# Modular design SELEX F.R.L.

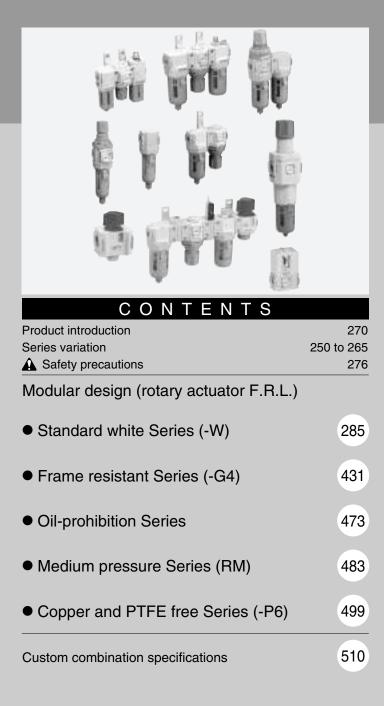
#### Components for air preparation / pressure adjustment / F.R.L. unit

#### Overview

F.R.L. module unit is a standard series that the major dimensions (width/depth) are compactly designed and unified per filter (F), regulator (R), and lubricator (L), etc., seeking ultimate performance in all of functionality, operation, maintainability, an safety, etc.

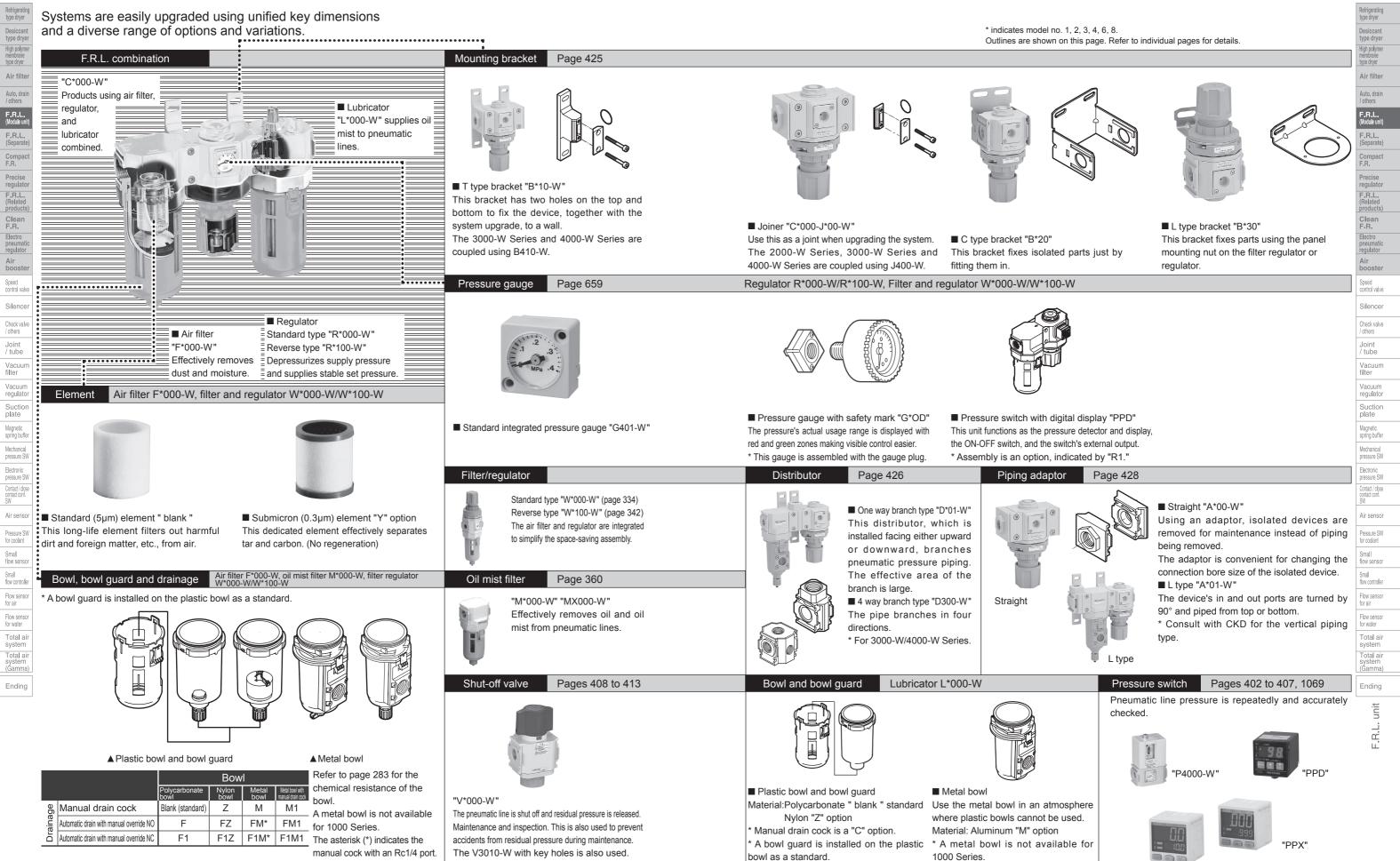
#### Features

- Standard modular design Compact modular design whose major dimensions such as filters, regulators, and lubricator, etc., are unified.
- (2) Hybrid materials Aluminum is provided for the body, and the resin for the cover. Light weight and also durable.
- (3) Supplying various clean air Supplying clean air and oil free air, etc., according to applications/purposes.
- (4) Various combination Combination is enables according to applications.
- (5) Long Service life element Clogging is dramatically eliminated due to original chemical fiber structure.
- (6) Embedded pressure gauge for space saving Simple front surface design



### **Enhanced Systems Using Full-Scale Modules**

Systems are easily upgraded using unified key dimensions



Consult with CKD for other system upgrades.

СКД

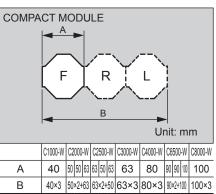
# **It's NEW CONCEPT** Pursuing high performance for all aspects, functionality, operability, serviceability and safety.

(Compressed air filter, regulator, lubricator and other component)

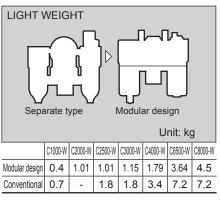
# **FUNCTIONAL FEATURES**

#### • Compact module

F.R.L. main dimensions (width and depth) are integrated into a compact module. Accurate assembly dimensions are obtained with simple calculation.

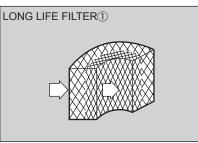


• Light weight (1/2 (CKD comparison)) The hybrid material (body: aluminum die cast, cover: resin) provides strength, and reduces weight by 50% compared to the conventional type. (C4000 comparison)

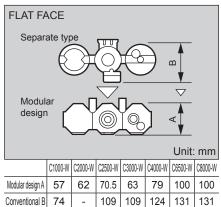


#### Long-life element

This element incorporates CKD's original chemical fiber structure (patent pending), which has a rough surface and gradually becomes finer toward the inside. Clogging is greatly reduced, and the element life is greatly extended. There is no worry of rust forming.



• Embedded pressure gauge for saving space The conventional protruding pressure gauge wasted space on the front, and endangered personnel. A neat design and safety have been realized by embedding the pressure gauge into the body.



 Mechanism to prevent oil dripping during primary side pressure drop Oil dripping caused by reverse flow when pressure is released with the shut-off valve, etc., is suppressed.

• Corrosion resistant, safe bowl guard Very safe and corrosion resistant bowl guard is integrated.

#### Gauge plug

The gauge plus is sealed even without a pipe plug. (Refer to page 672 when using the screw in pressure gauge.)

Refrigerating type dryer Desiccant type dryer

High polyme membrane type dryer

Air filter Auto, drain / others

F.R.L. (Module unit F.R.L. (Separate

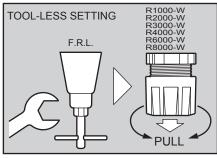
Read Precautions in the introduction and on page 276 to 283 before use.







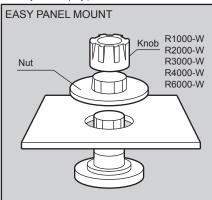
• Pressure adjustment without tool Pressure is adjusted with a hand. The knob is locked with a single push, and easily operated when setting pressure.



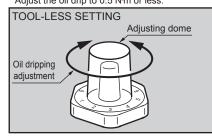
Easily install in panels

when the panel mounting nut is loosed the nut acts as a jack and allows the knob to be removed easily. Fix the nut to mount in the panel. The L-type bracket is also installed similarly to the nut.

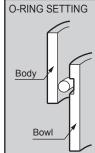
(When the L-type bracket is used, the body is fixed securely without play.) \*8000-W Series is excluded.



Note:Install the nut before installing the knob. (With the R2000-W, the nut is removed without removing the knob.) • Oil drip adjustment knob with lock Oil drips are adjusted easily by hands without using tools. A stopper is provided in the opening direction to function as a lock, and increase safety. The number on the dial are used as a guide after adjusting dripping. \* Adjust the oil drip to 0.5 N·m or less.

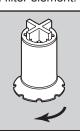


• Double plastic structure A double plastic structure is adopted, so oil dripping can be confirmed from 360° • O-ring position locking An O-ring slot is provided on the bowl side to prevent problems caused if the O-ring falls off during bowl attachment and removal. The O-ring does not fall off during maintenance, and safe and accurate seal in attained.



• One-touch integrated filter element.

The integrated element is removed by turning the baffle 45° to the left. (Only 1000-W Series)



Total air system (Gamma) Ending

Refrigerating type dryer Desiccant type dryer High polyme membrane type dryer Air filter Auto, drain / others

F.R.L.

F.R.L. (Separate)

Compact F.R. Precise regulator F.R.L. (Related products) Clean F.R. Clean Sproducts) Clean Sproducts) Speed control valve Silencer Check valve Johnt Vacuum

filter

Vacuum regulator

Suction plate

Magnetic spring buffer

Mechanical pressure SW

Electronic pressure SW

Contact / close contact conf. SW

Air sensor

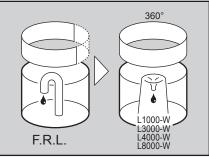
Pressure SW for coolant

Small flow senso

Small flow controlle

Flow sensor for air

Flow sensor for water



• One-touch integrated attachment The integrated bowl and bowl guard are easily attached and removed by operating the latch (The 1000-W Series has no latch)

\* Confirm that pressure has been released before mounting or removing the bowl and bowl guard.

#### Option explanation

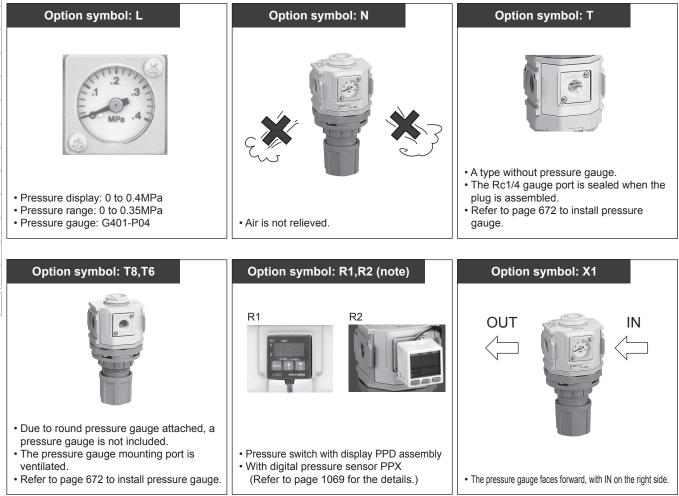
Combination lists of drainage and bowl material of filter (item model no. display (D))

5			•			
s Bowl material		Manual drain cook	Automatic drain	with manual cock	Large automatic dra	in with manual cock
BOWI IIIa	alenai		NO type	NC type	NO type	NC type
Plastic bowl	Polycarbonate	⊖ (blank)	×	○ (symbol: F1)	×	×
	Nylon	⊖ (symbol: Z1)	×	⊖ (symbol: F1Z)	×	×
Metal bowl	Aluminum	×	×	×	×	×
Plastic bowl	Polycarbonate	⊖ (blank)	○ (symbol: F)	○ (symbol: F1)	×	×
	Nylon	⊖ (symbol: Z)	⊖ (symbol: FZ)	⊖ (symbol: F1Z)	×	×
Metal bowl	Aluminum	⊖ (symbol: M,M1)	○ (symbol: FM,FM1)	○ (symbol: F1M,F1M1)	×	×
Plastic bowl	Polycarbonate	⊖ (blank)	○ (symbol: F)	○ (symbol: F1)	⊖ (symbol: FF)	⊖ (symbol: FF1)
	Nylon	⊖ (symbol: Z)	○ (symbol: FZ)	⊖ (symbol: F1Z)	⊖ (symbol: FFZ)	⊖ (symbol: FF1Z)
Metal bowl	Aluminum	⊖ (symbol: M,M1)	○ (symbol: FM,FM1)	(symbol: F1M,F1M1)	○ (symbol: FFM,FFM1)	(symbol: FF1M,FF1M1)
			In a nonpressurized state,	Air is not purged	Discharge performance is high	Discharge performance
<b>-</b> .			such as at night, the valve	during initial	and drainage is automatically	is high and air is not
reatures		-	opens and drainage is	pressurization.	discharged when the unit is not	purged during initial
			discharged automatically.		pressurized.	pressurization.
	Plastic bowl Metal bowl Plastic bowl Metal bowl Plastic bowl	Bowl material       Plastic bowl     Polycarbonate       Nylon     Aluminum       Plastic bowl     Polycarbonate       Nylon     Aluminum       Plastic bowl     Aluminum       Plastic bowl     Polycarbonate       Nylon     Metal bowl       Aluminum     Polycarbonate       Nylon     Aluminum       Metal bowl     Aluminum       Metal bowl     Aluminum	Bowl material     Manual drain cock       Plastic bowl     Polycarbonate     (blank)       Nylon     (symbol: Z1)       Metal bowl     Aluminum     ×       Plastic bowl     Polycarbonate     (blank)       Nylon     (symbol: Z)       Metal bowl     Aluminum     (symbol: Z)       Metal bowl     Aluminum     (symbol: Z)       Metal bowl     Polycarbonate     (blank)       Nylon     (symbol: M,M1)       Plastic bowl     Polycarbonate     (blank)       Mylon     (symbol: Z)       Metal bowl     Aluminum     (symbol: Z)	Bowl material       Manual drain cock       Automatic drain view         Plastic bowl       Polycarbonate       (blank)       ×         Nylon       (symbol: Z1)       ×         Metal bowl       Aluminum       ×       ×         Plastic bowl       Polycarbonate       (blank)       ×         Plastic bowl       Aluminum       ×       ×         Plastic bowl       Polycarbonate       (blank)       (symbol: F)         Nylon       (symbol: X)       (symbol: FZ)         Metal bowl       Aluminum       (symbol: M,M1)       (symbol: FJ)         Plastic bowl       Polycarbonate       (blank)       (symbol: F,M,FM1)         Plastic bowl       Aluminum       (symbol: Z)       (symbol: FJ)         Nylon       (symbol: Z)       (symbol: FZ)       (symbol: FZ)         Metal bowl       Aluminum       (symbol: M,M1)       (symbol: FZ)         Metal bowl       Aluminum       (symbol: M,M1)       (symbol: FM,FM1)         Features       -       -       in a nonpressurized state, such as at night, the valve opens and drainage is	Bowl material         Manual drain cock         Automatic drain with manual cock NO type         NC type           Plastic bowl         Polycarbonate         (blank)         ×         (symbol: F1)           Nylon         (symbol: Z1)         ×         (symbol: F12)           Metal bowl         Aluminum         ×         ×           Plastic bowl         Polycarbonate         (blank)         ×         (symbol: F12)           Metal bowl         Aluminum         ×         ×         ×           Plastic bowl         Polycarbonate         (blank)         (symbol: F12)         (symbol: F12)           Metal bowl         Aluminum         (symbol: Z)         (symbol: F2)         (symbol: F12)           Metal bowl         Aluminum         (symbol: M,M1)         (symbol: FM,FM1)         (symbol: F10)           Plastic bowl         Polycarbonate         (blank)         (symbol: F1)         (symbol: F1)           Plastic bowl         Aluminum         (symbol: M,M1)         (symbol: F2)         (symbol: F11)           Plastic bowl         Aluminum         (symbol: M,M1)         (symbol: F2)         (symbol: F12)           Metal bowl         Aluminum         (symbol: M,M1)         (symbol: F17)         (symbol: F17)           Nylon	Bowl material         Manual drain cock         Automatic drain with manual cock         Large automatic drain d

#### Combination lists of drainage and bowl material of lubricator (item model no. display (D))

e	Applicable series	Bowl ma	aterial	Without manual cock	With manual cock	
r	1000-W Series	Plastic bowl	Polycarbonate	⊖ (blank)	⊖ (symbol: C)	
e			Nylon	⊖ (symbol: Z)	⊖ (symbol: CZ)	
_		Metal bowl	Aluminum	×	×	
	2000-W Series 2500-W Series	Plastic bowl	Polycarbonate	🔾 (blank)	⊖ (symbol: C)	
n	3000-W Series 4000-W Series		Nylon	⊖ (symbol: Z)	⊖ (symbol: CZ)	
	6000-W Series 8000-W Series Metal bowl		Aluminum	⊖ (symbol: M)	(symbol: CM,CM1)	

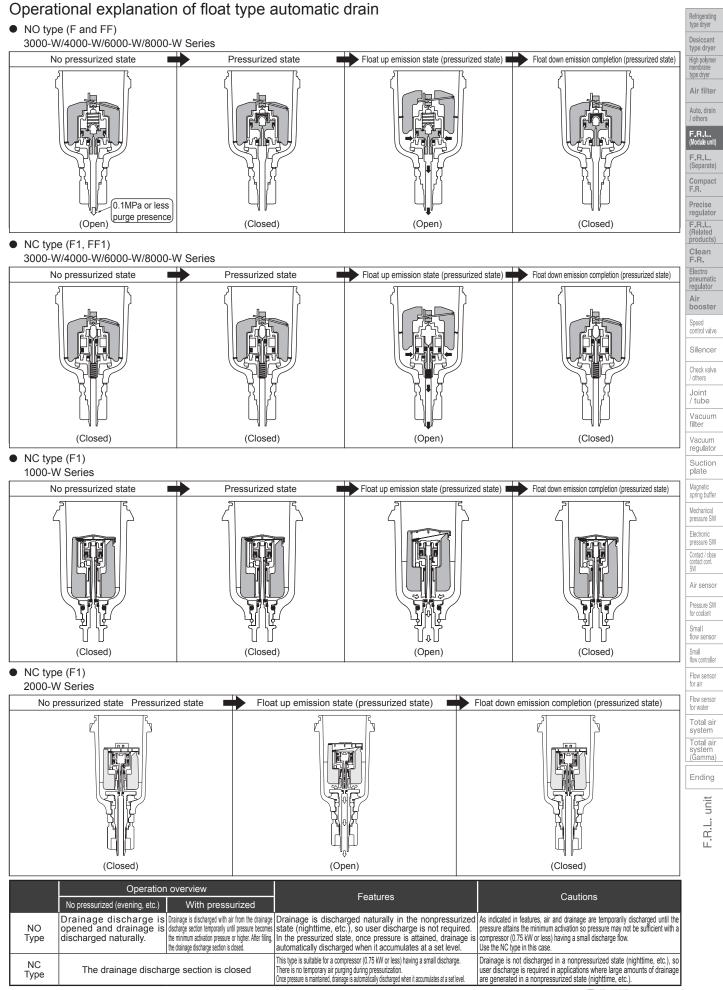
Option and explanation of symbol with pressure range, relief, pressure gauge, flow direction (item model no. display (D))



(Note) Option symbol "R1" is not used for the C\*000-W Series or C\*010-W Series.

Refrigeratin type dryer

Operational explanation of float type automatic drain



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Refrigerating type dryer

Desiccant type dryer High polyme

type dryer

Auto. drain / others F.R.L. (Module unit)

F.R.L. (Separate)

Compact F.R.

Precise regulator

F.R.L.

products)

Clean F.R. Electro

regulator

Air booster

Silence

Check valve / others

Joint / tube

Vacuum filter

Vacuum regulator

Suction plate

Magnetic spring buffer

Mechanical pressure SW

Electronic pressure SW

Contact / close contact conf.

Air sensor

Pressure SW for coolant

flow sensor

Small flow controller

Flow sensor for air

Flow sensor for water

Total air

system Total air

(Gamma)

Ending

Small

Speed control valve Pneumatic components (F.R.L. unit (modular design))

### Safety precautions

Always read this section before starting use. Refer to Intro 63 for pneumatic components general precautions

#### F.R.L. unit (modular design)

#### **Design & Selection**

#### 1. Common

#### **WARNING**

This product is for industrial use. Must not be used in components or circuits for medical equipment or components that involve human lives.

■ Air filter, lubricator plastic bowl, lubricator' drip window, and pressure gauge lens.

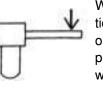
These parts are made of polycarbonate, and cannot be used in environments containing synthetic oil, organic solvents, chemicals, coolant, screw locking agent, leak detection solutions, or hot water, etc., or where these substances may come in contact with them.

Refer to page 283 for details on bowl chemical resistance.

#### Piping load torque

Check that the piping load or torque is not applied to the body or piping sections.

Series	1000-W	2000-W	3000-W	4000-W	6000-W	8000-W
Max. torque N⋅m	15	15	50	50	100	100

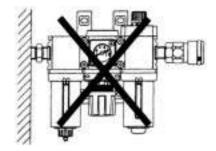


With the 1000-W Series, application of a torque of 30 N·m or more on piping is "hazardous" as the piping could be damaged. Use within the specified torque, even when using the piping adapter.

#### Avoid piping as followings.

Avoid piping fixed with a single support, as this can result in excessive force and lead to damage. With the 1000-W Series in particular, application of a torque of  $30N \cdot m$  and over on piping is "hazardous" as the piping could be damaged.

Use within the specified torque, even when using the piping adaptor.



#### **A**CAUTION

Large drainage

Install the air dryer and drain separator before the air filter.

If there is a large drainage from the compressor. Hot and highly humid air could shorten the device life or result in corrosion.

#### Dry air

Rubber parts for the regulator could deteriorate quickly, so use of a fluorine rubber valve assembly is recommended. Consult with CKD when required.

- For compressor circuit of water lubrication method Take measures to prevent chlorine-based substances from entering the compressed air.
- Use the automatic drain under the working conditions below. Failure to observe this could result in operation faults.

NO type automatic drain (exhaust without pressurized): For "F" and "FF"

- Use a compressor with a capacity of 0.75 kW {90 l/min. [ANR]} or more.
- Set the working pressure to 0.1 MPa or more. (Air is purged with initial drainage until pressure reaches 0.1 MPa.) NC type automatic drain (no exhaust without pressurized): For "F1" and "FF1"
- A compressor with a capacity of 0.75 kw or less is used.
- Set the working pressure to 0.15 MPa or more.
- For 1000 series NC automatic drain
- Set the working flow to less than the maximum working flow.
- In places with high vibration, such as where the compressor is installed, air could leak from the drain port when the float vibrates. Avoid this use.
- Overflowing drainage causes operation faults.
- 2. Regulator, filter and regulator

#### **WARNING**

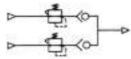
- Install a safety device where an output pressure exceeding the regulator's set pressure value could result in damage or faulty operation of secondary side devices.
- The regulator cannot process residual pressure (remove secondary pressure) when primary pressure is released.

Use a regulator with a check valve when residual pressure must be processed.

In some cases, the regulator cannot be used for secondary side sealing circuits or balance circuits. Check with CKD for these applications.

#### 

- Set secondary pressure of the regulator to 85% or less of the primary side, or else the pressure drop could increase.
- When using regulators in parallel as shown below, do not use the OUT side as a closed circuit. If a closed circuit is required, set a check valve at the regulator's OUT side.



#### 3. Lubricator

#### **WARNING**

Lubricator

Consult with CKD for lubrication of the air motor and bearing. Also consult with CKD when using this unit at a high frequency such as in a press machine.

#### **A**CAUTION

If the working air rate is low for the lubricator, oil may not drip.

Check the minimum air rate required for dripping oil.

#### 4. Pressure switch

#### 

When using the compact pressure switch PPD and digital pressure sensor PPX, avoid using as a set with the lubricator. The switch is not a drip-proof structure, so operation could be disabled if the lubricating oil comes in contact with it.

#### 5. Shut-off valve

#### **WARNING**

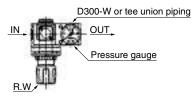
Cautions on shut-off valve

- The EXH port is dedicated for installation of the silencer. Tighten with a torque of 3 N·m or less -- as far as is tightened manually. Avoid piping that applies piping load or torque, etc., to the EXH port.
- If exhaust is incomplete because of air quality, manually discharge air by operating the knob (turn and raise).

#### 6. Pressure gauge

#### 

When using this unit for a large flow, etc., install a pressure gauge as shown below so that secondary pressure is measured accurately.



#### About G45D

- The chemical resistance of lens is shown below.
- Avoid using products in an atmosphere where chemicals are contained in compressed air, the atmosphere, or where they could adhere to parts.
- Use in the above state could lead to lens damage.

#### Chemical resistance of lens

Chemicals	Category of chemicals	Main products of chemicals	General usage examples	Lens
Inorganic chemicals	Acid	Hydrochloric acid, sulfuric acid, hydrofluoric acid, phosphoric acid, chromic acid, etc.	Acid washing of metals, acidic degreasing solution, film treatment solution, etc.	×
Organic chemicals	Aromatic hydrocarbon	Benzene, toluene, xylene, ethyl benzen, stylene, etc.	Contained in paint thinner (benzene, toluene and xylene)	×
	Alcohol	Methyl alcohol, ethyl alcohol, cyclohexanol, benzyl alcohol	Used as freezing prevention agent leakage detection agent	×
	Phenol	Carbolic acid, cresol, naphthol, etc.	Liquid disinfectant	×
	Ketone	Acetone, methyl ethyl keton, cyclohexanone, acetophenone, etc.		×
	Carboxylic acid	Formic acid, acetic acid, butyl acid, acrylic acid, oxalic acid, phthalic acid, etc.	Dyes; oxalic acid for aluminum processing; phthalic acid for paint base and leak-detection agents Used as leakage detection agent	×
	Oxyacid	Glycol acid, lactic acid, malic acid, citric acid, tartaric acid		×
	Amine	Methylamine, diemethylamine, ethylamine, aniline, acetoacetanilide, etc.	Additive of brake oil	×

X : Not available (Lens will breake

#### 7. Flame resistant Series

#### A WARNING

The regulator's diaphragm, check valve resin parts (inside of aluminum plate), and silencer element are not made of flame-resistant materials. Avoid use where spatter could accumulate.

#### 8. Oil-prohibition Series

#### 

- Check the working circuit and working fluid. Operating faults could occur if fluids containing solids or nonspecified fluids pass. Connect a filter to the product's primary side so that solids do not enter.
- Working or piping conditions could cause pulsation. Lower primary pressure if pulsation occurs. Select the proper size as pulsation can occur easily if the flow rate is extremely small in respect to the maximum flow rate.
- Consult with CKD if material restrictions apply (copper- based, silicon-based, halogen-based materials not permissible (fluorine, chlorine, oxalicbased)).

An oxalic-acid-based cleaning agent is used to clean parts in some cases.

If low-dust generation and cleanliness higher than the oil-free regulator are required, use the clean regulator RC2000 series. Refrigerating type dryer

Desiccant type drye

High polyme membrane

type dryer

#### **Design & Selection**

#### 9. Oil-prohibition Series

#### **A**CAUTION

Refrigerating type dryer Desiccant type dryer

High polyme

type dryer

Air filter

Auto. drain / others

F.R.L. (Module unit

F.R.L. (Separate)

Compact F.R.

Precise regulator

F.R.L. (Related

products)

Clean F.R.

Electro pneumatio regulator

Air booster Speed

Silence

Check valve / others

Joint / tube

Vacuum filter Vacuum regulator

Suction plate

Magnetic spring buffer

Mechanical pressure SW

Electronic pressure SW

Contact / close contact conf.

Air senso

Pressure SW for coolant

flow controlle

Flow sensor for air

Flow sensor for water

Total air

Total air

(Ġamma)

Ending

Small flow sensor Pressure and flow characteristics and relief start pressure may be less than the standard regulator (R3000 Series, etc.).

Depending on use, such as when back pressure rises, set pressure may increase 0.2 MPa. It is recommended to use a pressure gauge compatible with set pressure + 0.2 MPa.

When the primary pressure is released, the secondary pressure flows to the primary side.

If flowing of the secondary side fluid to the primary side

causes faults in other devices, provide a circuit to maintain the pressure.

When used in applications where primary pressure is 0.7 MPa or more, keep the difference in primary and set pressure within 0.4 MPa.

Pulsation could occur if the difference in pressures is high or if secondary piping is large. If so, lower primary side pressure or restrict the secondary line. If pulsation continues, contact CKD.

Set primary pressure to 0.1 MPa or higher than set pressure. Pressure adjustment faults or leaks from the relief valve could result depending on use.

#### **Installation & Adjustment**

#### 1. Common

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- Avoid installing this product where it is subject to direct sunlight.
- Flush and wash pipes to be used.

Dirt or foreign materials in piping will lower product performance.

Check that foreign materials do not enter when tightening pipes or joints.

When screwing in piping or joints, check that swarf from piping threads or sealing agent does not get inside. Dirt or foreign materials in piping will lower product performance.

#### To use F.R.L. correctly

- Set the regulator pressure setting to increase. After setting pressure, lock the handle. Check primary pressure carefully before setting pressure.
- Check the arrow indicating the air inlet before connecting. A reverse connection could result in improper operation.
- Install the air filter and the lubricator case downward vertical. Emission defective and dripping of drain could not be checked.
- 4. Use of the automatic drain where vibration is present could cause faults and malfunctions.
- Pipe automatic drain piping as follows: Not doing so could cause malfunctions. Use an inner diameter of 5.7 or more and piping of 5 m or less for the drainage section. Do not use vertical piping.

Pipe so that no lateral load acts on the bowl. Fix the hexagon side of the cock before screwing the joint, etc., into the Rc1/4 female screw. Piping screw-in torque Make sure that excessive torque is not applied on the body and piping when piping.

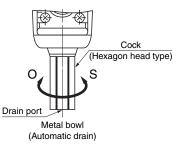
Series	1000-W	2000-W	3000-W	4000-W	6000-W	8000-W
Max. torque N⋅m	15 30 30		30	30	70	70



#### Drain piping

- The drain piping for the plastic bowl has a barbed nipple, and can be directly installed. However, confirm that the drain cock is closed before inserting the tube.
   Pipe so that no lateral load acts on the bowl.
- Tightening torque of drain cock
  - Max. tightening torque of drain cock of a plastic bowl is as follows.
    - · 1000 Series: 0.1N·m
    - · Other: 0.5N·m
- Drain piping of metal bowl with automatic drain

   Fix the cock's hexagonal face before screwing the joint, etc., into the drain port's female threads. When using the metal bowl with automatic drain, if the drain is piped with tightening joint, manual operation is not possible.



278 **CKD** 

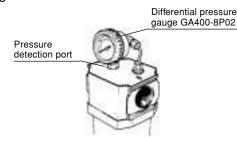
#### Piping the unit with pressure detection port

F6000-*-W-Q/M6000-*-W-Q
MX6000-*-W-Q/F8000-*-W-Q
M8000-*-W-Q/MX8000-*-W-Q

Pressure detection port is available as option for F6000-W/M6000-W/MX6000-W/F8000-W/M8000-W/M8000-W/MX8000-W.

The life of the filter element or oil mist filter mantle assembly is visually checked by assembling the differential pressure gauge GA400-8-P02 into the pressure detection port.

When selecting option Q and X1 simultaneously for F6000-W and M6000-W and mounting differential pressure gauge GA400, raise the gauge with piping material so that it does not interfere.



#### 2. Regulator, filter and regulator

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#### Regulator, filter regulator

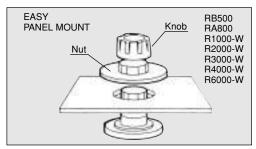
- Lightly tighten (0.6 N·m or less) mounting screws for embedded pressure gauge G401-OP, G401, and gauge plug.
- When installing the pressure gauge with a safety mark on the gauge plug, or when installing a general screw-in pressure gauge, tighten with a torque of 10 to 15 N·m or less.
- Do not move or swing the product holding the adjustment knob on the regulator.
- Check that pressure exceeding the pressure gauge's full scale is not applied because the pressure gauge could be damaged. (Pay special attention when using the fullscale 0.2 or 0.4 MPa pressure gauge.)

#### Panel mount of regulator

When the panel mounting nut is loosened, the nut acts as a jack and enables the knob to be removed easily. Fix the nut to mount in the panel. The L-type bracket is also installed similarly to the nut.

(When the L-type bracket is used, the body is fixed securely without play.)

\* 8000-W Series is excluded.



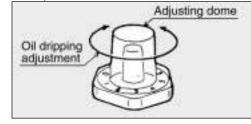
Note: Install the nut before installing the knob. (With the R2000-W, the nut is removed without removing the knob.)

#### 3. Lubricator

#### 

#### Adjustment of lubricator drop down

Adjust the oil rate by turning the adjusting dome with bare hands. When closing the dome, tighten with a torque of 0.5 N·m or less. The numbers (scale) on the dial are a guide used after adjustment, and do not indicate the oil drip rate.



#### 4. Pressure switch

#### 

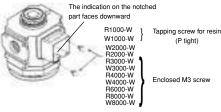
- Pressure switch (PPD) installation method
  - Separate the body from base.
  - Install the O-ring

\* Refer to the dimension drawing for the direct installation type (PPD-\*\*\*\*-1F-1)(PPD-\*\*\*\*-1F-2) on the left, and install the O-ring to the O-ring groove with a clean finger.
Install the base.

Install the base with the two enclosed screw (M3).

\* Carefully install at the designated position in the designed direction while taking care not to dislocate the Oring.

 $^*$  Do not tighten one screw completely at once, and instead tighten the two screws so that they are balanced. (Tightening torque 0.5  $\pm$  0.1N·m)



• This completes installing the main unit.

Confirm no dirt or foreign matter on the base, and then insert the body. Make sure that the body does not catch on the base. Next, insert the two keys. While pressing the body exterior against the base, face the head of the keys so that they face each other, and then insert them so that they are completely stored on the recesses on the base.



Note) Insert two keys. Check that both keys are installed before pressurizing.

Note) When changing the position or orientation of the PPD which has been installed once, install using the new keys, O rings and installing screws enclosed with the option kit.

#### Installation & Adjustment

5. Pressure gauge

#### 

Refrigerating type dryer Desiccant type dryer

High polyme

type dryer

Air filter

Auto. drain / others

F.R.L. (Module uni

F.R.L. (Separate)

Compact F.R.

Precise

F.R.L.

products Clean F.R.

Electro

regulator

Air boostei Speed control valve

Silence Check valve / others

Joint / tube

Vacuum

Vacuum regulator

Suction plate

Magnetic spring buffer

Mechanical pressure SW

Electronic pressure SW

Contact / close contact conf.

Air sensor

Pressure SW for coolant

flow controlle

Flow sensor for air

Flow sensor for water

Total air system Total air

(Gamma)

Ending

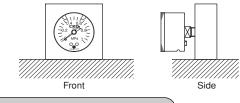
Small flow sensor

filter

#### Pressure gauge

Repeated and sudden increases and decreases in pressure and pressure pulsation must be avoided because it could adversely affect pressure gauge life. Either ease pressure fluctuation in the circuit or check with CKD so that a pressure gauge with cushioning screw is prepared. Applying pressure exceeding the pressure range could damage the pressure gauge.

Mount vertically in respect to the ground so that the scale can be viewed straightforward. (See below) Mounting in any other direction can cause the needle movement to become unstable, and can cause the accuracy to drop.



6. Flame resistant Series

#### 

When installing a general screw-in pressure gauge, tighten with a torque of 3 to 5 N·m or less.

#### During use & Maintenance

#### 1. Common

#### A WARNING

Regularly, once or more in six months, check the air filter and lubricator's plastic bowl for cracks, damage, and other deterioration.

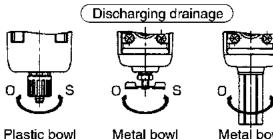
Cracks, damage or other deterioration could result in breakage, so if found, replace with a new bowl or with a metal bowl.

- Check the air filter, lubricator plastic bowl, and lubricator drip window periodically for contamination.
  - If parts are heavily contaminated or if transparency has dropped, replace with a new bowl or drip window.
  - Use a diluted neutral household detergent to wash parts, and then rinse well with clean water. Use of other agents could result in breakage.
- Removing bowl of filter and lubricator

Before removing the bowl, the compressed air, discharge pressure in the bowl completely, and confirm that no residual pressure remains.

- Check the oil drip rate once a day. If the oil drip is faulty, problems could occur in the
- Do not branch the air into lubricating air and oilless air with a distributor. The lubricator oil could reverse flow.
- Performance could drop if the filter element is clogged. Regularly inspect and replace the element.
- Do not disassemble or modify the product.

Read instructions and precautions enclosed with the product before starting use or maintenance.



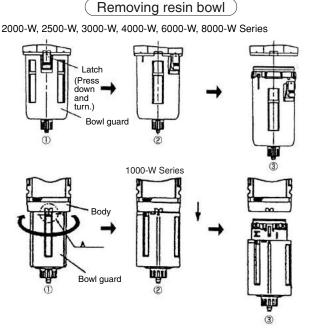
Plastic bowl

Metal bowl (Manual cock) (Automatic drain)

Drainage is started when the cock is turned to the O side. and the discharge is stopped when the cock is turned in the S direction.

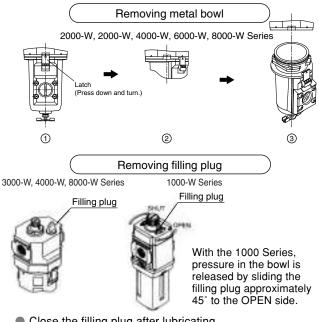
Tighten by hand in the S direction.

• When the automatic drain is provided, drainage is discharged automatically when it accumulates. Drainage is also discharged manually.



**A**CAUTION unit being lubricated.

СКД



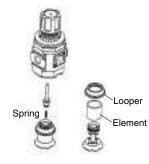
- Close the filling plug after lubricating.
- Never remove the bowl without removing the filling plug (while the bowl is pressurized). (L3000-W to L8000-W)
- With 1000 Series, never remove the bowl with the filling plug set to the SHUT side (while the bowl is pressurized). (L1000-W)

#### 2. Filter and regulator

#### 

Element of W1000-W to W8000-W Inspect the valve assembly when it is removed during maintenance.

Do not lose springs, etc., during maintenance.



#### 3. Filter

#### A WARNING

Drain so that air filter drainage does not accumulate beyond the maximum.

Components could malfunction if drainage flows into the secondary side.



Upper lin of drain

```
Metal bowl
```

Metal bowl (flame resistant type, M1 type)

 The resin bowl must not be filled more than the "drain upper limit" or "MAX LEVEL" stamped on the bowl guard.

#### **A**CAUTION

Submicron 0.3µm element

This filter cannot be washed and reused. When the pressure drops to 0.07 MPa, replace the filter with a new one. (1000 and 2000 Series are excluded.)

#### Oil mist filter

The mantle (element) life ends after one year (6000 hours) or when pressure drops to 0.1 MPa. (excluding the X type) Replace the mantle when life is reached. (Do not touch the urethane foam layer when replacing the mantle.)

If a differential indicator is provided, replace the mantel (element) before the differential indicator's color changes completely to red.

#### 4. Regulator, filter regulator

#### 

- Pull the pressure adjustment knob and release the lock before setting the regulator pressure. The regulator could be damaged if the pressure is set without unlock.
- Pulsation may occur depending on the working conditions or piping conditions. If pulsation occurs, the working conditions or piping conditions should be changed, such as by lowering the primary pressure.

### 5. Lubricator

#### A WARNING

Use Class 1 turbine oil (nonadditive) ISO VG32 for the lubricator.

Other oils could cause breakage or improper operation.

#### Removing filling plug of lubricator

To prevent the filling plug from popping out, loosen the filling plug by one turn, and then completely depressurize the bowl before removing the filling plug. Wipe away any dirt around the fill plug that could scatter.

#### 

- Periodically replenish oil in the lubricator bowl so that it does not drop below the lower limit.
- When lubricating the L1000, pressure in the bowl is released by turning the fill plug. Refer to the section on During use & Maintenance, above, for details on using the fill plug. (Lubrication is done while pipes are pressurized.)

Check that there is no pressure in the bowl, remove the bowl and bowl guard, and then directly lubricate to the bowl.

Refer to the previous page for details on removing the bowl.



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#### **During use & Maintenance**

When lubricating the L3000-W to L8000-W, loosen the fill plug slightly to release pressure in the bowl, then remove the fill plug. Refer to the section on During use & Maintenance, above, for details on using the fill plug.

(Removing the fill plug enables lubrication to be done while pipes are pressurized.)

Oil is supplied from the fill plug hole, and the bowl is directly lubricated by removing the bowl and bowl guard.

With L8000, oil is supplied to the spacer by lubricating from the fill plug hole.

#### 6. Pressure gauge

Make sure that impact and vibration are not applied directly onto the main unit.

The limit marks will not completely seat against each other. There may e a clearance of approx. one gradient.

#### 7. Oil-prohibition Series

#### **A**CAUTION

Stop fluid supply and confirm that no residual pressure exists before starting maintenance.

#### Keeping

Do not leave the product in a hot or highly humid atmosphere or outside of the specified range for a long time. Resin or rubber parts could deteriorate, and the resin bowl could become discolored. Contact CKD before storing the product outside of the specified range.

- Release the lock before adjusting pressure. Turning a locked pressure adjustment knob could cause damage.
- Adjust pressure in the direction of pressure increase. The correct pressure cannot be set if pressure is adjusted downward.
- The nonrelief type cannot be depressurized until the secondary side is spent.

#### Chemical resistance of plastic

#### **WARNING**

- The chemical resistance of plastic parts is shown below.
- Avoid using products in an atmosphere where chemicals are contained in compressed air, the atmosphere, or where they could Air filter adhere to parts. Auto. drain / others
- Use in the above state could lead to bowl damage and accidents.
- Avoid using these types of chemicals or in an atmosphere containing these chemicals.
- A metal bowl is available if these chemicals must be used.

Chemical resistance of plastic bowl and body Use a metal bowl in an atmosphere containing the following chemicals. Check whether the testing solutions, sealing agents and adhesives contain the following chemicals.

Jueunica	li resistanc	ce of plastic bowl and body Check whether the	testing solutions, sealing agents and adhesive	s contain the	following	chemicals.
Types of chemicals	Category of chemicals	Main products of chemicals	General usage examples	Polycarbonate bowl	Nylon bowl	Nylon body
	Acid	Hydrochloric acid, sulfuric acid, hydrofluoric acid, phosphoric acid, chromic acid, etc.	Acid washing of metals, acidic degreasing solution, film treatment solution, etc.	×	×	×
Inorganic chemicals	Alkaline	Alkalis such as caustic soda, caustic potash, calcium hydroxide, ammonium water, sodium carbonate	Alkaline degreasing of metal water-based coolant, leakage detection agent	×	0	0
	Inorganic salt	Sodium sulfide, nitrate of soda, potassium bichromate, sodium sulfide, etc.		×	0	0
	Aromatic hydrocarbon	Benzene, toluene, xylene, ethyl benzene, styrene, etc.	Contained in paint thinner (benzene, toluene and xylene)	×	х	×
	Chlorine aliphatic hydrocarbon	Methyl chloride, ethylene chloride, methylene chloride, acetylene chloride, chloroform, trichylene, perchloroethylene, carbon tetrachloride	Organic solvent-based washing solution for metals (Trichylene, perchloroethylene, carbon tetrachloride)	×	0	0
Chlorinat aromati hydrocart		atic   Only on the service benzene, benzene hexacillonde   Agricultural chemicals		×	0	0
	Petroleum components	Solvent naphtha, gasoline, kerosene		×	0	0
	Alcohol	Methyl alcohol, ethyl alcohol, cyclohexanol, benzyl alcohol	Used as freezing prevention agent leakage detection agent	×	×	×
	Phenol	Carbolic acid, cresol, naphthol, etc.	Liquid disinfectant	×	×	×
	Ether	Methyl ether, methyl, ethyl ether	Additive of brake oil	×	0	0
Organic chemicals	Ketone	Acetone, methyl ethyl ketone, cyclohexanone, acetophenone, etc.		×	×	×
	Carboxylic acid	Formic acid, acetic acid, butyl acid, acrylic acid, oxalic acid, phthalic acid, etc.	Dyes; oxalic acid for aluminum processing; phthalic acid for paint base and leak-detection agents Used as leakage detection agent	×	×	×
	Ester	Dimethyl phthalate (DMP), diethyl phthalate (DEP), dibutyl phthalate (DBP), dioctyl phthalate (DOP)	Used as plasticizer of attached agent composite resin of lubricant, synthetic oil and rust proof oil	×	0	0
	Oxyacid	Glycol acid, lactic acid, malic acid, citric acid, tartaric acid		×	×	×
	Nitro compound	Nitro methane, nitro ethane, nitro ethylene, nitro benzene, etc.		×	0	0
	Amine	Methylamine, diemethylamine, ethylamine, aniline, acetoacetanilide, etc.	Additive of brake oil	×	×	×
	Nitrile	Acetonitril, acrylonitrule, benznitrile, acetoylidyne nitrile, etc.	Raw material for nitrile rubber	×	0	0

O: Available, X: Not available (plastic will be damaged.)

Refrigerating type dryer Desiccant type drye

High polyme membrane

F.R.L. (Module unit)

F.R.L.

(Separate)

type dryer

### Modular design

# Standard white series

Components for air preparation and pressure adjustment / F.R.L. unit

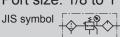


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<ul> <li>Filter and regulator (W*000-W)</li> </ul>	334
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Regulator	
<ul> <li>Regulator (R*000-W)</li> </ul>	378
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• Regulator medium pressure type (RM*000-W)	496
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Mechanical pressure switch	
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(Shut-off valve	
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Slow start valve	
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0	JKD



#### F.R.L. combination standard white Series C1000/C2000/C2500-W C3000/C4000/C6500/C8000-W Series

Space-saving type integrated filter, regulator and lubricator Port size: 1/8 to 1





#### Specifications

Opecini	Jations									
Des	criptions	C1000-W	C2000-W	C2500-W	C3000-W	C4000-W	C6500-W	C8000-W		
Appearance	ce									
	Air filter	F1000-W	F2000-W	F3000-W	F3000-W	F4000-W	F6000-W	F8000-W		
	Regulator	R1000-W	R2000-W	R2000-W	R3000-W	R4000-W	R6000-W	R8000-W		
r	Lubricator	L1000-W	L3000-W	L3000-W	L3000-W	L4000-W	L8000-W	L8000-W		
Working fl	uid				Compressed air					
Max. workin	g pressure MPa		1.0 Note 2							
	g pressure MPa		1.5							
Ambient tem	perature range °C				5 to 60					
Filtration r	ating µm				5					
· · ·	ire range MPa				0.05 t	o 0.85				
Min. drip flow (N	lote 1) m <sup>3</sup> /min. (ANR)	0.015	0.03	0.03	0.03	0.065	0.065	0.065		
Relief				Wi	th relief mechani	sm				
Oil capaci	ty cm <sup>3</sup>	20	85	85	85	170	170	170(MAX360)		
Drain capa	acity cm <sup>3</sup>	12	25	45	45	80	80	80(Note 3)		
Use oil			Turb	ine oil Class 1 IS	SO VG32 (spindle	e oil can not be u	sed)			
Port size	Rc, NPT, G	1/8, 1/4 (3/8 uses an adaptor)	1/4, 3/8 (1/2 uses an adaptor)	1/4, 3/8 (1/2 uses an adaptor)	1/4, 3/8 (1/2 uses an adaptor)	1/4, 3/8, 1/2 (3/4 uses an adaptor)	3/4, 1 (1 1/4 uses an adaptor)	3/4, 1 (1 1/4 uses an adaptor)		
Product w	eight kg	0.40	1.01	1.01	1.15	1.79	3.64	4.5		
Standard a	accessories			Pressure	gauge, bracket, b	owl guard				
Note 1: The	Note 1: The minimum drip flow is that at which five drops of turbine oil drip per minute at the set pressure of 0.5 MPa.									

lote 1: The minimum drip flow is that at which five drops of turbine oil drip per minute at the set pressure of 0.5 MPa.

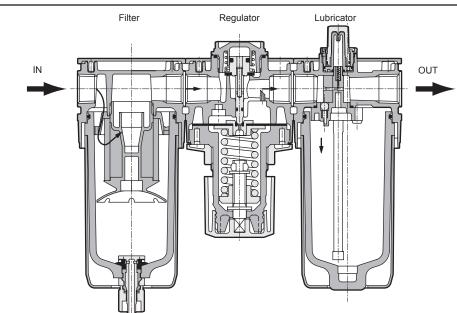
Note 2: When using C1000-W series "F1" with an automatic drain, the minimum operating pressure is 0.2 MPa and maximum operation pressure is 0.7 MPa.

Refer to the maximum processing flow table (page 350) for the F1000-W-F1 automatic drain for the maximum working flow. Set the working flow to less than the maximum working flow. Note 3: Drainage accumulates up to 170 cm<sup>3</sup> only with the manual drain cock.

Note 4: The automatic drain's minimum operating pressure for "F" or "FF" with an automatic drain is 0.1 MPa. Initially generated drainage and air are purged until pressure reaches 0.1 MPa. Note 5: The minimum operation pressure of the automatic drain is 0.15 MPa for the "F1" or "FF1" with an automatic drain.

Note 6: When element option "Y" is selected, refer to the maximum working flow table (page 352) for maximum flow. Set the working flow to less than the maximum working flow. Note 7: When using the "F1" with automatic drain, use the C2000-W Series at less than the maximum flow rate. (Refer to F2000-W on page 350 for the maximum flow rate.)

#### Internal structure



Refrigerating type dryer

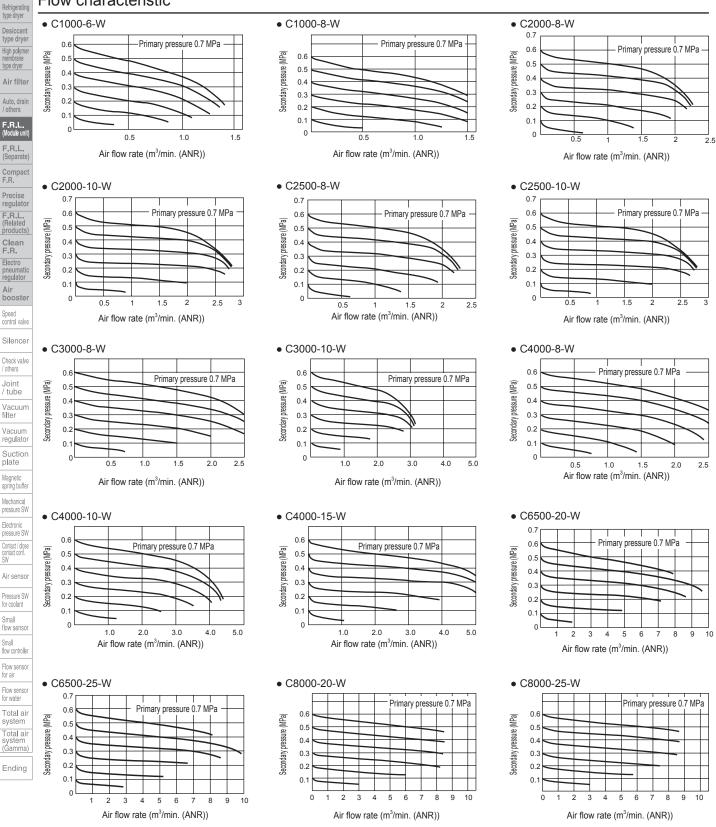
How to order

How to order	* Refer t	o page 274 for	the exp	planation of the option.		Mc	del	no.	N	ote	1	Refrigerating
(C1000) - (6) - W - (C)		5W)))(W			С С	C 2	C 2	C 3	С	С	C 8	type dryer
					0	00	2 5 0	0	4 0 0	6 5 0	ő	Desiccant type dryer
			Symbo	Descriptions	ŏ	ŏ	ŏ	ŏ	ŏ	ŏ	ŏ	High polymer membrane
Model no.			6	1/8	•							Air filtor
Note 2			8	1/4	•	•	•	•	•			Air filter
			10 15	3/8 1/2	_	•	•	•	•		_	Auto, drain / others
			20	3/4					Note 1	•	•	F.R.L.
			25	1						•	•	(Module unit)
Port thread typ				ort thread type	1				ľ	Not		F.R.L. (Separate)
			Blanl N	Rc thread     NPT thread		•	•	•	•	•	•	Compact F.R.
			G	G thread	•	•	•	•	•	•	•	Precise
			00	ption					١	Not	e 3	regulator
U	Option				•	•	•	•	•	•	•	F.R.L. (Related products)
			Note		•	•	•	•	•	•	•	Clean
			age L		•	•	•	•	•	•	•	F.R. Electro
			Drainage						_		•	pneumatic regulator
			··		•	•	•	•	•	•	•	Air booster
			z lat		•	•	•	•	•	•	•	Speed
			Bowl material ■ N				•	•	•	•	•	control valve
					•	•	•	•	•	•	-	Silencer
			Bland				•	•	•	•	•	Check valve
			Differential detection Bla		•	•	•	•	•	•	•	/ others
Assen	nbly attachment				•	•	•	•	•	•	•	Joint / tube
			Pressure range	0.05 to 0.35MPa Note 7	•	•	•	•	•	•	٠	Vacuum
	C Diaplay unit		Relief Bla		•	•	•	•	•	•	•	filter
	Display unit				•	•	•	•	•	•	-	Vacuum regulator
			Pressure gauge		•	•	•	•	•	•	•	Suction plate
		ng adaptor			•	•	•	•	•	•	•	Magnetic
		attached)	Bla direction X		•	•	•	•	•	•	•	spring buffer
	·			ssembly attachment Page	es 4	02 1	to 4	13,	426	<b>5, 4</b> 3	27	Mechanical pressure SW
A Note on model no.	Selection			Without assembly attachment type	•	•	•	•	•	•	•	Electronic
Note 1:The piping adaptor A400-20				Assembly attachment typeNote 8Distributor (D101-W, D401-W, D801-W)	•	•	•	•	•	•	•	pressure SW Contact / close
ends of C4000-20*-W. "A20* selected for the piping adaptor				· · · · · · · · · · · · · · · · · · ·	•	•	•	•	•	•	•	contact conf. SW
Note 2:When G threads or NPT thre			ssembled of a			•	•	•	•			Air sensor
OUT, gauge port, and draina			< ⊢	<ul> <li>Shut-off valve (V1000-W, 3000-W)</li> <li>Lockout valve (V3010-W, W6010-W)</li> </ul>	•	•	•	-	•	•	•	Pressure SW
bowl automatic drain) are the t P and V.	target, as are attachments			isplay unit		_			-	-	-	for coolant
Note 3: Select options for each dr	<b>U</b> , ,			MPa display, Rc thread		•		•	•	•	٠	Small flow sensor
element, differential pressure items. When selecting optio			J1	MPa display, NPT, G thread	•	•	•	•	•	•	•	Small
options in order from the top.				ping adaptor set (attached)		P	age	428	3 N	ote	9	flow controller
Note 4: Refer to page 276 for the	e automatic drain use		A6*W		•		-	-	-	-	-	Flow sensor for air
conditions. Note 5:Note 5: When selecting option	on "M1". select the drain		A8*W		•	•	•		•			Flow sensor
discharge option "C", "F" or "F	1".			<ul> <li>V Rc3/8 piping adaptor set</li> <li>V Rc1/2 piping adaptor set</li> </ul>	•	•	•		•		_	for water Total air
Note 6: Refer to page 352 for maxim option "Y" is selected.	um processing flow when			V Rc3/4 piping adaptor set					•	•	•	system
Note 7: The pressure gauge's indicat	tion range is 0 to 0.4MPa			V Rc1 piping adaptor set						•	٠	Total air system
for option "L".				V Rc1 1/4 piping adaptor set otor screw type						•	•	(Gamma)
Note 8: Installation position for assem				<pre>c Rc thread</pre>	•	•		•	•	•	•	Ending
Symbol Installation position	Applicable model C1000-W to C8000-W		N	NPT thread	•	•	•	•	•	•	•	S
	C1000-W to C8000-W		G	G thread	•	•	•	•	•	•	•	seri
	(Excluding 1000, 6000,	Attachment		ttachment (attached)		•	•	•	•	•	•	unit unit
	8000 for "P") C1000-W to C8000-W	(attached)	PW	Pressure switch (P4000-W) + joiner set	-	•	•		•	-	-	nda ۲. ا
V F+R+I +(V K)	(Excluding 6000, 8000		vw	Shut-off valve (V1000-W, V3000-W) + joiner set	•	•	•	•	•			Standard series F.R.L. unit
I OF K	for "V" or 1000 for "K")	Pressure gauge		ressure gauge option (attached)		No	te 1	0 F	_			57 L
Note) Indicate "U"+"D", "S","P","V" a	nd "K" when selecting an	option (attached)	Blanl G45F	<ul> <li>Not attached</li> <li>G45D-8-P10(L:G45D-8-P04)</li> </ul>	•	•	•	•	•	•	•	
assembly attachment. Use custom combinations spe	ecifications for any other	/	G49F	· · · · ·	•	•	•	•	•	•	•	
combination.	-		G59F		•		•	-	•	•	•	
Note 9: The joiner set is enclosed with Note 10: If NPT is selected for the			G40F G50F	· · · · · · · · · · · · · · · · · · ·	•	•	•	•	•	•	•	
Note 10: If NPT is selected for the " pressure gauge is enclose			G41F	· · · · · · · · · · · · · · · · · · ·	•	•	•	•	•	•	•	
selected, an R thread press			G52F	G52D-8-P10(L:G52D-8-P10)	•	•	•	•	•	•	•	

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**CKD** 

#### Flow characteristic



### Dimensions CAD

• C1000-W



Refrigerating type dryer

Air filter

Auto, drain / others

F.R.L. (Module uni

F.R.L. (Separate)

Compact F.R.

Precise regulator

F.R.L. (Related products)

Clean F.R.

Electro pneumatic regulator

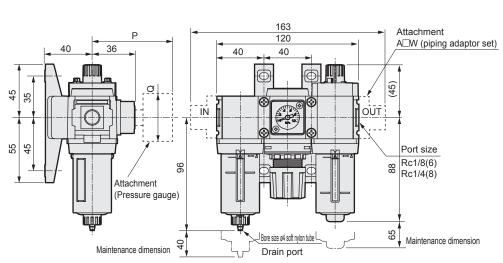
Air booster

Speed control valve

Silencer Check valve / others

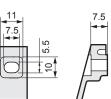
Joint / tube

Vacuum filter Vacuum regulator



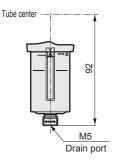
Pressure gauge attached optional dimensions table

J. J				
Attached pressure gauge	Р	Q		
G45P	(74)	ø39		
G49P	(73.5)	ø43.5		
G59P	(76)	ø52		
G40P	(75.5)	ø42.5		
G50P	(75.5)	ø52.5		
G41P	(74)	ø42		
G52P	(86)	ø52.5		



Enlarged view of bracket section

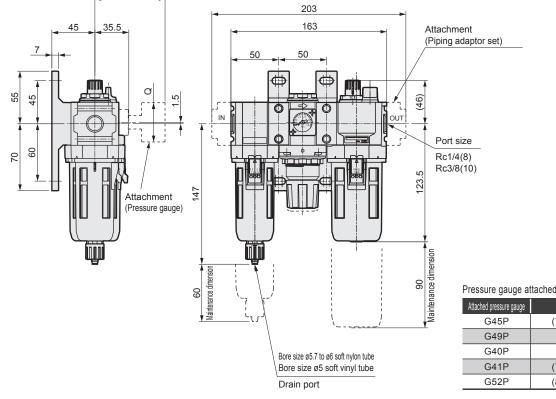
• Option dimensions With automatic drain (F1)



• C2000-W

Ρ



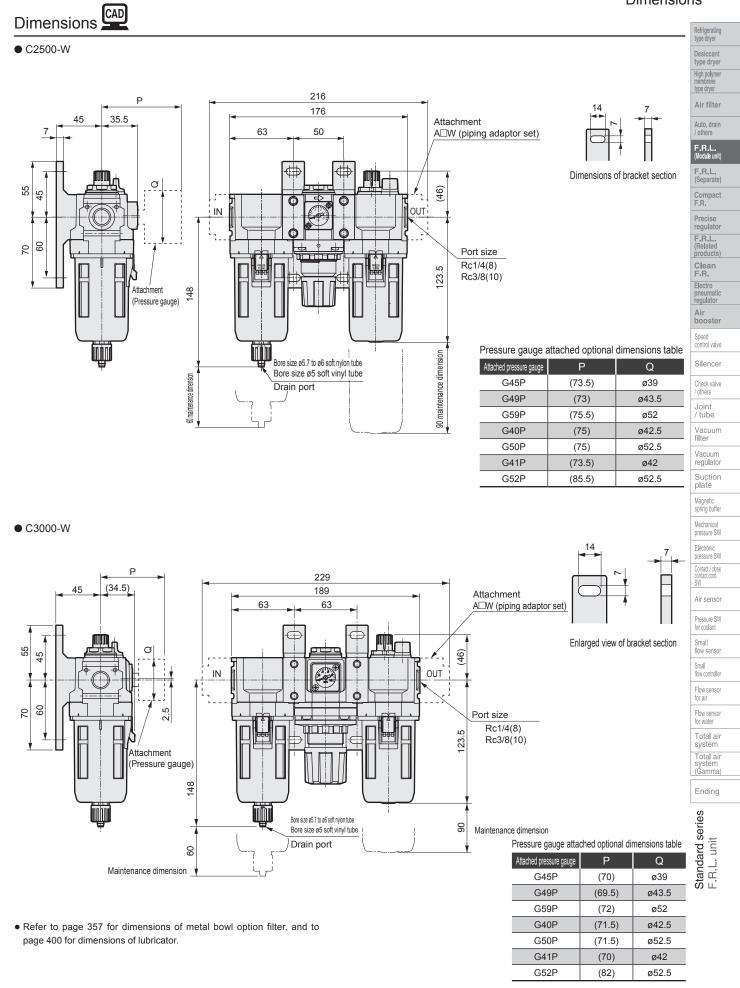


Pressure gauge attached optional dimensions table

Р	Q		
(73.5)	ø39		
(73)	ø43.5		
(75)	ø42.5		
(73.5)	ø42		
(85.5)	ø52.5		
	(73) (75) (73.5)		

290 **CKD** 

#### Dimensions



СКД

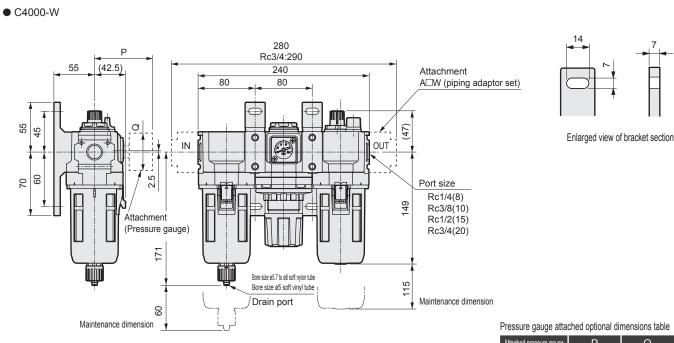
291

### Dimensions CAD

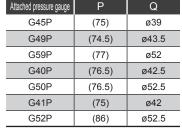
#### Refrigerating type dryer Desiccant type dryer

High polymer membrane type dryer

Air filter



Refer to page 357 for dimensions of metal bowl option filter, and to page 400 for dimensions of lubricator.



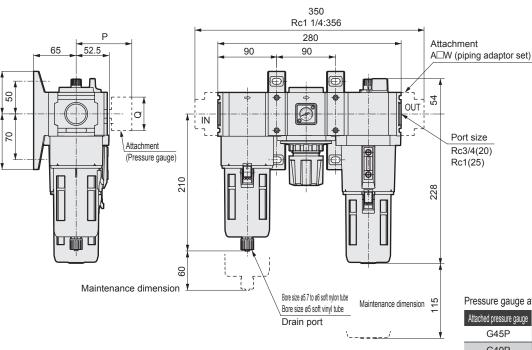
• C6500-W

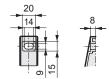
65

85

Total air system (Gamma)

Ending





Dimensions of bracket section

Pressure gauge attached optional dimensions table

0 0		
Attached pressure gauge	Р	Q
G45P	(80)	ø39
G49P	(79.5)	ø43.5
G59P	(82)	ø52
G40P	(81.5)	ø42.5
G50P	(81.5)	ø52.5
G41P	(80)	ø42
G52P	(93)	ø52.5

Option assembly dimensions

22

o

Ρ

(85)

(87)

(85)

(98)

Refrigerating type dryer

Desiccant type dryer

High polymer membrane type dryer

Air filter Auto, drain / others

F.R.L. (Module uni

F.R.L. (Separate)

Compact F.R.

Precise regulator

F.R.L. (Related products)

Clean F.R.

Electro pneumatic regulator

Air booster

Speed control valve

Silence Check valve / others

Joint / tube

Vacuum filter

Vacuum regulator Suction plate

Q

ø39

ø43.5

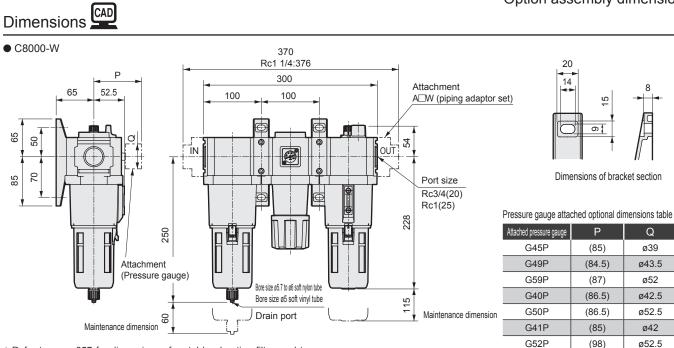
ø52

ø42.5

ø52.5

ø42

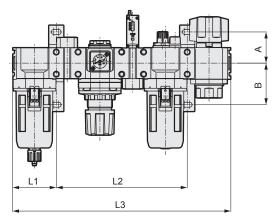
ø52.5



• Refer to page 357 for dimensions of metal bowl option filter, and to page 400 for dimensions of lubricator.

#### Option assembly dimensions

• C1000-W to C8000-W



Model no.	A	В
C1000-W	35	45
C2000-W		
C2500-W	45	60
C3000-W	40	00
C4000-W		
C6050-W	50	70
C8000-W	50	70

																											1
Assembled option		D			S			Р			V			Κ			DS			DP			DV			DK	Ş
Model no.	L1	L2	L3																								
C1000-W	40	68	148	40	68	148	-	-	-	40	80	160	-	-	-	40	96	176	-	-	-	40	108	188	-	-	- f
C2000-W	50	81.5	194.5	50	81.5	194.5	50	130	243	50	113	226	50	113	226	50	113	226	50	161.5	274.5	50	144.5	257.5	50	144.5	257.5
C2500-W	63	81.5	207.5	63	81.5	207.5	63	130	256	63	113	239	63	113	239	63	113	239	63	161.5	287.5	63	144.5	270.5	63	144.5	270.5
C3000-W	63	94.5	220.5	63	94.5	220.5	63	143	269	63	126	252	63	126	252	63	126	252	63	174.5	300.5	63	157.5	283.5	63	157.5	283.5
C4000-W	80	111.5	271.5	80	111.5	271.5	80	160	320	80	160	303	80	160	303	80	143	303	80	191.5	351.5	80	191.5	334.5	80	191.5	334.5
C4000-20-W Note 1	100	111.5	311.5	100	111.5	311.5	100	160	360	100	160	343	100	160	343	100	143	343	100	191.5	391.5	100	191.5	374.5	100	191.5	374.5
C6500-W	90	140	330	90	140	330	-	-	-	-	-	-	90	190	370	90	190	380	-	-	-	-	-	-	90	240	420
C8000-W	100	150	350	100	150	350	-	-	-	-	-	-	100	200	390	100	200	400	-	-	-	-	-	-	100	250	440
Assembled option		DSV			DSK			DPV	'		DPK			SV			SK			ΡV			PK				
Model no.	L1	L2	L3																								
C1000-W	40	136	216	-	-	-	-	-	-	-	-	-	40	100	188	-	-	-	-	-	-	-	-	-			
C2000-W	50	176	289	50	176	289	50	224.5	337.5	50	224.5	337.5	50	144.5	257.5	50	144.5	257.5	50	193	306	50	193	306			
C2500-W	63	176	302	63	176	302	63	224.5	350.5	63	224.5	350.5	63	144.5	270.5	63	144.5	270.5	63	193	319	63	193	319			
C3000-W	63	189	315	63	189	315	63	237.5	363.5	63	237.5	363.5	63	157.5	283.5	63	157.5	283.5	63	206	332	63	206	332			i
C4000-W	80	223	366	80	223	366	80	271.5	414.5	80	271.5	414.5	80	191.5	334.5	80	191.5	334.5	80	240	383	80	240	383			
C4000-20-W Note 1	100	223	406	100	223	406	100	271.5	454.5	100	271.5	454.5	100	191.5	374.5	100	191.5	374.5	100	240	423	100	240	423			
C6500-W	-	-	-	90	290	470	-	-	-	-	-	-	-	-	-	90	240	420	-	-	-	-	-	-			
C8000-W	-	-	-	100	300	490	-	-	-	-	-	-	-	-	-	100	250	440	-	-	-	-	-	-			

L1: Dimensions from the IN edge to center of the T-type bracket mounting hole

L2: Spacing dimensions of the mounting hole from the first T-type bracket to the second T-type bracket

L3: Dimensions from the IN edge to the OUT edge

\* Refer to page 425 for details on bracket mounting hole dimensions.

Note 1: The piping adaptor is assembled on the OUT side. Piping adaptor A400-20-W is attached on the both ends of C4000-20-W.

CKD



### W.L. combination standard white Series C1010/C2010/C3010/C4010/C8010-W Series

Filter, regulator and lubricator integrated. Port size: 1/8 to 1





Auto, drain / others Specifications F.R.L. (Module uni F.R.L. (Separate) Compact F.R. Precise regulato F.R.L. (Related products) Clean F.R. Electro pneumatio regulator Air booster Speed control valve Silencer Check valve / others Joint / tube Vacuum filter Vacuum regulator Suction plate Magnetic spring buffer Mechanical pressure SW Electronic pressure SW Contact / close contact conf.

Air sensor Pressure SW for coolant Small flow sensor Small flow controller

Flow sensor for air

Flow senso for water

Total air system

Total ai

system (Gamma)

Ending

Refrigerating type dryer

Desiccant type dryer

High polymembrane

type dryer

Air filter

Descriptions	C1010-W	C2010-W	C3010-W	C4010-W	C8010-W			
Appearance								
Components Filter/regulator	W1000-W	W2000-W	W3000-W	W4000-W	W8000-W			
Lubricator	L1000-W	L3000-W	L3000-W	L4000-W	L8000-W			
Working fluid			Compressed air					
Max. working pressure MPa			1.0 Note 2					
Withstanding pressure MPa			1.5					
Ambient temperature range °C			5 to 60					
Filtration rating µm			5					
Set pressure range MPa	0.05 to 0.85 (Note 2)		0.05 t	o 0.85				
Min. drip flow (Note 1) m <sup>3</sup> /min. (ANR)	0.015	0.03	0.03	0.065	0.065			
Relief			With relief mechanism					
Oil capacity cm <sup>3</sup>	20	85	85	170	170(MAX360)			
Drain capacity cm <sup>3</sup>	12	25	45	80	80(Note 3)			
Use oil		Turbine oil Class	1 ISO VG32 (spindle oil	can not be used)				
Port size Rc, NPT, G	1/8, 1/4 (3/8 uses an adaptor)	1/4, 3/8 (1/2 uses an adaptor)	1/4, 3/8 (1/2 uses an adaptor)	1/4, 3/8, 1/2 (3/4 uses an adaptor)	3/4, 1 (1 1/4 uses an adaptor)			
Product weight kg	0.31	0.77	0.97	1.45	3.57			
Standard accessories		Pressu	ire gauge, bracket, bow	l guard				
Note 1. The minimum drin fle	to the start of the back of the start of		uto at the act processing of O	5 140				

Note 1: The minimum drip flow is that at which five drops of turbine oil drip per minute at the set pressure of 0.5 MPa.

Note 2: When using C1010-W series "F1" with an automatic drain, the minimum operating pressure is 0.2 MPa and maximum operation pressure is 0.7 MPa. Refer to the maximum processing flow table (page 350) for the F1000-W-F1 automatic drain for the maximum working flow. Set the working flow to less

than the maximum working flow.

Note 3: Drainage accumulates up to 170 cm<sup>3</sup> only with the manual drain cock.

Note 4: The automatic drain's minimum operating pressure for "F" or "FF" with an automatic drain is 0.1 MPa. Initially generated drainage and air are purged until pressure reaches 0.1 MPa.

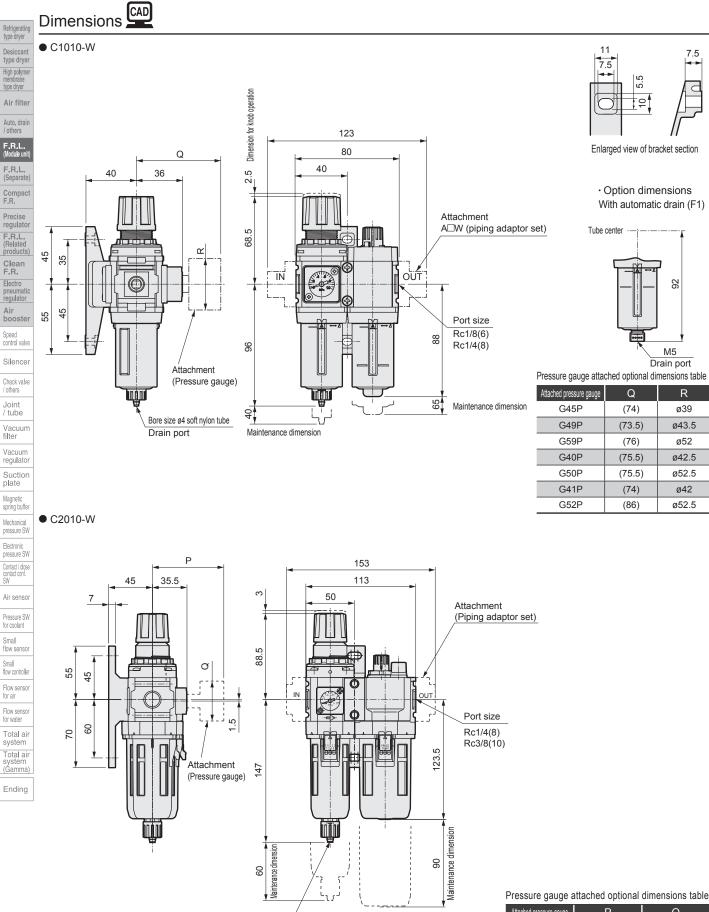
Note 5: The minimum operation pressure of the automatic drain is 0.15 MPa for the "F1" or "FF1" with an automatic drain.

Note 6: Refer to maximum flow rate on page 352 for element option "Y". Set the working flow to less than the maximum working flow.

Note 7: When using the "F1" with automatic drain, use the C2010-W Series at less than the maximum flow rate. (Refer to F2000-W on page 350 for the maximum flow rate.)

How to order

1010)-((	6)- <b>W-C</b> -(	- $ -$		) exp	lanation of the option.	C 1 0	C 2 0	C 3 0	C 4 0	C 8 0
		G Piping ada	aptor set	- 🕒 Press	sure gauge option (attached)	1	1	1	1	1
		(attached)	Syr	nbol	Descriptions	0	0	0	0	0
lodel no.	B Port size		B Por	t size						
	B Port size			6	1/8	•				
			1	8	1/4	•	•	•	٠	
			1	0	3/8		•	•	٠	
			1	5	1/2				٠	
			2	20	3/4				Note 1	•
			2	25	1					•
			C Por	t thread	type				Not	e 2
	C Port thread type			ank	Rc thread	•	•	•	•	•
			1	N	NPT thread	•	•	•	٠	•
			(	G	G thread	•	•	•	٠	•
			D Opt	ion		<u>.</u>			Not	e 3
	D Opti	ion	e opt	Blank	Filter with manual drain cock, lubricator without manual drain cock	•	•		•	
				C	Lubricator with manual cock	•	•	•	•	•
				F	Filter/auto. drain with manual override (NO type: Exhaust w/o pressurized)		<b>—</b>	•	•	•
			Drainage	F1	Filter/auto. drain with manual override (NC type: No exhaust w/o pressurized)	•	•	•	•	•
				FF	Filter/large auto. drain with manual override (NC type: No exhaust w/o pressurized)		Ē	-	-	•
			Note 4	FF1	Filter/large auto. drain with manual override (NC type: No exhaust w/o pressurized)					•
				Blank	Polycarbonate bowl	•	•	•	•	•
			Bowl	Z	Nylon bowl	•	•	•	•	•
			material	M	Metal bowl			•	•	•
				M1	Metal bowl with manual drain cock Note 5		•	•	•	•
				Blank	5µm	•	•	•	•	•
			Element	Y	0.3µm (submicron) Note 6			•	•	•
			Pressure	Blank	0.05 to 0.85MPa	•	•	•	•	•
			Range	L	0.05 to 0.35MPa Note 7	•	•	•	•	•
				Blank	With relief mechanism	•	•	•	•	•
			Relief	N	Nonrelief type	•	•	•	•	•
				Blank	With standard pressure gauge (G401-W)	•	•	•	•	•
			Pressure	Т	W/o pressure gauge (pressure gauge port (Rc1/4) is assembled with sealed)	•	•	•	•	•
			gauge	T8	Pressure gauge attached (pressure gauge port (Rc1/4) is assembled by open)	•	•	•	•	•
			Flow	Blank	Standard flow (left $\rightarrow$ right)	•	•	•	•	•
			Direction		Reverse flow (right $\rightarrow$ left)	•	•	•	•	•
					ttachment Pages 40	2 40	44	2 42	26	407
		E Assembly attachment	_	ank	Without assembly attachment type		41	p, 42	·0, 4	+27
					Assembly attachment type Note 8	•	•	•	•	•
		E Display unit		s	Pressure switch (P1100-W, 4100-W, 8100-W)		•	•	•	•
Note or	n model no. seled	otion	bled	P	Pressure switch (P4000-W)	-	•	•	•	
			Assembl	v	Shut-off valve (V1000-W, 3000-W)	•	•	•	•	
1:Piping ada	aptor A400-20*-W is attach	ed on the both ends of	Ass	ĸ	Lockout valve (V3010-W, W6010-W)	-	•	•	•	
	-W. "A20*W" does not nee								_	
piping adap	ptor set.			play unit						
	hreads or NPT threads are			ank	MPa display, Rc thread	•	•	•	•	•
0 0 1	t, and drainage discharge po	(		1	MPa display, NPT, G thread	•	•	•	•	•
,	the target, as are attachment tions per drainage, bowl r				tor set (attached)	_	Ĭ	28		
	ections. When selecting opti			ank	Not attached	•	•	•	•	•
-	order from the top.			5*W	Rc1/8 piping adaptor set	•				
	age 276 for the automatic dra	ain use conditions.		8*W	Rc1/4 piping adaptor set	•	•	•	•	
	ecting option "M1", select th	e drain discharge option		0*W	Rc3/8 piping adaptor set	•	•	•	•	
"C", "F" or '				5*W	Rc1/2 piping adaptor set		•	•	•	
	age 352 for maximum proce	essing flow when option		0*W	Rc3/4 piping adaptor set				•	•
"Y" is selec 7.The pressu	rted. ure gauge's indication range	is 0 to 0 4MPa for option		5*W	Rc1 piping adaptor set					•
"L".	a gaage a maleation range			2*W	Rc1 1/4 piping adaptor set					•
	n position for assembly attac	hments		tor screv						
Symbol	Installation position	Applicable model		ank	Rc thread	•	•		•	•
	i i	C1010-W to C8010-W		N	NPT thread	•	•	•	•	•
S or P	W+(S, P)+I	(Excluding 8000 for "P")		G	G thread	•	•	•	•	•
		C1010-W to C8010-W	🕒 Pre	ssure ga	uge option (attached)	Note	e 10	Pag	ge 6	659
V or K		(Excluding 8000 for "V"	Bla	ank	Not attached	•	•		٠	
	· · ·	or 1000 for "K")	G4	ISP	G45D-8-P10(L:G45D-8-P04)	•	•	•	٠	•
,	"U"+"D", "S","P","V" and	"K" when selecting an	G4	9P	G49D-8-P10(L:G49D-8-P04)	•	•	•	•	•
assembly	vattachment.			59P	G59D-8-P10(L:G59D-8-P04)	•		•	•	•
	m combinations specifications			10P	G40D-8-P10(L:G40D-8-P04)	•	•	•	•	•
	set is enclosed with the pipil	ng adaptor set.		50P	G50D-8-P10(L:G50D-8-P04)	•		•	•	•
9: The joiner			Ge							
9: The joiner 10: If NPT is	selected for the "C" piping	thread, a NPT pressure		1P	. ,	•	•	•	•	
9: The joiner 10: If NPT is gauge is		thread, a NPT pressure	G4		G41D-8-P10(L:G41D-8-P04) G52D-8-P10(L:G52D-8-P10)	•	•	•	•	•



· · · · · · · · · · · · · · · · · · ·											
Attached pressure gauge	Р	Q									
G45P	(73.5)	ø39									
G49P	(73)	ø43.5									
G40P	(75)	ø42.5									
G41P	(73.5)	ø42									
G52P	(85.5)	ø52.5									

Bore size  $\emptyset$ 5.7 to  $\emptyset$ 6 soft nylon tube Bore size  $\emptyset$ 5 soft vinyl tube

Drain port

#### Dimensions

Refrigerating type dryer

Desiccant type dryer High polymer membrane type dryer

Air filter

Auto, drain / others

F.R.L. (Module uni

F.R.L. (Separate)

Compact F.R.

Precise regulator

F.R.L. (Related products)

Clean F.R.

Electro pneumatic regulator

Air booster

Speed control valve

Silence

Check valve / others

Joint / tube

Vacuum filter

Vacuum regulator

Suction plate

Magnetic spring buffer

Mechanical pressure SW Electronic pressure SW Contact / close contact cont. SW

Air sensor

Pressure SW for coolant

Small flow senso

Small flow controller

Flow sensor for air

Flow sensor for water

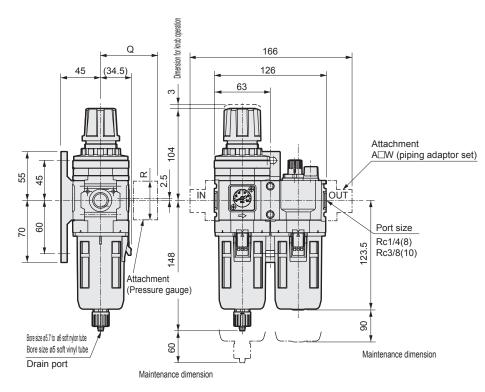
Total aiı system

Total air system (Gamma)

Ending

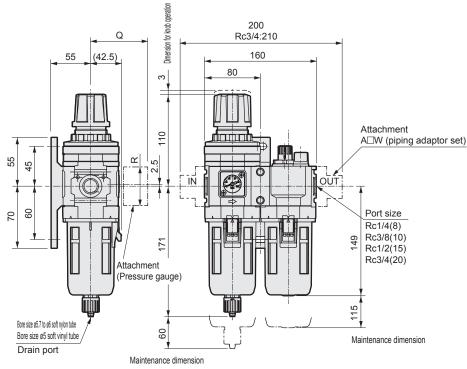
Standard series F.R.L. unit



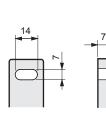


 Refer to page 340 for the dimensions of the metal bowl option filter/ regulator and page 400 for the lubricator.

#### • C4010-W

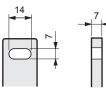


\* Refer to page 340 for the dimensions of the metal bowl option filter/ regulator and page 400 for the lubricator.



Enlarged view of bracket section

Pressure gauge attached optional dimensions table									
Attached pressure gauge	Q	R							
G45P	(70)	ø39							
G49P	(69.5)	ø43.5							
G59P	(72)	ø52							
G40P	(71.5)	ø42.5							
G50P	(71.5)	ø52.5							
G41P	(70)	ø42							
G52P	(82)	ø52.5							

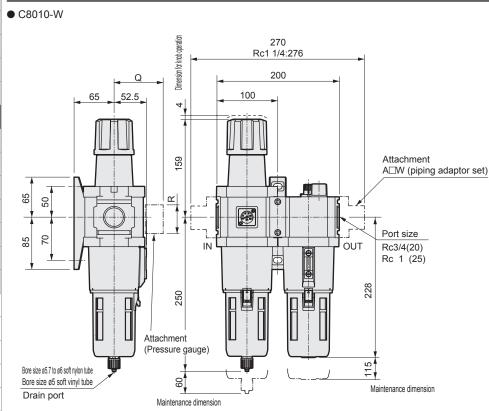


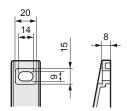
Enlarged view of bracket section

Pressure gauge attached optional dimensions table									
Attached pressure gauge	Q	R							
G45P	(75)	ø39							
G49P	(74.5)	ø43.5							
G59P	(77)	ø52							
G40P	(76.5)	ø42.5							
G50P	(76.5)	ø52.5							
G41P	(75)	ø42							
G52P	(86)	ø52.5							

**CKD** 







Enlarged view of bracket section

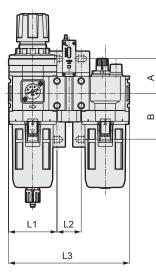
Pressure gauge attached optional dimensions table										
Attached pressure gauge	Q	R								
G45P	(85)	ø39								
G49P	(84.5)	ø43.5								
G59P	(87)	ø52								
G40P	(86.5)	ø42.5								
G50P	(86.5)	ø52.5								
G41P	(85)	ø42								
G52P	(98)	ø52.5								

• Refer to page 340 for the dimensions of the metal bowl option filter/regulator and page 400 for the lubricator.

Option assembly dimensions

#### Option assembly dimensions

• C1010-W to C8010-W



Model no.	A	В
C1010-W	35	45
C2010-W		
C3010-W	45	60
C4010-W		
C8010-W	50	70

Assembled option		S			Ρ			V			Κ			SV			SK			ΡV			ΡK	
Model no.	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
C1010-W	40	28	108	-	-	-	40	40	120	-	-	-	40	68	148	-	-	-	-	-	-	-	-	-
C2010-W	50	31.5	144.5	50	80	193	50	63	176	50	63	176	50	94.5	207.5	50	94.5	207.5	50	143	256	50	143	256
C3010-W	63	31.5	157.5	63	80	206	63	63	189	63	63	189	63	94.5	220.5	63	94.5	220.5	63	143	269	63	143	269
C4010-W	80	31.5	191.5	80	80	240	80	80	223	80	80	223	80	111.5	271.5	80	111.5	271.5	80	160	303	80	160	303
C4010-20-W Note 1	100	31.5	231.5	100	80	280	100	80	263	100	80	263	100	111.5	294.5	100	111.5	294.5	100	160	343	100	160	343
C8010-W	100	50	250	-	-	-	-	-	-	100	100	290	-	-	-	100	150	340	-	-	-	-	-	-

L1: Dimensions from the IN edge to center of the T-type bracket mounting hole L2: Spacing dimensions of the mounting hole from the first T-type bracket to the second T-type bracket

L3: Dimensions from the IN edge to the OUT edge

\* Refer to page 425 for details on bracket mounting hole dimensions. Note 1:The piping adaptor is assembled on the OUT side. Piping adaptor A400-20-W is attached on the both ends of C4010-20-W. Refrigerating type dryer

Desiccant type dryer High polymer membrane type dryer Air filter



#### F.R. combination standard white Series C1020/C2020/C2520-W C3020/C4020/C6020/C8020-W Series

Filter and regulator integrated.





Silencer Check valve / others Joint / tube Vacuum filter Vacuum regulator Suction plate Magnetic spring buffer Mechanical pressure SW Electronic pressure SW Contact / close contact conf. SW

Refrigerating type dryer

Desiccant type dryer

High polyme membrane

type dryer

Specifications	
----------------	--

	opeemeations													
iit)	Descriptions	C1020-W	C2020-W	C2520-W	C3020-W	C4020-W	C6020-W	C8020-W						
ct ct l s)	Appearance													
ve	Filter	F1000-W	F2000-W	F3000-W	F3000-W	F4000-W	F6000-W	F8000-W						
er	Components Regulator	R1000-W	R2000-W	R2000-W	R3000-W	R4000-W	R6000-W	R8000-W						
/e	Working fluid				Compressed air									
	Max. working pressure MPa				1.0 Note	2								
n	Withstanding pressure MPa				1.5									
	Ambient temperature range °C				5 to 60			Note 1						
n pr	Filtration rating µm				5									
n	Set pressure range MPa	0.05 to 0.85 Note 2			0.05 t	o 0.85								
_	Relief	With relief mechanism												
er	Drain capacity cm <sup>3</sup>	12	25	45	45	80	80	80(Note 3)						
W	Port size RC, NPT, G	1/8, 1/4 (3/8 uses an adaptor)	1/4, 3/8 (1/2 uses an adaptor)	1/4, 3/8 (1/2 uses an adaptor)	1/4, 3/8 (1/2 uses an adaptor)	1/4, 3/8, 1/2 (3/4 uses an adaptor)	3/4, 1 (1 1/4 uses an adaptor)	3/4, 1 (1 1/4 uses an adaptor)						
W	Product weight kg	0.28	0.64	0.65	0.79	1.25	2.07	2.93						
38	Standard accessories			Pressure	gauge, bracket, b	oowl guard								
-	Note 1: The working tempore	ture rende of the p	coouro owitch with	indicator DDD agos	mbly "D1" in E to E	0°C								

Note 1: The working temperature range of the pressure switch with indicator PPD assembly "R1" is 5 to  $50^{\circ}$ C.

Note 2: When using C1020 series "F1" with an automatic drain, the minimum operating pressure is 0.2 MPa and maximum operation pressure is 0.7 MPa.

Refer to the maximum processing flow table (page 350) for the F1000-F1 automatic drain for the maximum working flow. Set the working flow to less than the maximum working flow.

Note 3: Drainage accumulates up to 170 cm<sup>3</sup> only with the manual drain cock.

Note 4: The automatic drain's minimum operating pressure for "F" or "FF" with an automatic drain is 0.1 MPa. Initially generated drainage and air are purged until pressure reaches 0.1 MPa.

Note 5: The automatic drain's minimum operating pressure for "F1" or "FF1" with an automatic drain is 0.15 MPa.

Note 6: When element option "Y" is selected, refer to page 352 for maximum flow. Set the working flow to less than the maximum working flow.

Note 7: When using the "F1" with automatic drain, use the C2020-W Series at less than the maximum flow rate. (Refer to F2000-W on page 350 for the maximum flow rate.)

system (Gamma) Ending

Air sensor

Pressure SW for coolant

Small flow sensor

Small flow controller

Flow sensor for air

Flow sensor for water

Total air system Total air

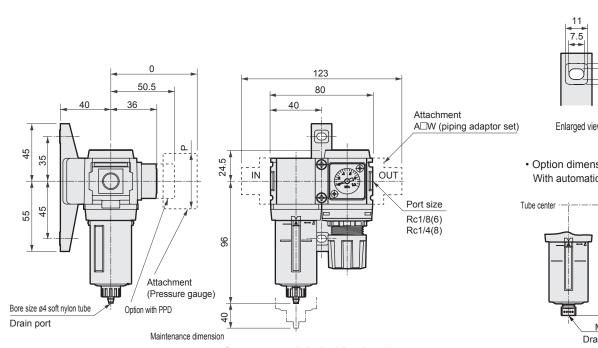
						ł	-lo	w t	0 0	rder
ow to order						AM	ode	el no		
		*	Refer to page 274 for the	ç	C	С	С	ç	c	C Refri
	W)-(		explanation of the option.	0	0	5	0	40	0 0	
G Piping				C 1 0 2 0	C 2 0 2 0	C 2 5 2 0	C 3 0 2 0	20	C 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	O Des type
set (a			e gauge option (attached)							High
Madel as		nbol	Descriptions							type
Model no.	BPor									Air
U FOIT SIZE		6	1/8	•						_
		8	1/4	•	•	•	•	•	_	Auto / oth
		0	3/8	<u> </u>	•	•	•	•	_	_
		5	3/4	-	<u> </u>			Note 1		F.F
		25	1	-			$\square$	The I		• <b>F</b> .F
										(Se
Dort throad type		t thread							lote :	Co
Port thread type		ank	Rc thread	•	•	•	•	•	• •	_
		N	NPT thread	•	•	•	•	•		Pre
		G	G thread	•	•	•	•	•		• reg
Option	🛛 Opt	1							lote :	3 (Re
Copilon		Blank	Filter with manual drain cock	•	•	•	•	•		pro     Cle
		F	Filter/auto. drain with manual override (NO type: Exhaust w/o pressurized)			•	•		-	F.F
	Drainage	F1	Filter/auto. drain with manual override (NC type: No exhaust w/o pressurized)	•	•	•	•	•		Elec
	1	FF	Filter/large auto. drain with manual override (NO type: Exhaust w/o pressurized)						_	pne regi
	Note 4	FF1	Filter/large auto. drain with manual override (NC type: No exhaust w/o pressurized)		-					Air
	Bowl	Blank Z	Polycarbonate bowl	•	•	•	•	•		bo
	material	 	Nylon bowl Metal bowl			•	•	•		Spe
	material	M1	Metal bowl with manual drain cock		•	•	•		-	
		Blank		•	•	•	•		_	Sil
	Element	Y	0.3µm (submicron) Note 5	•		•	•	•		Che
	Differential		Without differential pressure detection port	•	•	•	•	•		/ oth
	pressure detection	Q	With differential pressure detection port (Rc1/4)							Jo
	Pressure	Blank	0.05 to 0.85MPa	•	•	•	•	•		• / tu
	Range	L	0.05 to 0.35MPa Note 6	•	•	•	•	•	• •	Va
Assembly attachment		Blank	With relief mechanism	•	•	•	•	•	• •	• filte
- ,	Relief	N	Nonrelief type	•	•	•	•	•	• •	<ul> <li>Value</li> <li>reg</li> </ul>
		Blank	With standard pressure gauge (G401-W)	•	•		•	•	• •	
🕒 Display unit		т	W/o pressure gauge (pressure gauge port (Rc1/4) is assembled with sealed)	•	•	•	•	•	• •	<ul> <li>Su</li> <li>pla</li> </ul>
Note on model no. selection	Pressure	Т8	Pressure gauge attached (pressure gauge port (Rc1/4) is assembled by open)	•	•	•	•	•	•	Mag
Note on model no. Selection	gauge	Т6	Digital pressure sensor PPX attachment option Note 7	•	•	•	•	•	•	<ul> <li>sprir</li> </ul>
e 1:Piping adaptor A400-20*-W is attached on the both ends of		R1	Pressure switch with display PPD assembly Note 8	•		•	•	•	• •	Mec
C4020-20*-W. "A20*W" does not need to be selected for the	Flow direction	Blank	Standard flow (left $\rightarrow$ right)	•	•	•	•	•	-	<ul> <li>pres</li> </ul>
piping adaptor set.		X1	IN/OUT reverse flow (right $\rightarrow$ left)	•	•	•	•	•	• •	Elec
e 2:When G threads or NPT threads are selected, the IN, OUT,				es 4	402	6, <b>4</b> 2	Cont			
gauge port, and drainage discharge port (metal bowl automatic drain) are the target, as are attachments P and V.		ank	Without assembly attachment type	•	•	•	•			oonta SW
e 3:Select options for each drainage, bowl material, element,		L D	Assembly attachment type Note 9	•	•	•	•	•	-	
differential pressure detection, and regulator items. When	be	D	Distributor (D101-W, D401-W, D801-W)	•	•	•	•	•	•	-
selecting options for several items, list options in order from	Assembled	S	Pressure switch (P1100-W, 4100-W, 8100-W)	-	-					Pres
the top.	ser	P V	Pressure switch (P4000-W)	•	•	•	•	•	_	for c
e 4:Refer to page 276 for the automatic drain use conditions.	As	ĸ	Shut-off valve (V1000-W, 3000-W) Lockout valve (V3010-W, W6010-W)	-	•	•	•		• •	<ul> <li>Sma</li> <li>flow</li> </ul>
e 5:Refer to page 352 for maximum processing flow when option										Sma
"Y" is selected.		play unit		-	-					flow
e 6:The pressure gauge's indication range is 0 to 0.4MPa for option "L".		ank	MPa display, Rc thread	•		•	•	•		Flov
option "L". e 7:When option "T6" is selected, only "Blank" or "R2" can be		1	MPa display, NPT, G thread	•	•	-	-	-		for a
selected for "H" pressure gauge (attached).			tor set (attached)						ote 1	1107
The digital pressure sensor PPX mounting port (Rc1/8) is		ank	Not attached	•	•	•	•	•	• •	for v
assembled by open.		5*W	Rc1/8 piping adaptor set	•	-				_	To sys
e 8:The output type is NPN transistor output. Contact CKD when		5*W	Rc1/4 piping adaptor set	•	•	•	•	•		To
the PNP transistor output is required.		0*W	Rc3/8 piping adaptor set		•	•	•	•		sys
e 9:Installation position for assembly attachments		5*W 0*W	Rc1/2 piping adaptor set		•	•	•	•		•
Symbol Installation position Applicable model		5*W	Rc3/4 piping adaptor set Rc1 piping adaptor set							En
D F+(D)+R C1020-W to C8020-W	-	2*W	Rc1 piping adaptor set Rc1 1/4 piping adaptor set							_
S C1020-W to C8020-W		tor screv								eries
or F+R+(S, P) (Excluding 1000,6000,8000	-	ank	Rc thread		•	•	•		• •	š.
P for "P")		N	NPT thread	•	•	•	•		•	, õ
V C1020-W to C8020-W	-	G	G thread	•	•	•	•	•		dar e
or F+R+(V, K) (Excluding 6000, 8000			uge option (attached)	-					e 65	ģ
K   for "V" or 1000 for "K")		ssure ga ank	Not attached							ື ຫຼື
Note) Indicate "U"+"D", "S","P","V" and "K" when selecting an		ISP	G45D-8-P10(L:G45D-8-P04)	•	•	•	•			
assembly attachment.		19P	G49D-8-P10(L:G49D-8-P04)	•	•	•	•			•
		59P	G59D-8-P10(L:G59D-8-P04)	•		•	•			
Use custom combinations specifications for any other	L 33	10P	G40D-8-P10(L:G40D-8-P04)	•	•	•	•			•
combination.	G4			•		•	•	$\vdash$		•
combination. e 10: The joiner set is enclosed with the piping adaptor set.		50P	G50D-8-P10(L:G50D-8-P04)					·	$\rightarrow$	
combination. e 10: The joiner set is enclosed with the piping adaptor set. e 11: If NPT is selected for the "C" piping thread, a NPT pressure	G5	50P 11P	G41D-8-P10(L:G41D-8-P04)	•	•	•	•	•	•	•
combination. e 10: The joiner set is enclosed with the piping adaptor set. e 11: If NPT is selected for the "C" piping thread, a NPT pressure gauge is enclosed. If Rc or G thread is selected, an R	G5 G4		· · · · · · · · · · · · · · · · · · ·	-	•	•	•			•
combination. e 10: The joiner set is enclosed with the piping adaptor set. e 11: If NPT is selected for the "C" piping thread, a NPT pressure	G5 G4 G5	IP	G41D-8-P10(L:G41D-8-P04)	•	-			•	•	_

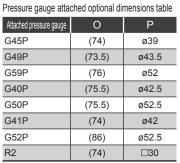
Dimensions CAD

• C1020-W

Refrigerating type dryer







• C2020-W

Electronic pressure SW

Contact / close contact conf. SW

Air sensor

Pressure SW for coolant

Small flow sensor

Small flow controller

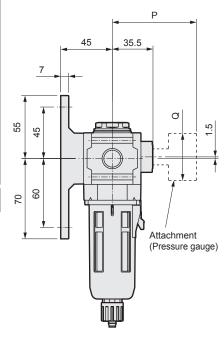
Flow sensor for air

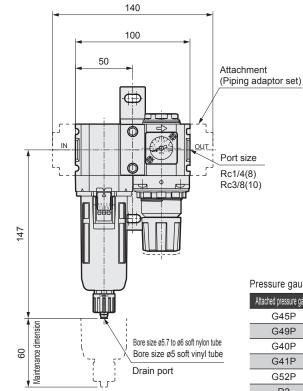
Flow senso for water

Total air system

Total air system (Gamma)

Ending



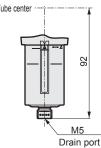


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	2.5	A
Ø	<u></u>	

75

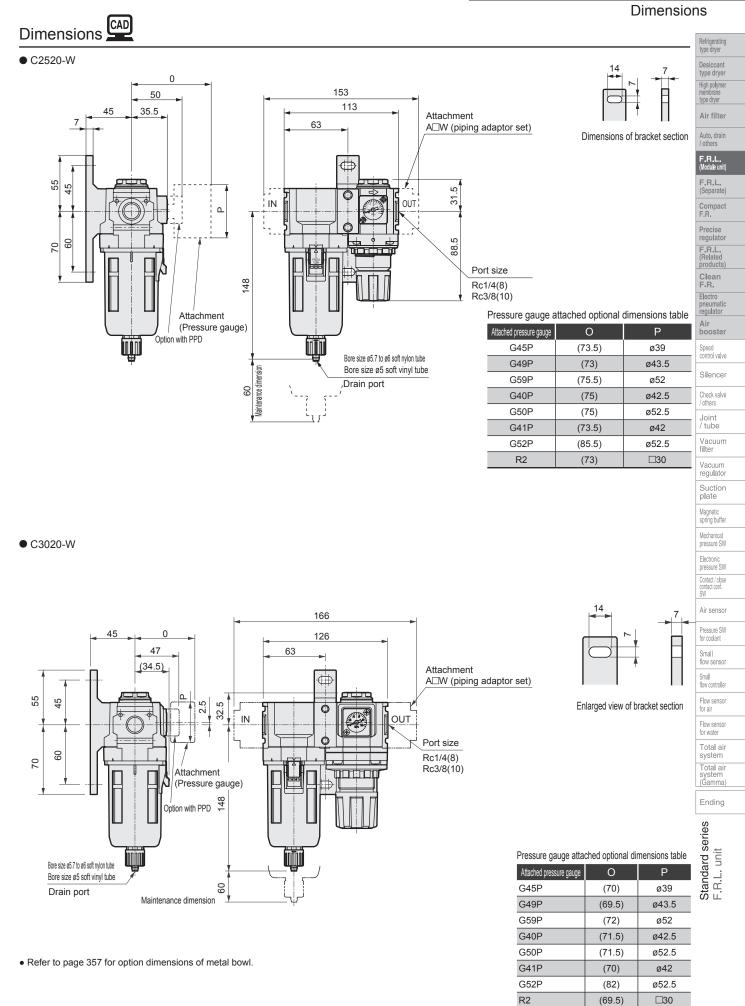
Enlarged view of bracket section

 Option dimensions With automatic drain (F1)



Pressure gauge attached optional dimensions table

J	·····	
Attached pressure gauge	Р	Q
G45P	(73.5)	ø39
G49P	(73)	ø43.5
G40P	(75)	ø42.5
G41P	(73.5)	ø42
G52P	(85.5)	ø52.5
R2	(73)	□30



СКГ

303

### Dimensions CAD

#### • C4020-W

Refrigerating type dryer

Desiccant type dryer High polymer membrane type dryer

Air filter

Auto, drain / others

F.R.L.

F.R.L. (Separate)

Compact F.R.

Precise regulator

F.R.L. (Related products)

Clean F.R.

Electro pneumatic regulator Air booster

Speed control valve

Silencer

Check valve / others Joint / tube

Vacuum filter Vacuum regulator Suction plate Magnetic spring buffer Mechanical pressure SW

Electronic pressure SW Contact / close contact conf. SW

Air sensor

Pressure SW for coolant

Small flow sensor

Small flow controller

Flow sensor for air

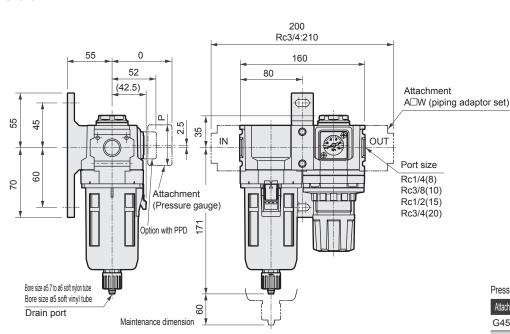
Flow senso for water

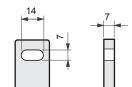
Total air system

Total air

system (Gamma)

Ending





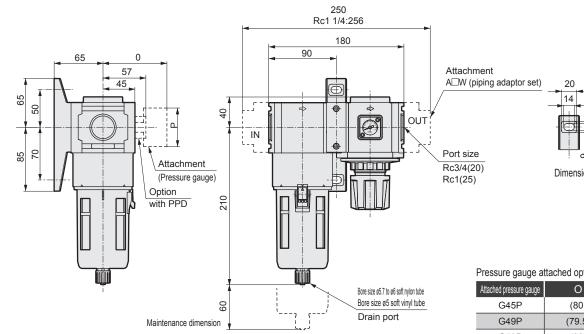
Enlarged view of bracket section

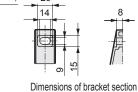
Pressure gauge attached optional dimensions table

Attached pressure gauge	0	Р
G45P	(75)	ø39
G49P	(74.5)	ø43.5
G59P	(77)	ø52
G40P	(76.5)	ø42.5
G50P	(76.5)	ø52.5
G41P	(75)	ø42
G52P	(86)	ø52.5
R2	(75)	□30

• Refer to page 357 for option dimensions of metal bowl.

• C6020-W

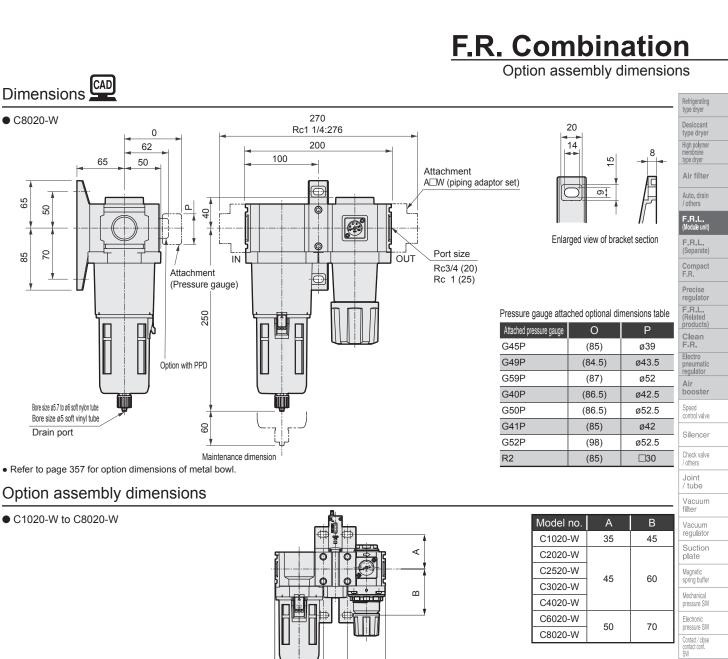




Pressure gauge attached optional dimensions table

0	Р
(80)	ø39
(79.5)	ø43.5
(82)	ø52
(81.5)	ø42.5
(81.5)	ø52.5
(80)	ø42
(93)	ø52.5
(80)	□30
	(80) (79.5) (82) (81.5) (81.5) (80) (93)

**CKD** 304



										ې L1		L2																Pressure SW for coolant
									*			•••	1															Small flow sensor
L3														-														Small
Assembled option		D		S (	Note	e 1)		Ρ			V			K		DS	(Not	e 1)		DP			DV			DK		flow controller
Model no.	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3	Flow sensor for air
C1020-W	40	28	108	40	40	129.5	-	-	-	40	40	120	-	-	-	40	68	157.5	-	-	-	40	68	148	-	-	-	Flow sensor
C2020-W	50	31.5	131.5	50	50	151.5	50	50	180	50	50	163	50	50	163	50	81.5	183	50	81.5	211.5	50	81.5	194.5	50	81.5	194.5	for water
C2520-W	63	31.5	144.5	63	50	164.5	63	50	193	63	50	176	63	50	176	63	81.5	196	63	81.5	224.5	63	81.5	207.5	63	81.5	207.5	Total air svstem
C3020-W	63	31.5	157.5	63	63	177.5	63	63	206	63	63	189	63	63	189	63	94.5	209	63	94.5	237.5	63	94.5	220.5	63	94.5	220.5	Total air
C4020-W	80	31.5	191.5	80	80	211.5	80	80	240	80	80	223	80	80	223	80	111.5	243	80	111.5	271.5	80	111.5	254.5	80	111.5	254.5	system (Gamma)
C4020-20-W Note 1	100	31.5	231.5	100	80	231.5	100	80	280	100	80	263	100	80	263	100	111.5	263	100	111.5	311.5	100	111.5	294.5	100	111.5	294.5	
C6020-W	90	50	230	90	90	265	-	-	-	-	-	-	90	90	270	90	140	315	-	-	-	-	-	-	90	140	320	Ending
C8020-W	100	50	250	100	100	285	-	-	-	-	-	-	100	100	290	100	150	335	-	-	-	-	-	-	100	150	340	ŝ
Assembled option		DSV	'		DSK			DPV	,		DPK	(		SV			SK			ΡV			PK					erie
Model no.	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3				Standard series F.R.L. unit
C1020-W	40	96	176	-	-	-	-	-	-	-	-	-	40	68	148	-	-	-	-	-	-	-	-	-				aro . ur
C2020-W	50	113	226	50	113	226	50	162	274.5	50	162	274.5	50	81.5	194.5	50	81.5	194.5	50	130	243	50	130	243				and 3.L
C2520-W	63	113	239	63	113	239	63	162	287.5	63	162	287.5	63	81.5	207.5	63	81.5	207.5	63	130	256	63	130	256				Sto T.F
C3020-W	63	126	252	63	126	252	63	175	300.5	63	175	300.5	63	94.5	220.5	63	94.5	220.5	63	143	269	63	143	269				
C4020-W	80	143	286	80	143	286	80	191.5	334.5	80	191.5	334.5	80	111.5	254.5	80	111.5	254.5	80	160	303	80	160	303				
C4020-20-W Note 1	100	143	326	100	143	326	100	191.5	374.5	100	191.5	374.5	100	111.5	294.5	100	111.5	294.5	100	160	343	100	160	343				
C6020-W	-	-	-	90	190	370	-	-	-	-	-	-	-	-	-	90		320	-	-	-	-	-	-				
C8020-W	-	-	-	100	200	390	-	-	-	-	-	-	-	-	-	100	150	340	-	-	-	-	-	-				

L1: Dimensions from the IN edge to center of the T-type bracket mounting hole L2: Spacing dimensions of the mounting hole from the first T-type bracket to the second T-type bracket

L3: Dimensions from the IN edge to the OUT edge

• C8020-W

65

20

2 85

\* Refer to page 425 for details on bracket mounting hole dimensions.

Note 1:The piping adaptor is assembled on the OUT side. Piping adaptor A400-20-W is attached on the both ends of C4020-20-W.

CKD

Air sensor



### F.M.R. combination standard white Series C1030/C2030/C2530-W C3030/C4030/C6030/C8030-W Series

Filter, oilmist filter and regulator integrated.

Port size: 1/8 to 1



### Specifications

	She	cincations							
nit)		Descriptions	C1030-W	C2030-W	C2530-W	C3030-W	C4030-W	C6030-W	C8030-W
te) not soor d ts) i tic r	Арре	arance							
lve	ints	Filter	F1000-W	F2000-W	F3000-W	F3000-W	F4000-W	F6000-W	F8000-W
	Components	Oil mist filter	M1000-W	M2000-W	M3000-W	M3000-W	M4000-W	M6000-W	M8000-W
er	Com	Regulator	R1000-W	R2000-W	R2000-W	R3000-W	R4000-W	R6000-W	R8000-W
lve	Work	ing fluid				Compressed air			
	Max. v	working pressure MPa				1.0 Note	3		
m	Withst	tanding pressure MPa				1.5			
	Ambier	nt temperature range °C				5 to 60			Note 2
m or	Set p	ressure range MPa	0.05 to 0.85 Note 3			0.05 te	o 0.85		
on	Relie	f			Wi	th relief mechani	sm		
ffer	Port s	size Rc, NPT, G	1/8, 1/4 (3/8 uses an adaptor)	1/4, 3/8 (1/2 uses an adaptor)	1/4, 3/8 (1/2 uses an adaptor)	1/4, 3/8 (1/2 uses an adaptor)	1/4, 3/8, 1/2 (3/4 uses an adaptor)	3/4, 1 (1 1/4 uses an adaptor)	3/4, 1 (1 1/4 uses an adaptor)
al SW	Produ	uct weight kg	0.40	0.98	1.02	1.10	1.86	3.19	4.45
s SW		ndary oil concentration nist filter outlet side)			(	).01mg/m <sup>3</sup> or less	6		
close inf.	Max. fl	low rate (Note 1) m <sup>3</sup> /min.	0.15	0.25	0.36	0.36	0.825	1.27	2.6
oor	Note 1	: The maximum flow is	for a primary press	sure of 0.7 MPa. Re	efer to page 352 for	the maximum flow	rate of element opt	ion "Y".	

Note 1: The maximum flow is for a primary pressure of 0.7 MPa. Refer to page 352 for the maximum flow rate of element option

Note 2: The working temperature range of the pressure switch with indicator PPD assembly "R1" is 5 to 50°C.

Note 3: When "F1" with an automatic drain is selected for the C1030-W series, the NC automatic drain is assembled for both the filter and oil mist filter. Minimum operation pressure is 0.2 MPa and maximum operation pressure is 0.7 MPa. Refer to the maximum processing flow table (page 362) for the M1000-W-F1 automatic drain for the maximum working flow.

Note 4: Refer to page 360 for details on other oil mist filters.

Note 5: When "F" with an automatic drain is selected, the supply air pressure is 0.15 MPa or more. Air filter and automatic drain are purged with initial drainage until pressure reaches 0.1 MPa.

Note 6: When "F1" with an automatic drain is selected, the filter, oil mist filter, and NC automatic drain are assembled, but the supply air pressure must be 0.15 MPa or more.

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C1030)-(6) ( )- W -(L)-(U DSV)-(	)- (A6)	N)-(	*	Refer to page 274 for the	C	C 2 0	C	C	C	C	c ty
	G Piping			explanation of the option.	1	Ő	C 2 5 3 0	30	40	6 0	8 0 3
		tached)	Pressure	e gauge option (attached)	3 0	3 0	0	3 0	3 0	3 0	0 H
Madalina	001 (01	Syn		Descriptions							ty
Model no.		B Por		F							A
Port size		(	6	1/8	•						
			3	1/4	•	•	•	•	•		A / 0
			0	3/8		•	•	•	•		F
			5	1/2 3/4					•		
			0 5	3/4 1					<ul> <li>Nate 1</li> </ul>		• F
						-					
Port thread type			t thread <sup>•</sup> ank	Rc thread						Note	€ 2 C
			N	NPT thread	•	•	•	•	•	•	• P
			3	G thread	•	•	•	•	•	•	•
		🗩 Opt	ion						N	Note	ə 3 (
Option			Blank	With manual drain cock	•	•	•	•	•	•	• pi
		Drainage	F	Auto. drain with manual override (NO type: Exhaust w/o pressurized)			•	•	•	•	• F
		Drainage Note 4,	F1	Auto. drain with manual override (NC type: No exhaust w/o pressurized)	•	•	٠	•	•	•	• El
		Note 5	FF	Large auto. drain with manual override (NO type: Exhaust w/o pressurized)							• ire
			FF1	Large auto. drain with manual override (NC type: No exhaust w/o pressurized)							• A
		Bowl	Blank Z	Polycarbonate bowl	•	•	•		•	•	• I <sup>1</sup>
		material	 M	Nylon bowl Metal bowl	-		•	•	•	•	• 0
			M1	Metal bowl with manual drain cock		•	•	•	•	•	• s
Assembly attachment		Flore -	Blank	5μm	•	•	•	•	•	•	•
		Element	Y	0.3µm (submicron) Note 6			•	•	•	•	• C
G	Display unit	Differential pressure	Blank	Without differential pressure detection port	•	•	٠	•	•	٠	• J
•	Diopidy drift	detection	Q	With differential pressure detection port (Rc1/4)						•	• /
Note on model no. selection		Pressure	Blank	0.05 to 0.85MPa	•	•	•	•	•	•	• v
-		Range	L	0.05 to 0.35MPa Note 7	•	•	•	•	•	•	● fi
e 1:Piping adaptor A400-20*-W is attached on the both		Relief	Blank N	With relief mechanism Nonrelief type	•	•	•	•	•	•	• V
C4030-20*-W. "A20*W" does not need to be selected piping adaptor set.	a for the		Blank	With standard pressure gauge (G401-W)	•	•	•	•	•	•	• s
e 2:When G threads or NPT threads are selected, the IN	N OUT		Т	W/o pressure gauge (pressure gauge port (Rc1/4) is assembled with sealed)	•	•	•	•	•	•	• p
gauge port, and drainage discharge port (meta		Pressure	Т8	Pressure gauge attached (pressure gauge port (Rc1/4) is assembled by open)	•	•	•	•	•	•	• M
automatic drain) are the target, as are attachments P a	and V.	gauge	Т6	Digital pressure sensor PPX attachment option Note 8	•		•		•	$\bullet$	• \$
te 3:Select options for each drainage, bowl material, el	-		R1	Pressure switch with display PPD assembly Note 9	•		•	•	•	•	M   pr
differential pressure detection, and regulator items		Flow	Blank	Standard flow (left → right)	•	•	•	•	•	•	
selecting options for several items, list options in ord the top.	ler from	Direction	X1	Reverse flow (right $\rightarrow$ left)	•	•	•	•	•	•	pr
te 4:Refer to page 276 for the automatic drain use conditior	ns.			ttachment Page	es 4	02 1	to 4	13,	42	- <u> </u>	00
te 5:When option symbol "F" is selected, the NO automat	tic drain		ank J	Without assembly attachment type Assembly attachment type Note 10	•	•	•	•	•	•	• <u>SI</u>
is enclosed for the air filter and the NC automatic	drain is	<u> </u>	D	Distributor (D101-W, D401-W, D801-W)	•	•		-	•	•	• A
enclosed for the oil mist filter.		led	S	Pressure switch (P1100-W, 4100-W, 8100-W)	•	•	•	•	•	•	• Pi
For "FF" and "FF1", only the filter has a large discharge. The oil mist filter is a normal NC automatic drain.	ge rate.	d me	Р	Pressure switch (P4000-W)		•	•	•	•		fo
te 6:Refer to page 352 for maximum processing flow wher	n option	Assembled	v	Shut-off valve (V1000-W, 3000-W)	•	•	•	•	•		S
"Y" is selected.			к	Lockout valve (V3010-W, W6010-W)		•	•	•	•	•	
	MPa for	🕞 Dis	olay unit								Sr flo
1 0 0		Bla	un la			•	•	•	•	•	• F
option "L".				MPa display, Rc thread	-	L		1 - 7	i 🕳 🛛		• fo
option "L". a 8:When option "T6" is selected, only "Blank" or "R2"	can be	J		MPa display, Rc thread MPa display, NPT, G thread	•	•	•				1.
option "L". e 8:When option "T6" is selected, only "Blank" or "R2" selected for "H" pressure gauge (attached).		J	1	MPa display, NPT, G thread tor set (attached)	•	-	• age			-	• fo
option "L". a 8:When option "T6" is selected, only "Blank" or "R2"		J @ Pipi Bla	1 ng adap ank	MPa display, NPT, G thread tor set (attached) Not attached	•	• Pa	● age	428	8 No	-	
option "L". e 8:When option "T6" is selected, only "Blank" or "R2" selected for "H" pressure gauge (attached). The digital pressure sensor PPX mounting port (Re assembled by open.	c1/8) is	J © Pipi Bla A6	1 ng adap ank *W	MPa display, NPT, G thread tor set (attached) Not attached Rc1/8 piping adaptor set	•	•	•	•	•	-	T
option "L". e 8:When option "T6" is selected, only "Blank" or "R2" selected for "H" pressure gauge (attached). The digital pressure sensor PPX mounting port (Re assembled by open. e 9:The output type is NPN transistor output. Consult wi when the PNP transistor output is required.	c1/8) is	J G Pipi Bla A6 A8	1 ng adap ank *W *W	MPa display, NPT, G thread tor set (attached) Not attached Rc1/8 piping adaptor set Rc1/4 piping adaptor set	•	•	•	•	•	-	S T
option "L". te 8:When option "T6" is selected, only "Blank" or "R2" selected for "H" pressure gauge (attached). The digital pressure sensor PPX mounting port (Re assembled by open. te 9:The output type is NPN transistor output. Consult wi when the PNP transistor output is required. te10: Installation position for assembly attachments	c1/8) is	J © Pipi Bla A6 A8 A10	1 ng adap ank *W *W 0*W	MPa display, NPT, G thread tor set (attached) Not attached Rc1/8 piping adaptor set Rc1/4 piping adaptor set Rc3/8 piping adaptor set	•	•	•	•	•	-	s
option "L". e 8:When option "T6" is selected, only "Blank" or "R2" selected for "H" pressure gauge (attached). The digital pressure sensor PPX mounting port (Re assembled by open. e 9:The output type is NPN transistor output. Consult wi when the PNP transistor output is required.	c1/8) is	J © Pipi Bla A6 A8 A10 A11	1 ng adap ank *W *W 5*W	MPa display, NPT, G thread tor set (attached) Not attached Rc1/8 piping adaptor set Rc1/4 piping adaptor set Rc3/8 piping adaptor set Rc1/2 piping adaptor set	•	•	•	•	•	-	
option "L". e 8:When option "T6" is selected, only "Blank" or "R2" selected for "H" pressure gauge (attached). The digital pressure sensor PPX mounting port (Ro assembled by open. e 9:The output type is NPN transistor output. Consult wi when the PNP transistor output is required. e10: Installation position for assembly attachments Symbol Installation position Applicable model D F+M+(D)+R C1030-W to C8030-W	c1/8) is ith CKD	J © Pipi Bla A6 A8 A10	1 ng adap ank *W *W D*W 5*W D*W	MPa display, NPT, G thread tor set (attached) Not attached Rc1/8 piping adaptor set Rc1/4 piping adaptor set Rc3/8 piping adaptor set	•	•	•	•	• • • • • •	•	
option "L". e 8:When option "T6" is selected, only "Blank" or "R2" selected for "H" pressure gauge (attached). The digital pressure sensor PPX mounting port (Re assembled by open. e 9:The output type is NPN transistor output. Consult wi when the PNP transistor output is required. e10: Installation position for assembly attachments Symbol Installation position Applicable model D F+M+(D)+R C1030-W to C8030-W S C1030-W to C8030-W	c1/8) is ith CKD	G Pipi Bla A6 A8 A10 A10 A20	1 ng adap ank *W *W 5*W 5*W 5*W 5*W	MPa display, NPT, G thread tor set (attached) Not attached Rc1/8 piping adaptor set Rc1/4 piping adaptor set Rc3/8 piping adaptor set Rc1/2 piping adaptor set Rc3/4 piping adaptor set	•	•	•	•	• • • • • •	•	
option "L". e 8:When option "T6" is selected, only "Blank" or "R2" selected for "H" pressure gauge (attached). The digital pressure sensor PPX mounting port (Re assembled by open. e 9:The output type is NPN transistor output. Consult wi when the PNP transistor output is required. e10: Installation position for assembly attachments Symbol Installation position Applicable model D F+M+(D)+R C1030-W to C8030-W S C1030-W to C8030-W or F+M+R+(S, P) (Excluding 1000,6000,800)	c1/8) is ith CKD	J © Pipi Bla A6 A8 A10 A10 A20 A20 A20 A32 *Adap	1 ng adap ank *W 5*W 5*W 5*W 5*W 2*W tor screv	MPa display, NPT, G thread tor set (attached) Not attached Rc1/8 piping adaptor set Rc1/4 piping adaptor set Rc3/8 piping adaptor set Rc1/2 piping adaptor set Rc3/4 piping adaptor set Rc1 piping adaptor set Rc1 1/4 piping adaptor set	•	•	•	•	• • • • • •	•	
option "L". e 8:When option "T6" is selected, only "Blank" or "R2" selected for "H" pressure gauge (attached). The digital pressure sensor PPX mounting port (Re assembled by open. e 9:The output type is NPN transistor output. Consult wi when the PNP transistor output is required. e10: Installation position for assembly attachments Symbol Installation position Applicable model D F+M+(D)+R C1030-W to C8030-W S C1030-W to C8030-W or F+M+R+(S, P) (Excluding 1000,6000,800 P b	c1/8) is ith CKD	J © Pipi Bla A66 A88 A10 A20 A22 A22 A32 *Adapt Bla	1 ng adap ank *W *W 5*W 5*W 5*W 5*W 5*W 2*W tor screv ank	MPa display, NPT, G thread tor set (attached) Not attached Rc1/8 piping adaptor set Rc1/4 piping adaptor set Rc3/8 piping adaptor set Rc1/2 piping adaptor set Rc3/4 piping adaptor set Rc1 piping adaptor set Rc1 1/4 piping adaptor set v type Rc thread	•	•	•	•	• • • • • •	•	
option "L". e 8:When option "T6" is selected, only "Blank" or "R2" selected for "H" pressure gauge (attached). The digital pressure sensor PPX mounting port (Re assembled by open. e 9:The output type is NPN transistor output. Consult wi when the PNP transistor output is required. e10: Installation position for assembly attachments Symbol Installation position Applicable model D F+M+(D)+R C1030-W to C8030-W S C1030-W to C8030-W or F+M+R+(S, P) (Excluding 1000,6000,800 P for "P") V C1030-W to C4030-W	c1/8) is ith CKD 	G Pipi Bla A66 A88 A10 A20 A22 A32 *Adapt Bla	1 ng adap ank *W *W 5*W 5*W 5*W 2*W tor screv ank	MPa display, NPT, G thread tor set (attached) Not attached Rc1/8 piping adaptor set Rc1/4 piping adaptor set Rc3/8 piping adaptor set Rc1/2 piping adaptor set Rc3/4 piping adaptor set Rc1 piping adaptor set Rc1 1/4 piping adaptor set v type Rc thread NPT thread	•		• • • • • • • • • • • • • • • • • • • •				
option "L". e 8:When option "T6" is selected, only "Blank" or "R2" selected for "H" pressure gauge (attached). The digital pressure sensor PPX mounting port (Re assembled by open. e 9:The output type is NPN transistor output. Consult wi when the PNP transistor output is required. e10: Installation position for assembly attachments Symbol Installation position Applicable model D F+M+(D)+R C1030-W to C8030-W S C1030-W to C8030-W or F+M+R+(S, P) (Excluding 1000,6000,800 P b	c1/8) is ith CKD 	G Pipi Bla A66 A88 A10 A20 A22 A32 *Adapt Bla	1 ng adap ank *W *W 5*W 5*W 5*W 5*W 5*W 2*W tor screv ank	MPa display, NPT, G thread tor set (attached) Not attached Rc1/8 piping adaptor set Rc1/4 piping adaptor set Rc3/8 piping adaptor set Rc1/2 piping adaptor set Rc3/4 piping adaptor set Rc1 piping adaptor set Rc1 1/4 piping adaptor set v type Rc thread	•	•	•	•	• • • • • • • • • • • • • • • • • • • •	•	
option "L". te 8:When option "T6" is selected, only "Blank" or "R2" selected for "H" pressure gauge (attached). The digital pressure sensor PPX mounting port (Ro assembled by open. te 9:The output type is NPN transistor output. Consult wi when the PNP transistor output is required. te 10: Installation position Applicable model D F+M+(D)+R C1030-W to C8030-W S C1030-W to C8030-W S C1030-W to C8030-W or F+M+R+(S, P) (Excluding 1000,6000,800 P for "P") V C1030-W to C4030-W or F+M+R+(V, K) (Excluding 6000, 8000 K for "V" or 1000 for "K")	c1/8) is ith CKD	G Pipi Bla A66 A88 A10 A20 A20 A20 A32 *Adap Bla N C C	1 ng adap ank *W *W 5*W 5*W 5*W 2*W tor screv ank N 3 ssure ga	MPa display, NPT, G thread tor set (attached) Not attached Rc1/8 piping adaptor set Rc1/4 piping adaptor set Rc3/8 piping adaptor set Rc3/4 piping adaptor set Rc3/4 piping adaptor set Rc1 piping adaptor set Rc1 1/4 piping adaptor set v type Rc thread NPT thread G thread uge option (attached)		• • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	<ul> <li>•</li> <li>•</li></ul>	<ul> <li></li> &lt;</ul>	• • • • • • • • • • • • • • •	
option "L". te 8:When option "T6" is selected, only "Blank" or "R2" selected for "H" pressure gauge (attached). The digital pressure sensor PPX mounting port (Ro assembled by open. te 9:The output type is NPN transistor output. Consult wi when the PNP transistor output is required. te 10: Installation position Applicable model D F+M+(D)+R C1030-W to C8030-W S C1030-W to C8030-W Or F+M+R+(S, P) (Excluding 1000,6000,800 P for "P") V C1030-W to C4030-W Or F+M+R+(V, K) (Excluding 6000, 8000 K V or F+M+R+(V, K) (Excluding 6000, 8000 K V or K") Note) Indicate "U"+"D", "S","P","V" and "K" when set	c1/8) is ith CKD	G Pipi Bla A66 A88 A10 A20 A20 A20 A20 A20 A20 A20 Bla Bla Bla Bla	1 ng adap ank *W *W 5*W 5*W 5*W 2*W tor screv ank N 3 ssure ga ank	MPa display, NPT, G thread tor set (attached) Not attached Rc1/8 piping adaptor set Rc1/4 piping adaptor set Rc3/8 piping adaptor set Rc3/4 piping adaptor set Rc1 piping adaptor set Rc1 1/4 piping adaptor set Rc1 1/4 piping adaptor set Rc1 1/4 piping adaptor set v type Rc thread NPT thread G thread uge option (attached) Not attached			• • • • • • • • • • • • • • • • • • •	<ul> <li>•</li> <li>•&lt;</li></ul>	<ul> <li>A</li> <li>A&lt;</li></ul>	• • • • • • • • • • • • • • • • • • •	
option "L". te 8:When option "T6" is selected, only "Blank" or "R2" selected for "H" pressure gauge (attached). The digital pressure sensor PPX mounting port (Ro assembled by open. te 9:The output type is NPN transistor output. Consult wi when the PNP transistor output is required. te10: Installation position Applicable model D F+M+(D)+R C1030-W to C8030-W S C1030-W to C8030-W Or F+M+R+(S, P) (Excluding 1000,6000,800 P fr (C1030-W to C4030-W Or F+M+R+(V, K) (Excluding 6000, 8000 K (Excluding 6000, 8000 K (Excluding 6000, 8000 K (Excluding 6000, 8000 K (C1000 - "V" or 1000 for "K")	c1/8) is ith CKD	G Pipi Bla A66 A88 A10 A20 A20 A20 A20 A20 A20 A20 A20 A20 A2	1 ng adap ank *W *W 5*W 5*W 5*W 2*W tor screv ank N 3 ssure ga ank 5P	MPa display, NPT, G thread tor set (attached) Not attached Rc1/8 piping adaptor set Rc1/4 piping adaptor set Rc3/8 piping adaptor set Rc3/4 piping adaptor set Rc1 piping adaptor set Rc1 1/4 piping adaptor set Rc1 1/4 piping adaptor set Rc1 1/4 piping adaptor set v type Rc thread NPT thread G thread uge option (attached) Not attached G45D-8-P10(L:G45D-8-P04)		• • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • •	<ul> <li>•</li> <li>•&lt;</li></ul>	• • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • •	
<ul> <li>te 8:When option "T6" is selected, only "Blank" or "R2" selected for "H" pressure gauge (attached). The digital pressure sensor PPX mounting port (Reassembled by open.</li> <li>te 9:The output type is NPN transistor output. Consult witwhen the PNP transistor output is required.</li> <li>te10: Installation position for assembly attachments</li> <li>Symbol Installation position Applicable model         <ul> <li>D F+M+(D)+R</li> <li>C1030-W to C8030-W</li> <li>S</li> <li>C1030-W to C8030-W</li> <li>G</li> <li>F+M+R+(S, P)</li> <li>Kacluding 1000,600,800</li> <li>P</li> <li>V</li> <li>C1030-W to C4030-W</li> <li>K</li> <li>F+M+R+(V, K)</li> <li>(Excluding 6000, 800)</li> <li>for "P")</li> </ul> </li> <li>Note) Indicate "U"+"D", "S", "P", "V" and "K" when se an assembly attachment. Use custom combinations specifications for an combination.</li> </ul>	c1/8) is ith CKD 0 electing ny other	G Pipi Bla A6 A8 A11 A22 A32 *Adapi Bla Bla C C C C Pres Bla G4 G4	1 ng adap ank *W *W 5*W 5*W 2*W tor screv ank N 3 ssure ga ank 5P 9P	MPa display, NPT, G thread tor set (attached) Not attached Rc1/8 piping adaptor set Rc1/4 piping adaptor set Rc3/8 piping adaptor set Rc1/2 piping adaptor set Rc3/4 piping adaptor set Rc1 piping adaptor set Rc1 1/4 piping adaptor set Rc1 1/4 piping adaptor set v type Rc thread NPT thread G thread Uge option (attached) Not attached G45D-8-P10(L:G45D-8-P04) G49D-8-P10(L:G49D-8-P04)			• • • • • • • • • • • • • • • • • • •	<ul> <li>•</li> <li>•&lt;</li></ul>	• • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • •	
option "L". te 8:When option "T6" is selected, only "Blank" or "R2" selected for "H" pressure gauge (attached). The digital pressure sensor PPX mounting port (Ro assembled by open. te 9:The output type is NPN transistor output. Consult wi when the PNP transistor output is required. te10: Installation position Applicable model D F+M+(D)+R C1030-W to C8030-W S C1030-W to C8030-W S C1030-W to C8030-W Nor F+M+R+(S, P) (Excluding 1000,6000,800 P (C1030-W to C4030-W C1030-W to C4030-W Note) Indicate "U"+"D", "S","P","V" and "K" when se an assembly attachment. Use custom combinations specifications for an combination. te 11: The joiner set is enclosed with the piping adaptor set	c1/8) is ith CKD 0 electing ny other t.	G Pipi Bla A6 A8 A10 A11 A22 A32 *Adapt Bla N C C C Pres Bla G4 G4 G4	1 ng adap nk *W *W 5*W 5*W 2*W tor screv ank 8 5 5 5 9 9 9 9 9 9 9 9 9 9 9	MPa display, NPT, G thread tor set (attached) Not attached Rc1/8 piping adaptor set Rc1/4 piping adaptor set Rc3/8 piping adaptor set Rc3/4 piping adaptor set Rc3/4 piping adaptor set Rc1 piping adaptor set Rc1 1/4 piping adaptor set Rc1 1/4 piping adaptor set v type Rc thread NPT thread G thread Uge option (attached) Not attached G45D-8-P10(L:G45D-8-P04) G59D-8-P10(L:G59D-8-P04)			• • • • • • • • • • • • • • • • • • •	<ul> <li>•</li> <li>•</li></ul>	• • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • •	
option "L". te 8:When option "T6" is selected, only "Blank" or "R2" selected for "H" pressure gauge (attached). The digital pressure sensor PPX mounting port (Re assembled by open. te 9:The output type is NPN transistor output. Consult wi when the PNP transistor output is required. te10: Installation position Applicable model D F+M+(D)+R C1030-W to C8030-W S C1030-W to C8030-W S C1030-W to C8030-W Or F+M+R+(S, P) (Excluding 1000,6000,800) P C1030-W to C4030-W (Excluding 6000, 800) for "P") V C1030-W to C4030-W (Excluding 6000, 800) K (Excluding 600, 800) K (Exc	c1/8) is ith CKD 0 electing ny other t. oressure	G Pipi Bla A6 A8 A10 A11 A22 A22 A32 *Adapt Bla Bla C C C C C Pres Bla G4 G4 G4	1 ng adap ank *W *W 5*W 5*W 2*W tor screv ank N 3 ssure ga ank 5P 9P	MPa display, NPT, G thread tor set (attached) Not attached Rc1/8 piping adaptor set Rc1/4 piping adaptor set Rc3/8 piping adaptor set Rc1/2 piping adaptor set Rc3/4 piping adaptor set Rc1 piping adaptor set Rc1 1/4 piping adaptor set Rc1 1/4 piping adaptor set v type Rc thread NPT thread G thread Uge option (attached) Not attached G45D-8-P10(L:G45D-8-P04) G49D-8-P10(L:G49D-8-P04)		• • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • •	<ul> <li>•</li> <li>•&lt;</li></ul>	• • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • •	
option "L". te 8:When option "T6" is selected, only "Blank" or "R2" selected for "H" pressure gauge (attached). The digital pressure sensor PPX mounting port (Ro assembled by open. te 9:The output type is NPN transistor output. Consult wi when the PNP transistor output is required. te10: Installation position Applicable model D F+M+(D)+R C1030-W to C8030-W S C1030-W to C8030-W S C1030-W to C8030-W Nor F+M+R+(S, P) (Excluding 1000,6000,800 P (C1030-W to C4030-W C1030-W to C4030-W Note) Indicate "U"+"D", "S","P","V" and "K" when se an assembly attachment. Use custom combinations specifications for an combination. te 11: The joiner set is enclosed with the piping adaptor set	c1/8) is ith CKD 0 electing ny other t. oressure	G Pipi Bla A6 A8 A10 A11 A22 A22 A22 A32 *Adapi Bla Bla Bla G4 G4 G4 G4 G5 G4	1 ng adap nk *W 5*W 5*W 5*W 5*W tor screv ank 5 Ssure ga ank 5 9 9 9 9 9 9 9 9 0 0 0	MPa display, NPT, G thread tor set (attached) Not attached Rc1/8 piping adaptor set Rc1/4 piping adaptor set Rc3/8 piping adaptor set Rc3/4 piping adaptor set Rc3/4 piping adaptor set Rc1 piping adaptor set Rc1 piping adaptor set Rc1 1/4 piping adaptor set v type Rc thread MPT thread G thread Uge option (attached) Not attached G45D-8-P10(L:G45D-8-P04) G59D-8-P10(L:G59D-8-P04) G40D-8-P10(L:G40D-8-P04)			• • • • • • • • • • • • • • • • • • •	<ul> <li>•</li> <li>•&lt;</li></ul>	<ul> <li>•</li> <li>•</li></ul>	• • • • • • • • • • • • • • • • • • •	

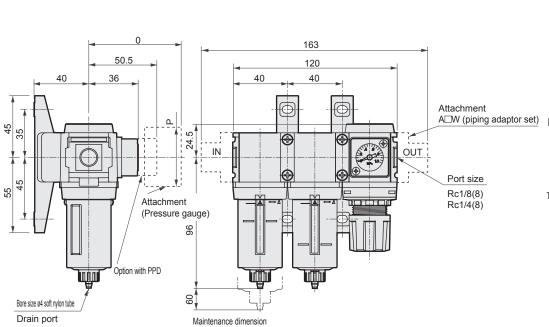
307

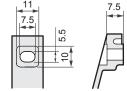
**CKD** 





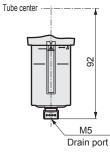






Enlarged view of bracket section

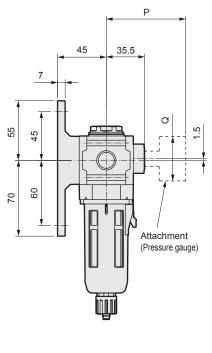
Option dimensions
 With automatic drain (F1)

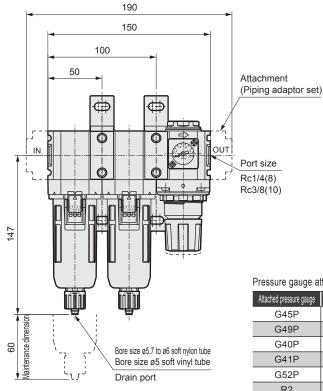


Pressure gauge attached optional dimensions table

G45P         (74)         ø39           G49P         (73.5)         ø43.5           G59P         (76)         ø52           G40P         (75.5)         ø42.5           G50P         (75.5)         ø52.5           G41P         (74)         ø42           G52P         (86)         ø52.5           R2         (74)         □30	Attached pressure gauge	0	Р
G59P         (76)         ø52           G40P         (75.5)         ø42.5           G50P         (75.5)         ø52.5           G41P         (74)         ø42           G52P         (86)         ø52.5	G45P	(74)	ø39
G40P         (75.5)         ø42.5           G50P         (75.5)         ø52.5           G41P         (74)         ø42           G52P         (86)         ø52.5	G49P	(73.5)	ø43.5
G50P         (75.5)         ø52.5           G41P         (74)         ø42           G52P         (86)         ø52.5	G59P	(76)	ø52
G41P         (74)         ø42           G52P         (86)         ø52.5	G40P	(75.5)	ø42.5
G52P (86) ø52.5	G50P	(75.5)	ø52.5
	G41P	(74)	ø42
R2 (74) 🗆 30	G52P	(86)	ø52.5
	R2	(74)	□30

### • C2030-W

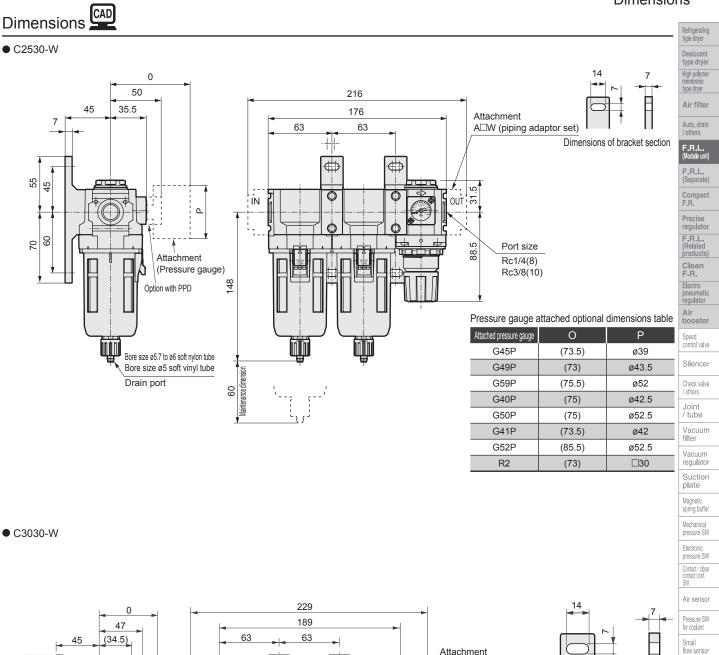




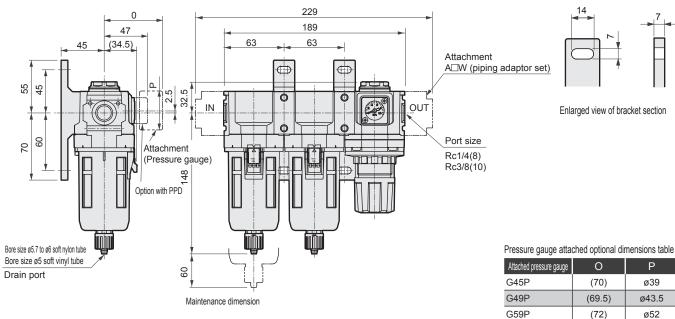
Pressure	gauge	attached	optional	dimensions	table
----------	-------	----------	----------	------------	-------

Attached pressure gauge	Р	Q
G45P	(73.5)	ø39
G49P	(73)	ø43.5
G40P	(75)	ø42.5
G41P	(73.5)	ø42
G52P	(85.5)	ø52.5
R2	(73)	□30





#### • C3030-W



• Refer to page 357 for the dimensions of the metal bowl option filter and page 367 for the oil mist filter.

Ending

Small flow controller

Flow sensor for air

Flow sensor for water

Total aiı system

Total air system (Gamma)

Standard series F.R.L. unit

Ρ

ø39

ø43.5

ø52

ø42.5

ø52.5

ø42

ø52.5

□30

(71.5)

(71.5)

(70)

(82)

(69.5)

G40P

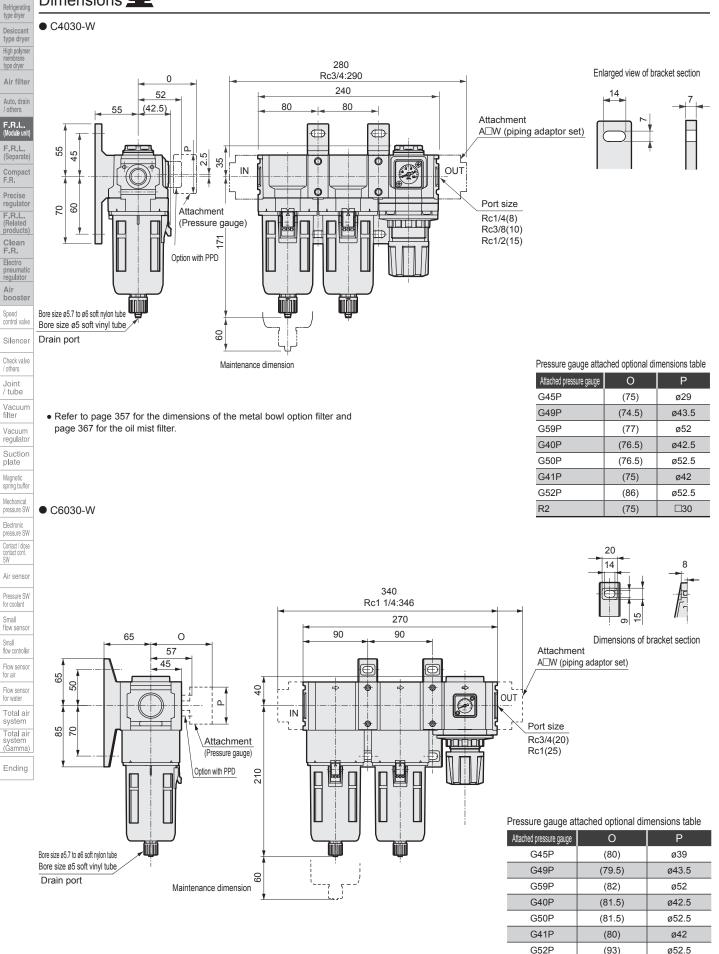
G50P

G41P

G52P

R2

# Dimensions CAD



□30

(80)

R2

C8030-W

Pressure SW for coolant

Small flow senso

Small flow controller Flow sensor for air Flow sensor for water Total air system Total air system (Gamma)

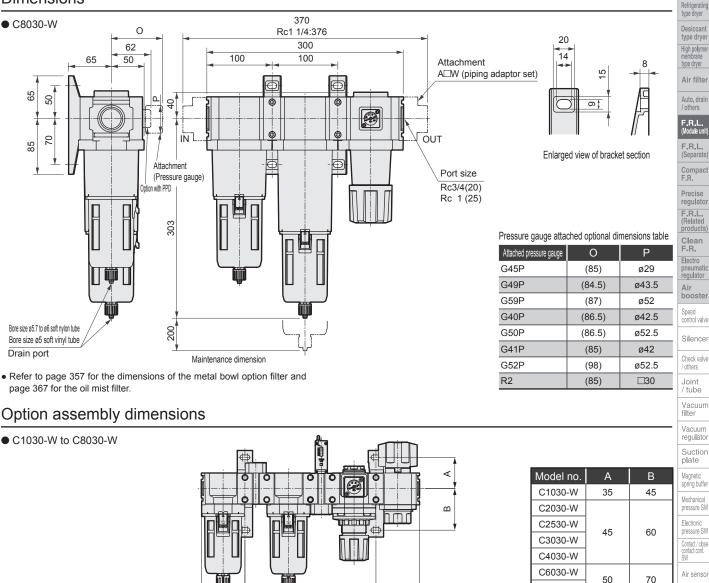
Ending

Standard series F.R.L. unit

311

Option assembly dimensions

### Dimensions



						-										•											
Assembled option		D		S (	Note	e 1)		Ρ			V			Κ		DS	(Not	e 1)		DP			DV			DK	
Model no.	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
C1030-W	40	68	148	40	80	169.5	-	-	-	40	80	160	-	-	-	40	108	197.5	-	-	-	40	108	188	-	-	<b>-</b>
C2030-W	50	94.5	181.5	50	113	201.5	50	113	230	50	113	213	50	113	213	50	144.5	233	50	144.5	261.5	50	144.5	244.5	50	144.5	244.5
C2530-W	63	94.5	207.5	63	113	227.5	63	113	256	63	113	239	63	113	239	63	144.5	259	63	144.5	287.5	63	144.5	270.5	63	144.5	270.5
C3030-W	63	94.5	220.5	63	126	240.5	63	126	269	63	126	252	63	126	252	63	157.5	272	63	157.5	300.5	63	157.5	283.5	63	157.5	283.5
C4030-W	80	111.5	271.5	80	160	291.5	80	160	320	80	160	303	80	160	303	80	191.5	323	80	191.5	351.5	80	191.5	334.5	80	191.5	334.5
C4030-20-W Note 1	100	111.5	311.5	100	160	311.5	100	160	360	100	160	343	100	160	343	100	191.5	343	100	191.5	391.5	100	191.5	374.5	100	191.5	374.5
C6030-W	90	140	320	90	180	355	-	-	-	-	-	-	90	180	360	90	230	405	-	-	-	-	-	-	90	230	410
C8030-W	100	150	350	100	200	385	-	-	-	-	-	-	100	200	390	100	250	435	-	-	-	-	-	-	100	250	440
Assembled option		DSV			DSK			DPV			DPK			SV			SK			ΡV			ΡK				
Model no.	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3			
C1030-W	40	136	216	-	-	-	-	-	-	-	-	-	40	108	188.0	-	-	-	-	-	-	-	-	-			
C2030-W	50	176	276	50	176	276	50	225	325	50	225	325	50	144.5	244.5	50	144.5	244.5	50	193	293	50	193	293			
C2530-W	63	176	302	63	176	302	63	225	351	63	225	351	63	144.5	270.5	63	144.5	270.5	63	193	319	63	193	319			
C3030-W	63	189	315	63	189	315	63	238	364	63	238	364	63	157.5	283.5	63	157.5	283.5	63	206	332	63	206	332			
C4030-W	80	223	366	80	223	366	80	271.5	414.5	80	271.5	414.5	80	191.5	334.5	80	191.5	334.5	80	240	383	80	240	383			
C4030-20-W Note 1	100	223	406	100	223	406	100	271.5	454.5	100	271.5	454.5	100	191.5	374.5	100	191.5	374.5	100	240	423	100	240	423			
C6030-W	-	-	-	90	280	460	-	-	-	-	-	-	-	-	-	90	230	410	-	-	-	-	-	-			
C8030-W	-	-	-	100	300	490	-	-	-	-	-	-	-	-	-	100	250	440	-	-	-	-	-	-			

12

L3

L1

L1: Dimensions from the IN edge to center of the T-type bracket mounting hole

L2: Spacing dimensions of the mounting hole from the first T-type bracket to the second T-type bracket

L3: Dimensions from the IN edge to the OUT edge

\* Refer to page 425 for details on bracket mounting hole dimensions.

Note 1:The piping adaptor is assembled on the OUT side.Piping adaptor A400-20-W is attached on the both ends of C4030-20-W.



# W.M. combination standard white Series C1040/C2040/C3040/C4040/C8040-W Series

Filter/regulator and oilmist filter integrated. Port size: 1/8 to 1





### High polyme membrane type dryer Air filter Auto, drain / others F.R.L. (Module uni F.R.L. (Separate Compact F.R. Precise regulato F.R.L. (Related products) Clean F.R. Electro pneumation regulator Air booster Speed control valve Silencer Check valve / others Joint / tube Vacuum fi**l**ter Vacuum regulator Suction plate Magnetic spring buffer Mechanical pressure SW Electronic pressure SW Contact / close contact conf. SW Air sensor Pressure SW for coolant

Refrigerating type dryer

Desiccant type dryer

Specifications

	Oper	Incations					
it)	Γ	Descriptions	C1040-W	C2040-W	C3040-W	C4040-W	C8040-W
e) ct or s) ic er /e	Appearance						
	Components -	Filter regulator	W1000-W	W2000-W	W3000-W	W4000-W	W8000-W
		Oil mist filter	M1000-W	M2000-W	M3000-W	M4000-W	M8000-W
n	Workir	-			Compressed air		
1		orking pressure MPa			1.0 Note 3		
or		nding pressure MPa			1.5		
n		temperature range °C		1	5 to 60		Note 2
er	<u> </u>	essure range MPa	0.1 to 0.85 Note 3		0.1 to 0.85 N	lote 5 / Note 6	
	Relief			(	With relief mechanism		
Ν	Port si		1/8, 1/4 (3/8 uses an adaptor)				3/4, 1 (1 1/4 uses an adaptor)
N		ct weight kg	0.31	0.74	0.97	1.52	3.52
se		ary oil concentration		1	0.01mg/m <sup>3</sup> or less		
_	Max. flo	w rate (Note 1) m <sup>3</sup> /min.	0.15	0.25	0.36	0.825	2.6

Note 1: Maximum flow rate is for the regulator setting pressure 0.7MPa Refer to page 352 for the maximum flow of element option "Y".

Note 2: The working temperature range of the pressure switch with indicator PPD assembly "R1" is 5 to 50°C.

Note 3: When using C1040-W series "F1" with an automatic drain, the minimum operating pressure is 0.2 MPa and maximum operation pressure is 0.7 MPa. Refer to the maximum processing flow table (page 352) for the F1000-W-F1 automatic drain for the maximum working flow. Set the working flow to less than the maximum working flow.

Note 4: Refer to page 360 for details on other oil mist filters.

Note 5: When "F" with an automatic drain is selected, the supply air pressure is 0.2MPa or more. The minimum setting pressure is 0.15MPa. Automatic drain supply air pressure of a filter/regulator is 0.1MPa. Initially generated drainage and air are purged until pressure reaches 0.1 MPa.

Note 6: When "F1" with an automatic drain is selected, the supply air pressure is 0.2MPa or more. The minimum setting pressure is 0.15MPa.

Small flow sensor

Small flow controller

Flow sensor for air

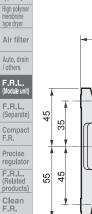
Flow sensor for water Total air system Total air

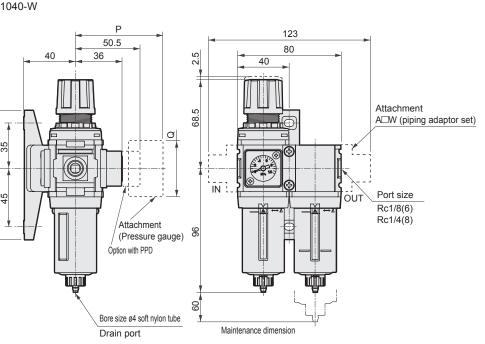
How to order

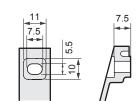
21040 - 6 - W - F1 - U SV A6W		1	planation of the option. re gauge option (attached)	C 1 4	C 2 0 4	C 3 0 4	l no C 4 0 4	C 8 0 4
	Syr	nbol	Descriptions	ō	ō	ō	ō	ō
Model no.	B Por		•					
Port size		6	1/8	•				
		В	1/4	•	•	•	٠	
	1	0	3/8		•	•	٠	
	1	5	1/2				٠	
		0	3/4				Note 1	•
	2	5	1					•
	© Por	t thread	type				Not	e 2
Port thread type	Bla	ank	Rc thread	•	•	•	٠	•
	I	N	NPT thread	•	•	•	٠	•
		G	G thread			•	•	•
	D Opt	ion					Not	е 3
Option		Blank	With manual drain cock	•	•	•	٠	•
	Drainage	F	Auto. drain with manual override (NO type: Exhaust w/o pressurized)			•	٠	•
	Note 4,	F1	Auto. drain with manual override (NC type: No exhaust w/o pressurized)	•	•	•	٠	•
	Note 5	FF	Large auto. drain with manual override (NO type: Exhaust w/o pressurized)					•
		FF1	Large auto. drain with manual override (NC type: No exhaust w/o pressurized)					•
		Blank	Polycarbonate bowl	•	•	•	•	•
Assembly attachment	Bowl	Z	Nylon bowl	•	•	•	•	•
	material	M	Metal bowl			•	•	•
Display unit		M1	Metal bowl with manual drain cock		•	•	•	•
	Element	Blank	5µm	•	•	•	•	•
Piping adaptor	Differential	Y Blank	0.3µm (submicron) Note 6 Without differential pressure detection port	•	•	•	•	•
set (attached)	pressure	Q	With differential pressure detection port (Rc1/4)		-	-	-	•
	detection Pressure	Blank	0.05 to 0.85MPa	•	•	•	•	•
Note on model no. selection	Range	L	0.05 to 0.35MPa Note 7	•	•	•	•	•
a 1. Diving adapter 1400 20* W is attached on the bath and of	-	Blank	With relief mechanism	•	•	•	•	•
e 1:Piping adaptor A400-20*-W is attached on the both ends of C4040-20*-W. "A20*W" does not need to be selected for the	Relief	N	Nonrelief type	•	•	•	•	•
piping adaptor set.		Blank	With standard pressure gauge (G401-W)	•	•	•	•	•
e 2:When G threads or NPT threads are selected, the IN, OUT,		т	W/o pressure gauge (pressure gauge port (Rc1/4) is assembled with sealed)	•	•	•	•	•
gauge port, and drainage discharge port (metal bowl	Pressure	Т8	Pressure gauge attached (pressure gauge port (Rc1/4) is assembled by open)	•	•	•	٠	•
automatic drain) are the target, as are attachments P and V.	gauge							•
,		T6	Digital pressure sensor PPX attachment option Note 8	•		•	٠	-
e 3:Select options for each drainage, bowl material, element,		T6 R1	Digital pressure sensor PPX attachment option         Note 8           Pressure switch with display PPD assembly         Note 9	•	•	•	•	•
e 3:Select options for each drainage, bowl material, element, differential pressure detection, and regulator items. When	Flow				•			
e 3:Select options for each drainage, bowl material, element, differential pressure detection, and regulator items. When selecting options for several items, list options in order from	Flow Direction	R1	Pressure switch with display PPD assembly Note 9	•		•	•	•
e 3:Select options for each drainage, bowl material, element, differential pressure detection, and regulator items. When selecting options for several items, list options in order from the top.	Direction	R1 Blank X1	Pressure switch with display PPD assembly Note 9 Standard flow (left $\rightarrow$ right)	•	•	•	•	•
<ul> <li>e 3:Select options for each drainage, bowl material, element, differential pressure detection, and regulator items. When selecting options for several items, list options in order from the top.</li> <li>e 4:Refer to page 276 for the automatic drain use conditions.</li> </ul>	Direction E Ass	R1 Blank X1	Pressure switch with display PPD assembly Note 9 Standard flow (left $\rightarrow$ right) Reverse flow (right $\rightarrow$ left)	•	•	•	•	•
e 3:Select options for each drainage, bowl material, element, differential pressure detection, and regulator items. When selecting options for several items, list options in order from the top.	Direction	R1 Blank X1 embly a	Pressure switch with display PPD assemblyNote 9Standard flow (left $\rightarrow$ right)Reverse flow (right $\rightarrow$ left)ttachmentPages 40	• • • 02 to	•	•	• • • 26, 4	• • • 27
<ul> <li>e 3:Select options for each drainage, bowl material, element, differential pressure detection, and regulator items. When selecting options for several items, list options in order from the top.</li> <li>e 4:Refer to page 276 for the automatic drain use conditions.</li> <li>e 5:When option symbol "F" is selected, the NO automatic drain</li> </ul>	Direction Ass Bla	R1 Blank X1 embly a ank J S	Pressure switch with display PPD assembly       Note 9         Standard flow (left → right)       Reverse flow (right → left)         ttachment       Pages 40         Without assembly attachment type       Assembly attachment type         Assembly attachment type       Note 10         Pressure switch (P1100-W, 4100-W, 8100-W)	• • • 02 to	• • • • •	• • • • • • •	• • 26, 4 • •	• • • • •
<ul> <li>a 3:Select options for each drainage, bowl material, element, differential pressure detection, and regulator items. When selecting options for several items, list options in order from the top.</li> <li>b 4:Refer to page 276 for the automatic drain use conditions.</li> <li>b 5:When option symbol "F" is selected, the NO automatic drain is enclosed for the filter regulator and the NC automatic drain is enclosed for the oil mist filter. When option symbol "F1" is selected, the NC automatic drain</li> </ul>	Direction Ass Bla	R1 Blank X1 embly a ank J S P	Pressure switch with display PPD assembly       Note 9         Standard flow (left → right)       Reverse flow (right → left)         ttachment       Pages 40         Without assembly attachment type       Assembly attachment type         Assembly attachment type       Note 10         Pressure switch (P1100-W, 4100-W, 8100-W)       Pressure switch (P4000-W)	<ul> <li>•</li> <li>•&lt;</li></ul>	• • • • • •	• • • • • •	• • 26, 4	• • • • • •
<ul> <li>a 3:Select options for each drainage, bowl material, element, differential pressure detection, and regulator items. When selecting options for several items, list options in order from the top.</li> <li>b 4:Refer to page 276 for the automatic drain use conditions.</li> <li>b 5:When option symbol "F" is selected, the NO automatic drain is enclosed for the filter regulator and the NC automatic drain is selected, the NC automatic drain is selected, the NC automatic drain is selected, the NC automatic drain is enclosed for the oil mist filter. When option symbol "F1" is selected, the NC automatic drain is enclosed for both the air filter/regulator and oil mist filter. For both "FF" and "FF1", only</li> </ul>	Direction Ass Bla	R1 Blank X1 embly a ank J S P V	Pressure switch with display PPD assembly       Note 9         Standard flow (left → right)       Reverse flow (right → left)         ttachment       Pages 40         Without assembly attachment type       Assembly attachment type         Assembly attachment type       Note 10         Pressure switch (P1100-W, 4100-W, 8100-W)       Pressure switch (P4000-W)         Shut-off valve (V1000-W, 3000-W)       Shut-off valve (V1000-W, 3000-W)	• • • • •	<ul> <li>413</li> <li>414</li> <li>414</li></ul>	• • • • • • • • • • • • • • • • • •	• • 26, 2 • • • •	• • • • • •
<ul> <li>a 3:Select options for each drainage, bowl material, element, differential pressure detection, and regulator items. When selecting options for several items, list options in order from the top.</li> <li>a 4:Refer to page 276 for the automatic drain use conditions.</li> <li>b 5:When option symbol "F" is selected, the NO automatic drain is enclosed for the filter regulator and the NC automatic drain is enclosed for the oil mist filter. When option symbol "F1" is selected, the NC automatic drain if filter/regulator and oil mist filter. For both "FF" and "FF1", only the filter/regulator has a large discharge rate, and the oil mist</li> </ul>	Direction	R1 Blank X1 embly a ank J S P	Pressure switch with display PPD assembly       Note 9         Standard flow (left → right)       Reverse flow (right → left)         ttachment       Pages 40         Without assembly attachment type       Assembly attachment type         Assembly attachment type       Note 10         Pressure switch (P1100-W, 4100-W, 8100-W)       Pressure switch (P4000-W)	<ul> <li>•</li> <li>•&lt;</li></ul>	• • • • • •	• • • • • • •	• • 26, 4 • •	• • • • • •
<ul> <li>a 3:Select options for each drainage, bowl material, element, differential pressure detection, and regulator items. When selecting options for several items, list options in order from the top.</li> <li>a 4:Refer to page 276 for the automatic drain use conditions.</li> <li>a 5:When option symbol "F" is selected, the NO automatic drain is enclosed for the filter regulator and the NC automatic drain is enclosed for the oil mist filter. When option symbol "F1" is selected, the NC automatic drain if filter/regulator and oil mist filter. For both "FF" and "FF1", only the filter/regulator has a large discharge rate, and the oil mist filter is a normal NC automatic drainage.</li> </ul>	Direction E Ass Bla U pa aq u ssy V	R1 Blank X1 embly a ank J S P V	Pressure switch with display PPD assemblyNote 9Standard flow (left $\rightarrow$ right)Reverse flow (right $\rightarrow$ left)ttachmentPages 40Without assembly attachment typeAssembly attachment typeAssembly attachment typeAssembly attachment typeNote 10Pressure switch (P1100-W, 4100-W, 8100-W)Pressure switch (P4000-W)Shut-off valve (V1000-W, 3000-W)Lockout valve (V3010-W, W6010-W)	<ul> <li>•</li> <li>•&lt;</li></ul>	<ul> <li>413</li> <li>414</li> <li>414</li></ul>	• • • • • • • • • • • • • • • • • •	• • 26, 2 • • • •	• • • • • •
<ul> <li>a 3:Select options for each drainage, bowl material, element, differential pressure detection, and regulator items. When selecting options for several items, list options in order from the top.</li> <li>b 4:Refer to page 276 for the automatic drain use conditions.</li> <li>c 5:When option symbol "F" is selected, the NO automatic drain is enclosed for the filter regulator and the NC automatic drain is enclosed for the oil mist filter. When option symbol "F1" is selected, the NC automatic drain is enclosed for the oil mist filter. When option symbol "F1" is selected, the NC automatic drain is enclosed for both the air filter/regulator and oil mist filter. For both "FF" and "FF1", only the filter/regulator has a large discharge rate, and the oil mist filter is a normal NC automatic drainage.</li> <li>c 6:Refer to page 352 for maximum processing flow when option</li> </ul>	Direction C Ass Bla Day Ass Bla C Day Ass C Day C C Day C Day C C Day C C Day C C C C C C C C C C C C C	R1 Blank X1 embly a ank J S P V K play unit	Pressure switch with display PPD assembly       Note 9         Standard flow (left → right)       Reverse flow (right → left)         Itachment       Pages 40         Without assembly attachment type       Assembly attachment type         Assembly attachment type       Note 10         Pressure switch (P1100-W, 4100-W, 8100-W)       Pressure switch (P4000-W)         Shut-off valve (V1000-W, 3000-W)       Lockout valve (V3010-W, W6010-W)         MPa display, Rc thread       MPa display, Rc thread	<ul> <li>•</li> <li>•&lt;</li></ul>		<ul> <li>•</li> <li>•&lt;</li></ul>	<ul> <li>•</li> <li>•&lt;</li></ul>	• • • • • •
<ul> <li>a 3:Select options for each drainage, bowl material, element, differential pressure detection, and regulator items. When selecting options for several items, list options in order from the top.</li> <li>a 4:Refer to page 276 for the automatic drain use conditions.</li> <li>a 5:When option symbol "F" is selected, the NO automatic drain is enclosed for the filter regulator and the NC automatic drain is enclosed for the oil mist filter. When option symbol "F1" is selected, the NC automatic drain if filter/regulator and oil mist filter. For both "FF" and "FF1", only the filter/regulator has a large discharge rate, and the oil mist filter is a normal NC automatic drainage.</li> </ul>	Direction C Ass Bla Day Ass Bla C Day Ass C Day C C Day C Day C C Day C C Day C C C C C C C C C C C C C	R1 Blank X1 embly ar ank J S P V K play unit	Pressure switch with display PPD assembly       Note 9         Standard flow (left → right)       Reverse flow (right → left)         ttachment       Pages 40         Without assembly attachment type       Assembly attachment type         Assembly attachment type       Note 10         Pressure switch (P1100-W, 4100-W, 8100-W)       Pressure switch (P4000-W)         Shut-off valve (V1000-W, 3000-W)       Lockout valve (V3010-W, W6010-W)	<ul> <li>•</li> <li>•&lt;</li></ul>		<ul> <li>•</li> <li>•&lt;</li></ul>	• • • • • • • •	• • • • • • • •
<ul> <li>a 3:Select options for each drainage, bowl material, element, differential pressure detection, and regulator items. When selecting options for several items, list options in order from the top.</li> <li>b 4:Refer to page 276 for the automatic drain use conditions.</li> <li>c 5:When option symbol "F" is selected, the NO automatic drain is enclosed for the filter regulator and the NC automatic drain is enclosed for the oil mist filter. When option symbol "F1" is selected, the NC automatic drain is enclosed for the oil mist filter. For both "F1" and "F1", only the filter/regulator and oil mist filter. For both "FF" and "FF1", only the filter/regulator has a large discharge rate, and the oil mist filter is a normal NC automatic drainage.</li> <li>c 6:Refer to page 352 for maximum processing flow when option "Y" is selected.</li> </ul>	Direction C Ass Bla Direction Bla SSS Display Bla J	R1 Blank X1 embly a ank J S P V K play unit ank 1	Pressure switch with display PPD assembly       Note 9         Standard flow (left → right)       Reverse flow (right → left)         Reverse flow (right → left)       Itachment         Years and the same set of t	<ul> <li>•</li> <li>•&lt;</li></ul>		<ul> <li>•</li> <li>•&lt;</li></ul>	<ul> <li>•</li> <li>•&lt;</li></ul>	• • • • • • • • • • • • • • • • • • •
<ul> <li>a 3:Select options for each drainage, bowl material, element, differential pressure detection, and regulator items. When selecting options for several items, list options in order from the top.</li> <li>b 4:Refer to page 276 for the automatic drain use conditions.</li> <li>b 5:When option symbol "F" is selected, the NO automatic drain is enclosed for the filter regulator and the NC automatic drain is enclosed for the oil mist filter. When option symbol "F1" is selected, the NC automatic drain is enclosed for the oil mist filter. For both "FF" and "FF1", only the filter/regulator has a large discharge rate, and the oil mist filter is a normal NC automatic drainage.</li> <li>b 6:Refer to page 352 for maximum processing flow when option "Y" is selected.</li> <li>c 7:The pressure gauge's indication range is 0 to 0.4MPa for option "L".</li> <li>c 8:When option "T6" is selected, only "no symbol" or "R2" can be</li> </ul>	Direction Ass Bla Den a Bla Bla Dis Bla Dis Bla Dis Bla Dis Bla Dis Bla Dis Dis Dis Dis Dis Dis Dis Dis	R1 Blank X1 embly a ank J S P V K play unit ank 1	Pressure switch with display PPD assembly       Note 9         Standard flow (left → right)       Reverse flow (right → left)         Reverse flow (right → left)       Image: standard flow (left → right)         ttachment       Pages 40         Without assembly attachment type       Assembly attachment type         Assembly attachment type       Note 10         Pressure switch (P1100-W, 4100-W, 8100-W)       Pressure switch (P4000-W)         Shut-off valve (V1000-W, 3000-W)       Lockout valve (V3010-W, W6010-W)         MPa display, Rc thread       MPa display, NPT, G thread	<ul> <li>•</li> <li>•&lt;</li></ul>		<ul> <li>•</li> <li>•&lt;</li></ul>	<ul> <li>•</li> <li>•&lt;</li></ul>	• • • • • • • • • • • • • • • • • • •
<ul> <li>a 3:Select options for each drainage, bowl material, element, differential pressure detection, and regulator items. When selecting options for several items, list options in order from the top.</li> <li>b 4:Refer to page 276 for the automatic drain use conditions.</li> <li>b 5:When option symbol "F" is selected, the NO automatic drain is enclosed for the filter regulator and the NC automatic drain is enclosed for the oil mist filter. When option symbol "F1" is selected, the NC automatic drain is enclosed for the oil mist filter. For both "FF" and "FF1", only the filter/regulator has a large discharge rate, and the oil mist filter is a normal NC automatic drainage.</li> <li>b 6:Refer to page 352 for maximum processing flow when option "Y" is selected.</li> <li>c 7:The pressure gauge's indication range is 0 to 0.4MPa for option "L".</li> <li>c 8:When option "T6" is selected, only "no symbol" or "R2" can be selected for "H" pressure gauge (attached).</li> </ul>	Direction C Ass Bla U Paq Bla Bla J C Pipi Bla A6	R1 Blank X1 embly a ank J S P V K Dlay unit ank 1 ng adap ank *W	Pressure switch with display PPD assemblyNote 9Standard flow (left $\rightarrow$ right)Reverse flow (right $\rightarrow$ left)ttachmentPages 40Without assembly attachment typeAssembly attachment typeAssembly attachment typeAssembly attachment typeAssembly attachment typeAssembly attachment typeNote 10Pressure switch (P1100-W, 4100-W, 8100-W)Shut-off valve (V1000-W, 3000-W)Lockout valve (V3010-W, 06010-W)MPa display, Rc threadMPa display, Rc threadMPa display, NPT, G threadtor set (attached)Not attachedRc1/8 piping adaptor set	Comparison of the second	<ul> <li>413</li> <li>413</li></ul>	<ul> <li>•</li> <li>•&lt;</li></ul>	(     (         (         (	<ul> <li>•</li> <li>•&lt;</li></ul>
<ul> <li>a 3:Select options for each drainage, bowl material, element, differential pressure detection, and regulator items. When selecting options for several items, list options in order from the top.</li> <li>b 4:Refer to page 276 for the automatic drain use conditions.</li> <li>b 5:When option symbol "F" is selected, the NO automatic drain is enclosed for the filter regulator and the NC automatic drain is enclosed for the oil mist filter. When option symbol "F1" is selected, the NC automatic drain is enclosed for the oil mist filter. When option symbol "F1" is selected, the NC automatic drain is enclosed for both the air filter/regulator and oil mist filter. For both "FF" and "FF1", only the filter/regulator has a large discharge rate, and the oil mist filter is a normal NC automatic drainage.</li> <li>c 6:Refer to page 352 for maximum processing flow when option "Y" is selected.</li> <li>c 7:The pressure gauge's indication range is 0 to 0.4MPa for option "L".</li> <li>c 8:When option "T6" is selected, only "no symbol" or "R2" can be selected for "H" pressure gauge (attached). The digital pressure sensor PPX mounting port (Rc1/8) is</li> </ul>	Direction C Ass Bla U Page Bla Bla G Pipi Bla Ass Ass Ass C Ass C C Ass C C Ass C C Ass C C Ass C C C Ass C C C Ass C C C C Ass C C C C C C C C C C C C C C C C C C C	R1 Blank X1 embly a ank J S P V K play unit ank 1 ng adap ank *W	Pressure switch with display PPD assemblyNote 9Standard flow (left $\rightarrow$ right)Reverse flow (right $\rightarrow$ left)Reverse flow (right $\rightarrow$ left)ttachmentPages 40Without assembly attachment typeAssembly attachment typeNote 10Pressure switch (P1100-W, 4100-W, 8100-W)Pressure switch (P1000-W, 3000-W)Shut-off valve (V1000-W, 3000-W)Lockout valve (V3010-W, W6010-W)MPa display, Rc threadMPa display, NPT, G threadtor set (attached)Not attachedRc1/8 piping adaptor setRc1/4 piping adaptor set	Comparison of the second	All 3     All 3     All 3     All 3     All 3     All 3     All 4     A	<ul> <li>•</li> <li>•&lt;</li></ul>	<ul> <li>0</li> <li>26, 2</li> <li>0</li> <l< td=""><td><ul> <li>•</li> <li>•&lt;</li></ul></td></l<></ul>	<ul> <li>•</li> <li>•&lt;</li></ul>
<ul> <li>a 3:Select options for each drainage, bowl material, element, differential pressure detection, and regulator items. When selecting options for several items, list options in order from the top.</li> <li>b 4:Refer to page 276 for the automatic drain use conditions.</li> <li>b 5:When option symbol "F" is selected, the NO automatic drain is enclosed for the filter regulator and the NC automatic drain is enclosed for the oil mist filter. When option symbol "F1" is selected, the NC automatic drain is enclosed for the oil mist filter. When option symbol "F1" is selected, the NC automatic drain is enclosed for both the air filter/regulator and oil mist filter. For both "FF" and "FF1", only the filter/regulator has a large discharge rate, and the oil mist filter is a normal NC automatic drainage.</li> <li>b 6:Refer to page 352 for maximum processing flow when option "Y" is selected.</li> <li>c 7:The pressure gauge's indication range is 0 to 0.4MPa for option "L".</li> <li>c 8:When option "T6" is selected, only "no symbol" or "R2" can be selected for "H" pressure gauge (attached).</li> <li>The digital pressure sensor PPX mounting port (Rc1/8) is assembled by open.</li> </ul>	Direction C Ass Bla U Page Bla Bla C Pipl Bla Ass Ass Ass C C C C C C C C C C C C C C C C C C C	R1 Blank X1 embly a ank J S P V K blay unit ank 1 ng adap ank *W *W	Pressure switch with display PPD assemblyNote 9Standard flow (left $\rightarrow$ right)Reverse flow (right $\rightarrow$ left)Reverse flow (right $\rightarrow$ left)ttachmentPages 40Without assembly attachment typeAssembly attachment typeNote 10Pressure switch (P1100-W, 4100-W, 8100-W)Pressure switch (P4000-W)Shut-off valve (V1000-W, 3000-W)Lockout valve (V3010-W, W6010-W)MPa display, Rc threadMPa display, NPT, G threadtor set (attached)Not attachedRc1/8 piping adaptor setRc3/8 piping adaptor set	Comparison of the second	All 3     All 3     All 3     All 3     All 4     All 3     All 4     A	<ul> <li></li></ul>	<ul> <li>0</li> <li>26, 4</li> <li>0</li> <l< td=""><td><ul> <li>•</li> <li>•&lt;</li></ul></td></l<></ul>	<ul> <li>•</li> <li>•&lt;</li></ul>
<ul> <li>a 3:Select options for each drainage, bowl material, element, differential pressure detection, and regulator items. When selecting options for several items, list options in order from the top.</li> <li>b 4:Refer to page 276 for the automatic drain use conditions.</li> <li>b 5:When option symbol "F" is selected, the NO automatic drain is enclosed for the filter regulator and the NC automatic drain is enclosed for the oil mist filter. When option symbol "F1" is selected, the NC automatic drain is enclosed for the oil mist filter. For both "FF" and "FF1", only the filter/regulator has a large discharge rate, and the oil mist filter is a normal NC automatic drainage.</li> <li>c 6:Refer to page 352 for maximum processing flow when option "Y" is selected.</li> <li>c 7:The pressure gauge's indication range is 0 to 0.4MPa for option "L".</li> <li>c 8:When option "T6" is selected, only "no symbol" or "R2" can be selected for "H" pressure gauge (attached). The digital pressure sensor PPX mounting port (Rc1/8) is assembled by open.</li> <li>c 9:The output type is NPN transistor output. Consult with CKD</li> </ul>	Direction C Ass Bla C D C D D C D D S C D D S C D S C D S C D S C C D S C C D S S C C C D S S C C C D S S C C C D S S C C C D S S S C C C D S S C C C D S S C C C D S S C C C D S S C C C D S S C C C S S C C C S C C S S C C S S C C S S C C S S C C S S C C S S C C S S C C S S C C S S C S S C S S C S S C S S C S S C S S S C S S S C S S S C S S S S S S S S S S S S S	R1 Blank X1 embly a ank J S P V K blay unit ank 1 ank ank * W * W 5 * W	Pressure switch with display PPD assemblyNote 9Standard flow (left $\rightarrow$ right)Reverse flow (right $\rightarrow$ left)Reverse flow (right $\rightarrow$ left)ttachmentPages 40Without assembly attachment typeAssembly attachment typeNote 10Pressure switch (P1100-W, 4100-W, 8100-W)Pressure switch (P4000-W)Shut-off valve (V1000-W, 3000-W)Lockout valve (V3010-W, W6010-W)MPa display, Rc threadMPa display, Rc threadMPa display, NPT, G threadtor set (attached)Not attachedRc1/8 piping adaptor setRc3/8 piping adaptor setRc1/2 piping adaptor set	Comparison of the second	All 3     All 3     All 3     All 3     All 3     All 3     All 4     A	<ul> <li>•</li> <li>•&lt;</li></ul>	<ul> <li>•</li> <li>•&lt;</li></ul>	
<ul> <li>a 3:Select options for each drainage, bowl material, element, differential pressure detection, and regulator items. When selecting options for several items, list options in order from the top.</li> <li>b 4:Refer to page 276 for the automatic drain use conditions.</li> <li>b 5:When option symbol "F" is selected, the NO automatic drain is enclosed for the filter regulator and the NC automatic drain is enclosed for the oil mist filter. When option symbol "F1" is selected, the NC automatic drain is enclosed for the oil mist filter. For both "FF" and "FF1", only the filter/regulator and oil mist filter. For both "FF" and "FF1", only the filter/regulator has a large discharge rate, and the oil mist filter is a normal NC automatic drainage.</li> <li>c 6:Refer to page 352 for maximum processing flow when option "Y" is selected.</li> <li>c 7:The pressure gauge's indication range is 0 to 0.4MPa for option "L".</li> <li>c 8:When option "T6" is selected, only "no symbol" or "R2" can be selected for "H" pressure gauge (attached). The digital pressure sensor PPX mounting port (Rc1/8) is assembled by open.</li> <li>c 9:The output type is NPN transistor output. Consult with CKD when the PNP transistor output is required.</li> </ul>	Direction C Ass Bla C C C C C C C C C C C C C	R1 Blank X1 embly a ank J S P V K blay unit ank 1 mg adap ank *W *W 5*W 0*W	Pressure switch with display PPD assemblyNote 9Standard flow (left $\rightarrow$ right)Reverse flow (right $\rightarrow$ left)Reverse flow (right $\rightarrow$ left)ttachmentPages 40Without assembly attachment typeAssembly attachment typeNote 10Pressure switch (P1100-W, 4100-W, 8100-W)Pressure switch (P4000-W)Shut-off valve (V1000-W, 3000-W)Lockout valve (V3010-W, W6010-W)MPa display, Rc threadMPa display, Rc threadMPa display, NPT, G threadtor set (attached)Not attachedRc1/8 piping adaptor setRc3/8 piping adaptor setRc3/8 piping adaptor setRc3/4 piping adaptor set	Comparison of the second	All 3     All 3     All 3     All 3     All 4     All 3     All 4     A	<ul> <li></li></ul>	<ul> <li>0</li> <li>26, 4</li> <li>0</li> <l< td=""><td></td></l<></ul>	
<ul> <li>a 3:Select options for each drainage, bowl material, element, differential pressure detection, and regulator items. When selecting options for several items, list options in order from the top.</li> <li>b 4:Refer to page 276 for the automatic drain use conditions.</li> <li>b 5:When option symbol "F" is selected, the NO automatic drain is enclosed for the filter regulator and the NC automatic drain is enclosed for the oil mist filter. When option symbol "F1" is selected, the NC automatic drain is enclosed for the oil mist filter. When option symbol "F1" is selected, the NC automatic drain is enclosed for base a large discharge rate, and the oil mist filter regulator has a large discharge rate, and the oil mist filter is a normal NC automatic drainage.</li> <li>b 6:Refer to page 352 for maximum processing flow when option "Y" is selected.</li> <li>b 7:The pressure gauge's indication range is 0 to 0.4MPa for option "L".</li> <li>c 8:When option "T6" is selected, only "no symbol" or "R2" can be selected for "H" pressure gauge (attached). The digital pressure sensor PPX mounting port (Rc1/8) is assembled by open.</li> <li>c 9:The output type is NPN transistor output. Consult with CKD when the PNP transistor output is required.</li> <li>ce10: Installation position for assembly attachments</li> </ul>	Direction C Ass Bla C D D D D D S S S S S S S S S S S S S	R1 Blank X1 embly a ank J S P V K blay unit ank 1 mg adap ank *W *W 5*W 5*W	Pressure switch with display PPD assemblyNote 9Standard flow (left $\rightarrow$ right)Reverse flow (right $\rightarrow$ left)Reverse flow (right $\rightarrow$ left)ttachment Pages 40Without assembly attachment typeAssembly attachment typeNote 10Pressure switch (P1100-W, 4100-W, 8100-W)Pressure switch (P4000-W)Shut-off valve (V1000-W, 3000-W)Lockout valve (V3010-W, W6010-W)MPa display, Rc threadMPa display, Rc threadMPa display, NPT, G threadtor set (attached)Not attachedRc1/8 piping adaptor setRc3/8 piping adaptor setRc3/8 piping adaptor setRc3/4 piping adaptor setRc1/2 piping adaptor setRc1 piping adaptor setRc1 piping adaptor set	Comparison of the second	All 3     All 3     All 3     All 3     All 4     All 3     All 4     A	<ul> <li></li></ul>	<ul> <li>•</li> <li>•&lt;</li></ul>	
<ul> <li>a 3:Select options for each drainage, bowl material, element, differential pressure detection, and regulator items. When selecting options for several items, list options in order from the top.</li> <li>b 4:Refer to page 276 for the automatic drain use conditions.</li> <li>b 5:When option symbol "F" is selected, the NO automatic drain is enclosed for the filter regulator and the NC automatic drain is enclosed for the oil mist filter. When option symbol "F1" is selected, the NC automatic drain is enclosed for the oil mist filter. When option symbol "F1" is selected, the NC automatic drain is enclosed for base a large discharge rate, and the oil mist filter regulator has a large discharge rate, and the oil mist filter is a normal NC automatic drainage.</li> <li>b 6:Refer to page 352 for maximum processing flow when option "Y" is selected.</li> <li>b 7:The pressure gauge's indication range is 0 to 0.4MPa for option "L".</li> <li>c 8:When option "T6" is selected, only "no symbol" or "R2" can be selected for "H" pressure gauge (attached). The digital pressure sensor PPX mounting port (Rc1/8) is assembled by open.</li> <li>c 9:The output type is NPN transistor output. Consult with CKD when the PNP transistor output is required.</li> <li>c 9:The listallation position [Applicable model]</li> </ul>	Direction C Ass Bla U Direction C Dis Bla Dis C Pipi Bla Ass Ass Ass Ass Ass Ass Ass As	R1 Blank X1 embly a ank J S P V K blay unit ank 1 mg adap ank *W *W 5*W 5*W 5*W 5*W	Pressure switch with display PPD assemblyNote 9Standard flow (left $\rightarrow$ right)Reverse flow (right $\rightarrow$ left)Reverse flow (right $\rightarrow$ left)ttachmentPages 40Without assembly attachment typeAssembly attachment typeNote 10Pressure switch (P1100-W, 4100-W, 8100-W)Pressure switch (P4000-W)Shut-off valve (V1000-W, 3000-W)Lockout valve (V3010-W, W6010-W)MPa display, Rc threadMPa display, NPT, G threadMPa display, NPT, G threadMPa display, NPT, G threadRc1/8 piping adaptor setRc1/4 piping adaptor setRc1/2 piping adaptor setRc3/8 piping adaptor setRc1/2 piping adaptor setRc1/4 piping adaptor setRc1 1/4 piping adaptor setRc1 1/4 piping adaptor set	Comparison of the second	All 3     All 3     All 3     All 3     All 4     All 3     All 4     A	<ul> <li></li></ul>	<ul> <li>•</li> <li>•&lt;</li></ul>	
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<ul> <li>a 3:Select options for each drainage, bowl material, element, differential pressure detection, and regulator items. When selecting options for several items, list options in order from the top.</li> <li>b 4:Refer to page 276 for the automatic drain use conditions.</li> <li>b 5:When option symbol "F" is selected, the NO automatic drain is enclosed for the filter regulator and the NC automatic drain is enclosed for the oil mist filter. When option symbol "F1" is selected, the NC automatic drain is enclosed for the oil mist filter. For both "FF" and "FF1", only the filter/regulator and oil mist filter. For both "FF" and "FF1", only the filter/regulator has a large discharge rate, and the oil mist filter is a normal NC automatic drainage.</li> <li>b 6:Refer to page 352 for maximum processing flow when option "Y" is selected.</li> <li>c 7:The pressure gauge's indication range is 0 to 0.4MPa for option "L".</li> <li>b 8:When option "T6" is selected, only "no symbol" or "R2" can be selected for "H" pressure gauge (attached). The digital pressure sensor PPX mounting port (Rc1/8) is assembled by open.</li> <li>c 9:The output type is NPN transistor output. Consult with CKD when the PNP transistor output is required.</li> <li>c 10: Installation position Applicable model S or W+(S, P)+M (Excluding 1000,8000 for "P")</li> </ul>	Direction	R1 Blank X1 embly a ank J S P V K blay unit ank 1 mg adap ank * W 5*W 5*W 5*W 5*W 5*W 5*W 5*W 5*W 5*W	Pressure switch with display PPD assembly       Note 9         Standard flow (left → right)       Reverse flow (right → left)         ttachment       Pages 40         Without assembly attachment type       Assembly attachment type         Assembly attachment type       Note 10         Pressure switch (P1100-W, 4100-W, 8100-W)       Pressure switch (P4000-W)         Shut-off valve (V1000-W, 3000-W)       Lockout valve (V3010-W, W6010-W)         MPa display, Rc thread       MPa display, NPT, G thread         MPa display, NPT, G thread       Rc1/8 piping adaptor set         Rc1/8 piping adaptor set       Rc3/8 piping adaptor set         Rc1/2 piping adaptor set       Rc1/2 piping adaptor set         Rc1 /4 piping adaptor set       Rc1 /4 piping adaptor set         Rc1 /4 piping adaptor set       Rc1 /4 piping adaptor set         Rc1 /4 piping adaptor set       Rc1 /4 piping adaptor set         Rc1 /4 piping adaptor set       Rc1 /4 piping adaptor set         Rc1 hipping adaptor set       Rc1 hipping adaptor set         Rc thread       NPT thread         G thread       G thread	2 to 2 to 2 to 3 3 3 4 5 5 5 5 5 5 5 5 5 5 5 5 5	A 113     A	()     ()	<ul> <li></li></ul>	
<ul> <li>a 3:Select options for each drainage, bowl material, element, differential pressure detection, and regulator items. When selecting options for several items, list options in order from the top.</li> <li>b 4:Refer to page 276 for the automatic drain use conditions.</li> <li>b 5:When option symbol "F" is selected, the NO automatic drain is enclosed for the filter regulator and the NC automatic drain is enclosed for the oil mist filter. When option symbol "F1" is selected, the NC automatic drain is enclosed for the oil mist filter. For both "FF" and "FF1", only the filter/regulator has a large discharge rate, and the oil mist filter is a normal NC automatic drainage.</li> <li>b 6:Refer to page 352 for maximum processing flow when option "Y" is selected.</li> <li>c 7:The pressure gauge's indication range is 0 to 0.4MPa for option "L".</li> <li>c 8:When option "T6" is selected, only "no symbol" or "R2" can be selected for "H" pressure gauge (attached). The digital pressure sensor PPX mounting port (Rc1/8) is assembled by open.</li> <li>c 9:The output type is NPN transistor output. Consult with CKD when the PNP transistor output is required.</li> <li>c 10:Installation position Applicable model S when the PNP transistor output is required.</li> <li>c 10:40-W to C8040-W (Excluding 1000,8000 for "P")</li> <li>V C 1040-W to C8040-W</li> </ul>	Direction C Ass Bla U Point Bla S V C Pipi Bla J C Pipi Bla Ass Ass Ass Ass Bla Ass Ass Ass Ass Ass Ass Ass As	R1 Blank X1 embly a ank J S P V K blay unit ank 1 mg adap ank * W 5*W 5*W 5*W 5*W 5*W 5*W 5*W 5*W 5*W	Pressure switch with display PPD assemblyNote 9Standard flow (left → right)Reverse flow (right → left)Reverse flow (right → left)ttachment ment typeAssembly attachment typeNote 10Pressure switch (P1100-W, 4100-W, 8100-W)Pressure switch (P1100-W, 4100-W, 8100-W)Shut-off valve (V1000-W, 3000-W)Lockout valve (V3010-W, 3000-W)Lockout valve (V3010-W, W6010-W)MPa display, Rc threadMPa display, Rc threadMPa display, NPT, G threadtor set (attached)Not attachedRc1/8 piping adaptor setRc1/2 piping adaptor setRc1/2 piping adaptor setRc1/2 piping adaptor setRc1 1/4 piping adaptor setRc threadNPT threadG threaduge option (attached)	Company     C	<ul> <li>4133</li> <li>4133</li> <li>4133</li> <li>4133</li> <li>4134</li> <li>4134<td><ul> <li>42</li> <li>3, 42</li> <li>4</li> <li>4</li> <li>4</li> <li>5</li> <li>6</li> <li>6</li> <li>7</li> <li>7</li> <li>8</li> <li>8</li> <li>8</li> <li>8</li> <li>9</li> &lt;</ul></td><td>Content of the second sec</td><td></td></li></ul>	<ul> <li>42</li> <li>3, 42</li> <li>4</li> <li>4</li> <li>4</li> <li>5</li> <li>6</li> <li>6</li> <li>7</li> <li>7</li> <li>8</li> <li>8</li> <li>8</li> <li>8</li> <li>9</li> &lt;</ul>	Content of the second sec	
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<ul> <li>a 3:Select options for each drainage, bowl material, element, differential pressure detection, and regulator items. When selecting options for several items, list options in order from the top.</li> <li>b 4:Refer to page 276 for the automatic drain use conditions.</li> <li>b 5:When option symbol "F" is selected, the NO automatic drain is enclosed for the filter regulator and the NC automatic drain is enclosed for the oil mist filter. When option symbol "F1" is selected, the NC automatic drain is enclosed for the oil mist filter. For both "FF" and "FF1", only the filter/regulator has a large discharge rate, and the oil mist filter is a normal NC automatic drainage.</li> <li>b 6:Refer to page 352 for maximum processing flow when option "Y" is selected.</li> <li>c 7:The pressure gauge's indication range is 0 to 0.4MPa for option "L".</li> <li>c 8:When option "T6" is selected, only "no symbol" or "R2" can be selected for "H" pressure gauge (attached). The digital pressure sensor PPX mounting port (Rc1/8) is assembled by open.</li> <li>c 9:The output type is NPN transistor output. Consult with CKD when the PNP transistor output is required.</li> <li>c 10:Installation position Applicable model S</li> <li>s ymbol Installation position Applicable model V to C8040-W (Excluding 8000 for "P")</li> </ul>	Direction C Ass Bla U Poly Bla Bla J C Pipi Bla A66 A88 A111 A111 A221 A323 *Adapt Bla C C C C C C C C C C C C C C C C C C C	R1 Blank X1 embly a ank J S P V K V K Play unit ank 1 mg adap ank * W D*W 5*W D*W 5*W D*W 5*W D*W 5*W 2*W tor screv ank 1 5 5 8 5 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8	Pressure switch with display PPD assembly Note 9Standard flow (left $\rightarrow$ right)Reverse flow (right $\rightarrow$ left)ttachment Pages 40Without assembly attachment typeAssembly attachment typeAssembly attachment typeAssembly attachment typeAssembly attachment typeNote 10Pressure switch (P100-W, 4100-W, 8100-W)Pressure switch (P4000-W)Shut-off valve (V1000-W, 3000-W)Lockout valve (V3010-W, W6010-W)MPa display, Rc threadMPa display, NPT, G threadMPa display, NPT, G threadMPa display, NPT, G threadRc1/4 piping adaptor setRc1/4 piping adaptor setRc1/2 piping adaptor setRc1/2 piping adaptor setRc1/4 piping adaptor setRc1 1/4 piping adaptor setRc threadNPT threadG threaduge option (attached)Not attachedG threaduge option (attached)MPT threadG threaduge option (attached) <td>Comparison of the second second</td> <td><ul> <li>413</li> <li>413</li> <li>413</li> <li>413</li> <li>413</li> <li>414</li> <li>414</li></ul></td> <td><ul> <li></li></ul></td> <td></td> <td></td>	Comparison of the second	<ul> <li>413</li> <li>413</li> <li>413</li> <li>413</li> <li>413</li> <li>414</li> <li>414</li></ul>	<ul> <li></li></ul>		
The 3:Select options for each drainage, bowl material, element, differential pressure detection, and regulator items. When selecting options for several items, list options in order from the top. The 4:Refer to page 276 for the automatic drain use conditions. The 5:When option symbol "F" is selected, the NO automatic drain is enclosed for the filter regulator and the NC automatic drain is enclosed for the oil mist filter. When option symbol "F1" is selected, the NC automatic drain is enclosed for the oil mist filter. For both "FF" and "FF1", only the filter/regulator has a large discharge rate, and the oil mist filter is a normal NC automatic drainage. The 6:Refer to page 352 for maximum processing flow when option "Y" is selected. The pressure gauge's indication range is 0 to 0.4MPa for option "L". The digital pressure sensor PPX mounting port (Rc1/8) is assembled by open. The digital pressure sensor PPX mounting port (Rc1/8) is assembled by open. The Output type is NPN transistor output. Consult with CKD when the PNP transistor output is required. te 10: Installation position Applicable model S or W+(S, P)+M (Excluding 1000,8000 for "P") V or W+(K, P)+M (Excluding 8000 for "V") V or W+M+(V, K) (Excluding 8000 for "V") Note) Indicate "U"+"D", "S","P","V" and "K" when selecting	Direction C Ass Bla U Poly G Dist Bla J C Pipi Bla A66 A88 A111 A111 A221 A321 *Adapt Bla C C C C C C C C C C C C C C C C C C C	R1 Blank X1 embly a ank J S P V K play unit ank 1 mg adap ank *W *W 5*W 0*W 5*W 0*W 5*W 0*W 5*W 0*W 5*W 2*W tor screv ank 3 ssure ga ank	Pressure switch with display PPD assembly Note 9         Standard flow (left → right)         Reverse flow (right → left)         Reverse flow (right → left)         ttachment Pages 40         Without assembly attachment type         Assembly attachment type       Note 10         Pressure switch (P1100-W, 4100-W, 8100-W)       Pressure switch (P1000-W, 3000-W)         Lockout valve (V1000-W, 3000-W)         Lockout valve (V1000-W, 3000-W)         Lockout valve (V1000-W, 3000-W)         Lockout valve (V3010-W, W6010-W)         MPA display, Rc thread         MPA display, Rc thread         MPA display, Rc thread         Rc1/4 piping adaptor set         Rc1/4 piping adaptor set         Rc1/2 piping adaptor set         Rc1/4 piping adaptor set	Comparison of the second	<ul> <li>413</li> <li>414</li> <li>414</li></ul>	<ul> <li>42</li> <li>4</li> <li>4</li></ul>		
The 3:Select options for each drainage, bowl material, element, differential pressure detection, and regulator items. When selecting options for several items, list options in order from the top. The 4:Refer to page 276 for the automatic drain use conditions. The 5:When option symbol "F" is selected, the NO automatic drain is enclosed for the filter regulator and the NC automatic drain is enclosed for the oil mist filter. When option symbol "F1" is selected, the NC automatic drain is enclosed for both the air filter/regulator and oil mist filter. For both "FF" and "FF1", only the filter/regulator has a large discharge rate, and the oil mist filter is a normal NC automatic drainage. The pressure gauge's indication range is 0 to 0.4MPa for option "L". The pressure gauge's indication range is 0 to 0.4MPa for option "L". The digital pressure sensor PPX mounting port (Rc1/8) is assembled by open. The digital pressure sensor PPX mounting port (Rc1/8) is assembled by open. The digital pressure sensor PPX mounting port (Rc1/8) is assembled by open. The output type is NPN transistor output. Consult with CKD when the PNP transistor output is required. The digital pressition for assembly attachments The vertice of the selection output is required. The digital pressition for assembly attachments The vertice of the selected of "P" "P") V (C1040-W to C8040-W (Excluding 1000,8000 for P") V (C1040-W to C8040-W (Excluding 8000 for "V") Note) Indicate "U"+"D", "S","P","V" and "K" when selecting an assembly attachment. Use custom combinations specifications for any other combination.	Direction Carlot Ass Bla Carlot Ass Bla Carlot Ass Carlot As	R1 Blank X1 embly a ank J S P V K blay unit ank 1 s blay unit ank 1 mg adap ank *W *W 5*W 0*W 5*W 0*W 5*W 0*W 5*W 2*W tor screv ank S S S S S S S S S S S S S S S S S S S	Pressure switch with display PPD assembly Note 9         Standard flow (left → right)         Reverse flow (right → left)         Reverse flow (right → left)         ttachment Pages 40         Without assembly attachment type         Assembly attachment type       Note 10         Pressure switch (P100-W, 4100-W, 8100-W)         Device (V1000-W, 3000-W)         Lockout valve (V3010-W, W6010-W)         MPA display, Rc thread         MPA display, Rc thread         MPA display, Rc thread         Rc1/4 piping adaptor set         Rc1/4 piping adaptor set         Rc1/2 piping adaptor set         Rc thread         NPT th	Comparison of the second		<ul> <li>42</li> <li>42</li> <li>4</li> <li></li></ul>		
the 3:Select options for each drainage, bowl material, element, differential pressure detection, and regulator items. When selecting options for several items, list options in order from the top. the 4:Refer to page 276 for the automatic drain use conditions. the 5:When option symbol "F" is selected, the NO automatic drain is enclosed for the filter regulator and the NC automatic drain is enclosed for the oil mist filter. When option symbol "F1" is selected, the NC automatic drain is enclosed for both the air filter/regulator and oil mist filter. For both "FF" and "FF1", only the filter/regulator has a large discharge rate, and the oil mist filter is a normal NC automatic drainage. the 6:Refer to page 352 for maximum processing flow when option "Y" is selected. the 7:The pressure gauge's indication range is 0 to 0.4MPa for option "L". the 8:When option "T6" is selected, only "no symbol" or "R2" can be selected for "H" pressure gauge (attached). The digital pressure sensor PPX mounting port (Rc1/8) is assembled by open. the 9:The output type is NPN transistor output. Consult with CKD when the PNP transistor output is required. te10: Installation position for assembly attachments <b>Symbol</b> Installation position Applicable model S Or W+(S, P)+M (Excluding 1000,8000 for "P") V w+M+(V, K) (C1040-W to C8040-W (Excluding 8000 for "V") Note) Indicate "U"+"D", "S", "P", "V" and "K" when selecting an assembly attachment. Use custom combinations specifications for any other combination. te 11: The joiner set is enclosed with the piping adaptor set.	Direction Carlot Ass Bia Carlot Ass Bia Carlot Ass Carlot As	R1 Blank X1 embly a ank J S P V K blay unit ank 1 f mg adap ank *W *W 5 *W 5 *W 5 *W 5 *W 5 *W 5 *W 5	Pressure switch with display PPD assembly Note 9         Standard flow (left → right)         Reverse flow (right → left)         Reverse flow (right → left)         ttachment ment type         Assembly attachment type       Note 10         Pressure switch (P1100-W, 4100-W, 8100-W)       Pressure switch (P4000-W)         Shut-off valve (V1000-W, 3000-W)       Lockout valve (V3010-W, W6010-W)         MPa display, Rc thread       MPa         MPa display, Rc thread       Ment display, NPT, G thread         tor set (attached)         Not attached       Rc1/8 piping adaptor set         Rc1/4 piping adaptor set       Rc3/8 piping adaptor set         Rc1/2 piping adaptor set       Rc3/4 piping adaptor set         Rc1/2 piping adaptor set       V         Rc1 /4 piping adaptor set       V         Rc1/2 piping adaptor set       V         Rc1/4 piping adaptor set       V         Rc1 /4 piping adaptor set       V <td>Comparison of the second second</td> <td><ul> <li>413</li> <li>413</li> <li>413</li> <li>413</li> <li>413</li> <li>414</li> <li>414</li></ul></td> <td><ul> <li></li></ul></td> <td></td> <td></td>	Comparison of the second	<ul> <li>413</li> <li>413</li> <li>413</li> <li>413</li> <li>413</li> <li>414</li> <li>414</li></ul>	<ul> <li></li></ul>		
the 3:Select options for each drainage, bowl material, element, differential pressure detection, and regulator items. When selecting options for several items, list options in order from the top. the 4:Refer to page 276 for the automatic drain use conditions. the 5:When option symbol "F" is selected, the NO automatic drain is enclosed for the filter regulator and the NC automatic drain is enclosed for the oil mist filter. When option symbol "F1" is selected, the NC automatic drain is enclosed for both the air filter/regulator and oil mist filter. For both "FF" and "FF1", only the filter/regulator has a large discharge rate, and the oil mist filter is a normal NC automatic drainage. te 6:Refer to page 352 for maximum processing flow when option "Y" is selected. the 7:The pressure gauge's indication range is 0 to 0.4MPa for option "L". te 8:When option "T6" is selected, only "no symbol" or "R2" can be selected for "H" pressure gauge (attached). The digital pressure sensor PPX mounting port (Rc1/8) is assembled by open. te 9:The output type is NPN transistor output. Consult with CKD when the PNP transistor output is required. te10: Installation position for assembly attachments <b>Symbol</b> Installation position Applicable model S W+(S, P)+M (Excluding 1000,8000 for "P") V w+M+(V, K) (Excluding 8000 for "V") Note) Indicate "U"+"D", "S","P","V" and "K" when selecting an assembly attachment. Use custom combinations specifications for any other combination. te 11: The joiner set is enclosed with the piping adaptor set. te 12: If NPT is selected for the "C" piping thread, a NPT pressure	Direction C Ass Bia U Point Bia Disp C Disp Bia Disp Bia Ass Ass Ass Ass C Disp Bia Ass Ass Ass Ass Ass Ass Ass As	R1 Blank X1 embly a ank J S P V K blay unit ank 1 ng adap ank *W *W 5 W 5 W 5 W 5 W 5 W 0 2 W tor screv ank N 3 S Sure ga ank S S D 2 W 0 S S S W 0 S S S S	Pressure switch with display PPD assembly Note 9         Standard flow (left → right)         Reverse flow (right → left)         Reverse flow (right → left)         ttachment ment type         Assembly attachment type         Mathematical (P4000-W)         Standard (V1000-W, 3000-W)         Lockout valve (V3010-W, W6010-W)         Mathematical (V1000-W, 3000-W)         Mathematical (V1000-W, 3000-W)         Mathematical (Attached) </td <td>Comparison of the second second</td> <td></td> <td><ul> <li>42</li> <li>42</li> <li>4</li> <li></li></ul></td> <td></td> <td></td>	Comparison of the second		<ul> <li>42</li> <li>42</li> <li>4</li> <li></li></ul>		
the 3:Select options for each drainage, bowl material, element, differential pressure detection, and regulator items. When selecting options for several items, list options in order from the top. the 4:Refer to page 276 for the automatic drain use conditions. the 5:When option symbol "F" is selected, the NO automatic drain is enclosed for the filter regulator and the NC automatic drain is enclosed for the oil mist filter. When option symbol "F1" is selected, the NC automatic drain is enclosed for both the air filter/regulator and oil mist filter. For both "FF" and "FF1", only the filter/regulator has a large discharge rate, and the oil mist filter is a normal NC automatic drainage. the 6:Refer to page 352 for maximum processing flow when option "Y" is selected. the 7:The pressure gauge's indication range is 0 to 0.4MPa for option "L". the 8:When option "T6" is selected, only "no symbol" or "R2" can be selected for "H" pressure gauge (attached). The digital pressure sensor PPX mounting port (Rc1/8) is assembled by open. the 9:The output type is NPN transistor output. Consult with CKD when the PNP transistor output is required. te10: Installation position for assembly attachments <b>Symbol</b> Installation position Applicable model S Or W+(S, P)+M (Excluding 1000,8000 for "P") V w+M+(V, K) (C1040-W to C8040-W (Excluding 8000 for "V") Note) Indicate "U"+"D", "S", "P", "V" and "K" when selecting an assembly attachment. Use custom combinations specifications for any other combination. te 11: The joiner set is enclosed with the piping adaptor set.	Direction C Ass Bia U P G C Disp G C Disp Bia C C P Disp Bia C C P Disp Bia C C C P Disp Bia C C C C C C C C C C C C C	R1 Blank X1 embly a ank J S P V K blay unit ank 1 f mg adap ank *W *W 5 *W 5 *W 5 *W 5 *W 5 *W 5 *W 5	Pressure switch with display PPD assembly Note 9         Standard flow (left → right)         Reverse flow (right → left)         Reverse flow (right → left)         ttachment ment type         Assembly attachment type       Note 10         Pressure switch (P1100-W, 4100-W, 8100-W)       Pressure switch (P4000-W)         Shut-off valve (V1000-W, 3000-W)       Lockout valve (V3010-W, W6010-W)         MPa display, Rc thread       MPa         MPa display, Rc thread       Ment display, NPT, G thread         tor set (attached)         Not attached       Rc1/8 piping adaptor set         Rc1/4 piping adaptor set       Rc3/8 piping adaptor set         Rc1/2 piping adaptor set       Rc3/4 piping adaptor set         Rc1/2 piping adaptor set       V         Rc1 /4 piping adaptor set       V         Rc1/2 piping adaptor set       V         Rc1/4 piping adaptor set       V         Rc1 /4 piping adaptor set       V <td>Comparison of the second second</td> <td></td> <td><ul> <li></li></ul></td> <td></td> <td></td>	Comparison of the second		<ul> <li></li></ul>		

**CKD** 

#### Refrigerating type dryer Desiccant type dryer • C1040-W

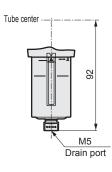






Enlarged view of bracket section

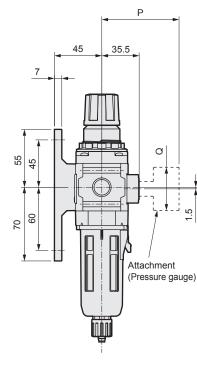
Option dimensions
 With automatic drain (F1)

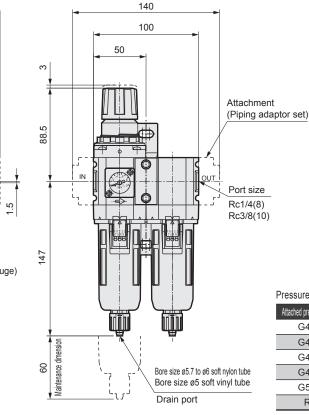


Pressure gauge attached optional dimensions table

Attached pressure gauge	Р	Q
G45P	(74)	ø39
G49P	(73.5)	ø43.5
G59P	(76)	ø52
G40P	(75.5)	ø42.5
G50P	(75.5)	ø52.5
G41P	(74)	ø42
G52P	(86)	ø52.5
R2	(74)	□30

### • C2040-W

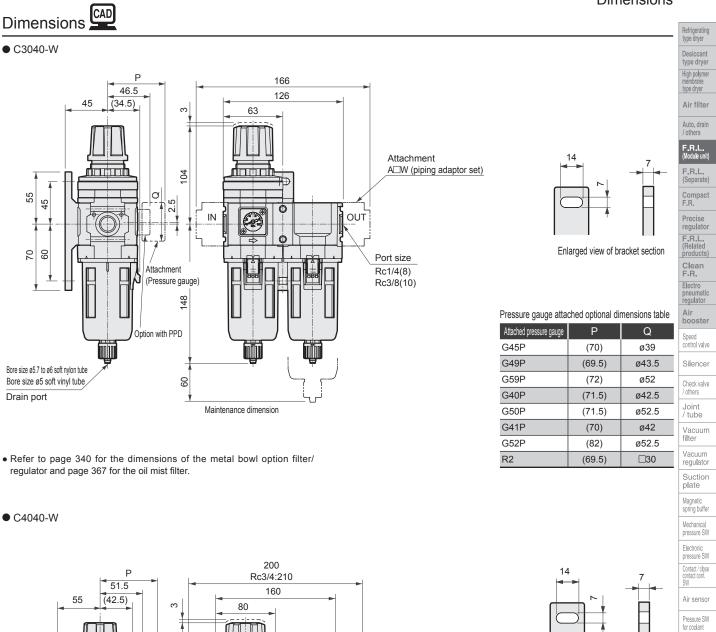


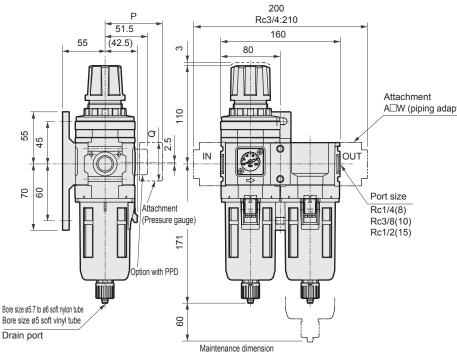


Processing aging	attached	ontional	dimensions table
i i coourc gauge	allaciicu	optional	

0 0		
Attached pressure gauge	Р	Q
G45P	(73.5)	ø39
G49P	(73)	ø43.5
G40P	(75)	ø42.5
G41P	(73.5)	ø42
G52P	(85.5)	ø52.5
R2	(73)	□30

Dimensions





• Refer to page 340 for the dimensions of the metal bowl option filter/ regulator and page 367 for the oil mist filter.

ADW (piping adaptor set)



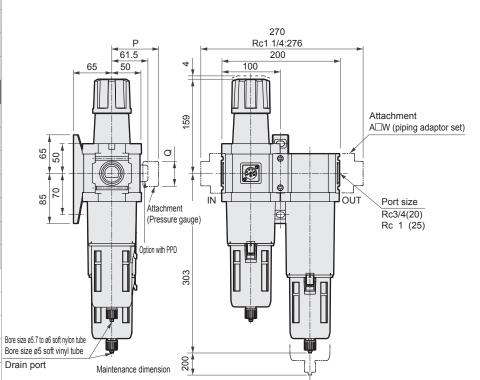
Enlarged view of bracket section

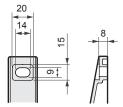
Small flow senso Small flow controlle Flow sensor for air Flow sensor for water Total aiı system Total air system (Gamma) Ending Standard series F.R.L. unit

Pressure gauge attached optional dimensions table											
Attached pressure gauge	Р	Q									
G45P	(75)	ø39									
G49P	(74.5)	ø43.5									
G59P	(77)	ø52									
G40P	(76.5)	ø42.5									
G50P	(76.5)	ø52.5									
G41P	(75)	ø42									
G52P	(86)	ø52.5									
R2	(75)	□30									
CKD											

# Dimensions CAD

• C8040-W





Enlarged view of bracket section

#### Pressure gauge attached optional dimensions table

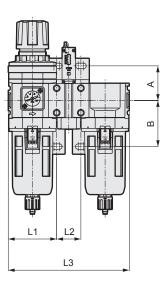
Attached pressure gauge	Р	Q
G45P	(85)	ø39
G49P	(84.5)	ø43.5
G59P	(87)	ø52
G40P	(86.5)	ø42.5
G50P	(86.5)	ø52.5
G41P	(85)	ø42
G52P	(98)	ø52.5
R2	(85)	□30

• Refer to page 340 for the dimensions of the metal bowl option filter/ regulator and page 367 for the oil mist filter.

Option assembly dimensions

### Option assembly dimensions

• C1040-W to C8040-W



Model no.	A	В
C1040-W	35	45
C2040-W		
C3040-W	45	60
C4040-W		
C8040-W	50	70

Assembled option		S			Ρ			V			Κ			SV			SK			ΡV			PK	
Model no.	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
C1040-W	40	28	108	-	-	-	40	40	120	-	-	-	40	68	148	-	-	-	-	-	-	-	-	-
C2040-W	50	31.5	131.5	50	80	180	50	63	163	50	63	163	50	81.5	194.5	50	81.5	194.5	50	130	243	50	130	243
C3040-W	63	31.5	157.5	63	80	206	63	63	189	63	63	189	63	94.5	220.5	63	94.5	220.5	63	143	269	63	143	269
C4040-W	80	31.5	191.5	80	80	240	80	80	223	80	80	223	80	111.5	254.5	80	111.5	254.5	80	160	320	80	160	320
C4040-20-W Note 1	100	31.5	231.5	100	80	280	100	100	263	100	100	263	100	111.5	294.5	100	111.5	294.5	100	160	343	100	160	343
C8040-W	100	50	250	-	-	-	-	-	-	100	100	290	-	-	-	100	150	340	-	-	-	-	-	-

L1: Dimensions from the IN edge to center of the T-type bracket mounting hole

L2: Spacing dimensions of the mounting hole from the first T-type bracket to the second T-type bracket

L3: Dimensions from the IN edge to the OUT edge

\* Refer to page 425 for details on bracket mounting hole dimensions. Note 1: The piping adaptor is assembled on the OUT side.

Piping adaptor A400-20-W is attached on the both ends of C4040-20-W.

Refrigerating type dryer



### R.M. combination standard white Series C1050/C2050/C2550 C3050/C4050/C6050/C8050-W Series

Regulator and oilmist filter integrated.

Port size: 1/8 to 1





### Specifications

$\frac{1}{1000} = \frac{1}{10000000000000000000000000000000000$
Appearance       Image: Ap
Components         Oil mist filter         M1000-W         M2000-W         M3000-W         M4000-W         M6000-W         M8000-W           Vorking fluid         Compressed air         Co
Oil mist filter         M1000-W         M2000-W         M3000-W         M4000-W         M6000-W         M8000-W           Working fluid         Compressed air
Working fluid Compressed air
Max. working pressure MPa 1.0 Note 3
Withstanding pressure MPa 1.5
Ambient temperature range °C 5 to 60 Note 2
Set pressure range         MPa         0.1 to 0.85         Note 3         0.1 to 0.85         Note 4
Relief With relief mechanism
Port size Rc, NPT, G 1/8, 1/4 1/4, 3/8 1/4, 3/8 1/4, 3/8 1/4, 3/8 1/4, 3/8 1/4, 3/8 1/4, 3/8 1/4, 3/8, 1/2 3/4, 1 3/4, 1 (11/4 uses an adaptor) (1/2 uses
Product weight kg 0.29 0.65 0.66 0.82 1.32 2.12 3.12
Secondary oil concentration 0.01mg/m <sup>3</sup> or less
Max. flow rate (Note 1)         m³/min.         0.15         0.25         0.38         0.36         0.825         1.27         2.6

Note 1: Maximum flow rate is for the regulator setting pressure 0.7 MPa.

Note 2: The working temperature range of the pressure switch with indicator PPD assembly "R1" is 5 to 50°C.

Note 3: When "F1" with an automatic drain is selected for the C1050-W series, minimum operating pressure is 0.2 MPa, maximum operation pressure is 0.7 MPa. Refer to the maximum processing flow table (page 362) for the M1000-W-F1 automatic drain for the maximum working flow. Set the working flow to less than the maximum working flow.

Note 4: The supply air pressure is 0.2 MPa or more with a minimum setting pressure of 0.15 MPa.

Note 5: Refer to page 360 for details on other oil mist filters.

low to order										
low to order				6		_		el no.	c c	C R
		*	Refer to page 274 for the	C 1	C 2 0	C 2 5	C 3	C 4	6 8 0 0	i l
C1050)-(6)( )- W -(L)-( )-(A6W)( )	)		explanation of the option.	05	05	5 5	05	0 5	0 0 5 5	
$\top$ $\uparrow$ $\uparrow$ $\uparrow$ $\uparrow$ $\top$ $\top$ $\top$				ŏ	ŏ	ŏ	ŏ	ŏ	ŏŏ	
	Svn	nbol	Descriptions	1						typ
	B Port		Beconplicity							Ai
Model no. B Port size		6	1/8							Au
		3	1/4	•	•	•	•	•		/0
		0	3/8	-	•	•	•	•		F (M
					-	-	-	-		
		5	1/2					•		(S
		0	3/4	-	-			●Note 1	• •	c
	2	5	1						• •	P. E.
	C Port	thread t	уре					N	lote 2	2 Pi
Port thread type	Bla	ank	Rc thread	•	•	•	•	•	• •	
	1	N	NPT thread	•	٠	•	•	•	• •	) (R
	(	3	G thread	•	•	•	•	•	• •	C
	🖸 Opti	<b>.</b>							lata 2	3 EI
Option			Filter with manual drain cook					1 1	lote 3	pn
	Drainage Note 4	Blank	Filter with manual drain cock	•					• •	Δ.
		F1	Auto. drain with manual override (NC type: No exhaust w/o pressurized)	•	•	•	•		• •	b
		Blank	Polycarbonate bowl	•	•	-		•	• •	Sp
	Bowl	Z	Nylon bowl	•	•	₽	•	•	• •	
	material	м	Metal bowl			•	•		• •	
		M1	Metal bowl with manual drain cock		•	•	•		• •	Cł
	Differential pressure	Blank	Without differential pressure detection port	•	•	•	•	•	• •	
	detection	Q	With differential pressure detection port (Rc1/4)						• •	
	Pressure	Blank	0.05 to 0.85MPa	•	•	•	•		• •	
	Range	L	0.05 to 0.35MPa Note 5	•	•	•		•	• •	
		Blank	With relief mechanism	•	٠	٠	٠	•	• •	
	Relief	N	Nonrelief type	•	•	•	•		• •	
		Blank	With standard pressure gauge (G401-W)	•	•	•	•	•	• •	) S
		т	W/o pressure gauge (pressure gauge port (Rc1/4) is assembled with sealed)	•	•	•	•	•	• •	
	Pressure	Т8	Pressure gauge attached (pressure gauge port (Rc1/4) is assembled by open)	-	•	•	•	•	• •	sp
	gauge	T6	Digital pressure sensor PPX attachment option Note 6	<del></del>	•	•	•	•	• •	- M
		R1	Pressure switch with display PPD assembly Note 7	•					• •	
	Flow	Blank	Standard flow (left $\rightarrow$ right)	•	•	•	•	•	• •	Dr
		X1	Reverse flow (right $\rightarrow$ left)	•	•	•	•	+ +	•••	Cor
	Direction	<b>N</b> I	Reverse now (light → left)	-						ŚŴ
	🕒 🕒 Disp	olay unit								Ai
Display unit	Bla	ank	MPa display, Rc thread	•	•	•	•	•	• •	Pre
Piping adaptor set	J	1	MPa display, NPT, G thread	•	•	•		•	• •	• for
(attached)	🕞 Pipi	ng adapt	or set (attached)			Pac	ie 4	28 N	lote 8	8 Sn
Pressure gauge option (attached		ank	Not attached			•	•	•	• •	Sm
Note on model no. selection		*W	Rc1/8 piping adaptor set	•						flor
		*W	Rc1/4 piping adaptor set	•	•	•	•	•		Flo
te 1:Piping adaptor A400-20*-W is attached on the both		)*W	Rc3/8 piping adaptor set	•	•	•	•	•		for
ends of C4050-20*-W. "A20*W" does not need to be					•	•	•	•		Flo for
selected for the piping adaptor set.		5*W	Rc1/2 piping adaptor set					-		
te 2:When G threads or NPT threads are selected, the IN,		)*W	Rc3/4 piping adaptor set					•	• •	S
OUT, gauge port, and drainage discharge port (metal bowl automatic drain) are the target.		5*W	Rc1 piping adaptor set						• •	S
te 3:Select options for each drainage, bowl material,		2*W	Rc1 1/4 piping adaptor set						• •	
element, differential pressure detection, and regulator		or screw								E
items. When selecting options for several items, list		ank	Rc thread	•	•	•	•		• •	
options in order from the top. te 4:Refer to page 276 for the automatic drain use conditions.	1		NPT thread	•	•	•	•		• •	<u>,</u> 1
te 5:The pressure gauge's indication range is 0 to 0.4MPa		G	G thread	•	•		•	•	• •	eriec
	<b>G</b> Pres	sure gai	uge option (attached)			Not	e 9	Pao	e 659	9 2
for option "L".		ank	Not attached		•				• •	÷
for option "L". te 6:When option "T6" is selected, only "Blank" or "R2" can	Ria		G45D-8-P10(L:G45D-8-P04)	•	•			•	•••	
for option "L". te 6:When option "T6" is selected, only "Blank" or "R2" can be selected for "G" pressure gauge (attached). The			G49D-8-P10(L:G49D-8-P04)	•	•	•	•	$\vdash$	•••	
for option "L". te 6:When option "T6" is selected, only "Blank" or "R2" can be selected for "G" pressure gauge (attached). The digital pressure sensor PPX mounting port (Rc1/8) is	G4	00	1 1 1 4 4 U - O - P I U I (1 4 4 9 U - O - P (1 4 )	-		-				_
for option "L". te 6:When option "T6" is selected, only "Blank" or "R2" can be selected for "G" pressure gauge (attached). The digital pressure sensor PPX mounting port (Rc1/8) is assembled by open.	G4 G4	9P	, , ,		1		1 🔴 🖞		• •	1
for option "L". ote 6:When option "T6" is selected, only "Blank" or "R2" can be selected for "G" pressure gauge (attached). The digital pressure sensor PPX mounting port (Rc1/8) is assembled by open.	G4 G4 G5	9P	G59D-8-P10(L:G59D-8-P04)	•		-				-
for option "L". to 6:When option "T6" is selected, only "Blank" or "R2" can be selected for "G" pressure gauge (attached). The digital pressure sensor PPX mounting port (Rc1/8) is assembled by open. to 7:The output type is NPN transistor output. Consult with CKD when the PNP transistor output is required.	G4 G4 G5 G4	9P 0P	G59D-8-P10(L:G59D-8-P04) G40D-8-P10(L:G40D-8-P04)	•	•	•	•	•	• •	_
for option "L". ote 6:When option "T6" is selected, only "Blank" or "R2" can be selected for "G" pressure gauge (attached). The digital pressure sensor PPX mounting port (Rc1/8) is assembled by open. ote 7:The output type is NPN transistor output. Consult with CKD when the PNP transistor output is required. ote 8:The joiner set is enclosed with the piping adaptor set. ote 9:If NPT is selected for the "C" piping thread, a NPT	G4 G4 G5 G4 G5	9P 0P 0P	G59D-8-P10(L:G59D-8-P04) G40D-8-P10(L:G40D-8-P04) G50D-8-P10(L:G50D-8-P04)	•	•	-	•	•	• •	-
for option "L". ote 6:When option "T6" is selected, only "Blank" or "R2" can be selected for "G" pressure gauge (attached). The digital pressure sensor PPX mounting port (Rc1/8) is assembled by open. ote 7:The output type is NPN transistor output. Consult with CKD when the PNP transistor output is required. ote 8:The joiner set is enclosed with the piping adaptor set. ote 9:If NPT is selected for the "C" piping thread, a NPT pressure gauge is enclosed. If Rc or G thread is	G4 G4 G5 G4 G5	9P 0P	G59D-8-P10(L:G59D-8-P04) G40D-8-P10(L:G40D-8-P04)	•	•	•	-	•	_	
for option "L". tote 6:When option "T6" is selected, only "Blank" or "R2" can be selected for "G" pressure gauge (attached). The digital pressure sensor PPX mounting port (Rc1/8) is assembled by open. tote 7:The output type is NPN transistor output. Consult with CKD when the PNP transistor output is required. tote 8:The joiner set is enclosed with the piping adaptor set. tote 9:If NPT is selected for the "C" piping thread, a NPT	G4 G4 G5 G4 G5 G4 G5	9P 0P 0P	G59D-8-P10(L:G59D-8-P04) G40D-8-P10(L:G40D-8-P04) G50D-8-P10(L:G50D-8-P04)	•		•	•	•	• •	

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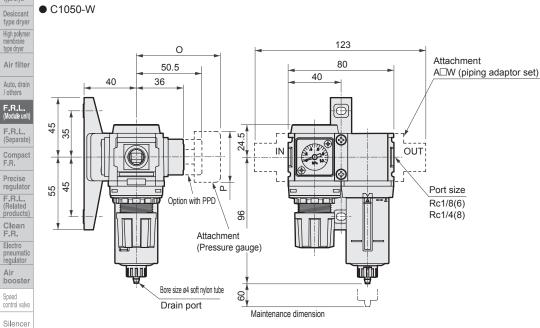
**CKD** 

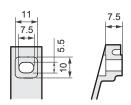
CAD





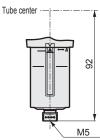
F.R.L. (Module uni





Enlarged view of bracket section

 Option dimensions With automatic drain (F1)

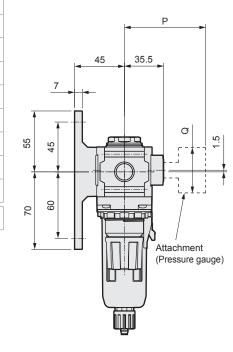


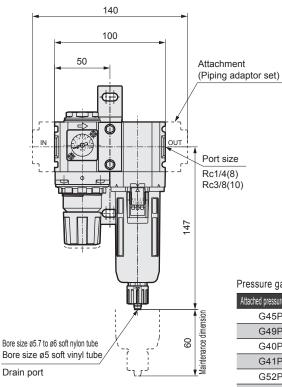
Drain port

Pressure gauge attached optional dimensions table

Attached pressure gauge	0	Р
G45P	(74)	ø39
G49P	(73.5)	ø43.5
G59P	(76)	ø52
G40P	(75.5)	ø42.5
G50P	(75.5)	ø52.5
G41P	(74)	ø42
G52P	(86)	ø52.5
R2	(74)	□30

### • C2050-W





Pressure gauge attached optional dimensions table

Attached pressure gauge	Р	Q
G45P	(73.5)	ø39
G49P	(73)	ø43.5
G40P	(75)	ø42.5
G41P	(73.5)	ø42
G52P	(85.5)	ø52.5
R2	(73)	□30

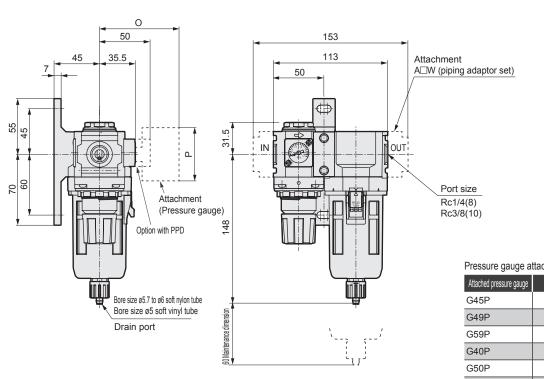
F.R.L. (Related products) Clean F.R. Electro pneumatic regulator Air booster Speed control valve Silence Check valve / others Joint / tube Vacuum filter Vacuum regulator Suction plate Magnetic spring buffer Mechanical pressure SW Electronic pressure SW Contact / close contact conf. SW Air sensor Pressure SW for coolant Small flow sensor Small flow controller Flow sensor for air Flow sensor for water Total air system Total air system (Gamma) Ending

### **R.M.** Combination Dimensions

### Dimensions

CAD







Refrigerating type dryer

Desiccant type dryer High polymer membrane type dryer

Air filter

Auto, drain / others

F.R.L. (Module uni

F.R.L. (Separate)

Compact F.R.

Precise regulator

F.R.L. (Related products)

Clean F.R.

Electro pneumatic regulator

Air booster

Speed control valve

Silence

Check valve / others

Joint / tube

Vacuum filter

Vacuum regulator

Suction plate Magnetic spring buffer Mechanical pressure SW

Electronic pressure SW Contact / close contact conf. SW

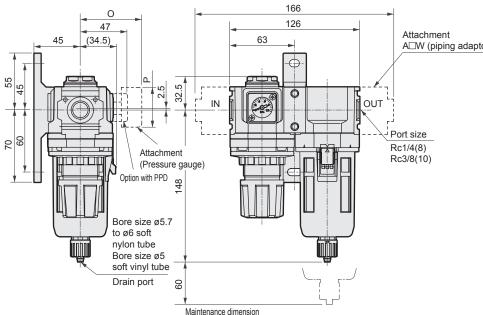
Air sensor

Pressure SW for coolant

Dimensions of bracket section

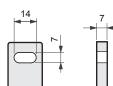
Pressure gauge attached optional dimensions table ø39 (73.5) ø43.5 (73) (75.5) ø52 (75) ø42.5 (75) ø52.5 G41P (73.5) ø42 G52P (85.5) ø52.5 R2 (73) □30

• C3050-W



• Refer to page 367 for the dimensions of metal bowl.

ADW (piping adaptor set)



Enlarged view of bracket section

Pressure gauge attached optional dimensions table							
Attached pressure gauge	0	Р					
G45P	(70)	ø39					
G49P	(69.5)	ø43.5					
G59P	(72)	ø52					
G40P	(71.5)	ø42.5					
G50P	(71.5)	ø52.5					
G41P	(70)	ø42					
G52P	(82)	ø52.5					
R2	(69.5)	□30					
CKD							

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CAD



#### Refrigerating type dryer Desiccant High polymer membrane type dryer Air filter Auto, drain / others

F.R.L. (Module uni

F.R.L. (Separate)

Compact F.R.

Precise regulator

F.R.L. (Related products)

Clean F.R. Electro pneumatic regulator Air booster

Speed control valve

Silencer Check valve / others

Joint / tube Vacuum filter Vacuum regulator

Suction plate Magnetic spring buffer Mechanical pressure SW

Electronic pressure SW Contact / close contact conf. SW

Air sensor

Pressure SW for coolant

Small flow sensor

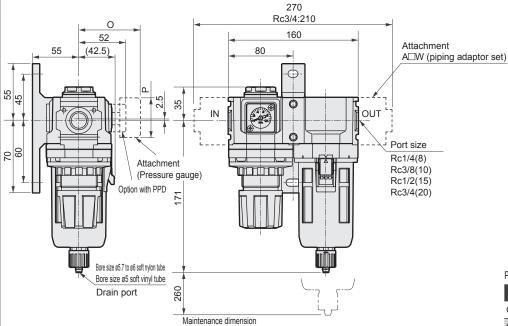
Small flow controller

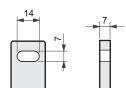
Flow sensor for air

Flow sensor for water

Total air system

Total air system (Gamma) Ending





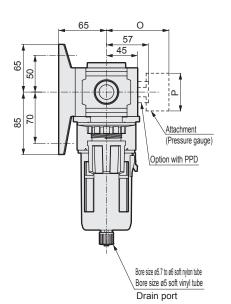
Enlarged view of bracket section

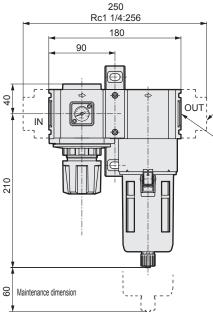
#### Pressure gauge attached optional dimensions table

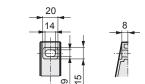
Attached pressure gauge	0	Р
G45P	(75)	ø39
G49P	(74.5)	ø43.5
G59P	(77)	ø52
G40P	(76.5)	ø42.5
G50P	(76.5)	ø52.5
G41P	(75)	ø42
G52P	(86)	ø52.5
R2	(75)	□30

• Refer to page 367 for the dimensions of metal bowl.

#### • C6050-W







Attachment ADW (piping adaptor set) Enlarged view of bracket section

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

Pressure gauge attached optional dimensions table

Attached pressure gauge	0	Р
G45P	(80)	ø39
G49P	(79.5)	ø43.5
G59P	(82)	ø52
G40P	(81.5)	ø42.5
G50P	(81.5)	ø2.5
G42P	(80)	ø42
G52P	(93)	ø52.5
R2	(80)	□30

### Dimensions

Refrigerating type dryer

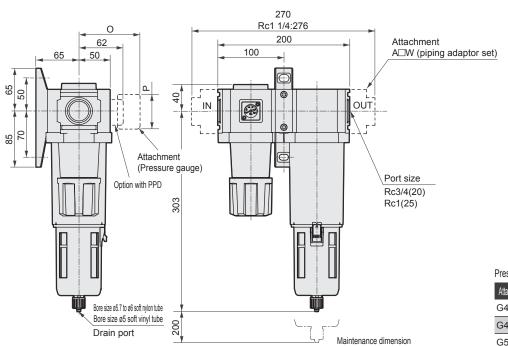
Desiccant type dryer High polymer membrane type dryer

Air filter



Dimensions

CAD



• Refer to page 367 for the dimensions of metal bowl.

20		
14	15	8
	<u>6</u>	

Enlarged view of bracket section

#### Pressure gauge attached optional dimensions table

0 0			
Attached pressure gauge	0	Р	s
G45P	(85)	ø39	C
G49P	(84.5)	ø43.5	/ 0
G59P	(87)	ø52	J  /
G40P	(86.5)	ø42.5	V fi
G50P	(86.5)	ø52.5	V
G41P	(85)	ø42	re
G52P	(98)	ø52.5	S p
R2	(85)	□30	M



### F.M. combination standard white Series C1060/C2060/C3060/ C4060/C6060/C8060-W Series

Filter and oilmist filter integrated.





### Specifications

	Oper											
unit)	Descriptions C1060-		C1060-W	C2060-W	C3060-W	C4060-W	C6060-W	C8060-W				
ate)	Appearance											
act					_	0		0				
se ator ed												
n			CKC FILM	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)		THE		TEL				
) latic tor							E E	U F				
ter			<b>~</b>					-				
alve	Components	Filter	F1000-W	F2000-W	F3000-W	F4000-W	F6000-W	F8000-W				
cer	Components	Oil mist filter	M1000-W	M2000-W	M3000-W	M4000-W	M6000-W	M8000-W				
	Worki	ng fluid	Compressed air									
alve	Max. w	orking pressure MPa		1.0 Notes 3, 4, 5								
	Withstanding pressure MPa			1.5 Note 3								
, um	Ambien	t temperature range °C	5 to 60									
	Port size Rc, NPT, G		1/8, 1/4 (3/8 uses an adaptor)	1/4 (3/8 uses an adaptor) 1/4, 3/8 (1/2 uses an adaptor)		1/4, 3/8, 1/2 (3/4 uses an adaptor)	3/4, 1 (1 1/4 uses an adaptor)	3/4, 1 (1 1/4 uses an adaptor)				
um ator	Produ	ct weight kg	0.22	0.58	0.62 1.06		2.02	2.68				
ion	Second	lary oil concentration		0.01mg/m <sup>3</sup> or less								
Max. flow (Notes 1, 2) m <sup>3</sup> /min.			/min. 0.15 Note 3 0.25 0.36 0.825 1.27		1.27	2.6						
·												

Note 1: The maximum flow is for a primary pressure of 0.7 MPa.

Note 2: When selecting the element option "Y", refer to page 352 for the maximum flow. The working flow must be less than the maximum working flow.

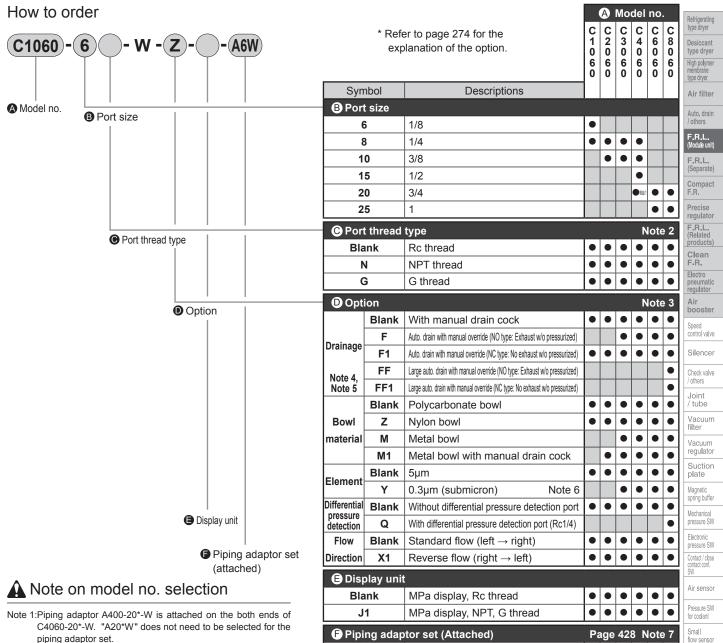
Note 3: When "F1" with an automatic drain is selected, the NC automatic drain is enclosed for both the filter and oil mist filter. The minimum operation pressure is 0.2 MPa, maximum operation pressure is 0.7 MPa and withstanding pressure is 1.05 MPa. Refer to the maximum processing flow table (page 362) for the M1000-W-F1 automatic drain for the maximum working flow. The working flow must be less than the maximum working flow.

Note 4: When "F" with an automatic drain is selected, the supply air pressure is 0.15 MPa or more. Air is purged with initial drainage until pressure reaches 0.1 MPa.

Note 5: When "F1" with an automatic drain is selected, the supply air pressure is 0.15 MPa or more.

Note 6: Refer to page 360 for details on other oil mist filters.

### F.M. Combination How to order



Blank

Ν

G

Not attached

- Note 2:When G threads or NPT threads are selected, the IN, OUT, and drainage discharge port (metal bowl automatic drain) are the target.
- Note 3:Select the options from drainage, bowl material, element, and differential pressure detection When selecting options for several items, list options in order from the top.
- Note 4:Refer to page 276 for the automatic drain use conditions.
- Note 5: When option symbol "F" is selected, the NO automatic drain is enclosed for the air filter and the NC automatic drain is enclosed for the oil mist filter. When option symbol "F1" is selected, the NC automatic drain is enclosed for both the air filter and oil mist filter. For "FF" and "FF1", only the filter has a large discharge rate and the oil mist filter is a normal NC automatic drain.
- Note 6:Refer to page 352 for maximum processing flow when option "Y" is selected.
- Note 7: The joiner set is enclosed with the piping adaptor set.

A6\*W Rc1/8 piping adaptor set Flow sensor for air A8\*W Rc1/4 piping adaptor set • A10\*W Rc3/8 piping adaptor set ۲ • Flow senso for water A15\*W • Rc1/2 piping adaptor set Total aiı system A20\*W Rc3/4 piping adaptor set ulletTotal ai A25\*W Rc1 piping adaptor set • • system (Gamma) A32\*W Rc1 1/4 piping adaptor set • Ending \*Adaptor screw type Blank Rc thread ulletulletullet۲ ulletullet• NPT thread ulletulletulletG thread • • • ٠ • •

Standard series F.R.L. unit

Small flow controlle

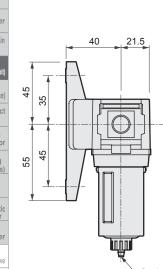
• • • • •

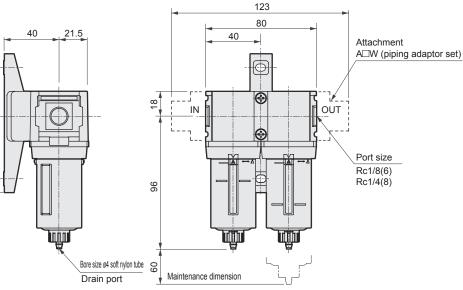
•

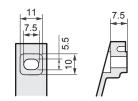
CAD

## Dimensions

• C1060-W

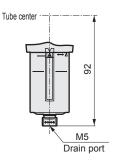




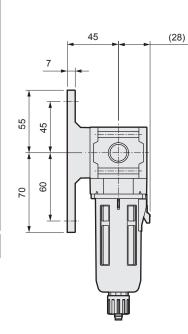


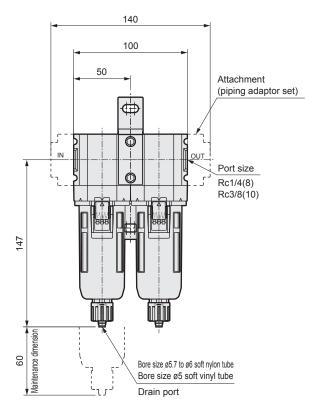
Enlarged view of bracket section

• Option dimensions With automatic drain (F1)



### • C2060-W





### Dimensions

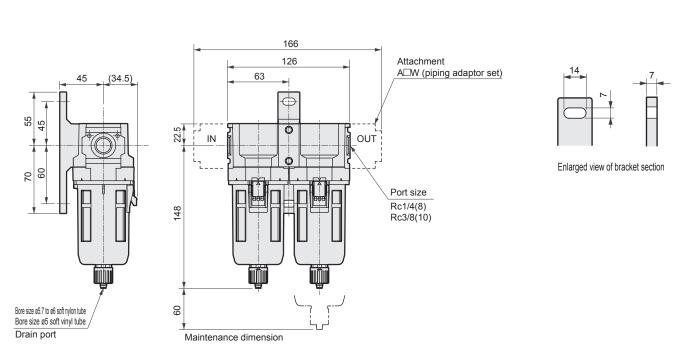
Refrigerating type dryer

Desiccant type dryer High polymer membrane type dryer



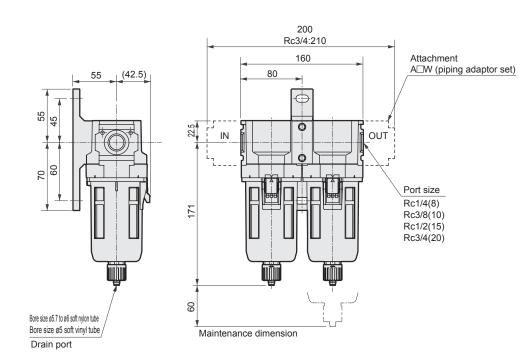
CAD

• C3060-W



 Refer to page 357 for the dimensions of the metal bowl option filter and page 367 for the oil mist filter.

#### • C4060-W



Enlarged view of bracket section

• Refer to page 357 for the dimensions of the metal bowl option filter and page 367 for the oil mist filter.

CAD

Dimensions

• C6060-W

Refrigerating type dryer

Desiccant type dryer High polymer membrane type dryer Air filter

Auto, drain / others

F.R.L. (Module uni

F.R.L. (Separate)

Compact F.R.

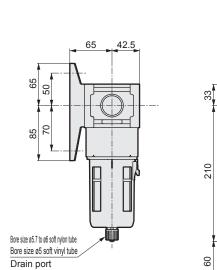
Precise regulator

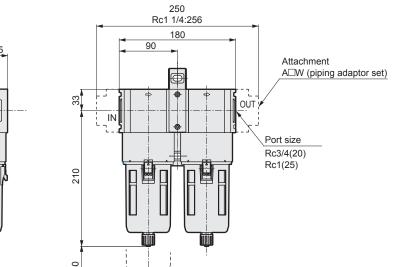
F.R.L. (Related products)

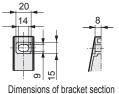
Clean F.R.

Electro pneumatic regulator Air booster Speed control valve

Silence



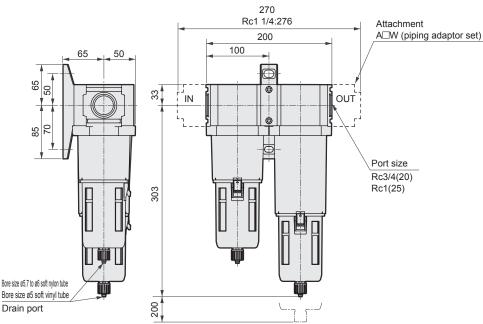




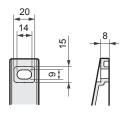
• Refer to page 357 for the dimensions of the metal bowl option filter and page 367 for the oil mist filter.

Maintenance dimension

#### • C8060-W



Maintenance dimension



Enlarged view of bracket section



• Refer to page 357 for the dimensions of the metal bowl option filter and page 367 for the oil mist filter.

Ending



# F.F.M. combination standard white Series C3070/C4070/C6070/C8070-W Series

 $5\mu m$  filter, 0.3 $\mu m$  filter and oilmist filter integrated. Port size: 1/4 to 1





### Specifications

	opecifications								
unit)	[	Descriptions	C3070-W	C4070-W	C6070-W	C8070-W			
ate)									
act	t			- 5		PP			
e itor			P		0				
ed cts)	Appearance			8					
n									
atic tor			UYY			U U U			
ter			ΨŤ	ψ ·	ΨΨ	Ŧ			
alve		Filter (5µm)	F3000-W	F4000-W	F6000-W	F8000-W			
cer	Components Filter (0.3um)		F3000-W	F4000-W	F6000-W	F8000-W			
		Oil mist filter	M3000-W	M4000-W	M6000-W	M8000-W			
alve	Worki	ng fluid	Compressed air						
2	Max. w	orking pressure MPa	1.0 Notes 2, 3						
um	Withsta	anding pressure MPa	1.5						
	Ambient temperature range °C		5 to 60						
im itor	n Port size Rc, NPT, G		1/4, 3/8 (1/2 uses an adaptor)	1/4, 3/8, 1/2 (3/4 uses an adaptor)	3/4, 1 (1 1/4 uses an adaptor)	3/4, 1 (1 1/4 uses an adaptor)			
on	Produ	ct weight kg	0.96	1.61	1.61 3.09				
0	Second	lary oil concentration	0.01mg/m <sup>3</sup> or less						
uffer	Max. flow rate (Note 1) m <sup>3</sup> /min.		0.23	0.5	0.8	1.1			

Note 1: The maximum flow is for a primary pressure of 0.7 MPa.

Note 2: When "F" with an automatic drain is selected, the supply air pressure is 0.15 MPa or more. Air is purged with initial drainage until pressure reaches 0.1 MPa. Note 3: When "F1" with an automatic drain is selected, the supply air pressure is 0.15 MPa or more.

Note 4: Refer to page 360 for details on other oil mist filters.

# F.F.M. Combination

How to order					A	Mode	el no	D. Refrigera	rating
				er to page 274 for the	C 3			C type drye 8 Desicca	yer
(C3070) - (6) - W - (Z) - ()	-(A6W)		exp	planation of the option.	0	0	0	0 type dr	lryer
		Sym	nbol	Descriptions	7 0			7 High poly 0 membran type drye	ane
		BPort	size	•				Air fil	
Model no.		8	}	1/4		•		Auto, di	drain
		1(	0	3/8	•	•		/ others	'S
		1	5	1/2		•		F.R.L (Module)	L e unit)
		20	0	3/4		Note 1	• •	F.R.L	
		2	5	1		(	• (	Comp	
		C Port	thread	type		N	lote	2 F.R.	
Port thread type		Bla	nk	Rc thread		•	• •	Precis     regula	ator
		N	1	NPT thread		•	•	• F.R.L (Relate	L
		G	6	G thread			•	produce     Clear	icts)
		D Opti	ion			N	lote	F.R.	
Option			Blank	With manual drain cock		•	• •	pneum     regulat	natic tor
			F	Auto. drain with manual override (NO type: Exhaust w/o pressurized)		•	• •	Air     boost	
		Drainage	F1	Auto. drain with manual override (NC type: No exhaust w/o pressurized)		•	• •	Speed	101
	N	Note 4,	FF	Large auto. drain with manual override (NO type: Exhaust w/o pressurized)			(	control v	valve
	-   I	Note 5	FF1	Large auto. drain with manual override (NC type: No exhaust w/o pressurized)			(	<ul> <li>Silend</li> </ul>	ncer
			Blank	Polycarbonate bowl		•	• •	Check v	
		Bowl	Ζ	Nylon bowl		• (	• (	Joint	
	m	naterial	М	Metal bowl		•	•	• / tube	
			M1	Metal bowl with manual drain cock	•	•	•	Vacui     filter	
		ifferential pressure	Blank	Without differential pressure detection port	•	•	•	Vacuu regula	
		detection	Q	With differential pressure detection port (Rc1/4)			• •	Sucti	
		Flow	Blank	Standard flow (left $\rightarrow$ right)	•	•	• •	• plate	Ð
	Di	Direction	X1	Reverse flow (right $\rightarrow$ left)			• •	Magnetic spring bi	tic buffer
	Display unit	🕒 Disp	olay unit	t				Mechani	
e		Bla	nk	MPa display, Rc thread	•	•	•	Electroni	nic
		J	1	MPa display, NPT, G thread	•		•	pressure     Contact / (	
	C Dising a destant of	🕞 Pipiı	ng adap	otor set (attached) Pa	ge 4	28 N	lote		sonf.
	Piping adaptor set (attached)	Bla	nk	Not attached	•	•	•	Air sen	nsor
		A8*	*W	Rc1/4 piping adaptor set	•	•		Pressure	re SW
A Note on model no. selection	ו <u>ר</u>	A10	W*W	Rc3/8 piping adaptor set	•	•		for coola	ant
Note 1: Piping adaptor A400-20*-W is attached on t	he both ends of	A15	5*W	Rc1/2 piping adaptor set	•	•		Small flow ser	ensor
C4070-20*-W. "A20*W" does not need to		A20		Rc3/4 piping adaptor set		•	• •	Small     flow contr	troller
the piping adaptor set. Note 2: When G threads or NPT threads are selected	ed. the IN. OUT.	A25		Rc1 piping adaptor set			-	Flow ser	
and drainage discharge port (metal bowl a	utomatic drain)	A32		Rc1 1/4 piping adaptor set			• •	• for air	
are the target. Note 3: Select the options from drainage, bowl ma	iterial, element.		or screv	w type				Flow ser for wate	

Blank

Ν

G

Rc thread

G thread

NPT thread

- Note 3: Select the options from drainage, bowl material, element, and differential pressure detection When selecting options for several items, list options in order from the top.
- Note 4: Refer to page 276 for the automatic drain use conditions.
- Note 5: When option symbol "F" is selected, the NO automatic drain is enclosed for the air filter and the NC automatic drain is enclosed for the oil mist filter. When option symbol "F1" is selected, the NC automatic drain is enclosed for both the air filter and oil mist filter. For "FF" and "FF1", only the filter has a large discharge rate and the oil mist filter is a normal NC automatic drain.
- Note 6: The joiner set is enclosed with the piping adaptor set.

Ending

Total air system

Total air system (Gamma)

Standard series F.R.L. unit

• • • •

• • • •

• • • •

# F.F.M. Combination

CAD

## Dimensions

• C3070-W

Refrigerating type dryer

Desiccant type dryer High polymer membrane type dryer

Air filter

Auto, drain / others

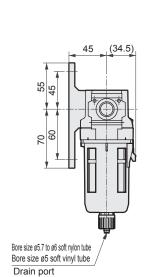
F.R.L. (Module uni

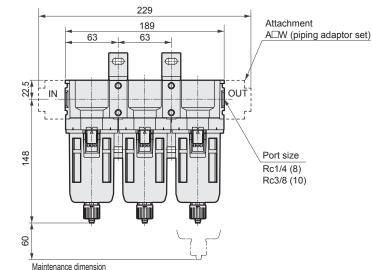
F.R.L. (Separate)

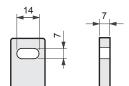
Compact F.R.

Precise regulator

F.R.L. (Related products)



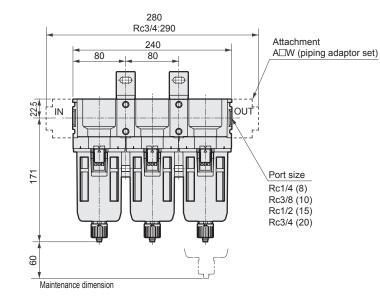


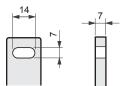


Enlarged view of bracket section

• Refer to page 357 for the dimensions of the metal bowl option filter and page 367 for the oil mist filter.

#### • C4070-W





Enlarged view of bracket section

 Refer to page 357 for the dimensions of the metal bowl option filter and page 367 for the oil mist filter.

Clean F.R. Electro pneumatic regulator Air booster Speed control valve Silence Check valve / others Joint / tube Vacuum filter Vacuum regulator Suction plate Magnetic spring buffer Mechanical pressure SW Electronic pressure SW Contact / close contact conf. SW Air sensor Pressure SW for coolant Small flow sensor Small flow controller Flow sensor for air Flow senso for water Total air system Total air system (Gamma) Ending

Drain port

# F.F.M. Combination

20

### Dimensions

Dimensions

Refrigerating type dryer

Desiccant type dryer High polymer membrane type dryer

Air filter

Auto, drain / others

F.R.L. (Module uni

F.R.L. (Separate)

Compact F.R.

Precise regulator

F.R.L. (Related products)

Clean F.R. Electro pneumatic regulator Air booster

Speed control valve

Silence

Check valve / others Joint / tube Vacuum filter

Vacuum regulator Suction plate Magnetic spring buffer Mechanical pressure SW

Electronic pressure SW Contact / close contact conf. SW Air sensor

Pressure SW for coolant

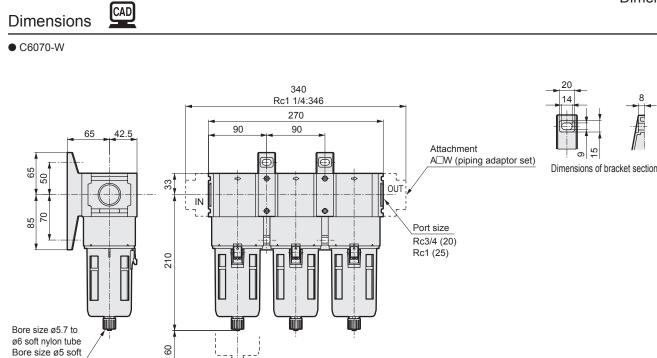
Small flow senso

Small flow controller

Flow sensor for air

Flow sensor for water

Total aiı system



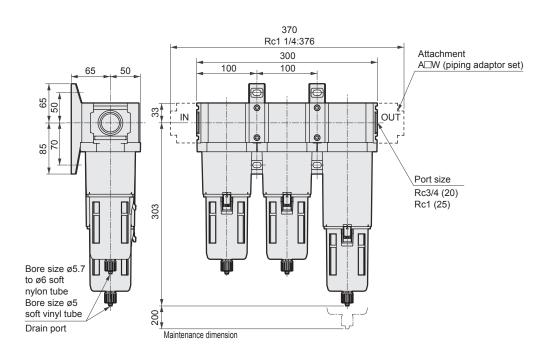
• Refer to page 357 for the dimensions of the metal bowl option filter and page 367 for the oil mist filter.

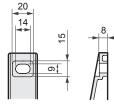
Maintenance dimension .

• C8070-W

vinyl tube

Drain port





Enlarged view of bracket section

Total air system (Gamma) Ending

• Refer to page 357 for the dimensions of the metal bowl option filter and page 367 for the oil mist filter.



# Filter/regulator standard white Series W1000/W2000/W3000/W4000/W8000-W Series

New Series of 5µm elements for dust removal, and 0.3µm elements for tar removal. Port size: 1/8 to 1





Flow sensor for air Flow sensor for water Total air system

Total ai

system (Gamma) Ending

Refrigerating type dryer

### Specifications

	opoolinoutionio										
nit)	Descriptions	Descriptions W1000-W		W3000-W	W4000-W	W8000-W					
te) cct or d s)	Descriptions	W1000-W	W2000-W	W3000-W	W4000-W						
tic r			<b>U</b>	L.	ų.						
-1	Working fluid	Compressed air									
ve	Max. working pressure MPa	1.0 Notes 1, 2, 3									
ər	Withstanding pressure MPa	а		1.5 Note 1							
ve	Ambient temperature range °C			5 to 60		Note 4					
_	Filtration rating µn		5		5 or 0.3						
	Set pressure range MPa	t pressure range MPa 0.05 to 0.85 Note 1 0.05 to 0.85									
m	Relief	With relief mechanism									
n	Drain capacity cm	<sup>3</sup> 12	25	45	80	80 (Note 5)					
or	Port size Rc, NPT, C	G 1/8, 1/4 (3/8 uses an adaptor)	1/4, 3/8 (1/2 uses an adaptor)	1/4, 3/8 (1/2 uses an adaptor)	1/4, 3/8, 1/2 (3/4 uses an adaptor)	3/4, 1 (1 1/4 uses an adaptor)					
	Product weight ke	g 0.175	0.40	0.6	0.9	2.0					
fer	Standard accessories	Standard accessories Pressure gauge and bowl guard									
d W	01	automatic drain is selected f ressure is 1.05 MPa. Refer	to the maximum processi	ng flow table (page 350) fo	, · · · · ·						

working flow. Set the working flow to less than the maximum working flow. Note 2: When "F" with an automatic drain is selected, minimum operation pressure must be 0.1 MPa.

Air is purged with initial drainage until pressure reaches 0.1 MPa.

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

Note 4: The working temperature range of the pressure switch with indicator PPD assembly "R1" is 5 to 50°C.

P11

Note 5: Drainage accumulates up to 170 cm<sup>3</sup> only with the manual drain cock.

Note 6: When using the "F1" with automatic drain, use the W2000-W Series at less than the maximum flow rate. (Refer to F2000-W on page 350 for the maximum flow rate.)

Ozone specifications	(Ending 11)

W\*000 - · · · · · · W - · · · · · ·

Clean room specifications

(catalog No. CB-033S)

Dust generation preventing structure for use in cleanrooms



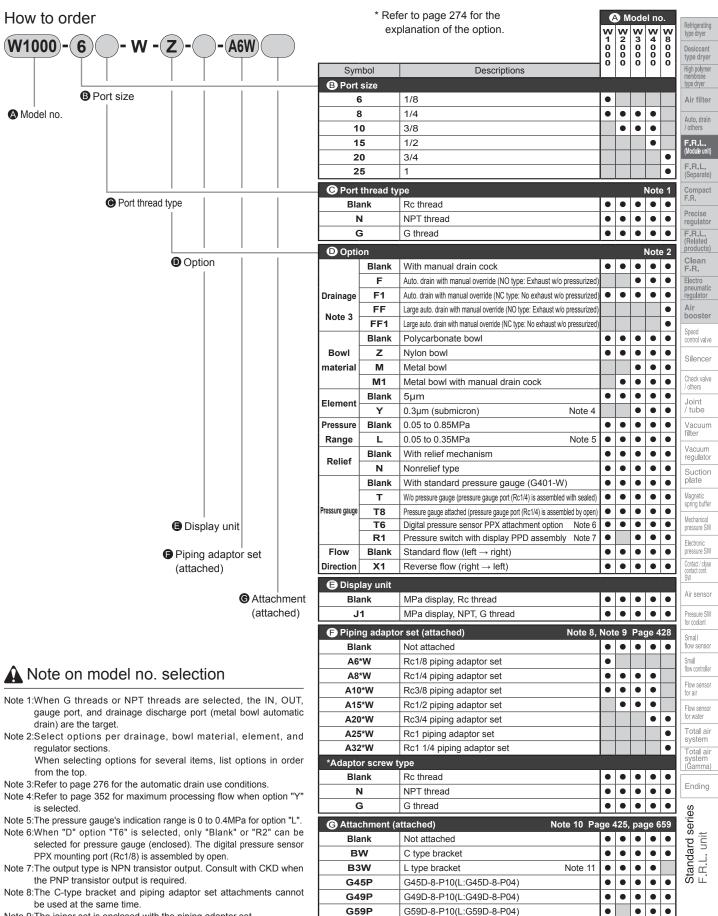
Secondary battery compatible specifications

(catalog No. CC-947)

Structured for use in secondary battery manufacturing processes

W\*000 - ..... P4\*

## Filter/Regulator Series How to order



G40P

G50P

G41P

G52P

R2 Note 6

- Note 9: The joiner set is enclosed with the piping adaptor set.
- Note 10:If NPT is selected for the "C" piping thread, a NPT pressure gauge is enclosed. If Rc or G thread is selected, an R thread pressure gauge is enclosed.
- Note 11:Refer to Section (2. Regulator), in "APRECAUTIONS for Installation and Adjustment " (page 279) for details on mounting the L-type bracket.

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• • . •

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G40D-8-P10(L:G40D-8-P04)

G50D-8-P10(L:G50D-8-P04)

G41D-8-P10(L:G41D-8-P04)

G52D-8-P10(L:G52D-8-P10)

Digital pressure sensor: PPX-R10N-6M

•

•

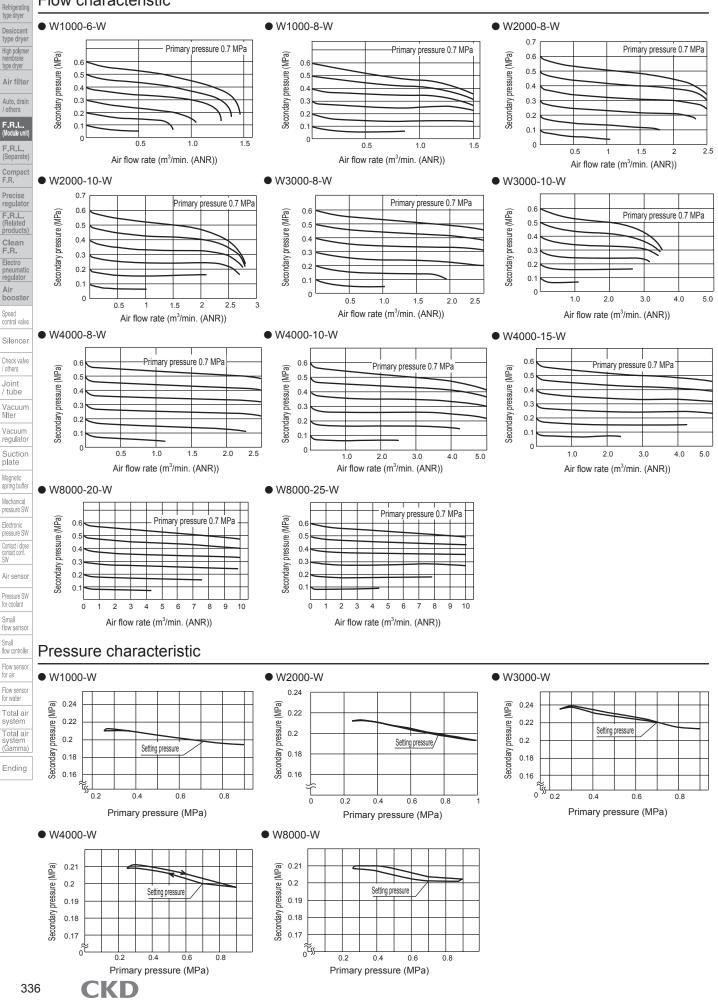
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• • •

•

### Flow characteristic



Internal structure and parts list

Refrigerating type dryer

Desiccant type dryer High polymer membrane type dryer

Air filter Auto, drain / others

F.R.L. (Module uni

F.R.L. (Separate)

Compact F.R.

Precise regulator

F.R.L. (Related products) Clean F.R.

Electro pneumatic regulator

Air booster Speed control valve

Silencer

Check valve / others

Joint / tube

Vacuum filter

Vacuum regulator

Suction plate

Magnetic spring buffer

Mechanical pressure SW

Electronic pressure SW

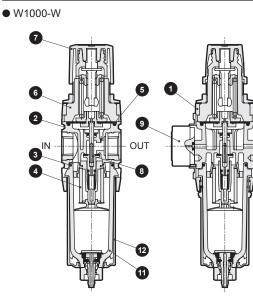
Contact / close contact conf. SW

Air sensor

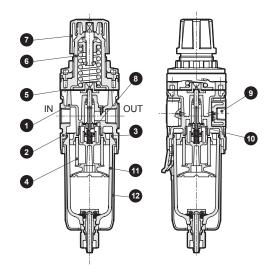
Pressure SW for coolant Small flow sensor Small flow controller Flow sensor for water Total air System Total air System (Gamma)

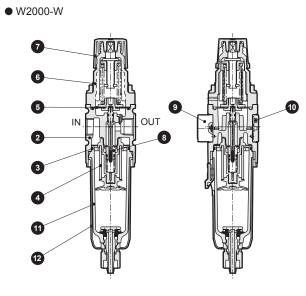
Ending

### Internal structure and parts list

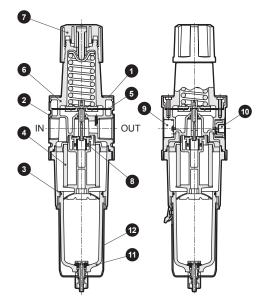


• W3000-W/W4000-W





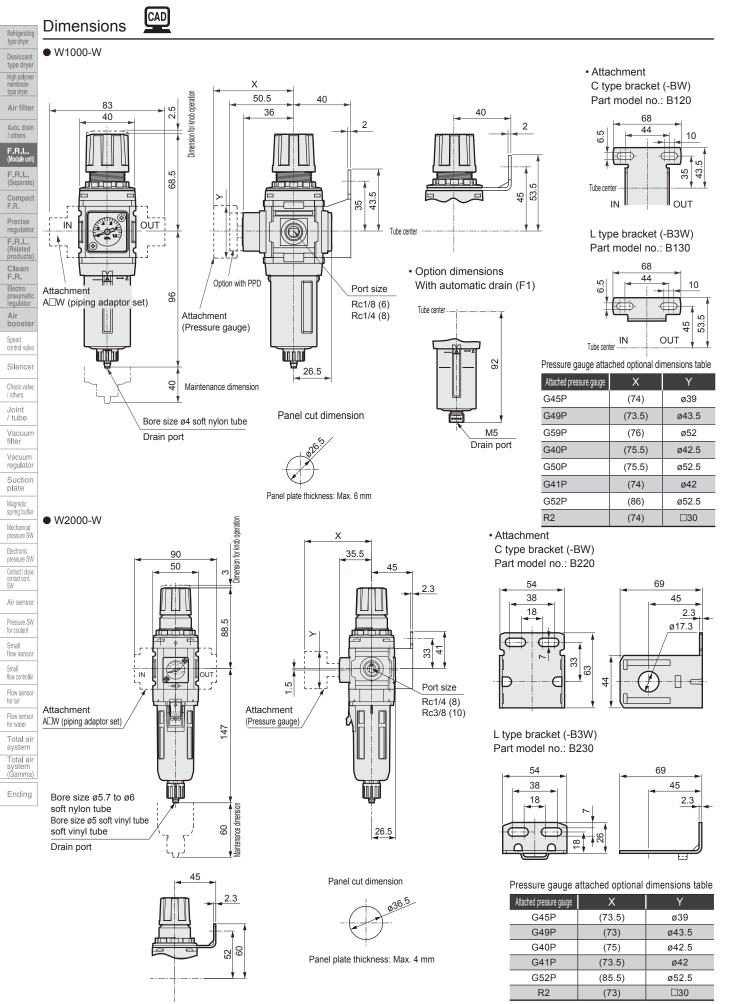
• W8000-W



No.	Darta nomo		Material						
NO.	Parts name	W1000-W	W2000-W	W3000-W W4000-W		W8000-W			
1	Plate cover	ABS resin	-	ABS resin					
2	Body	Polyamide resin, st	el Aluminum alloy die-casting						
3	O ring Not	2	Special nitrile rubber						
4	Element Not	e 1 Polyacetal resin Polypropyl	Polypropylene						
5	Diaphragm assembly	Polyacetal resin Polypropyl	ene Polyacetal resin, nitrile rubber	Zinc alloy die-casting, nitrile rubber					
6	Cover	Polyamide resir		PBT resin Aluminum alloy die-casti					
7	Knob		Polyacetal resin						
8	Valve assembly	Brass,	Brass, hydrogen nitrile rubber (polyacetal resin: W2000-W, W3000-W, W4000-W only)						
9	Pressure gauge assembly	F	PBT resin, polyacetal resin, polycarbonate res			in, nitrile rubber, brass, steel			
10	Gage plug assembly		-		Polyamide resin, nitrile rubber, steel				
10	Blanking plug assembly	PBT resin,	PBT resin, nitrile rubber, steel -						
11	11 Bowl assembly		Polycarbonate resin, polyacetal resin, urethane resin						
12	Bowl guard	Polyamide resir		Polyamide resin					

Note 1: W1000-W is element assembly. Note 2: O-ring of W1000-W is special shaped.

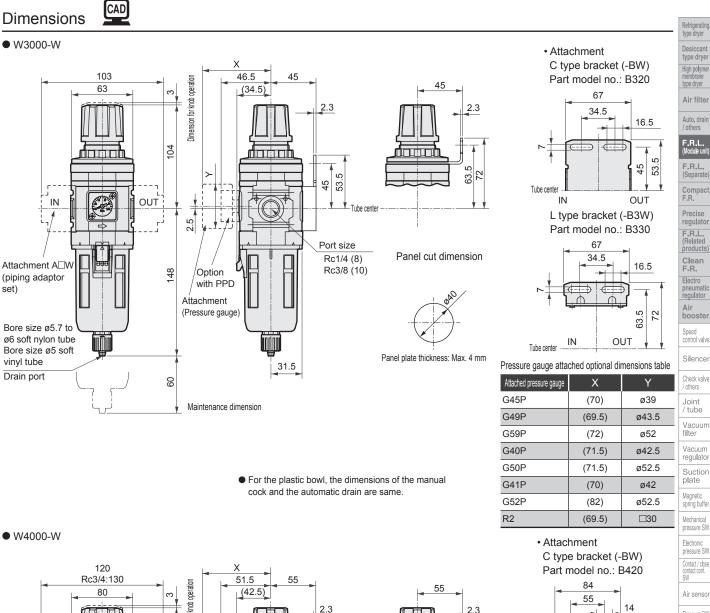
**CKD** 

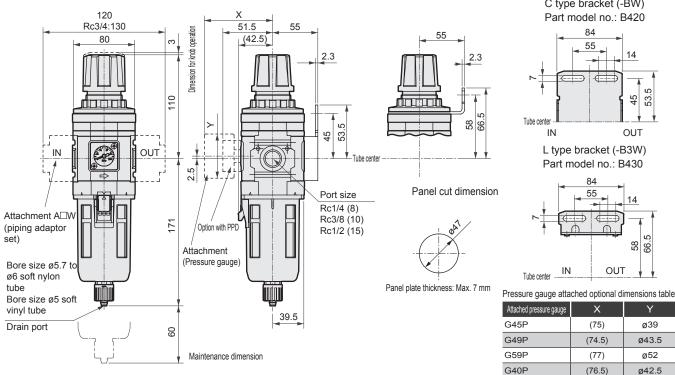


**CKD** 

338

### Dimensions





• For the plastic bowl, the dimensions of the manual cock and the automatic drain are same.

339

Pressure SW for coolant Small flow senso

Small flow controlle

Flow sensor for air

Flow senso for water

Total aiı system

Total air system (Gamma)

Ending

Standard series F.R.L. unit

53.5

45

OUT

14

66.5

ø39

ø43.5

ø52

ø42.5

ø52 5

ø42

ø52.5

□30

58

OUT

Х

(75)

(74.5)

(77)

(76.5)

(76.5)

(75)

(86)

(75)

L type bracket (-B3W)

Part model no.: B430

84

55

IN

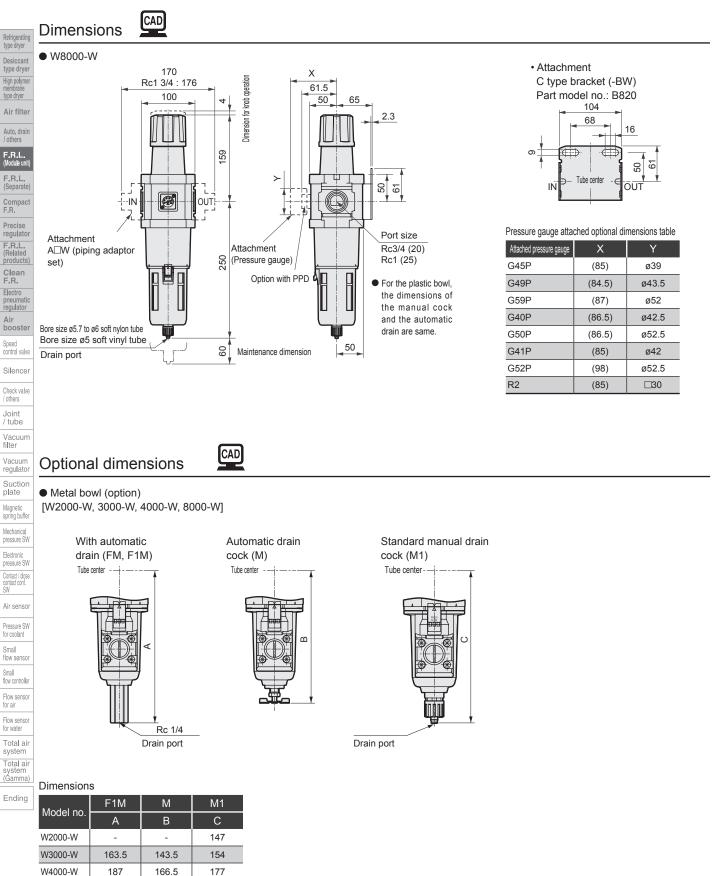
G50P

G41P

G52P

R2

IN



Flow sensor for air Flow senso for water Total air system Total air system (Gamma) Ending W8000-W

266

245.5

256

Ending

Standard series F.R.L. unit



## Reverse filter/regulator standard white Series W1100/W2100/W3100/W4100/W8100-W Series

Introducing the 5µm dust removing element and 0.3µm tar removing element, with back flow function, to the lineup. Port size: 1/8 to 1





Specifications

specifications					
Descriptions	W1100-W	W2100-W	W3100-W	W4100-W	W8100-W
Appearance					
Working fluid			Compressed air		
Max. working pressure MPa			1.0 Notes 1, 2	., 3	
Withstanding pressure MPa			1.5 Note 3		
Ambient temperature range °C			5 to 60 Note 4		
Filtration rating µm	5	5		5 or 0.3	
Set pressure range (Note 2) MPa	0.05 to 0.85 Note 1		0.05 te	o 0.85	
Relief			With relief mechanism		
Drain capacity cm <sup>3</sup>	12	25	45	80	80 (Note 5)
Port size Rc, NPT, G	1/8, 1/4 (3/8 uses an adaptor)	1/4, 3/8 (1/2 uses an adaptor)	1/4, 3/8 (1/2 uses an adaptor)	1/4, 3/8, 1/2 (3/4 uses an adaptor)	3/4, 1 (1 1/4 uses an adaptor)
Product weight kg	0.175	0.40	0.6	0.9	2.0
Standard accessories		Pres	sure gauge and bowl g	uard	
	utomatic drain is selected, r utomatic drain is selected for e is 1.05 MPa. Refer to the flow to less than the maxim ture range of the pressure d only with the manual drai	minimum operation pressur or the W1100 series, minim e maximum processing flo num working flow. switch with indicator PPD a n cock type.	re must be 0.15MPa. num operating pressure is 0 w table (page 350) for the assembly "R1" is 5 to 50°C	.2 MPa, maximum operatic F1000-F1 automatic drain	on pressure is 0.7 MPa an

Note 8: When using the "F1" with automatic drain, use the W2100-W Series at less than the maximum flow rate. (Refer to F2000-W on page 350 for the maximum flow rate.)

er Dr	Ozone specifications (End	ing 11)
or ir	W*000 - · · · · · W - · · · · ·	- P11
ir a)	Clean room specifications	(catalog No. CB-033S)
	Dust generation preventing structu	re for use in cleanrooms
	W*100	- P/*

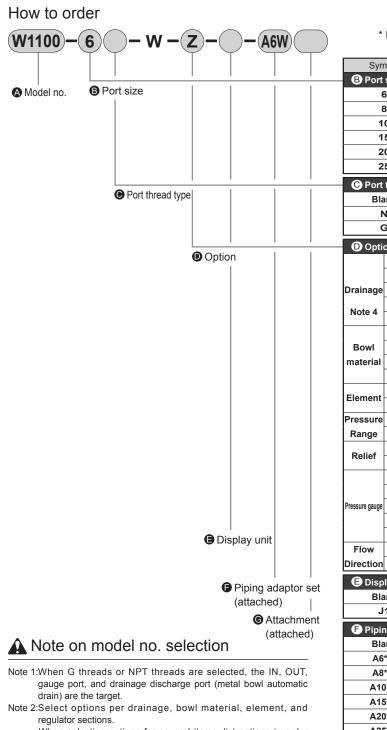
Secondary battery compatible specifications

(catalog No. CC-947)

Structured for use in secondary battery manufacturing processes

W\*100 - ..... P4\*

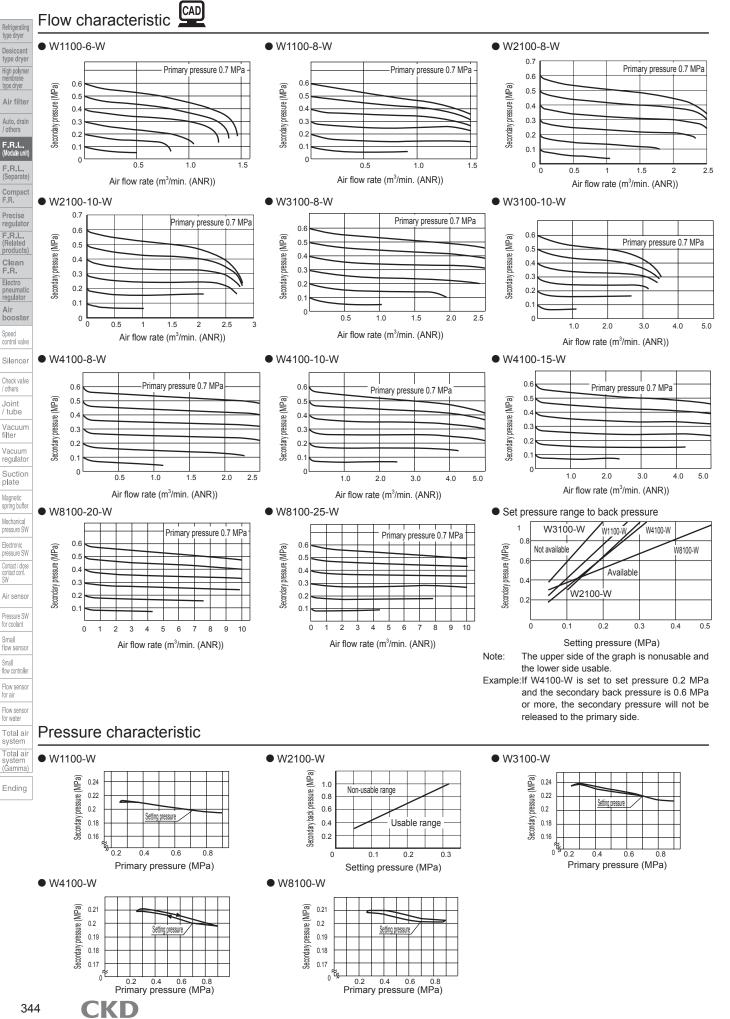
How to order



- When selecting options for several items, list options in order from the top.
- Note 3:Positions of a check valve and pressure gauge can not be changed. If the IN and OUT direction must be reversed, indicate "X1" at the end of the option field.
- Note 4:Refer to page 276 for the automatic drain use conditions.
- Note 5:Refer to page 352 for maximum processing flow when option "Y" is selected.
- Note 6:The pressure gauge's indication range is 0 to 0.4MPa for option "L".
- Note 7:When "D" option "T6" is selected, only "Blank" or "R2" can be selected for pressure gauge (enclosed). The digital pressure sensor PPX mounting port (Rc1/8) is assembled by open.
- Note 8:The output type is NPN transistor output. Consult with CKD when the PNP transistor output is required.
- Note 9:The C-type bracket and piping adaptor set attachments cannot be used at the same time.
- Note 10:The joiner set is enclosed with the piping adaptor set.
- Note 11:If NPT is selected for the "C" piping thread, a NPT pressure gauge is enclosed. If Rc or G thread is selected, an R thread pressure gauge is enclosed.
- Note 12:Refer to Section (2. Regulator), in "▲PRECAUTIONS for Installation and Adjustment " (page 279) for details on mounting the L-type bracket.

				M	ode	l no	).	B. C. V
*	Pofor to	page 274 for the	W 1	w 2	W 3	w 4	w	Refrigerating type dryer
		ation of the option.	1	1	1 0	1	1	Desiccant
Sym	· ·	Descriptions	ŏ	ŏ	ŏ	ŏ	ŏ	type dryer High polymer
B Port		Decomptions						membrane type dryer
e		1/8	٠					Air filter
8	3	1/4	•	•	•	•		Auto, drain
1	0	3/8		٠	•	•		/ others
1	-	1/2				•		F.R.L. (Module unit)
2	-	3/4					•	F.R.L.
2	-						•	(Separate)
	thread ty					lote	_	Compact F.R.
Bla		Rc thread	•	•	•	•	•	Precise
0	-	G thread	•	•	•	•	•	regulator F.R.L.
D Optio			N	loto	2, N	lote	2	(Related products)
Optic	Blank	With manual drain cock	•		•		•	Clean F.R.
	F	Auto. drain with manual override (NO type: Exhaust w/o pressurized)		•	•	•	•	Electro
Drainage	F1	Auto. drain with manual override (NC type: No exhaust w/o pressurized)	٠		•	•	•	pneumatic regulator
Note 4	FF	Large auto. drain with manual override (NO type: Exhaust w/o pressurized)					•	Air booster
NOLE 4	FF1	Large auto. drain with manual override (NC type: No exhaust w/o pressurized)					•	Speed
	Blank	Polycarbonate bowl	•	•	•	•	•	control valve
Bowl	Z	Nylon bowl	•	•	•	•	•	Silencer
material	M M1	Metal bowl Metal bowl with manual drain cock		•	•	•	•	Check valve
	Blank	5µm	•	•	•	•	•	/ others
Element	Y	0.3µm (submicron) Note 5	-	-	•	•	•	Joint / tube
Pressure	Blank	0.05 to 0.85MPa	٠	•	•	•	•	Vacuum
Range	L	0.05 to 0.35MPa Note 6	•	•	•	•	•	filter
Relief	Blank	With relief mechanism	•	•	•	•	•	Vacuum regulator
	N	Nonrelief type	•	•	•	•	•	Suction
	Blank T	With standard pressure gauge (G401-W)	•	•	•	•	•	plate Magnetic
Pressure gauge	T8	W/o pressure gauge (pressure gauge port (Rc1/4) is assembled with sealed) Pressure gauge attached (pressure gauge port (Rc1/4) is assembled by open)	•	•	•	•	-	spring buffer
i i cooure guuge	T6	Digital pressure sensor PPX attachment option Note 7	•	•	•	•	•	Mechanical pressure SW
	R1	Pressure switch with display PPD assembly Note 8	•		•	•	•	Electronic
Flow	Blank	Standard flow (left $\rightarrow$ right)	•	•	•	٠	٠	pressure SW
Direction	X1	Reverse flow (right $\rightarrow$ left)	•	•	•	•	•	Contact / close contact conf. SW
🕒 Disp	lay unit							Air sensor
Bla		MPa display, Rc thread	•		•		•	
J	1	MPa display, NPT, G thread	•	•	•	•	•	Pressure SW for coolant
		r set (attached) Note 9, No				pag	es	Small flow sensor
Bla		Not attached	•	•	•	•	•	Small
A6' A8'		Rc1/8 piping adaptor set Rc1/4 piping adaptor set	•	•	•	•	_	flow controller
A10		Rc3/8 piping adaptor set	•	•	•	•	_	Flow sensor for air
A15		Rc1/2 piping adaptor set		•	•	•		Flow sensor
A20	)*W	Rc3/4 piping adaptor set				•	•	for water
A25	5*W	Rc1 piping adaptor set					•	Total air system
A32		Rc1 1/4 piping adaptor set					•	Total air system
	or screw t					•		(Ğamma)
Bla		Rc thread NPT thread	•	•	•	•	-	Ending
G		G thread	•	•	•	•	•	Ś
	chment (a		12	25 6	59	020	06	erie
Bla		Not attached	•	•	•	• ag	•	d se nit
B		C type bracket	•	•	•	•	•	dar u
B3	W	L type bracket Note 12	•	•	•	•		Standard series F.R.L. unit
G4	5P	G45D-8-P10(L:G45D-8-P04)	•	•	•	•	•	லா
G4		G49D-8-P10(L:G49D-8-P04)	•	•	•	•	•	
G5		G59D-8-P10(L:G59D-8-P04)	•		•	•	•	
G4		G40D-8-P10(L:G40D-8-P04)	•	•	•	•	•	
G5 G4		G50D-8-P10(L:G50D-8-P04) G41D-8-P10(L:G41D-8-P04)	•	•	•	•	-	
G5		G52D-8-P10(L:G52D-8-P10)	•	•	•	•	•	
R2 N		Digital pressure sensor: PPX-R10N-6M	•	•	•	•	•	
						l		12

343

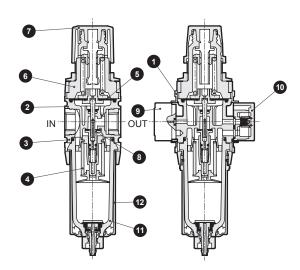


344

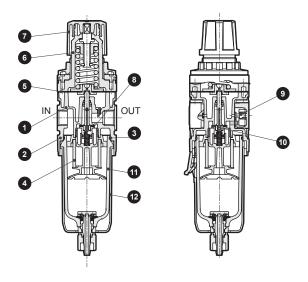
Internal structure and parts list

### Internal structure and parts list





• W3100-W/W4100-W

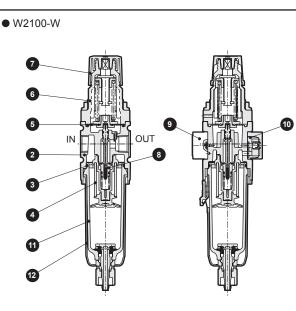


No.	Dorto nomo		Material						
NO.	Parts name	W1100-W	W2100-W	W3100-W	W4100-W	W8100-W			
1	Plate cover	ABS resin	-	ABS resin					
2	Body	Polyamide resin, steel	AI	uminum allo	oy die-casti	ng			
3	O ring Note 2		Spec	cial nitrile ru	ıbber				
4	Element Note 1	Polyacetal resin Polypropylene	olypropylene Polypropylene						
5	Diaphragm assembly		Polyacetal resin Nitrile rubber Zinc alloy die-casting, nitrile rubb			itrile rubber			
6	Cover	Polyamide resin	PBT resin Aluminum a die-castin			Aluminum alloy die-casting			
7	Knob		Po	lyacetal res	sin				
8	Valve assembly	Brass, hydroge	n nitrile rubber (	polyacetal resin:	W2100-W, W31	00-W, 4100-W)			
9	Pressure gauge assembly	PBT resin, poly	yacetal resin, p	olycarbonate re	esin, nitrile rubb	er, brass, steel			
10	Check valve total assembly	PBT res	in, nitrile ru	bber, stainle	ess steel w	ire, steel			
11	Bowl assembly	Polycarbo	onate resin,	polyacetal	resin, ureth	ane resin			
12	Bowl guard	Polyamide resin		Polyamide	resin, steel				

Note 1: W1100-W is element assembly.

Note 2: O-ring of W1000-W is special shaped.

Note 3: Refer to page 349 for repair kits model No.



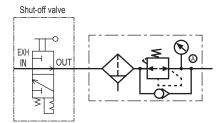
• W8100-W

### Functional explanation

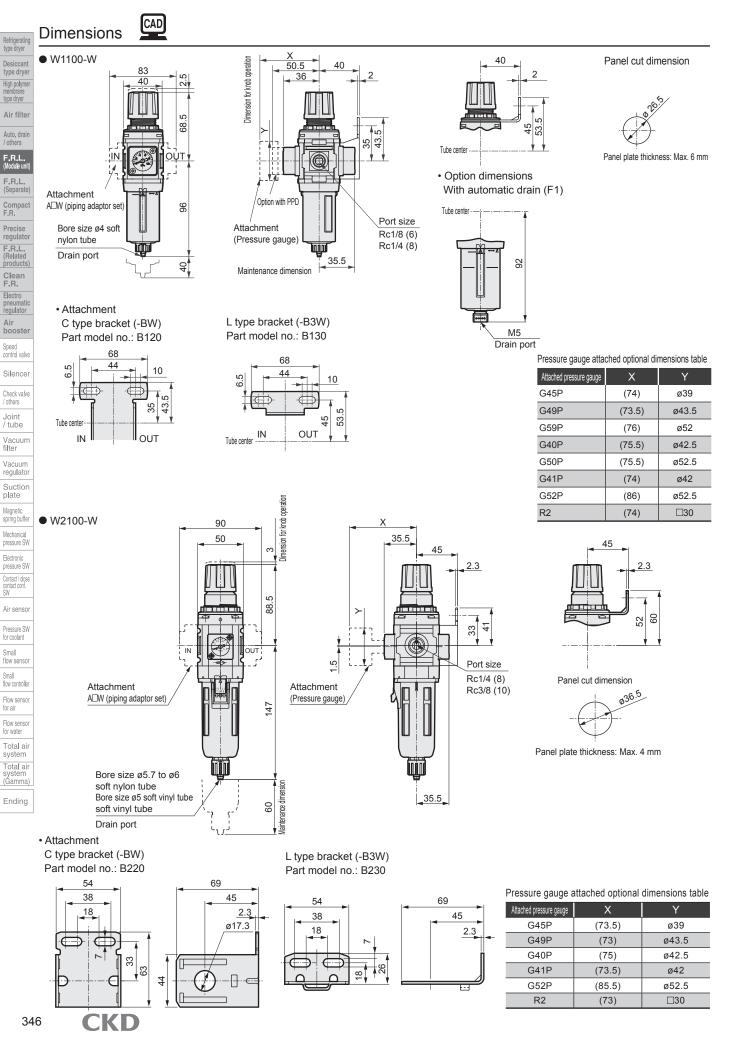
When the primary pressure is introduced from the IN side, the check valve functions as a regular regulator because it closes with primary pressure and spring load. When primary pressure is released by a switching valve such as a shut-off valve, the check valve opens with secondary pressure. Pressure in the diaphragm chamber is released and pressure drops. This causes the diaphragm to be pressed down by the pressure adjustment spring. The main valve (valve assembly) opens, and the air on the OUT side is discharged.

Note:Set back pressure A for when the primary pressure is released within the range in the graph for the regulator's set pressure. (Refer to page 344 for the graph)

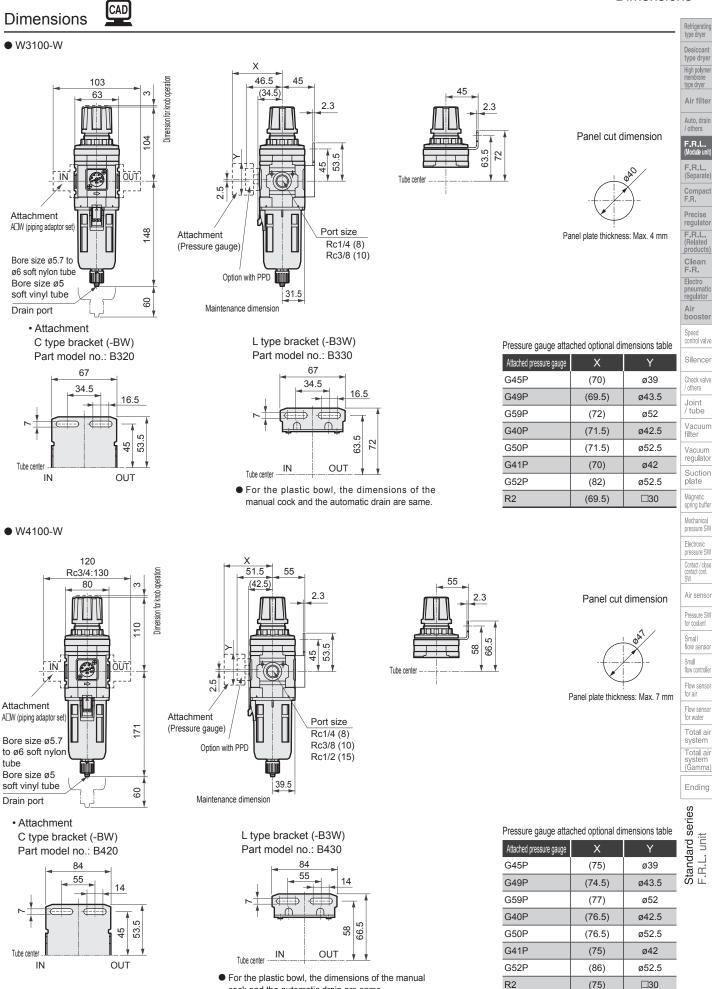
Circuit diagram



When using shut-off valve in front of reverse filter and regulator.



### Dimensions



cock and the automatic drain are same.

347

CAD

Dimensions

#### • W8100-W

Refrigerating type dryer

F.R.L. (Module uni

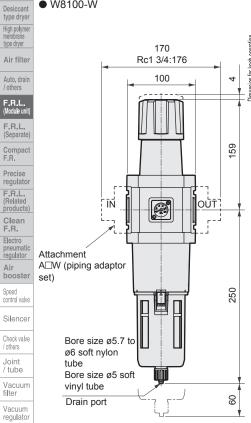
Clean F.R.

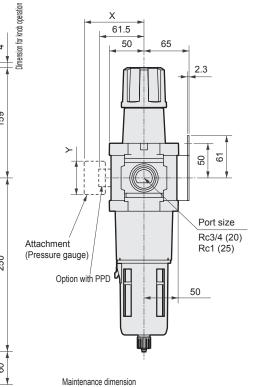
Joint / tube

Suction plate

Magnetic spring buffer

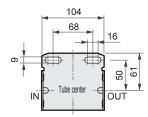
Mechanical pressure SW Electronic pressure SW Contact / close contact conf. SW Air sensor Pressure SW for coolant Small flow sensor Small flow controller Flow sensor for air Flow sensor for water Total air system Total air system (Gamma) Ending





• For the plastic bowl, the dimensions of the manual cock and the automatic drain are same.

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



#### Pressure gauge attached optional dimensions table

Attached pressure gauge	Х	Y
G45P	(85)	ø39
G49P	(84.5)	ø43.5
G59P	(87)	ø52
G40P	(86.5)	ø42.5
G50P	(86.5)	ø52.5
G41P	(85)	ø42
G52P	(98)	ø52.5
R2	(85)	□30

#### **Optional dimensions**

Refrigerating type dryer

Desiccant type dryer

High polymer membrane type dryer

Air filter Auto, drain / others F.R.L. F.R.L. (Separate) Compact F.R. Precise regulato F.R.L. (Related products)

Clean F.R.

Electro pneumatic regulator

Air booste Speed control valve

Silence

Check valve / others

Joint / tube

Vacuum filter

Vacuum regulator

Suction plate

Magnetic spring buffer

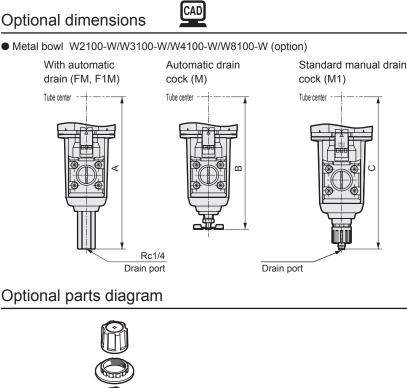
Mechanical pressure SW Electronic pressure SW

Contact / close contact conf. SW Air sensor

Pressure SW for coolant Small flow senso Small flow controlle

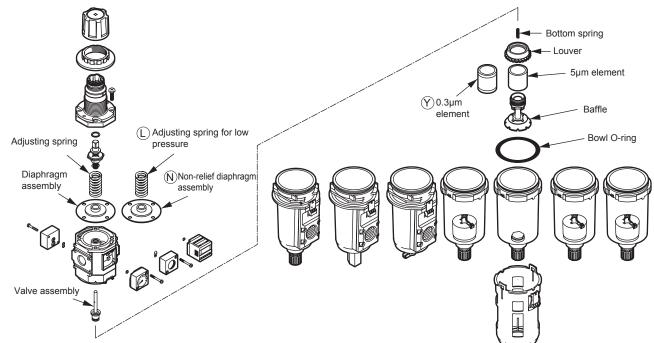
Flow sensor for air Flow sensor for water Total aiı system

Standard series F.R.L. unit



Dimensions									
	F1M	М	M1						
Model no.	А	В	С						
W2100-W	-	-	147						
W3100-W	163.5	143.5	154						
W4100-W	187	166.5	177						
W8100-W	266	245.5	256						

### Optional parts diagram



#### Repair kits (set of diaphragm assembly, valve assembly, bottom spring, louver, element, baffle, bowl O-ring)

<u> </u>	-1 (	- 5	<u> </u>			for air
	Repair kits model no.	Relief diaphragm assembly	Non-relief diaphragm assembly	Relief diaphragm assembly	Non-relief diaphragm assembly	Flow sensor for water
	Model	5µm element (blank)	5µm element (N)	0.3 µm element (Y)	0.3 µm element (NY)	
	W1000-W, W1100-W	W1000-KIT	W1000-KIT-N	-	_	Total air system
	W2000-W, W2100-W	W2000-KIT	W2000-KIT-N	_	—	Total air system
	W3000-W, W3100-W	W3000-KIT	W3000-KIT-N	W3000-KIT-Y	W3000-KIT-NY	(Gamma)
	W4000-W, W4100-W	W4000-KIT	W4000-KIT-N	W4000-KIT-Y	W4000-KIT-NY	Ending
	W8000-W, W8100-W	W8000-KIT	W8000-KIT-N	W8000-KIT-Y	W8000-KIT-NY	Ś

Note: With the W1000-W and W1100-W, the element and baffle are assembly parts, and the louver is assembled onto the body. These parts are excluded from consumables

#### Valve assembly (set of valve assembly and bottom spring)

Model	Valve assembly model no.
W1000-W, W1100-W	W1000-VALVE-ASSY
W2000-W, W2100-W	W2000-VALVE-ASSY
W3000-W, W3100-W	W3000-VALVE-ASSY
W4000-W, W4100-W	W4000-VALVE-ASSY
W8000-W, W8100-W	W8000-VALVE-ASSY

\* Refer to the regulator options and parts table (page 393) for details on the adjustment spring, diaphragm, and gauge plug assembly. Refer to air filter options and parts table (pages 358 to 359) for details on the element, bowl assembly, and bowl guard.



### Air filter standard white Series F1000/F2000/F3000 F4000/F6000/F8000-W Series

Introducing the 5µm element for dust removal and 0.3µm element for tar removal. (Excluding F1000 Series.) Port size: 1/8 to 1

JIS symbol



Contact / closi contact conf. SW

Air sensor Pressure SW for coolant

Small flow sensor

Small flow controller

Flow sensor for air Flow senso for water Total air system

Total ai (Gamma)

Ending

350

Refrigerating type dryer

Desiccant type dryer

Specifications						
Descriptions	F1000-W	F2000-W	F3000-W	F4000-W	F6000-W	F8000-W
Appearance						
Working fluid			Compre	essed air		
Max. working pressure MPa			1.0 Not	es 1, 2, 3		
Withstanding pressure MPa			1.5 1	Note 1		
Ambient temperature range °C			5 to	o 60		
Filtration rating µm	Ę	5		5 or	0.3	
Drain capacity cm <sup>3</sup>	12	25	45	80	80	80 (Note 4)
Port size Rc, NPT, G	1/8, 1/4 (3/8 uses an adaptor)		3/8 an adaptor)	1/4, 3/8, 1/2 (3/4 uses an adaptor)	3/4, 1 (1 1/4 uses an adaptor)	3/4, 1 (1 1/4 uses an adaptor)
Product weight kg	0.087	0.24	0.25	0.45	0.9	1.16
Standard accessories			Bowl	guard		

Note 1: When selecting "F1" with automatic drain for the F1000-W Series, the minimum operation pressure is 0.2MPa, maximum operation pressure is 0.7MPa, the guaranteed withstand pressure is 1.05MPa. For the maximum flow rate, refer to the maximum working flow rate (table below) for F1000-W-F1 with automatic drain. The working flow rate must be less than the maximum working flow rate value. When selecting "F1" with automatic drain for the F2000-W Series, refer to the maximum working flow rate (table below). The working flow rate must be less than the maximum working flow rate.

Note 2: When "F" with an automatic drain is selected, minimum operation pressure must be 0.1 MPa. Initially generated drainage and air are purged until pressure reaches 0.1 MPa.

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

Note 4: Up to 170 m<sup>3</sup> is stored only with the manual drain cock type.

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

Dust generation preventing structure for use in cleanrooms

**P7**\* F\*000 - · · · · · · · · -

Secondary battery compatible specifications

(catalog No. CC-947)

(m<sup>3</sup>/min. (ANR))

• Structured for use in secondary battery manufacturing processes

F\*000 - · · · · · · · · -P4\*

#### Max. usage rate with F1000-W-F1 automatic drain

Primary pressure MPa Port size	0.2	0.3	0.4	0.5	0.6	0.7
6	0.185	0.250	0.310	0.375	0.435	0.500
8	0.225	0.300	0.375	0.450	0.525	0.600

#### Max, usage rate with F2000-W-F1 automatic drain.

Max. usage rate with F2000-W-F1 automatic drain     (m <sup>3</sup> /min. (ANR))										
Primary pressure MPa	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
Flow	0.50	0.60	0.80	1.00	1.20	1.40	1.65	1.85	2.05	2.25

#### Air Filter Series How to order How to order A Model no. Refrigerating type dryer F 4 0 F 6 0 F 8 0 F F 2 \* Refer to page 274 for the F 3 0 **W** -(**Z**)-(A6W) 1 Desiccant type dryer explanation of the option. ō Ò 000 0 0 0 0 0 0 High polyme Symbol Descriptions type dryer B Port size Air filter B Port size 1/8 6 Auto, drain 8 1/4 • • • • F.R.L. (Module un 3/8 • • • 10 15 1/2 • F.R.L. (Separate) 20 3/4 ۲ • Compact F.B. 25 1 • ulletPrecise regulato C Port thread type Note 1 • Port thread type F.R.L. (Related Blank Rc thread ullet• • products ullet• • Ν NPT thread • lacksquareulletClean F.R. G G thread ulletullet• Electro Option Note 2 regulator Option Air booster Blank With manual drain cock lacksquarelacksquare• ۲ • • • • F Auto. drain with manual override (NO type: Exhaust w/o pressurized) Speed control valve Drainage F1 Auto. drain with manual override (NC type: No exhaust w/o pressurized) • Silence FF Large auto. drain with manual override (NO type: Exhaust w/o pressurized • Note 3 FF1 Large auto. drain with manual override (NC type: No exhaust w/o pressurized • Check valve / others Blank • • • • • Polycarbonate bowl • Joint / tube • Bowl Ζ Nylon bowl • • • Vacuum • • Metal bowl • material М filter

M1

Blank

Υ

Blank

Q

Blank

**X1** 

Element

Differential

pressure

detection

Flow

Direction

Display unit

5µm

0.3µm (submicron)

### Note on model no. selection

(F1000)-(6)

A Model no.

Note 1:When G threads or NPT threads are selected, the IN, OUT, and drainage discharge port (metal bowl automatic drain) are the target.

- Note 2:Select the options from drainage, bowl material, element, and differential pressure detection. When selecting options for several items, list options in order from the top.
- Note 3:Refer to page 276 for the automatic drain use conditions.
- Note 4: The C-type bracket and piping adaptor set **G**Bracket attachments cannot be used at the same time.

Note 5: The joiner set is enclosed with the piping adaptor set.

Contact / close contact conf. Display unit Blank MPa display, Rc thread ۲  $\bullet$ • Air sensor J1 MPa display, NPT, G thread • ullet• Pressure SV F Piping adaptor set (attached) Note 4, Note 5 page 428 Piping adaptor Small flow senso • • • • • Blank Not attached set (attached) A6\*W Rc1/8 piping adaptor set • Small flow controlle A8\*W Rc1/4 piping adaptor set • • Flow sensor for air A10\*W Rc3/8 piping adaptor set  $\bullet$ ۲ • Flow senso for water A15\*W Rc1/2 piping adaptor set  $\bullet$ A20\*W Rc3/4 piping adaptor set • Total aiı system A25\*W Rc1 piping adaptor set • Total air system (Gamma) A32\*W Rc1 1/4 piping adaptor set • \*Adaptor screw type Ending Blank ulletulletRc thread • ۲ • • Standard series F.R.L. unit NPT thread • ullet• Ν G G thread • • • G Bracket (attached) page 425 Blank Not attached  $\bullet \bullet \bullet \bullet \bullet$ ۲ • (Attached) • • ulletulletBW C type bracket ۲ •

Metal bowl with manual drain cock

Without differential pressure detection port

With differential pressure detection port (Rc1/4)

Standard flow (left  $\rightarrow$  right)

Reverse flow (right  $\rightarrow$  left)

• • • • •

> • • • • plate

> > • • •

• • •

• •

• • • • •

• • •

• •

• • • • • • Vacuum regulato

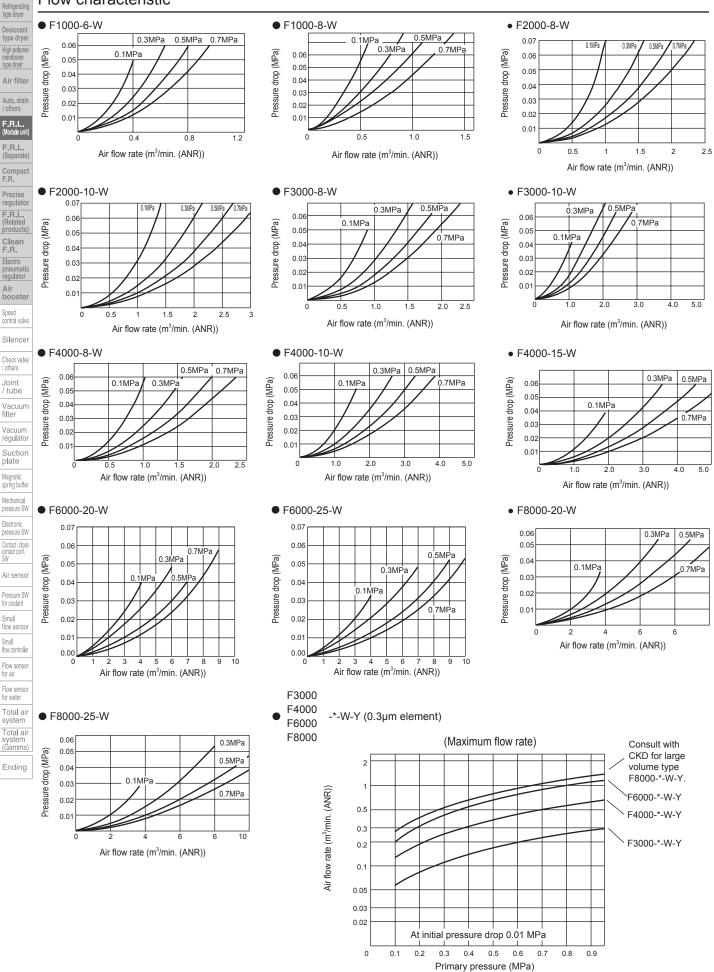
Suction

Magnetic spring buffer

Mechanical pressure SW

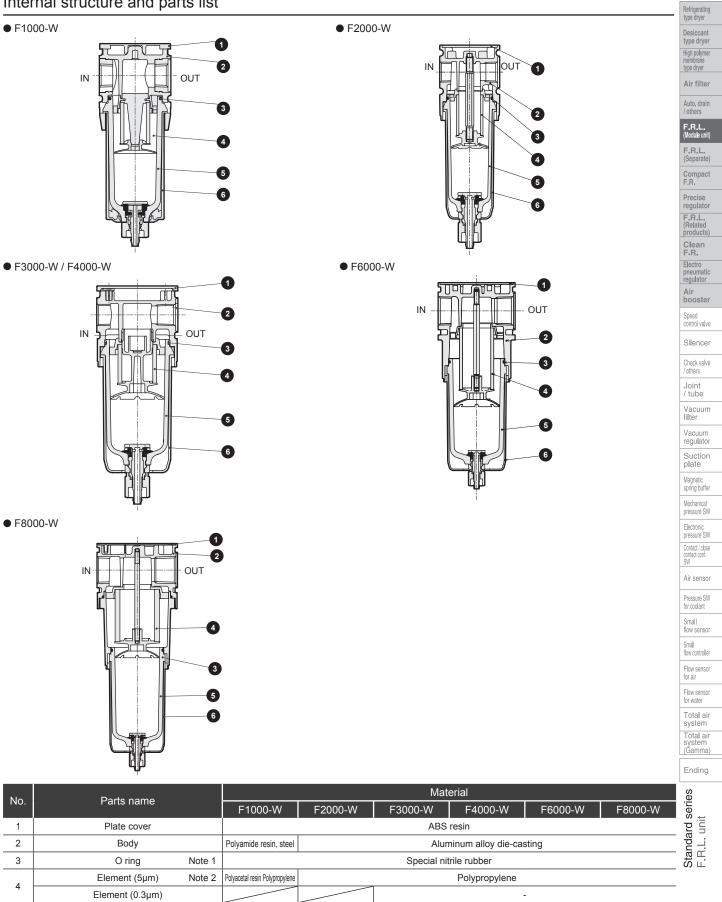
Electronic pressure SW

#### Flow characteristic



### Air Filter Series Internal structure and parts list

### Internal structure and parts list



Polycarbonate resin, polyacetal resin, urethane resin

Polyamide resin, steel

Note 1: O-ring of F1000-W is special shaped. Note 2: F1000-W is element assembly.

Bowl assembly

Bowl guard

Polyamide resin

Note 3: Refer to page 358 for repair kits.

5

6

CAD

Dimensions

• F1000-W

Refrigerating type dryer

Desiccant type dryer High polymer membrane type dryer

Air filter

Auto, drain / others

F.R.L. (Module uni

F.R.L. (Separate)

Compact F.R.

Precise regulator

F.R.L. (Related products)

Clean F.R.

Electro pneumatic regulator

Air booster

Speed control valve

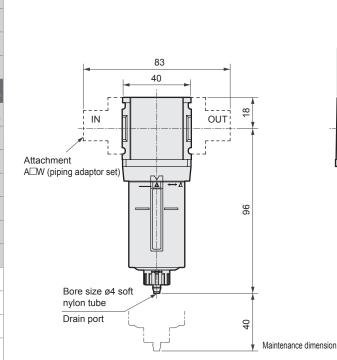
Silence

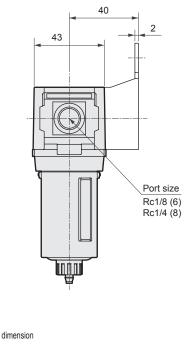
Check valve / others

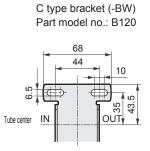
Joint / tube

Vacuum filter

Vacuum regulator Suction plate Magnetic spring buffer Mechanical pressure SW

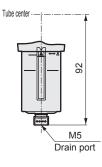




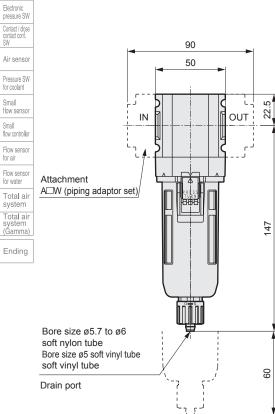


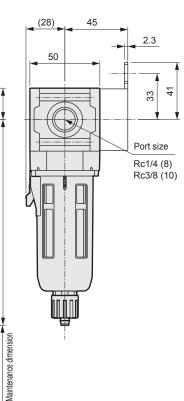
Attachment

Option dimensions
 With automatic drain (F1)

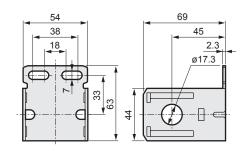


• F2000-W





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



Dimensions

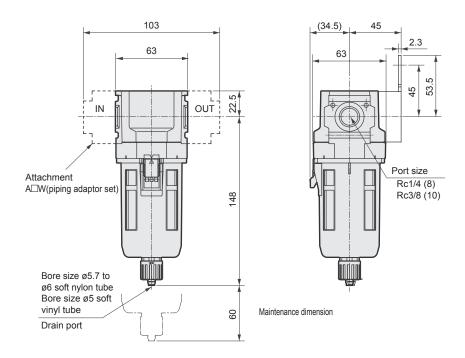
Refrigerating type dryer

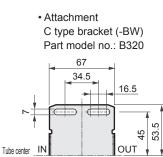
Desiccant type dryer High polymer membrane type dryer

Air filter





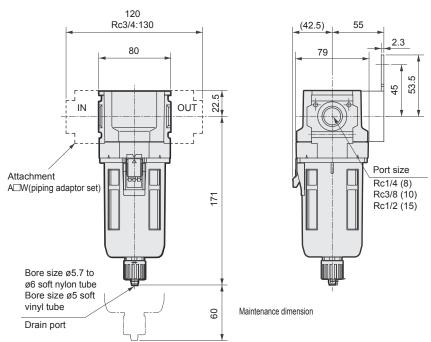




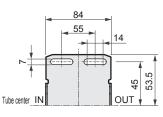
• For the plastic bowl, the dimensions of the manual cock and the automatic drain are same.

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

#### • F4000-W



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

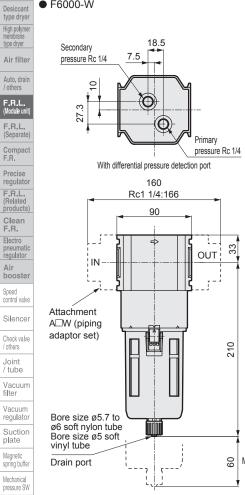


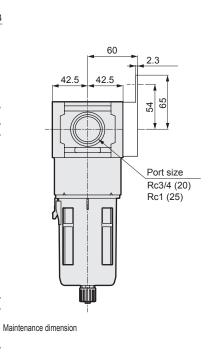
• For the plastic bowl, the dimensions of the manual cock and the automatic drain are same.

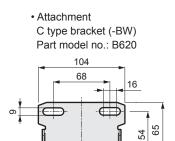
CAD

Dimensions Refrigerating type dryer

### • F6000-W







OUT Tube center IN

### • F8000-W

Electronic pressure SW

Contact / close contact conf.

Air sensor

Pressure SW for coolant

Small flow sensor

Small flow controller

Flow sensor for air

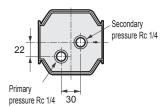
Flow senso for water

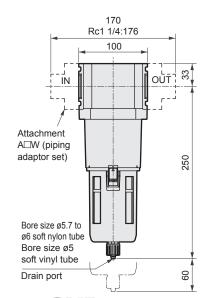
Total air system

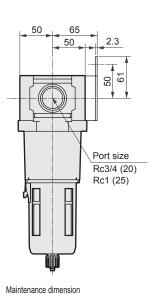
Total air system (Gamma)

Ending

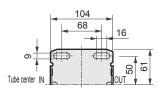
With differential pressure detection port (Q)







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



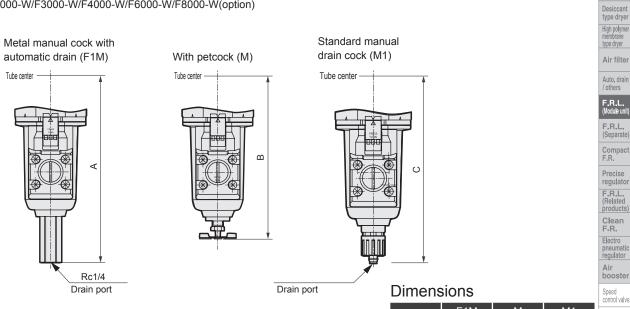
- For the plastic bowl, the dimensions of the manual cock and the automatic drain are same.
- Note:The C-type bracket and piping adaptor set attachments cannot be used at the same time.

### Air Filter Series Optional dimensions

Refrigerating type dryer

#### CAD Optional dimensions

Metal bowl F2000-W/F3000-W/F4000-W/F6000-W/F8000-W(option)



Dimensions								
Model no.	F1M	М	M1	Si				
would no.	А	В	С					
F2000-W	-	-	147	Che / ot				
F3000-W	164	143.5	154	Jc /t				
F4000-W	187	166.5	177	Va				
F6000-W	226	205	216	filt				
F8000-W	266	245.5	256	Va				
				Su				

#### Optional parts diagram

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

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

(M1)

Metal bowl assembly with manual drain cock (FM1)

Automatic drain NO type metal bowl assembly with manual drain cock

(F1M1)

Automatic drain NC type metal bowl assembly with manual drain cock



(M)

with cock

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

High discharge automatic drain NC type metal bowl assembly with manual drain cock

Metal bowl assembly

(F)

(F1)

#### (FM)

NO type automatic drain bowl assembly with metal manual cock

#### (F1M)

NC type automatic drain bowl assembly with metal manual cock



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

assembly with metal manual cock

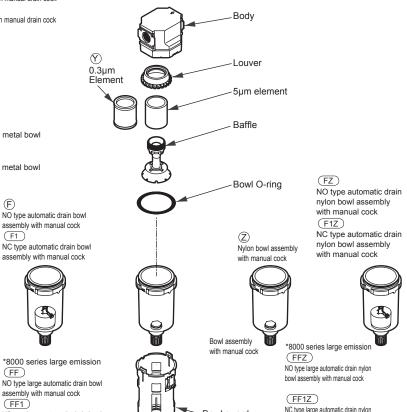
### Repair kits model no.

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

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

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

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



Bowl guard

(FF1Z) NC type large automatic drain nylon bowl assembly with manual cock

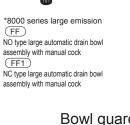
#### Bowl guard

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

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

Ending

Refrigerating type dryer Desiccant type dryer



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

Bowl assembly (set of bowl assembly and bowl O-ring)							Refrigerating		
Bowl assembly	With manual cock	With manual cock	With manual cock	With standard manual cock	With manual cock NO type	With manual cock			type dryer Desiccant
Model	PC bowl assembly	PA bowl assembly	Metal bowl assembly	Metal bowl assembly	Automatic drain PC bowl assembly Note 1	Automatic drain PC bowl assembly			type dryer High polymer membrane
F1000-W, W1000-W M1000-W, W1100-W	F1000-W-BOWL	F1000-W-BOWL-Z	-	-	-	F1000-W-BOWL-BOWL GUARD-F1 Note 3			type dryer
F2000-W, W2000-W	F2000-W-BOWL	F2000-W-BOWL-Z		F2000-W-BOWL-M1		M2000-W-BOWL-F1			Auto, drain / others
M2000-W, W2100-W	F2000-W-BOWL	F2000-W-BOWL-Z	-		-				F.R.L. (Module unit)
F3000-W, M3000-W W3000-W, W3100-W	F3000-W-BOWL	F3000-W-BOWL-Z	F3000-W-BOWL-M	F3000-W-BOWL-M1	F3000-W-BOWL-F	M3000-W-BOWL-F1			F.R.L. (Separate)
FM3000-W, MM3000-W	-	-		-	-	-			Compact F.R.
F4000-W, F6000-W									Precise regulator
M4000-W, M6000-W F8000-W, M8000-W	F4000-W-BOWL	F4000-W-BOWL-Z		F4000-W-BOWL-M1	F4000-W-BOWL-F	M4000-W-BOWL-F1			F.R.L. (Related products)
W4000-W, W4100-W W8000-W, W8100-W			F4000-W-BOWL-M						Clean F.R.
FM4000-W, FM6000-W									Electro pneumatic regulator
FM8000-W, MM4000-W MM6000-W, MM8000-W	-	-		-	-	-			Air booster
Bowl assembly	With manual cock	With manual cock	With metal manual cock	With standard manual cock	With metal manual cock	With standard manual cock	For medium pressure	For medium pressure	Speed control valve
Model	NO type Automatic drain	NC type Automatic drain PA bowl assembly	NO type Automatic drain Metal bowl assembly Note 1	NO type Automatic drain Metal bowl assembly	NC type Automatic drain Metal bowl assembly	NC type Automatic drain Metal bowl assembly	NO type Automatic drain Bowl assembly Note 1	NC type Automatic drain Bowl assembly	Silencer
F1000-W, W1000-W	PA bowl assembly Note 1	F1000-W-BOWL- BOWL GUARD-	MELAI DUWI ASSEIIIDIY NULE I	Metal Dowl assembly	Metal DOWI assembly	Melai Dowi assembly	DOWI ASSEITIDIY NOLE T	DOWI ASSEITIDIY	Check valve / others
M1000-W, W1100-W	-	F1Z Note 3	-	-	-	-	-	-	Joint / tube
F2000-W, W2000-W M2000-W, W2100-W	-	M2000-W-BOWL-F1Z	-	-	-	M2000-W-BOWL-F1M1	-	-	Vacuum filter
F3000-W, M3000-W W3000-W, W3100-W	F3000-W-BOWL-FZ	M3000-W-BOWL-F1Z	F3000-W-BOWL-FM	F3000-W-BOWL-FM1	M3000-W-BOWL-F1M	M3000-W-BOWL-F1M1	-	-	Vacuum regulator Suction
FM3000-W, MM3000-W	-	-	-	-	-	-	FM3000-W-BOWL-F	MM3000-W-BOWL-F1	plate Magnetic
F4000-W, F6000-W									spring buffer Mechanical
M4000-W, M6000-W F8000-W, M8000-W	F4000-W-BOWL-FZ	M4000-W-BOWL-F1Z	F4000-W-BOWL-FM	F4000-W-BOWL-FM1	M4000-W-BOWL-F1M	M4000-W-BOWL-F1M1	-	-	pressure SW Electronic
W4000-W, W4100-W W8000-W, W8100-W									pressure SW Contact / close contact conf. SW
FM4000-W, FM6000-W									SW Air sensor
FM8000-W, MM4000-W MM6000-W, MM8000-W	-	-	-	-	-	-	FM4000-W-BOWL-F	MM4000-W-BOWL-F1	Pressure SW for coolant
Bowl assembly	With manual cock	With manual cock	With manual cock	With manual cock	With metal manual cock	With metal manual cock	With standard manual cock	With standard manual cock	Small flow sensor
Model	NO type Large automatic drain PC bowl assembly	NC type Large automatic drain PC bowl assembly	NO type Large automatic drain PA bowl assembly	NC type Large automatic drain PA bowl assembly	NO type Large automatic drain Metal bowl assembly	NC type Large automatic drain Metal bowl assembly	NO type Large automatic drain Metal bowl assembly	NC type Large automatic drain Metal bowl assembly	Small flow controller
F8000-W, W8000-W	F8000-W-BOWL-FF	F8000-W-BOWL-FF1	F8000-W-BOWL-FFZ	F8000-W-BOWL-FF1Z	F8000-W-BOWL-FFM	F8000-W-BOWL-FF1M	F8000-W-BOWL-FFM1	F8000-W-BOWL-FF1M1	Flow sensor for air
W8100-W Note 1: The NO auto									Flow sensor for water

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

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

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

Ending

Total air system

Total air system (Gamma)



### Oil mist filter standard white Series M1000/M2000/M3000 M4000/M6000/M8000-W Series

Ideal for circuits susceptible to oil, including measuring, and instrumentation circuits. Port size: 1/8 to 1





### Specifications

Refrigerating type dryer

Desiccant type dryer

High polymembras

type dryer Air filter Auto, drain / others

Contact / close contact conf. Air sensor Pressure SW for coolant Small flow senso Small flow controlle Flow sensor for air Flow sensor for water Total air system

Total air

(Gamma)

Ending

F.R.L	opeoinioationio						
F.R.L. (Module unit)	Descriptions	M1000-W	M2000-W	M3000-W	M4000-W	M6000-W	M8000-W
F.R.L. (Separate)							
Compact F.R.							
Precise regulator							
F.R.L. (Related products)						and the second	1504 est
Clean F.R.			N0000-16-94, 9400 6		1000 - 1001	1	
Electro pneumatic regulator	Appearance	CKD um 6713					
Air booster			Tem I			in an con	
Speed control valve							17 H H H H H H H H H H H H H H H H H H H
Silencer							
Check valve / others			•	· ·			Ŧ
Joint / tube	Working fluid			Compre	essed air		·
Vacuum	Working pressure range MPa			0.1 to 1.0	Notes 2, 3		
filter	Withstanding pressure MPa			1.5 Note 2			
Vacuum regulator	Drain capacity cm <sup>3</sup>	3	25	45	80	80	80
Suction plate	Port size Rc, NPT, G	1/8, 1/4	1/4,	3/8	1/4, 3/8, 1/2	3/4, 1	3/4, 1
		(3/8 uses an adaptor)	(1/2 uses a	in adaptor)	(3/4 uses an adaptor)	(1 1/4 uses an adaptor)	(1 1/4 uses an adaptor)
Magnetic spring buffer	Product weight kg	0.096	0.25	0.28	0.52	0.95	1.35
Mechanical pressure SW	Standard accessories			Bowl	guard		
Electronic pressure SW	Mantle option name		Blank (M	tvpe)	S (S type)	X	(X type)

Mantle option name		Blank (M type)	S (S type)	X (X type)
	M1000-*-W	150 Note 2	150 Note 2	150
Maximum flow rate Note 1	Maximum flow rate Note 1 M2000-*-W		310	310
ℓ/min. (ANR)	M3000-*-W	360	450	450
Primary pressure 0.7 MPa	M4000-*-W	825	1000	1000
Pressure drop 0.01 MPa	M6000-*-W	1270	1400	1400
_	M8000-*-W	2600	2900	2900
Ambient temperature range °C		5 to 60		5 to 30
Filtration rating	μm	0.01 (nominal)	0.3	Suction by activated charcoal Note 4
Secondary side oil concentration mg/m <sup>3</sup>		0.01 or less Note 5, Note 6	0.01 or less Note 5, Note 6 0.5 or less Note 5	
Mantle (element) change		1 year (6000 hours) or	pressure drop 0.1 MPa	- Note 8

Note 1: Use within the maximum processing flow rate.

If the maximum processing flow is exceeded temporarily, or if the filter is installed at a place with high levels of pulsation, the mantle could be damaged or oil or drainage, etc., could splatter to the secondary side and result in faults at the terminal.

Note 2:With M1000-W-F1 automatic drain, minimum operating pressure is 0.2 MPa, maximum operation pressure is 0.7 MPa and withstanding pressure is 1.05 MPa. Refer to the maximum processing flow graph (page 362) for the maximum working flow.

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

Note 4: Activated charcoal particles could flow to the secondary side, so install an air filter (F Series) or oil mist filter (M Series M type or S type) on the secondary side. Note 5: The secondary oil concentration is the value when the primary oil concentration is 30 mg/m<sup>3</sup> and inlet air temperature is 21°C.

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

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

Note 8: The mantle (element) replacement period differs with the odor density in compressed air, and thus cannot be clearly indicated.

Consider the total period from initial installation to when the smell of oil is confirmed as the effective deodorizing period, and replace at the same time as the M type or control with usage time. (When the inlet temperature is 21°C, replace at the control time or 1,000 hours, whichever is sooner) Keep the primary air temperature at 30°C or less. The deodorizing effect will drop if the temperature is high, so provide heat dissipation measures.

M\*000 - · · · · · · · · -

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

Secondary battery compatible specifications

(catalog No. CC-947)

Dust generation preventing structure for use in cleanrooms

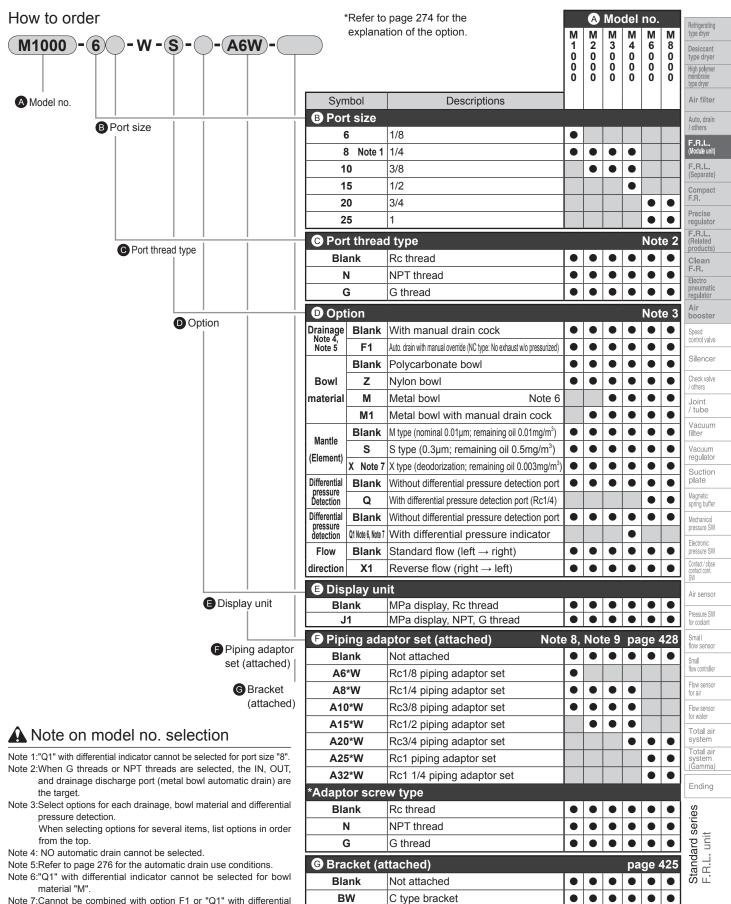


Structured for use in secondary battery manufacturing processes

P4\*

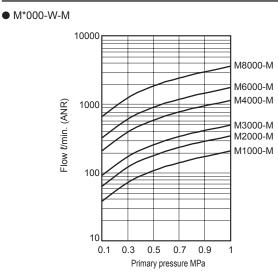
360

### Oil Mist Filter series How to order



- Note 7:Cannot be combined with option F1 or "Q1" with differential indicator.
- Note 8:The C-type bracket and piping adaptor set attachments cannot be used at the same time.
- Note 9:The joiner set is enclosed with the piping adaptor set.

### Flow characteristic (maximum flow rate)



• M\*000-W-X

Refrigerating type dryer

Desiccant type dryer

High polymer membrane type dryer

Air filter

Auto, drain / others

F.R.L. (Module uni

F.R.L. (Separate)

Compact F.R.

Precise regulato F.R.L. (Related products) Clean F.R.

Electro

pneumati regulator

Air booster Speed control valve

Silence

Check valve / others

Joint / tube

Vacuum filter

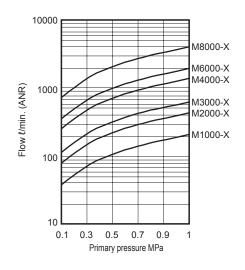
Vacuum

regulator

Suction plate

Magnetic spring buffer

Mechanical pressure SW

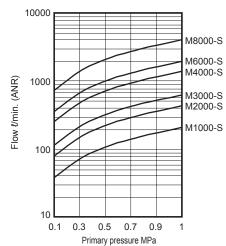


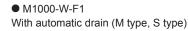
#### Oil mist filter: Using optional mantle

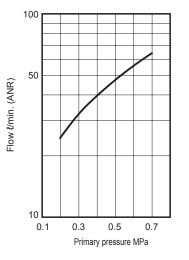
Applications Major recommended circuit General industrial air S type Air tool air drill, air screw driver air grinder · Labor saving device and components · Pneumatic jigs and tools Air chuck Air vice Precision part cleaning air blow M type Oil free air Instrumentation Measurement Logic control movable element / pure fluid element Luxury painting · Precise industry 🔶 X type Deodorization air Food industry **F**SM · Pharmaceutical industry Agitation Transportation • Dry Package

· Air for brewing

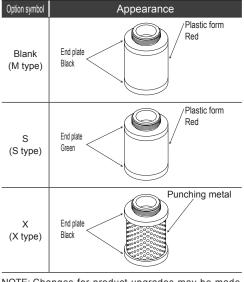
• M\*000-W-S







#### Option symbol of mantle and shape



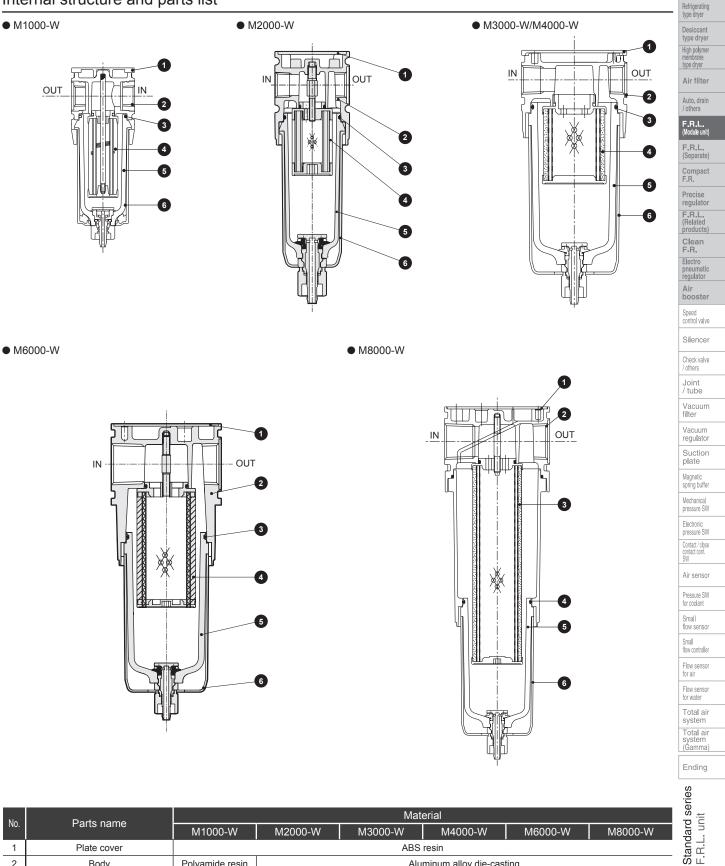
NOTE: Changes for product upgrades may be made without prior notice. When placing an order, confirm the option symbol for the part model given here.





Internal structure and parts list

#### Internal structure and parts list



No.	Parts name	Material					
NU.	Faits hame	M1000-W	M2000-W	M3000-W	M4000-W	M6000-W	M8000-W
1	Plate cover	ABS resin					
2	Body	Polyamide resin Aluminum alloy die-casting					
3	O-ring Note 1	Special nitrile rubber					
4	Mantle assembly	-					
5	Bowl assembly	Polycarbonate resin, polyacetal resin, urethane resin					
6	Bowl guard	Polyamide resin		F	Polyamide resin, stee	el	

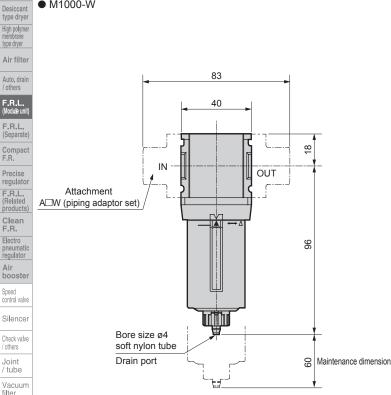
Note 1: O-ring of M1000-W is special shaped.

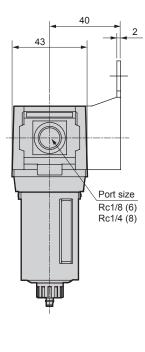
CAD

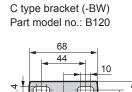
Dimensions

• M1000-W

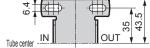
Refrigerating type dryer



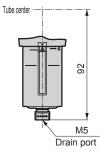




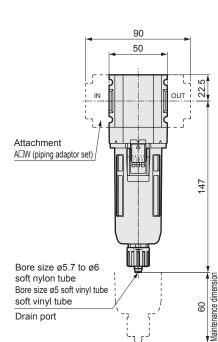
Attachment

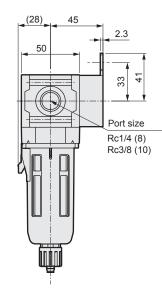


 Option dimensions With automatic drain (F1)

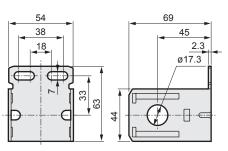


• M2000-W

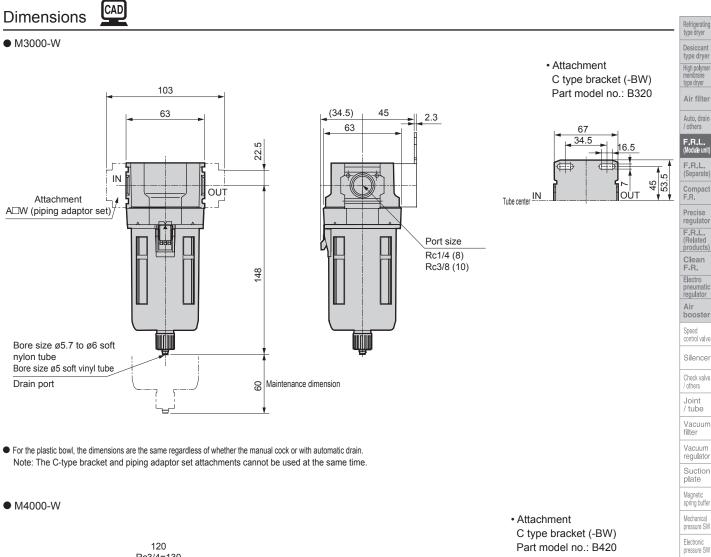


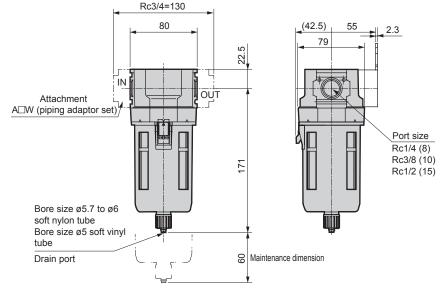


 Attachment C type bracket (-BW) Part model no.: B220

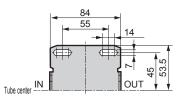


#### Dimensions

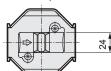


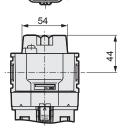


Part model no.: B420



 Option dimensions with differential pressure indicator (Q1)





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

Contact / close contact conf. SW

Air sensor

Pressure SW for coolant

Small flow senso

Small flow controlle

Flow sensor for air

Flow sensor for water

Total aiı system

Total air system (Gamma)

Ending

Standard series F.R.L. unit

CAD

#### Dimensions

Refrigerating type dryer

Desiccant type dryer

High polymer membrane type dryer

Air filter

Auto, drain / others

F.R.L.

F.R.L. (Separate)

Compact F.R.

Precise regulator

F.R.L. (Related products)

Clean F.R.

Electro pneumatic regulator Air booster

Speed control valve

Silence Check valve / others Joint / tube

Vacuum filter

Vacuum

regulator

Suction plate Magnetic spring buffer

Mechanical

pressure SW Electronic pressure SW

Contact / close contact conf. SW

Air sensor Pressure SW for coolant

Small flow senso

Small flow controller

Flow sensor for air

Flow senso for water

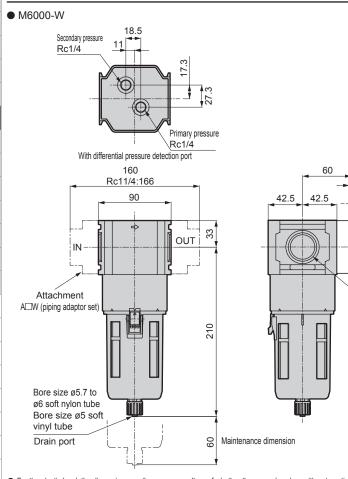
Total air

system

Total air

system (Gamma)

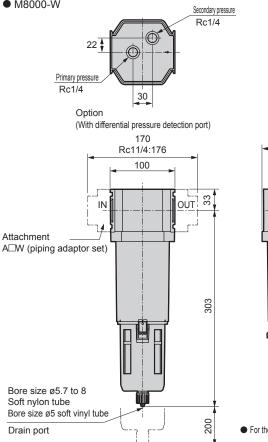
Ending

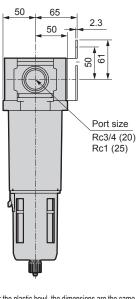




• For the plastic bowl, the dimensions are the same regardless of whether the manual cock or with automatic drain. Note: The C-type bracket and piping adaptor set attachments cannot be used at the same time.







2.3

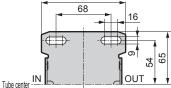
65 5

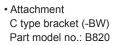
Port size

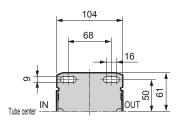
Rc3/4 (20)

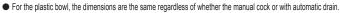
Rc1 (25)

 Attachment C type bracket (-BW) Part model no.: B620 104







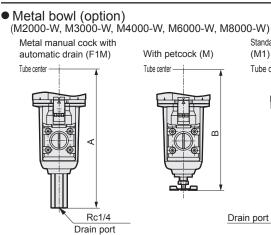


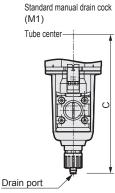
Optional dimensions, Optional parts table

### **Optional dimensions**

Tube center

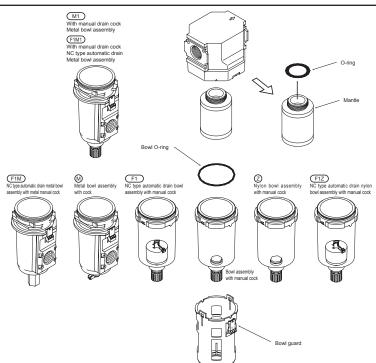
CAD	





Dimensions						
Model no.	F1M	М	M1			
would no.	Α	В	С			
M2000-W	-	-	147			
M3000-W	164	143.5	154			
M4000-W	187	166.5	177			
M6000-W	226	205	216			
M8000-W	319	298	309			

### Optional parts table - oil mist filter



### Repair kits model no. (Set of O-ring, mantle, bowl O-ring)

Nodel	M type	S type	X type
M1000-W	M1000-KIT	M1000-KIT-S	M1000-KIT-X
M1000-W-F1	M1000-KIT-F1	M1000-KIT-F1S	-
M2000-W	M2000-KIT	M2000-KIT-S	M2000-KIT-X
M3000-W, MM3000-W	M3000-KIT	M3000-KIT-S	M3000-KIT-X
M4000-W, MM4000-W	M4000-KIT	M4000-KIT-S	M4000-KIT-X
M6000-W, MM6000-W	M6000-KIT	M6000-KIT-S	M6000-KIT-X
M8000-W, MM8000-W	M8000-KIT	M8000-KIT-S	M8000-KIT-X
Repair kits model no. (	Set of O-ring, mantle)		
/lodel	M type	S type	X type
M1000-W	M1000-MANTLE-ASSY	M1000-MANTLE-ASSY-S	M1000-MANTLE-ASSY-X
M1000-W M1000-W-F1	M1000-MANTLE-ASSY M1000-MANTLE-ASSY-F1	M1000-MANTLE-ASSY-S M1000-MANTLE-ASSY-F1S	M1000-MANTLE-ASSY-X
			M1000-MANTLE-ASSY-X - M2000-MANTLE-ASSY-X
M1000-W-F1	M1000-MANTLE-ASSY-F1	M1000-MANTLE-ASSY-F1S	- M2000-MANTLE-ASSY-X
M1000-W-F1 M2000-W	M1000-MANTLE-ASSY-F1 M2000-MANTLE-ASSY	M1000-MANTLE-ASSY-F1S M2000-MANTLE-ASSY-S	-
M1000-W-F1 M2000-W M3000-W, MM3000-W	M1000-MANTLE-ASSY-F1 M2000-MANTLE-ASSY M3000-MANTLE-ASSY	M1000-MANTLE-ASSY-F1S M2000-MANTLE-ASSY-S M3000-MANTLE-ASSY-S	- M2000-MANTLE-ASSY-X M3000-MANTLE-ASSY-X

\* M1000-W, 3000-W, 4000-W, and 8000-W Series products released before May 1998 are compatible with M parts, so select M parts.

\* Refer to the air filter options and parts table for details on the bowl assembly and bowl guard.



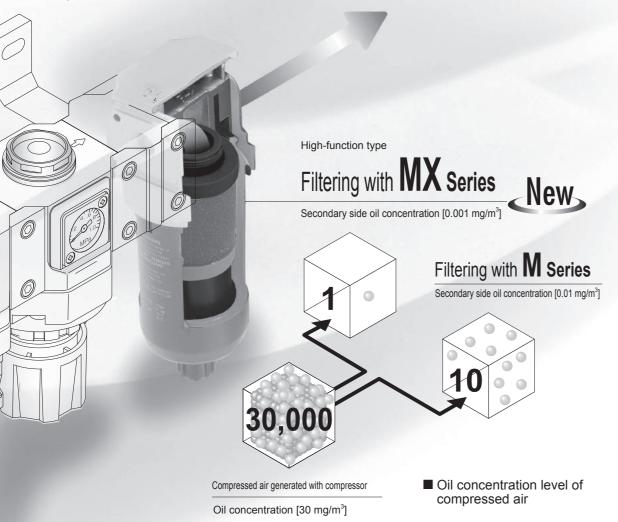
### **MX** Series

Refrigerating type dryer Desiccant type dryer High polymer membrane type dryer

Air filter

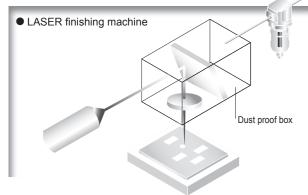
# High-performance with x10 oil removal.

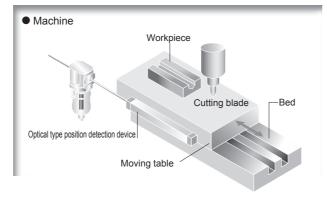
Highly efficient oil removing mantle removes oil up to a secondary oil concentration 0.001mg/m<sup>3</sup>. MX Series high-performance oil mist filter with x10 (compared to oil mist filter M Series) oil removal.



### Further expanding high-purity oilless air applications

This series is ideal for applications requiring high-purity oilless air, including laser processing systems, optical positioning units, and foodstuff and pharmaceutical manufacturing lines.





### Mantle structural explanation

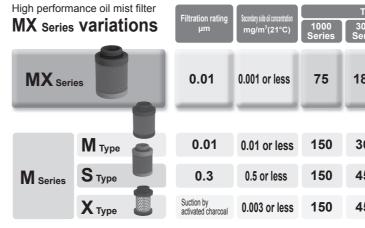
#### Form layer

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

Stainless steel support tube

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

Secondary side oil concentration 0.001mg/m <sup>3</sup> or less				
The highly efficient oil removing mantle removes oil up to the secondary oil concentration of 0.001 mg/m <sup>3</sup> at 21°C. This series is compatible with the JIS Standards Oil Class 11.	sa oil			
High accuracy filtration				
Impurities up to 0.01µm are removed.	Di ar			
Long life, low pressure loss	С			
The gap rate within the mantle (element) fibers is high at 94%, suppressing pressure loss and extending life.	Tł (3			



Auto, drain / others F.R.L. (Module unit) F.R.L. (Separate) Compac<sup>+</sup> F.R. Precise regulator F.R.L. (Related products) Clean F.R. Electro pneumatii regulator Air booste Speed control valv Silence Check valve / others Joint / tube Vacuum filter Vacuum regulato Suctior plate Magnetic spring buffe Mechanical pressure SV Electronic pressure SV Contact / closi contact conf. Air senso Pressure SV for coolant Small flow senso Small flow controlle Flow senso for air Flow senso for water Total ai system Total air system (Gamma)

Ending

### **MX** Series

### High performance oil mist filter **MX** Series

#### Pre-filter support layer

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

#### Polosilicate micro fibers

Oil is swiftly removed to prevent pressure loss.

### **Nodule connections**

system is configured with module connections in the ame manner as the conventional filter F Series and il mist filter M Series.

### Diverse models

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

#### Cleanroom-compatible

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

Treatii	Freating flow rate ℓ/min Ambient							
000 eries	4000 Series	6000 Series	8000 Series	temperature range °C				
	_	_	_					
80	370	670	1490	5 to 60				
			_					
60	825	1270	2600	5 to 60				
50	1000	1400	2900	5 to 60				
50	1000	1400	2900	5 to 30				
	▲ Read	d Safety Pr	ecautions t	o ensure				



correct. safe product use.

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

series	ţ
dard	- uni
Stan	н.





### High performance oil mist filter standard white Series MX1000/MX3000/MX4000 MX6000/MX8000-W Series

Secondary side oil concentration 0.001mg/m<sup>3</sup> Appropriate for optical device such as optical type positioning device, LASER finishing machine, etc. Port size: 1/8 to 1 JIS symbol



### Specifications

specifications										
Descriptions	MX1000-W	MX3000-W	MX4000-W	MX6000-W	MX8000-W					
Appearance										
Working fluid		Compressed air	Compressed air							
Working pressure range MPa	0.1 to 1.0 Note 2, Note 3									
Withstanding pressure MPa	1.5 Note 2									
Ambient temperature range °C			5 to 60							
Filtration rating µm			0.01(nominal)							
Secondary side oil concentration mg/m <sup>3</sup>		0.0	001 or less Note 2, Note	e 3						
Maximum flow rate t/min. (ANR) Note 1	75 Note 4	180	370	670	1480					
Drain capacity cm <sup>3</sup>	3	45	80	80	80					
Port size Rc, NPT, G	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4, 1	3/4, 1					
TUIL SIZE INC, NFT, G	(3/8 uses an adaptor)	(1/2 uses an adaptor)	(3/4 uses an adaptor)	(1 1/4 uses an adaptor)	(1 1/4 uses an adaptor)					
Product weight kg	0.096	0.28	0.52	0.95	1.35					
Mantle (element)	1 year (6000 hours) or pressure drop 0.1 MPa									
change				Bowl guard						

D

Note 2: When MX1000-W-F1 with an automatic drain is selected, the minimum operation pressure is 0.2 MPa, the maximum operation pressure is 0.7 MPa, and the guaranteed pressure resistance is 1.05 MPa. Refer to the maximum processing flow graph (next page) for maximum working flow.

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

Note 4: The secondary oil concentration is the value when the primary oil concentration is 30 mg/m<sup>3</sup>, the inlet air temperature is 21°C and before the oil is saturated

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

Clean room specifications

(catalog No. CB-033S)

Dust generation preventing structure for use in cleanrooms

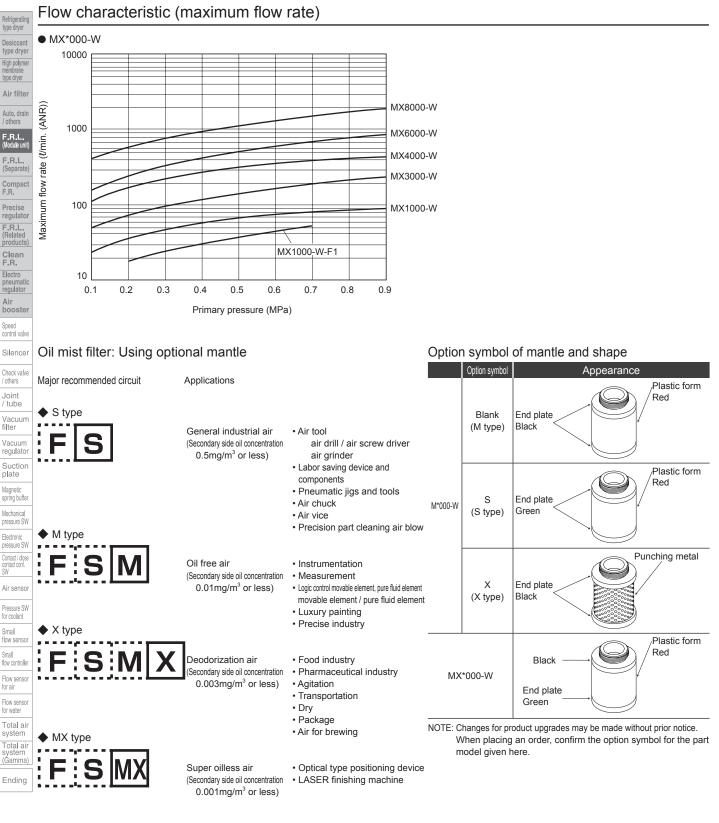




### How to order

How to order								1101	10	
				*	Refer to page 274 for the		A M	lode	l no.	Refrigerating type dryer
(MX1000)-(6)()-W-(2	Z)-(	)- (A6V	N		explanation of the option.	М	Μ	М	М	M Desiccant
	$\checkmark$		$\sim$			X	X 3	X 4	X 6	X Type aryer 8 High polymer
			G Brack	et (attac	hed)	0	0	0	0	0 type dryer
					,	Ő	Ŏ	Ŏ	Ŏ	0 Air filter
				nbol	Descriptions					Auto, drain / others
A Model no. B Port size			B Por			1				F.R.L.
				6	1/8	•				(Module unit)
				8	1/4	•	•			(Separate)
				0	3/8					Compact F.R.
				5 20	3/4					Precise     regulator
				25	1				•	F.R.L.
					·				No	(Related products)
Port thread typ	be			t thread ank	Rc thread				Not	F.R.
				N	NPT thread		•		•	pneumatic
				G	G thread	•	•	•	•	Air
			D Opt	-				-	Not	booster
	D Port th	read type		Blank	With manual drain cock					Speed control valve
			Drainage			•		•	•	Silencer
				Blank	Polycarbonate bowl	•			•	Check valve
			Bowl	Z	Nylon bowl				•	Joint
			material	М	Metal bowl					/ tube
				M1	Metal bowl with manual drain cock				•	Vacuum     filter
			Differential pressure	Blank	Without differential pressure detection port	•	•	•	•	Vacuum     regulator
			detection	Q	With differential pressure detection port (Rc1/4)				•	Suction
			Flow	Blank	Standard flow (left $\rightarrow$ right)	•	•	•	•	plate
			Direction	X1	Reverse flow (right $\rightarrow$ left)	•	•		•	Magnetic     spring buffer
		E Display unit		play un		1				Mechanical pressure SW
			Bla	ank	MPa display, Rc thread	•	•	•	•	Electronic
				1	MPa display, NPT, G thread	•	•		•	pressure SW     Contact / close
	F Pip	L bing adaptor set	- 🕞 Pip	ing ada	ptor set (attached) Not	e 5	page	428	Not	te 6 SW
		ttached)	Blank A6*W		Not attached	•			•	Air sensor
					Rc1/8 piping adaptor set	•				Pressure SW for coolant
				5*W	Rc1/4 piping adaptor set	•	•			Small
				0*W 5*W	Rc3/8 piping adaptor set Rc1/2 piping adaptor set		•	•		flow sensor Small
				0*W	Rc3/4 piping adaptor set		-		•	flow controller
				5*W	Rc1 piping adaptor set			-	•	Flow sensor     for air
				2*W	Rc1 1/4 piping adaptor set					Flow sensor
A Note on model no. selec	ction		*Adapt	or scre	w type					for water Total air
Note 1: When G threads or NPT threads are		he IN OUT		ank	Rc thread	•			•	Total air
and drainage discharge port (metal bo				N	NPT thread					System     (Gamma)
the target. Note 2: Select options for each drainage	. bowl m	aterial and		G	G thread					Ending
differential pressure detection.			<b>G</b> Bra	icket (a	ttached)			р	age	425
When selecting options for several iter from the top.	ms, list opt	ions in order	Bla	ank	Not attached	٠			•	Standard series F.R.L. unit
Note 3: NO automatic drain cannot be selected			В	W	C type bracket	•			•	nit se
Note 4: Refer to page 276 for the automatic dra Note 5: The C-type bracket and piping ada						_	_	_	_	idar L. u
cannot be used at the same time.	-									Stan
Note 6: The joiner set is enclosed with the pipin	ng adaptor	set.								0, 11

- from the top. Note 3: NO automatic drain cannot be selected.
- Note 4: Refer to page 276 for the automatic drain use conditions.
- Note 5: The C-type bracket and piping adaptor set attachments cannot be used at the same time.
- Note 6: The joiner set is enclosed with the piping adaptor set.

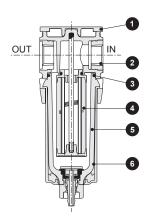


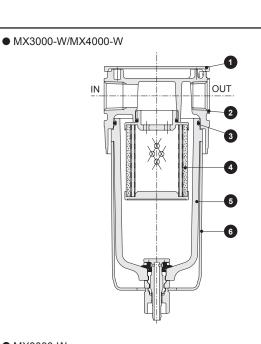
NOTE: The secondary oil density is the value when the primary oil density is 30 mg/m<sup>3</sup>, the inlet air temperature is 21°C and before the oil is saturated.

### Internal structure and parts list

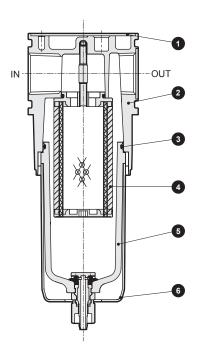
### Internal structure and parts list

#### • MX1000-W

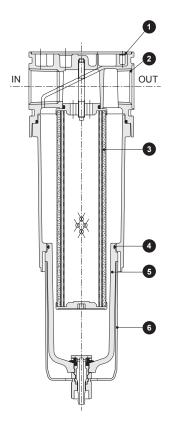




• MX6000-W



• MX8000-W



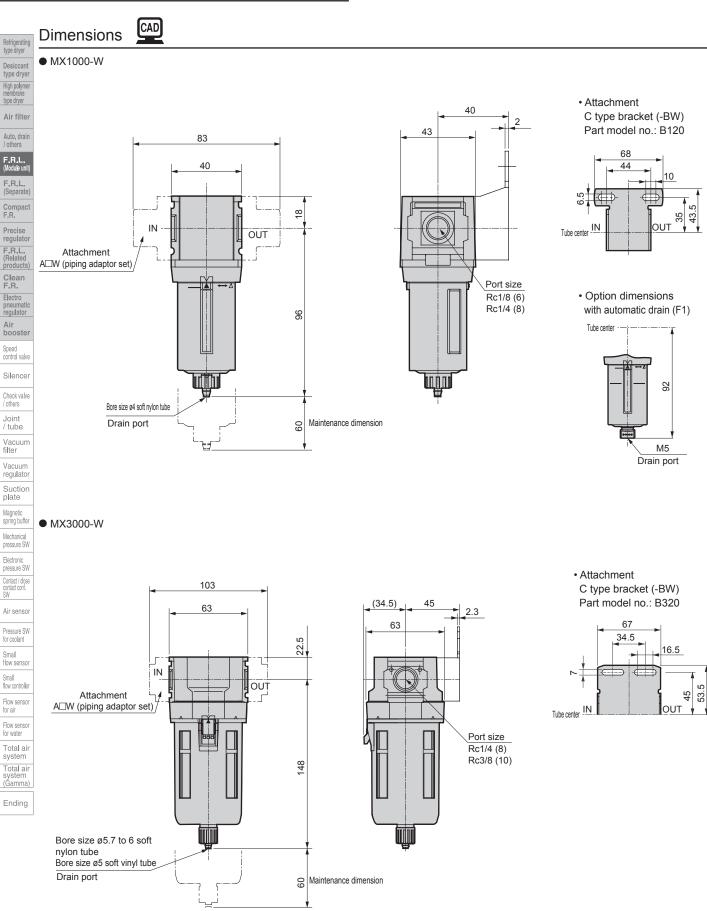
No.	Parts name			Material						
INU.	Faits liame	MX1000-W	MX3000-W	MX4000-W	MX6000-W	MX8000-W				
1	Plate cover	ABS resin								
2	Body	Polyamide resin	Polyamide resin Aluminum alloy die-casting							
3	O-ring Note 1		Special nitrile rubber							
4	Mantle assembly									
5	Bowl assembly	Polycarbonate resin, polyacetal resin, urethane resin								
6	Bowl guard	Polyamide resin Polyamide resin, steel								

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

Refrigerating type dryer

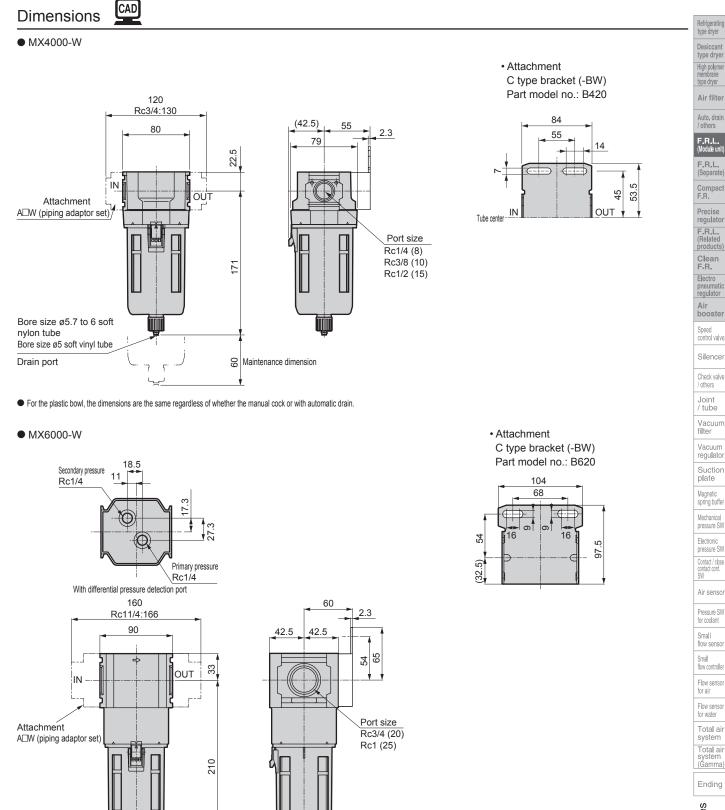
Desiccant type dryer

High polymer membrane type dryer



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

### Dimensions



Standard series F.R.L. unit

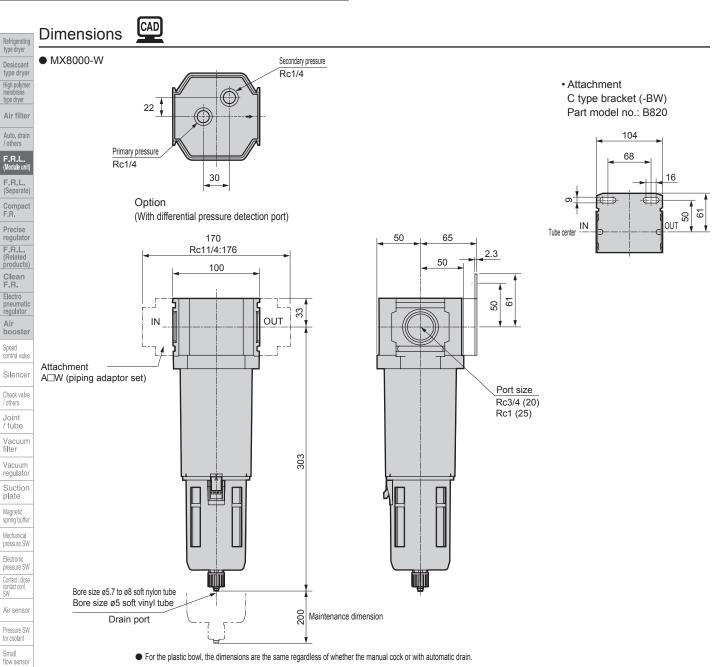
• For the plastic bowl, the dimensions are the same regardless of whether the manual cock or with automatic drain. Note: The C-type bracket and piping adaptor set attachments cannot be used at the same time.

09

Maintenance dimension

Bore size ø5.7 to ø6 soft nylon tube

Bore size ø5 soft vinyl tube Drain port



#### Metal bowl (option) (MX3000-W, MX4000-W, MX6000-W, MX8000-W)

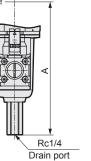
Metal manual cock With automatic drain (F1M)

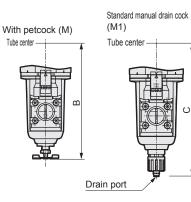
Small flow controller Flow sensor for air

Flow sensor for water Total air system

Total air

system (Gamma) Ending



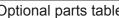


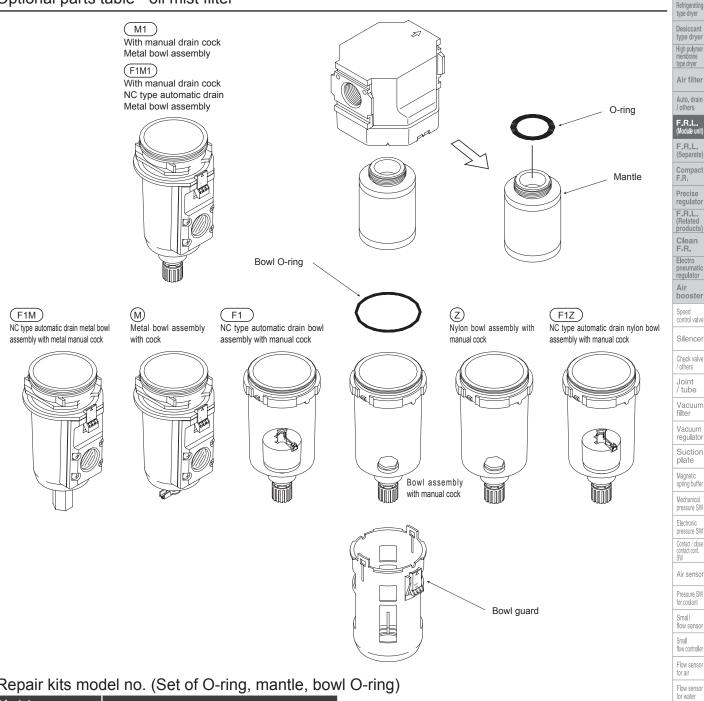
#### Dimensions

Model no.	F1M	М	M1						
woder no.	A	В	С						
MX3000-W	164	143.5	154						
MX4000-W	187	166.5	177						
MX6000-W	226	205	216						
MX8000-W	319	298	309						

#### Optional parts table

### Optional parts table - oil mist filter





### Repair kits model no. (Set of O-ring, mantle, bowl O-ring)

Model	
MX1000-W	MX1000-KIT
MX1000-W-F1	MX1000-KIT-F1
MX3000-W	MX3000-KIT
MX4000-W	MX4000-KIT
MX6000-W	MX6000-KIT
MX8000-W	MX8000-KIT

#### Repair kits model no. (Set of O-ring, mantle)

Model	
MX1000-W	MX1000-MANTLE-ASSY
MX1000-W-F1	MX1000-MANTLE-ASSY-F1
MX3000-W	MX3000-MANTLE-ASSY
MX4000-W	MX4000-MANTLE-ASSY
MX6000-W	MX6000-MANTLE-ASSY
MX8000-W	MX8000-MANTLE-ASSY

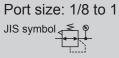
\* Refer to the air filter options and parts table on pages 358, 359 for the bowl assembly and bowl guard.

Total aiı system Total air system (Gamma)



### Regulator standard white Series R1000/R2000/R3000 R4000/R6000/R8000-W Series

Compact, pressure gauge embedded.





### Specifications

Refrigerating type dryer

Desiccant type dryer

High polymer membrane type dryer

Air filter Auto, drain / others

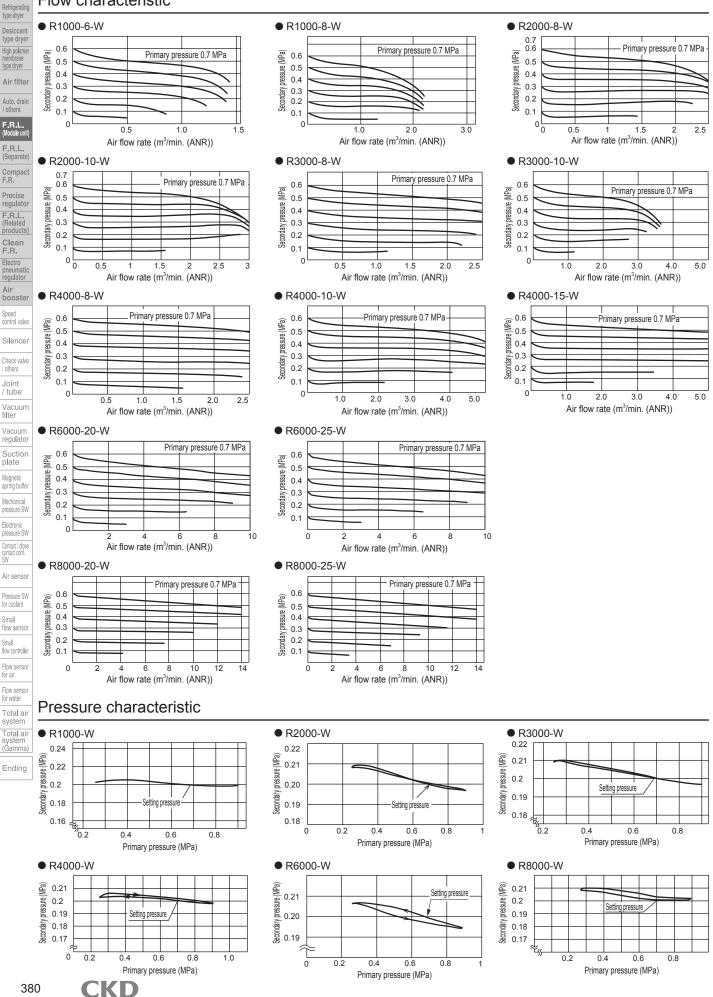
/ others	Specifications									
F.R.L. (Module unit)	Descriptions	R1000-W	R2000-W	R3000-W	R4000-W	R6000-W	R8000-W			
F.R.L. (Separate)	Decomptione									
Compact F.R.										
Precise regulator										
F.R.L. (Related products)		(and								
Clean		1					100.00 2001			
F.R. Electro pneumatic regulator	Appearance	2 0.8 5 10.5 10.5	10.0	[100+13_ 400	[2:00-1-7] 	ALL PROPERTY AND				
Air booster		R100-0-4		E						
Speed control valve										
Silencer										
Check valve / others										
Joint	Working fluid			Compre	ssed air					
/ tube Vacuum	Max. working pressure MPa				1					
filter	Withstanding pressure MPa				.5					
Vacuum regulator	Ambient temperature range °C			0.05 t	o 60		Note 1			
Suction plate	Set pressure range MPa Relief			With relief						
Magnetic		1/8, 1/4	1/4, 3/8	1/4, 3/8	1/4, 3/8, 1/2	3/4, 1	3/4, 1			
spring buffer	Port size Rc, NPT, G	(3/8 uses an adaptor)		(1/2 uses an adaptor)						
Mechanical pressure SW	Product weight kg	0.16	0.31	0.45	0.7	1.0	1.6			
Electronic pressure SW	Standard accessories		Pressure	e gauge, nut for pan	el mount		Pressure gauge			
Contact / close contact conf. SW	Note 1: The working temperature r	ange of the pressure switch	with indicator PPD assembl	y "R1" is 5 to 50°C.						
Air sensor										
Pressure SW for coolant	Ozone specification	ONS (Ending 12)								
Small flow sensor	R*000 - ··· - W ·	··· - (P11)								
Small flow controller										
Flow sensor for air	Clean room specific		No. CB-033S)							
Flow sensor for water	<ul> <li>Dust generation preve</li> </ul>	enting structure for u	ise in cleanrooms							
Total air system	R*000	···- (P7*)								
Total air system										
(Ĝamma) Ending	Secondary battery	compatible spec	ifications (cata	alog No. CC-947)						
	<ul> <li>Structured for use in s</li> </ul>	secondary battery m	anufacturing proces	sses						
	R*000 - ·····	···- P4*								
	1. 000									

# Regulator series How to order

How to order			*Refer to page 274 for the						Refrig
			explanation of the option.	R	A	Mod R	el no R	R R	type d
R1000 - 6 W - L - (	)-(A6\	N		1	2	3	4	6 8	Desid type
	E Pipin	adaptc	G Attachment (attached) or set (attached)	0	0	0	0 0	0 0 0 0	High p memb
	-	nbol	Descriptions	0	0	0	0	0 0	type d
Model no.	B Por								
B Port size	(	6	1/8						Auto. / othe
	1	8	1/4	٠					F.R (Modu
	1	0	3/8						F.R
	1	5	1/2						(Sep
		20	3/4					• •	Com F.R.
	2	25	1					• •	Prec regu
Dort throad time	C Por	rt threac	d type					Note 1	-
Port thread type	Bla	ank	Rc thread	•				• •	prod
	1	N	NPT thread	٠	•			• •	Cle F-R
	(	G	G thread					• •	Elect
D Option	D Opt	tion						Note 2	7411
	Pressure	Blank	0.05 to 0.85MPa	•				• •	boo
	Range	L	0.05 to 0.35MPa Note 3	٠				• •	Speer
	Relief		With relief mechanism	٠	•	•	•	• •	Sile
		N	Nonrelief type	٠	•		•	• •	Chec
			With standard pressure gauge (G401-W)	•	•	•	•	• •	/ othe
	Pressure	Т	W/o pressure gauge (pressure gauge port (Rc1/4) is assembled with sealed)	•	•	•	•	• •	Joii / tu
	gauge	T8	Pressure gauge attached (pressure gauge port (Rc1/4) is assembled by open)	•	•		•	• •	Vac
		T6	Digital pressure sensor PPX attachment option Note 4	•	•	•	•	• •	Vac
	- Flow	R1 Blank	Pressure switch with display PPD assembly Note 5	•			•	••	regu
	Flow Direction	Blank X1	Standard flow (left $\rightarrow$ right) Reverse flow (right $\rightarrow$ left)						- Su pla
		1							Magr
E Display unit		play un							Mech
		ank	MPa display, Rc thread	•	•		•	••	press
		11	MPa display, NPT, G thread	_					Electr
			ptor set (attached)		ie 6,	Note	7 p	age 428	B Contac contac
		ank	Not attached	•	•	•	•	• •	Airs
		5*W 5*W	Rc1/8 piping adaptor set	•					-
	A0		Rc1/4 piping adaptor set		•	-	-		Press for co
									- Smal flow s
	A14		Rc3/8 piping adaptor set	•	•	•	•		
		5*W	Rc1/2 piping adaptor set	•	•	•	•	• •	Small
	A20	5*W 0*W	Rc1/2 piping adaptor set Rc3/4 piping adaptor set	•	•	•	•	••	Small flow or
	A20 A25	5*W	Rc1/2 piping adaptor set Rc3/4 piping adaptor set Rc1 piping adaptor set		•	•	•	• • • • • •	Small flow o Flow
Note on model no. selection	A20 A25 A32	5*W 0*W 5*W 2*W	Rc1/2 piping adaptor set         Rc3/4 piping adaptor set         Rc1 piping adaptor set         Rc1 1/4 piping adaptor set		•	•	•	<ul> <li>•</li> <li>•&lt;</li></ul>	Small flow o Flow for ai
te 1:When G threads or NPT threads are selected,	A20 A28 A32 *Adapt	5*W 0*W 5*W	Rc1/2 piping adaptor set         Rc3/4 piping adaptor set         Rc1 piping adaptor set         Rc1 1/4 piping adaptor set	•	• • • •	•	•	<ul> <li>•</li> <li>•&lt;</li></ul>	Small flow o Flow for ai Flow for wa
te 1:When G threads or NPT threads are selected, the IN, OUT and gauge port are the target	A20 A29 A32 *Adapt Bla	5*W 0*W 5*W 2*W tor screv	Rc1/2 piping adaptor set         Rc3/4 piping adaptor set         Rc1 piping adaptor set         Rc1 1/4 piping adaptor set         w type		• • • • • • • • •		•	• •	Flow for ai Flow for ai Flow for wa
te 1:When G threads or NPT threads are selected, the IN, OUT and gauge port are the target te 2:When selecting options for several items, list options in order from the top.	A20 A25 A32 *Adapt Bla	5*W 0*W 5*W 2*W tor screv ank	Rc1/2 piping adaptor set Rc3/4 piping adaptor set Rc1 piping adaptor set Rc1 1/4 piping adaptor set w type Rc thread		• • • • • • • • • • • • •		•	• •	Small flow of air Flow for air Flow for wa for wa Tot: sys
<ul> <li>The I:When G threads or NPT threads are selected, the IN, OUT and gauge port are the target</li> <li>te 2:When selecting options for several items, list options in order from the top.</li> <li>te 3:The pressure gauge's indication range is 0 to</li> </ul>	A20 A22 A32 *Adapt Bla	5*W 0*W 5*W 2*W cor screv ank N G	Rc1/2 piping adaptor set         Rc3/4 piping adaptor set         Rc1 piping adaptor set         Rc1 1/4 piping adaptor set         w type         Rc thread         NPT thread         G thread	•	• • • • • •	•		<ul> <li>•</li> <li>•&lt;</li></ul>	Small flow co for air Flow s for wa Tota syst Tota syst (Gar
<ul> <li>Terminian and the provided states and the terminian and terminiterminian and terminian and terminian and terminian and termin</li></ul>	A20 A22 *Adapt Bla 0 © Atta	5*W 0*W 5*W 2*W cor screv ank N G	Rc1/2 piping adaptor set         Rc3/4 piping adaptor set         Rc1 piping adaptor set         Rc1 1/4 piping adaptor set         w type         Rc thread         NPT thread	•	• • • • • • • • • • • • • • • • • • •	•		<ul> <li>•</li> <li>•&lt;</li></ul>	Small flow of Flow for ai Flow for with sys (Gan Ence
<ul> <li>The image of the i</li></ul>	A20 A22 *Adapt Bla 0 © Atta Bla	5*W 0*W 5*W 2*W tor screv ank N G achmen	Rc1/2 piping adaptor set         Rc3/4 piping adaptor set         Rc1 piping adaptor set         Rc1 1/4 piping adaptor set         w type         Rc thread         NPT thread         G thread         t (attached)	•	• • • • • • • • • • • • • • • • • • •	•		<ul> <li>•</li> <li>•&lt;</li></ul>	Small flow of Flow for ai Flow for with sys (Gan Ence
<ul> <li>Twhen G threads or NPT threads are selected, the IN, OUT and gauge port are the target</li> <li>te 2:When selecting options for several items, list options in order from the top.</li> <li>te 3:The pressure gauge's indication range is 0 to 0.4MPa for option "L".</li> <li>te 4:When "D" option "T6" is selected, only "Blank" or "R2" can be selected for pressure gauge (enclosed). The digital pressure sensor PPX mounting port (Rc1/8) is assembled by open.</li> </ul>	A20 A22 A32 *Adapt Bla O G Atta Bla Bla	5*W 0*W 5*W 2*W cor screv ank N G achmen ank	Rc1/2 piping adaptor set         Rc3/4 piping adaptor set         Rc1 piping adaptor set         Rc1 1/4 piping adaptor set         w type         Rc thread         NPT thread         G thread         tt (attached)         Not attached	• • • •	• • • • • • • • • • • • • • • • • • •	•		<ul> <li>•</li> <li>•&lt;</li></ul>	Small flow of Flow for ai Flow for with Syss Tot: sys (Gan Source
<ul> <li>te 1:When G threads or NPT threads are selected, the IN, OUT and gauge port are the target</li> <li>te 2:When selecting options for several items, list options in order from the top.</li> <li>te 3:The pressure gauge's indication range is 0 to 0.4MPa for option "L".</li> <li>te 4:When "D" option "T6" is selected, only "Blank" or "R2" can be selected for pressure gauge (enclosed). The digital pressure sensor PPX mounting port (Rc1/8) is assembled by open.</li> <li>te 5:The output type is NPN transistor output. Consult</li> </ul>	A20 A22 A32 *Adapt Bla 0 G Atta Bla Bla B3	5*W 0*W 5*W 2*W cor screy ank N G achmen ank W 3W	Rc1/2 piping adaptor set         Rc3/4 piping adaptor set         Rc1 piping adaptor set         Rc1 1/4 piping adaptor set         w type         Rc thread         NPT thread         G thread         t (attached)         Not attached         C type bracket	• • • • • •		• • • • • •		<ul> <li>•</li> <li>•&lt;</li></ul>	Small flow c Flow for ai Flow for w Tot sys Tot sys (Ga Ence Sejue
<ul> <li>The pressure gauge's indication range is 0 to 0.4MPa for option "L".</li> <li>The selected for pressure gauge's indication range is 0 to 0.4MPa for option "L".</li> <li>The versure gauge's indication range gauge (enclosed). The digital pressure gauge (enclosed). The digital pressure sensor PPX mounting port (Rc1/8) is assembled by open.</li> </ul>	A20 A22 *Adapt Bla 0 © Atta Bla Bla Bla Bla Bla Bla Bla Bla Bla Bl	5*W 0*W 5*W 2*W cor screy ank N G achmen ank W 3W	Rc1/2 piping adaptor set         Rc3/4 piping adaptor set         Rc1 piping adaptor set         Rc1 1/4 piping adaptor set         w type         Rc thread         NPT thread         G thread         t (attached)         Not attached         C type bracket         L type bracket	• • • • • •	•	• • • • • •		<ul> <li>•</li> <li>•&lt;</li></ul>	Small flow c Flow for ai Flow for w Tot sys Tot sys (Ga Ence Sejue
<ul> <li>te 1:When G threads or NPT threads are selected, the IN, OUT and gauge port are the target</li> <li>te 2:When selecting options for several items, list options in order from the top.</li> <li>te 3:The pressure gauge's indication range is 0 to 0.4MPa for option "L".</li> <li>te 4:When "D" option "T6" is selected, only "Blank" or "R2" can be selected for pressure gauge (enclosed). The digital pressure sensor PPX mounting port (Rc1/8) is assembled by open.</li> <li>te 5:The output type is NPN transistor output. Consult with CKD when the PNP transistor output is required.</li> <li>te 6:The C-type bracket and piping adaptor set</li> </ul>	A20 A22 A32 *Adapt Bla Bla Bla Bla B3 B4 G4	5*W 0*W 5*W 2*W cor screv ank N G G achmen ank 3W 3W	Rc1/2 piping adaptor set         Rc3/4 piping adaptor set         Rc1 piping adaptor set         Rc1 1/4 piping adaptor set         w type         Rc thread         NPT thread         G thread         t (attached)         Not attached         C type bracket         L type bracket         Note 9         B type bracket	• • • • • •	<ul> <li>•</li> <li>•</li> <li>•</li> <li>•</li> <li>•</li> <li>•</li> </ul>	• • • • • • • • • • • • • • • • • • •		<ul> <li>•</li> <li>•&lt;</li></ul>	Small flow c for ai Flow for w for w Tot sys (Ga End Sys (Ga
<ul> <li>The interpret of the interp</li></ul>	A20 A22 A32 *Adapt Bla Bla Bla Bla Bla Bla Bla Bla Bla Bla	5*W 0*W 5*W 2*W cor screv ank N G achmen ank W 3W 4W	Rc1/2 piping adaptor set         Rc3/4 piping adaptor set         Rc1 piping adaptor set         Rc1 piping adaptor set         Rc1 1/4 piping adaptor set         w type         Rc thread         NPT thread         G thread         tt (attached)         Not attached         C type bracket         L type bracket         S type bracket         G45D-8-P10(L:G45D-8-P04)	• • • • • • • • • • • • •	<ul> <li>•</li> <li>•&lt;</li></ul>	<ul> <li>Page</li> <li< td=""><td>9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9</td><td><ul> <li>•</li> <li>•&lt;</li></ul></td><td>Small flow c for ai Flow for w for w Tot sys (Ga End Sys (Ga</td></li<></ul>	9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	<ul> <li>•</li> <li>•&lt;</li></ul>	Small flow c for ai Flow for w for w Tot sys (Ga End Sys (Ga
<ul> <li>bite 1:When G threads or NPT threads are selected, the IN, OUT and gauge port are the target obte 2:When selecting options for several items, list options in order from the top.</li> <li>bite 3:The pressure gauge's indication range is 0 to 0.4MPa for option "L".</li> <li>bite 4:When "D" option "T6" is selected, only "Blank" or "R2" can be selected for pressure gauge (enclosed). The digital pressure sensor PPX mounting port (Rc1/8) is assembled by open.</li> <li>bite 5:The output type is NPN transistor output. Consult with CKD when the PNP transistor output is required.</li> <li>bite 6:The C-type bracket and piping adaptor set attachments cannot be used at the same time.</li> <li>bite 7:The joiner set is enclosed with the piping adaptor set.</li> </ul>	A20 A22 A32 *Adapt Bla 0 G Atta Bla Bla Bla Bla Bla G4 G4 G4 G4	5*W 0*W 5*W 2*W cor screv ank N G achmen ank W 3W 4W 45P 49P	Rc1/2 piping adaptor set         Rc3/4 piping adaptor set         Rc1 piping adaptor set         Rc1 piping adaptor set         Rc1 1/4 piping adaptor set         w type         Rc thread         NPT thread         G thread         t (attached)         Not attached         C type bracket         L type bracket         Stype bracket         G45D-8-P10(L:G45D-8-P04)         G49D-8-P10(L:G49D-8-P04)	<ul> <li></li></ul>	<ul> <li>•</li> <li>•&lt;</li></ul>	<ul> <li>Parent</li> <li>Parent</li></ul>		<ul> <li>•</li> <li>•&lt;</li></ul>	<ul> <li>Small flow or</li> <li>Flow for all flow or</li> <li>Flow for was</li> <li>Totat</li> <li>Systs</li> <li>Systs</li> <li>Gaar</li> </ul>
<ul> <li>bte 2:When selecting options for several items, list options in order from the top.</li> <li>bte 3:The pressure gauge's indication range is 0 to 0.4MPa for option "L".</li> <li>bte 4:When "D" option "T6" is selected, only "Blank" or "R2" can be selected for pressure gauge (enclosed). The digital pressure sensor PPX mounting port (Rc1/8) is assembled by open.</li> <li>bte 5:The output type is NPN transistor output. Consult with CKD when the PNP transistor output is required.</li> <li>bte 6:The C-type bracket and piping adaptor set attachments cannot be used at the same time.</li> <li>bte 7:The joiner set is enclosed with the piping adaptor set.</li> <li>bte 8:If NPT is selected for the "C" piping thread, a NPT pressure gauge is enclosed. If Rc or G thread is</li> </ul>	A20 A22 A32 *Adapt Bla 0 © Atta Bla B3 B3 B3 B4 G4 G4 G4 G4	5*W 0*W 5*W 2*W cor screv ank N G achmen ank W 3W 4 4 4 5 9 P 5 9 P	Rc1/2 piping adaptor set         Rc3/4 piping adaptor set         Rc1 piping adaptor set         Rc1 piping adaptor set         Rc1 1/4 piping adaptor set         w type         Rc thread         NPT thread         G thread         t (attached)         Not attached         C type bracket         L type bracket         G45D-8-P10(L:G45D-8-P04)         G49D-8-P10(L:G59D-8-P04)	N 0 0 0 0 0 0 0 0 0 0 0 0	<ul> <li>•</li> <li>•&lt;</li></ul>	<ul> <li></li> &lt;</ul>	9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	•     •       •     •	<ul> <li>Small flow or</li> <li>Flow for all flow or</li> <li>Flow for was</li> <li>Totat</li> <li>Systs</li> <li>Systs</li> <li>Gaar</li> </ul>
<ul> <li>bite 1:When G threads or NPT threads are selected, the IN, OUT and gauge port are the target bete 2:When selecting options for several items, list options in order from the top.</li> <li>bite 3:The pressure gauge's indication range is 0 to 0.4MPa for option "L".</li> <li>bite 4:When "D" option "T6" is selected, only "Blank" or "R2" can be selected for pressure gauge (enclosed). The digital pressure sensor PPX mounting port (Rc1/8) is assembled by open.</li> <li>bite 5:The output type is NPN transistor output. Consult with CKD when the PNP transistor output is required.</li> <li>bite 6:The C-type bracket and piping adaptor set attachments cannot be used at the same time.</li> <li>bite 7:The joiner set is enclosed with the piping adaptor set.</li> </ul>	A20 A22 A32 *Adapt Bla Bla Bla Bla B3 B4 G4 G4 G5 G4 G5	5*W 0*W 5*W 2*W 2*W cor screv ank N G achmen ank 3W 3W 44W 45P 49P 59P 40P	Rc1/2 piping adaptor setRc3/4 piping adaptor setRc1 piping adaptor setRc1 piping adaptor setRc1 1/4 piping adaptor setw typeRc threadNPT threadG threadt (attached)Not attachedC type bracketL type bracketStype bracketG45D-8-P10(L:G45D-8-P04)G59D-8-P10(L:G59D-8-P04)G40D-8-P10(L:G40D-8-P04)		<ul> <li>•</li> <li>•&lt;</li></ul>	<ul> <li>Particular</li> <li>Particular</li></ul>	9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	<ul> <li>•</li> <li>•&lt;</li></ul>	Small flow oc flow syst for tair Flow for wa for air flow oc flow
<ul> <li>bit 1:When G threads or NPT threads are selected, the IN, OUT and gauge port are the target of the IN, OUT and gauge port are the target of 2:When selecting options for several items, list options in order from the top.</li> <li>bit 3:The pressure gauge's indication range is 0 to 0.4MPa for option "L".</li> <li>bit 4:When "D" option "T6" is selected, only "Blank" or "R2" can be selected for pressure gauge (enclosed). The digital pressure sensor PPX mounting port (Rc1/8) is assembled by open.</li> <li>bit 5:The output type is NPN transistor output. Consult with CKD when the PNP transistor output is required.</li> <li>bit 6:The C-type bracket and piping adaptor set attachments cannot be used at the same time.</li> <li>bit 7:The joiner set is enclosed with the piping dataptor set.</li> <li>bit 8:If NPT is selected for the "C" piping thread, a NPT pressure gauge is enclosed.</li> </ul>	A20 A22 A32 *Adapt Bla Bla Bla Bla B3 B4 G4 G4 G5 G4 G5 G4	5*W 0*W 5*W 2*W 2*W cor screv ank N G achmen ank 3W 3W 4W 45P 49P 59P 40P 50P	Rc1/2 piping adaptor setRc3/4 piping adaptor setRc1 piping adaptor setRc1 piping adaptor setRc1 1/4 piping adaptor setw typeRc threadNPT threadG threadt (attached)Not attachedC type bracketL type bracketG45D-8-P10(L:G45D-8-P04)G40D-8-P10(L:G40D-8-P04)G50D-8-P10(L:G50D-8-P04)		<ul> <li>•</li> <li>•&lt;</li></ul>	<ul> <li>Paq</li> <li>Paq</li></ul>	9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	•     •       •     •	Small flow oc Flow a for water for water system (Gar Ence Ence

379

#### Flow characteristic



380

Internal structure and parts list

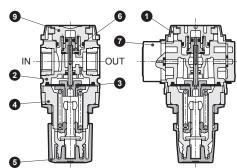
9

6

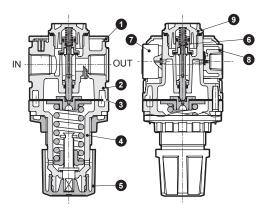
8

#### Internal structure and parts list

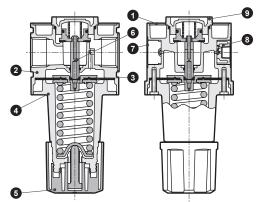
• R1000-W



• R3000-W / R4000-W



• R8000-W



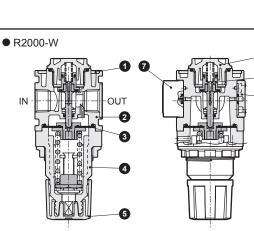
								To sys
No	Dorto nomo			Mat	erial			To
No.	Parts name	R1000-W	R2000-W	R3000-W	R4000-W	R6000-W	R8000-W	sys (Ga
1	Plate cover			ABS	resin			En
2	Body	Polyamide resin, steel	nide resin, steel Aluminum alloy die-casting Aluminum alloy die-casting					- L
3	Diaphragm assembly	Polyacetal resi	n, nitrile rubber		Zinc alloy die-casting, nitrile rubber Note			ries
4	Cover	Polyamide resin	Polyamide resin PBT resin					ser
5	Knob		Polyacetal resin					
6	Valve assembly		Brass, hydrogen nitrile rubber (polyacetal resin: R2000, R3000, 4000, 8000)					Standa
7	Pressure gauge assembly		PBT resin, nitrile rubber, polyacetal resin, polycarbonate resin, brass, steel					
8	Gage plug assembly	-	Polyamide resin, nitrile rubber, steel					
0	Blanking plug assembly Note 1	PBT resin, nitril	e rubber, copper		-	-	-	
9	Bottom plug Note 4		Polyace	tal resin		Aluminum all	oy die-casting	-

Note 1:A blank plug is enclosed with the R1000-W standard type.

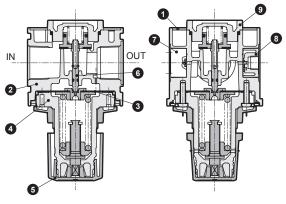
Note 2: Refer to page 393 for repair parts.

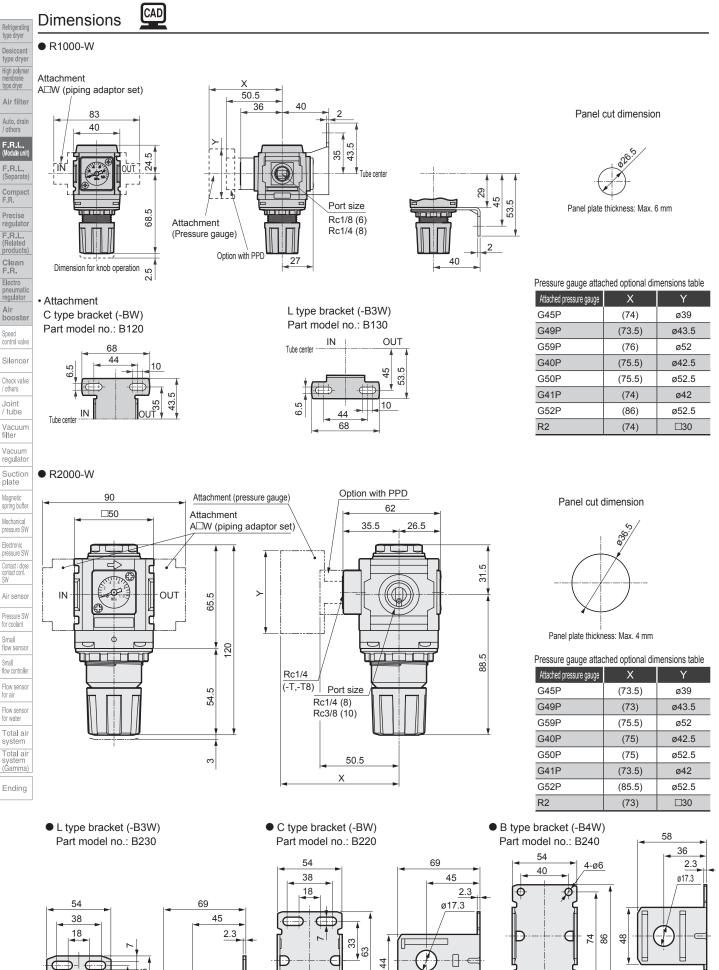
Note 3: Aluminum is added for the R6000-W low-pressure type.

Note 4: The material of RM3000-W and RM4000-W is aluminum die-casting.









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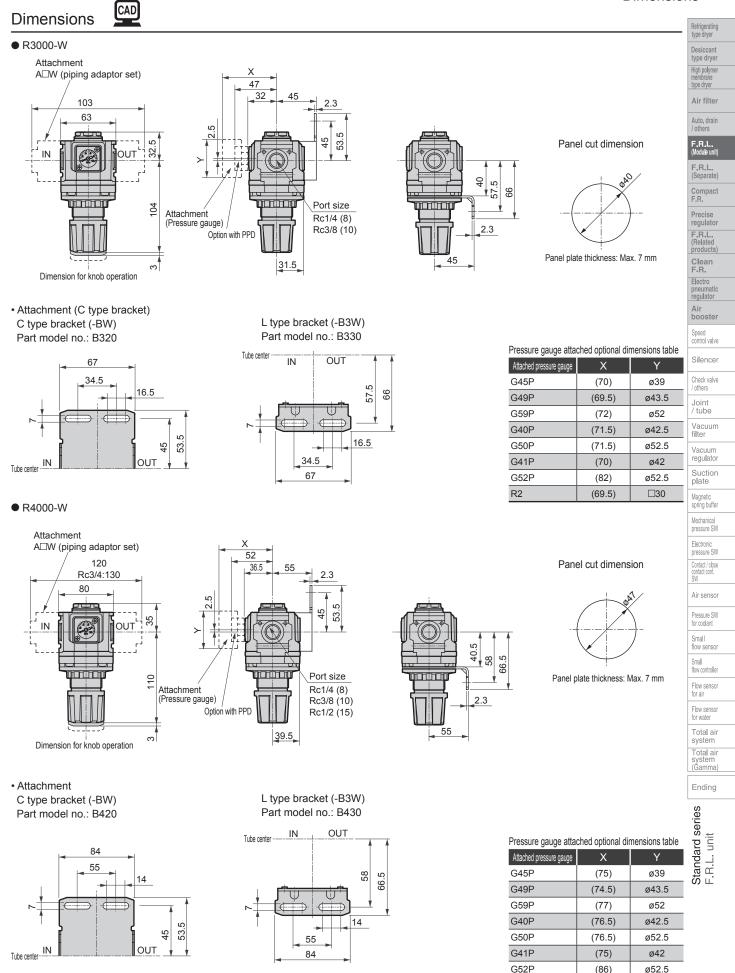
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382

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CKD

#### Dimensions



CKD

(75)

R2

383

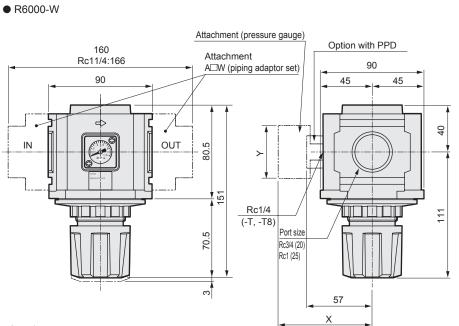
□30

CAD

Dimensions

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

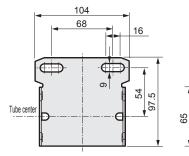
Refrigerating type dryer

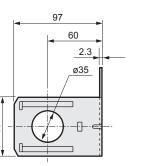


Panel cut dimension

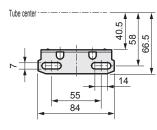
Pressure gauge attached optional dimensions table				
Attached pressure gauge	Х	Y		
G45P	(80)	ø39		
G49P	(79.5)	ø43.5		
G59P	(82)	ø52		
G40P	(81.5)	ø42.5		
G50P	(87.5)	ø52.5		
G41P	(80)	ø42		
G52P	(93)	ø52.5		
R2	(80)	□30		

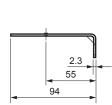
 Attachment C type bracket (-BW) Part model no.: B620



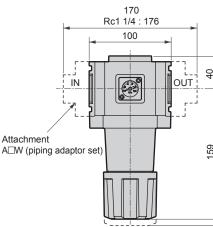


L type bracket (-B3W) Part model no.: B430

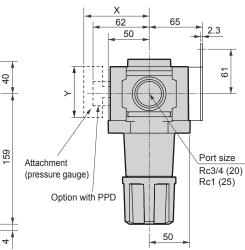




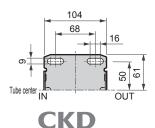
• R8000-W



Dimension for knob operation



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



Pressure gauge attached optional dimensions table

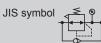
Attached pressure gauge	X	Y
G45P	(85)	ø39
G49P	(84.5)	ø43.5
G59P	(87)	ø52
G40P	(86.5)	ø42.5
G50P	(86.5)	ø52.5
G41P	(85)	ø42
G52P	(98)	ø52.5
R2	(85)	□30

Standard series F.R.L. unit



#### Reverse regulator standard white Series R1100/R2100/R3100 R4100/R6100/R8100-W Series

From secondary pressure to primary pressure with back flow function Port size: 1/8 to 1





#### Specifications

L. e unit)								
	Descriptions	R1100-W	R2100-W	R3100-W	R4100-W	R6100-W	R8100-W	
.L. arate) ppact isse ilator .L. ated ucts) an	Appearance							
nt	Working fluid			Compre	ssed air			
be	Max. working pressure MPa			1	.0			
uum	Withstanding pressure MPa			1	.5			
uum	Ambient temperature range °C		5 to 60 Note 2					
lator	Set pressure range (Note 1) MPa		0.05 to 0.85					
e	Relief		With relief mechanism					
etic buffer	Port size Rc, NPT, G	1/8, 1/4	1/4, 3/8	1/4, 3/8	1/4, 3/8, 1/2	3/4, 1	3/4, 1	
inical		(3/8 uses an adaptor)	(1/2 uses an adaptor)	(1/2 uses an adaptor)	(3/4 uses an adaptor)	(1 1/4 uses an adaptor)	(1 1/4 uses an adaptor)	
ire SW	Product weight kg	0.16	0.31	0.45	0.7	1.0	1.6	
onic ire SW	Standard accessories		Pressure	e gauge, nut for pan	el mount		Pressure gauge	

Note 1: Refer to the set pressure range for the back pressure given on page 388 when selecting the model.

Note 2: The working temperature range of the pressure switch with indicator PPD assembly "R1" is 5 to 50°C.

Note 3: Check that the primary pressure is at least 0.05 MPa or more than the secondary pressure.

 Ozone specifications
 (Ending 13)

 R\*100 - .... W···· P11

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

Dust generation preventing structure for use in cleanrooms

R\*100 - ..... P7\*

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

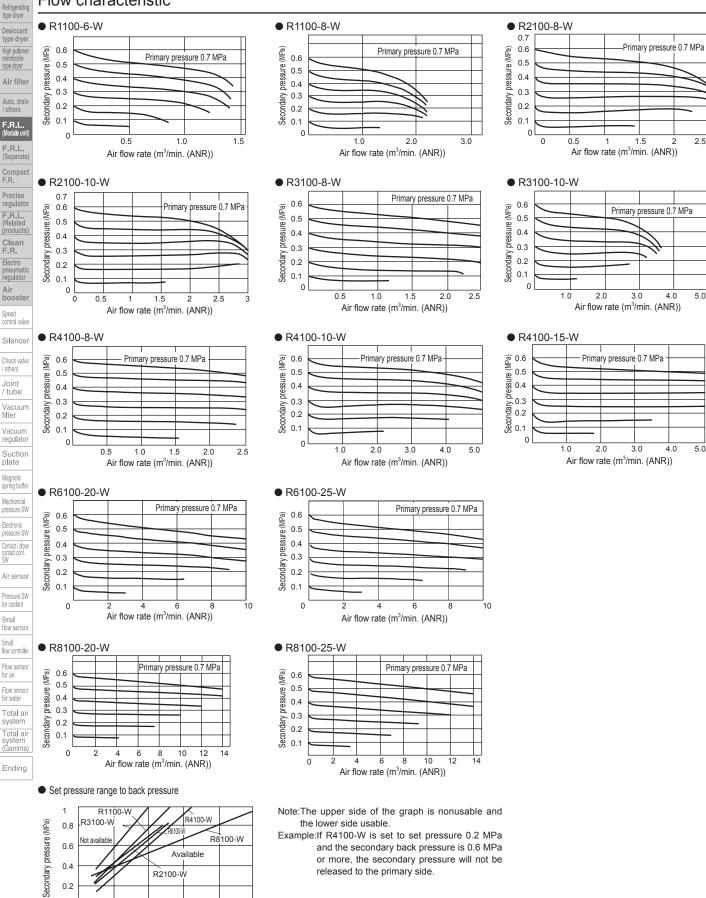
• Structured for use in secondary battery manufacturing processes

R\*100 - ----- -P4\*

How to order

How to order			*Refer to page 274 for the explanation of the option.			Inde	el no			Refrigerati
R1100 - 6 - W - L	- <b>A6V</b>		explanation of the option.							type dryer Desiccai
			G Attachment (attached)	00	00	00	8	8		type dry High po <b>l</b> yn
	Piping	g adapto	r set (attached)	R1100	R2100	R3100	R4100	R6100	co me	nembrane type dryer
	Syr	nbol	Descriptions							Air filt
A Model no. B Port size	B Por	t size							Ar	Auto, dra
		6	1/8			-				others/
		8	1/4	•					M	F.R.L. (Module u
		0	3/8							F.R.L. (Separat
		5	1/2				•			Compa
		20 25	3/4							F.R.
									re	Precise regulat
Port thread type		t thread						No	(R	F.R.L. (Related
		ank	Rc thread					•		broduct Clean
		G	NPT thread							F.R. Electro
		_	G thread						pn	pneuma regulato
Option	D Opt	1				No	ote 2	, No		Air booste
	Pressure		0.05 to 0.85MPa						Sp Sp	Speed
	Range	L	0.05 to 0.35MPa Note 4							control va
	Relief	Blank N	With relief mechanism						s	Silenc
		Blank	Nonrelief type With standard pressure gauge (G401-W)	•						Check va / others
		Т	W/o pressure gauge (pressure gauge port (Rc1/4) is assembled with sealed)	•	•					Joint
	Pressure	т8	Pressure gauge attached (pressure gauge port (Rc1/4) is assembled with celled)	•	•	•				/ tube
	gauge	T6	Digital pressure sensor PPX attachment option Note 5	•		•				Vacuu filter
		R1	Pressure switch with display PPD assembly Note 6			•				Vacuur regu <b>l</b> at
	Flow	Blank	Standard flow (left $\rightarrow$ right)			•	•	•		Suctic
	Direction	X1	Reverse flow (right $\rightarrow$ left)							plate
	<b>B</b> Dis	play un		_		_		-	Ma sp	Magnetic spring buf
🕒 Display uni	t	ank	MPa display, Rc thread						Me	Mechanica pressure S
		1	MPa display, NPT, G thread			•				Electronic
	G Pin	ina ada	ptor set (attached)	Not	07	Noto	8 p	200	pre	pressure S
	_	ank	Not attached	NUL		NOLE	o h	aye		Contact / cli contact coni SW
		ww	Rc1/8 piping adaptor set	•		-		-	A	Air sens
		*W	Rc1/4 piping adaptor set						Pr	Pressure S
		0*W	Rc3/8 piping adaptor set							for coolant
			Rc1/2 piping adaptor set	-						Small flow sens
A Note on model no. selection	A2	0*W	Rc3/4 piping adaptor set			-				Small flow contro
	A2	5*W	Rc1 piping adaptor set							Flow sens
Note 1:When G threads or NPT threads are selected, the IN, OUT and gauge port are the target.	A3	2*W	Rc1 1/4 piping adaptor set							for air
Note 2:When selecting options for several items, list	*Adapt	or scre	w type							Flow sens for water
options in order from the top. Note 3:Positions of a check valve and pressure	Bla	ank	Rc thread					$\bullet$		Total a systen
gauge can not be changed. If the IN and OUT		N	NPT thread							Total a
direction must be reversed, indicate "X1" at the end of the option field.		G	G thread							systen (Gamm
Note 4:The pressure gauge's indication range is 0 to	G Atta	achmen	it (attached)	N	ote 9	pa	ges 4	425,	6 <b>5</b> 9 <sub>E</sub>	Endin
0.4MPa for option "L". Note 5:When "D" option "T6" is selected, only "Blank" or	Bla	ank	Not attached					$\bullet$	• -	s
"R2" can be selected for pressure gauge	В	W	C type bracket					•	• i	erie
(enclosed). The digital pressure sensor PPX mounting port (Rc1/8) is assembled by open.	B	BW	L type bracket Note 10					•	7	d s nit
Note 6:The output type is NPN transistor output. Consult		4W	B type bracket			-				Standard series
with CKD when the PNP transistor output is required.		ISP	G45D-8-P10(L:G45D-8-P04)					•		Star 
Note 7. The C-type breekst and piping adapter	attachments cannot be used at the same time.		G49D-8-P10(L:G49D-8-P04)							
		59P	G59D-8-P10(L:G59D-8-P04)	•		•				
Note 8:The joiner set is enclosed with the piping adaptor set.										
attachments cannot be used at the same time. Note 8:The joiner set is enclosed with the piping adaptor set. Note 9:If NPT is selected for the "C" piping thread, a NPT	G4	IOP	G40D-8-P10(L:G40D-8-P04)							
attachments cannot be used at the same time. Note 8:The joiner set is enclosed with the piping adaptor set. Note 9:If NPT is selected for the "C" piping thread, a NPT pressure gauge is enclosed. If Rc or G thread is selected, an R thread pressure gauge is enclosed.	G4 Gt	50P	G50D-8-P10(L:G50D-8-P04)	•				•		
attachments cannot be used at the same time. Note 8:The joiner set is enclosed with the piping adaptor set. Note 9:If NPT is selected for the "C" piping thread, a NPT pressure gauge is enclosed. If Rc or G thread is selected, an R thread pressure gauge is enclosed. Note 10:Refer to Section (2. Regulator), in "APRECAUTIONS	G4 G5 G4	50P  1P	G50D-8-P10(L:G50D-8-P04) G41D-8-P10(L:G41D-8-P04)	•	•	•	•	•	•	
attachments cannot be used at the same time. Note 8:The joiner set is enclosed with the piping adaptor set. Note 9:If NPT is selected for the "C" piping thread, a NPT pressure gauge is enclosed. If Rc or G thread is selected, an R thread pressure gauge is enclosed.	G4 G8 G4 G8	50P 11P 52P	G50D-8-P10(L:G50D-8-P04)	•	•		•	•		

#### Flow characteristic



0

0.1

0.2 Setting pressure (MPa)

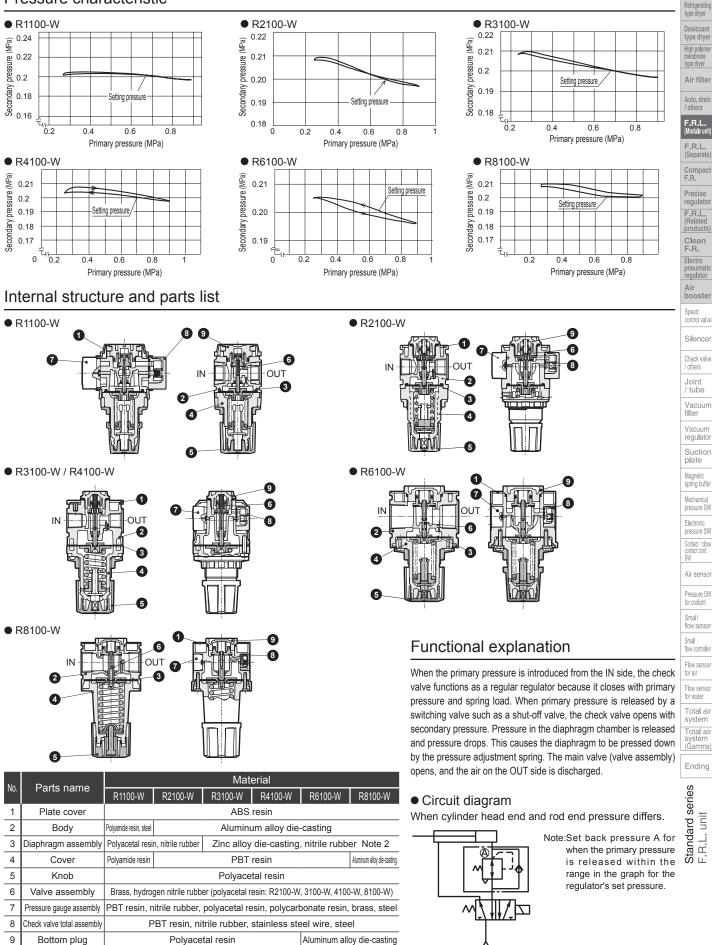
0.3

0.4

0.5

Pressure characteristics / Internal structure and parts list





Note 1: Refer to page 393 for repair kits.

Note 2: Aluminum is added for the R6000-W low-pressure type.

CKD

#### CAD Dimensions

• R1100-W

Refrigerating type dryer

Desiccant type dryer High polymer membrane type dryer

Air filter

Auto, drain / others

F.R.L. (Module uni

F.R.L. (Separate

Compact F.R.

Precise regulato

F.R.L. (Related products)

Clean F.R.

Electro pneumatic regulator

Air booster

Speed control valve

Silencer

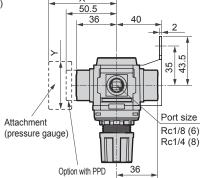
Check valve / others

Joint / tube

Vacuum filter Vacuum regulator Attachment ADW (piping adaptor set)



Dimension for knob operation  $\ddot{c}$ 





#### Panel cut dimension

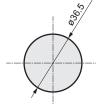


Panel plate thickness: Max. 6 mm

#### Pressure gauge attached optional dimensions table

Attached pressure gauge	Х	Y
G45P	(74)	ø39
G49P	(73.5)	ø43.5
G59P	(76)	ø52
G40P	(75.5)	ø42.5
G50P	(75.5)	ø52.5
G41P	(74)	ø42
G52P	(86)	ø52.5
R2	(74)	□30

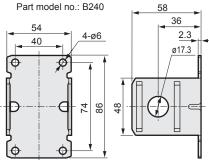
#### Panel cut dimension



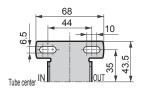
Panel plate thickness: Max. 4 mm

Pressure gauge attached optional dimensions table				
Attached pressure gauge	Х	Y		
G45P	(73.5)	ø39		
G49P	(73)	ø43.5		
G59P	(75.5)	ø52		
G40P	(75)	ø42.5		
G50P	(75)	ø52.5		
G41P	(73.5)	ø42		
G52P	(85.5)	ø52.5		
R2	(73)	□30		

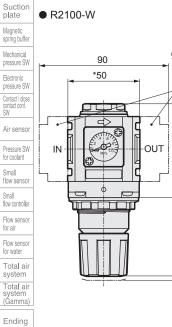
#### B type bracket (-B4W) Part model no.: B240



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



• R2100-W

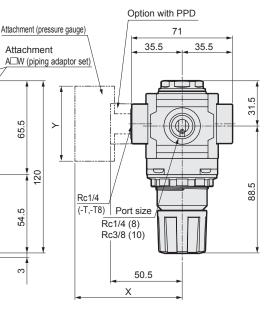


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54.

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• C type bracket (-BW)

Part model no.: B220

L type bracket (-B3W)

Part model no.: B130

OUT

-€

-44

68

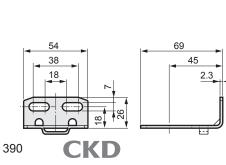
45 53.5

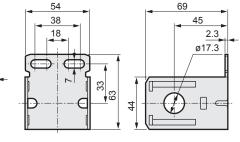
10

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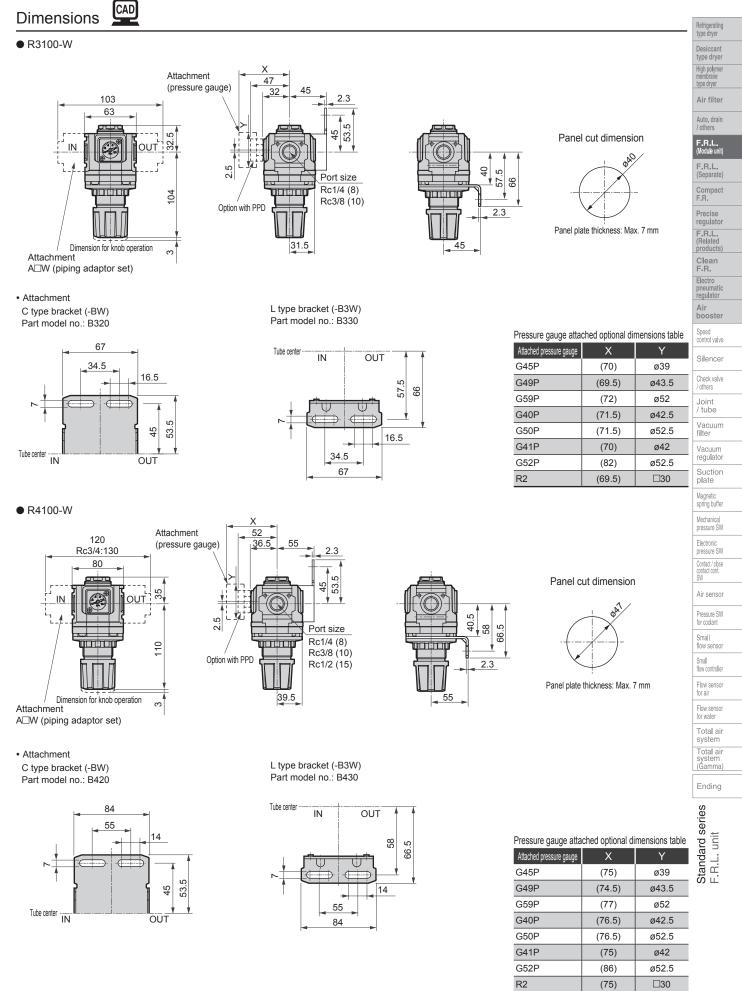
6.5

 L type bracket (-B3W) Part model no.: B230

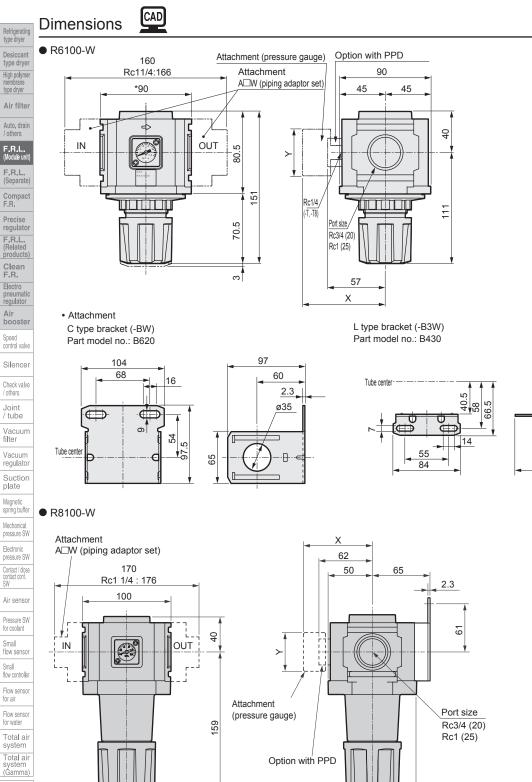




#### Dimensions



D



#### Panel cut dimension

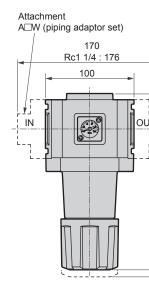


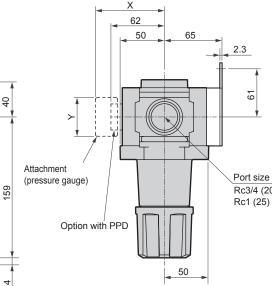
2.3

55

Pressure gauge optional dimensions table				
Attached pressure gauge	Х	Y		
G45P	(80)	ø39		
G49P	(79.5)	ø43.5		
G59P	(82)	ø52		
G40P	(81.5)	ø42.5		
G50P	(81.5)	ø52.5		
G41P	(80)	ø42		
G52P	(93)	ø52.5		
R2	(80)	□30		

94

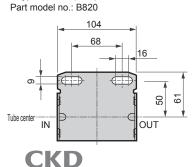




#### Attachment

C type bracket (-BW)

Dimension for knob operation



Attached pressure gauge	Х	Y
G45P	(85)	ø39
G49P	(84.5)	ø43.5
G59P	(87)	ø52
G40P	(86.5)	ø42.5
G50P	(86.5)	ø52.5
G41P	(85)	ø42
G52P	(98)	ø52.5

(85)

R2

□30

Pressure gauge attached optional dimensions table

Ending

Optional parts diagram

Refrigerating type dryer Desiccant type dryer

High polymer membrane type dryer Air filter Auto, drain / others F.R.L. (Module uni F.R.L. (Separate) Compact F.R.

#### Optional parts diagram

#### Repair kits (set of diaphragm assembly, valve assembly, bottom spring, bottom O-ring)

Repair kits model no. Model	Relief diaphragm assembly	Nonrelief diaphragm assembly
R1000-W, R1100-W	R1000-KIT	R1000-KIT-N
R2000-W, R2100-W	R2000-W-KIT	R2000-W-KIT-N
R3000-W, R3100-W, RM3000-W	R3000-KIT	R3000-KIT-N
R4000-W, R4100-W, RM4000-W	R4000-KIT	R4000-KIT-N
R6000-W, R6100-W	R6000-KIT R6000-KIT-L (low pressure range)	R6000-KIT-N R6000-KIT-LN (low pressure range)
R8000-W, R8100-W	R8000-KIT	R8000-KIT-LN

#### Valve assembly (set of valve assembly, bottom spring, bottom O-ring)

Model	Valve assembly model no.
R1000-W, R1100-W	R1000-VALVE-ASSY
R2000-W, R2100-W	R2000-W-VALVE-ASSY
R3000-W, R3100-W, RM3000-W	R3000-VALVE-ASSY
R4000-W, R4100-W, RM4000-W	R4000-VALVE-ASSY
R6000-W, R6100-W	R6000-VALVE-ASSY
R8000-W, R8100-W	R8000-VALVE-ASSY

\* Refer to page 672 for the gauge plug assembly.

#### Check valve assembly for reverse regulator

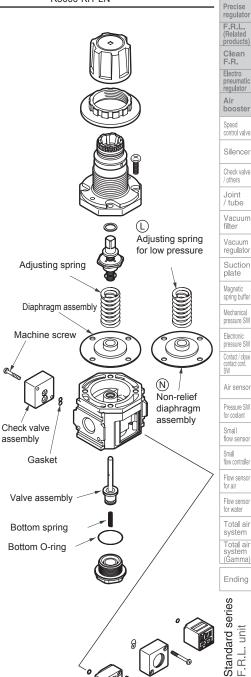
Model	Check valve assembly model no.
R1000-W, R1100-W	R1100-W-CHECK-VALVE-ASSY
R2100-W	R3100-W-CHECK-VALVE-ASSY
R3100-W, RM3000-W, W3100-W	
R4100-W, RM4000-W, W4100-W	R3100-W-CHECK-VALVE-ASSY
R6100-W, R8100-W	KOTUU-VV-UNEUK-VALVE-ASST
W8100-W	

#### Adjusting spring

Adjusting spring model no. Model	Standard spring (0.05 to 0.85MPa)	Spring for low pressure (0.05 to 0.35MPa)
R1000-W, R1100-W W1000-W, W1100-W	R1000-SPRING	R1000-SPRING-L
R2000-W, R2100-W	R2000-W-SPRING	R2000-W-SPRING-L
R3000-W, R3100-W, RM3000-W W3000-W, W3100-W	R3000-SPRING	R3000-SPRING-L
R4000-W, R4100-W, RM4000-W W4000-W, W4100-W	R4000-SPRING	R4000-SPRING-L
R8000-W, R8100-W	R8000-SPRING	R8000-SPRING-L
W8000-W, W8100-W	W8000-SPRING	W8000-SPRING-L

#### Diaphragm assembly (only diaphragm assembly)

Diaphragm assembly model no.	Relief type	Nonrelief type
Model	diaphragm	diaphragm
R1000-W, R1100-W W1000-W, W1100-W	R1000-DIAPHRAGM-ASSY	R1000-DIAPHRAGM-ASSY-N
R2000-W, R2100-W	R2000-DIAPHRAGM-ASSY	R2000-DIAPHRAGM-ASSY-N
R3000-W, R3100-W, RM3000-W W3000-W, W3100-W	R3000-DIAPHRAGM-ASSY	R3000-DIAPHRAGM-ASSY-N
R4000-W, R4100-W, RM4000-W W4000-W, W4100-W	R4000-DIAPHRAGM-ASSY	R4000-DIAPHRAGM-ASSY-N
R6000-W, R6100-W	R6000-DIAPHRAGM-ASSY R6000-DIAPHRAGM-ASSY-L (low pressure range)	R6000-DIAPHRAGM-ASSY-N R6000-DIAPHRAGM-ASSY-LN (low pressure range)
R8000-W, R8100-W	R8000-DIAPHRAGM-ASSY	R8000-DIAPHRAGM-ASSY-N
W8000-W, W8100-W	W8000-DIAPHRAGM-ASSY	W8000-DIAPHRAGM-ASSY-N



YO



# Lubricator standard white Series L1000/L3000/L4000/L8000-W Series

Supplies fine oil mist. Port size: 1/8 to 1

JIS symbol



#### Specifications

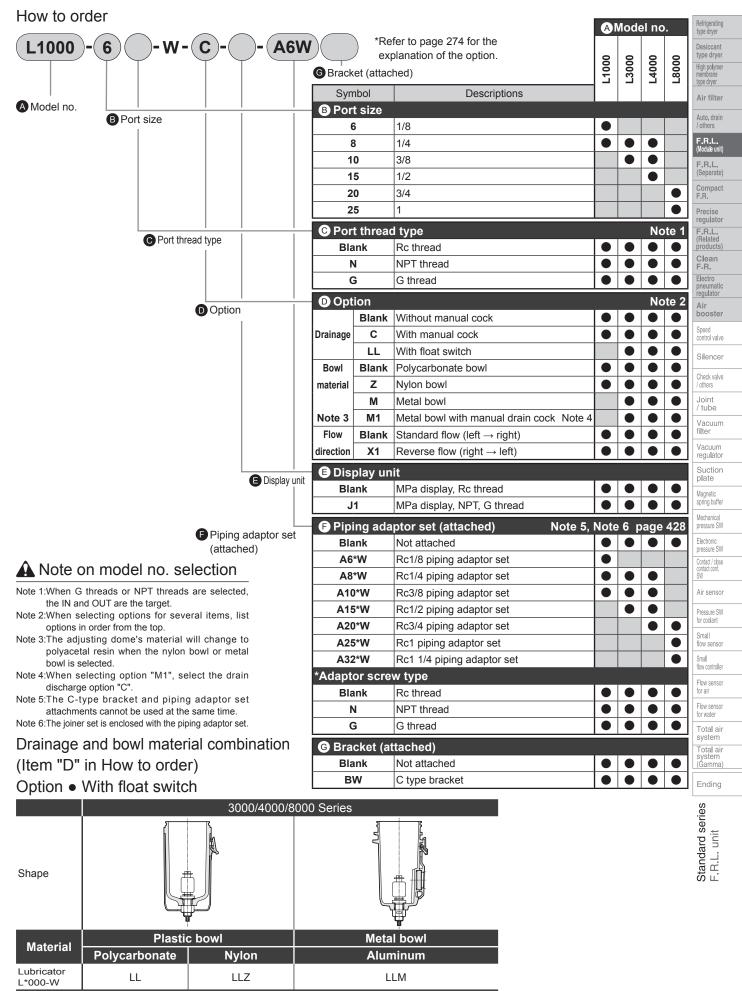
opeenications				
Descriptions	L1000-W	L3000-W	L4000-W	L8000-W
e)				
or	er ou			
s)	HE A CAUTION PRINT AND	A Comment		4004 (01)
		Land the state	Company of the second s	0
	CKD 11000			0
er				
ve		Anne ol 1991	IMAN COL 12 VSL READER OF COLOR	1 Maria
er re		Paraval and		
Working fluid		Compre	ssed air	I
Max. working pressure MPa		1.	.0	
<sup>m</sup> Withstanding pressure MPa		1.	.5	
Working temperature °C		5 to	60	
Minimum drip flow Note 1 m <sup>3</sup> /min. (ANR)	0.015	0.03	0.065	0.065
<sup>n</sup> Oil capacity cm <sup>3</sup>	20	85	170	170(MAX360)
Use oil	Т	urbine oil Class 1 ISO VG32	(spindle oil can not be use	d)
Port size Rc, NPT, G	1/8, 1/4 (3/8 uses an adaptor)	1/4, 3/8 (1/2 uses an adaptor)	1/4, 3/8, 1/2 (3/4 uses an adaptor)	3/4, 1 (1 1/4 uses an adaptor)
Product weight kg	0.1	0.28	0.45	1.4
Standard accessories		Bowl	guard	
Note 1: The minimum drip flow is the	rate at which five drops of turbin	ne oil drip per minute at the prim	nary pressure 0.5 MPa and inlet	air temperature 20°C.

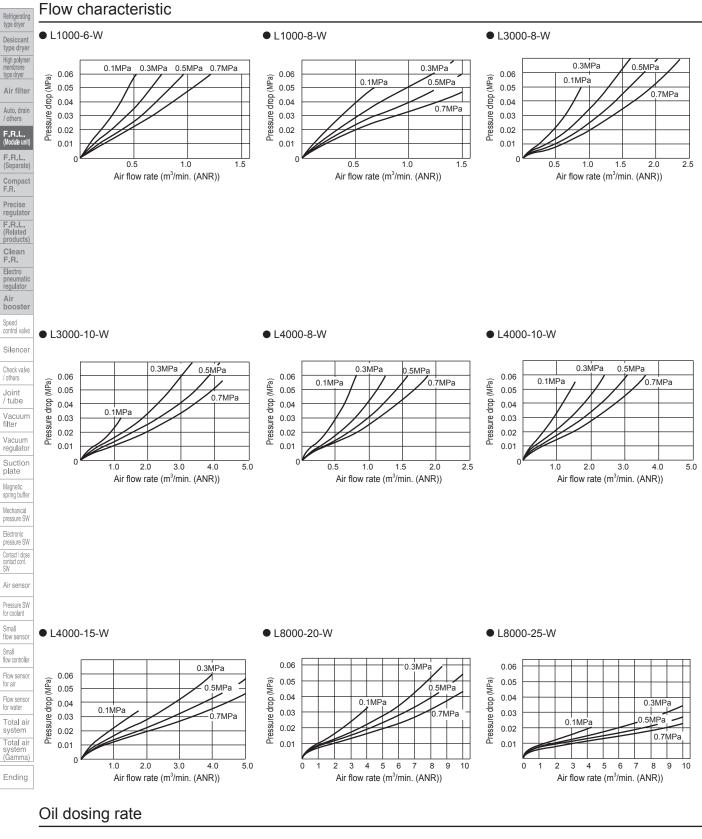
(This cannot be used for dry fog. )

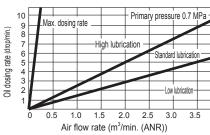
#### Float switch electric specifications

Pressure SW for coolant	Descriptions	
Small flow sensor	Control point	1 point
Small	Operation	Switch turns off when float rises (oil level detected), and turns on when float lowers (no oil level detected)
flow controller	Max. applicable voltage	240VAC, 200VDC
Flow sensor for air	Max. contact capacitance	50 VA or 50 W, whichever is smaller
Flow sensor	Max. open and close current	0.5A
for water Total air	Withstanding pressure between contacts	400 VDC for one minute and leak current 1mA or less
system	Contact resistance	$220m\Omega$ or less (between terminal sections)
Total air system (Gamma)	Insulation resistance	100M $\Omega$ and over (between terminal and cases, 500 VDC megger)
	Withstand voltage	1500 VAC for one minute (between terminal and cases)
Ending	Electric service life	10 <sup>6</sup> time (caused by 200 VAC, 200mA or resistance load)

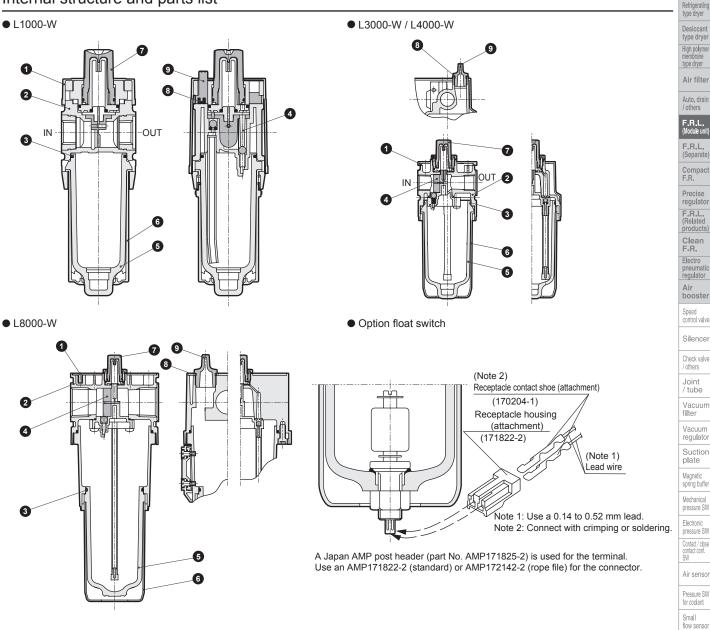
How to order







#### Internal structure and parts list

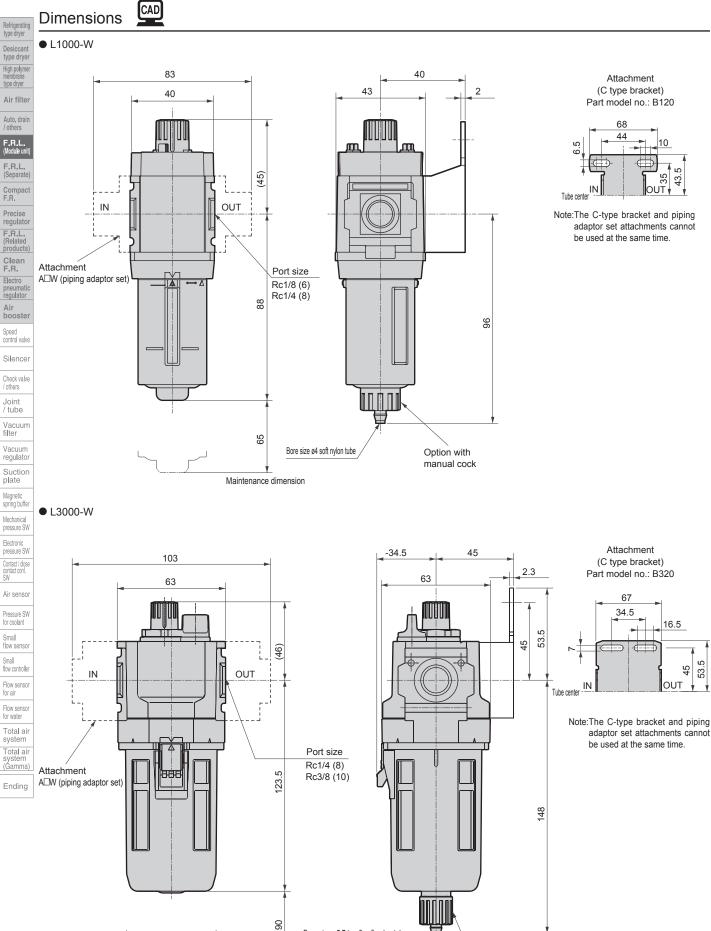


					Flow sensor for water
Parte namo		Mate	erial		Total air
No. Parts name	L1000-W	L3000-W	L4000-W	L8000-W	system
Plate cover		ABS resin			Total air system
Body	Polyamide resin, steel	Polyamide resin, steel Aluminum alloy die-casting			(Gamma)
O ring Note 1		Special nitrile rubber			Ending
Flow guide	Urethane rubber resin Nitrile rubber			rubber	S
Bowl		Polycarbonate resin			serie: †
Bowl guard	Polyamide resin Polyamide resin, steel			unit s	
Adjusting dome	Polycarbonate resin			dar u	
O-ring	Nitrile rubber			Standard F.R.L. uni	
Filling plug		Polyace	tal resin		SГ
	Body O ring Note 1 Flow guide Bowl Bowl guard Adjusting dome O-ring	L1000-W       Plate cover       Body     Polyamide resin, steel       O ring     Note 1       Flow guide     Urethane r       Bowl     Bowl guard       Bowl guard     Polyamide resin       Adjusting dome     Oring	Parts name       L1000-W       L3000-W         Plate cover       ABS         Body       Polyamide resin, steel         O ring       Note 1       Special ni         Flow guide       Urethane rubber resin         Bowl       Polyamide resin         Bowl guard       Polyamide resin         Adjusting dome       Polycarbox         O-ring       Nitrile	L100-W     L300-W     L400-W       Plate cover     ABS resin       Body     Polyamide resin, steel     Aluminum alloy die-casting       O ring     Note 1     Special nitrile rubber       Flow guide     Urethane rubber resin     Nitrile       Bowl     Polyamide resin     Polycarbonate resin       Bowl guard     Polyamide resin     Polycarbonate resin       Adjusting dome     Polycarbonate resin     Nitrile rubber	Parts nameL1000-WL3000-WL4000-WL8000-WPlate coverABS resinBodyPolyamide resin, steelAluminum alloy die-castingO ringNote 1Special nitrile rubberFlow guideUrethane rubber resinNitrile rubberBowlPolyamide resinPolycarbonate resinBowl guardPolyamide resinPolyamide resin, steelAdjusting domePolycarbonate resinO-ringNitrile rubber

Note 1: O-ring of L1000-W is special shaped.

**CKD** 397

Small flow controller Flow sensor for air



Bore size ø5.7 to ø6 soft nylon tube Bore size ø5 soft vinyl tube

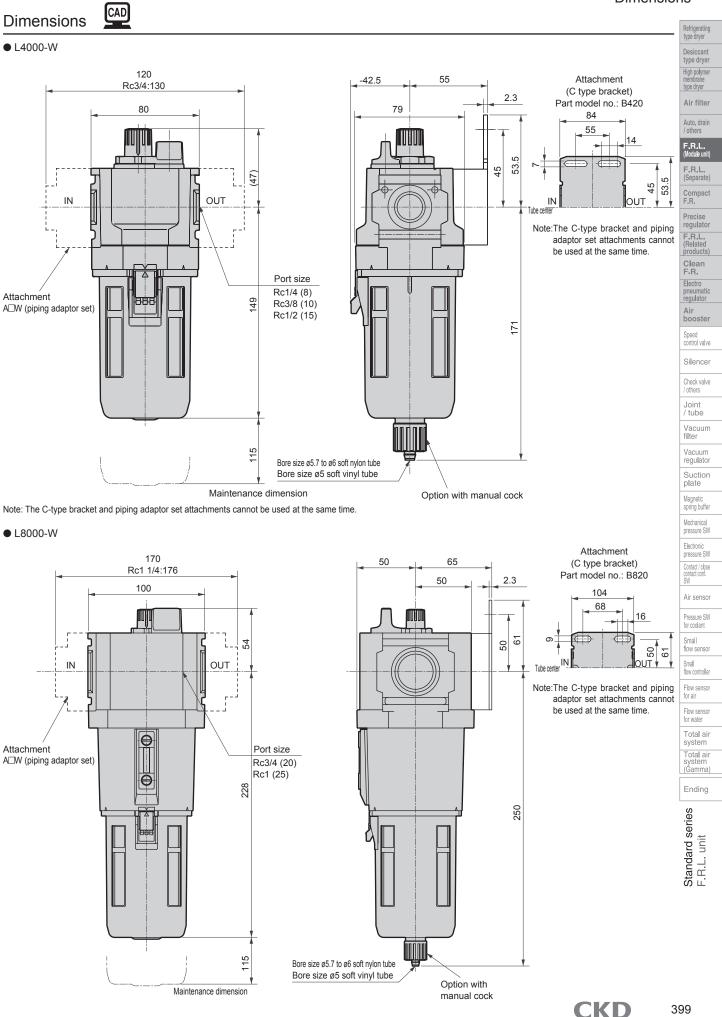
Option with manual cock

Maintenance dimension

398

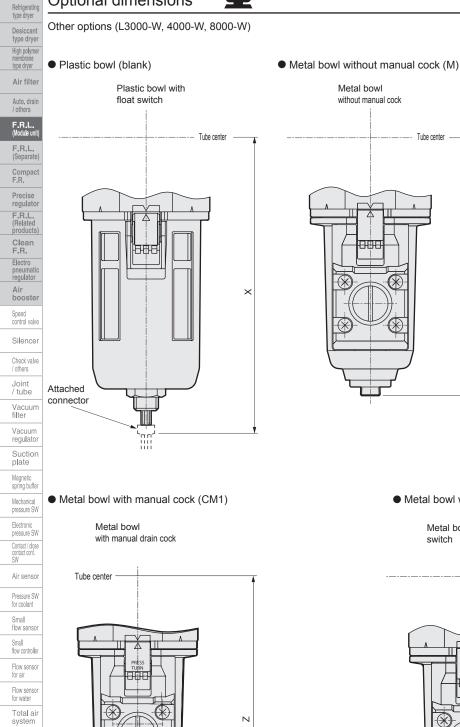
**CKD** 

Dimensions



Dimensions





CAD

system (Gamma) Ending

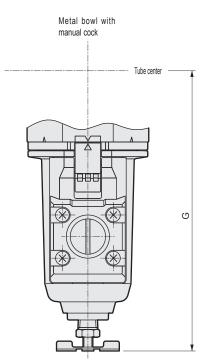
Total air

Ν

#### Drain port

Model no.	С	G	Х	Y	Z
L3000-W	129	143.5	147	153.5	154
L4000-W	152	166.5	170	177	177
L8000-W	231.5	245.5	249	256	256

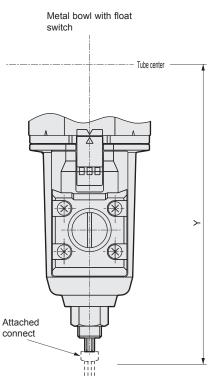
Metal bowl with manual cock (CM)



Metal bowl with float switch (LLM)

U

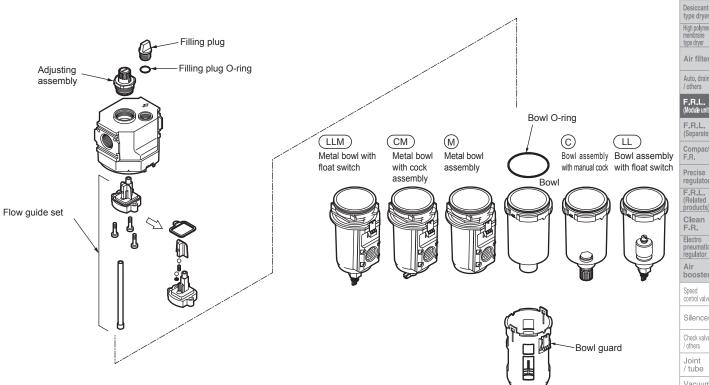
Tube center



400

Optional parts diagram

#### **Optional dimensions**



#### Repair kits (Set of fill plug O-ring, adjustment assembly, flow guide set, bowl O-ring)

Model no.	Repair kits model no. (for polycarbonate bowl)	Repair kits model no. (for nylon bowl, metal bowl)
L3000-W	L3000-W-KIT	L3000-W-KIT-Z
L4000-W	L4000-W-KIT	L4000-W-KIT-Z
L8000-W	L8000-W-KIT	L8000-W-KIT-Z

#### Bowl assembly (Set of bowl assembly and bowl O ring)

					• • •					I A
Bowl assembly Model no.	Polycarbonate bowl w/o cock (Blank)	Nylon bowl without cock (Z)	Metal bowl without cock (M)	Polycarbonate bowl w/ cock (C)	Nylon bowl with cock (CZ)	Metal bowl with cock (CM)	Polycarbonate bowl w/ float switch (LL)		Metal bowl with float switch (LLM)	P
L1000-W	L1000-BOWL	L1000-BOWL-Z	-	F1000-W-BOWL	F1000-W-BOWL-Z	-	-	-	-	S
L3000-W	L3000-BOWL	L3000-BOWL-Z	L3000-W-BOWL-M	F3000-W-BOWL	F3000-W-BOWL-Z	F3000-W-BOWL-M	L3000-BOWL-LL	L3000-BOWL-LLZ	L3000-W-BOWL-LLM	S
L4000-W, L8000-W	L4000-BOWL	L4000-BOWL-Z	L4000-W-BOWL-M	F4000-W-BOWL	F4000-W-BOWL-Z	F4000-W-BOWL-M	L4000-BOWL-LL	L4000-BOWL-LLZ	L4000-W-BOWL-LLM	f
										1.0

\* Refer to the air filter options and parts table for details on the bowl guard.

#### Adjusting assembly

Model no.	Adjusting assembly model no. (for polycarbonate bowl)	Adjusting assembly model no. (for nylon bowl, metal bowl)	
L3000-W, L4000-W, L8000-W	L3000-W-AJ-KIT	L3000-W-AJ-KIT-Z	

#### Flow guide set

Model no.	Flow guide set model no.
L3000-W	L3000-FLOW-GUIDE
L4000-W	L4000-FLOW-GUIDE
L8000-W	L8000-FLOW-GUIDE

#### Filling plug set (set of filling plug and filling plug O-ring)

Model no.		Filling plug set model no.
	L3000-W, L4000-W	L3000-W-PLUG
	L8000-W	L8000-W-PLUG

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

Refrigerating type dryer



Mechanical pressure switch standard white series

## P4000-W Series

Wide pressure setting range covers 0.1 to 0.8 MPa. • Port size: 1/4 to 1/2

JIS symbol

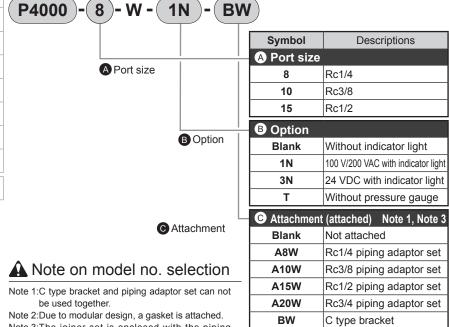




#### Specifications

5	P4(	000-8-V		P4000	-10-W	P	4000-1	5-W
		Compressed air						
MPa				1	.0			
MPa				1	.5			
MPa				0.1 t	o 0.8			
°C				5 to	60			
Rc		1/4		3	/8		1/2	
			Z-	15GD-B	(OMRO	N)		
ion ab	1							
Libertana di MDa		0.1 to 0.49, hysteresis within 0.049						
Hysteresis MPa			0.5 to 0.8, hysteresis within 0.078					
MPa	±0.02 of set pressure							
cycle/min.	. 20							
ce MΩ	Ω 100 and over (with 500 VDC megger)							
kg				0	.5			
			Install a	adjusting	screw v	ertically		
ed								
	No	inductiv	ve load	(A)	lr	nductive	load (A	۹)
Circuit		nce load	Light	load	Inductiv	ve load	Electric n	notor load
	N.C	N.O	N.C	N.O	N.C	N.O	N.C	N.O
	15	15	3.0	1.5	15	15	5.0	2.5
	15	15	2.5	1.25	15	15	3.0	1.5
	6.0	6.0	3.0	1.5	5.0	5.0	5.0	2.5
	MPa MPa °C Rc MPa MPa cycle/min. ce MΩ kg	MPa           MPa           °C           °C           Rc           On ab           MPa           MPa           cycle/min.           cycle/min.           cce MΩ           kg           Rc           No           Resistan           N.C           15           15	MPa           MPa           °C           Rc         1/4           °C           Rc         1/4           ion ab         (0)           MPa         (0)           MPa         (1)           MPa         (1)           MPa         (1)           cycle/min.         (1)           cce MΩ         10           kg         (1)           ed         (1)           Resistance load         (1)           N.C         N.O           15         15           15         15	MPa           MPa           MPa           °C           Rc         1/4           Rc         1/4           MPa           °C           Rc         1/4           MPa           0.1 to 0.4           MPa           0.5 to 0.           MPa           Cyclemin.           cc           cpde/min.           cc           MPa           MPa           MPa           Install a           cd           No <inductive load<="" td="">           Resistance load         Light           N.C         N.O           15         15           15         2.5</inductive>	MPa         Compression           MPa         1           MPa         1           MPa         0.1 to           °C         5 to           Rc         1/4           MPa         2-15GD-B           Ion ab         2-15GD-B           MPa         0.1 to 0.49, hyste           MPa         0.1 to 0.49, hyste           MPa         0.1 to 0.49, hyste           MPa         0.5 to 0.8, hyster           MPa         200 and over (with           kg         100 and over (with           kg         0           Coe MΩ         100 and over (with           kg         0           Install adjusting           ed         No inductive load (A)           Resistance load         Light load           N.C         N.O         N.O           15         15         3.0         1.5           15         15         1.25         1.25	MPa         Compressed air           MPa         1.0           MPa         1.5           MPa         0.1 to 0.8           °C         5 to 60           Rc         1/4         3/8           C         2-15GD-B (OMRO)           ion ab         1           MPa         0.1 to 0.49, hysteresis with           MPa         0.1 to 0.49, hysteresis with           MPa         0.1 to 0.49, hysteresis with           MPa         0.5 to 0.8, hysteresis with           MPa         0.1 to 0.40 over (with 500 VD0 over	$\begin{tabular}{ c c c c } \hline Compressed air \\ \hline MPa & 1.0 \\ \hline MPa & 1.5 \\ \hline MPa & 0.1 to 0.8 \\ \hline 0.1 to 0.8 \\ \hline 0.5 to 60 \\ \hline Rc & 1/4 & 3/8 \\ \hline & 2-15GD-B (OMRON) \\ \hline & 0.1 to 0.49, hysteresis within 0.048 \\ \hline & 0.1 to 0.49, hysteresis within 0.048 \\ \hline & 0.1 to 0.49, hysteresis within 0.078 \\ \hline MPa & 0.1 to 0.49, hysteresis within 0.078 \\ \hline MPa & 0.1 to 0.49, hysteresis within 0.078 \\ \hline MPa & 10.1 to 0.49, hysteresis within 0.078 \\ \hline MPa & 10.2 of set pressure \\ \hline & 0.5 to 0.8, hysteresis within 0.078 \\ \hline MPa & 10.0 and over (with 500 VDC megge \\ \hline & 0.5 \\ $	$\begin{tabular}{ c c c c } \hline Compressed air & & & & & & & & & & \\ \hline MPa & & & & & & & & & & & & & \\ \hline MPa & & & & & & & & & & & & & & & \\ \hline MPa & & & & & & & & & & & & & & & & & & \\ \hline C & & & & & & & & & & & & & & & & & &$

#### How to order



Note 3:The joiner set is enclosed with the piping adaptor set.

P4000-W Series Internal structure / Dimensions / Safety precautions

> Refrigerating type dryer Desiccant type dryer High polyme

type dryer Air filte

Auto, drain

F.R.L.

F.R.L. (Separate

Compact F.R.

Precise regulato

F.R.L. (Related

Clean F.R.

Electro pneumati regulator

Air booste

Speed control valve

Silence

Check valve / others

Joint / tube

Vacuum filter

Vacuum

regulato

Suction plate

Magnetic spring buffe

Mechanical pressure SW

Electronic pressure SW

Contact / close contact conf. SW

Air sensor

Pressure SW for coolant

Small flow senso

flow controlle

Flow senso

Flow senso for water

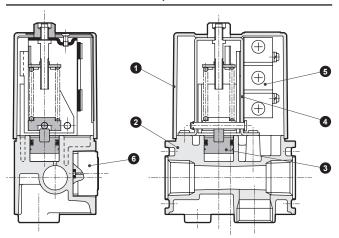
Total ai system

Total ai

system (Gamma)

Ending





No.	Parts name	Material	No.
1	Cover	Resin	-
2	Body	Aluminum alloy die-casting	-
3	Piston assembly	Polyacetal resin, nitrile rubber	-
4	Frame	Steel	-
5	Micro switch	-	Z-15GD-B (OMRON)
6	Pressure gauge assembly	PBT resin, brass	G401-W

\* To wire, remove cover (1), and connect directly to the microswitch (5).

\* One gasket is enclosed.

#### Safety precautions

#### Design & Selection

#### Caution

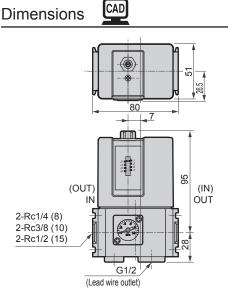
1 Micro switch contact specifications Closed circuit max. 30A Open circuit max.15A Rush current should be measured beforehand.

#### Installation & Adjustment

#### Caution

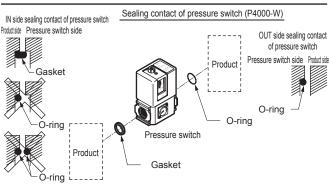
When wiring, loosen cover mounting screws, remove the cover, then wire to the microswitch inside.

- 2 Wiring the sensor with light
  - The light is connected to the microswitch's NC terminal and NO terminal. A fine current flows even when the load (relay, etc.) is not energized, so take care when selecting the load. 200 VAC 2.0mA 100 VAC 1.5mA 24 VDC 4.5mA
  - To turn the light on at a level higher than the set pressure and off at a level less than the set pressure, wire to the microswitch COM terminal and NC terminal. Attach the Pressure Rise Light ON plate at a visible section on the cover.
  - To turn the light on at a level less than the set pressure and off at a level higher than the set pressure, wire to the microswitch COM terminal and NO terminal. Attach the Pressure Rise Light OFF plate at a visible section of the cover.
  - If there is a large amount of drainage, pipe so that the pressure adjustment screw is facing upward
- **3** Due to a guard is resin, avoid use in the high ambient temperature.
- Hold the body when piping or installing.
- **5** Use with air that has been passed through an air filter.
- Standard series F.R.L. unit **I** Use the pressure absorbing nipple (6556) to detect sudden changes in pressure such as when confirming air cylinder pressure.
- **Z** Use the pressure absorbing nipple (6556) if pressure rise/lower pulsation is frequent. The product life could be shortened if the pressure absorbing nipple is not used.
- B Loosen the nut on the top of the cover, and adjust the pressure with the adjustment screw. The set pressure will rise when the screw is turned to the plus (+) side and will drop when turned to the minus (-) side. (Working tools: Wrench 13 mm, flat-tip screwdriver) Fix with the nut after setting.
- In the scale plate is for reference. (Scale error within ±0.05 MPa)

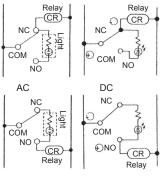


Reduction rate 0.24 (Photocopy at 141% four times to see actual dimensions.)

#### How to assemble



AC



СКД

DC







Compact read switch type mechanical pressure switch standard white series

P1100-W/P4100-W/P8100-W Series

Compatible with module connection to SELEX F.R.L.

JIS symbol





#### Specifications

Descriptions		P*100-W
Working fluid		Compressed air
Max. working pressure	MPa	1.0
Set pressure range	MPa	0.1 to 0.6
Hysteresis	MPa	0.08 or less
Repeatability	MPa	±0.02 or less
Contact configuration	on	1a Note 1
Wiring		Lead wire (oil resistant vinyl cabtire code 2-conductor 0.2mm <sup>2</sup> )
Ambient temperature / fluid temp	perature	5 to 60°C
Protective structure N	lote 2	IP20 or equivalent

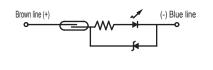
Note 1: The contact turns on if air pressure exceeding the scale setting pressure is applied. Note 2: Note that when connecting an option joint into the atmospheric release port and extend the tube

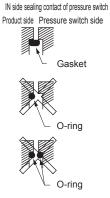
until water does not entrain, IP65 or equivalent is applied. This port can not be used outdoors.

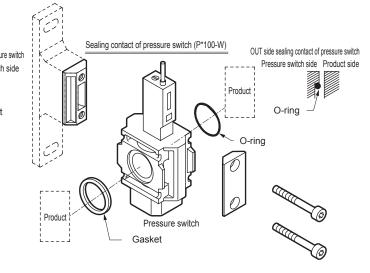
Э	Electric component section specifications						
	Load voltage	12/24 VDC 100 VAC					
	Load current	5 to 50mA 7 to 20mA					
_	Internal voltage drop	3 V or less					
	Light	LED (ON lighting)					
1	Maximum shock resistance	294m/S <sup>2</sup>					
	Insulation resistance	20MΩ and over at 500 VDC megger					
r	Withstand voltage No failure when 1000 VAC is applied for one minute						
-							

#### Internal circuit design

#### How to assemble (P1100-W, P4100-W, P8100-W)



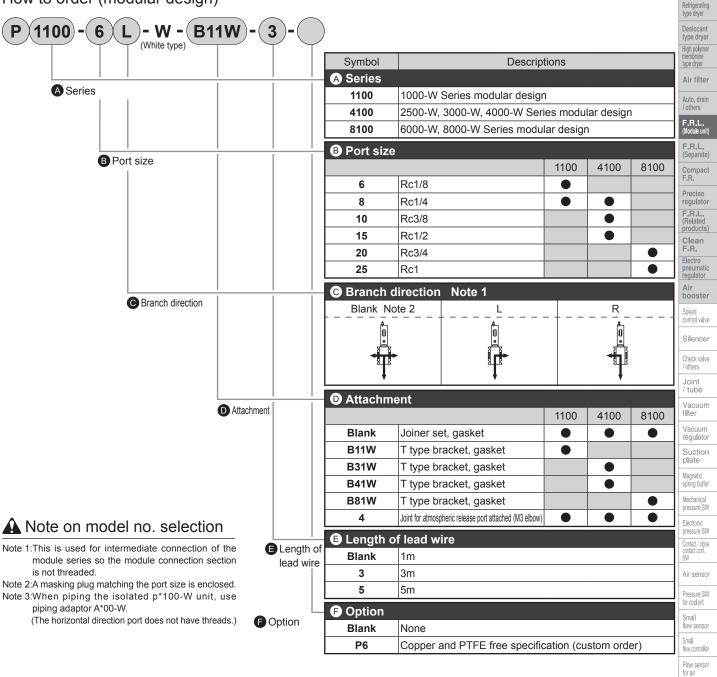




P\*100-W Series

How to order

How to order (modular design)



Secondary battery compatible specifications

(catalog No. CC-947)

Structured for use in secondary battery manufacturing processes

P4100 - ..... - ( P4

Ending

Flow senso for water

Total aiı system

Total air system (Gamma)



CAD



High polymer membrane type dryer

Air filter

Auto, drain / others F.R.L. (Module unit) F.R.L. (Separate)

Compact F.R.

Precise regulator

F.R.L. (Related products)

Clean F.R.

Electro pneumatic regulator

Air booster

Speed control valve

Silencer

Check valve / others

Joint / tube

Vacuum filter

Vacuum regulator

Suction plate

Magnetic spring buffer

Mechanical pressure SW Electronic pressure SW

Contact / close contact conf. SW

Air sensor

Pressure SW for coolant Small flow sensor

Small flow controller

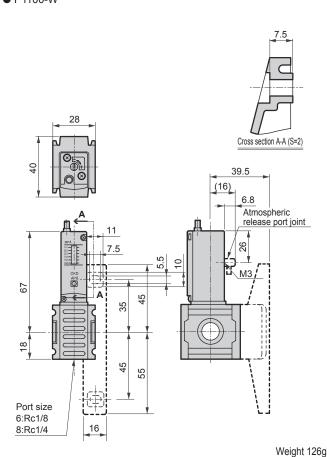
Flow sensor for air

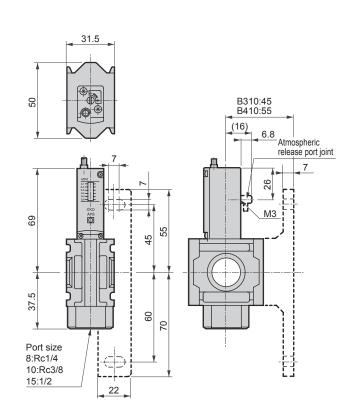
Flow senso for water

Total air system

Total air system (Gamma)

Ending

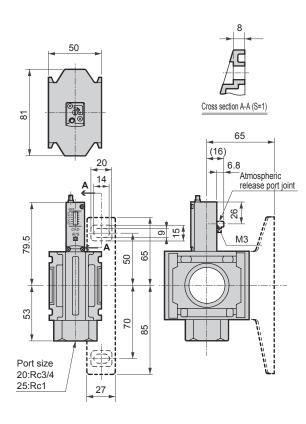




• P4100-W

Weight 190g

• P8100-W



Weight 467g

#### Safety precautions

#### Installation & Adjustment

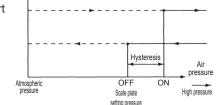
#### Caution

#### 1 Setting pressure

- Pressure displayed on the scale plate is used as the reference. When setting pressure, refer to the separate pressure gauge.
- Pressure displayed on the scale plate is the value when the contact is off. To set the scale plate to a value smaller than that from which hysteresis has been subtracted. Refer to the chart diagram below. If not set, operation may not take place at the set value.

(Hysteresis refer to the pressure width from when the switch operates once with the set pressure to when the pressure drops and the switch turns off.)

Operation chart



#### 2 Installation

- Do not drop or bump the panel when handling it.
- Wire the lead so that the repeated bending strain and tensile strength are not applied to the wire. Failure to do so could lead to disconnection.
- Do not use this sensor near a strong magnetic field or large current (large magnet or spot water, etc.) because the sensor could malfunction. Тор

-

¢¢

 The pressure switch is equivalent to IP-20, but the installation direction is limited to upward vertical. If water enters the atmospheric release port for atmospheric pressure from below, pipe

an M3 joint and extend with tubing to where Rottom water will not enter. Do not plug the introduction port for atmospheric pressure or else malfunctions could occur. This port can not be used outdoors.

#### P\*100 Series

If there is drainage in pneumatic piping, install so that the pressure switch is higher than the drain.

Do not pressurize the atmospheric release port or blow it with compressed air. Product performance could drop or the product could be damaged.

#### 3

- Connecting the lead
  - (1) Do not connect the lead directly to the power supply. Connect the load serially. Failure to do so could result in lamp blowing or contact melting.
  - (2) When using for DC, connect the brown wire to the + side and the blue wire to the - side. The lamp will not light if wires are connected in reverse.
  - (3) When connected to the AC relay or PC input, if half wave rectification is done with these circuits, the switch lamp may not light. In this case, the lamp will light if the switch lead polarity is reversed.
- Contact capacity

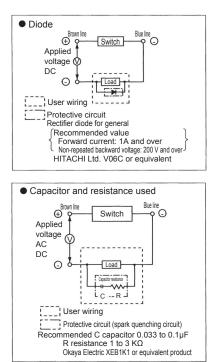
Do not exceed the specified load voltage and load current range.

Failure to observe this could result in problems such as lamp blowing and contact melting.

The lamp may not light if the current is less than the rated current value.

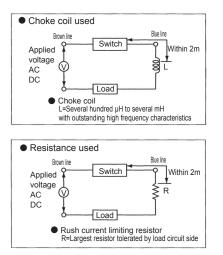
#### Contact protection

(1) When using this sensor with a conductive load such as a relay, provide the contact protection circuit shown at right. The contact could melt if this protection circuit is not provided.



(2) DC wiring exceeds 50m or AC wiring exceeds 10m, the wiring capacity will be attained. A rush current will occur, damaging the switch or shortening life.

Install a contact protection circuit if the wiring length is exceeded.



Clean F.R. Electro pneumatic regulator Air booste Speed control valve Silence Check valve / others Joint / tube Vacuum filter Vacuum regulato Suction plate Magnetic spring buffer Mechanical Electronic pressure SW Contact / close contact conf. SW Air sensor Pressure SW for coolant Small flow senso Small flow controlle Flow sensor for air Flow senso for water Total aiı system Total air system (Gamma)

Refrigerating type dryer Desiccant type dryer

High polyme

type dryer

Air filter

Auto, drain

F.R.L.

F.R.L. (Separate)

Compact F.R.

Precise regulato

F.R.L. (Related

Ending

Standard series F.R.L. unit

P\*100-W Series Safety precautions



#### Shut-off valve standard white Series

## V1000-W/V3000-W Series

One action exhaust operation. Prevent residual pressure accidents in pneumatic lines. Port size: 1/8 to 1/2



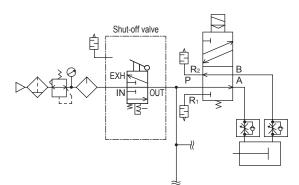


#### Specifications

Descriptions		V100	00-W		V3000-W		
Appearance							
Descri	ptions	V1000-6-W	V1000-8-W	V3000-8-W	V3000-10-W	V3000-15-W	
Working fluid	k		C	compressed a	ir		
Max. working pressure MPa				1.0			
Withstanding p	pressure MPa		1.5				
Fluid temper	ature °C	5 to 60					
Operation lever	switchover angle		90°				
Operating force	Pushing force N	1	8	80			
Operating force	Torque N·m	0.5		2			
Valve section leaka	Valve section leakage cm <sup>3</sup> /min. (ANR)			10			
External leakage cm <sup>3</sup> /min. (ANR)				10			
Port size	IN-OUT	1/8	1/4	1/4	3/8	1/2	
(Rc, NPT, G)	EXH	1	/8		3/8		
Product weig	ght kg	0.	17		0.25		
Effective sectional	IN/OUT	15	18	40	70	85	
area {mm <sup>2</sup> }	OUT/EXH		5	40	50	50	

#### Application

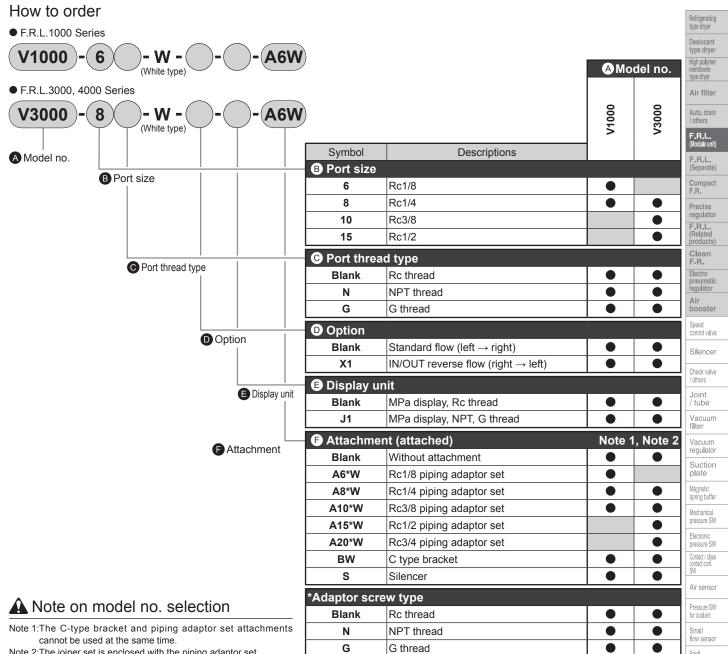
Explanation:For safety, release compressed air in the pneumatic circuit from the lockout valve before repairing or adjusting the solenoid valve or air cylinder, etc.



Refrigerating type dryer

V\*000-W Series

How to order



Note 2:The joiner set is enclosed with the piping adaptor set.

Ending

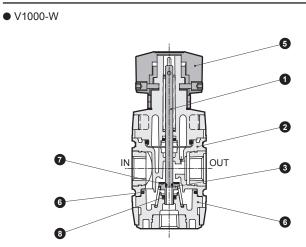
Small flow controller Flow sensor for air Flow sensor for water Total aiı system Total air system (Gamma)

A Select the reverse regulator (R\*100-W) or reverse filter regulator (W\*100-W) when installing the V\*000-W onto the primary side of the regulator or filter regulator.

## V\*000-W Series

#### Internal structure and parts list





• V3000-W H 6 0 )Ш 2 IN OUT 6 4

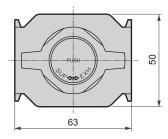
No.	Parts name	Material
1	Spool	Steel
2	Body assembly	Polyamide resin, steel
3	Valve element	Brass, nitrile rubber
4	Bottom plug	Polyamide resin, steel
5	Knob	Polyacetal resin
6	Packing seal	Nitrile rubber
7	O-ring	Nitrile rubber
8	O-ring	Nitrile rubber

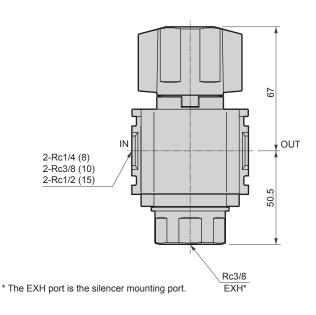
CAD

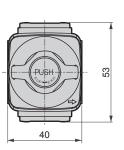
No.	Parts name	Material
1	Plate cover	ABS resin
2	Body	Aluminum alloy die-casting
3	Spool assembly	Aluminum alloy urethane rubber resin
4	Bottom plug	PBT resin Note 1
5	Knob	Polyacetal resin
6	O-ring	Nitrile rubber

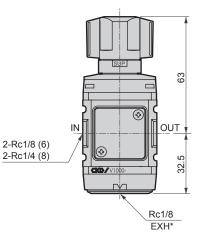
Note 1: The metal bottom plug is used as a custom-order part.

• V3000-W









\* The EXH port is the silencer mounting port. CKD





#### Lockout valve (OSHA compliant) standard white series

V3010-W/V6010-W Series

Prevent residual pressure accidents in pneumatic lines. Port size: 1/4 to 1 INF OUT



Refrigerating type dryer

Desiccant type dryer

High polyme

type dryer

Air filter Auto, drain

F.R.L.

F.R.L. (Separate) Compact F.B.

Precise regulato F.R.L. (Related products)

Clean F.R.

Electro pneumatic regulator

Air boostei Speed control valve Silence Check valve / others Joint / tube

Vacuum

Vacuum regulator

Suction

Magnetic spring buffer

Mechanical

pressure SV

Electronic pressure SW

Contact / close contact conf. SW

Air sensor

Pressure SV

Small flow senso

Small flow controller

Flow sensor

Flow senso for water

Total ai

system

Total ai

(Ĝamma)

Ending

Standard series F.R.L. unit

plate

filter

#### Specifications

Descri	ptions	V3010-8-W	V3010-10-W	V3010-15-W	V6010-20-W	V6010-25-W
Working fluid	ł	Compressed air				
Max. working p	oressure MPa			1.0		
Withstanding p	oressure MPa			1.5		
Fluid temper	ature °C	5 to 60				
Operation lever s	switchover angle	le 90°				
Operating force	Pushing force N	80 or less				
Operating force	Torque N·m	2.5 or less				
Valve seat leakag	e cm <sup>3</sup> /min. (ANR)	NR) 10 or less				
External leakage	cm <sup>3</sup> /min. (ANR)	. (ANR) 10 or less				
Port size	IN-OUT	1/4	3/8	1/2	Rc 3/4	Rc1
(Rc, NPT, G) EXH			3/8 Rc1/2			1/2
Product weight kg 0.3		0	.8			
Effective sectional	IN→OUT	40	70	85	145	150
area (mm <sup>2</sup> )	OUT→EXH	40	50	50	105	110

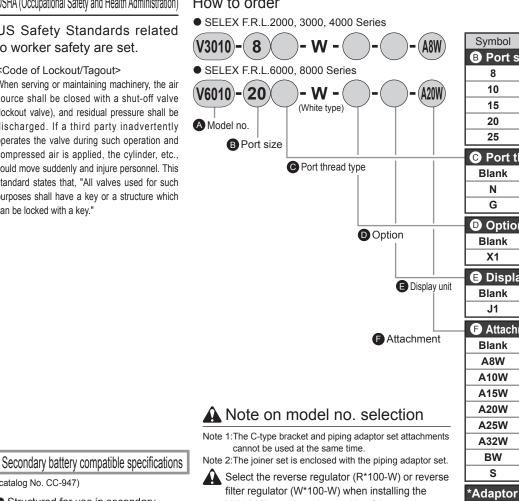
#### OSHA (Occupational Safety and Health Administration)

#### US Safety Standards related to worker safety are set.

<Code of Lockout/Tagout>

When serving or maintaining machinery, the air source shall be closed with a shut-off valve (lockout valve), and residual pressure shall be discharged. If a third party inadvertently operates the valve during such operation and compressed air is applied, the cylinder, etc., could move suddenly and injure personnel. This standard states that, "All valves used for such purposes shall have a key or a structure which can be locked with a key."

#### How to order



V\*010-W onto the primary side of the regulator or filter regulator.

#### How to use

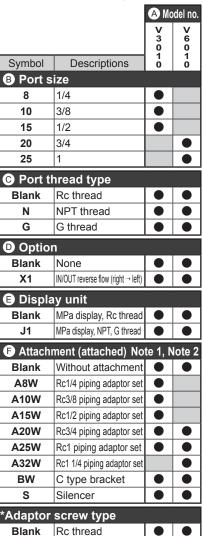
#### Regular use



 During maintenance work A lock is set where residual pressure is released.



Exhaust



NPT thread

G thread

Ν

G

 Structured for use in secondary battery manufacturing processes



## V\*010-W Series

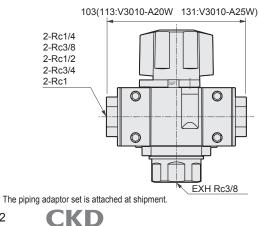
Inter	Internal structure and parts list				
• V30					
No.	Parts name	Material			
1	Plate cover	ABS resin (Note 2)			
2	Body	Aluminum alloy die-casting			
3	Spool assembly	Aluminum alloy urethane rubber resin			
4	Bottom plug	PBT resin (Note 1) (Note 2)			
5	Knob	Aluminum alloy die-casting			
6	O-ring	Nitrile rubber			
Note 1: The metal bottom plug is used as a custom-order part. Note 2: Flame resistance resin equivalent to UL94 Standard V-O Dimensions (V3010-W)					

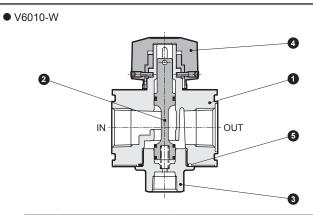
63 20 56 4 ø10 2-C 117.5 ;=\$ IN OUT EXH Rc3/8

\* The EXH port is the silencer mounting port.

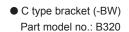
Descriptions	С
V3010-8-W	Rc1/4
V3010-10-W	Rc3/8
V3010-15-W	Rc1/2

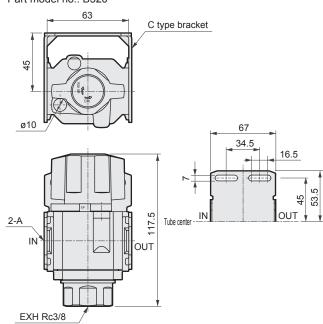
Adaptor attachment





No.	Parts name	Material
1	Body	Aluminum alloy die-casting
2	Spool assembly	Aluminum, hydrogen nitrile rubber
3	Bottom plug	Aluminum alloy die-casting
4	Knob	Aluminum alloy die-casting
5	O-ring	Nitrile rubber

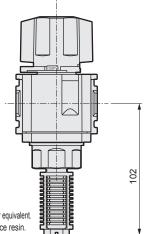




The C type bracket is attached at shipment.

C type bracket and piping adaptor set can not be used together.

• Silencer (-S) Part model no.:SLW-10A

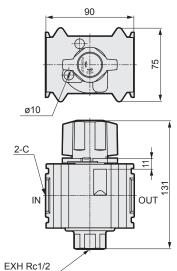


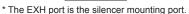
The silencer is attached at shipment.

The silencer is made of flame resistance resin UL94 Standard V-O or equivalent. Note that the element is not manufactured of flame resistance resin.

V\*010-W Series Dimensions / optional parts drawing

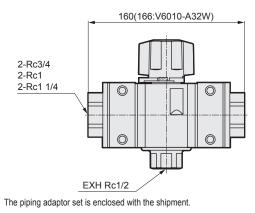
#### Dimensions (V6010-W)

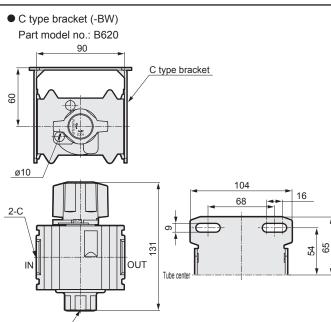




Descriptions	С
V6010-20-W	Rc3/4
V6010-25-W	Rc1

Adaptor attachment



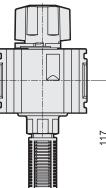


EXH Rc1/2

The C type bracket is attached at shipment. C type bracket and piping adaptor set can not be used together.

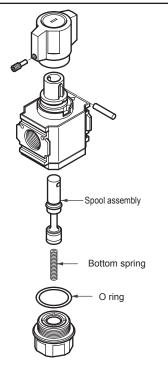
Silencer (-S)

Part model no.: SLW-15A



The silencer is attached at shipment. The silencer is made of flame resistance resin UL94 Standard V-O or equivalen Note that the element is not manufactured of flame resistance resin.

#### Shut-off valve (V3000-W, V3010-W) optional parts drawing



#### Spool assembly

(Sets of spool assembly, bottom spring)

Model	Spool assembly model no.	
V3000, V3010	V3000-SPOOL	_
	CKD	4

Total aiı system Total air system (Gamma)

Ending

Standard series F.R.L. unit

Refrigerating type dryer

Desiccant type dryer

High polymer membrane type dryer

Air filter

Auto, drain / others

F.R.L. (Module un

F.R.L. (Separate)



Features

• Straight flow path and large effective sectional

 Flame resistance resin provided as standard. (Equivalent to flame resistance resin UL94)

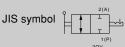
Manifold enabled by optional bracket.

• 2 and 3 port valves are available.

Quick exhaust valve

2QV/3QV Series

● Port size: Push-in joint ø4, ø6, ø8, ø10, ø12, R1/8 to R1/2







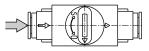
#### Specifications

Note 1: When using urethane tube (U-95\*\*, NU-\*\*) at vacuum, use an insert ring. Note 2: Lubricant is used, so oil-prohibited specification are not available.

#### Operational explanation

• 2 port valve (2QV Series)

(closed state)

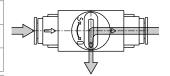


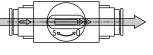
● 3 port valve (3QV Series)

(closed state)

(open state)

(open state)

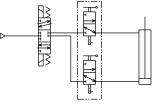






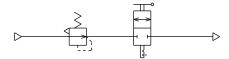
#### Applications

• Shut-off valve in air cylinder circuit



Quick exhaust valve (3QV)

• Stop valve in air blow circuit



Quick exhaust valve (2QV)

Auto. drain / others

F.R.L. (Module unit

area.

standards V-0)

### How to order

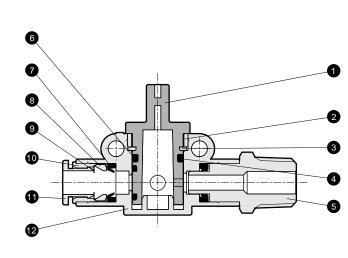
QV -(04	<b>1-04</b> )		Symbol	Desc	riptions	
	T		A Valve typ	e		
alve type			2	2 way	y valve	
			3	3 way	y valve	
			B Port size	(P port) - (A port)		Bracket '
	Port size (P port) - (A port)			IN side	- OUT side	Diackei
	A F 7 A F 7		04-04	Push-in joint ø4	- Push-in joint ø4	
		5	06-06	Push-in joint ø6	- Push-in joint ø6	2QV-P1
		Standard	08S-08S	Push-in joint ø8	- Push-in joint ø8	
		stan	08-08	Push-in joint ø8	- Push-in joint ø8	
		0	10-10	Push-in joint ø10	- Push-in joint ø10	2QV-P2
			12-12	Push-in joint ø12	- Push-in joint ø12	
			6A-04	R1/8	- Push-in joint ø4	
			6A-06	R1/8	- Push-in joint ø6	2QV-P1
			8A-06	R1/4	- Push-in joint ø6	200-F1
			8A-08S	R1/4	- Push-in joint ø8	
			10A-08	R3/8	- Push-in joint ø8	
			10A-10	R3/8	- Push-in joint ø10	2QV-P2
			15A-10	R1/2	- Push-in joint ø10	200-62
			15A-12	R1/2	- Push-in joint ø12	
			04-6A	Push-in joint ø4	- R1/8	
		Option	06-6A	Push-in joint ø6	- R1/8	2QV-P1
		Opt	06-8A	Push-in joint ø6	- R1/4	200-61
			08S-8A	Push-in joint ø8	- R1/4	
			08-10A	Push-in joint ø8	- R3/8	
			10-10A	Push-in joint ø10	- R3/8	2QV-P2
			10-15A	Push-in joint ø10	- R1/2	200-72
			12-15A	Push-in joint ø12	- R1/2	
			6A-6A	R1/8	- R1/8	2QV-P1
			8A-8A	R1/4	- R1/4	200-61
			10A-10A	R3/8	- R3/8	2QV-P2
			15A-15A	R1/2	- R1/2	L L L L L L

\*For 2 and 3 port valve, a bracket is common.

\* Note that this may differ according to the body size.

### Internal structure and parts list

Select the reverse regulator (R\*100) or reverse filter regulator (W\*100) when installing the 3QV onto the primary side of the regulator or filter regulator.



Parts list											
No.	Parts name	Material									
1	Rotary shaft	PBT (UL94V-0 or equivalent)									
2	Stopper	Brass (electroless nickeling treatment) *1									
2	Stopper	Stainless steel									
3	Ring	Steel									
4	O-ring	Nitrile rubber									
5	Nipple	Brass (electroless nickeling treatment)									
6	O-ring	Nitrile rubber									
7	Packing seal	Nitrile rubber									
8	Chuck holder	Polyacetal									
9	Chuck	Stainless steel									
10	Outer ring	Brass (electroless nickeling treatment)									
11	Push ring	PBT (UL94V-0 or equivalent)									
12	Body	PBT (UL94V-0 or equivalent)									

\*1: The "A" dimensions in the outline drawing apply to the "18" model material. \*2: The "A" dimensions in the outline drawing apply to the "22" model material.

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

2QV/3QV Series

How to order / Internal structure

CKD

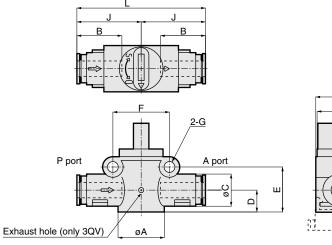


#### Dimensions

Port size

· P port (push-in joint), A port (push-in joint)

CAD



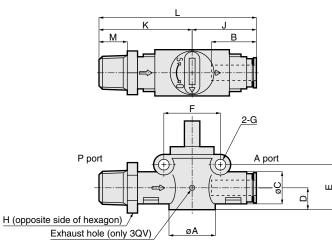
	-		
		z	P (bracket assembly)

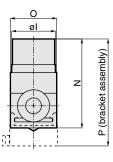
Applicable tub	e O.D. (mm)	Model no.	^	В	~	D	Е	F	G				N	0	D	Weight	Effective section	onal area (mm²)
P port	A port	wodel no.	A	Б	C	U			G		J	L	IN	0	Г	(g)	P→A	A→R
ø4	ø4	<sup>2</sup> <sub>3</sub> QV-04-04		16	12.5						25	50				20	4.2	
ø6	ø6	<sup>2</sup> <sub>3</sub> QV-06-06	18	17.5	12.5	8.5	17.5	22	4.2	17	25	50	34.5	18	41.5	21	9.3	1.8
ø8	ø8	<sup>2</sup> <sub>3</sub> QV-08S-08S		19	14.5						26.5	53				23	10.2	
ø8	ø8	<sup>2</sup> <sub>3</sub> QV-08-08		19	17.5						31.5	63				34	17.5	
ø10	ø10	<sup>2</sup> <sub>3</sub> QV-10-10	22	21.5	17.5	10.7	22.8	26.5	4.2	17	51.5	03	39.8	22	46.8	35	22.5	4.0
ø12	ø12	<sup>2</sup> <sub>3</sub> QV-12-12		23	20						33	66				38	22.5	

\* Tolerance of effective sectional area is  $\pm 10\%$ .

#### Port size

· P port (male thread), A port (push-in joint)





Port thread R	Applicable tube O.D.(mm)	Madalina	А	В	с	D	Е	F	G	н			ĸ		М	NI		Р	Weight	Effective section	nal area (mm²)
P port	A port	Model no.	A						G	п		J	r.	Ľ	IVI	IN			(g)	P→A	A→R
1/8	ø4	<sup>2</sup> <sub>3</sub> QV-6A-04		16						14			22 5	58.5	8				26	4.2	
1/8	ø6	<sup>2</sup> <sub>3</sub> QV-6A-06	18	17.5	12.5	8.5	17.5	22	4.2	14	17	25	33.5	56.5		34.5	18	41.5	32	9.3	1.8
1/4	ø6	<sup>2</sup> <sub>3</sub> QV-8A-06	10	17.5		0.5	17.5	22	4.2	17			- 38	63	4.4	34.5	10	41.5	35	9.3	
1/4	ø8	<sup>2</sup> <sub>3</sub> QV-8A-08S		19	14.5					17		26.5		64.5					40	10.2	
3/8	ø8	<sup>2</sup> <sub>3</sub> QV-10A-08		19						17			44.5	76	12				57	16.3	
3/8	ø10	<sup>2</sup> <sub>3</sub> QV-10A-10	22	21.5	17.5	10.7	22.8	26 5	4.2	19	17	31.5	44.5	10		39.8	22	46.8	63	21.4	4.0
1/2	ø10	<sup>2</sup> <sub>3</sub> QV-15A-10	22	21.5		10.7	22.0	20.5	4.2	22			47.5	79	15	39.0	22	40.0	76	21.4	
1/2	ø12	<sup>2</sup> <sub>2</sub> QV-15A-12		23	20.0							33	49	82	15				85	21.4	

\* Tolerance of effective sectional area is  $\pm 10\%$ .

# 2QV/3QV Series

# Dimensions

Refrigerating type dryer

Desiccant type dryer

High polyme membrane type dryer

Air filter

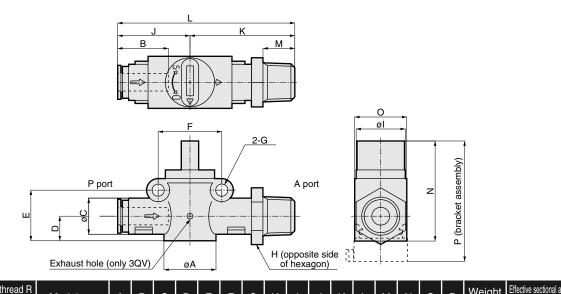
Auto. drain / others

#### Dimensions



· P port (push-in joint), A port (male thread)

CAD

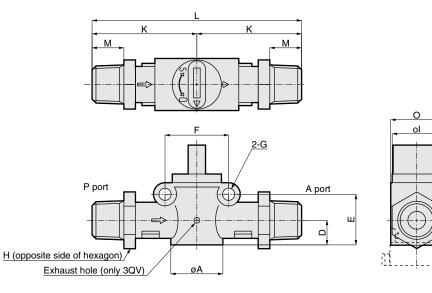


С	D.D.(mm)	Port thread R	Model no.	A	В	С	D	Е	F	G	н			к		м	N	0	Б	Weight	Effective section	onal area (mm²)	
F	⊃ port	A port	woder no.		Р	C			Г	G			J	<b>N</b>	Ľ	IVI	IN	0		(g)	P→A	A→R	+
	ø4	1/8	<sup>2</sup> <sub>3</sub> QV-04-6A		16						14			33.5	E0 E	8				26	3.5		
	ø6	1/8	<sup>2</sup> <sub>3</sub> QV-06-6A	18	17.5	12.5	8.5	17.5	22	4.2	14	17	25	33.5	56.5		34.5	18	41.5	32	9.3	1.8	
	ø6	1/4	<sup>2</sup> <sub>3</sub> QV-06-8A	10	17.5		0.5	17.5	22	4.2	17			38	63	11	34.5	10	41.5	35	9.3		ł
	ø8	1/4	<sup>2</sup> <sub>3</sub> QV-08S-8A		19	14.5					17		26.5		64.5					40	10.2		
	ø8	3/8	<sup>2</sup> <sub>3</sub> QV-08-10A		19						17			44.5	76	12				57	15.8		
	ø10	3/8	<sup>2</sup> <sub>3</sub> QV-10-10A	22	21.5	17.5	10.7	22.8	06 F	4.2	19	17	31.5	44.5	70	12	39.8	22	46.8	63	21.4	4.0	ł
	ø10	1/2	<sup>2</sup> <sub>3</sub> QV-10-15A	22	21.5		10.7	22.0	20.5	4.2	22			47.5	79	15	39.0	22	40.0	76	21.4		
	ø12	1/2	<sup>2</sup> <sub>3</sub> QV-12-15A		23	20.0					22		33	49	82	15				85	21.4		

#### $^{\ast}$ Tolerance of effective sectional area is $\pm 10\%.$

#### Port size

 $\cdot$  P port (male thread), A port (male thread)



Port th	read R	N4a dal vaa		Δ	^	^	^		F	E	~	н				м	N	0	Б	Weight	Effective section	nal area (mm²)
P port	A port	Model no.	A	D	Ľ		G	п	U	K	Ŀ	IVI	IN	0	Р	(g)	P→A	A→R				
1/8	1/8	<sup>2</sup> <sub>3</sub> QV-6A-6A	18	8.5	17.5	22	4.2	14	17	33.5	67	8	34.5	18	41.5	42	9.5	1.8				
1/4	1/4	<sup>2</sup> <sub>3</sub> QV-8A-8A	10	0.5	17.5	22	4.2	17	17	38	76	11	34.5	10	41.5	48	9.5	1.0				
3/8	3/8	<sup>2</sup> <sub>3</sub> QV-10A-10A	22	10.7	22.8	26.5	4.2	19	17	44.5	89	12	39.8	22	46.8	90	21.4	4.0				
1/2	1/2	<sup>2</sup> <sub>3</sub> QV-15A-15A	22	10.7	22.0	20.5	4.2	22	17	47.5	95	15	39.0	22	40.0	116	21.4	4.0				

 $^{\ast}$  Tolerance of effective sectional area is  $\pm 10\%$ 

P (bracket assembly)

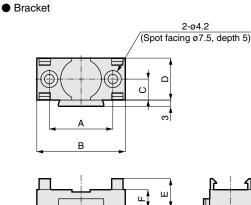
z

417

Standard series F.R.L. unit

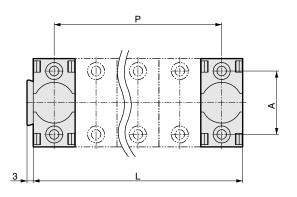
# 2QV/3QV Series

# Dimensions



CAD

#### Manifold mounting pitch dimension



Model no.	А	В	С	D	Е	F	Р	L	Subject dimension A
2QV-P1	28	39	9.25	18.5	13	8	$D \times (n 1)$		18
2QV-P2	32	44	11.25	22.5	12.5	8	D ×(n-1)	D × n	22

### n = station number

# Introduction of custom order

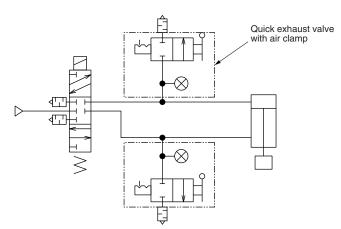
A quick valve with air lamp is available as a customized order part. Contact CKD for details. Note: Note that the ø12 diameter type is not available.

#### Specifications

,	Descriptions	Air lamp
	Working fluid	Air
	Working pressure range MPa	0.05 to 0.8
r	Fluid temperature °C	0 to 60
	Ambient temperature °C	0 to 60
/	Display color	Red, green

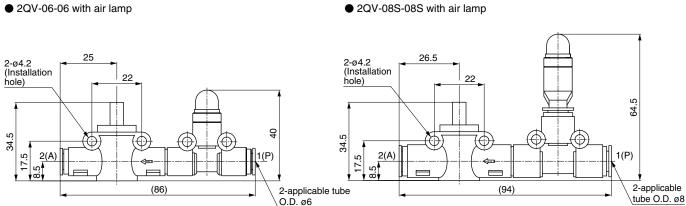
#### Application

· Cylinder residual pressure exhaust



# Example of assembly

#### • 2QV-06-06 with air lamp



• Types 3QV-06 to 10 with air lamps are also available. Contact CKD for details.

# Quick exhaust valve 2QV/3QV Series

# **Design & Selection**

# A WARNING

- Use the product within specifications. Using this product with fluid other than compressed air or at a pressure or temperature exceeding the specifications could result in rupture, the tube coming off, or leakage.
- Avoid installing this product outdoors or where it is exposed to direct sunlight.

# **A**CAUTION

- Confirm that the product will withstand the working environment.
  - This product cannot be used in environments where functional obstacles could occur.
  - Such environments include high temperatures, a chemical atmosphere, or where chemicals, vibration, moisture, water drip, or gas are present; or where ozone is generated. Outdoors or where the product could be subject to direct sunlight; or where cutting oil, coolant, or spatter could occur or where static electricity could pose a problem.
- Confirm that PTFE can be used.
  - The sealant contains PTFE (polytetrafluoroethylene resin) powder. Check that this poses no problem during use.
- Contact CKD if ozone could occur in supply air. (An ozone-resistant series is available.)
- Avoid using this product in hot or humid places, outdoors, or where it could be subject to direct sunlight.

# **Installation & Adjustment**

# **WARNING**

- Securely insert the tube until it contacts the joint's tube end, and check that it does not come off the joint.
- Stop air and confirm that there is no residual pressure before replacing the tube.

# Piping

# 

- Observe the following precautions when using nylon tubes or urethane tubes for piping material.
  - Use the designated tube and CKD plastic plug (GWP Series). Do not use metal plugs.
    - Tube outer diameter precision
    - · Polyamide tube ······· : Within ±0.1mm
    - · Polyurethane tube
      - (up to ø6) ..... : Within ±0.1mm
      - (ø8 to) ..... Within  $\frac{\pm 0.1}{-0.15}$  mm

Use a tube with a hardness of 92° or more. If a tube that does not satisfy diameter accuracy or hardness is used, chucking force may drop or the tube may come off or be difficult to insert.

- Consult with CKD when using a nondesignated tube or plug.
- Cut the tube with a dedicated cutter, and cut at a right angle.
   Do not use a worn of damaged tube that could be crushed
- Do not use a worr of damaged tube that could be crushed or rupture.
   Do not rough a tube that could be dateriorated and do.
- Do not reuse a tube that could be deteriorated and deformed.
- Do not let the tube directly contact other surfaces, it could wear and break.

- Do not use this product for applications that constantly rotate, vibrate or which have a tube that moves vigorously.
- Use tubing within the minimum bending radius but long enough to avoid sudden bends.
  - Consider changes in tubing length caused by pressure when tubing is connected, and provide sufficient length within the minimum tube bending radius.
- Always flush just before piping pneumatic component.
  - Any foreign matter that has entered during piping must be removed so it does not enter the pneumatic component. Remove all swarf and foreign debris generated during piping and tube insertion before starting use.
- When supplying compressed air for the first time after connecting pipes, do not apply high pressure suddenly.
  - The pipe connection could dislocate causing the pipe tube to bounce and result in accidents.
- After connecting piping, check pipe connections for air leaks before supplying compressed air.
  - Apply a leakage detection agent on pipe connections with a brush, and check for air leaks.

### Handling push-in joints and tubes

 Refer to cautions of joint and tube, and "Safety Precautions" (pages 918 to 921) for handling push-in joints and tubes.



# **Installation & Adjustment**

### 

Apply adequate torque when connecting pipes.

 To prevent air leakage and screw damage. First tighten the screw by hand to prevent damage to screw threads, then use a tool.

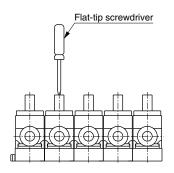
Check that the tool's hexagon face and wrench are the correct size.

(Reference value)

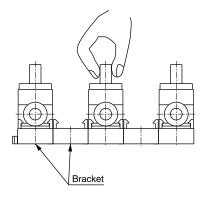
Tightening torque N·m
3 to 5
6 to 8
13 to 15
16 to 18

\*The above values apply when the matching screw is a JISB0203 tapered female thread to piping (material: C3604BD)

- Connect piping so that connections are not dislocated by system movement, vibration, or tension, etc.
  - Control of actuator speed will be disabled if piping on the exhaust side of the pneumatic circuit is disengaged.
  - When using the chuck holding mechanism, the chuck will be released creating a hazardous state.
  - Confirm that the tube has been inserted properly, and make sure that there is no tension during use.
     The tube could be dislocated or damaged if there is any tension.
- Make sure that the joint and tube are not twisted or pulled, and that moment load is not applied.
- Do not tighten while pressure is applied.
- When using a urethane rubber tube (U-95\*\*, NU-\*\*) for a vacuum, use an insert ring.
- If the manifolds are installed with a priority on space, it may be difficult to operate the value manually. Operate by inserting a screwdriver, etc., into the slot on the top of the dial.



If manifolds are installed with a priority on manual operation, valves are operated easily by installing them every other space.

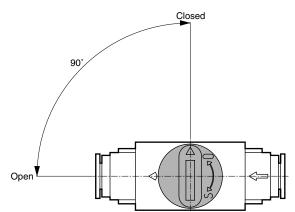


2QV/3QV Series

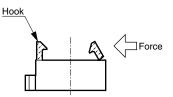
# **During use & Maintenance**

# 

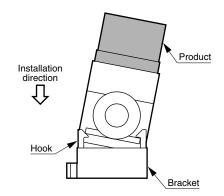
Operation angle of this product is 90° Do not turn the product more than 90°.



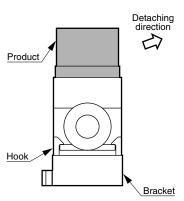
■ The dedicated bracket's hooks can be damaged by external force. Use brackets correctly.



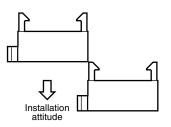
- How to use bracket
- (1) Fix the bracket before starting use. To mount, insert the product at a slant into the bracket, and then fit into hooks.



(2) To remove the product, tilt it slightly to the side, and release one hook.



(3) When mounting a manifold, the project on the bracket into the other bracket's slot.

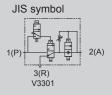




Slow start valve standard white Series

V3301-W/V3321-W Series

To maintain safety at starting and stopping Port size: Rc1/4 to Rc1/2



1(F 2(A) 3(R) V3321 RoHS

# Specifications

Refrigerating type dryer

Desiccant type dryer

High polymembrane

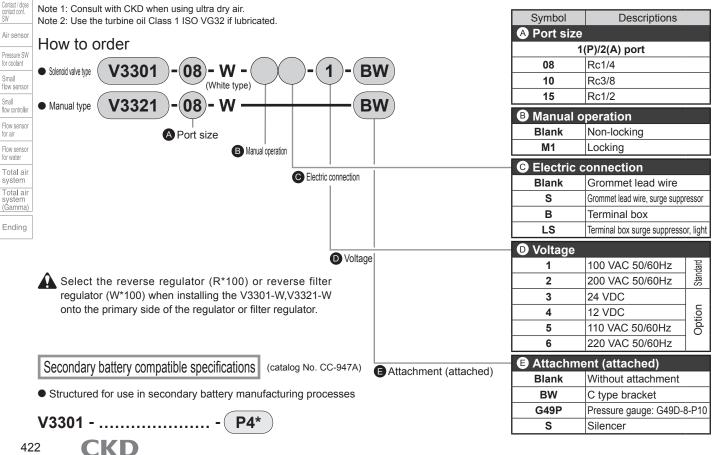
type dryer

Air filter Auto, drain / others

dule unit)											
B.L.	Descri	ptions		V3301-W/V3321-W							
	Operation me	ethod	Pilo	t operated soft spool va	alve						
npact	Working fluid		Compressed air (ex	cluding ultra dry comp	ressed air) Note 1						
156	Working pressu	re range MPa		0.2 to 1.0							
ator	Withstanding p	ressure MPa	1.5								
	Ambient temper	ature range °C		5 to 60							
		1(P)/2(A) port	Rc1/4	Rc3/8	Rc1/2						
	Port size	3(R) port	Rc3/8								
r r		Gauge port		Rc1/4							
er g	Effective sectional	Low speed air supply		6							
	area mm <sup>2</sup>	High speed air supply	40	64	76						
e		High speed exhaust	50	74	78						
r T	Response tin	ne		0.2 sec or less							
el	Lubrication			oil-free Note 2							
١	Weight	g	V3	301-W:635 V3321-W:5	515						
	Solenoid valve	specifications		V3301-W							
וו	Rated voltag	e V	100 AC (50/60Hz)	200 AC (50/60Hz)	24 DC						
1	Starting curre	ent A	0.076/0.058	0.038/0.030	0.092						
n I	Holding curre	ent A	0.038/0.029	0.019/0.015	0.092						
	Power consu	mption W	2.2/1.7	2.2/1.7	2.2						
ffer _	Temperature	rises K		40 or less							
ai	Voltage fluctu	uation range		±10%							
	Insulation cla	ISS		Class B							
sw	Electric conn	ection	Grom	nmet lead wire, termina	l box						
lnea -											

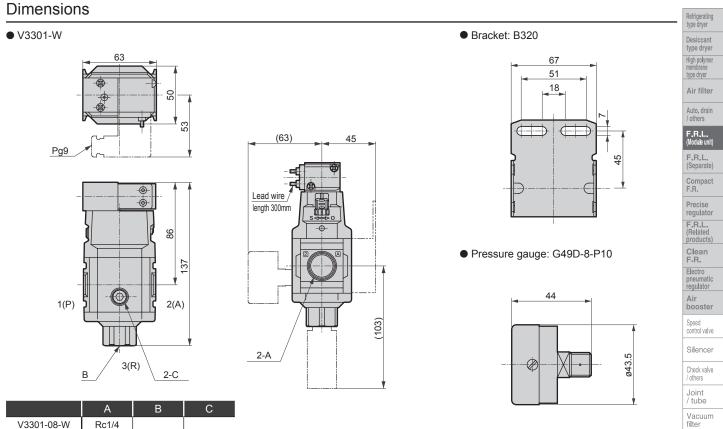
Note 1: Consult with CKD when using ultra dry air.

Note 2: Use the turbine oil Class 1 ISO VG32 if lubricated.



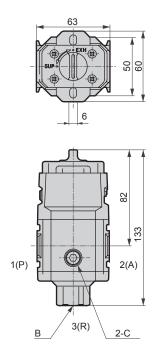
# V3301-W/V3321-W Series

# Dimensions

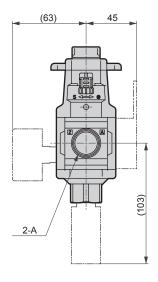


	A	В	С
V3301-08-W	Rc1/4		
V3301-10-W	Rc3/8	Rc3/8	Rc1/4
V3301-15-W	Rc1/2		

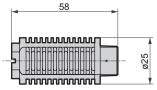
• V3321-W



	А	В	С
V3321-08-W	Rc1/4		
V3321-10-W	Rc3/8	Rc3/8	Rc1/4
V3321-15-W	Rc1/2		



• Silencer: SLW-10A





Vacuum regulator Suction plate Magnetic spring buffer Mechanical pressure SW Electronic pressure SW

Contact / close contact conf. SW

Air sensor

Pressure SW for coolant

Small flow senso

Small flow controller

Flow sensor for air Flow sensor for water

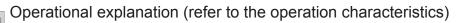
Total air system

Total air system (Gamma)

Ending

Standard series F.R.L. unit

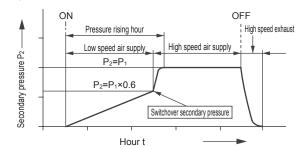
# V3301-W/V3321-W Series



The slow start valve turns ON when the solenoid valve is energized or the manual section is set to SUP. The valve turns OFF when the solenoid valve is deenergized or the manual section is set to EXH.

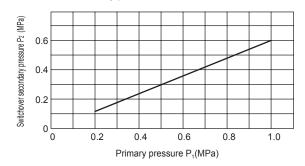
- (1) First, when the main unit is turned ON, the low speed supply path opens and compressed air starts to flow to the secondary side. Secondary pressure gradually starts to rise. Operable cylinders start moving at a low speed and do not pop out.
- (2) Next, when secondary pressure exceeds 60% of primary pressure, the high speed supply path opens. Secondary pressure suddenly rises to the same pressure as primary pressure. (Fully open state)
- (3) When the main unit is turned OFF, high speed exhaust starts and residual pressure in the unit is exhausted.

• Operation characteristics



• Switchover secondary pressure

Side view



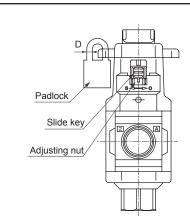
# Adjustment method of slow start (refer to the side view)

(1) Press up the slide key and release the adjusting nut lock.

- (2) Turn the main unit ON, and confirm cylinder operation speed and secondary pressure rise time. Turn the main unit OFF.
- (3) Turn the adjusting nuts explained below, and adjust the state. Cylinder pops out  $\rightarrow$  Turn to the S side

Low speed operation time is too long  $\rightarrow$  Turn to the O side

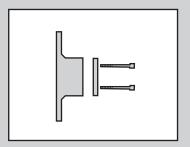
- Repeat steps (2) and (3) as necessary, and adjust to the optimum state.
- (4) Align the adjustment nut keyway to the projection on the slide key.
- (5) Press down the slide key and lock the adjusting nut.
- (6) Confirm that the main unit is OFF.



# Safety precautions

- Note 1:This valve is for device starting and stopping including emergency stops. This valve should not used for cylinder repeat operation or as a normal 3-way valve.
- Note 2:If the minimum operating pressure of the cylinder, which is to be prevented from popping out, is less than 50% of working pressure, popping out is not prevented.
- Note 3:The manual override is locked with a manual valve. Select a padlock with a D dimension of 3.8 to 5.8mm.
- Note 4:Connect a silencer or exhaust filter, etc., on the exhaust port for safety and noise reduction.

Ending



Bracket standard white Series

**B-W/B Series** Joiner standard white Series

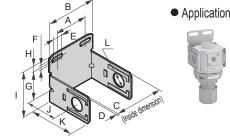




Refrigerating type dryer

# **Dimensions / Applications**

#### T type bracket set • Model No.:B110-W/B310-W/B410-W/B810-W Application Note:Select B410-W when using the 3000-W Series and 4000-W Series combined. Center of C port size m В D G Model no. Applicable model А С Е н J 0 B110-W 1000 Series 45 35 10 100 5.5 7.5 16 25 7.5 JASO-2013 40 $\cap$ 2000 Series B310-W 60 45 10 125 7 14 22 27 7 JISB2401-P21 45 3000 Series 7 14 7 B410-W 4000 Series 60 45 10 125 22 37 JISB2401-P21 55 K 6000 Series B810-W 70 9 37 AS568-127 50 15 150 14 27 8 65 8000 Series Model No.: B120/B220/B320/B420/B620/B820 C type bracket Attachment: BW



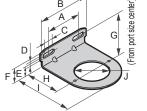
n														_
	Model no.	Applicable model	А	В	С	D	E	F	G	Н	I	J	К	L
	B120	1000 Series	44	68	40	t2.0	10	6.5	35	8.5	61.5	40	60	ø19.5
	B220	2000 Series	28	54	50	t2.3	10	7	33	8	63	45	69	17.3
	B320	3000 Series	34.5	67	63	t2.3	16.5	7	45	9	75.5	45	69	ø21.7
	B420	4000 Series	55	84	80	t2.3	14.0	7	45	9	75.5	55	79	ø21.7
	B620	6000 Series	68	104	90	t2.3	16	9	54	11	97.5	60	97	ø35
	B820	8000 Series	68	104	100	t2.3	16	9	50	11	93.5	65	102	ø35

### L type bracket

# Model No.: B130/B230/B330/B430

### Attachment: B3W

Loosen the mounting nut to remove the knob. After inserting L type bracket, fix the bracket by the mounting nut. Press the knob in manually after fixing.



A

-	<ul> <li>Application</li> </ul>	
-		

Refer to pa	ige 279 for th	ne det	ails.									
Model no.	Applicable model	А	В	С	D	Е	F	G	Н	I	J	Other
B130	1000 Series	44	68	10	6.5	16	24.5	45	40	59	ø26.5	
B230	2000 Series	28	54	10	7	18	26	52	45	69	38	
B330	3000 Series	34.5	67	16.5	7	17.5	26	58 (63.5)	45	76	ø40	Dimensions in ( ) are for W3000/3100
B430	4000 Series 6000 Series	55	84	14	7	17.5	26	58	55	94	ø47	

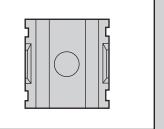
Joiner set

E

# • Model No.:C1000-J100-W C4000-J400-W

C8000-J800-W

/	<ul> <li>Application</li> </ul>	Model no.	Applicable model	А	В	С	D	E	
	rippiloution	C1000-J100-W	1000 Series	10	36	26	M3.5	JAS0-2013	
B		C4000-J400-W	2000 Series 3000 Series 4000 Series	21	44	32	M5	JIS B2401-P21	
		C8000-J800-W	6000 Series 8000 Series	26	65	50	M6	AS568-127	



# Distributor standard white Series D101/D401/D801/D300-W Series

Applicable for pipe branching. Port size: 1/8 to 1 Rc1/4 Rc3/8 JIS symbol 1/4 Rc1/4 3/8 (Rc3/8) Rc Rc1/4 Rc3/8



# Specifications

Refrigerating type dryer

Desiccant type dryer

High polyme membras

type dryer

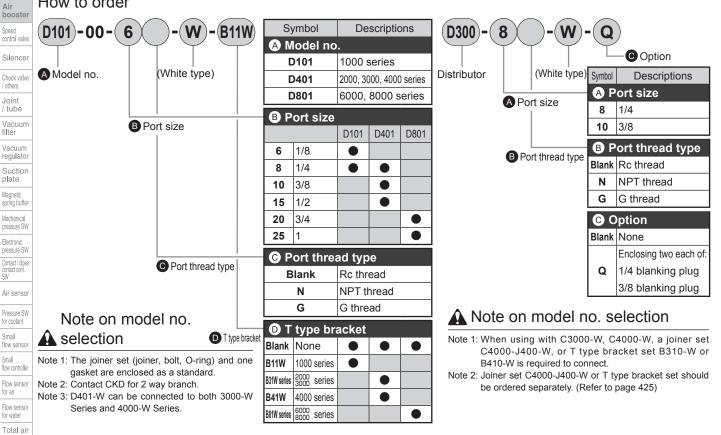
Air filter

Auto, drain / others

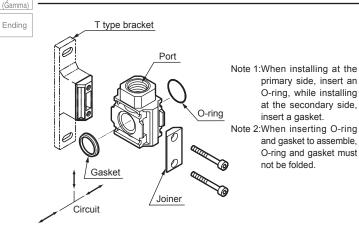
F.R.L. F.R.L. (Separate Compact F.R. Precise regulato F.R.L. (Related products Clean F.R. Electro regulator

it)	Descriptions	D101-00-W	D401-00-W	D801-00-W	D300-W				
e)	Working fluid		Compressed air						
	Withstanding pressure MPa		1.5						
or	No. of branch port		1						
-)	Port size Rc, NPT, G	1/8, 1/4	1/4, 3/8, 1/2	3/4, 1	1/4, 3/8				
<u>,</u>	Working temperature °C	5 to 60							
	Product weight kg	0.045	0.13	0.35	0.26				

# How to order



# Assembly method (D101-00-W, D401-00-W, D801-00-W)



# (Application (D101-00-W/D401-00-W/D801-00-W)



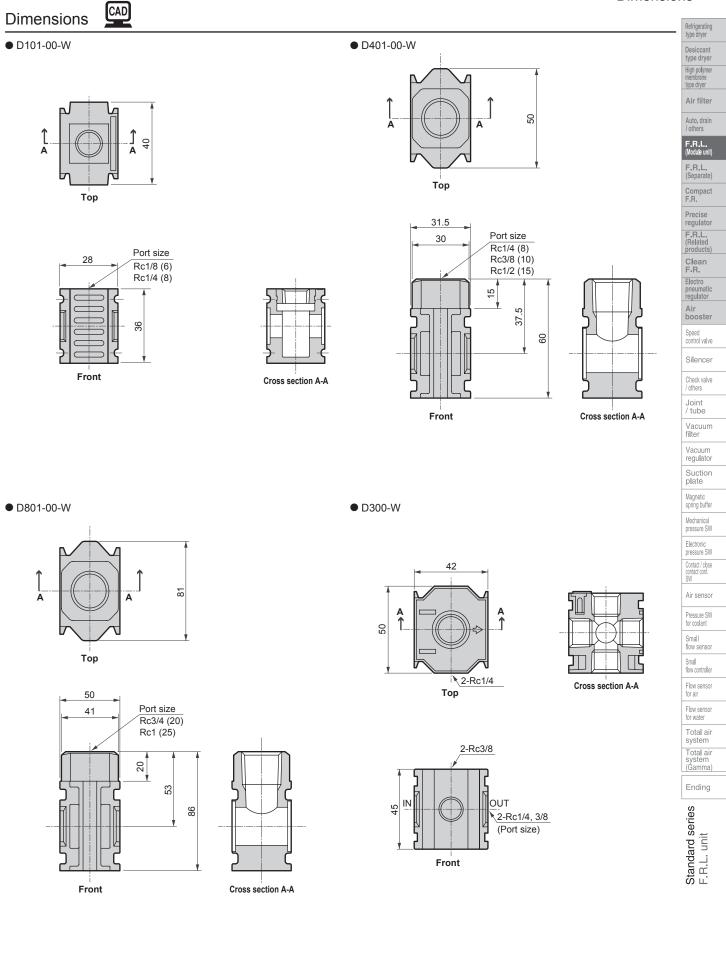
CKD

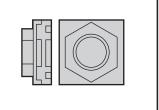
system

Total air

# **Distributor**

Dimensions





# Piping adaptor standard white Series A100/A400/A800-W Series

Port size: 1/8 to 1

Application

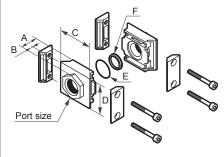


# **Dimensions and Applications**

#### Piping adaptor set

Model No.: A100-6, 8, 10-W
 A400-8, 10, 15, 20-W
 A800-20, 25, 32-W





Model no.	Port size	Applicable m	iodel	А	В	С	D	E (O-ring)	F (gasket)	Other
A100-6*-W	1/8									
A100-8*-W	1/4	1000 Ser	ries	21.5	13.5	40	36		1 pc.	-
A100-10*-W	3/8	1						1 pc.		
A400-8*-W	1/4	2000								Numbers in ( )
A400-10*-W	3/8	3000 1		20	6			JISB2401		is for 3/4.
A400-15*-W	1/2	Series	1100	(25)	(11)	50	45	P21	1 pc.	Number in { }
A400-20*-W	3/4			{34}	{20}			1 pc.		is for 1.
A400-25*-W	1	1	Accord     Accord <td></td>							
A800-20*-W	3/4									
A800-25*-W	1	6000 8000 Ser				81	66		1 pc.	Numbers in () is for 1 1/4.
A800-32*-W	1 1/4		103	(00)	(10)			i pc.		

\*Blank: Rc thread / N: NPT thread / G: G thread

Application

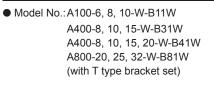
# Piping adaptor set

Auto, drain / others F.R.L. (Module uni F.R.L. (Separate) Compact F.R. Precise regulator F.R.L. (Related products) Clean F.R. Electro pneumatic regulator Air booster Speed control valve Silence Check valve / others Joint / tube Vacuum filter Vacuum regulator Suction plate Magnetic spring buffer Mechanical pressure SW Electronic pressure SW Contact / closi contact conf. SW Air sensor Pressure SW for coolant Small flow sensor Small flow controller Flow sensor for air Flow sensor for water Total air system Total air system (Gamma) Ending

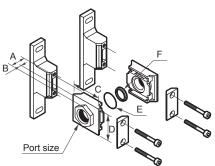
Refrigerating type dryer

Desiccant type dryer High polymer membrane type dryer

Air filter

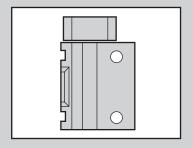






Model no.	Port size	Applicable model	А	В	С	D	E (O-ring)	F (gasket)	Other
A100-6*-W-B11W	1/8						14.0.0 00.40		
A100-8*-W-B11W	1/4	1000 Series	21.5	13.5	40	36	JASO-2013 1 pc.	1 pc.	-
A100-10*-W-B11W	3/8						. po.		
A400-8*-W-B31W	1/4						JISB2401		
A400-10*-W-B31W	3/8		20	6	50	45	P21	1 pc.	
A400-15*-W-B31W	1/2						1 pc.		
A400-8*-W-B41W	1/4								Numbers in ()
A400-10*-W-B41W	3/8		20	6			JISB2401		Numbers in () is for 3/4.
A400-15*-W-B41W	1/2	 4000 Series	(25)	(11)	50	45	P21 1 pc.	1 pc.	Number in { }
A400-20*-W-B41W	3/4		{34}	{20}					is for 1.
A400-25*-W-B41W	1								
A800-20*-W-B81W	3/4								
A800-25*-W-B81W	1		35 (38)	15 (18)	81	66	AS568-127 1 pc.	1 pc.	Numbers in () is for 1 1/4.
A800-32*-W-B81W	1 1/4	4000 Series	(38)	(18)			i pc.		

\*Blank: Rc thread / N: NPT thread / G: G thread



# L type piping adaptor standard white Series A101/A401/A801-W Series

Port size: 1/8 to 1



Refrigerating type dryer

Desiccant type dryer

High polymer membrane type dryer

Air filter Auto, drain / others

F.R.L. (Module unit) F.R.L. (Separate) Compact F.R. Precise regulator F.R.L. (Related products) Clean F.R.

Electro pneumatic regulator

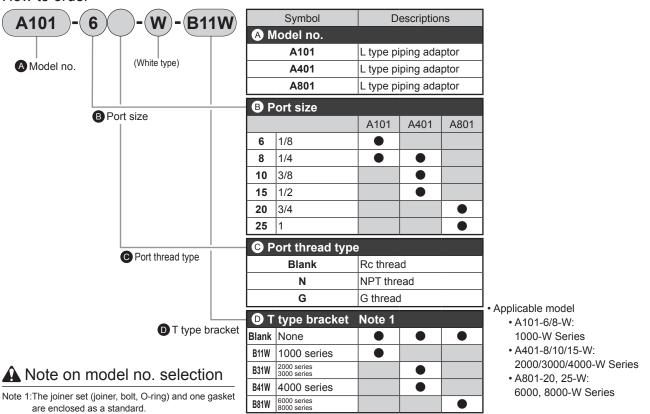
Air booster

# Specifications

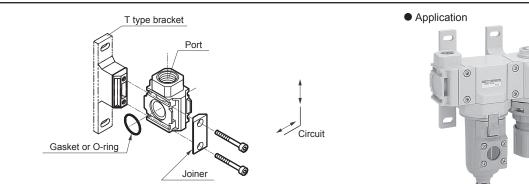
Descriptions	A101-W	A401-W Note 1	A801-W							
Working fluid		Compressed air								
Max. working pressure MPa		1.0								
Withstanding pressure MPa		1.5								
Port size Rc, NPT, G	1/8, 1/4	1/4, 3/8, 1/2	3/4, 1							
Working temperature °C		5 to 60								
Product weight kg	0.045	0.13	0.4							

Note 1: A401-W can be connected to both 3000-W and 4000-W Series.

# How to order



# L type piping adaptor



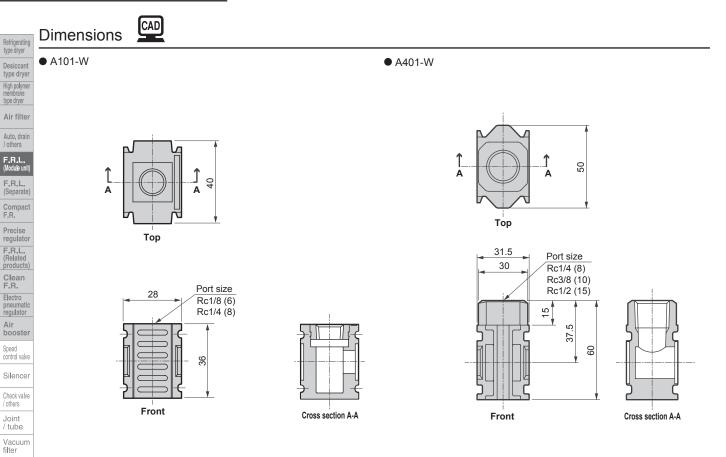
Note:Insert the O-ring when mounting on the primary side for the air flow, and insert the gasket when mounting on the secondary side.

### Note: Refer to the following page on dimensions

Standard series F.R.L. unit

Ending

# **Piping adaptor**



• A801-W

Vacuum regulator Suction plate Magnetic spring buffer

Mechanical pressure SW Electronic pressure SW Contact / close contact conf. SW Air sensor

Pressure SW for coolant

Small flow sensor Small flow controller

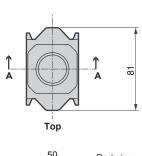
Flow sensor for air

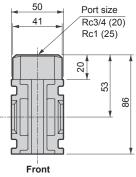
Flow sensor for water

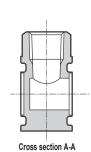
Total air system

Total air system (Gamma)

Ending



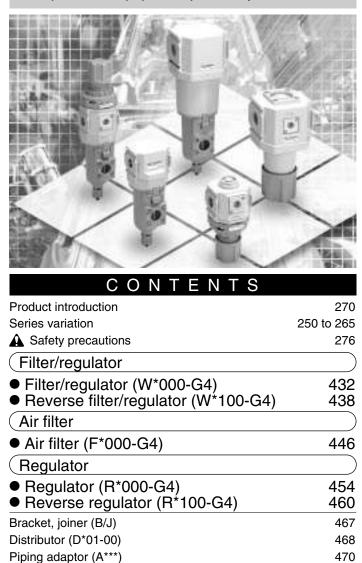




**CKD** 

# F.R.L. Modular design Flame resistant Series

Components for air preparation / pressure adjustment / F.R.L. unit



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

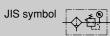
Flame resistant Sei F.R.L. unit



# Filter and regulator flame resistant Series

# W3000/W4000/W8000-G4 Series

New Series of  $5\mu$ m elements for dust removal, and  $0.3\mu$ m elements for tar removal. Port size: 1/4 to 1





# Specifications

Descriptions	W3000-G4	W4000-G4	W8000-G4
Working fluid		Compressed air	
Max. working pressure MPa		1.0 (Note 2, 3)	
Withstanding pressure MPa		1.5	
Working temperature °C		5 to 60	
Filtration rating µm		5 or 0.3	
Set pressure range MPa		0.05 to 0.85	
Relief		With relief mechanism	
Drain capacity cm <sup>3</sup>	45	80	80 (Note 3)
Port size Rc, NPT, G	1/4, 3/8 (1/2 uses an adaptor)	1/4, 3/8, 1/2 (3/4 uses an adaptor)	3/4, 1 (1 1/4 uses an adaptor)
Product weight kg	0.72	1.08	2.16
Standard specifications	Exte	erior: Flame-resistant material, metal b	lwoc

Note 1: When "F" with an automatic drain is selected, minimum operation pressure must be 0.1MPa.

Air is purged with initial drainage until pressure reaches 0.1 MPa.

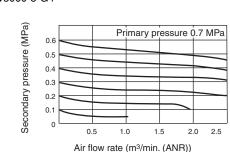
Note 2: When "F1" with an automatic drain is selected, minimum operation pressure must be 0.15 MPa.

Note 3: Drainage accumulates up to 170 cm<sup>3</sup> only with the manual drain cock.

# Filter/Regulator series How to order

low to order				A	Mode	el no.		
W3000)-(8)()-(G4)-(T8)-()-(A8W)(G49P)		* Re	fer to page 274 for the					
		ex	planation of the option.	W3000	W4000	W8000		
				l≚	۸7	× ∎		
resistant type	Syn B Por		Descriptions			P		
Model no. B Port size			1/4			A /		
		0	3/8	•	•	F		
	1	5	1/2		•	0		
	2	0	3/4			• (\$		
	2	5	1			• C		
	© Por	t thread	d type		Nc	ote 1 🛛		
Port thread type	Bla	ank	Rc thread	•	•	• F		
	1	N	NPT thread	•	•	• (I		
	0	G	G thread	•	•	• C		
	D Opt	ion			Nc	ote 2		
Option		Blank	With manual drain cock					
	Drainage	F	Automatic drain with manual override (NO type: Exhaust w/o pressurized)	•	•	•		
	Drainage	F1	Automatic drain with manual override (NC type: No exhaust w/o pressurized)	•	•	• S		
		FF	Large automatic drain with manual override (NO type: Exhaust w/o pressurized)			• 5		
	Note 3	FF1	Large automatic drain with manual override (NC type: No exhaust w/o pressurized)			•		
	Bowl	Blank	Metal bowl (resin cock)	•	•	• /		
	material	M	Metal bowl (metal cock)		•	• /		
	Element	Blank	5μm		•	• \		
		Y Blank	0.3µm (submicron) Note 4		•			
🕒 Display unit	Pressure range	L	0.05 to 0.35MPa Note 5		•	• r		
B Piping adaptor set		Blank	With relief mechanism		•			
(attached)	Relief	N	Nonrelief type	•	•	N s		
	-	Т	Without pressure gauge (pressure gauge port (Rc1/4) is assembled with sealed	-	•			
G Attachment (attached)	Pressure gauge	T8	Pressure gauge attached (pressure gauge port (Rc1/4) is assembled by open	-	•	• P		
(attached)	Flow	Blank	Standard flow (left $\rightarrow$ right)	•	•	• P		
	direction	X1	Reverse flow (right $\rightarrow$ left)	•	•	• C		
	Dis	play un	it			A		
		ank	MPa display, Rc thread	•		• P		
	J	1	MPa display, NPT/G thread	•	•	• fo		
	🕞 Pipi	ing ada	ptor set (attached) Not	e 6	Pa	ge 428		
		ank	Not attached	•		• S		
	A8	*W	1/4 piping adaptor set (white)	•	•	F		
	A10	)*W	3/8 piping adaptor set (white)	•	•	f0		
Note on model no. selection	A15	5*W	1/2 piping adaptor set (white)	•	•	fo		
	A20		3/4 piping adaptor set (white)		•	• 1 s		
te 1: When G threads or NPT threads are selected, the IN, OUT, gauge port, and drainage discharge port (metal bowl (metal cock)	A25		1 piping adaptor set (white)			• T		
automatic drain) are the target.	A32		1 1/4 piping adaptor set (white)					
te 2: Select options per drainage, bowl material, element, and regulator sections.			ew type	-	-	E		
When selecting options for several items, list options in order from		ank	Rc thread	•	•			
the top. te 3: Refer to page 276 for the automatic drain use conditions.		<u> </u>	NPT thread		•	• • • • •		
te 4: Refer to page 476 for maximum processing flow when option "Y" is	(		G thread					
selected. te 5: The pressure gauge's indication range is 0 to 0.4MPa for option "L".			t (attached) Note 8	Pa	ages 42	25, 659		
te 6: The piping adaptor set and C bracket cannot be used together.		ank	Not attached	•	•			
te 7: Refer to Section ( <u>2. Regulator</u> ), in "A PRECAUTIONS for Installation and Adjustment" (page 279) for details on mounting the		W	C type bracket (silver)	•	•			
	1 0014/	Note 7	L type bracket (silver)		•	ī		
L-type bracket.					-			
	G4	9P 9P	G49D-8-P10(L: G49D-8-P04) G59D-8-P10(L: G59D-8-P10)	•	•	•		

#### Refrigerating type dryer Desiccant type dryer



• W4000-8-G4

High polyme membrane

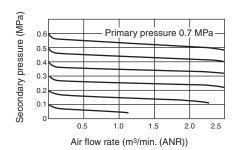
type dryer

Air filter

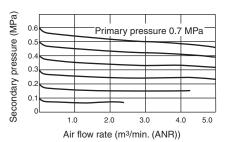
Auto. drain / others

F.R.L. (Module uni

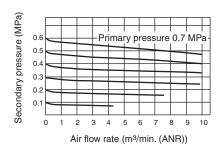
F.R.L. (Separate)



• W4000-15-G4

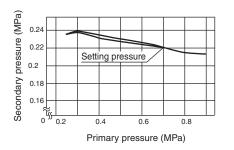


### • W8000-20-G4

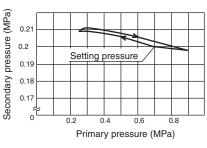


# Pressure characteristic

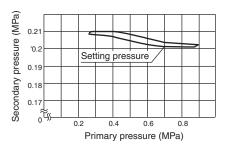
• W3000-G4



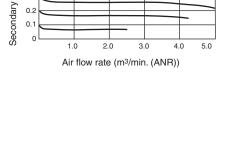








W0000 25 G4



Primary pressure 0.7 MPa

3.0

Primary pressure 0.7 MPa

4.0

5.0

• W8000-25-G4

• W3000-10-G4

Secondary pressure (MPa)

• W4000-10-G4

pressure (MPa)

0.6

0.5

0.4

0.3

0.6

0.5

0.4

0.3

0.2

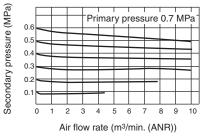
0.

0

1.0

2.0

Air flow rate (m3/min. (ANR))



Internal structure and parts list

Refrigerating type dryer

Desiccant type dryen High polyme membrane type dryer

Air filter

Auto. drain / others

F.R.L. (Module unit)

F.R.L. (Separate)

Compact F.R.

Precise regulator

F.R.L. (Related products) Clean F.R. Electro pneumatic regulator Air booster Speed control valve

Silencer Check valve / others

Joint / tube

Vacuum filter

Vacuum regulator

Suction plate

Magnetic spring buffer Mechanical pressure SW

Electronic pressure SW

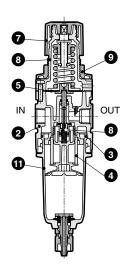
Contact / close contact conf. SW

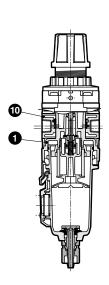
Air sensor

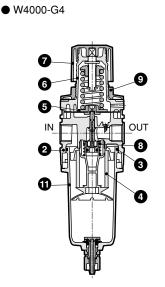
Pressure SW for coolant Small flow sensor Small flow controller Flow sensor for air Flow sensor for water Total air system Total air system Cotal air system Total air system Ending

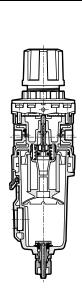
### Internal structure and parts list



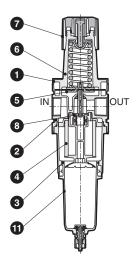


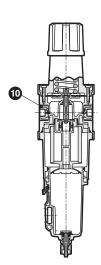






• W8000-G4



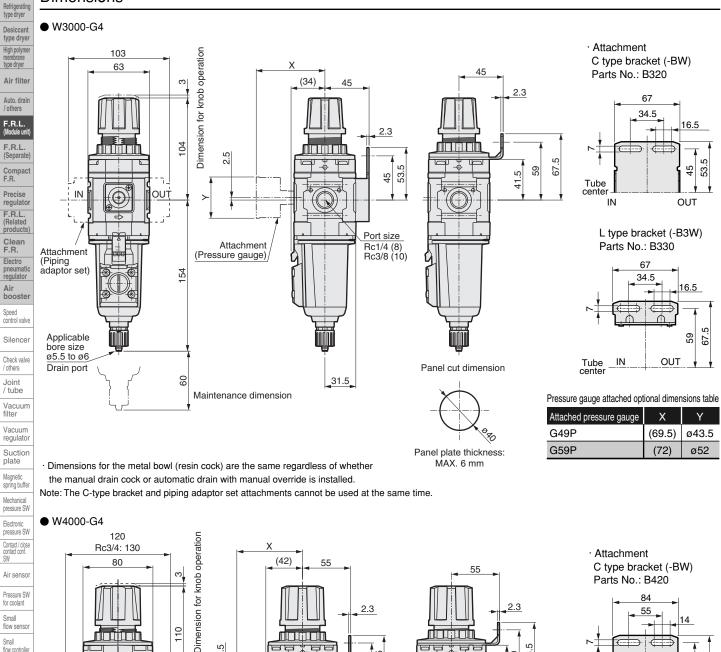


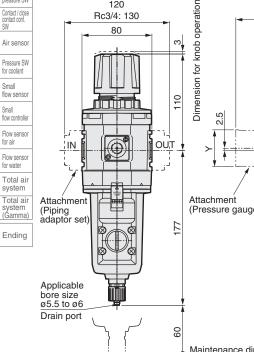
No.	Part name	Material				
NO.		W3000-G4	W4000-G4	W8000-G4		
1	Plate cover		ABS resin (Note 1)			
2	Body		Aluminum alloy die-casting			
3	O-ring		Special nitrile rubber			
4	Element	Polypropylene				
5	Diaphragm assembly	Zinc alloy die-casting, nitrile rubber				
6	Cover		Aluminum alloy die-casting			
7	Knob		PBT resin (Note 1)			
8	Valve assembly	Brass, hydrogen nitrile rubber (polyacetal resin: W3000, 4000)				
9	Mounting nut	PBT resin (Note 1) -				
10	Gauge plug assembly	Polya	mide resin (Note 1), nitrile rubbei	r, steel		
11	Bowl assembly	Aluminum alloy die casting, PBT re	esin (Note 1), glass, nitrile rubber, st	eel, polyacetal resin, urethane resin		

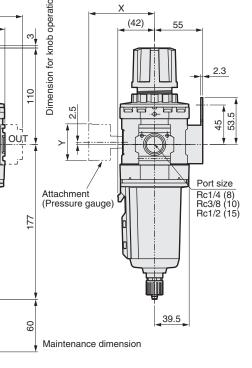
Note 1: Flame resistance resin and UL94 standards V-O or equivalent

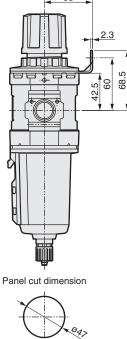
### Dimensions

Speed

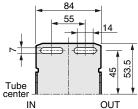




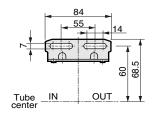




Panel plate thickness: MAX. 4 mm



L type bracket (-B3W) Parts No.: B430



Pressure gauge attached optional dimensions table

Attached pressure gauge	Х	Y
G49P	(74.5)	ø43.5
G59P	(77)	ø52

· Dimensions for the metal bowl (resin cock) are the same regardless of whether

the manual drain cock or automatic drain with manual override is installed.

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

### Dimensions

Refrigerating type dryer

Check valve / others

Joint / tube

Vacuum filter

Vacuum regulator Suction plate Magnetic spring buffer

Mechanical pressure SW

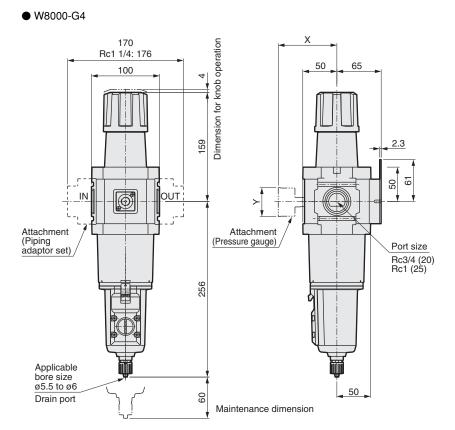
Electronic pressure SW Contact / close contact conf. SW Air sensor

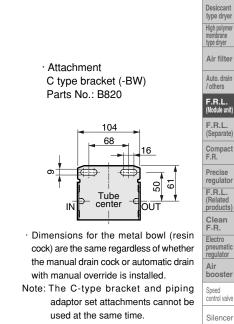
Pressure SW for coolant

Small flow sensor

Small flow controller Flow sensor for air Flow sensor for water Total air system

# Dimensions





Pressure gauge attached optional dimensions tableAttached pressure gaugeXYG49P(84.5)Ø43.5

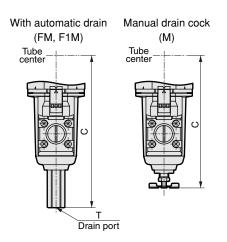
(87)

ø52

G59P

# **Optional dimensions**

Metal bowl (metal cock) W3000/4000/8000-G4



#### Dimensions table

Model no.	With autor	Manual cock		
woder no.	С	Т	С	
W3000-G4	164	Rc1/4	143.5	
W4000-G4	187	Rc1/4	166.5	
W8000-G4	266	Rc1/4	245.5	

Flame resistant Series FIRL. unit F.R.L. unit



# Reverse filter and regulator flame resistant Series

# W3100/W4100/W8100-G4 Series

Introducing the 5μm dust removing element and 0.3μm tar removing element, with back flow function, to the lineup. Port size: 1/4 to 1

JIS symbol



# Specifications

Descriptions		W3100-G4	W4100-G4	W8100-G4			
Working fluid			Compressed air				
Max. working pre	ssure MPa		1.0 (Note 2, 3)				
Withstanding pre-	Withstanding pressure MPa 1.5						
Working tempera	ture °C		5 to 60				
Filtration rating	μm		5 or 0.3				
Set pressure range	(Note 1) MPa	0.05 to 0.85					
Relief			With relief mechanism				
Drain capacity	cm <sup>3</sup>	45	80	80 (Note 4)			
Port size	Rc, NPT, G	1/4, 3/8 (1/2 uses an adaptor)	1/4, 3/8, 1/2 (3/4 uses an adaptor)	3/4, 1 (1 1/4 uses an adaptor)			
Product weight	kg	0.72	1.08	2.16			
Standard specific	ations	Exte	rior: Flame-resistant material, metal I	lwod			

Note 1: Refer to the set pressure range for the back pressure given on page 468 when selecting the model.

Note 2: When "F" with an automatic drain is selected, minimum operation pressure must be 0.1 MPa.

Initially generated drainage and air are purged until pressure reaches 0.1 MPa. Note 3: When "F1" with an automatic drain is selected, minimum operation pressure must be 0.15 MPa.

Note 4: Up to 170 m<sup>3</sup> is stored only with the manual drain cock type.

Note 5: Check that the primary pressure is at least 0.05 MPa or more than the secondary pressure.

# Filter/Regulator series How to order

ow to order					Mode	al no-	Refrig
		* D	afar ta paga 074 far tha		Node	i no.	Refrige type d
/3100-8 - G4- T8 A8W G49P			efer to page 274 for the xplanation of the option.	8	8	8	Desid type
				W3100	W4100	W8100	High po membr
Flame resistant type	Syr	nbol	Descriptions	1	-	-1	type dr
Model no	B Por						Air f
B Port size	1	8	1/4	•	•		Auto. / other
	1	10	3/8	•	•		F.R.
	1	15	1/2		•		(Module
	2	20	3/4				F.R. (Sepa
	2	25	1				Com F.R.
	- C Por	rt thread	d type		No	ote 1	Preci
Port thread type		ank	Rc thread		•	•	regula
	, <u> </u>	N	NPT thread	•	•	•	(Relat produ
	(	G	G thread	•	•	•	Clea F·R.
	D Opt	tion		lote 2	2 No	te 3	Electro
D Option		Blank	With manual drain cock				regula
	'	F	Automatic drain with manual override (NO type: Exhaust w/o pressurized)	•	-		Air
	Drainage		Automatic drain with manual override (NC type: No exhaust w/o pressurized) Automatic drain with manual override (NC type: No exhaust w/o pressurized)	•	-		Speed
		FF	Large automatic drain with manual override (NO type: Exhaust w/o pressurized)	Ē	Ē	•	control
	Note 4	FF1	Large automatic drain with manual override (NC type: Lxindst w/o pressurized) Large automatic drain with manual override (NC type: No exhaust w/o pressurized)			•	Siler
	Bowl	Blank	Metal bowl (resin cock)	•	•	•	Check / others
	material		Metal bowl (netal cock)	•	•	•	Join
		Blank		•	•	•	/ tub Vacu
	Element	Y	0.3μm (submicron) Note 5	-	•		filter
Display unit	Pressure	Blank		•	•		Vacu regul
Piping adaptor set	range	L	0.05 to 0.35MPa Note 6		•		Suc
(attached)		Blank	With relief mechanism	•	•		plate
G Attachment	Relief	N	Nonrelief type	•	•		Magne spring
(attached)	Pressure	т	Without pressure gauge (pressure gauge port (Rc1/4) is assembled with sealed)	) •	•		Mecha
	gauge	T8	Pressure gauge attached (pressure gauge port (Rc1/4) is assembled by open)	-	•	•	Electro
	Flow	Blank	Standard flow (left $\rightarrow$ right)	•	•		pressur
	direction		Reverse flow (right $\rightarrow$ left)	•	•		Contact contact of SW
	G Dis	play un					Air se
		ank	MPa display, Rc thread				Pressu
		анк J1	MPa display, NPT/G thread				for cool
			aptor set (attached) Note			400	Small flow s
		ang ada ank	Note Note Note	e /	Page	e 428	Small
Note on model no. selection		ank 3*W	Not attached 1/4 piping adaptor set (white)	•	•		flow cor
te 1: When G threads or NPT threads are selected, the IN, OUT, gauge port, and drainage discharge port (metal bowl (metal		3^W 0*W	3/8 piping adaptor set (white)	•			Flow s for air
cock) automatic drain) are the target.		0^w 5*W	3/8 piping adaptor set (white)				Flow s for wat
te 2: Select options per drainage, bowl material, element, and regulator sections.		5°W 0*W	3/4 piping adaptor set (white)				Tota
When selecting options for several items, list options in	-	5*W	1 piping adaptor set (white)		F	H	syste Tota
order from the top.		5 W 2*W	1 1/4 piping adaptor set (white)			H	syst
te 3. Positions of a check valve and pressure dauge can not be			ew type			ù	End
changed.	Aller	ank	Rc thread				
	Bla	Al In	NPT thread	•	$\vdash$		ries
changed. If the IN and OUT direction must be reversed, indicate "X1" at the end of the option field. te 4: Refer to page 276 for the automatic drain use conditions.		I	incer in ban	<u> </u>	+-		Se
changed. If the IN and OUT direction must be reversed, indicate "X1" at the end of the option field. te 4: Refer to page 276 for the automatic drain use conditions. te 5: Refer to page 476 for maximum processing flow when option "Y" is selected.	Ν	N G				ىتىل	l tr
changed. If the IN and OUT direction must be reversed, indicate "X1" at the end of the option field. te 4: Refer to page 276 for the automatic drain use conditions. te 5: Refer to page 476 for maximum processing flow when option "Y" is selected. te 6: The pressure gauge's indication range is 0 to 0.4MPa for	N C	G	G thread				
changed. If the IN and OUT direction must be reversed, indicate "X1" at the end of the option field. bte 4: Refer to page 276 for the automatic drain use conditions. bte 5: Refer to page 476 for maximum processing flow when option "Y" is selected. bte 6: The pressure gauge's indication range is 0 to 0.4MPa for option "L".	G Atta	G achmen	G thread nt (attached) Note 9	1 ×	es 425	, 659	sista
If the IN and OUT direction must be reversed, indicate "X1" at the end of the option field. ote 4: Refer to page 276 for the automatic drain use conditions. ote 5: Refer to page 476 for maximum processing flow when option "Y" is selected. ote 6: The pressure gauge's indication range is 0 to 0.4MPa for option "L". ote 7: The piping adaptor set and C bracket cannot be used together.	G Atta Bla	G achmen ank	G thread       G thread       nt (attached)       Not attached	•	s 425 ●	659 •	esista
changed. If the IN and OUT direction must be reversed, indicate "X1" at the end of the option field. ote 4: Refer to page 276 for the automatic drain use conditions. ote 5: Refer to page 476 for maximum processing flow when option "Y" is selected. ote 6: The pressure gauge's indication range is 0 to 0.4MPa for option "L". ote 7: The piping adaptor set and C bracket cannot be used	G Atta Bla Bla	G achmen ank SW	G thread Tt (attached) Note 9 Not attached C type bracket (silver)	•	es 425	659 •	ame resista
<ul> <li>changed.</li> <li>If the IN and OUT direction must be reversed, indicate "X1" at the end of the option field.</li> <li>ote 4: Refer to page 276 for the automatic drain use conditions.</li> <li>ote 5: Refer to page 476 for maximum processing flow when option "Y" is selected.</li> <li>ote 6: The pressure gauge's indication range is 0 to 0.4MPa for option "L".</li> <li>ote 7: The piping adaptor set and C bracket cannot be used together.</li> <li>ote 8: Refer to Section (2. Regulator) in " ▲ PRECAUTIONS For Installation and Adjustment" (page 279) for details on mounting the L-type bracket.</li> </ul>	G Atta Bla B3W	G achmen ank SW Note 8	G thread         nt (attached)       Note 9         Not attached         C type bracket (silver)         L type bracket (silver)	•	es 425	•	Flame resistant Series
<ul> <li>changed.</li> <li>If the IN and OUT direction must be reversed, indicate "X1" at the end of the option field.</li> <li>ote 4: Refer to page 276 for the automatic drain use conditions.</li> <li>ote 5: Refer to page 476 for maximum processing flow when option "Y" is selected.</li> <li>ote 6: The pressure gauge's indication range is 0 to 0.4MPa for option "L".</li> <li>ote 7: The piping adaptor set and C bracket cannot be used together.</li> <li>ote 8: Refer to Section (2. Regulator) in " ▲ PRECAUTIONS For Installation and Adjustment" (page 279) for details on</li> </ul>	M G Atta Bla B3W G4	G achmen ank SW	G thread Tt (attached) Note 9 Not attached C type bracket (silver)	•	es 425	5, 659 • •	Flame resista

#### Flow characteristic Refrigerating type dryer • W3100-8-G4 Desiccant type dryer High polyme

type dryer

Air filter

Auto. drain / others

F.R.L. (Module uni

F.R.L. (Separate)

Compact F.R.

Precise regulato

F.R.L. (Related products)

Clean F.R.

Electro

regulator

Air booster

control valve

Silence

Check valve / others

Joint / tube

Vacuum filter

Vacuum regulator

Suction plate

Magnetic spring buffer

Mechanical pressure SW

Electronic pressure SW

Contact / clos contact conf.

Air sensor

Pressure SW for coolant

Small flow sensor

Small flow controlle

Flow senso for air

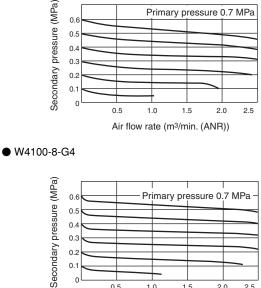
Flow sensor for water

Total air system Total air

(Gamma)

Ending

Speed



Air flow rate (m3/min. (ANR))

1.5

1.0

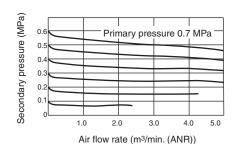
2.5

2.0

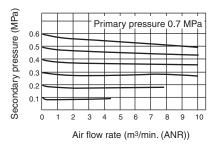
• W4100-15-G4

0

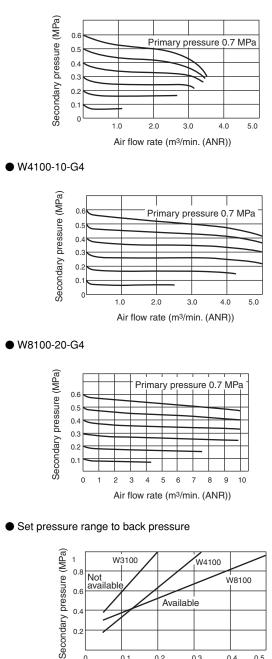
0.5



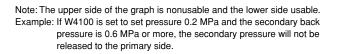
• W8100-25-G4



• W3100-10-G4



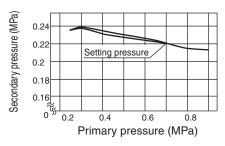




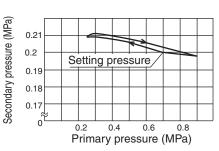
### Pressure characteristic

CKD

#### • W3100-G4



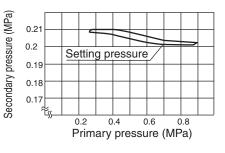






0.2

0



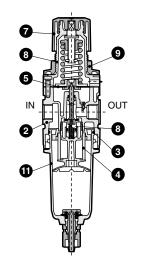
0.5

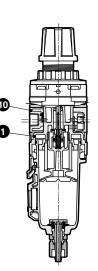
440

Internal structure and parts list

# Internal structure and parts list

#### • W3100-G4





• W4100-G4

ß

2

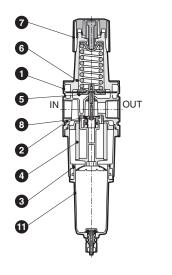
a

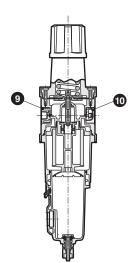
IN

9

OUT

• W8100-G4





No.	Part name	Material				
INO.	Faithame	W3100-G4	W4100-G4	W8100-G4		
1	Plate cover	А	BS resin (Note 1	)		
2	Body	Alum	inum alloy die-ca	asting		
3	O-ring	Sp	oecial nitrile rubb	er		
4	Element	Polypropylene				
5	Diaphragm assembly	Zinc alloy die-casting, nitrile rubber				
6	Cover	Aluminum alloy die-casting				
7	Knob	Р	BT resin (Note 1	)		
8	Valve assembly	Brass, hydrogen nitri	le rubber (polyacetal r	resin: W3100, 4100)		
9	Gauge plug assembly	Polyamide resin (Note 1), nitrile rubber, steel				
10	Check valve total assemblies	BPBT resin, nitrile rubber, stainless steel wire, steel, aluminum				
11	Bowl assembly	Aluminum alloy die casting, PBT re	sin (Note 1), glass, nitrile rubber, ste	eel, polyacetal resin, urethane resin		
12	Mounting nut	PBT resir	PBT resin (Note 1) -			

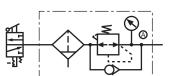
Note 1: Flame resistance resin and UL94 standards V-O or equivalent Note 2: Refer to page 444 for repair kits model no.

# Functional explanation

When the primary pressure is introduced from the IN side, the check valve functions as a regular regulator because it closes with primary pressure and spring load. When primary pressure is released by a switching valve such as a shut-off valve, the check valve opens with secondary pressure. Pressure in the diaphragm chamber is released and pressure drops. This causes the diaphragm to be pressed down by the pressure adjustment spring. The main valve (valve assembly) opens, and the air on the OUT side is discharged.

Note: Set back pressure A for when the primary pressure is released within the range in the graph for the regulator's set pressure. (Refer to page 440 for the graph)

• Circuit diagram



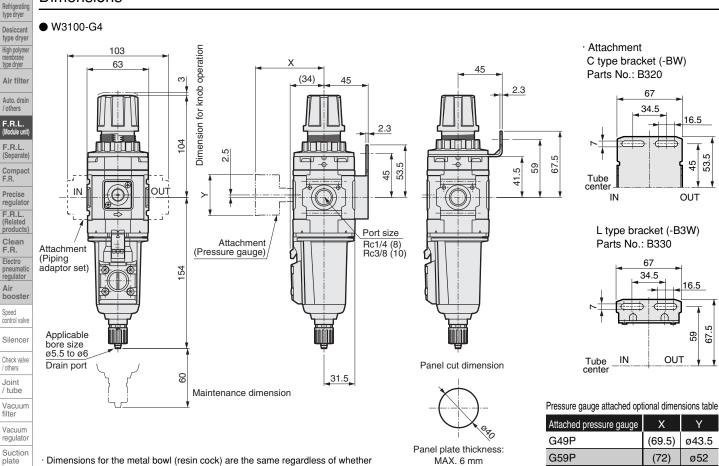
When using shut-off valve in front of reverse filter and regulator.

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

Refrigerating type dryer

441

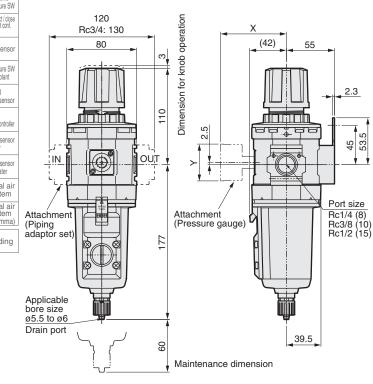
#### Dimensions

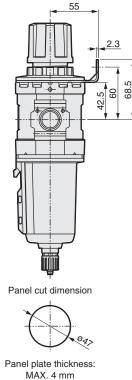


· Dimensions for the metal bowl (resin cock) are the same regardless of whether the manual drain cock or automatic drain with manual override is installed.

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

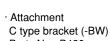
#### ● W4100-G4



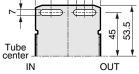


• Dimensions for the metal bowl (resin cock) are the same regardless of whether the manual drain cock or automatic drain with manual override is installed.

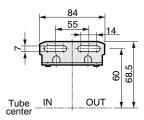
Note: The C-type bracket and piping adaptor set attachments cannot be used at the same time.



Parts No.: B420



L type bracket (-B3W) Parts No.: B430



Pressure gauge attached optional dimensions table

Attached pressure gauge	Х	Y
G49P	(74.5)	ø43.5
G59P	(77)	ø52

High polyme type dryer Air filter Auto. drain / others F.R.L. (Module uni F.R.L. (Separate) Compact F.R. Precise F.R.L. (Related products) Clean F.R. Electro pneumati regulator Air booster Speed control valve Silence Check valve / others Joint / tube Vacuum filter Vacuum regulator Suction plate Magnetic spring buffer Mechanical pressure SW Electronic pressure SW Contact / close contact conf. Air sensor Pressure SW for coolant Small flow senso Small flow controlle Flow senso for air Flow sensor for water Total air system Total air (Gamma) Ending

KD

# Dimensions

Refrigerating type dryer

Desiccant type dryer High polyme membrane type dryer

Air filter

Auto. drain / others

F.R.L. (Module unit) F.R.L. (Separate)

Compact F.R.

Precise regulator

F.R.L. (Related products)

Clean F-R.

Electro pneumatic regulator

Air booster

Speed control valve

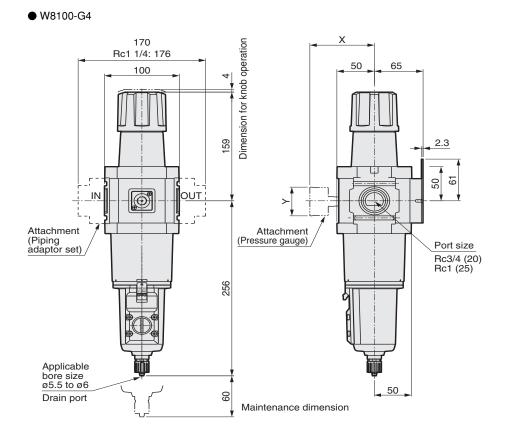
Silencer

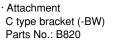
Check valve / others

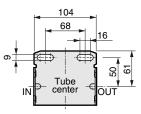
Joint / tube

Vacuum filter

# Dimensions







• Dimensions for the metal bowl (resin cock) are the same regardless of whether the manual drain cock or automatic drain with manual override is installed.

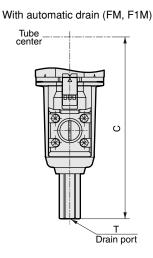
Note: The C-type bracket and piping adaptor set attachments cannot be used at the same time.

Pressure gauge attached optional dimensions table

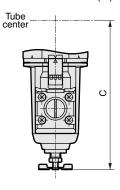
Attached pressure gauge	Х	Y
G49P	(84.5)	ø43.5
G59P	(87)	ø52

# **Optional dimensions**

Metal bowl (metal cock) W3100-G/W4100-G4/W8100-G4



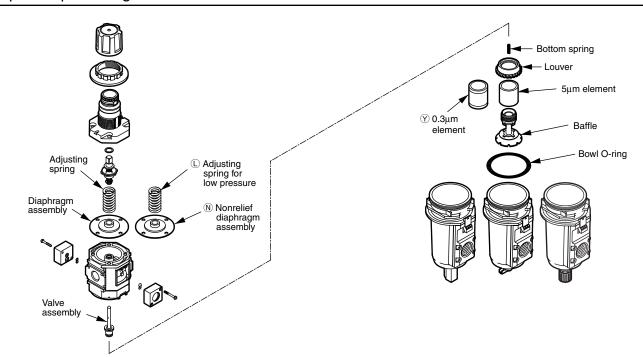
Manual drain cock (M)



Dimensions	table
Dimonolonio	labio

Model no.	With autor	Manual cock	
Model no.	С	Т	С
W3100-G4	164	Rc1/4	143.5
W4100-G4	187	Rc1/4	166.5
W8100-G4	266	Rc1/4	245.5

Optional parts diagram



# Repair kits (Set of diaphragm assembly, valve assembly, bottom spring, louver, element, baffle, bowl O-ring)

	· ·				
ım	Repair kits model no.	Relief type diaphragm	Nonrelief Diaphragm assembly	Relief type diaphragm	Nonrelief Diaphragm assembly
	Model	5µm element (blank)	5µm element (N)	0.3µm element (Y)	0.3µm element (NY)
tor	W3000-G4, W3100-G4	W3000-KIT	W3000-KIT-N	W3000-KIT-Y	W3000-KIT-NY
on	W4000-G4, W4100-G4	W4000-KIT	W4000-KIT-N	W4000-KIT-Y	W4000-KIT-NY
	W8000-G4, W8100-G4	W8000-KIT	W8000-KIT-N	W8000-KIT-Y	W8000-KIT-NY

# Valve assembly (set of valve assembly and bottom spring)

5	Model	Valve assembly model no.			
r	W3000-G4, W3100-G4	W3000-VALVE-ASSY			
,	W4000-G4, W4100-G4	W4000-VALVE-ASSY			
'	W8000-G4, W8100-G4	W8000-VALVE-ASSY			

\* Refer to the regulator options and parts table (page 466) for details on the adjustment spring, diaphragm, check valve assembly for reverse regulator, and gauge plug assembly. Refer to air filter options and parts table (page 452) for details on the element, bowl assembly.

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



Air filter flame resistant Series

# F3000/F4000/F8000-G4 Series

Introducing the  $5\mu m$  element for dust removal and  $0.3\mu m$  element for tar removal.

```
Port size: 1/4 to 1
```



# Specifications

Descriptions	F3000-G4	F4000-G4	F8000-G4				
Working fluid	Compressed air						
Max. working pressure MPa	1.0 (Note 1, 2)						
Withstanding pressure MPa	1.5						
Working temperature °C	5 to 60						
Filtration rating $\mu m$	5 or 0.3						
Drain capacity cm <sup>3</sup>	45	80	80 (Note 3)				
Port size Rc, NPT, G	1/4, 3/8	1/4, 3/8, 1/2	3/4, 1				
	(1/2 uses an adaptor)	(3/4 uses an adaptor)	(1 1/4 uses an adaptor)				
Product weight kg	0.35	0.55	1.26				
Standard specifications	Exterior: Flame-resistant material, metal bowl						

Note 1: When "F" with an automatic drain is selected, minimum operation pressure must be 0.1MPa.

Air is purged with initial drainage until pressure reaches 0.1 MPa.

Note 2: When "F1" with an automatic drain is selected, minimum operation pressure must be 0.15 MPa.

Note 3: Drainage accumulates up to  $170 \text{ cm}^3$  only with the manual drain cock.

# Air Filter Series

How to order

					1101	10	oru	
How to order					A	Mode	l no.	Refrigerating type dryer
F3000-8-G4	$\bigcirc$	*		to page 274 for the				Desiccant
	$\checkmark$		expla	nation of the option.	F3000	F4000	F8000	type dryer
Flame					цщ	F4	18 18	High polymer membrane type dryer
resistant type		Symbo		Descriptions				Air filter
A Model no.	<b>B</b>	Port s	size					Auto. drain
		8		1/4		•		/ others
		10		3/8	•	•		F.R.L. (Module unit)
		15		3/4				F.R.L. (Separate)
		20 25		1		-		Compact
								F.R.
Port thread type	<b>©</b>	C Port thread type Note 1						Precise regulator
		Blan	k	Rc thread	•		•	F.R.L. (Related
		N		NPT thread	•		•	products) Clean
		G		G thread				F-R. Electro
D Option		Optio			-	No	te 2	pneumatic regulator
		E	Blank	With manual drain cock	•	•	•	Air
	Draii	nage	F	Automatic drain with manual override (NO type: Exhaust w/o pressurized)	•		•	booster
			F1	Automatic drain with manual override (NC type: No exhaust w/o pressurized)	•	•	•	Speed control valve
			FF	Large automatic drain with manual override (NO type: Exhaust w/o pressurized)			•	Silencer
	Not	te 3	FF1	Large automatic drain with manual override (NC type: No exhaust w/o pressurized)			•	Check valve
			Blank	Metal bowl (resin cock)	•	•	•	/ others
	mate	erial	М	Metal bowl (metal cock)	•	•	•	Joint / tube
	Elen	nent E	Blank	5μm	•	•	•	Vacuum filter
			Y	0.3μm (submicron)	•		•	Vacuum
		sure	Blank	Without differential pressure detection port		•	•	regulator
		ction	Q	With differential pressure detection port (Rc1/4)			•	Suction plate
Display unit			Blank	Standard flow (left $\rightarrow$ right)	•		•	Magnetic spring buffer
			X1	Reverse flow (right $\rightarrow$ left)	•	•		Mechanical
B Piping adaptor se	et 🖻	Displa		it				pressure SW
(attached)		Blan	k	MPa display, Rc thread	•		•	Electronic pressure SW
		J1		MPa display, NPT/G thread				Contact / close contact conf.
GBrack	<b>F</b>	Pipin	g ada	ptor set (attached) Note 4		Page	e 428	SW
(attac		Blank	k	Not attached	•	•	•	Air sensor
(		A8*W	V	1/4 piping adaptor set (white)	•	•		Pressure SW for coolant
		A10*V		3/8 piping adaptor set (white)	•	•		Small
		A15*V	N	1/2 piping adaptor set (white)	•	•		flow sensor Small
<b>A</b>		A20*V	N	3/4 piping adaptor set (white)		•	•	flow controller
ANote on model no. selection		A25*V	N	1 piping adaptor set (white)		<u> </u>	•	Flow sensor for air
Note 1: When G threads or NPT threads are selected, the IN, OUT, and drainage discharge port		A32*V		1 1/4 piping adaptor set (white)			•	Flow sensor
(metal bowl (metal cock) automatic drain) are	*A	-		ew type				for water
the target. Note 2: Select options based on drainage, bowl		Blan	k	Rc thread	•			Total air system
material, element, and differential pressure detection.		Ν		NPT thread			•	Total air system
When selecting options for several items, list		G		G thread			•	(Gamma)
options in order from the top. Note 3: Refer to page 276 for the automatic drain use	G	Brack	ket (at	ttached)		Page	e 425	Ending
conditions.		Blan	k	Not attached	•	•	•	S
Note 4: The piping adaptor set and C bracket cannot be used together.		BW		C type bracket (silver)			$\bullet$	Flame resistant Series F.R.L. unit
-								int 6
								ī sta
								<b>res</b> unit
								Ľ.
								Fla П.П.

# Air Filter Series

# Flow characteristic Refrigerating type dryer

Desiccant type dryer High polyme membrane

type dryer

Air filter

Auto. drain / others

F.R.L. (Module uni

F.R.L. (Separate)

Precise regulator

Clean F.R.

Electro

pneumation regulator

Air booster

Speed control valve

Silence

Check valve / others

Joint / tube Vacuum filter

Vacuum regulator

Suction plate

Magnetic spring buffer

Mechanical pressure SW

Electronic pressure SW Contact / close contact conf.

Pressure SW for coolant

Small flow sensor

Small flow controlle

Flow sensor for air

Flow sensor for water

Total air

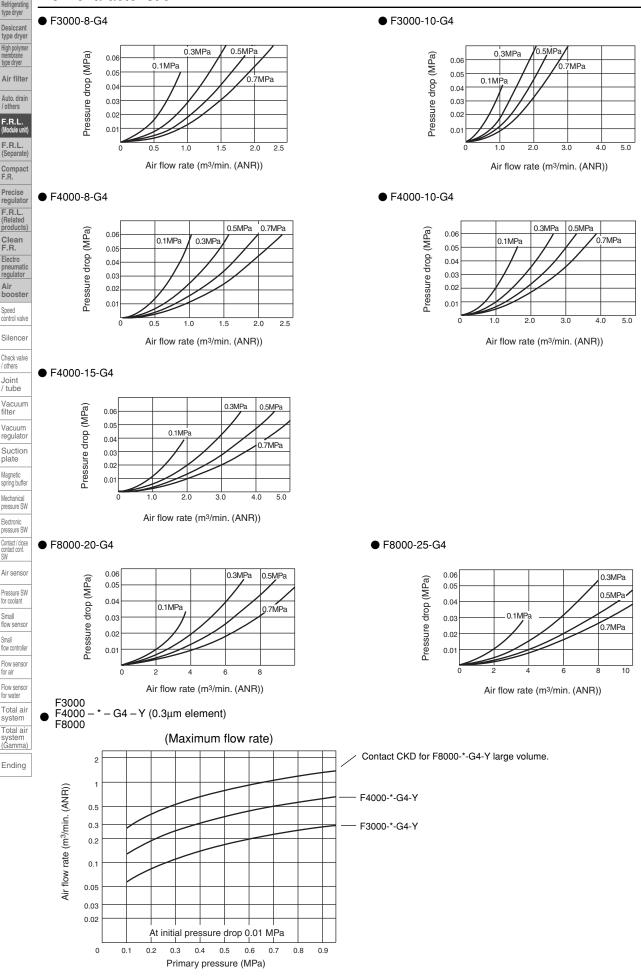
system

Total air

(Gamma)

Ending

SW Air sensor

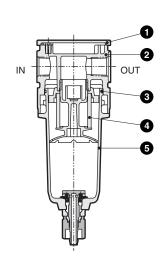


CKD 448

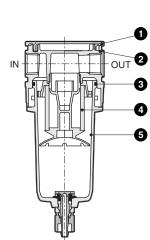
# Air Filter series

### Internal structure and parts list

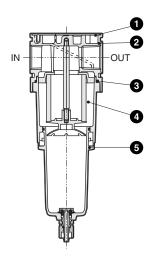
#### • F3000-G4



● F4000-G4



• F8000-G4



No.	Part name	Material					
INO.		F3000-G4	F4000-G4	F8000-G4			
1	Plate cover	ABS resin (Note 1)					
2	Body	Aluminum alloy die-casting					
3	O-ring	Special nitrile rubber					
4	Element (5µm)	Polypropylene					
4	Element (0.3µm)	-					
5	Bowl assembly	Aluminum alloy die casting, PBT resin (Note 1), glass, nitrile rubber, steel, polyacetal resin, urethane resin					

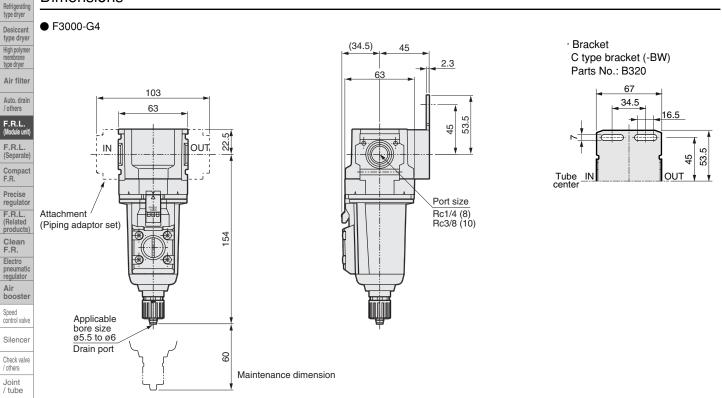
Note 1: Flame resistance resin and UL94 standards V-O or equivalent

Note 2: Refer to page 452 for the repair kits.

Refrigerating type dryer

# Air Filter Series

#### Dimensions

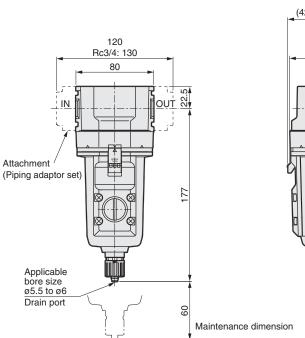


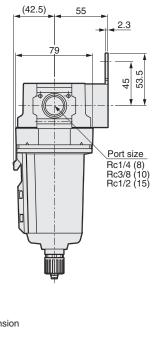
• Dimensions for the metal bowl (resin cock) are the same regardless of whether the manual drain cock or automatic drain with manual override is installed. Note: The C-type bracket and piping adaptor set attachments cannot be used at the same time.

#### • F4000-G4

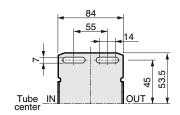
Vacuum regulator Suction plate Magnetic spring buffer Mechanical pressure SW Electronic pressure SW Contact / close contact conf. SW Air sensor Pressure SW for coolant Small flow sensor Small flow controlle Flow senso for air Flow sensor for water Total air system Total air (Gamma) Ending

Vacuum filter





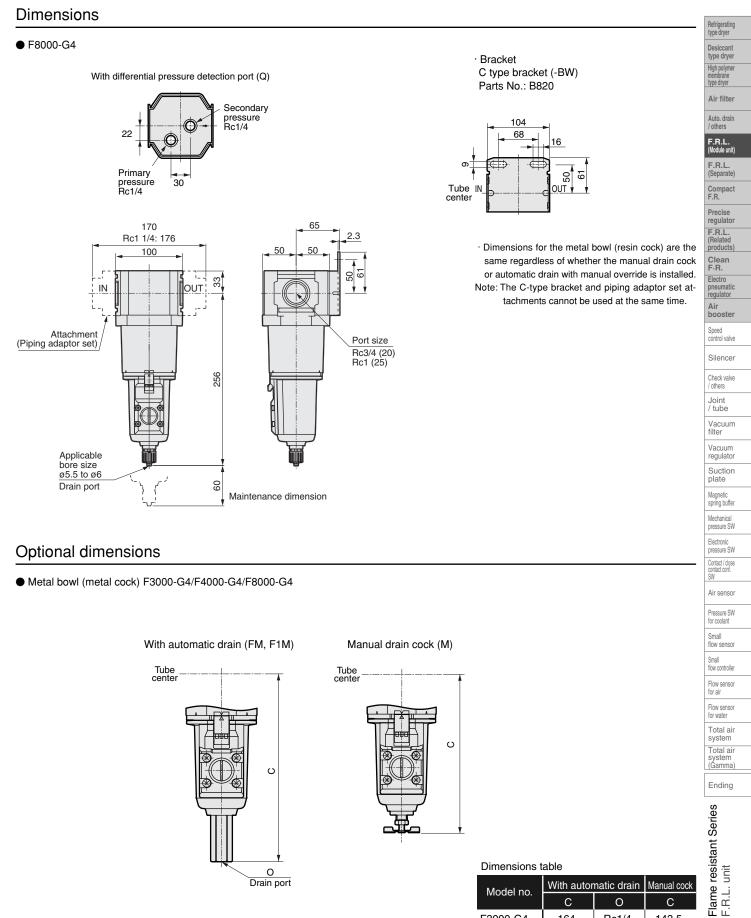
· Bracket C type bracket (-BW) Parts No.: B420



• Dimensions for the metal bowl (resin cock) are the same regardless of whether the manual drain cock or automatic drain with manual override is installed. Note: The C-type bracket and piping adaptor set attachments cannot be used at the same time.

### **Air Filter** Series

Dimensions



С

143.5

166.5

245.5

С

164

187

266

F3000-G4

F4000-G4

F8000-G4

0

Rc1/4

Rc1/4

Rc1/4

## **Air Filter** Series

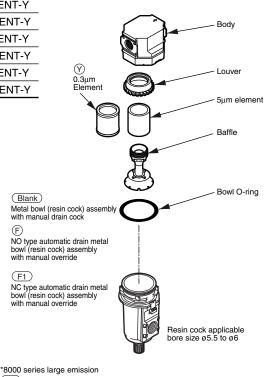
#### Optional parts diagram

(FM)

(F1M)

Rc1/4

er				
er	Element model no. Model	5μm element	0.3μm element (Y)	
in	F3000-G4	F3000-ELEMENT	F3000-ELEMENT-Y	
In	W3000-G4, W3100-G4	W3000-ELEMENT	W3000-ELEMENT-Y	
it)	F4000-G4	F4000-ELEMENT	F4000-ELEMENT-Y	
	W4000-G4, W4100-G4	W4000-ELEMENT	W4000-ELEMENT-Y	
e)	F8000-G4	F8000-ELEMENT	F8000-ELEMENT-Y	
ct	W8000-G4, W8100-G4	W8000-ELEMENT	W8000-ELEMENT-Y	



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

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

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

Metal bowl (metal cock) assembly with manual drain cock

厕

(F)

(FF)

(FF1)

NO type large automatic drain metal bowl (resin cock) assembly with manual override

NC type large automatic drain metal bowl (resin cock) assembly with manual override

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

Repair kits model no.	5μm element	0.3μm element (Y)
Model	element	element (Y)
F3000-G4	F3000-KIT	F3000-KIT-Y
F4000-G4	F4000-KIT	F4000-KIT-Y
F8000-G4 Note 1	F8000-KIT	F8000-KIT-Y

Note 1: For the F8000, the baffle, element, and bowl O-ring are a set.

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

Bowl assembly model no. Product option	Metal bowl (resin cock) assembly with manual drain cock	NO type automatic drain metal bowl (resin cock) assembly with manual override	NC type automatic drain metal bowl (resin cock) assembly with manual override	Metal bowl (metal cock) assembly with manual drain cock	NO type automatic drain metal bowl (metal cock) assembly with manual override	NC type automatic drain metal bowl (metal cock) assembly with manual override
Туре	Blank	F	F1	М	FM	F1M
F3000, W3000, W3100-G4	F3000-G4-BOWL-M1	F3000-G4-BOWL-FM1	F3000-G4-BOWL-F1M1	F3000-G4-BOWL-M	F3000-G4-BOWL-FM	F3000-G4-BOWL-F1M
F4000, F8000, W4000, W4100, W8000, W8100-G4	F4000-G4-BOWL-M1	F4000-G4-BOWL-FM1	F4000-G4-BOWL-F1M1	F4000-G4-BOWL-M	F4000-G4-BOWL-FM	F4000-G4-BOWL-F1M
Bowl assembly model no. Product option	NO type large automatic drain metal bowl (resin cock) assembly with manual override	NC type large automatic drain metal bowl (resin cock) assembly with manual override	NO type large automatic drain metal bowl (metal cock) assembly with manual override	NC type large automatic drain metal bowl (metal cock) assembly with manual override		
Туре	FF	FF1	FFM	FF1M		
F8000, W8000, W8100-G4	F8000-G4-BOWL-FFM1	F8000-G4-BOWL-FF1M1	F8000-G4-BOWL-FFM	F8000-G4-BOWL-FF1M		

atio

**CKD** 

MEMO	Refrigerating type dryer
	Desiccant type dryer
	High polymer membrane type dryer
	type dryer Air filter
	Air filter Auto. drain
	/ others
	F.R.L. (Module unit)
	F.R.L. (Separate)
	Compact F.R.
	Precise regulator
	F.R.L. (Related products)
	Clean F-R.
	Electro pneumatic regulator
	Air
	booster
	Speed control valve
	Silencer
	Check valve / others
	Joint / tube
	Vacuum filter
	Vacuum regulator
	Suction
	Magnetic spring buffer
	Mechanical pressure SW
	Electronic pressure SW Contact / close
	Contact / close contact conf. SW
	Air sensor
	Pressure SW for coolant
	Small flow sensor
	Small flow controller
	Flow sensor for air
	Flow sensor for water
	Total air system
	– Total air system (Gamma)
	Ending
	Flame resistant Series F.R.L. unit
	nt Se
	listar t
	res . uni
	lame .R.L.
	ШШ
	_



Regulator flame resistant Series

## R3000/R4000/R8000-G4 Series

Port size: 1/4 to 1





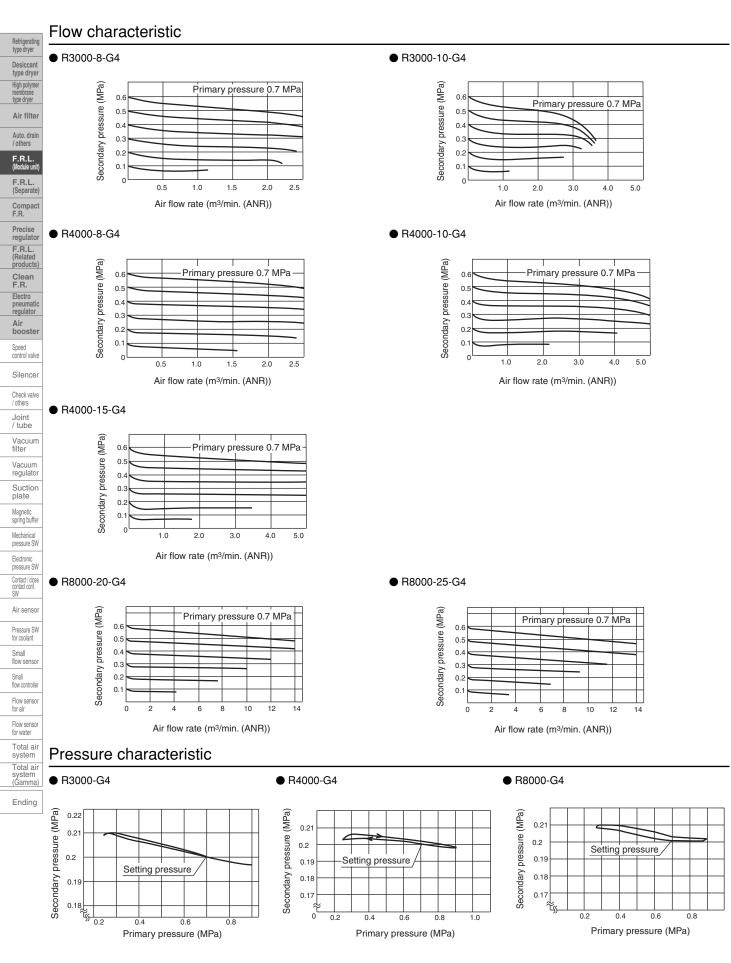
#### Specifications

(4)	•						
н <u>у</u> -	Descriptions	R3000-G4	R4000-G4	R8000-G4			
e)	Working fluid		Compressed air				
ct	Max. working pressure MPa		1.0				
	Withstanding pressure MPa		1.5				
or	Working temperature °C						
l s)	Set pressure range MPa		0.05 to 0.85				
	Relief		With relief mechanism				
tic r	Port size Rc, NPT, G	1/4, 3/8 (1/2 uses an adaptor)	1/4, 3/8, 1/2 (3/4 uses an adaptor)	3/4, 1 (1 1/4 uses an adaptor)			
er	Product weight kg	0.52	0.77	1.6			
	Standard specifications	Exterior: Flame-resistant ma	terial, nut for panel mounting	Exterior: Flame-resistant material			

Refrigerating type dryer

# Regulator series How to order

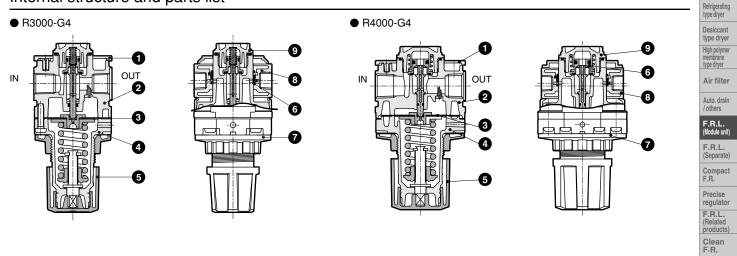
How to order	_						frigerating pe dryer
<b>R3000</b> -8-G4-LTA8W			Refer to page 274 for the explanation of the option.		Model	no.	esiccant pe dryer gh polymer embrane be dryer
				R3000	R4000	ŏ	ir filter
Model no.     Flame     resistant type     (	(attached)	,	Descriptions	Гщ П	8		uto. drain
	Sym B Port		Descriptions			/ ot	others
B Port size		1 SIZE 8	1/4			F.I (Mo	.R.L. odule unit)
	10	-	3/8				.R.L. eparate)
	1	-	1/2			·	ompact
	20		3/4			F.F	R.
	2		1			reg	recise gulator
		t thread			Not	(Re	.R.L. lelated
Port thread type		ank	Rc thread				oducts) Iean
			NPT thread			F-I	-R. ectro
	G		G thread			pne	eumatic gulator
		•.				Ai	
D Option	Opti				Not		
- · ·	Pressure range	Blank					ntrol valve
	14119~	L	0.05 to 0.35MPa Note 3	•	•	Sil	ilencer
	Relief	Blank	With relief mechanism				neck valve
		N T	Nonrelief type				oint
	Pressure gauge	Т Т8	Without pressure gauge (pressure gauge port (Rc1/4) is assembled with sealed)	•	•		tube
		Blank	Pressure gauge attached (pressure gauge port (Rc1/4) is assembled by open) Standard flow (left $\rightarrow$ right)	•	•	Va	acuum ter
	Flow direction	X1	, <b>,</b>			Va	acuum
		ectionX1Reverse flow (right $\rightarrow$ left) $\bullet$ $\bullet$ $\bullet$ Display unit					egulator uction
Display unit							late
		ank	MPa display, Rc thread		•	Maç spri	agnetic ring buffer
	J		MPa display, NPT/G thread			Med	echanical
B Piping	🕞 Pipi	ing ada	ptor set (attached) Note	e 4	Page	e 428	essure SW
adaptor set		ank	Not attached	•	•		ectronic essure SW
(attached)	A8'	*W	1/4 piping adaptor set (white)	•	•	Cont	ntact / close ntact conf.
	A10		3/8 piping adaptor set (white)	•	•	SW	
	A15		1/2 piping adaptor set (white)				r sensor
	A20		3/4 piping adaptor set (white)		•		essure SW coolant
	A25		1 piping adaptor set (white)			• Sm	
	A32		1 1/4 piping adaptor set (white)			Sma	w sensor
ANote on model no. selection		tor scre					w controller
Note 1: G and NPT threads are available for IN, OUT, and		ank	Rc thread		•	Flow     for a	ow sensor r air
gauge ports. Note 2: When selecting options for several items, list options in			NPT thread	•	•		ow sensor
order from the top. Note 3: The pressure gauge's indication range is 0 to 0.4MPa	G	_	G thread	•			rwater otal air
for option "L".	G Atta	ichmen	t (attached) Note 6	Pa	iges 425	5, 659 sys	ystem
Note 4: The piping adaptor set and C bracket cannot be used together.	L	ank	Not attached	•	•	SV	otal air ystem Samma)
Note 5: Refer to Section (2. Regulator), in " PRECAUTIONS for Installation and Adjustment" (page 279) for details on	B\		C type bracket (silver)	•	•		
mounting the L-type bracket.	B3W N		L type bracket (silver)	•	•		nding
Note 6: If NPT is selected for the "C" piping thread type, a NPT pressure gauge is enclosed. If Rc or G thread is		19P	G49D-8-P10(L: G49D-8-P04)	•		es es	2
selected, an R thread pressure gauge is enclosed.	G5	/9P	G59D-8-P10(L: G59D-8-P04)	•		Ser.	Ś
						ant (	
						siste	F.R.L. unit
						res	nii
						ame	
						Ē	Ē



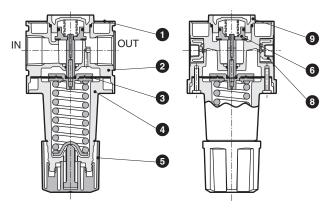
456 **CKD** 

Internal structure and parts list

#### Internal structure and parts list



#### • R8000-G4



No. Part name	R3000-G4					
		R4000-G4	R8000-G4			
1 Plate cover		ABS resin (Note 1)				
2 Body		Aluminum alloy die-casting				
3 Diaphragm assembly		Zinc alloy die-casting, nitrile rubber				
4 Cover		Aluminum alloy die-casting				
5 Knob		PBT resin (Note 1)				
6 Valve assembly	Bras	Brass, hydrogen nitrile rubber, polyacetal resin				
7 Mounting nut	PBT resir	n (Note 1)	-			
8 Gauge plug assembly	Po	lyamide resin (Note 1), nitrile rubber, ste	eel			
9 Bottom plug		Aluminum alloy die-casting				

Note 1: Flame resistance resin and UL94 standards V-O or equivalent

Note 2: Refer to page 466 for repair parts.

Electro pneumatic regulator Air booster

Speed control valve

Silencer

Check valve / others

Joint / tube

Vacuum filter

Vacuum regulator

\_\_\_\_

\_\_\_\_\_

\_\_\_\_

#### Dimensions

#### • R3000-G4

Refrigerating type dryer

Desiccant type dryer

Precise regulato

F.R.L. (Related products)

Clean F.R. Electro atio pneumation regulator

Air booster

Speed control valve Silence

Check valve / others

Joint / tube

Vacuum filter

Vacuum regulator

Suction plate

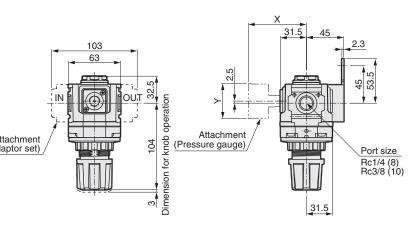
Magnetic spring buffer

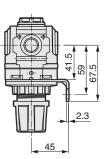
Mechanical pressure SW Electronic pressure SW

SW

Ending







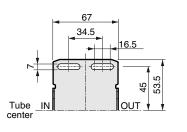


Panel plate thickness: MAX. 6 mm

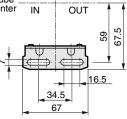
· Attachment C type bracket (-BW)

Parts No.: B320

L type bracket (-BW) Parts No.: B330



Tube center



Dragourg	~~~~~	attached	antional	dimensions	table
Pressure	uauue	allacheu	oplional	umensions	lable

Attached pressure gauge	Х	Y
G49P	(69.5)	ø43.5
G59P	(72)	ø52

35

110

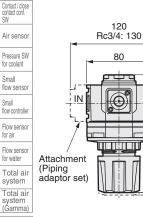
က်

OUT

Dimension for knob operation

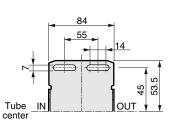
Note: The C-type bracket and piping adapter set attachments cannot be used at the same time.

#### • R4000-G4



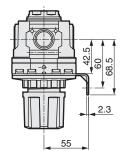
36.5 55 2.3 2.5 45 53.5 Attachment (Pressure gauge) Port size Rc1/4 (8) Rc3/8 (10) Rc1/2 (15) 39.5

· Attachment C type bracket (-BW) Parts No.: B420



CKD

L type bracket (-BW) Parts No.: B430 Tube IN OUT center 68.5 09 .14 55 84



Panel cut dimension



Panel plate thickness: MAX. 4 mm

|--|

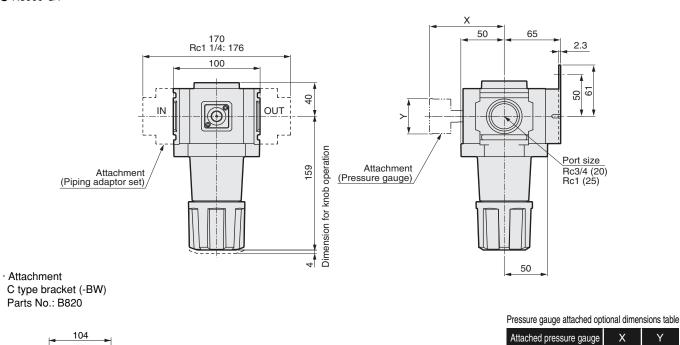
Attached pressure gauge	Х	Y
G49P	(74.5)	ø43.5
G59P	(77)	ø52

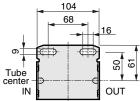
Note: The C-type bracket and piping adaptor set attachments cannot be used at the same time.

Dimensions

Refrigerating type dryer

#### Dimensions • R8000-G4





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

Y

ø43.5

ø52

(84.5)

(87)

G49P

G59P



Reverse regulator flame resistant Series

## R3100/R4100/R8100-G4 Series

From secondary pressure to primary pressure with back flow function. Port size: 1/4 to 1





#### Specifications

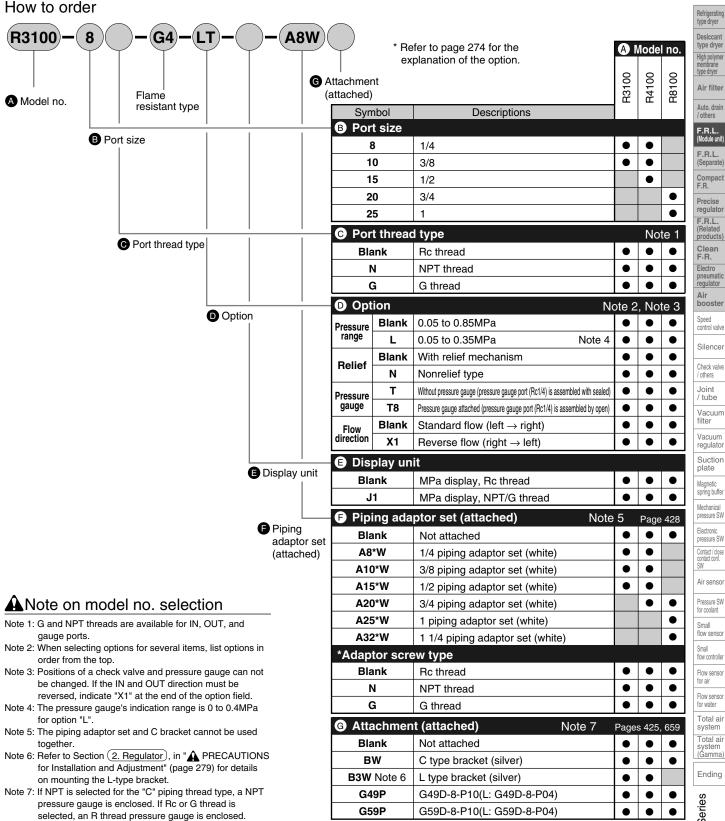
Descriptions	R3100-G4	R4100-G4	R8100-G4						
Working fluid		Compressed air							
Max. working pressure MPa		1.0							
Withstanding pressure MPa		1.5							
Working temperature °C		5 to 60							
Set pressure range (Note 1) MPa		0.05 to 0.85							
Relief		With relief mechanism							
Port size Rc, NPT, G	1/4, 3/8	1/4, 3/8, 1/2	3/4, 1						
FULLSIZE NC, NFT, G	(1/2 uses an adaptor)	(3/4 uses an adaptor)	(1 1/4 uses an adaptor)						
Product weight kg	0.52	0.77 1.6							
Standard specifications	Exterior: Flame-resistant ma	Exterior: Flame-resistant material, nut for panel mounting							

Note 1: Refer to the set pressure range for the back pressure given on page 462 when selecting the model.

Note 2: Check that the primary pressure is at least 0.05 MPa or more than the secondary pressure.

Refrigerating type dryer

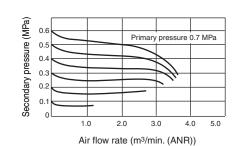
How to order



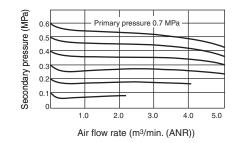
Flame resistant Series F.R.L. unit

#### Flow characteristic Refrigerating type dryer • R3100-8-G4 Desiccant type dryer High polyme membrane Secondary pressure (MPa) Primary pressure 0.7 MPa 0.6 type dryer 0.5 Air filter 0.4 Auto. drain / others 0.3 0.2 F.R.L. (Module uni 0. F.R.L. (Separate) ( 0.5 2.0 2.5 1.5 1.0 Air flow rate (m3/min. (ANR)) Compact F.R. Precise regulator • R4100-8-G4 F.R.L. (Related products) Secondary pressure (MPa) Clean F.R. 0.6 Primary pressure 0.7 MPa 0.5 Electro 0.4 pneumatic regulator 0.3 Air booster 0.2 Speed control valve 0. 0 2.5 0.5 2.0 1.0 1.5 Silence Air flow rate (m3/min. (ANR)) Check valve / others • R4100-15-G4 Joint / tube Vacuum filter (MPa) Primary pressure 0.7 MPa 0.6 Vacuum regulator Secondary pressure ( 0.5 0.4 Suction plate 0.3 0.2 Magnetic spring buffer 0.1 Mechanical pressure SW 0 1.0 2.0 3.0 4.0 5.0 Electronic pressure SW Air flow rate (m3/min. (ANR)) Contact / close contact conf. • R8100-25-G4 Air sensor Secondary pressure (MPa Pressure SW for coolant Primary pressure 0.7 MPa 0.6 0.5 Small flow sensor 0.4 0.3 Small flow controller 0.2 Flow sensor for air 0.1 Flow sensor for water 0 2 6 8 10 12 14 4 Air flow rate (m3/min. (ANR)) Total air system Total air (Gamma)

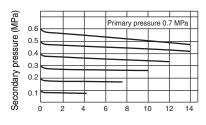
#### • R3100-10-G4



#### • R4100-10-G4

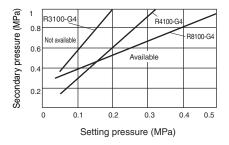


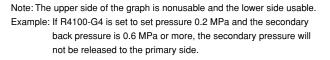
• R8100-20-G4



Air flow rate (m3/min. (ANR))

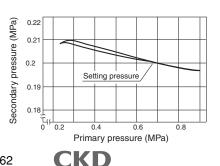
• Set pressure range to back pressure



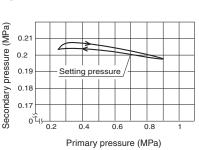


#### Pressure characteristic

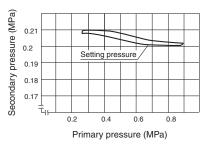
#### • R3100-G4











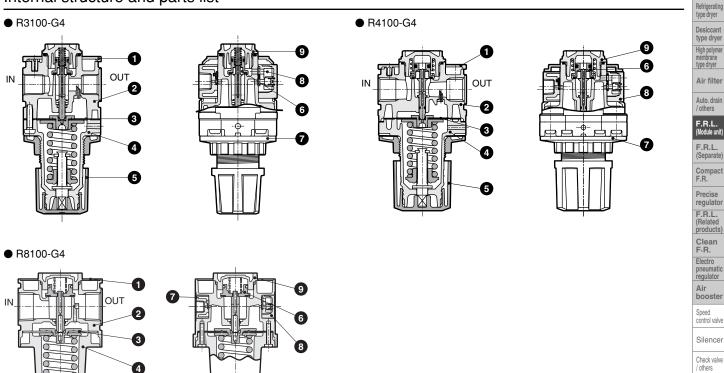
462

Ending



Internal structure and parts list

#### Internal structure and parts list



No.	Part name	Material								
INO.	Part name	R3100-G4	R4100-G4	R8100-G4						
1	Plate cover		ABS resin (Note 1)							
2	Body		Aluminum alloy die-casting							
3	Diaphragm assembly	Zinc alloy die-casting, nitrile rubber								
4	Cover	Aluminum alloy die-casting								
5	Knob		PBT resin (Note 1)							
6	Valve assembly	Brass,	hydrogen nitrile rubber, polyace	tal resin						
7	Gauge plug assembly	Polyar	nide resin (Note 1), nitrile rubbe	er, steel						
8	Check valve total assemblies	PBT resin, nitrile rubber, stainless steel wire, steel, aluminum								
9	Bottom plug		Aluminum alloy die-casting							
10	Mounting nut	PBT resir	n (Note 1)	-						

Note 1: Flame resistance resin and UL94 standards V-O or equivalent

5

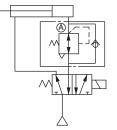
Note 2: Refer to page 466 for repair kits.

#### Functional explanation

When the primary pressure is introduced from the IN side, the check valve functions as a regular regulator because it closes with primary pressure and spring load. When primary pressure is released by a switching valve such as a shut-off valve, the check valve opens with secondary pressure. Pressure in the diaphragm chamber is released and pressure drops. This causes the diaphragm to be pressed down by the pressure adjustment spring. The main valve (valve assembly) opens, and the air on the OUT side is discharged.

#### Circuit diagram

When cylinder head end and rod end pressure differs.



Note: Set back pressure A for when the primary pressure is released within the range in the graph for the regulator's set pressure.

Flame resistant Series F.R.L. unit

#### Dimensions

#### • R3100-G4

Refrigerating type dryer

Desiccant type dryer High polyme membrane type dryer

Air filter

Auto. drain / others

F.R.L. (Module uni

F.R.L. (Separate)

Compact F.R.

Precise

regulato F.R.L. (Related products)

Clean F.R. Electro pneumation regulator

Air booster

Speed control valve

Silence

Check valve / others

Joint / tube

Vacuum filter

Vacuum regulator

Suction plate Magnetic spring buffer

Mechanical pressure SW

Electronic pressure SW

Contact / close contact conf.

Air sensor

Pressure SW for coolant

Small flow sensor

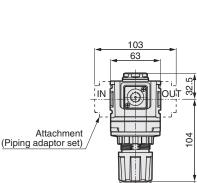
Small flow controlle

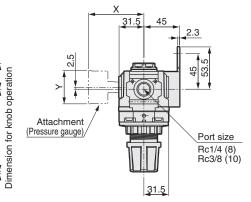
Flow sensor for air

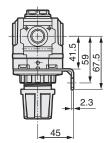
Flow sensor for water

Total air system

SW





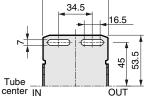


Panel cut dimension

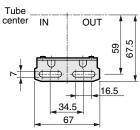


Panel plate thickness: MAX. 6 mm

· Attachment C type bracket (-BW) Parts No.: B320 67



L type bracket (-B3W) Parts No.: B330



2.3

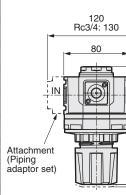
45 53 Pressure gauge attached optional dimensions table

Attached pressure gauge	Х	Y
G49P	(69.5)	ø43.5
G59P	(72)	ø52

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

e

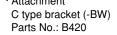
#### • R4100-G4



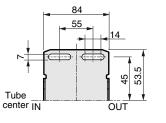
36.5 55 2.5 35 Dimension for knob operation <u>ə 🗗 -</u> 🛉 66 110 Attachment Port size (Pressure gauge) Rc1/4 (8) Rc3/8 (10) Rc1/2 (15) n 39.5

· Attachment

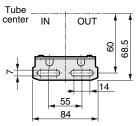
Total air (Gamma) Ending



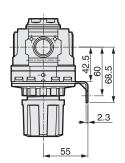
OUT



L type bracket (-B3W) Parts No.: B430



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



Panel cut dimension



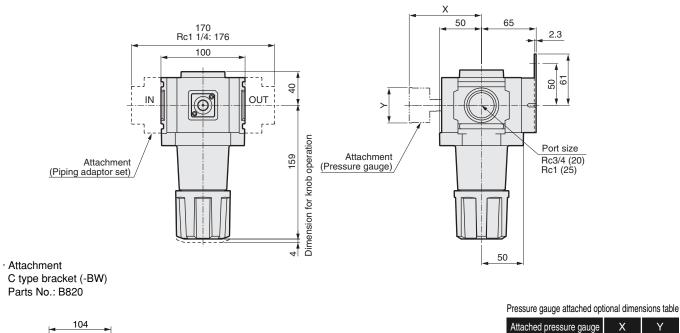
Panel plate thickness: MAX. 4 mm

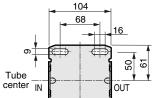
Pressure gauge attached optional dimensions table								
Attached pressure gauge	Х	Y						
G49P	(74.5)	ø43.5						
G59P	(77)	ø52						

Dimensions

#### **Dimensions**

#### • R8100-G4





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

Х

(84.5)

(87)

G49P

G59P

Υ

ø43.5

ø52

#### Optional parts diagram

#### Repair kits (Set of diaphragm assembly, valve assembly, bottom spring, bottom O-ring)

r	Repair kits model no. Model	Relief type diaphragm	Nonrelief Diaphragm assembly
1	R3000-G4, R3100-G4	R3000-KIT	R3000-KIT-N
	R4000-G4, R4100-G4	R4000-KIT	R4000-KIT-N
:)	R8000-G4, R8100-G4	R8000-KIT	R8000-KIT-N

#### Valve assembly (Set of valve assembly, bottom spring, bottom O-ring)

2 \	, I O,	υ,
Model	Valve assembly model no.	
R3000-G4, R3100-G4	R3000-VALVE-ASSY	
R4000-G4, R4100-G4	R4000-VALVE-ASSY	
R8000-G4, R8100-G4	R8000-VALVE-ASSY	

#### Check valve assembly for reverse regulator

Model	Check valve assembly model no.
R3100-G4, W3100-G4 R4100-G4, W4100-G4 R8100-G4, W8100-G4	R3100-G4-CHECK-VALVE-ASSY

#### Adjusting spring

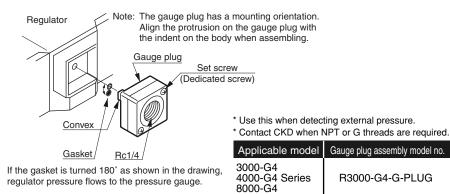
Adjusting spring model no.	Standard spring	Spring for low pressure
Model	(0.05 to 0.85MPa)	(0.05 to 0.35MPa)
R3000-G4, R3100-G4 W3000-G4, W3100-G4	R3000-SPRING	R3000-SPRING-L
R4000-G4, R4100-G4 W4000-G4, W4100-G4	R4000-SPRING	R4000-SPRING-L
R8000-G4, R8100-G4	R8000-SPRING	R8000-SPRING-L
W8000-G4, W8100-G4	W8000-SPRING	W8000-SPRING-L

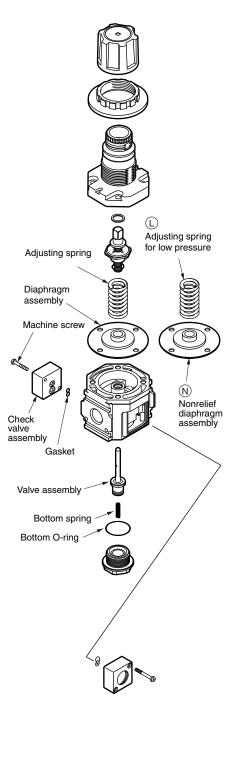
#### Diaphragm assembly (only diaphragm assembly)

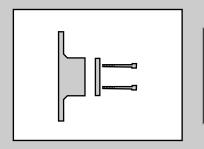
Diaphragm assembly model no. Model	Relief type diaphragm	Nonrelief type diaphragm				
R3000-G4, R3100-G4 W3000-G4, W3100-G4	R3000-DIAPHRAGM-ASSY	R3000-DIAPHRAGM-ASSY-N				
R4000-G4, R4100-G4 W4000-G4, W4100-G4	R4000-DIAPHRAGM-ASSY	R4000-DIAPHRAGM-ASSY-N				
R8000-G4, R8100-G4	R8000-DIAPHRAGM-ASSY	R8000-DIAPHRAGM-ASSY-N				
W8000-G4, W8100-G4	W8000-DIAPHRAGM-ASSY	W8000-DIAPHRAGM-ASSY-N				

#### Gauge plug assembly (assembly of gauge plug, gasket, set screw)

Use when mounting the pressure gauge.







Bracket **B**/**B**-**W**Series Joiner





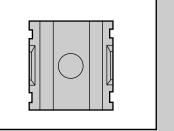
Refrigerating type dryer

Desiccant type dryer

High polymer membrane type dryer

Air filter Auto. drain / others

Dimensions and Application T type bracket set	S Model N	No.: B31	0-W /	/ B41	0-W	/ B81	10-W	Note: 9	Select	B410-	W wher		the 30		Auto. / othe F.R. (Modul
, uļ	Applicat	tion		1	-		-				)00 Ser				F.R. (Sepa Com F.R. Preci
Center of port size	J		T			1						1			F.R. (Rela produ
		oplicable model	A 60	В 45	C 10	D 125	E 7	F 7	G 22	H 27	7		J 01-P21	K 45	F-R. Electr
	$\sim$ —	000 Series	60	45	10	125	7	7	22	37	7		01-P21	55	regula
K Gr	B810-W 8	000 Series	70	50	15	150	9	5	27	37	8	AS56	8-127	65	Air
AF.	White type														Speed
C turna broaket	Model N	lo · B32(	)/B43		20										. Siler
C type bracket	<ul> <li>Attachm</li> </ul>			-0/DC	20										Check / other
															Join / tub
B ▲ Applicat	ion														Vac filter
		plicable model	А	В	С	D	E	F	G	Н	I	J	K	L	Vacu regu
F L	6.8	000 Series	34.5	67	63	t2.3	16.5	7	45	9	75.5	45	69	ø21.7	Suc
		000 Series 000 Series	55 68	84 104	80 100	t2.3 t2.3	14.0 16	7 9	45 50	9 11	75.5 93.5	55 65	69 102	ø21.7 ø35	Magn spring
	White type	000 Selles	00	104	100	12.0	10	9	50		93.5	05	102	000	Mech
C Inside dimension															Electro
															Contact
L type bracket	Model N			30											- SW Air se
	Attachm				41 1	1.									Pressu
	Loosen the m After inserting	0													for coo Small
● Applica	tion the mounting Refer to "(2.		-			-		-							flow s Small
B A G G G G G G G G G G G G G G G G G G		negulaloi	), inte	i anu	regula		n page 2	279.							flow of Flow
	Model no. Ap	oplicable model	А	В	С	D	E	F	G	Н	I	J		her	for air
L Log C	B330 3	000 Series	34.5	67	16.5	7	17.5	26	58 (63.5)	45	76	ø40	in (	nsions ) for	for wa
	B430 4	000 Series	55	84	14	7	17.5	26	58	55	94	ø47	W300	<u>Ó/3100</u>	Syst
	White type														sys (Gai
															End
Joiner set	Model N	lo.: C40	00-J4	00-V	V										ies
		C80	30-J8	800-V	V										t Ser
															stani
A , F															Flame resistant Series
Applicat	• · · · · · · · · · · · · · · · · · · ·	oplicable model	A	В	С	D	E								ame
	C4000-J400-W 4	000 Series 000 Series	21	44	32	M5	JIS B2401	-P21							Ē
	C8000-J800-W 8	000 Series	26	65	50	M6	AS568	-127							
	White type														



# Distributor D401/D801-W Series

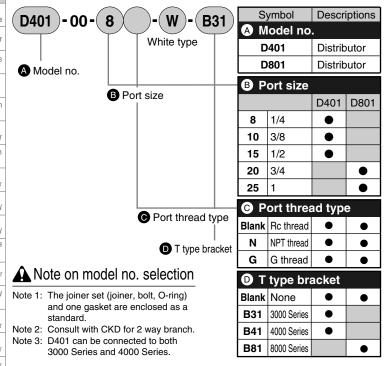
Applicable for pipe branching. Port size: 1/4 to 1 JIS symbol Rc1/4 Rc3/8 (Rc3/8) Rc1/4 3/8 Rc1/4 3/8Rc1/4 3/8



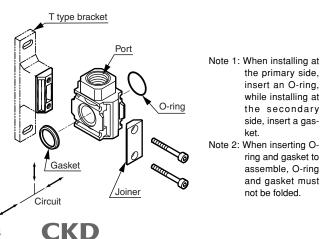
#### Specifications

Descriptions	D401-00-W	D801-00-W
Working fluid	Compre	ssed air
Max. working pressure MPa	1.	.0
Withstanding pressure MPa	1.	.5
No. of branch port	1	1
Port size Rc	1/4, 3/8, 1/2	3/4, 1
Working temperature °C	5 to	o 60
Product weight kg	0.13	0.35

#### How to order



#### Assembly method (D401-00-W/D801-00-W)



#### Application (D401-00-W/D801-00-W)

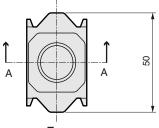


## **Distributor**

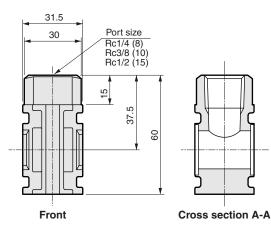
Dimensions

#### Dimensions





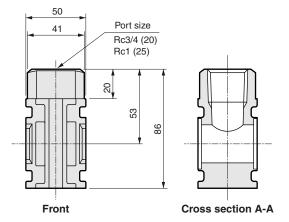
Тор



Note: Contact CKD for 2 way branch type.

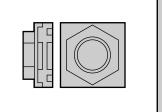
A Top

• D801-00-W



Note: Contact CKD for 2 way branch type.

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



#### Piping adaptor

## A400/A800-W Series

Port size: 1/4 to 1 1/4



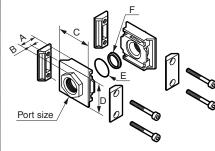
#### **Dimensions and Applications**

#### Piping adaptor set

Model No.: A400-8,10,15,20-W A800-20,25,32-W







Model no.	Port size	Applicable model	А	В	С	D	E (O ring)	F (gasket)	Other								
A400-8*-W	1/4	3000 4000					C4000-ORING		Numbers in								
A400-10*-W	3/8	Series Series	20	6			JISB2401	C4000-	() are for Rc3/4								
A400-15*-W	1/2	Selles, Selles	(25)	(11)	50	45	P21	GASKET	Numbers in								
A400-20*-W	3/4		{34}	{20}				1 pc.	{ } are for								
A400-25*-W	1	Note 1					1 pc.		Rc1								
A800-20*-W	3/4		35	15			C8000-ORING	C8000-	Numbers in								
A800-25*-W	1	8000 Series	(38)										81	66	AS568-127	GASKET	() are for
A800-32*-W	11/4		(36)	(18)			1 pc.	1 pc.	Rc1 1/4								

\*: Blank: Rc thread, N: NPT thread, G: G thread Note 1: Available also as attachment for V3000/V3010. White type

#### Piping adaptor set

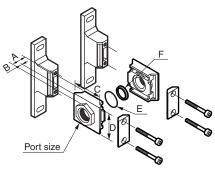
Refrigerating type dryer



Model No.: A400-8,10,15-W-B31W A400-8,10,15,20-W-B41W A800-20,25,32-W-B81W (with T type bracket set)

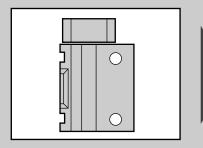






Model no.	Port size	Applicable model	А	В	С	D	E (O ring)	F (gasket)	Other
A400-8*-W-B31W	1/4						C4000-ORING	C4000-	
A400-10*-W-B31W	3/8	3000 Series	20	6	50	45	JISB2401 P-21	GASKET	
A400-15*-W-B31W	1/2						1 pc.	1 pc.	
A400-8*-W-B41W	1/4								Numbers in
A400-10*-W-B41W	3/8		20	6			C4000-ORING	C4000-	() are for
A400-15*-W-B41W	1/2	4000 Series	(25)	(11)	50	45	JISB2401	GASKET	Rc3/4 Numbers in
A400-20*-W-B41W	3/4		{34}	{20}			P-21 1 pc.	1 pc.	{ } are for
A400-25*-W-B41W	1	Note 1					F		Rc1
A800-20*-W-B81W	3/4		35	15			C8000-ORING	C8000-	Numbers in
A800-25*-W-B81W	1	8000 Series	(38)	(18)	81	66	AS568-127	GASKET	() are for
A800-32*-W-B81W	11/4						1 pc.	1 pc.	Rc1 1/4

\*: Blank: Rc thread, N: NPT thread, G: G thread Note 1: Available also as attachment for V3000/V3010. White type



## L type piping adaptor A401/A801-W Series

Port size: 1/4 to 1



Refrigerating type dryer Desiccant type dryer

High polyme membrane type dryer

Air filter Auto. drain / others

F.R.L. (Module unit) F.R.L. (Separate) Compact F.R. Precise regulator F.R.L. (Related products) Clean F-R.

Electro pneumatic regulator Air booster

Speed control valve

Silencer

Check valve / others

Joint / tube

Vacuum filter

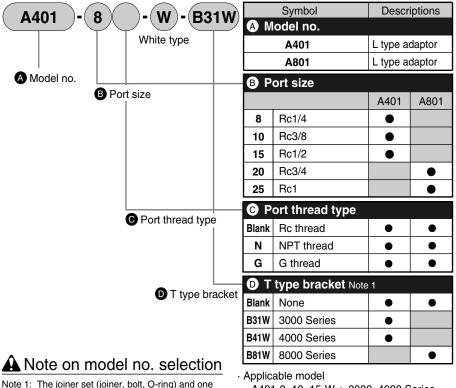
Vacuum regulator

#### Specifications

Descriptions	A401-W Note 1	A801-W			
Working fluid	Compre	ssed air			
Max. working pressure MPa	1.0				
Withstanding pressure MPa	1.5				
Port size Rc	1/4, 3/8, 1/2	3/4, 1			
Working temperature °C	5 tc	60			
Product weight kg	0.13	0.4			

Note 1: A401-W can be connected to both 3000-G4 and 4000-G4 Series.

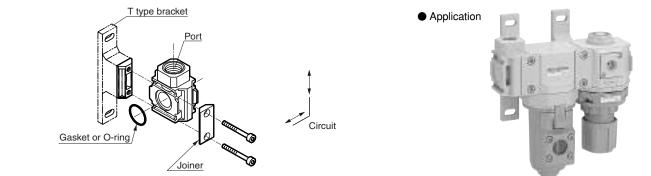
#### How to order



Note 1: The joiner set (joiner, bolt, O-ring) and one gasket are enclosed as a standard. Note 2: Contact CKD for vertical piping.

· A401-8, 10, 15-W : 3000, 4000 Series · A801-20, 25-W : 8000 Series

#### L type piping adapter



Note: Insert the O-ring when mounting on the primary side for the air flow, and insert the gasket when mounting on the secondary side.

Flow sensor for air

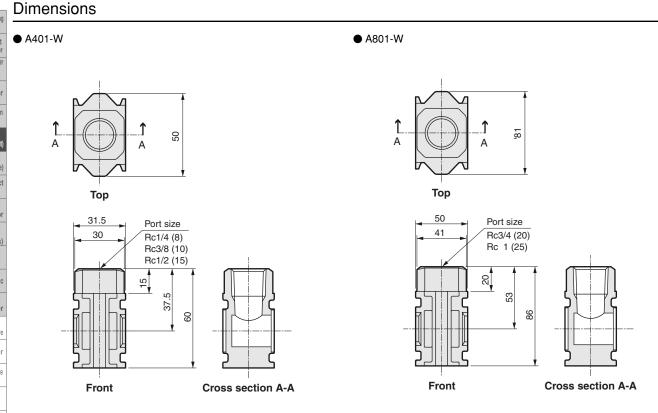
Flow sensor for water

Total air

system Total air

CKD

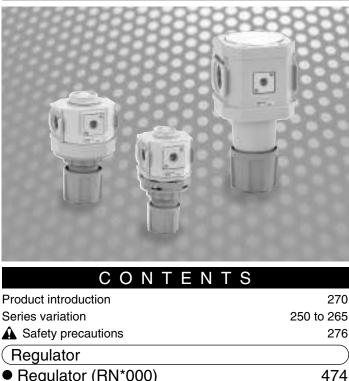
## **Piping adaptor**



### SELEX F.R.L. Modular design

## **Oil-prohibition Series**

Components for air preparation / pressure adjustment / F.R.L. unit



Regulator	)
<ul> <li>Regulator (RN*000)</li> </ul>	474
Bracket (B)	480
Pressure gauge	481

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

Refrigerating type dryer



Oil-prohibited regulator

## RN3000/RN4000/RN8000 Series

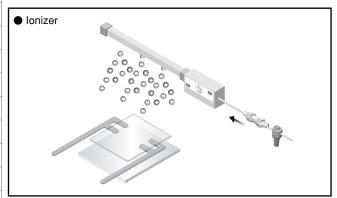
Ideal for applications susceptible to grease, including liquid crystals, semiconductors, foodstuffs, medicines, and electronic parts. All parts in the fluid passage area are degreased and washed, and use no grease. Port size: 1/4 to 1 JIS symbol

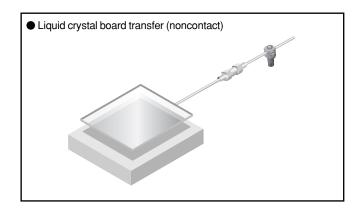


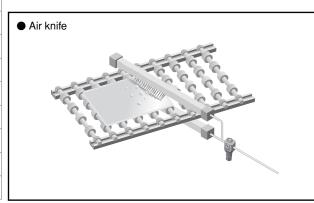
#### Specifications

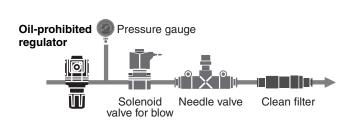
Descriptions	RN3000	RN3000 RN4000 RN8000								
Working fluid		Compressed air								
Max. working pressure MPa		0.8 (0.5 for low pressure)								
Withstanding pressure MPa		1.5								
Working temperature °C		5 to 60								
Set pressure range MPa		0.05 to 0.7								
Relief		With relief mechanism								
Port size Rc	1/4, 3/8	1/4, 3/8, 1/2	3/4, 1							
Product weight kg	0.5	0.7	1.9							
Standard specifications	Fluid passage section: Oil-p	rohibited, nut for panel mount	Fluid passage section: Oil-prohibited							

#### Application

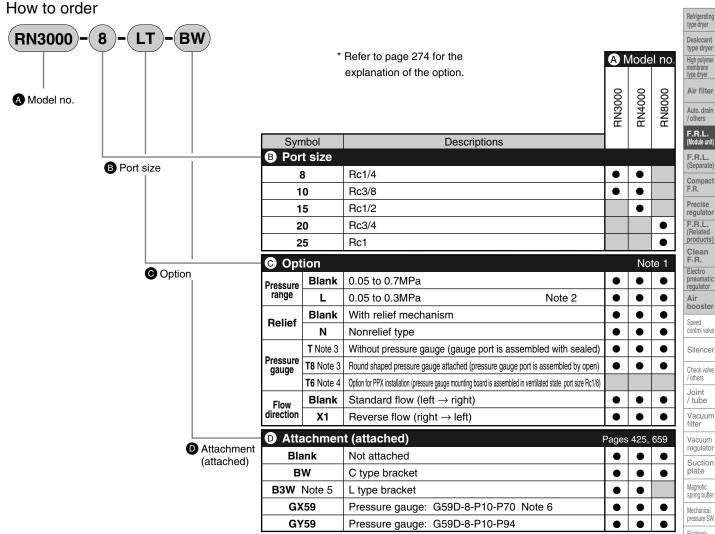








How to order



#### ANote on model no. selection

- Note 1: When selecting options for several items, list options in order from the top.
- Note 2: If "L" is selected for the pressure range option, the pressure gauge for low pressure (0 to 0.4 MPa) are selected.
- Note 3: The gauge plug is assembled for "T" and "T8". The gauge port is Rc1/4.
- Note 4: The digital pressure sensor PPX must be prepared separately. The following models are recommended. PPX-R10N-6M-P12 PPX-R10NH-6M-P12
- Note 5: Refer to Section (2. Regulator), in " PRECAUTIONS for Installation and Adjustment" (page 279) for details on mounting the L-type bracket.
- Note 6: Attachment for options made of brass. All others are attachments for options not made of brass.

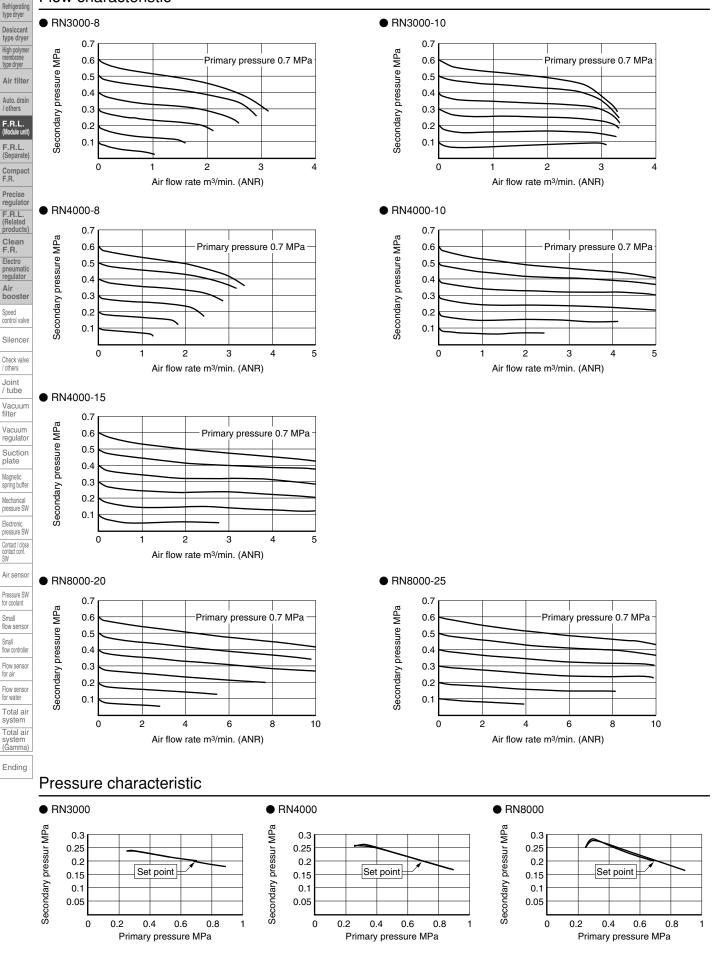
#### Flow characteristic

Speed

Joint / tube

SW

Small

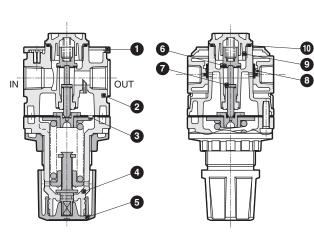


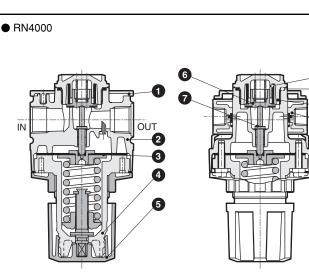
**CKD** 476

Internal structure and parts list

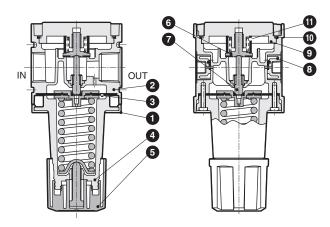
#### Internal structure and parts list







#### RN8000



No.	Parts name	Material							
INO.	Parts hame	RN3000	RN8000						
1	Plate cover		ABS resin						
2	Body		Aluminum alloy die-casting						
3	Diaphragm assembly		Zinc alloy die-casting, nitrile rubber						
4	Cover	PBT	resin	Aluminum alloy die-casting					
5	Knob	Polyacetal resin							
6	Valve	Aluminum alloy, hyd	drogen nitrile rubber	Stainless steel, hydrogen nitrile rubber					
7	Stem	Aluminu	um alloy	Stainless steel					
8	Gauge plug assembly		Polyamide resin, nitrile rubber, steel						
9	Bottom cap	Polyace	Aluminum alloy						
10	Bottom O-ring		Fluoro rubber						
11	Bottom rubber	-	Hydrogen	nitrile rubber					

Refrigerating type dryer

Desiccant type dryer High polymer membrane type dryer

0

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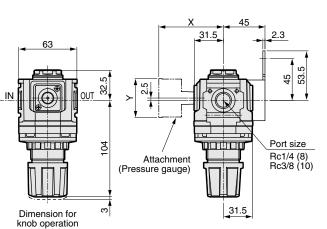
9

8

#### Dimensions Refrigerating type dryer

#### • RN3000

Desiccant type dryer High polymer membrane type dryer Air filter Auto. drain / others F.R.L. (Module uni F.R.L. (Separate) Compact F.R. Precise regulato F.R.L. (Related products) Clean F.R. Electro pneumatic regulator Air booster Speed control valve Silence Check valve / others Joint / tube Vacuum filter Vacuum regulator Suction plate Magnetic spring buffer Mechanical pressure SW Electronic pressure SW Contact / close contact conf. SW Air sensor



L type bracket (-B3W)

Part model no.: B330

IN

OUT

C

34.5

67

57.5

16.5

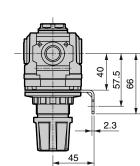
2.3

53.5 45

66

Tube

center

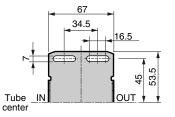


Panel cut dimension

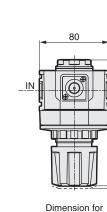


Panel plate thickness: MAX.7 mm

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

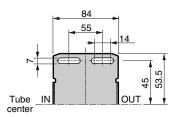


#### • RN4000



knob operation

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



VOUD 110 Port size Attachment (Pressure gauge) Rc1/4 (8) Rc3/8 (10) Rc1/2 (15) က် L type bracket (-B3W) Part model no.: B430

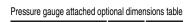
36.5

5.2

35

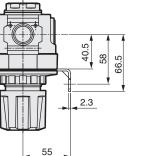
<u>OUT</u>

Tube IN OUT center 66.5 58 14 • 55 84



Attached pressure gauge	Х	Y
GX59	76.5	ø52
GY59	79	ø52

Panel cut dimension



Panel plate thickness: MAX. 7 mm

Pressure gauge attached optional dimensions table

Attached pressure gauge	Х	Y
GX59	81.5	ø52
GY59	84	ø52

Pressure SW for coolant

Small flow sensor

Small flow controlle

Flow senso for air

Flow sensor for water

Total air system Total air

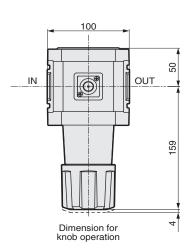
(Gamma)

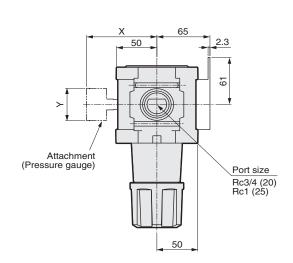
Ending

#### Dimensions

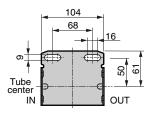
#### Dimensions

#### • RN8000



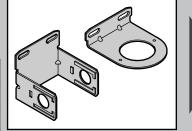


· Attachment C type bracket (-BW) Part model no.: B820



Pressure gauge attached optional dimensions table

Attached pressure gauge	Х	Y
GX59	91.5	ø52
GY59	94	ø52

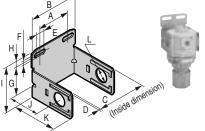


Bracket

**B** Series

## Model No.: B320/B420/B820 Attachment:BW

Application



C type bracket

Model no.	Applicable model	А	В	С	D	Е	F	G	Н	I	J	К	L
B320	3000 Series	34.5	67	63	t2.3	16.5	7	45	9	75.5	45	69	ø21.7
B420	4000 Series	55	84	80	t2.3	14.0	7	45	9	75.5	55	69	ø21.7
B820	8000 Series	68	104	100	t2.3	16	9	50	11	93.5	65	102	ø35

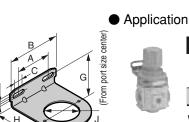
RoHS

White type

L type bracket

### Model No.: B330/B430Attachment:B3W

Loosen the mounting nut to remove the knob.



Press the	e knob in ma	nually	after f	ixing.				•			
Model no.	Applicable model	А	В	С	D	Е	F	G	Н	I	J
B330	3000 Series	34.5	67	16.5	7	17.5	26	58	45	76	ø40
B430	4000 Series	55	84	14	7	17.5	26	58	55	94	ø47

After inserting L type bracket, fix the bracket by the mounting nut.

White type

Е



Pressure gauge

G49D/G59D Series

Port size: R1/8, R1/4





Refrigerating type dryer

Auto. drair / others

F.R.L. (Module unit F.R.L. (Separate) Compact F.R. Precise regulator F.R.L. (Related products) Clean F-R. Electro pneumatic regulator Air boostei Speed control valve Silencer Check valve / others Joint / tube Vacuum filter

Vacuum regulator

Suction plate

Magnetic spring buffer

Mechanica

pressure SW

Electronic pressure SW

Contact / close contact conf.

Air senso

Pressure SW for coolant

Small flow sensor

Small flow controlle

Flow sensor for air

Flow sensor for water

Total air

(Gamma)

Ending

system Total air

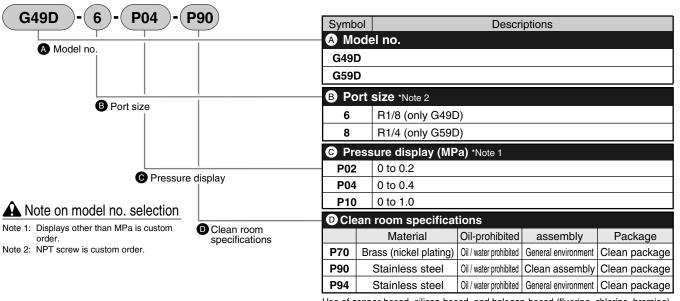
SW

Specifications

Descripti	ons	G49D-P70/P9*	G59D-P70/P9*					
Working flu	id	Compress	Compressed air, N2					
Fluid tempe	erature °C	5 to	o 60					
Ambient ter	mperature °C	5 to	o 60					
Precision N	lote 1	JIS3 grade or eq	uivalent (±3%FS)					
Shape		DT type (rear side screw	v, stock section 4 square)					
Display sec	tion system	ø43	ø52					
	Bourdon	P90, P94: SUS316						
	tube	P70: Brass						
Material	0	P90, P94: SUS14 (SUS316 or equivalent)						
Material	Stock	P70: Brass (nickel plating)						
	Housing	Steel (chro	ome plating)					
	Lens	Gl	ass					
Pressure ra	inge MPa	0 to 0.2 0 to 0.4 0 to 1.0						
Port size	R	1/8	1/4					
Weight	G	90	140					

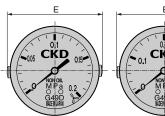
Note 1: Display precision endorsement temperature is 20±15°C.

#### How to order



#### Use of copper-based, silicon-based, and halogen-based (fluorine, chlorine, bromine) is not acceptable with the P94 model.

#### Dimension

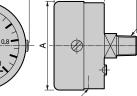




Pressure display: P02 Pressure display: P04

Pressure display: P10

E



ø2 hole

D

Model no.	А	В	С	D	Е
G49D-6- <sup>P02</sup> P04 P10-P70	ø43	43.5	27.5	R1/8	46.5
G59D-8- <sup>P02</sup> P10 P10	ø52	50.5	28.5	R1/4	55.5
G49D-6- <sup>P02</sup> P90 P10-P94	ø43	43.5	27.5	R1/8	46.5
G59D-8- <sup>P02</sup> P10-P94	ø52	53	28.5	R1/4	55.5

**CKD** 

### SELEX F.R.L. Modular type

## **Medium pressure Series**

Components for air preparation / pressure adjustment / F.R.L. unit



CONIENIS	
Product introduction	270
Series variation	250 to 265
A Safety precautions	276
Air filter	
<ul> <li>Air filter (FM*000-W)</li> </ul>	484
<ul> <li>Oil mist filter (MM*000-W)</li> </ul>	490
Bracket / joiner (B/J)	425
Distributor (D*01-00)	426
Piping adaptor (A***)	428
Regulator	
<ul> <li>Regulator (RM*000-W)</li> </ul>	496



# Air filter medium pressure type standard white Series FM3000-W/FM4000-W/FM6000-W/FM8000/W Series

F3000 to 8000 Series medium pressure specifications Port size: 1/4 to 1

JIS symbol



#### Specifications

specifications					
Model no.	FM3000-W	FM4000-W	FM6000-W	FM8000-W	
Appearance					
Working fluid	Compressed air				
Max. working pressure MPa	1.6 (Notes 1, 2)				
Withstanding pressure MPa	2.4 (Note 2)				
Ambient temperature °C	-5 to 60 (no freezing) (Notes 1, 2)				
Fluid temperature °C	5 to 60 (Notes 1, 2)				
Filtration rating µm	5 or 0.3				
Drain capacity cm <sup>3</sup>	45	80	80	80 (Note 3)	
Port size Rc, NPT, G	1/4, 3/8	1/4, 3/8, 1/2	3/4, 1	3/4, 1	
Product weight kg	0.35	0.55	1.0	1.26	

Note 1: When "F" with an automatic drain is selected, minimum operation pressure must be 0.1 MPa.

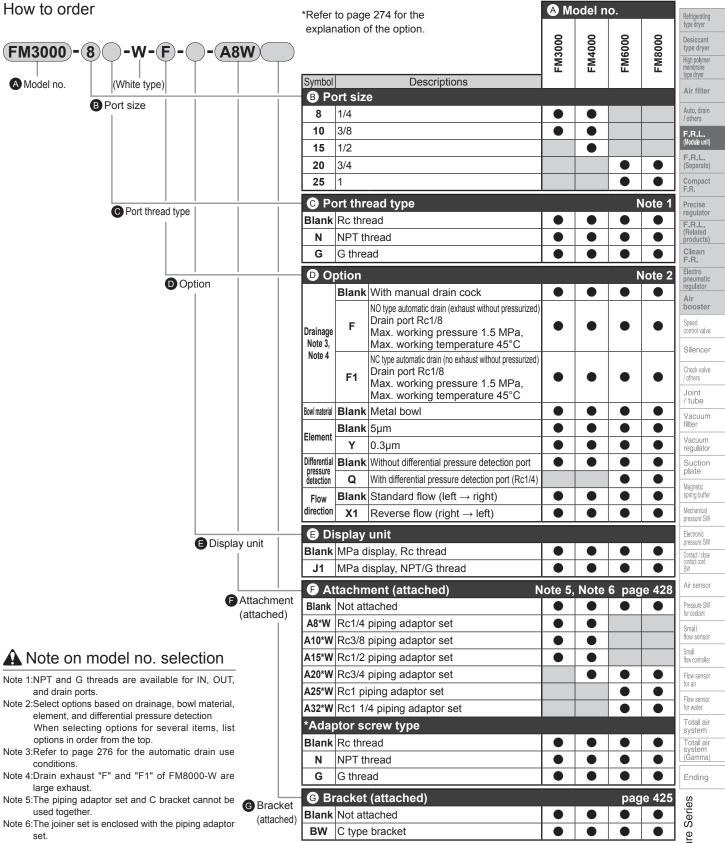
Air is purged with initial drainage until pressure reaches 0.1 MPa. The maximum working pressure is 1.5MPa, the guaranteed withstand pressure is 2.25MPa, the ambient temperature is -5 to 45°C, and the fluid temperature is 5 to 45°C.

Note 2: When "F1" with an automatic drain is selected, minimum operation pressure must be 0.15MPa.

The maximum working pressure is 1.5MPa, the guaranteed withstand pressure is 2.25MPa, the ambient temperature is -5 to 45°C, and the fluid temperature is 5 to 45°C. Note 3: Drainage accumulates up to 170 cm<sup>3</sup> only with the manual drain cock.

## Air Filter Series

How to order



# Medium pressure Series F.R.L unit

## **Air Filter** Series

#### Flow characteristic Refrigerating type dryer • FM3000-8-W • FM3000-10-W Desiccant type dryer 0.07 0.07 0.7MPa High polymer membrane type dryer 1.0MPa 0.7MPa 1.0MPa 0.4MPa 0.4MPa 0.06 0.06 (MPa) Pressure drop (MPa) 0.1MPa 0.1MPa 0.05 0.05 1.3MPa Air filter Pressure drop 0.04 0.04 1.3MPa 0.03 0.03 Auto, drain / others 0.02 0.02 F.R.L. (Module unit 0.01 0.01 Ω C 0.5 1.5 2.0 2.5 3.0 2.0 3.0 4.0 1.0 1.0 F.R.L. (Separate) 0.0 0.0 Air flow rate (m<sup>3</sup>/min. (ANR)) Air flow rate (m<sup>3</sup>/min. (ANR)) Compact F.R. • FM4000-8-W • FM4000-10-W • FM4000-15-W Precise regulator 0.07 0.07 0.07 0.7MPa 1.0MPa F.R.L. (Related products) 1.0MPa 0.1MPa 0.7MPa 0.06 0.06 0.06 (MPa) Pressure drop (MPa) 0.4MPa Pressure drop (MPa) 0.4MPa 0.05 0.05 0.05 Pressure drop 0.1MPa Clean F.R. 0.04 0.04 0.04 1.3MPa .3MPa Electro pneumatic regulator 0.03 0.03 0.03 0.02 0.02 0.02 0.01 Air booster 0.01 0.01 0 0 0 0.0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 0.0 10 2.0 3.0 4.0 5.0 0.0 Speed control valve Air flow rate (m<sup>3</sup>/min. (ANR)) Air flow rate (m<sup>3</sup>/min. (ANR)) Silencer Check valve / others • FM6000-20-W • FM6000-25-W 0.07 0.07 I 1.0MPa 0.7MPa → 1.0MPa Joint / tube 0.7MPa 0.06 0.06 0.4MPa (MPa) 0.4MPa Pressure drop (MPa) 0.05 0.05 Vacuum filter 0.1MPa 0.1MPa Pressure drop 0.04 0.04 1.3MPa . 3MPa Vacuum 0.03 0.03 regulator 0.02 0.02 Suction plate 0.01 0.01 0 0 Magnetic spring buffer 12 10 C 10 12 0 4 6 8 14 2 4 6 8 14 Air flow rate (m<sup>3</sup>/min. (ANR)) Air flow rate (m<sup>3</sup>/min. (ANR)) Mechanical pressure SW Electronic pressure SW FM8000-20-W • FM8000-25-W 0.07 0.07 Contact / close contact conf. 0.7MPa 1.0MPa 0.4MPa 0.06 0.06 0.7MPa (MPa) <sup>2</sup>ressure drop (MPa) 0.05 0.05 Air sensor 0.1MPa 0.4MPa Pressure drop 0.04 0.04 0.1MPa Pressure SW for coolant 1.3MPa 0.03 0.03 1.3MPa 0.02 0.02 Small flow sensor 0.01 0.01 0 0 Small flow controller 0 6 8 10 12 14 0 2 4 6 8 10 12 14 Air flow rate (m<sup>3</sup>/min. (ANR)) Air flow rate (m<sup>3</sup>/min. (ANR)) Flow sensor for air Flow sensor for water FM3000 Total air system FM4000-\*-W-Y(0.3µm element) FM6000 Total air

1.0MPa

1.3MPa

0.7MPa

0.4MPa

Air flow rate (m<sup>3</sup>/min. (ANR))

0.1MPa

10

20 3.0 40 50 6.0 70

FM8000 (Maximum flow rate) 10 FM8000-\*-W-Y FM6000-\*-W-Y Air flow rate (m<sup>3</sup>/min. (ANR)) FM4000-\*-W-Y FM3000-\*-W-Y 0.1 0.01 0 0.2 0.4 0.6 0.8 1.2 1.4 1.6 Primary pressure (MPa) CKD

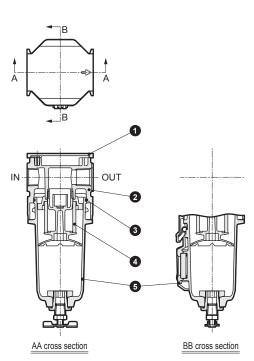
system (Gamma)

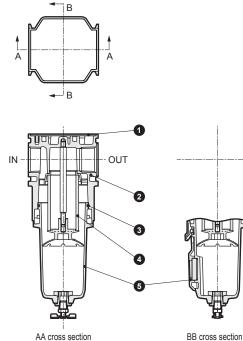
Ending

Air Filter Series Internal structure and parts list

#### Internal structure and parts list

• FM3000-W/FM4000-W

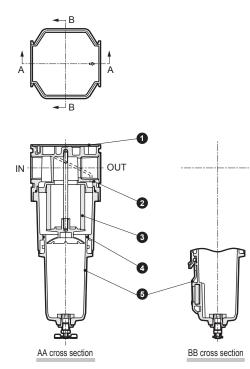




• FM6000-W

BB cross section

#### • FM8000-W



No.	Parts name	Material	bres:
(1)	Plate cover	ABS resin	<u> </u>
(2)	Body	Aluminum alloy die-casting	edit
(3)	O-ring	Special nitrile rubber	Σ Ľ.
(4)	Element (5µm)	Polypropylene	
(4)	Element (0.3µm)	-	
(5)	Metal bowl assembly	Aluminum alloy die-casting, brass, glass, nitrile rubber, steel, stainless steel	

Note 1: Refer to pages 358 to 359 for repair parts element, repair kit or bowl assembly.

Refrigerating type dryer

Desiccant type dryer High polymer membrane type dryer

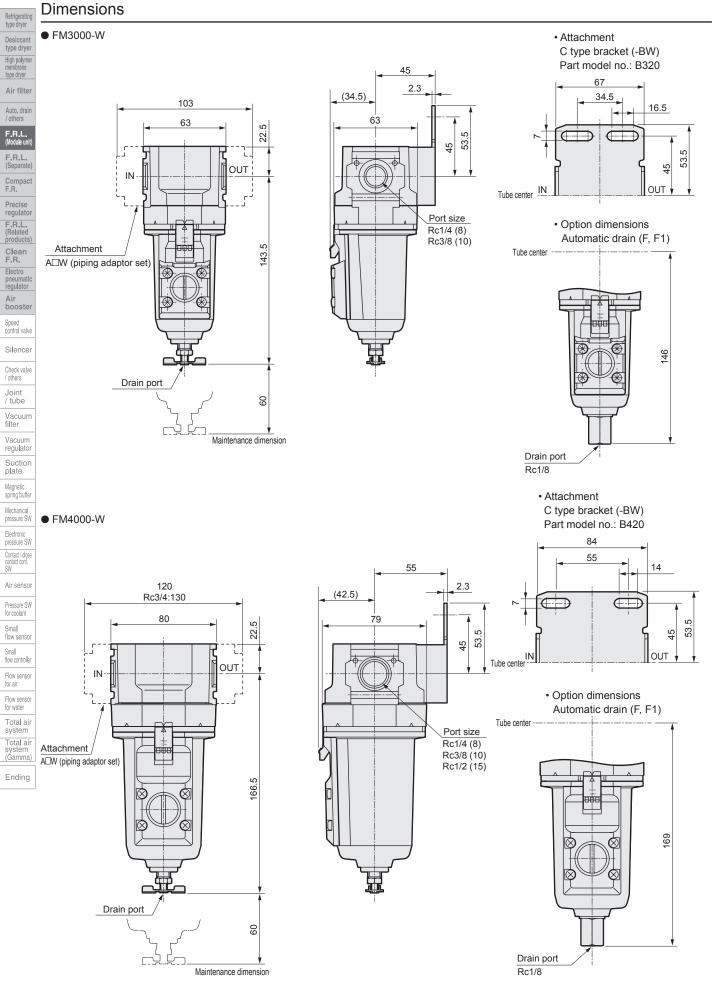
Air filter Auto, drain / others

F.R.L. (Module uni

F.R.L. (Separate)

Compact F.R.

### Air Filter Series



488 **CKD** 

### Air Filter Series

Dimensions

65

2

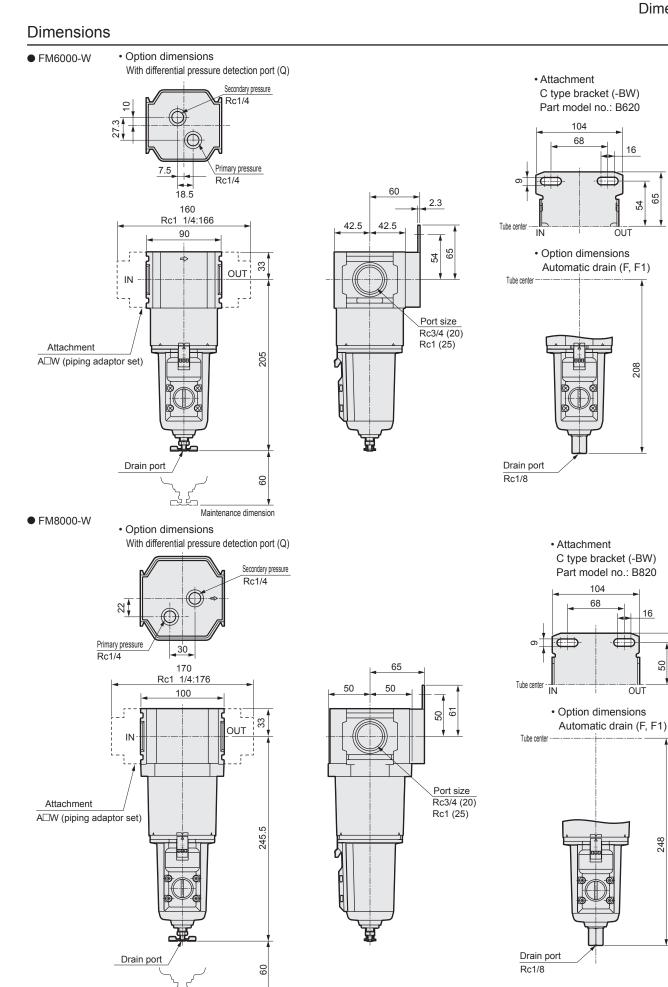
208

16

OUT

50

248



Maintenance dimension

Refrigerating type dryer Desiccant type dryer High polymer membrane type dryer Air filter Auto, drain / others F.R.L. (Module uni F.R.L. (Separate) Compact F.R. Precise regulator F.R.L. (Related products) Clean F.R. Electro pneumatic regulator Air booster Speed control valve Silence Check valve / others Joint / tube Vacuum filter Vacuum regulator Suction plate Magnetic spring buffer Mechanical pressure SW Electronic pressure SW Contact / close contact conf. SW Air sensor Pressure SW for coolant Small flow senso 5 Small flow controlle Flow sensor for air Flow sensor for water Total aiı system Total air system (Gamma) Ending Medium pressure Series F.R.L unit



# Oil mist filter medium pressure type MM3000-W/MM4000-W/MM6000-W/MM8000-W Series

M3000 to 8000 Series medium pressure specifications Port size: 1/4 to 1





- Note 7

#### Specifications

<sup>ii)</sup> Model n	10.	MM3000-W	N	1M4000-W	MM6000-	W	MM8000-W	/
Appearance								
Working fluid				Compre	ssed air			
Max. working press	sure MPa			0.1 to 1.0	6 Note 2			
Withstanding press	sure MPa			2.4	Note 2			
Drain capacity	cm³	45		80	80		804	
Port size Ro	, NPT, G	1/4, 3/8	1	/4, 3/8, 1/2	3/4, 1		3/4, 1	
Product weight	kg	0.35		0.55	1.0		1.48	
Mantle optior	n name	Blank (M type)		S (S	type)		X (X type)	
	13000-*-W	490		61			610	
Note 1 1/min. (ANR)	14000-*-W	1130		13	70		1370	
Primary pressure 1.4 MPa	16000-*-W	1740		19	20		1920	
Duran dura 0.04 MDs D. A.A.A.A	18000-*-W	3560		39	80		3980	
	rature °C	-5	to 60 (no	freezing) Note 2		-5 to	30 (no freezing) Not	e 2
Fluid temperatu	ıre °C		5 - 60	Note 2			5 to 30	
Filtration rating	μm	0.01(nominal)		0.	.3	Suction b	y activated charcoal	Note 3
Secondary side oil concen	ntration mg/m <sup>3</sup>	0.01 or less Note 4, Not	te 5	0.5 or les	s Note 4	0.00	3 or less Note 4, Note	e 6

Note 1: Use within the maximum processing flow rate.

Mantle (element) change

If the maximum processing flow is exceeded temporarily, or if the filter is installed at a place with high levels of pulsation, the mantle could be damaged or oil or drainage, etc., could splatter to the secondary side and result in faults at the terminal.

Note 2: When "F1" with an automatic drain is selected, minimum operation pressure must be 0.15 MPa. The maximum working pressure is 1.5MPa, the guaranteed withstand pressure is 2.25MPa, the ambient temperature is -5 to 45°C, and the fluid temperature is 5 to 45°C.

One year (6000 hours) or pressure drop 0.1 MPa

Note 3: Activated charcoal particles could flow to the secondary side, so install an air filter (F Series) or oil mist filter (M Series M type or S type) on the secondary side.

Note 4: When primary side oil concentration 30mg/m<sup>3</sup>, inlet air temperature 21°C.

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

Note 6: When an oil mist filter (M Series M type) is installed on the primary side.

Note 7: The mantel (element) replacement period differs with odor density in compressed air and thus cannot be clearly indicated.

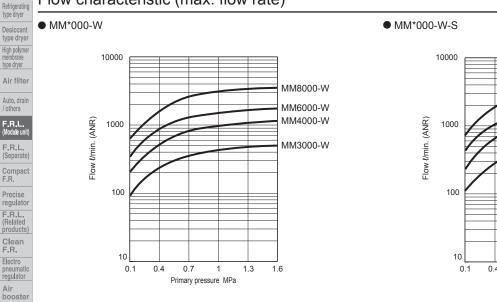
Consider the total period from the initial installation to when the smell of oil can be confirmed as the effective deodorizing period, and regularly replace the mantel (element). Keep the primary air temperature at 30°C or less. The deodorizing effect will drop if temperature is high, so provide heat dissipation measures.

How to order

How to order	*Refer	to pag	e 274 for the	A M	odel no	).	Refrigerating
	expla	nation	of the option.	9	0	0 0	
MM3000-8-W-F1A8W	$\supset$			MM3000	MM4000	AM600	type dryer High polymer membrane
Model no. (White type)	Symbo	I	Descriptions		2	~ ~	type dryer
B Port size	ΒP	ort siz	e				Air filter
	8	1/4					Auto, drain / others
	10	3/8					F.R.L.
	15	1/2					
	20	3/4				• •	(Separate)
	25	1	:			• •	F.R.
Port thread type			read type			Note 1	Precise regulator
		Rc thr			•	• •	F.R.L.
	N	NPT t			•	• •	products)
	G	G thre	20			• •	F.R.
Option	00	ption	1			Note 2	pneumatic
		Blank	With manual drain cock			• •	Air
	Drainage		NC type automatic drain (no exhaust without pressurized) Drain port Rc1/8				
	Note 3, Note 4	F1	Max. working pressure 1.5 MPa,				control valve
		Diami	Max. working temperature 45°C				Silencer
	Rowl materia	-	Metal bowl M type (nominal 0.01µm; remaining oil 0.01mg/m <sup>3</sup> )	•			Check valve
	DUWIIIIdleiid	S	S type (0.3µm; remaining oil 0.5mg/m <sup>3</sup> )	•			
	Elemen	t X	X type (deodorization; remaining oil 0.003mg/m <sup>3</sup> ) Note 5	-			/ tube
	Differentia		Without differential pressure detection port			• •	Vacuum filter
	pressure detection	-	With differential pressure detection port (Rc1/4)			• •	Vacuum
	Flow		Standard flow (left $\rightarrow$ right)			• •	Suction
	direction		Reverse flow (right $\rightarrow$ left)			• •	
	🕒 D	isplay	unit			i.	spring buffer
Display unit			Jisplay, Rc thread			• •	Mechanical pressure SW
	J1		display, NPT/G thread			• •	Electronic
	GΑ	ttachr	nent (attached)	lote 6.	Note 7	nage 428	Contact / close
Attachment		1	tached				contact cont. SW
(attached)	A8*W	Rc1/4	piping adaptor set				Air sensor
A Note on model no. selection			piping adaptor set				Pressure SW
	A15*W	Rc1/2	piping adaptor set				
Note 1: NPT and G threads are available for IN, OUT, and drain ports.	A20*W	Rc3/4	piping adaptor set				flow sensor
Note 2: Select options based on drainage, bowl	A25*W	Rc1 p	iping adaptor set			• •	Small flow controller
material, element, and differential pressure detection.			/4 piping adaptor set				Flow sensor for air
When selecting options for several items, list			crew type				Flow sensor
options in order from the top. Note 3: NO type automatic drain is not selective.		Rc thr					for water
Note 4: Refer to page 276 for the automatic drain use	N	NPT t					system
conditions. Note 5: Combination with option F1 is not possible.	G	G thre					type dryer         Desiccant         type dryer         High polymer         High polymer         High polymer         High polymer         Air filter         Auto, drain         / others         F.R.L.         (Separate)         Compact         F.R.L.         (Related products)         Clean         F.R.L.         (Precise products)         Clean         F.R.L.         (Precise products)         Clean         F.R.L.         (Precise products)         Clean         F.R.L.         (Precise regulator         Silencer         Check valve         / others         Joint         Vacuum         Yacuum         Vacuum         Vacuum         Presure SW         B         Contat / dpse contat cont.         Small flow sensor         Small flow sensor         Flow sensor         Small flow contaler         Flow sensor         For air         Flow sensor
Note 6: The piping adaptor set and C type bracket			t (attached)			Ogeneration     Desiccant type dryer       High polymer mybroading     High polymer mybroading       Air filter       Auto, drain / others       F.R.L. (Separate)       O     F.R.L.       F.R.L.     F.R.L.       Sitencer     F.R.L.       F.R.L.     Sitencer       O     Joint       I     Joint       Joint     Joint       Joint     Joint       Joint     Joint       Joint     Suction       I     Suction	
cannot be used together. Note 7: The joiner set is enclosed with the piping (attached)	′ I	Not at					
adaptor set.	BW	U type	e bracket				eries

Fundium pressure Series F.R.L unit

#### Flow characteristic (max. flow rate)



• MM\*000-W-X

F.R.L. (Module uni

Clean F.R.

Speed control valve Silence

Check valve / others

Joint / tube Vacuum filter

Vacuum

regulator

Suction plate

Magnetic spring buffer Mechanical pressure SW

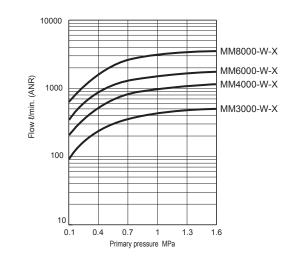
Electronic pressure SW Contact / close contact conf. Air sensor

Pressure SW for coolant

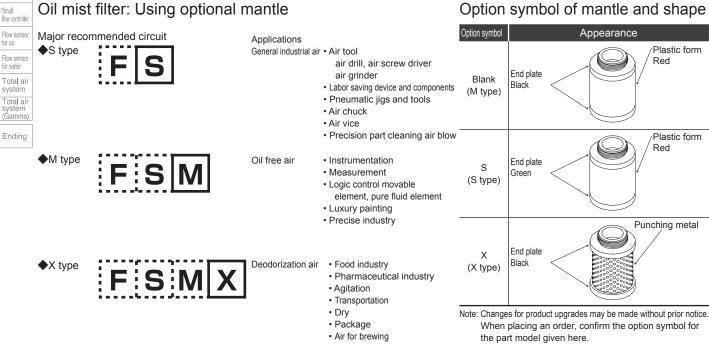
Small flow senso

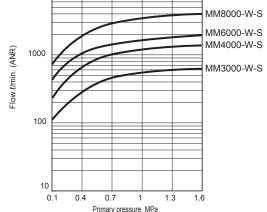
492

CKD



### Oil mist filter: Using optional mantle





Internal structure and parts list

Refrigerating type dryer

Desiccant type dryer High polymer membrane type dryer

Air filter Auto, drain / others

F.R.L. (Module unit) F.R.L. (Separate)

Compact F.R.

Precise regulator

F.R.L. (Related products)

Clean F.R.

Electro pneumatic regulator

Air booster

Speed control valve

Silencer

Check valve / others

Joint / tube

Vacuum filter

Vacuum regulator Suction plate

Magnetic spring buffer Mechanical pressure SW

Electronic pressure SW

Contact / close contact conf. SW

Air sensor

Pressure SW for coolant Small flow sensor

Small flow controller Flow sensor for air

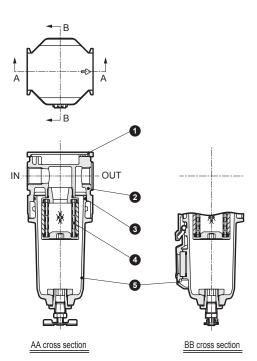
Flow sensor for water

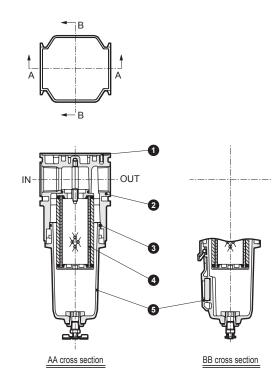
Total air system Total air system (Gamma)

Ending

#### Internal structure and parts list

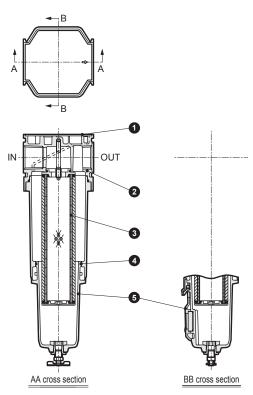
• MM3000-W/MM4000-W





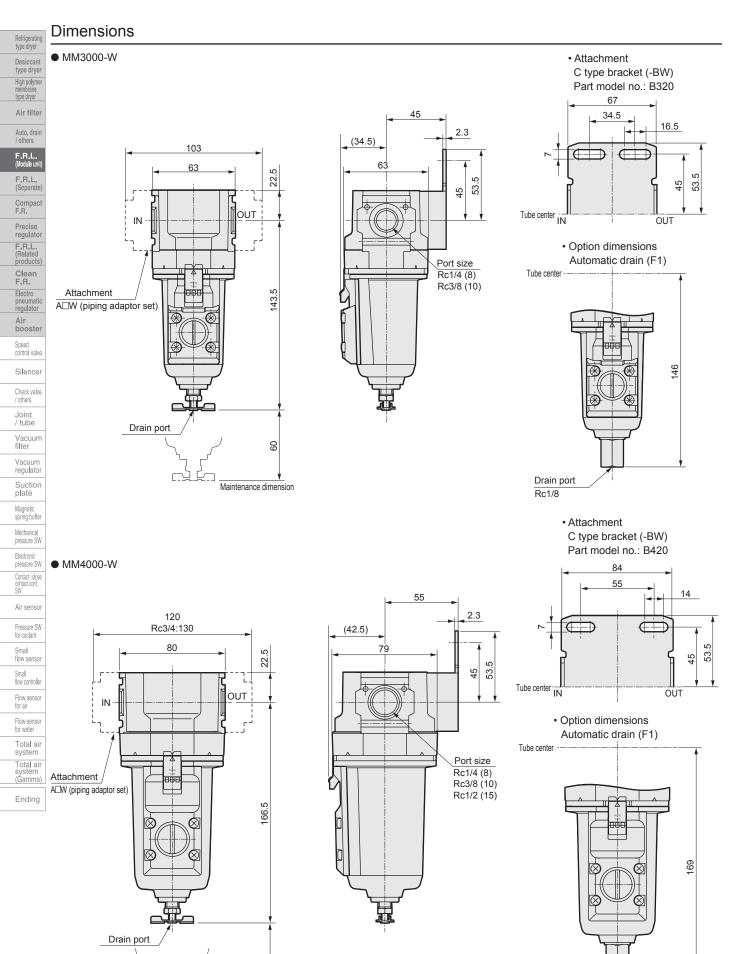
• MM6000-W

• MM8000-W



Medium pressure Series F.R.L unit Parts name No. Material (1) Plate cover ABS resin (2) Body Aluminum alloy die-casting Special nitrile rubber (3) O ring (4) Mantle assembly Aluminum alloy die-casting, brass, glass, nitrile rubber, steel, stainless steel (5) Metal bowl assembly

Note 1: Repair mantle and repair kit are common for M\*000-W. Refer to repair parts on page 367.



Drain port Rc1/8

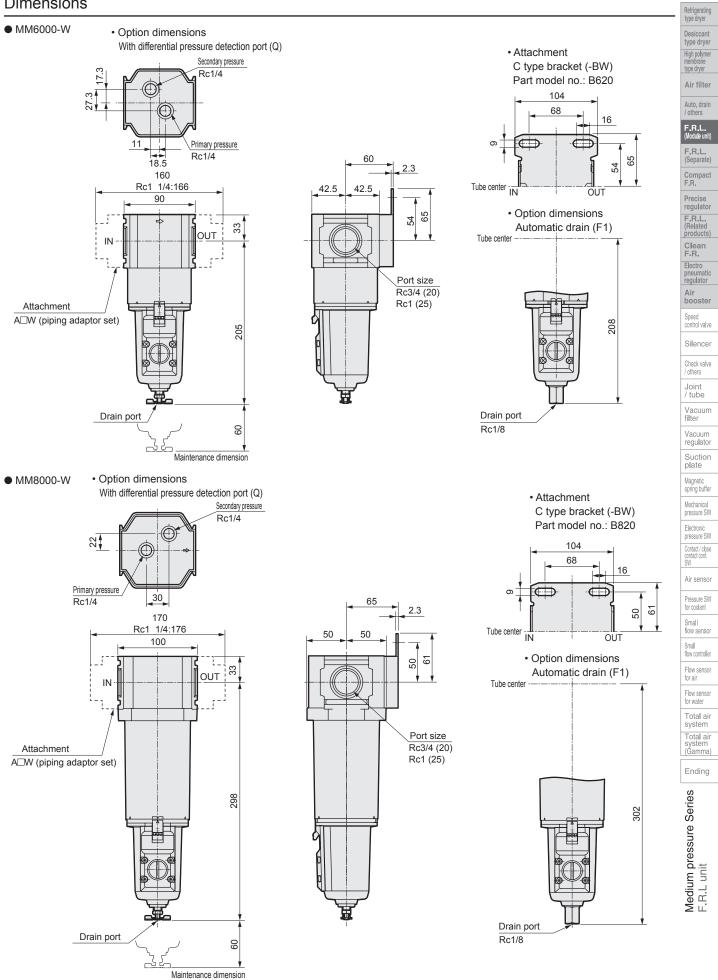
CKD

00

Maintenance dimension

#### Dimensions







#### Regulator medium pressure type

RM3000-W/RM4000-W Series

R3000-W/R4000-W Series medium specifications Port size: 1/4 to 1/2





#### Specifications

Refrigerating type dryer

Desiccant type dryer

High polyme membrane type dryer

Air filter Auto, drain / others

F.R.L. (Module unit F.R.L. (Separate Compace F.R. Precise regulator F.R.L. (Related products Clean F.R. Electro pneumati regulator Air booste

Speed control valve Silencer Check valve / others

Joint / tube

Vacuum filter

Vacuum regulator

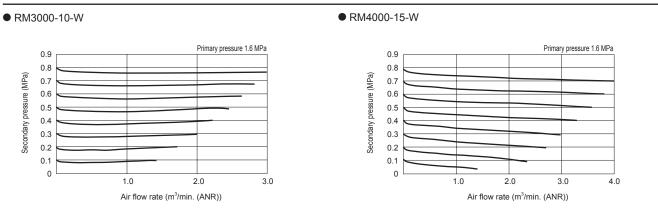
Suction plate

Magnetic spring buffer

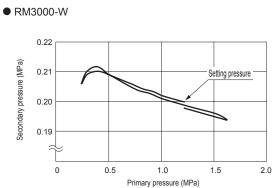
Descripti	ons	RM3000-W	RM4000-W			
Working fluid		Compres	sed air			
Max. working pre	ssure MPa	1.6	6			
Withstanding pres	ssure MPa	2.4	1			
Ambient temperate	ure range °C	-5 to 60 (no free	-5 to 60 (no freezing) Note 1			
Set pressure rang	ge MPa	0.05 to	0.85			
Relief		With relief m	nechanism			
Port size	Rc, NPT, G	1/4, 3/8 (1/2 uses an adaptor)	1/4, 3/8, 1/2 (3/4 uses an adaptor)			
Product weight	g	0.45	0.7			
Standard accesso	ories	Pressure gauge, nu	it for panel mount			

Note 1: The working temperature range of the pressure switch with indicator PPD assembly "R1" is 5 to 50°C .

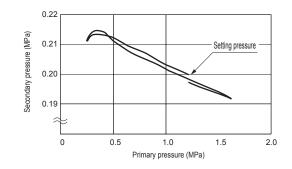
#### Flow characteristic



#### Pressure characteristic



#### • RM4000-W



### Regulator Series

How to order

Refrigerating

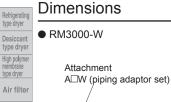
#### How to order

Characterization of the page 274 for the explanation of the option.       Otheresplanation.       Otheresplanati						_	type dryer
And the second sec	RM3000-8 -W-N A8W	$\bigcap$		*Refer to page 274 for the			Desiccant type dryer
Model no.       (Mhile type)       Image: Comparison of the comparison				explanation of the option.			High polymer membrane
Symbol       Descriptions         Port size       8       1/4         10       3/8       1/2         15       1/2       1/2         16       1/2       1/2         17       Pread       0         18       Nonrelief type       0         19       Option       0         14       0       0         15       1/2       0         14       0       0         15       1/2       0         14       0       0         15       1/2       0         15       1/2       0         16       Option       Note         17       Presure switch with display PPD assembly       0         18       Nonrelief type       0         19       Piping adaptor set       0         11       MPa display, NPT/G thread       0         14       MPa display, NPT/G thread       0       0         10       NOT and gaap on a the targe <td>(White type)</td> <td></td> <td></td> <td></td> <td>8</td> <td></td> <td></td>	(White type)				8		
Symbol       Descriptions         Port size       8       1/4         10       3/8       1/2         15       1/2       1/2         16       1/2       1/2         17       Pread       0         18       Nonrelief type       0         19       Option       0         14       0       0         15       1/2       0         14       0       0         15       1/2       0         14       0       0         15       1/2       0         15       1/2       0         16       Option       Note         17       Presure switch with display PPD assembly       0         18       Nonrelief type       0         19       Piping adaptor set       0         11       MPa display, NPT/G thread       0         14       MPa display, NPT/G thread       0       0         10       NOT and gaap on a the targe <td></td> <td>•</td> <td></td> <td></td> <td>130</td> <td>140</td> <td></td>		•			130	140	
Port size     8     1/4     10     3/8     15     1/2     Port thread type     Port thre	A Model no.	(At	tached)		L N	R N	
Port size				Descriptions	1		F.R.L.
3       1/4       0       10         10       3/8       0       10         15       1/2       0       10         0       20       0       0       0         0       0       0       0       0       0         0 <td>Port size</td> <td>B Por</td> <td>t size</td> <td></td> <td>Ļ</td> <td></td> <td></td>	Port size	B Por	t size		Ļ		
A constraint of the second of the secon			8				(Separate)
Port thread type     Port thread     No Thread     Port thread     Po		1	0				
Port thread type     Port		1	5	1/2			
Blank       Re thread	Port thread type	C Por	t threa	d type	No	40.4	F.R.L.
N       N		Bla	ank	Rc thread			products)
Image: Control       Option       Note 2         Image: Control       Option       Image: Control       Image: Con		1	N	NPT thread			
Image: Second			G	G thread			pneumatic
Image: Second		D Opt	tion		No		
Nonrelifype       Image: Standard pressure gauge (G401)       Image: Standard pressure gauge port Rc1/4 is assembled with sealed)       Image: Standard pressure gauge port Rc1/4 is assembled with sealed)       Image: Standard flow (left -> right)       I		Poliof	Blank	With relief mechanism			booster
Pressure       T Note 3       Without pressure gauge port RC1/4 is assembled with sealed)       Image: Control of Cont		Relief	N	Nonrelief type			Speed control valve
gauge       T8       Pressure gauge attached (a pressure gauge port Rc1/4 is assembled by open)       ●       Optimized         R1       Pressure switch with display PPD assembly       Note 4       ●       Optimized       Optimized         Flow       Blank       Standard flow (left → right)       ●       ●       Optimized       <			Blank	With standard pressure gauge (G401)			Silencer
gauge       T8       Pressure gauge attached (a pressure gauge pattech (a pressure gauge pattech (a pressure gauge attached (b pressure gauge attached bis)       Image: T8       Pressure gauge attached (b pressure gauge attached (b pressure gauge attached bis)       Image: T6       I		Pressure	T Note 3	Without pressure gauge (a pressure gauge port Rc1/4 is assembled with sealed)			Check valve
Image: Second Secon		gauge	Т8	Pressure gauge attached (a pressure gauge port Rc1/4 is assembled by open)			
			R1	Pressure switch with display PPD assembly Note 4			
Interction       X1       Reverse flow (right -> left)       Image: Constraint of the specific terms of terms of the specific terms of terms o		Flow		Standard flow (left $\rightarrow$ right)			Vacuum
Image: Section of the piping adaptor set income the target income the target income set is enclosed with the piping adaptor set and C type bracket anot be used at the same time.       Image: Section of the piping adaptor set income adaptor		Direction	X1	Reverse flow (right $\rightarrow$ left)			
Blank       MPa display, Rc thread       Image: Control of the contrel of the control of the contrel of the control of the		🛢 Dis	play un	it		_	regulator
<ul> <li>Piping adaptor set (attached)</li> <li>Note 5, Note 6</li> <li>Blank Not attached</li> <li>A<sup>®</sup> W Rc1/4 piping adaptor set</li> <li>A<sup>®</sup> W Rc1/4 piping adaptor set</li> <li>A<sup>®</sup> W Rc1/2 piping adaptor set</li> <li>A<sup>®</sup> Set</li></ul>		Blank		MPa display, Rc thread			
Piping adaptor set (attached)       Piping adaptor set (attached)       Note 5, Note 6         Blank       Not attached       ●       ●         A8"W       Rc1/4 piping adaptor set       ●       ●         A10"W       Rc3/8 piping adaptor set       ●       ●         A10"W       Rc3/8 piping adaptor set       ●       ●         A10"W       Rc3/8 piping adaptor set       ●       ●         A20"W       Rc3/4 piping adaptor set       ●       ●         A10"W       Rc3/8 piping adaptor set       ●       ●         A10"W       Rc3/8 piping adaptor set       ●       ●         A10"W       Rc3/8 piping adaptor set       ●       ●         A20"W       Rc3/4 piping adaptor set       ●       ●         Note 1:When G threads or NPT threads are selected, the IN. OUT and gauge port are the target       Note 7, Note 8 pages 152, 183       Blank         Note 3:For "T," a gauge plug is assembled instead of a pressure gauge.       ●       ●       ●       ●       ●       ●       ●       ●		J	1	MPa display, NPT/G thread			Magnetic opring buffer
Blank       Not attached       Image: State in the stane time.		F Pip	ing ada	ptor set (attached) Note 5	5, No	te 6	
A8*W       Rc1/4 piping adaptor set       Image: Constraint of the cons	- · · · ·	Віапк		Not attached			pressure SW
All 5*W       Rc1/2 piping ddptor set       Image: Set of the	(attached)			Rc1/4 piping adaptor set			Electronic pressure SW
A15*W       RC1/2 piping adaptor set       Image: Constraint of the con		A10	0*W	Rc3/8 piping adaptor set			Contact / close contact conf.
A20*W       Rc3/4 piping adaptor set         Note 3:For "T", a gauge plug is assembled instead of a pressure gauge.       Mote 7, Note 8 pages 152, 183         Blank       Not attached       Mote 7, Note 8 pages 152, 183         Blank       Not attached       Mote 7, Note 8 pages 152, 183         Blank       Not attached       Mote 7, Note 8 pages 152, 183         Blank       Not attached       Mote 7, Note 8 pages 152, 183         Blank       Not attached       Mote 7, Note 8 pages 152, 183         Blank       Not attached       Mote 7, Note 8 pages 152, 183 <t< td=""><td></td><td>A1:</td><td>5*W</td><td>Rc1/2 piping adaptor set</td><td></td><td></td><td>-</td></t<>		A1:	5*W	Rc1/2 piping adaptor set			-
A Note on model no. Selection       Image: A constraint of the selection of the selec		A20	0*W	Rc3/4 piping adaptor set			
Note 1:When G threads or NPT threads are selected, the IN, OUT and gauge port are the target       N       NPT thread       Image: Selected, the IN, OUT and gauge port are the target       Small thread         Note 2:When selecting options for several items, list options in order from the top.       Image: Selected, the IN, OUT and gauge port are the target       Image: Selected, the Image: Selected	A Note on model no. selection			w type	Ļ		Pressure SW for coolant
IN, OUT and gauge port are the targetNNPT threadIntercedulationNote 2:When selecting options for several items, list options in order from the top.GG threadGGNote 3:For "T", a gauge plug is assembled instead of a pressure gauge.GAttachment (attached)Note 7, Note 8 pages 152, 183Fow sereorNote 4:Refer to page 1140 for details on "R1".BlankNot attachedIntercedulationFow sereorNote 5:The joiner set is enclosed with the piping adaptor set.BWC type bracketIntercedulationNote 6:The piping adaptor set A*00-**-W (refer to page 428 for related devices) is enclosed.B3WL type bracketIntercedulationNote 7:Refer to the related devices for details on the attachments. The piping adaptor set and C type bracket cannot be used at the same time.G40PPressure gauge: G40D-8-P10IntercedulationNote 8:If NPT is selected for the "C" piping thread, a NPT pressure gauge is enclosed.G50PPressure gauge: G50D-8-P10IntercedulationG50PPressure gauge: G50D-8-P10IntercedulationIntercedulationIntercedulationG50PPressure gauge: G50D-8-P10IntercedulationIntercedulationG50PPressure gauge: G50D-8-P10IntercedulationIntercedulationG50PPressure gauge: G50D-8-P10IntercedulationIntercedulationG50PPressure gauge: G50D-8-P10IntercedulationIntercedulationG50PPressure gauge: G50D-8-P10IntercedulationIntercedulationG50PPressure gauge: G50D-8-P10<		Blank					
Note 2:When selecting options for several items, list options in order from the top.       G       G thread       Item controls         Note 3:For "T", a gauge plug is assembled instead of a pressure gauge.       Note 7, Note 8 pages 152, 183       How sensor         Note 4:Refer to page 1140 for details on "R1".       Blank       Not attached       Item controls         Note 5:The joiner set is enclosed with the piping adaptor set.       BW       C type bracket       Item controls         Note 6:The piping adaptor set A*00-**-W (refer to page 428 for related devices) is enclosed.       G 45P       Pressure gauge: G45D-8-P10       Item controls         Note 7:Refer to the related devices for details on the attachments.       G 49P       Pressure gauge: G49D-8-P10       Item controls         G 40P       Pressure gauge: G40D-8-P10       Item controls       Item controls         Note 8:If NPT is selected for the "C" piping thread, a NPT pressure gauge is enclosed.       G 50P       Pressure gauge: G50D-8-P10       Item controls         Note 8:If NPT is selected for the "C" piping thread, a NPT pressure gauge is enclosed.       If Bc or G thread is       G 50P       Pressure gauge: G50D-8-P10       Item controls	IN, OUT and gauge port are the target						
Note 3:For "T", a gauge plug is assembled instead of a pressure gauge.       Note 4:Refer to page 1140 for details on "R1".       Note 4:Refer to page 1140 for details on "R1".       Note 5:The joiner set is enclosed with the piping adaptor set.       Blank       Not attached       Image: Ploy sensor         Note 6: The piping adaptor set A*00-**-W (refer to page 428 for related devices) is enclosed.       BW       C type bracket       Image: Ploy sensor       Total air system         Note 7: Refer to the related devices for details on the attachments.       G49P       Pressure gauge: G49D-8-P10       Image: Ploy sensor       Total air system         Note 8: If NPT is selected for the "C" piping thread, a NPT pressure gauge: gauge: G50D-8-P10       Image: G50D       Image: G50D       Image: G50D-8-P10       Image: G50D	<b>5</b> 1		G	G thread			flow controller
Note 4:Refer to page 1140 for details on "R1".       Note 4:Refer to page 1140 for details on "R1".         Note 5:The joiner set is enclosed with the piping adaptor set.       BW       C type bracket       Total air system         Note 6:The piping adaptor set A*00-**-W (refer to page 428 for related devices) is enclosed.       BW       C type bracket       Note 9       Image: system         Note 7:Refer to the related devices for details on the attachments.       G49P       Pressure gauge: G49D-8-P10       Image: G59D-8-P10       Image: G40D-8-P10       Image: G40D-8-P10         Note 8:If NPT is selected for the "C" piping thread, a NPT pressure gauge: G50D-8-P10       Image: G50D-8-P1		G Atta	achmer	nt (attached) Note 7, Note 8 pages	152,		Flow sensor for air
Note 5:The joiner set is enclosed with the piping adaptor set.         Note 6:The piping adaptor set A*00-**-W (refer to page 428 for related devices) is enclosed.         Note 7:Refer to the related devices for details on the attachments.         The piping adaptor set and C type bracket cannot be used at the same time.         Note 8:If NPT is selected for the "C" piping thread, a NPT pressure gauge: G50D-8-P10         G40P       Pressure gauge: G40D-8-P10         G40P       Pressure gauge: G40D-8-P10         G40P       Pressure gauge: G50D-8-P10         G50P       Pressure gauge: G50D-8-P10         G50P       Pressure gauge: G50D-8-P10         G50P       Pressure gauge: G50D-8-P10         G50P       Pressure gauge: G50D-8-P10		Bla	ank	Not attached			Flow sensor
set.       B3W       L type bracket       Note 9       Image: system         Note 6: The piping adaptor set A*00-**-W (refer to page 428 for related devices) is enclosed.       G45P       Pressure gauge: G45D-8-P10       Image: G49D-8-P10       Image: G40D-8-P10	Note 5:The joiner set is enclosed with the piping adaptor						Total air
for related devices) is enclosed.       G45P       Pressure gauge: G45D-8-P10       Image: G45D-8-P10       Image: G49D-8-P10       Image: G40D-8-P10					<u>,                                    </u>		system
Note 7:Refer to the related devices for details on the attachments.       G49P       Pressure gauge: G49D-8-P10       Image: G49D-8-P10         The piping adaptor set and C type bracket cannot be used at the same time.       G59P       Pressure gauge: G59D-8-P10       Image: G40D-8-P10       Image: G40D-8-P10       Image: G40D-8-P10         Note 8:If NPT is selected for the "C" piping thread, a NPT pressure gauge is enclosed. If Rc or G thread is       G50P       Pressure gauge: G50D-8-P10       Image: G50							
The piping adaptor set and C type bracket cannot be used at the same time.     G39P     Pressure gauge: G39D-6-P10       Note 8:If NPT is selected for the "C" piping thread, a NPT pressure gauge is enclosed. If Bc or G thread is     G50P     Pressure gauge: G50D-8-P10							
used at the same time. Note 8:If NPT is selected for the "C" piping thread, a NPT pressure gauge: G50D-8-P10 pressure gauge is enclosed. If Rc or G thread is							
G50P     Pressure gauge: G50D-8-P10       pressure gauge is enclosed. If Rc or G thread is selected, an R thread pressure gauge is enclosed.       G41P       Pressure gauge: G41D-8-P10	used at the same time.						ries
selected, an R thread pressure gauge is enclosed.							Sei
		G4	1P	Pressure gauge: G41D-8-P10			ure

Note 9:Refer to Safety precautions for the F.R.L. unit for details on mounting the L-type bracket.

- Medium pressure Ser F.R.L unit
- The internal structure and parts list are common for R\*-000-W. Refer to page 381.
- Refer to page 393 for optional parts drawing.

### **Regulator** Series



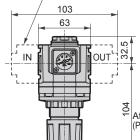
Auto, drain / others

F.R.L. (Module uni

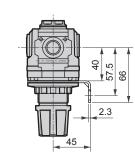
F.R.L. (Separate

Compact F.R.

Precise regulato



Х 47 32 45 2.3 2.5 53.5 45 Port size Attachment Rc1/4 (8) (Pressure gauge) Rc3/8 (10) Option with PPD 31.5

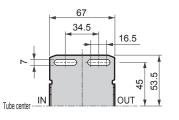


Panel cut dimension

Panel plate thickness: Max. 7 mm

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

Dimension for knob operation

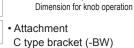


• RM4000-W Attachment ADW (piping adaptor set) 120 Rc3/4:130 80 OUT IN minn

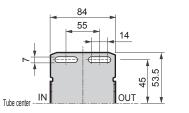
32

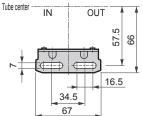
110

ო



Part model no.: B420

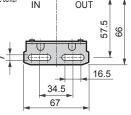




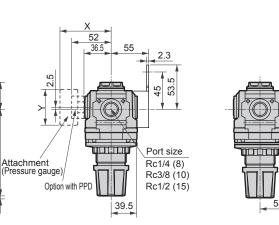
L type bracket (-B3W)

Part model no.: B330

Pressure gauge attac	ched optional dir	nensions table
Attached pressure gauge	Х	Y
G45P	(70)	ø39
G49P	(69.5)	ø43.5
G59P	(72)	ø52
G40P	(71.5)	ø42.5
G50P	(71.5)	ø52.5
G41P	(70)	ø42



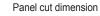
G45P	(70)	ø39
G49P	(69.5)	ø43.5
G59P	(72)	ø52
G40P	(71.5)	ø42.5
G50P	(71.5)	ø52.5
G41P	(70)	ø42



L type bracket (-B3W) Part model no.: B430 OUT IN Tube cente 58 66.5 14

55

84





40.5 28 66.5

55

2.3

Panel plate thickness: Max. 7 mm

-					
Pressure	gauge	attached	optional	dimensions	table

Attached pressure gauge	Х	Y
G45P	(75)	ø39
G49P	(74.5)	ø43.5
G59P	(77)	ø52
G40P	(76.5)	ø42.5
G50P	(76.5)	ø52.5
G41P	(75)	ø42

### **SELEX F.R.L.** Modular type

# **Copper and PTFE free Series**

Components for air preparation / pressure adjustment / F.R.L. unit



CONTENTS	
Product introduction	270
Series variation	250 to 265
A Safety precautions	276
Combination	
● F.R.L. combination (C*000-W-P6)	500
Filter / regulator	
<ul> <li>Filter regulator (W*000-W-P6)</li> </ul>	501
<ul> <li>Reverse filter regulator (W*100-W-P6)</li> </ul>	502
Air filter	
● Air filter (F*000-W)	503
<ul> <li>Oil mist filter (M*000-W)</li> </ul>	504
Regulator	
<ul> <li>Regulator (R*000-W-P6)</li> </ul>	505
<ul> <li>Reverse regulator (R*100-W-P6)</li> </ul>	506
Lubricator	
<ul> <li>Lubricator (L*000-W)</li> </ul>	507
Pressure gauge (G49D-P6/G59D-P6)	508
Bracket, joiner (B-W/J-W)	425
Distributor (D*01-00-W)	426
Piping adaptor (A***-W)	428



Refrigerating type dryer

Desiccant type dryer

### F.R.L. combination: Copper and PTFE free C1000/C2500/C3000 C4000/C6500/C8000-W-P6 Series

\*Refer to page 274 for the

explanation of the option.

Piping adaptor set (attached)

G Shut-off valve (attached)

Descriptions

Copper ion prevention treatment

Port size: 1/8 to 1



**A6W) VW** 

Symbol



A Model no.

C1000 C2500 C3000 C4000 C6500 C8000

cypo aryor						
High polymer membrane type dryer	<b>T</b>			- I '		JIS syn
Air filter				_		
Auto, drain / others						
F.R.L. (Module unit)	How to or	der				
F.R.L. (Separate)	C1000 -	6)	)- W	-(C	TP	6-(
Compact F.R.			(White ty	/pe)	Copper a	nd PTFE
Precise regulator	A Model no.		rt size		free spec	ification
F.R.L. (Related products)						
Clean F.R.						
Electro pneumatic regulator						
Air booster						
Speed control valve			C Port thre	ad type		
Silencer				uu typo		
Check valve / others						
Joint / tube					D Opti	 
Vacuum filter					Opti	
Vacuum regu <b>l</b> ator						
Suction plate						
Magnetic spring buffer						
Mechanical pressure SW						
Electronic pressure SW						
Contact / close contact conf. SW						
Air sensor						
Pressure SW for coolant						
Small flow sensor						
Small flow controller					ſ	Display
Flow sensor for air					, c	Diopidy
Flow sensor for water						
Total air system						
Total air system (Gamma)						
Ending	A Note c	n mo	dal na	مام	ction	
	Note 1:Refer to					imension

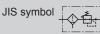
- Note 1:Refer to pages 286 to 293 for specifications, dimension and flow characteristics.
- Note 2:When G threads or NPT threads are selected, the IN. OUT, gauge port, and drainage discharge port are the target, including the attachment V.
- Note 3:Select options for each drainage, bowl material, element differential pressure detection, and regulator items When selecting options for several items, list options in order from the top.
  - Select one of the regulator options.
- Note 4:The joiner set is enclosed with the piping adaptor set.
- Note 5:Combinations other than those above are used as custom combinations (Pages from 510).

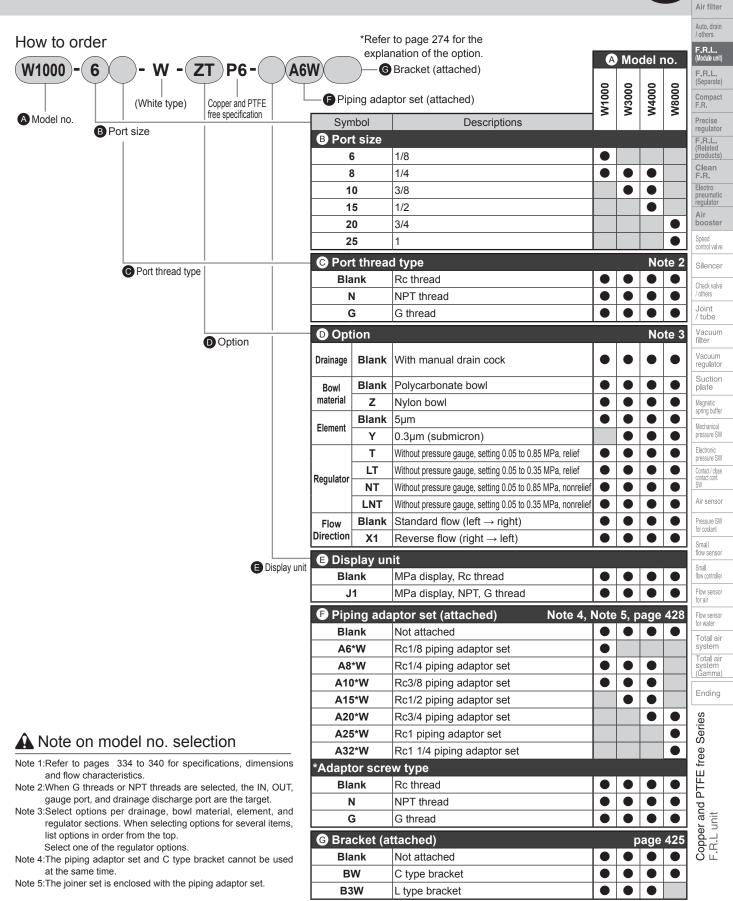
B Por	IDOI	Descriptions						
	t size							
	6	1/8						
8	3	1/4						
1	0	3/8						
1	5	1/2						
20 25		3/4						
		1						
O Dor	t throad		_			_	No	<b>t</b> 0
	t thread ank	Rc thread						le
		NPT thread	-					
	N		-					
	3	G thread	_					_
D Opt	ion						No	te
Drainage	Blank	Filter with manual drain cock, lubricator without manual cock						
Dramage	С	Lubricator with manual cock						
Bowl	Blank	Polycarbonate bowl						
material	Z	Nylon bowl						
Element	Blank	5µm						
LIGHIGHI	Y	0.3µm (submicron)						
Differential	Blank	Without differential pressure detection port						
pressure detection	Q	With differential pressure detection port (Rc1/4)						
	т	Without pressure gauge, setting 0.05 to 0.85 MPa, relief						
Development	LT	Without pressure gauge, setting 0.05 to 0.35 MPa, relief						
Regulator	NT	Without pressure gauge, setting 0.05 to 0.85 MPa, nonrelief						
	LNT	Without pressure gauge, setting 0.05 to 0.35 MPa, nonrelief						
Flow	Blank	Standard flow (left $\rightarrow$ right)						
Direction	X1	Reverse flow (right $\rightarrow$ left)						
	play un	it						
	ank	MPa display, Rc thread						
		MPa display, NPT, G thread	-					
	1							
J			-					
🕞 Pip	ing ada	ptor set (attached)	•	N	lote	• 4 p	age	42
F Pip Bla	ing ada ank	ptor set (attached) Not attached	•	• •	• lote	• 4 p	age	4:
F Pip Bla A6	ing ada ank *W	ptor set (attached) Not attached Rc1/8 piping adaptor set	•		lote	• 4 p	age	42
F Pip Bla A6 A8	ing ada ank *W *W	ptor set (attached) Not attached Rc1/8 piping adaptor set Rc1/4 piping adaptor set	-		Iote	• 4 p •	age	4:
Pip     Bla     A6     A8     A10	ing ada ank *W *W D*W	ptor set (attached) Not attached Rc1/8 piping adaptor set Rc1/4 piping adaptor set Rc3/8 piping adaptor set	-		<ul> <li>Iote</li> <li>Iote<td>● 4 p ●</td><td>age</td><td>42</td></li></ul>	● 4 p ●	age	42
Pip     Bla     A6     A8     A10     A15	ing ada ank *W *W 0*W 5*W	ptor set (attached)         Not attached         Rc1/8 piping adaptor set         Rc1/4 piping adaptor set         Rc3/8 piping adaptor set         Rc1/2 piping adaptor set	-		<ul> <li>Iote</li> <li>Iote<td>● 4 p ● ●</td><td>age</td><td>4:</td></li></ul>	● 4 p ● ●	age	4:
Pip     Bla     A6     A8     A10     A15     A20	ing ada ank *W *W 0*W 5*W 0*W	ptor set (attached) Not attached Rc1/8 piping adaptor set Rc1/4 piping adaptor set Rc3/8 piping adaptor set Rc1/2 piping adaptor set Rc3/4 piping adaptor set	-		<ul> <li>Iote</li> <li>Iote<td><ul> <li>4 p</li> <li>0</li> <li>0</li> <li>0</li> <li>0</li> <li>0</li> <li>0</li> </ul></td><td>age</td><td>4:</td></li></ul>	<ul> <li>4 p</li> <li>0</li> <li>0</li> <li>0</li> <li>0</li> <li>0</li> <li>0</li> </ul>	age	4:
Pip     Bla     A6     A8     A10     A15     A20	ing ada ank *W *W 0*W 5*W	ptor set (attached)         Not attached         Rc1/8 piping adaptor set         Rc1/4 piping adaptor set         Rc3/8 piping adaptor set         Rc1/2 piping adaptor set         Rc3/4 piping adaptor set         Rc3/4 piping adaptor set         Rc1 piping adaptor set	-		<ul> <li>Iote</li> <li>Iote<td><ul> <li>4 p</li> <li>0</li> <li>0</li> <li>0</li> <li>0</li> <li>0</li> </ul></td><td>age</td><td></td></li></ul>	<ul> <li>4 p</li> <li>0</li> <li>0</li> <li>0</li> <li>0</li> <li>0</li> </ul>	age	
<ul> <li>Pip</li> <li>Bla</li> <li>A6</li> <li>A8</li> <li>A10</li> <li>A12</li> <li>A20</li> <li>A22</li> <li>A32</li> </ul>	ing ada ank *W *W 0*W 5*W 0*W 5*W 2*W	ptor set (attached)Not attachedRc1/8 piping adaptor setRc1/4 piping adaptor setRc3/8 piping adaptor setRc1/2 piping adaptor setRc3/4 piping adaptor setRc3/4 piping adaptor setRc1 piping adaptor setRc1 piping adaptor setRc1 1/4 piping adaptor set	-			<ul> <li>4 p</li> <li>0</li> <li></li></ul>	age	
<ul> <li>Pip</li> <li>Bla</li> <li>A6</li> <li>A8</li> <li>A10</li> <li>A12</li> <li>A20</li> <li>A22</li> <li>A32</li> </ul>	ing ada ank *W *W D*W D*W D*W D*W D*W	ptor set (attached)Not attachedRc1/8 piping adaptor setRc1/4 piping adaptor setRc3/8 piping adaptor setRc1/2 piping adaptor setRc3/4 piping adaptor setRc3/4 piping adaptor setRc1 piping adaptor setRc1 piping adaptor setRc1 1/4 piping adaptor set	-			<ul> <li>4 p</li> <li>0</li> <li></li></ul>	age	
Pip     Bla     A6     A8     A10     A11     A20     A22     A32     *Adapt	ing ada ank *W *W 0*W 5*W 0*W 5*W 2*W	ptor set (attached)Not attachedRc1/8 piping adaptor setRc1/4 piping adaptor setRc3/8 piping adaptor setRc1/2 piping adaptor setRc3/4 piping adaptor setRc3/4 piping adaptor setRc1 piping adaptor setRc1 piping adaptor setRc1 1/4 piping adaptor set	-				age	
Pip     Bla     A6     A8     A10     A16     A20     A24     A32     *Adapt	ing ada ank *W )*W )*W 5*W 0*W 2*W or scre	ptor set (attached)         Not attached         Rc1/8 piping adaptor set         Rc1/4 piping adaptor set         Rc3/8 piping adaptor set         Rc1/2 piping adaptor set         Rc3/4 piping adaptor set         Rc1 piping adaptor set         Rc3/4 piping adaptor set         Rc1 piping adaptor set         Rc1 piping adaptor set         Rc1 yiping adaptor set         w type	-			4 p 0 0 0 0 0 0 0 0 0 0 0 0 0	age age age age age age age age	
Pip     Bla     A6     A8     A10     A11     A20     A22     A32     *Adapt     Bla     N	ing ada ank *W >*W 5*W 0*W 2*W 0r scre ank	ptor set (attached)         Not attached         Rc1/8 piping adaptor set         Rc1/4 piping adaptor set         Rc3/8 piping adaptor set         Rc1/2 piping adaptor set         Rc3/4 piping adaptor set         Rc1 piping adaptor set         Rc3/4 piping adaptor set         Rc1 piping adaptor set         Rc1 1/4 piping adaptor set         Rc1 tread	-			4 p 0 0 0 0 0 0 0 0 0 0 0 0	age age age age age age age age	
Pip     Bla     A6     A8     A10     A11     A20     A22     A32     *Adapt     Bla     N     C	ing ada ank *W *W 5*W 5*W 5*W 2*W or scre ank N 3	ptor set (attached)Not attachedRc1/8 piping adaptor setRc1/4 piping adaptor setRc3/8 piping adaptor setRc1/2 piping adaptor setRc3/4 piping adaptor setRc1 piping adaptor setRc1 piping adaptor setRc1 number of the piping adaptor setM typeRc threadNPT threadG thread	-					
Pip     Bla     A6     A8     A10     A16     A20     A22     *Adapt     Bla     N     C     G Shu	ing ada ank *W *W 5*W 5*W 5*W 2*W or scre ank N 3	ptor set (attached)Not attachedRc1/8 piping adaptor setRc1/4 piping adaptor setRc3/8 piping adaptor setRc1/2 piping adaptor setRc3/4 piping adaptor setRc1/4 piping adaptor setRc1 piping adaptor setRc1 1/4 piping adaptor setRc1 1/4 piping adaptor setRc1 1/4 piping adaptor setRc1 1/4 piping adaptor setW typeRc threadNPT thread	-				age	



#### Filter and regulator: Copper and PTFE free W1000/W3000 W4000/W8000 -W-P6 Series

Copper ion prevention treatment Port size: 1/8 to 1





501

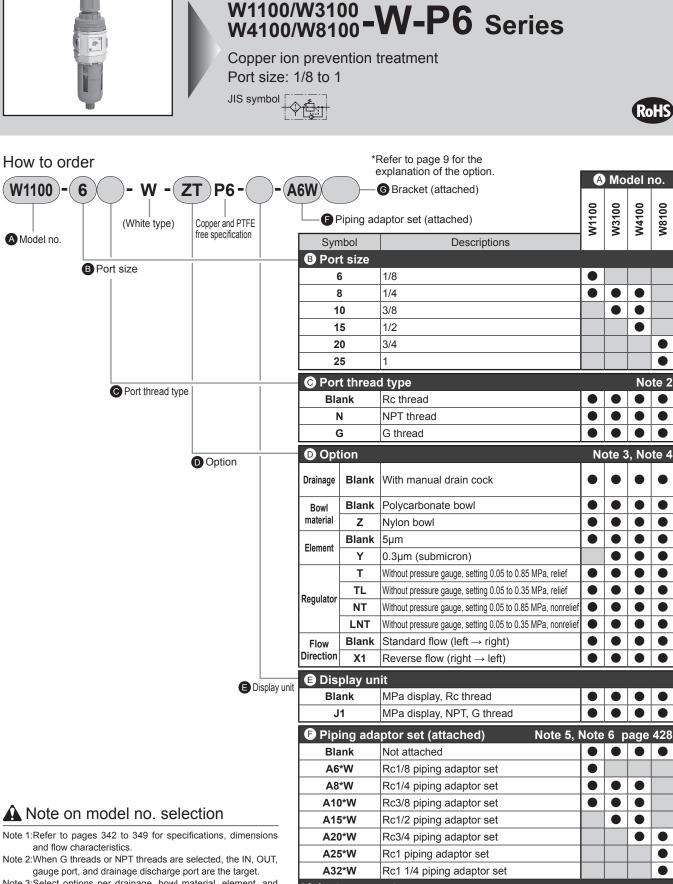
Refrigerating type dryer

Desiccant type dryer

High po**l**yme

type dryer

RoHS

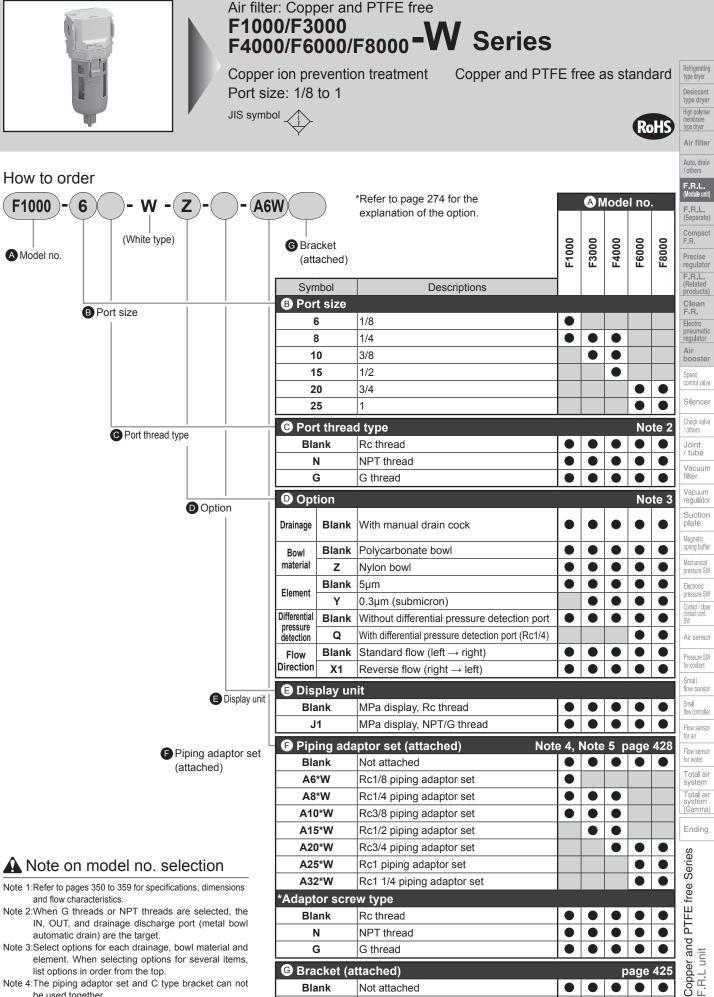


Reverse filter/regulator: Copper and PTFE free

- Note 3:Select options per drainage, bowl material, element, and regulator sections. When selecting options for several items, list options in order from the top. Select one of the regulator options.
- Note 4:Positions of a check valve and pressure gauge can not be changed. If the IN and OUT direction must be reversed, indicate "X1" at the end of the option field.
- Note 5:The piping adaptor set and C type bracket cannot be used at the same time.

Note 6: The joiner set is enclosed with the piping adaptor set.

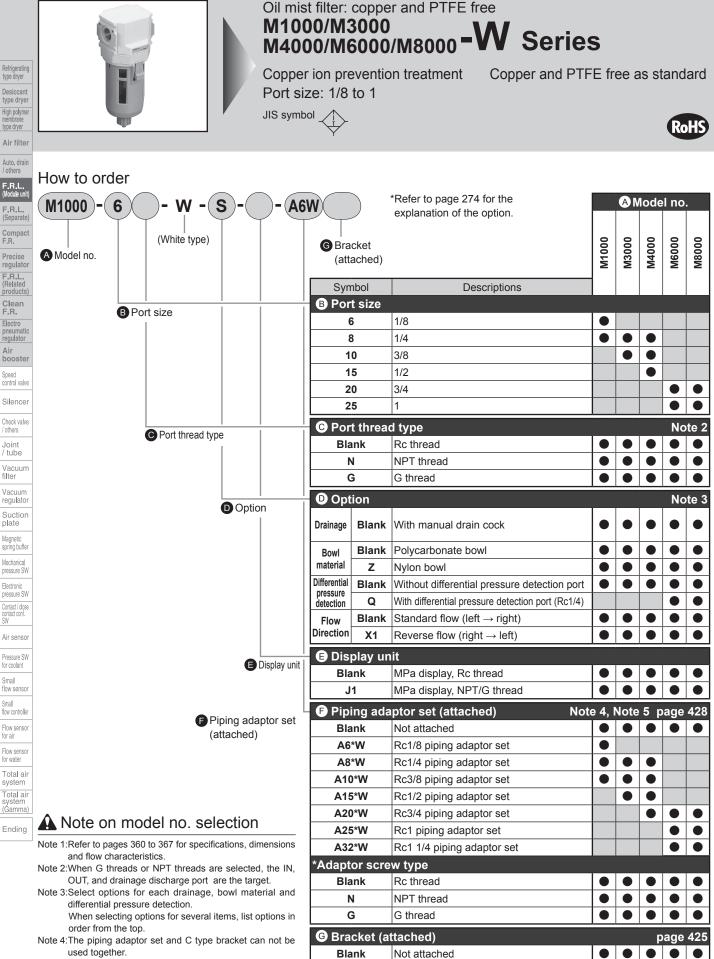
\*Adaptor screw type Blank Rc thread NPT thread Ν G G thread G Bracket (attached) page 425 Not attached Blank BW C type bracket B3W L type bracket 



BW

C type bracket

- Note 4:The piping adaptor set and C type bracket can not be used together.
- Note 5: The joiner set is enclosed with the piping adaptor set.



BW

C type bracket

 $\bullet \bullet \bullet$ 

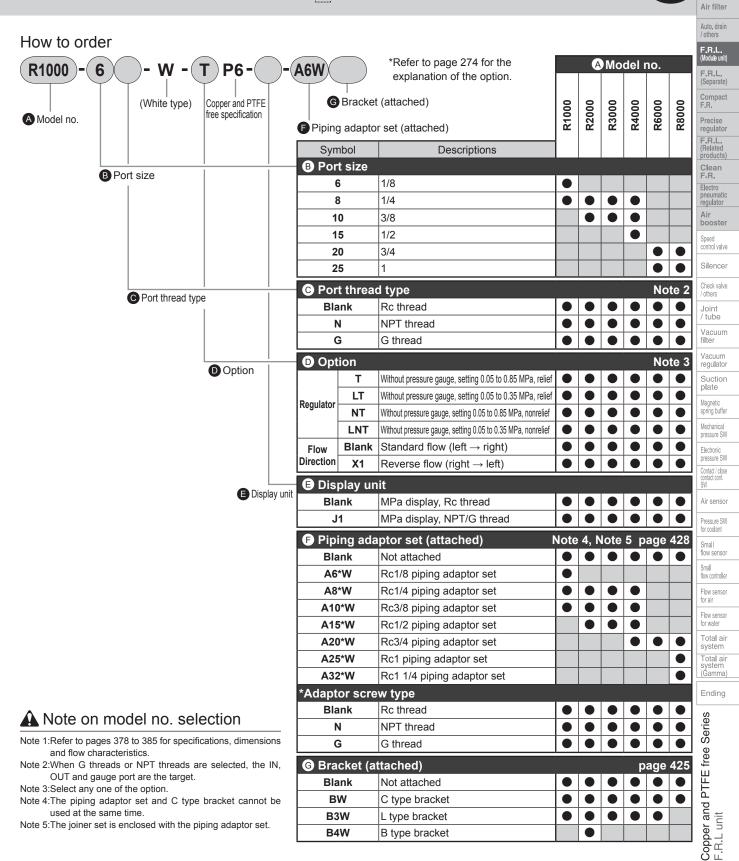
Note 5: The joiner set is enclosed with the piping adaptor set.



### Regulator: Copper and PTFE free R1000/R2000/R3000 R4000/R6000/R8000 - W-P6 Series

Copper ion prevention treatment Port size: 1/8 to 1





Refrigerating type dryer

Desiccant type dryer

High polyme

type dryer

RoHS



Refrigerating type dryer

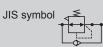
Desiccant type dryer

### Reverse regulator: Copper and PTFE free R1100/R2100/R3100 R4100/R6100/R8100 -W-P6 Series

\*Refer to page 274 for the

explanation of the option.

Copper ion prevention treatment Port size: 1/8 to 1



**A6** 



A Model no.

type dryer		-1			01
High polymer membrane type dryer					JIS s
Air filter					
Auto, drain / others	How to c	rdor			
F.R.L. (Module unit)				$\bigcirc$	
<b>F.R.L.</b> (Separate)	R1100	-(6)	)- W -	<b>T</b> P6	-(
Compact F.R.			(White type)	Copper and free specific	PTFE
Precise regulator	A Model no.			free specific	ation
F.R.L. (Related products)					
Clean F.R.		BPo	rt size		
Electro pneumatic regulator					
Air booster					
Speed control valve					
Silencer					
Check valve / others			Port thread t	ype	
Joint / tube			-		
Vacuum filter					
Vacuum regulator				D Option	
Suction plate				<b>O</b> option	
Magnetic spring buffer					
Mechanical pressure SW					
Electronic pressure SW					
Contact / close contact conf. SW					Dia
Air sensor				G	Disp
Pressure SW for coolant					
Small flow sensor					
Small flow controller					
Flow sensor for air					
Flow sensor for water					
Total air system					
Total air system (Gamma)					
Ending					

e)	Copper and PTEE		 G Brack	et (attached)	0	0	0	0	0	0
0)	Copper and PTFE free specification		-	R1100	R2100	R3100	R4100	R6100	R8100	
		F Pipin	g adapto	or set (attached)	R	2	R	Ŕ	R	Ř
			nbol	Descriptions						
		B Por	t size							
		6		1/8						
		8		1/4						
			0	3/8						
			5	1/2						
		2		3/4						
		2	5	1						
d type	<u> </u>	C Por	t thread	d type					No	te 2
, type		Bla	nk	Rc thread						
		1	1	NPT thread						
		0	3	G thread						
		D Opt	ion				No	ote 3	, No	te 4
C	Option		Т	Without pressure gauge, setting 0.05 to 0.85 MPa, relief						
		Deculat	TL	Without pressure gauge, setting 0.05 to 0.35 MPa, relief						
		Regulator	NT	Without pressure gauge, setting 0.05 to 0.85 MPa, nonrelief						
			LNT	Without pressure gauge, setting 0.05 to 0.35 MPa, nonrelief						
		Flow	Blank	Standard flow (left $\rightarrow$ right)						
		Direction	X1	Reverse flow (right $\rightarrow$ left)						
		🕒 🕒 Dis	play un	it						
	E Display u	nit	nk	MPa display, Rc thread						
		J	1	MPa display, NPT/G thread						
		B Pipi	ing ada	ptor set (attached)	lote	5. N	lote	6 n	age	428
			ink	Not attached					ugo	
			*W	Rc1/8 piping adaptor set			•	•		
		A8		Rc1/4 piping adaptor set						
		A10		Rc3/8 piping adaptor set	•			•		
		A15		Rc1/2 piping adaptor set	-	•				
		A20		Rc3/4 piping adaptor set			-			
		A25	5*W	Rc1 piping adaptor set						
		A32	2*W	Rc1 1/4 piping adaptor set						
		*Adapt	or s <u>cre</u>							
			ink	Rc thread						
		1	١	NPT thread						
sele	ection	(	3	G thread						
ificati	ons, dimensions	<b>G</b> Bra	cket (a	ttached)				n	age	42!
do -::			ink	Not attached						
ds are targe	e selected, the t.		W	C type bracket	•	•			•	•
Ū			W	L type bracket						_
	sure gauge can rection must be		W	B type bracket	-		-	_		
	he option field.					-				

### A Note on model no. selection

- Note 1:Refer to pages 386 to 393 for specifications, dimensions and flow characteristics.
- Note 2:When G threads or NPT threads are selected, the IN, OUT and gauge port are the target.
- Note 3:Select any one of the option.

CKD

- Note 4:Positions of a check valve and pressure gauge can not be changed. If the IN and OUT direction must be reversed, indicate "X1" at the end of the option field.
- Note 5:The piping adaptor set and C type bracket cannot be used at the same time.
- Note 6:The joiner set is enclosed with the piping adaptor set.



#### Lubricator: Copper and PTFE free L1000/L3000 L4000/L8000-W Series

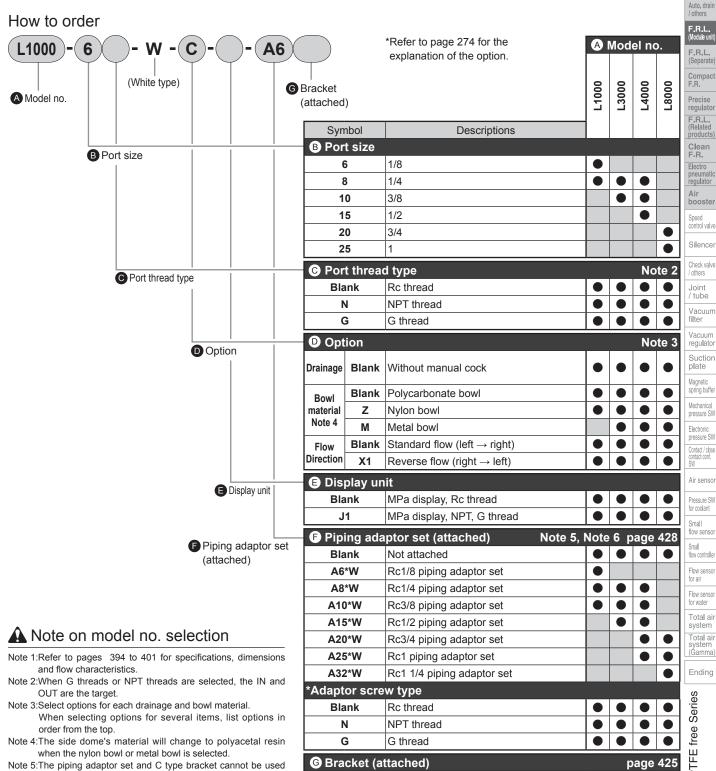
Copper ion prevention treatment Co Port size: 1/8 to 1

Copper and PTFE free as standard



Refrigerating type dryer





Blank

BW

Not attached

C type bracket

Note 6:The joiner set is enclosed with the piping adaptor set.

at the same time.

Copper and PTFE free F.R.L unit



#### Other component: Copper and PTFE free Pressure gauge Shut-off valve Exhaust cleaner G49D-P6 V3000-W FA\*31 Series G59D-P6 V3010-W V6010-W RoHS

Pressure gauge			
G49D-6-	- P6 Copper and PTFE		
	free specification	Symbol	Descriptions
Port size: R1/8		C Pressure	display (MPa) Note 1
	C Pressure display	P02	0 to 0.2MPa
		P04	0 to 0.4MPa
		P10	0 to 1.0MPa
G59D-8-	- P6 Copper and PTFE		
	free specification	Symbol	Descriptions
Port size: R1/4		C Pressure	display (MPa) Note 1
	C Pressure display	P02	0 to 0.2MPa

P04

P10

P20

### A Note on model no. selection

Note 1: Refer to page 664 for dimensions.

#### Other components

- Shut-off valve
- ·V3000-W (page 408)
- ·V3010-W/V6010-W (page 411)
- Exhaust cleaner ·FA\*31 (page 244)
- \* The above devices are standard parts, and used with PTFE free specifications.

0 to 0.4MPa

0 to 1.0MPa

0 to 2.0MPa

MEMO	Refrigerating type dryer
	Desiccant type dryer High polymer
	High polymer membrane type dryer
	Air filter
	Auto. drain / others
	F.R.L. (Module unit)
	F.R.L. (Separate)
	Compact F.R.
	Precise regulator
	F.R.L. (Related products)
	Clean F·R.
	Electro pneumatic regulator
	Air booster
	Speed control valve
	Silencer
	Check valve / others
	Joint / tube
	Vacuum filter
	Vacuum regulator
	Suction plate
	Magnetic spring buffer
	Mechanical
	pressure SW Electronic
	pressure SW
	Contact / close contact conf. SW
	Air sensor
	Pressure SW for coolant
	— Small flow sensor
	Small flow controller
	Flow sensor
	Flow sensor for water
	Total air system
	system Total air
	Total air system (Gamma)
	Ending
	es
	Copper and PTFE free Series F.R.L. unit
	free
	Ш — Ц
	LA P
	r an unit
	– . ۲.۲.
	С Н.

### **Custom combination specifications**

#### Overview Refrigerating type dryer Pressure switch Regulator Custom combination is a customer oriented product meeting various T type bracket T type bracket combination needs for each user. Complete the following specifications sheet before placing an order. $(\mathbf{A})$ OUT IN How to complete custom combination specifications sheet Piping adaptor Refer to each section in this catalog per configuration for "How to Filter order" and descriptions, etc. Combinations of 3000 and 4000 Series are available for products other than pressure switches. Use the specifications for C4000 in this case. Dimensions are calculated by totaling the face to face dimensions of each component. The bracket mounting position is also calculated. C3000 series custom combination specifications Contact Quantity Issue Set Your company name Slip No. Request date Contact Purchase order No CKD Sales have the factory check indicated • Model no. C3000-UN-( specifications, and indicate the number if OK. Designate the direction of compressed air flow as Flow direction Technical confirmation No. Blank Left→Right seen from the front. X1 Right→Left Leave blank when selecting "blank". For products with an asterisk (\*), indicate up/down Indicate the installation position in order from the left as dicate up or down for the regulator's knob direction, and the port up/ seen from the front down for other components. One piping adaptor is enclosed A two-piece set is Face to face Part name Field for Engineers Model no Installation position Direction not used, so Piping adaptor 20 A400-UN-10-W indicate required Air filter 63 F3000-8-W W3000-W fields Filter/regulator 63 W3100-W R3000-8-W Up Sample for completing Regulator\* 63 R3100-W form for above product. Oil mist filter 63 M3000-8-W Lubricator 63 L3000-W D401-UN-00-8-W Distributor 31.5 Down Distributor 42 D300-W P4100-UN-8-W 31.5 Pressure switch 80 P4000-W Shut-off valve 63 V3000-W 31.5 A401-UN-W L type piping adaptor Use this field when using products with CKD Sales have the different options and factory check indicated port sizes, etc. T type bracket B310-UN-W \*1 specifications, and C4000-J400-UN-W Joiner set indicate the number if OK. \*1: The distance from pipe center to fixing face is 45 mm Technical confirmation No. Cautions "UN" in the model indicates an isolated part, which does not Inspector Contact Approval include a joiner set, etc. "UN" may also be indicated for the T-type bracket set and joiner set. In this case, this is the model dedicated to custom combination. Engineer Comment Field A confirmation mark

is pressed by CKD.

## C1000 series custom combination specifications

Contact		Quantity	Set						Issu	е		/	/	D. C. L. V.
Slip No.		Request date /	/						Your	com	pany	name		Refrigerating type dryer
									Cont	tact				Desiccant type dryer
									Purc	hase	orde	er No.		High polymer membrane
• Model no. C10	00-	UN-	-											type dryer
														Air filter Auto, drain
		4												/ others
		Flow directio	n -	Techr	nical o	confi	rmati	on N	lo					F.R.L. (Module unit)
			Right	100111	noard		mati	0111						F.R.L. (Separate)
			→Left											Compact F.R.
														Precise regulator
														F.R.L. (Related
														products) Clean
														F.R. Electro
For products with an as	etorick (*	) indicato un/down												pneumatic regulator
		regulator's knob directior	i, and the p	oort	Indic	ate th	ne ins	talla	tion po	osition	in or	der from the le	eft as	Air booster
up/down for other co	omponen	ts.			seer	n from	the t	front.						Speed control valve
			Ļ				,							Silencer
Part name	Face to face	Model no.	Direction			Insta	allatic	n po	sition			Field for	Engineers	Check valve / others
Piping adaptor	dimensions 21.5	A100-UNW												Joint / tube
Air filter	40	F1000W							1	1				Vacuum
Filter/regulator	40	W1000W												filter
	40	W1100W												Vacuum regulator
Regulator*	40	R1000W R1100W												Suction plate
Oil mist filter	40	M1000W												Magnetic spring buffer
Lubricator	40	L1000W												Mechanical pressure SW
Distributor*	28	D101-UN-00W												Electronic
Pressure switch	28	P1100-UNW							1					pressure SW Contact / close
Shut-off valve	40	V1000W												contact conf. SW
L type piping adaptor*	28	A101-UNW												Air sensor
														Pressure SW for coolant
														Small flow sensor
														Small flow controller
T type bracket	*1	B110-UN-W												Flow sensor
Joiner set		C1000-J100-UN-W												Flow sensor
[]														for water
Cautions									Tec	hnica	l con	firmation No	.:	Total air system
"UN" in the model indicate	es an iso	lated part, which does n	ot						A	pprov	al	Inspector	Contact	Total air system (Gamma)
include a joiner set, etc. "UN" may also be indica	ted for th	ne T-type bracket set ar	nd											Ending
joiner set. In this case, thi														
combination.	~ · · · · · · · ·													tion
Using pressure switch P*10 requires that piping adaptor A			on											Custom combination F.R.L. unit
(The horizontal port does not														omb
*1: The distance from pipe ce	nter to fixir	ng face is 40 mm.												o m . uni
			gineer Co	mme	nt Fic	uld.								usto R.L.
			gineer CO	mine		,iu							_	Ωщ

Engineer Comment Field										

CKD

### C2000 series custom combination specifications

Contact		Quantity	Set			Issue		/ /
lip No.		Request date	/ /			Your co		name
						Contact		
						Purchas	se order	No.
Model no. <b>C20</b>	00-	( JN_ (						
		↓ ↓		¥				
		Flow direct	ion Tech	inical con	firmation	No.		
		Blank Left	⊖Right					
			ht→Left					
		rug						
For products with an as Indicate up or down up/down for other co	n for the	regulator's knob directi	on, and the port		the installa m the front.		ion in ord	der from the left as
Part name	Face to face dimensions	Model no.	Direction	In	stallation p	osition		Field for Engineers
Piping adaptor	20	A400-UNW						
A in filter	50	F2000W						
Air filter	63	F3000W						
		W2000W						
Filter/regulator	50	W2100W						
Desulator *	50	R2000W						
Regulator *	50	R2100W						
Oil mist filts-	50	M2000W					ĺ	
Oil mist filter	63	M3000W						
Lubricator	63	L3000W						
Distributor*	31.5	D401-UN-00W						
Distributor	42	D300W						
Dragouro quitab	31.5	P4100-UNW						
Pressure switch	80	P4000W						
Shut-off valve	63	V3000W						
L type piping adaptor*	31.5	A401-UNW						
T type bracket	*1	B310-UN-W						
Joiner set		C4000-J400-UN-W						
		0.000 0-00-014-10	1	1 1	1	1	1 1	

Cautions

"UN" in the model indicates an isolated part, which does not include a joiner set, etc.

"UN" may also be indicated for the T-type bracket set and joiner set. In this case, this is the model dedicated to custom combination.

Using pressure switch P\*100-UN-W at the end of the combination requires that piping adaptor A\*00-UN-W be used at the end. (The horizontal port does not have threads.)

Select the reverse regulator R2100-W or reverse filter regulator W2100-W when installing the shut-off valve V3000-W and lockout valve V3010-W onto the primary side of the regulator or filter regulator.

\*1: The distance from pipe center to fixing face is 45 mm.

Engineer Comment Field										

Technical confirmation No.:

Approval	Inspector	Contact

Refrigerative dryee type dryee type dryee High polytime membrane membrane F.R.L. (Nodule u F.R.L. (Separa Compa F.R. Precise regulat F.R.L. (Relate product

### C2500 series custom combination specifications

Contact		Quantity	Set						Issue		/	/	Defilmention
Slip No.		Request date /	/						Your	compan	y name		Refrigerating type dryer
									Conta	act			Desiccant type dryer
									Purch	nase ord	er No.		High polymer membrane
• Model no. C25								$\mathcal{A}$					type dryer
625	00-							$\mathcal{I}$					Air filter
													Auto, drain / others
				Tooh	▼ nical o	oonfi	moti						F.R.L. (Module unit)
		Flow direction		Tech	nicar	COLINI	mau		).				F.R.L. (Separate)
		Blank Left→F	-										Compact
		X1 Right-	Left										F.R.
For products with an as	sterisk (*	) indicate un/down											Precise regulator
		regulator's knob direction,	and the	port	Indica	ate th	e inst	allatio	n posi	tion in or	der from the le	ft as	F.R.L. (Related products)
up/down for other co	omponer	its.			seen	from	the fr	ont.					Clean F.R.
													Electro
Part name	Face to face	Model no.	Direction			Inct	allatio	n pos	ition		Field for	Enginoore	regulator Air
	dimensions		Direction		,	IIISt		n pos			Field IOI	Engineers	booster
Piping adaptor Air filter	20 63	A400-UNW F3000W											Speed control valve
		W3000W											Silencer
Filter/regulator	63	W3100W											Check valve
Desulator *	50	R2000W											Joint
Regulator *	50	R2100W											/ tube
Oil mist filter	63	M3000W											Vacuum filter
Lubricator	63	L3000W											Vacuum regulator
Distributor*	31.5	D401-UN-00W											Suction
Distributor	42	D300W											plate
Pressure switch	31.5	P4100-UNW											Magnetic spring buffer
	80	P4000W											Mechanical
Shut-off valve	63	V3000W											pressure SW Electronic
L type piping adaptor*	31.5	A401-UNW											pressure SW
													Contact / close contact conf. SW
				ļ									Air sensor
													Pressure SW
													for coolant
T type bracket	*1	B310-UN-W											Small flow sensor
Joiner set		C4000-J400-UN-W											Small flow controller
Cautions									Tech	nical co	nfirmation No	、·	Flow sensor for air
									rech	nical co	miniation NC		Flow sensor
"UN" in the model indicate	es an isc	plated part, which does not							Ap	proval	Inspector	Contact	for water

include a joiner set, etc. "UN" may also be indicated for the T-type bracket set and isiner set. In this case, this is the model dedicated to sustem

joiner set. In this case, this is the model dedicated to custom combination.

Using pressure switch P\*100-UN-W at the end of the combination requires that piping adaptor A\*00-UN-W be used at the end. (The horizontal port does not have threads.)

\*1: The distance from pipe center to fixing face is 45 mm.

Engineer Comment Field									

Total air system

Total air system (Gamma)

Ending

Custom combination F.R.L. unit

### C3000 series custom combination specifications

Refrigerating type dryer	Contact		Quantity		Set				1	ssue			1	/	
Desiccant type dryer	Slip No.		Request date	/	/				-		ompa	any n	ame		
High polymer membrane			<b>-</b>						-	Conta					
type dryer									ŀ	Purch	ase o	rder	No.		
Air filter	• Model no. <b>C30</b>								$\sum_{i=1}^{n}$						
Auto, drain / others	0.50	00-0													
F.R.L. (Module unit)			,												
F.R.L. (Separate)			Flow d	irection		Techni	v cal con	firmati	ion No	D.					
Compact F.R.			Blank	Left→R	iaht										
Precise			X1	Right→	•										
regulator F.R.L.			<u></u>	Rigni	Leit										
(Related products)	For products with an a	etoriek (*)	indicato un/dow	n											
Clean F.R.	Indicate up or dowr				and the p					n posi	tion in	orde	r from the	left as	
Electro	up/down for other c					5	seen fro	m the fi	ront.						
pneumatic regulator															
Air booster		1			<b>_</b>										
Speed control valve	Part name	Face to face dimensions	Model no	).	Direction		Ins	stallatio	n posi	tion			Field fo	or Enginee	ers
Silencer	Piping adaptor	20	A400-UNV	V											
	Air filter	63	F3000W												
Check valve / others	Filter/regulator	63	W3000W												
Joint / tube			W3100W												
Vacuum	Regulator*	63	R3000W												
filter	-		R3100W					_							
Vacuum regu <b>l</b> ator	Oil mist filter	63	M3000W												
Suction plate	Lubricator	63	L3000W												
Magnetic	Distributor*	31.5	D401-UN-00-	-W											
spring buffer	Distributor	42	D300W	10/											
Mechanical pressure SW	Pressure switch	31.5		W											
Electronic pressure SW	Shut-off valve	80 63	P4000W V3000W												
Contact / close contact conf.	L type piping adaptor*	31.5	A401-UNV	V				+							
contact conf. SW		01.0		•											
Air sensor								-							
Pressure SW for coolant								-							
Small								-							
flow sensor Small	T type bracket	*1	B310-UN-W												
flow controller	Joiner set	·	C4000-J400-UN	1-W					-			+			
Flow sensor for air					1			[							
Flow sensor for water	Cautions									Techi	nical c	confir	mation N	lo.:	

"UN" in the model indicates an isolated part, which does not include a joiner set, etc.

"UN" may also be indicated for the T-type bracket set and joiner set. In this case, this is the model dedicated to custom combination.

Using pressure switch P\*100-UN-W at the end of the combination requires that piping adaptor A\*00-UN-W be used at the end. (The horizontal port does not have threads.)

\*1: The distance from pipe center to fixing face is 45 mm.

#### Technical confirmation No.:

Approval	Inspector	Contact

Engineer Comment Field							

**CKD** 

Total air system

Total air

system (Gamma)

Ending

## C4000 series custom combination specifications

Contact		Quantity	Set				Issue	e	/	1	
Slip No.		Request date /	/				Your	compa	ny name		Refrige type dr
							Cont	act			Desice type d
• Model no. C40			-				Purc	hase or	der No.		High po
	00-		- (								type dry
											Air fi
				Teebr		firmation	No				Auto.
*1:20 mm for port size 8, 10 a 25 mm for 20.	nd 15, whi	Flow direction	n	Techn	nical con	Irmation	INO.				F.R.
*2:The distance from pipe ce	nter	Blank Left-	→Right								(Module
to fixing face is 55 mm.		X1 Right	→Left								(Sepa
For products with an a	sterisk (*	), indicate up/down.									Com F.R.
		regulator's knob directior	n, and the	port	Indicate	the install	ation po	osition in	order from the	left as	Preci
up/down for other c	omponer	nts.			seen fror	n the fron	t.				regul
						•					(Relat produ
Part name	Face to face dimensions	Model no.	Direction		Inst	allation p	osition		Field for	r Engineers	Clea F.R.
Piping adaptor	*1	A400-UNW									Electr
	63	F3000W									regula Air
Air filter	80	F4000W					1				boos
	00	W3000W					1				Speed control
Filter/regulator	63	W3100W									Siler
Filter/regulator	80	W4000W									Check
	00	W4100W									Join
	63	R3000W					_				/ tub
Regulator*		R3100W									filter
0	80	R4000W					_				Vacu regu
		R4100W	_				_				Suct
Oil mist filter	63	M3000W					_				plate
	80 63	M4000W L3000W	_				_				Magne spring l
Lubricator	80	L4000W									Mechar pressur
Distributor*	31.5	D401-UN-00W									Electro
Distributor	42	D300W									pressur Contact
	31.5	P4100-UNW									Contact contact o SW
Pressure switch	80	P4000W									Air se
Shut-off valve	63	V3000W									Pressu
L type piping adaptor*	31.5	A401-UNW									for cool Small
											flow se
											Small flow cor
							_				Flow set for air
					<u> </u>		<u> </u>				Flow se
T type bracket	*2	B410-UN-W									for wat Tota
Joiner set		C4000-J400-UN-W									syste
Cautions							Tecl	nnical co	onfirmation No	0.:	Tota syste (Gam
	:										End
'UN" in the model indicat nclude a joiner set, etc.	es an isc	blated part, which does h	IOT				A	pproval	Inspector	Contact	
'UN" may also be indica											5
oiner set. In this case, the combination.	is is the i	model dedicated to custo	m								natic
Using pressure switch P*100-	UN-W at t	the end of the combination re	equires								nbir
that piping adaptor A*00-UN-											
not have threads.)											Custom combination
		E	Engineer (	Comme	ent Field						Sus
			-								

### C6000 series custom combination specifications

	Contact		Quantity	Set				lssu	е		/	/		
Refrigerating type dryer	Slip No.		Request date	/ /				You	- comp	bany	name			
Desiccant									Contact					
type dryer High polymer								Purc	hase	orde	r No.			
High polymer membrane type dryer				$\neg$										
Air filter	• Model no. C60	00-0	UN-(	) = (			)	)						
Auto, drain / others														
F.R.L. (Module unit)						•	_							
F.R.L.			Flow dire	ection	Techr	nical con	nfirmatio	on No.						
(Separate)			Blank I	_eft→Right										
Compact F.R.			X1 F	Right→Left										
Precise regulator														
F.R.L. (Related														
products) Clean	For products with an as Indicate up or down				nort	Indicate	the inst	allation p	osition	in or	der from th	e left as		
F.R.	up/down for other co						om the fro							
Electro pneumatic regulator														
Air				•			•							
Speed	Part name	Face to face dimensions	Model no.	Directio	'n	Ins	tallation	position			Field fo	or Engineers		
control valve	Piping adaptor	*1	A800-UNW											
Silencer	Air filter	90	F6000W											
Check valve / others		100	F8000W											
Joint	Filter/regulator	100	W8000W											
/ tube Vacuum		100	W8100W											
filter		90	R6000W											
Vacuum regu <b>l</b> ator	Regulato*	00	R6100W											
Suction	regulato	100	R8000W											
plate		100	R8100W											
Magnetic spring buffer	Oil mist filter	90	M6000W											
Mechanical		100	M8000W											
pressure SW	Lubricator	100	L8000W											
Electronic pressure SW	Distributor*	50	D801-UN-00	W										
Contact / close contact conf. SW	Pressure switch	50	P8100-UNW	/										
	L type piping adaptor*	50	A801-UNW											
Air sensor														
Pressure SW for coolant														
Small flow consor														
flow sensor Small	T type bracket	*2	B810-UN-W											
flow controller	Joiner set		C8000-J800-UN-\	N										
Flow sensor for air	L			I	!									
Flow sensor for water	Cautions							Tec	hnical	conf	irmation N	lo.:		

"UN" in the model indicates an isolated part, which does not include a joiner set, etc.

"UN" may also be indicated for the T-type bracket set and joiner set. In this case, this is the model dedicated to custom combination.

Using pressure switch P\*100-UN-W at the end of the combination requires that piping adaptor A\*00-UN-W be used at the end. (The horizontal port does not have threads.)

\*1:Port size 20, 25 is 35mm, 32 is 38mm.

\*2:The distance from pipe center to fixing face is 65mm.

Engineer Comment Field								

Approval	Inspector	Contact

Total air system

Total air (Gamma)

Ending

### **C8000 series custom combination specifications**

Contact			Quantity		Set						lssu	е		1	1	D di vi
Slip No.			Request date	1	/						You	r comp	bany	name		Refrigerating type dryer
											Con	tact				Desiccant type dryer
											Pure	chase	orde	er No.		High polymer membrane
Model n	<sup>o.</sup> C80	00-1	UN-		(											type dryer
																Air filter Auto, drain
			,													/ others
			Flow d	irection		Techr	nical	confi	rma	tion I	No.					F.R.L. (Module unit)
	port size 20 and 2	5, while	Blank	Left→Rig	ht											F.R.L. (Separate)
38 mm for 3 *2:The distant	32. 1ce from pipe ce	nter	X1	Right→Le	_											Compact F.R.
to fixing fa	ce is 65 mm.															Precise regulator
		E.B.L.										F.B.L.				
	(Related products Clean									Clean						
			), indicate up/dow egulator's knob c		d the p	ort	Indic	cate t	he in	stalla	tion p	osition	in or	der from the le	eft as	F-R. Electro
	own for other co				1 <sup>·</sup>		seer	n fron	n the	front						pneumatic regulator
					1					L						Air booster
		Face to face														Speed control valve
	t name	dimensions	Model no		irection		r	Insta	allatio	on po	sition			Field for	Engineers	Silencer
Piping ad	aptor	*1	A800-UNV	V												Check valve
Air filter		100	F8000W W8000W							-	+					/ others Joint
Filter/regu	ulator	100	W8000W W8100W													/ tube
Poquilator	*	100	R8000W													filter
Regulator		100	R8100W													Vacuum regulator
Oil mist fil		100	M8000W													Suction
Lubricator		100	L8000W													Magnetic
Distributo		50	D801-UN-00-	-W												spring buffer Mechanical
Pressure		50 50	P8100-UN A801-UNV	W							-					pressure SW
	ing adaptor*	50	A001-0INV	v												Electronic pressure SW
																Contact / close contact conf. SW
																Air sensor
																Pressure SW
Thung here	akat	*2	B810-UN-W													for coolant Small
T type bra		"Z	C8000-J800-UN	J-\//		_	_									flow sensor Small
			00000 0000 01													flow controller
Cautio	ons										Тес	hnical	con	firmation No	.:	Flow sensor for air
"UN" in the	model indicate	es an iso	lated part, which	does not												Flow sensor for water
include a joi	iner set, etc.										A	pprov	al	Inspector	Contact	Total air system
			ne T-type bracke nodel dedicated t													Total air system
combinatior		5 15 11 1		o custom												(Gamma)
																Ending
			he end of the combi													
that piping ad not have thre		V be used	at the end. (The ho	rizontal port d	oes											Custom combination F.R.L. unit
	÷															nbin
				Enair	neer C	omm	ent F	ield								con nit
																L. u
																Cus F.R.

Engineer Comment Field								

### **CKD**