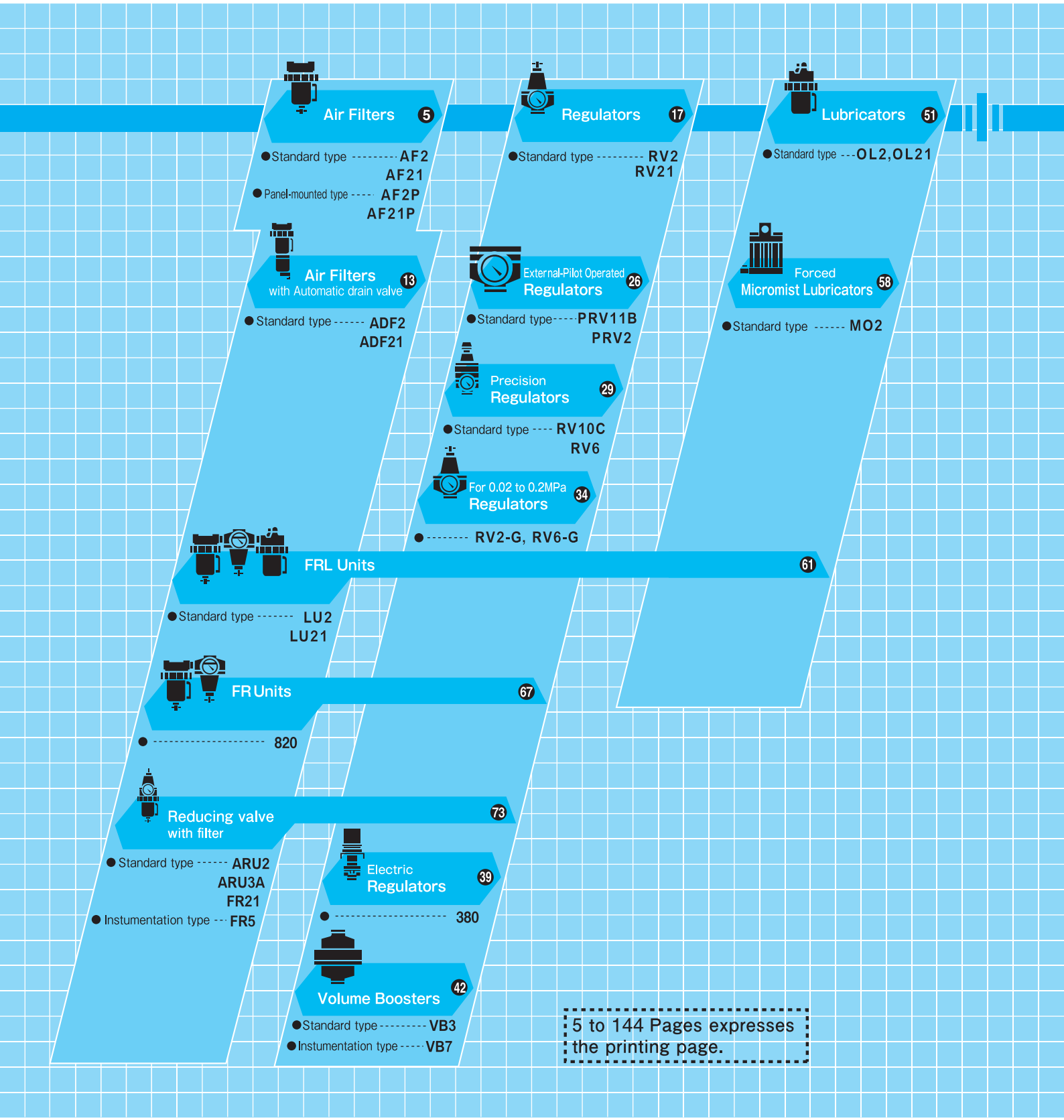
KONAN LINE COMPONENTS



"For both safety and savings..."

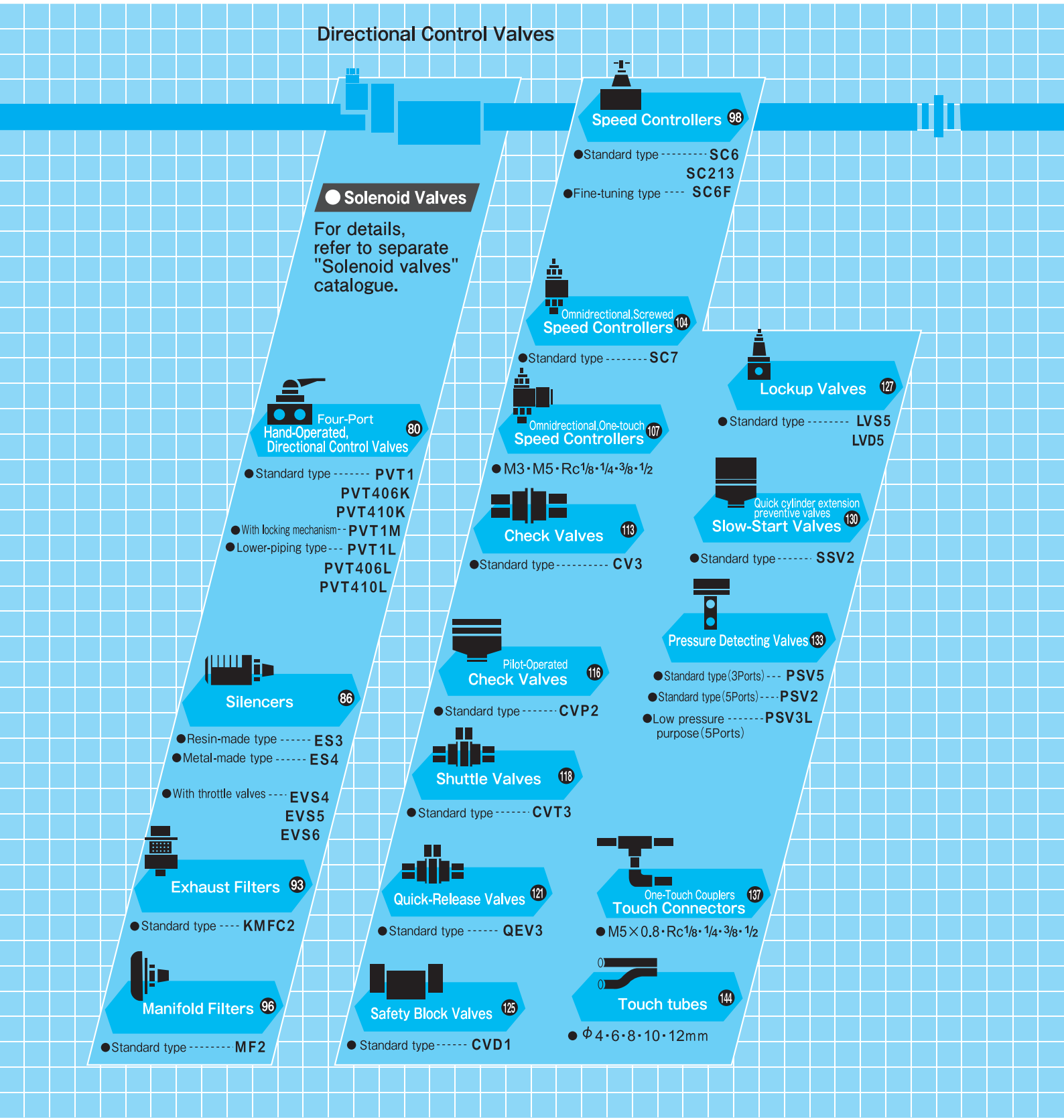
"The rising needs for automation and labor saving are satisfied by each member of the lineup, from genersl purpose types,where importance is given to basic performance,to specialized types designed for individual industries and applications"

This booklet shows groups of line controls necessary for adequate operation of solenoid valves,cylinders,etc.
Select the type best suited to your system by carefully examining the specifications.
For those other than contained here, please feel free to contact us.

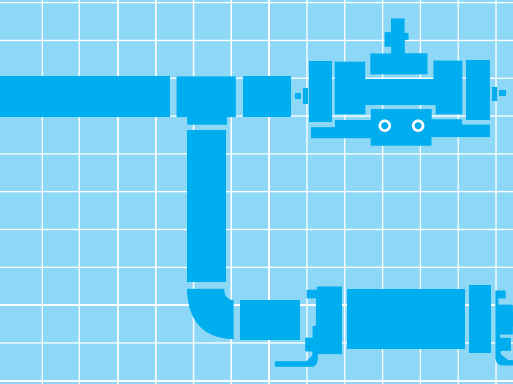


5 to 144 Pages expresses the printing page.

Directional Control Valves



Actuators



For details, refer to "Pneumatic rotary actuators" catalogue.

For details, refer to "Pneumatic cylinder" catalogue.

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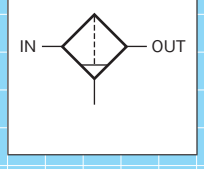
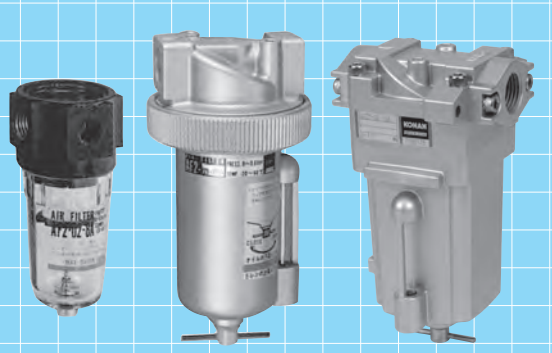
AIR FILTERS

Drain fluids in the pneumatic lines may increase piping corrosion resistance, and hinder the function of controls in the line, finally lead to accidents. Be sure to use air filters to remove drain fluids from the line and prevent problems.

AF2/AF21	Standard type	RC 1/8 ~ 100A
AF2P/AF21P	Panel-mount type	RC 1/4 ~ 1

JIS Symbol





Model Code

When ordering,specify the model as follows:

Standard type

Rc 1/8 ~ 1/4

AF2 –02– ② – ⑩

② Port size
⑩ Bracket

Rc 1/4 ~ 1/2

AF21 ① –04– ③ – ⑦ – ⑧ – ⑩

① Corrosion-resistant
③ Port size
⑦ Operating temperature range
⑧ Filter rating of element
⑩ Bracket

Rc 3/4 ~ 1

AF2 ① –08– ④ – ⑦ – ⑧

① Corrosion-resistant
④ Port size
⑦ Operating temperature range
⑧ Filter rating of element

Rc 1_1/4 ~ 2

AF2 ① – ⑤ – ⑦ – ⑧ – ⑨ – ⑩

① Corrosion-resistant
⑤ Port size
⑦ Operating temperature range
⑧ Filter rating of element
⑨ Level gauge
⑩ Bracket

Rc 2_1/2 ~ 100A Flange

AF2 – ⑥

⑥ Port size

Panel-mount type

Since these models are for panel mounting, drain cock are not installed but a female thread are tapped for piping. Please set up drain valve separately.

Rc 1/4 ~ 1/2

AF21P ① –04– ③ – ⑦ – ⑧ – ⑩

① Corrosion-resistant
③ Port size
⑦ Operating temperature range
⑧ Filter rating of element
⑩ Bracket

Rc 3/4 ~ 1

AF2P ① –08– ④ – ⑦ – ⑧

① Corrosion-resistant
④ Port size
⑦ Operating temperature range
⑧ Filter rating of element

❶ Corrosion-resistant

- Portions that are exposed to outside weather conditions are corrosion-resistant coating and the exposed bolts,nuts and brackets are stainless steel.

Standard	No entry
Corrosion-resistant type	S

❷ Port size

Rc 1/8	6A
Rc 1/4	8A

❸ Port size

Rc 1/4	8A
Rc 3/8	10A
Rc 1/2	15A

❹ Port size

Rc 3/4	20A
Rc 1	25A

❺ Port size

Rc 1_1/4	32A
Rc 1_1/2	40A
Rc 2	50A

❻ Port size

Rc 2_1/2	65A
80A Flange	80A
100A Flange	100A

❼ Operating temperature range

General purpose	− 20 ~ 60℃	No entry
Heat-resistant	5 ~ 100℃	HT
Freeze-resistant	− 40 ~ 45℃	LT

- For corrosion.freeze resistant type,allow some margin for delivery.
- In operating temperatures of 5℃ or less, provide adequate measures against freezing.
- Please note that no freeze-resistant are manufactured for filters with a Rc2 port size.

❽ Filter rating of element

General purpose	40 μm	No entry
Instrumentation	5 μm	5

- For the miniature type,note that a filter rating of 5 microns only is available.

❾ Level gauge

Without	No entry
Flont side	F
Back side	B

❿ Bracket

Without	No entry
With	BR

- Bracket is not mounted but appended with air filters.

Specifications

Model code	Standard type	AF2-02	
Port size		6A	8A
		Rc1/8	Rc1/4
※1 Effective sectional area		7㎟ Filter rating=5μm	
Operating pressure		0 ～ 1MPa	
Proof pressure		1.5MPa	
Operating temperature		− 20 ～ 60℃	
Mass		0.19kg	

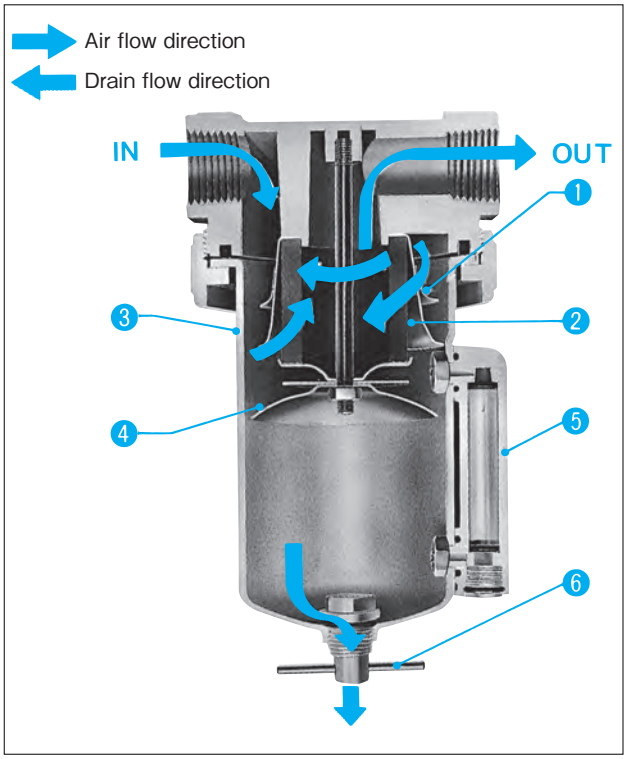
Model code	Standard type	AF21-04			AF2-08		AF2					
	Panel-mount type	AF21P-04			AF2P-08							
Port size		8A	10A	15A	20A	25A	32A	40A	50A	65A	80A Flange	100A Flange
		Rc1/4	Rc3/8	Rc1/2	Rc3/4	Rc1	Rc1 1/4	Rc1 1/2	Rc2	Rc2 1/2		
※1 Effective sectional area	General purpose	40㎟	68㎟	90㎟	171㎟	190㎟	480㎟	655㎟	1060㎟	1450㎟	1800㎟	2500㎟
	Instrumentation	28㎟	30㎟	40㎟	76㎟	77㎟	190㎟	190㎟	300㎟	—	—	—
Operating pressure		0 ～ 1.0MPa										
Proof pressure		1.5MPa										
Operating temperature		See Model Code section.					− 20 ～ 60℃					
Mass		0.58kg		0.62kg	0.6kg		12.0kg		22.0kg	28.0kg	39.0kg	50.0kg

- Above values of mass exclude weight of mounting bracket.
- For specifications other than those listed above,please contact us.

※ 1.Effective area shown when : inlet pressure 0.5MPa pressure drop（△P）0.05MPa

Operation

Standard type



1 Deflector

Changes air under pressure from IN port into a rotating flow and separates moisture from the air centrifugally.

2 Filter element

Filters out lightweight dirt,foreign matter,etc. that cannot be separated from the air centrifugally.

3 Bowl

Drain separated centrifugally runs down the inner wall of the bowl and collects at the bottom.

4 Baffle plate

Prevents drain at the bottom of the bowl's from mixing with the air again.

5 Side glass

Used to see how much drain has collected.

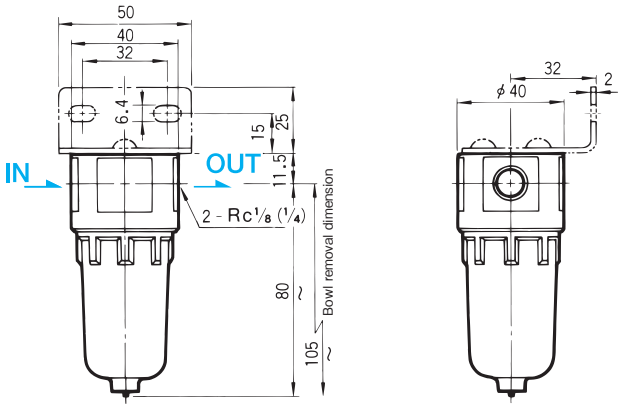
6 Drain cock

Turning the handle counterclockwise allows drain to be discharged.

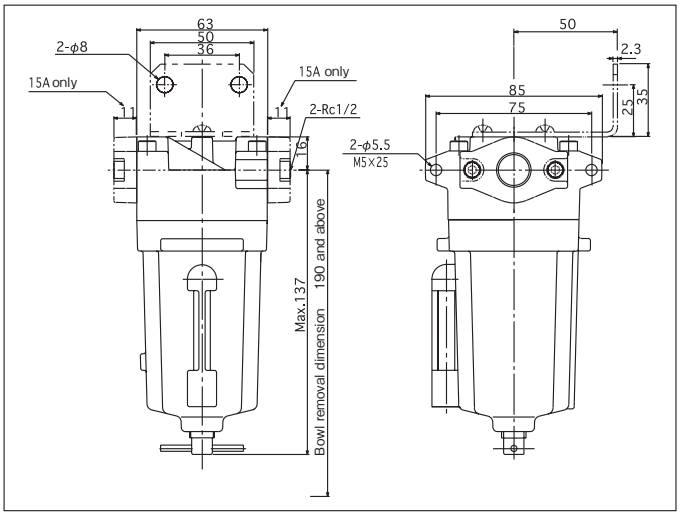
Outside Dimensions

Standard type

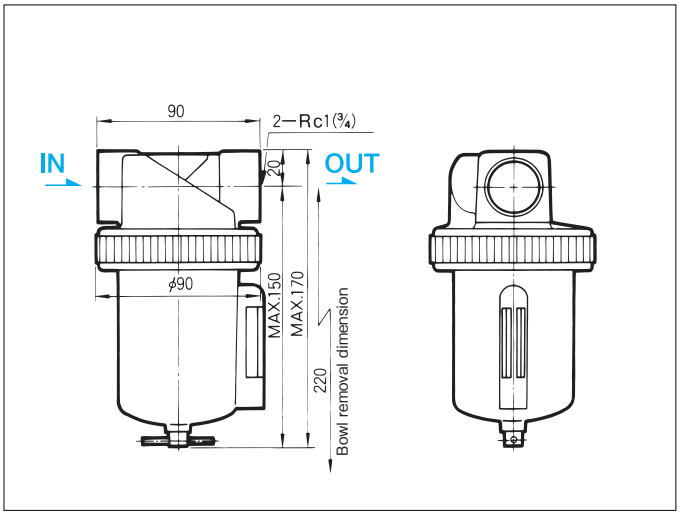
AF2-02-6A・8A



AF21-04-8A・10A・15A

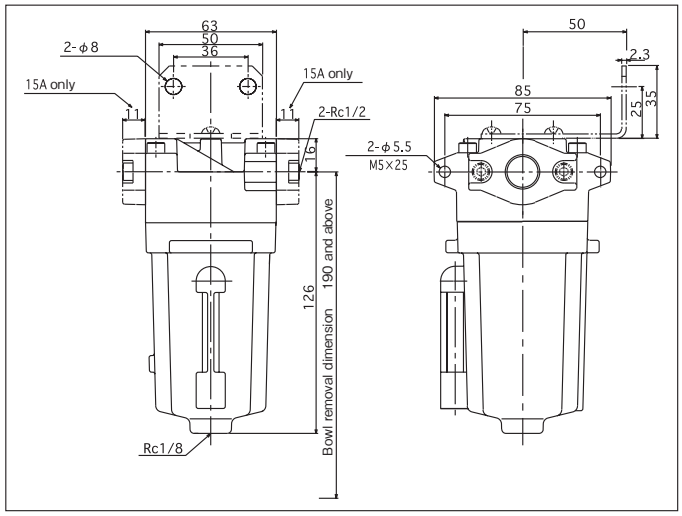


AF2-08-20A・25A

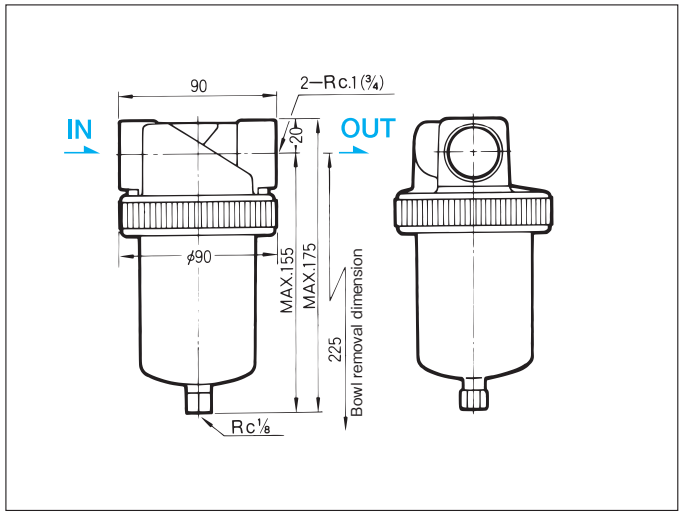


Panel-mount type

AF21P-04-8A・10A・15A



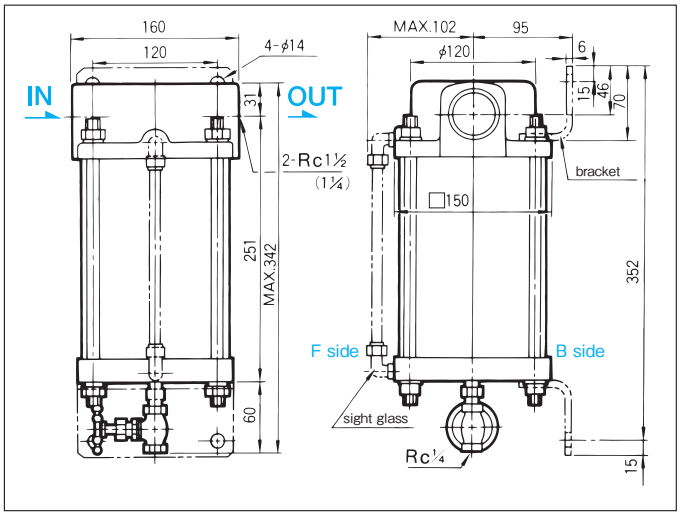
AF2P-08-20A・25A



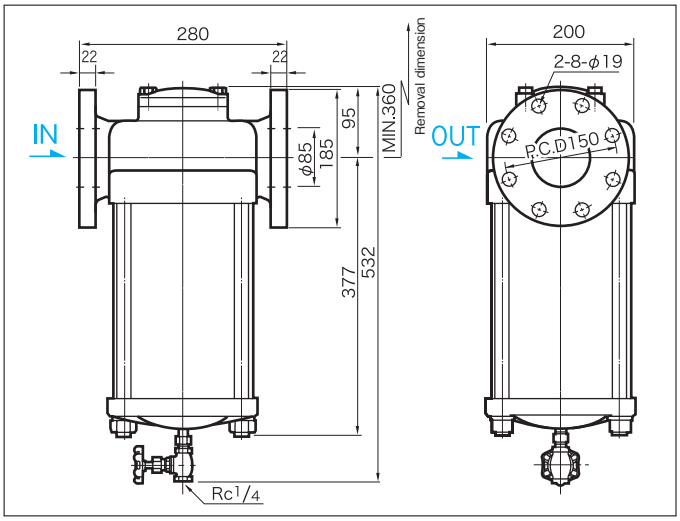
Outside Dimensions

Standard type

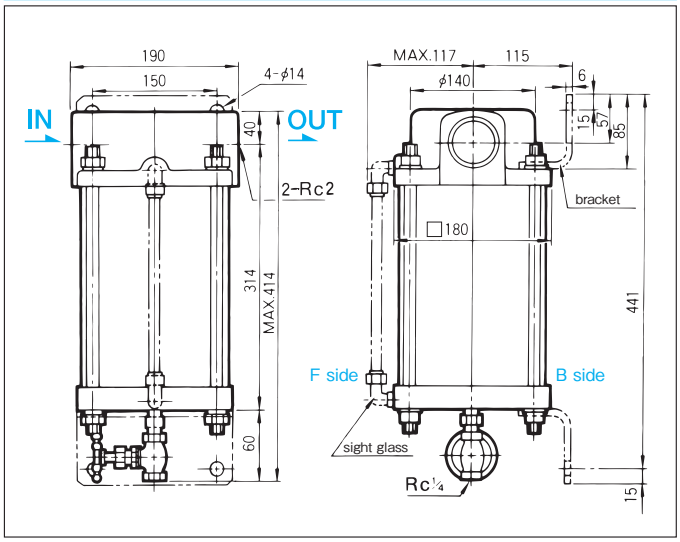
AF2-32A・40A



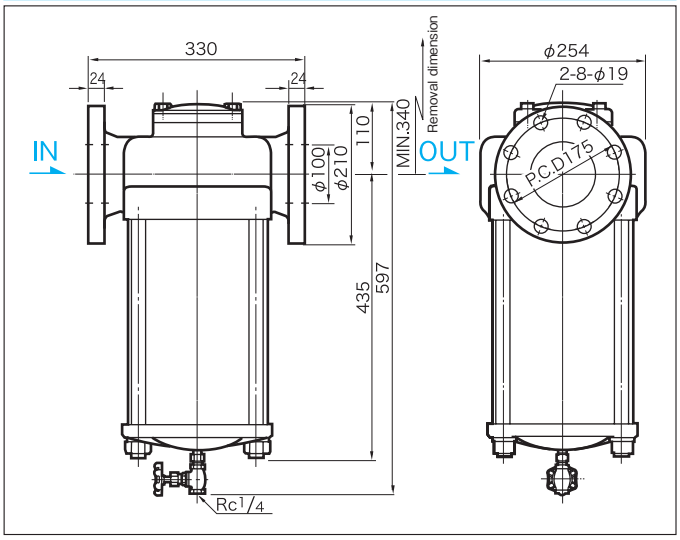
AF2-80A



AF2-50A



AF2-100A



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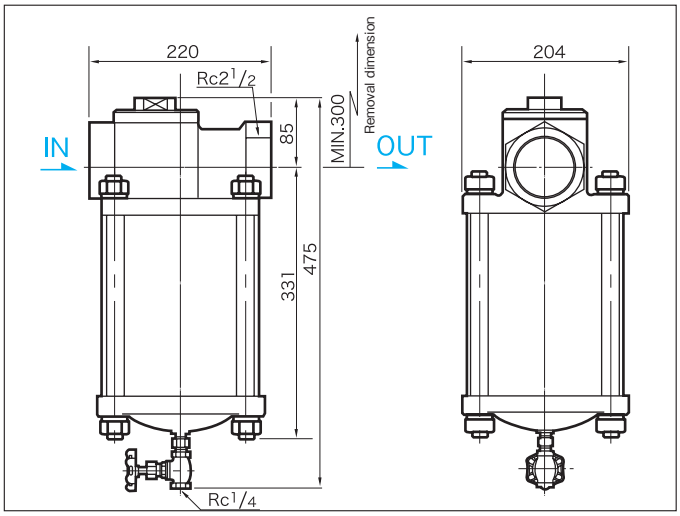
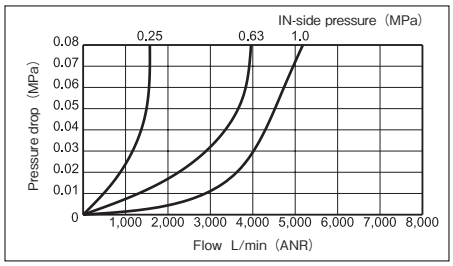


Performance Tables

Flow characteristics graphs (filter grade=40 μm)

Standard and Panel-mount type

AF21-04-8A



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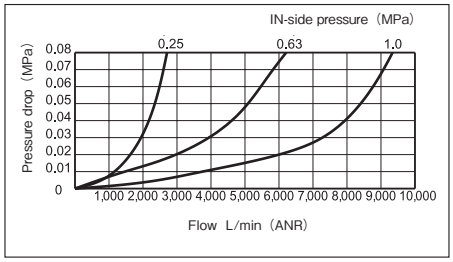
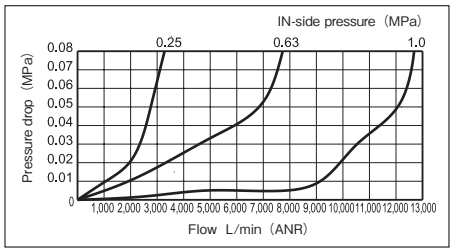


AF21-04-15A



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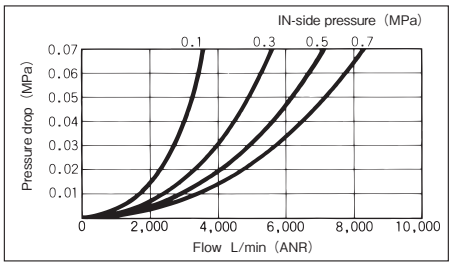

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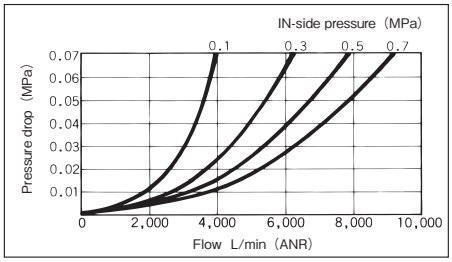
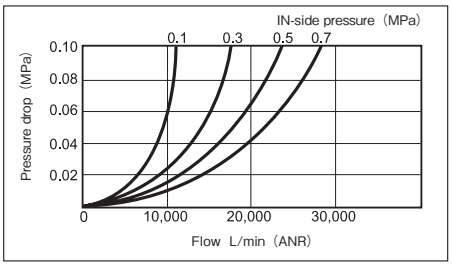
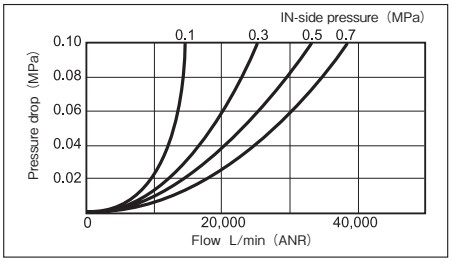


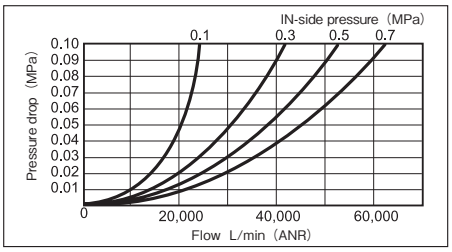
AF2-32A



AF2-40A



AF2-50A



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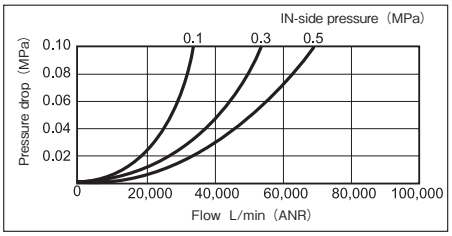
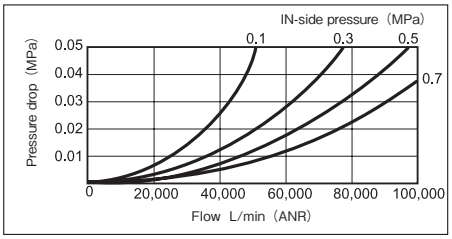
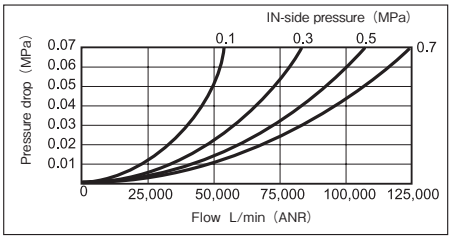


AF2-80A



AF2-100A

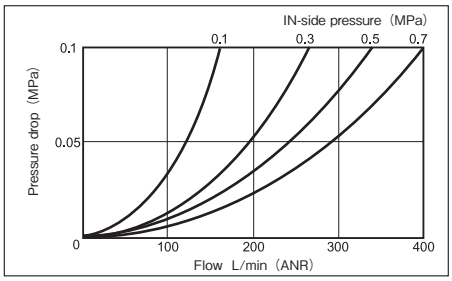


Performance Tables

Flow characteristics graphs (filter rating=5μm)

Standard and Panel-mount type

AF2-02-6A-8A



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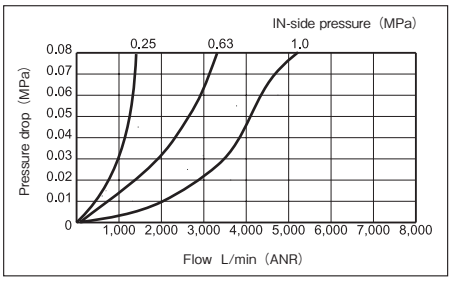
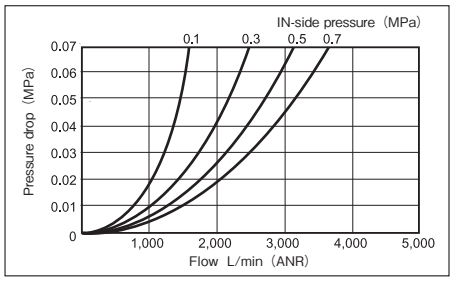
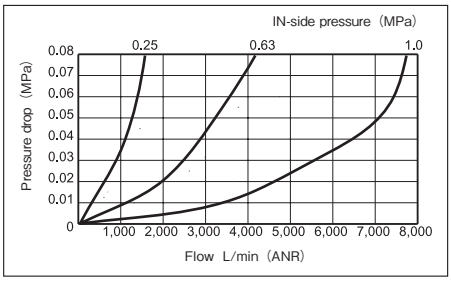


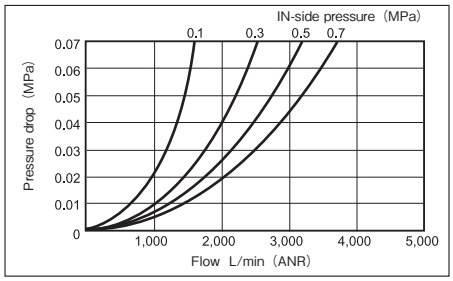
AF2-08-20A



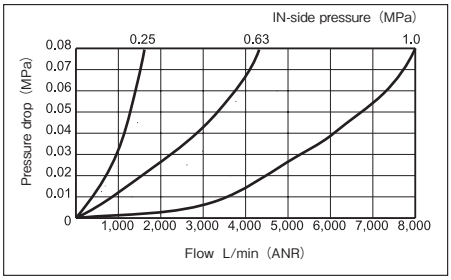
AF21-04-10A



AF2-08-25A



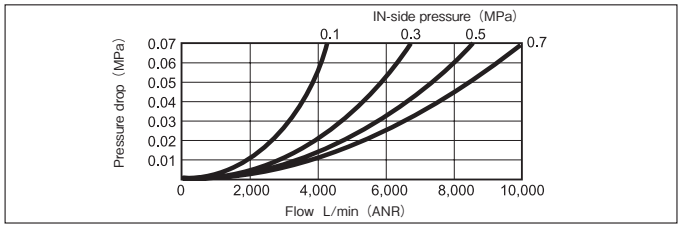
AF21-04-15A



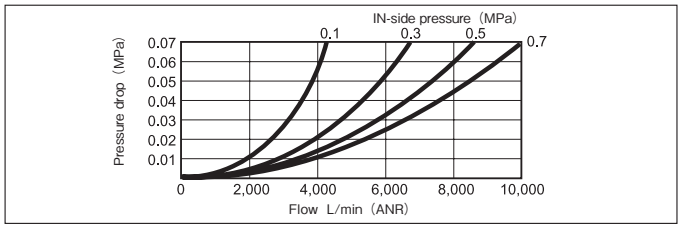
Performance Tables

Flow characteristics graphs (filter rating=5μm)

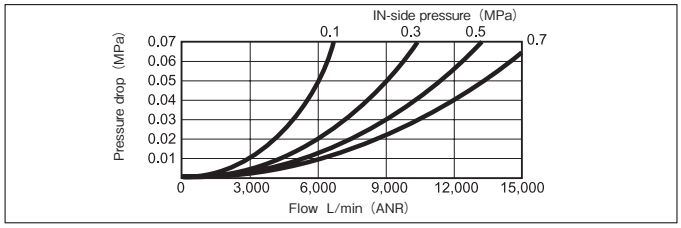
AF2-32A



AF2-40A



AF2-50A

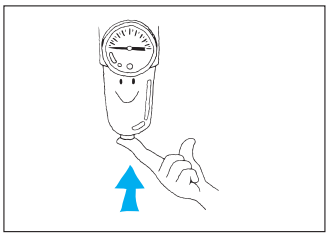


Operating Instructions

1 Discharging drain fluid

AF2 – 02

- Push up the push rod of the drain valve.

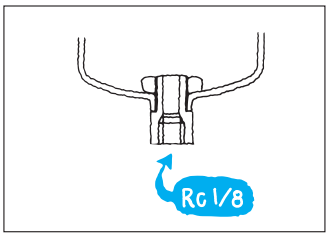


Standard / Corrosion-resistant type

- Turn the handle of the drain cock counterclockwise ; the pressure in the bowl will cause the drain to be discharged.

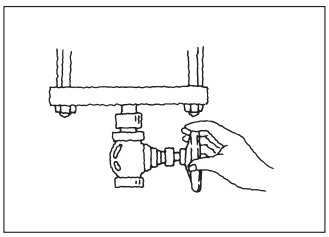
Panel-mounted type

- A Rc1/8 thread is machined in the body. Connect the drain discharge pipe or tube to this thread.



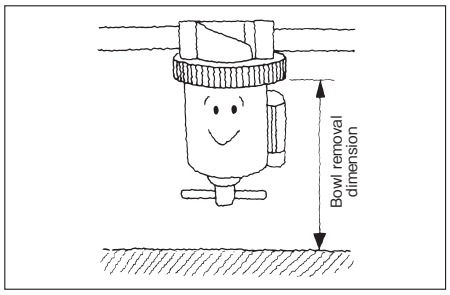
Rc1_1/4 and above type

- Open the stop valve ; the pressure in the bowl will cause the drain to be discharged.



2 Installation

- Install the air filter as far as possible from the air source.
- Leave room so that the bowl can be removed and the filter.



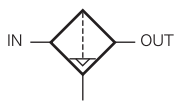
- Install the air filter and lay the pipe so that the drain port is located at dead bottom.

AIR FILTERS
with Autodrain

ADF2/ADF21	Standard type	RC 1/4 ~ 2

An automatic drain has been fitted to the air filters. This separates and removes drain from the pneumatic line,thus preventing trouble.

JIS Symbol



Model Code

When ordering,specify the model as follows:

Standard type

Rc 1/4 ~ 1/2

ADF21 ① –04– ② – ⑤ – ⑥

① Corrosion-resistant ② Port size ⑤ Filter rating of element ⑥ Bracket

Rc 3/4 ~ 1

ADF2 ① –08– ③ – ⑤

① Corrosion-resistant ③ Port size ⑤ Filter rating of element

Rc 1_1/4 ~ 2

ADF2 ① – ④ – ⑤ – ⑥

① Corrosion-resistant ④ Port size ⑤ Filter rating of element ⑥ Bracket

① Corrosion-resistant

- Portions that are exposed to outside weather conditions are corrosion-resistant coating and the exposed bolts,nuts and brackets are stainless steel.

Standard	No entry
Corrosion-resistant type	S

② Port size

Rc 1/4	8A
Rc 3/8	10A
Rc 1/2	15A

③ Port size

Rc 3/4	20A
Rc 1	25A

④ Port size

Rc 1_1/4	32A
Rc 1_1/2	40A
Rc 2	50A

⑤ Filter rating of element

General purpose	40 μm	No entry
Instrumentation	5 μm	5

⑥ Bracket

Without	No entry
With	BR

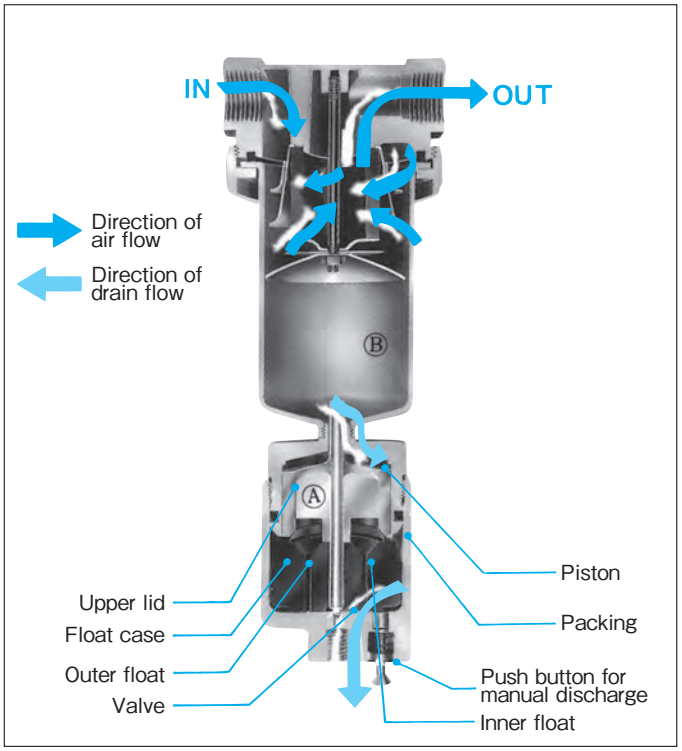
- Bracket is not mounted but appended with air filters.

Specifications

Model code		ADF21-04			ADF2-08		ADF2		
Port size		8A	10A	15A	20A	25A	32A	40A	50A
		Rc1/4	Rc3/8	Rc1/2	Rc3/4	Rc1	Rc1 1/4	Rc1 1/2	Rc2
Effective sectional area	General purpose	40㎟	68㎟	90㎟	171㎟	190㎟	480㎟	655㎟	1060㎟
	Instrumentation	28㎟	30㎟	40㎟	76㎟	77㎟	190㎟		300㎟
Operating pressure		0 ～ 1.0MPa							
Proof pressure		1.5MPa							
Operating temperature		− 20 ～ 60℃ (For use below 5℃ ,provide adequate measures against freezing.)							
Mass		0.86kg		0.9kg	0.88kg		14.8kg		24.8kg

- Above values of mass exclude weight of mounting bracket.
- For specifications other than those listed above,please contact us.

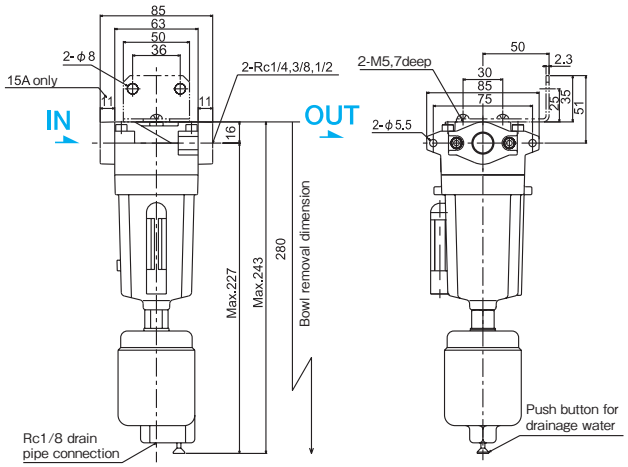
Operation



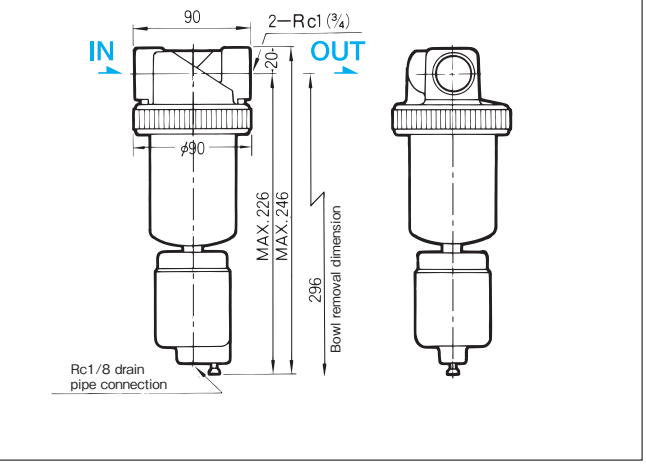
1. If sufficient drain fluid,separated out by the filter,collects in the float case,the inner and outer floats rise under the buoyancy of the drain.
2. The inner float pushes up the piston while the outer float presses the outer ring of the piston and the seal on the lower part of the upper lid.Thus,air flow between chambers A and B is shut off.
3. As air is consumed in this condition,a pressure differential occurs between chambers A and B.If the differential rises above 10% ,the piston rises further,and the bottom valve is opened,allowing drain fluid to discharge.After drainage,the pressures in chambers A and B equalizes,and the piston descends,closing the bottom valve.
4. Therefore,if air is consumed intermittently under the control of a solenoid valve,the air filter works well.
   Below an operating air pressure of 0.05MPa the upward forces from the buoyancy of both floats automatically causes the piston to rise,the bottom valve to open,and the drain to be discharged,whether or not there is a pressure difference present between the chambers.Pressing the pushbutton for manual discharge opens the bottom valve and causes the drain to be discharged,regardless of the operating air pressure.

Outside Dimensions

ADF21-04-8A・10A・15A

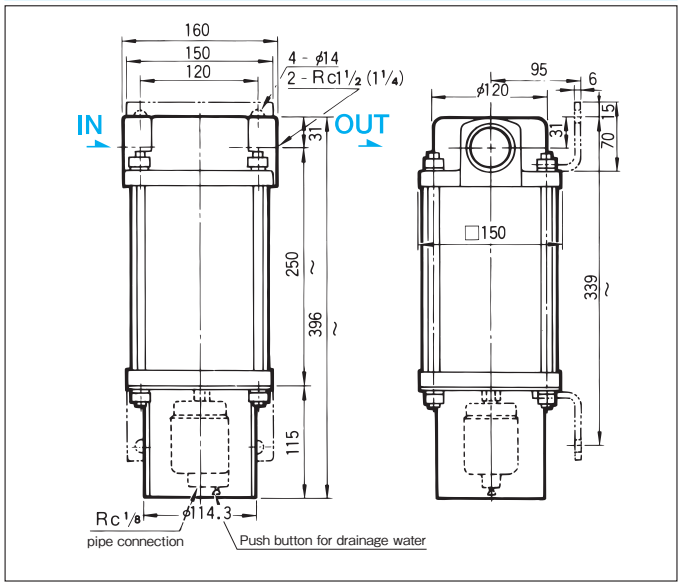


ADF2-08-20A・25A

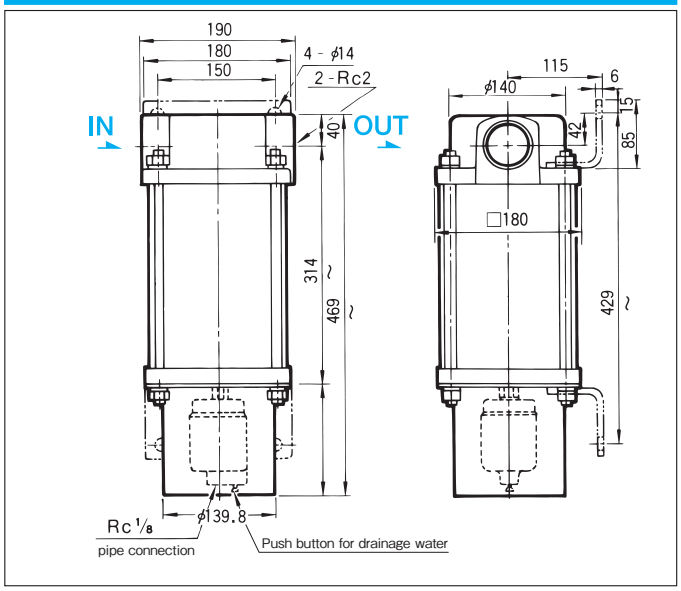


Outside Dimensions

ADF2-32A・40A



ADF2-50A



Operating Instructions

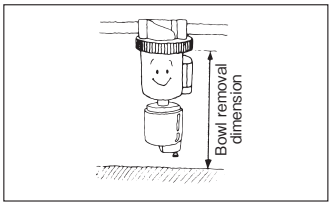
1 Installation

● Installation point

Install as far as possible from the air source and free risk of impact.

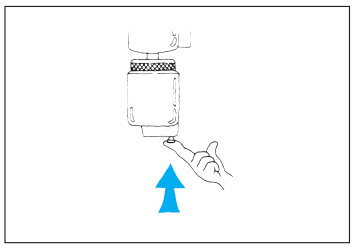
● Bowl removal dimension

①Leave room so that the bowl can be removed and the filter element checked.



② Install the air filter and piping so that the drain port is located at dead bottom.

2 Discharging drain fluid



● Drainage conditions

① When the pressure in the bowl falls 1% or more below the air supply pressure from the operation,of peripheral devices.

② When the air supply pressure is 0.05MPa and below.

③ When the pushbutton for manual discharge is pressed.