

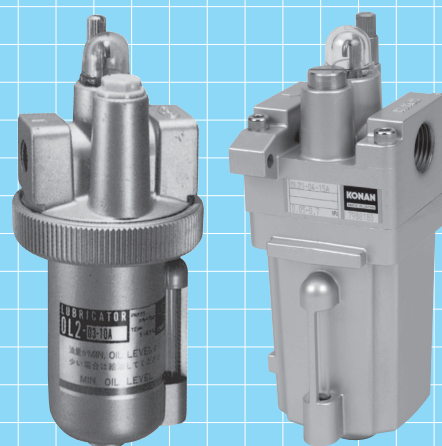
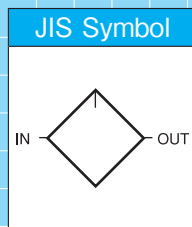
LUBRICATORS

OL2/OL21 Standard type

Rc $\frac{1}{4} \sim 2\frac{1}{2}$

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.



Model Code

When ordering, specify the model as follows:

Standard type

Rc $\frac{1}{4} \sim \frac{1}{2}$

OL21 1 - **04** - 2 - 6

- Corrosion-resistant
- Port size
- Operating temperature range

Rc $\frac{3}{4} \sim 1$

OL2 1 - **08** - 3 - 6

- Corrosion-resistant
- Port size
- Operating temperature range

Rc $1\frac{1}{4} \sim 1\frac{1}{2}$

OL2 1 - **14** - 4 - 6 - 7

- Corrosion-resistant
- Port size
- Operating temperature range
- Drain valve

Rc $2 \sim 2\frac{1}{2}$

OL2 1 - **20** - 5 - 6 - 7

- Corrosion-resistant
- Port size
- Operating temperature range
- 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°C	No entry
Heat-resistant	5 ~ 100°C	HT

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

⑦ Drain valve

Without	No entry
With	SV

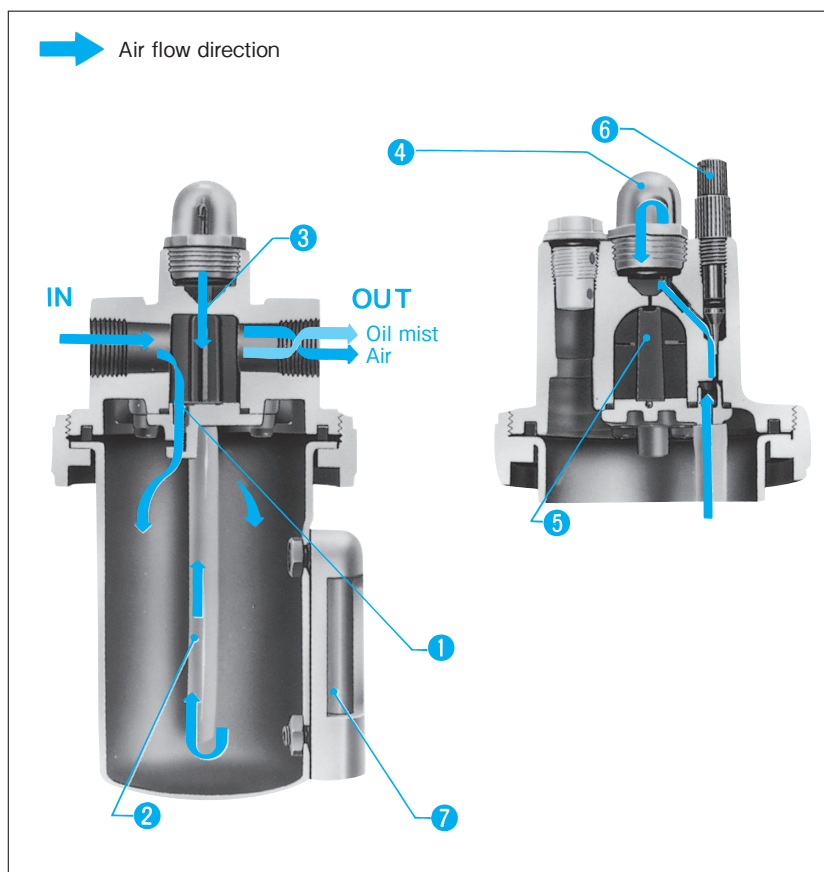


Specifications

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	200cm ³			250cm ³		1500cm ³		1500cm ³	
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	See Model Code section.								
Mass	0.64kg			0.7kg		7.0kg		7.1kg	

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

Operation



1 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.

2 Siphon tube

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

3 Oil spray section

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

4 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.

5 Oil quantity adjustment

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

6 Adjusting screw

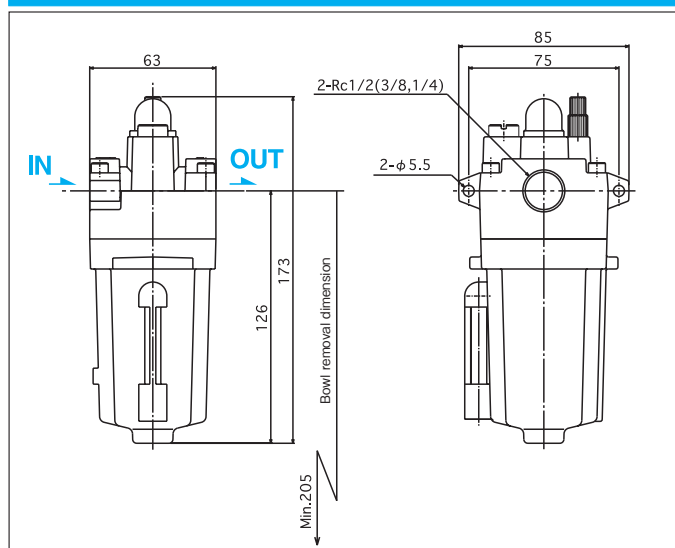
Turning the adjusting screw counterclockwise increases the amount of oil droplets while turning it clockwise reduces the quantity.

7 Sight glass

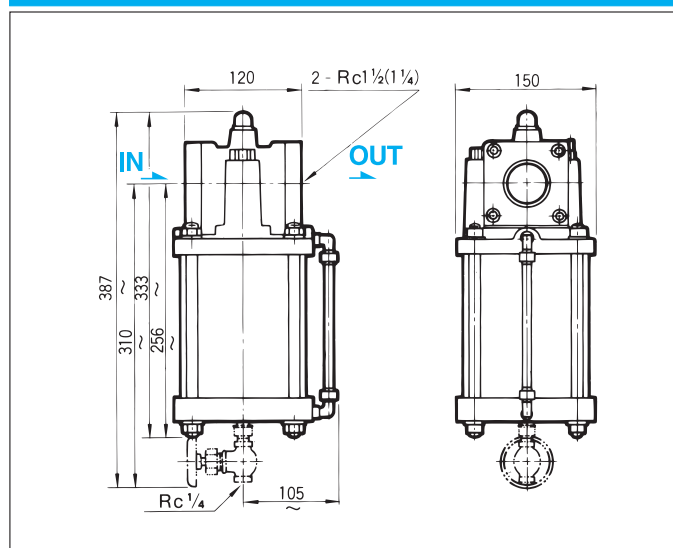
This is used to check the oil level in the bowl.

Outside Dimensions

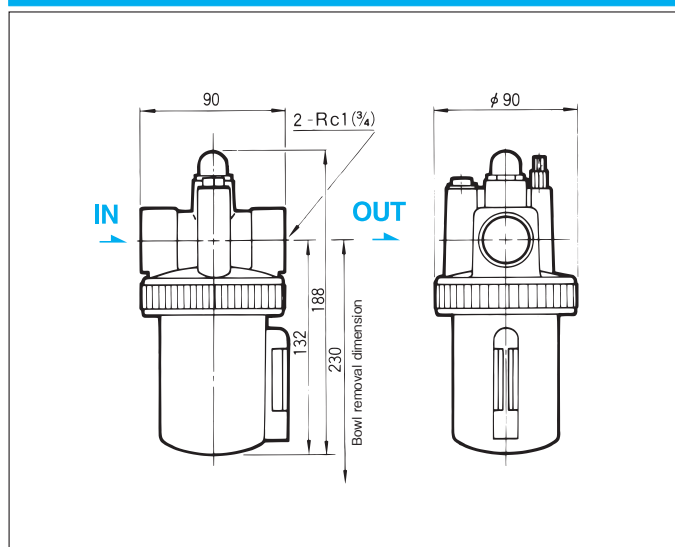
OL21-04-8A • 10A • 15A



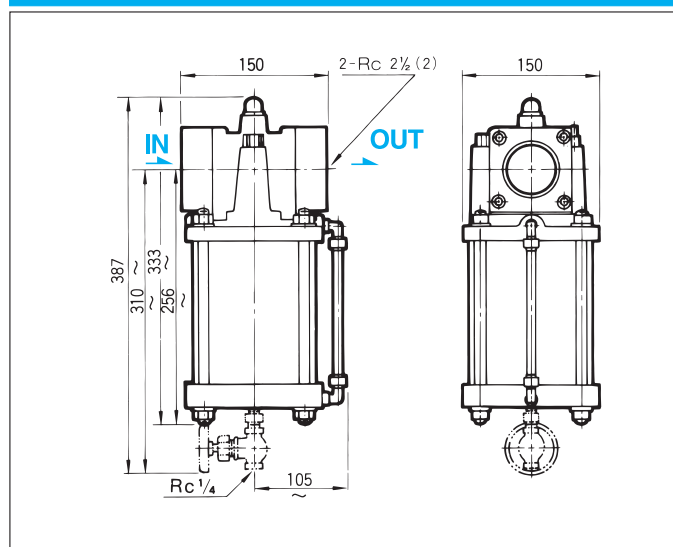
OL2-14-32A • 40A



OL2-08-20A • 25A



OL2-20-50A • 65A



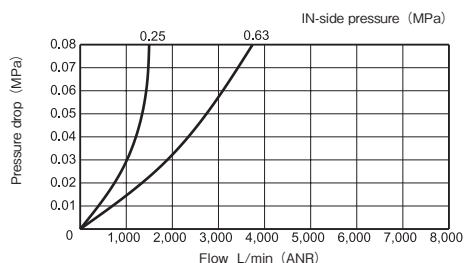
● The drain valve for 32A to 65A size are option parts.



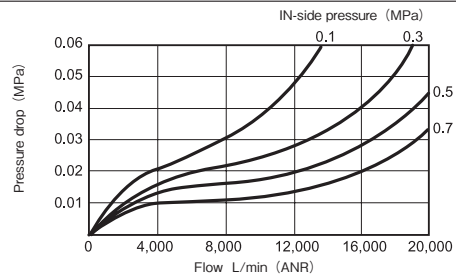
Performance Tables

Flow characteristics graphs

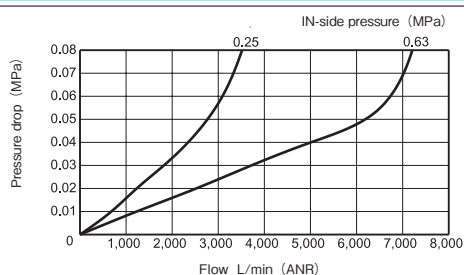
OL21-04-8A



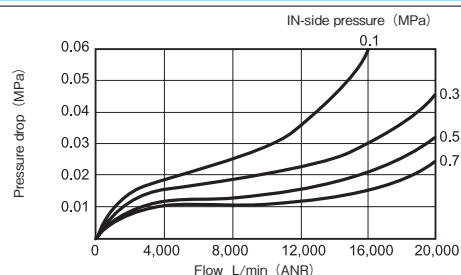
OL21-14-32A



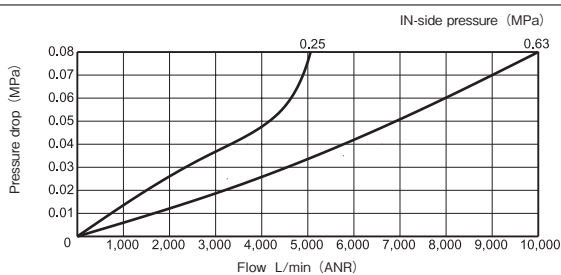
OL21-04-10A



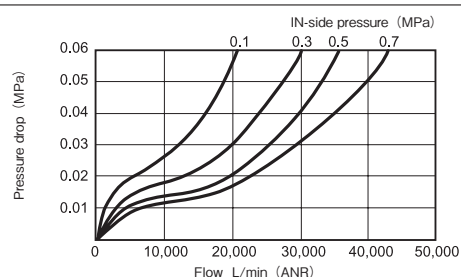
OL21-14-40A



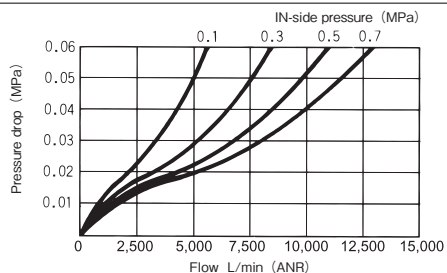
OL21-04-15A



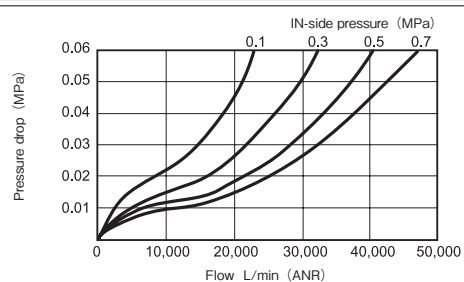
OL21-20-50A



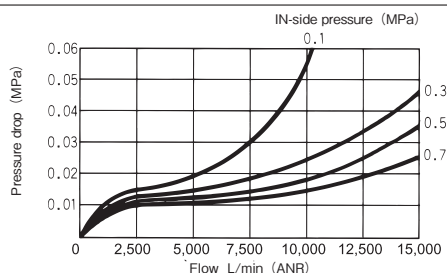
OL21-08-20A



OL21-20-65A



OL21-08-25A

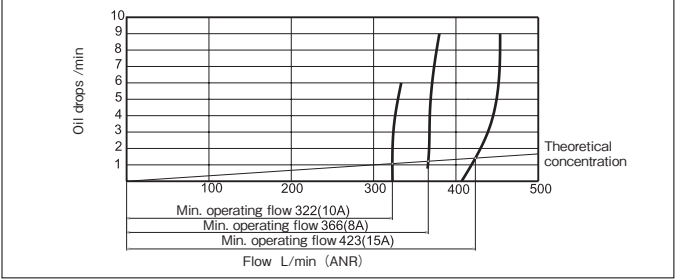


Performance Tables

Min. operating flow oil drop

OL21-04

※ This characteristics are based on the new JIS standard.

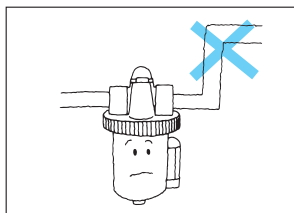
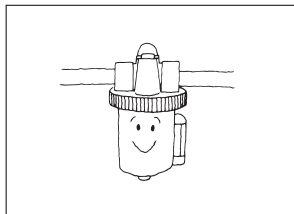




Operating Instructions

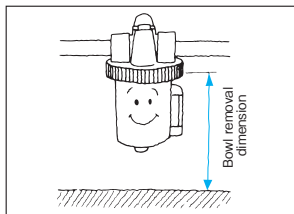
1 Installation

- The install of lubricator bowl must be downwards vertically.



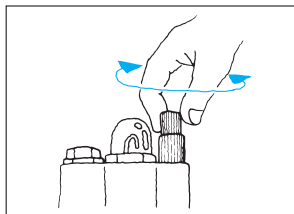
- Install the lubricator as near to the actuator as possible. Avoid placing a rising pipeline between the lubricator and actuator.

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



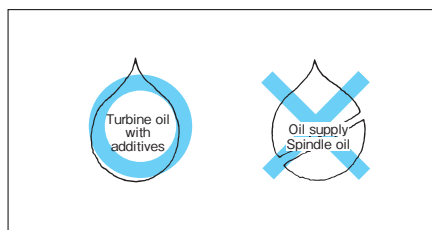
2 Adjusting the quantity of oil droplets

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



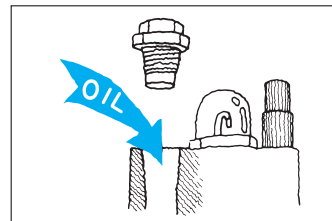
3 Type of lubricator oil

- 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.

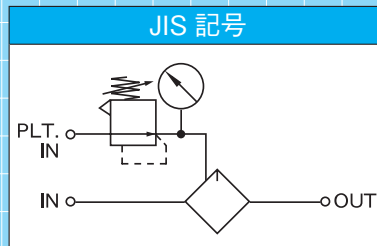


- It is recommended that oil be supplied at regular intervals on the basis of the expected amount of oil consumption, calculated from the frequency of line operations.

Forced spray MICROMIST LUBRICATORS

MO2 Standard type ^{RC}1·1 $\frac{1}{4}$ ·1 $\frac{1}{2}$ ·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 lubricant.



Model Code

When ordering,specify the model as follows:

Standard type

Rc 1

MO2-10 – 25A – ②

● Oil discharge stop valve

Rc 1 $\frac{1}{4}$ ~ 1 $\frac{1}{2}$

MO2-14 – ① – ②

● Port size

● Oil discharge stop valve

Rc 2

MO2-20 – 50A – ②

● Oil discharge stop valve

① Port size

Rc1 1/4	32A
Rc1 1/2	40A

② Oil discharge stop valve

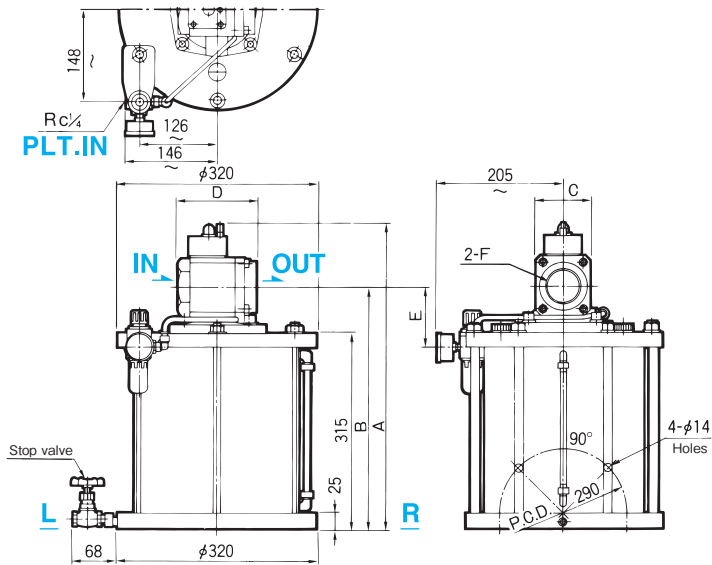
Without		No entry
With	Left	L
	Right	R

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	260mm ²	500mm ²	700mm ²	1200mm ²
Operating pressure	0.05 ~ 0.7MPa			
Proof pressure	1.05MPa			
Operating temperature	5 ~ 60°C			
Bowl oil capacity	12,000cm ³			
Mass	55.0kg			

Outside Dimensions

MO2-10 · 14 · 20

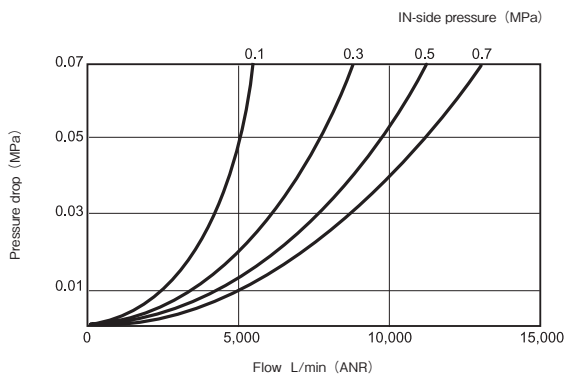


Units : mm						
Model code	F	A	B	C	D	E
MO2-10	Rc 1	454	370	60	100	79
MO2-14	Rc1 1/4	473	380	76	112	89
	Rc1 1/2					
MO2-20	Rc 2	492	390	86	125	99

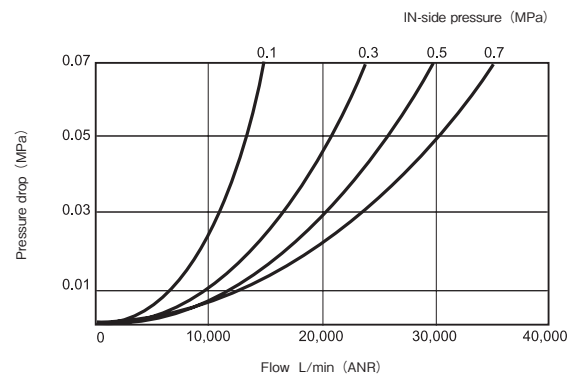
Performance Tables

Flow characteristics graphs

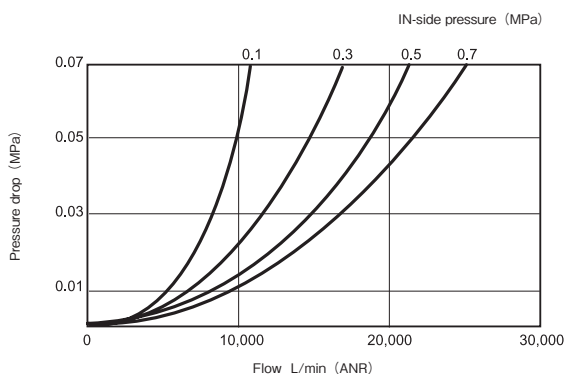
MO2-10-25A



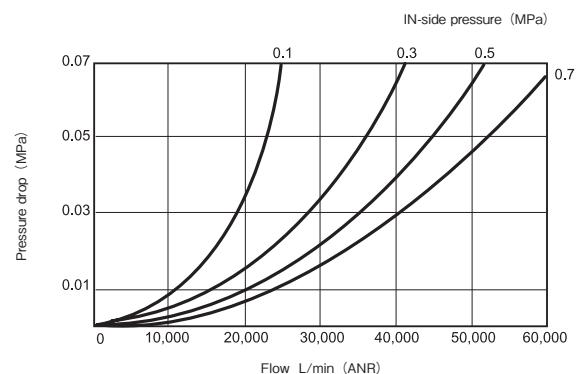
MO2-14-40A



MO2-14-32A



MO2-20-50A

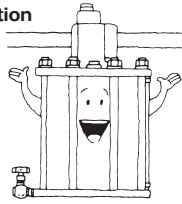


Operating Instructions

1 Installation

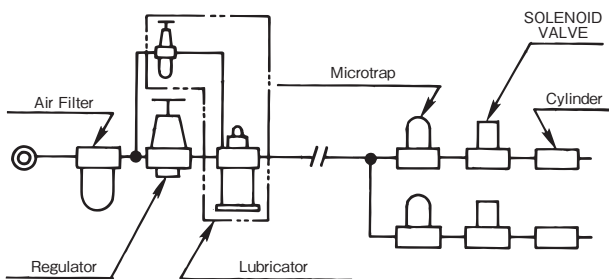
- The install of lubricator bowl must be downwards vertically. (FIG.1)

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



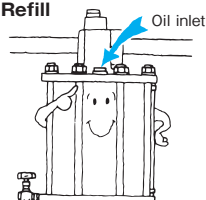
Caution

- If pilot air supplied to micromist lubricator without opening the main outlet of regulator, the upstream regulator may exhaust the air through the relief valve. This is not a malfunction and you may continue to use the micromist lubricator.
- Consult factory related to MICRO-TRAP. (KONAN MODEL TR1 SERIES)

2 Lubrication

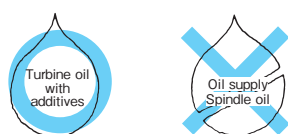
- Be sure to close the main air valve before attempting to refill any lubrication oil (FIG.3)

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.

$$\text{Pilot pressure} = \text{main pipe line pressure} + 0.05 \sim 0.1 \text{ MPa}$$

Because of the design for forced spraying system.

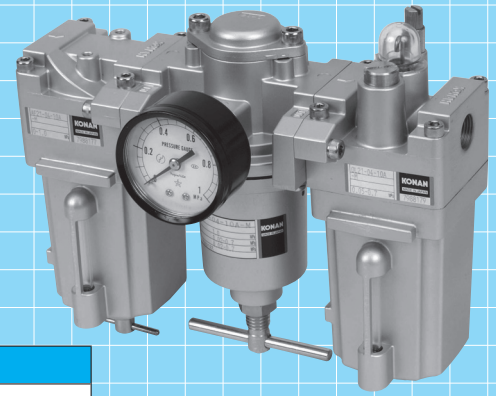
The air flows at a rate of 100NL/min. in the maximum through the Venturi to the outlet when the main pipe pressure is 0.4MPa and the pilot pressure is 0.5MPa.

FRL UNITS

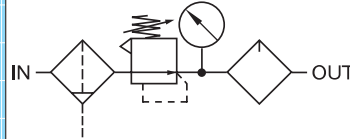
LU2/LU21 Standard type

RC $\frac{1}{4} \sim 2\frac{1}{2}$

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 $\frac{1}{4} \sim \frac{1}{2}$

LU21 1 - **04** - 2 - 6 - 7 - 8

• Corrosion-resistant

• Port size

• Operating temperature range

• Filter rating of element

• Bracket

Rc $\frac{3}{4} \sim 1$

LU2 1 - **08** - 3 - 6 - 7 - 8

• Corrosion-resistant

• Port size

• Operating temperature range

• Filter rating of element

• Bracket

Rc $1\frac{1}{4} \sim 1\frac{1}{2}$

LU2 1 - **14** - 4 - 6 - 7 - 9 - 10

• Corrosion-resistant

• Port size

• Operating temperature range

• Filter rating of element

• Drain valve

• Level gauge

Rc $2 \sim 2\frac{1}{2}$

LU2 1 - **20** - 5 - 9

• Corrosion-resistant

• Port size

• 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 $\frac{1}{4}$	8A
Rc $\frac{3}{8}$	10A
Rc $\frac{1}{2}$	15A

3 Port size

Rc $\frac{3}{4}$	20A
Rc 1	25A

4 Port size

Rc $1\frac{1}{4}$	32A
Rc $1\frac{1}{2}$	40A

5 Port size

Rc 2	50A
Rc $2\frac{1}{2}$	65A

6 Operating temperature range

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

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

7 Filter rating of element

General purpose	40 μ m	No entry
Instrumentation	5 μ m	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
Front 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		See Model Code section.				
Components	Air filter	AF21-04			AF2-08	
	Regulator	RV21-04			RV2-08	
	Lubricator	OL21-04			OL2-08	
	Pressure gauge	50mm dia (Scale : 0 to 1.0MPa)				
Mass		2.1kg			4.0kg	

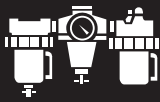
- Above values of mass exclude weight of mounting bracket.
- For specifications other than those listed above, please contact us.
- Air filter rating is 40 microns for all models.

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		See Model Code section.				
Components	Air filter	AF21S-04			AF2S-08	
	Regulator	RV21S-04			RV2S-08	
	Lubricator	OL21S-04			OL2S-08	
	Pressure gauge	50mm dia (Scale : 0 to 1.0MPa) 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		See Model Code section.			
Components	Air filter	AF2		AF2	
	Regulator	RV2-14		RV2-20	
	Lubricator	OL2-14		OL2-20	
	Pressure gauge	50mm dia (Scale : 0 to 1.0MPa)			
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

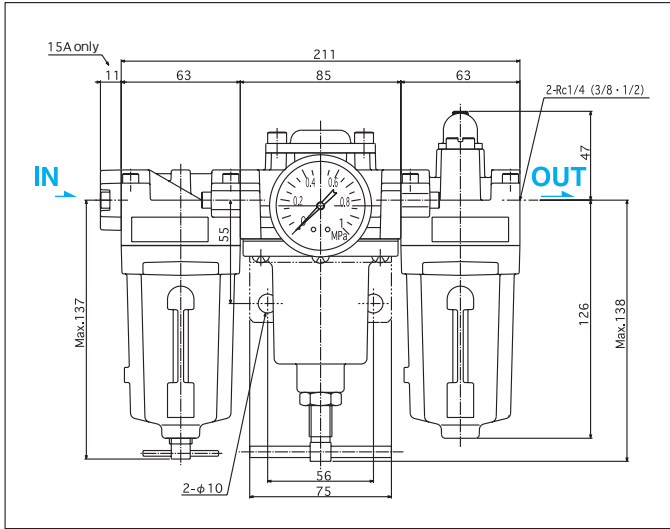
Portions that are exposed to outside weather conditions are corrosion-resistant coating and the exposed bolts, nuts and brackets are stainless steel.

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		See Model Code section.			
Components	Air filter	AF2S		AF2S	
	Regulator	RV2S-14		RV2S-20	
	Lubricator	OL2S-14		OL2S-20	
	Pressure gauge	50mm dia (Scale : 0 to 1.0MPa) Corrosion-resistant type			
Mass		28kg		45kg	

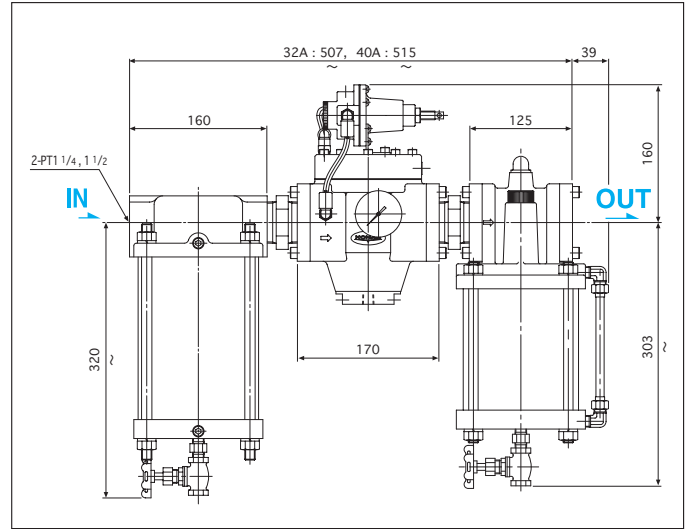
- Above values of mass exclude weight of mounting bracket.
- For specifications other than those listed above, contact us.
- Air filter rating is 40 microns for all models.

Outside Dimensions

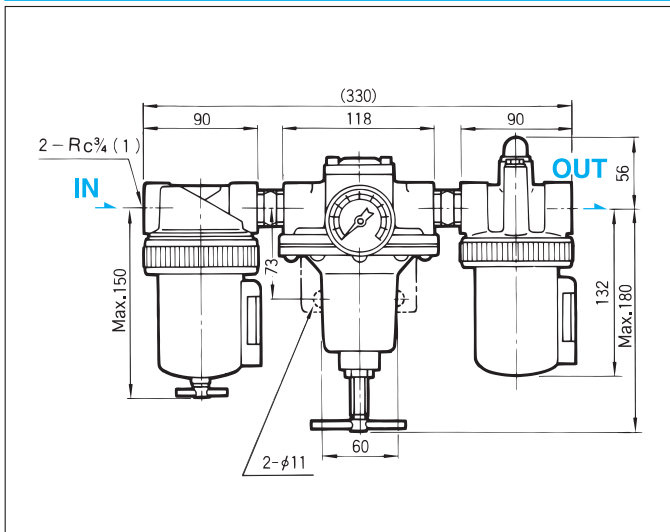
LU21-04



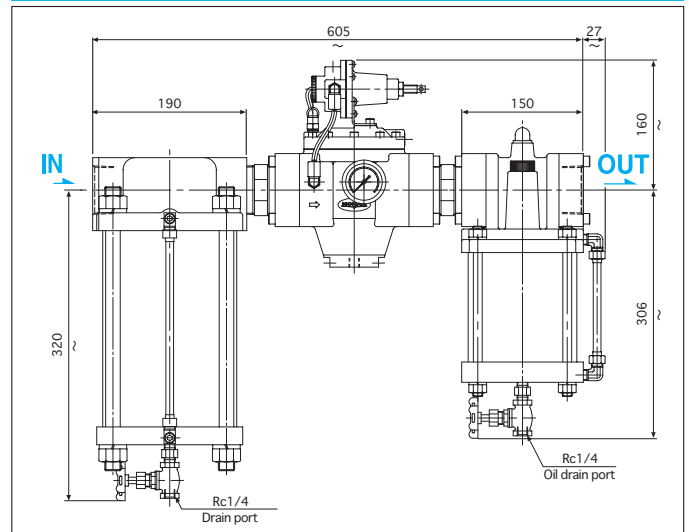
LU2-14



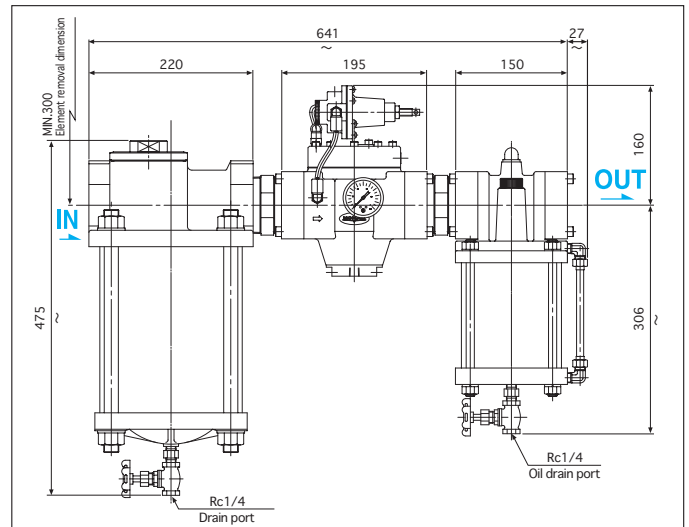
LU2-08

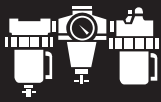


LU2-20-50A



LU2-20-65A



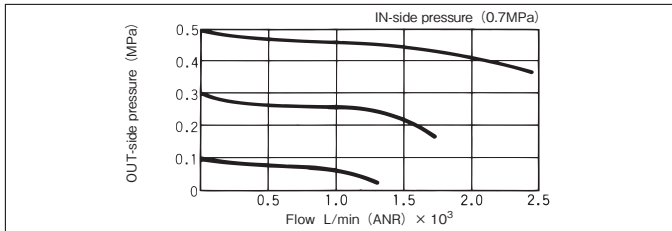


FRL Units

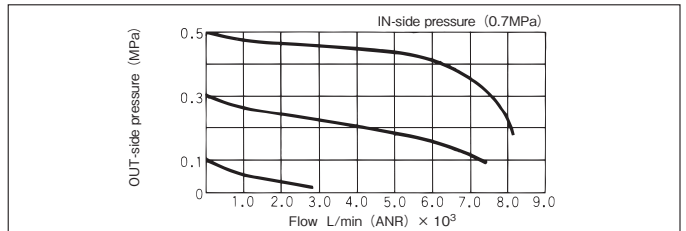
Performance Tables

Flow characteristics graphs

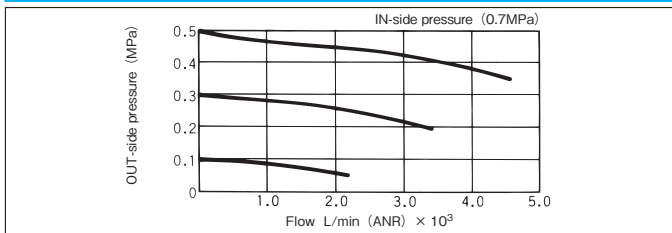
LU21-04-10A



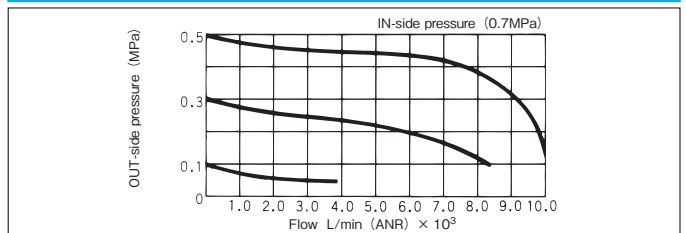
LU2-08-20A



LU21-04-15A



LU2-08-25A

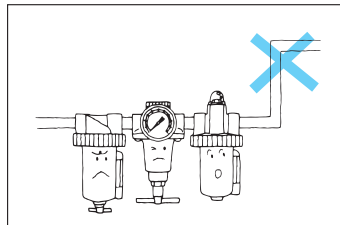


※ LU2 - 14 - 32A / LU2 - 14 - 40A : For further details, please do not hesitate to contact us.
 ※ LU2 - 20 - 50A / LU2 - 20 - 65A : For further details, please do not hesitate to contact us.

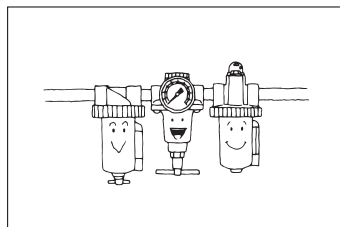
Operating Instructions

1 Installation

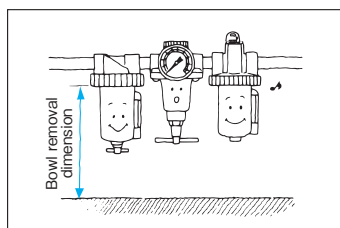
- Install the FRL unit as far from the air source as possible. Avoid the use of a rise pipeline between the FRL unit and the actuator.



- 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

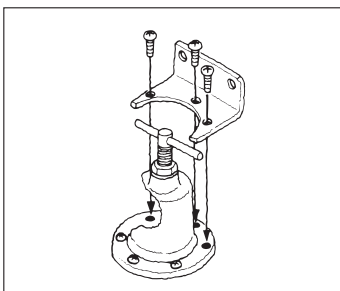
- Turn the handle of air filter drain cock counterclockwise. The pressure in the bowl will discharge the drain fluid.



3 Bracket

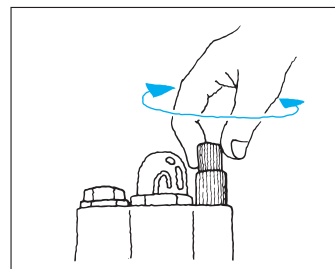
- The FRL unit mounting bracket is available as an option. To install the bracket, refer to the figure below.

- 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.



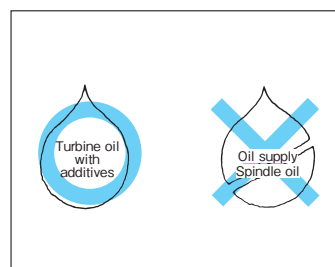
4 Adjusting the quantity of oil droplets

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



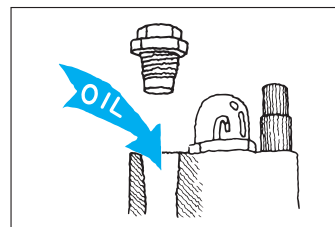
5 Type of lubricator oil

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



6 Lubrication

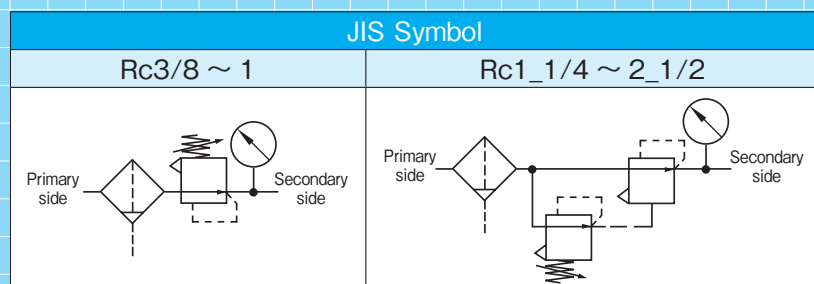
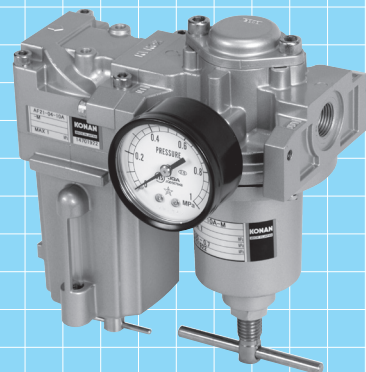
- Oil can be added to the lubricator even during operation.
- To add oil to the lubricator, be sure to use the filler port, opened by removing the filler plug.



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

FR UNITS

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



Model Code

When ordering, specify the model as follows:

Standard type

Rc 3/8 ~ 1/2	820 - 4395	1	6	7	8
		• Port size	• Operating temperature range of element	• Filter rating	• Bracket
Rc 3/4 ~ 1	820 - 4397	2	6	7	8
		• Port size	• Operating temperature range of element	• Filter rating	• Bracket
Rc 1_1/4 ~ 1_1/2	820 - 3184	3	6	7	8
		• Port size	• Operating temperature range of element	• Filter rating	• Bracket
Rc 2	820 - 3186	4	7	8	
		• Port size	• Filter rating of element	• Bracket	
Rc 2_1/2	820 - 3188	5	8		
		• Port size	• Bracket		

Corrosion-resistant type

Rc 3/8 ~ 1/2	820 - 4396	1	6	7	8
		• Port size	• Operating temperature range of element	• Filter rating	• Bracket
Rc 3/4 ~ 1	820 - 4398	2	6	7	8
		• Port size	• Operating temperature range of element	• Filter rating	• Bracket
Rc 1_1/4 ~ 1_1/2	820 - 3185	3	6	7	8
		• Port size	• Operating temperature range of element	• Filter rating	• Bracket
Rc 2	820 - 3187	4	7	8	
		• Port size	• Filter rating of element	• Bracket	
Rc 2_1/2	820 - 3189	5	8		
		• Port size	• 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	5 ~ 60°C	No entry
Heat-resistant	5 ~ 100°C	HT

- For corrosion, freeze resistant type, allow some margin for delivery.
- In operating temperatures of 5°C 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			
Components	Air filter	AF21-04		AF2-08	
	Regulator	RV21-04		RV2-08	
	Pressure gauge	50mm dia (Scale : 0 to 1.0MPa)			

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			
Components	Air filter	AF21S-04		AF2S-08	
	Regulator	RV21S-04		RV2S-08	
	Pressure gauge	50mm dia (Scale : 0 to 1.0MPa) 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			
Components	Air filter	AF2		AF2	
	Regulator	RV2-14		RV2-20	
	Pressure gauge	50mm dia (Scale : 0 to 1.0MPa)			

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.

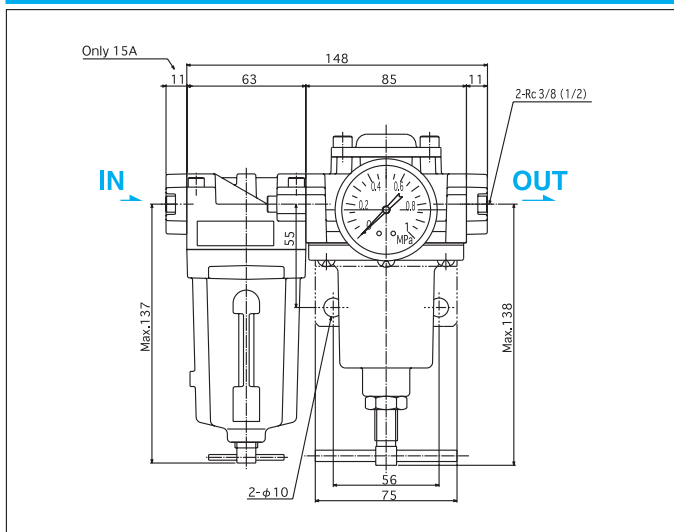
Model code		820 — 3185		820 — 3187	820 — 3189
Port size		32A	40A	50A	65A
		Rc1_1/4	Rc1_1/2	Rc2	Rc2_1/2
Operating pressure	Primary side (IN)	Max.1.0MPa			
	Secondary side (OUT)	0.05 ~ 0.7MPa			
Proof pressure		Primary pressure : 1.5MPa / Secondary pressure : 0.7MPa			
Components	Air filter	AF2S		AF2S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



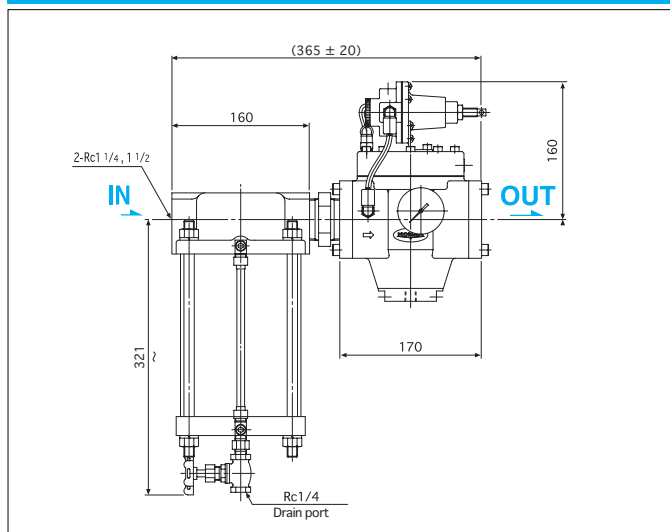
FR UNITS

Outside Dimensions

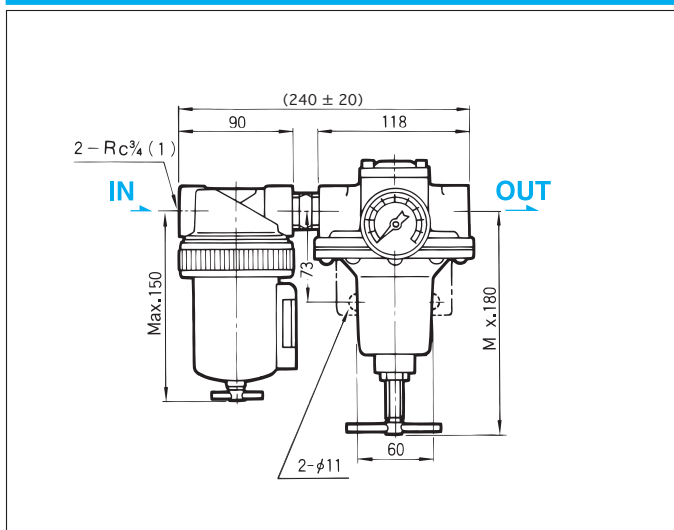
Rc1/4 ~ 1/2



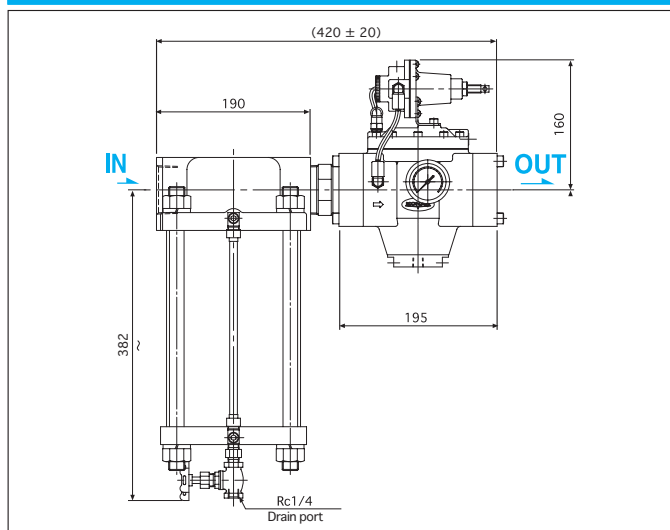
Rc1_1/4 ~ 1_1/2



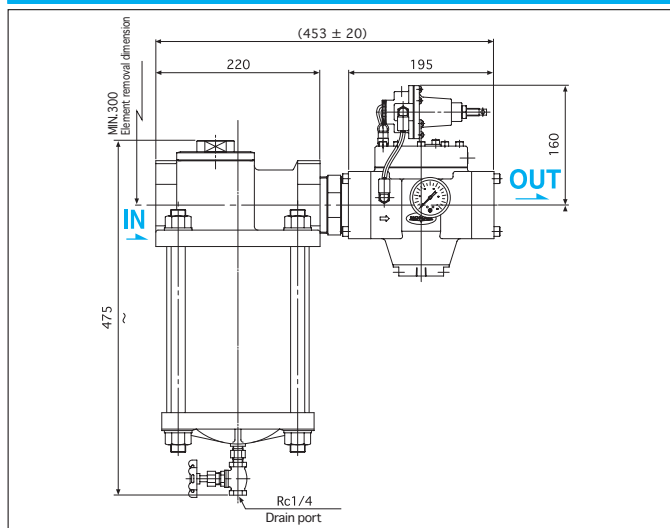
Rc3/4 ~ 1



Rc2



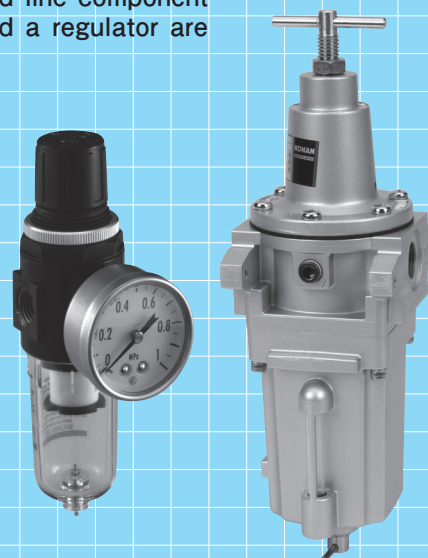
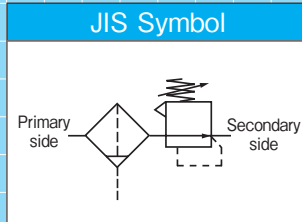
Rc2_1/2



Reducing valve with filter

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

ARU2/ARU3A/FR21	Standard type	RC $\frac{1}{8} \sim \frac{1}{2}$
FR21P	Panel-mount type	RC $\frac{1}{4} \sim \frac{1}{2}$
FR5	Instrumentation type	RC $\frac{1}{4} \sim \frac{3}{8}$



Model Code

When ordering, specify the model as follows:

Standard type

Rc $\frac{1}{8} \sim \frac{1}{4}$	ARU2-02-	2	-	8	-	9	
		Port size		Pressure gauge		Bracket	
Rc $\frac{1}{4} \sim \frac{3}{8}$	ARU3A	1	-03-	3	-	5	- 7 - 8 - 9
		Corrosion-resistant	Port size	Operating temperature range	Filter rating of element	Pressure gauge	Bracket
Rc $\frac{1}{4} \sim \frac{1}{2}$	FR21	1	-04-	4	-	5	- 7 - 8 - 9
		Corrosion-resistant	Port size	Operating temperature range	Filter rating of element	Pressure gauge	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".

Panel-mount type

Rc $\frac{3}{8} \sim \frac{1}{2}$	FR21P	1	-04-	4	-	5	- 7 - 8
		Corrosion-resistant	Port size	Operating temperature range	Filter rating of element	Pressure gauge	

※ 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 $\frac{1}{4} \sim \frac{3}{8}$	FR5	1	-02-	3	-	6	- 8 - 9
		Corrosion-resistant	Port size	Operating temperature range	Pressure gauge	Bracket	

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

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 1/8	6A
Rc 1/4	8A

③ Port size

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

④ Port size

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

⑤ Operating temperature range

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

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

⑥ Operating temperature range

General purpose	- 20 ~ 60°C	No entry
Heat-resistant	5 ~ 100°C	HT

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

⑦ 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.

⑧ 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.

⑨ Bracket

Without	No entry
With	BR

- Bracket is not mounted but appended with regulators.



Reducing valve with filter

Specifications

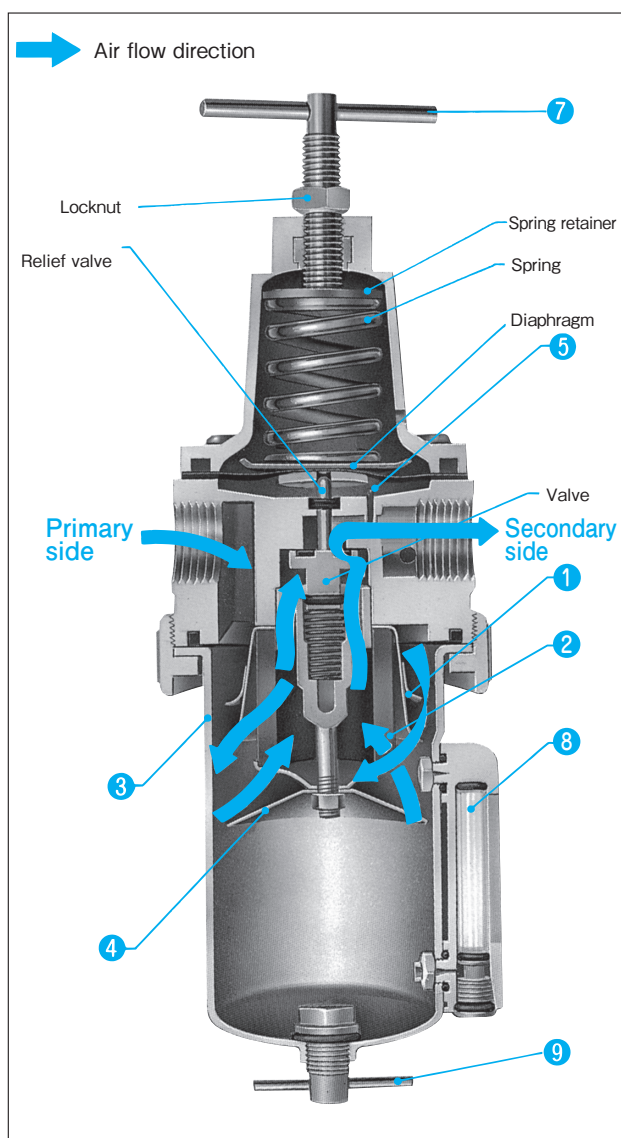
Model code	Standard type	ARU2 - 02				ARU3A - 03		FR21 - 04	
	Panel-mount type							FR21P - 04	
	Instrumentation type			FR5 - 02					
Port size		6A	8A	8A	10A	8A	10A	10A	15A
		Rc1/8	Rc1/4	Rc1/4	Rc3/8	Rc1/4	Rc3/8	Rc3/8	Rc1/2
Operating pressure	Primary side (IN)	Max. 1.0MPa							
	Secondary side (OUT)	0.05 ~ 0.7MPa		0.02 ~ 0.2MPa		0.05 ~ 0.7MPa			
Proof pressure		1.5MPa							
Operating pressure		- 20 ~ 60℃		- 20 ~ 60℃		See Model Code section.			
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 centrifugation.

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 the 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 counterclockwise 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 Sight glass

- Used to check the accumulating drain fluid quantity.

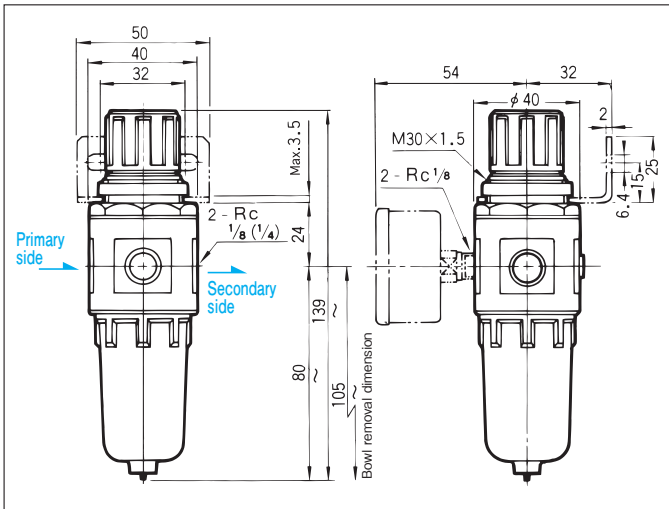
9 Drain cock

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

Outside Dimensions

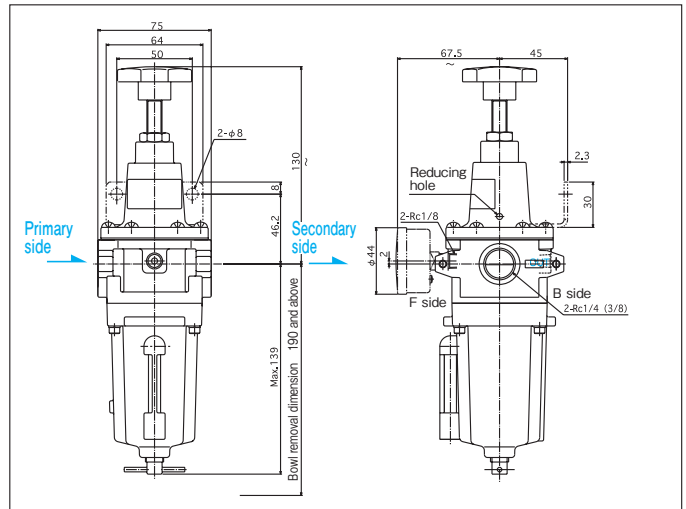
Standard type

ARU2-02-06 · 8A

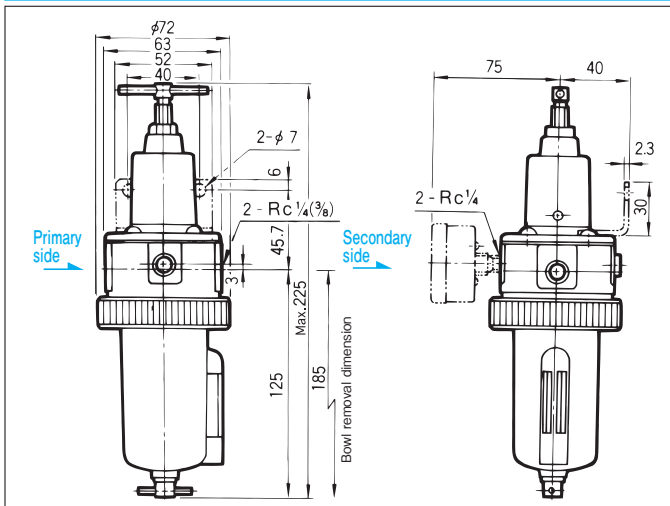


Instrumentation type

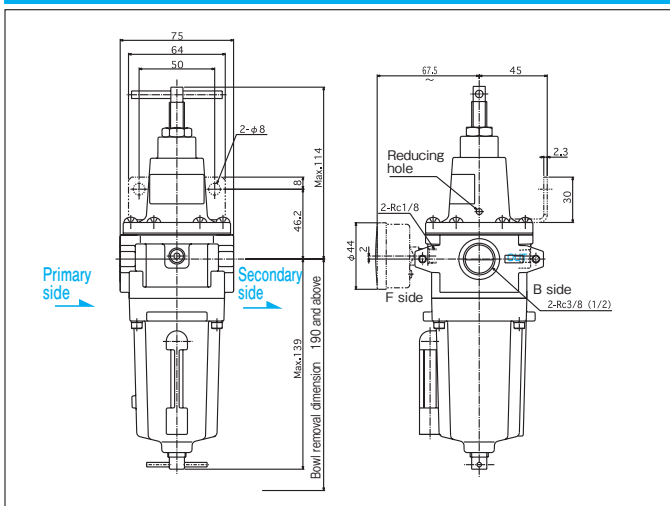
FR5-02-8A · 10A



ARU3A-03-8A · 10A



FR21-04-10A · 15A





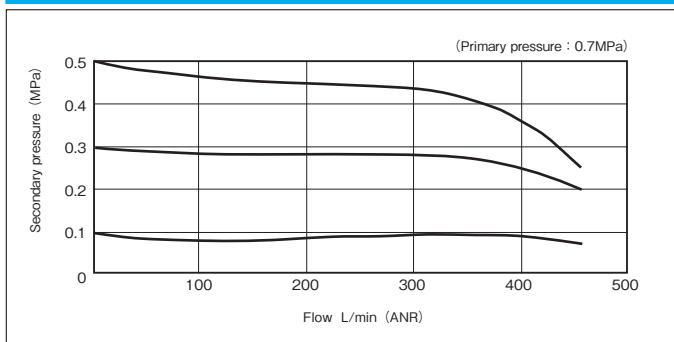
Reducing valve with filter

Performance Tables

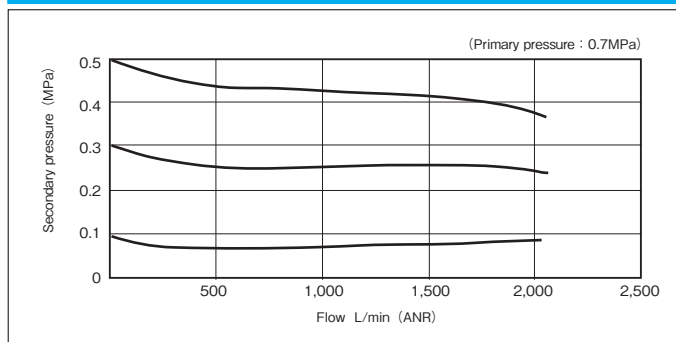
Flow characteristics graphs

Standard and Panel-mount type

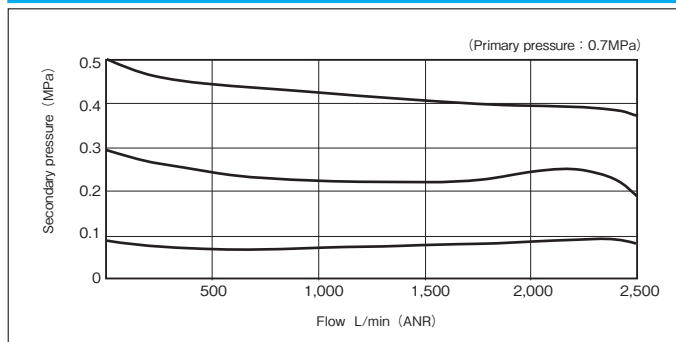
ARU2-02-6A · 8A



ARU3A-03-8A

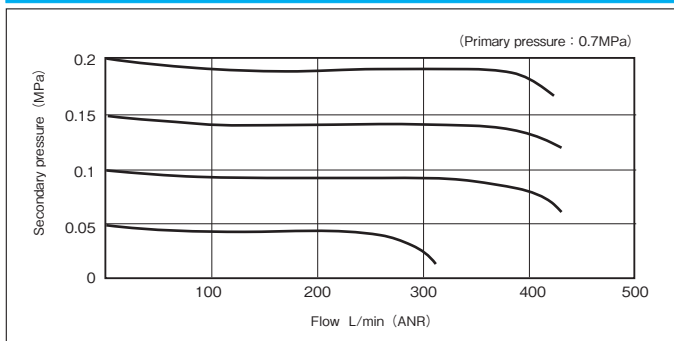


ARU3A-03-10A

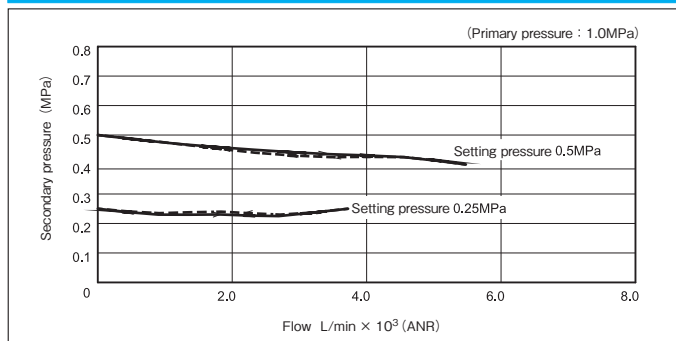


Instrumentation type

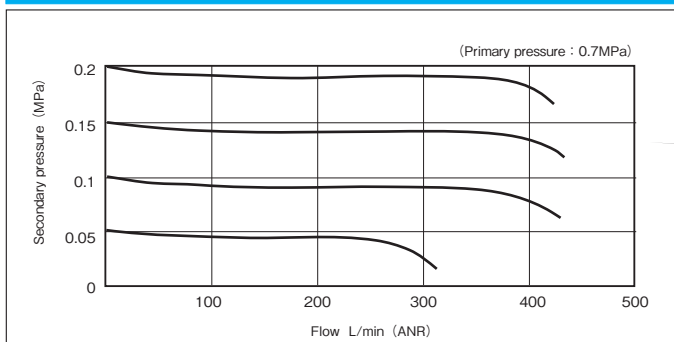
FR5-02-8A



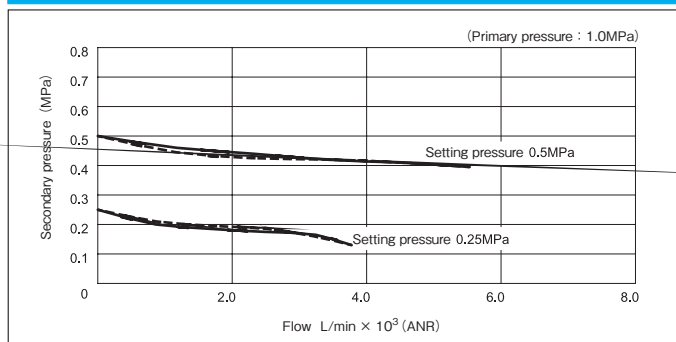
FR21-04-10A



FR5-02-10A



FR21-04-15A

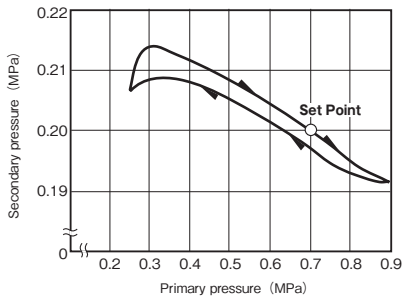


Performance Tables

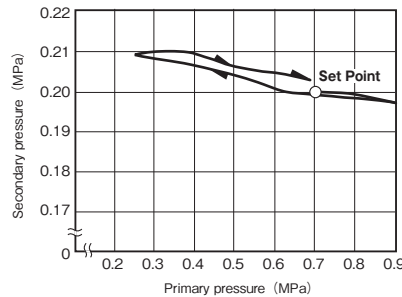
Pressure characteristics graphs

Standard and Panel-mount , Instrumentation type

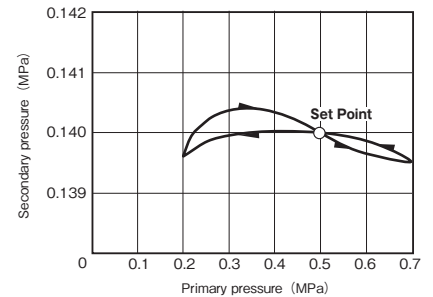
ARU2-02-6A · 8A



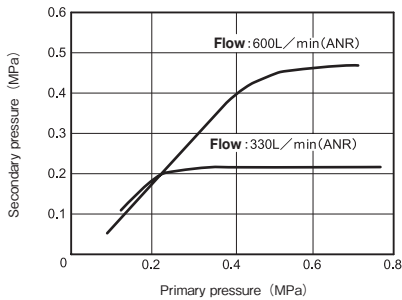
ARU3A-03-8A · 10A



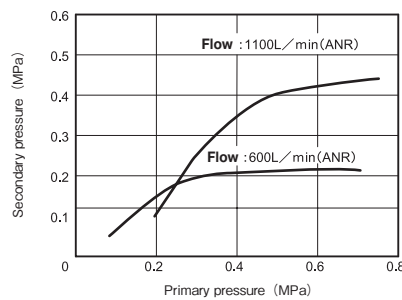
FR5-02-8A · 10A



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



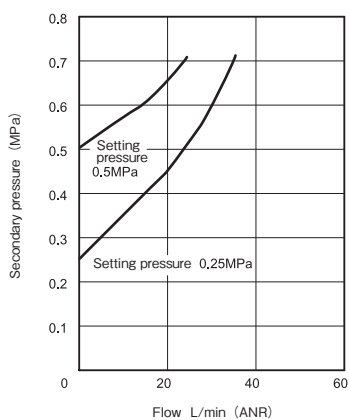
FR21-04-15A ※ This characteristics are based on the new JIS standard.



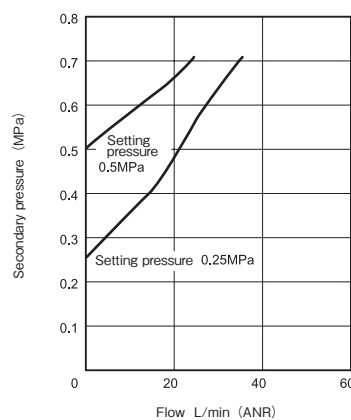
Relief characteristics graphs

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.





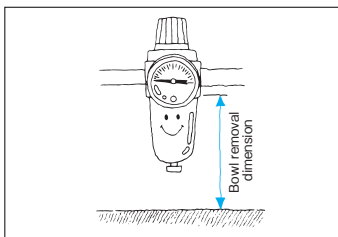
Reducing valve with filter

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.

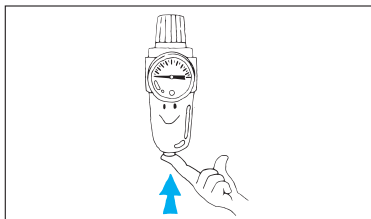
2 Lubrication

- 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.



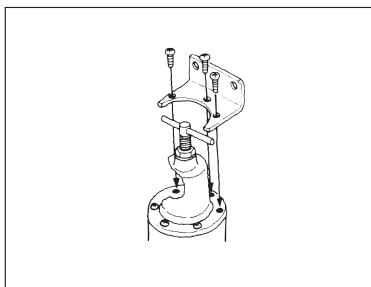
Other types

- 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.