KONAN®

CAT.No.2318E

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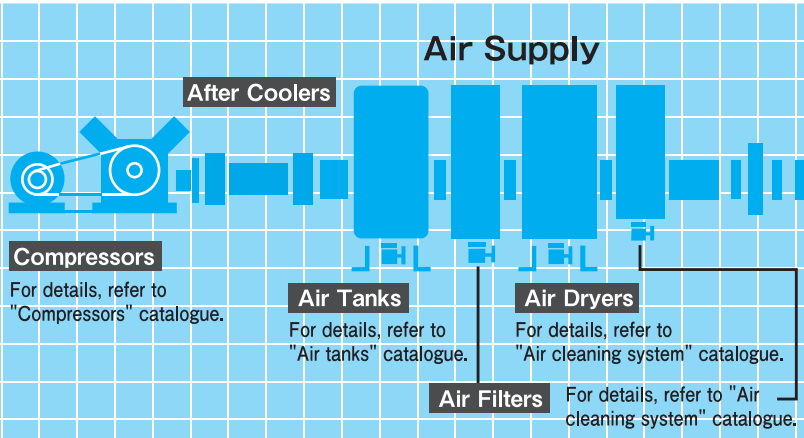
Pneumatic

LINE COMPONENTS

KONAN ELECTRIC CO.,LTD.

KONAN LINE COMPONENTS

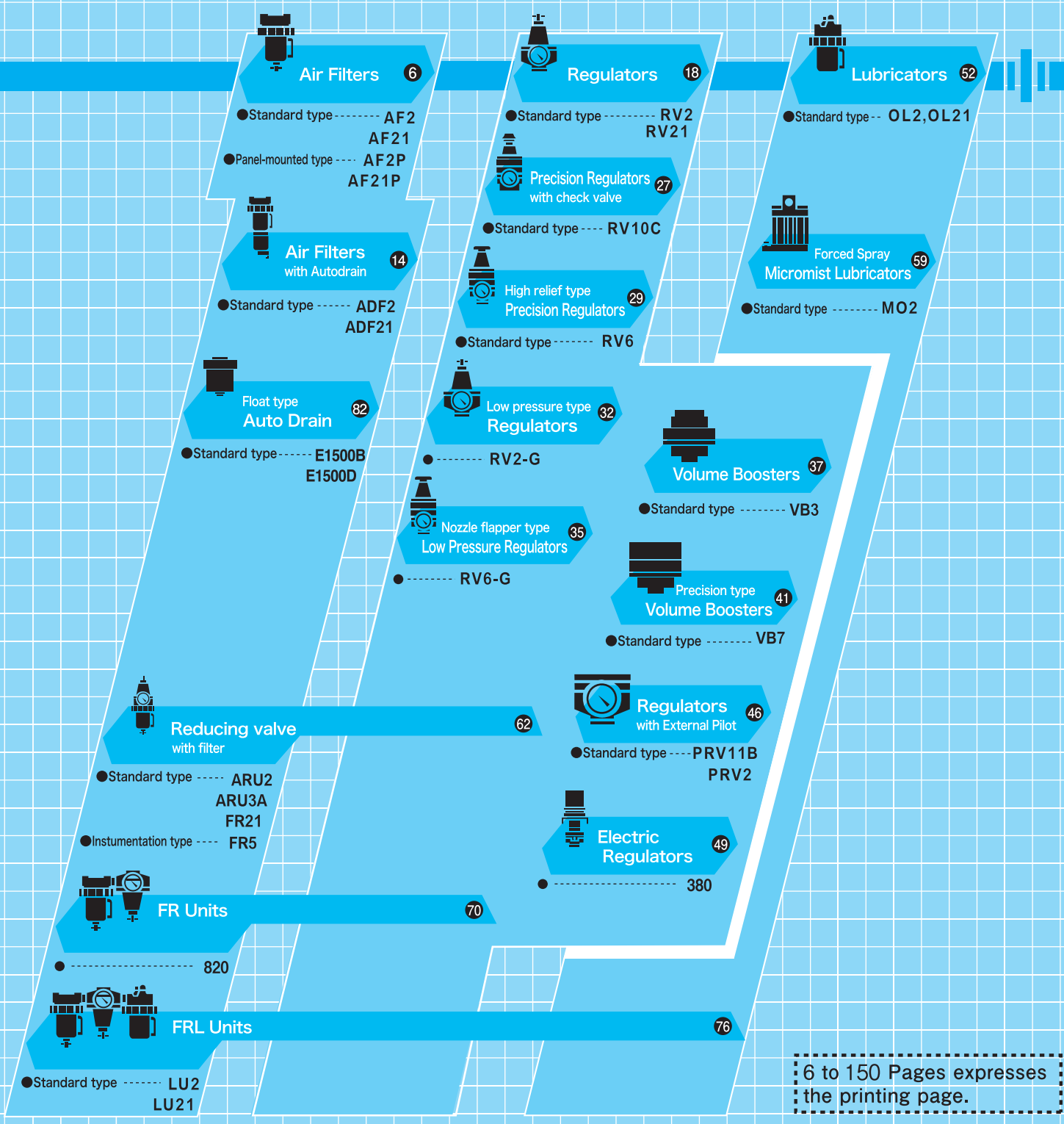


"For both safety and savings..."

"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"

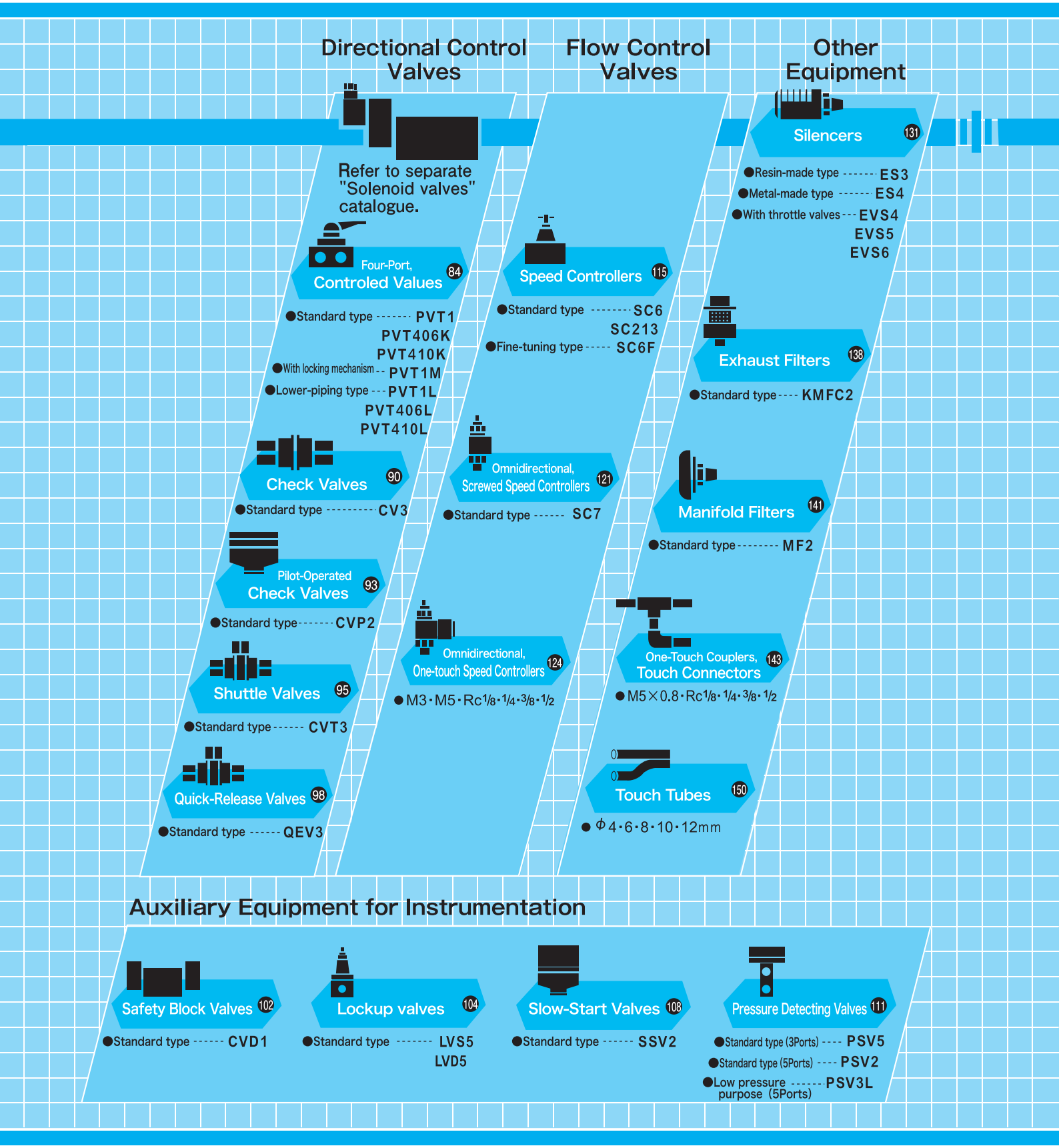
This booklet shows groups of line controls necessary for adequate operation of solenoid valves,cylinders,etc.
Select the type best suited to your system by carefully examining the specifications.
For those other than contained here, please feel free to contact us.

Air Preparation Equipment

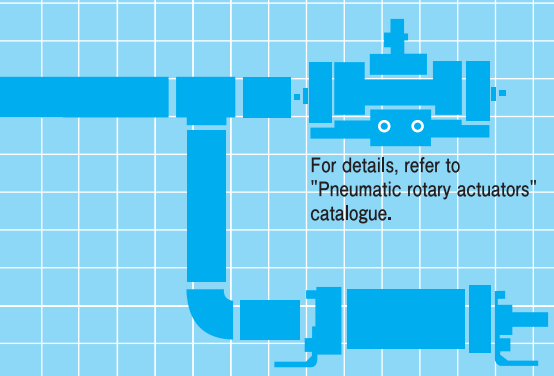


6 to 150 Pages expresses the printing page.

KONAN LINE COMPONENTS



Actuators



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

For details, refer to "Pneumatic cylinder" catalogue.

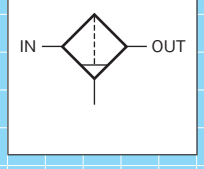
I N D E X

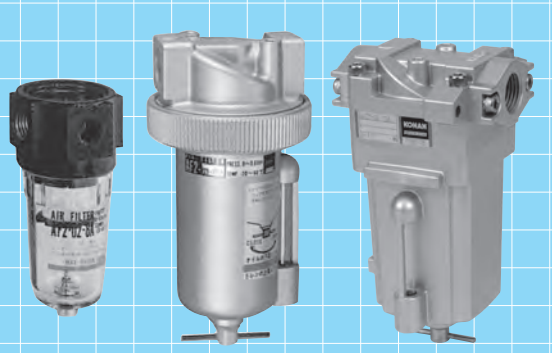
AIR FILTERS

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	Type mounted in the control box	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

Type mounted in the control box

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	

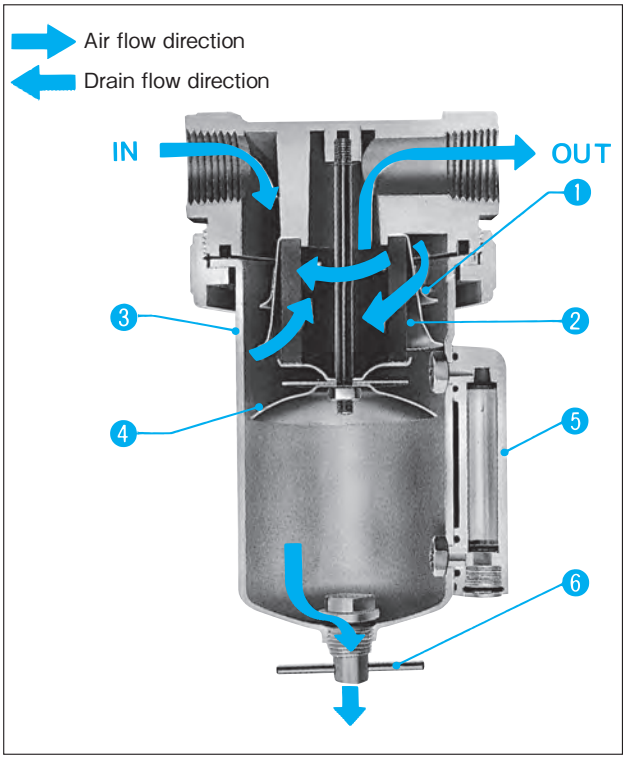
Model code	Standard type	AF21-04			AF2-08		AF2					
	In the control box	AF21P-04			AF2P-08							
Port size		8A	10A	15A	20A	25A	32A	40A	50A	65A	80A Flange	100A Flange
		Rc1/4	Rc3/8	Rc1/2	Rc3/4	Rc1	Rc1 1/4	Rc1 1/2	Rc2	Rc2 1/2		
※1 Effective sectional area	General purpose	40㎟	68㎟	90㎟	171㎟	190㎟	480㎟	655㎟	1060㎟	1450㎟	1800㎟	2500㎟
	Instrumentation	28㎟	30㎟	40㎟	76㎟	77㎟	190㎟	190㎟	300㎟	—	—	—
Operating pressure		0 ～ 1.0MPa										
Proof pressure		1.5MPa										
Operating temperature		General purpose: − 20 ～ 60℃ Heat-resistant: 5 ～ 100℃ Freeze-resistant: − 40 ～ 45℃					− 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



❶ Deflector

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

❷ Filter element

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

❸ Bowl

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

❹ Baffle plate

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

❺ Side glass

Used to see how much drain has collected.

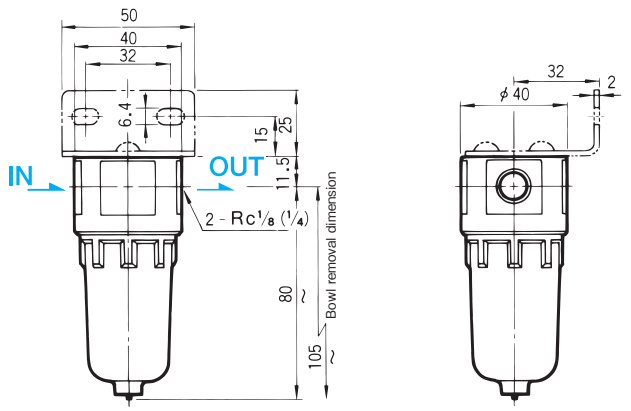
❻ Drain cock

Turning the handle counterclockwise allows drain to be discharged.

Outside Dimensions

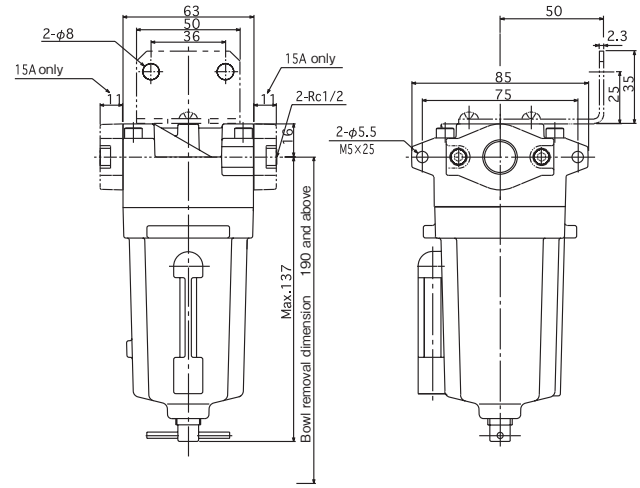
Standard type

AF2-02-6A・8A

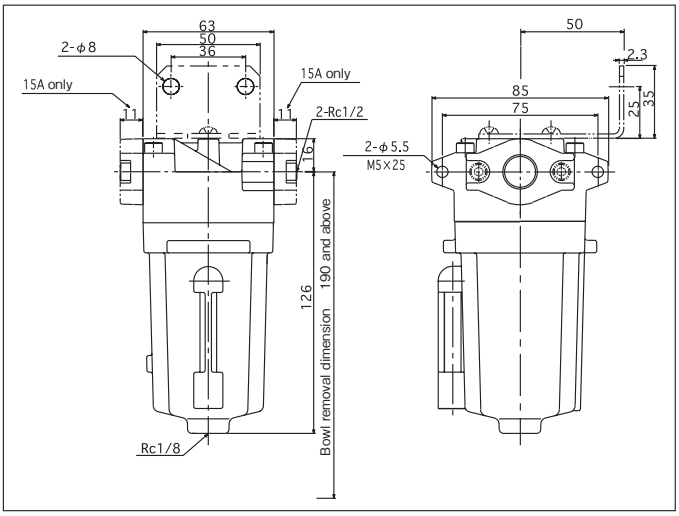


Type mounted in the control box

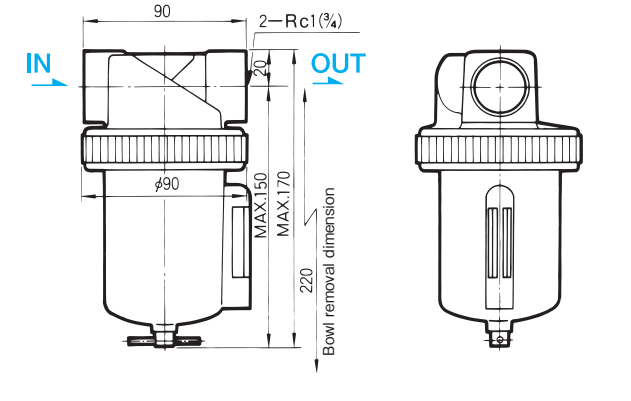
AF21-04-8A・10A・15A



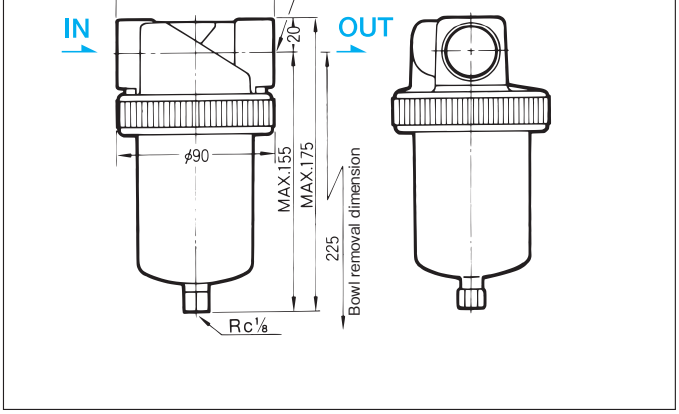
AF21P-04-8A・10A・15A



AF2-08-20A・25A



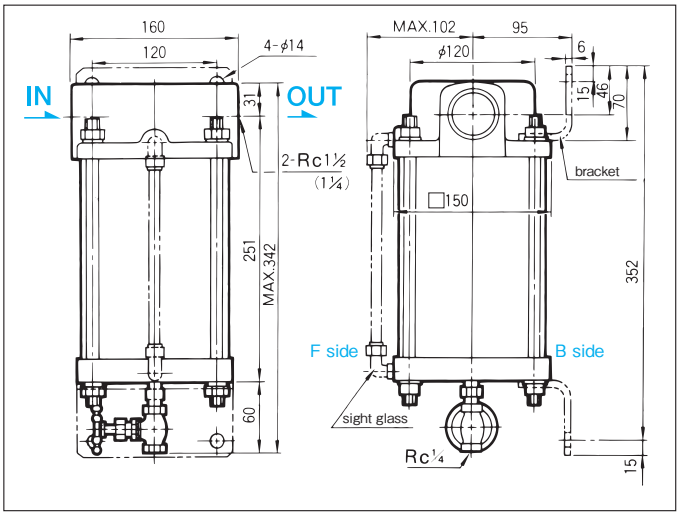
AF2P-08-20A・25A



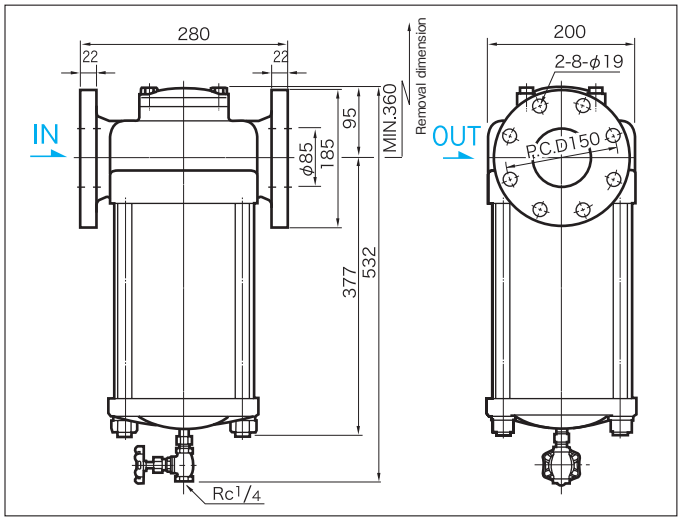
Outside Dimensions

Standard type

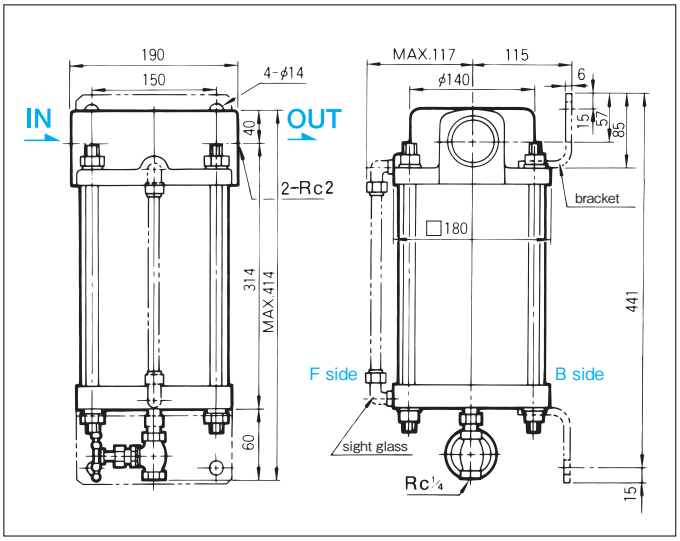
AF2-32A・40A



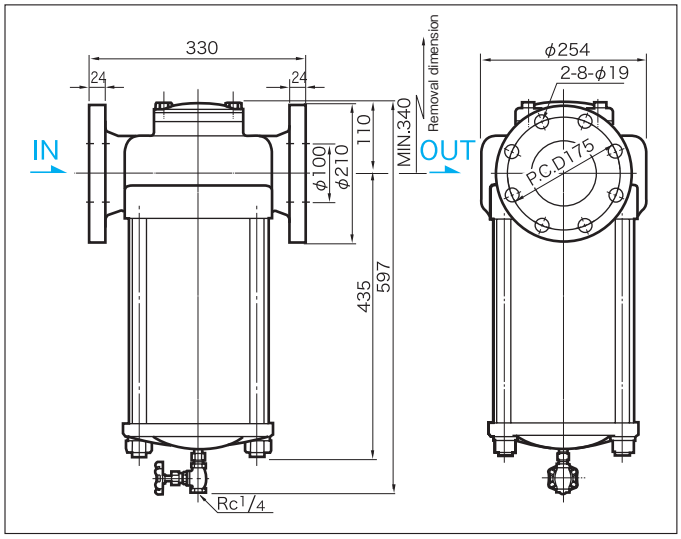
AF2-80A



AF2-50A



AF2-100A



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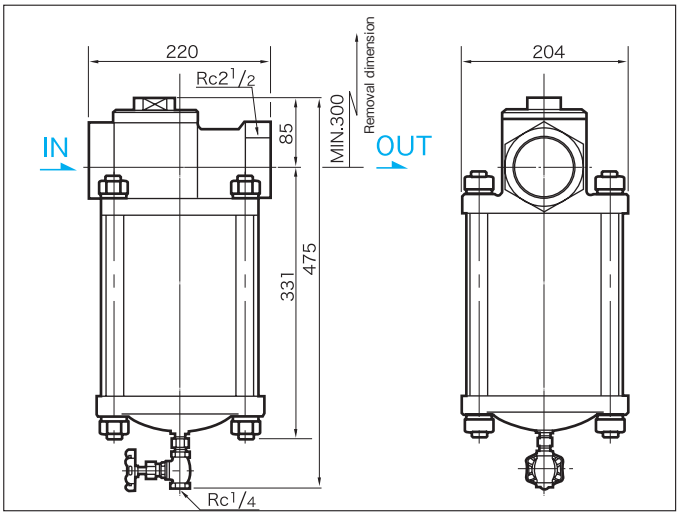
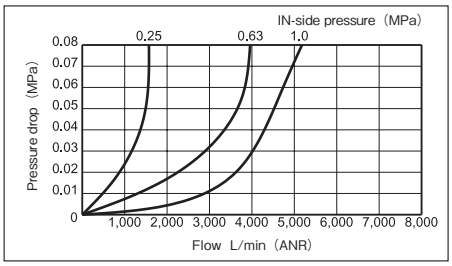


Performance Tables

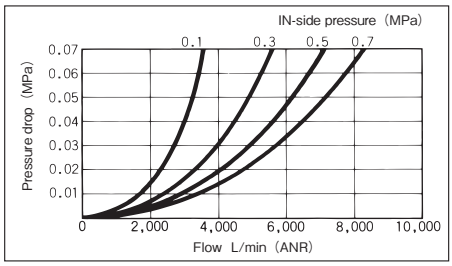
Flow characteristics graphs (filter grade=40 μm)

Standard and Panel-mount type

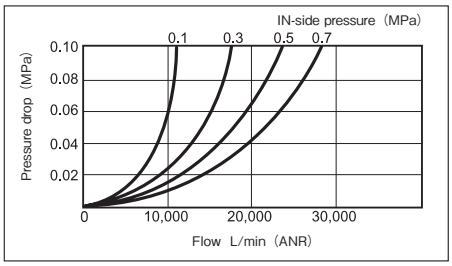
AF21-04-8A



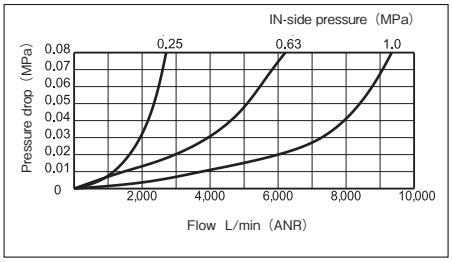
AF2-08-20A



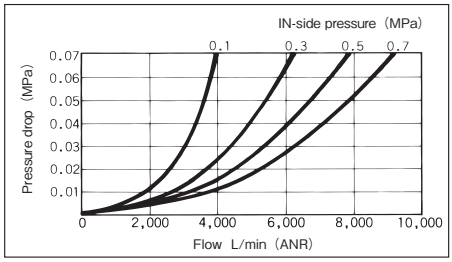
AF2-32A



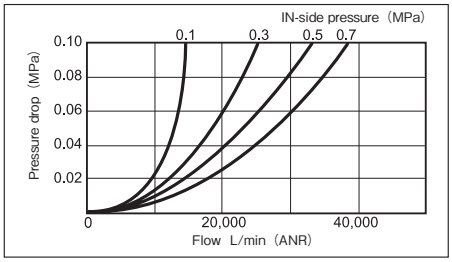
AF21-04-10A



AF2-08-25A



AF2-40A



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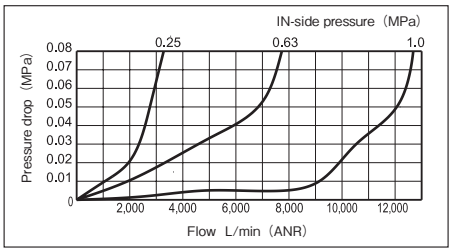
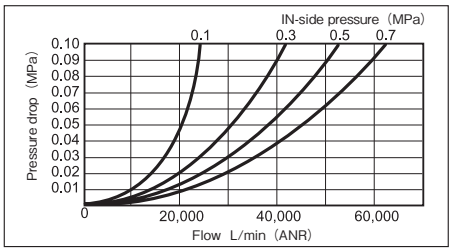


AF2-50A



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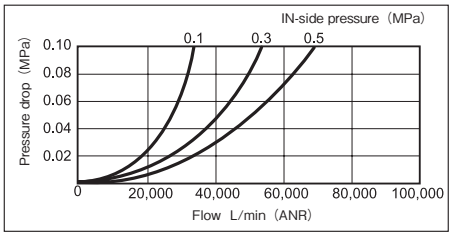
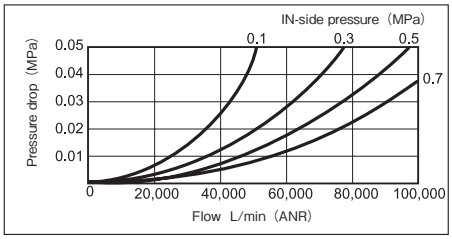
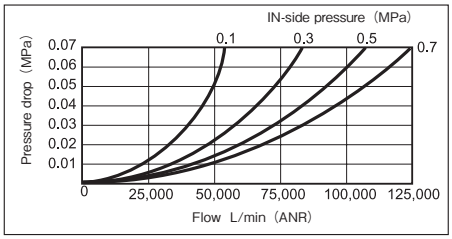


AF2-80A



AF2-100A

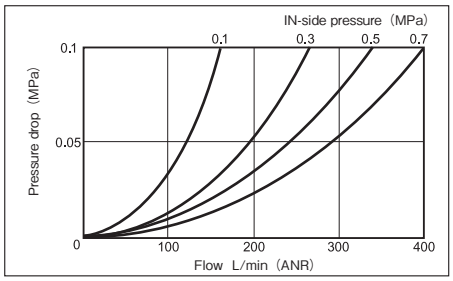


Performance Tables

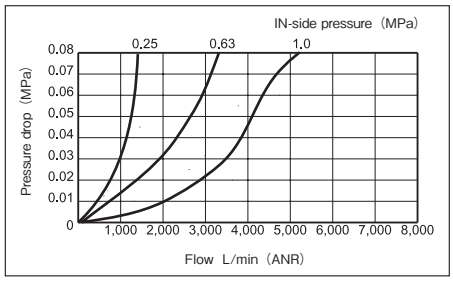
Flow characteristics graphs (filter rating=5μm)

Standard and Panel-mount type

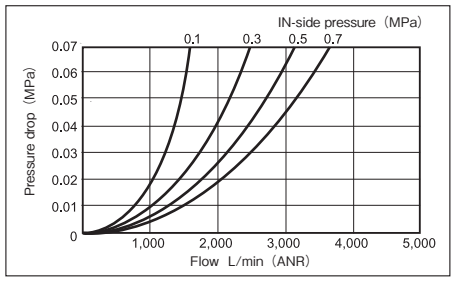
AF2-02-6A-8A



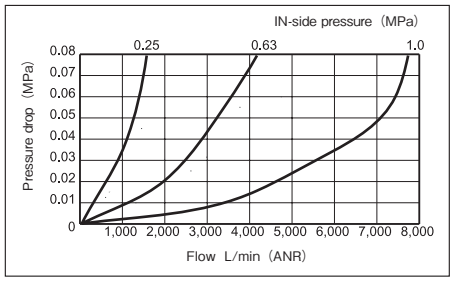
AF21-04-8A



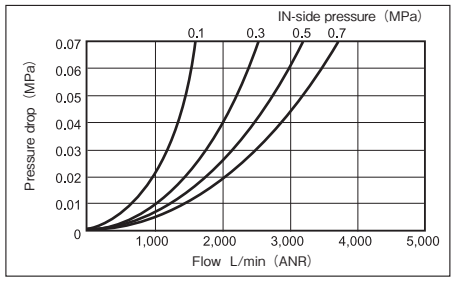
AF2-08-20A



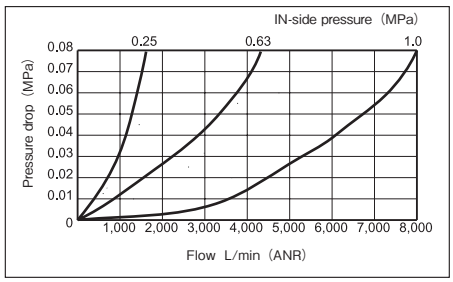
AF21-04-10A



AF2-08-25A



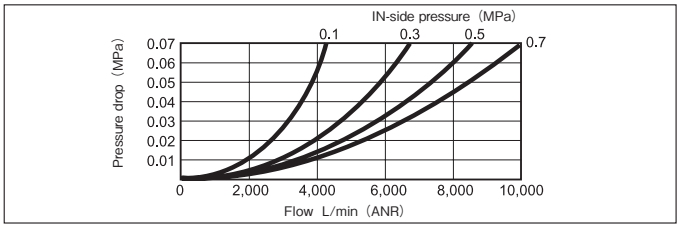
AF21-04-15A



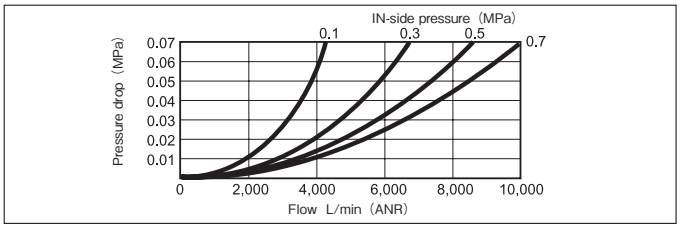
Performance Tables

Flow characteristics graphs (filter rating=5μm)

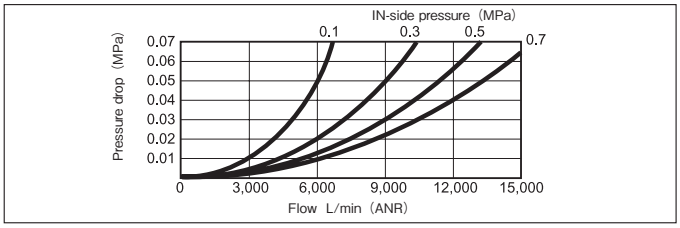
AF2-32A



AF2-40A



AF2-50A

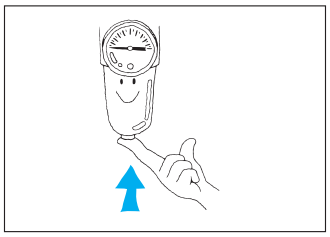


Operating Instructions

1 Discharging drain fluid

AF2 – 02

- Push up the push rod of the drain valve.

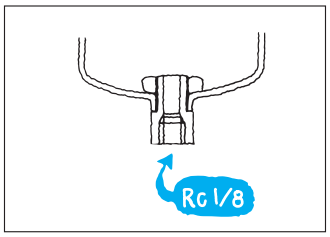


Standard / Corrosion-resistant type

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

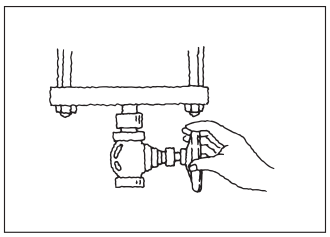
Type mounted in the control box

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



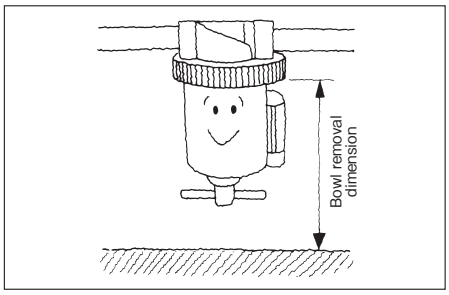
Rc1_1/4 and above type

- 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.



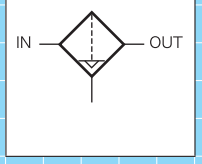
- Install the air filter and lay the pipe so that the drain port is located at dead bottom.

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

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

❸ Port size

Rc 3/4	20A
Rc 1	25A

❹ Port size

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

❺ Filter rating of element

General purpose	40 μm	No entry
Instrumentation	5 μm	5

❻ Bracket

Without	No entry
With	BR

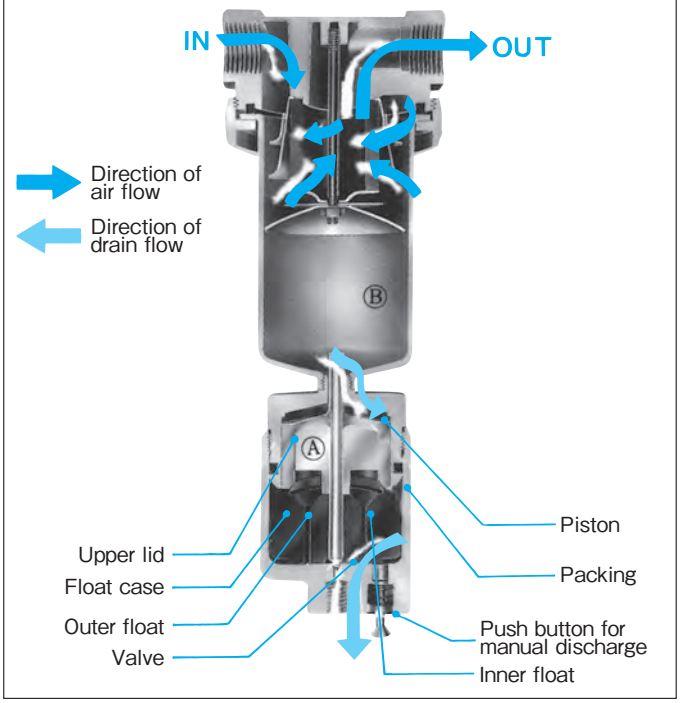
- Bracket is not mounted but appended with air filters.

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	Rc11/4	Rc11/2	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.

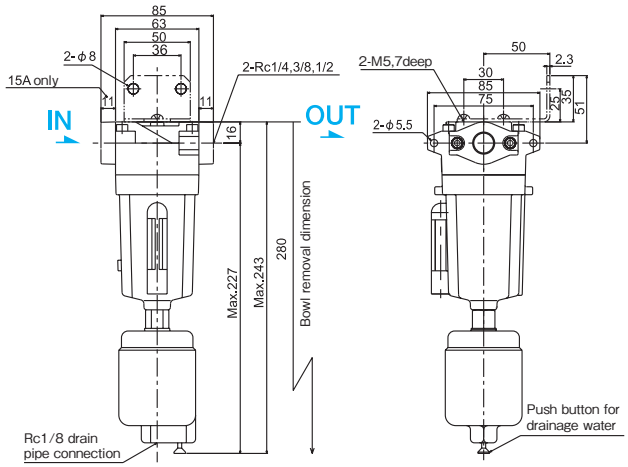
Operation



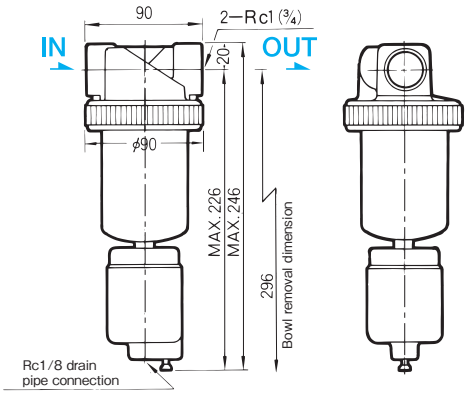
1. If sufficient drain fluid,separated out by the filter,collects in the float case,the inner and outer floats rise under the buoyancy of the drain.
2. The inner float pushes up the piston while the outer float presses the outer ring of the piston and the seal on the lower part of the upper lid.Thus,air 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

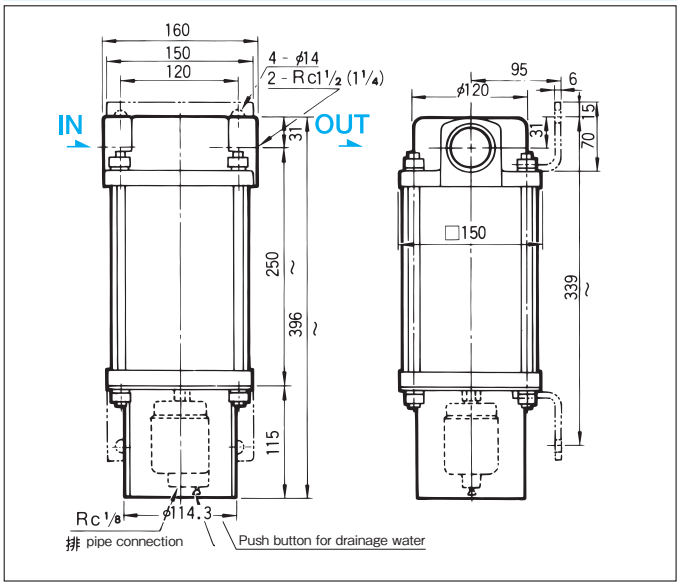


ADF2-08-20A・25A

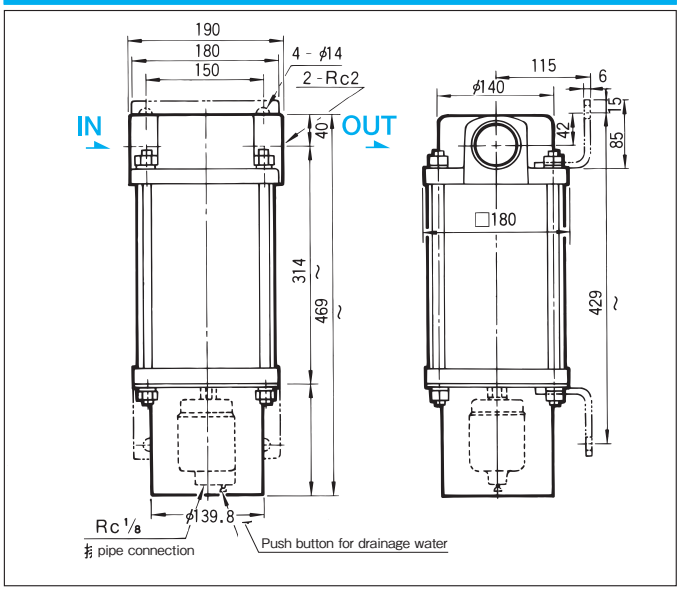


Outside Dimensions

ADF2-32A・40A



ADF2-50A



Operating Instructions

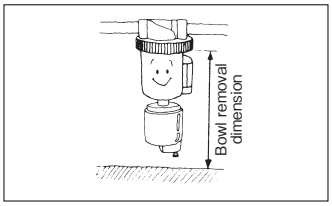
1 Installation

● Installation point

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

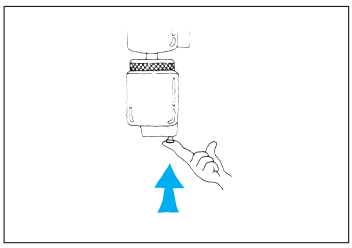
● Bowl removal dimension

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



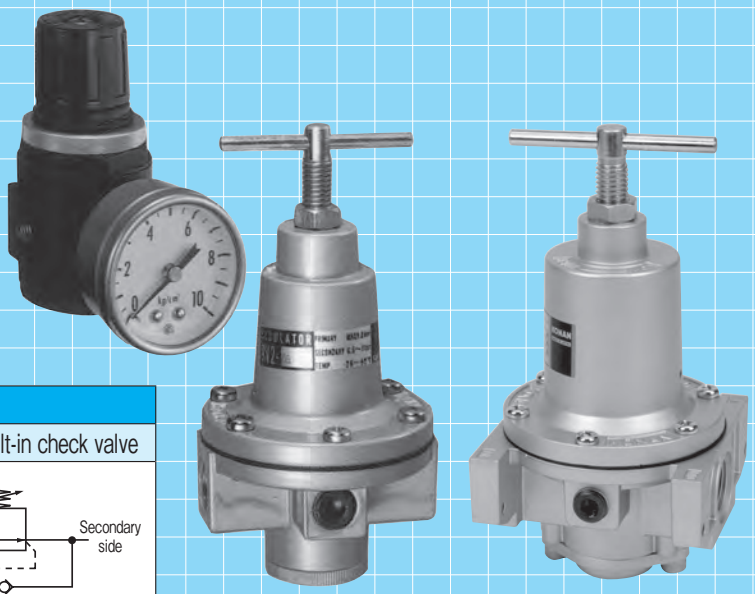
● Drainage conditions

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.

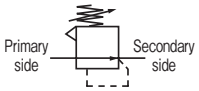
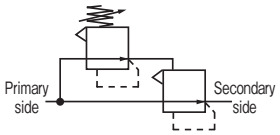
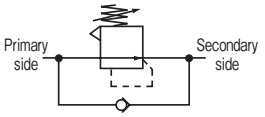
REGULATORS

RV2/RV21	**Standard type**	RC 1/8 ~ 2 1/2
RV2P/RV21P	**Panel-mount type**	RC 1/4 ~ 1/2

Regulators are used to reduce the pressure of the compressed air from the compressor so that air is automatically fed at constant pressure to the pneumatic line.



JIS Symbol

Rc1/8 ~ 1	Rc1_1/4 ~ 2_1/2	Type with built-in check valve
		

Model Code

When ordering,specify the model as follows:

Standard type

Rc 1/8 ~ 1/4

RV2 – 02 – ③ – ⑩ – ⑪

- ③ Port size
- ⑩ Pressure gauge
- ⑪ Bracket

Rc 1/4 ~ 3/8

RV ① 2 ② – 03 – ④ – ⑨ – ⑩ – ⑪

- ① Built-in check valve
- ② Corrosion-resistant
- ④ Port size
- ⑨ Operating temperature range
- ⑩ Pressure gauge
- ⑪ Bracket

Rc 3/8 ~ 1/2

RV ① 21 ② – 04 – ⑤ – ⑨ – ⑩ – ⑪

- ① Built-in check valve
- ② Corrosion-resistant
- ⑤ Port size
- ⑨ Operating temperature range
- ⑩ Pressure gauge
- ⑪ Bracket

Rc 3/4 ~ 1

RV ① 2 ② – 08 – ⑥ – ⑨ – ⑩ – ⑪

- ① Built-in check valve
- ② Corrosion-resistant
- ⑥ Port size
- ⑨ Operating temperature range
- ⑩ Pressure gauge
- ⑪ Bracket

Rc 1_1/4 ~ 1_1/2

RV2 ② – 14 – ⑦ – ⑩

- ② Corrosion-resistant
- ⑦ Port size
- ⑩ Pressure gauge

Rc 2 ~ 2_1/2

RV2 ② – 20 – ⑧ – ⑩

- ② Corrosion-resistant
- ⑧ Port size
- ⑩ Pressure gauge

Panel-mount type

Mounting type that only the pressure adjustment handle comes out on the operation panel.

Rc 1/4 ~ 3/8

RV ① 2P ② – 03 – ④ – ⑨ – ⑩

- ① Built-in check valve
- ② Corrosion-resistant
- ④ Port size
- ⑨ Operating temperature range
- ⑩ pressure gauge

Rc 3/8 ~ 1/2

RV ① 21P ② – 04 – ⑤ – ⑨ – ⑩

- ① Built-in check valve
- ② Corrosion-resistant
- ⑤ Port size
- ⑨ Operating temperature range
- ⑩ pressure gauge

❶ Built-in check valve

Without	No entry
With	C

❷ 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

❸ Port size

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

❹ Port size

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

❺ Port size

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

❻ Port size

Rc 3/4	20A
Rc 1	25A

❼ Port size

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

❽ Port size

Rc 2	50A
Rc 2_1/2	65A

❾ Operating temperature range

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

- For heat, freeze resistant type, allow some margin for delivery.
- In operating temperatures of 5℃ or less, provide adequate measures against freezing.

❿ Pressure gauge

Without	No entry
With	G

- Pressure gauge sizes :
  40mm dia. (for RV2-02)
  50mm dia. (Others)
  Scale : 0 ~ 1MPa
- Pressure gauge is not mounted but appended with regulators.

⓫ Bracket

Without	No entry
With	BR

- Bracket is not mounted but appended with regulators.

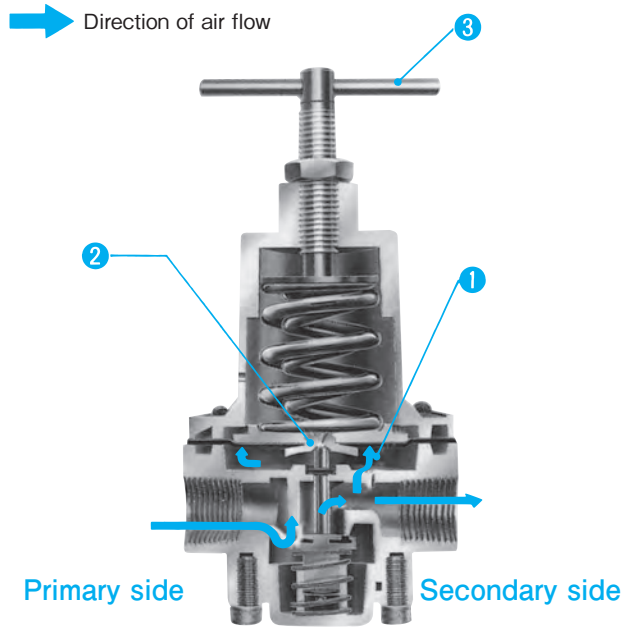
Specifications

<table>
<tr><td rowspan="2">Model code</td><td>Standard type</td><td colspan="2">RV2-02</td><td colspan="2">RV2-03</td><td colspan="2">RV21-04</td><td colspan="2">RV2-08</td><td colspan="2">RV2-14</td><td colspan="2">RV2-20</td></tr>
<tr><td>Panel-mount type</td><td colspan="2"></td><td colspan="2">RV2P-03</td><td colspan="2">RV21P-04</td><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td></tr>
<tr><td colspan="2" rowspan="2">Port size</td><td>6A</td><td>8A</td><td>8A</td><td>10A</td><td>10A</td><td>15A</td><td>20A</td><td>25A</td><td>32A</td><td>40A</td><td>50A</td><td>65A</td></tr>
<tr><td>Rc1/8</td><td>Rc1/4</td><td>Rc1/4</td><td>Rc3/8</td><td>Rc3/8</td><td>Rc1/2</td><td>Rc3/4</td><td>Rc 1</td><td>Rc11/4</td><td>Rc11/2</td><td>Rc2</td><td>Rc2 1/2</td></tr>
<tr><td rowspan="2">Operating pressure</td><td>Primary side (IN)</td><td colspan="12">Max.1.0MPa</td></tr>
<tr><td>Secondary side (OUT)</td><td colspan="12">0.05 ～ 0.7MPa</td></tr>
<tr><td colspan="2">Proof pressure</td><td colspan="12">1.5MPa (primary side only)</td></tr>
<tr><td colspan="2">Operating temperature</td><td colspan="2">－ 20 ～ 60℃</td><td colspan="6">General purpose －20 ～ 60℃
Heat-resistant 5 ～ 100℃
Freeze-resistant －40 ～ 45℃</td><td colspan="4">－ 20 ～ 60℃</td></tr>
<tr><td colspan="2">Mass</td><td colspan="2">0.25kg</td><td colspan="2">0.58kg</td><td colspan="2">0.84kg</td><td colspan="2">2.5kg</td><td colspan="2">5.1kg</td><td colspan="2">5.2kg</td></tr>
</table>

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

Operation

Standard type



❶ Diaphragm chamber

- Air pressure enters the diaphragm chamber as it passes from the prirnary to the secondary side.The diaphragm is raised until the pressure in the chamber is equal to the force of the spring.The valve is then closed.
- If the pressure on the secondary side drops,the valve is opened,and air is fed from the primary to the secondary side.

❷ Relief valve

- When the handle is turned counterclockwise to lower the pressure setting,the spring becomes weaker than the pressure in the diaphragm.thus,the diaphragm is raised,the relief valve opened,and the air in the secondary side released to the atmosphere until the pressure is equal to the force of the spring.

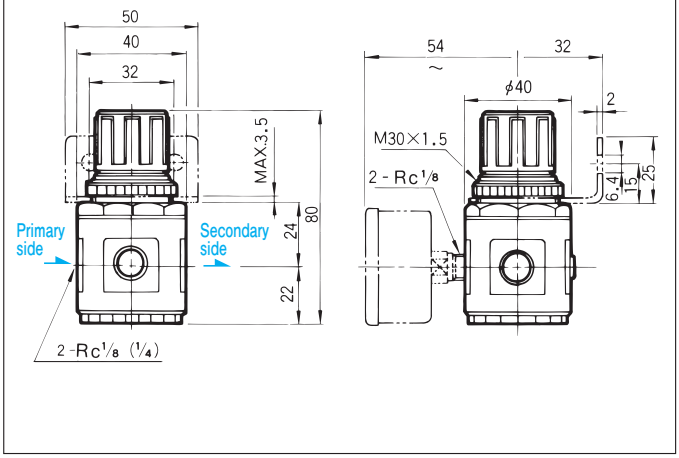
❸ Handle (adjusting screw)

- To lower the pressure setting,turn the handle counterclockwise.
- As the handle is turned clockwise,the tip of the adjusting screw forces dowa the spring retainer,compressing the spring. The valve is opened,and air is fed from the primary to the secondary side.

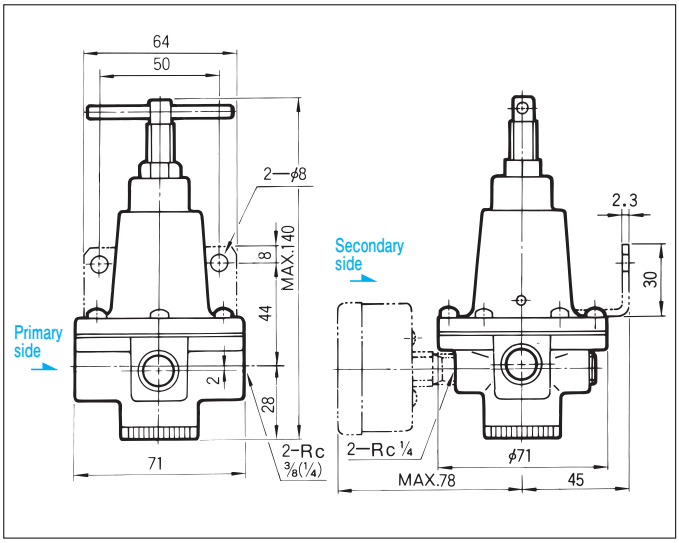
Outside Dimensions

Standard type

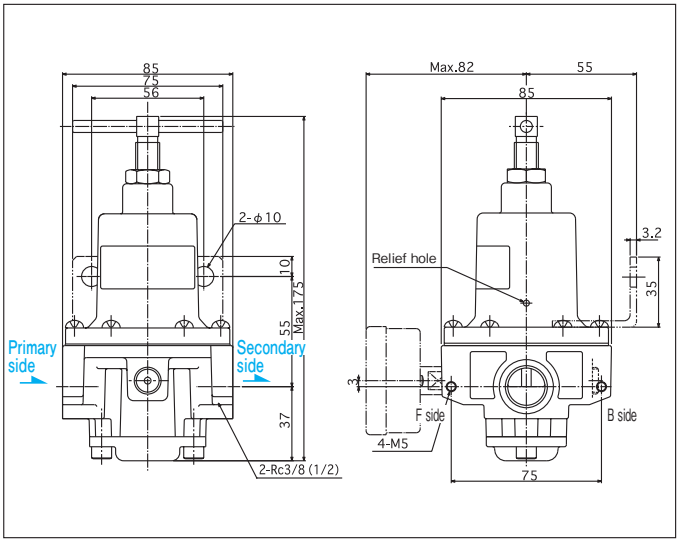
RV2-02-6A・8A



RV2-03-8A・10A

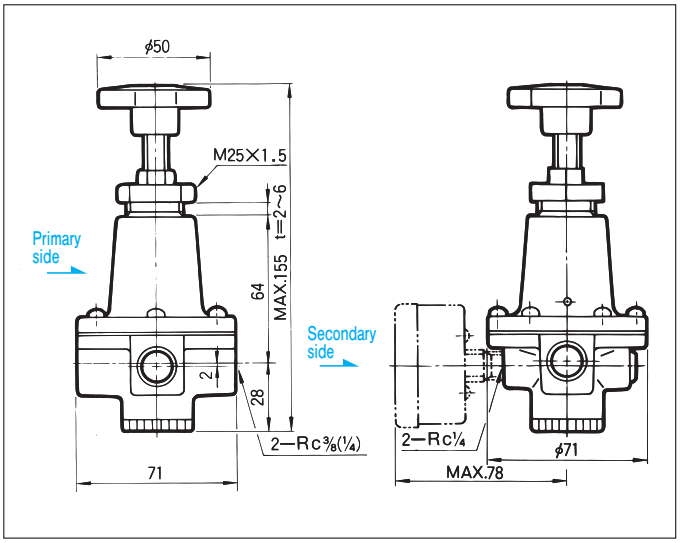


RV21-04-10A・15A

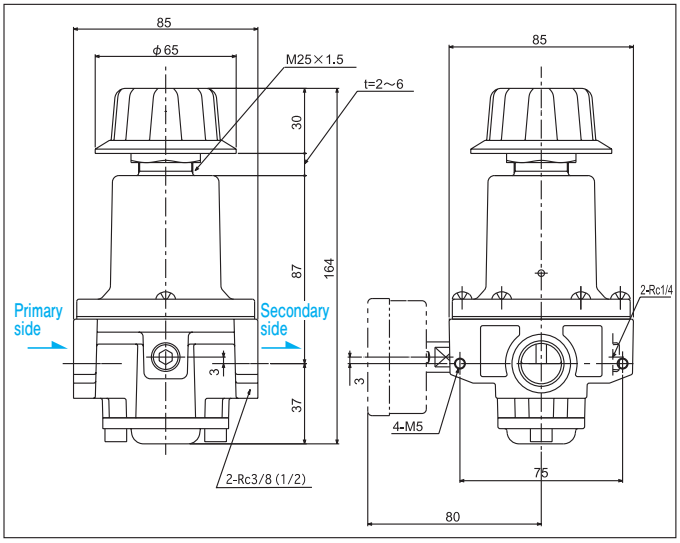


Panel-mount type

RV2P-03-8A・10A



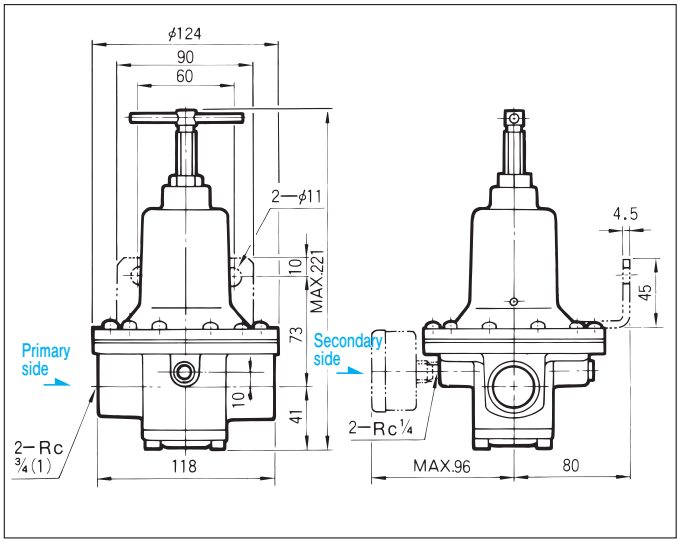
RV21P-04-10A・15A



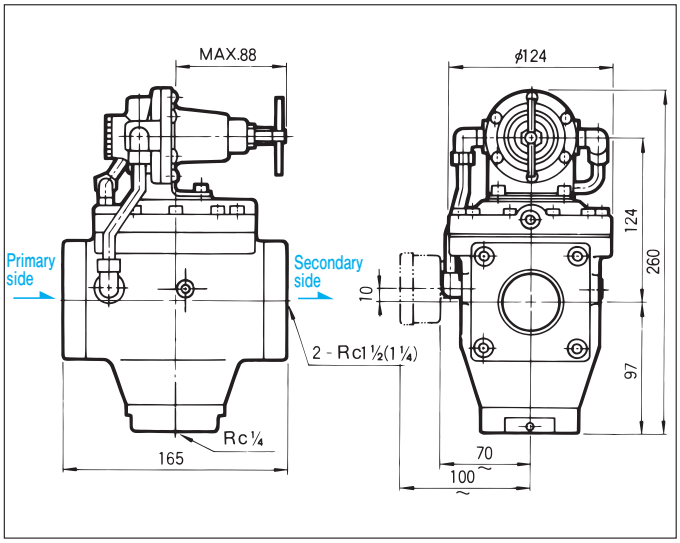
Outside Dimensions

Standard type

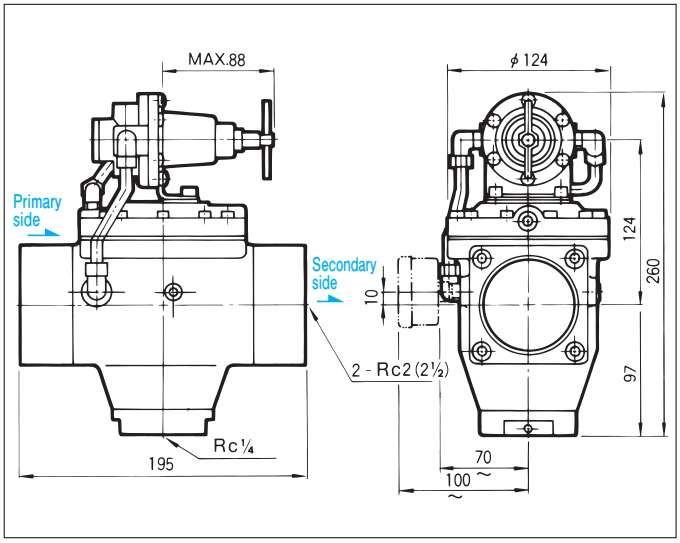
RV2-08-20A・25A



RV2-14-32A・40A



RV2-20-50A・65A

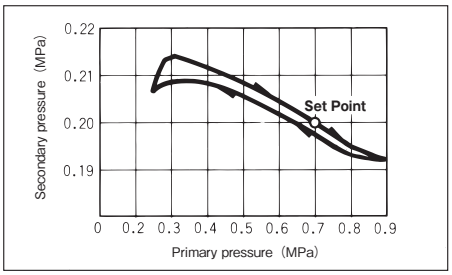


Performance Tables

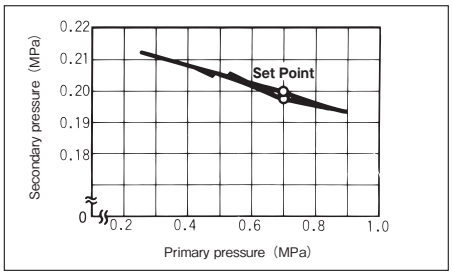
Pressure characteristics graphs

Standard and Panel-mount type

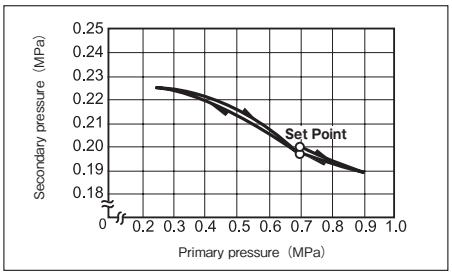
RV2-02-6A・8A



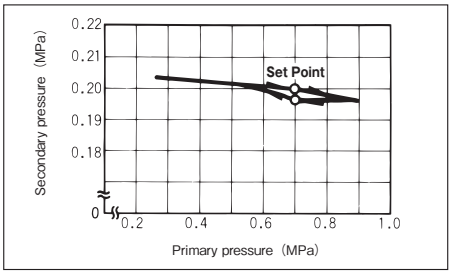
RV2-08-20A



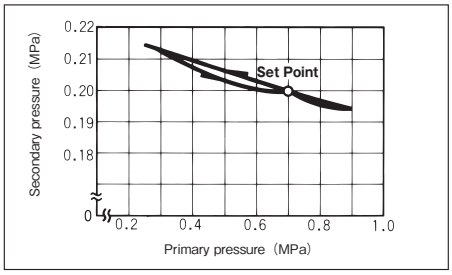
RV2-14-32A



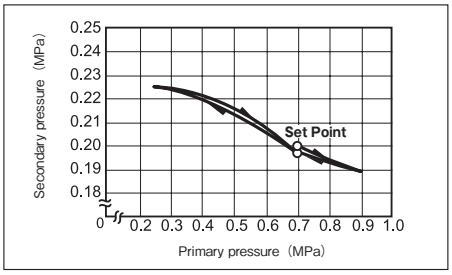
RV2-03-8A



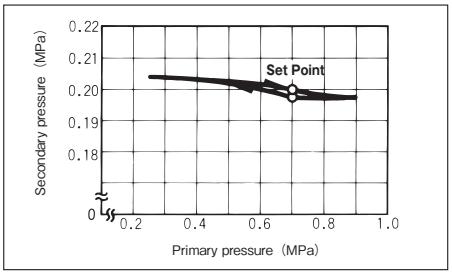
RV2-08-25A



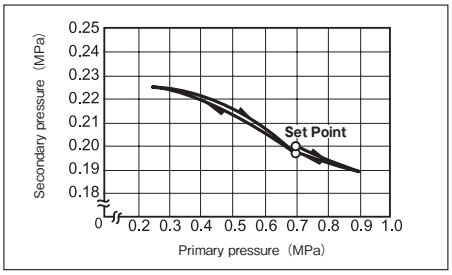
RV2-14-40A



RV2-03-10A

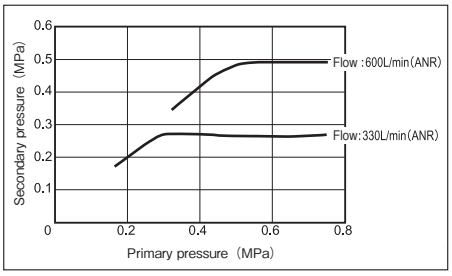


RV2-20-50A

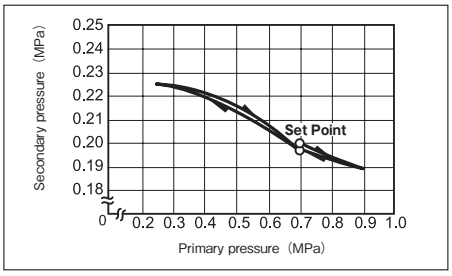


RV21-04-10A

※ This characteristics are based on the new JIS standard.

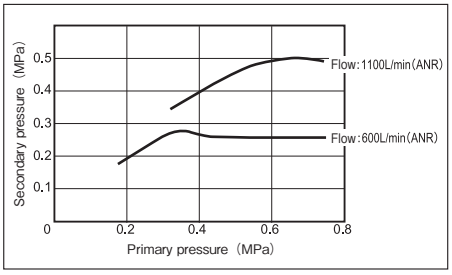


RV2-20-65A



RV21-04-15A

※ This characteristics are based on the new JIS standard.

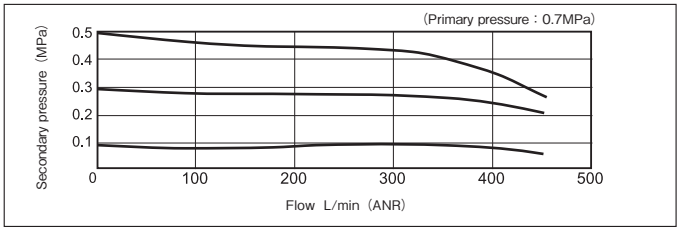


Performance Tables

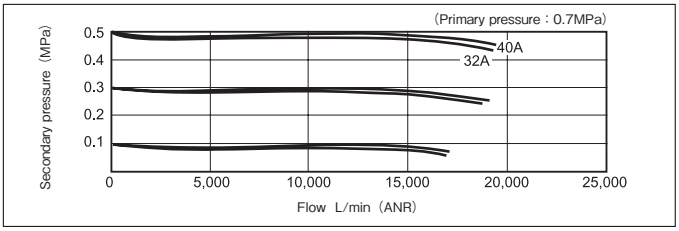
Flow characteristics graphs

Standard and Panel-mount type

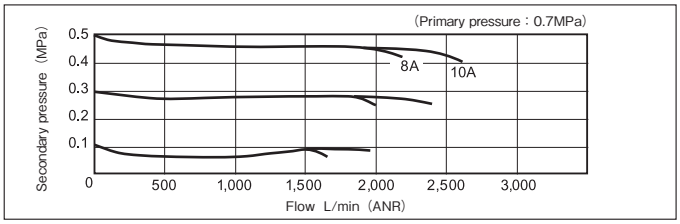
RV2-02



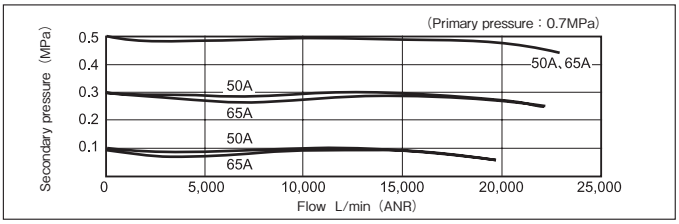
RV2-14



RV2-03

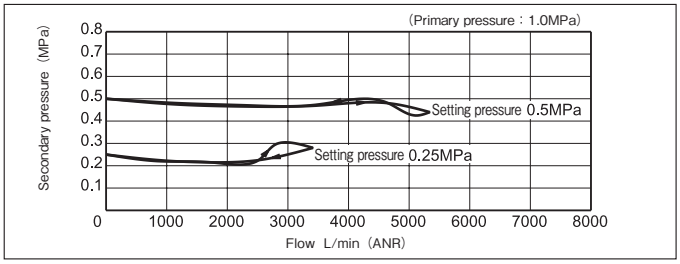


RV2-20



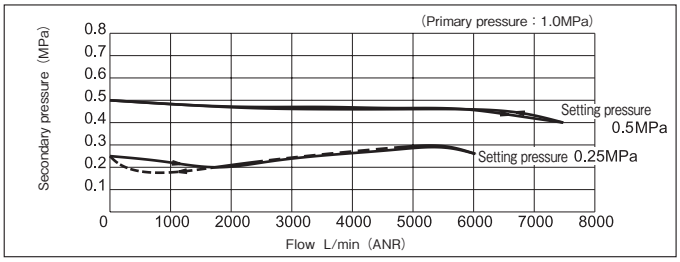
RV21-04-10A

※ This characteristics are based on the new JIS standard.

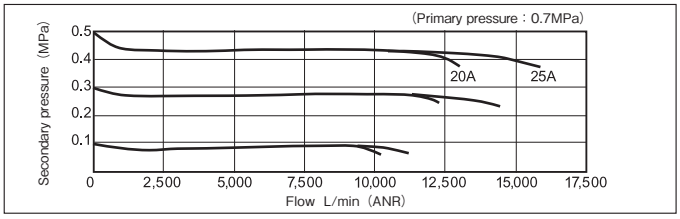


RV21-04-15A

※ This characteristics are based on the new JIS standard.



RV2-08

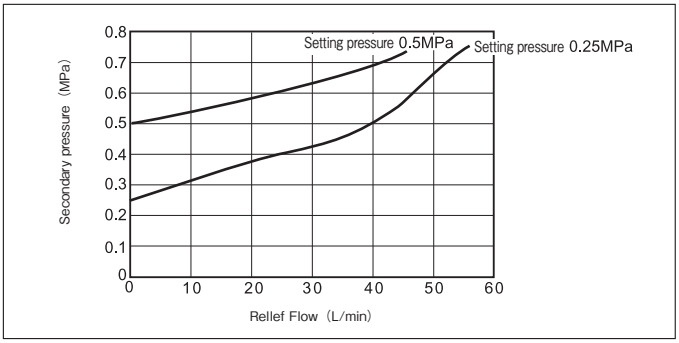


Relief flow characteristics graphs

Standard and Panel-mount type

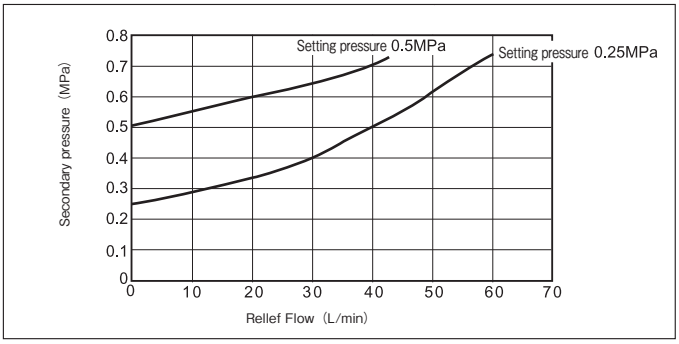
RV21-04-10A

※ This characteristics are based on the new JIS standard.



RV21-04-15A

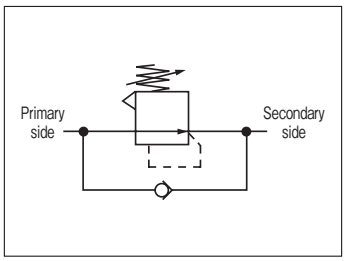
※ This characteristics are based on the new JIS standard.



Operating Instructions

1 Installation

- For a circuit in which the flow of air is reversed,running from the secondary to the primary side,use the type with a built-in check valve (RVC2) or install a check valve in parallel,as shown.



2 Fluid

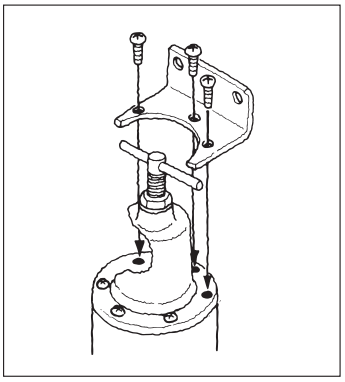
- Use the regulator with clean fluids only.Dirt,wastes,etc.in the fluid may cause regulator malfunction.

3 Lubrication

- As a general rule,do not attempt to lubricate the regulator. When disassembling for checking,however,apply grease.

4 Bracket

- The regulator mounting bracket is available as an option. For the mounting of the bracket,see the figure below.



- Remove any three machine screws from the upper part of the regulator.Attach the bracket to the regulator using the longer machine screws supplied with the bracket.
- For the miniature type,hold the bracket in place using lock screws.

5 Pressure

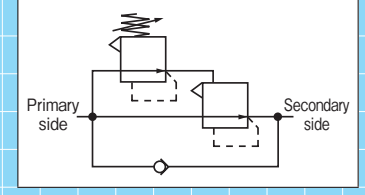
- To lower the pressure setting,lower the present setting below the target point first and then increase the setting to the target point.
- After setting,be sure to tighten the locknut.

PRECISION REGULATORS
with Check Valve

RV10C	Standard type	RC 1/4 ~ 1/2

This is a precision,pilot-operated regulator,capable of a wide range of stable pressure settings. The built-in check valve permits secondary pressure to be fed back to the primary side if the primary pressure supply is shut off.

JIS Symbol



Model Code

When ordering,specify the model as follows:

Standard type

Rc 1/4 ~ 1/2

RV10C – ① – ②

● ① Port size
● ② Pressure gauge

① Port size

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

● In case of 8A , bushings are threaded to the piping port.

② Pressure gauge

Without	No entry
With	G

● Pressure gauge is not mounted but appended with regulators.

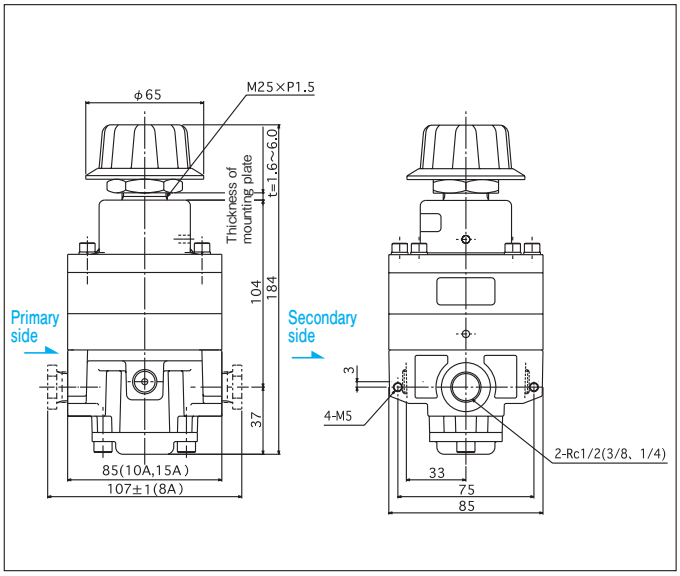
Specifications

Model code		RV10C		
Port size		8A	10A	15A
		Rc1/4	Rc3/8	Rc1/2
Operating pressure	Primary side (IN)	Max.1.0MPa		
	Secondary side (OUT)	0.01 ~ 0.7MPa		
Sensitivity		0.0005MPa		
Operating temperature		5 ~ 60℃		
Mass		2.0kg		

● For specifications other than those listed above,please contact us.

Outside Dimensions

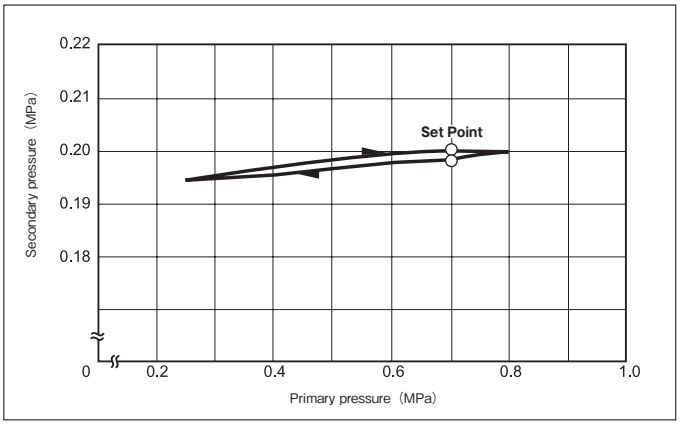
RV10C-8A・10A・15A



Performance Tables

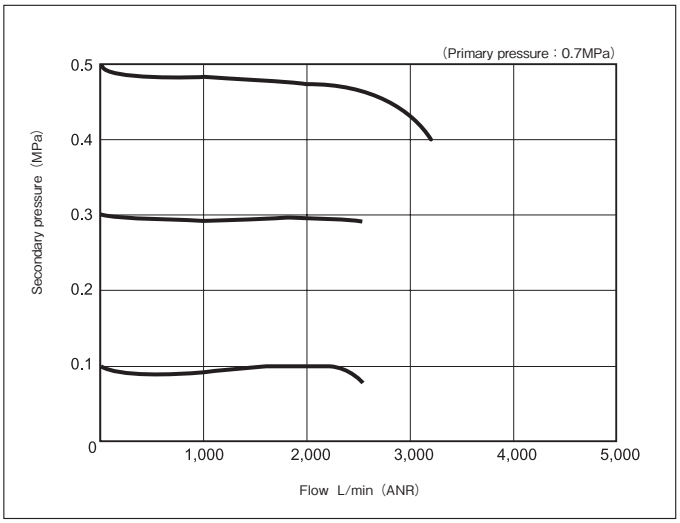
Pressure characteristics graphs

RV10C-15A



Flow characteristics graphs

RV10C-15A



Operating Instructions

1 Fluid

- Use the regulator with clean fluids only.Dirt,wastes,etc.in the fluid may cause regulator malfunction.

2 Lubrication

- In general,do not attempt to lubricate the regulator.When disassembling for checking,however,apply grease.

3 Pressure

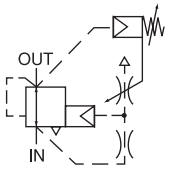
- To lower the pressure setting,lower the present setting below the target point first,and then increase the setting to the target point.

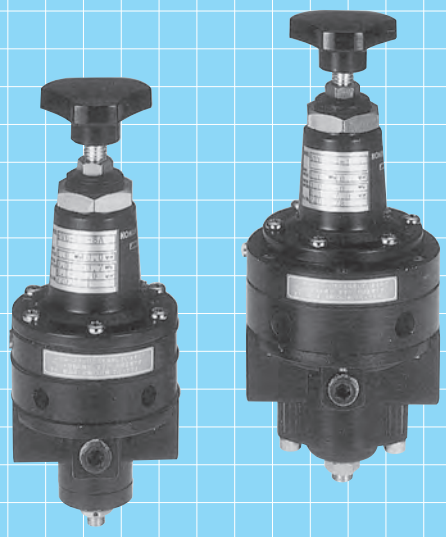
High relief type
PRECISION REGULATORS

RV6	Standard type	RC 1/4 ～ 1/2

The nozzle flapper high-sensitivity pilot amplification system has achieved adjustable sensitivity of 0.001MPa.Large relief flow enables strong resistance against excessive pressure at secondary side and prevents reverse flow.This regulator is suitable for balancer and tension control.

JIS 記号





Model Code

When ordering,specify the model as follows:

Standard type

Rc 1/4 ～ 3/8

RV6-03-①-②-④-⑤

- ① Secondary operating pressure
- ② Port size
- ④ Pressure gauge
- ⑤ Bracket

Rc 3/8 ～ 1/2

RV6-04-①-③-④-⑤

- ① Secondary operating pressure
- ③ Port size
- ④ Pressure gauge
- ⑤ Bracket

① Secondary operating pressure range

Generay purpose	0.01 ～ 0.7	No entry
Middle pressure purpose	0.01 ～ 0.4	4
Low pressure purpose	0.01 ～ 0.2	2

② Port size

Rc1/4	8A
Rc3/8	10A

③ Port size

Rc3/8	10A
Rc1/2	15A

④ Pressure gauge

Without	No entry
With	G

- Pressure gauge is not mounted but appended with regulators.

⑤ Bracket

Without	No entry
With	BR

- Bracket is not mounted but appended with regulators.

Specifications

Model code			RV6-03	RV6-04
Port size			8A / Rc1/4	10A / Rc3/8	15A / Rc1/2
Applicoble Fluid			Dry air after filter passage less than 5μm.	
Operating pressure	Primary side (IN)		Max.1.0MPa	
	Secondary side (OUT)	Generay purpose	0.01 ～ 0.7MPa	
		Middle pressure purpose	0.01 ～ 0.4MPa	
		Low pressure purpose	0.01 ～ 0.2MPa	
Sensitivity			0.001MPa	
Operating temperature ramge			− 20 ～ 60℃	
Mass			1.0kg	1.4kg

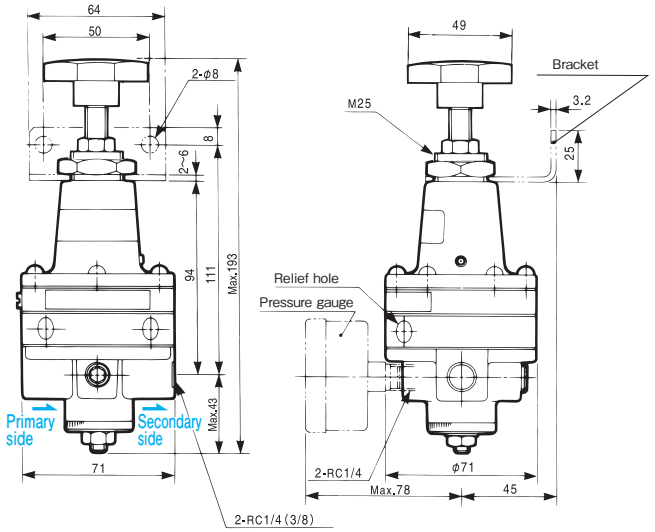
- Do not use fluid containing oil.
- For use below 5℃ ,provide adequate measures against freezing.
- For specifications other than those listed above,please contact us.
- Minimal leakage may occur due to the diaphragm performance characteristics.This dose not affect the regulator function at all.

Characteristic table

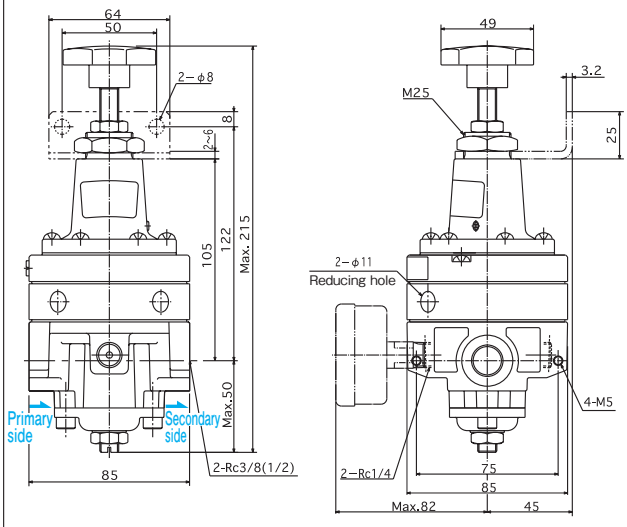
		RV6-03	RV6-04	Note
Rated flow	Primary side→ Secondary side	700L/min (ANR)	1600L/min (ANR)	● Flow rate of air pressure when primary pressure is 0.7MPa and secondary pressure 0.5MPa.
	At relief	700L/min (ANR)	1600L/min (ANR)	
Air consumption		3L/min (ANR)	5L/min (ANR)	● Primary pressure:0.7MPa
Pressure charac teristic		Less than 0.01MPa		● Secondary pressurefluctuation due to change in primary pressure.

Outside Dimensions

RV6-03-8A・10A



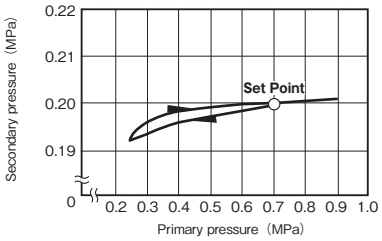
RV6-04-10A・15A



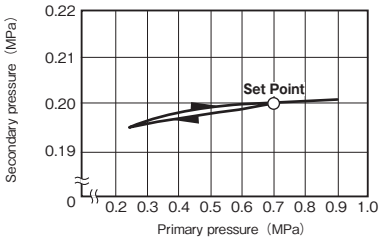
Performance Tables

Pressure characteristics graphs

RV6-03-8A・10A

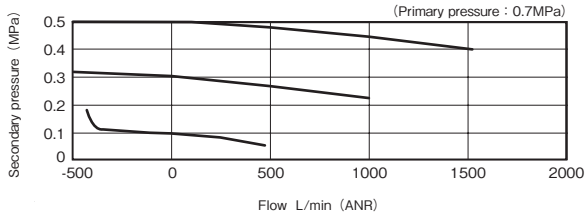


RV6-04-10A・15A

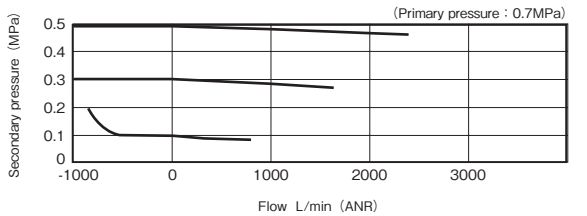


Flow characteristics graphs

RV6-03-8A・10A



RV6-04-10A・15A



Operating Instructions

1 Installation

- In principle install RV6 precision type regulator vertically (so that wheel comes either top or bottom) .
- Install in correct direction as indicated by an arrow mark on the body to make sure correct air flow.

2 Fluid

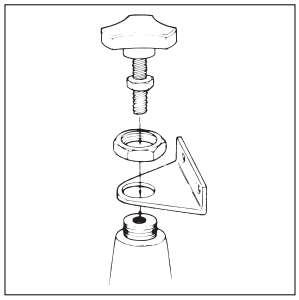
- For air supply to the primary side,filtrate the fluid using an air filter with filtration less than 5μm.
- When high temperature air reaches the nozzle of the pilot valve,oil film may be created on the surface of the nozzle.in order to avoid this,use after-cooler or dryer.

3 Lubrication

- Do not lubricate the regulator.
- When lubricating downstream components using lubricator in open air,perform the process at secondary side of the regulator.

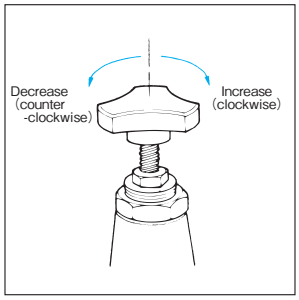
4 Bracket

- Bracket is avalable as an option. For mounting,remove the wheel and lock nut (cramp) and inset the bracket.



5 Pressure

- Turn the wheel while checking the pressure regulator to set pressure. (Turn clockwise to increase the pressure and counterclockwise to decrease the pressure.)



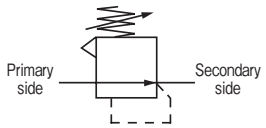
- Set the primary pressure about 0.1 MPa higher than the secondary set pressure.If there is no pressure difference,available flow volume is decreased.
- Fasten the lock nut tight if it is necessary to avoid vibration and maintain set position.

Low pressure type
REGULATORS

RV2-G	RC 1/4 ~ 1
RV21-G	RC 3/8 ~ 1/2

This is a regulator exclusively for use in low pressure lines.This wide range of available pressure settings facilitates precise pressure adjustments.

JIS Symbol



Model Code

When ordering,specify the model as follows:

Standard type

Rc 1/4 ~ 3/8 **RV2-03-①-④-⑤-⑥-G4177**

Rc 3/8 ~ 1/2 **RV21-04-②-④-⑤-⑥-G4528**

Rc 3/4 ~ 1 **RV2-08-③-④-⑤-⑥-G4247**

① Port size ② Port size ③ Port size ④ Operating temperature range ⑤ Pressure gauge ⑥ Bracket

① Port size

Rc1/4	8A
Rc3/8	10A

② Port size

Rc3/8	10A
Rc1/2	15A

③ Port size

Rc3/4	20A
Rc1	25A

④ 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.

⑤ Pressure gauge

Without	No entry
With	G

- Pressure gauge sizes : 50mm dia. Scale : 0 ~ 0.2MPa
- Pressure gauge is not mounted but appended with regulators.

⑥ Bracket

Without	No entry
With	BR

- Bracket is not mounted but appended with regulators.

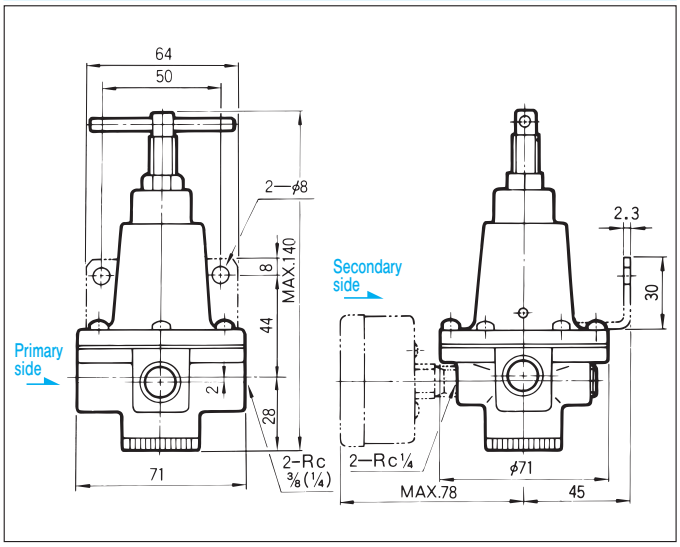
Specifications

Model code		RV2-03-①-G4177		RV21-04-②-G4528		RV2-08-③-G4247	
Port size		8A	10A	10A	15A	20A	25A
		Rc1/4	Rc3/8	Rc3/8	Rc1/2	Rc3/4	Rc1
Operating pressure	Primary side (IN)	Max.1.0MPa					
	Secondary side (OUT)	0.02 ~ 0.2MPa					
Proof pressure		1.5MPa					
Operating temperature		General purpose: − 20 ~ 60℃ Heat-resistant: 5 ~ 100℃ Freeze-resistant: − 40 ~ 45℃					
Mass		0.58kg		0.84kg		2.5kg	

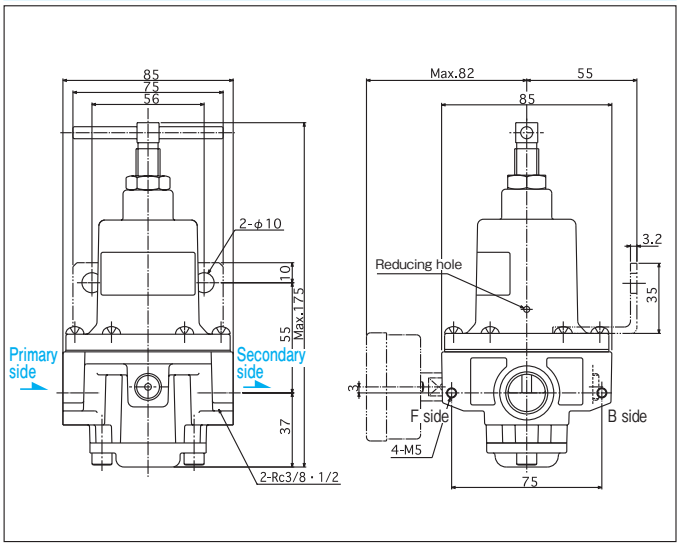
- For specifications other than those listed above,please contact us.

Outside Dimensions

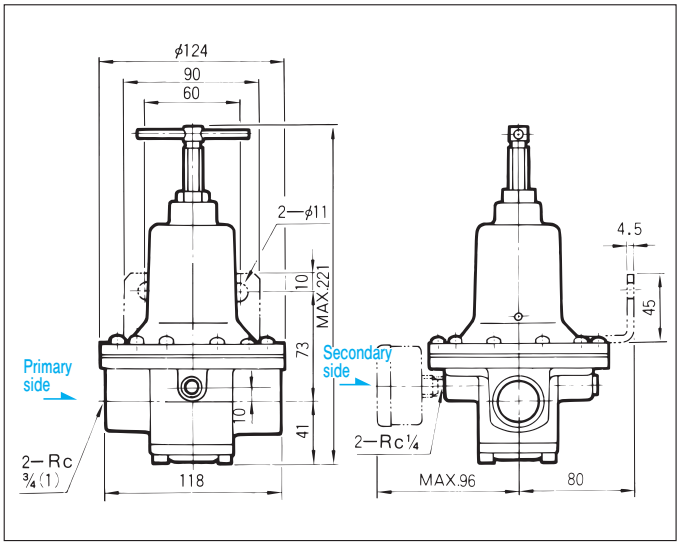
RV2-03-8A・10A-G4177



RV21-04-10A・15A-G4528



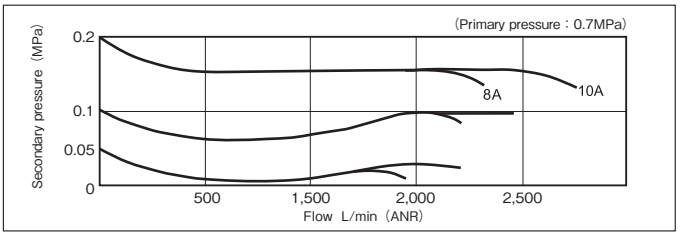
RV2-08-20A・25A-G4247



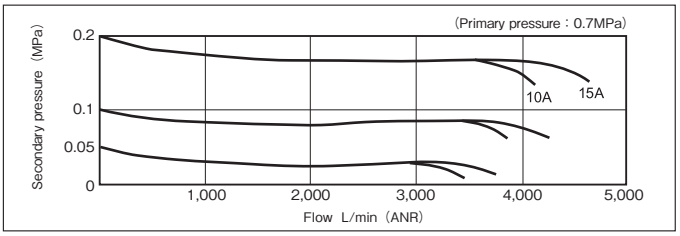
Performance Tables

Flow characteristics graphs

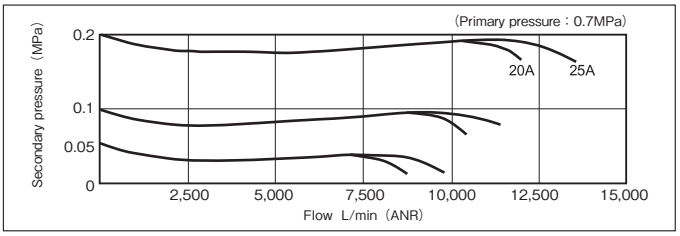
RV2-03-8A・10A-G4177



RV21-04-10A・15A-G4528



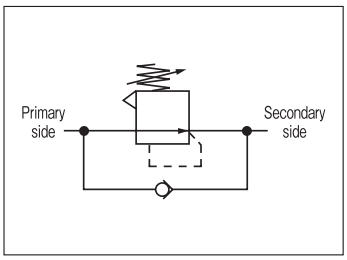
RV2-08-20A・25A-G4247



Operating Instructions

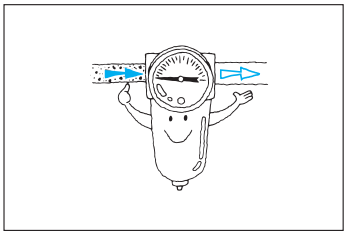
1 Installation

- For a circuit where the flow of air is reversed,running from the secondary to the primary side,install a check valve in parallel,as shown.



2 Fluid

- Use the regulator with clean fluids only.Dirt,waste,etc.in the fluid may cause regulator malfunction.

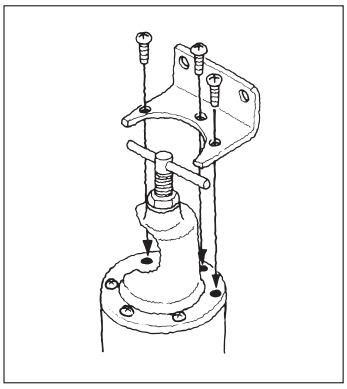


3 Lubrication

- In general,do not attempt to lubricate the regulator.When disassembling for checking,however,apply grease.

4 Bracket

- The regulator mounting bracket is available as an option.
- Remove any three machine screws from the upper part of the regulator.Attach the bracket to the regulator by means of the longer machine screws supplied with the regulator.



5 Pressure

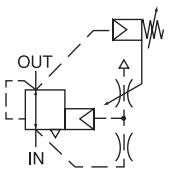
- To lower the pressure setting,lower the present setting below the target point first,and then increase the setting to the target point.
- After setting,be sure to tighten the locknut.

Nozzle flapper type
LOW PRESSURE REGULATORS

RV6-G	Standard type	RC 1/4 ~ 3/8

The nozzle flapper high-sensitivity pilot amplification system has achieved
adjustable 0 to 0.04 MPa control.
Outside dimensions are same as standard model of RV6-03.

JIS Symbol



Model Code

When ordering,specify the model as follows:

Standard type

Rc 1/4 ~ 3/8

RV6-03 – ① – ② – ③ – G3267

● ① Port size ● ② Pressure gauge ● ③ Bracket

① Port size

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

② Pressure gauge

Without	No entry
With	G

● Pressure gauge is not mounted but appended with regulators.

③ Bracket

Without	No entry
With	BR

● Bracket is not mounted but appended with regulators.

Specifications

Model code		8A	10A
		Rc1/4	Rc3/8
Applicoble Fluid		Dry air after filter passage less than 5μm	
Operating pressure	Primary side (IN)	Max.0.7MPa	
	Secondary side (OUT)	0 ~ 40kPa	
Sensitivity		0.001MPa	
Operating temperature ramge		− 20 ~ 60℃	
Mass		1.0kg	

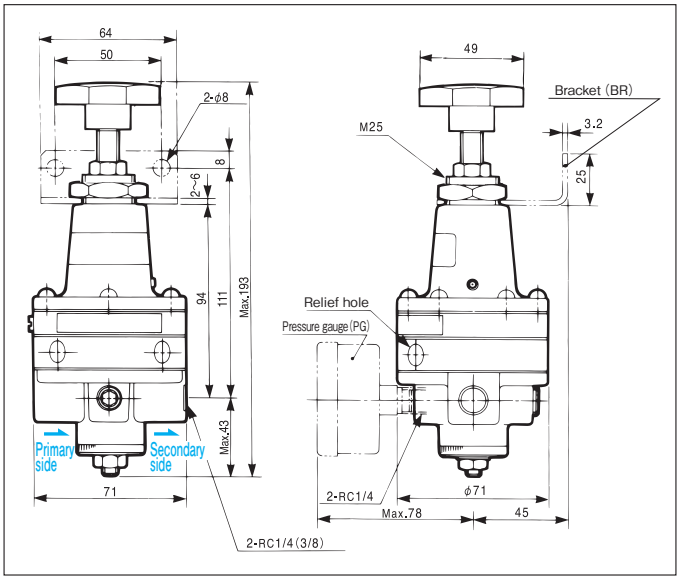
- Do not use fluid containing oil.
- For use below 5℃ ,provide adequate measures against freezing.
- For specifications other than those listed above,please contact us.
- Minimal leakage may occur due to the diaphragm performance characteristics.This dose not affect the regulator function at all.

Characteristic table

Rated flow	Primary side → Secondary side	30L/min (ANR)
	At relief	30L/min (ANR)
Air consumption		3L/min (ANR)

Outside Dimensions

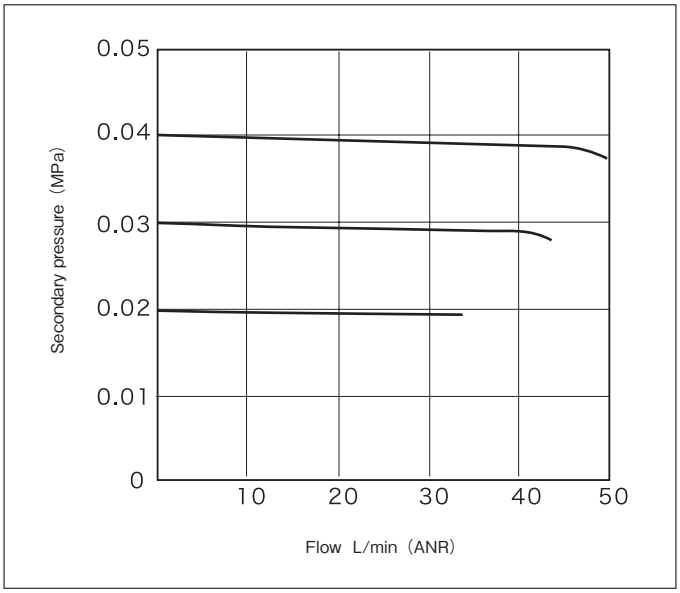
RV6-03-8A・10A-G3267



Flow characteristics graphs

Standard type

Performance Tables



Operating Instructions

1 Installation

- In principle install RV6 precision type regulator vertically (so that wheel comes either top or bottom) .
- Install in correct direction as indicated by an arrow mark on the body to make sure correct air flow.

2 Fluid

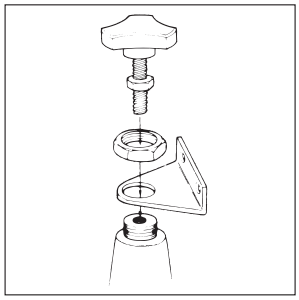
- For air supply to the primary side,filtrate the fluid using an air filter with filtration less than 5μm.
- When high temperature air reaches the nozzle of the pilot valve,oil film may be created on the surface of the nozzle.in order to avoid this,use after-cooler or dryer.

3 Lubrication

- Do not lubricate the regulator.
- When lubricating downstream components using lubricator in open air,perform the process at secondary side of the regulator.

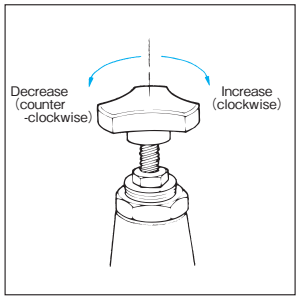
4 Bracket

- Bracket is avalable as an option.
- For mounting,remove the wheel and lock nut (cramp) and inset the bracket.



5 Pressure

- Turn the wheel while checking the pressure regulator to set pressure. (Turn clockwise to increase the pressure and counterclockwise to decrease the pressure.)



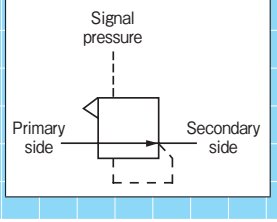
- Set the primary pressure about 0.1 MPa higher than the secondary set pressure.If there is no pressure difference,available flow volume is decreased.
- Fasten the lock nut tight if it is necessary to avoid vibration and maintain set position.

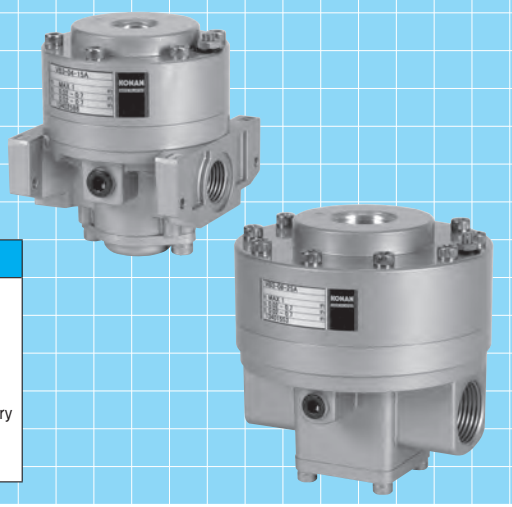
VOLUME BOOSTERS

VB3	Standard type	RC 3/8 ~ 2

Volume booster maintains pressure supply to air tanks and actuators,and provides great performance where rapid pressure relief is required.It can be operated remotely using a pilot-operated regulator at a nearby,convenient point.

JIS Symbol





Model Code

When ordering,specify the model as follows:

Standard type

Rc 3/8 ~ 1/2

VB3 ① –04– ② – ④ – ⑤

- ① Corrosion-resistant
- ② Port size
- ④ Pressure gauge
- ⑤ Bracket

Rc 3/4 ~ 1

VB3 ① –08– ③ – ④ – ⑤

- ① Corrosion-resistant
- ③ Port size
- ④ Pressure gauge
- ⑤ Bracket

Rc 2

VB3 – 20 – 50A – ④

- ④ Pressure gauge

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 3/8	10A
Rc 1/2	15A

③ Port size

Rc 3/4	20A
Rc 1	25A

④ Pressure gauge

Without	No entry
With	G

- Pressure gauge is not mounted but appended with regulators.

⑤ Bracket

Without	No entry
With	BR

- Bracket is not mounted but appended with regulators.

Specifications

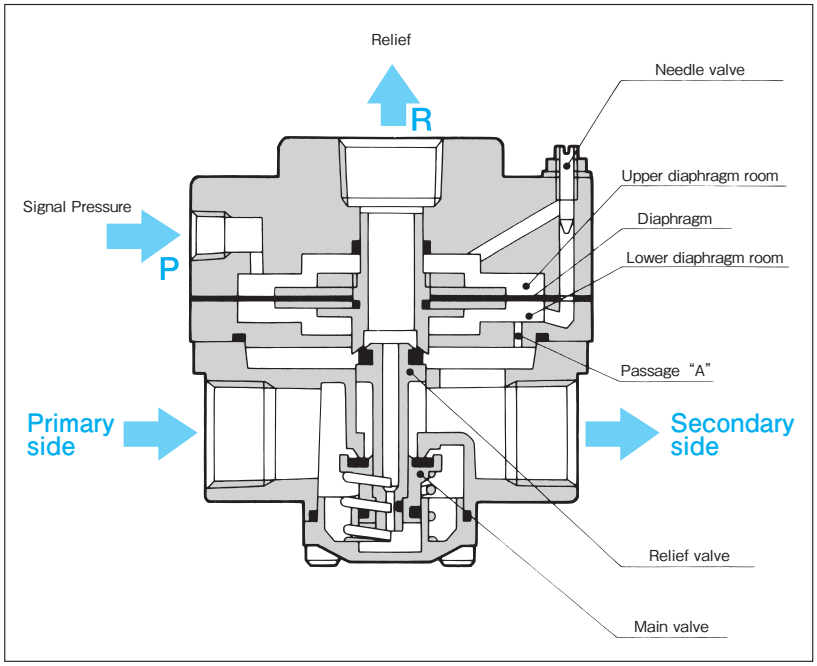
Model code		VB3-04		VB3-08		VB3-20
Port size		10A	15A	20A	25A	50A
		Rc3/8	Rc1/2	Rc3/4	Rc1	Rc2
Applicoble Fluid		Dry air after filter passage less than 40μm				
Operating pressure	Primary side (IN)	Max.1.0MPa				
	Signal pressure	0.02 ~ 0.7MPa				0.05~0.8MPa
	Secondary side (OUT)	0.02 ~ 0.7MPa				0.05~0.8MPa
	Pressure raito	Signal pressure : Secondary side = 1 : 1				
Accuracy		Less than ± 0.014MPa (Less than2% FS)Please consult us.				
Operating temperature range		– 20 ~ 60℃				
Mass		1.2kg		3.5kg		9.2kg

- For use below 5℃ ,provide adequate measures against freezing.
- Make sure that the primary pressure is at least 0.1MPa higher than the secondary pressure.

Characteristic table

		VB3-04	VB3-08	Note
Rated flow	Primary side → Secondary side	2,200L/min (ANR)	6,500L/min (ANR)	● Flow rate of air pressure when primary pressure is 0.7MPa and secondary pressure 0.5MPa.
	At relief	2,200L/min (ANR)	6,500L/min (ANR)	
Air consumption		Less than 0.6L/min (ANR)	Less than 1.2L/min (ANR)	● Primary pressure : 0.7MPa at needle valve is full open.
Pressure characteristic		Less than 0.01MPa		● Secondary pressurefluctuation due to change in primary pressure.

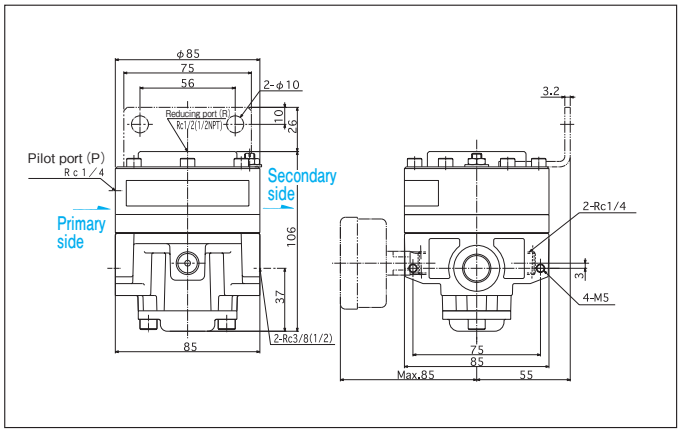
Operation



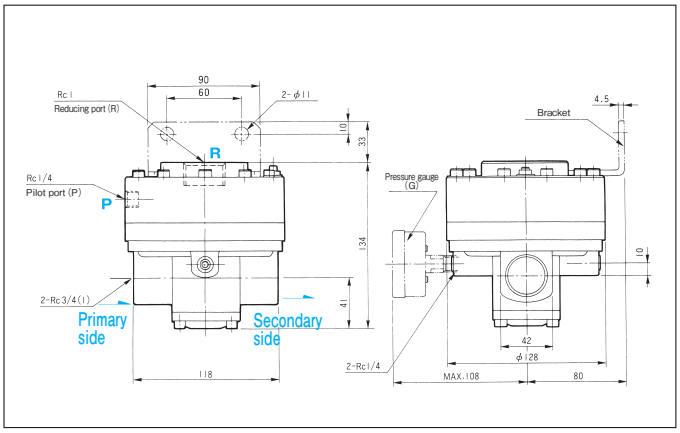
① Signal pressure enters from the pilot port (P) to the upper diaphragm room and acts on the diaphragm to open the main valve.
② The primary pressure flows through the main valve to the secondary side and increase the secondary pressure,while entering through passage A to the lower diaphragm room and acts on the diaphragm.
③ When the secondary pressure and the signal pressure are equal,the main valve closes to hold the secondary pressure.
④ When the secondary pressure is higher than the signal pressure,the diaphragm is pushed up to open the relief valve.The secondary pressure is then exhausted through the relief port (R) until the second pressure is equal to the signal pressure.
⑤ The needle valve is used as a by-path between signal pressure side and primary side.When strained (turned clockwise),response of the secondary pressure to the signal pressure becomes faster.When needle valve is open (turned counterclockwise),the response becomes slower. Adjust the needle valve to obtain stable operation of the regulator.

Outside Dimensions

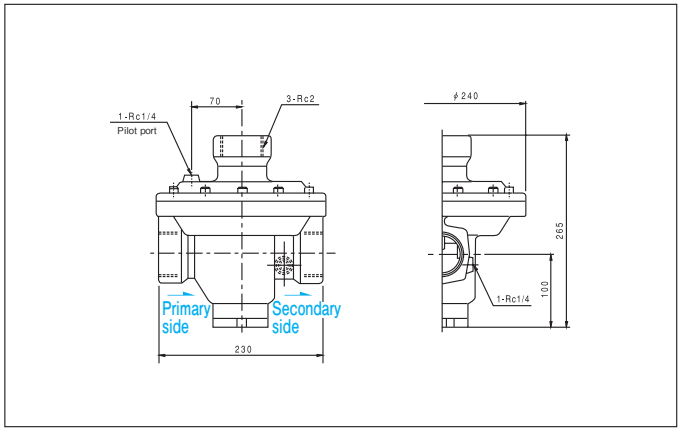
VB3-04-10A・15A



VB3-08-20A・25A



VB3-20-50A

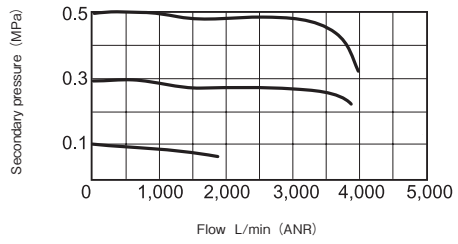


Performance Tables

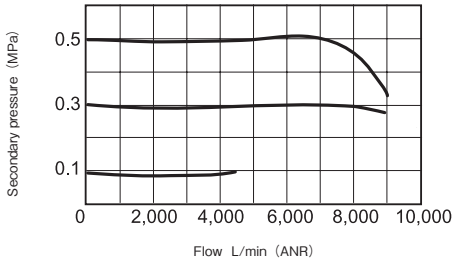
(With needle valve fully closed) ● For the characteristics of VB3-20-50A, please contact us.

Flow characteristics graphs ● pressure conditions —— Primary pressure : 0.7MPa

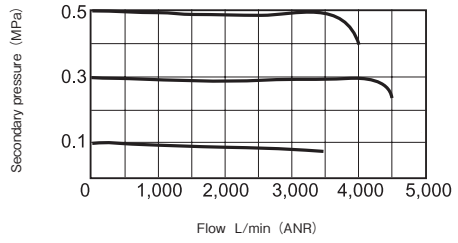
VB3-04-10A



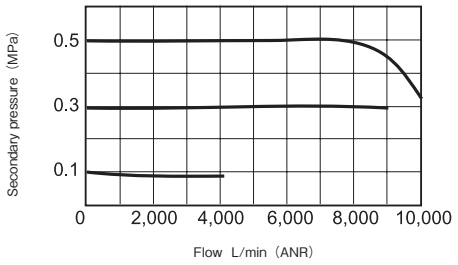
VB3-08-20A



VB3-04-15A

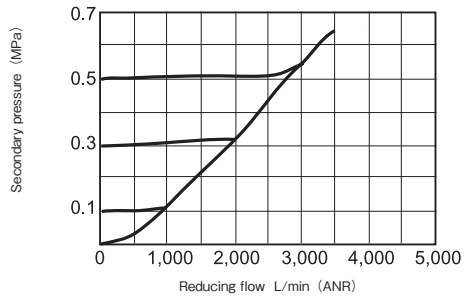


VB3-08-25A

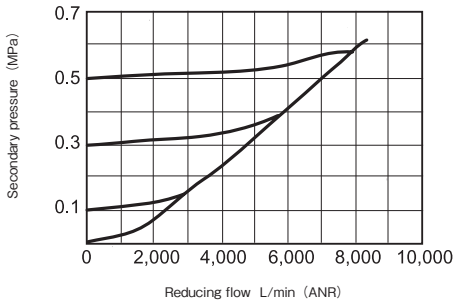


Relief flow characteristics graphs ● pressure conditions —— Primary pressure : 0.7MPa

VB3-04-10A・15A

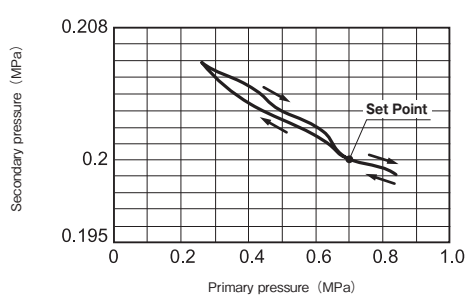


VB3-08-20A・25A

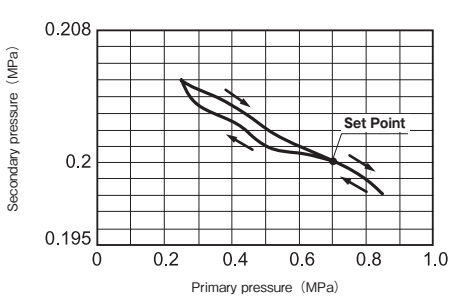


Pressure characteristics graphs ● Initial-setting pressure conditions — Primary pressure : 0.7MPa, Secondary pressure : 0.2MPa,

VB3-04-10A・15A



VB3-08-20A・25A



Operating Instructions

1 Installation

- Perform enough air flushing of pipes and piping materials to eliminate dusts and foreign substances completely before connecting to components.
- Install in correct direction as indicated by an arrow mark on the body to make sure correct air flow.
- Always open the relief port to the atmosphere or connect a silencer.When relief port is closed or pressurized,the volume booster cannot be normally operated.

2 Fluid

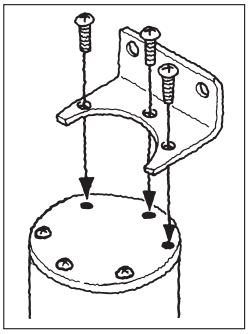
- For air supply to the primary side,filtrate the fluid using an air filter with filtration less than 40μm.

3 Lubrication

- Do not lubricate the volume booster.
- When lubricating downstream components using lubricator in open air,perform the process at secondary side of the volume booster.

4 Bracket

- Bracket is avalable as an option.



5 Pressure

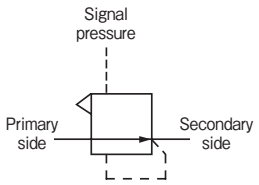
- Set and adjust the secondary pressure using a pilot-operated regulator.
- Set primary pressure about 0.1 MPa higher than the secondary set pressure.If there is no pressure difference,available flow volume is decreased.

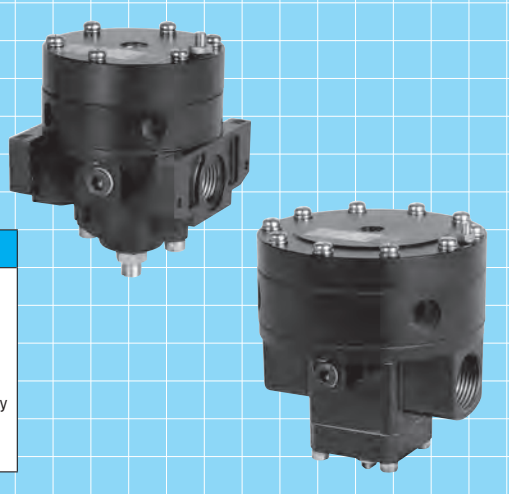
Precision type
VOLUME BOOSTERS

VB7	Precision type	RC 1/4 ~ 1

VB7 series precision type volume booster provides excellent performance supported by superior flow rate,accuracy,amplification factor,response and relief characteristics.

JIS Symbol





Features

High precision
- Outstanding input/output precision assures significantly low hysteresis at pressure rise/down.

Minimal cracking pressure
- Minimal cracking pressure with flow rate at around 0L/min allows rapid response to slight pressure change.

Large fluid amplification factor
- Even minimal change in signal pressure can produce large fluid rate.

Slight pressure fluctuation
- Outstanding pressure characteristics minimize the effect of the primary pressure change on the secondary pressure.

Large relief flow
- With its large telief flow volume.VB7 is suitable for tension control.

By-path system
- A built-in needle valve reduces electrode hunting that may occur on the electric circuit.

Model Code

When ordering,specify the model as follows:

Standard type

Rc 1/4 ~ 3/8 — **VB7-03 – ① – ④ – ⑤**

Rc 3/8 ~ 1/2 — **VB7-04 – ② – ④ – ⑤**

Rc 3/4 ~ 1 — **VB7-08 – ③ – ④ – ⑤**

① Port size ● ④ Pressure gauge ● ⑤ Bracket

① Port size

Rc1/4	8A
Rc3/8	10A

② Port size

Rc3/8	10A
Rc1/2	15A

③ Port size

Rc3/4	20A
Rc1	25A

④ Pressure gauge

Without	No entry
With	G

- Pressure gauge is not mounted but appended with regulators.

⑤ Bracket

Without	No entry
With	BR

- Bracket is not mounted but appended with regulators.

Specifications

Model code		VB7-03	VB7-04	VB7-08
Port size		8A / Rc1/4	10A / Rc3/8	15A / Rc1/2	20A / Rc3/4	25A / Rc1
Applicoble Fluid		Dry air after filter passage less than 40μm				
Operating pressure	Primary side (IN)	0.1 ～ 1.0MPa				
	Signal pressure	0.01 ～ 0.7MPa				
	Secondary side (OUT)	0.01 ～ 0.7MPa				
	Pressure raito	Signal pressure : Secondary side = 1 : 1				
Accuracy		Less than ± 0.007MPa (Less than 1% FS 以下)				
Operating temperature ramge		− 20 ～ 60℃				
Mass		0.6kg	1.0kg	2.5kg		

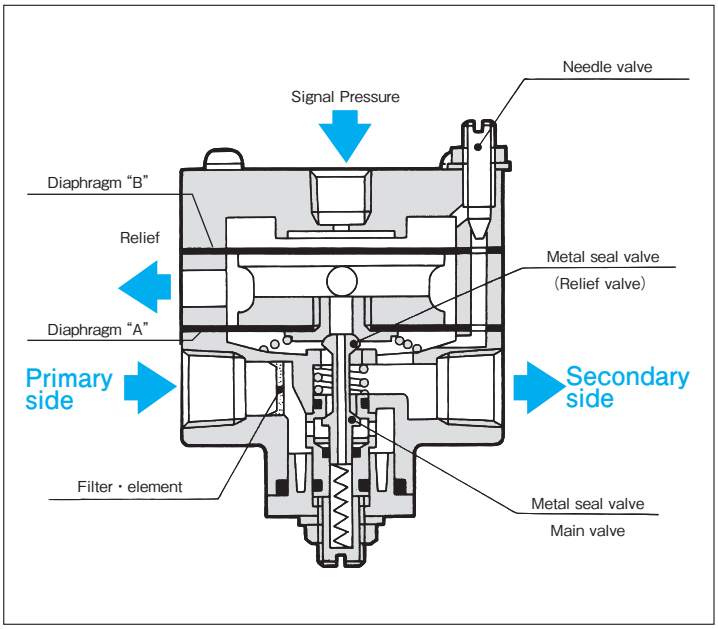
- For use below 5℃ ,provide adequate measures against freezing.
- Make sure to produce at least 0.1MPa of pressure difference between primary and secondary sides of the pressure port,or appropriate flow rate cannot be achieved.
- Minimal leakage may occur due to the diaphragm performance characteristics.This does not have any problem to the function.

Characteristic table

		VB7-03	VB7-04	VB7-08	Note
Rated flow	Primary side→ Secondary side	700L/min (ANR)	1.600L/min (ANR)	5.000L/min (ANR)	● Flow rate of air pressure when primary pressure is 0.7MPa and secondary pressure 0.5MPa.
	At relief	700L/min (ANR)	1.600L/min (ANR)	5.000L/min (ANR)	
※ Air consumption		Less than 1L/min (ANR)	Less than 2L/min (ANR)	Less than 4L/min (ANR)	● Primary pressure : 0.7MPa
Pressure characteristic		0.01MPa 以下			● Secondary pressure fluctuation due to change in primary pressure.

- Air consumption (※) specifies leakage from the relief port after metal seal valve.

Operation



❶ Diaphragm "B"

Signal pressure acts on diaphragm B to open the valve.

❷ Diaphragm "A"

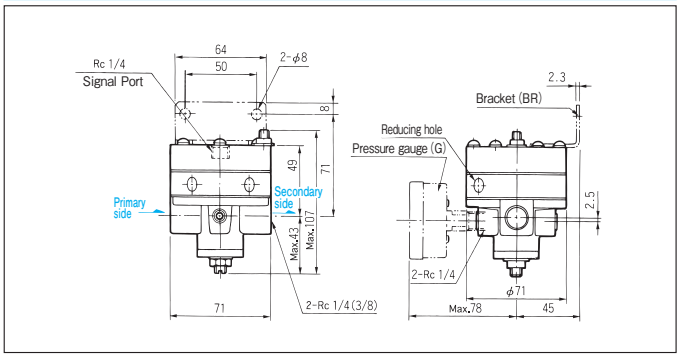
The secondary pressure acts on diaphragm A against signal pressure.When the secondary pressure is lower than the signal pressure,diaphragm A is forced down and the valve opens.When both pressures are equal,the valve closes. When the secondary pressure is higher than the signal pressure,relief valve opens and releases the secondary pressure until the secondary pressure is equal to the signal pressure.

❸ Needle valve

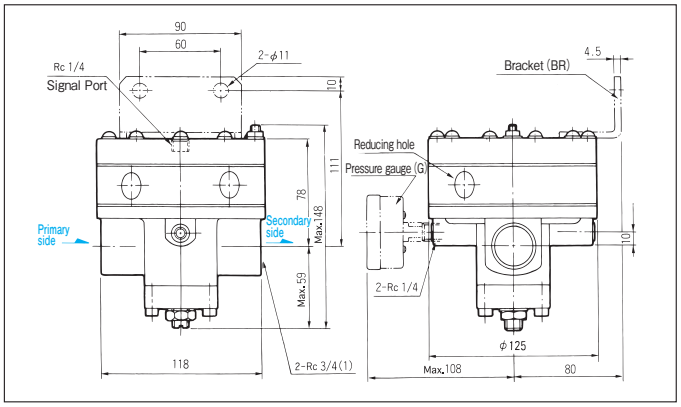
When needle valve is opened,the secondary side is connected to signal pressure side.This mechanism maintains safe and stable operating condition.

Outside Dimensions

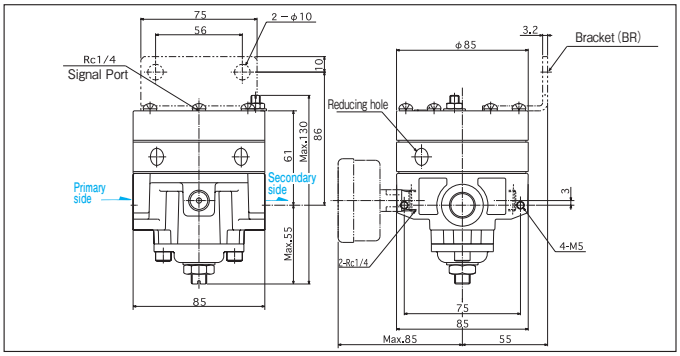
VB7-03-8A・10A



VB7-08-20A・25A



VB7-04-10A・15A



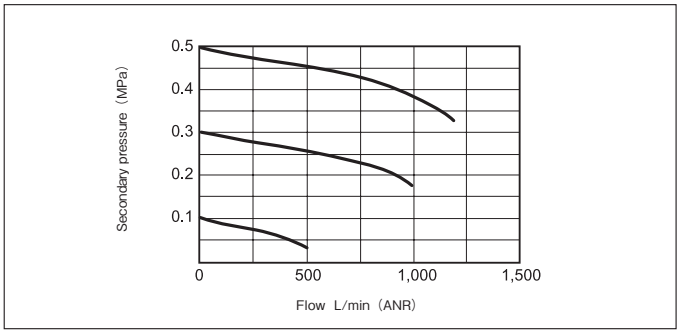
Performance Tables

(With needle valve fally closed)

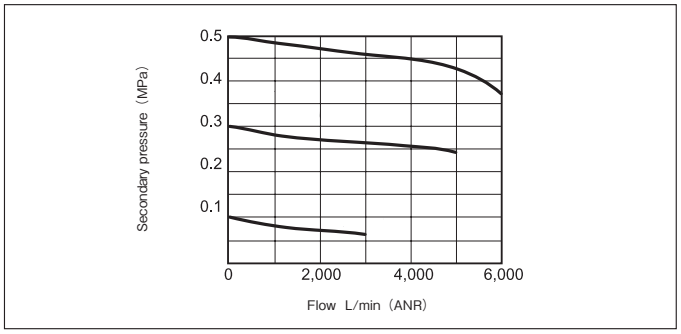
Flow characteristics graphs

● pressure conditions —— Primary pressure : 0.7MPa

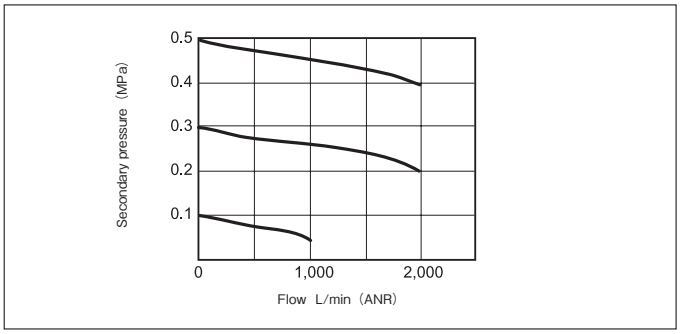
VB7-03-8A・10A



VB7-08-20A・25A

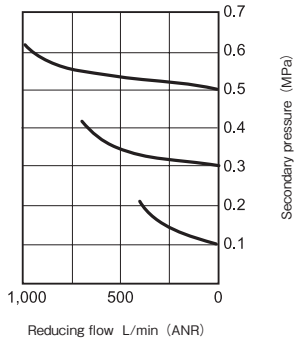


VB3-04-10A・15A

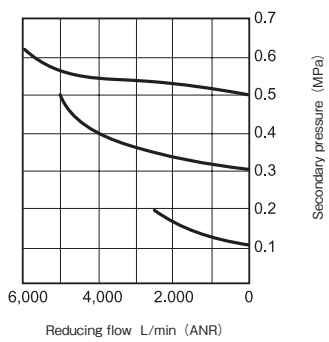


Relief flow characteristics graphs ● pressure conditions —— Primary pressure : 0.7MPa

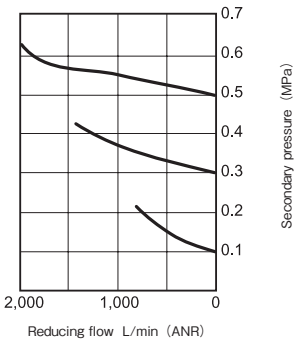
VB7-03-8A・10A



VB7-08-20A・25A

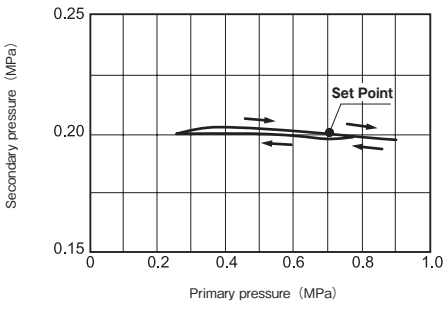


VB7-04-10A・15A

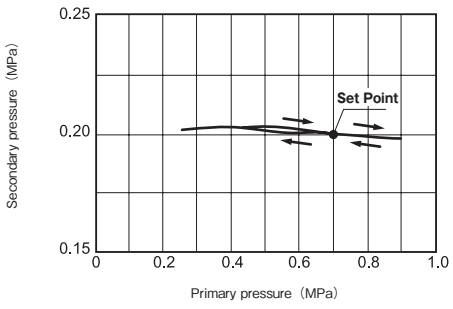


Pressure characteristics graphs ● Initial-setting pressure conditions — Primary pressure : 0.7MPa, Secondary pressure : 0.2MPa,

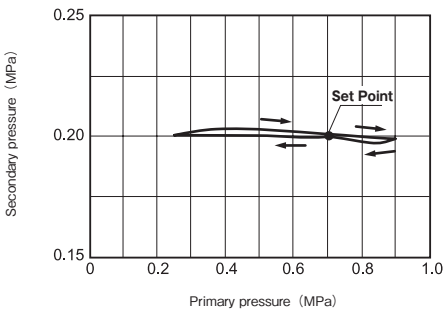
VB7-03-8A・10A



VB7-08-20A・25A



VB7-04-10A・15A



Operating Instructions

1 Installation

- Perform enough air flushing of pipes and piping materials to eliminate dusts and foreign substances completely before connecting to components.
- Install in correct direction as indicated by an arrow mark on the body to make sure correct air flow.
- Do NOT pressurize or close the relief port.
- Place the volime booster vertically in order to minimize the effect of body weight on performance.

2 Fluid

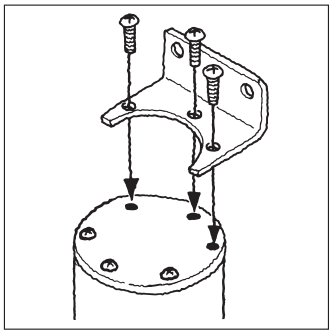
- For air supply to the primary side,filtrate the fluid using an air filter with filtration less than 40μm.

3 Lubrication

- Do not lubricate the volume booster.
- When lubricating downstream components using lubricator in open air,perform the process at secondary side of the volume booster.

4 Bracket

- Bracket is avalable as an option.
- Remove any 3 machine screws from the top of the volume booster and mount the bracket with longer machine screws supplied with the volume booster.



5 Pressure

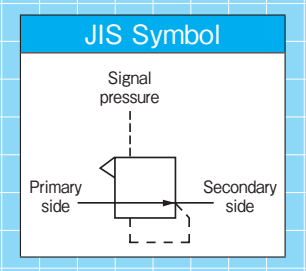
- Set and adjust the secondary pressure using a pilot-operated regulator.
- Set primary pressure about 0.1 MPa higher than the secondary set pressure.If there is no pressure difference,available flow volume is decreased.

REGULATORS
with External Pilot

PRV11B Standard type — RC 3/4 · 1 1/2

Pressure is controlled by external signal pressure (pilot pressure) instead of by spring force.
Performance,etc.is exactly the same as the spring-controlled regulators

JIS Symbol



Model Code

When ordering,specify the model as follows:

Standard type

Rc 3/4 ~ 1 — **PRV11B – ① – ③ – ④**
- ① Port size
- ③ Pressure gauge
- ④ Bracket

Rc 1_1/4 ~ 1_1/2 — **PRV2-14 – ② – ③**
- ② Port size
- ③ Pressure gauge

① Port size

Rc 3/4	20A
Rc 1	25A

② Port size

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

③ Pressure gauge

Without	No entry
With	G

- Pressure gauge sizes : 50mm dia.
  Scale : 0 ~ 1MPa
- Pressure gauge is not mounted but appended with regulators.

④ Bracket

Without	No entry
With	BR

- Bracket is not mounted but appended with regulators.

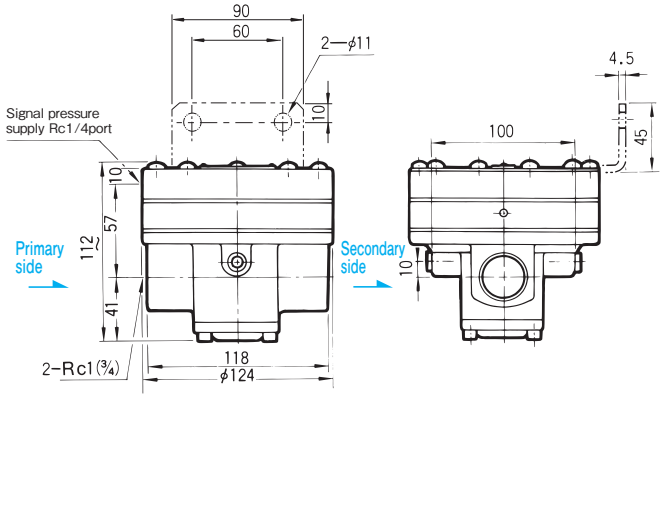
Specifications

Model code		PRV11B		PRV2-14	
Port size		20A	25A	32A	40A
		Rc3/4	Rc1	Rc1 1/4	Rc1 1/2
Operating pressure	Primary side (IN)	Max.1.0MPa			
	Secondary side (OUT)	0.05 ~ 0.7MPa			
Proof pressure		1.5MPa (Primary side only)			
Operating temperature		− 20 ~ 60℃			
Mass		2.5kg		5.1kg	

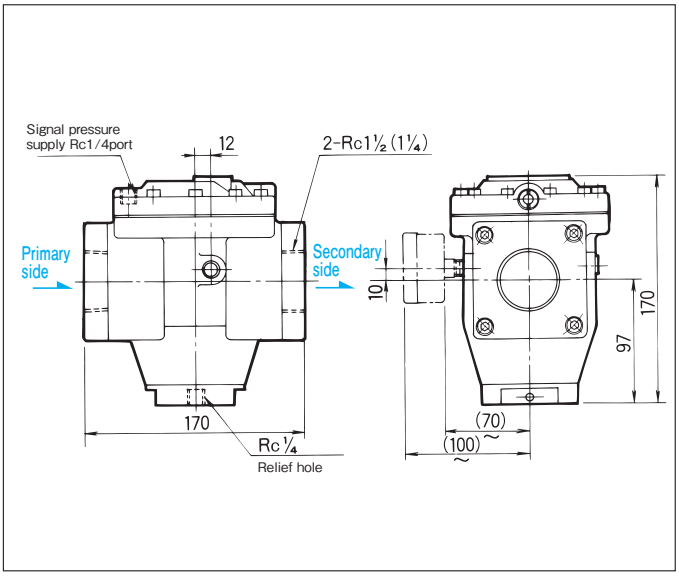
- Above values of mass exclude weight of mounting bracket.

Outside Dimensions

PRV11B-20A・25A



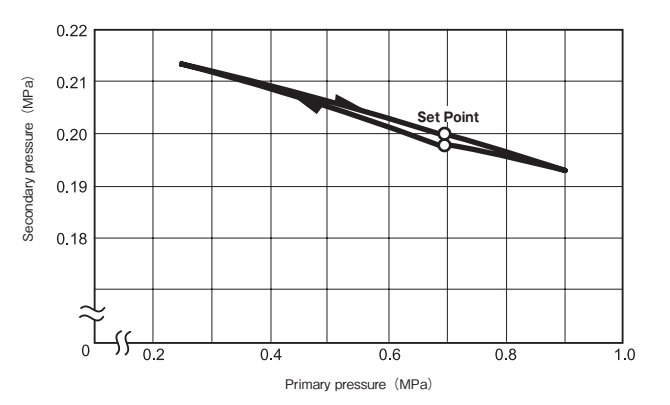
PRV2-14-32A・40A



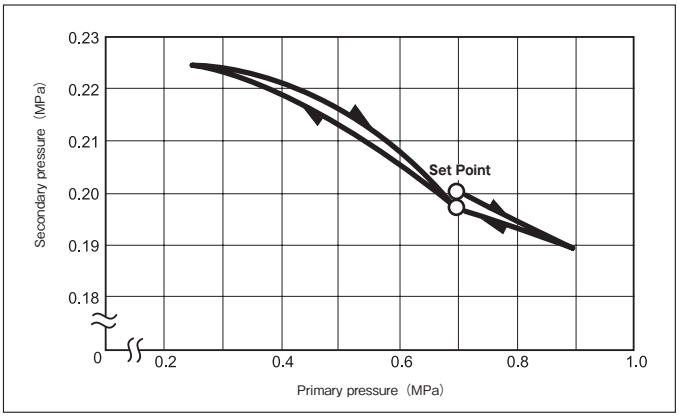
Performance Tables

Pressure characteristics graphs

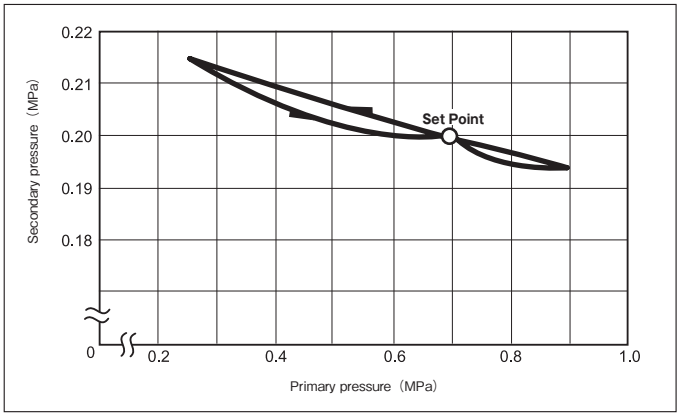
PRV11B-20A



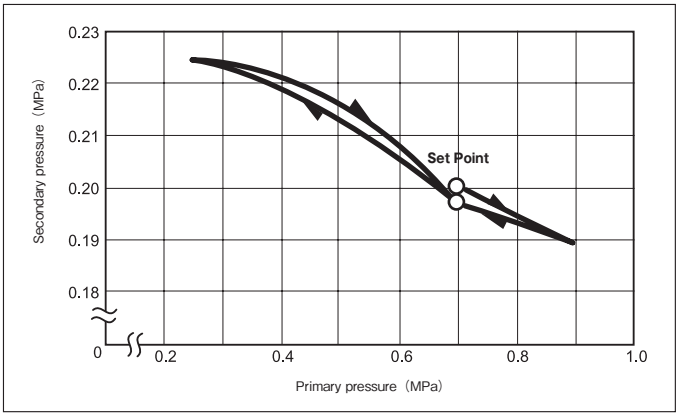
PRV2-14-32A



PRV11B-25A



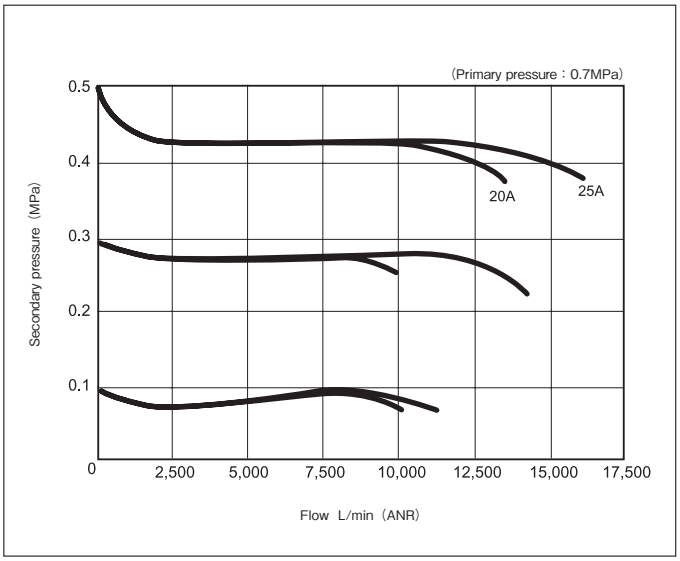
PRV2-14-40A



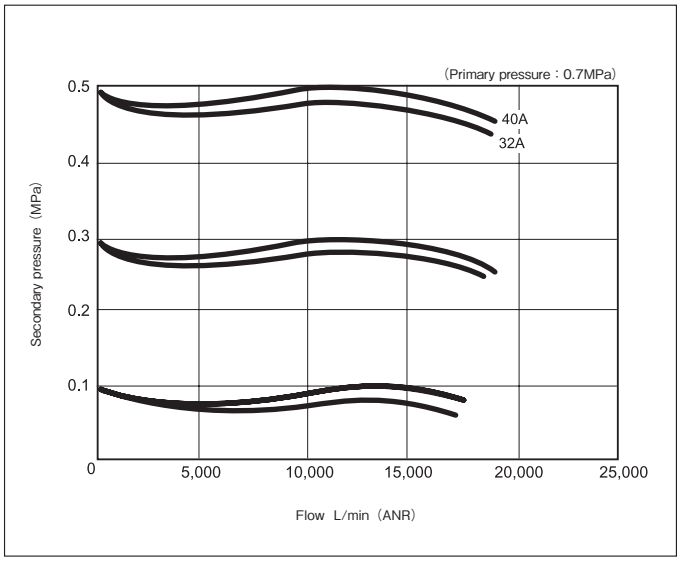
Performance Tables

Flow characteristics graphs

PRV11B-20A・25A



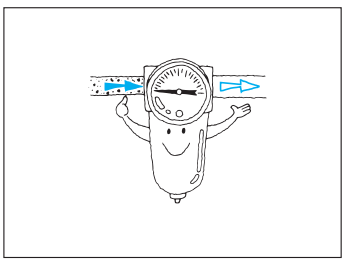
PRV2-14-32A・40A



Operating Instructions

1 Fluid

- Use the regulator with clean fluids only. Dirt,wastes,etc.in the fluid may cause regulator malfunction.

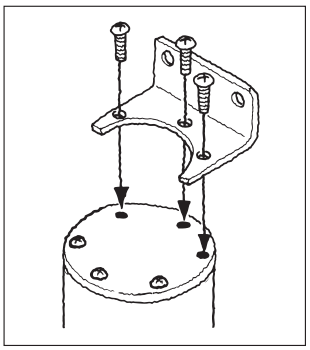


2 Lubrication

- In general,do not attempt to lubricate the regulator. When disassembling for checking,however,apply grease.

3 Bracket

- The regulator mounting bracket is available as an option.For the mounting of the bracket,see the figure at right.
- Remove any three machine screws from the upper part of the regulator.Attach the bracket to the regulator by means of the three longer machine screws supplied with the regulator.

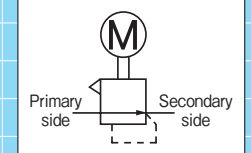


Electric REGULATORS

Size RC 1/4 · 3/8

In this electric regulator,the rotating force of the motor is connected to a pushing force,allowing pressure control.
It is suitable for pressure control in sonfined places or from remote points.

JIS Symbol



Features

Assured safety

- The set pressure will not change even if the motor is turned off.

Safe design

- The upper limit switch automatically stops the motor,preventing supply at an excessive pressure if the pressure rise above a given level.

Multifuhction design

- In combination with a booster relay,the regulator can control the pressure of large-flow Imes.

Model Code

When ordering,specify the model as follows:

380-3075 ① – ②

① Operating pressure range
② Port size

① Operating pressure range

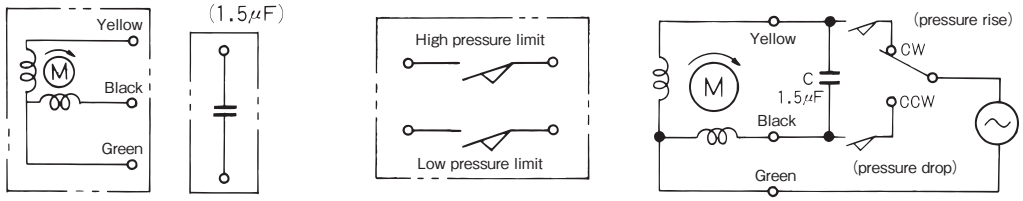
0.05 ~ 0.5MPa	No entry
0.02 ~ 0.3MPa	L

② Port size

Rc1/4	8A
Rc3/8	10A

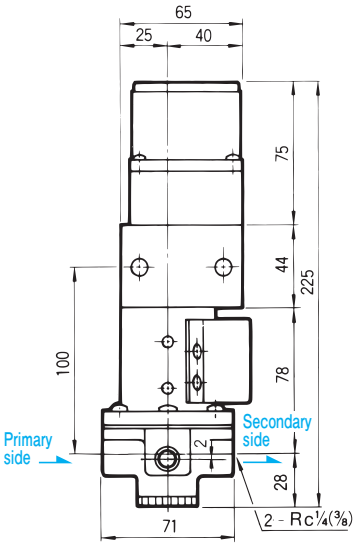
Specifications

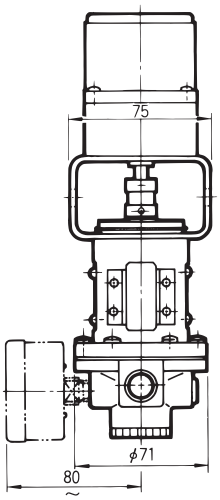
Model code		380-3075		380-3075L	
Port size		8A	10A	8A	10A
		Rc1/4	Rc3/8	Rc1/4	Rc3/8
Operating pressure	Primary side (IN)	Max.0.98MPa			
	Secondary side (OUT)	0.05 ~ 0.5MPa		0.02 ~ 0.3MPa	
Proof pressure		1.5MPa			
Pressure setting speed		about 5s/0.1MPa			
Bleed from relief valve		1L/min (ANR) or less			
Operating temperature		− 10 ~ 50℃ (For use below 5℃ ,provide adequate measures against freezing.)			
Motor	Voltage	AC100V (50/60Hz)	AC110V (50/60Hz)	AC115V (50/60Hz)	
	Current	0.15A	0.12A	0.12A	
	Output	2W			
	Wiring diagram	Motor / Provided capacitor (1.5μF) / Built-in limit switch / Motor wiring drawing (sample circuit)			



● Motor wiring should be conducted according to the above drawing (sample circuit) ,paying attention to the color of lead wise.

Outside Dimensions

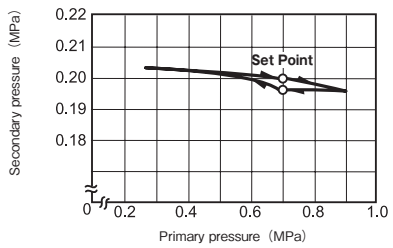




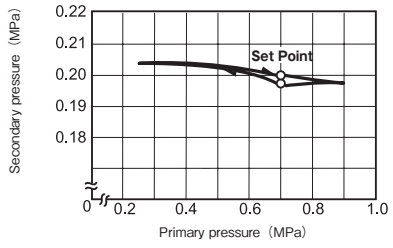
Performance Tables

Pressure characteristics graphs

8A

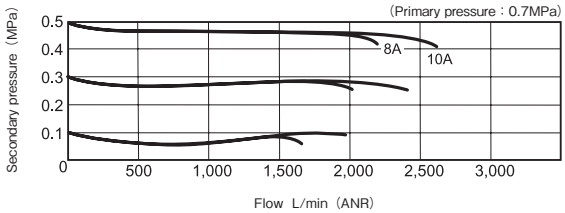


10A



Flow characteristics graphs

8・10A



Applications

The electric regulator is best suited to the following applications :

Remote pressure control from central control rooms,etc.

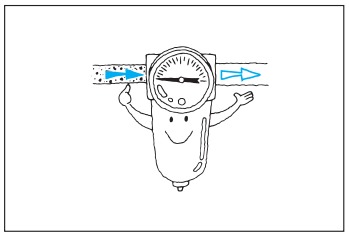
Pressure control in confined places and where access is difficult.

Pressure control is hazardous places.

Operating Instructions

1 Fluid

- Use the regulator with clean fluids only.Dirt,waste,etc.in the fluid may cause regulator malfunction.



2 Wiring

- A limit switch is provided to prevent the motor iron running out of control.Wire the regulator so that the motor stops if the limit switch operates.

3 Piping

- Since it is difficult to set the regulator for pressure at high loads,make the piping as short as possible.

4 Pressure

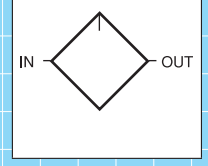
- Set the pressure while observing the pressure gauge.

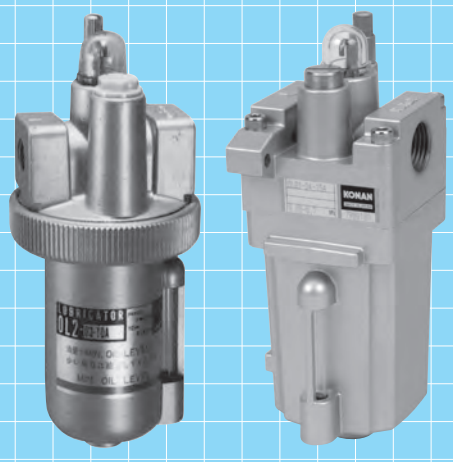
LUBRICATORS

OL2/OL21	Standard type	RC 1/4~2 1/2

The lubricator is intended for mist-lubrication of controls and peripheral equipment in pneumatic lines,as required,by automatically sending oil in mist from to the pneumatic line.
This extends the services life of the components in the pneumatic line and improves their efficiency.

JIS Symbol





Model Code

When ordering,specify the model as follows:

Standard type

Rc 1/4 ~ 1/2

OL21 ① –04– ② – ⑥

- ① Corrosion-resistant
- ② Port size
- ⑥ Operating temperature range

Rc 3/4 ~ 1

OL2 ① –08– ③ – ⑥

- ① Corrosion-resistant
- ③ Port size
- ⑥ Operating temperature range

Rc 1_1/4 ~ 1_1/2

OL2 ① –14– ④ – ⑥ – ⑦

- ① Corrosion-resistant
- ④ Port size
- ⑥ Operating temperature range
- ⑦ Drain valve

Rc 2 ~ 2_1/2

OL2 ① –20– ⑤ – ⑥ – ⑦

- ① Corrosion-resistant
- ⑤ Port size
- ⑥ Operating temperature range
- ⑦ Drain valve

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

❸ Port size

Rc 3/4	20A
Rc 1	25A

❹ Port size

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

❺ Port size

Rc 2	50A
Rc 2_1/2	65A

❻ Operating temperature range

General purpose	5 ~ 60℃	No entry
Heat-resistant	5 ~ 100℃	HT

- For corrosion.freeze resistant type,allow some margin for delivery.

❼ Drain valve

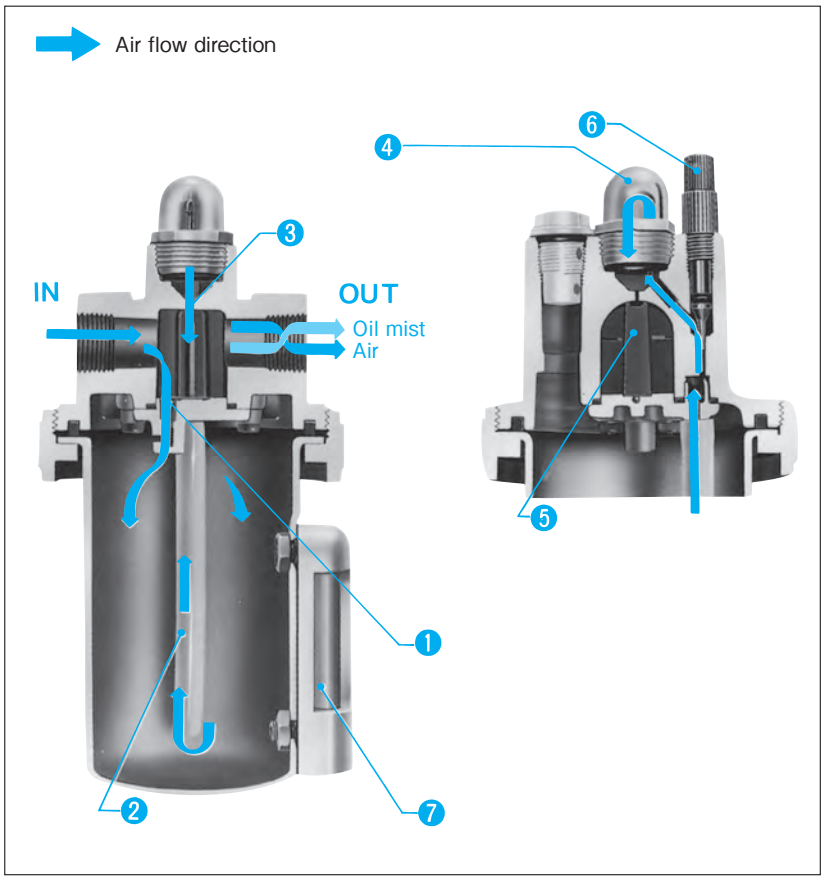
Without	No entry
With	SV

Specifications

Model code	OL21-04			OL2-08		OL2-14		OL2-20	
Port size	8A	10A	15A	20A	25A	32A	40A	50A	65A
	Rc1/4	Rc3/8	Rc1/2	Rc3/4	Rc1	Rc11/4	Rc11/2	Rc2	Rc21/2
Bowl oil capacity	200cm³			250cm³		1500cm³		1500cm³	
Operating pressure	0.05 ~ 0.7MPa								
Proof pressure	1.05MPa								
Spray condition	IN-to-OUT pressure differential to be 0.003MPa or more								
Operating temperature	General purpose 5 ~ 60℃ Heat-resistant 5 ~ 100℃								
Mass	0.64kg			0.7kg		7.0kg		7.1kg	

● For specifications other than those listed above,consult us.

Operation



❶ Check valve

Part of the air entering the IN port passes through the check valve and pressurizes the oil in the bowl. When oil is added (filter plug removed) with the oil under pressure,the ball of the check valve is forced against the seat,and air is prevented from entering the bowl.In practice,however,the check valve is not closed completely,and a very small amount of air continues to enter the bowl.This does not hinder lubrication.

❷ Siphon tube

A pressure differential in the sight glass causes oil to pass through the siphon tube to the adjusting screw section.

❸ Oil spray section

Here,oil droplets turn into minute mist particles and are diffused in the air.

❹ Sight glass

As pneumatic pressure enters the IN port,a pressure differential results in the sight glass.Oil sent there through the siphon tube falls in the form of droplets through the drip tube.

❺ Oil quantity adjustment

The rubber plate automatically adjusts the oil quantity if the air flow varies.

❻ Adjusting screw

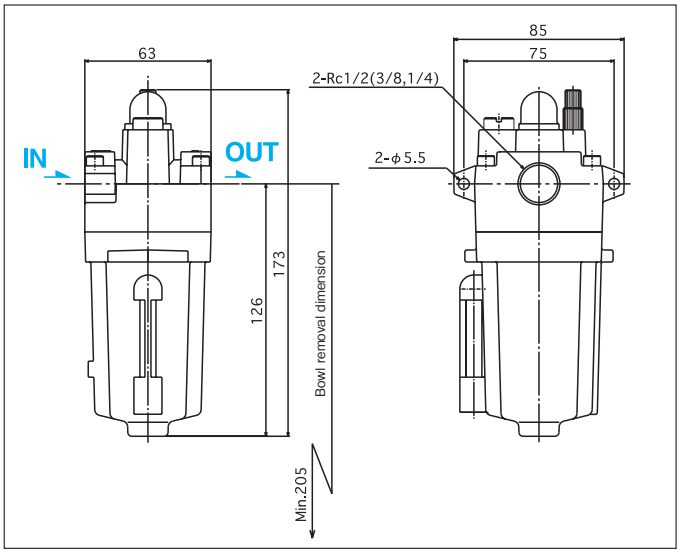
Turning the adjusting screw counterclacowise increases the amount of oil droplets while tuming it clockwise reduces the quantity.

❼ Side glass

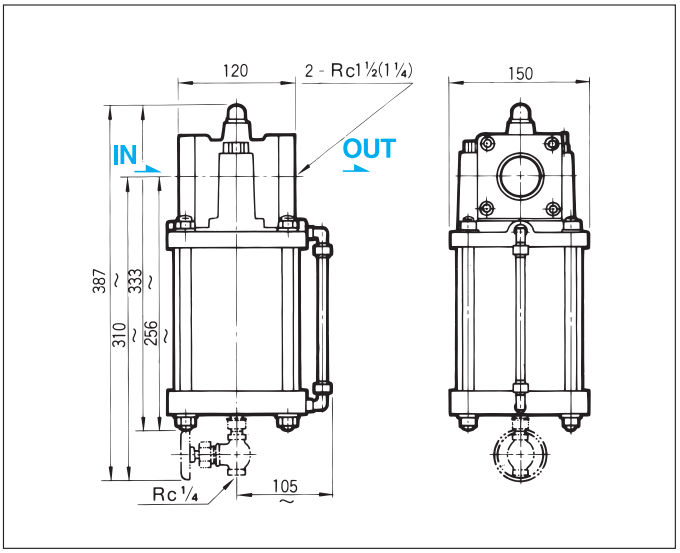
This is used to check the oil level in the bowl.

Outside Dimensions

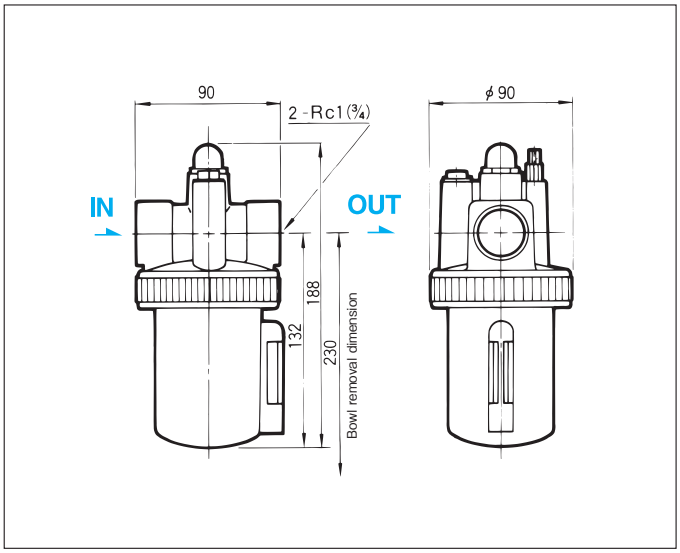
OL21-04-8A・10A・15A



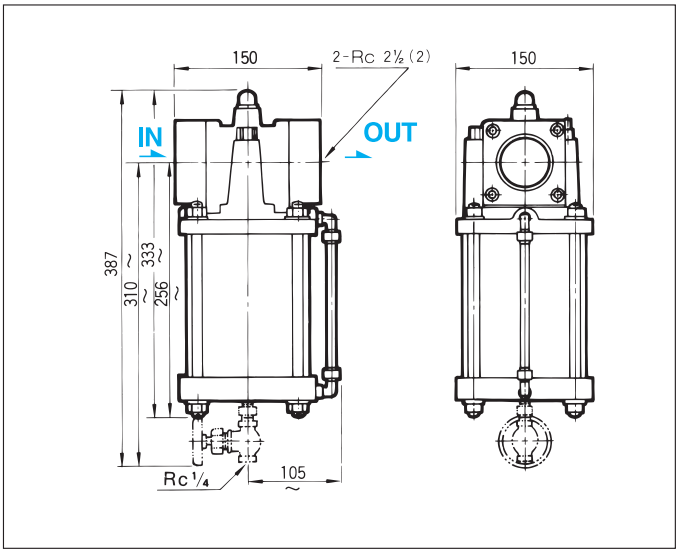
OL2-14-32A・40A



OL2-08-20A・25A



OL2-20-50A・65A

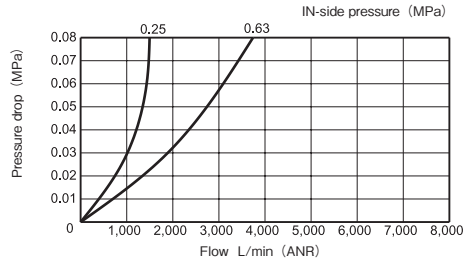


● The drain valve for 32A to 65A size are option parts.

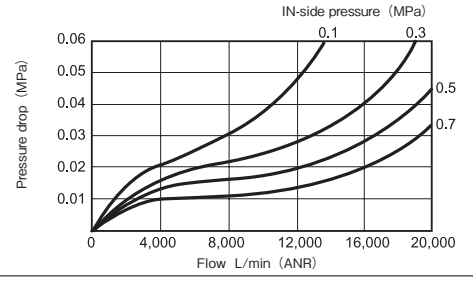
Performance Tables

Flow characteristics graphs

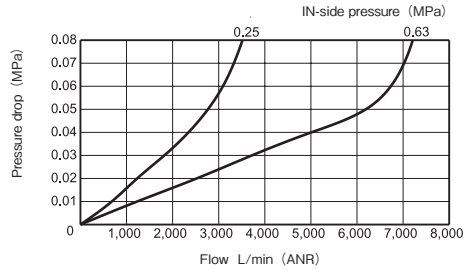
OL21-04-8A



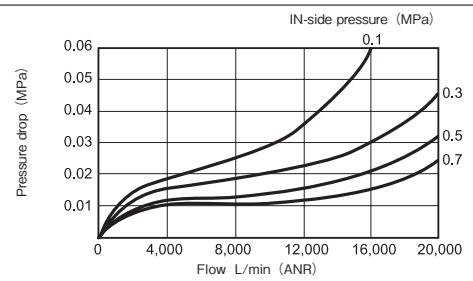
OL2-14-32A



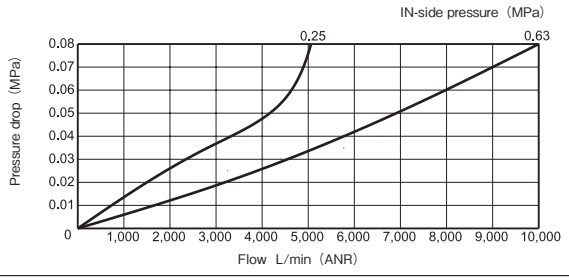
OL21-04-10A



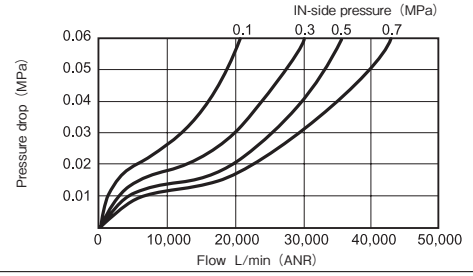
OL2-14-40A



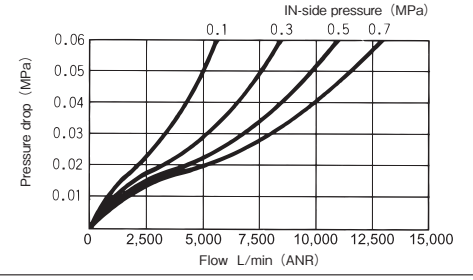
OL21-04-15A



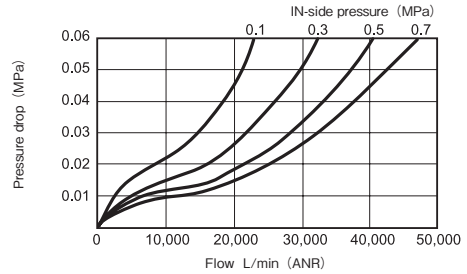
OL2-20-50A



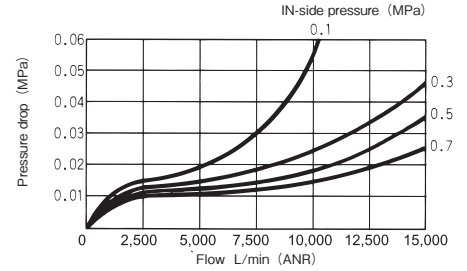
OL2-08-20A



OL2-20-65A



OL2-08-25A

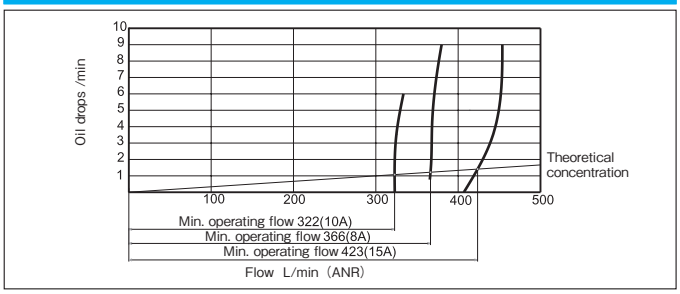


Performance Tables

Min. operating flow oil drop

OL21-04

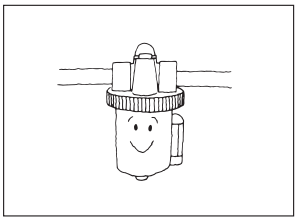
※ This characteristics are based on the new JIS standard.

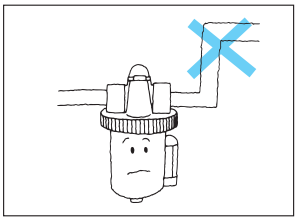


Operating Instructions

1 Installation

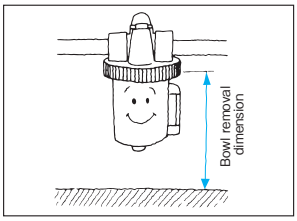
- The install of lubricator bowl must be downwards vertically.





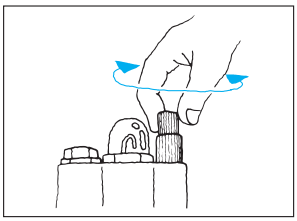
- Install the lubricator as near to the actuator as possible.Avoid placing a rising pipeline between the lubricator and actuator.

- Provide room so that the bowl can be removed for maintenance and checking.



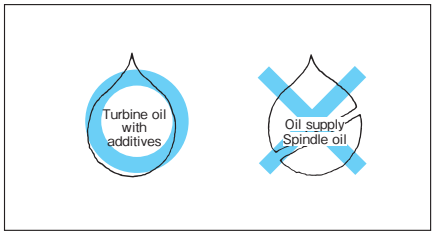
2 Adjusting the quantity of oil droplets

- To increase the quantity,turn the adjusting screw counter-clockwaise.
- To reduce the quantity,turn the adjusting screw clockwise.



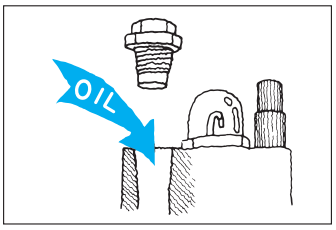
3 Type of lubricator oil

- Use JISK2213 turbine oil with additive,or equivalent of ISO VG32 or 46. (Do not use spindle oil.)



4 Lubrication

- Oil can be added even during operation.
  To feed oil,remove the filler plug and pour oil through the filler port.



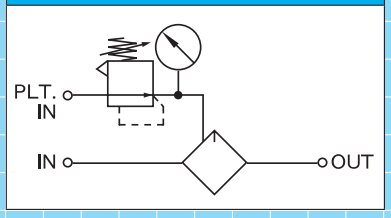
- It is recommended that oil be supplied at regular intervals on the basis of the expected amount of oil consumption,calculated from the frequency of line operations.

Forced spray
MICROMIST LUBRICATORS

MO2	Standard type	RC 1·1 1/4·1 1/2·2

This is a large capacity lubricator being the most suitable for a centralized lubricating system with many moving parts like air motors and gear chain etc.,requiring a large amount of lublicant.

JIS 記号



Model Code

When ordering,specify the model as follows:

Standard type

Rc 1 — MO2-10 – 25A – ② (② Oil discharge stop valve)

Rc 1_1/4 ～ 1_1/2 — MO2-14 – ① – ② (① Port size; ② Oil discharge stop valve)

Rc 2 — MO2-20 – 50A – ② (② Oil discharge stop valve)

① Port size

Rc1_1/4	32A
Rc1_1/2	40A

② Oil discharge stop valve

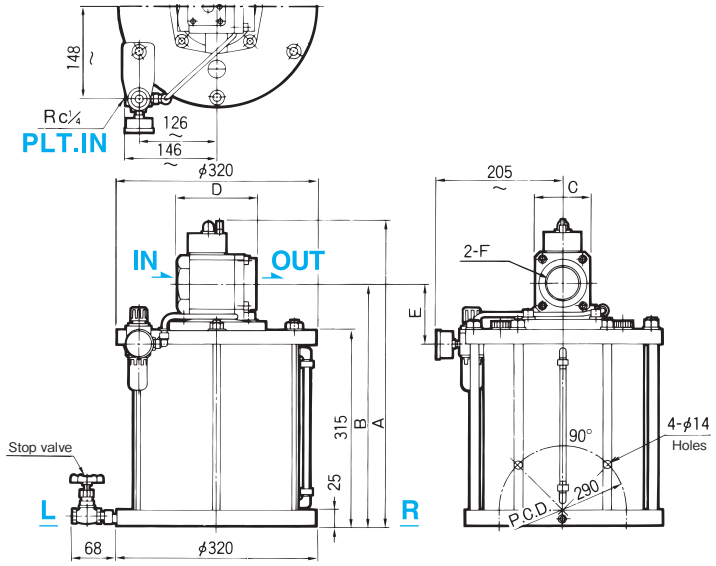
Without		No entry
With	Left	L
	Right	R

Specifications

Model code	MO2-10	MO2-14		MO2-20
Port size	25A	32A	40A	50A
	Rc1	Rc1 1/4	Rc1 1/2	Rc2
Effective sectional area	260㎟	500㎟	700㎟	1200㎟
Operating pressure	0.05 ～ 0.7MPa			
Proof pressure	1.05MPa			
Operating temperature	5 ～ 60℃			
Bowl oil capacity	12,000㎤			
Mass	55.0kg			

Outside Dimensions

MO2–10・14・20



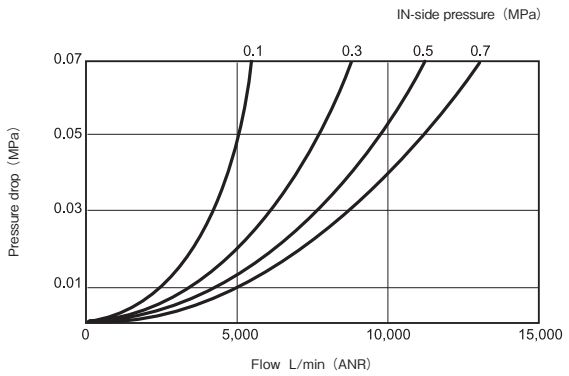
Units : mm

Model code	F	A	B	C	D	E
MO2-10	Rc 1	454	370	60	100	79
MO2-14	Rc1 1/4	473	380	76	112	89
	Rc1 1/2					
MO2-20	Rc 2	492	390	86	125	99

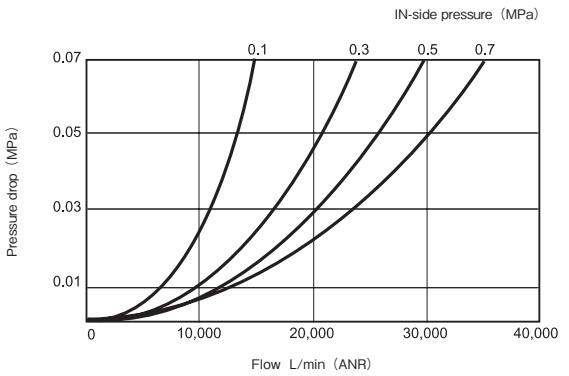
Performance Tables

Flow characteristics graphs

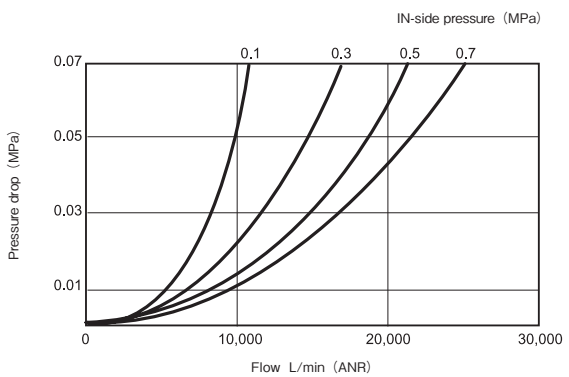
MO2-10-25A



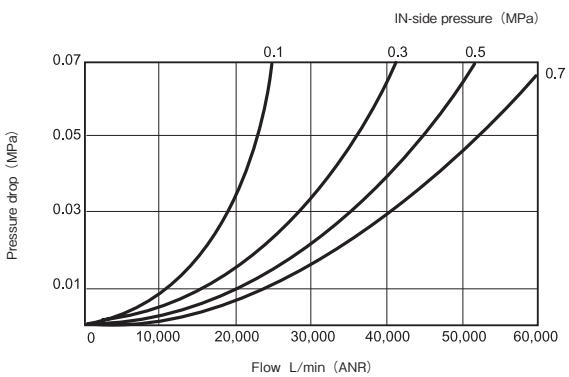
MO2-14-40A



MO2-14-32A



MO2-20-50A

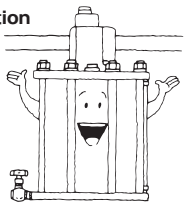


Operating Instructions

1 Installation

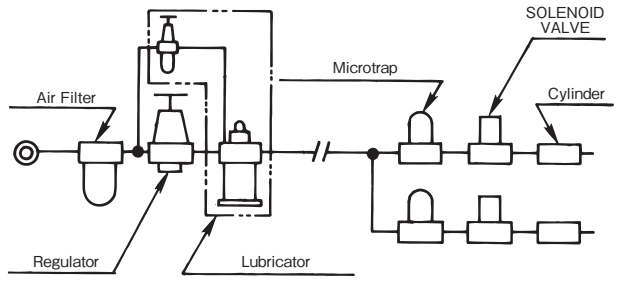
● The install of lubricator bowl must be downwards vertically. (FIG.1)

FIG.1 **Orientation**



● As shown in FIG.2, the main inlet of micromist lubricator must be connected to regulator outlet and the pilot pressure (PLT.IN) must be tapped off the line between air filter and regulator. (FIG.2)

FIG.2 **Installation**



Caution

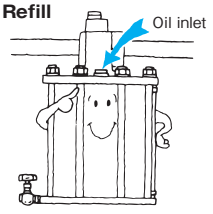
① If pilot air supplied to micromist lubricator without openning the main outlet of regulator,the upstream regulator may exhaust the air through the relief valve.This is not a mulfunction and you may continue to use the micromist lubricator.

② Consult factory related to MICRO-TRAP. (KONAN MODEL TR1 SERIES)

2 Lubrication

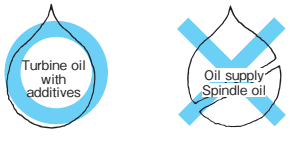
● Be sure to close the main air valve befor attempting to refill any lubrication oil (FIG.3)

FIG.3 **Refill**



● Use JISK2213 turbine oil with additive or equivalent of ISO VG32 or 46.
Do not use spindle oil.
(FIG.4)

FIG.4 **Oil**



4 Pilot pressure

● Because of the forced spraying by the pilot system,the pilot pressure must be set adequately.
Pilot pressure = main pipe line pressure + 0.05 ~ 0.1MPa

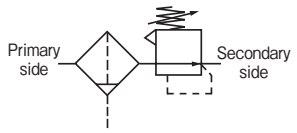
Because of the design for forced spraying system.
The air flows at a rate of 100NL/min. in the maximum through the Venturi to the outlet when the main pipe pressure is 0.4MPa and the pilot pressure is 0.5MPa.

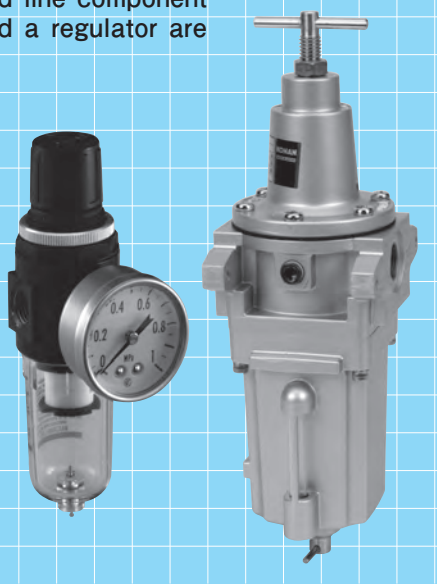
REDUCING VALVE with filter

ARU2/ARU3A/FR21	Standard type	RC 1/8 ~ 1/2
FR21P	Type mounted in the control box	RC 1/4 ~ 1/2
FR5	Instrumentation type	RC 1/4 ~ 3/8

The FR unit is a compound line component into which an air filter and a regulator are integrated.

JIS Symbol





Model Code

When ordering,specify the model as follows:

Standard type

Rc 1/8 ~ 1/4

ARU2 –02– ② – ⑧ – ⑨

② Port size, ⑧ Pressure gauge, ⑨ Bracket

Rc 1/4 ~ 3/8

ARU3A ① –03– ③ – ⑤ – ⑦ – ⑧ – ⑨

① Corrosion-resistant, ③ Port size, ⑤ Operating temperature range, ⑦ Filter rating of element, ⑧ Pressure gauge, ⑨ Bracket

Rc 1/4 ~ 1/2

FR21 ① –04– ④ – ⑤ – ⑦ – ⑧ – ⑨

① Corrosion-resistant, ④ Port size, ⑤ Operating temperature range, ⑦ Filter rating of element, ⑧ Pressure gauge, ⑨ Bracket

※ In case of FR21S-04-④-HT-⑦-⑧-⑨ or FR21S-04-④-LT-⑦-⑧-⑨
Pressure gauge is made by stainless steel. The code is"GS".

Type mounted in the control box

The drain discharge department have not a drain cook, and have a screw of Rc1/8.

Rc 3/8 ~ 1/2

FR21P ① –04– ④ – ⑤ – ⑦ – ⑧ – ⑨

① Corrosion-resistant, ④ Port size, ⑤ Operating temperature range, ⑦ Filter rating of element, ⑧ Pressure gauge, ⑨ Bracket

※ In case of FR21PS-04-④-HT-⑦-⑧ or FR21PS-04-④-LT-⑦-⑧
Pressure gauge is made by stainless steel. The code is"GS".

Instrumentation type

Rc 1/4 ~ 3/8

FR5 ① –02– ③ – ⑥ – ⑧ – ⑨

① Corrosion-resistant, ③ Port size, ⑥ Operating temperature range, ⑧ Pressure gauge, ⑨ Bracket

※ In case of FR5S-02-③-HT-G-⑨
Pressure gauge is special specifications. The code is"GS".

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

❹ Port size

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

❺ 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.

❻ Operating temperature range

General purpose	− 20 ～ 60℃	No entry
Heat-resistant	5 ～ 100℃	HT

- For corrosion.freeze resistant type,allow some margin for delivery.
- In operating temperatures of 5℃ or less, provide adequate measures against freezing.

❼ Filter rating of element

General purpose	40 μm	No entry
Instrumentation	5 μm	5

- (for ARU2/FR5),note that a filter rating of 5 microns only is available.

❽ Pressure gauge

Without	No entry
With	G

- Pressure gauge sizes :
  50mm dia. (for ARU3A)
  40mm dia. (Others)
  Scale : 0 ～ 0.2MPa (for FR5)
  0 ～ 1.0MPa (Others)
- Pressure gauge is not mounted but appended with regulators.

❾ Bracket

Without	No entry
With	BR

- Bracket is not mounted but appended with regulators.

Reducing valve with filter

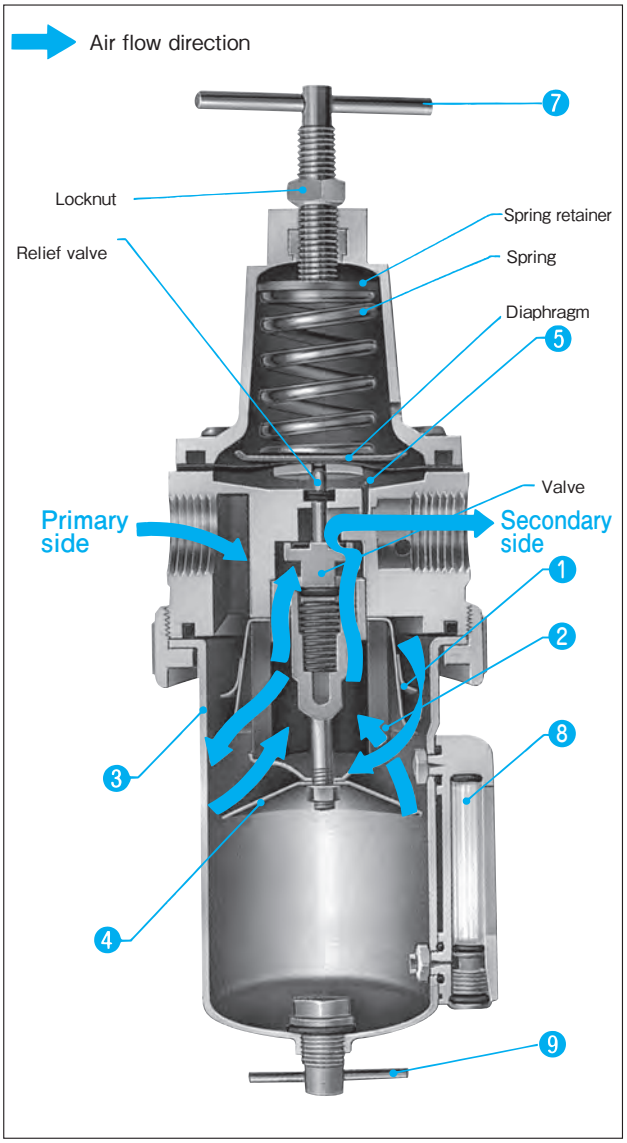
Specifications

Model code									
	Standard type	ARU2－02				ARU3A－03		FR21－04	
	In the control box							FR21P－04	
	Instrumentation type			FR5－02					
Port size		6A	8A	8A	10A	8A	10A	10A	15A
		Rc1/8	Rc1/4	Rc1/4	Rc3/8	Rc1/4	Rc3/8	Rc3/8	Rc1/2
Operating pressure	Primary side (IN)	Max. 1.0MPa							
	Secondary side (OUT)	0.05 ～ 0.7MPa		0.02 ～ 0.2MPa		0.05 ～ 0.7MPa			
Proof pressure		1.5MPa							
Operating temperature range		－ 20 ～ 60℃		General purpose: － 20 ～ 60℃ Heat-resistant: 5 ～ 100℃		General purpose: － 20 ～ 60℃ Heat-resistant: 5 ～ 100℃ Freeze-resistant: － 40 ～ 45℃			
Filter rating of element		5μm		5μm		See Model Code section.			
Mass		0.26kg		1kg		0.7kg		0.88kg	

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

Operation

Standard type



1 Deflector
- Turns air from the primary side into a rotating air flow and separates moisture from the air by centrifugation.

2 Filter element
- Finally filters out lightweight dirt and dust,foreign particles,etc.that cannot be separated from the air by certrifugation.

3 Bowl
- The drain separated by centrifugation runs down the internal wall of the bowl and collects at the bottom.

4 Baffle plate
- Prevents the drain in the bowl from re-entering the air.

5 Diaphragm chamber
- Air pressure from the primary side enters the diaphragm chamber at the same time that it does the secondary side through the filter. The diaphragm is forced up until the pressure in the diaphragm chamber is equal to th spring force.The valve is then closed.
- As the pressure in the secondary side drops,the valve is opened and the primary-side air pressure is furnished to the secondary side again.

6 Relief valve
- When the handle is turned counterclockwaise to lower the set pressure,the spring force weakens compared with the pressure in the diaphragm chamber.This forces the diaphragm up and opens the relief valve,thus releasing the air pressure in the secondary side to the atmosphere until that pressure is equal to the spring force.

7 Handle (adjusting screw)
- To lower the set pressure,turn the handle counterclockwise.
- Turning the handle clockwise causes the adjusting screw tip to force the spring retainer down,thus compressing the spring. This opens the valve,and the air pressure entering the primary side flows to the secondary side.

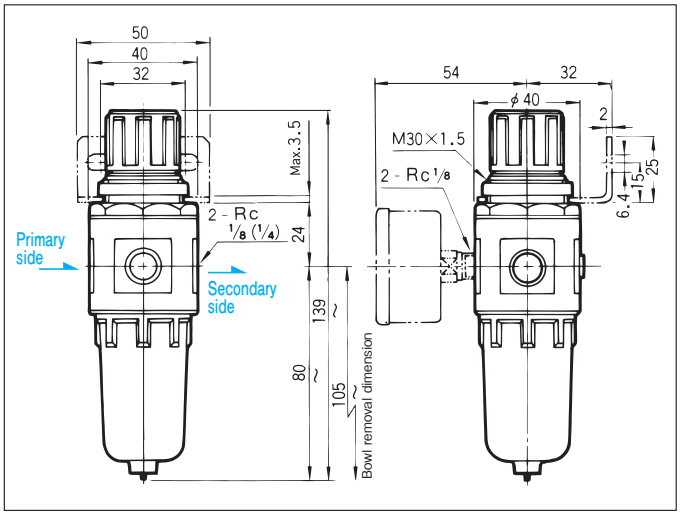
8 Side glass
- Used to check the accumulating drain fluid quantity.

9 Drain cock
- Turning the handle of this cock allows the drain fluid to be discharged.

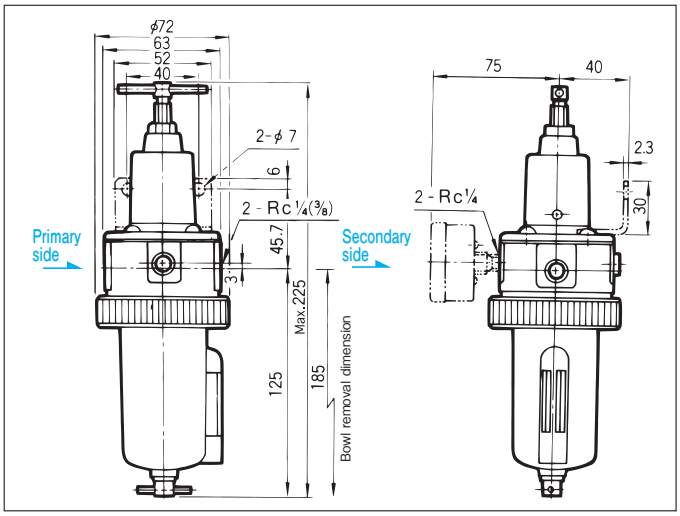
Outside Dimensions

Standard type

ARU2-02-06・8A

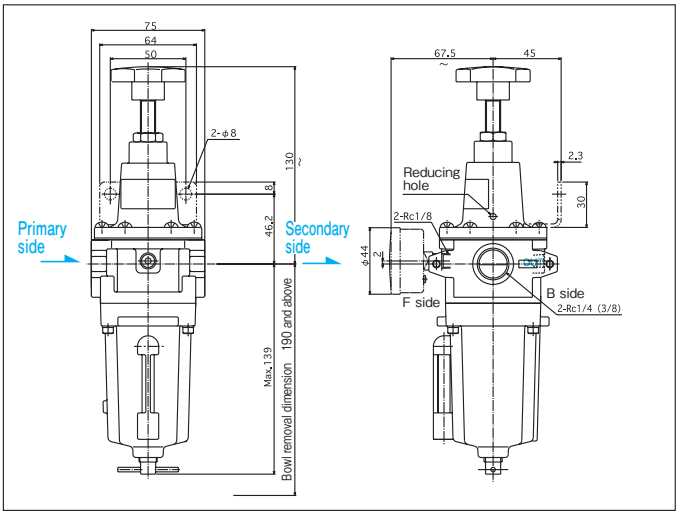


ARU3A-03-8A・10A



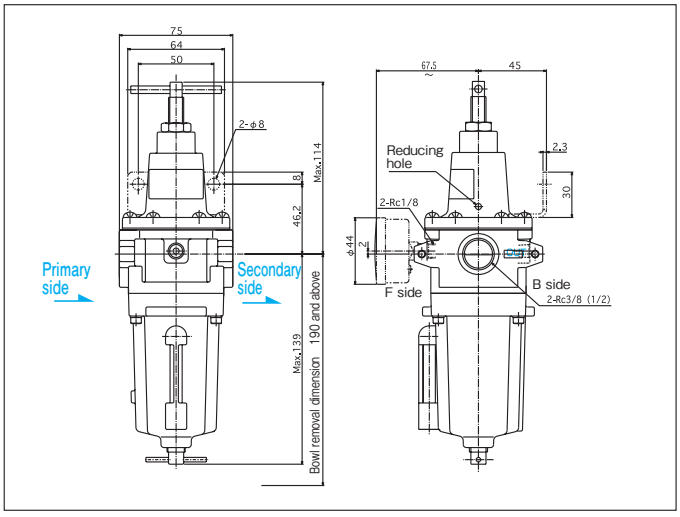
Instrumentation type

FR5-02-8A・10A

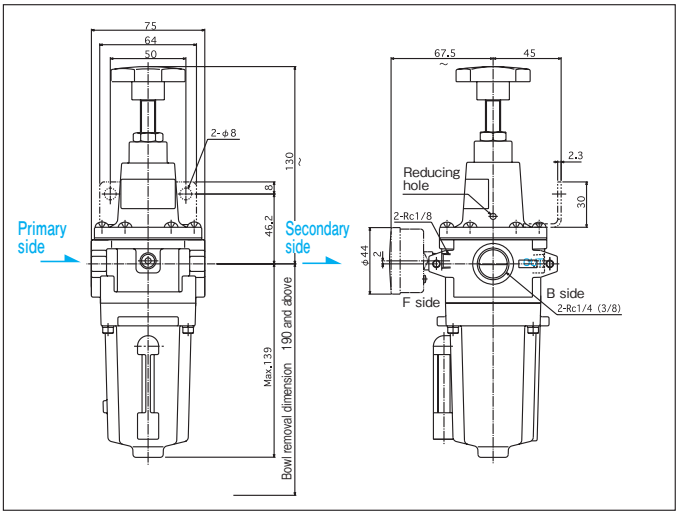


Type mounted in the control box

FR21-04-10A・15A



FR21P-04-10A・15A

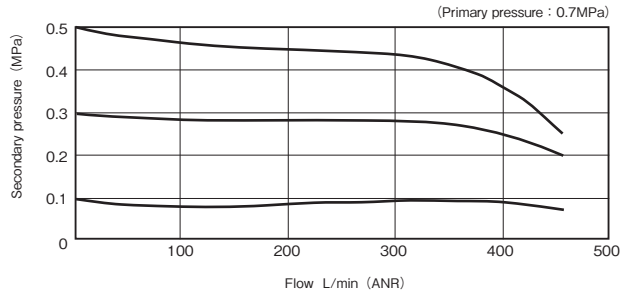


Performance Tables

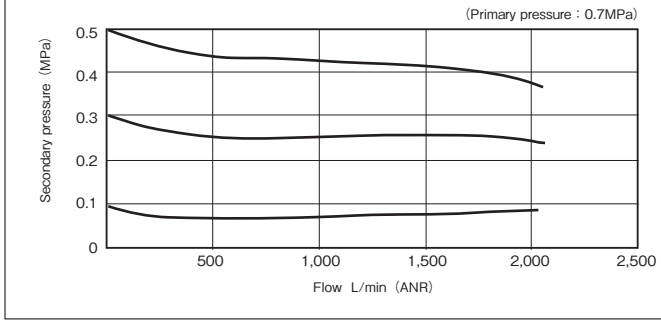
Flow characteristics graphs

Standard and Panel-mount type

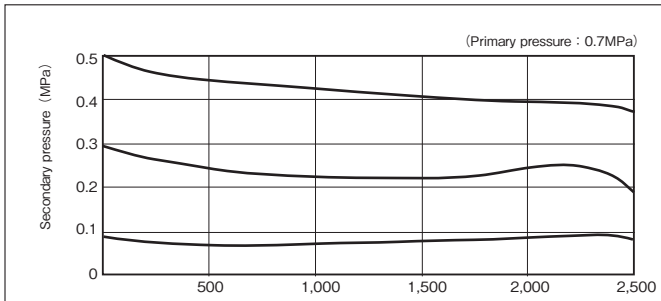
ARU2-02-6A・8A



ARU3A-03-8A

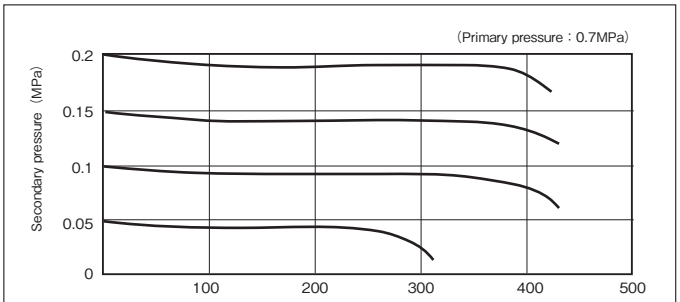


ARU3A-03-10A

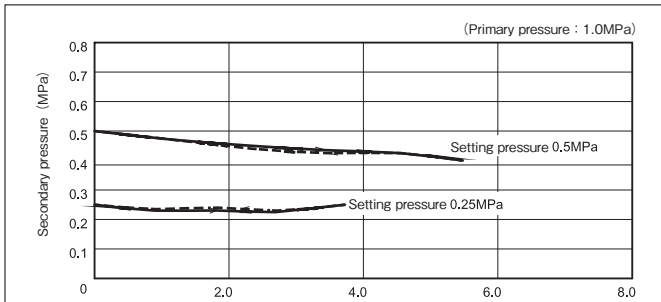


Instrumentation type

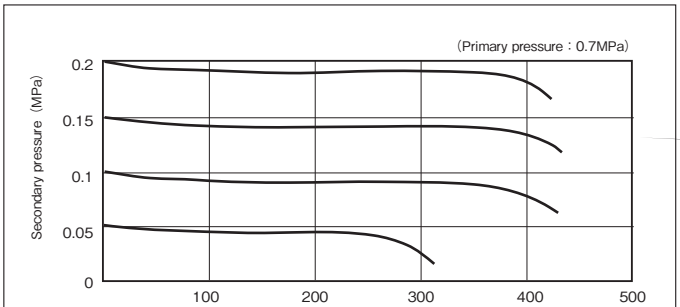
FR5-02-8A



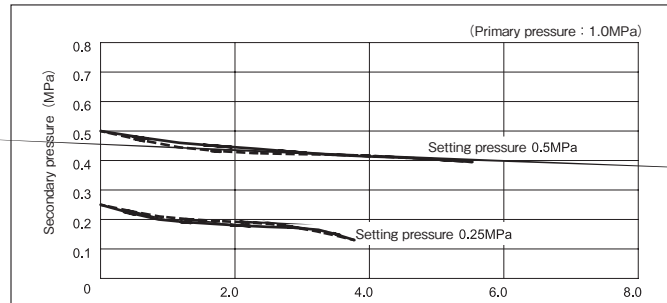
FR21-04-10A



FR5-02-10A



FR21-04-15A

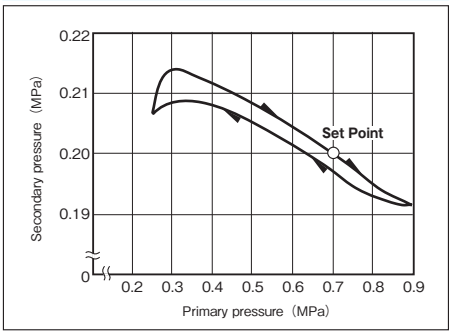


Performance Tables

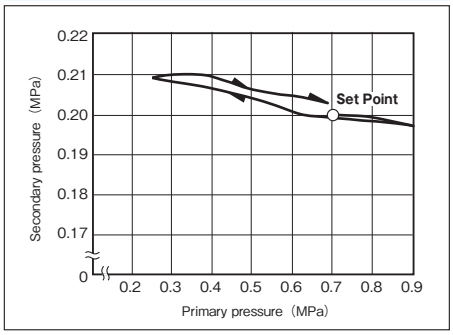
Pressure characteristics graphs

Standard and Panel-mount , Instrumentation type

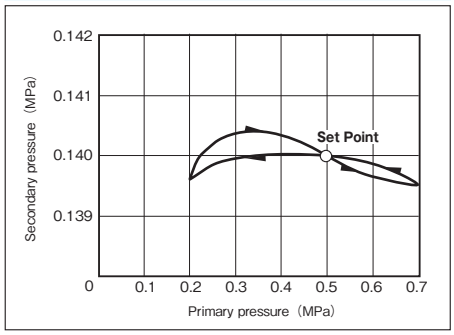
ARU2-02-6A・8A



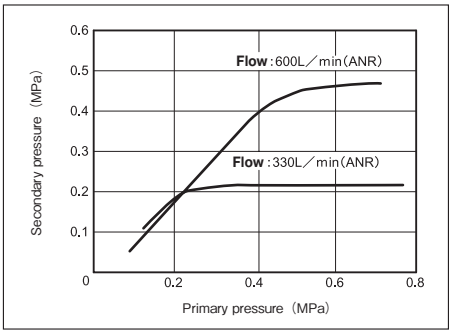
ARU3A-03-8A・10A



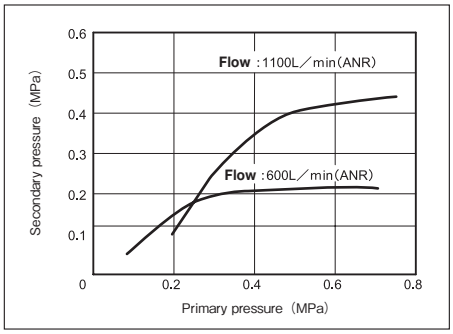
FR5-02-8A・10A



FR21-04-10A



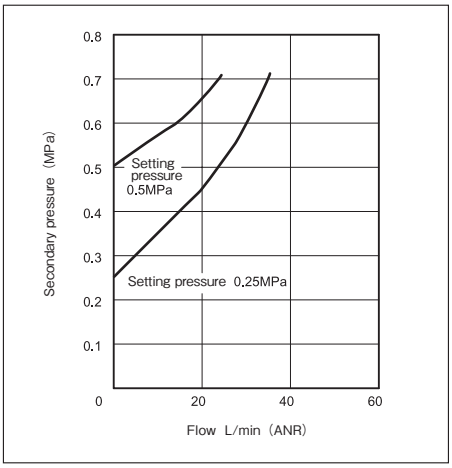
FR21-04-15A ※ This characteristics are based on the new JIS standard.



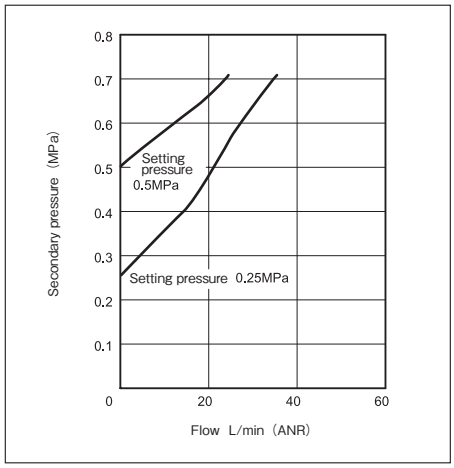
Relief characteristics graphs

Standard and Panel-mount type

FR21-04-10A ※ This characteristics are based on the new JIS standard.



FR21-04-15A ※ This characteristics are based on the new JIS standard.

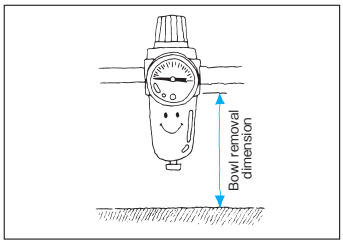


Operating Instructions

1 Installation

- Install as far from the air source as possible.For a circuit where the flow of air is reversed from the secondary to the primary side,install a check valve in parallel.

- Leave space so that the bowl can be removed to check and maintain the filter element.



- Install the unit and piping so that the drain opening is located at the bottom.

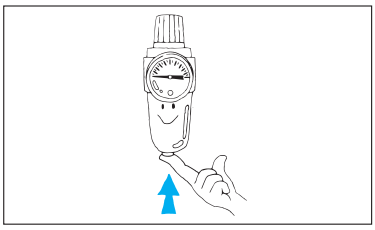
2 Lubrication

- In general,do not lubricate.When disassembling for checking,however,apply grease.

3 Discharging drain fluid

ARU2 — 02

- Push the push rod of the drain valve upwards.

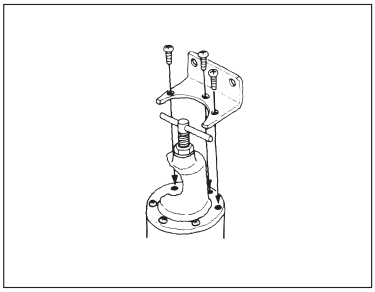


Other types

- Turn the handle of the drain cock counterclockwise.The pressure in the bowl will discharge the drain.

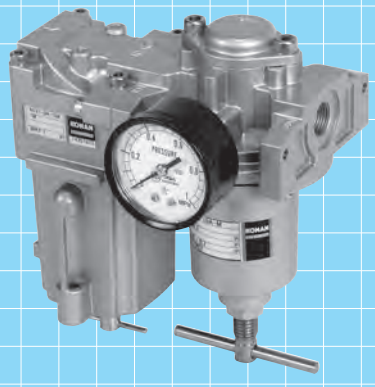
4 Bracket

- The FR unit mounting bracket is available as an option.To install the bracket,see the figure at right.

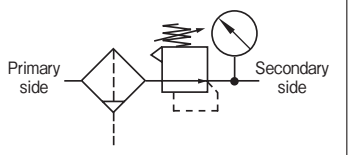
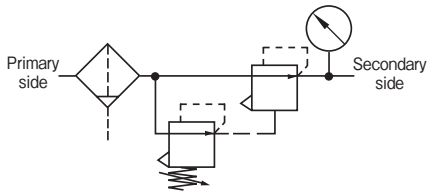


- Remove any three machine screws from the upper part of the FR unit.Mount the bracket with the three longer machine screws supplied with the bracket.
- For the miniature type,secure the bracket using lock screw.

FR UNITS



Compatible with a lubrication-oil-free pneumatic line and three-piece set of air units without lubricator will be offered.

JIS Symbol	
Rc3/8 ~ 1	Rc1_1/4 ~ 2_1/2
	

Model Code

When ordering,specify the model as follows:

Standard type

Rc 3/8 ~ 1/2 820 – 4395 – ① – ⑥ – ⑦ – ⑧

① Port size; ⑥ Operating temperature range; ⑦ Filter rating of element; ⑧ Bracket

Rc 3/4 ~ 1 820 – 4397 – ② – ⑥ – ⑦ – ⑧

② Port size; ⑥ Operating temperature range; ⑦ Filter rating of element; ⑧ Bracket

Rc 1_1/4 ~ 1_1/2 820 – 3184 – ③ – ⑦ – ⑧

③ Port size; ⑦ Filter rating of element; ⑧ Bracket

Rc 2 820 – 3186 – ④ – ⑦ – ⑧

④ Port size; ⑦ Filter rating of element; ⑧ Bracket

Rc 2_1/2 820 – 3188 – ⑤ – ⑧

⑤ Port size; ⑧ Bracket

Corrosion-resistant type

Rc 3/8 ~ 1/2 820 – 4396 – ① – ⑥ – ⑦ – ⑧

① Port size; ⑥ Operating temperature range; ⑦ Filter rating of element; ⑧ Bracket

Rc 3/4 ~ 1 820 – 4398 – ② – ⑥ – ⑦ – ⑧

② Port size; ⑥ Operating temperature range; ⑦ Filter rating of element; ⑧ Bracket

Rc 1_1/4 ~ 1_1/2 820 – 3185 – ③ – ⑦ – ⑧

③ Port size; ⑦ Filter rating of element; ⑧ Bracket

Rc 2 820 – 3187 – ④ – ⑦ – ⑧

④ Port size; ⑦ Filter rating of element; ⑧ Bracket

Rc 2_1/2 820 – 3189 – ⑤ – ⑧

⑤ Port size; ⑧ Bracket

1 Port size

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

2 Port size

Rc 3/4	20A
Rc 1	25A

3 Port size

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

4 Port size

Rc 2	50A

5 Port size

Rc 2_1/2	65A

6 Operating temperature range

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

● In operating temperatures of 5℃ or less, provide adequate measures against freezing.

7 Filter rating of element

General purpose	40 μm	No entry
Instrumentation	5 μm	5

8 Bracket

Without	No entry
With	BR

● Bracket is not mounted but appended with regulators.

Specifications

Standard type

Model code		820 − 4395		820 − 4397	
Port size		10A	15A	20A	25A
		Rc3/8	Rc1/2	Rc3/4	Rc1
Operating pressure	Primary side (IN)	Max.1.0MPa			
	Secondary side (OUT)	0.05 ~ 0.7MPa			
Proof pressure		Primary pressure : 1.5MPa / Secondary pressure : 0.7MPa			
Operating temperature range		General purpose: − 20 ~ 60℃ Heat-resistant: 5 ~ 100℃ Freeze-resistant: − 40 ~ 45℃			
Components	Air filter	AF21-04		AF2-08	
	Regulator	RV21-04		RV2-08	
	Pressure gauge	50mm dia (Scale : 0 to 1MPa)			

Corrosion-resistant type

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

Model code		820 − 4396		820 − 4398	
Port size		10A	15A	20A	25A
		Rc3/8	Rc1/2	Rc3/4	Rc1
Operating pressure	Primary side (IN)	Max.1.0MPa			
	Secondary side (OUT)	0.05 ~ 0.7MPa			
Proof pressure		Primary pressure : 1.5MPa / Secondary pressure : 0.7MPa			
Operating temperature range		General purpose: − 20 ~ 60℃ Heat-resistant: 5 ~ 100℃ Freeze-resistant: − 40 ~ 45℃			
Components	Air filter	AF21S-04		AF2S-08	
	Regulator	RV21S-04		RV2S-08	
	Pressure gauge	50mm dia (Scale : 0 to 1MPa) Corrosion-resistant type			

Specifications

Standard type

Model code		820 — 3184		820 — 3186	820 — 3188
Port size		32A	40A	50A	65A
		Rc1_1/4	Rc1_1/2	Rc2	Rc2_1/2
Operating pressure	Primary side (IN)	Max.1.0MPa			
	Secondary side (OUT)	0.05 ~ 0.7MPa			
Proof pressure		Primary pressure : 1.5MPa/ Secondary pressure : 0.7MPa			
Operating temperature range		— 20 ~ 60℃			
Components	Air filter	AF2		AF2	
	Regulator	RV2-14		RV2-20	
	Pressure gauge	50mm dia (Scale : 0 to 1MPa)			

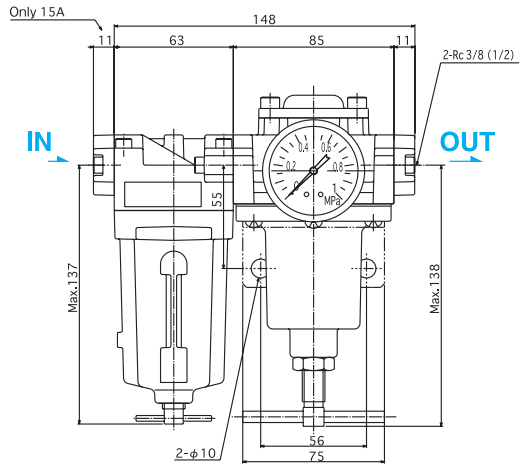
Corrosion-resistant type

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

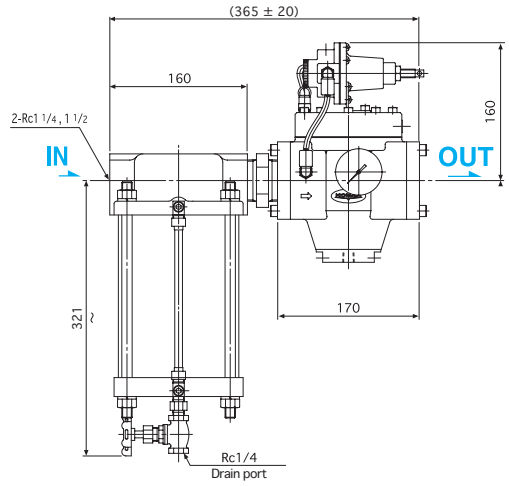
Model code		820 — 3185		820 — 3187	820 — 3189
Port size		32A	40A	50A	65A
		Rc1_1/4	Rc1_1/2	Rc2	Rc2_1/2
Operating pressure	Primary side (IN)	Max.1.0MPa			
	Secondary side (OUT)	0.05 ~ 0.7MPa			
Proof pressure		Primary pressure : 1.5MPa / Secondary pressure : 0.7MPa			
Operating temperature range		— 20 ~ 60℃			
Components	Air filter	AF2S		AF2S	
	Regulator	RV2S-14		RV2S-20	
	Pressure gauge	50mm dia (Scale : 0 to 1MPa) Corrosion-resistant type			

Outside Dimensions

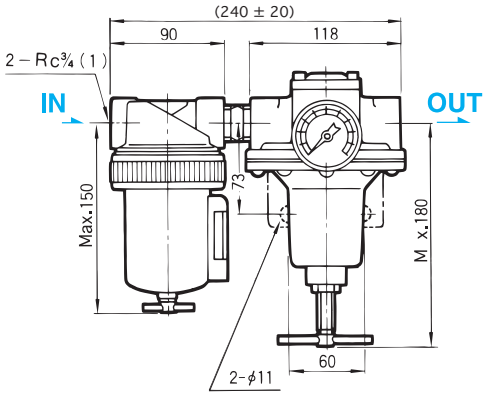
Rc1/4 ~ 1/2



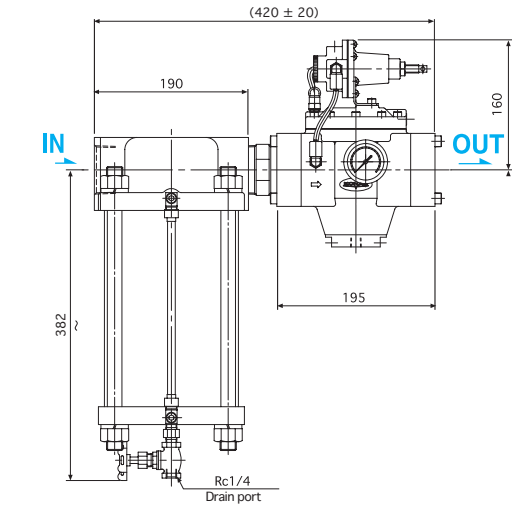
Rc1_1/4 ~ 1_1/2



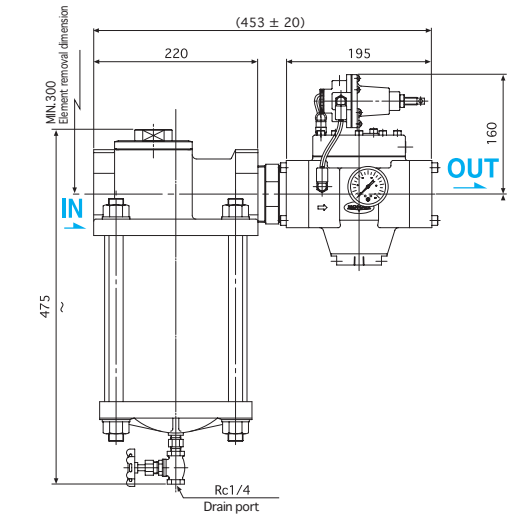
Rc3/4 ~ 1



Rc2



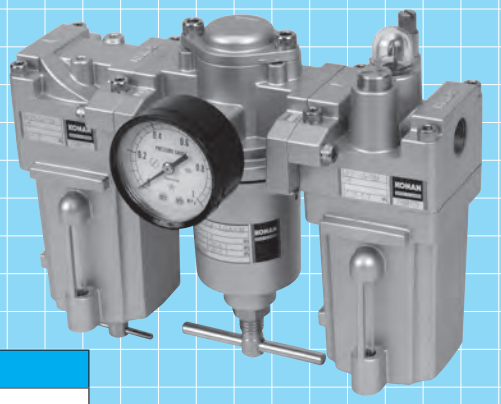
Rc2_1/2



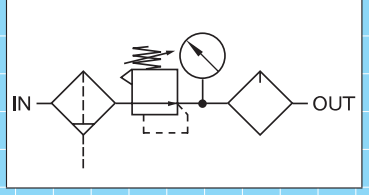
FRL UNITS

LU2/LU21 **Standard type** RC 1/4 ~ 2 1/2

This is a three-part air unit comprised of filter,regulator and lubricator that ensures stable operation of peripherals such as cylinders and piston valves in pneumatic lines.



JIS Symbol



Model Code

When ordering,specify the model as follows:

Standard type

Rc 1/4 ~ 1/2 LU21 ① -04- ② - ⑥ - ⑦ - ⑧

① Corrosion-resistant ② Port size ⑥ Operating temperature range ⑦ Filter rating of element ⑧ Bracket

Rc 3/4 ~ 1 LU2 ① -08- ③ - ⑥ - ⑦ - ⑧

① Corrosion-resistant ③ Port size ⑥ Operating temperature range ⑦ Filter rating of element ⑧ Bracket

Rc 1_1/4 ~ 1_1/2 LU2 ① -14- ④ - ⑦ - ⑨ - ⑩

① Corrosion-resistant ④ Port size ⑦ Filter rating of element ⑨ Drain valve ⑩ Level gauge

Rc 2 ~ 2_1/2 LU2 ① -20- ⑤ - ⑨

① Corrosion-resistant ⑤ Port size ⑨ Drain valve

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

⑤ Port size

Rc 2	50A
Rc 2_1/2	65A

⑥ Operating temperature range

General purpose	5 ~ 60℃	No entry
Heat-resistant	5 ~ 100℃	HT

- For the heat resistant type,allow some margin for delivery.

⑦ Filter rating of element

General purpose	40 μm	No entry
Instrumentation	5 μm	5

⑧ Bracket

Without	No entry
With	BR

- Bracket is not mounted but appended with regulators.

⑨ Drain valve

Without	No entry
With	SV

⑩ Level gauge

Without	No entry
Flont side	F
Back side	B

Specifications

Standard type

Model code		LU21-04			LU2-08	
Port size		8A	10A	15A	20A	25A
		Rc1/4	Rc3/8	Rc1/2	Rc3/4	Rc1
Operating pressure	Primary side (IN)	Max.1.0MPa				
	Secondary side (OUT)	0.05 ~ 0.7MPa				
Proof pressure		Primary pressure : 1.5MPa / Secondary pressure : 0.7MPa				
Operating temperature		General purpose 5 ~ 60℃ Heat-resistant 5 ~ 100℃				
Components	Air filter	AF21-04			AF2-08	
	Regulator	RV21-04			RV2-08	
	Lubricator	OL21-04			OL2-08	
	Pressure gauge	50mm dia (Scale : 0 to 1MPa)				
Mass		2.1kg			4.0kg	

- Above values of mass exclude weight of mounting bracket.
- For specifications other than those listed above,please contact us.
- Air filter rating is 40 microns for all models.

Corrosion-resistant type

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

Model code		LU21S-04			LU2S-08	
Port size		8A	10A	15A	20A	25A
		Rc1/4	Rc3/8	Rc1/2	Rc3/4	Rc1
Operating pressure	Primary side (IN)	Max.1.0MPa				
	Secondary side (OUT)	0.05 ~ 0.7MPa				
Proof pressure		Primary pressure : 1.5MPa / Secondary pressure : 0.7MPa				
Operating temperature		General purpose 5 ~ 60℃ Heat-resistant 5 ~ 100℃				
Components	Air filter	AF21S-04			AF2S-08	
	Regulator	RV21S-04			RV2S-08	
	Lubricator	OL21S-04			OL2S-08	
	Pressure gauge	50mm dia (Scale : 0 to 1MPa) Corrosion-resistant type				
Mass		2.1kg			4.0kg	

- Above values of mass exclude weight of mounting bracket.
- For specifications other than those listed above,contact us.
- Air filter rating is 40 microns for all models.

Specifications

Standard type

Model code		LU2-14		LU2-20	
Port size		32A	40A	50A	65A
		Rc1_1/4	Rc1_1/2	Rc2	Rc2_1/2
Operating pressure	Primary side (IN)	Max.1.0MPa			
	Secondary side (OUT)	0.05 ~ 0.7MPa			
Proof pressure		Primary pressure : 1.5MPa / Secondary pressure : 0.7MPa			
Operating temperature		General purpose 5 ~ 60℃ Heat-resistant 5 ~ 100℃			
Components	Air filter	AF2		AF2	
	Regulator	RV2-14		RV2-20	
	Lubricator	OL2-14		OL2-20	
	Pressure gauge	50mm dia (Scale : 0 to 1MPa)			
Mass		28kg		45kg	

- Above values of mass exclude weight of mounting bracket.
- For specifications other than those listed above,please contact us.
- Air filter rating is 40 microns for all models.

Corrosion-resistant type

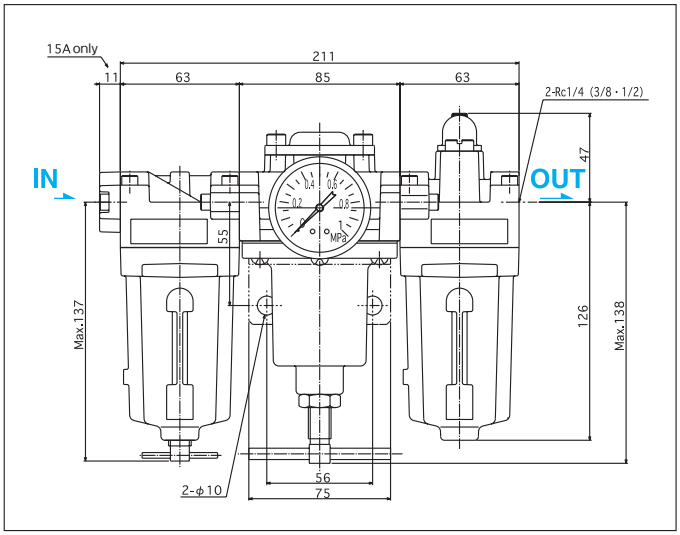
Portions that are exposed to outside weather conditions are corrosion-resistant coating and the exposed bolts, nuts and brackets are stainless steel.

Model code		LU2S-14		LU2S-20	
Port size		32A	40A	50A	65A
		Rc1_1/4	Rc1_1/2	Rc2	Rc2_1/2
Operating pressure	Primary side (IN)	Max.1.0MPa			
	Secondary side (OUT)	0.05 ~ 0.7MPa			
Proof pressure		Primary pressure : 1.5MPa / Secondary pressure : 0.7MPa			
Operating temperature		General purpose 5 ~ 60℃ Heat-resistant 5 ~ 100℃			
Components	Air filter	AF2S		AF2S	
	Regulator	RV2S-14		RV2S-20	
	Lubricator	OL2S-14		OL2S-20	
	Pressure gauge	50mm dia (Scale : 0 to 1MPa) Corrosion-resistant type			
Mass		28kg		45kg	

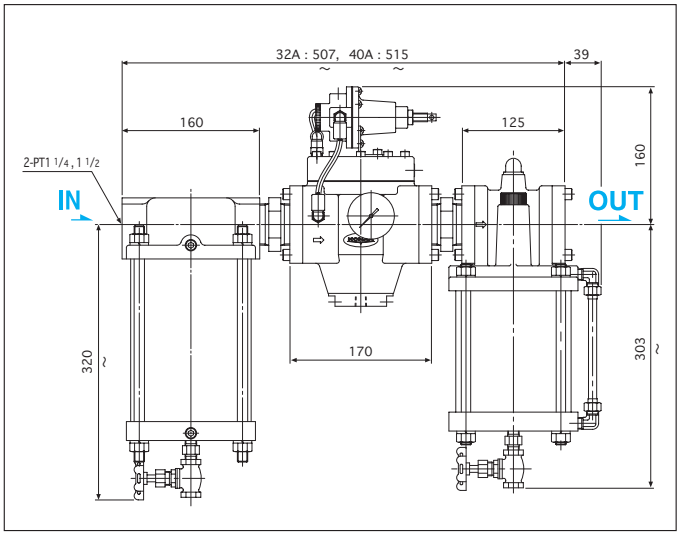
- Above values of mass exclude weight of mounting bracket.
- For specifications other than those listed above,contact us.
- Air filter rating is 40 microns for all models.

Outside Dimensions

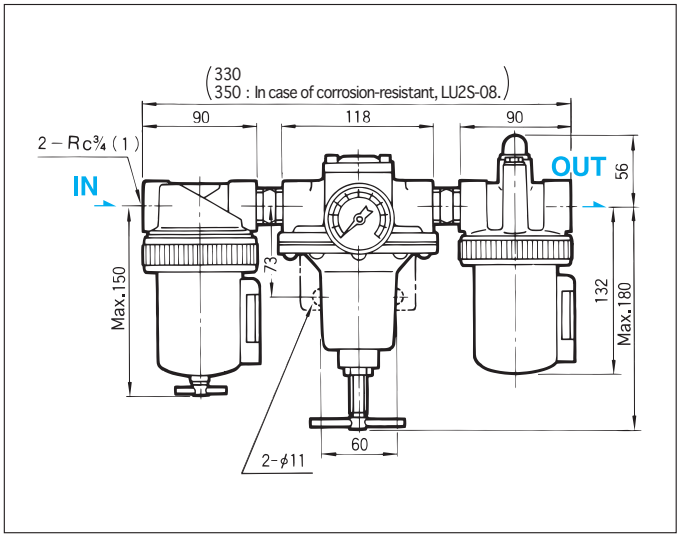
LU21-04



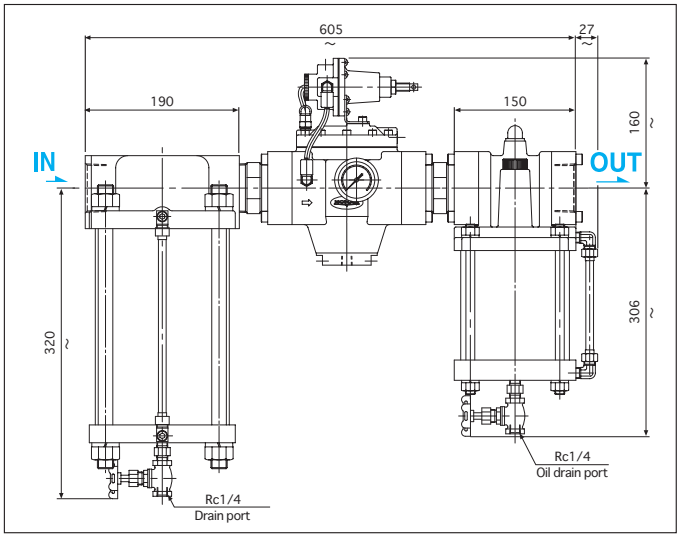
LU2-14



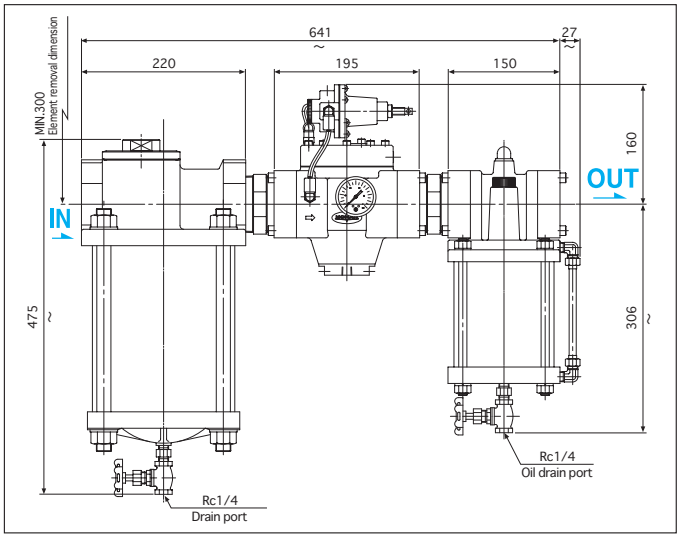
LU2-08



LU2-20-50A



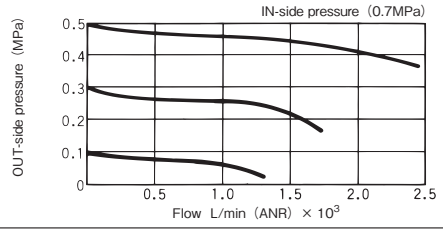
LU2-20-65A



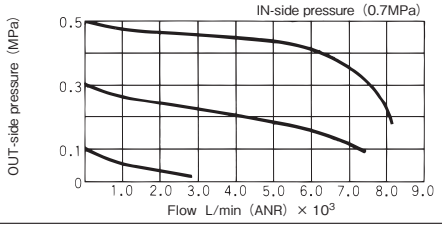
Performance Tables

Flow characteristics graphs

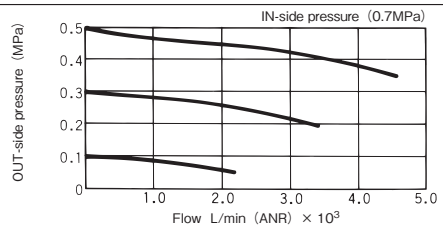
LU21-04-10A



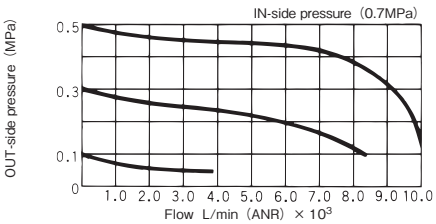
LU2-08-20A



LU21-04-15A



LU2-08-25A

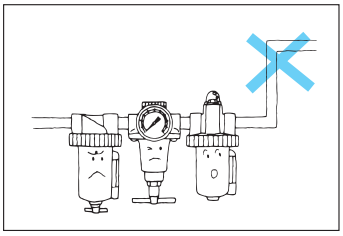


※ LU2－14－32A ／ LU2－14－40A：For further details, please do not hesitate to contact us.
※ LU2－20－50A ／ LU2－20－65A：For further details, please do not hesitate to contact us.

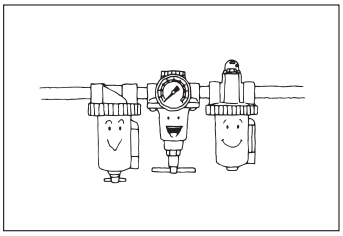
Operating Instructions

1 Installation

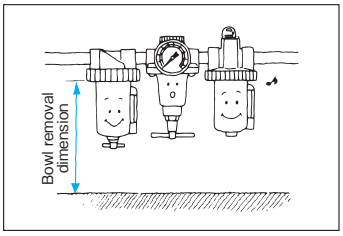
- Install the FRL unit as far from the air source as possible. Avoid the use of a rise pipeline between the FRL unit and the actuator.



- For a circuit in which the flow of air is reversed,flowing from the secondary to the primary side,install a check valve in parallel.
- Install the FRL vertically so that the bowls are located downwards.



- Leave space so that the bowls can be removed for maintenance and checking.

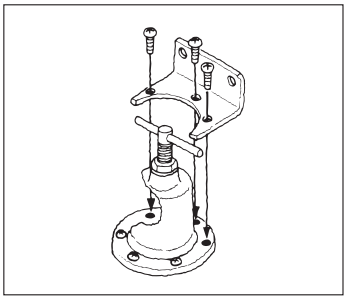


2 Discharging drain fluid

- Turn the handle of air filter drain cock counterclockwise. The pressure in the bowl will discharge the drain fluid.

3 Bracket

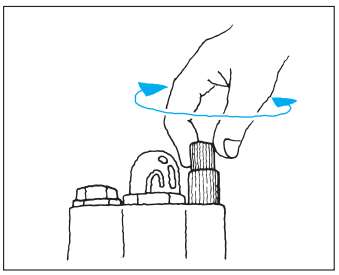
- The FRL unit mounting bracket is available as an option.To install the bracket,refer to the figure below.



- Remove three machine screws from the regulator only,which is located in the middle. Next,mount the bracket using the three longer machine screws supplied with the bracket.

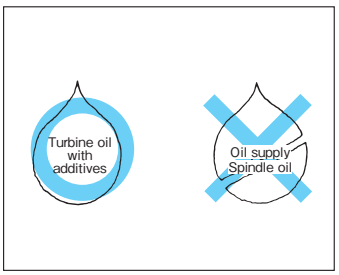
4 Adjusting the quantity of oil droplets

- Turning the adjusting screw on the lubricator counterclockwise in-creases the quantity of droplets.
- Turning the adjusting screw clockwise reduces it.



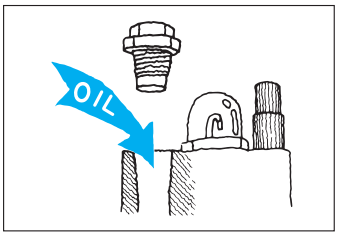
5 Type of lubricator oil

- Recommended oils are JIS K2213 turbine oil with additive or equivalent of ISO VG 32 or 46.Do not use spindle oil.



6 Lubrication

- Oil can be added to the lubricator even during operation.
- To add oil to the lubricator,be sure to use the filler port,opened by removing the filler plug.



- It is recommended that oil be added at regular intervals on the basis of the expected oil consumption,calculated from the irequency of line operations.

Float type
AUTO DRAIN

E1500B	Standard type	RC 1/4
E1500D		RC 1/2

Solves various problems of drain discharge at once !
Innovative Auto Drainresistant to troubles.

Features

1 A float-type Auto Drain "E1500" with high sensitivity which responses to drain quickly even at low pressure.

2 The discharge valve with new mechanism to discharge drain while rotating the drain as well as employment of metal seal prevents clogging due to various types of mist ideally.
* The Auto Drain "E1500" always bleeds a small amount of air from the drain port. [1000cm^3/min〔ANR〕or less]
The purpose of this feature is to maintain the discharging performance and it will not cause trouble during actual use.

3 Easy to mount because of light weight and compact design.

Specifications

Model code	E1500	
	E1500B	E1500D
Port size	Rc1/4	Rc1/2
Operating pressure	0.25 ~ 1MPa	
Operating angle	5 ~ 60℃	
Mass	0.5kg	
Mounting style	Vertical mounting with the drain portfacing downward (Tilt angle: Within ± 10°)	

Model Code

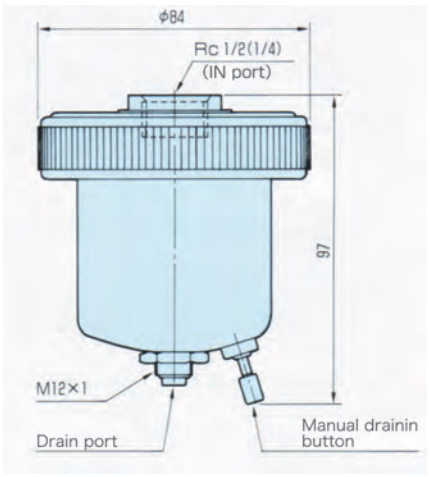
When ordering,specify the model as follows:

E1500 ① ● Port size

① Port size	
Rc1/4	B
Rc1/2	D

● The product can be attached to the drain cock of the air filter. Please contact us for the model code.

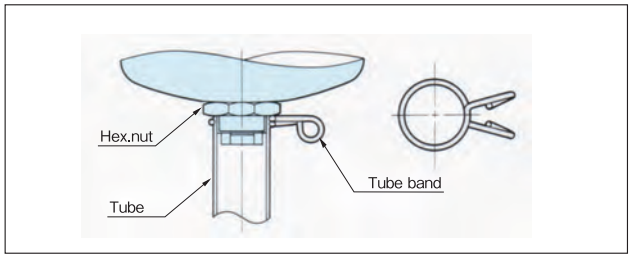
Outside Dimensions



Operating Instructions

1 If the compressor capacity is small

1) When attaching the tube to the drain port, attach it using the tube band as shown below.
   - The tube (inner diameter: ϕ12, length: 500mm) and the tube band are included in the product.



2 If the compressor capacity is small

1) Air is discharged from the drain port until the pressure reaches the usable pressure range of E1500 after the compressor starts up.
   - Note that the pressure may not increase if the compressor capacity is small in particular.

* In this case, clog the drain port (bend the tube of the drain port) to stop the air discharge temporarily.

3 Cautions for maintenance

1) This product is equipped with a pre-filter in the inlet inside (right under the pipe port).
   - If the drain separation function does not work sufficiently, loosen the clamp ring, remove the upper cover and clean the pre-filter as needed.
2) When cleaning foreign materials stuck on the filter, blow them off with air or wash the filter with neutral detergent and dry it.
3) When cleaning the filter or connecting the tube, do not loosen the nut on the lower part of the bowl.
   Loosening the nut may cause the float position of the inside to be misaligned, resulting in effect on the drain discharging performance.