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Modular Type FRL Standard White Series



Now available in new white color

New Product

Modular Type FRL Standard White Series

MODULAR TYPE FRL STANDARD WHITE SERIES



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Enhanced Systems Using Full-Scale Modules

Systems are easily upgraded using unified key dimensions and a diverse range of options and variations.

* Indicates series model no. 1, 2, 3, 4, 5, 6, 7, 8.
This page shows only the outline. Refer to contents later in this catalog for details.

Combination

"C*000-W"
FRL combination.

■ Lubricator "L*000-W"
Supplies oil mist to pneumatic lines.

■ Air filter "F*000-W"
Effectively removes dust and moisture.

■ Regulator Reverse type "R*000-W"
Depressurizes supply pressure and supplies stable set pressure.

Element For air filter F*000-W/Filter regulator W*000-W/W*100-W

■ Standard (5µm) element "blank"
This long-life element filters out dirt and foreign particles, etc., from air.

■ Optional submicron 0.3µm element "Y"
This dedicated element effectively separates tar and carbon. (Non-reusable)

Bowl, bowl guard and drain discharge For air filter F*000-W, oil mist filter M*000-W, filter regulator W*000-W, W*100-W

* A bowl guard is installed on the plastic bowl as a standard.

▲ Plastic bowl and bowl guard

▲ Metal bowl

| | | Bowl | | | |
|----------|--|--------------------|------------|------------|-----------------------------------|
| | | Polycarbonate bowl | Nylon bowl | Metal bowl | Metal bowl with manual drain cock |
| Drainage | Manual drain cock | Blank (standard) | Z | M | M1 |
| | Automatic drain with manual override NO type | F | FZ | FM* | FM1 |
| | Automatic drain with manual override NC type | F1 | F1Z | F1M* | F1M1 |

Refer to page 18 for details on chemical resistance of the bowl. Metal bowl not available for 1000 Series.
The asterisk (*) indicates the manual cock with an Rc1/4 port.

Mounting bracket Page 152

■ T type bracket (B110-W)
This bracket has two holes on the top and bottom to fix the device, together with the system upgrade, to a wall. This brake cylinder has oilless specifications. The 3000-W Series and 4000-W Series are coupled using B410-W. Use B410-W in that case.

■ Joiner "C*000-J*00-W"
Used as a fitting for system configuration. 3000-W Series and 4000-W series can be connected using J400-W.

■ C type bracket "B*20"
This bracket fixes isolated parts just by fitting them in.

■ L type bracket "B*30"
This bracket fixes parts using the panel mounting nut on the filter regulator or regulator.

Pressure gauge Page 199 to 209
For air filter F*000-W/Filter regulator W*000-W/W*100-W

■ Standard built in pressure gauge "G401-W"
Pressure gauge protrusions are eliminated while maintaining performance equivalent to JIS Class 3.

■ Pressure gauge with safety mark "G*0D"
The pressure's actual usage range is displayed with red and green zones making visible control easier.
* Can be assembled using gauge plug.

■ Pressure switch with digital display "PPD"
This unit functions as the pressure detector and display, the ON-OFF switch, and the switch's external output.
* Integration is optional. Option "R1"

Filter-Regulator Standard type "W*000-W" (Page 69)
Reverse type "W*100-W" (Page 77)
Space efficient F.R. combination.

Distributor Page 153

■ One way branch type "D*01W"
This distributor, which is installed facing either upward or downward, branches pneumatic pressure piping. The effective area of the branch is large.

■ 4 way branch type "D300-W"
The pipe branches in four directions.
* For 3000-W/4000-W Series

Piping adaptor Page 155

■ Straight type "A*00-W"
Using an adaptor, isolated devices are removed for maintenance instead of piping being removed. The adaptor is convenient for changing the connection bore size of the isolated device.

■ L type "A*01-W"
The device's in and out ports are turned by 90° and piped from top or bottom.
* Consult with CKD for vertical direction piping.

Oil mist filter Page 103

"M*000-W" "MX000-W"
Effectively removes oil and oil mist from pneumatic lines.

Shut-off valve Page 143 to 148

"V*000-W"
The pneumatic line is shut off and residual pressure is released. Maintenance work This is also used to prevent accidents from residual pressure during maintenance.
V3010-W with lock out also available

Bowl/bowl guard For lubricator L*000-W

■ Plastic bowl and bowl guard
Material: "Blank" for polycarbonate, option "Z" for standard nylon
* Option "C" for manual drain cock
* A bowl guard is installed on the plastic bowl as a standard.

■ Metal bowl
Use the metal bowl in an atmosphere where plastic bowls cannot be used.
Material: Aluminum Option "M"
* Metal bowl not available for 1000 Series.

Pressure switch Page 137 to 142

Pneumatic line pressure is repeatedly and accurately checked.





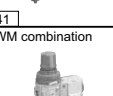
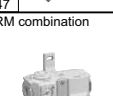
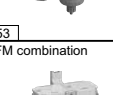
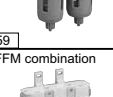
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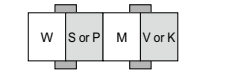
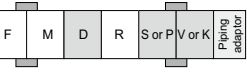
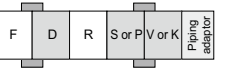
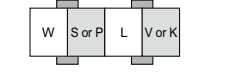
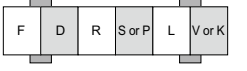
"PPD"

"PPX"

Series variation

F.R.L. unit
(Combination)

| Series | Model no. | Available combinations | | | | | Available options | | | | | Combination of options (U***) | | | | | | | | | | | | | | Combination position | | | |
|---|--|------------------------|---------------|------------|------------------|-----------------|-------------------|-----------------|----------------|---------|---------|-------------------------------|---|---|---|---|----|----|----|----|-----|-----|-----|-----|----|----------------------|---------|----|----|
| | | F | R | L | W | M | D | S | P | V | K | D | S | P | V | K | DS | DP | DV | DK | DSV | DSK | DPV | DPK | SV | | SK | PV | PK |
| | | Filter | Regulator | Lubricator | Filter/Regulator | Oil mist filter | Distributor | Pressure switch | Shut-off valve | | | | | | | | | | | | | | | | | | | | |
|  <p>● F.R.L. combination</p> <p>P.21</p> | C1000-W | F1000-W | R1000-W | L1000-W | | | D101-W | P1100-W | V1000-W | | | | | | | | | | | | | | | | | | | | |
| | C2000-W | F2000-W | R2000-W | L3000-W | | | D401-W | P4100-W | P4000-W | V3000-W | V3010-W | | | | | | | | | | | | | | | | | | |
| | C2500-W | F3000-W | R2000-W | L3000-W | | | D401-W | P4100-W | P4000-W | V3000-W | V3010-W | | | | | | | | | | | | | | | | | | |
| | C3000-W | F3000-W | R3000-W | L3000-W | | | D401-W | P4100-W | P4000-W | V3000-W | V3010-W | | | | | | | | | | | | | | | | | | |
| | C4000-W | F4000-W | R4000-W | L4000-W | | | D401-W | P4100-W | P4000-W | V3000-W | V3010-W | | | | | | | | | | | | | | | | | | |
| | C4000-20-W | F4000-W | R4000-W | L4000-W | | | D401-W | P4100-W | P4000-W | V3000-W | V3010-W | | | | | | | | | | | | | | | | | | |
| | C6500-W | F6000-W | R6000-W | L8000-W | | | D801-W | P8100-W | | | V6010-W | | | | | | | | | | | | | | | | | | |
| | C8000-W | F8000-W | R8000-W | L8000-W | | | D801-W | P8100-W | | | V6010-W | | | | | | | | | | | | | | | | | | |
|  <p>● WL combination</p> <p>P.29</p> | C1010-W | | | L1000-W | W1000-W | | | P1100-W | V1000-W | | | | | | | | | | | | | | | | | | | | |
| | C2010-W | | | L3000-W | W2000-W | | | P4100-W | P4000-W | V3000-W | V3010-W | | | | | | | | | | | | | | | | | | |
| | C3010-W | | | L3000-W | W3000-W | | | P4100-W | P4000-W | V3000-W | V3010-W | | | | | | | | | | | | | | | | | | |
| | C4010-W | | | L4000-W | W4000-W | | | P4100-W | P4000-W | V3000-W | V3010-W | | | | | | | | | | | | | | | | | | |
| | C4010-20-W | | | L4000-W | W4000-W | | | P4100-W | P4000-W | V3000-W | V3010-W | | | | | | | | | | | | | | | | | | |
| | C8010-W | | | L8000-W | W8000-W | | | P8100-W | | V6010-W | | | | | | | | | | | | | | | | | | | |
| |  <p>● FR combination</p> <p>P.35</p> | C1020-W | F1000-W | R1000-W | | | | D101-W | P1100-W | V1000-W | | | | | | | | | | | | | | | | | | | |
| | | C2020-W | F2000-W | R2000-W | | | | D401-W | P4100-W | P4000-W | V3000-W | V3010-W | | | | | | | | | | | | | | | | | |
| C2520-W | | F3000-W | R2000-W | | | | D401-W | P4100-W | P4000-W | V3000-W | V3010-W | | | | | | | | | | | | | | | | | | |
| C3020-W | | F3000-W | R3000-W | | | | D401-W | P4100-W | P4000-W | V3000-W | V3010-W | | | | | | | | | | | | | | | | | | |
| C4020-W | | F4000-W | R4000-W | | | | D401-W | P4100-W | P4000-W | V3000-W | V3010-W | | | | | | | | | | | | | | | | | | |
| C4020-20-W | | F4000-W | R4000-W | | | | D401-W | P4100-W | P4000-W | V3000-W | V3010-W | | | | | | | | | | | | | | | | | | |
| C6020-W | | F6000-W | R6000-W | | | | D801-W | P8100-W | | V6010-W | | | | | | | | | | | | | | | | | | | |
| C8020-W | | F8000-W | R8000-W | | | | D801-W | P8100-W | | V6010-W | | | | | | | | | | | | | | | | | | | |
|  <p>● FMR combination</p> <p>P.41</p> | C1030-W | F1000-W | R1000-W | | M1000-W | | D101-W | P1100-W | V1000-W | | | | | | | | | | | | | | | | | | | | |
| | C2030-W | F2000-W | R2000-W | | M2000-W | | D401-W | P4100-W | P4000-W | V3000-W | V3010-W | | | | | | | | | | | | | | | | | | |
| | C2530-W | F3000-W | R2000-W | | M3000-W | | D401-W | P4100-W | P4000-W | V3000-W | V3010-W | | | | | | | | | | | | | | | | | | |
| | C3030-W | F3000-W | R3000-W | | M3000-W | | D401-W | P4100-W | P4000-W | V3000-W | V3010-W | | | | | | | | | | | | | | | | | | |
| | C4030-W | F4000-W | R4000-W | | M4000-W | | D401-W | P4100-W | P4000-W | V3000-W | V3010-W | | | | | | | | | | | | | | | | | | |
| | C4030-20-W | F4000-W | R4000-W | | M4000-W | | D401-W | P4100-W | P4000-W | V3000-W | V3010-W | | | | | | | | | | | | | | | | | | |
| | C6030-W | F6000-W | R6000-W | | M6000-W | | D801-W | P8100-W | | V6010-W | | | | | | | | | | | | | | | | | | | |
| | C8030-W | F8000-W | R8000-W | | M8000-W | | D801-W | P8100-W | | V6010-W | | | | | | | | | | | | | | | | | | | |
|  <p>● WM combination</p> <p>P.47</p> | C1040-W | | | | W1000-W | M1000-W | | P1100-W | V1000-W | | | | | | | | | | | | | | | | | | | | |
| | C2040-W | | | | W2000-W | M2000-W | | P4100-W | P4000-W | V3000-W | V3010-W | | | | | | | | | | | | | | | | | | |
| | C3040-W | | | | W3000-W | M3000-W | | P4100-W | P4000-W | V3000-W | V3010-W | | | | | | | | | | | | | | | | | | |
| | C4040-W | | | | W4000-W | M4000-W | | P4100-W | P4000-W | V3000-W | V3010-W | | | | | | | | | | | | | | | | | | |
| | C4040-20-W | | | | W4000-W | M4000-W | | P4100-W | P4000-W | V3000-W | V3010-W | | | | | | | | | | | | | | | | | | |
| | C8040-W | | | | W8000-W | M8000-W | | P8100-W | | V6010-W | | | | | | | | | | | | | | | | | | | |
| |  <p>● RM combination</p> <p>P.53</p> | C1050-W | | R1000-W | | | M1000-W | | | | | | | | | | | | | | | | | | | | | | |
| | | C2050-W | | R2000-W | | | M2000-W | | | | | | | | | | | | | | | | | | | | | | |
| C2550-W | | | R2000-W | | | M3000-W | | | | | | | | | | | | | | | | | | | | | | | |
| C3050-W | | | R3000-W | | | M3000-W | | | | | | | | | | | | | | | | | | | | | | | |
| C4050-W | | | R4000-W | | | M4000-W | | | | | | | | | | | | | | | | | | | | | | | |
| C4050-20-W | | | R4000-W | | | M4000-W | | | | | | | | | | | | | | | | | | | | | | | |
| C6050-W | | | R6000-W | | | M6000-W | | | | | | | | | | | | | | | | | | | | | | | |
| C8050-W | | | R8000-W | | | M8000-W | | | | | | | | | | | | | | | | | | | | | | | |
|  <p>● FM combination</p> <p>P.59</p> | C1060-W | F1000-W | | | | M1000-W | | | | | | | | | | | | | | | | | | | | | | | |
| | C2060-W | F2000-W | | | | M2000-W | | | | | | | | | | | | | | | | | | | | | | | |
| | C3060-W | F3000-W | | | | M3000-W | | | | | | | | | | | | | | | | | | | | | | | |
| | C4060-W | F4000-W | | | | M4000-W | | | | | | | | | | | | | | | | | | | | | | | |
| | C4060-20-W | F4000-W | | | | M4000-W | | | | | | | | | | | | | | | | | | | | | | | |
| | C6060-W | F6000-W | | | | M6000-W | | | | | | | | | | | | | | | | | | | | | | | |
| | C8060-W | F8000-W | | | | M8000-W | | | | | | | | | | | | | | | | | | | | | | | |
| |  <p>● FFM combination</p> <p>P.65</p> | C3070-W | F3000-W (5µm) | | | | | | | | | | | | | | | | | | | | | | | | M3000-W | | |
| C4070-W | | F4000-W (5µm) | | | | M4000-W | | | | | | | | | | | | | | | | | | | | | | | |
| C4070-20-W | | F4000-W (5µm) | | | | M4000-W | | | | | | | | | | | | | | | | | | | | | | | |
| C6070-W | | F6000-W (5µm) | | | | M6000-W | | | | | | | | | | | | | | | | | | | | | | | |
| C8070-W | F8000-W (5µm) | | | | M8000-W | | | | | | | | | | | | | | | | | | | | | | | | |





Note 1: Two T-brackets are included with the combination option.
 Note 2: Mounting position of T type bracket will change depending on the combination.
 Note 3: T-type bracket standard mounting position is on the inner side of the end product of each combination.
 However, there will be a product mounted on the inner side of the piping adaptor when a piping adaptor is mounted on the end.
 Note 4: Use the custom combination specification sheet for unavailable combinations and changes in bracket mounting position.
 Note 5: Piping adaptor set A400-20-W can be installed on both ends of C40*0-20-W (port size Rc3/4)
 The port size is "15" (Rc1/2) for products other than the piping adaptor,
 Note 6: Only upward branching is available for option "D".

▲ Read to "Safety Precautions" before use.



Series variation

F.R.L. unit




(Filter·regulator)

| Series | Model no. | Port size | | | | | | Page |
|--|-----------|-----------|-----|-----|-----|-----|---|------|
| | | 1/8 | 1/4 | 3/8 | 1/2 | 3/4 | 1 | |
| ● Filter·regulator  | W1000-W | ● | ● | | | | | 69 |
| | W2000-W | | ● | ● | | | | |
| | W3000-W | | ● | ● | | | | |
| | W4000-W | | ● | ● | ● | | | |
| | W8000-W | | | | | ● | ● | |
| ● Reverse filter·regulator  | W1100-W | ● | ● | | | | | 77 |
| | W2100-W | | ● | ● | | | | |
| | W3100-W | | ● | ● | | | | |
| | W4100-W | | ● | ● | ● | | | |
| | W8100-W | | | | | ● | ● | |




(Filter)

| Series | Model no. | Port size | | | | | | Page |
|---|-----------|-----------|-----|-----|-----|-----|---|------|
| | | 1/8 | 1/4 | 3/8 | 1/2 | 3/4 | 1 | |
| ● Filter  | F1000-W | ● | ● | | | | | 85 |
| | F2000-W | | ● | ● | | | | |
| | F3000-W | | ● | ● | | | | |
| | F4000-W | | ● | ● | ● | | | |
| | F6000-W | | | | | ● | ● | |
| | F8000-W | | | | | ● | ● | |
| ● Air filter·medium pressure  | FM3000-W | | ● | ● | | | | 159 |
| | FM4000-W | | ● | ● | ● | | | |
| | FM6000-W | | | | | ● | ● | |
| | FM8000-W | | | | | ● | ● | |


(Oil mist filter)

| Series | Model no. | Port size | | | | | | Page |
|---|-----------|-----------|-----|-----|-----|-----|---|------|
| | | 1/8 | 1/4 | 3/8 | 1/2 | 3/4 | 1 | |
| ● Oil mist filter  | M1000-W | ● | ● | | | | | 95 |
| | M2000-W | | ● | ● | | | | |
| | M3000-W | | ● | ● | | | | |
| | M4000-W | | ● | ● | ● | | | |
| | M6000-W | | | | | ● | ● | |
| | M8000-W | | | | | ● | ● | |
| ● High performance oil mist filter  | MX1000-W | ● | ● | | | | | 103 |
| | MX3000-W | | ● | ● | | | | |
| | MX4000-W | | ● | ● | ● | | | |
| | MX6000-W | | | | | ● | ● | |
| | MX8000-W | | | | | ● | ● | |
| ● Oil mist filter for medium pressure  | MM3000-W | | ● | ● | | | | 165 |
| | MM4000-W | | ● | ● | ● | | | |
| | MM6000-W | | | | | ● | ● | |
| | MM8000-W | | | | | ● | ● | |

(Regulator)

| Series | Model no. | Port size | | | | | | Page |
|---|-----------|-----------|-----|-----|-----|-----|---|------|
| | | 1/8 | 1/4 | 3/8 | 1/2 | 3/4 | 1 | |
| ● Regulator  | R1000-W | ● | ● | | | | | 113 |
| | R2000-W | | ● | ● | | | | |
| | R3000-W | | ● | ● | | | | |
| | R4000-W | | ● | ● | ● | | | |
| | R6000-W | | | | | ● | ● | |
| | R8000-W | | | | | ● | ● | |
| ● Reverse regulator  | R1100-W | ● | ● | | | | | 121 |
| | R2100-W | | ● | ● | | | | |
| | R3100-W | | ● | ● | | | | |
| | R4100-W | | ● | ● | ● | | | |
| | R6100-W | | | | | ● | ● | |
| | R8100-W | | | | | ● | ● | |
| ● Regulator for medium pressure  | RM3000-W | | ● | ● | | | | 171 |
| | RM4000-W | | ● | ● | ● | | | |

(Lubricator)

| Series | Model no. | Port size | | | | | | Page |
|--|-----------|-----------|-----|-----|-----|-----|---|------|
| | | 1/8 | 1/4 | 3/8 | 1/2 | 3/4 | 1 | |
| ● Lubricator  | L1000-W | ● | ● | | | | | 129 |
| | L3000-W | | ● | ● | | | | |
| | L4000-W | | ● | ● | ● | | | |
| | L8000-W | | | | | ● | ● | |

Series variation




F.R.L. unit (Other related components/attachments)

(Other related components)


| Series | Model no. | Port size | | | | | | | | | | | | | | Page | | |
|--|---------------|-----------|----|----|-----|-----|------|-----|-----|-----|-----|-----|---|-------|-------|------|---|-----|
| | | ø4 | ø6 | ø8 | ø10 | ø12 | 1/16 | 1/8 | 1/4 | 3/8 | 1/2 | 3/4 | 1 | 1 1/4 | 1 1/2 | | 2 | |
| ● Automatic drain | DT3000/4000-W | | | | | | | | | ● | ● | | | | | | | 213 |
| ● Air pressure switch | P4000-W | | | | | | | | | ● | ● | ● | | | | | | 137 |
| | P*100-W | | | | | | | | ● | ● | ● | ● | ● | ● | | | | 139 |
| | APS-W | | | | | | | | ● | | | | | | | | | 210 |
| ● Shut-off valve | V1000-W | | | | | | | | ● | ● | | | | | | | | 143 |
| | V3000-W | | | | | | | | | ● | ● | ● | | | | | | |
| ● Shut-off valve with key hole (OSHA compliant) | V3010-W | | | | | | | | | ● | ● | ● | | | | | | 146 |
| | V6010-W | | | | | | | | | | | | ● | ● | | | | |
| ● Slow start valve | V3301-W | | | | | | | | | ● | ● | ● | | | | | | 149 |
| | V3321-W | | | | | | | | | ● | ● | ● | | | | | | |
| ● Thin pressure gauge | G401 | | | | | | | | | | | | | | | | | 199 |
| ● Pressure gauge with safety sign | G40D/50D | | | | | | | | ● | ● | | | | | | | | 200 |
| ● Pressure gauge with limit gauge | G45D | | | | | | | | ● | ● | | | | | | | | 201 |
| | G41D | | | | | | | | ● | ● | | | | | | | | 202 |
| ● General purpose pressure gauge | G49D•59D | | | | | | | | ● | ● | | | | | | | | 203 |
| ● Pressure gauge for panel mount | G53D | | | | | | | | ● | ● | | | | | | | | 205 |
| ● Pressure gauge with switch | G52D | | | | | | | | | ● | | | | | | | | 207 |

(Attachments)

| Series | Model no. | Applicable model | Page |
|-------------------------|--------------|-----------------------|------|
| ● T type bracket | B110-W | 1000 Series | 152 |
| | B310-W | 2000/3000 Series | |
| | B410-W | 4000 Series | |
| | B810-W | 6000/8000 Series | |
| ● C type bracket | B120 | 1000 Series | 152 |
| | B220 | 2000 Series | |
| | B320 | 3000 Series | |
| | B420 | 4000 Series | |
| | B620 | 6000 Series | |
| | B820 | 8000 Series | |
| ● L type bracket | B130 | 1000 Series | 152 |
| | B230 | 2000 Series | |
| | B330 | 3000 Series | |
| | B430 | 4000/6000 Series | |
| ● Joiner | C1000-J100-W | 1000 Series | 152 |
| | C1000-J100-W | 2000/3000/4000 Series | |
| | C8000-J800-W | 6000/8000 Series | |
| ● Distributor | D101-W | 1000 Series | 153 |
| | D401-W | 2000/3000/4000 Series | |
| | D801-W | 6000/8000 Series | |
| | D300-W | 2000/3000/4000 Series | |
| ● Piping adaptor | A100-W | 1000 Series | 155 |
| | A400-W | 2000/3000/4000 Series | |
| | A800-W | 6000/8000 Series | |
| ● L type piping adapter | A101-W | 1000 Series | 156 |
| | A401-W | 2000/3000/4000 Series | |
| | A801-W | 6000/8000 Series | |


| Series | Port size | | | | | | Maximum flow rate m ³ /min. (ANR) | | | Model no. | |
|---|-----------|-----|-----|-----|-----|---|---|-----|----|--------------|-----------------|
| | 1/8 | 1/4 | 3/8 | 1/2 | 3/4 | 1 | 0.1 | 1.0 | 10 | Manual drain | Automatic drain |
| FRL Combination  | • | • | • | • | • | • | 0.45 | | | C1000-6-W | - |
| | | • | | | | | 0.63 | | | C1000-8-W | - |
| | | | • | | | | 1.2 | | | C2000-8-W | C2000-8-W-F1 |
| | | • | • | | | | 1.7 | | | C2000-10-W | C2000-10-W-F1 |
| | | | | | | | 1.28 | | | C3000-8-W | C3000-8-W-F |
| | | | | | | | 1.75 | | | C3000-10-W | C3000-10-W-F |
| | | | | | | | 2.4 | | | C4000-10-W | C4000-10-W-F |
| | | | | | | | 3.0 | | | C4000-15-W | C4000-15-W-F |
| | | | | | | | 7.0 | | | C8000-20-W | C8000-20-W-F |
| | | | | | | | 7.5 | | | C8000-25-W | C8000-25-W-F |

*Flow rate when supplied pressure is 0.7MPa, set pressure 0.5MPa, pressure drop 0.1MPa.

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|------|--|--|------------|-----------------------|
| Air filter  | • | • | • | • | • | • | 0.46 | | | F1000-6-W | - |
| | | • | | | | | 0.61 | | | F1000-8-W | - |
| | | | • | | | | 1.3 | | | F2000-8-W | F2000-8-W-F1, Note 1 |
| | | • | • | | | | 1.7 | | | F2000-10-W | F2000-10-W-F1, Note 1 |
| | | | | | | | 1.23 | | | F3000-8-W | F3000-8-W-F |
| | | | | | | | 1.5 | | | F3000-10-W | F3000-10-W-F |
| | | | | | | | 2.14 | | | F4000-10-W | F4000-10-W-F |
| | | | | | | | 3.0 | | | F4000-15-W | F4000-15-W-F |
| | | | | | | | 6.4 | | | F8000-20-W | F8000-20-W-F |
| | | | | | | | 6.8 | | | F8000-25-W | F8000-25-W-F |


*Flow rate when supplied pressure is 0.7MPa and pressure drop is 0.02MPa.

Note 1: Refer to the max. flow rate on page 13. for automatic drain "F1"


| | | | | | | | | | | | |
|---|---|---|---|---|---|---|----------------|--|--|------------|---------------|
| Oil mist filter  | • | • | • | • | • | • | 0.15 (0.01μm) | | | M1000-6-W | - |
| | | • | | | | | 0.15 (0.01μm) | | | M1000-8-W | - |
| | | | • | | | | 0.25 (0.01μm) | | | M2000-8-W | M2000-8-W-F1 |
| | | • | • | | | | 0.25 (0.01μm) | | | M2000-10-W | M2000-10-W-F1 |
| | | | | | | | 0.36 (0.01μm) | | | M3000-8-W | M3000-8-W-F1 |
| | | | | | | | 0.36 (0.01μm) | | | M3000-10-W | M3000-10-W-F1 |
| | | | | | | | 0.825 (0.01μm) | | | M4000-10-W | M4000-10-W-F1 |
| | | | | | | | 0.825 (0.01μm) | | | M4000-15-W | M4000-15-W-F1 |
| | | | | | | | 2.6 (0.01μm) | | | M8000-20-W | M8000-20-W-F1 |
| | | | | | | | 2.6 (0.01μm) | | | M8000-25-W | M8000-25-W-F1 |

*This is the flow at supply pressure 0.7MPa pressure drop 0.01MPa.


Note: By combining a piping adapter with the 4000, 8000 Series, the port size can be increased by 1 size. Contact CKD for details. (available up to Rc3/4 for 4000 series , Rc1 1/4 for 8000 series)

| Series | Port size | | | | | | Maximum flow rate m ³ /min. (ANR) | | | Model no. | |
|--|-----------|-----|-----|-----|-----|---|---|-----|----|--------------|-----------------------|
| | 1/8 | 1/4 | 3/8 | 1/2 | 3/4 | 1 | 0.1 | 1.0 | 10 | Manual drain | Automatic drain |
| Filter Regulator  | • | • | • | • | • | • | 0.83 | | | W1000-6-W | - |
| | | • | | | | | 1.15 | | | W1000-8-W | - |
| | | | • | | | | 1.5 | | | W2000-8-W | W2000-8-W-F1, Note 1 |
| | | • | • | | | | 2.0 | | | W2000-10-W | W2000-10-W-F1, Note 1 |
| | | | | | | | 2.15 | | | W3000-8-W | W3000-8-W-F |
| | | | | | | | 2.43 | | | W3000-10-W | W3000-10-W-F |
| | | | | | | | 4.35 | | | W4000-10-W | W4000-10-W-F |
| | | | | | | | 4.75 | | | W4000-15-W | W4000-15-W-F |
| | | | | | | | 10.0 | | | W8000-20-W | W8000-20-W-F |
| | | | | | | | 10.0 | | | W8000-25-W | W8000-25-W-F |

*Flow rate when supplied pressure is 0.7MPa, set pressure 0.5MPa, and pressure drop is 0.1MPa.
 Note 1: Refer to the max. flow rate on Page 13. for automatic drain "F1"

| Series | Port size | | | | | | Maximum flow rate m ³ /min. (ANR) | | | Model no. |
|--|-----------|-----|-----|-----|-----|---|---|-----|----|------------------------------|
| | 1/8 | 1/4 | 3/8 | 1/2 | 3/4 | 1 | 0.1 | 1.0 | 10 | With standard pressure gauge |
| Regulator  | • | • | • | • | | | 0.77 | | | R1000-6-W |
| | | • | • | | • | • | 1.35 | | | R1000-8-W |
| | | | • | | | | 1.75 | | | R2000-8-W |
| | | | | | | | 2.5 | | | R2000-10-W |
| | | | | | | | 2.6 | | | R3000-10-W |
| | | | | | | | 4.4 | | | R4000-10-W |
| | | | | | | | 5.0 | | | R4000-15-W |
| | | | | | | | 14.0 | | | R8000-20-W |
| | | | | | | | 11.0 | | | R8000-25-W |

*Flow rate when supplied pressure is 0.7MPa, set pressure 0.5MPa, and pressure drop is 0.1MPa.

| Series | Port size | | | | | | Maximum flow rate m ³ /min. (ANR) | | | Model no. |
|---|-----------|-----|-----|-----|-----|---|---|-----|----|------------|
| | 1/8 | 1/4 | 3/8 | 1/2 | 3/4 | 1 | 0.1 | 1.0 | 10 | Standard |
| Lubricator  | • | • | • | • | • | • | 0.55 | | | L1000-6-W |
| | | • | • | | | | 0.7 | | | L1000-8-W |
| | | | | | | | 1.1 | | | L3000-8-W |
| | | | | | | | 2.25 | | | L3000-10-W |
| | | | | | | | 1.7 | | | L4000-10-W |
| | | | | | | | 2.7 | | | L4000-15-W |
| | | | | | | | 6.3 | | | L8000-20-W |
| | | | | | | | 10.0 | | | L8000-25-W |

*Flow rate when supplied pressure is 0.5MPa and Pressure drop is 0.03MPa.

It's NEW CONCEPT

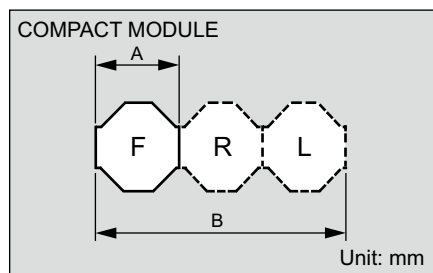
Pursuing high performance in all aspects,
functionality, operability, serviceability, and safety.

[Filter for compressed air, regulator, filter, other components]

FUNCTIONAL FEATURES

● Compact module

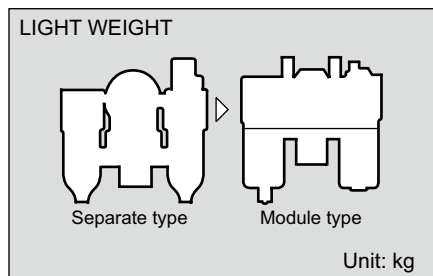
F.R.L. main dimensions (width and depth) are integrated into a compact module. Accurate assembly dimensions are obtained with simple calculation.



| | C1000-W | C2000-W | C2500-W | C3000-W | C4000-W | C6500-W | C8000-W |
|---|---------|----------|----------|---------|---------|-----------|---------|
| A | 40 | 50/50/63 | 63/50/63 | 63 | 80 | 90/90/100 | 100 |
| B | 40×3 | 50×2+63 | 63×2+50 | 63×3 | 80×3 | 90×2+100 | 100×3 |

● Lighter by 50% from conventional models.

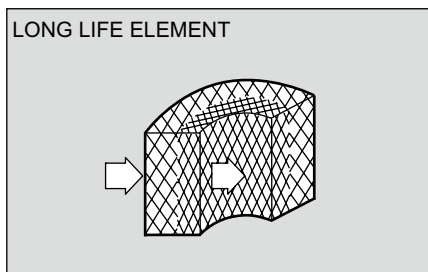
Hybrid material (aluminum die cast with resin cover) provides strength and cuts weight 50% over the conventional type. (C4000 comparison)



| | C1000-W | C2000-W | C2500-W | C3000-W | C4000-W | C6500-W | C8000-W |
|-----------------------|---------|---------|---------|---------|---------|---------|---------|
| Module type | 0.4 | 1.01 | 1.01 | 1.15 | 1.79 | 3.64 | 4.5 |
| Conventional products | 0.7 | - | 1.8 | 1.8 | 3.4 | 7.2 | 7.2 |

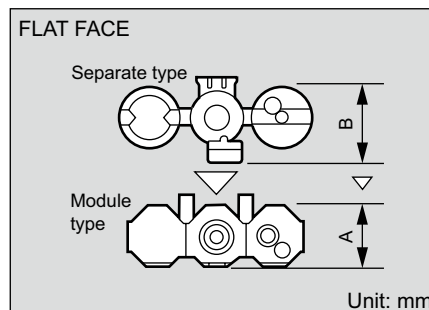
● Long service life element

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 element life greatly extended. There is no risk of rusting.



● Embedded pressure gauge for space saving

The conventional protruding pressure gauge wasted space on the front, and posed risks to users. Neat design and safety are realized by embedding the pressure gauge into the body.



| | C1000-W | C2000-W | C2500-W | C3000-W | C4000-W | C6500-W | C8000-W |
|------------------------|---------|---------|---------|---------|---------|---------|---------|
| Module type A | 57 | 62 | 70.5 | 63 | 79 | 100 | 100 |
| Conventional product B | 74 | - | 109 | 109 | 124 | 131 | 131 |

● Mechanism to prevent oil dripping during primary side pressure drop

Reduces dripping of oil discharge of shut-off valve.

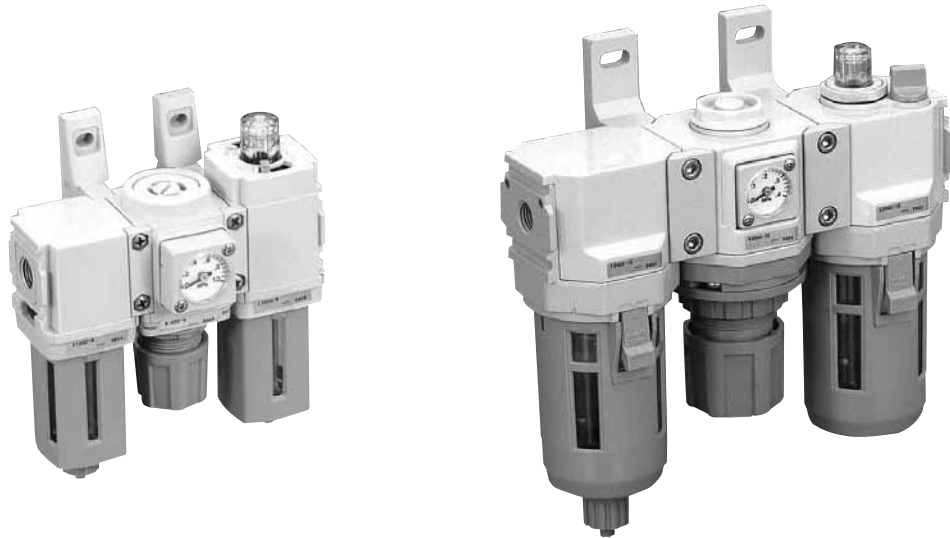
● Corrosion resistant, safe bowl guard

Appropriate for piping in limited space or complicated piping.

● Gauge plug

The gauge plug is sealed even without a pipe plug. (Refer to page 209 when using screw-in type pressure gauge)

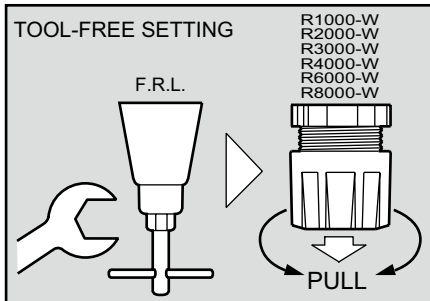
⚠ Read Precautions on page 11 to 18 before use.



OPERATIVE FEATURES

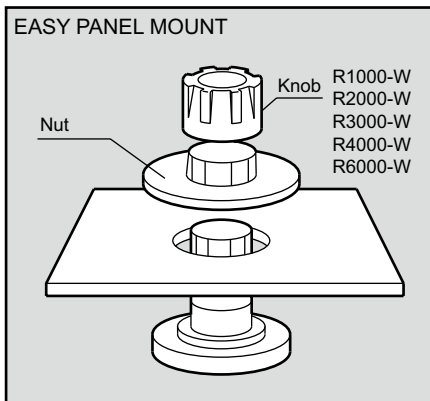
● Tool free pressure control

No tools required to adjust pressure. The knob is locked with a single push, The knob is locked with a single push, and is easily operated when setting pressure.



● Easy to accommodate with panel mount
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.

(The body can be fixed securely without play with the L-type bracket) *Excluding 8000 Series

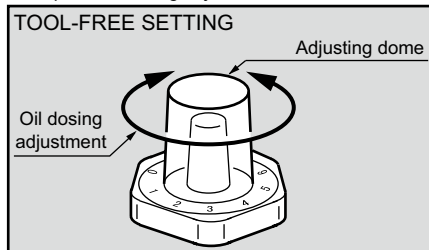


Note: Install the nut before installing the knob. (With the R2000-W, the nut is removed without removing the knob.)

● Oil drip adjustment knob with lock

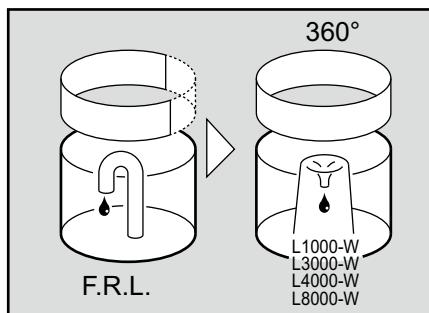
Easy tool free oil dosing adjustment. A stopper is provided in the opening direction to function as a lock, and increase safety. The number on the dial are used as a guide after adjusting dripping.

* Keep the oil dosing adjustment below 0.5N·m



● Double plastic structure

A double plastic structure is used so oil dripping is confirmed from 360°.

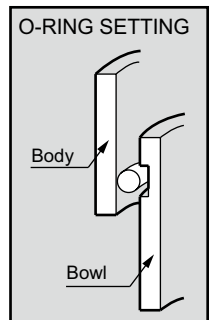


● Easy removal integrated filter element

The integrated bowl and bowl guard are easily attached and removed by operating the latch. (No latch for 1000-W series)
Mount and remove the bowl and bowl guard after checking that pressure is not being applied.

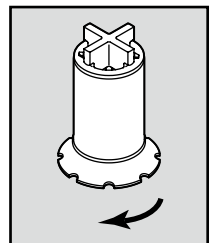
● O ring fall out prevention

An O ring slot is provided on the bowl to prevent O ring from falling out during bowl attachment and removal for a safe and accurate seal



● Easy to use filter element

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



F.R.L Combination

Description of options


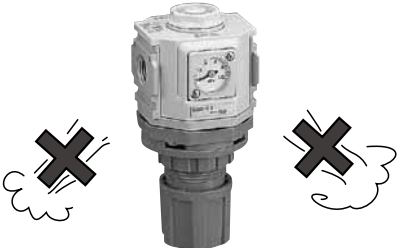

Combination lists of drainage and bowl material of filter (Ⓧ on how to order)


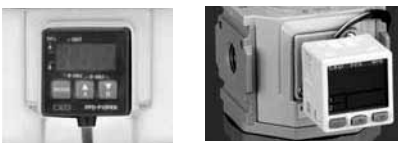
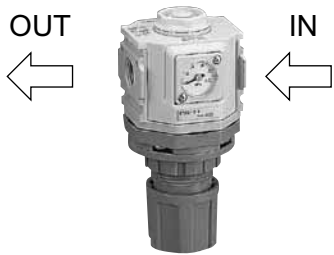
| Applicable series | Bowl material | | Manual drain cock | Automatic drain with manual cock | | Large automatic drain with manual cock | |
|---|---------------|---------------|-------------------|--|--|--|---|
| | | | | NO type | NC type | NO type | NC type |
| 1000-W Series | Plastic bowl | Polycarbonate | ○ (Blank) | × | ○ (Symbol: F1) | × | × |
| | | Nylon | ○ (Symbol: Z) | × | ○ (Symbol: F1Z) | × | × |
| | Metal bowl | Aluminum | × | × | × | × | × |
| 2-W Series 3000-W Series 4000-W Series 6000-W Series | Plastic bowl | Polycarbonate | ○ (Blank) | ○ (Symbol: F) | ○ (Symbol: F1) | × | × |
| | | Nylon | ○ (Symbol: Z) | ○ (Symbol: FZ) | ○ (Symbol: F1Z) | × | × |
| 8000-W Series | Metal bowl | Aluminum | ○ (Symbol: M/M1) | ○ (Symbol: F1/FM1) | ○ (Symbol: F1M/F1M1) | × | × |
| 8000-W Series | 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: F1/FM1) | ○ (Symbol: F1M/F1M1) | ○ (Symbol: F1) | ○ (Symbol: FF1M/FF1M1) |
| Features | | | - | In a nonpressurized state, such as at night, the valve opens and drainage is discharged automatically. | Air is not purged during initial pressurization. | Drainage is automatically discharged when discharge performance is high and the unit is not pressurized. | Air is not purged during initial pressurization when discharge performance is high. |

Combination lists of drainage and bowl material of lubricator (Ⓧ on how to order)

| Applicable series | Bowl material | | No manual cock | With manual cock |
|--|---------------|---------------|----------------|--------------------|
| 1000-W Series | Plastic bowl | Polycarbonate | ○ (Blank) | ○ (Symbol: C) |
| | | Nylon | ○ (Symbol: Z) | ○ (Symbol: CZ) |
| | Metal bowl | Aluminum | × | × |
| 2000-W Series 2500-W Series 3000-W Series 4000-W Series 6000-W Series 8000-W Series | Plastic bowl | Polycarbonate | ○ (Blank) | ○ (Symbol: C) |
| | | Nylon | ○ (Symbol: Z) | ○ (Symbol: CZ) |
| | Metal bowl | Aluminum | ○ (Symbol: M) | ○ (Symbol: CM/CM1) |

Description of pressure range, pressure gauge and flow direction option symbol (Ⓧ on how to order)

| Option symbol: L | Option symbol: N | Option symbol: T |
|---|--|---|
|  <ul style="list-style-type: none"> • Pressure display: 0 to 0.4 MPa • Pressure range: 0 to 0.35 MPa • Pressure gauge: G401-W-P04 |  <ul style="list-style-type: none"> • Air will not relief. |  <ul style="list-style-type: none"> • Without pressure gauge • The Rc1/4 gauge port is sealed when the plug is assembled. • Refer to page 209 when mounting a pressure gauge. |

| Option symbol: T8/T6 | Option symbol: R1/R2 (note) | Option symbol: X1 |
|---|--|---|
|  <ul style="list-style-type: none"> • Pressure gauge not included because round pressure gauge is attached. • Pressure gauge mounting port is open. • Refer to page 209 when mounting a pressure gauge. |  <ul style="list-style-type: none"> • Pressure switch with display PPD assembled • Digital pressure sensor PPX included. Refer to "Pneumatic, Vacuum and Auxiliary Components (Catalog No. CB-024SA)" for details |  <ul style="list-style-type: none"> • The right side will be IN with the pressure gauge facing forward. |

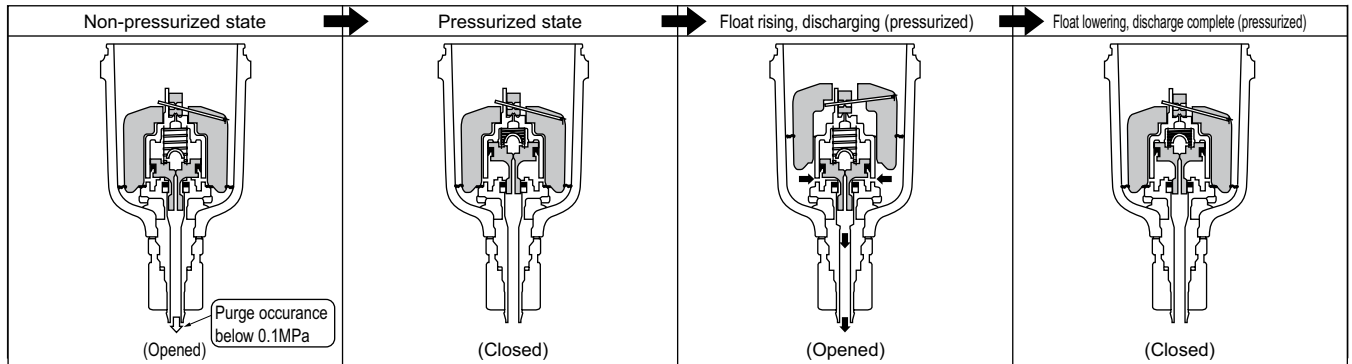
(Note) Option symbol "R1" is not available for C*000-W, C*010-W Series.

F.R.L Combination

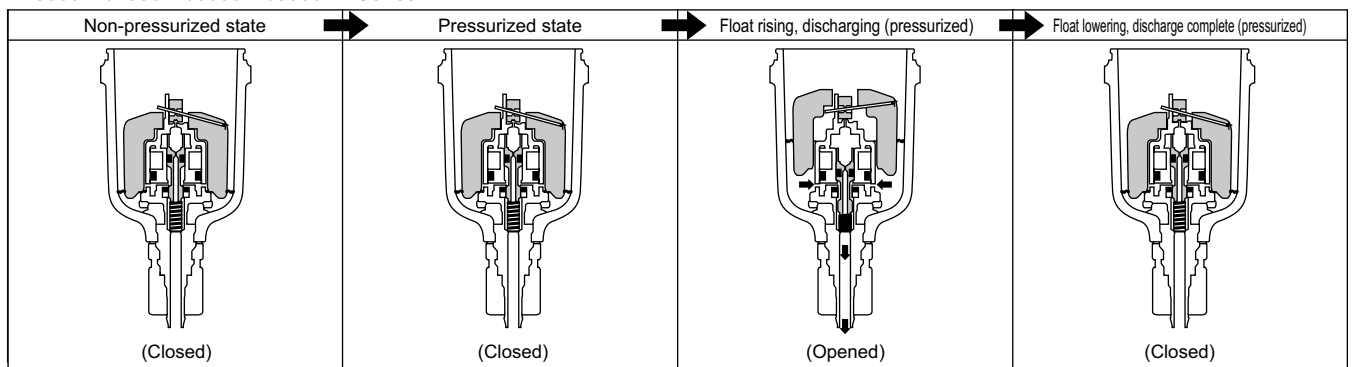
Principles of float type automatic drain

Principles of float type automatic drain

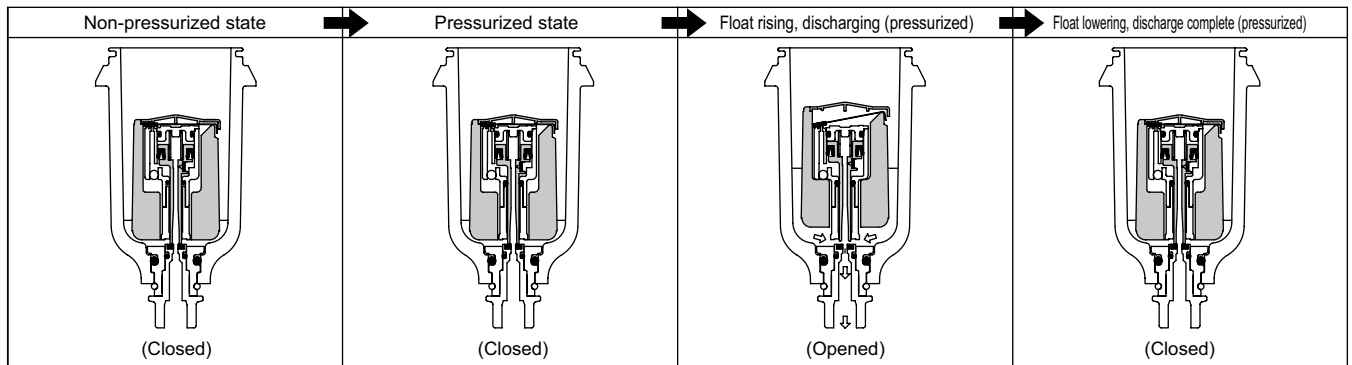
- NO type (F, FF)
3000-W/4000-W/6000-W/8000-W Series



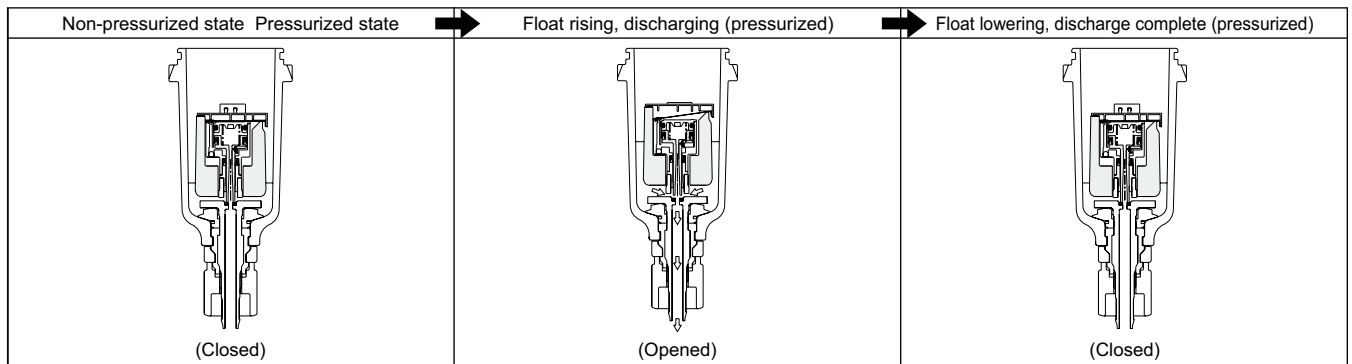
- NC type (F1, FF1)
3000-W/4000-W/6000-W/8000-W Series



- NC type (F1)
1000-W Series



- NC type (F1)
2000-W Series



| | Operation principles | | Features | Notes |
|---------|--|--|--|--|
| | Non-pressurized (such as night time) | Pressurized | | |
| NO Type | Drainage discharge is opened and drainage is discharged naturally. | Drainage is discharged with air from the drainage discharge section temporarily until pressure becomes the minimum activation pressure or higher. After filling, the drainage discharge section is closed. | Drainage is discharged naturally in the nonpressurized state (nighttime, etc.), so user discharge is not required. In the pressurized state, once pressure is attained, drainage is automatically discharged when it accumulates at a set level. | As indicated in features, air and drainage are temporarily discharged until the pressure attains the minimum activation so pressure may not be sufficient with a compressor (0.75 kW or less) having a small discharge flow. Use a NC type in this case. |
| NC Type | Drainage discharge section will be closed. | | This type is suitable for a compressor (0.75 kW or less) having a small discharge. There is no temporary air purging during pressurization. It will automatically discharge if drain accumulates to a certain level after pressurizing. | Drainage is not discharged in a nonpressurized state (nighttime, etc.), so user discharge is required in applications where large amounts of drainage are generated in a nonpressurized state (nighttime, etc.). |



Safety precautions

Always read this section before starting use.




When designing and manufacturing a device using CKD products, the manufacturer is obligated to check that device safety mechanism, pneumatic control circuit, or water control circuit and the system operated by electrical control that controls the devices is secured.

It is important to select, use, handle, and maintain the product appropriately to ensure that the CKD product is used safely. Be sure to observe the description given under DANGER, WARNING and CAUTION to assure safety of the equipment. Check that device safety is ensured, and manufacture a safe device.

WARNING

- 1** This product is designed and manufactured as a general industrial machine part.
It must be handled by an operator having sufficient knowledge and experience in handling.
- 2** Use this product in accordance of specifications.
This product must be used within its stated specifications. It must not be modified or machined.
This product is intended for use as a general-purpose industrial device or part. It is not intended for use outdoors or for use under the following conditions or environment.
(Note that this product can be used when CKD is consulted prior to use and the customer consents to CKD product specifications. The customer must provide safety measures to avoid risks in the event of problems.)
 - ①** Use for special applications requiring safety including nuclear energy, railroad, aviation, ship, vehicle, medical equipment, equipment or applications coming into contact with beverage or food, amusement equipment, emergency shutoff circuits, press machine, brake circuits, or for safeguard.
 - ②** Use for applications where life or assets could be adversely affected, and special safety measures are required.
- 3** Observe corporate standards, regulations, etc., related to the safety of device design and control, etc.
ISO 4414, JIS B 8370 (pneumatic system rules)
JFPS2008 (Principles for pneumatic cylinder selection and use)
Including High Pressure Gas Maintenance Law, Occupational Safety and Sanitation Laws, other safety rules, body standards and regulations, etc.
- 4** Do not handle, pipe, or remove devices before confirming safety.
 - ①** Inspect and service the machine and devices after confirming safety of the entire system related to this product.
 - ②** Note that there may be hot or charged sections even after operation is stopped.
 - ③** When inspecting or servicing the device, turn off the energy source (air supply or water supply), and turn off power to the facility. Discharge any compressed air from the system, and pay enough attention to possible water leakage and leakage of electricity.
 - ④** When starting or restarting a machine or device that incorporates pneumatic components, make sure that the system safety, such as pop-out prevention measures are secured.
- 5** Observe warnings and cautions on the pages below to prevent accidents.

■ The safety cautions are ranked as "DANGER", "WARNING" and "CAUTION" in this section.

-  **DANGER:** When a dangerous situation may occur if handling is mistaken leading to fatal or serious injuries, or when there is a high degree of emergency to a warning.
-  **WARNING:** When a dangerous situation may occur if handling is mistaken leading to fatal or serious injuries.
-  **CAUTION:** When a dangerous situation may occur if handling is mistaken leading to minor injuries or physical damage.

Even items described under CAUTION may cause serious results.
In any case, important information that must be observed is explained.

Disclaimer

- 1** Term of warranty
"Warranty Period" is one (1) year from the first delivery to the customer.
- 2** Scope of warranty
In case any defect attributable to CKD is found during the Warranty Period, CKD shall, at its own discretion, repair the defect or replace the relevant product in whole or in part, according to its own judgement.
This Limited Warranty will not apply to:
 - (1) Product abuse/misuse contrary to conditions/environment recommended in its catalogs/specifications
 - (2) Failure caused by other than the delivered product
 - (3) Use other than original design purposes.
 - (4) Third-party repair/modification
 - (5) Failure caused by reason that is unforeseeable with technology put into practical use at the time of delivery
 - (6) Failure attributable to force majeure.In no event shall CKD be liable for business interruptions, loss of profits, personal injury, costs of delay or for any other special, indirect, incidental or consequential losses, costs or damages.
- 3** Compatibility confirmation
In no event shall CKD be liable for merchantability or fitness for a particular purpose, notwithstanding any disclosure to CKD of the use to which the product is to be put.



Pneumatic components (F.R.L. unit (modular design))

Safety precautions

Always read this section before starting use.

Refer to "Pneumatic, Vacuum and Auxiliary Components (Catalog No. CB-024SA)" precautions for pneumatic components in general.

Specific precautions: F.R.L. (modular design)

Design & Selection

1. Common

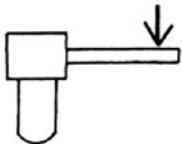
⚠ WARNING

- This product is for industrial use only. It must not be used in components or circuits for medical equipment or components that involve human lives.
- Air filter, lubricator plastic bowl, lubricator's drip window, and pressure gauge lens
Material is polycarbonate. It 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 18 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.

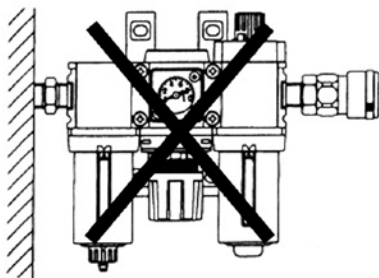
| Series | 1000-W | 2000-W | 3000-W | 4000-W | 6000-W | 8000-W |
|--------------------|--------|--------|--------|--------|--------|--------|
| Max. torque N·m | 15 | 15 | 50 | 50 | 100 | 100 |



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

Avoid piping similar to the following example.

Avoid piping fixed with a single support, as this can result in excessive force and lead to damage.
With the 1000-W Series, application of a torque of 30 N·m or more on piping could damage piping. Use within the specified torque, even when using the piping adapter.



⚠ WARNING

- Large drainage
Install the air dryer and drain separator before the air filter.
Hot and humid air or large drainage from the comp could shorten the device life or result in corrosion.
- Ultra dry air
Rubber parts for the regulator could deteriorate quickly, so use of a fluorine rubber valve assembly is recommended. Consult with CKD if necessary.
- Water lubricated compressor circuits
Take measures to prevent chlorine-based substances from entering the compressed air.
- Use the automatic drain under the working conditions below.
Otherwise, malfunctioning may occur.

N.O. type automatic drain (exhaust without pressurized): F, FF

- Use a compressor with a capacity of 0.75 kW {90l/min [ANR]} or more.
- Set the working pressure to 0.1 MPa or more. (Initially generated drainage and air are purged until pressure reaches 0.1 MPa.)

N.C. type automatic drain (exhaust without pressurized): F1, FF1.

- Can be used with compressor with 0.75kw or less.
- Set the working pressure to 0.15 MPa or more.
- 1000-W, 2000-W 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.
- Do not let the drain overflow as it may lead to malfunctioning.

F.R.L. unit (modular design)

2. Regulator, filter with regulator

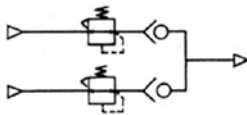
⚠ WARNING

- 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.

⚠ CAUTION

- Set the regulator's secondary pressure to 85% or less that of the primary side. The pressure could drop further.
- 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 using lubrication with an air motor or bearings. Also consult with CKD when using this unit at a high frequency such as in a press machine.

⚠ 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

⚠ CAUTION

- When using the compact pressure switch PPD or 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

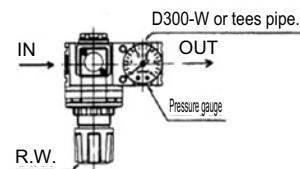
⚠ WARNING

- Precautions for 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

⚠ CAUTION

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



■ Regarding G45D

- The chemical resistance of the 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 this state could lead to bowl damage and accidents.

Chemical resistance of lens

| Types of chemicals | Categories of chemicals | Main products containing the chemical | Example of general usage | Lens |
|---------------------|--|---|---|------|
| Inorganic chemicals | Acid | Hydrochloric acid, sulfuric acid, hydrofluoric acid Phosphoric acid, chrome acid, etc. | Acid washings from metals, acidic degreasing solutions, skin treatment solutions | × |
| Organic chemicals | Aromatic hydrocarbon | Benzene, toluene Xylene, ethyl benzene, styrene | Contained in paint thinner (benzene, toluene, xylene) | × |
| | Alcohol | Methanol, ethanol, cyclohexanol, benzyl alcohol | Anti-freeze, leakage detection agent | × |
| | Phenol | Carbolic acid, cresol Nafthol, etc. | Antiseptic solution. | × |
| | 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 e (dowel pin) from rear | × |
| | Oxo acid | Glycocholic acid, lactic acid, malic acid, citric acid, tartarate | | × |
| Amine | Methylamine, diethylamine, ethylamine, aniline, acetoacetanilide, etc. | Brake oil additive | × | |

×: Do not use (Lens will be damaged)

Installation & Adjustment

1. Common

⚠ CAUTION

■ Avoid installing this product where it is subject to direct UV rays.

■ 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.

■ How to use the F.R.L. correctly

1. Set the regulator pressure setting to increase. After setting pressure, lock the handle. Check primary pressure carefully before setting pressure.

2. Check the arrow indicating the air inlet before connection. Reverse connection causes malfunctions.

3. Install the air filter and lubricator vertically with the case facing downward. Failure to do so could lead to disconnection or malfunction.

4. Use of the automatic drain where vibration is present could cause faults and malfunctions.

■ Pipe the automatic drain in the following conditions.

Otherwise, malfunctioning may occur.

Use an inner diameter of 5.7 or more and piping of 5 m or less for the drainage section.

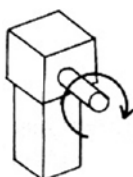
Do not pipe in a manner which will apply lateral load to the bowl.

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 | 70 | 70 |



■ Drain piping

● Confirm that the drain cock is closed before inserting the tube. 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.

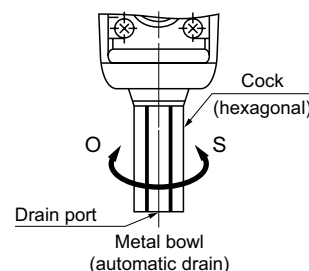
■ Drain cock tightening torque

● The max. tightening torque of the drain cock for the plastic bowl is as follows.

- 1000 Series: 0.1N·m
- Others: 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 a tightening joint, manual operation is not possible.



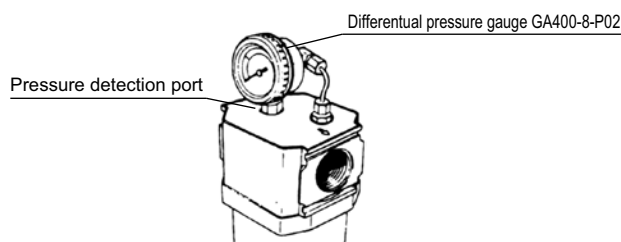
■ Drain with pressure detection port

For F6000-□-W-Q/M6000-□-W-Q/MX6000-□-W-Q/F8000-□-W-Q/M8000-□-W-Q/MX 8000-□-W-Q

Pressure detection port is available as an option for F6000-W·M6000-W·MX6000-W·F8000-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.



Check high and low-pressure port positions for the differential pressure installation port, and install correctly.

F.R.L. unit (modular design)

2. Regulator, filter with regulator

⚠ CAUTION

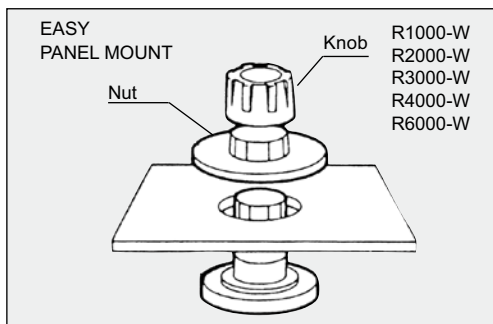
■ Regulator, filter regulator

- Lightly tighten (0.6 N·m or less) mounting screws for embedded pressure gauge G401-W-OP, G401-W, 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 15N·m or less.
- Do not move or swing the product holding the adjustment knob on the regulator.
- Do not apply pressure exceeding the pressure gauge's full scale. This will cause the pressure gauge to break. (Pay extra caution when using 0.2 and 0.4 MPa pressure gauges)

■ Panel mounting the 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. (The body can be fixed securely without play with the L-type bracket)

* Excluding 8000 Series



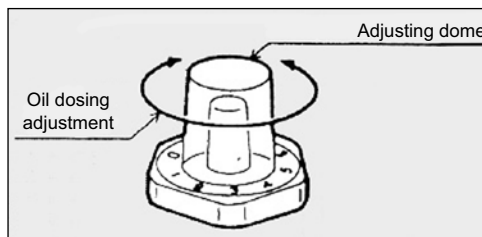
Note: Install the nut before installing the knob.
(With the R2000-W, the nut is removed without removing the knob.)

3. Lubricator

⚠ CAUTION

■ Adjustment of lubricator oil dripage

- 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.

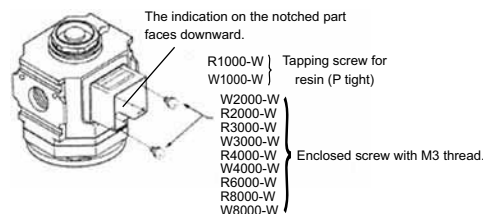


4. Pressure switch

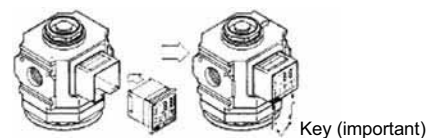
⚠ CAUTION

■ How to mount pressure switch (PPD)

- Separate the body from the base.
- Attach an O ring.
 - * Refer to the outline drawings for the direct installation type (PPD-****-1F-1) (PPD-****-1F-2) on the left, and attach the O ring to the O ring groove with a clean finger.
- Install the base
 - Install the base with the two enclosed screws (M3).
 - * Carefully install at the designated position in the designated direction while taking care not to dislocate the O ring.
 - * Do not tighten one screw completely at once, and instead tighten the two screws so that they are balanced. (Tightening torque 0.5 ± 0.1 N·m)



- This completes installing the main unit.
 - Confirm no dirt or foreign matter is on the base, and then insert the body. Make sure that the body does not catch on the base. Then, insert the two keys. While pressing the body exterior against the base, set the heads of the keys so that they face each other, then insert them so that they are completely stored in the recesses on the base.



Note: Install both keys. Check that two 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

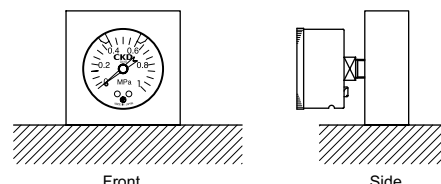
5. Pressure gauge

⚠ CAUTION

■ 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 consult with CKD so that a pressure gauge with a cushioning screw can be prepared. Applying pressure exceeding the pressure range could damage the pressure gauge.

- Install vertically so the scale can be seen right from the front. (Refer to drawing below) Installation on other position will result in an unstable movement of the indicator and lower accuracy.



During Use & Maintenance

1. Common

⚠ 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 filter, lubricator bowl

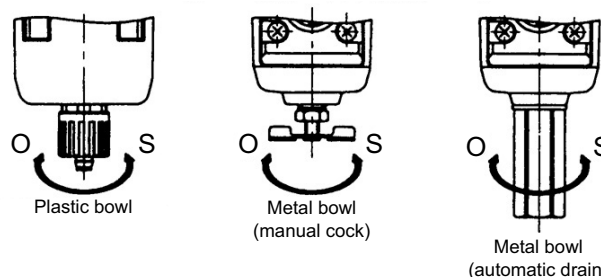
Before removing the bowl, the compressed air, discharge pressure in the bowl completely, and confirm that no residual pressure remains.

⚠ CAUTION

- Check the oil drip rate once a day.
If the oil drip is faulty, problems could occur in the unit being lubricated.
- Do not branch the air into lubricating air and oilfree air with a distributor. The lubricator oil could reverse flow.
- Clogged filter element will lower performance.
Regularly inspect, clean, and replace the element.
- Do not disassemble or modify the product.

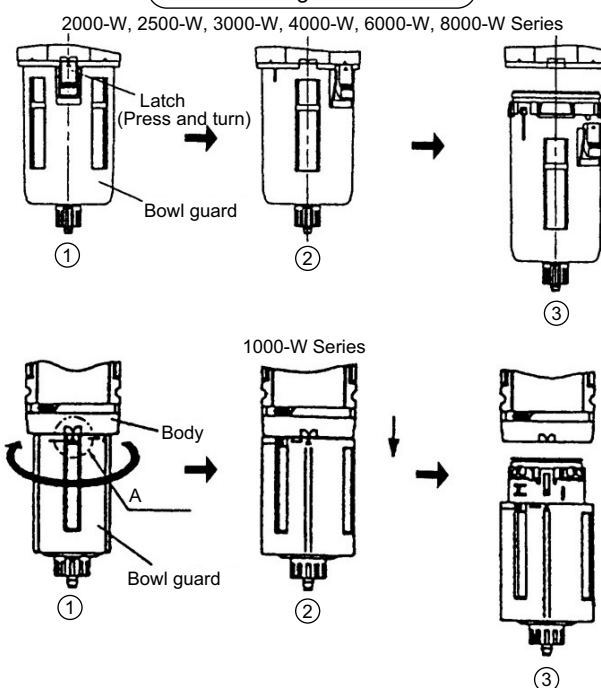
- Read instructions and precautions enclosed with the product before starting use or maintenance.

How to discharge 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 in the S direction with your hands.
- When the automatic drain is provided, drainage is discharged automatically when it accumulates. Drainage is also discharged manually.

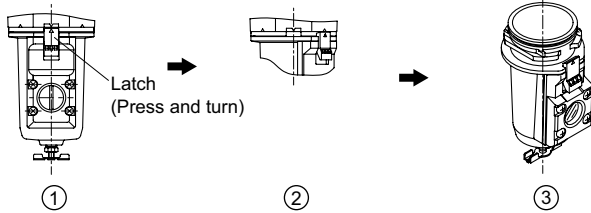
Removing resin bowl



F.R.L. unit (modular design)

Removing metal bowl

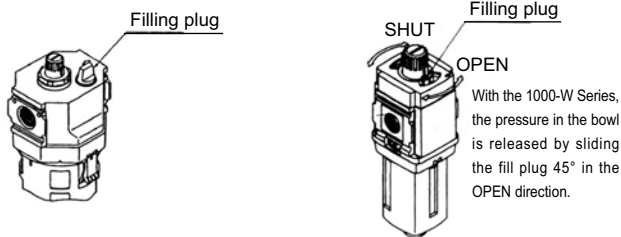
2000-W, 3000-W, 4000-W, 6000-W, 8000-W Series



Removal of filling plug

3000-W, 4000-W, 8000-W Series

1000-W Series

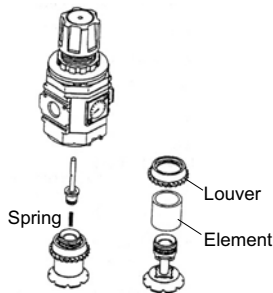


- Close the fill plug after lubricating.
- Do not remove the bowl without removing the filling plug while the bowl is pressurized. (L3000-W to L8000-W)
- Never remove the bowl with the filling plug set to the SHUT side of the 1000-W Series (while the bowl is pressurized). (L1000-W)

2. Filter·regulator

CAUTION

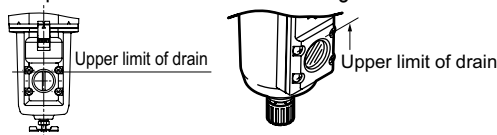
- Element for W1000-W to W8000-W
Inspect the valve assembly when it is removed during maintenance.
Do not lose internal parts when removing the coil.



3. Filter

WARNING

- Drain so that air filter drainage does not accumulate beyond the maximum.
Components could malfunction if drainage flows into the secondary side.



Metal bowl

Metal bowl (M1)

- The resin bowl must not be filled more than the "drain upper limit" or "max. level" stamped on the bowl guard.

CAUTION

- Submicron 0.3 μ m element
Washing will not restore performance. If the pressure drops to 0.07 MPa, replace the filter with a new one. (Excluding 1000, 2000 Series)

Oil mist filter

The service life of the mantle (element) is 1 year (6000 hours) or when pressure drops to 0.1 MPa (Except for the X type.) Replace the mantle when life is reached. (Do not touch the urethane foam layer during replacement.)

- Replace the element before the differential pressure indicator becomes all read if it has a differential pressure indicator.

- Mount with zero of the pressure gauge scale facing vertically downward.

4. Regulator, filter with regulator

CAUTION

- 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.

- Working or piping conditions could cause pulsation.
We recommend changing working conditions or piping by means such as lowering primary pressure if pulsation occurs.

5. Lubricator

WARNING

- Use Class 1 turbine oil (nonadditive) ISO VG32 for the lubricator.
Use of other oil will result in damage or malfunction.

- Removing the lubricator's filling plug
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.

CAUTION

- Periodically replenish oil in the lubricator bowl so that it does not drop below the lower limit.

- When lubricating the L1000-W, pressure in the bowl is released by turning the fill plug. Refer to the section on [usage and maintenance](#), above, for details on using the fill plug. (Lubrication can be carried out while the 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.

- 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 [usage and maintenance](#), above, for details on using the fill plug.
(By removing the filling plug, lubrication can be carried out while the pipes are pressurized.)
Oil can also be supplied from the filling plug hole, and the bowl can be directly lubricated by removing the bowl and bowl guard. Refer to the previous page for details on removing the bowl. With the L8000-W, oil is supplied to the spacer by lubricating from the fill plug hole.

6. Pressure gauge

- Check that no impact or vibration is applied directly to the product.
- Limit marks will not completely contact each other.
There may be a clearance of 1 scale.

Specific precautions: F.R.L. components

Chemical resistance of plastic parts

⚠ WARNING

- The chemical resistance of plastic parts are 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 this 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.

| Types of chemicals | Categories of chemicals | Main products containing the chemical | Example of general usage | Polycarbonate bowl | Nylon bowl | Nylon body |
|---------------------|---|--|---|--------------------|------------|------------|
| Inorganic chemicals | Acid | Hydrochloride, sulfuric acid, fluorine, phosphoric acid, chromic acid, etc. | Acid washings from metals, acidic degreasing solutions, skin treatment solutions | × | × | × |
| | Alkaline | Alkalies such as caustic soda, caustic potash, calcium hydroxide, ammonium water, or sodium carbonate | Alkaline degreasing of metals Water-based coolant, leakage detection agent | × | ○ | ○ |
| | Inorganic salts | Alkalies such as caustic soda, caustic potash, calcium hydroxide, ammonium water, or sodium carbonate | | × | ○ | ○ |
| Organic chemicals | Aromatic hydrocarbon | Benzene, toluene, xylene, ethyl benzene, styrene, etc. | Contained in paint thinner (benzene, toluene, xylene) | × | × | × |
| | Chlorinated aliphatic hydrocarbons | Methyl chloride, ethylene chloride, methylene chloride, acetylene chloride, chloroform, trichylene, perchloro ethylene, carbon tetrachloride | Organic solvent based washing solution for metals (Trichylene, perchloro ethylene, carbon tetrachloride) | × | ○ | ○ |
| | Chlorinated aliphatic hydrocarbons | Chlorobenzene, dichlorobenzene, benzene hexachloride (B,H,C), etc. | Chlorinated aromatic | × | ○ | ○ |
| | Petroleum compounds | Solvent naphtha, gasoline, kerosene | | × | ○ | ○ |
| | Alcohol | Methanol, ethanol, cyclohexanol, benzyl alcohol | Anti-freeze Leakage detection agent | × | × | × |
| | Phenol | Carbolic acid, cresold, naphthol, etc. | Antiseptic solution. | × | × | × |
| | Ether | Methyl ether, methyl ethyl ether, ethyl ether | Brake oil additive | × | ○ | ○ |
| | 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 e (dowel pin) from rear | × | × | × |
| | Ester | Dimethyl phthalate (DMP), diethyl phthalate (DEP), dibutyl phthalate (DBP), dioctyl phthalate (DOP) | Used as an additive for lubricant, synthetic and rust proof oil. Used as a plasticizer for resins. | × | ○ | ○ |
| | Oxo acid | Glycocholic acid, lactic acid, malic acid, citric acid, tartarate | | × | × | × |
| | Nitro compounds | Nitromethane, nitroethane, nitroethylene, nitrobenzene, etc. | | × | ○ | ○ |
| | Amine | Methylamine, diethylamine, ethylamine, aniline, acetoacetanilide, etc. | Brake oil additive | × | × | × |
| Nitrile | Acetonitrile, acrylonitrile, benznitrile, acetylidyne nitrile, etc. | Raw material for nitril rubber | × | ○ | ○ | |

○: Permissible ×: Not permissible (plastic will be damaged)

F.R.L. unit (modular design)

Precautions for each model

Automatic drain DT3000·DT4000-W Series

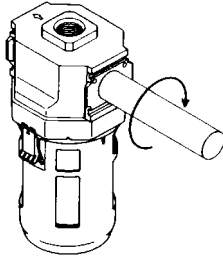
Installation & Adjustment

⚠ CAUTION

■ Piping screw-in torque

Do not apply excessive torque to the body and piping when connecting pipes.

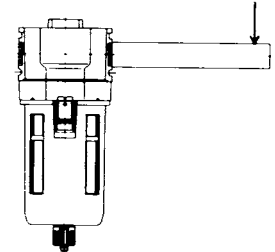
| | 3000-4000 Series |
|-----------------|------------------|
| Max. torque N·m | 30 |



■ Piping, load torque

Make sure that piping load or torque is not applied on the body or piping.

| | 3000-4000 Series |
|-----------------|------------------|
| Max. torque N·m | 50 |



During Use & Maintenance

⚠ CAUTION

■ Do not use this product where it may be subject to direct sunlight and direct UV rays.

■ The bowl is made of polycarbonate, so avoid using this product with the following chemicals or in an atmosphere containing chemicals on page 18. A metal bowl is available if these chemicals must be used.

■ Use a household-grade neutral detergent to clean the bowl, then rinse with water.

■ Use an inner diameter of $\varnothing 5.7$ to $\varnothing 6.0$ or more and piping of 5 m or less for the drainage section.

■ Apply compressor over 0.75kW (flow over 90/min) (NO type automatic drain only)

■ Do not let in large amount of drain beyond its capacity. Sudden entry of large amount of drain may result in malfunctioning.

■ Service life may shorten drastically in a environment where large amount of foreign materials enter. Please conduct maintenance and replace bowl assembly regularly.

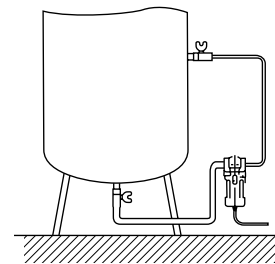
■ The bowl assembly is an consumable. Replace it regularly according to conditions and usage.

■ Mount and remove the bowl and bowl guard after checking that pressure is not being applied.

■ Avoid hot air as the life of components will be shortened, and corrosion could occur.

■ If the drain discharger is installed at a place higher than the tank's drainage discharge port because of installation restrictions, the drainage can be discharged in the following manner.

- (1) Let the air bleed by opening the petcock slightly.
- (2) Remove the pit cock as shown below, and provide equalizer piping in the tank.



■ Repeated sudden increase and decrease of the pressure will cause the drainage discharger's life to drop. Gradually change the pressure in the circuit.

Precautions for mounting and removing bowl and bowl guard

⚠ CAUTION

■ Residual pressure exhaust

- Release residual pressure from the manual cock at the bottom. When using the metal bowl, release pressure from the petcock on the side. Release the pressure applied in the bowl, and confirm that there is no pressure.

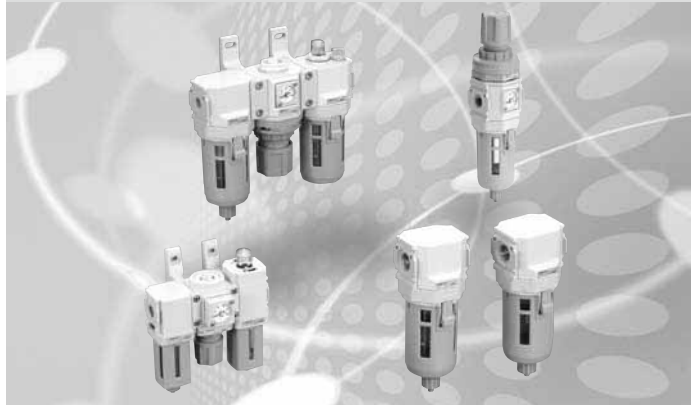
■ Attaching and removing

- After confirming that the residual pressure has been released, press down the latch and turn it to lift up the bowl and bowl guard.

Modular type

Standard white series

■ Components for air preparation/F.R.L. unit



C O N T E N T S

| | |
|----------------------|----------|
| Product introduction | Intro 1 |
| Series variation | 1 to 6 |
| Product description | 7 to 10 |
| ▲ Safety precautions | 11 to 18 |

Combination

| | |
|--------------------------------|----|
| ● F.R.L. combination (C*000-W) | 21 |
| ● W.L. combination (C*010-W) | 29 |
| ● F.R. combination (C*020-W) | 35 |
| ● F.M.R. combination (C*030-W) | 41 |
| ● W.M. combination (C*040-W) | 47 |
| ● R.M. combination (C*050-W) | 53 |
| ● F.M. combination (C*060-W) | 59 |
| ● F.F.M. combination (C*070-W) | 65 |

Filter·regulator

| | |
|------------------------------|----|
| ● Filter·regulator (W*000-W) | 69 |
| ● Reverse filter·regulator | 77 |

Air filter

| | |
|---|-----|
| ● Air filter (F*000-W) | 85 |
| ● Oil mist filter (M*000-W) | 95 |
| ● High performance oil mist filter (MX*000-W) | 103 |
| ● Air filter for medium pressure type (FM*000-W) | 159 |
| ● Oil mist filter for medium pressure type (MM*000-W) | 165 |

Regulator

| | |
|--|-----|
| ● Regulator (R*000-W) | 113 |
| ● Reverse regulator (R*100-W) | 121 |
| ● Regulator for medium pressure (RM*000-W) | 171 |

Lubricator

| | |
|------------------------|-----|
| ● Lubricator (L*000-W) | 129 |
|------------------------|-----|

Mechanical pressure switch

| | |
|---|-----|
| ● Mechanical pressure switch (P4000-W) | 137 |
| ● Reed switch type compact mechanical pressure switch (P-100-W) | 139 |

Shut-off valve

| | |
|--|-----|
| ● Shut-off valve (V1000-W·V3000-W) | 143 |
| ● Shut-off valve with key hole (V3010-W) | 146 |

Slow start valve

| | |
|--------------------------------------|-----|
| ● Slow start valve (V3301-W·V3321-W) | 149 |
|--------------------------------------|-----|

| | |
|-------------------------|-----|
| Bracket, joiner (B, J) | 152 |
| Distributor (D*01-00-W) | 153 |
| Piping adaptor (A***-W) | 155 |



F.R.L. combination standard white series

C1000 / C2000 / C2500-W C3000 / C4000 / C6500 / C8000-W Series

Space-saving with integrated filter, regulator, and lubricator

Port size: 1/8 to 1

JIS symbol



Specifications

| Descriptions | | C1000-W | C2000-W | C2500-W | C3000-W | C4000-W | C6500-W | C8000-W |
|--|------------|--|-----------------------------------|-----------------------------------|-----------------------------------|--|-----------------------------------|-----------------------------------|
| Exterior | | | | | | | | |
| Components | 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 |
| | Lubricator | L1000-W | L3000-W | L3000-W | L3000-W | L4000-W | L8000-W | L8000-W |
| Working fluid | | Compressed air | | | | | | |
| Max. working pressure MPa | | 1 | | | | | | |
| 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 5 | 0.05 to 0.85 | | | | | |
| Minimum drip flow (Note 1) m ³ /min (ANR) | | 0.015 | 0.03 | 0.03 | 0.03 | 0.065 | 0.065 | 0.065 |
| Relief | | With relief mechanism | | | | | | |
| Oil capacity cm ³ | | 20 | 85 | 85 | 85 | 170 | 170 | 170 (MAX360) |
| Drain capacity cm ³ | | 12 | 25 | 45 | 45 | 80 | 80 | 80 (Note 2) |
| Applicable 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 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 weight kg | | 0.4 | 1.01 | 1.01 | 1.15 | 1.79 | 3.64 | 4.5 |
| Proded as standard | | Pressure gauge, bracket, bowl guard | | | | | | |

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

Note 2: Drainage accumulates up to 170 cm³ only with the manual drain cock.

Note 3: 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 4: The automatic drains minimum operating pressure for "F1" or "FF1" with an automatic drain is 0.15 MPa.

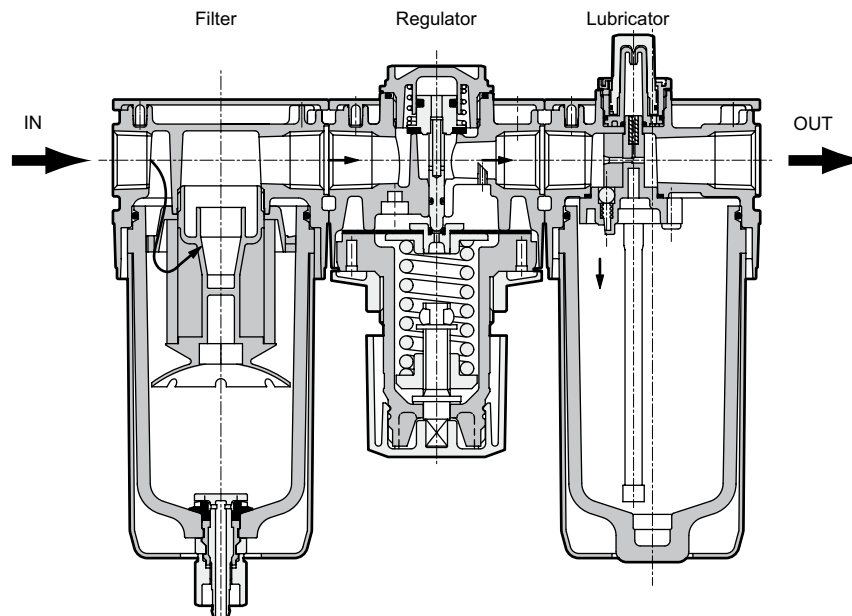
Note 5: When using C1000-W series "F1" with an automatic drain, the minimum operating pressure is 0.2 MPa and maximum operation pressure is 0.7 MPa.

Refer to the maximum working flow table (page 85) for F1000-W-F1 with an automatic drain for details on maximum working flow. Set the working flow to less than the maximum working flow.

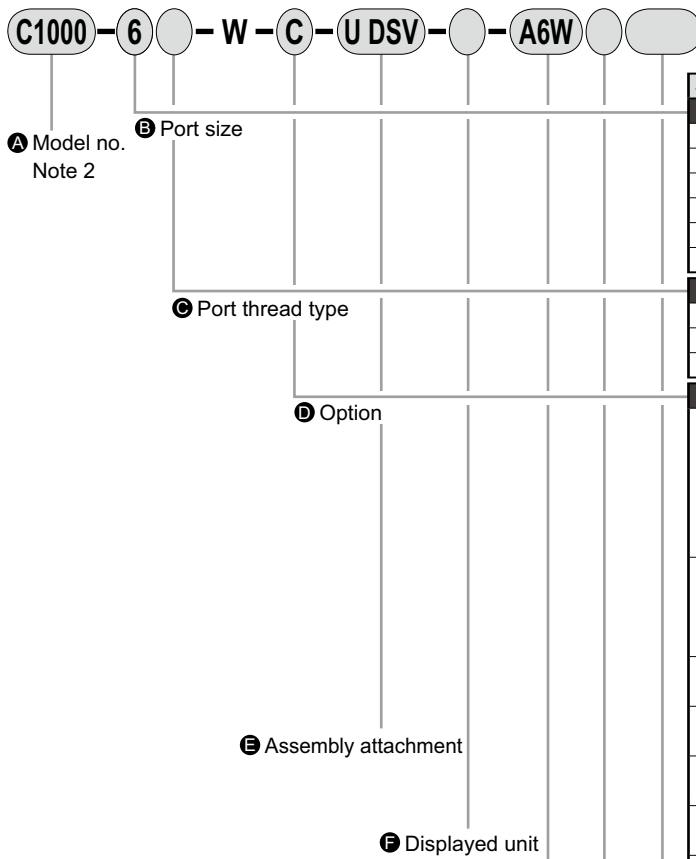
Note 6: When element option "Y" is selected, refer to the maximum working flow table (page 87) for maximum flow. Set the working flow to less than the maximum working flow.

Note 7: C2000-W Series with an automatic drain "F1" must be used below maximum flow rate. (Refer to page 85 F2000-W for weight.)

Internal structure



Refer top page 9 for an explanation of the options.



| A | Model no. | | | | | | Note 1 |
|-------|-----------|-------|-------|-------|-------|-------|--------|
| C1000 | C2000 | C2500 | C3000 | C4000 | C6500 | C8000 | |

| Symbol | Descriptions | | | | | | |
|--------------------|--------------|---|---|---|---|---|---|
| B Port size | | | | | | | |
| 6 | 1/8 | ● | | | | | |
| 8 | 1/4 | | | | | | |
| 10 | 3/8 | | ● | ● | ● | | |
| 15 | 1/2 | | | | | ● | |
| 20 | 3/4 | | | | | | ● |
| 25 | 1 | | | | | | ● |

| C Port thread type | | Note 2 | | | | | |
|---------------------------|------------|--------|---|---|---|---|---|
| Blank | Rc thread | ● | ● | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● | ● | ● |

| D Option | | Note 3 | | | | | |
|-----------------|--|--------|---|---|---|---|---|
| Blank | Filter with manual drain cock, lubricator without manual drain cock | ● | ● | ● | ● | ● | ● |
| C | Lubricator with manual cock | ● | ● | ● | ● | ● | ● |
| F | Filter with automatic drain (NO type: exhaust without pressurization) | | | ● | ● | ● | ● |
| F1 | Filter with automatic drain (NC type: exhaust with pressurization) | | | ● | ● | ● | ● |
| FF | Filter with automatic large drain (NO type: exhaust without pressurization) | | | | | | ● |
| FF1 | Filter with automatic large drain (NC type: no exhaust without pressurization) | | | | | | ● |

| Element | | | | | | | |
|----------------|--|---|---|---|---|---|---|
| Blank | Polycarbonate bowl | ● | ● | ● | ● | ● | ● |
| Z | Nylon bowl | ● | ● | ● | ● | ● | ● |
| M | Metal bowl | | | ● | ● | ● | ● |
| M1 | Metal bowl with manual drain cock Note 5 | | | | | | ● |

| Element | | | | | | | |
|----------------|--------------------------|---|---|---|---|---|---|
| Blank | 5µm | ● | ● | ● | ● | ● | ● |
| Y | 0.3µm (submicron) Note 6 | | | ● | ● | ● | ● |

| Differential detection | | | | | | | |
|-------------------------------|---|---|---|---|---|---|---|
| Blank | Without differential pressure detection port | ● | ● | ● | ● | ● | ● |
| Q | With differential pressure detection port (Rc1/4) | | | | | | ● |

| Pressure range | | | | | | | |
|-----------------------|------------------------|---|---|---|---|---|---|
| Blank | 0.05 to 0.85MPa | ● | ● | ● | ● | ● | ● |
| L | 0.05 to 0.35MPa Note 7 | ● | ● | ● | ● | ● | ● |

| Relief | | | | | | | |
|---------------|-----------------------|---|---|---|---|---|---|
| Blank | With relief mechanism | ● | ● | ● | ● | ● | ● |
| N | Non-relief type | ● | ● | ● | ● | ● | ● |

| Pressure gauge | | | | | | | |
|-----------------------|---|---|---|---|---|---|---|
| Blank | With standard pressure gauge (G401-W) | ● | ● | ● | ● | ● | ● |
| T | Without pressure gauge (gauge port (Rc1/4) assembled sealed) | ● | ● | ● | ● | ● | ● |
| T8 | Pressure gauge attachable (gauge port (Rc1/4) assembled open) | ● | ● | ● | ● | ● | ● |

| Flow direction | | | | | | | |
|-----------------------|-------------------------------|---|---|---|---|---|---|
| Blank | Standard flow (left to right) | ● | ● | ● | ● | ● | ● |
| X1 | Reverse flow (right to left) | ● | ● | ● | ● | ● | ● |

| E Assembly attachment | | Pages 137 to 148, 153, 154 | | | | | |
|------------------------------|---------------------------------|----------------------------|---|---|---|---|---|
| Blank | Without assembly attachment | ● | ● | ● | ● | ● | ● |
| U | With assembly attachment Note 8 | ● | ● | ● | ● | ● | ● |

| Assembled | | | | | | | |
|------------------|---|---|---|---|---|---|---|
| D | Distributor (D101-W, D401-W, D801-W) | ● | ● | ● | ● | ● | ● |
| S | Pressure switch (P1100-W, 4100-W, 8100-W) | ● | ● | ● | ● | ● | ● |
| P | Pressure switch (P4000-W) | | | ● | ● | ● | ● |
| V | Shut-off valve (V1000-W, V3000-W) | ● | ● | ● | ● | ● | ● |
| K | Shut-off valve with key hole (V3010-W, V6010-W) | | | ● | ● | ● | ● |

| F Displayed unit | | | | | | | |
|-------------------------|----------------------------|---|---|---|---|---|---|
| Blank | MPa display, Rc thread | ● | ● | ● | ● | ● | ● |
| J1 | MPa display, NPT, G thread | ● | ● | ● | ● | ● | ● |

| G Piping adaptor set (included) | | Pages 155 to 157 Note 9 | | | | | |
|--|--------------------------|-------------------------|---|---|---|---|---|
| Blank | Not attached | ● | ● | ● | ● | ● | ● |
| A6*W | 1/8 piping adaptor set | ● | | | | | |
| A8*W | 1/4 piping adaptor set | ● | ● | ● | ● | ● | ● |
| A10*W | 3/8 piping adaptor set | ● | ● | ● | ● | ● | ● |
| A15*W | 1/2 piping adaptor set | | ● | ● | ● | ● | ● |
| A20*W | 3/4 piping adaptor set | | | | | ● | ● |
| A25*W | 1 piping adaptor set | | | | | | ● |
| A32*W | 1 1/4 piping adaptor set | | | | | | ● |

| Adaptor thread type | | | | | | | |
|----------------------------|------------|---|---|---|---|---|---|
| Blank | Rc thread | ● | ● | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● | ● | ● |

| H Attachment | | | | | | | |
|---------------------|---|---|---|---|---|---|---|
| Blank | Not attached | ● | ● | ● | ● | ● | ● |
| PW | Pressure switch (P4000-W) +joiner set | | | ● | ● | ● | ● |
| VW | Shut-off valve (V1000-W, V3000-W) +joiner set | ● | ● | ● | ● | ● | ● |

| I Pressure gauge option (attached) | | Note 10 page 198 | | | | | |
|---|----------------------------|------------------|---|---|---|---|---|
| Blank | Not attached | ● | ● | ● | ● | ● | ● |
| G45P | G45D-8-P10 (L: G45D-8-P04) | ● | ● | ● | ● | ● | ● |
| G49P | G49D-8-P10 (L: G49D-8-P04) | ● | ● | ● | ● | ● | ● |
| G59P | G59D-8-P10 (L: G59D-8-P04) | ● | ● | ● | ● | ● | ● |
| G40P | G40D-8-P10 (L: G40D-8-P04) | ● | ● | ● | ● | ● | ● |
| G50P | G50D-8-P10 (L: G50D-8-P04) | ● | ● | ● | ● | ● | ● |
| G41P | G41D-8-P10 (L: G41D-8-P04) | ● | ● | ● | ● | ● | ● |
| G52P | G52D-8-P10 (L: G52D-8-P10) | ● | ● | ● | ● | ● | ● |

A Model no. Note 2

B Port size

C Port thread type

D Option

E Assembly attachment

F Displayed unit

G Piping adaptor set (included)

⚠ Cautions for model No. selection

- Note 1: Piping adaptor A400-20*-W is assembled on both ends of C4000-20*-W. Piping adaptor set "A20*W" does not need to be specified.
- Note 2: G threads and NPT threads are available for IN, OUT, gauge port and drain discharge port (metal bowl with automatic drain). Attachment P, V will be subject to this as well.
- Note 3: Select options for each drainage discharge, bowl material, element, differential pressure detection, and regulator items. When selecting options for several items, list options in order from the top.
- Note 4: Refer to page 12 for working conditions of the automatic drain.
- Note 5: Have a choice drain discharge option "C" or "F" and "F1" for option "M1".
- Note 6: Refer to page 87 for max. flow rate of option "Y".
- Note 7: Pressure gauge display range will be 0 to 0.4 MPa for option "L".
- Note 8: Mounting location for assembly attachments

| Symbol | Attachment mounting position | Applicable model |
|--------|------------------------------|---|
| D | F+ (D) +R+L | C1000-W to C8000-W |
| S | F+R+ (S, P) +L | C1000-W to C8000-W ("P" excludes 1000, 6000, 8000 Series) |
| V | F+R+L+ (V, K) | C1000-W to C8000-W ("V" excludes 6000, 8000 Series. "K" excludes 1000 Series) |

Note) Indicate "U" + "D", "S", "P", "V", and "K" when selecting an assembly attachment. Use custom combinations specifications for any other combination.

- Note 9: A joiner set is attached with the piping adapter set.
- Note 10: If NPT is selected for the "C" piping thread type, a NPT pressure gauge is enclosed. If Rc or G thread is selected, an R thread pressure gauge is enclosed.

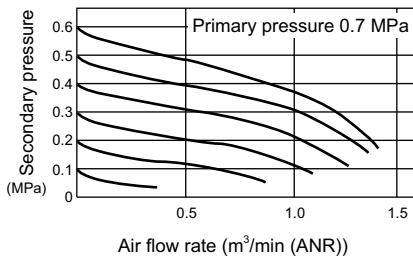
H Attachment

I Pressure gauge option (attached)

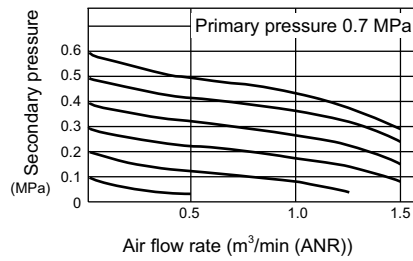
F.R.L. Combination

Flow characteristics

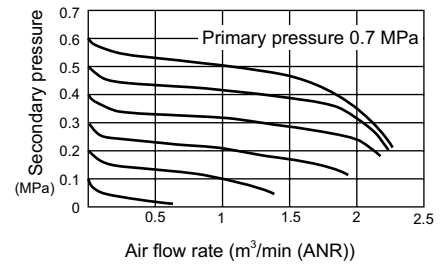
● C1000-6-W



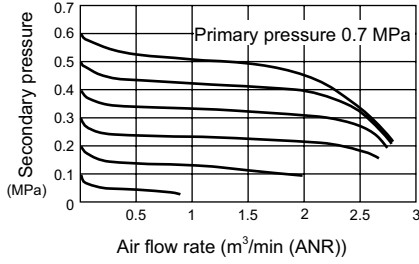
● C1000-8-W



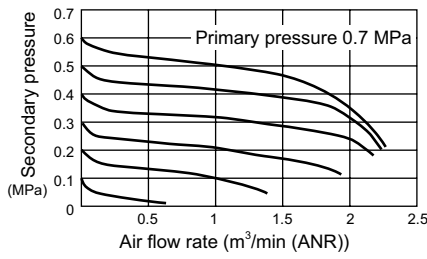
● C2000-8-W



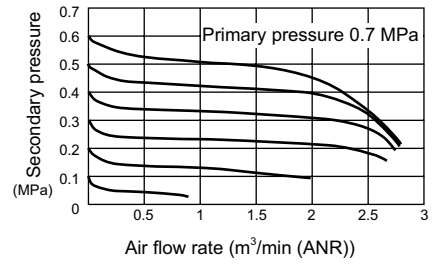
● C2000-10-W



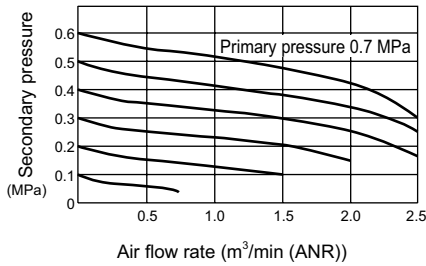
● C2500-8-W



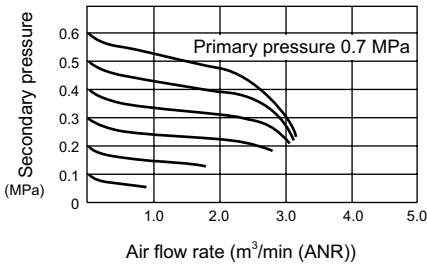
● C2500-10-W



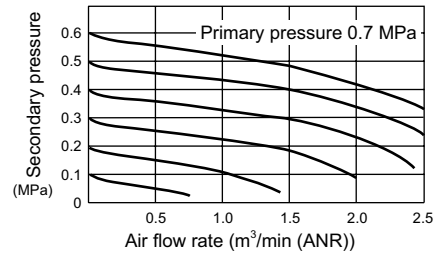
● C3000-8-W



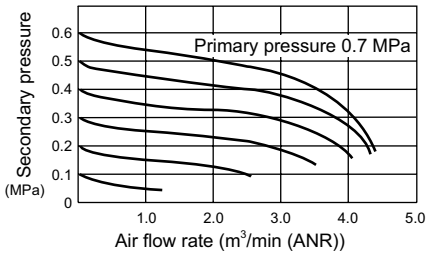
● C3000-10-W



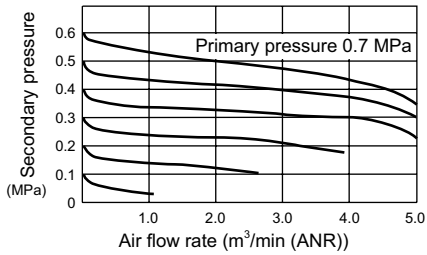
● C4000-8-W



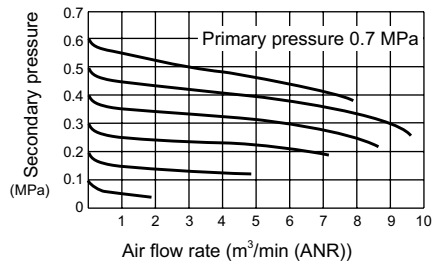
● C4000-10-W



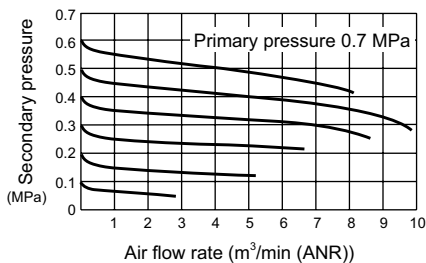
● C4000-15-W



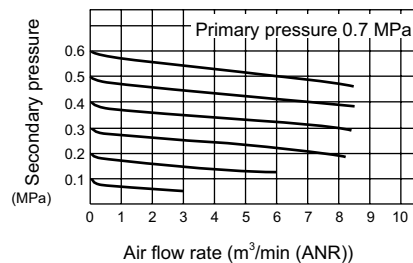
● C6500-20-W



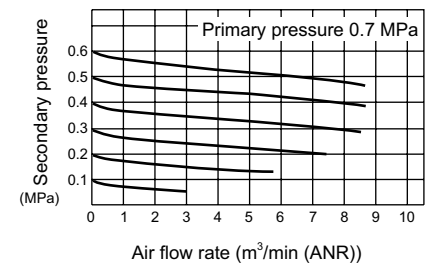
● C6500-25-W



● C8000-20-W




● C8000-25-W

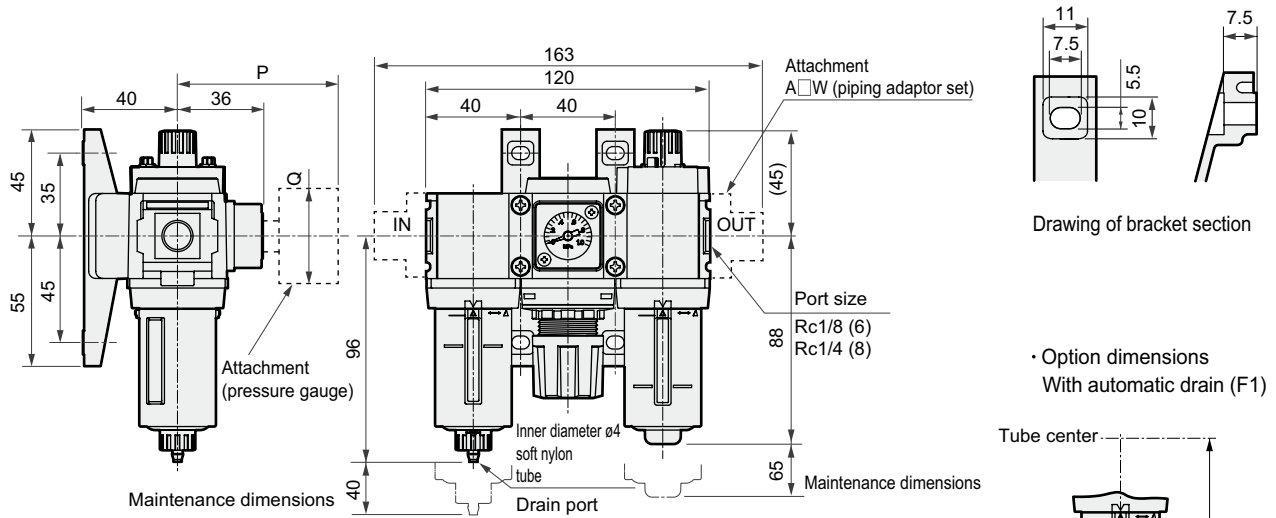


MEMO

F.R.L. Combination

Dimensions 

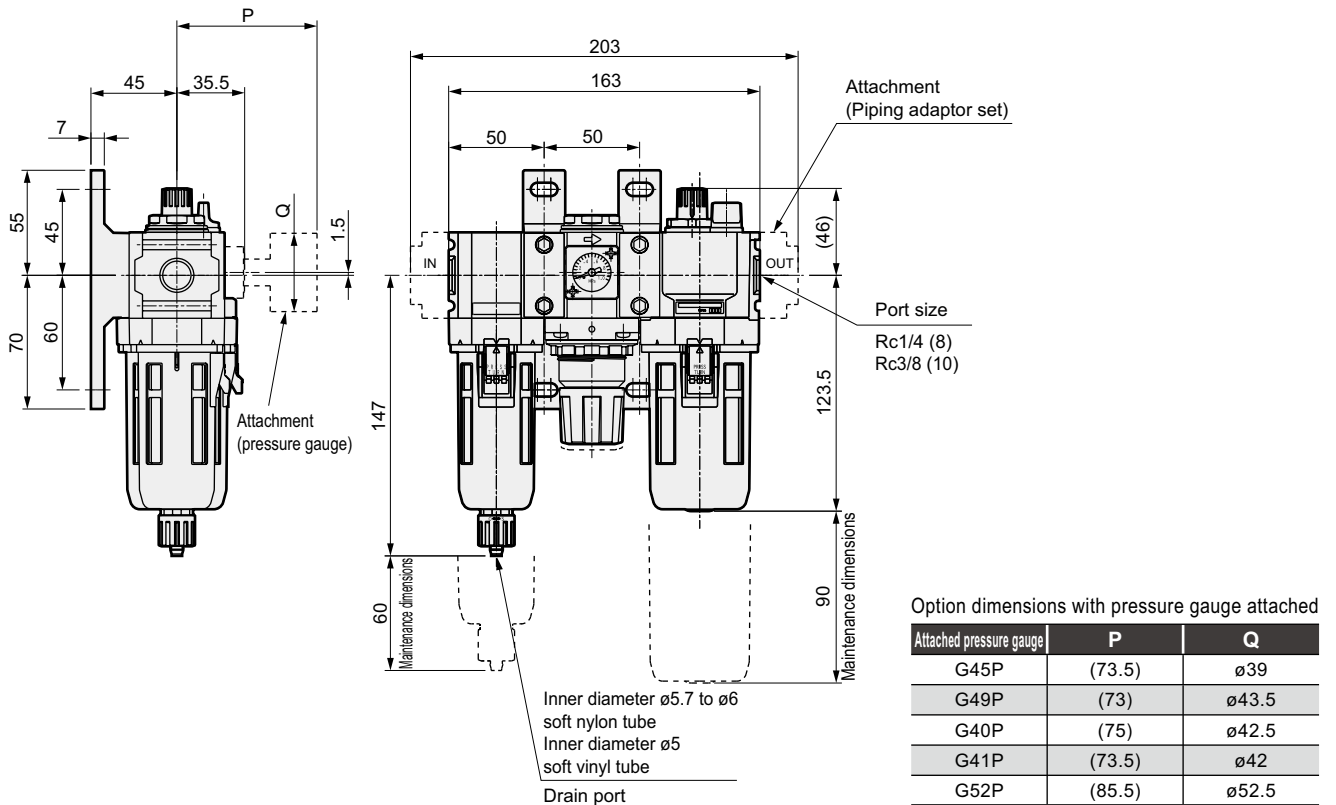
● C1000-W



Option dimensions with pressure gauge attached

| Attached pressure gauge | P | 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 |

● C2000-W




Option dimensions with pressure gauge attached

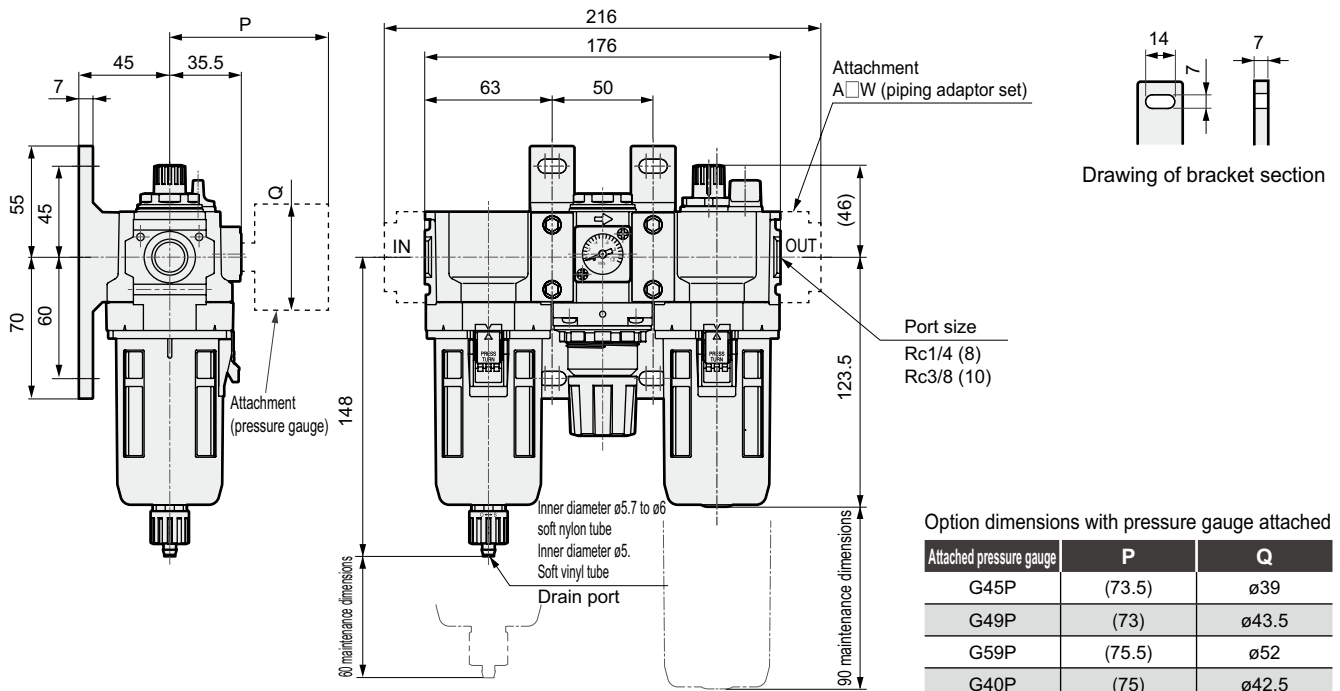
| Attached pressure gauge | P | Q |
|-------------------------|--------|-------|
| G45P | (73.5) | ø39 |
| G49P | (73) | ø43.5 |
| G40P | (75) | ø42.5 |
| G41P | (73.5) | ø42 |
| G52P | (85.5) | ø52.5 |

F.R.L. Combination

Dimensions

Dimensions 

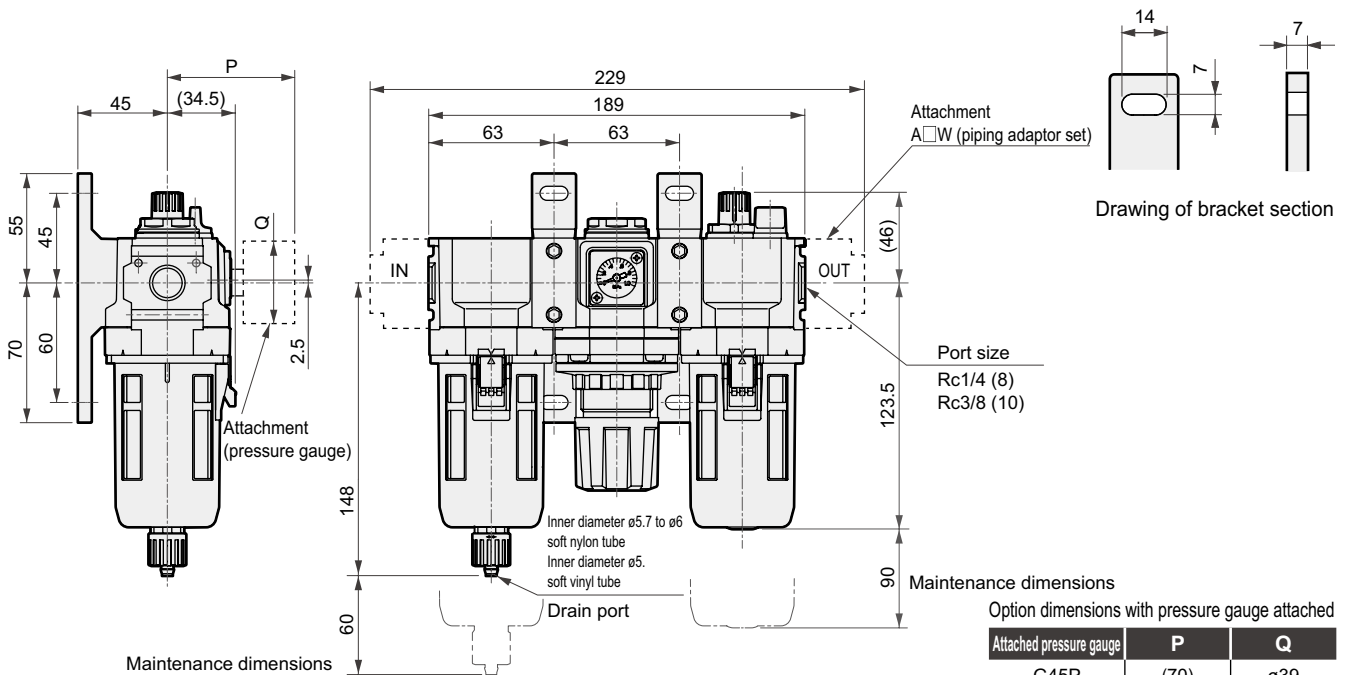
● C2500-W



Option dimensions with pressure gauge attached

| Attached pressure gauge | P | Q |
|-------------------------|--------|-------|
| 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 |

● C3000-W



Option dimensions with pressure gauge attached

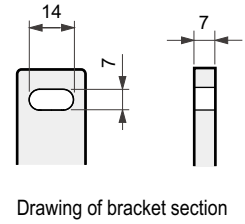
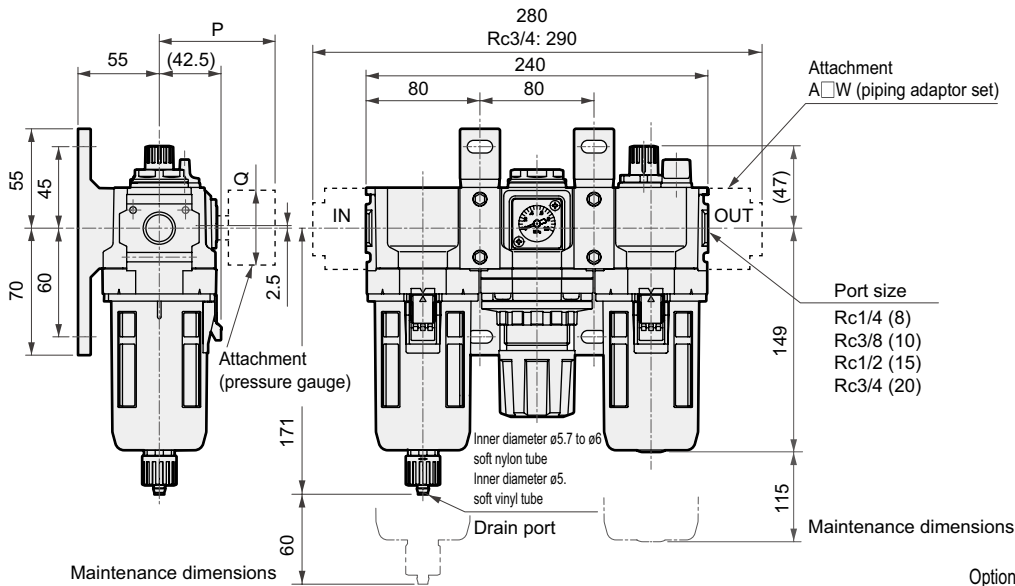
| Attached pressure gauge | P | Q |
|-------------------------|--------|-------|
| G45P | (70) | ø39 |
| G49P | (69.5) | ø43.5 |
| G59P | (72) | ø52 |
| G40P | (71.5) | ø42.5 |
| G50P | (71.5) | ø52.5 |
| G41P | (70) | ø42 |
| G52P | (82) | ø52.5 |

● Refer to page 92 for the dimensions of the metal bowl option filter section and page 135 for the lubricator section.

F.R.L. Combination

Dimensions

● C4000-W



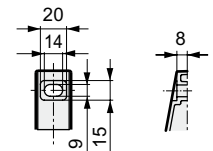
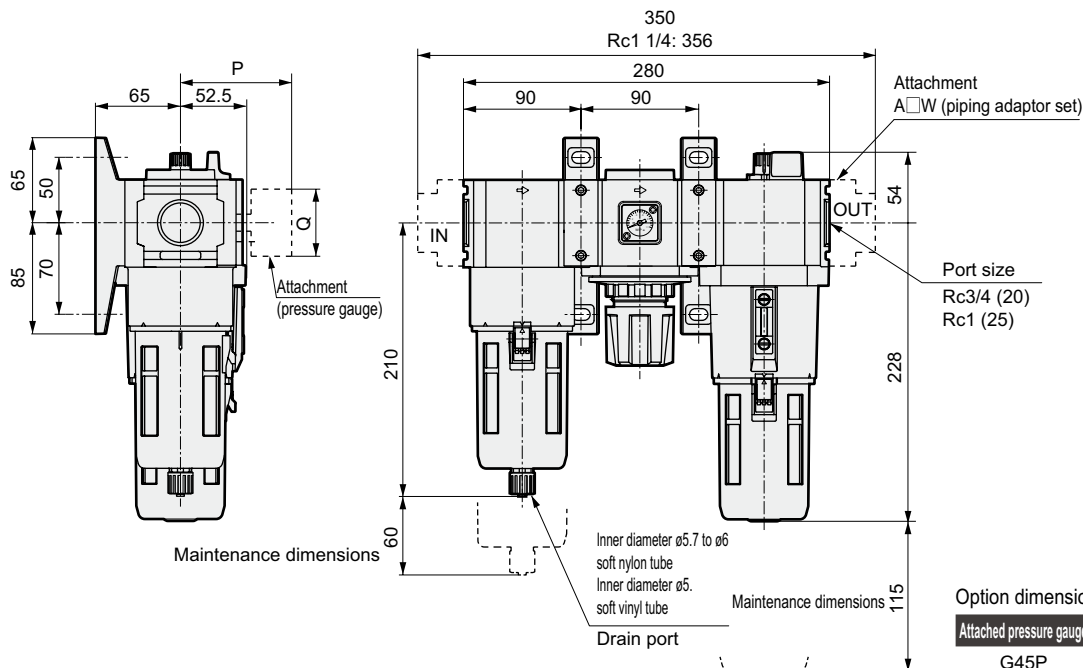
Drawing of bracket section

Option dimensions with pressure gauge attached

| Attached pressure gauge | P | 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 |

● Refer to page 92 for the dimensions of the metal bowl option filter and page 135 for the lubricator.

● C6500-W



Drawing of bracket section

Option dimensions with pressure gauge attached

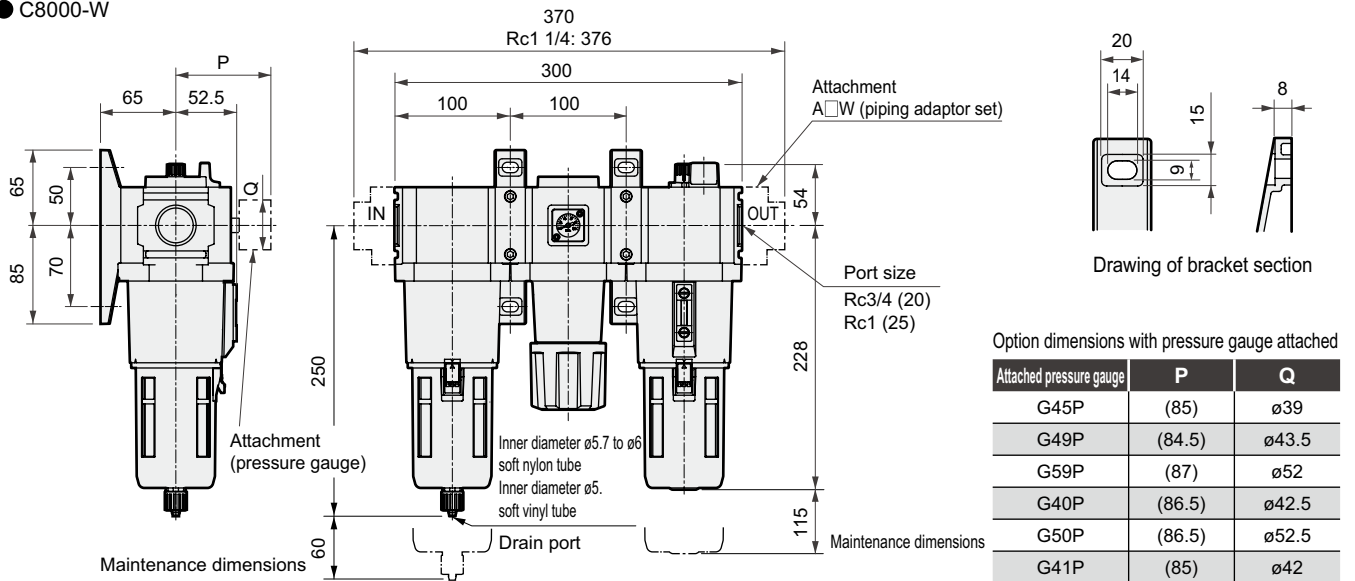
| Attached pressure gauge | P | Q |
|-------------------------|--------|-------|
| G45P | (80) | ø39 |
| G49P | (79.5) | ø43.5 |
| G59P | (82) | ø52 |
| G40P | (81.5) | ø42.5 |
| G50P | (81.5) | ø52.5 |
| G41P | (80) | ø42 |
| G52P | (93) | ø52.5 |

F.R.L. Combination

Dimensions with options

Dimensions

● C8000-W



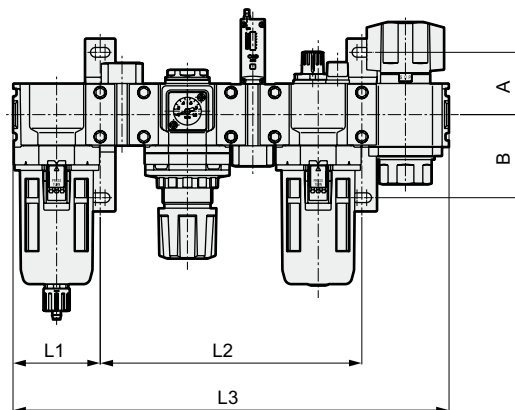
Option dimensions with pressure gauge attached

| Attached pressure gauge | P | 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 |

● Refer to page 92 for the dimensions of the metal bowl option filter and page 135 for the lubricator.

Dimensions with options

● C1000-W to C8000-W



| Model no. | A | B |
|-----------|----|----|
| C1000-W | 35 | 45 |
| C2000-W | 45 | 60 |
| C2500-W | | |
| C3000-W | | |
| C4000-W | | |
| C6050-W | 50 | 70 |
| C8000-W | | |

| Assembled options Model no. | D | | | S | | | P | | | V | | | K | | | DS | | | DP | | | DV | | | DK | | |
|--------------------------------|-----|-------|-------|-----|-------|-------|-----|-------|-------|-----|-------|-------|-----|-------|-------|-----|-------|-------|-----|-------|-------|-----|-------|-------|-----|-------|-------|
| | 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 |
| C1000-W | 40 | 68 | 148 | 40 | 68 | 148 | - | - | - | 40 | 80 | 160 | - | - | - | 40 | 96 | 176 | - | - | - | 40 | 108 | 188 | - | - | - |
| 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 options Model no. | DSV | | | DSK | | | DPV | | | DPK | | | SV | | | SK | | | PV | | | PK | | | | | |
| | L1 | L2 | L3 | L1 | L2 | L3 | L1 | L2 | L3 | L1 | L2 | L3 | L1 | L2 | L3 | L1 | L2 | L3 | L1 | L2 | L3 | 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 | | | |
| 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 the general catalog for the detailed dimensions of the mounting hole of the bracket.
 Note 1. The piping adaptor is assembled on the OUT side.
 Piping adaptor A400-20-W is assembled on both ends of C4000-20-W.

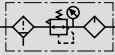


F.R.L. combination standard white series

C1010/C2010/C3010/C4010/C8010-W Series






Integrated filter, regulator and lubricator.

Port size: 1/8 to 1

JIS symbol 



Specifications

| Descriptions | | C1010-W | C2010-W | C3010-W | C4010-W | C8010-W |
|--|---|---|---|---|---|-----------------------------------|
| Exterior |  |  |  |  |  | |
| | 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 | | | | |
| 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 5) | 0.05 to 0.85 | | | |
| Minimum drip flow (Note 1) m ³ /min (ANR) | | 0.015 | 0.03 | 0.03 | 0.065 | 0.065 |
| Relief | | With relief mechanism | | | | |
| Oil capacity cm ³ | | 20 | 85 | 85 | 170 | 170 (MAX360) |
| Drain capacity cm ³ | | 12 | 25 | 45 | 80 | 80 Note 2 |
| Applicable oil | | Turbine oil Class 1 ISO VG32 (spindle oil not permitted) | | | | |
| 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 | | Pressure gauge, bracket, bowl guard | | | | |

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

Note 2: Drainage accumulates up to 170 cm³ only with the manual drain cock.

Note 3: 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 4: The automatic drain's minimum operating pressure for "F1" or "FF1" with an automatic drain is 0.15 MPa.

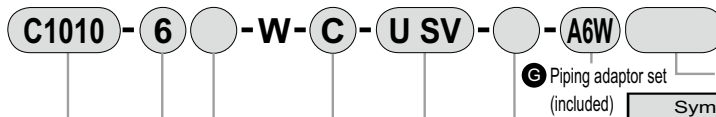
Note 5: When using C1010-W Series "F1" with an automatic drain, the minimum operating pressure is 0.2 MPa and maximum operation pressure is 0.7 MPa.

Refer to the maximum working flow table (page 85) for F1000-W-F1 with an automatic drain for details on maximum working flow. Set the working flow below the maximum working flow.

Note 6: When element option "Y" is selected, refer to the maximum working flow table (page 87) for maximum flow. Set the working flow to less than the maximum working flow.

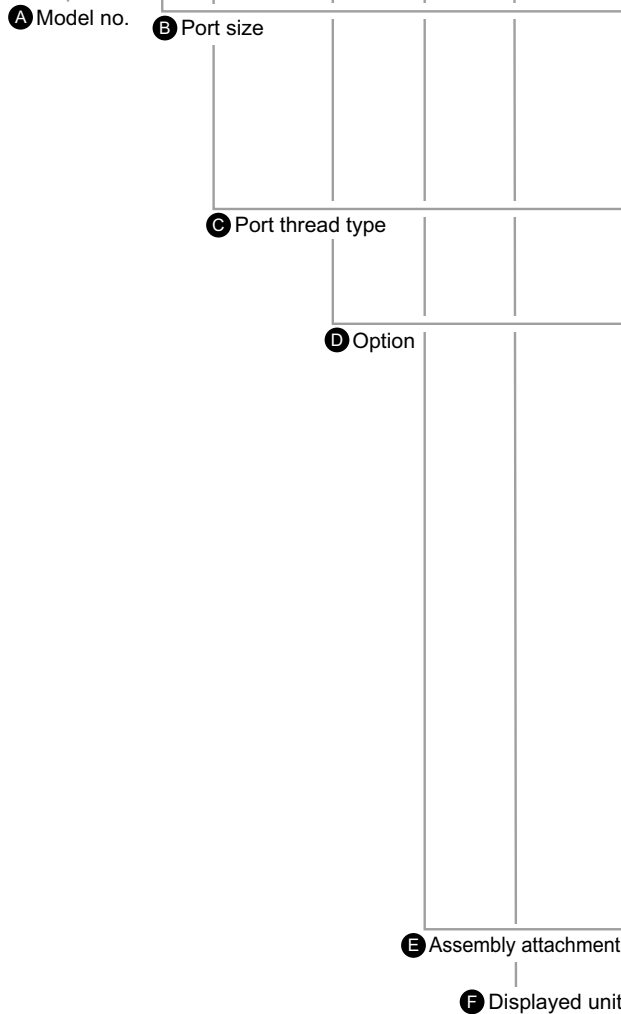
Note 7: C2010-W Series with an automatic drain "F1" must be used below maximum flow rate. (Refer to page 85 F2000-W for weight.)

How to order



* Refer top page 9 for an explanation of the options.

| A Model no. | | | | |
|-------------|-----------|-----------|-----------|-----------|
| C 1 0 1 0 | C 2 0 1 0 | C 3 0 1 0 | C 4 0 1 0 | C 8 0 1 0 |



| Symbol | Descriptions | | | | | |
|--------------------|--------------|---|---|---|---|---|
| B Port size | | | | | | |
| 6 | 1/8 | ● | | | | |
| 8 | 1/4 | ● | ● | ● | ● | |
| 10 | 3/8 | | ● | ● | ● | |
| 15 | 1/2 | | | | ● | |
| 20 | 3/4 | | | | ● | ● |
| 25 | 1 | | | | | ● |

| C Port thread type | | Note 2 | | | | |
|--------------------|------------|--------|---|---|---|---|
| Blank | Rc thread | ● | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● | ● |

| D Option | | Note 3 | | | | |
|----------------|-------|--|---|---|---|---|
| Drainage | Blank | Filter with manual drain cock, lubricator without manual drain cock | ● | ● | ● | ● |
| | C | Lubricator with manual cock | ● | ● | ● | ● |
| | F | Filter with automatic drain (NO type: exhaust without pressurization) | | | ● | ● |
| | F1 | Filter with automatic drain (NC type: exhaust with pressurization) | ● | ● | ● | ● |
| | FF | Filter with automatic large automatic drain (NO type: exhaust without pressurized) | | | | ● |
| Bowl material | Blank | Polycarbonate bowl | ● | ● | ● | ● |
| | Z | Nylon bowl | ● | ● | ● | ● |
| | M | Metal bowl | | | ● | ● |
| | M1 | Metal bowl with manual drain cock Note 5 | | | ● | ● |
| Element | Blank | 5µm | ● | ● | ● | ● |
| | Y | 0.3µm (submicron) Note 6 | | | ● | ● |
| Pressure Range | Blank | 0.05 to 0.85MPa | ● | ● | ● | ● |
| | L | 0.05 to 0.35MPa Note 7 | ● | ● | ● | ● |
| Relief | Blank | With relief mechanism | ● | ● | ● | ● |
| | N | Non-relief type | ● | ● | ● | ● |
| Pressure gauge | Blank | Standard pressure gauge (G401-W) | ● | ● | ● | ● |
| | T | Without pressure gauge (gauge port (Rc1/4) assembled sealed) | ● | ● | ● | ● |
| | T8 | Pressure gauge attachable (gauge port (Rc1/4) assembled open) | ● | ● | ● | ● |
| Flow Direction | Blank | Standard flow (left to right) | ● | ● | ● | ● |
| | X1 | Reverse flow (right to left) | ● | ● | ● | ● |

| E Assembly attachment | | Page 137 to 148, 153, 154 | | | | |
|-----------------------|---------------------------------|---|---|---|---|---|
| Blank | Without assembly attachment | ● | ● | ● | ● | ● |
| U | Assembly attachment type Note 8 | ● | ● | ● | ● | ● |
| Assembled | S | Pressure switch (P1100-W, 4100-W, 8100-W) | ● | ● | ● | ● |
| | P | Pressure switch (P4000-W) | ● | ● | ● | ● |
| | V | Shut-off valve (V1000-W, V3000-W) | ● | ● | ● | ● |
| | K | Shut-off valve with key hole (V3010-W, V6010-W) | ● | ● | ● | ● |

| F Displayed unit | | | | | | |
|------------------|----------------------------|---|---|---|---|---|
| Blank | MPa display, Rc thread | ● | ● | ● | ● | ● |
| J1 | MPa display, NPT, G thread | ● | ● | ● | ● | ● |

| G Piping adaptor set (included) | | Page 155 to 157 Note 9 | | | | |
|---------------------------------|--------------------------|------------------------|---|---|---|---|
| Blank | Not attached | ● | ● | ● | ● | ● |
| A6*W | 1/8 piping adaptor set | ● | | | | |
| A8*W | 1/4 piping adaptor set | ● | ● | ● | ● | |
| A10*W | 3/8 piping adaptor set | ● | ● | ● | ● | |
| A15*W | 1/2 piping adaptor set | | ● | ● | ● | |
| A20*W | 3/4 piping adaptor set | | | | ● | ● |
| A25*W | 1 piping adaptor set | | | | | ● |
| A32*W | 1 1/4 piping adaptor set | | | | | ● |

| * Adaptor thread type | | | | | | |
|-----------------------|------------|---|---|---|---|---|
| Blank | Rc thread | ● | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● | ● |

| H Pressure gauge option (attached) | | Note 10 Page 198 | | | | |
|------------------------------------|----------------------------|------------------|---|---|---|---|
| Blank | Not attached | ● | ● | ● | ● | ● |
| G45P | G45D-8-P10 (L: G45D-8-P04) | ● | ● | ● | ● | ● |
| G49P | G49D-8-P10 (L: G49D-8-P04) | ● | ● | ● | ● | ● |
| G59P | G59D-8-P10 (L: G59D-8-P04) | ● | ● | ● | ● | ● |
| G40P | G40D-8-P10 (L: G40D-8-P04) | ● | ● | ● | ● | ● |
| G50P | G50D-8-P10 (L: G50D-8-P04) | ● | ● | ● | ● | ● |
| G41P | G41D-8-P10 (L: G41D-8-P04) | ● | ● | ● | ● | ● |
| G52P | G52D-8-P10 (L: G52D-8-P10) | ● | ● | ● | ● | ● |

⚠ Cautions for model No. selection

- Note 1: Piping adaptor A400-20*-W is assembled on both ends of C4010-20*-W. Piping adaptor set "A20*W" does not need to be selected.
- Note 2: G threads and NPT threads are available for IN, OUT, gauge port and drain discharge port (metal bowl with automatic drain). Attachment P, V will be subject to this as well.
- 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.
- Note 4: Refer to page 12 for working conditions of the automatic drain.
- Note 5: Have a choice drain discharge option "C" or "F" and "F1" for option "M1".
- Note 6: Refer to page 87 for max. flow rate of option "Y".
- Note 7: Pressure gauge display range will be 0 to 0.4 MPa for option "L".
- Note 8: Mounting location for assembly attachments

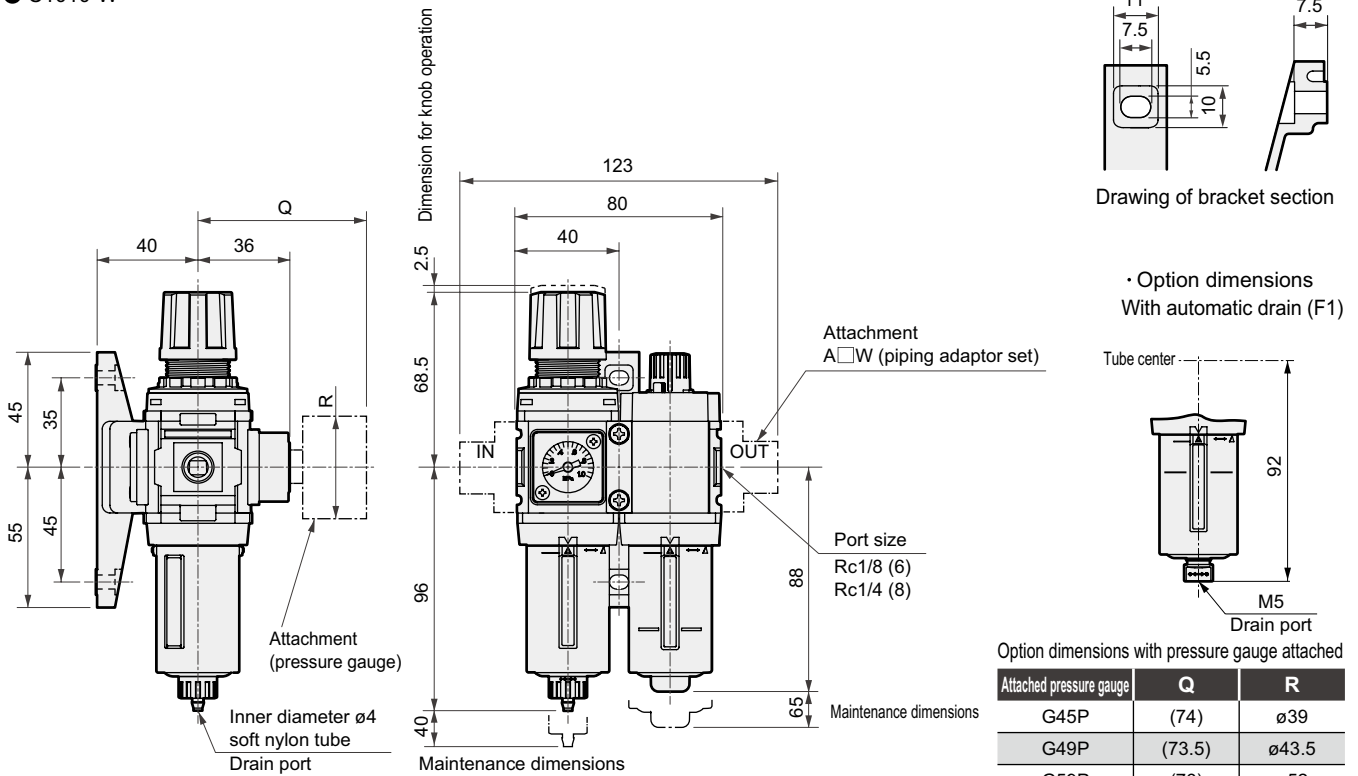
| Symbol | Installation position of Attachment | Applicable model |
|--------|-------------------------------------|---|
| S or P | W+ (S, P) +L | C1010-W to C8010-W ("P" excludes 8000 Series) |
| V or K | W+L+ (V, K) | C1010-W to C8010-W ("V" excludes 8000 Series. "K" excludes 1000 Series) |

- Note: Indicate "U" + "D", "S", "P", "V", and "K" when selecting an assembly attachment. Use custom combinations specifications for any other combination.
- Note 9: A joiner set is attached with the piping adapter set.
- Note 10: If NPT is selected for the "C" piping thread type, a NPT pressure gauge is enclosed. If Rc or G thread is selected, an R thread pressure gauge is enclosed.

W.L. Combination

Dimensions

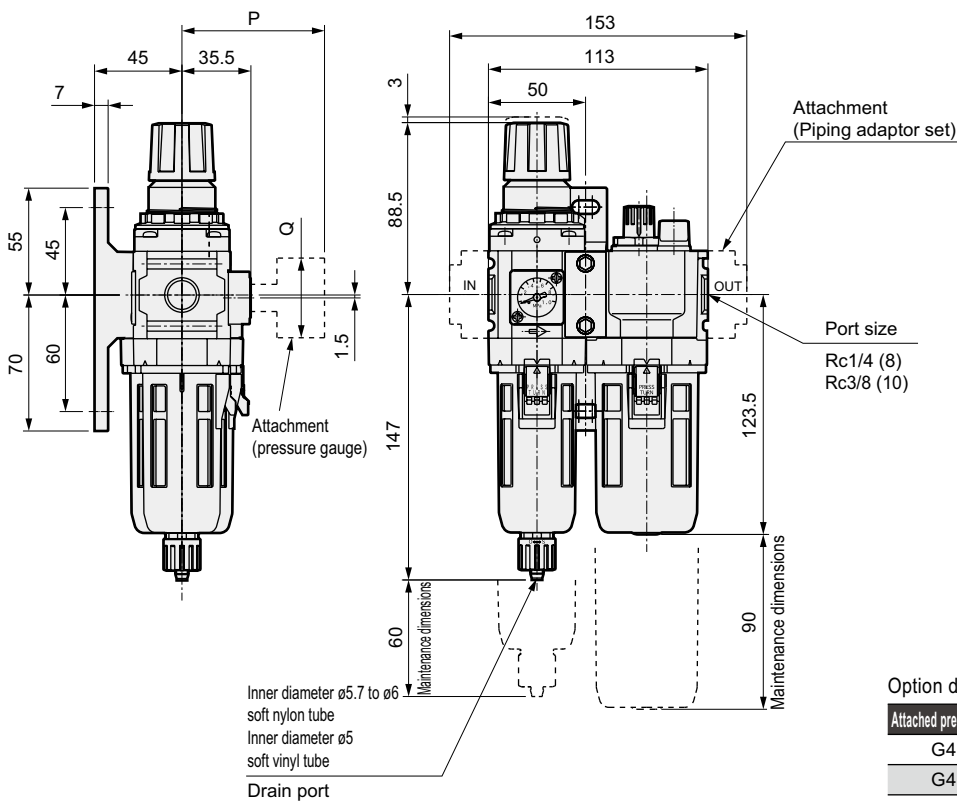
● C1010-W



Option dimensions with pressure gauge attached

| Attached pressure gauge | Q | R |
|-------------------------|--------|-------|
| 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 |

● C2010-W

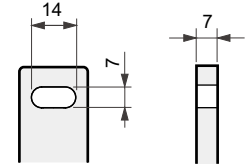
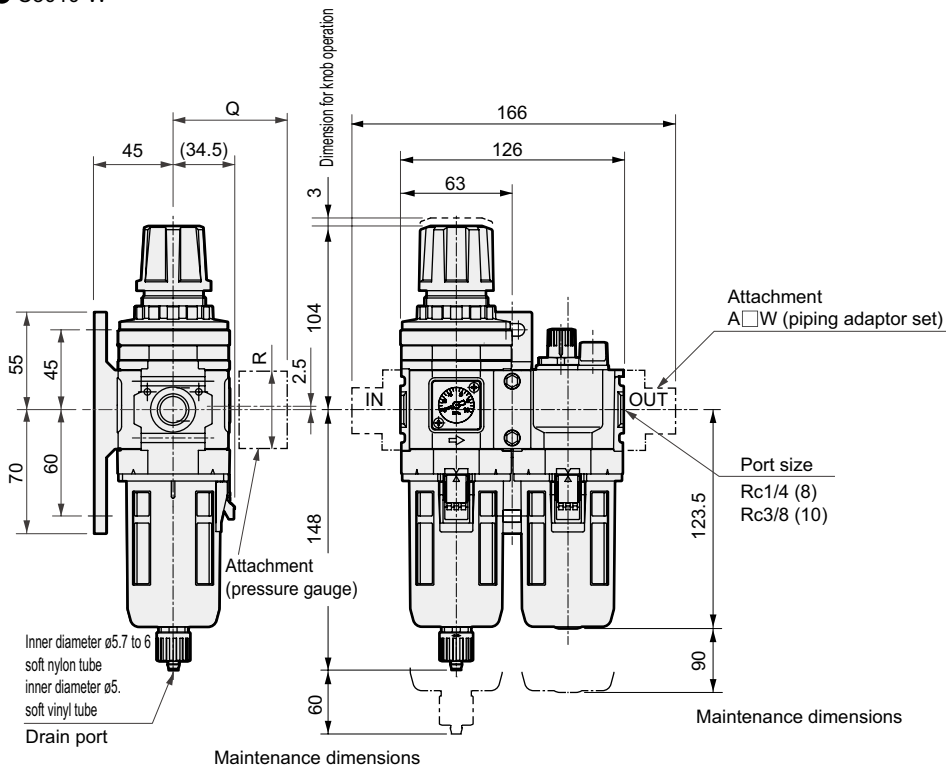


Option dimensions with pressure gauge attached

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

Dimensions

● C3010-W



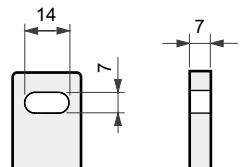
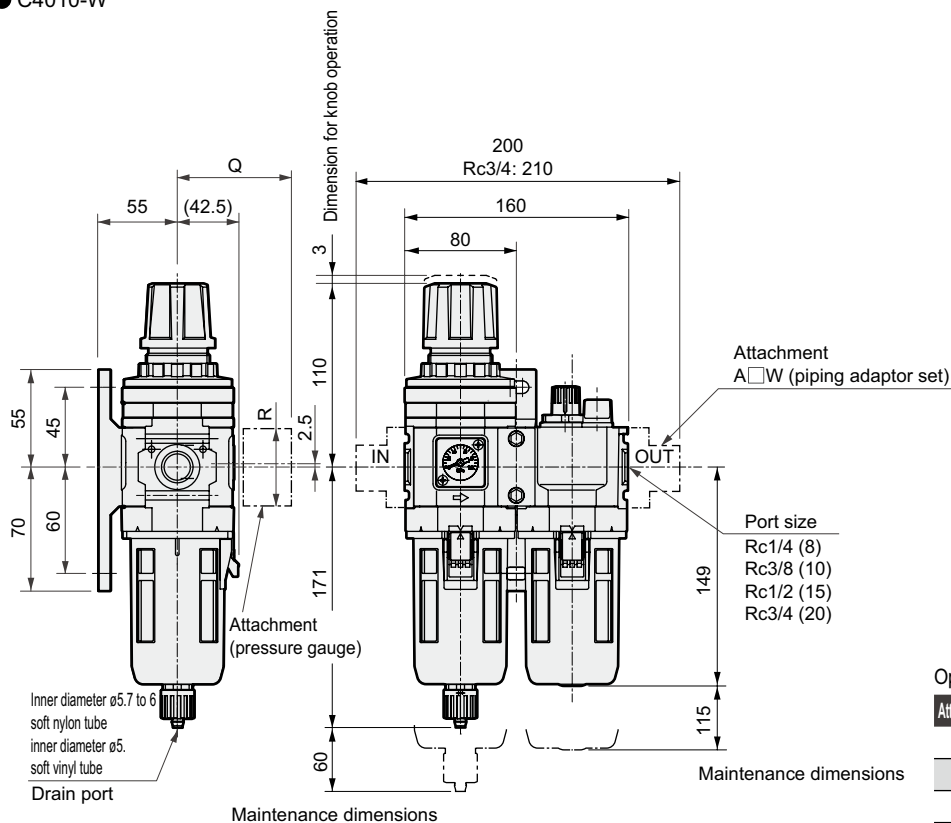
Drawing of bracket section

Option dimensions with pressure gauge attached

| 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 |

● Refer to page 75 for the dimensions of the metal bowl option filter/regulator and page 135 for the lubricator.

● C4010-W



Drawing of bracket section

Option dimensions with pressure gauge attached

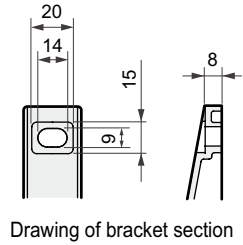
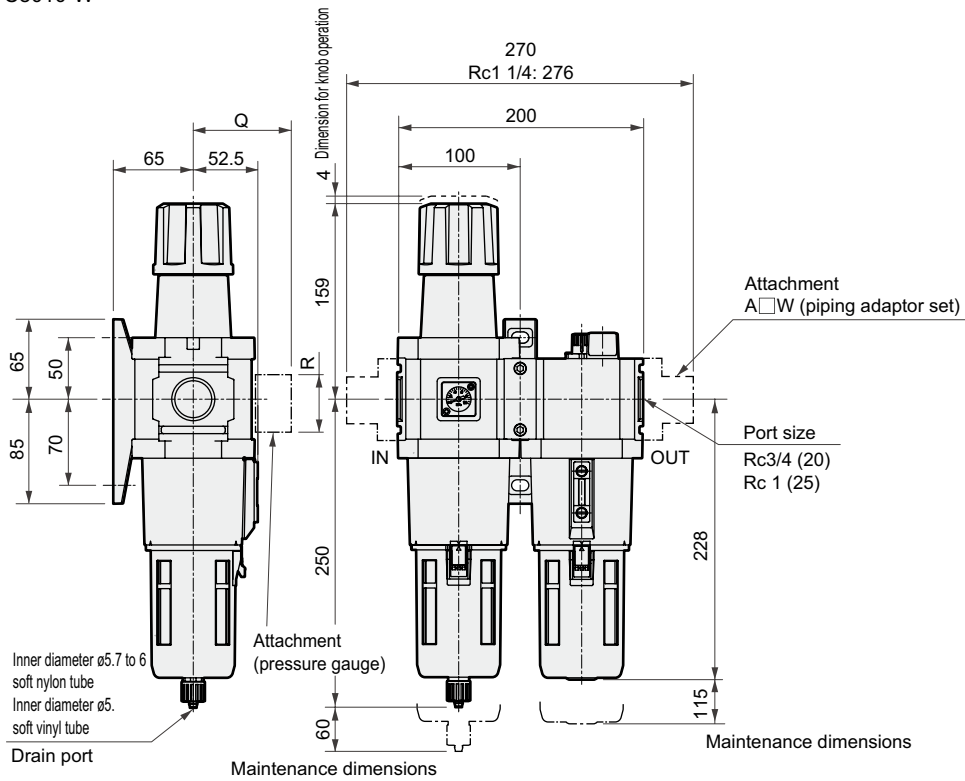
| Attached pressure gauge | Q | R |
|-------------------------|--------|-------|
| G45P | (75) | ø39 |
| G49P | (74.5) | ø43.5 |
| G59P | (77) | ø52 |
| G40P | (76.5) | ø42.5 |
| G50P | (76.5) | ø52.5 |
| G41P | (75) | ø42 |
| G52P | (86) | ø52.5 |

* Refer to page 75 for the dimensions of the metal bowl option filter/regulator and page 135 for the lubricator.

W.L. Combination

Dimensions

● C8010-W



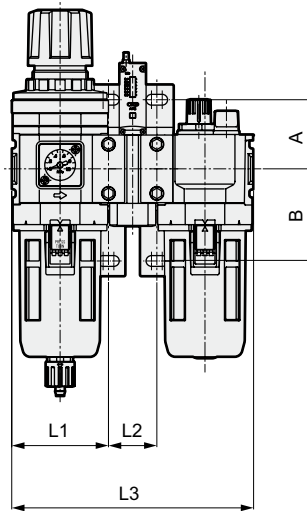
Option dimensions with pressure gauge attached

| 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 75 for the dimensions of the metal bowl option filter/regulator and page 135 for the lubricator.

Dimensions with options

● C1010-W to C8010-W



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

| Assembled options Model no. | S | | | P | | | V | | | K | | | SV | | | SK | | | PV | | | PK | | |
|--------------------------------|-----|------|-------|-----|----|-----|-----|----|-----|-----|-----|-----|-----|-------|-------|-----|-------|-------|-----|-----|-----|-----|-----|-----|
| | 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 the general catalog for the detailed dimensions of the mounting hole of the bracket.

Note 1. The piping adapter is assembled on the OUT side.

Piping adaptor A400-20-W is assembled on both ends of C4010-20-W.




F.R.L. combination standard white series

C1020 / C2020 / C2520-W C3020 / C4020 / C6020 / C8020-W Series








Integrated filter and regulator.

Port size: 1/8 to 1

JIS symbol 



Specifications

| Descriptions | | C1020-W | C2020-W | C2520-W | C3020-W | C4020-W | C6020-W | C8020-W |
|--------------------------------|------------|---|---|---|---|--|---|---|
| Exterior | |  |  |  |  |  |  |  |
| | Components | Filter Regulator | F1000-W R1000-W | F2000-W R2000-W | F3000-W R2000-W | F3000-W R3000-W | F4000-W R4000-W | F6000-W R6000-W |
| Working fluid | | Compressed air | | | | | | |
| Max. working pressure MPa | | 1.0 | | | | | | |
| Withstanding pressure MPa | | 1.5 | | | | | | |
| Ambient temperature range °C | | 5 to 60 | | | | | | Note 6 |
| Filtration rating μm | | 5 | | | | | | |
| Set pressure range MPa | | 0.05 to 0.85 ^{Note 2} | | 0.05 to 0.85 | | | | |
| Relief | | With relief mechanism | | | | | | |
| Drain capacity cm ³ | | 12 | 25 | 45 | 45 | 80 | 80 | 80 (Note 1) |
| 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 weight kg | | 0.28 | 0.64 | 0.65 | 0.79 | 1.25 | 2.07 | 2.93 |
| Standard accessories | | Pressure gauge, bracket, bowl guard | | | | | | |

Note 1: Drainage accumulates up to 170 cm³ only with the manual drain cock.

Note 2: When using C1020-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 working flow table (page 85) for F1000-F1 with an automatic drain for details on maximum working flow. Set the working flow below the maximum working flow.

Note 3: 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 4: The automatic drain's minimum operating pressure for "F1" or "FF1" with an automatic drain is 0.15 MPa.

Note 5: When element option "Y" is selected, refer to the maximum working flow table (page 87) for maximum flow. Set the working flow to less than the maximum working flow.

Note 6: The working temperature range of the pressure switch with indicator PPD assembly "R1" is 5 to 50°C.

Note 7: C2020-W Series with an automatic drain "F1" must be used below maximum flow rate. (Refer to page 85 F2000-W for weight.)

F.R. Combination

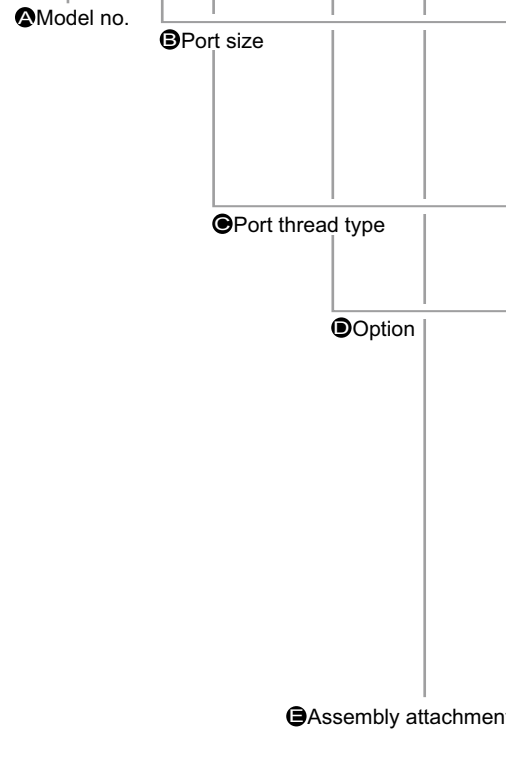
How to order

How to order

C1020 - **6** - **W** - **L** - **U DSV** - **A6W** - **(H)**

* Refer page 9 for an explanation of the options.

Ⓒ Piping adaptor set (included) Ⓓ Pressure gauge option (included)



| A Model no. | | | | | |
|-------------|-------|-------|-------|-------|-------|
| C1020 | C2020 | C2520 | C3020 | C4020 | C8020 |

| Symbol | Descriptions | | | | | | |
|--------------------|--------------|---|---|---|---|---|---|
| B Port size | | | | | | | |
| 6 | 1/8 | ● | | | | | |
| 8 | 1/4 | ● | ● | ● | ● | ● | |
| 10 | 3/8 | | ● | ● | ● | | |
| 15 | 1/2 | | | | ● | | |
| 20 | 3/4 | | | | | ● | ● |
| 25 | 1 | | | | | | ● |

| C Port thread type | | Note 2 | | | | | |
|--------------------|------------|--------|---|---|---|---|---|
| Blank | Rc thread | ● | ● | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● | ● | ● |

| D Option | | Note 3 | | | | | |
|---------------------------------|-------|--|---|---|---|---|---|
| Drainage | Blank | With filter and manual drain cock | ● | ● | ● | ● | ● |
| | F | Filter with automatic drain (ND type: exhaust without pressurization) | | ● | ● | ● | ● |
| | F1 | Filter with automatic drain (NC type: exhaust with pressurization) | ● | ● | ● | ● | ● |
| | FF | Filter with automatic large automatic drain (NO type: exhaust without pressurized) | | | | | ● |
| Bowl material | Blank | Polycarbonate bowl | ● | ● | ● | ● | ● |
| | Z | Nylon bowl | ● | ● | ● | ● | ● |
| | M | Metal bowl | | ● | ● | ● | ● |
| | M1 | Metal bowl with manual drain cock | | ● | ● | ● | ● |
| Element | Blank | 5µm | ● | ● | ● | ● | ● |
| | Y | 0.3µm (submicron) Note 5 | ● | ● | ● | ● | ● |
| Differential pressure detection | Blank | Without differential pressure detection port | ● | ● | ● | ● | ● |
| | Q | With differential pressure detection port (Rc1/4) | | | | | ● |
| Pressure Range | Blank | 0.05 to 0.85MPa | ● | ● | ● | ● | ● |
| | L | 0.05 to 0.35MPa Note 6 | ● | ● | ● | ● | ● |
| Relief | Blank | With relief mechanism | ● | ● | ● | ● | ● |
| | N | Non-relief type | ● | ● | ● | ● | ● |
| Pressure gauge | Blank | Standard pressure gauge (G401-W) | ● | ● | ● | ● | ● |
| | T | Without pressure gauge (gauge port (Rc1/4) assembled sealed) | ● | ● | ● | ● | ● |
| | T8 | Pressure gauge attachable (gauge port (Rc1/4) assembled open) | ● | ● | ● | ● | ● |
| | T6 | Compatibility with digital pressure sensor PPX Note 7 | ● | ● | ● | ● | ● |
| Flow direction | Blank | Standard flow (left to right) | ● | ● | ● | ● | ● |
| | X1 | IN/OUT reverse flow (right to left) | ● | ● | ● | ● | ● |

| E Assembly attachment | | Page 137 to 148, 153, 154 | | | | | |
|-----------------------|---|---|---|---|---|---|---|
| Blank | Without assembly attachment | ● | ● | ● | ● | ● | ● |
| Assembled | U | Assembly attachment type Note 5 | ● | ● | ● | ● | ● |
| | D | Distributor (D101-W, D401-W, D801-W) | ● | ● | ● | ● | ● |
| | S | Pressure switch (P1100-W, 4100-W, 8100-W) | | ● | ● | ● | ● |
| | P | Pressure switch (P4000-W) | | ● | ● | ● | ● |
| | V | Shut-off valve (V1000-W, V3000-W) | ● | ● | ● | ● | ● |
| K | Shut-off valve with key hole (V3010-W, V6010-W) | ● | ● | ● | ● | ● | |

| F Displayed unit | | | | | | | |
|------------------|----------------------------|---|---|---|---|---|---|
| Blank | MPa display, Rc thread | ● | ● | ● | ● | ● | ● |
| J1 | MPa display, NPT, G thread | ● | ● | ● | ● | ● | ● |

| G Piping adaptor set (included) | | Page 155 to 157 | | | | | |
|---------------------------------|--------------------------|-----------------|---|---|---|---|---|
| Blank | Not attached | ● | ● | ● | ● | ● | ● |
| A6*W | 1/8 piping adaptor set | ● | | | | | |
| A8*W | 1/4 piping adaptor set | ● | ● | ● | ● | ● | |
| A10*W | 3/8 piping adaptor set | ● | ● | ● | ● | ● | |
| A15*W | 1/2 piping adaptor set | | ● | ● | ● | ● | |
| A20*W | 3/4 piping adaptor set | | | | ● | ● | ● |
| A25*W | 1 piping adaptor set | | | | | ● | ● |
| A32*W | 1 1/4 piping adaptor set | | | | | | ● |

| * Adaptor thread type | | | | | | | |
|-----------------------|------------|---|---|---|---|---|---|
| Blank | Rc thread | ● | ● | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● | ● | ● |

| H Pressure gauge option (attached) | | Note 11 Page 198 | | | | | |
|------------------------------------|--------------------------------------|------------------|---|---|---|---|---|
| Blank | Not attached | ● | ● | ● | ● | ● | ● |
| G45P | G45D-8-P10 (L: G45D-8-P04) | ● | ● | ● | ● | ● | ● |
| G49P | G49D-8-P10 (L: G49D-8-P04) | ● | ● | ● | ● | ● | ● |
| G59P | G59D-8-P10 (L: G59D-8-P04) | ● | ● | ● | ● | ● | ● |
| G40P | G40D-8-P10 (L: G40D-8-P04) | ● | ● | ● | ● | ● | ● |
| G50P | G50D-8-P10 (L: G50D-8-P04) | ● | ● | ● | ● | ● | ● |
| G41P | G41D-8-P10 (L: G41D-8-P04) | ● | ● | ● | ● | ● | ● |
| G52P | G52D-8-P10 (L: G52D-8-P10) | ● | ● | ● | ● | ● | ● |
| R2 Note 6 | Digital pressure sensor: PPX-R10N-6M | ● | ● | ● | ● | ● | ● |

⚠ Cautions for model No. selection

- Note 1: Piping adaptor A400-20*-W is assembled on both ends of C4020-20*-W. Piping adaptor set "A20*W" does not need to be specified.
- Note 2: G threads and NPT threads are available for IN, OUT, gauge port and drain discharge port (metal bowl with automatic drain). Attachment P, V will be subject to this as well.
- Note 3: Select options from drain exhaust, bowl material, element, differential pressure detection, regulator, and regulator. When selecting options for several items, list options in order from the top.
- Note 4: Refer to page 12 for working conditions of the automatic drain.
- Note 5: Refer to page 87 for max. flow rate of option "Y".
- Note 6: Pressure gauge display range will be 0 to 0.4 MPa for option "L".
- Note 7: When option "T6" is selected, only "blank" or "R2" is available for the (H) pressure gauge (enclosed). The digital pressure sensor PPX mounting port (Rc1/8) is assembled ventilated.
- Note 8: Output type will be NPN transistor output. Consult with CKD if PNP transistor output is required.
- Note 9: Mounting location for assembly attachments

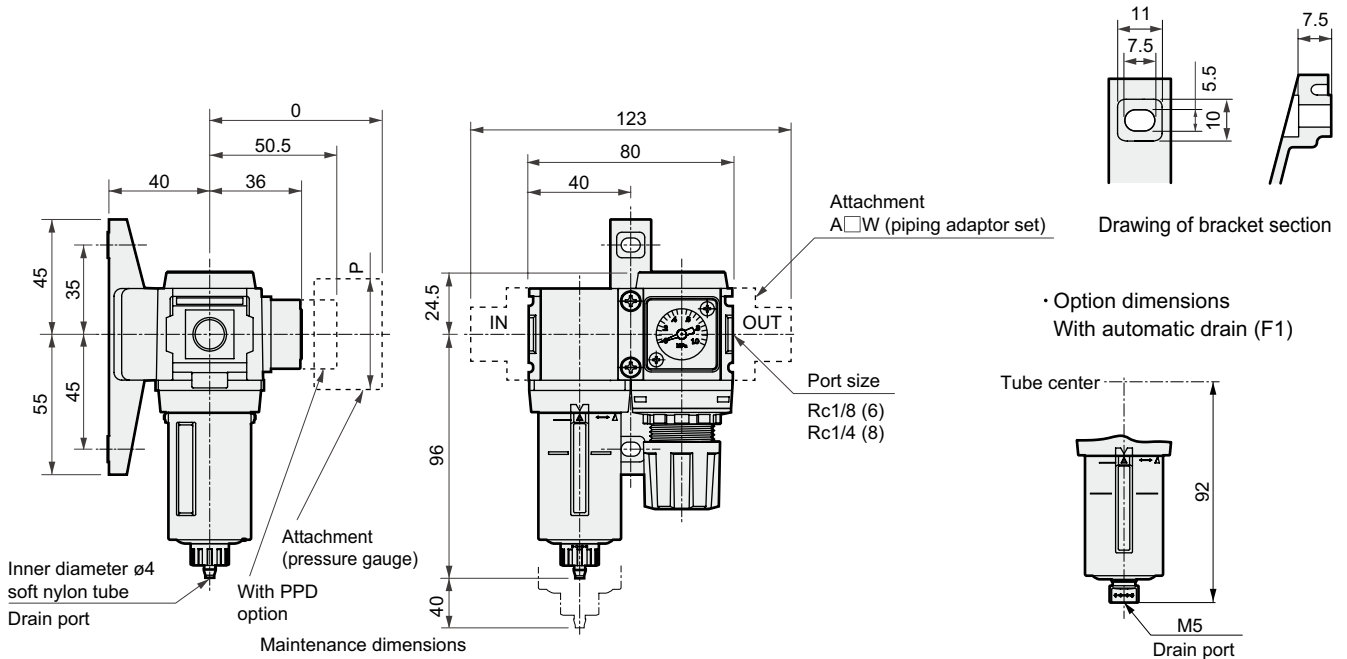
| Symbol | Installation position of Attachment | Applicable model |
|--------|-------------------------------------|---|
| D | F+ (D) +R | C1020-W to C8020-W |
| S or P | F+R+ (S, P) | C1020-W to C8020-W ("P" excludes 1000, 6000, 8000 Series) |
| V or K | F+R+ (V, K) | C1020-W to C8020-W ("V" excludes 6000, 8000 Series. "K" excludes 1000 Series) |

- Note: Indicate "U" + "D", "S", "P", "V", and "K" when selecting an assembly attachment. Use custom combinations specifications for any other combination.
- Note 10: A joiner set is attached with the piping adapter set.
- Note 11: If NPT is selected for the "C" piping thread type, a NPT pressure gauge is enclosed. If Rc or G thread is selected, an R thread pressure gauge is enclosed.

F.R. Combination

Dimensions

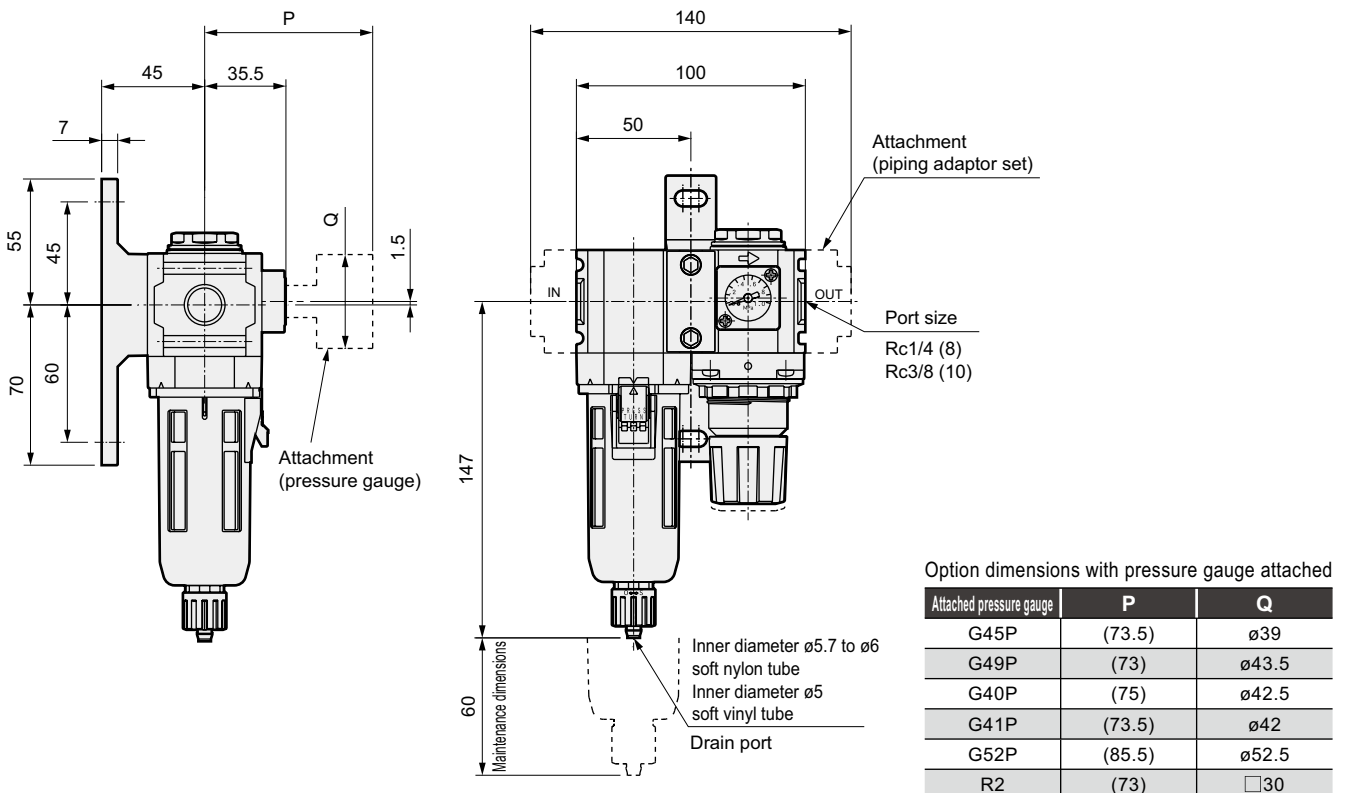
● C1020-W



Option dimensions with pressure gauge attached

| Attached pressure gauge | O | P |
|-------------------------|--------|-------|
| 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 |

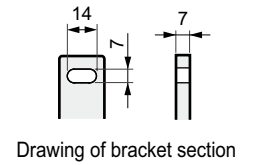
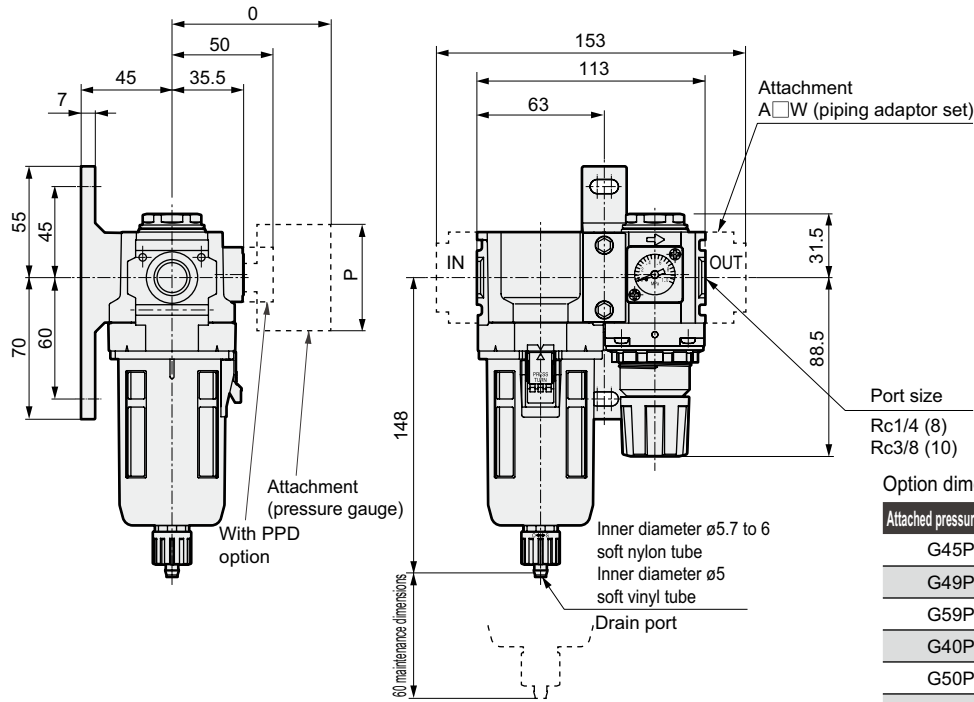
● C2020-W



Option dimensions with pressure gauge attached

| Attached pressure gauge | P | 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 |

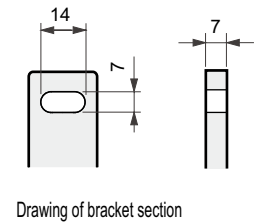
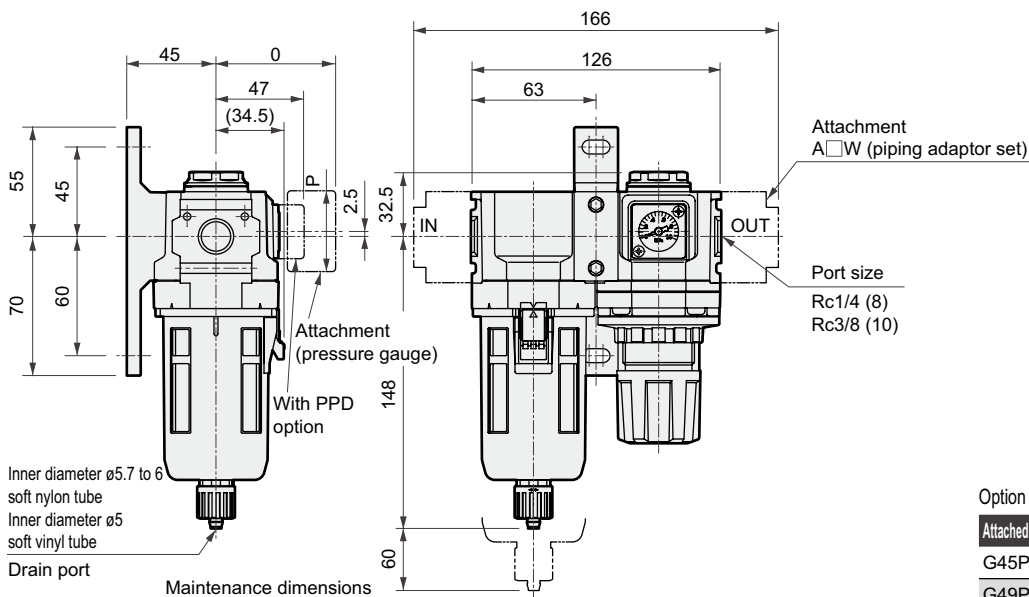
● C2520-W



Option dimensions with pressure gauge attached

| Attached pressure gauge | O | P |
|-------------------------|--------|-------|
| 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 |

● C3020-W



Option dimensions with pressure gauge attached

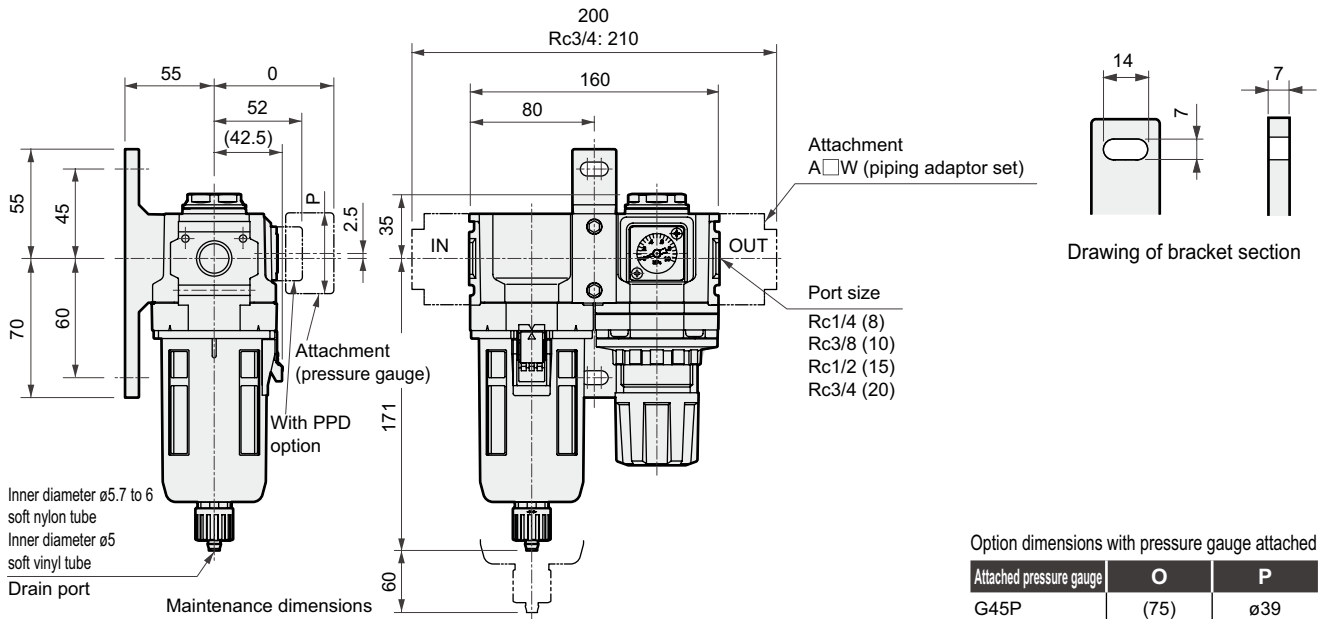
| Attached pressure gauge | O | P |
|-------------------------|--------|-------|
| G45P | (70) | ø39 |
| G49P | (69.5) | ø43.5 |
| G59P | (72) | ø52 |
| G40P | (71.5) | ø42.5 |
| G50P | (71.5) | ø52.5 |
| G41P | (70) | ø42 |
| G52P | (82) | ø52.5 |
| R2 | (69.5) | □30 |

● Refer to page 92 for dimensions of the metal bowl option.

F.R. Combination

Dimensions

● C4020-W

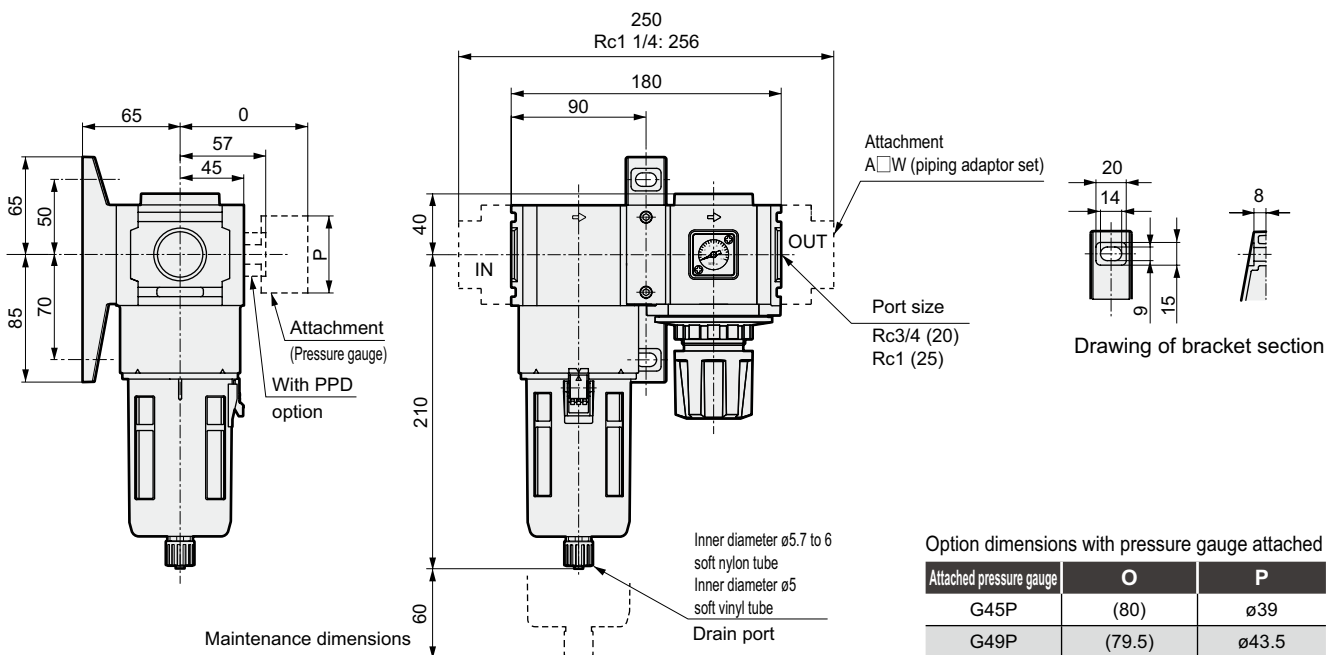


● Refer to page 92 for dimensions of the metal bowl option.

Option dimensions with pressure gauge attached

| Attached pressure gauge | O | P |
|-------------------------|--------|-------|
| 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 |

● C6020-W



Option dimensions with pressure gauge attached

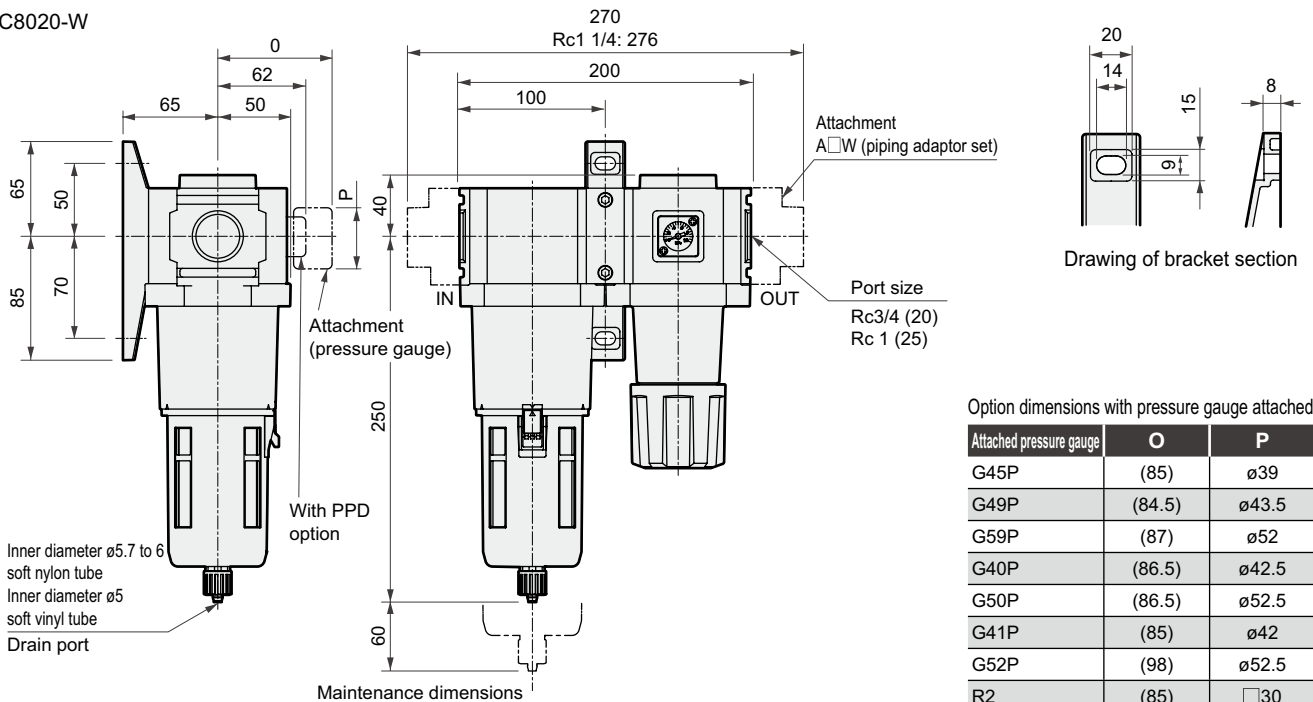
| Attached pressure gauge | O | P |
|-------------------------|--------|-------|
| G45P | (80) | ø39 |
| G49P | (79.5) | ø43.5 |
| G59P | (82) | ø52 |
| G40P | (81.5) | ø42.5 |
| G50P | (81.5) | ø52.5 |
| G41P | (80) | ø42 |
| G52P | (93) | ø52.5 |
| R2 | (80) | □30 |

F.R. Combination

Dimensions with options

Dimensions

● C8020-W



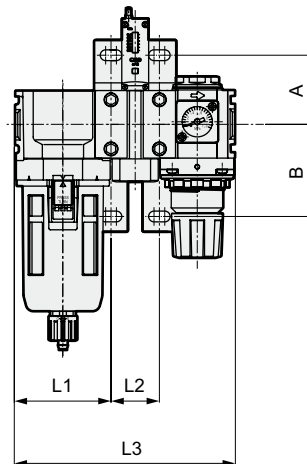
Option dimensions with pressure gauge attached

| Attached pressure gauge | O | P |
|-------------------------|--------|-------|
| 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 92 for dimensions of the metal bowl option.

Dimensions with options

● C1020-W~C8020-W



| Model no. | A | B |
|-----------|----|----|
| C1020-W | 35 | 45 |
| C2020-W | 45 | 60 |
| C2520-W | | |
| C3020-W | | |
| C4020-W | 50 | 70 |
| C6020-W | | |
| C8020-W | | |

| Assembled options | D | | | S (Note 1) | | | P | | | V | | | K | | | DS (Note 1) | | | DP | | | DV | | | DK | | |
|------------------------------|-----|------|-------|------------|-----|-------|-----|-------|-------|-----|-------|-------|-----|-------|-------|-------------|-------|-------|-----|-------|-------|-----|-------|-------|-----|-------|-------|
| | 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 |
| C1020-W | 40 | 28 | 108 | 40 | 40 | 129.5 | - | - | - | 40 | 40 | 120 | - | - | - | 40 | 68 | 157.5 | - | - | - | 40 | 68 | 148 | - | - | - |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| C8020-W | 100 | 50 | 250 | 100 | 100 | 285 | - | - | - | - | - | - | 100 | 100 | 290 | 100 | 150 | 335 | - | - | - | - | - | - | 100 | 150 | 340 |
| Assembled options | DSV | | | DSK | | | DPV | | | DPK | | | SV | | | SK | | | PV | | | 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 | L1 | L2 | L3 |
| C1020-W | 40 | 96 | 176 | - | - | - | - | - | - | - | - | - | 40 | 68 | 148 | - | - | - | - | - | - | - | - | - | - | - | - |
| 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 | 50 | 130 | 243 |
| 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 | 63 | 130 | 256 |
| 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 | 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 | 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 | 100 | 160 | 343 |
| C6020-W | - | - | - | 90 | 190 | 370 | - | - | - | - | - | - | - | - | - | 90 | 140 | 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

※Refer to the general catalog for the detailed dimensions of the mounting hole of the bracket.
 Note 1 The piping adaptor is assembled on the OUT side.
 Piping adaptor A400-20-W is assembled on both ends of C4020-20-W.

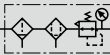


F.M.R. combination standard white series

C1030 / C2030 / C2530-W C3030 / C4030 / C6030 / C8030-W Series








Integrated filter, oil mist filter, and regulator

Port size: 1/8 to 1

JIS symbol 



Specifications

| Descriptions | | C1030-W | C2030-W | C2530-W | C3030-W | C4030-W | C6030-W | C8030-W |
|--|-----------------|---|---|---|---|---|---|---|
| Exterior | |  |  |  |  |  |  |  |
| Components | Filter | F1000-W | F2000-W | F3000-W | F3000-W | F4000-W | F6000-W | F8000-W |
| | Oil mist filter | M1000-W | M2000-W | M3000-W | M3000-W | M4000-W | M6000-W | M8000-W |
| | Regulator | R1000-W | R2000-W | R2000-W | R3000-W | R4000-W | R6000-W | R8000-W |
| Working fluid | | Compressed air | | | | | | |
| Max. working pressure MPa | | 1 | | | | | | |
| Withstanding pressure MPa | | 1.5 | | | | | | |
| Ambient temperature range °C | | 5 to 60 | | | | | | Note 6 |
| Set pressure range MPa | | 0.05 to 0.85 ^{Note 5} | 0.05 to 0.85 | | | | | |
| Relief | | With relief mechanism | | | | | | |
| 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 weight kg | | 0.40 | 0.98 | 1.02 | 1.10 | 1.86 | 3.19 | 4.45 |
| Secondary oil concentration (Oil mist filter outlet side) | | 0.01mg/m ³ or less | | | | | | |
| Maximum flow rate (Note 1) m ³ /min | | 0.15 | 0.25 | 0.36 | 0.36 | 0.825 | 1.27 | 2.6 |

Note 1: The maximum flow is for a primary pressure of 0.7 MPa. When element option "Y" is selected, refer to page 87 for maximum flow.

Note 2: Refer to page 95 for details on other oil mist filters.

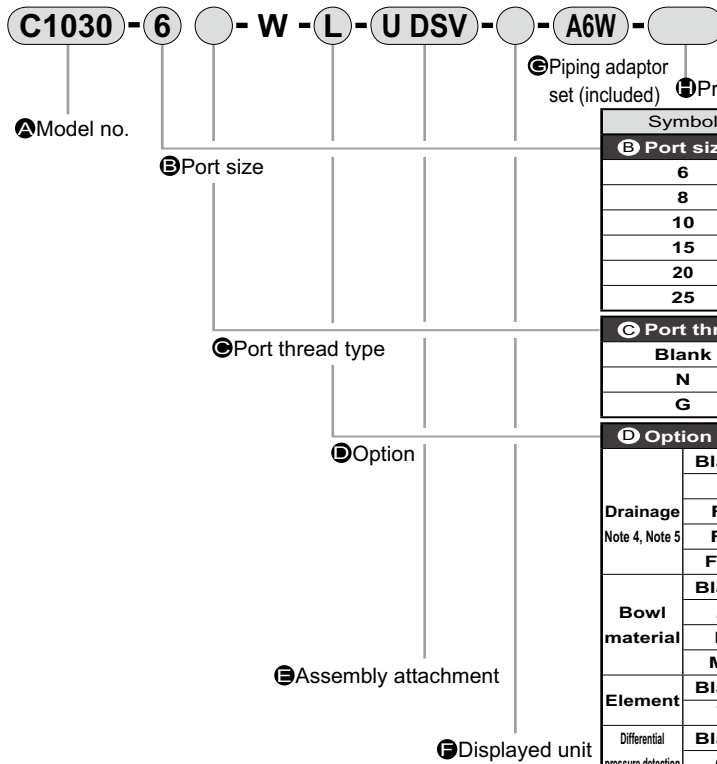
Note 3: When "F" with an automatic drain is selected, the supply air pressure is 0.15 MPa or more. Air filter and automatic drain are purged with initial drainage until pressure reaches 0.1 MPa.

Note 4: 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.

Note 5: 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 97) for the M1030-W-F1 automatic drain for the maximum working flow.

Note 6: The working temperature range of the pressure switch with indicator PPD assembly "R1" is 5 to 50°C.

How to order



* Refer page 9 for an explanation of the options.

| A Model no. | | | | | | |
|-------------|-------|-------|-------|-------|-------|-------|
| C1030 | C2030 | C2530 | C3030 | C4030 | C6030 | C8030 |

| Symbol | | Descriptions | | | | | | | |
|---|------------------|---|-----------------------------------|---|---|---|---|---|---|
| B Port size | | | | | | | | | |
| 6 | 1/8 | | ● | ● | ● | ● | ● | ● | ● |
| 8 | 1/4 | | ● | ● | ● | ● | ● | ● | ● |
| 10 | 3/8 | | ● | ● | ● | ● | ● | ● | ● |
| 15 | 1/2 | | ● | ● | ● | ● | ● | ● | ● |
| 20 | 3/4 | | ● | ● | ● | ● | ● | ● | ● |
| 25 | 1 | | ● | ● | ● | ● | ● | ● | ● |
| C Port thread type | | | Note 2 | | | | | | |
| Blank | Rc thread | | ● | ● | ● | ● | ● | ● | ● |
| N | NPT thread | | ● | ● | ● | ● | ● | ● | ● |
| G | G thread | | ● | ● | ● | ● | ● | ● | ● |
| D Option | | | Note 3 | | | | | | |
| Drainage <i>Note 4, Note 5</i> | Blank | With manual drain cock | ● | ● | ● | ● | ● | ● | ● |
| | F | Automatic drain with manual override (NO type: exhausts without pressurization) | ● | ● | ● | ● | ● | ● | ● |
| | F1 | Automatic drain with manual override (NC type: no exhaust without pressurization) | ● | ● | ● | ● | ● | ● | ● |
| | FF | Large exhaust automatic drain with manual override (NO type: exhausts without pressurization) | ● | ● | ● | ● | ● | ● | ● |
| | FF1 | Large exhaust automatic drain with manual override (NO type: no exhaust without pressurization) | ● | ● | ● | ● | ● | ● | ● |
| Bowl material | Blank | Polycarbonate bowl | ● | ● | ● | ● | ● | ● | ● |
| | Z | Nylon bowl | ● | ● | ● | ● | ● | ● | ● |
| | M | Metal bowl | ● | ● | ● | ● | ● | ● | ● |
| | M1 | Metal bowl with manual drain cock | ● | ● | ● | ● | ● | ● | ● |
| Element | Blank | 5µm | ● | ● | ● | ● | ● | ● | ● |
| | Y | 0.3µm (submicron) <i>Note 6</i> | ● | ● | ● | ● | ● | ● | ● |
| Differential pressure detection | Blank | Without differential pressure detection port | ● | ● | ● | ● | ● | ● | ● |
| | Q | With differential pressure detection port (Rc1/4) | ● | ● | ● | ● | ● | ● | ● |
| Pressure Range | Blank | 0.05 to 0.85MPa | ● | ● | ● | ● | ● | ● | ● |
| | L | 0.05 to 0.35MPa <i>Note 7</i> | ● | ● | ● | ● | ● | ● | ● |
| Relief | Blank | With relief mechanism | ● | ● | ● | ● | ● | ● | ● |
| | N | Non-relief type | ● | ● | ● | ● | ● | ● | ● |
| Pressure gauge | Blank | Standard pressure gauge (G401-W) | ● | ● | ● | ● | ● | ● | ● |
| | T | Without pressure gauge (gauge port (Rc1/4) assembled sealed) | ● | ● | ● | ● | ● | ● | ● |
| | T8 | Pressure gauge attachable (gauge attachment port (Rc1/4) assembled open) | ● | ● | ● | ● | ● | ● | ● |
| | T6 | Compatibility with digital pressure sensor PPX <i>Note 8</i> | ● | ● | ● | ● | ● | ● | ● |
| | R1 | Pressure switch with display PPD assembled <i>Note 9</i> | ● | ● | ● | ● | ● | ● | ● |
| Flow Direction | Blank | Standard flow (left to right) | ● | ● | ● | ● | ● | ● | ● |
| | X1 | Reverse flow (right to left) | ● | ● | ● | ● | ● | ● | ● |
| E Assembly attachment | | | Pages 137 to 148, 153, 154 | | | | | | |
| | Blank | Without assembly attachment | ● | ● | ● | ● | ● | ● | ● |
| Assembled | U | Assembly attachment type <i>Note 10</i> | ● | ● | ● | ● | ● | ● | ● |
| | D | Distributor (D101-W, D401-W, D801-W) | ● | ● | ● | ● | ● | ● | ● |
| | S | Pressure switch (P1100-W, 4100-W, 8100-W) | ● | ● | ● | ● | ● | ● | ● |
| | P | Pressure switch (P4000-W) | ● | ● | ● | ● | ● | ● | ● |
| | V | Shut-off valve (V1000-W, V3000-W) | ● | ● | ● | ● | ● | ● | ● |
| | K | Shut-off valve with key hole (V3010-W, V6010-W) | ● | ● | ● | ● | ● | ● | ● |
| F Displayed unit | | | | | | | | | |
| | Blank | MPa display, Rc thread | ● | ● | ● | ● | ● | ● | ● |
| | J1 | MPa display, NPT, G thread | ● | ● | ● | ● | ● | ● | ● |
| G Piping adaptor set (included) | | | Pages 155 to 157 Note 11 | | | | | | |
| | Blank | Not attached | ● | ● | ● | ● | ● | ● | ● |
| | A6*W | 1/8 piping adaptor set | ● | ● | ● | ● | ● | ● | ● |
| | A8*W | 1/4 piping adaptor set | ● | ● | ● | ● | ● | ● | ● |
| | A10*W | 3/8 piping adaptor set | ● | ● | ● | ● | ● | ● | ● |
| | A15*W | 1/2 piping adaptor set | ● | ● | ● | ● | ● | ● | ● |
| | A20*W | 3/4 piping adaptor set | ● | ● | ● | ● | ● | ● | ● |
| | A25*W | 1 piping adaptor set | ● | ● | ● | ● | ● | ● | ● |
| | A32*W | 1 1/4 piping adaptor set | ● | ● | ● | ● | ● | ● | ● |
| * Adaptor thread type | | | | | | | | | |
| | Blank | Rc thread | ● | ● | ● | ● | ● | ● | ● |
| | N | NPT thread | ● | ● | ● | ● | ● | ● | ● |
| | G | G thread | ● | ● | ● | ● | ● | ● | ● |
| H Pressure gauge option (attached) | | | Note 12 Page 198 | | | | | | |
| | Blank | Not attached | ● | ● | ● | ● | ● | ● | ● |
| | G45P | G45D-8-P10 (L: G45D-8-P04) | ● | ● | ● | ● | ● | ● | ● |
| | G49P | G49D-8-P10 (L: G49D-8-P04) | ● | ● | ● | ● | ● | ● | ● |
| | G59P | G59D-8-P10 (L: G59D-8-P04) | ● | ● | ● | ● | ● | ● | ● |
| | G40P | G40D-8-P10 (L: G40D-8-P04) | ● | ● | ● | ● | ● | ● | ● |
| | G50P | G50D-8-P10 (L: G50D-8-P04) | ● | ● | ● | ● | ● | ● | ● |
| | G41P | G41D-8-P10 (L: G41D-8-P04) | ● | ● | ● | ● | ● | ● | ● |
| | G52P | G52D-8-P10 (L: G52D-8-P10) | ● | ● | ● | ● | ● | ● | ● |
| | R2 <i>Note 7</i> | Digital pressure sensor: PPX-R10N-6M | ● | ● | ● | ● | ● | ● | ● |

⚠ Cautions for model No. selection

- Note 1: Piping adaptor A400-20*-W is assembled on both ends of C4030-20*-W. Piping adaptor set "A20*W" does not need to be specified.
- Note 2: G threads and NPT threads are available for IN, OUT, gauge port and drain discharge port (metal bowl with automatic drain). Attachment P, V will be subject to this as well.
- Note 3: Select options from drain exhaust, bowl material, element, differential pressure detection, regulator, and regulator. When selecting options for several items, list options in order from the top.
- Note 4: Refer to page 12 for working conditions of the automatic drain.
- Note 5: When option symbol "F" is selected, the NO automatic drain is enclosed for the air filter and the NC automatic drain for the oil mist filter. "FF" and "FF1" has a large drain type oil mist filter but the automatic drain is same as the NC type.
- Note 6: Refer to page 87 for max. flow rate of option "Y".
- Note 7: Pressure gauge display range will be 0 to 0.4 MPa for option "L".
- Note 8: When option "T6" is selected, only "blank" or "R2" is selected for the (H) pressure gauge (enclosed). The digital pressure sensor PPX mounting port (Rc1/8) is assembled ventilated.
- Note 9: Output type will be NPN transistor output. Consult with CKD if PNP transistor output is required.
- Note 10: Mounting location for assembly attachments

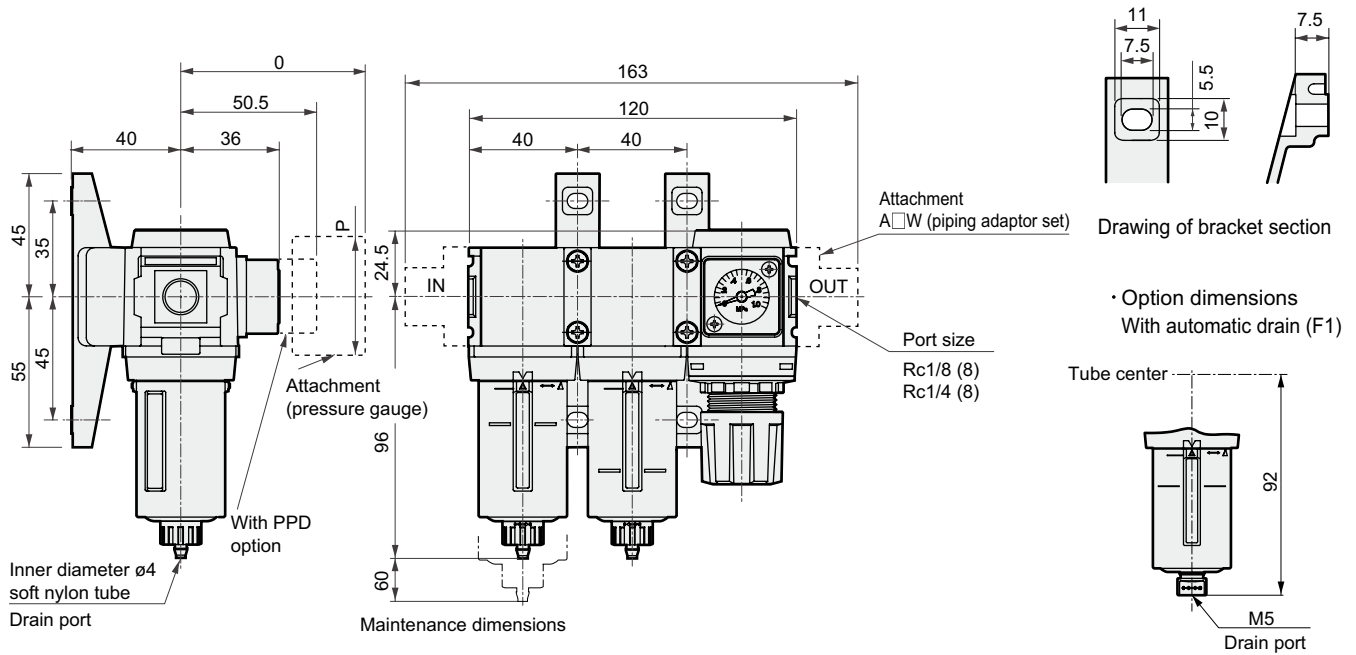
| Symbol | Installation position of Attachment | Applicable model |
|--------|-------------------------------------|---|
| D | F+M+ (D) +R | C1030-W to C8030-W |
| S or P | F+M+R+ (S, P) | C1030-W to C8030-W ("P" excludes 1000, 6000, 8000 Series) |
| V or K | F+M+R+ (V, K) | C1030-W to C4030-W ("V" excludes 6000, 8000 Series. "K" excludes 1000 Series) |

- Note: Indicate "U" + "D", "S", "P", "V", and "K" when selecting an assembly attachment. Use custom combinations specifications for any other combination.
- Note 11: A joiner set is attached with the piping adapter set.
- Note 12: If NPT is selected for the "C" piping thread type, a NPT pressure gauge is enclosed. If Rc or G thread is selected, an R thread pressure gauge is enclosed.

F.M.R. Combination

Dimensions

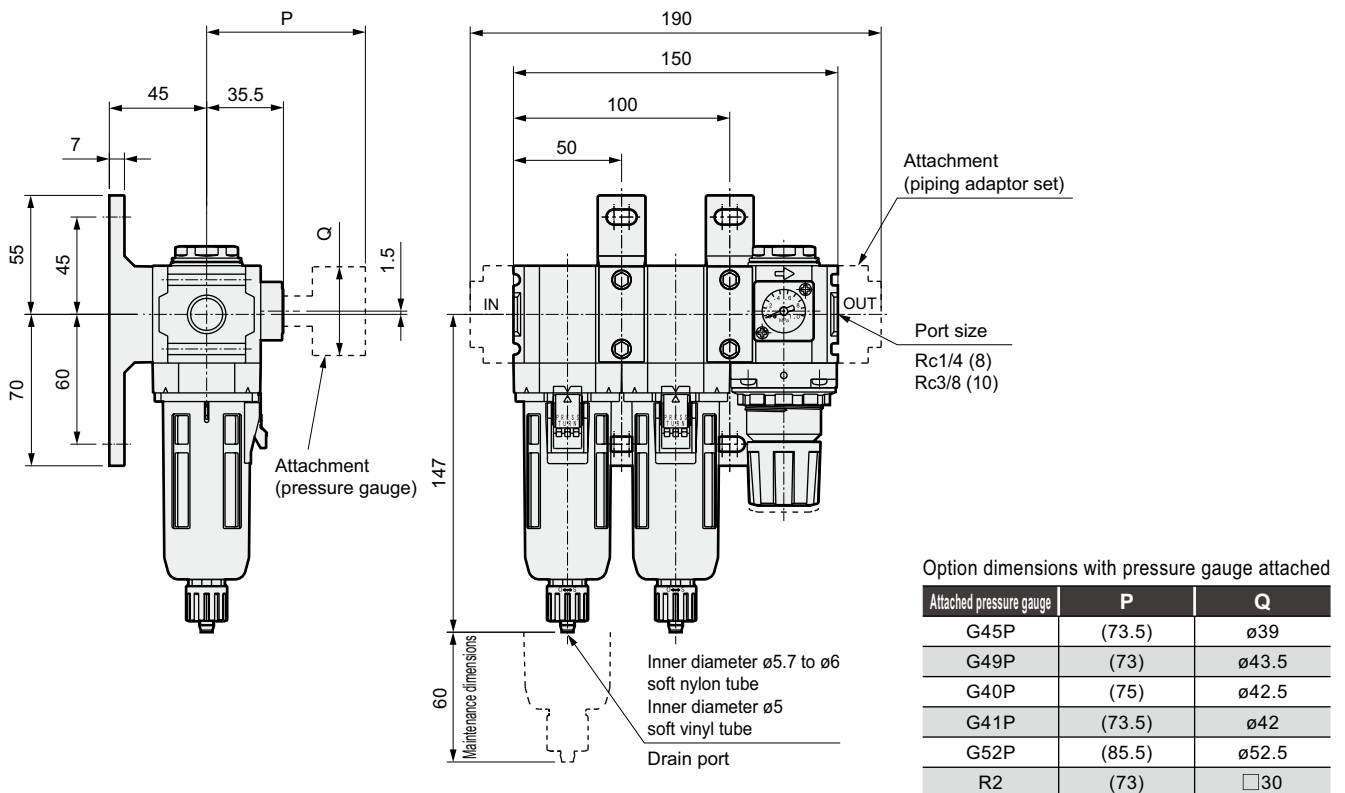
● C1030-W



Option dimensions with pressure gauge attached

| Attached pressure gauge | O | P |
|-------------------------|--------|--------------|
| G45P | (74) | $\phi 39$ |
| G49P | (73.5) | $\phi 43.5$ |
| G59P | (76) | $\phi 52$ |
| G40P | (75.5) | $\phi 42.5$ |
| G50P | (75.5) | $\phi 52.5$ |
| G41P | (74) | $\phi 42$ |
| G52P | (86) | $\phi 52.5$ |
| R2 | (74) | $\square 30$ |

● C2030-W

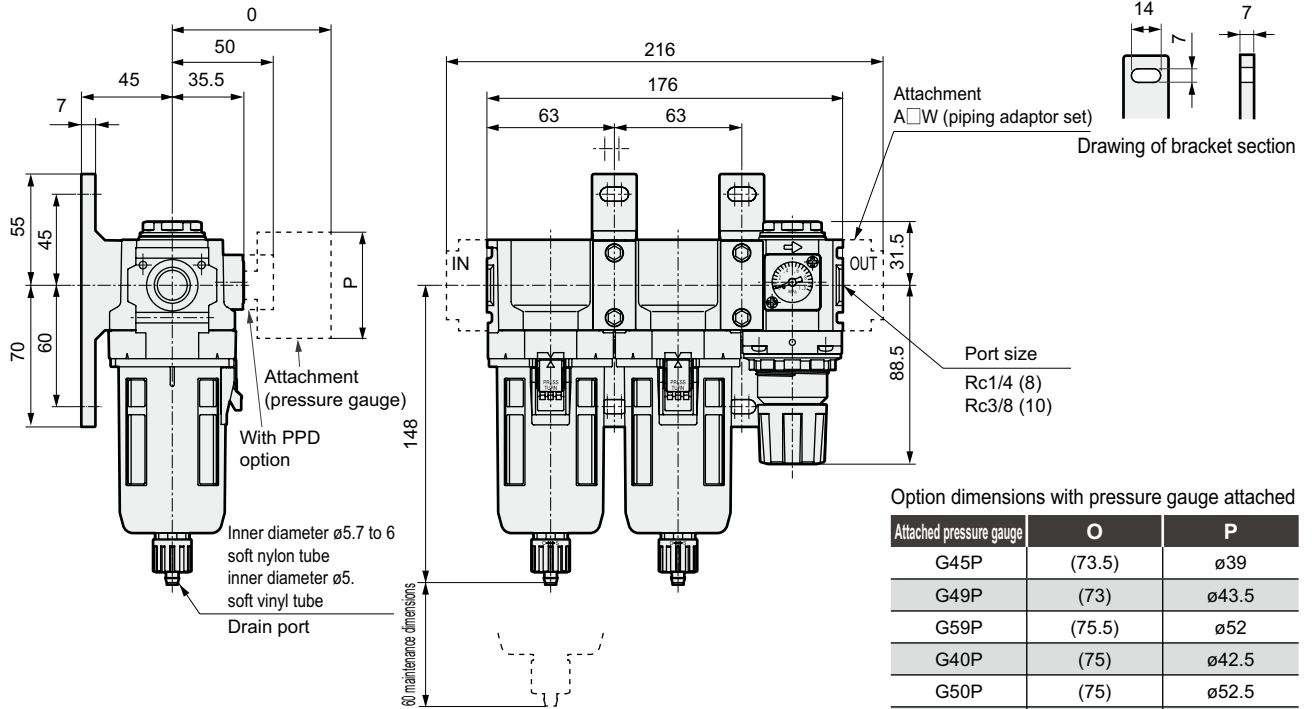


Option dimensions with pressure gauge attached

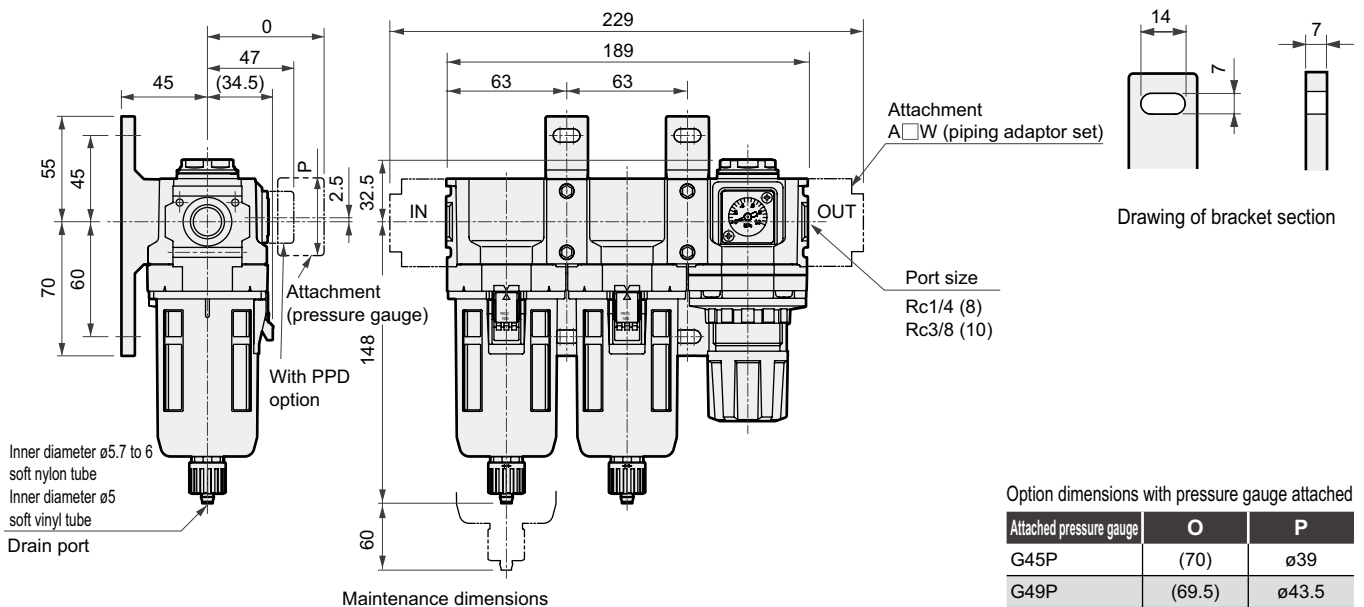
| Attached pressure gauge | P | Q |
|-------------------------|--------|--------------|
| G45P | (73.5) | $\phi 39$ |
| G49P | (73) | $\phi 43.5$ |
| G40P | (75) | $\phi 42.5$ |
| G41P | (73.5) | $\phi 42$ |
| G52P | (85.5) | $\phi 52.5$ |
| R2 | (73) | $\square 30$ |

Dimensions

● C2530-W



● C3030-W

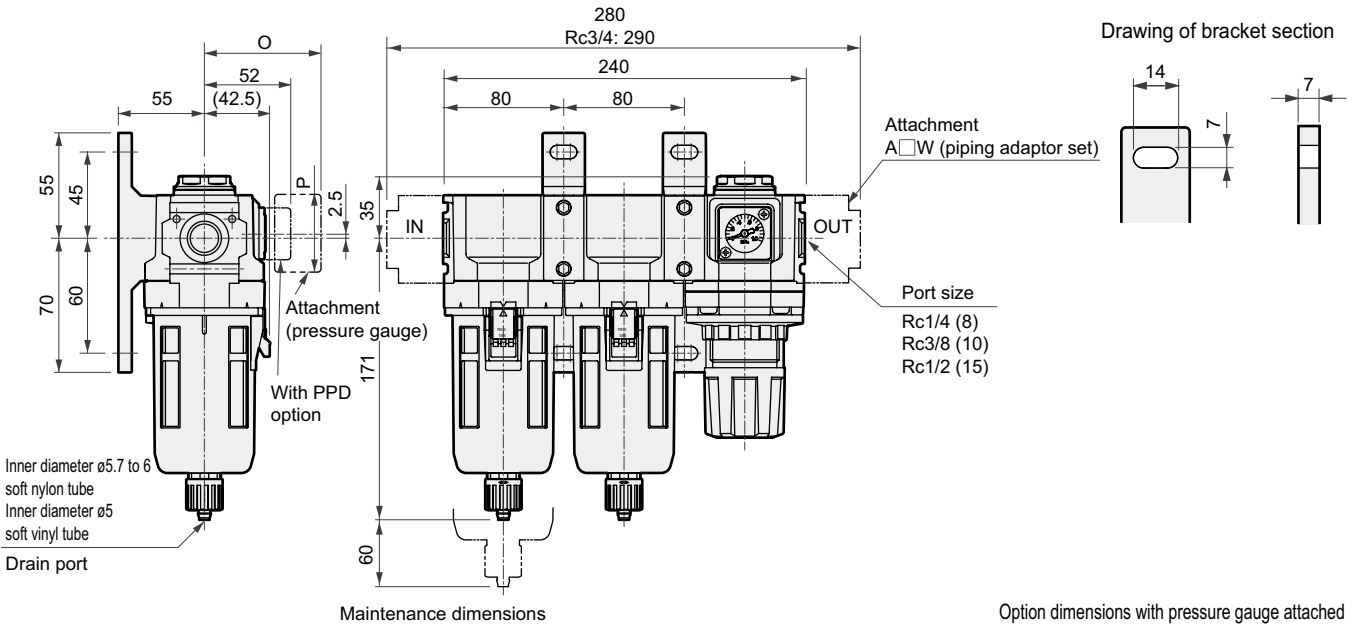


● Refer to page 92 for the dimensions of the metal bowl option filter and page 102 for the oil mist filter.

F.M.R. Combination

Dimensions

● C4030-W

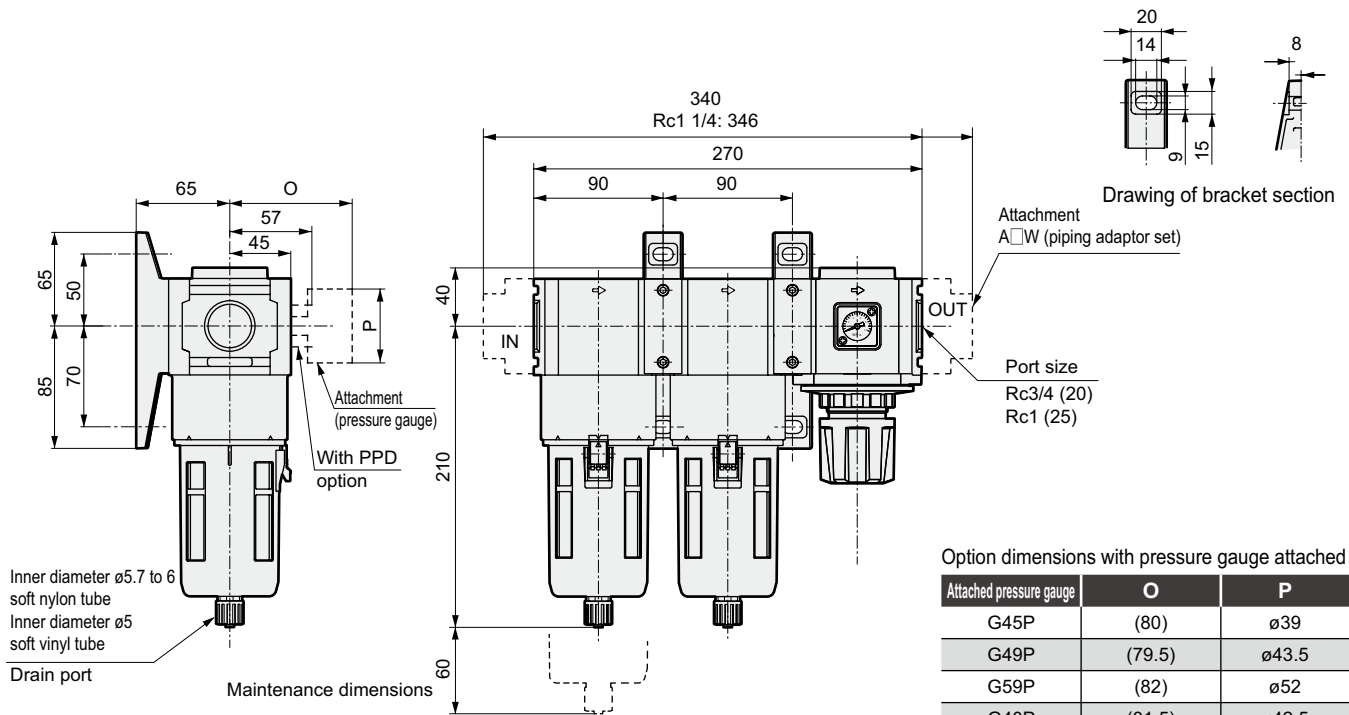


Option dimensions with pressure gauge attached

| Attached pressure gauge | O | P |
|-------------------------|--------|-------|
| G45P | (75) | ø29 |
| 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 92 for the dimensions of the metal bowl option filter and page 102 for the oil mist filter.

● C6030-W



Option dimensions with pressure gauge attached

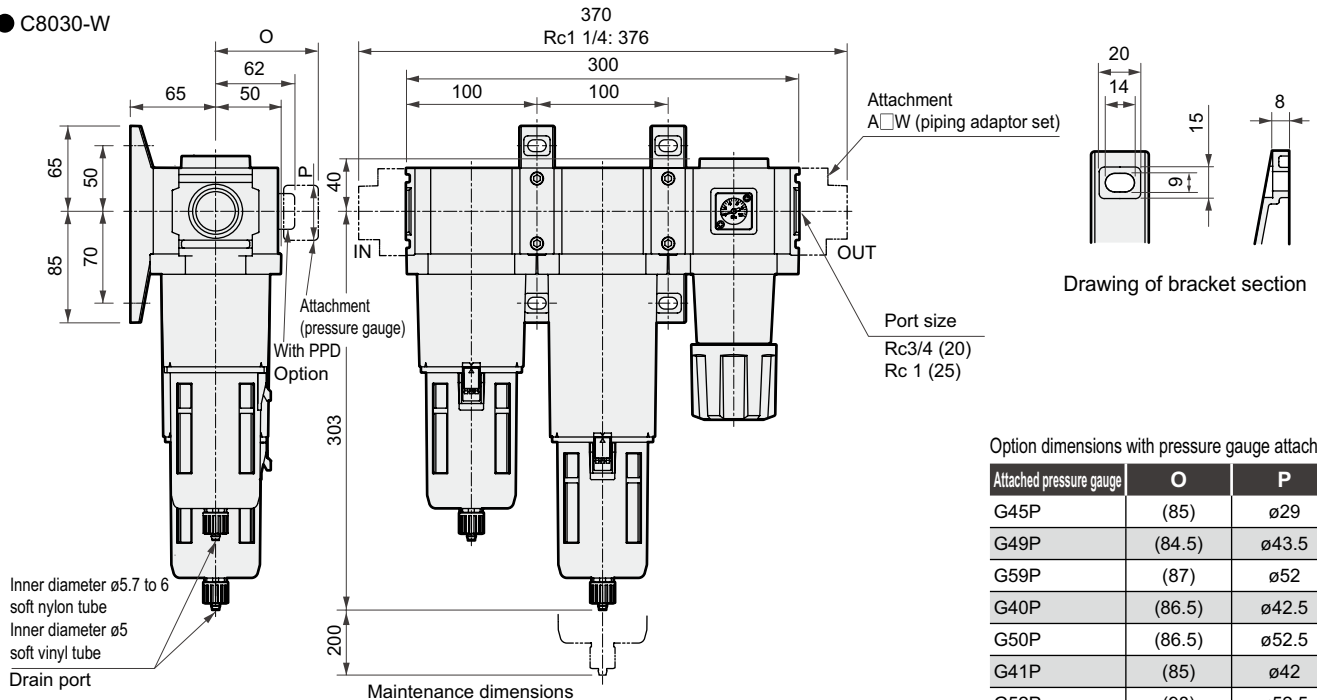
| Attached pressure gauge | O | P |
|-------------------------|--------|-------|
| G45P | (80) | ø39 |
| G49P | (79.5) | ø43.5 |
| G59P | (82) | ø52 |
| G40P | (81.5) | ø42.5 |
| G50P | (81.5) | ø52.5 |
| G41P | (80) | ø42 |
| G52P | (93) | ø52.5 |
| R2 | (80) | □30 |

F.M.R. Combination

Dimensions with options

Dimensions

● C8030-W



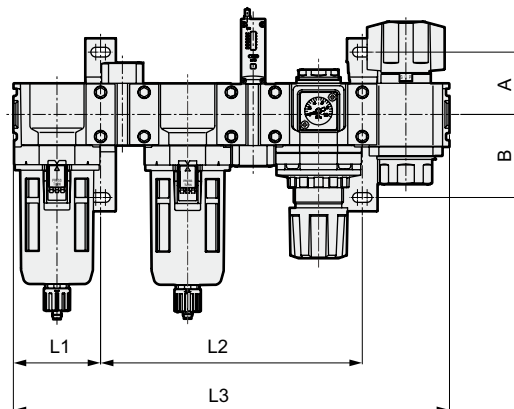
Option dimensions with pressure gauge attached

| Attached pressure gauge | O | P |
|-------------------------|--------|-------|
| G45P | (85) | ø29 |
| 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 92 for the dimensions of the metal bowl option filter and page 102 for the oil mist filter.

Dimensions with options

● C1030-W to C8030-W



| Model no. | A | B |
|-----------|----|----|
| C1030-W | 35 | 45 |
| C2030-W | 45 | 60 |
| C2530-W | | |
| C3030-W | | |
| C4030-W | 50 | 70 |
| C6030-W | | |
| C8030-W | | |

| Assembled options Model no. | D | | | S (Note 1) | | | P | | | V | | | K | | | DS (Note 1) | | | DP | | | DV | | | DK | | |
|--------------------------------|-----|-------|-------|------------|-----|-------|-----|-------|-------|-----|-------|-------|-----|-------|-------|-------------|-------|-------|-----|-------|-------|-----|-------|-------|-----|-------|-------|
| | 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 | - | - | - |
| 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 options Model no. | DSV | | | DSK | | | DPV | | | DPK | | | SV | | | SK | | | PV | | | 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 | L1 | L2 | L3 |
| C1030-W | 40 | 136 | 216 | - | - | - | - | - | - | - | - | - | 40 | 108 | 188 | - | - | - | - | - | - | - | - | - | - | - | - |
| 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 | 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 | 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 | 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 | 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 | 100 | 240 | 423 |
| C6030-W | - | - | - | 90 | 280 | 460 | - | - | - | - | - | - | - | - | - | 90 | 230 | 410 | - | - | - | - | - | - | - | - | - |
| C8030-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 the general catalog for the detailed dimensions of the mounting hole of the bracket.
 Note 1. The piping adapter is assembled on the OUT side.
 Piping adaptor A400-20-W is assembled on both ends of C4030-20-W.

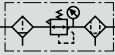


W.M. combination standard white series

C1040/C2040/C3040/C4040/C8040-W Series






Integrated filter, oil mist filter, and regulator

Port size: 1/8 to 1

JIS symbol 



Specifications

| Descriptions | | C1040-W | C2040-W | C3040-W | C4040-W | C8040-W |
|--|-----------------|---|---|--|---|---|
| Exterior | |  |  |  |  |  |
| Components | Filterregulator | W1000-W | W2000-W | W3000-W | W4000-W | W8000-W |
| | Oil mist filter | M1000-W | M2000-W | M3000-W | M4000-W | M8000-W |
| Working fluid | | Compressed air | | | | |
| Max. working pressure MPa | | 1 | | | | |
| Withstanding pressure MPa | | 1.5 | | | | |
| Ambient temperature range °C | | 5 to 60 | | | | Note 6 |
| Set pressure range MPa | | 0.1 to 0.85 ^{Note 5} | 0.1 to 0.85 ^{Note 3, Note 4} | | | |
| Relief | | With relief mechanism | | | | |
| 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 | 0.74 | 0.97 | 1.52 | 3.52 |
| Secondary oil concentration | | 0.01mg/m ³ or less | | | | |
| Maximum flow rate (Note 1) m ³ /min | | 0.15 | 0.25 | 0.36 | 0.825 | 2.6 |

Note 1: Max flow is measured at regulator setting of 0.7MPa. When element option "Y" is selected, refer to page 87 for maximum flow.

Note 2: Refer to page 95 for details on other oil mist filters.

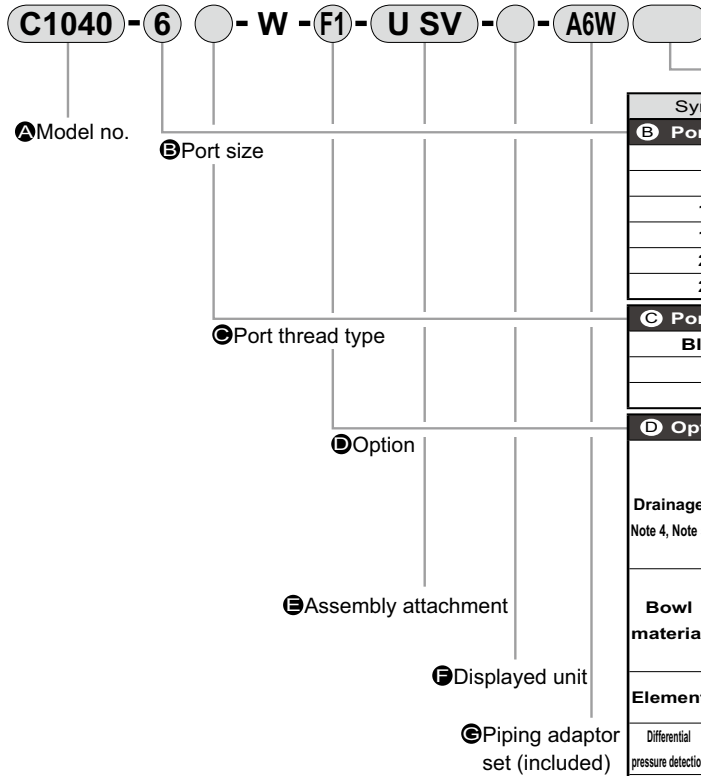
Note 3: When "F" with an automatic drain is selected, the supply air pressure is 0.2 MPa or more. Minimum pressure setting is 0.15MPa. Automatic drain for the filter regulator will operate from supplied air pressure of 0.1MPa. Initially generated drainage and air are purged until pressure reaches 0.1 MPa.

Note 4: When "F" with an automatic drain is selected, the supply air pressure is 0.2 MPa or more. Minimum pressure setting is 0.15MPa.

Note 5: When "F1" with an automatic drain is selected for the C1040-W series, minimum operating pressure is 0.2 MPa and maximum operation pressure is 0.7 MPa. Refer to the maximum processing flow table (page 87) for the F1000-W-F1 automatic drain for the maximum working flow. Set the working flow to less than the maximum working flow.

Note 6: The working temperature range of the pressure switch with indicator PPD assembly "R1" is 5 to 50°C.

How to order



* Refer page 9 for an explanation of the options.

| A Model no. | | | | |
|-------------|---|---|---|---|
| C | C | C | C | C |
| 1 | 2 | 3 | 4 | 8 |
| 0 | 0 | 0 | 0 | 0 |
| 4 | 4 | 4 | 4 | 4 |
| 0 | 0 | 0 | 0 | 0 |

| Symbol | Descriptions | | | | | |
|--------------------|--------------|---|---|---|---|---|
| B Port size | | | | | | |
| 6 | 1/8 | ● | | | | |
| 8 | 1/4 | ● | ● | ● | ● | |
| 10 | 3/8 | | ● | ● | ● | |
| 15 | 1/2 | | | | ● | |
| 20 | 3/4 | | | | ● | ● |
| 25 | 1 | | | | | ● |

| C Port thread type | | Note 2 | | | | |
|--------------------|------------|--------|---|---|---|---|
| Blank | Rc thread | ● | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● | ● |

| D Option | | Note 3 | | | | |
|---------------------------------|-------|---|---|---|---|---|
| Drainage | Blank | With manual drain cock | ● | ● | ● | ● |
| | F | Automatic drain with manual override (NO type: exhausts without pressurization) | | | ● | ● |
| | F1 | Automatic drain with manual override (NC type: no exhaust without pressurization) | ● | ● | ● | ● |
| | FF | Large exhaust automatic drain with manual override (NO type: exhausts without pressurization) | | | | ● |
| Bowl material | Blank | Polycarbonate bowl | ● | ● | ● | ● |
| | Z | Nylon bowl | ● | ● | ● | ● |
| | M | Metal bowl | | | ● | ● |
| | M1 | Metal bowl with manual drain cock | | | ● | ● |
| Element | Blank | 5µm | ● | ● | ● | ● |
| | Y | 0.3µm (submicron) Note 6 | | | ● | ● |
| Differential pressure detection | Blank | Without differential pressure detection port | ● | ● | ● | ● |
| | Q | With differential pressure detection port (Rc1/4) | | | | ● |
| Pressure Range | Blank | 0.05 to 0.85MPa | ● | ● | ● | ● |
| | L | 0.05 to 0.35MPa Note 7 | | | ● | ● |
| Relief | Blank | With relief mechanism | ● | ● | ● | ● |
| | N | Non-relief type | ● | ● | ● | ● |
| Pressure gauge | Blank | Standard pressure gauge (G401-W) | ● | ● | ● | ● |
| | T | Without pressure gauge (gauge port (Rc1/4) assembled sealed) | ● | ● | ● | ● |
| | T8 | Pressure gauge attachable (gauge port (Rc1/4) assembled open) | ● | ● | ● | ● |
| | T6 | Compatibility with digital pressure sensor PPX Note 8 | ● | ● | ● | ● |
| Flow Direction | Blank | Standard flow (left to right) | ● | ● | ● | ● |
| | X1 | Reverse flow (right to left) | ● | ● | ● | ● |

⚠ Cautions for model No. selection

- Note 1: Piping adaptor A400-20*-W is assembled on both ends of C4030-20*-W. Piping adaptor set "A20*W" does not need to be specified.
- Note 2: G threads and NPT threads are available for IN, OUT, gauge port and drain discharge port (metal bowl with automatic drain). Attachment P, V will be subject to this as well.
- Note 3: Select options from drain exhaust, bowl material, element, differential pressure detection, regulator, and regulator. When selecting options for several items, list options in order from the top.
- Note 4: Refer to page 12 for working conditions of the automatic drain.
- Note 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 filter regulator and oil mist regulator. "FF" and "FF1" has a large drain type oil mist filter but the automatic drain is same as the NC type.
- Note 6: Refer to page 87 for max. flow rate of option "Y".
- Note 7: Pressure gauge display range will be 0 to 0.4 MPa for option "L".
- Note 8: When option "T6" is selected, only "blank" or "R2" is selected for the (H) pressure gauge (enclosed). The digital pressure sensor PPX mounting port (Rc1/8) is assembled ventilated.
- Note 9: Output type will be NPN transistor output. Consult with CKD if PNP transistor output is required.
- Note 10: Mounting location for assembly attachments

| Symbol | Installation position of attachment | Applicable model |
|--------|-------------------------------------|---|
| S or P | W+ (S, P) +M | C1040-W to C8040-W ("P" excludes 1000 and 8000 Series) |
| V or K | W+M+ (V, K) | C1040-W to C8010-W ("V" excludes 8000 Series. "K" excludes 1000 Series) |

- Note: Indicate "U" + "D", "S", "P", "V", and "K" when selecting an assembly attachment. Use custom combinations specifications for any other combination.
- Note 11: A joiner set is attached with the piping adapter set.
- Note 12: If NPT is selected for the "C" piping thread type, a NPT pressure gauge is enclosed. If Rc or G thread is selected, an R thread pressure gauge is enclosed.

| E Assembly attachment | | Pages 137 to 148, 153, 154 | | | | |
|-----------------------|---|---|---|---|---|---|
| Blank | Without assembly attachment | ● | ● | ● | ● | ● |
| Assembled | U | Assembly attachment type Note 10 | ● | ● | ● | ● |
| | S | Pressure switch (P1100-W, 4100-W, 8100-W) | ● | ● | ● | ● |
| | P | Pressure switch (P4000-W) | | ● | ● | ● |
| | V | Shut-off valve (V1000-W, V3000-W) | ● | ● | ● | ● |
| K | Shut-off valve with key hole (V3010-W, V6010-W) | | ● | ● | ● | ● |

| F Displayed unit | | | | | | |
|------------------|----------------------------|---|---|---|---|---|
| Blank | MPa display, Rc thread | ● | ● | ● | ● | ● |
| J1 | MPa display, NPT, G thread | ● | ● | ● | ● | ● |

| G Piping adaptor set (included) | | Pages 155 to 157 Note 11 | | | | |
|---------------------------------|--------------------------|--------------------------|---|---|---|---|
| Blank | Not attached | ● | ● | ● | ● | ● |
| A6*W | 1/8 piping adaptor set | ● | | | | |
| A8*W | 1/4 piping adaptor set | | ● | ● | ● | |
| A10*W | 3/8 piping adaptor set | | ● | ● | ● | |
| A15*W | 1/2 piping adaptor set | | | ● | ● | |
| A20*W | 3/4 piping adaptor set | | | | ● | ● |
| A25*W | 1 piping adaptor set | | | | | ● |
| A32*W | 1 1/4 piping adaptor set | | | | | ● |

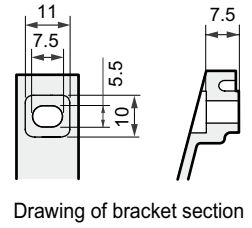
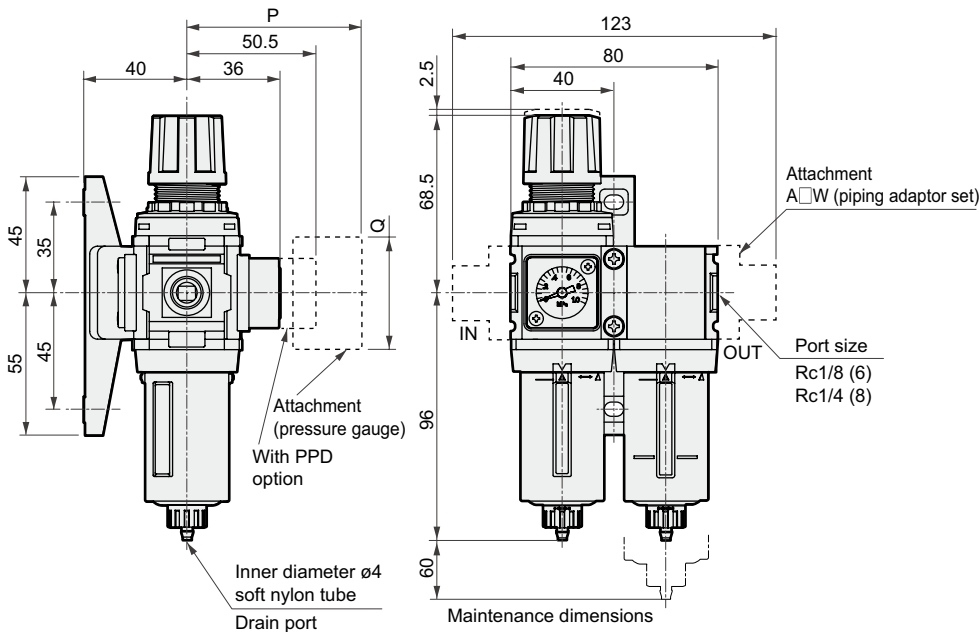
| * Adaptor thread type | | | | | | |
|-----------------------|------------|---|---|---|---|---|
| Blank | Rc thread | ● | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● | ● |

| H Pressure gauge option (attached) | | Note 12 Page 198 | | | | |
|------------------------------------|--------------------------------------|------------------|---|---|---|---|
| Blank | Not attached | ● | ● | ● | ● | ● |
| G45P | G45D-8-P10 (L: G45D-8-P04) | ● | ● | ● | ● | ● |
| G49P | G49D-8-P10 (L: G49D-8-P04) | ● | ● | ● | ● | ● |
| G59P | G59D-8-P10 (L: G59D-8-P04) | ● | ● | ● | ● | ● |
| G40P | G40D-8-P10 (L: G40D-8-P04) | ● | ● | ● | ● | ● |
| G50P | G50D-8-P10 (L: G50D-8-P04) | ● | ● | ● | ● | ● |
| G41P | G41D-8-P10 (L: G41D-8-P04) | ● | ● | ● | ● | ● |
| G52P | G52D-8-P10 (L: G52D-8-P10) | ● | ● | ● | ● | ● |
| R2 Note 7 | Digital pressure sensor: PPX-R10N-6M | ● | ● | ● | ● | ● |

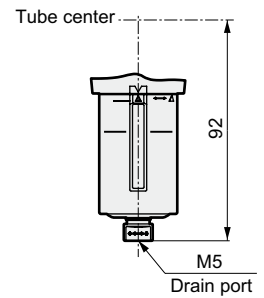
W.M. Combination

Dimensions 

● C1040-W



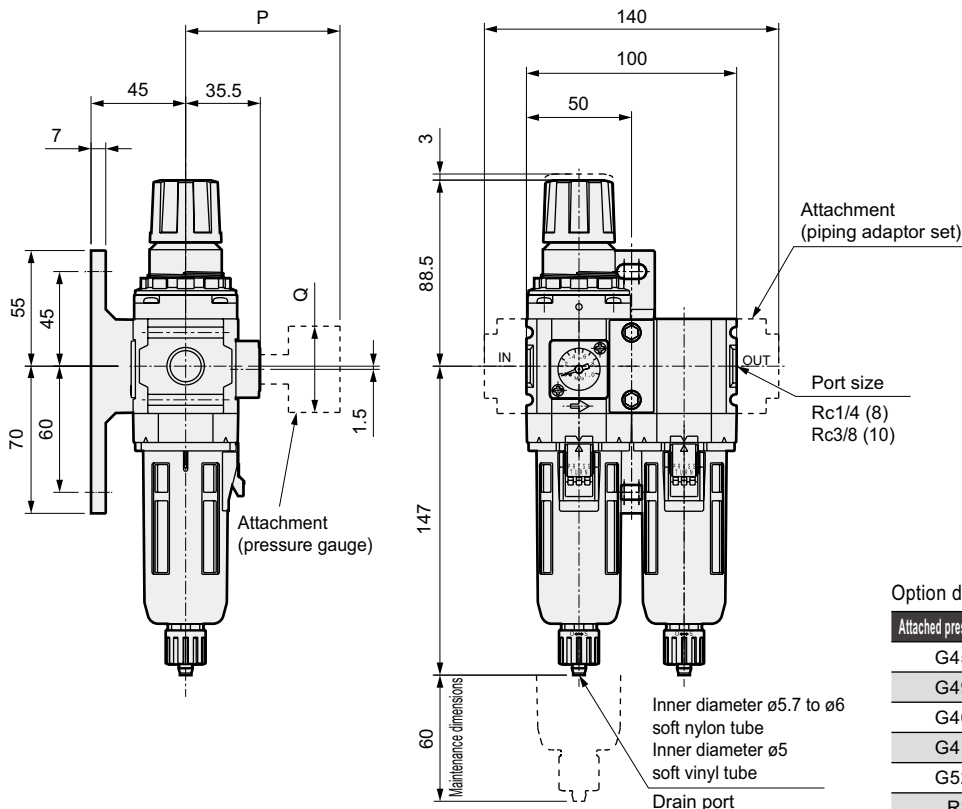
• Option dimensions
With automatic drain (F1)



Option dimensions with pressure gauge attached

| Attached pressure gauge | P | 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 |

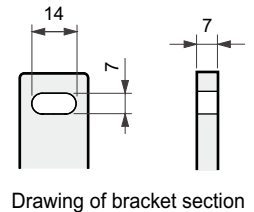
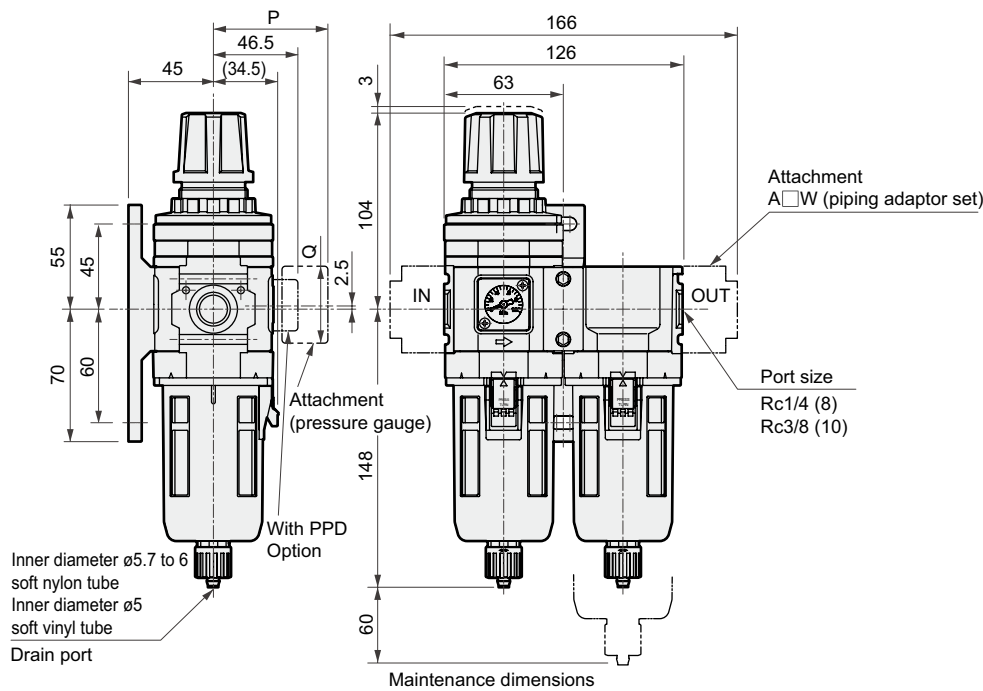
● C2040-W



Option dimensions with pressure gauge attached

| Attached pressure gauge | P | 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 |

● C3040-W



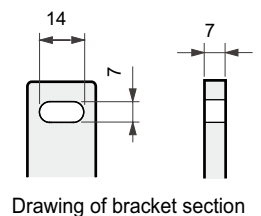
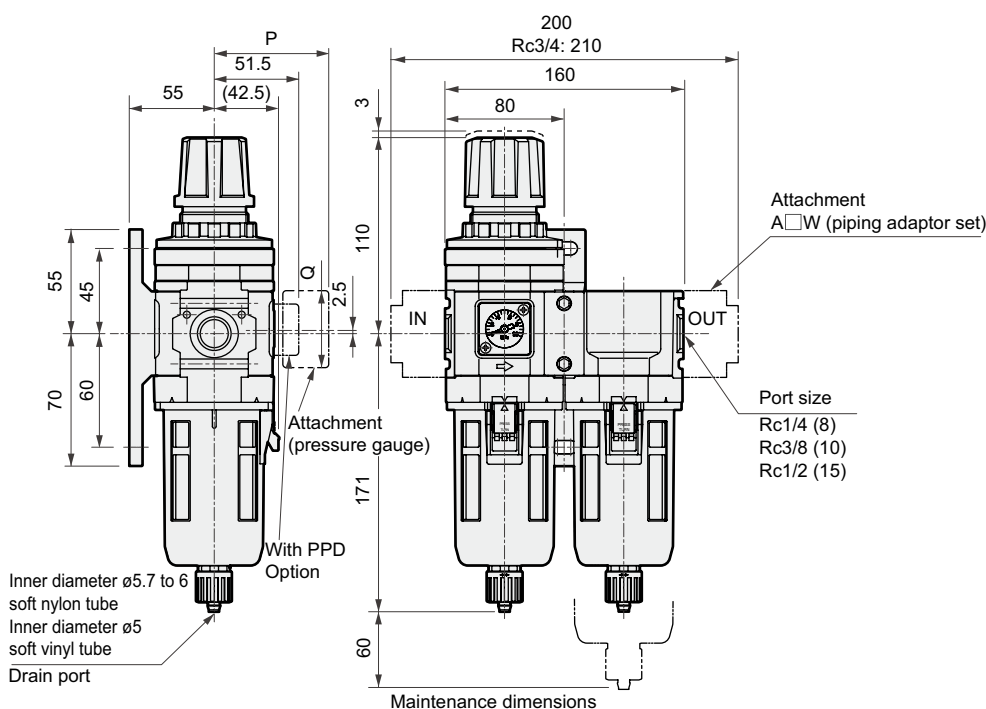
Drawing of bracket section

Option dimensions with pressure gauge attached

| Attached pressure gauge | P | Q |
|-------------------------|--------|-------|
| 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 |

● Refer to page 75 for the dimensions of the metal bowl option filter/ regulator and page 102 for the oil mist filter.

● C4040-W



Drawing of bracket section

Option dimensions with pressure gauge attached

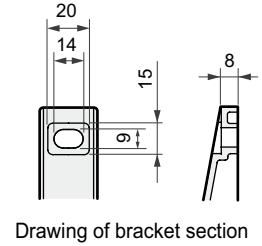
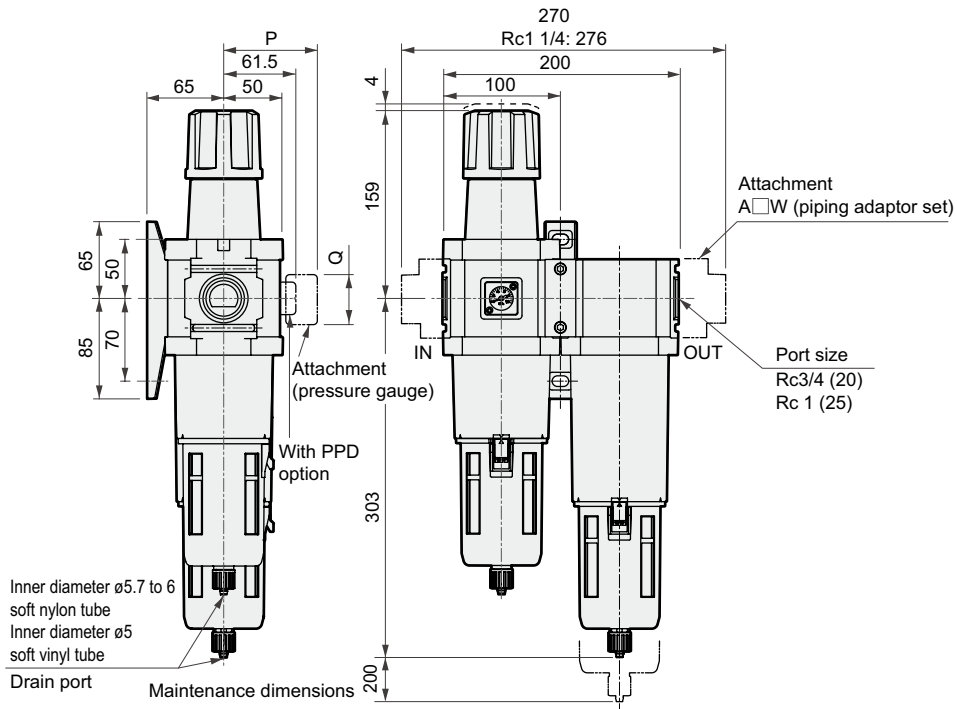
| Attached pressure gauge | P | Q |
|-------------------------|--------|-------|
| G45P | (75) | ø39 |
| G49P | (74.5) | ø43.5 |
| G59P | (77) | ø52 |
| G40P | (76.5) | ø42.5 |
| G50P | (76.5) | ø52.5 |
| G41P | (75) | ø42 |
| G52P | (86) | ø52.5 |
| R2 | (75) | □30 |

● Refer to page 75 for the dimensions of the metal bowl option filter/ regulator and page 102 for the oil mist filter.

W.M. Combination

Dimensions

● C8040-W



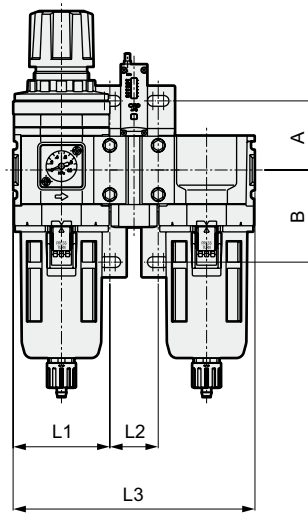
Option dimensions with pressure gauge attached

| Attached pressure gauge | P | 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 75 for the dimensions of the metal bowl option filter/regulator and page 102 for the oil mist filter.

Dimensions with options

● C1040-W to C8040-W



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

| Assembled options Model no. | S | | | P | | | V | | | K | | | SV | | | SK | | | PV | | | PK | | |
|--------------------------------|-----|------|-------|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-------|-------|-----|-------|-------|-----|-----|-----|-----|-----|-----|
| | 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 the general catalog for the detailed dimensions of the mounting hole of the bracket.

Note 1 The piping adaptor is assembled on the OUT side.

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




R.M. combination standard white series

C1050 / C2050 / C2550 C3050 / C4050 / C6050 / C8050-W Series








Integrated regulator and oil mist filter

Port size: 1/8 to 1

JIS symbol 



Specifications

| Descriptions | | C1050-W | C2050-W | C2550-W | C3050-W | C4050-W | C6050-W | C8050-W |
|--|-----------------|---|---|---|---|---|---|---|
| Exterior | |  |  |  |  |  |  |  |
| Components | Regulator | R1000-W | R2000-W | R2000-W | R3000-W | R4000-W | R6000-W | R8000-W |
| | Oil mist filter | M1000-W | M2000-W | M3000-W | M3000-W | M4000-W | M6000-W | M8000-W |
| Working fluid | | Compressed air | | | | | | |
| Max. working pressure MPa | | 1.0 | | | | | | |
| Withstanding pressure MPa | | 1.5 | | | | | | |
| Ambient temperature range °C | | 5 to 60 | | | | | | |
| Set pressure range MPa | | 0.1 to 0.85 ^{Note 4} | 0.1 to 0.85 ^{Note 3} | | | | | |
| Relief | | With relief mechanism | | | | | | |
| 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 weight kg | | 0.29 | 0.65 | 0.66 | 0.82 | 1.32 | 2.12 | 3.12 |
| Secondary oil concentration | | 0.01mg/m ³ or less | | | | | | |
| Maximum flow rate (Note 1) m ³ /min | | 0.15 | 0.25 | 0.38 | 0.36 | 0.825 | 1.27 | 2.6 |

Note 1: Max flow is measured at regulator setting of 0.7MPa.

Note 2: Refer to page 95 for details on other oil mist filters.

Note 3: The supply air pressure is 0.2 MPa or more with a minimum setting pressure of 0.15 MPa.

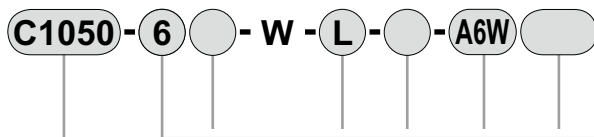
Note 4: When "F1" with an automatic drain is selected for the C1050-W series, minimum operating pressure is 0.2 MPa and maximum operation pressure is 0.7 MPa. Refer to the maximum processing flow table (page 97) for the F1000-W-F1 automatic drain for the maximum working flow. Set the working flow to less than the maximum working flow.

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

R.M. Combination

How to order

How to order



A Model no. B Port size

C Port thread type

D Option

E Displayed unit

F Piping adaptor set (included)

G Pressure gauge option (attached)

⚠ Cautions for model No. selection

Note 1: Piping adaptor A400-20*-W is assembled on both ends of C4050-20*-W. Piping adaptor set "A20*W" does not need to be specified.

Note 2: G threads and NPT threads are available for IN, OUT, gauge port and drain discharge port (metal bowl with automatic drain).

Note 3: Select options from drain exhaust, bowl material, element, differential pressure detection, regulator, and regulator. When selecting options for several items, list options in order from the top.

Note 4: Refer to page 12 for working conditions of the automatic drain.

Note 5: Pressure gauge display range will be 0 to 0.4 MPa for option "L".

Note 6: When option "T6" is selected, only "blank" or "R2" is selected for the (H) pressure gauge (enclosed). The digital pressure sensor PPX mounting port (Rc1/8) is assembled ventilated.

Note 7: Output type will be NPN transistor output. Consult with CKD if PNP transistor output is required.

Note 8: A joiner set is attached with the piping adaptor set.

Note 9: If NPT is selected for the "C" piping thread type, a NPT pressure gauge is enclosed. If Rc or G thread is selected, an R thread pressure gauge is enclosed.

* Refer page 9 for an explanation of the options.

| A Model no. | | | | | | |
|-------------|---|---|---|---|---|---|
| C | C | C | C | C | C | C |
| 1 | 2 | 2 | 3 | 4 | 6 | 8 |
| 0 | 0 | 5 | 0 | 0 | 0 | 0 |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |

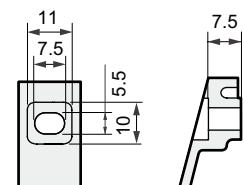
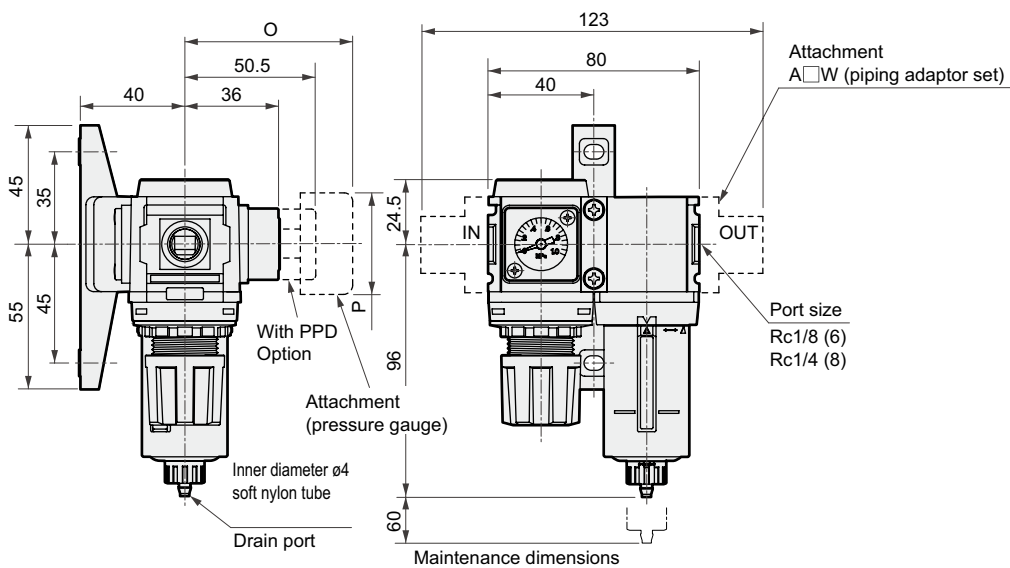
| Symbol | Descriptions | C | C | C | C | C | C |
|------------------------------------|--------------------------------------|---|---|---|---|---|---|
| B Port size | | 1 | 2 | 2 | 3 | 4 | 6 |
| | | 0 | 0 | 5 | 0 | 0 | 0 |
| | | 5 | 5 | 5 | 5 | 5 | 5 |
| | | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 1/8 | ● | | | | | |
| 8 | 1/4 | ● | ● | ● | ● | ● | |
| 10 | 3/8 | | ● | ● | ● | ● | |
| 15 | 1/2 | | | | | ● | |
| 20 | 3/4 | | | | ● | ● | ● |
| 25 | 1 | | | | | | ● |
| C Port thread type | | Note 2 | | | | | |
| Blank | Rc thread | ● | ● | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● | ● | ● |
| D Option | | Note 3 | | | | | |
| Drainage | Blank | With filter and manual drain cock | ● | ● | ● | ● | ● |
| | F1 | Automatic drain with manual override (NC type: no exhaust without pressurization) | ● | ● | ● | ● | ● |
| Bowl material | Blank | Polycarbonate bowl | ● | ● | ● | ● | ● |
| | Z | Nylon bowl | ● | ● | ● | ● | ● |
| | M | Metal bowl | | | ● | ● | ● |
| | M1 | Metal bowl with manual drain cock | | | ● | ● | ● |
| Differential pressure detection | Blank | Without differential pressure detection port | ● | ● | ● | ● | ● |
| | Q | With differential pressure detection port (Rc1/4) | | | | | ● |
| Pressure Range | Blank | 0.05 to 0.85MPa | ● | ● | ● | ● | ● |
| | L | 0.05 to 0.35MPa Note 5 | ● | ● | ● | ● | ● |
| Relief | Blank | With relief mechanism | ● | ● | ● | ● | ● |
| | N | Non-relief type | ● | ● | ● | ● | ● |
| Pressure gauge | Blank | Standard pressure gauge (G401-W) | ● | ● | ● | ● | ● |
| | T | Without pressure gauge (gauge port (Rc1/4) assembled sealed) | ● | ● | ● | ● | ● |
| | T8 | Pressure gauge attachable (gauge port (Rc1/4) assembled open) | ● | ● | ● | ● | ● |
| | T6 | Compatibility with digital pressure sensor PPX Note 6 | ● | ● | ● | ● | ● |
| | R1 | Pressure switch with display PPD assembled Note 7 | ● | | ● | ● | ● |
| Flow Direction | Blank | Standard flow (left to right) | ● | ● | ● | ● | ● |
| | X1 | Reverse flow (right to left) | ● | ● | ● | ● | ● |
| E Displayed unit | | Pages 155 to 157 Note 8 | | | | | |
| Blank | MPa display, Rc thread | ● | ● | ● | ● | ● | ● |
| J1 | MPa display, NPT, G thread | ● | ● | ● | ● | ● | ● |
| F Piping adaptor set (included) | | Pages 155 to 157 Note 8 | | | | | |
| Blank | Not attached | ● | ● | ● | ● | ● | ● |
| A6*W | 1/8 piping adaptor set | ● | | | | | |
| A8*W | 1/4 piping adaptor set | ● | ● | ● | ● | ● | |
| A10*W | 3/8 piping adaptor set | ● | ● | ● | ● | ● | |
| A15*W | 1/2 piping adaptor set | | ● | ● | ● | ● | |
| A20*W | 3/4 piping adaptor set | | | | | ● | ● |
| A25*W | 1 piping adaptor set | | | | | | ● |
| A32*W | 1 1/4 piping adaptor set | | | | | | ● |
| * Adaptor thread type | | Note 9 Page 198 | | | | | |
| Blank | Rc thread | ● | ● | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● | ● | ● |
| G Pressure gauge option (attached) | | Note 9 Page 198 | | | | | |
| Blank | Not attached | ● | ● | ● | ● | ● | ● |
| G45P | G45D-8-P10 (L: G45D-8-P04) | ● | ● | ● | ● | ● | ● |
| G49P | G49D-8-P10 (L: G49D-8-P04) | ● | ● | ● | ● | ● | ● |
| G59P | G59D-8-P10 (L: G59D-8-P04) | ● | | | | | |
| G40P | G40D-8-P10 (L: G40D-8-P04) | ● | ● | ● | ● | ● | ● |
| G50P | G50D-8-P10 (L: G50D-8-P04) | ● | | | | | |
| G41P | G41D-8-P10 (L: G41D-8-P04) | ● | ● | ● | ● | ● | ● |
| G52P | G52D-8-P10 (L: G52D-8-P10) | ● | ● | ● | ● | ● | ● |
| R2 Note 6 | Digital pressure sensor: PPX-R10N-6M | ● | ● | ● | ● | ● | ● |

R.M. Combination

Dimensions

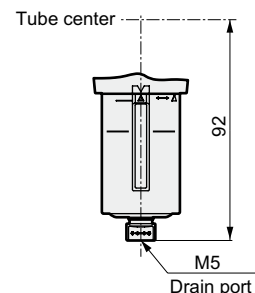


● C1050-W



Drawing of bracket section

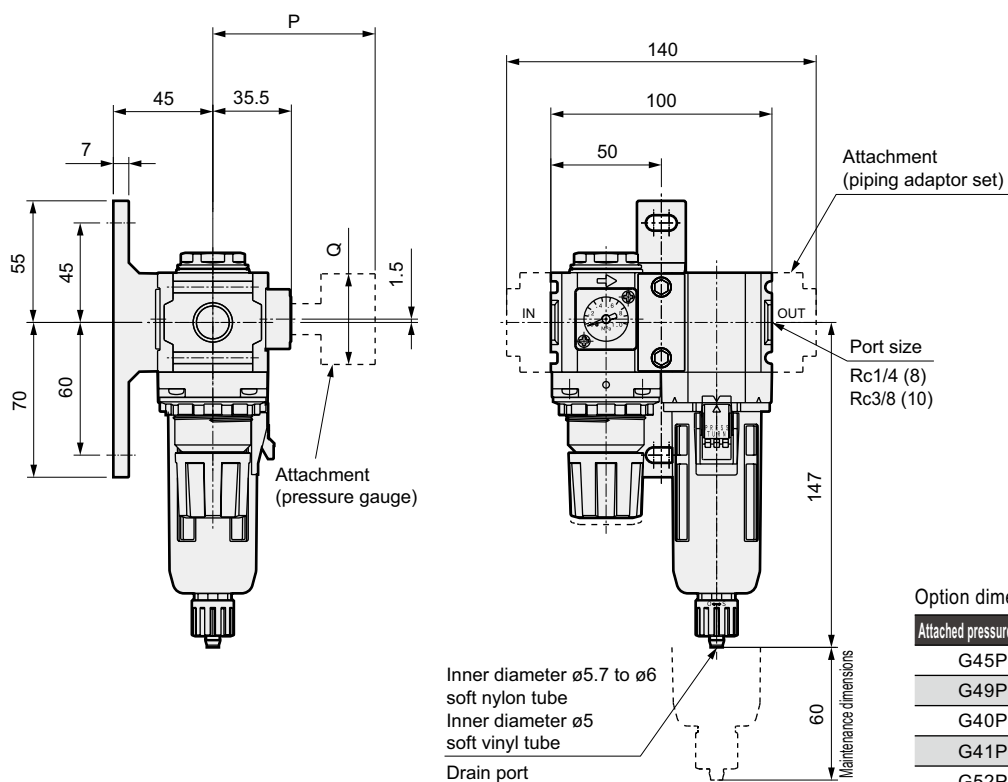
Option dimensions
With automatic drain (F1)



Option dimensions with pressure gauge attached

| Attached pressure gauge | O | P |
|-------------------------|--------|-------|
| 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

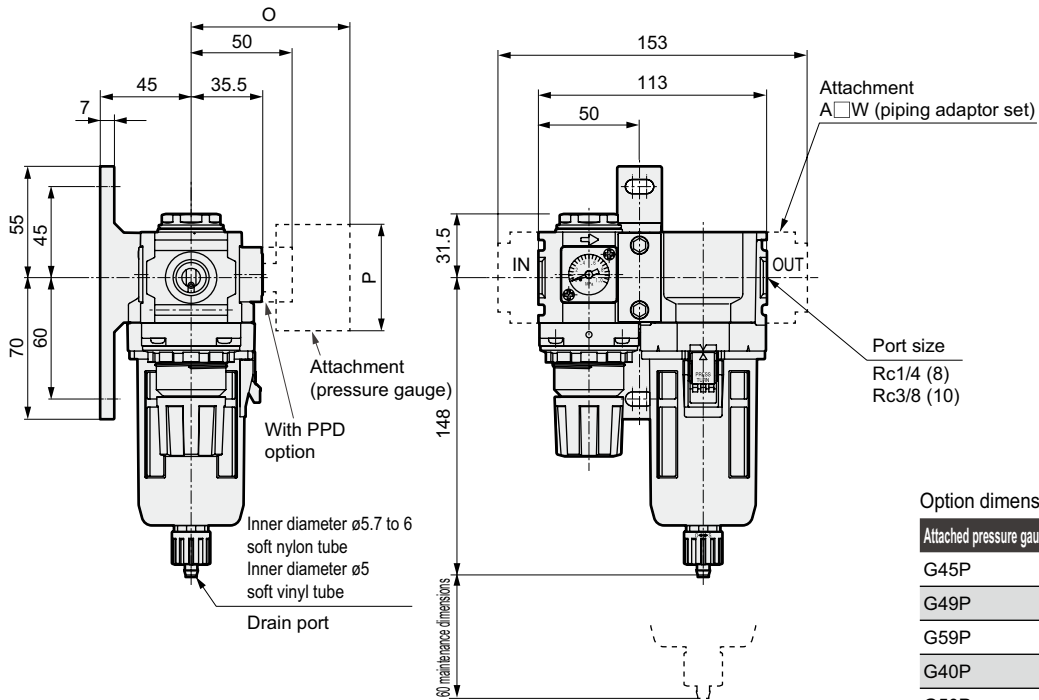


Option dimensions with pressure gauge attached

| Attached pressure gauge | P | 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

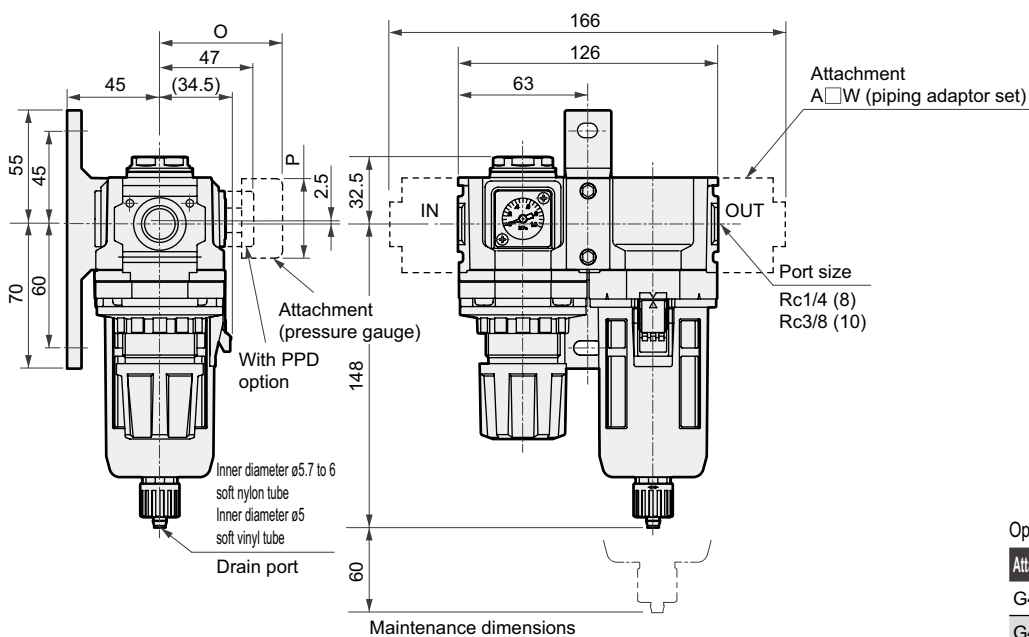
● C2550-W



Option dimensions with pressure gauge attached

| Attached pressure gauge | O | P |
|-------------------------|--------|-------|
| 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 |

● C3050-W



Option dimensions with pressure gauge attached

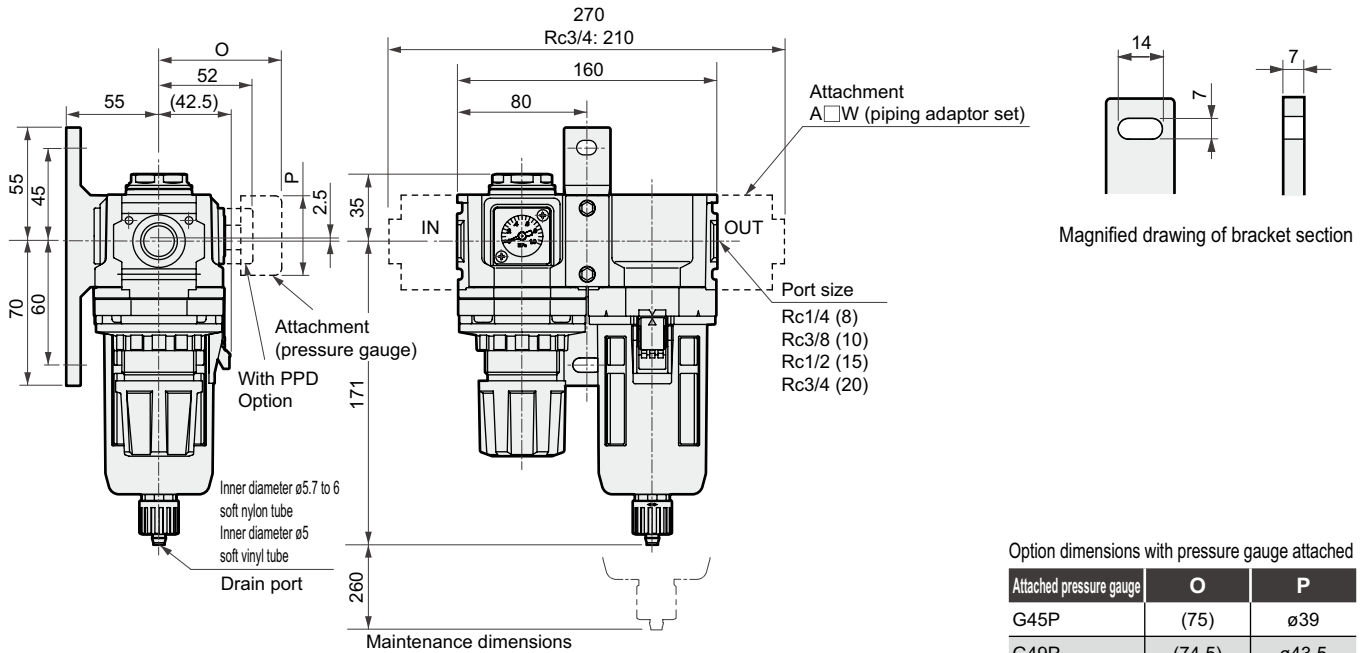
| Attached pressure gauge | O | P |
|-------------------------|--------|-------|
| G45P | (70) | ø39 |
| G49P | (69.5) | ø43.5 |
| G59P | (72) | ø52 |
| G40P | (71.5) | ø42.5 |
| G50P | (71.5) | ø52.5 |
| G41P | (70) | ø42 |
| G52P | (82) | ø52.5 |
| R2 | (69.5) | □30 |

● Refer to page 92 for dimensions of the metal bowl option.

R.M. Combination

Dimensions

● C4050-W

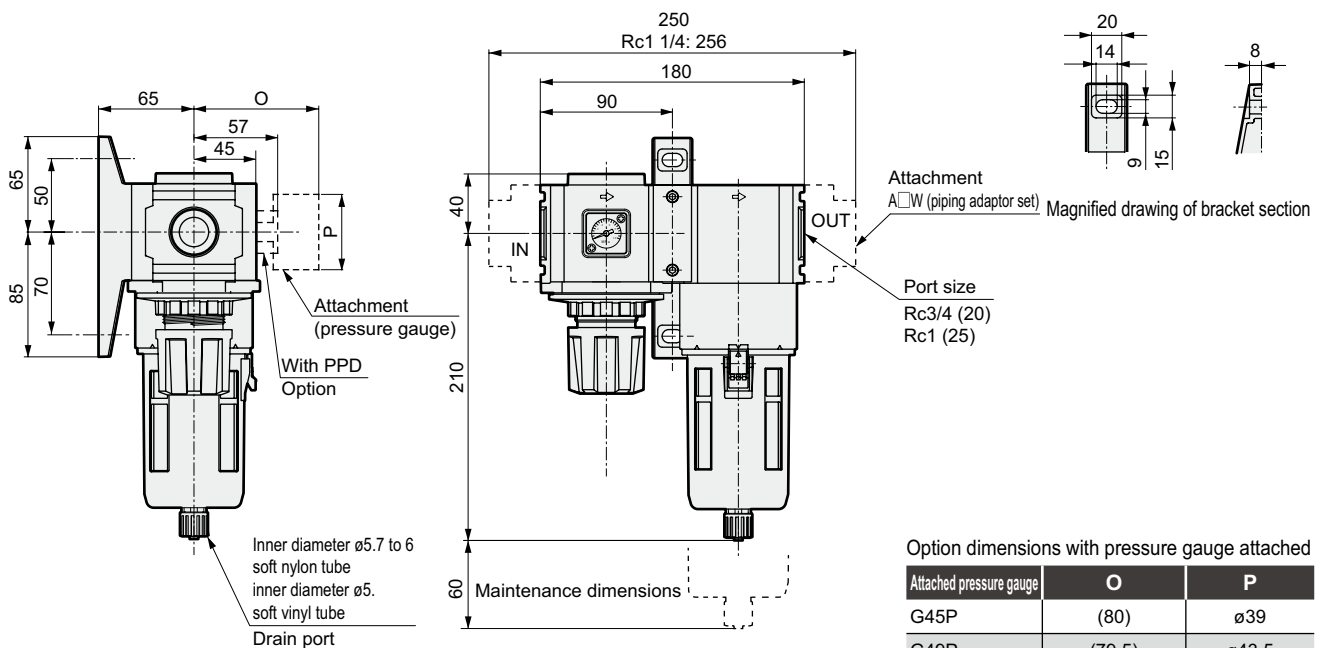


Option dimensions with pressure gauge attached

| Attached pressure gauge | O | P |
|-------------------------|--------|-------|
| 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 92 for dimensions of the metal bowl option.

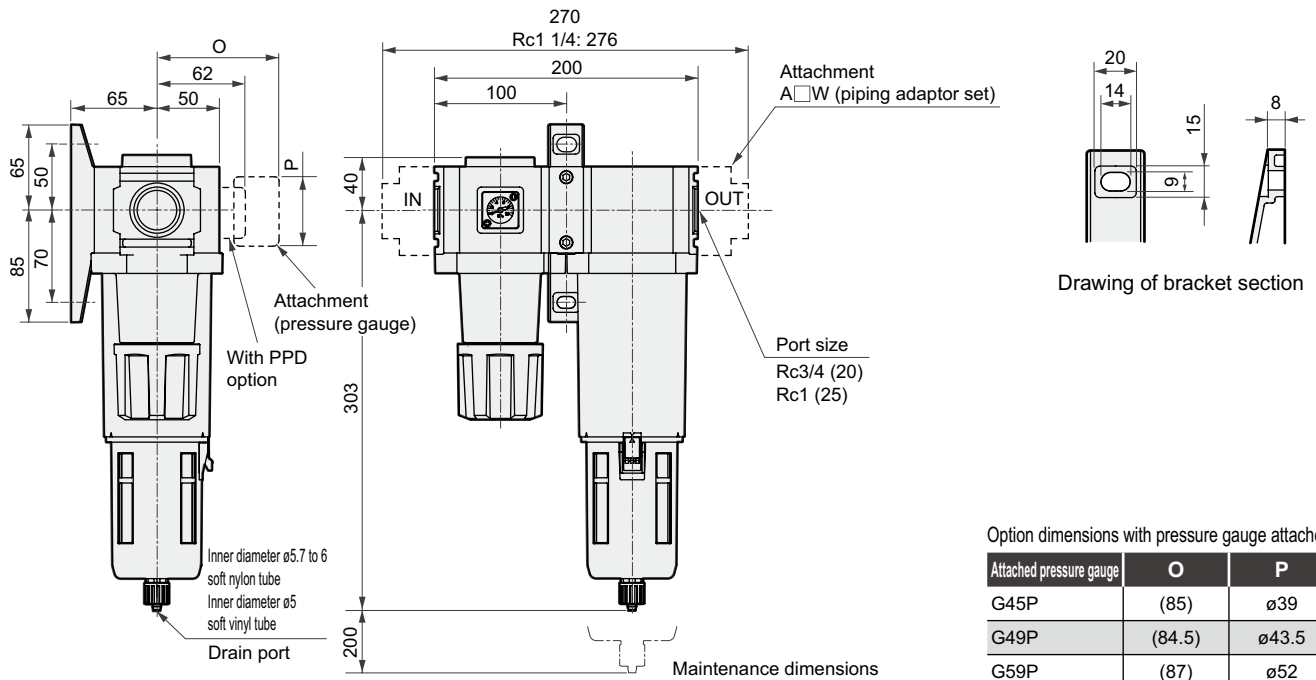
● C6050-W



Option dimensions with pressure gauge attached

| Attached pressure gauge | O | P |
|-------------------------|--------|-------|
| G45P | (80) | ø39 |
| G49P | (79.5) | ø43.5 |
| G59P | (82) | ø52 |
| G40P | (81.5) | ø42.5 |
| G50P | (81.5) | ø52.5 |
| G42P | (80) | ø42 |
| G52P | (93) | ø52.5 |
| R2 | (80) | □30 |

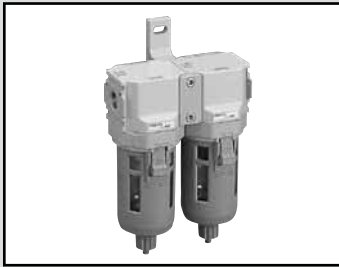
● C8050-W



● Refer to page 102 for dimensions of the metal bowl option.

Option dimensions with pressure gauge attached

| Attached pressure gauge | O | P |
|-------------------------|--------|-------|
| 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 |




F.M. combination standard white series

C1060 / C2060 / C3060 C4060 / C6060 / C8060-W Series

Integrated filter and oil mist filter

Port size: 1/8 to 1

JIS symbol 



Specifications

| Descriptions | | C1060-W | C2060-W | C3060-W | C4060-W | C6060-W | C8060-W |
|--|-----------------|---|---|---|--|---|---|
| Exterior | |  |  |  |  |  |  |
| Components | Filter | F1000-W | F2000-W | F3000-W | F4000-W | F6000-W | F8000-W |
| | Oil mist filter | M1000-W | M2000-W | M3000-W | M4000-W | M6000-W | M8000-W |
| Working fluid | | Compressed air | | | | | |
| Max. working pressure MPa | | 1.0 Note 3, 4, 5 | | | | | |
| Withstanding pressure MPa | | 1.5 Note 3 | | | | | |
| Ambient temperature range °C | | 5 to 60 | | | | | |
| 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) | 3/4, 1 (1 1/4 uses an adaptor) |
| Product weight kg | | 0.22 | 0.58 | 0.62 | 1.06 | 2.02 | 2.68 |
| Secondary oil concentration | | 0.01mg/m ³ or less | | | | | |
| Maximum flow rate (Note 1) m ³ /min | | 0.15 Note 3 | 0.25 | 0.36 | 0.825 | 1.27 | 2.6 |

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

Note 2: Refer to page 95 for details on other oil mist filters.

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, maximum operation pressure is 0.7 MPa and withstanding pressure is 1.05MPa. Refer to the maximum processing flow graph (page 97) for the M1030-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 must be 0.15 MPa or more.

Note 6: When element option "Y" is selected, refer to page 87 for maximum flow. The working flow must be less than the maximum working flow.

How to order

C1060 - **6** - **W** - **Z** - **A6W**

A Model no.

B Port size

C Port thread type

D Option

E Displayed unit

F Piping adaptor set (included)

* Refer page 9 for an explanation of the options.

| A Model no. | | | | | |
|-------------|---|---|---|---|---|
| C | C | C | C | C | C |
| 1 | 2 | 3 | 4 | 6 | 8 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 6 | 6 | 6 | 6 | 6 |
| 0 | 0 | 0 | 0 | 0 | 0 |

| Symbol | Descriptions | | | | | | |
|--|----------------------------|---|---|---|---|---|---|
| B Port size | | Note 2 | | | | | |
| 6 | 1/8 | ● | | | | | |
| 8 | 1/4 | ● | ● | ● | ● | | |
| 10 | 3/8 | | ● | ● | ● | | |
| 15 | 1/2 | | | | ● | | |
| 20 | 3/4 | | | | ● | ● | ● |
| 25 | 1 | | | | | ● | ● |
| C Port thread type | | Note 2 | | | | | |
| Blank | Rc thread | ● | ● | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● | ● | ● |
| D Option | | Note 3 | | | | | |
| Drainage | Blank | With manual drain cock | ● | ● | ● | ● | ● |
| | F | Automatic drain with manual override (NO type: exhausts without pressurization) | | | ● | ● | ● |
| | F1 | Automatic drain with manual override (NC type: no exhaust without pressurization) | ● | ● | ● | ● | ● |
| | FF | Large exhaust automatic drain with manual override (NO type: exhausts without pressurization) | | | | | ● |
| | FF1 | Large exhaust automatic drain with manual override (NO type: no exhaust without pressurization) | | | | | ● |
| Bowl material | Blank | Polycarbonate bowl | ● | ● | ● | ● | ● |
| | Z | Nylon bowl | ● | ● | ● | ● | ● |
| | M | Metal bowl | | | ● | ● | ● |
| | M1 | Metal bowl with manual drain cock | | ● | ● | ● | ● |
| Element | Blank | 5µm | ● | ● | ● | ● | ● |
| | Y | 0.3µm (submicron) Note 6 | | | ● | ● | ● |
| Differential pressure detection | Blank | Without differential pressure detection port | ● | ● | ● | ● | ● |
| | Q | With differential pressure detection port (Rc1/4) | | | | | ● |
| Flow Direction | Blank | Standard flow (left to right) | ● | ● | ● | ● | ● |
| | X1 | Reverse flow (right to left) | ● | ● | ● | ● | ● |
| E Displayed unit | | Note 7 | | | | | |
| Blank | MPa display, Rc thread | ● | ● | ● | ● | ● | ● |
| J1 | MPa display, NPT, G thread | ● | ● | ● | ● | ● | ● |
| F Piping adaptor set (included) | | Pages 155 to 157 Note 7 | | | | | |
| Blank | Not attached | ● | ● | ● | ● | ● | ● |
| A6*W | 1/8 piping adaptor set | ● | | | | | |
| A8*W | 1/4 piping adaptor set | ● | ● | ● | ● | | |
| A10*W | 3/8 piping adaptor set | ● | ● | ● | ● | | |
| A15*W | 1/2 piping adaptor set | | ● | ● | ● | | |
| A20*W | 3/4 piping adaptor set | | | | | ● | ● |
| A25*W | 1 piping adaptor set | | | | | ● | ● |
| A32*W | 1 1/4 piping adaptor set | | | | | ● | ● |
| * Adaptor thread type | | | | | | | |
| Blank | Rc thread | ● | ● | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● | ● | ● |

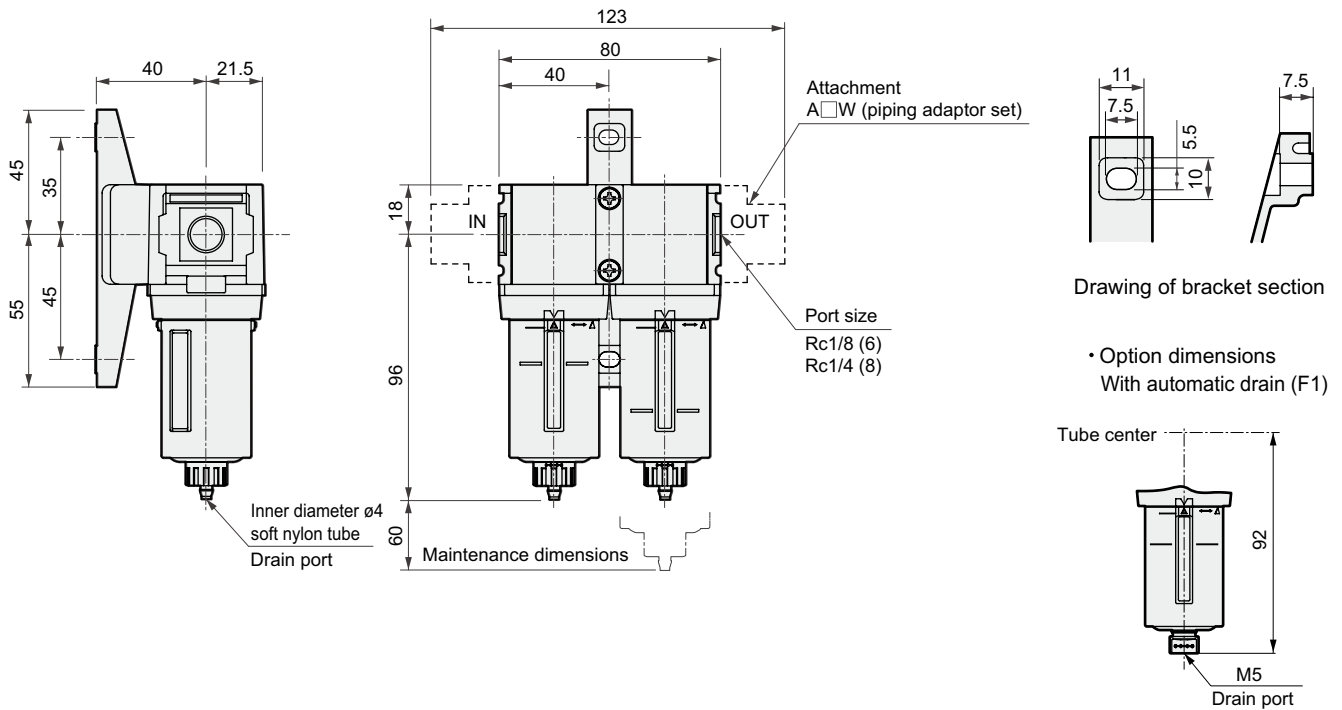
⚠ Cautions for model No. selection

- Note 1: Piping adaptor A400-20*-W is assembled on both ends of C4060-20*-W. Piping adaptor set "A20*W" does not need to be specified.
- Note 2: When G threads or NPT threads are selected, the IN, OUT, gauge port, and drainage discharge port (metal bowl automatic drain) are the target, as are attachments P and V.
- Note 3: Select the option from drain exhaust, bowl material and differential pressure detection. When selecting options for several items, list options in order from the top.
- Note 4: Refer to page 12 for working conditions of the automatic drain.
- 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 automatic drain. When option symbol "F1" both air filter and oil mist filter will have an NC type automatic drain. "FF" and "FF1" has a large drain type oil mist filter but the automatic drain is same as the NC type.
- Note 6: Refer to page 87 for max. flow rate of option "Y".
- Note 7: A joiner set is attached with the piping adapter set.

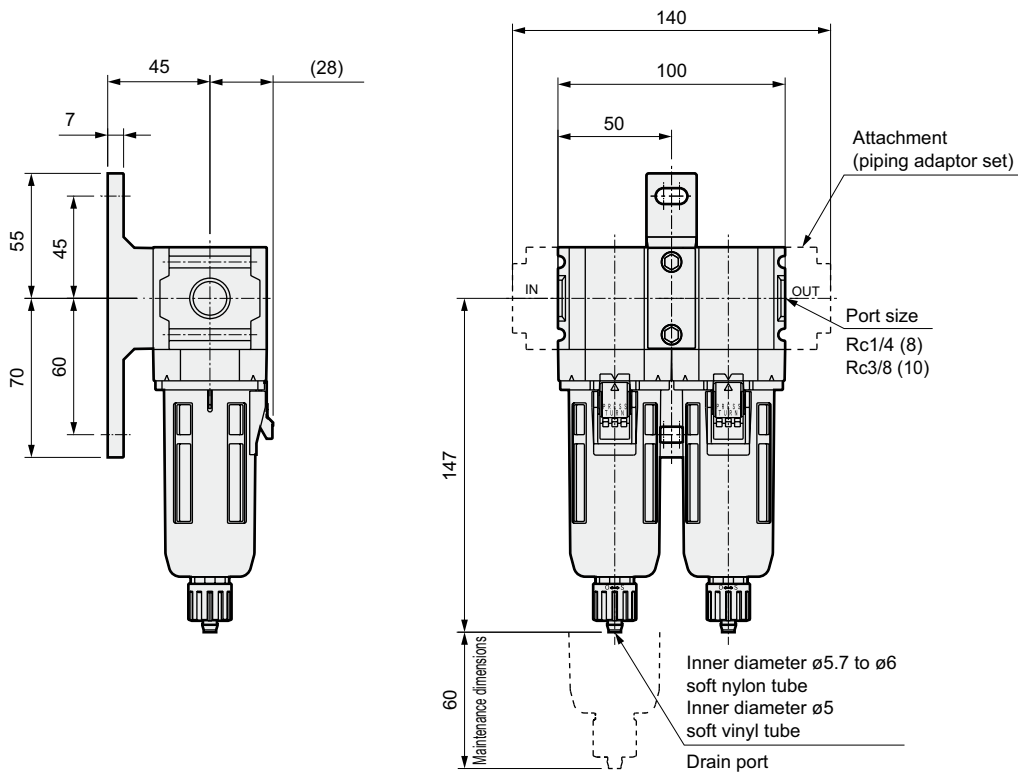
F.M. Combination

Dimensions 

● C1060-W

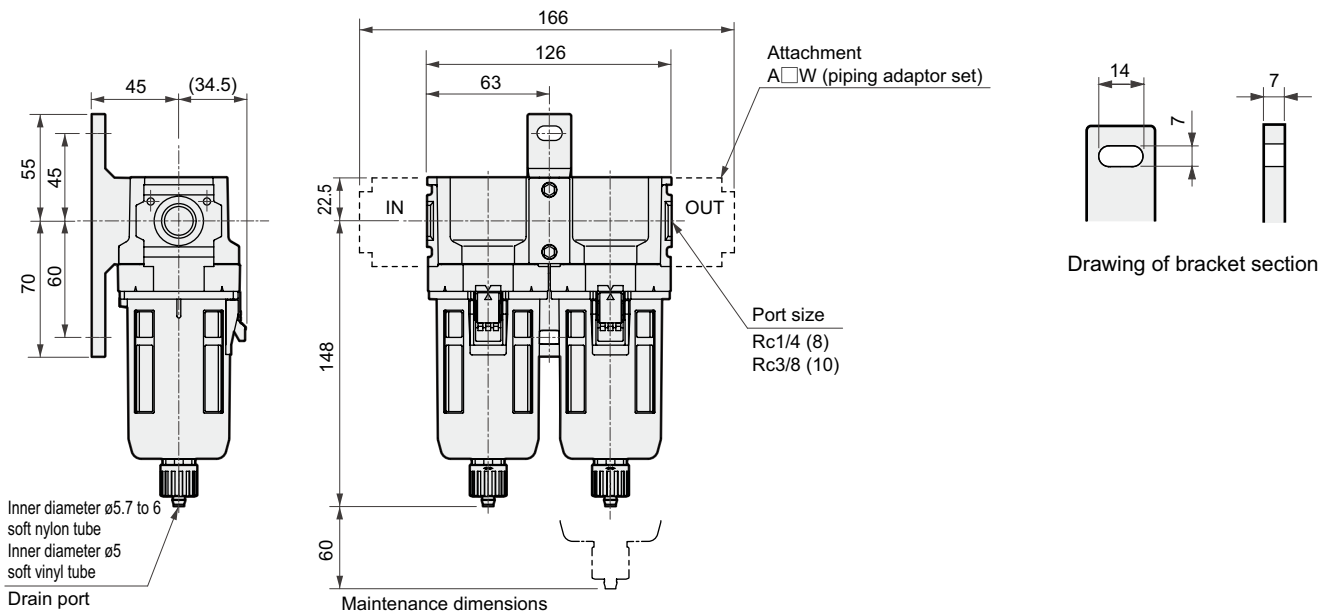


● C2060-W



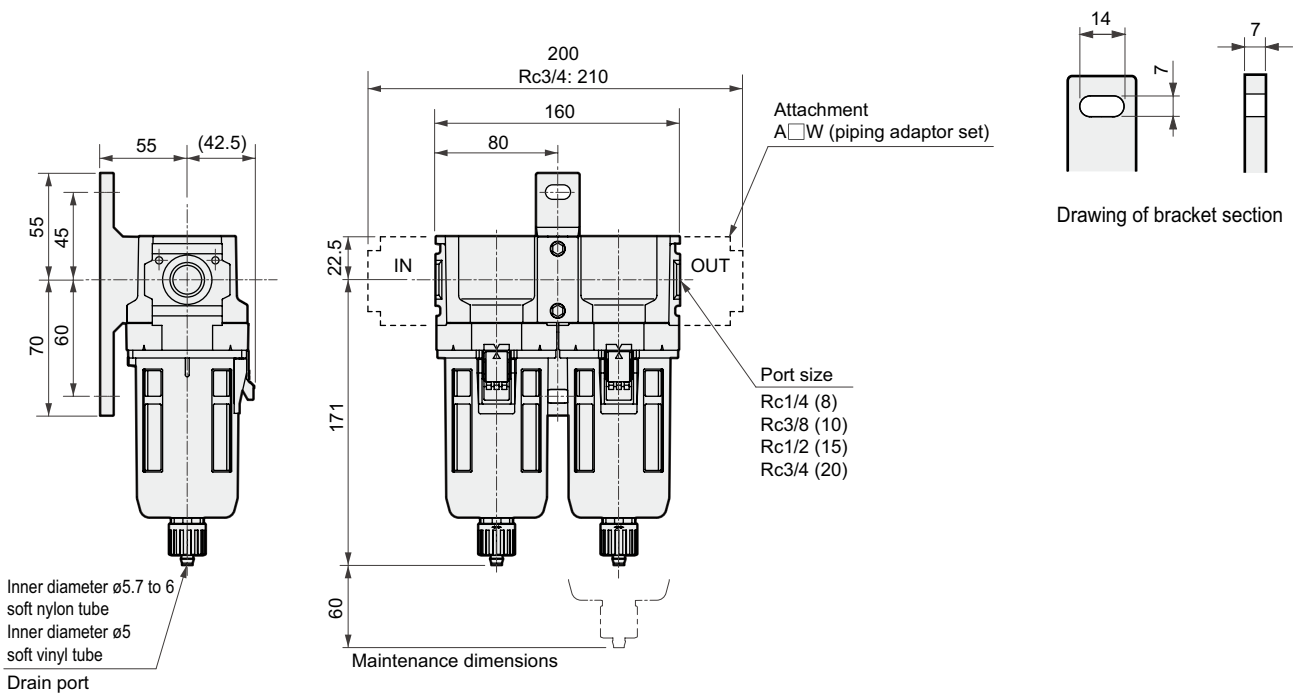
Dimensions

● C3060-W



● Refer to page 92 for the dimensions of the metal bowl option filter and page 102 for the oil mist filter.

● C4060-W

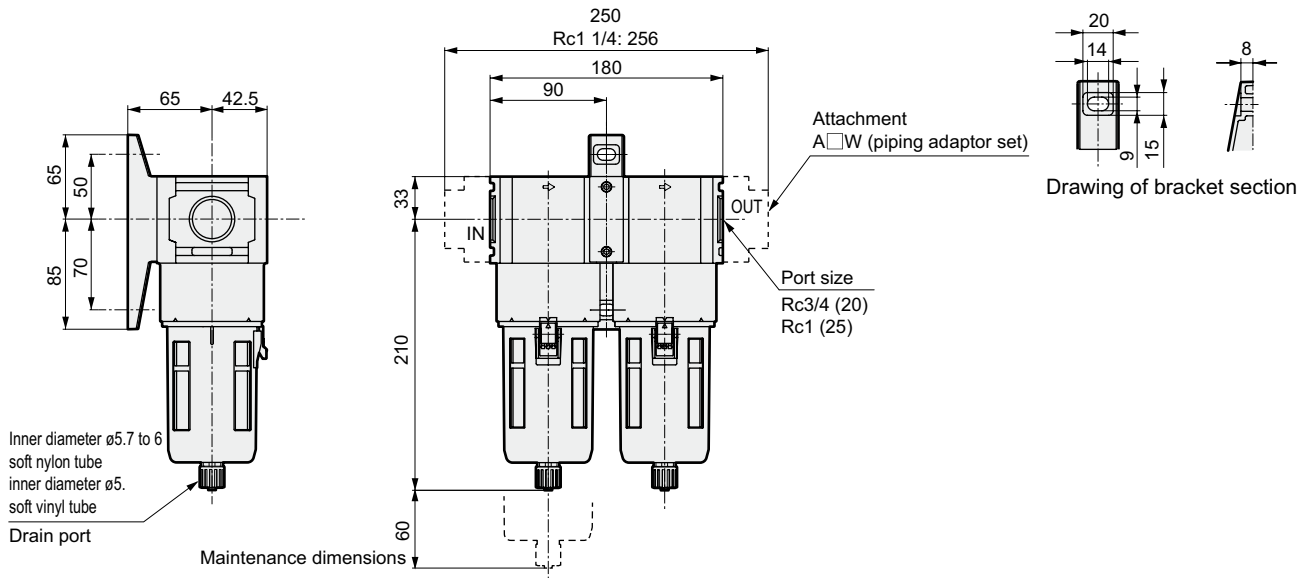


● Refer to page 92 for the dimensions of the metal bowl option filter and page 102 for the oil mist filter.

F.M. Combination

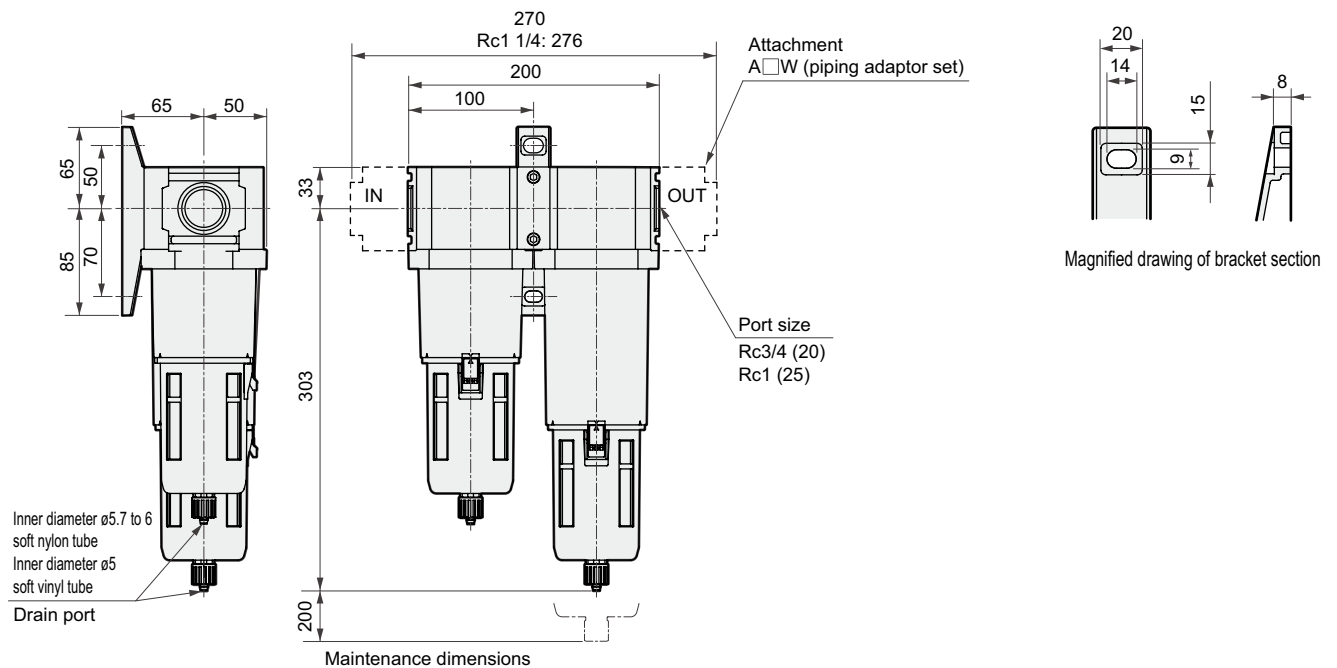
Dimensions

● C6060-W



● Refer to page 92 for the dimensions of the metal bowl option filter and page 102 for the oil mist filter.

● C8060-W



● Refer to page 92 for the dimensions of the metal bowl option filter and page 102 for the oil mist filter.

MEMO




F.F.M. combination standard white series

C3070/C4070/C6070/C8070-W Series



Integrated filter (5 μm), filter (0.3 μm), and oil mist filter

Port size: 1/4 to 1

JIS symbol 



Specifications

| Descriptions | | C3070-W | C4070-W | C6070-W | C8070-W |
|--|-----------------|---|---|--|---|
| Exterior | |  |  |  |  |
| | Filter (5μm) | F3000-W | F4000-W | F6000-W | F8000-W |
| | Filter (0.3μm) | F3000-W | F4000-W | F6000-W | F8000-W |
| Components | Oil mist filter | M3000-W | M4000-W | M6000-W | M8000-W |
| Working fluid | | Compressed air | | | |
| Max. working pressure MPa | | 1.0 Note 3, 4 | | | |
| Withstanding pressure MPa | | 1.5 | | | |
| Ambient temperature range °C | | 5 to 60 | | | |
| Port size Rc, PT, | | 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 weight kg | | 0.96 | 1.61 | 3.09 | 4.01 |
| Secondary oil concentration | | 0.01mg/m ³ or less | | | |
| Maximum flow rate (Note 1) m ³ /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: Refer to page 95 for details on other oil mist filters.

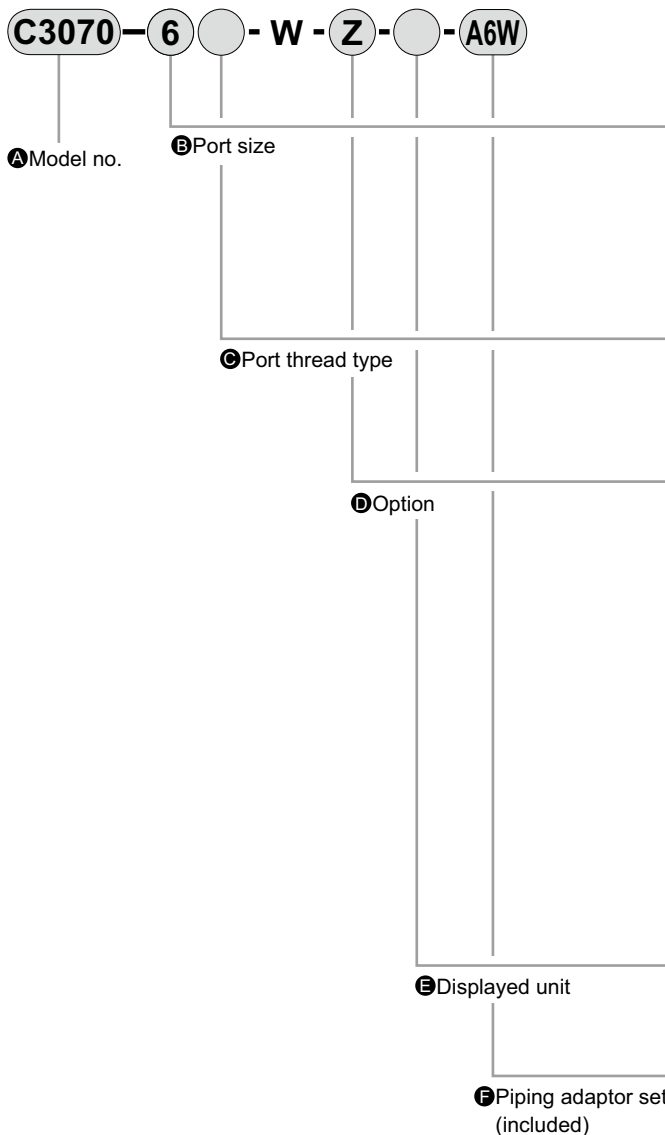
Note 3: When "F" with an automatic drain is selected, the supply air pressure is 0.15 MPa or more. Air is purged with initial drainage until pressure reaches 0.1 MPa.

Note 4: When "F1" with an automatic drain is selected, the supply air pressure must be 0.15 MPa or more.

F.F.M. Combination

How to order

How to order



* Refer page 9 for an explanation of the options.

| A Model no. | | | |
|-------------|---|---|---|
| C | C | C | C |
| 3 | 4 | 6 | 8 |
| 0 | 0 | 0 | 0 |
| 7 | 7 | 7 | 7 |
| 0 | 0 | 0 | 0 |

| Symbol | Descriptions | | | | | |
|---|----------------------------|--|---|---|---|---|
| B Port size | | | | | | |
| 8 | 1/4 | ● | ● | | | |
| 10 | 3/8 | ● | ● | | | |
| 15 | 1/2 | | ● | | | |
| 20 | 3/4 | | ● | ● | ● | |
| 25 | 1 | | | ● | ● | |
| C Port thread type Note 1 | | | | | | |
| Blank | Rc thread | ● | ● | ● | ● | |
| N | NPT thread | ● | ● | ● | ● | |
| G | G thread | ● | ● | ● | ● | |
| D Option Note 2 | | | | | | |
| Drainage <small>Note 3, Note 4</small> | Blank | With manual drain cock | ● | ● | ● | ● |
| | F | Automatic drain with manual override (NO type) | ● | ● | ● | ● |
| | F1 | Automatic drain with manual override (NC type) | ● | ● | ● | ● |
| | FF | Large exhaust automatic drain with manual override (NO type) | | | | ● |
| | FF1 | Large exhaust automatic drain with manual override (NO type) | | | | ● |
| Bowl material | Blank | Polycarbonate bowl | ● | ● | ● | ● |
| | Z | Nylon bowl | ● | ● | ● | ● |
| | M | Metal bowl | ● | ● | ● | ● |
| | M1 | Metal bowl with manual drain cock | ● | ● | ● | ● |
| Differential pressure detection | Blank | Without differential pressure detection port | ● | ● | ● | ● |
| | Q | With differential pressure detection port (Rc1/4) | | | ● | ● |
| Flow Direction | Blank | Standard flow (left to right) | ● | ● | ● | ● |
| | X1 | Reverse flow (right to left) | ● | ● | ● | ● |
| E Displayed unit | | | | | | |
| Blank | MPa display, Rc thread | ● | ● | ● | ● | |
| J1 | MPa display, NPT, G thread | ● | ● | ● | ● | |
| F Piping adaptor set (included) Pages 155 to 157 Note 6 | | | | | | |
| Blank | Not attached | ● | ● | ● | ● | |
| A8*W | 1/4 piping adaptor set | ● | ● | | | |
| A10*W | 3/8 piping adaptor set | ● | ● | | | |
| A15*W | 1/2 piping adaptor set | ● | ● | | | |
| A20*W | 3/4 piping adaptor set | | ● | ● | ● | |
| A25*W | 1 piping adaptor set | | | ● | ● | |
| A32*W | 1 1/4 piping adaptor set | | | ● | ● | |
| * Adaptor thread type | | | | | | |
| Blank | Rc thread | ● | ● | ● | ● | |
| N | NPT thread | ● | ● | ● | ● | |
| G | G thread | ● | ● | ● | ● | |

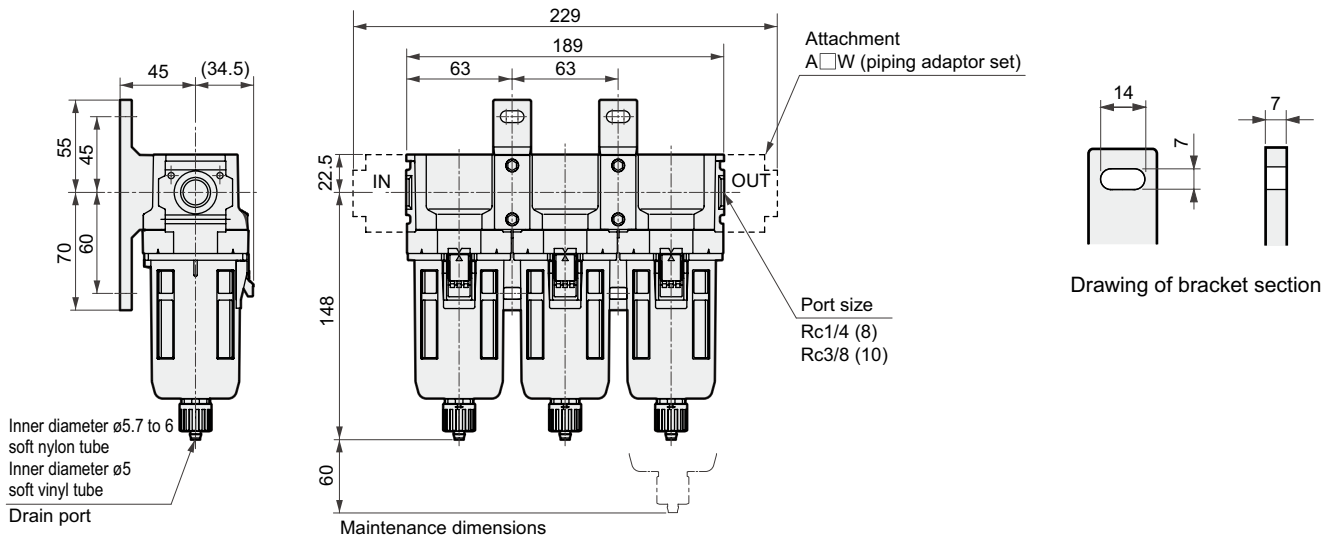
⚠ Cautions for model No. selection

- Note 1: When G threads or NPT threads are selected, the IN, OUT, gauge port, and drainage discharge port (metal bowl automatic drain) are the target, as are attachments P and V.
- Note 2: Select the option from drain exhaust, bowl material and differential pressure detection. When selecting options for several items, list options in order from the top.
- Note 3: Refer to page 12 for working conditions of the automatic drain.
- Note 4: 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 automatic drain. When option symbol "F1" both air filter and oil mist filter will have an NC type automatic drain. "FF" and "FF1" has a large drain type oil mist filter but the automatic drain is same as the NC type.
- Note 5: Piping adaptor A400-20*-W is assembled on both ends of C4070-20*-W. Piping adaptor set "A20*W" does not need to be specified.
- Note 6: A joiner set is attached with the piping adaptor set.

F.F.M. Combination

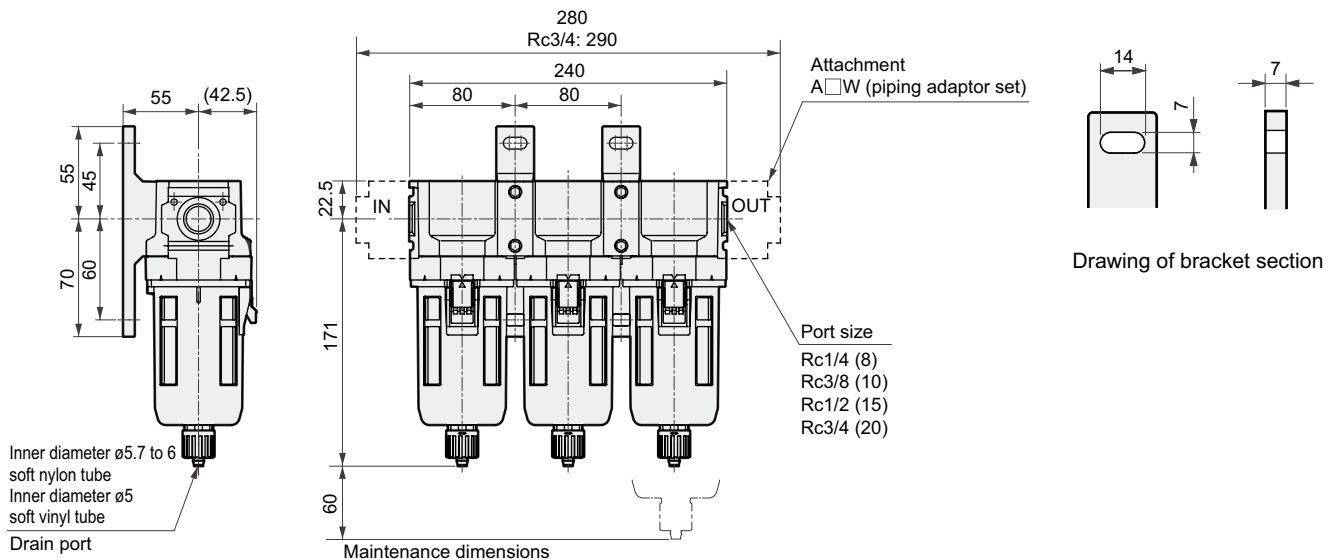
Dimensions

● C3070-W



● Refer to page 92 for the dimensions of the metal bowl option filter and page 102 for the oil mist filter.

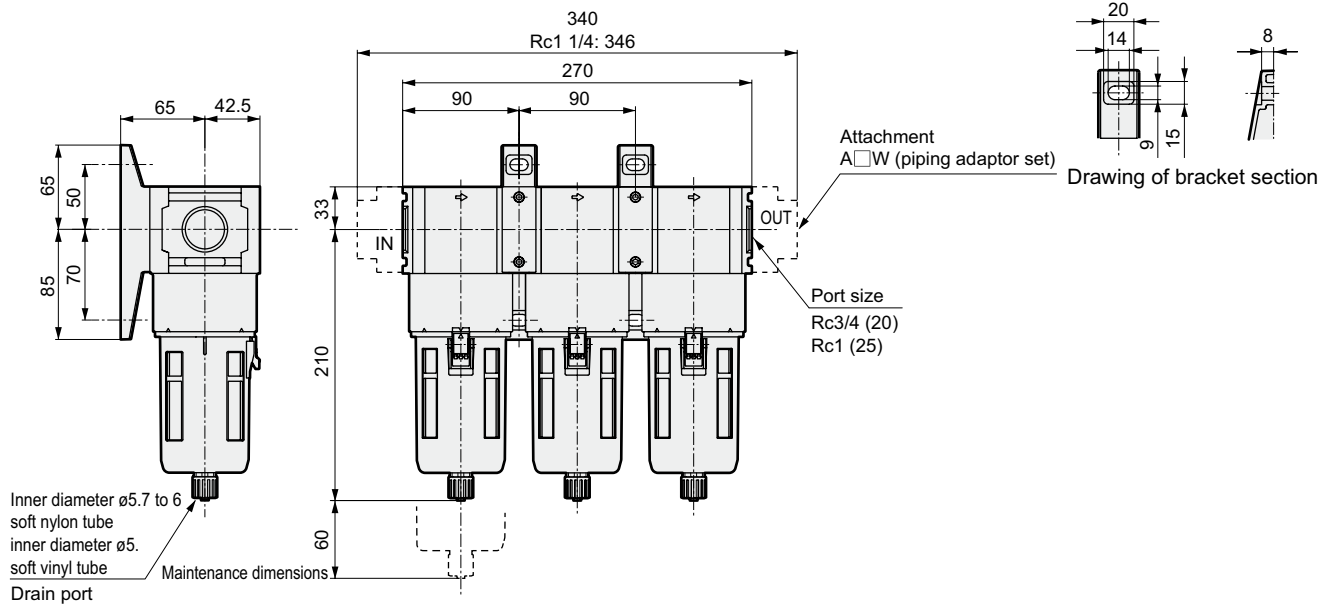
● C4070-W



● Refer to page 92 for the dimensions of the metal bowl option filter and page 102 for the oil mist filter.

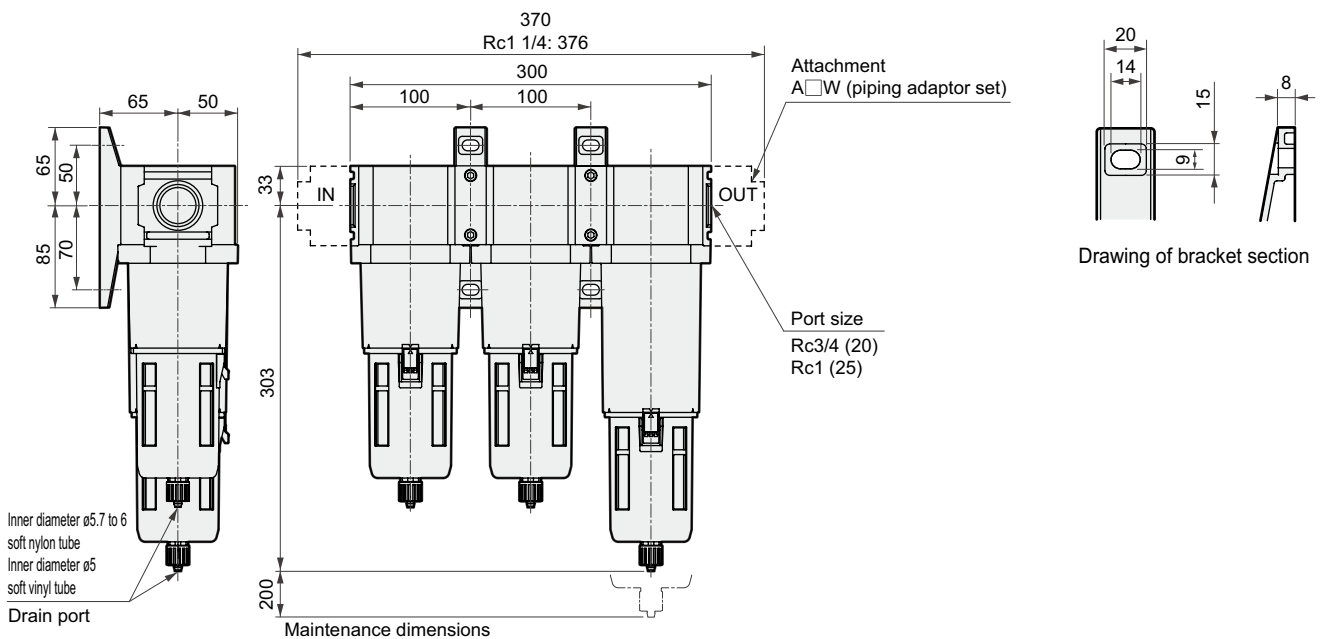
Dimensions

● C6070-W



● Refer to page 92 for the dimensions of the metal bowl option filter and page 102 for the oil mist filter.

● C8070-W



● Refer to page 92 for the dimensions of the metal bowl option filter and page 102 for the oil mist filter.



Filter · regulator Standard white series

W1000/W2000/W3000/W4000/W8000-W Series

Introducing the 5 µm dust removing element and 0.3 µm tar removing element to the lineup
Port size: 1/8 to 1

JIS symbol



Specifications

| Descriptions | W1000-W | W2000-W | W3000-W | W4000-W | W8000-W |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|-------------------------------------|--------------------------------|
| Exterior | | | | | |
| Working fluid | Compressed air | | | | |
| Max. working pressure MPa | 1.0 Note 2, 3, 4 | | | | |
| Withstanding pressure MPa | 1.5 Note 2 | | | | |
| Ambient temperature range °C | 5 to 60 Note 5 | | | | |
| Filtration rating µm | 5 | | 5 or 0.3 | | |
| Set pressure range MPa | 0.05 to 0.85 Note 2 | 0.05 to 0.85 | | | |
| Relief | With relief mechanism | | | | |
| Drain capacity cm ³ | 12 | 25 | 45 | 80 | 80 Note 1 |
| Port size Rc, PT, | 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 | 0.4 | 0.6 | 0.9 | 2 |
| Standard accessories | Pressure gauge, bowl guard | | | | |

Note 1: Drainage accumulates up to 170 cm³ only with the manual drain cock.

Note 2: When "F1" with an automatic drain is selected for the W1000-W series, minimum operating pressure is 0.2 MPa, maximum operation pressure is 0.7 MPa and the guaranteed pressure resistance is 1.05 MPa. Refer to the maximum processing flow table (page 85) 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: The automatic drain's minimum operating pressure for "F" with an automatic drain is 0.1 MPa. Initially generated drainage and air are purged until pressure reaches 0.1 MPa.

Note 4: The automatic drain's minimum operating pressure for "F1" with an automatic drain is 0.15 MPa.

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

Note 6: W2000-W Series with an automatic drain "F1" must be used below maximum flow rate. (Refer to page 85 F2000-W for weight.)

Ozone specifications

(Page 185)

W*000 - - W - - **P11**

Clean specification

(Catalog No. CB-033SA)

● Dust generation preventing structure for use in cleanrooms

W*000 - - **P7***

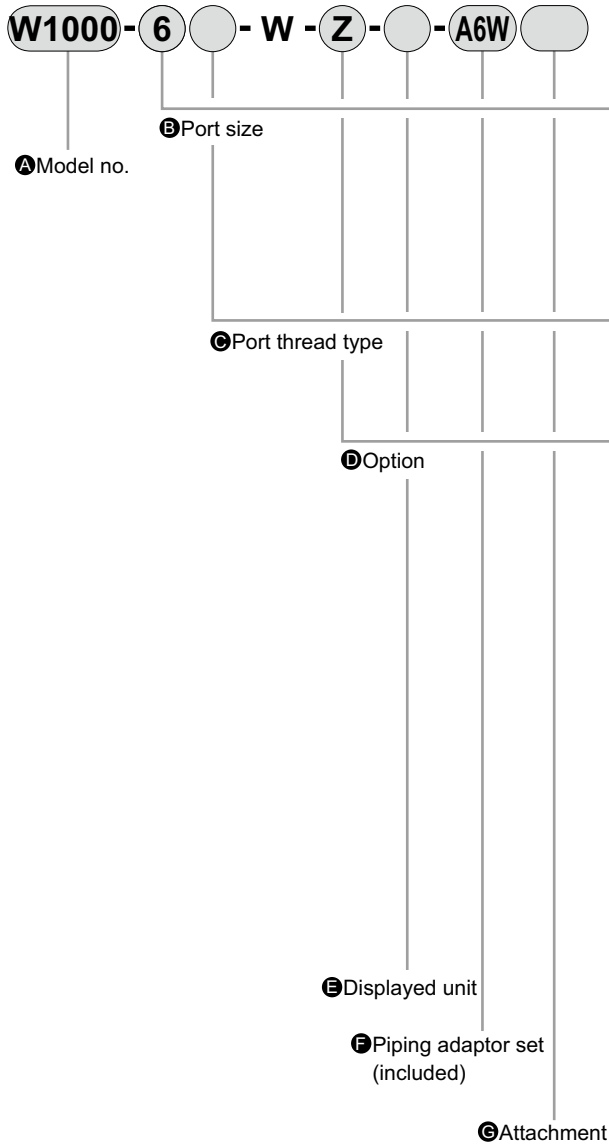
Specification for LiB production

(Catalog No. CC-947A)

● Specification for LiB manufacturing process

W*000 - - **P4***

How to order



* Refer page 9 for an explanation of the options.

| A Model no. | | | | |
|-------------|---|---|---|---|
| W | W | W | W | W |
| 1 | 2 | 3 | 4 | 8 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |

| Symbol | Descriptions | | | | | |
|--------------------|--------------|---|---|---|---|---|
| B Port size | | | | | | |
| 6 | 1/8 | ● | | | | |
| 8 | 1/4 | ● | ● | ● | ● | |
| 10 | 3/8 | | ● | ● | ● | |
| 15 | 1/2 | | | | ● | |
| 20 | 3/4 | | | | | ● |
| 25 | 1 | | | | | ● |

| C Port thread type | | Note 1 | | | | |
|---------------------------|------------|--------|---|---|---|---|
| Blank | Rc thread | ● | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● | ● |

| D Option | | Note 2 | | | | |
|-----------------|-------|---|---|---|---|---|
| Drainage | Blank | With manual drain cock | ● | ● | ● | ● |
| | F | Automatic drain with manual override (NO type) | | | ● | ● |
| | F1 | Automatic drain with manual override (NC type) | ● | ● | ● | ● |
| | FF | Large exhaust automatic drain with manual override (NO type) | | | | ● |
| Note 3 | FF1 | Large exhaust automatic drain with manual override (NO type) | | | | ● |
| | Blank | Polycarbonate bowl | ● | ● | ● | ● |
| Bowl material | Z | Nylon bowl | ● | ● | ● | ● |
| | M | Metal bowl | | | ● | ● |
| | M1 | Metal bowl with manual drain cock | | | ● | ● |
| Element | Blank | 5µm | ● | ● | ● | ● |
| | Y | 0.3µm (submicron) | | | ● | ● |
| Pressure Range | Blank | 0.05 to 0.85MPa | ● | ● | ● | ● |
| | L | 0.05 to 0.35MPa | | | ● | ● |
| Relief | Blank | With relief mechanism | ● | ● | ● | ● |
| | N | Non-relief type | ● | ● | ● | ● |
| Pressure gauge | Blank | Standard pressure gauge (G401-W) | ● | ● | ● | ● |
| | T | Without pressure gauge (gauge port (Rc1/4) assembled sealed) | ● | ● | ● | ● |
| | T8 | Pressure gauge attachable (gauge port (Rc1/4) assembled open) | ● | ● | ● | ● |
| | T6 | Compatibility with digital pressure sensor PPX | ● | ● | ● | ● |
| | R1 | Pressure switch with display PPD assembled | ● | | ● | ● |
| Flow Direction | Blank | Standard flow (left to right) | ● | ● | ● | ● |
| | X1 | Reverse flow (right to left) | ● | ● | ● | ● |

| E Displayed unit | | Note 4 | | | | |
|-------------------------|----------------------------|--------|---|---|---|---|
| Blank | MPa display, Rc thread | ● | ● | ● | ● | ● |
| J1 | MPa display, NPT, G thread | ● | ● | ● | ● | ● |

| F Piping adaptor set (included) | | Note 5 | | | | |
|--|--------------------------|--------|---|---|---|---|
| Blank | Not attached | ● | ● | ● | ● | ● |
| A6*W | 1/8 piping adaptor set | ● | | | | |
| A8*W | 1/4 piping adaptor set | ● | ● | ● | ● | |
| A10*W | 3/8 piping adaptor set | ● | ● | ● | ● | |
| A15*W | 1/2 piping adaptor set | | ● | ● | ● | |
| A20*W | 3/4 piping adaptor set | | | | ● | ● |
| A25*W | 1 piping adaptor set | | | | | ● |
| A32*W | 1 1/4 piping adaptor set | | | | | ● |

| * Adaptor thread type | | Note 6 | | | | |
|------------------------------|------------|--------|---|---|---|---|
| Blank | Rc thread | ● | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● | ● |

| G Attachment | | Note 7 | | | | |
|---------------------|--------------------------------------|--------|---|---|---|---|
| Blank | Not attached | ● | ● | ● | ● | ● |
| BW | C type bracket | ● | ● | ● | ● | ● |
| B3W | L type bracket | ● | ● | ● | ● | ● |
| G45P | G45D-8-P10 (L: G45D-8-P04) | ● | ● | ● | ● | ● |
| G49P | G49D-8-P10 (L: G49D-8-P04) | ● | ● | ● | ● | ● |
| G59P | G59D-8-P10 (L: G59D-8-P04) | ● | ● | ● | ● | ● |
| G40P | G40D-8-P10 (L: G40D-8-P04) | ● | ● | ● | ● | ● |
| G50P | G50D-8-P10 (L: G50D-8-P04) | ● | ● | ● | ● | ● |
| G41P | G41D-8-P10 (L: G41D-8-P04) | ● | ● | ● | ● | ● |
| G52P | G52D-8-P10 (L: G52D-8-P10) | ● | ● | ● | ● | ● |
| R2 | Digital pressure sensor: PPX-R10N-6M | ● | ● | ● | ● | ● |

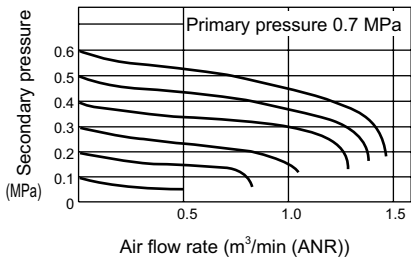
⚠ Cautions for model No. selection

- Note 1: G threads and NPT threads are available for IN, OUT, gauge port and drain discharge port (metal bowl with automatic drain).
- Note 2: Select options per drainage, bowl material, element, and regulator sections.
When selecting options for several items, list options in order from the top.
- Note 3: Refer to page 12 for working conditions of the automatic drain.
- Note 4: Refer to page 87 for max. flow rate of option "Y".
- Note 5: Pressure gauge display range will be 0 to 0.4 MPa for option "L".
- Note 6: When option "T6" is selected, only "blank" or "R2" is selected for the (G) pressure gauge (enclosed). The digital pressure sensor PPX mounting port (Rc1/8) is assembled ventilated.
- Note 7: Out put type will be NPN transistor output. Consult with CKD if PNP transistor output is required.
- Note 8: Piping adapter set and C bracket cannot be used together.
- Note 9: A joiner set is attached with the piping adapter set.
- Note 10: If NPT is selected for the "C" piping thread type, a NPT pressure gauge is enclosed. If Rc or G thread is selected, an R thread pressure gauge is required.
- Note 11: Refer to Section (2. Regulator), in "⚠ PRECAUTIONS For Installation and Adjustment" (page 15) for details on mounting the L-type bracket.

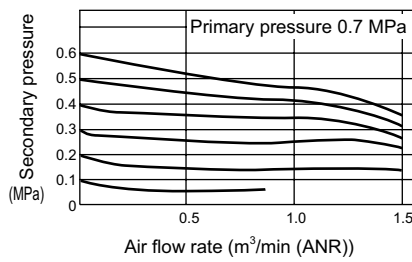
Filter·Regulator Series

Flow characteristics

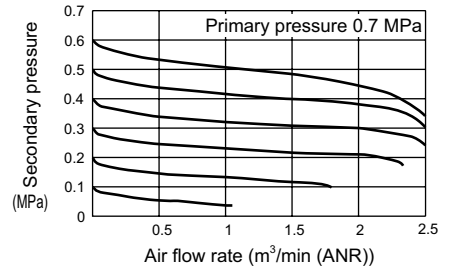
● W1000-6-W



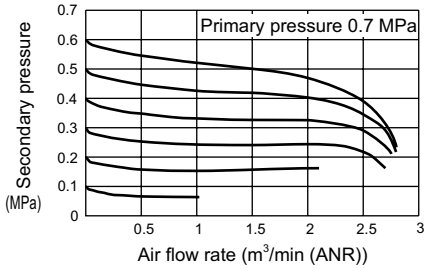
● W1000-8-W



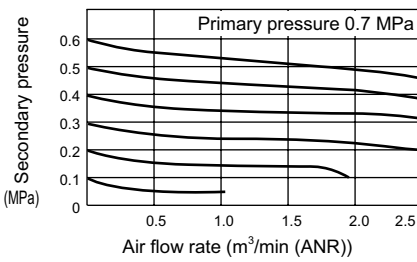
● W2000-8-W



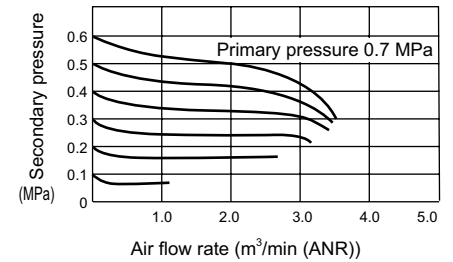
● W2000-10-W



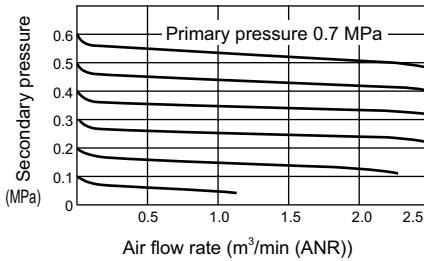
● W3000-8-W



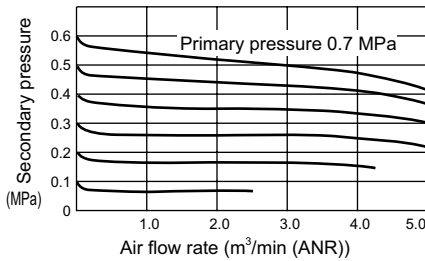
● W3000-10-W



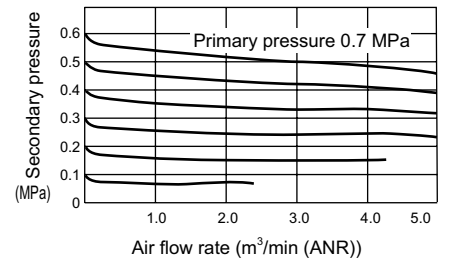
● W4000-8-W



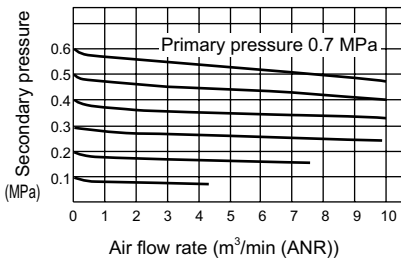
● W4000-10-W



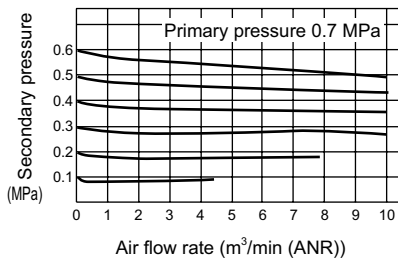
● W4000-15-W



● W8000-20-W

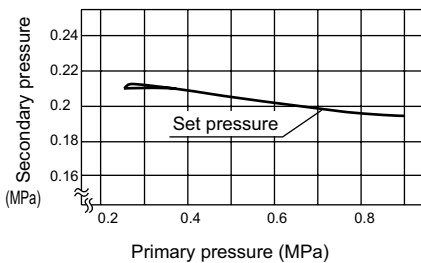


● W8000-25-W

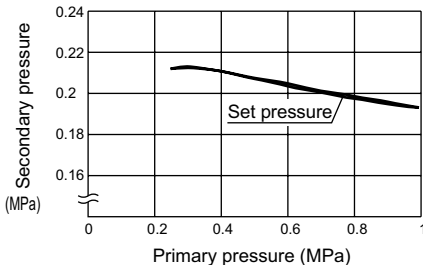


Pressure characteristics

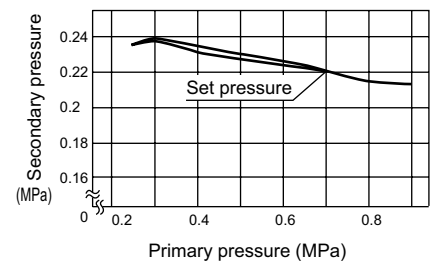
● W1000-W



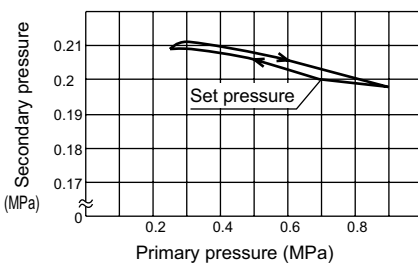
● W2000-W



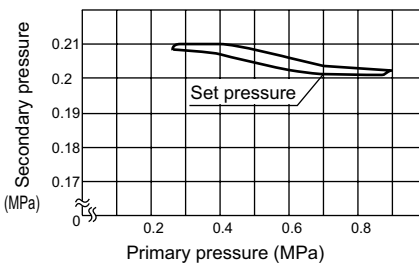
● W3000-W



● W4000-W



● W8000-W

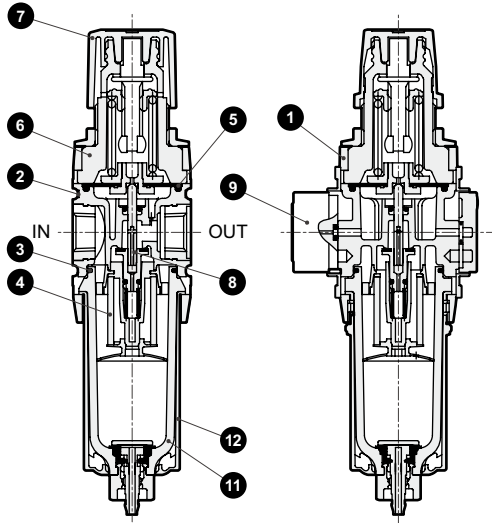


Filter·Regulator Series

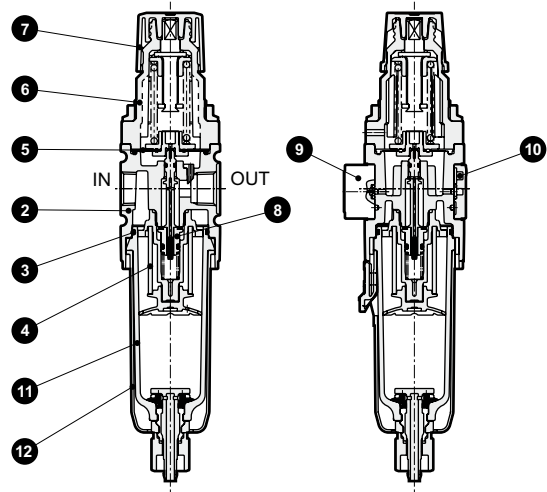
Internal structure and parts list

Internal structure and parts list

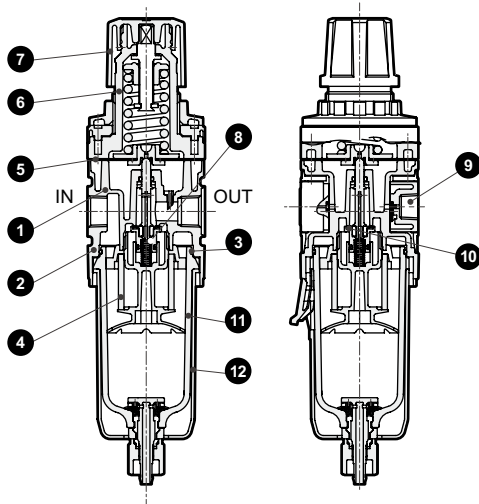
● W1000-W



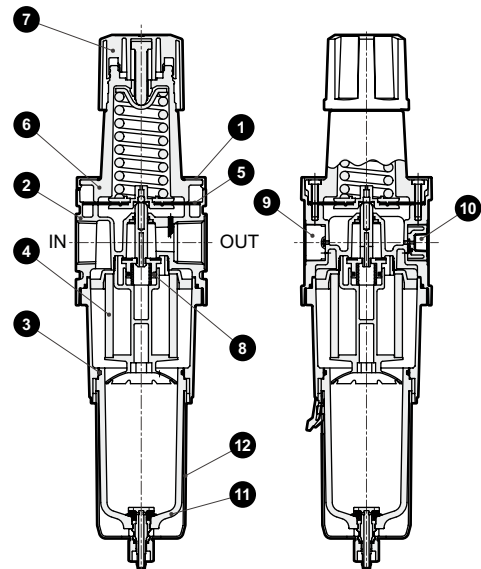
● W2000-W



● W3000-W · W4000-W



● W8000-W



| No. | Part name | Material | | | | |
|-----|-------------------------|---|---------------------------------|---------------------------------------|---------------------------------|----------------------------|
| | | W1000-W | W2000-W | W3000-W | W4000-W | W8000-W |
| 1 | Plate cover | ABS resin | - | ABS resin | | |
| 2 | Body | Polyamide resin, steel | Aluminum alloy die-casting | | | |
| 3 | O-ring | Note 2 | Special nitrile rubber | | | |
| 4 | Element | Note 1 | Polyacetal resin polypropylene | Polypropylene | | |
| 5 | Diaphragm assembly | Polyacetal resin polypropylene | Polyacetal resin nitrile rubber | Zinc alloy die-casting nitrile rubber | | |
| 6 | Cover | Polyamide resin | PBT Resin | | | Aluminum alloy die-casting |
| 7 | Knob | Polyacetal resin | | | | |
| 8 | Valve assembly | Brass, hydrogenated nitrile rubber (polyacetal resin: W2000-W, W3000-W, W4000-W only) | | | | |
| 9 | Pressure gauge assembly | PBT resin, polyacetal resin, polycarbonate resin, nitrile rubber, brass, steel | | | | |
| 10 | Gauge plug assembly | - | | | Polyacetal resin nitrile rubber | |
| | Blanking plug assembly | PBT resin, nitrile rubber, steel | | | - | |
| 11 | Bowl assembly | Polycarbonate resin, polyacetal resin, urethane resin | | | | |
| 12 | Bowl guard | Polyamide resin | Polyamide resin | | | |

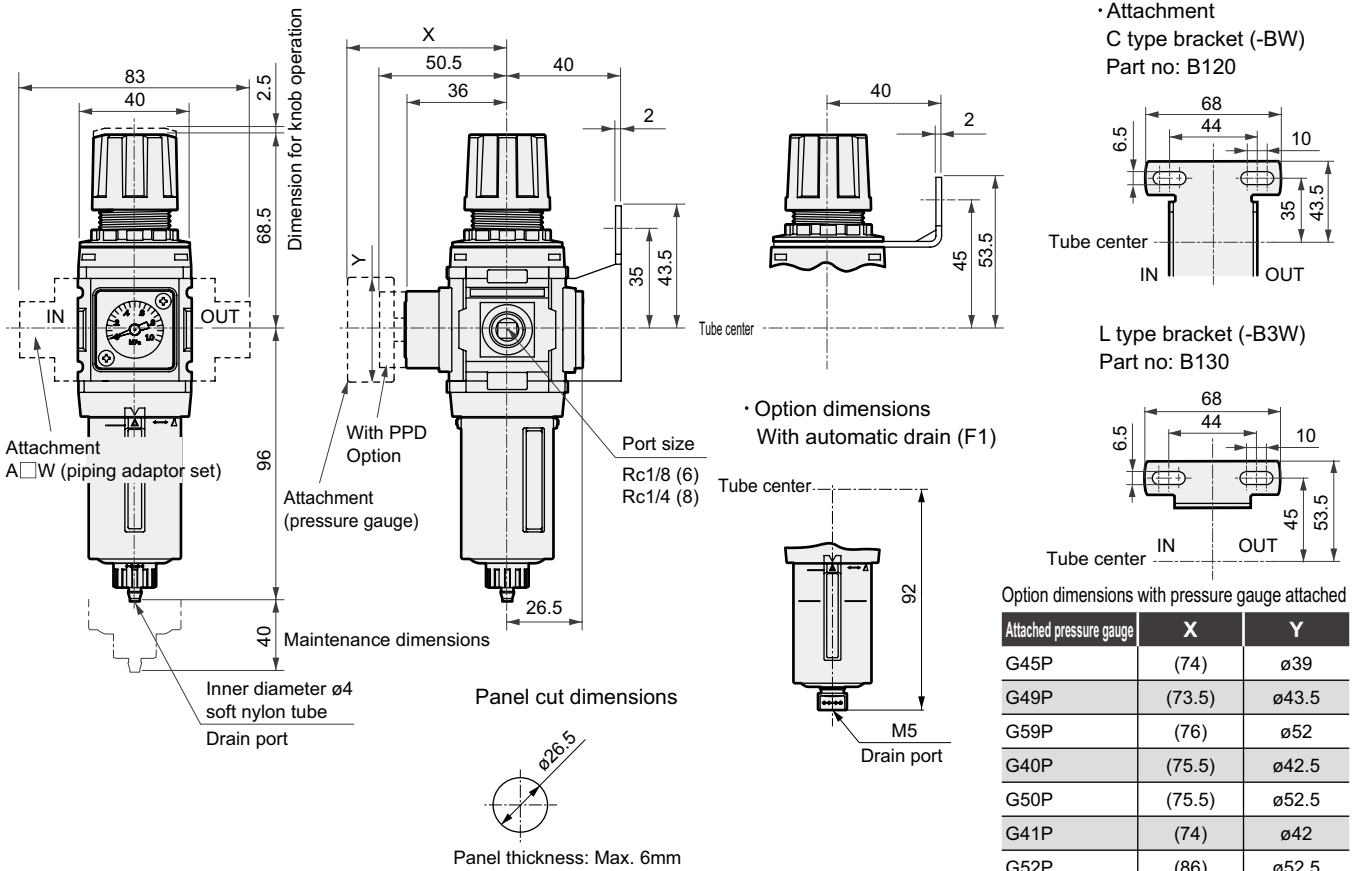
Note 1: W1000-W is an element assembly.

Note 2: The W1000-W O ring has a special shape.

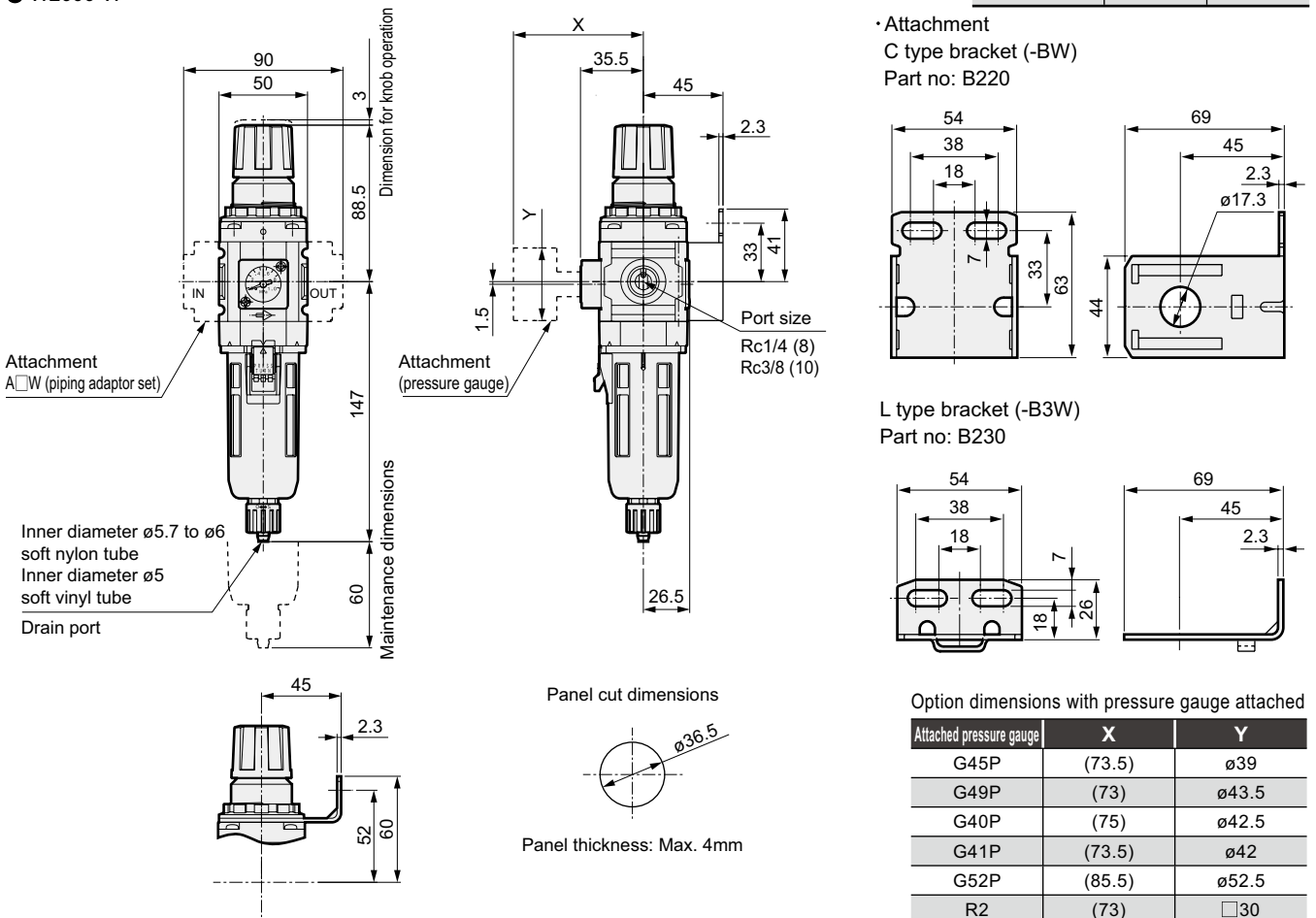
Filter·Regulator Series

Dimensions

● W1000-W

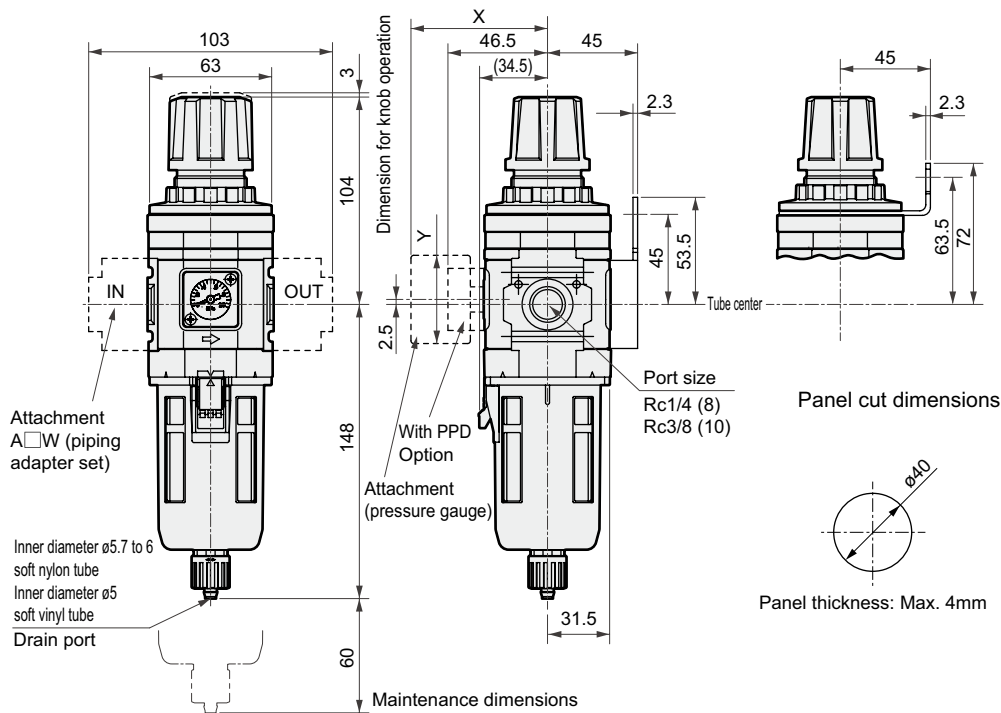


● W2000-W

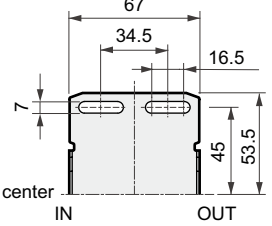


Dimensions

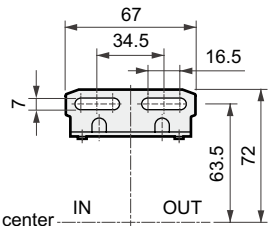
● W3000-W



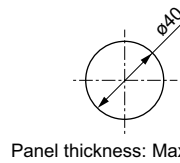
· Attachment
C type bracket (-BW)
part no.: B320



C type bracket (-B3W)
part no.: B330



Panel cut dimensions

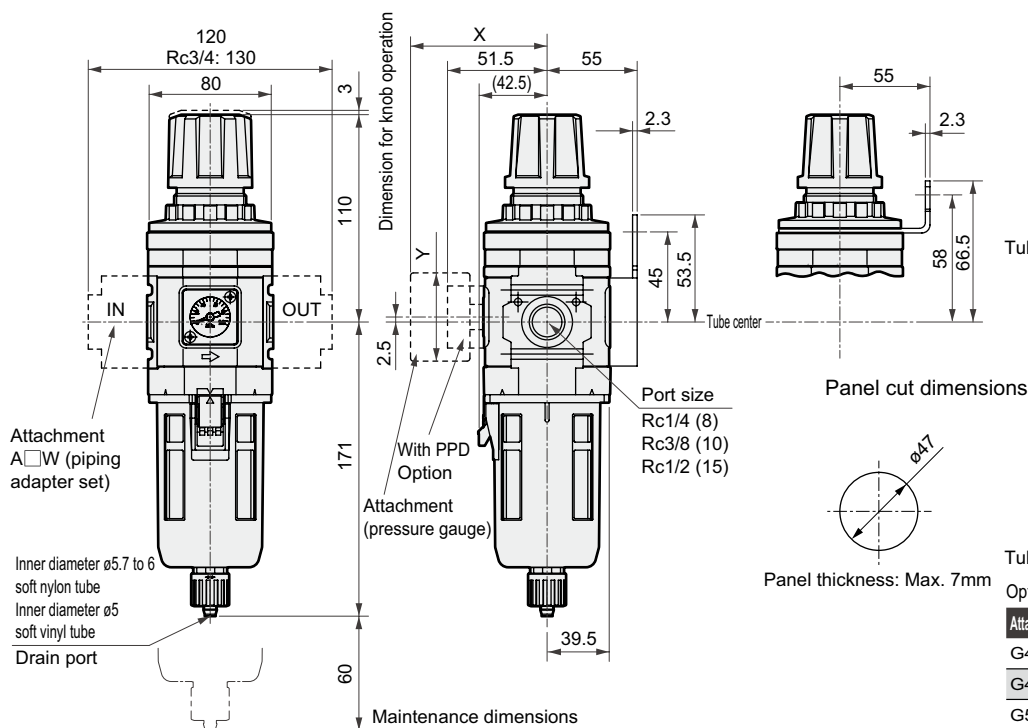


Option dimensions with pressure gauge attached

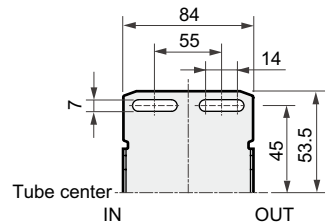
| Attached pressure gauge | X | Y |
|-------------------------|--------|-------|
| G45P | (70) | ø39 |
| G49P | (69.5) | ø43.5 |
| G59P | (72) | ø52 |
| G40P | (71.5) | ø42.5 |
| G50P | (71.5) | ø52.5 |
| G41P | (70) | ø42 |
| G52P | (82) | ø52.5 |
| R2 | (69.5) | □30 |

● The dimensions for the plastic bowl is the same whether the manual drain cock or automatic drain is installed.

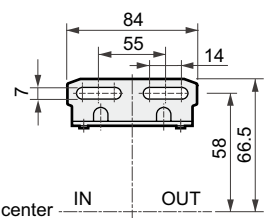
● W4000-W



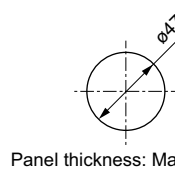
· Attachment
C type bracket (-BW)
Part no: B420



L type bracket (-B3W)
Part no: B430



Panel cut dimensions



Option dimensions with pressure gauge attached

| Attached pressure gauge | X | 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 |
| G52P | (86) | ø52.5 |
| R2 | (75) | □30 |

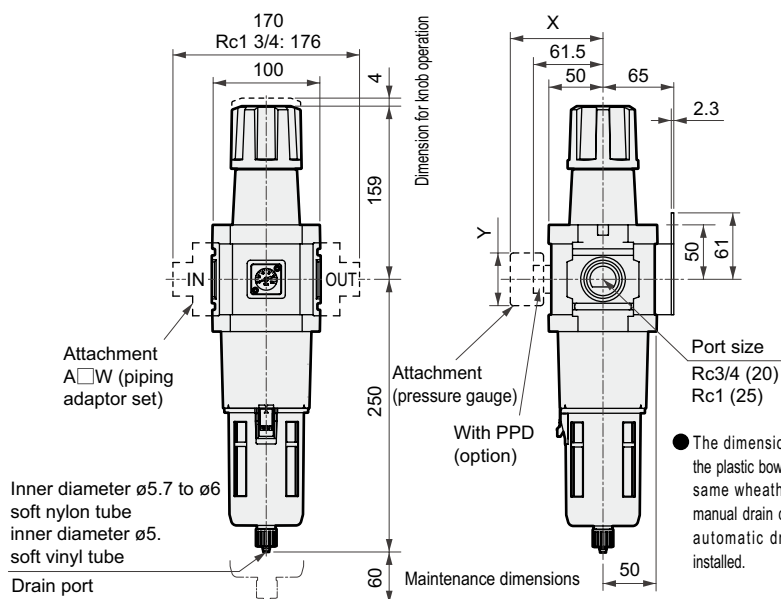
● For the plastic bowl, the dimensions are the same regardless of whether the manual cock or with automatic drain.

Filter·Regulator Series

Dimensions



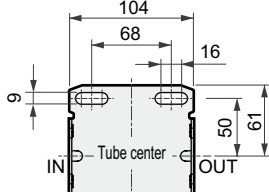
● W8000-W



Option dimensions with pressure gauge attached

| 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 |

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



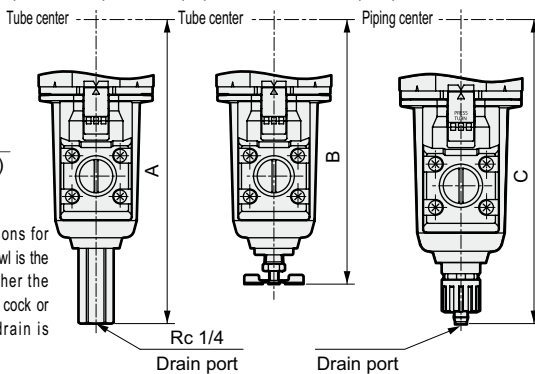
Option dimensions



● Metal bowl (option)

[W2000-W, 3000-W, 4000-W, 8000-W]

With automatic drain (FM, F1M) Automatic drain cock (M) Standard manual drain cock (M1)



Dimensions table

| Model no. | F1M | M | M1 |
|-----------|-------|-------|-----|
| | A | B | C |
| W2000-W | - | - | 147 |
| W3000-W | 163.5 | 143.5 | 154 |
| W4000-W | 187 | 166.5 | 177 |
| W8000-W | 266 | 245.5 | 256 |

MEMO



Reverse filter-regulator Standard white series

W1100/W2100/W3100/W4100/W8100-W Series

Introducing the 5 µm dust removing element and 0.3 µm tar removing element, with back flow function, to the lineup

JIS symbol



Specifications

| Descriptions | W1100-W | W2100-W | W3100-W | W4100-W | W8100-W |
|---------------------------------|--------------------------------|--------------------------------|--------------------------------|-------------------------------------|--------------------------------|
| Exterior | | | | | |
| Working fluid | Compressed air | | | | |
| Max. working pressure MPa | 1.0 Note 4, 5, 6 | | | | |
| Withstanding pressure MPa | 1.5 Note 6 | | | | |
| Ambient temperature range °C | 5 to 60 Note 7 | | | | |
| Filtration rating µm | 5 | | 5 or 0.3 | | |
| Set pressure range (Note 2) MPa | 0.05 to 0.85 Note 4 | | 0.05 to 0.85 | | |
| Relief | With relief mechanism | | | | |
| Drain capacity cm ³ | 12 | 25 | 45 | 80 | 80 Note 3 |
| 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 | 0.4 | 0.6 | 0.9 | 2 |
| Standard accessories | Pressure gauge, bowl guard | | | | |

Note 1: Check that the primary pressure is at least 0.05 MPa or more than the secondary pressure.

Note 2: Refer to the set pressure range for the back pressure given on page 79 when selecting the model.

Note 3: Drainage accumulates up to 170 cm³ only with the manual drain cock.

Note 4: The automatic drain's minimum operating pressure for "F" 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" with an automatic drain is 0.15 MPa.

Note 6: When "F1" with an automatic drain is selected for the W1100-W series, minimum operating pressure is 0.2 MPa, maximum operation pressure is 0.7 MPa and the guaranteed pressure resistance is 1.05 MPa. Refer to the maximum processing flow table (page 85) for the F1000-F1 automatic drain for the maximum working flow. Set the working flow to less than the maximum working flow.

Note 7: The working temperature range of the pressure switch with indicator PPD assembly "R1" is 5 to 50°C.

Note 8: W2000-W Series with an automatic drain "F1" must be used below maximum flow rate. (Refer to page 85 F2000-W for weight.)

Ozone specifications

(Page 186)

W*100 - - - - - W - - - - - P11

Clean specification

(Catalog No. CB-033SA)

● Dust generation preventing structure for use in cleanrooms

W*100 - - - - - P7*

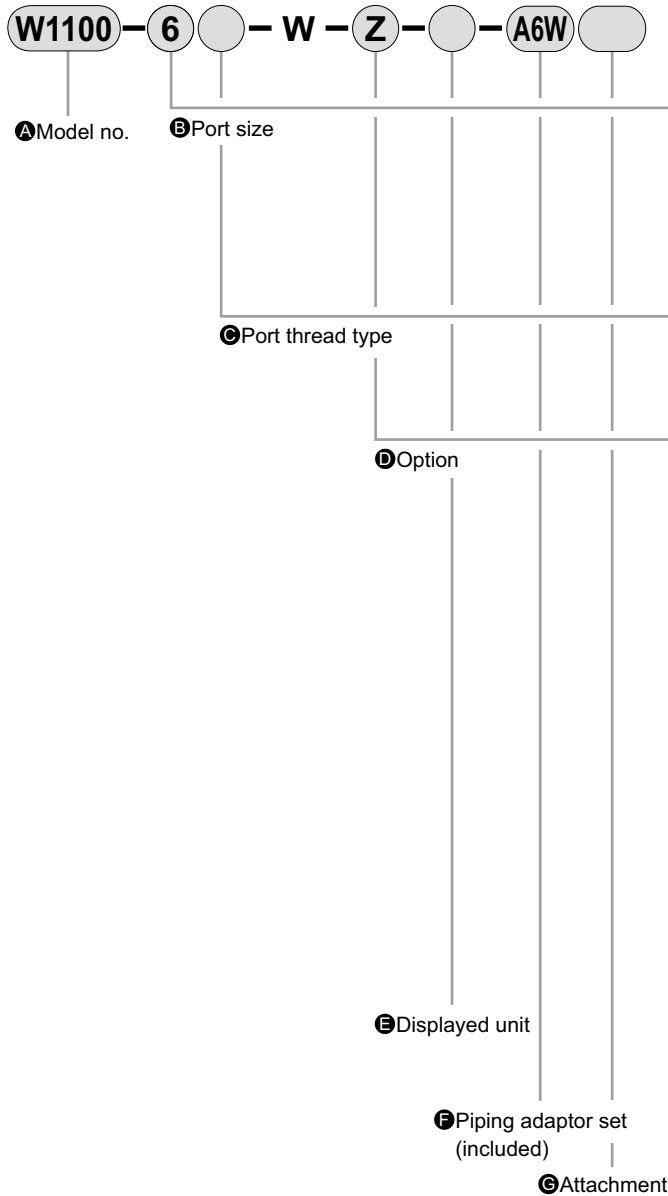
Specification for LiB production

(Catalog No. CC-947A)

● Specification for LiB manufacturing process

W*100 - - - - - P4*

How to order



* Refer page 9 for an explanation of the options.

| A Model no. | | | | |
|-------------|---|---|---|---|
| W | W | W | W | W |
| 1 | 2 | 3 | 4 | 8 |
| 1 | 1 | 1 | 1 | 1 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |

| Symbol | Descriptions | | | | | |
|--------------------|--------------|---|---|---|---|---|
| B Port size | | | | | | |
| 6 | 1/8 | ● | | | | |
| 8 | 1/4 | ● | ● | ● | ● | |
| 10 | 3/8 | | ● | ● | ● | |
| 15 | 1/2 | | | | ● | |
| 20 | 3/4 | | | | | ● |
| 25 | 1 | | | | | ● |

| C Port thread type | | Note 1 | | | | |
|--------------------|------------|--------|---|---|---|---|
| Blank | Rc thread | ● | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● | ● |

| D Option | | Note 2, Note 3 | | | | |
|----------------|-------|---|---|---|---|---|
| Drainage | Blank | With manual drain cock | ● | ● | ● | ● |
| | F | Automatic drain with manual override (NO type) | | ● | ● | ● |
| | F1 | Automatic drain with manual override (NC type) | ● | | ● | ● |
| | FF | Large exhaust automatic drain with manual override (NO type) | | | | ● |
| Bowl material | Blank | Polycarbonate bowl | ● | ● | ● | ● |
| | Z | Nylon bowl | ● | ● | ● | ● |
| | M | Metal bowl | | | | ● |
| | M1 | Metal bowl with manual drain cock | | ● | ● | ● |
| Element | Blank | 5µm | ● | ● | ● | ● |
| | Y | 0.3µm (submicron) Note 5 | | | ● | ● |
| Pressure Range | Blank | 0.05 to 0.85MPa | ● | ● | ● | ● |
| | L | 0.05 to 0.35MPa Note 6 | ● | ● | ● | ● |
| Relief | Blank | With relief mechanism | ● | ● | ● | ● |
| | N | Non-relief type | ● | ● | ● | ● |
| Pressure gauge | Blank | Standard pressure gauge (G401-W) | ● | ● | ● | ● |
| | T | Without pressure gauge (gauge port (Rc1/4) assembled sealed) | ● | ● | ● | ● |
| | T8 | Pressure gauge attachable (gauge port (Rc1/4) assembled open) | ● | ● | ● | ● |
| | T6 | Compatibility with digital pressure sensor PPX Note 7 | ● | ● | ● | ● |
| Flow Direction | Blank | Standard flow (left to right) | ● | ● | ● | ● |
| | X1 | Reverse flow (right to left) | ● | ● | ● | ● |

| E Displayed unit | | | | | | |
|------------------|----------------------------|---|---|---|---|---|
| Blank | MPa display, Rc thread | ● | ● | ● | ● | ● |
| J1 | MPa display, NPT, G thread | ● | ● | ● | ● | ● |

| F Piping adaptor set (included) | | Note 9, 10 pages 155 to 157 | | | | |
|---------------------------------|--------------------------|-----------------------------|---|---|---|---|
| Blank | Not attached | ● | ● | ● | ● | ● |
| A6*W | 1/8 piping adaptor set | ● | | | | |
| A8*W | 1/4 piping adaptor set | ● | ● | ● | ● | |
| A10*W | 3/8 piping adaptor set | ● | ● | ● | ● | |
| A15*W | 1/2 piping adaptor set | | ● | ● | ● | |
| A20*W | 3/4 piping adaptor set | | | | ● | ● |
| A25*W | 1 piping adaptor set | | | | | ● |
| A32*W | 1 1/4 piping adaptor set | | | | | ● |

| * Adaptor thread type | | | | | | |
|-----------------------|------------|---|---|---|---|---|
| Blank | Rc thread | ● | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● | ● |

| G Attachment | | Note 11 Page 152, 198 | | | | |
|--------------|--------------------------------------|-----------------------|---|---|---|---|
| Blank | Not attached | ● | ● | ● | ● | ● |
| BW | C type bracket | ● | ● | ● | ● | ● |
| B3W Note 8 | L type bracket | ● | ● | ● | ● | |
| G45P | G45D-8-P10 (L: G45D-8-P04) | ● | ● | ● | ● | ● |
| G49P | G49D-8-P10 (L: G49D-8-P04) | ● | ● | ● | ● | ● |
| G59P | G59D-8-P10 (L: G59D-8-P04) | ● | ● | ● | ● | ● |
| G40P | G40D-8-P10 (L: G40D-8-P04) | ● | ● | ● | ● | ● |
| G50P | G50D-8-P10 (L: G50D-8-P04) | ● | ● | ● | ● | ● |
| G41P | G41D-8-P10 (L: G41D-8-P04) | ● | ● | ● | ● | ● |
| G52P | G52D-8-P10 (L: G52D-8-P10) | ● | ● | ● | ● | ● |
| R2 Note 6 | Digital pressure sensor: PPX-R10N-6M | ● | ● | ● | ● | ● |

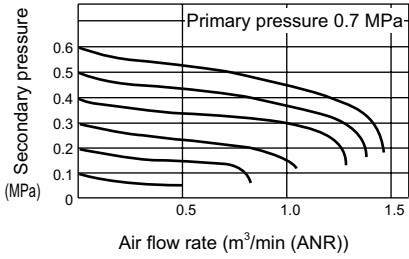
⚠ Cautions for model No. selection

- Note 1: G threads and NPT threads are available for IN, OUT, gauge port and drain discharge port (metal bowl with automatic drain).
- Note 2: Select options per drainage, bowl material, element, and regulator sections.
When selecting options for several items, list options in order from the top.
- Note 3: **Position of the check valve and pressure gauge can not be changed.**
If the reverse direction of IN and OUT are required, indicate "X1" in the end of optional section.
- Note 4: Refer to page 12 for working conditions of the automatic drain.
- Note 5: Refer to page 87 for max. flow rate of option "Y".
- Note 6: Pressure gauge display range will be 0 to 0.4 MPa for option "L".
- Note 7: When option "T6" is selected, only "blank" or "R2" is selected for the (G) pressure gauge (enclosed). The digital pressure sensor PPX mounting port (Rc1/8) is assembled ventilated.
- Note 8: Output type will be NPN transistor output. Consult with CKD if PNP transistor output is required.
- Note 9: The piping adapter set and C bracket cannot be used together.
- Note 10: A joiner set is attached with the piping adapter set.
- Note 11: If NPT is selected for the "C" piping thread type, 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 15) for details on mounting the L-type bracket.

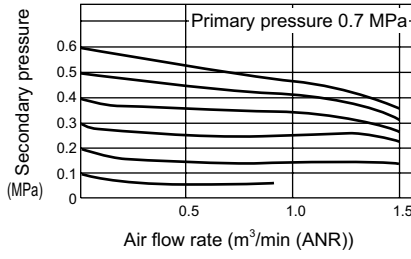
Filter·Regulator Series

Flow characteristics

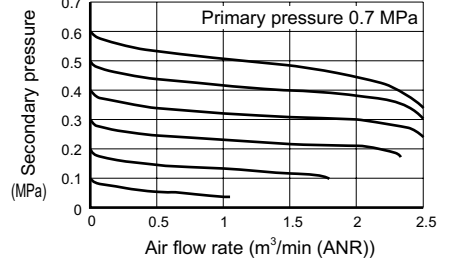
● W1100-6-W



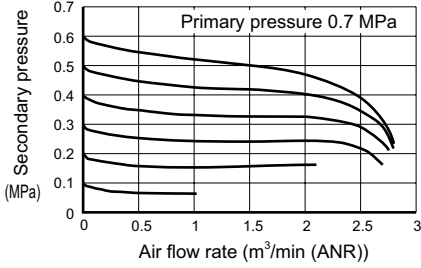
● W1100-8-W



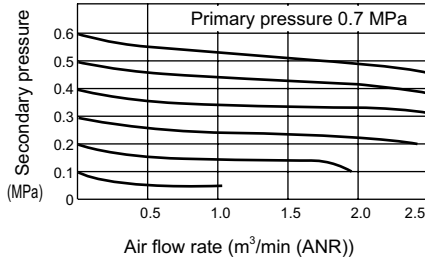
● W2100-8-W



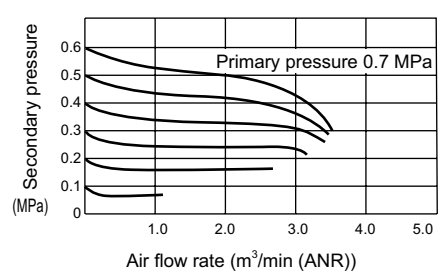
● W2100-10-W



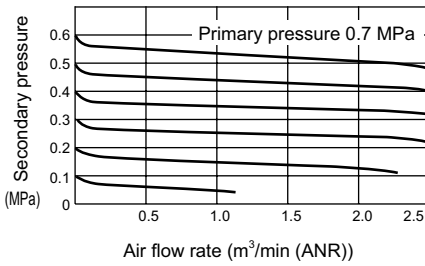
● W3100-8-W



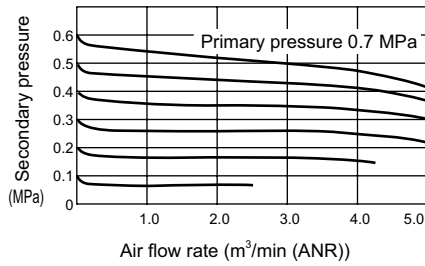
● W3100-10-W



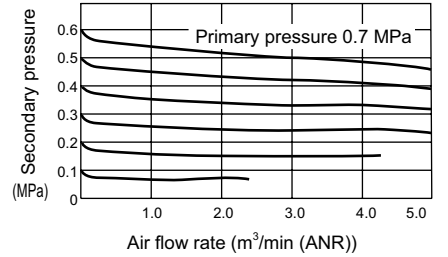
● W4100-8-W



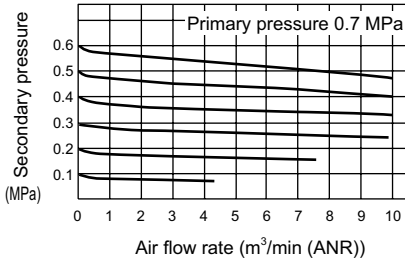
● W4100-10-W



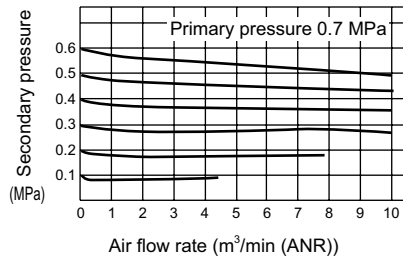
● W4100-15-W



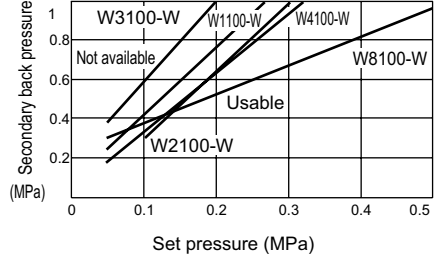
● W8100-20-W



● W8100-25-W



● Set pressure range for back pressure

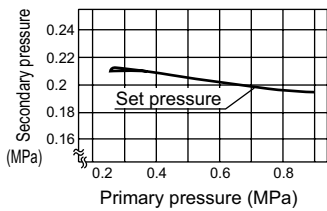


Note: The upper side of the graph is nonusable and the lower side usable.

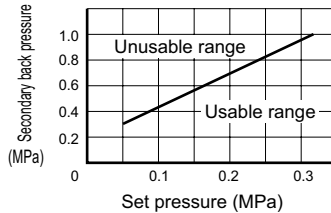
Example: If W4100-W is set to set pressure 0.2 MPa and the secondary back pressure is 0.6 MPa or more, the secondary pressure will not be released to the primary side.

Pressure characteristics

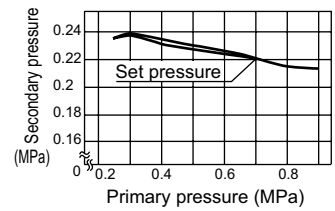
● W1100-W



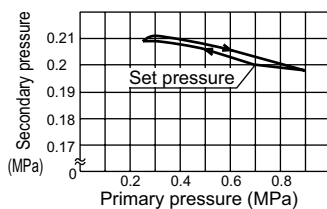
● W2100-W



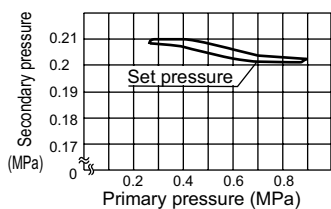
● W3100-W



● W4100-W



● W8100-W

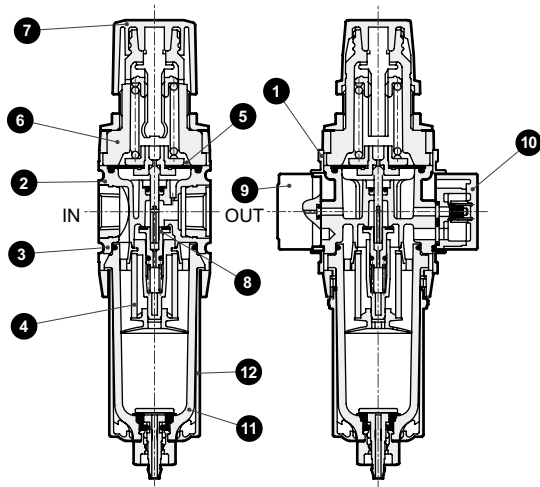


Filter·Regulator Series

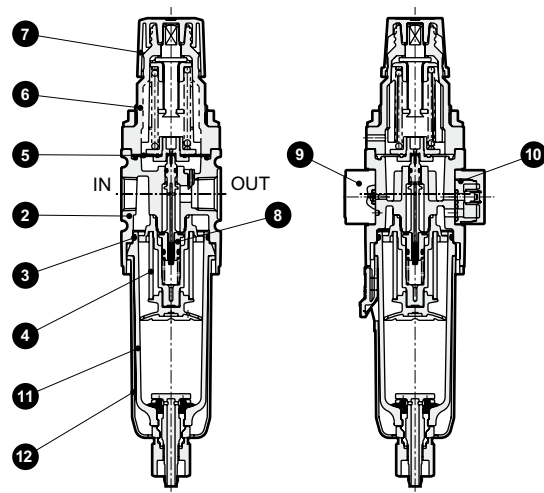
Internal structure and parts list

Internal structure and parts list

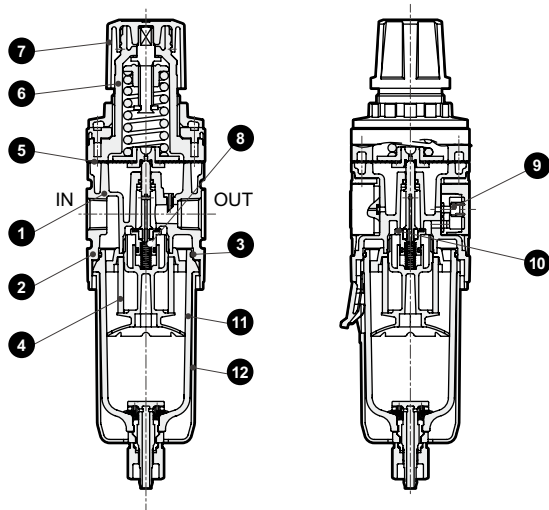
● W1100-W



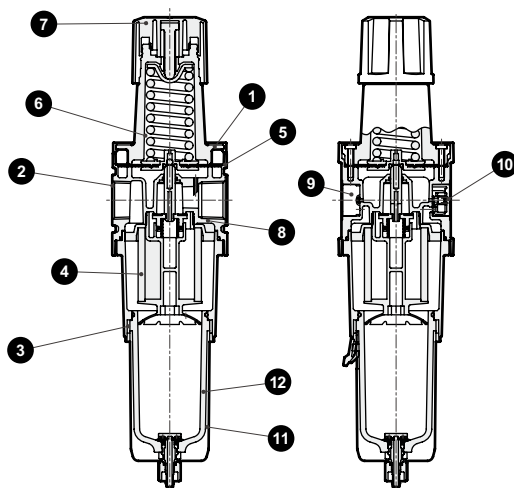
● W2100-W



● W3100-W, W4100-W



● W8100-W



| No. | Part name | Material | | | | |
|-----|---------------------------|---|------------------------|---------------------------------------|----------------------------|---------|
| | | W1100-W | W2100-W | W3100-W | W4100-W | W8100-W |
| 1 | Plate cover | ABS resin | - | ABS resin | | |
| 2 | Body | Polyamide resin, steel | | Aluminum alloy die-casting | | |
| 3 | O-ring Note 2 | Special nitrile rubber | | | | |
| 4 | Element Note 1 | Polyacetal resin Polypropylene | | Polypropylene | | |
| 5 | Diaphragm assembly | Polyacetal resin Nitrile rubber | | Zinc alloy die-casting nitrile rubber | | |
| 6 | Cover | Polyamide resin | PBT Resin | | Aluminum alloy die-casting | |
| 7 | Knob | Polyacetal resin | | | | |
| 8 | Valve assembly | Brass, hydrogenated nitrile rubber (polyacetal resin: W2100-W, W3100-W, W4100-W only) | | | | |
| 9 | Pressure gauge assembly | PBT resin, polyacetal resin, polycarbonate resin, nitrile rubber, brass, steel | | | | |
| 10 | Check valve full assembly | PBT resin, nitrile rubber, stainless steel wire, steel | | | | |
| 11 | Bowl assembly | Polycarbonate resin, polyacetal resin, urethane resin | | | | |
| 12 | Bowl guard | Polyamide resin | Polyamide resin, steel | | | |

Note 1: W1100-W is an element assembly.

Note 2: The W1100-W O ring has a special shape.

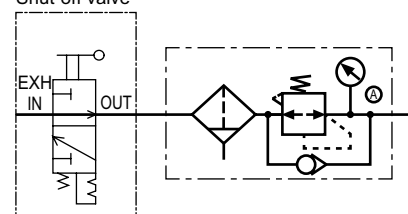
Note 3: Refer to page 84 for repair parts kit model no.

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 changeover 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 79 for graph)

● Circuit diagram Shut-off valve

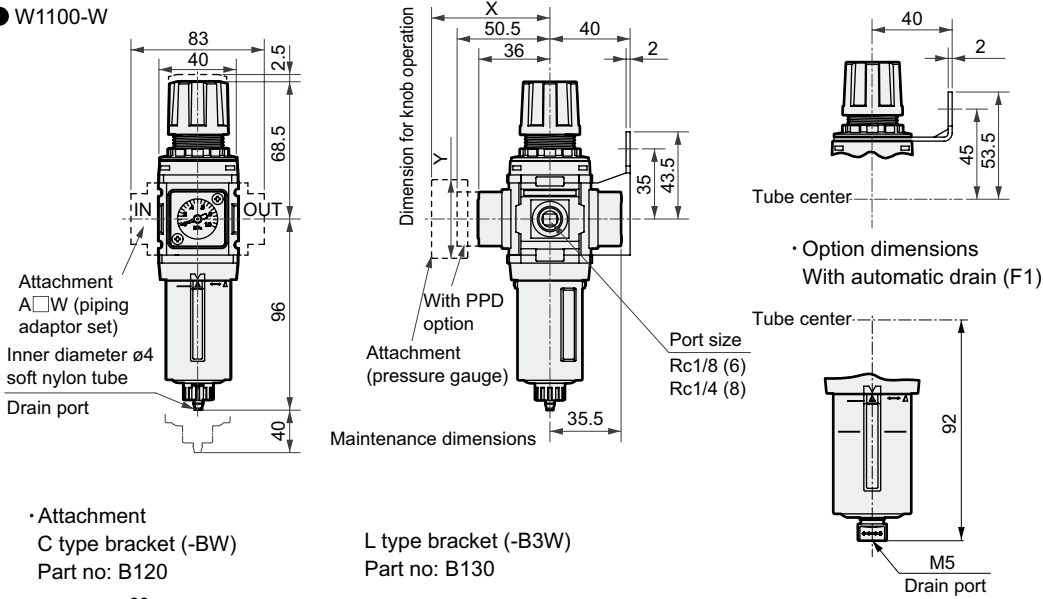


When using a shut-off valve before the reverse filter and regulator.

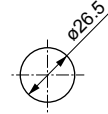
Filter·Regulator Series

Dimensions

● W1100-W

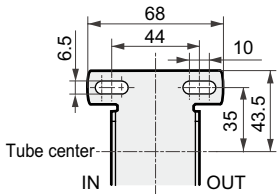


Panel cut dimensions

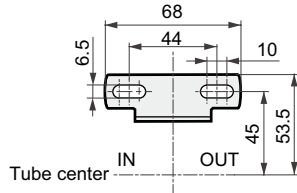


Panel thickness: Max. 6mm

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



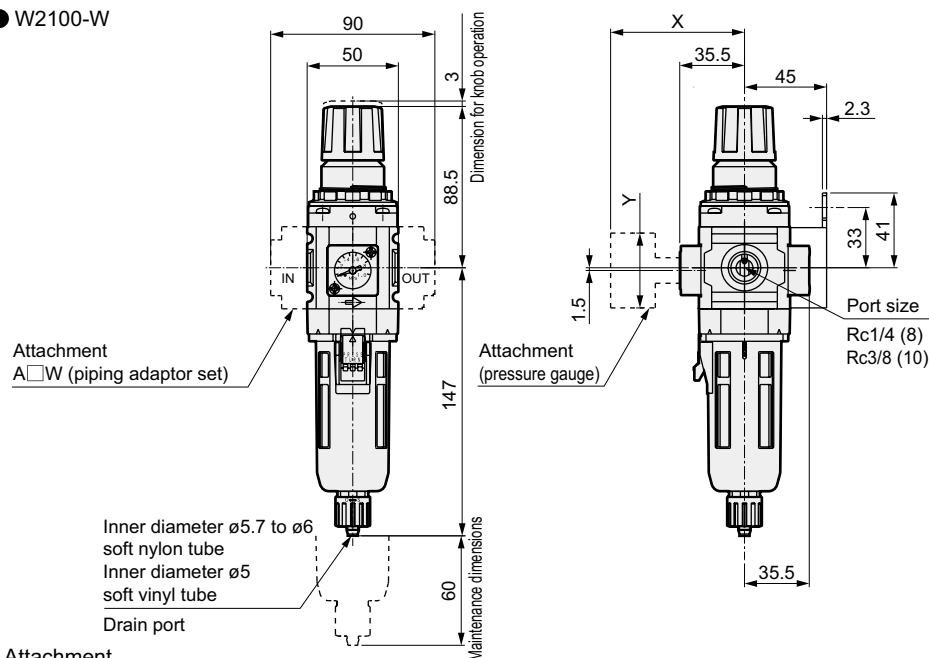
L type bracket (-B3W)
Part no: B130



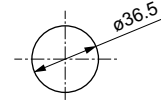
Option dimensions with pressure gauge attached

| Attached pressure gauge | X | 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 |

● W2100-W

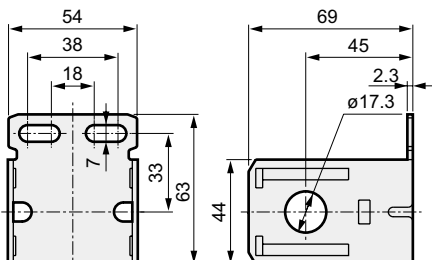


Panel cut dimensions

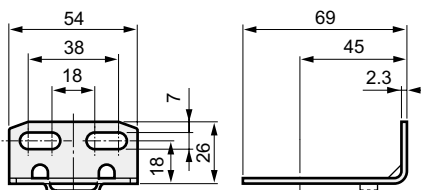


Panel thickness: Max. 4mm

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



L type bracket (-B3W)
Part no: B230

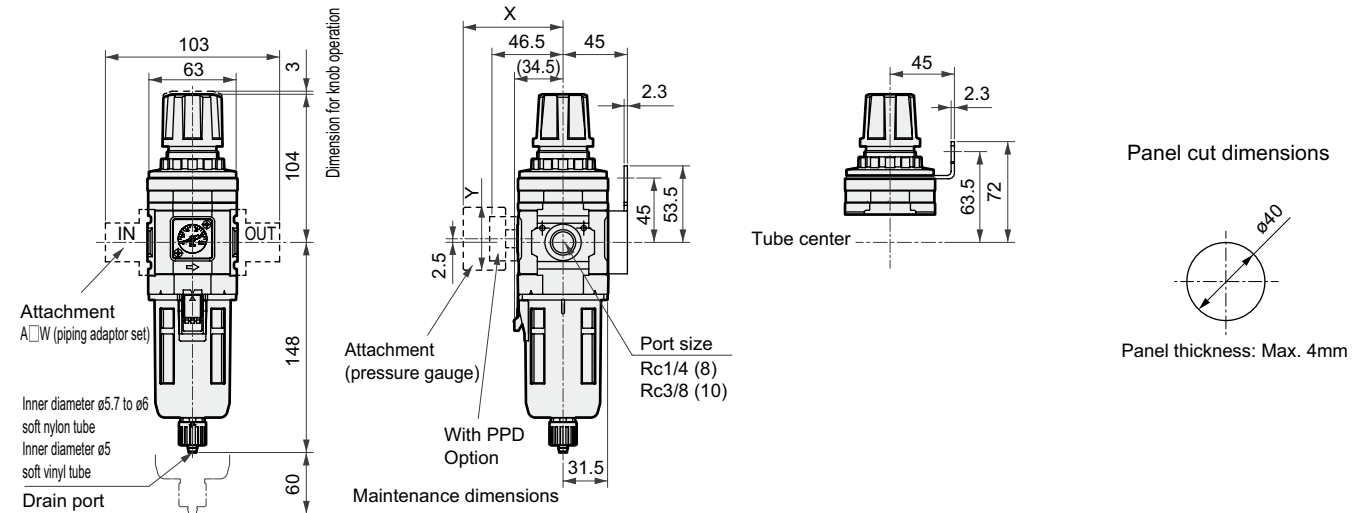


Option dimensions with pressure gauge attached

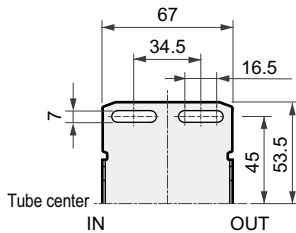
| Attached pressure gauge | X | Y |
|-------------------------|--------|-------|
| G45P | (73.5) | ø39 |
| G49P | (73) | ø43.5 |
| G40P | (75) | ø42.5 |
| G41P | (73.5) | ø42 |
| G52P | (85.5) | ø52.5 |
| R2 | (73) | □30 |

Dimensions

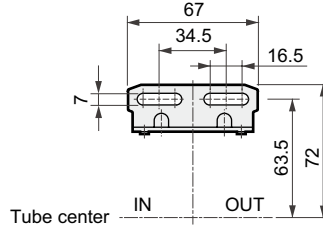
● W3100-W



· Attachment
C type bracket (-BW)
Part no: B320



L type bracket (-B3W)
Part no: B330

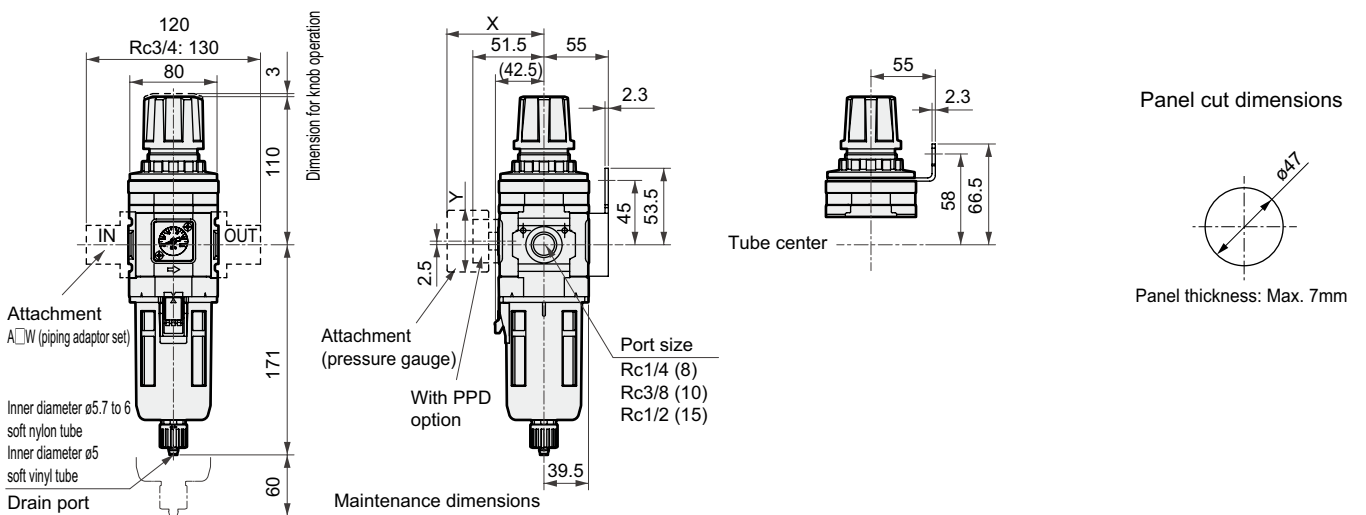


● The dimensions for the plastic bowl is the same wheather the manual drain cock or automatic drain is installed.

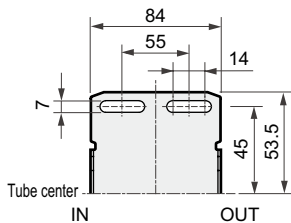
Option dimensions with pressure gauge attached

| Attached pressure gauge | X | Y |
|-------------------------|--------|--------------|
| G45P | (70) | $\phi 39$ |
| G49P | (69.5) | $\phi 43.5$ |
| G59P | (72) | $\phi 52$ |
| G40P | (71.5) | $\phi 42.5$ |
| G50P | (71.5) | $\phi 52.5$ |
| G41P | (70) | $\phi 42$ |
| G52P | (82) | $\phi 52.5$ |
| R2 | (69.5) | $\square 30$ |

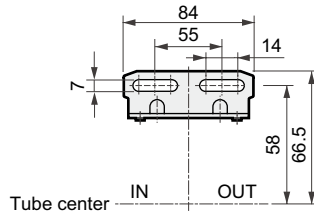
● W4100-W



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



L type bracket (-B3W)
Part no: B430



● The dimensions for the plastic bowl is the same wheather the manual drain cock or automatic drain is installed.

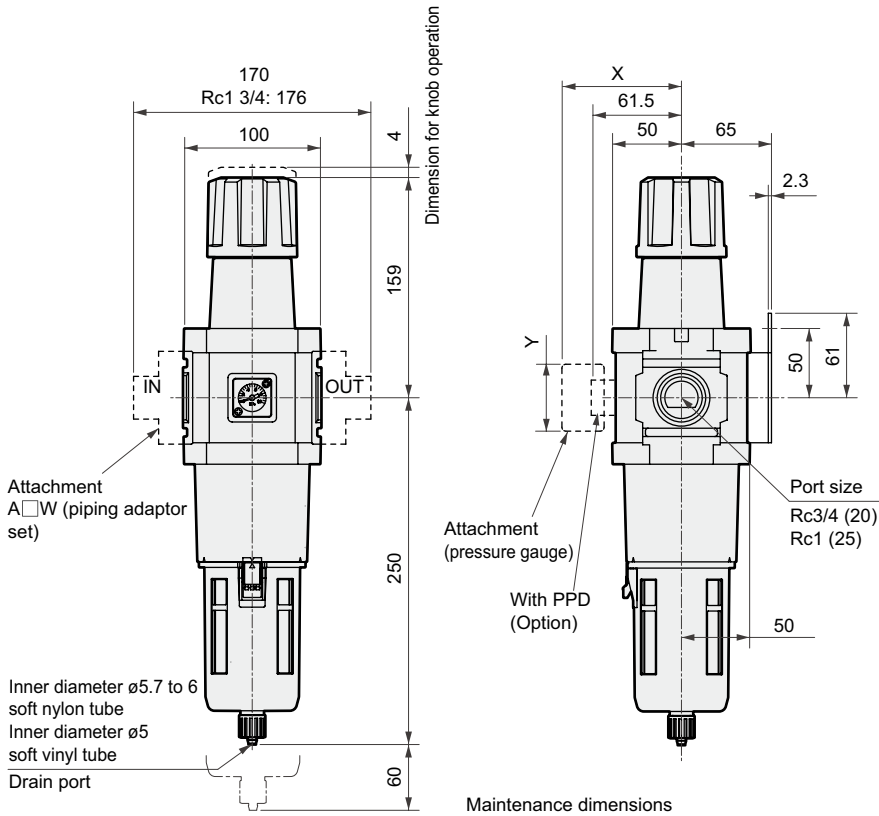
Option dimensions with pressure gauge attached

| Attached pressure gauge | X | Y |
|-------------------------|--------|--------------|
| G45P | (75) | $\phi 39$ |
| G49P | (74.5) | $\phi 43.5$ |
| G59P | (77) | $\phi 52$ |
| G40P | (76.5) | $\phi 42.5$ |
| G50P | (76.5) | $\phi 52.5$ |
| G41P | (75) | $\phi 42$ |
| G52P | (86) | $\phi 52.5$ |
| R2 | (75) | $\square 30$ |

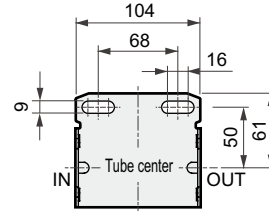
Filter·Regulator Series

Dimensions

● W8100-W



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



Option dimensions with pressure gauge attached

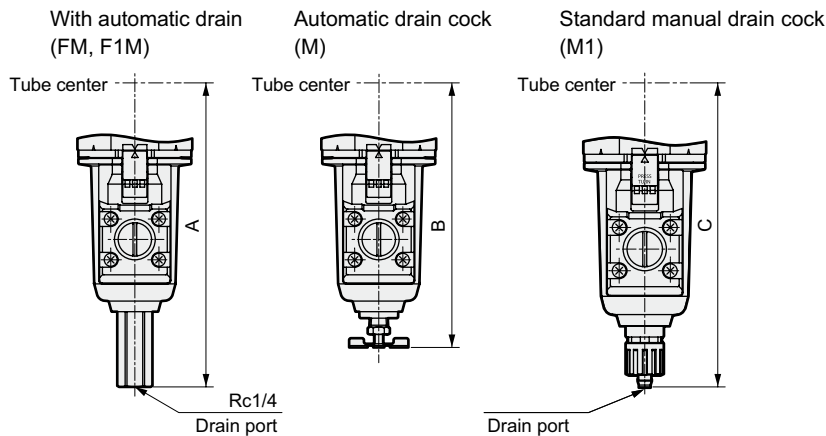
| Attached pressure gauge | X | Y |
|-------------------------|--------|-------|
| G45P | (85) | ø39 |
| G49P | (84.5) | ø43.5 |
| G59P | (87) | ø52 |
| G40P | (86.5) | ø42.5 |
| G50P | (86.5) | ø52.5 |
| G41P | (85) | ø42 |
| G52P | (98) | ø52.5 |
| R2 | (85) | □30 |

● The dimensions for the plastic bowl is the same whether the manual drain cock or automatic drain is installed.

Option dimensions



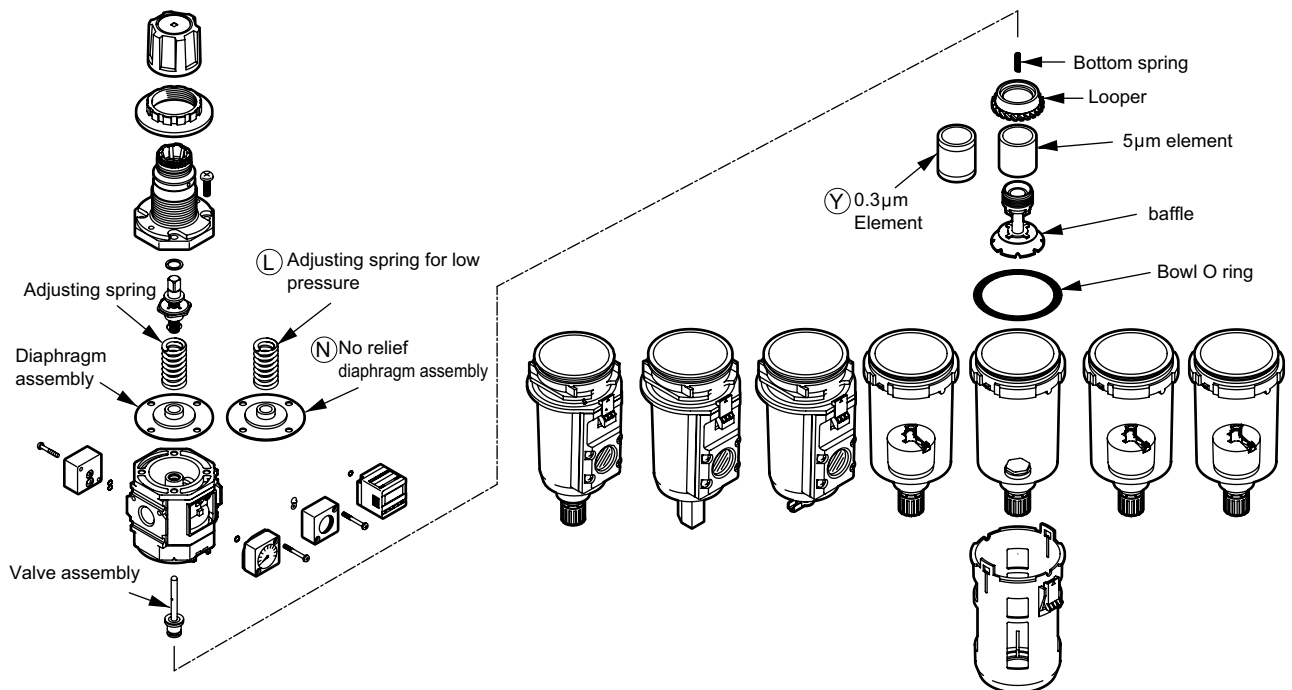
- Metal bowl W2100-W·W3100-W·W4100-W·W8100-W (option)



Dimensions table

| Model no. | F1M | M | M1 |
|-----------|-------|-------|-----|
| | A | B | C |
| W2100-W | - | - | 147 |
| W3100-W | 163.5 | 143.5 | 154 |
| W4100-W | 187 | 166.5 | 177 |
| W8100-W | 266 | 245.5 | 256 |

Option, parts dimensions



Repair parts kit (Set consisting of diaphragm assembly, valve assembly, bottom spring, louver, element, baffle, bowl O ring)

| Repair kit model no. | Relief type diaphragm 5µm element (blank) | No relief type diaphragm 5µm element (N) | Relief type diaphragm 0.3µm element (Y) | No relief type diaphragm 0.3µm element (NY) |
|----------------------|--|---|--|--|
| W1000-W, W1100-W | W1000-KIT | W1000-KIT-N | — | — |
| W2000-W, W2100-W | W2000-KIT | W2000-KIT-N | — | — |
| W3000-W, W3100-W | W3000-KIT | W3000-KIT-N | W3000-KIT-Y | W3000-KIT-NY |
| W4000-W, W4100-W | W4000-KIT | W4000-KIT-N | W4000-KIT-Y | W4000-KIT-NY |
| W8000-W, W8100-W | W8000-KIT | W8000-KIT-N | W8000-KIT-Y | W8000-KIT-NY |

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 (valve assembly and bottom spring set)

| 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 option, parts list on page 128 for adjusting spring, diaphragm and gauge plug assembly.
Refer to air filter options and parts table (pages 93 to 94) 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 5 μm element for dust removal and 0.3 μm element for tar removal
0.3 μm element series (excluding F1000 Series) port size: 1/8 to 1

JIS symbol



Specifications

| Descriptions | F1000-W | F2000-W | F3000-W | F4000-W | F6000-W | F8000-W |
|--------------------------------|-----------------------------------|-----------------------------------|---------|--|-----------------------------------|-----------------------------------|
| Exterior | | | | | | |
| Working fluid | Compressed air | | | | | |
| Max. working pressure MPa | 1.0 Note 2, 3, 4 | | | | | |
| Withstanding pressure MPa | 1.5 Note 2 | | | | | |
| Ambient temperature range °C | 5 to 60 | | | | | |
| Filtration rating μm | 5 | | | 5 or 0.3 | | |
| Drain capacity cm ³ | 12 | 25 | 45 | 80 | 80 | 80 Note 1 |
| 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) | 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: Drainage accumulates up to 170 cm³ only with the manual drain cock.

Note 2: When using F1000-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 working flow table (page 87) for F1000-W-F1 with an automatic drain for details on maximum working flow. Set the working flow to less than the maximum working flow.

Note 3: The automatic drain's minimum operating pressure for "F" with an automatic drain is 0.1 MPa. Initially generated drainage and air are purged until pressure reaches 0.1 MPa.

Note 4: The automatic drain's minimum operating pressure for "F1" with an automatic drain is 0.15 MPa.

Clean specification

(Catalog No. CB-033SA)

- Dust generation preventing structure for use in cleanrooms

F*000 - - **P7***

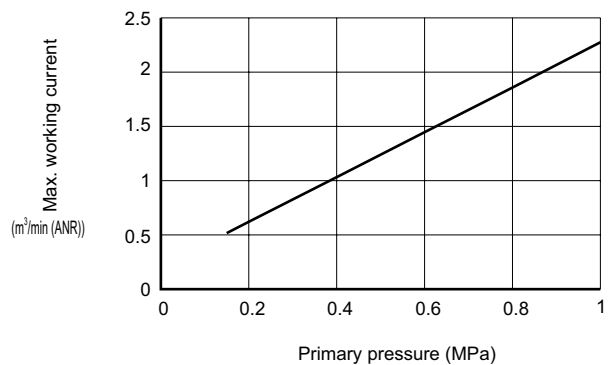
Specification for LiB production

(Catalog No. CC-947A)

- Specification for LiB manufacturing process

F*000 - - **P4***

● F2000-W-F1 with automatic drain max. working flow

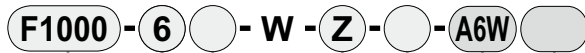


● F1000-W-F1 with automatic drain max. working flow

(m³/min (ANR))

| Primary pressure (MPa) | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 |
|------------------------|-------|-------|-------|-------|-------|-------|
| Port size | | | | | | |
| 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 |

How to order



A Model no.

B Port size

C Port thread type

D Option

E Displayed unit

F Piping adaptor set (included)

G Bracket (attached)

* Refer page 9 for an explanation of the options.

| A Model no. | | | | | |
|-------------|---|---|---|---|---|
| F | F | F | F | F | F |
| 1 | 2 | 3 | 4 | 6 | 8 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |

| Symbol | Descriptions | | | | | | |
|--|----------------------------|--|---|---|---|---|--|
| B Port size | | | | | | | |
| 6 | 1/8 | ● | | | | | |
| 8 | 1/4 | ● | ● | ● | ● | | |
| 10 | 3/8 | | ● | ● | ● | | |
| 15 | 1/2 | | | ● | | | |
| 20 | 3/4 | | | | ● | ● | |
| 25 | 1 | | | | ● | ● | |
| C Port thread type Note 1 | | | | | | | |
| Blank | Rc thread | ● | ● | ● | ● | ● | |
| N | NPT thread | ● | ● | ● | ● | ● | |
| G | G thread | ● | ● | ● | ● | ● | |
| D Option Note 2 | | | | | | | |
| Drainage | Blank | With manual drain cock | ● | ● | ● | ● | |
| | F | Automatic drain with manual override (NO type) | | | ● | ● | |
| | F1 | Automatic drain with manual override (NC type) | ● | ● | ● | ● | |
| | FF | Large exhaust automatic drain with manual override (NO type) | | | | ● | |
| | FF1 | Large exhaust automatic drain with manual override (NO type) | | | | ● | |
| Bowl material | Blank | Polycarbonate bowl | ● | ● | ● | ● | |
| | Z | Nylon bowl | ● | ● | ● | ● | |
| | M | Metal bowl | | | ● | ● | |
| | M1 | Metal bowl with manual drain cock | | | ● | ● | |
| Element | Blank | 5µm | ● | ● | ● | ● | |
| | Y | 0.3µm (submicron) | | | ● | ● | |
| Differential pressure detection | Blank | Without differential pressure detection port | ● | ● | ● | ● | |
| | Q | With differential pressure detection port (Rc1/4) | | | | ● | |
| Flow Direction | Blank | Standard flow (left to right) | ● | ● | ● | ● | |
| | X1 | Reverse flow (right to left) | ● | ● | ● | ● | |
| E Displayed unit | | | | | | | |
| Blank | MPa display, Rc thread | ● | ● | ● | ● | ● | |
| J1 | MPa display, NPT, G thread | ● | ● | ● | ● | ● | |
| F Piping adaptor set (included) Note 4 pages 155 to 157 Note 5 | | | | | | | |
| Blank | Not attached | ● | ● | ● | ● | ● | |
| A6*W | 1/8 piping adaptor set | ● | | | | | |
| A8*W | 1/4 piping adaptor set | ● | ● | ● | ● | | |
| A10*W | 3/8 piping adaptor set | ● | ● | ● | ● | | |
| A15*W | 1/2 piping adaptor set | | ● | ● | ● | | |
| A20*W | 3/4 piping adaptor set | | | | ● | ● | |
| A25*W | 1 piping adaptor set | | | | ● | ● | |
| A32*W | 1 1/4 piping adaptor set | | | | ● | ● | |
| * Adaptor thread type | | | | | | | |
| Blank | Rc thread | ● | ● | ● | ● | ● | |
| N | NPT thread | ● | ● | ● | ● | ● | |
| G | G thread | ● | ● | ● | ● | ● | |
| G Bracket (attached) Page 152 | | | | | | | |
| Blank | Not attached | ● | ● | ● | ● | ● | |
| BW | C type bracket | ● | ● | ● | ● | ● | |

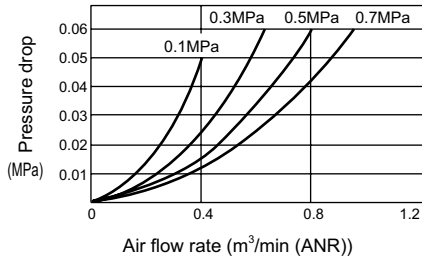
⚠ Cautions for model No. selection

- Note 1: When G threads or NPT threads are selected, the IN, OUT, gauge port, and drainage discharge port (metal bowl automatic drain) are the target, as are attachments P and V.
- Note 2: Select the option from drain exhaust, bowl material and differential pressure detection. When selecting options for several items, list options in order from the top.
- Note 3: Refer to page 12 for working conditions of the automatic drain.
- Note 4: The piping adaptor set and C bracket cannot be used together.
- Note 5: A joiner set is attached with the piping adapter set.

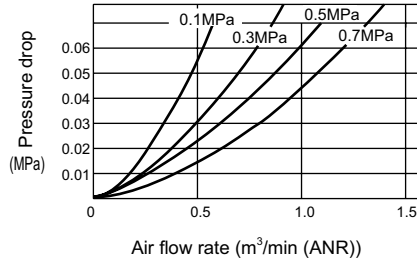
Air Filter Series

Flow characteristics

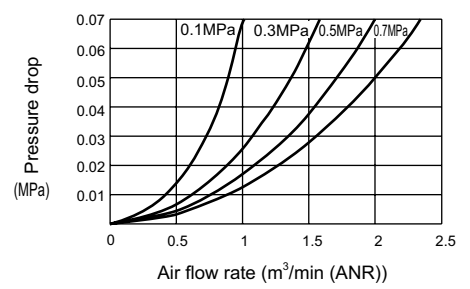
● F1000-6-W



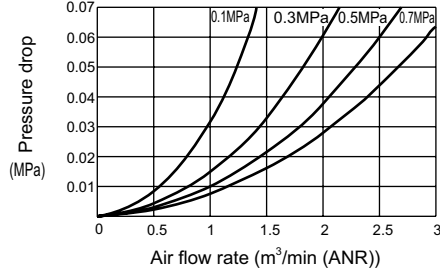
● F1000-8-W



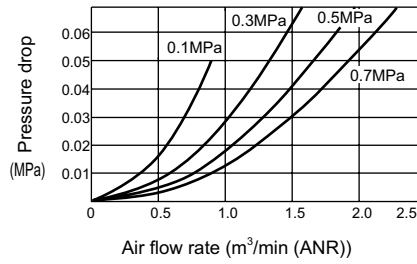
● F2000-8-W



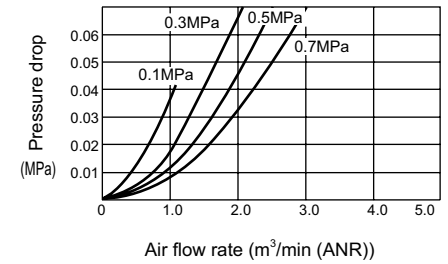
● F2000-10-W



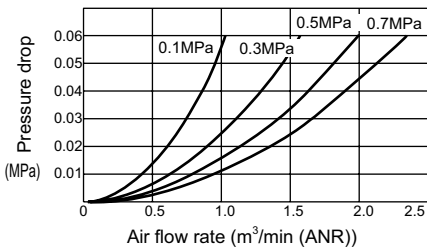
● F3000-8-W



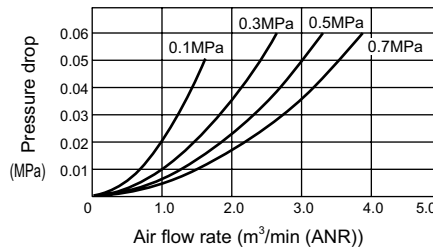
● F3000-10-W



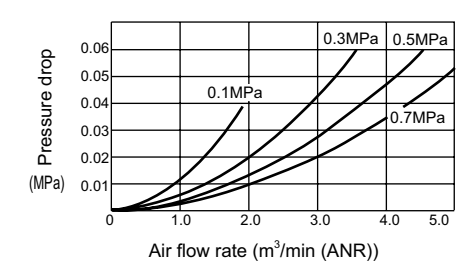
● F4000-8-W



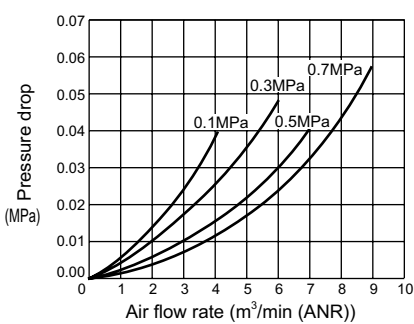
● F4000-10-W



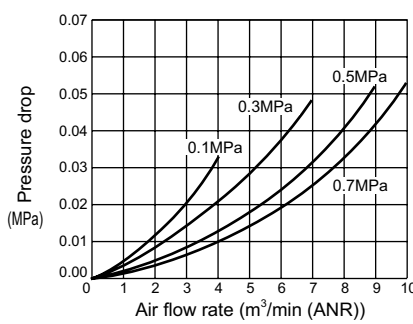
● F4000-15-W



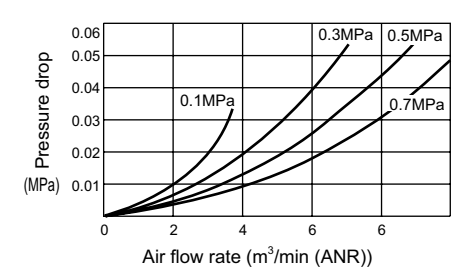
● F6000-20-W



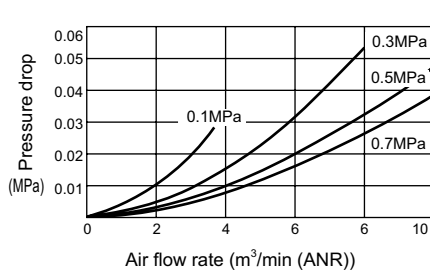
● F6000-25-W



● F8000-20-W



● F8000-25-W

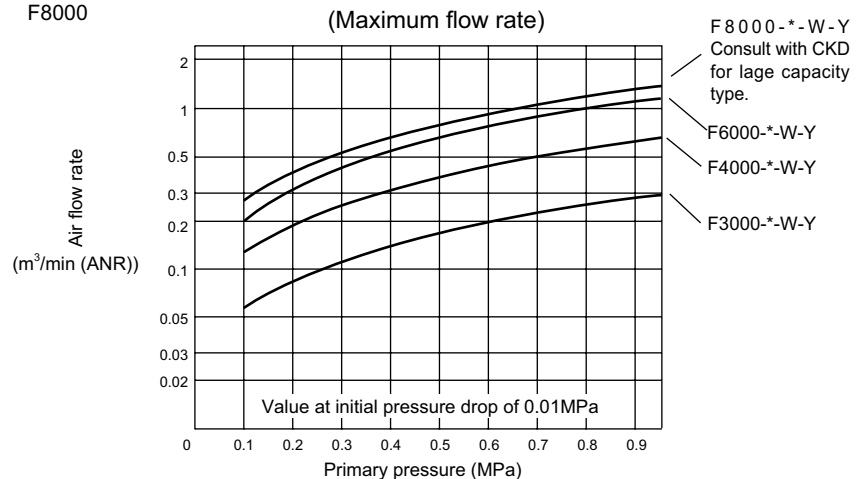


F3000

F4000

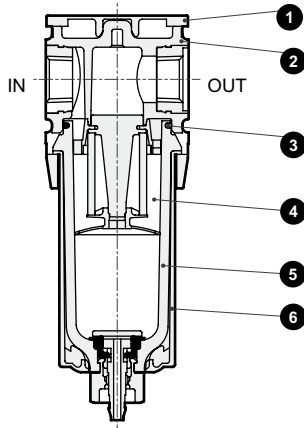
● F6000 ^{-*}-W-Y (0.3µm element)

F8000

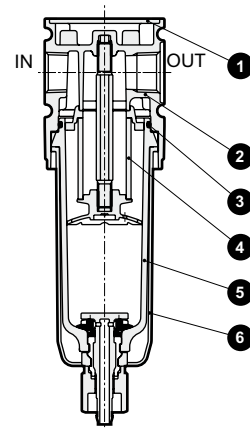


Internal structure and parts list

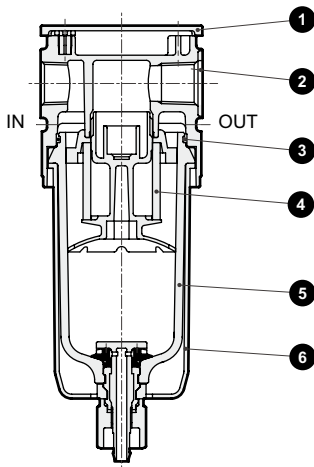
● F1000-W



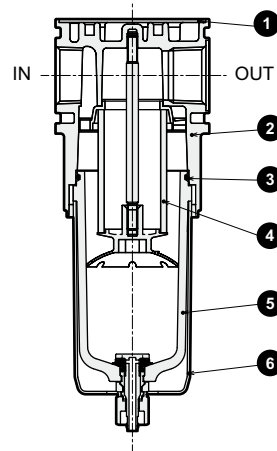
● F2000-W



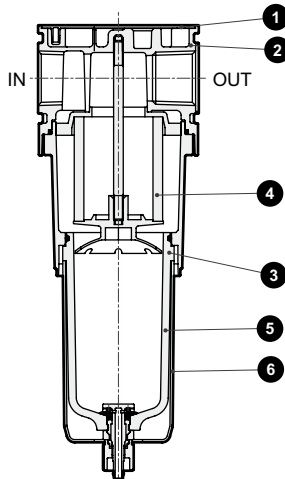
● F3000-W · F4000-W



● F6000-W



● F8000-W



| No. | Part name | Material | | | | | |
|-----|---------------|---|--------------------------------|---------|---------------|---------|---------|
| | | F1000-W | F2000-W | F3000-W | F4000-W | F6000-W | F8000-W |
| 1 | Plate cover | ABS resin | | | | | |
| 2 | Body | Polyamide resin, steel | Aluminum alloy die-casting | | | | |
| 3 | O-ring | Note 1 | Special nitrile rubber | | | | |
| 4 | 5μm element | Note 2 | Polyacetal resin polypropylene | | Polypropylene | | |
| | 0.3μm element | | - | | | | |
| 5 | Bowl assembly | Polycarbonate resin, polyacetal resin, urethane resin | | | | | |
| 6 | Bowl guard | Polyamide resin | Polyamide resin, steel | | | | |

Note 1: The F1000-W O ring has a special shape.

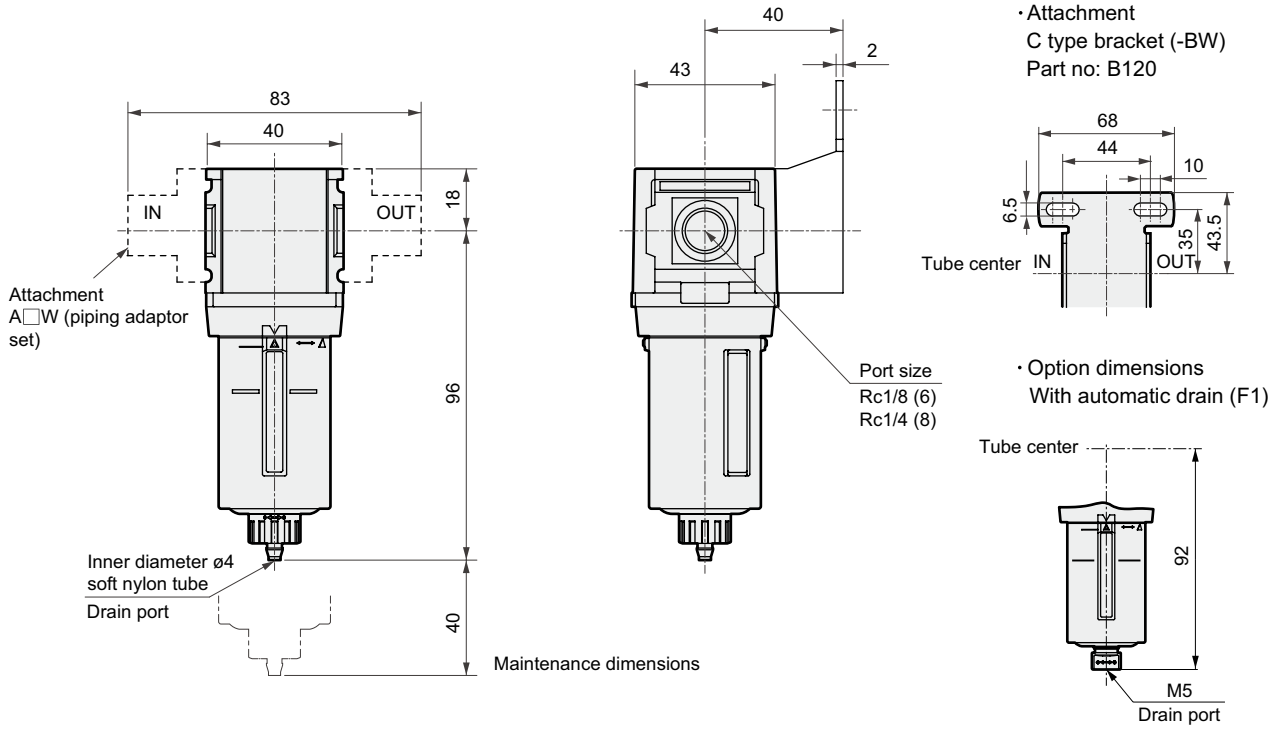
Note 2: F1000-W is an element assembly.

Note 3: Refer to page 93 for consumable parts kits.

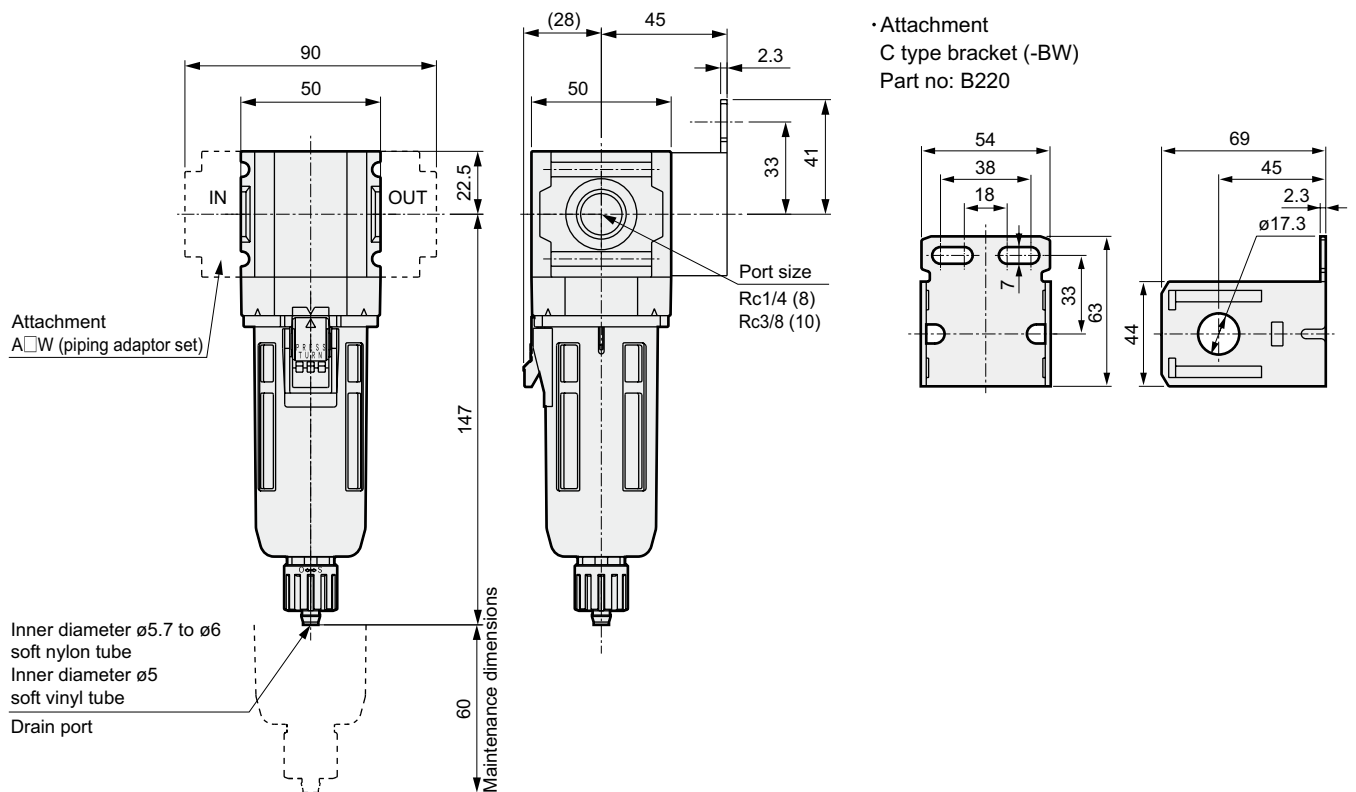
Air Filter Series

Dimensions

● F1000-W

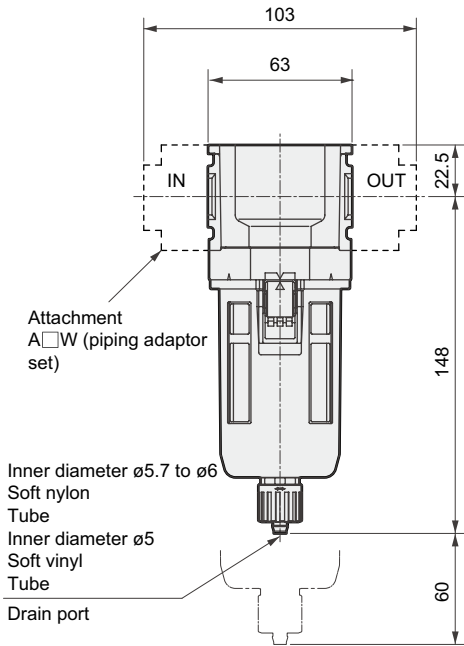


● F2000-W

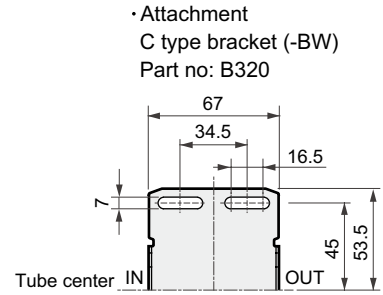


Dimensions

● F3000-W



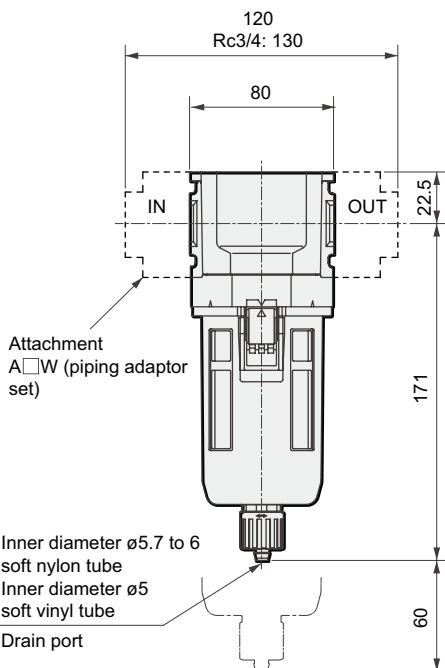
Maintenance dimensions



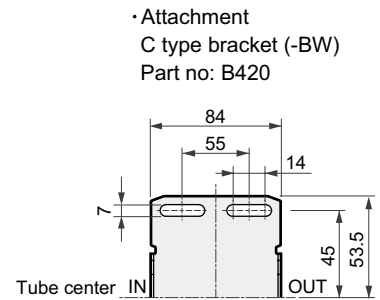
● The dimensions for the plastic bowl is the same whether the manual drain cock or automatic drain is installed.

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

● F4000-W



Maintenance dimensions

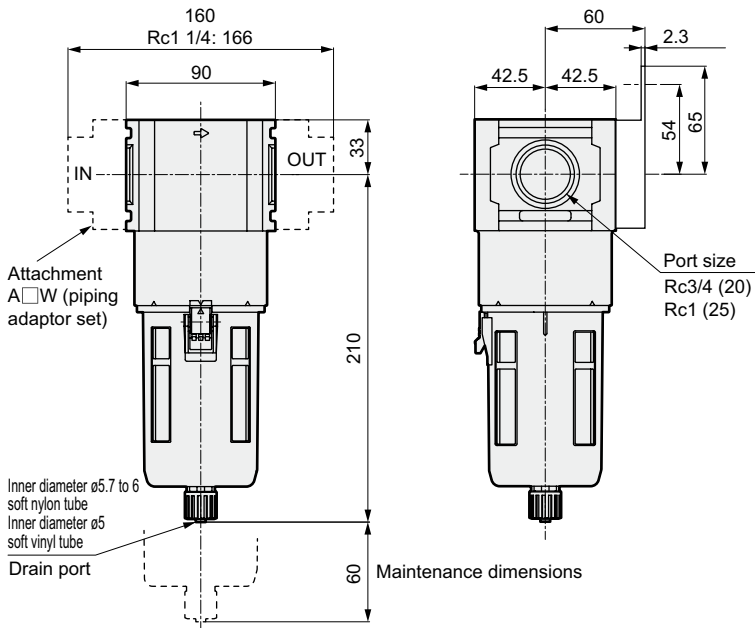
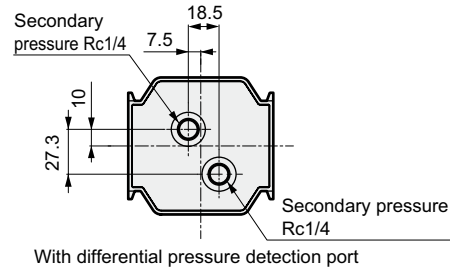


● The dimensions for the plastic bowl is the same whether the manual drain cock or automatic drain is installed.

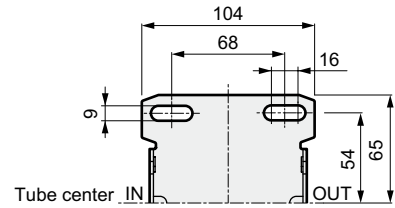
Air Filter Series

Dimensions

● F6000-W

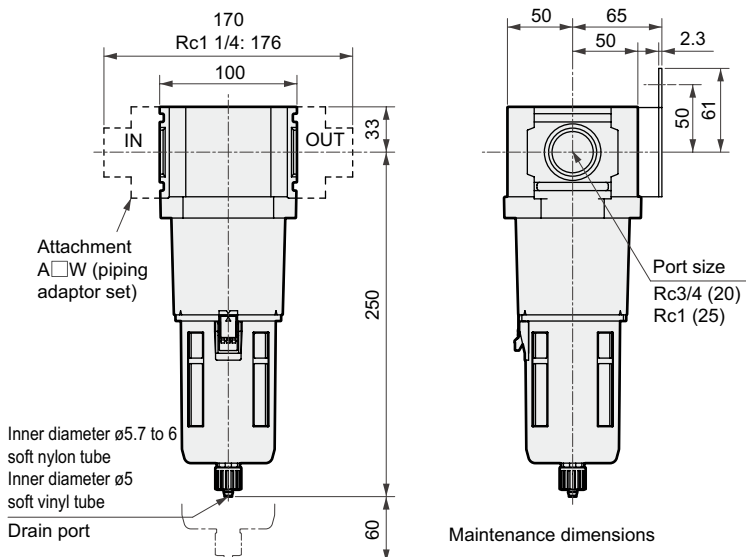
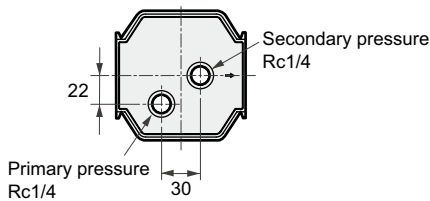


• Attachment
C type bracket (-BW)
Part no: B620

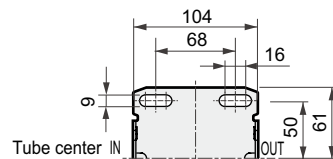


● F8000-W

With differential pressure detection port (Q)



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



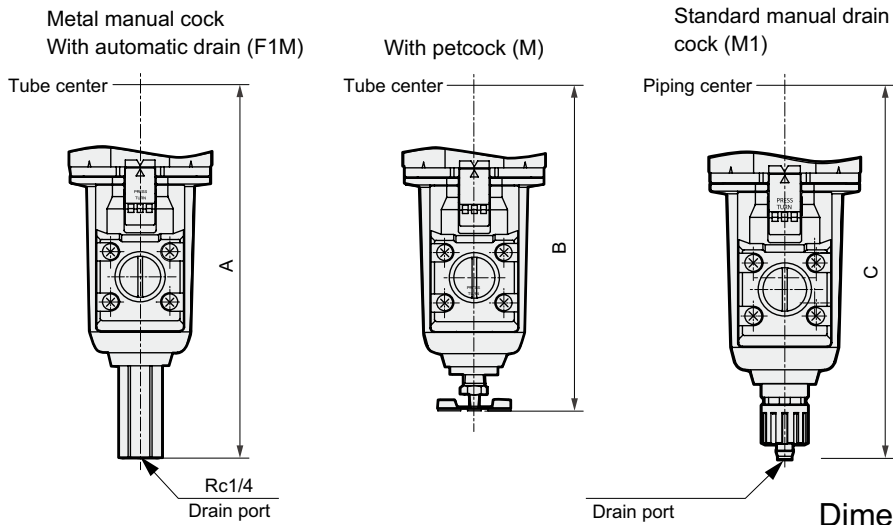
● The dimensions for the plastic bowl is the same whether the manual drain cock or automatic drain is installed.

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

Option dimensions



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



Dimensions table

| Model no. | F1M | M | M1 |
|-----------|-----|-------|-----|
| | A | B | C |
| F2000-W | - | - | 147 |
| F3000-W | 164 | 143.5 | 154 |
| F4000-W | 187 | 166.5 | 177 |
| F6000-W | 226 | 205 | 216 |
| F8000-W | 266 | 245.5 | 256 |

Air Filter Series

Optional parts drawing

Element

| Element model no. Model | 5µm Element | 0.3µm 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: Baffle and element will be an assembly for F1000-W-W1000-W

(M1)

Metal bowl with manual drain cock assembly

(FM1)

Automatic drain NO type metal bowl assembly with manual drain cock

(F1M1)

Automatic drain NC type metal bowl assembly with manual drain cock



* 8000 series large exhaust

(FFM1)

Large automatic drain NO type metal bowl assembly with manual drain cock

(FF1M1)

Large automatic drain NC type metal bowl assembly with manual drain cock

(FM)

NO type automatic drain nylon bowl assembly with metal manual cock

(F1M)

NC type with metal manual cock Automatic drain bowl assembly

(M)

Metal bowl assembly with cock

(F)

Automatic drain NO type metal bowl assembly with manual drain cock

(F1)

NC type automatic drain nylon bowl assembly with manual cock

(Z)

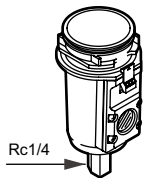
With manual cock Nylon bowl assembly

(FZ)

NO type automatic drain nylon bowl assembly with manual cock

(F1Z)

NC type automatic drain nylon bowl assembly with manual cock



* 8000 series large exhaust

(FFM)

NO type large automatic drain nylon bowl assembly with metal manual cock

(FF1M)

NC type large automatic drain nylon bowl assembly with metal manual cock



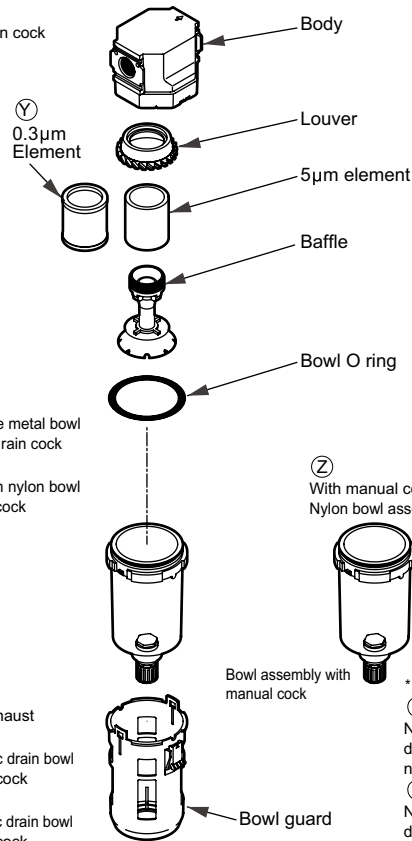
* 8000 series large exhaust

(FF)

NO type large automatic drain bowl assembly with manual cock

(FF1)

NC type large automatic drain bowl assembly with manual cock



Repair kit

(Se of louver, baffle, element and an O ring for bowl)

| Repair kit model no. Model | 5µm Element | 0.3µm Element (Y) |
|-------------------------------|----------------|----------------------|
| F1000-W Note1 | 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 F1000-W, the baffle and element are assembled parts, so the set consists of element assembly and bowl O ring.

Note 2: For F8000, consists of baffle, element and bowl O ring.

Bowl guard

| Bowl guard model no. Model | For polycarbonate bowl | Nylon bowl |
|--|---------------------------|-----------------------|
| 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 no. is "F1000-W-BOWL-BOWL-GUARD-F1"

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

| Bowl assembly model no. Model | PC bowl assembly with manual cock | PA bowl assembly with manual cock | Metal bowl assembly with manual cock | Metal bowl assembly with standard manual cock | NO type automatic drain PC bowl assembly with manual cock Note 1 | NC type automatic drain PC bowl assembly with manual cock | | |
|--|--|---|---|---|--|--|---|---|
| F1000-W, W1000-W M1000-W, W1100-W | F1000-W-BOWL | F1000-W-BOWL-Z | - | - | - | F1000-W-BOWL-BOWL GUARD-F1 Note 3 | | |
| F2000-W, W2000-W M2000-W, W2100-W | F2000-W-BOWL | F2000-W-BOWL-Z | - | F2000-W-BOWL-M1 | - | F2000-W-BOWL-F1 | | |
| 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 | | |
| FM3000-W, MM3000-W | - | - | - | - | - | - | | |
| F4000-W, F6000-W M4000-W, M6000-W F8000-W, M8000-W W4000-W, W4100-W W8000-W, W8100-W | F4000-W-BOWL | F4000-W-BOWL-Z | F4000-W-BOWL-M | F4000-W-BOWL-M1 | F4000-W-BOWL-F | M4000-W-BOWL-F1 | | |
| FM4000-W, FM6000-W FM8000-W, MM4000-W MM6000-W, MM8000-W | - | - | - | - | - | - | | |
| Bowl assembly model no. Model | NO type automatic drain PA bowl assembly with manual cock Note 1 | NC type automatic drain PA bowl assembly with manual cock | NO type automatic drain metal bowl assembly with metal manual cock Note 1 | NO type automatic drain with standard manual cock metal bowl assembly | NC type automatic drain metal bowl assembly with metal manual cock | NC type automatic drain metal bowl assembly with standard manual cock | NO type automatic drain bowl assembly for medium pressure Note 1 | NC type automatic drain bowl assembly for medium pressure |
| F1000-W, W1000-W M1000-W, W1100-W | - | F1000-W-BOWL- BOWL GUARD- F1Z Note 3 | - | - | - | - | - | - |
| F2000-W, W2000-W M2000-W, W2100-W | - | M2000-W-BOWL-F1Z | - | - | - | M2000-W-BOWL-F1M1 | - | - |
| 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 | - | - |
| FM3000-W, MM3000-W | - | - | - | - | - | - | FM3000-W-BOWL-F | MM3000-W-BOWL-F1 |
| F4000-W, F6000-W M4000-W, M6000-W F8000-W, M8000-W W4000-W, W4100-W W8000-W, W8100-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 | - | - |
| FM4000-W, FM6000-W FM8000-W, MM4000-W MM6000-W, MM8000-W | - | - | - | - | - | - | FM4000-W-BOWL-F | MM4000-W-BOWL-F1 |
| Bowl assembly model no. Model | NO type large automatic drain PC bowl assembly with manual cock | NC type large automatic drain PC bowl assembly with manual cock | NO type large automatic drain PA bowl assembly with manual cock | NC type large automatic drain PA bowl assembly with manual cock | NO type large automatic drain metal bowl assembly with metal manual cock | NC type large automatic drain metal bowl assembly with metal manual cock | NO type large automatic drain metal bowl assembly with standard manual cock | NC type large automatic drain metal bowl assembly with standard manual cock |
| F8000-W, W8000-W W8100-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 |

Note 1: NO type automatic drain is not available for oil mist filter M1000-W, M3000-W, M4000-W, M6000-W, M8000-W, 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.



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

JIS symbol



Specifications

| Descriptions | M1000-W | M2000-W | M3000-W | M4000-W | M6000-W | M8000-W |
|--------------------------------|-----------------------------------|-----------------------------------|---------|--|-----------------------------------|-----------------------------------|
| Exterior | | | | | | |
| Working fluid | Compressed air | | | | | |
| Working pressure range MPa | 0.1 to 1.0 Note 7, Note 8 | | | | | |
| Withstanding pressure MPa | 1.5 Note 7 | | | | | |
| Drain capacity cm ³ | 3 | 25 | 45 | 80 | 80 | 80 |
| Port size Rc, PT, | 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) | 3/4, 1 (1 1/4 uses an adaptor) |
| Product weight kg | 0.096 | 0.25 | 0.28 | 0.52 | 0.95 | 1.35 |
| Standard accessories | Bowl guard | | | | | |

| Mantle option name | Blank (M type) | S (S type) | X (X type) |
|---|--|--------------------|---------------------------------------|
| Maximum flow rate Note 1 | 150 Note 7 | 150 Note 7 | 150 |
| ℓ/min (ANR) | 250 Note 7 | 310 Note 7 | 310 |
| Primary pressure 0.7 MPa at pressure drop 0.01MPa | M1000-□-W | 360 | 450 |
| | M2000-□-W | 825 | 1000 |
| | M3000-□-W | 1270 | 1400 |
| | M4000-□-W | 2600 | 2900 |
| Ambient temperature range °C | 5 to 60 | | 5 to 30 |
| Filtration rating μm | 0.01 (nominal) | 0.3 | Adsorption by activated carbon Note 4 |
| Secondary oil concentration mg/m ³ | 0.01 or less Note 2, Note 3 | 0.5 or less Note 2 | 0.003 or less Note 5 |
| Mantle (element) replacement | 1 year (6000 hours) or pressure drop of 0.1MPa | | - Note 6 |

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: The secondary oil density is the value when the primary oil density is 30 mg/m³ and inlet air temperature is 21°C.

Note 3: Install an oil mist filter (S type) as a prefilter on the primary side to prevent early clogging.

Note 4: Activated carbon 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: When an oil mist filter (M Series M type) is installed on the primary side.

Note 6: The mantle (element) replacement period depends on 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 replace according to period of use. (e.g. 1000 hours of use at 21°C or confirmation of smell, which ever comes first.

The primary air temperature must be 30°C or less. The deodorizing effect will drop if the temperature is high, so provide heat dissipation measures.

Note 7: When "F1" with an automatic drain is selected for the F1000 series, minimum operating pressure is 0.2 MPa, maximum operation pressure is 0.7 MPa and the guaranteed pressure resistance is 1.05 MPa. Refer to the maximum processing flow table (page 97) for the F1000-F1 automatic drain for the maximum working flow.

Note 8: The minimum operating pressure is 0.15 MPa for models with automatic drain "F1".

Clean specification

(Catalog No. CB-033SA)

● Dust generation preventing structure for use in cleanrooms

Specification for LiB production

(Catalog No. CC-947A)

● Specification for LiB manufacturing process

M* 000 - -

P7*

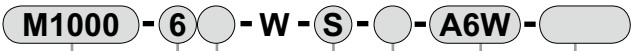
M* 000 - -

P4*

Oil Mist Filter Series

How to order

How to order



A Model no.

B Port size

C Port thread type

D Option

E Displayed unit

F Piping adaptor set (included)

G Bracket (attached)

* Refer top page 9 for an explanation of the options.

| A Model no. | | | | | |
|-------------|---|---|---|---|---|
| M | M | M | M | M | M |
| 1 | 2 | 3 | 4 | 6 | 8 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |

| Symbol | Descriptions | | | | | | |
|---|----------------------------|---|---|---|---|---|---|
| B Port size | | | | | | | |
| 6 | 1/8 | ● | | | | | |
| 8 Note 1 | 1/4 | ● | ● | ● | ● | | |
| 10 | 3/8 | | ● | ● | ● | | |
| 15 | 1/2 | | | | ● | | |
| 20 | 3/4 | | | | | ● | ● |
| 25 | 1 | | | | | ● | ● |
| C Port thread type Note 2 | | | | | | | |
| Blank | Rc thread | ● | ● | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● | ● | ● |
| D Option Note 3 | | | | | | | |
| Drainage <small>Note 4, Note 5</small> | Blank | With manual drain cock | | ● | ● | ● | ● |
| | F1 | Automatic drain with manual override (NC type) | | ● | ● | ● | ● |
| Bowl material | Blank | Polycarbonate bowl | | ● | ● | ● | ● |
| | Z | Nylon bowl | | ● | ● | ● | ● |
| | M | Metal bowl <small>Note 6</small> | | | | ● | ● |
| | M1 | Metal bowl with manual drain cock | | | ● | ● | ● |
| Mantle (element) | Blank | M type (nominal 0.01 μm; remaining oil 0.01 mg/m ³) | | ● | ● | ● | ● |
| | S | S type (0.3 μm; remaining oil 0.5 mg/m ³) | | ● | ● | ● | ● |
| | X Note 7 | X type (deodorization; remaining oil 0.003mg/m ³) | | ● | ● | ● | ● |
| Differential pressure detection | Blank | Without differential pressure detection port | | ● | ● | ● | ● |
| | Q | With differential pressure detection port (Rc1/4) | | | | | ● |
| Differential pressure indicator <small>Q1 Note 6, Note 7</small> | Blank | Without differential pressure indicator | | ● | ● | ● | ● |
| | Q1 | With differential pressure indicator | | | | ● | |
| Flow direction | Blank | Standard flow (left to right) | | ● | ● | ● | ● |
| | X1 | Reverse flow (right to left) | | ● | ● | ● | ● |
| E Displayed unit | | | | | | | |
| Blank | MPa display, Rc thread | | ● | ● | ● | ● | ● |
| J1 | MPa display, NPT, G thread | | ● | ● | ● | ● | ● |
| F Piping adaptor set (included) Note 8, 9 pages 155 to 157 | | | | | | | |
| Blank | Not attached | | ● | ● | ● | ● | ● |
| A6*W | 1/8 piping adaptor set | | ● | | | | |
| A8*W | 1/4 piping adaptor set | | ● | ● | ● | ● | |
| A10*W | 3/8 piping adaptor set | | ● | ● | ● | ● | |
| A15*W | 1/2 piping adaptor set | | | ● | ● | ● | |
| A20*W | 3/4 piping adaptor set | | | | | ● | ● |
| A25*W | 1 piping adaptor set | | | | | ● | ● |
| A32*W | 1 1/4 piping adaptor set | | | | | ● | ● |
| * Adaptor thread type | | | | | | | |
| Blank | Rc thread | | ● | ● | ● | ● | ● |
| N | NPT thread | | ● | ● | ● | ● | ● |
| G | G thread | | ● | ● | ● | ● | ● |
| G Bracket (attached) Page 152 | | | | | | | |
| Blank | Not attached | | ● | ● | ● | ● | ● |
| BW | C type bracket | | ● | ● | ● | ● | ● |

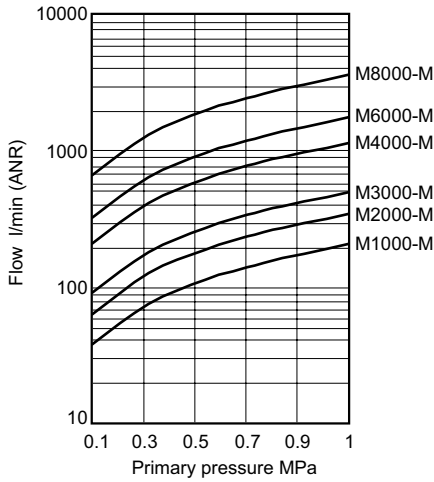
⚠ Cautions for model No. selection

- Note 1: Differential indicator option "Q1" is not available for port size "B"
- Note 2: When G threads or NPT threads are selected, the IN, OUT, gauge port, and drainage discharge port (metal bowl automatic drain) are the target, as are attachments P and V.
- Note 3: Select options for each drainage discharge, bowl material and differential pressure detection.
When selecting options for several items, list options in order from the top.
- Note 4: N.O. automatic drain cannot be selected.
- Note 5: Refer to page 12 for working conditions of the automatic drain.
- Note 6: Option for differential indicator "Q1" is not available for bowl material "M"
- Note 7: Combination with option F1 or "Q1" with differential pressure indicator is not possible.
- Note 8: The piping adapter set and C bracket cannot be used together.
- Note 9: A joiner set is attached with the piping adapter set.

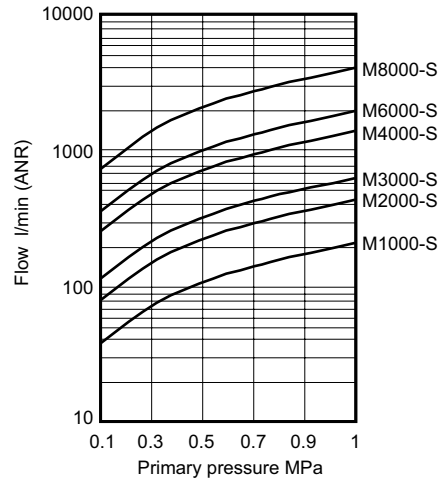
Oil Mist Filter Series

Flow characteristics (Maximum flow rate)

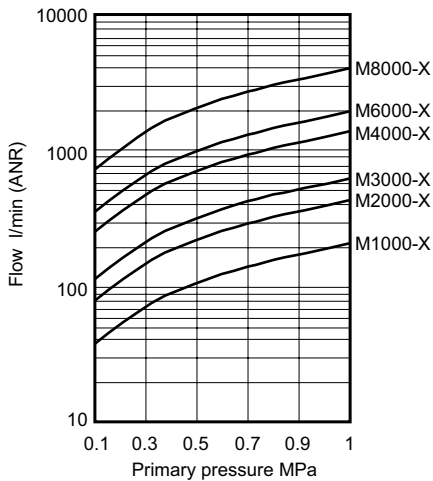
● M*000-W-M



● M*000-W-S

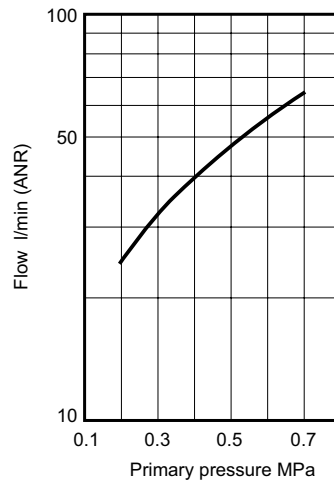


● M*000-W-X



● M1000-W-F1

With automatic drain (M type, S type)



Selecting optional mantle for oil mist filters

Recommended circuit

◆ S type



Applications

General industrial air

- Air tools
- Air drill, air driver
- air grinder
- Labor saving device and components
- Pneumatic jigs and tools
- Air chuck
- Air vice
- Air for cleaning precision parts

◆ M type



Oil free air

- Instrumentation
- Measurement
- Sequence control
- Movable element, pure fluid element
- Luxury painting
- Precision

◆ X type



Deodorization

- Food industry
- Pharmaceutical industry
- Stirring
- Transportation
- Drying
- Packaging
- Air for brewing

Option symbol and shape of mantles

| Option symbol | Appearance |
|----------------|--|
| Blank (M type) | <p>End plate black</p> <p>Plastic form red</p> |
| S (S type) | <p>End plate green</p> <p>Plastic form red</p> |
| X (X type) | <p>End plate black</p> <p>Punching metal</p> |

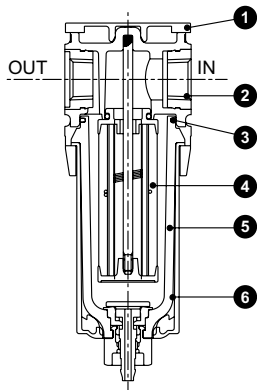
Note: Changes for product upgrades may be made without prior notice.
When placing an order, confirm the option symbol for the part model given here.

Oil Mist Filter Series

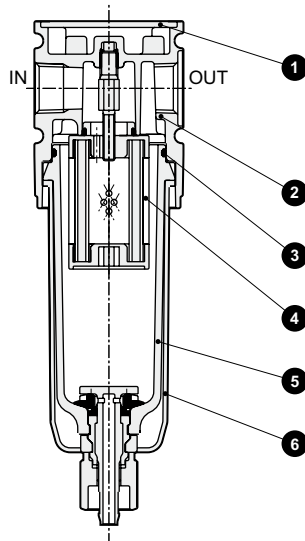
Internal structure and parts list

Internal structure and parts list

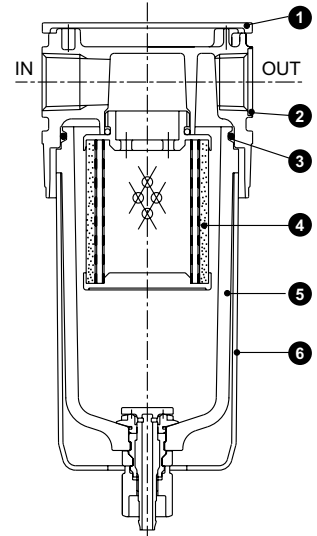
● M1000-W



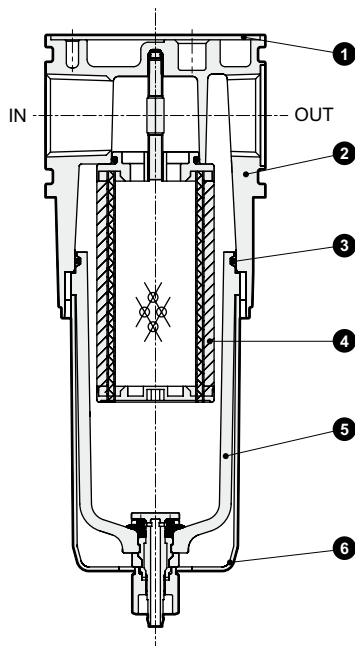
● M2000-W



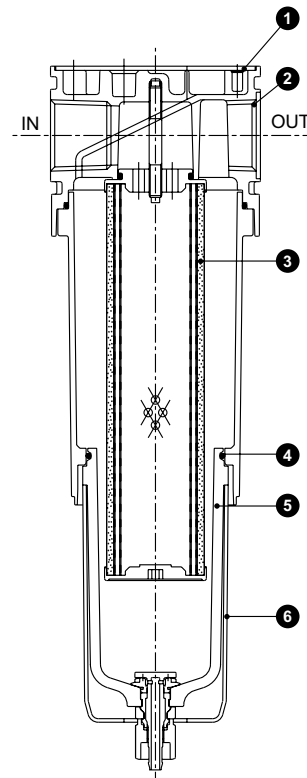
● M3000-W·M4000-W



● M6000-W



● M8000-W



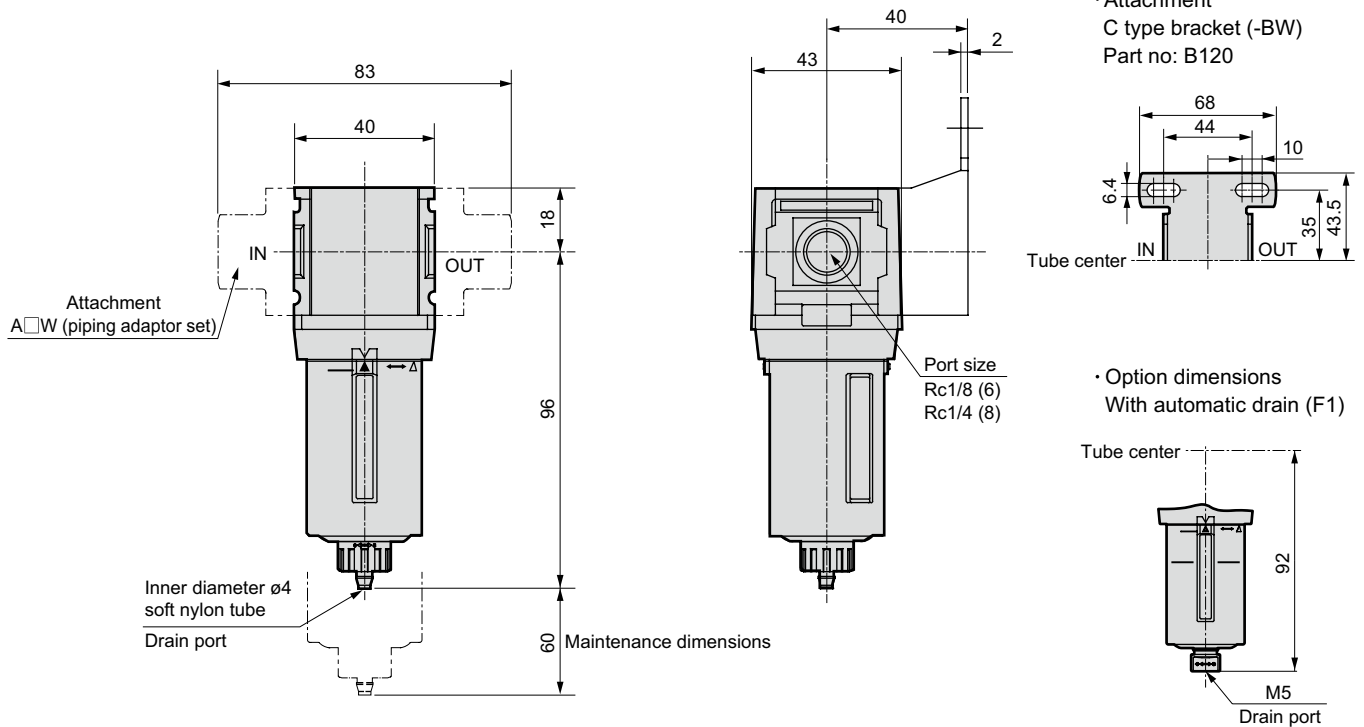
| No. | Part name | Material | | | | | |
|-----|-----------------|---|----------------------------|---------|---------|---------|---------|
| | | M1000-W | M2000-W | M3000-W | M4000-W | M6000-W | M8000-W |
| 1 | Plate cover | ABS resin | | | | | |
| 2 | Body | Polyamide resin | Aluminum alloy die-casting | | | | |
| 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 | Polyamide resin, steel | | | | |

Note 1: The M1000-W O ring has a special shape.

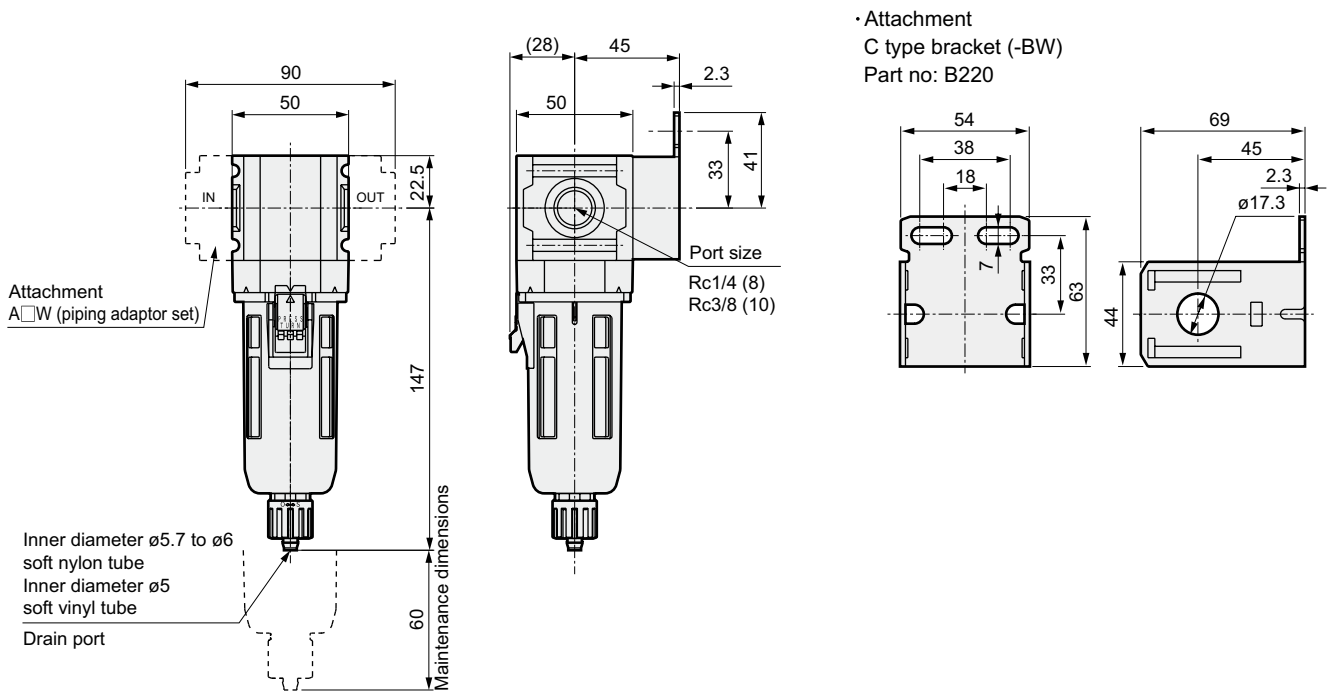
Oil Mist Filter Series

Dimensions

● M1000-W

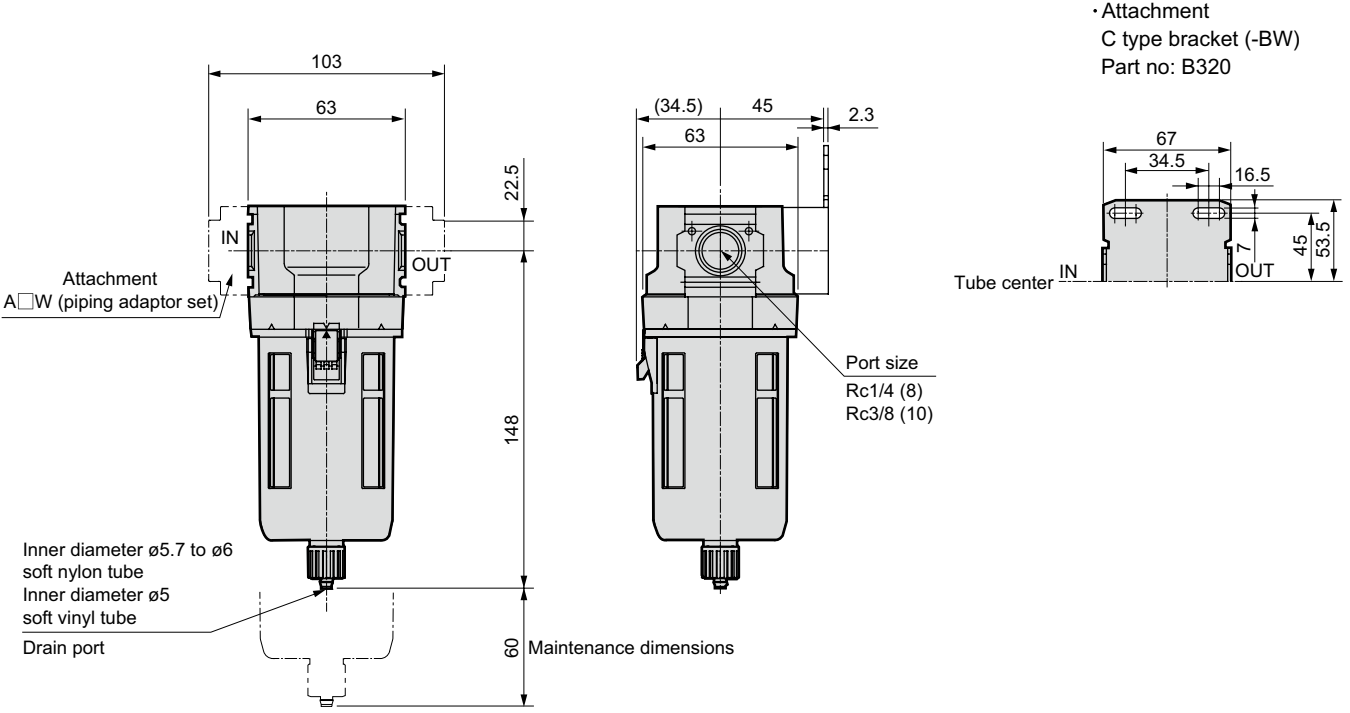


● M2000-W



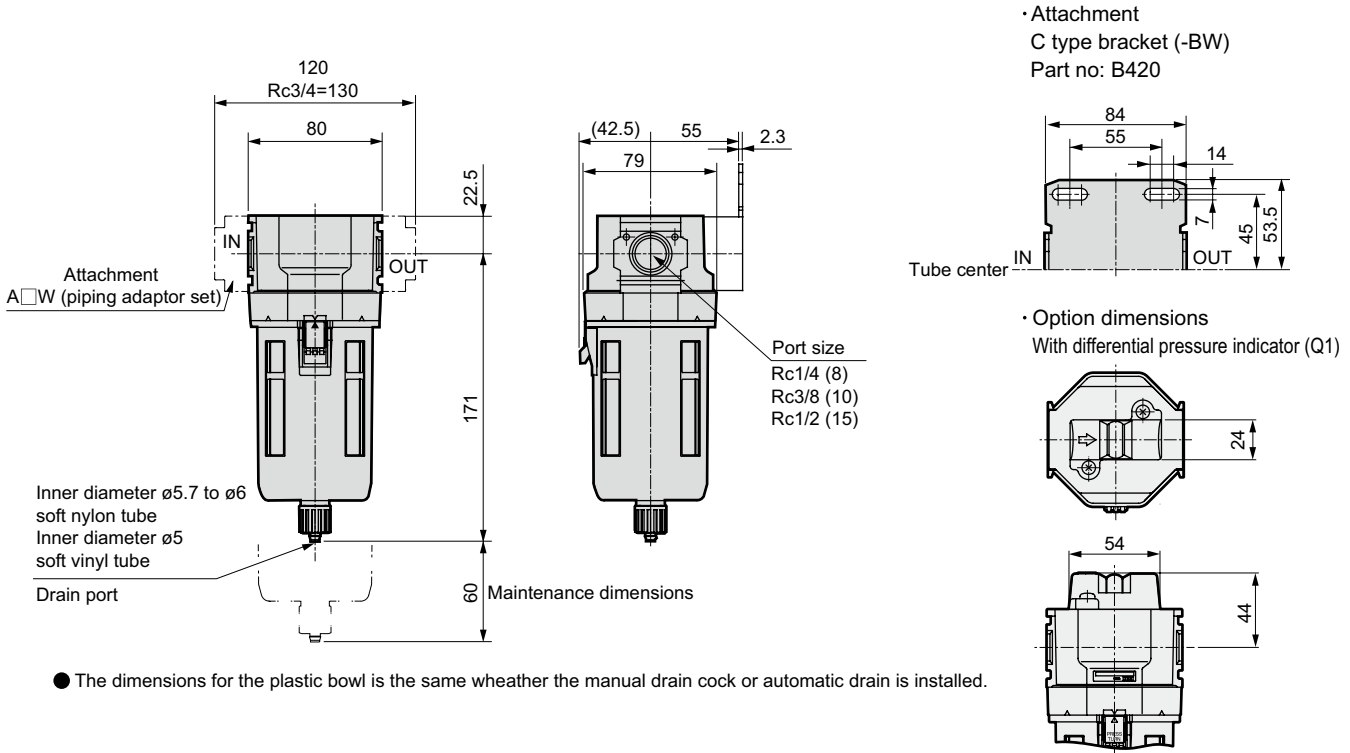
Dimensions

● M3000-W



● The dimensions for the plastic bowl is the same whether the manual drain cock or automatic drain is installed. Note: The C-type bracket and piping adaptor set attachments cannot be used at the same time.

● M4000-W

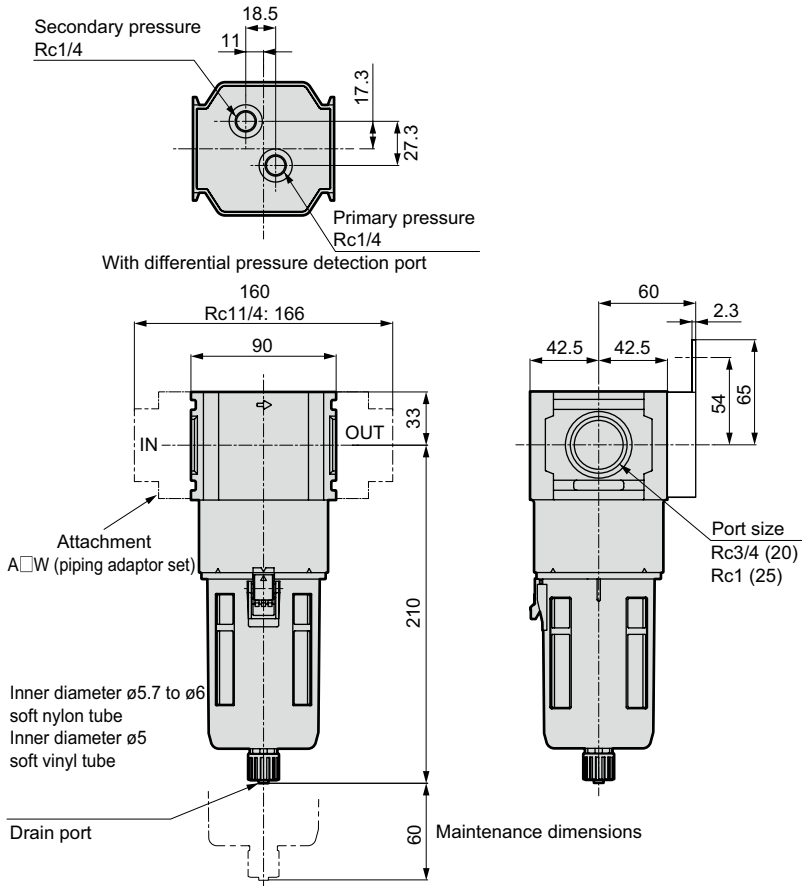


● The dimensions for the plastic bowl is the same whether the manual drain cock or automatic drain is installed.

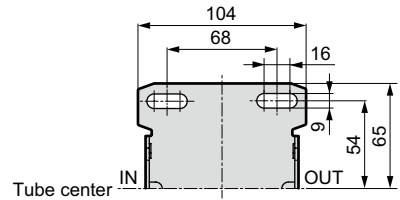
Oil Mist Filter Series

Dimensions

● M6000-W

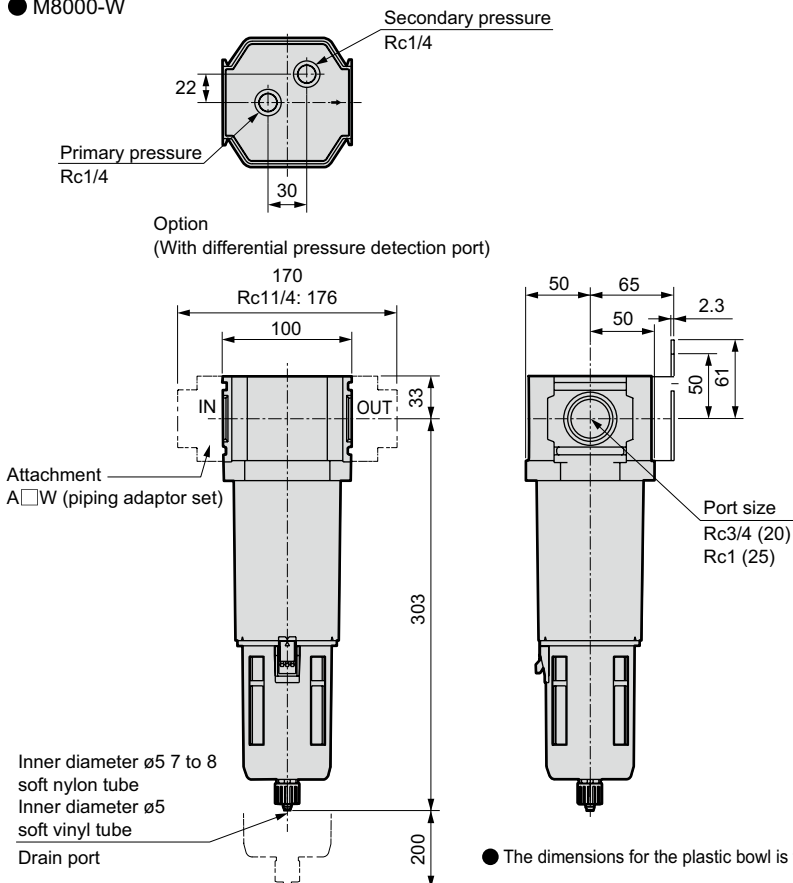


· Attachment
C type bracket (-BW)
Part no: B620

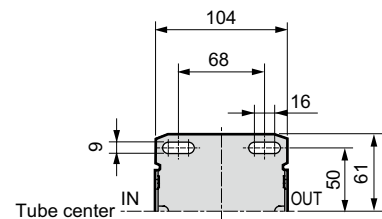


● The dimensions for the plastic bowl is the same whether the manual drain cock or automatic drain is installed.
Note: The C-type bracket and piping adapter set attachments cannot be used at the same time.

● M8000-W



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



● The dimensions for the plastic bowl is the same whether the manual drain cock or automatic drain is installed.

Option dimensions



● Metal bowl (option)

(M2000-W, M3000-W, M4000-W, M6000-W, M8000-W)

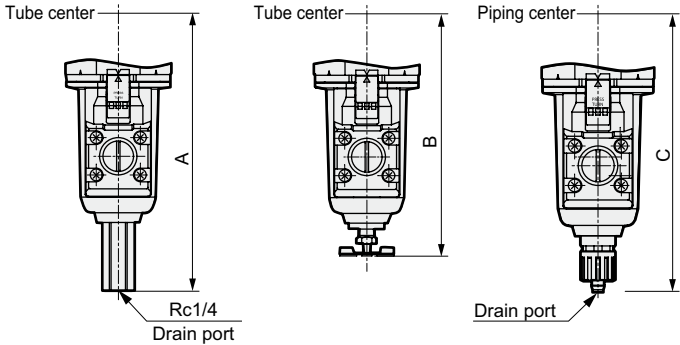
Metal manual cock

With automatic drain (F1M)

With petcock (M)

Standard manual drain cock

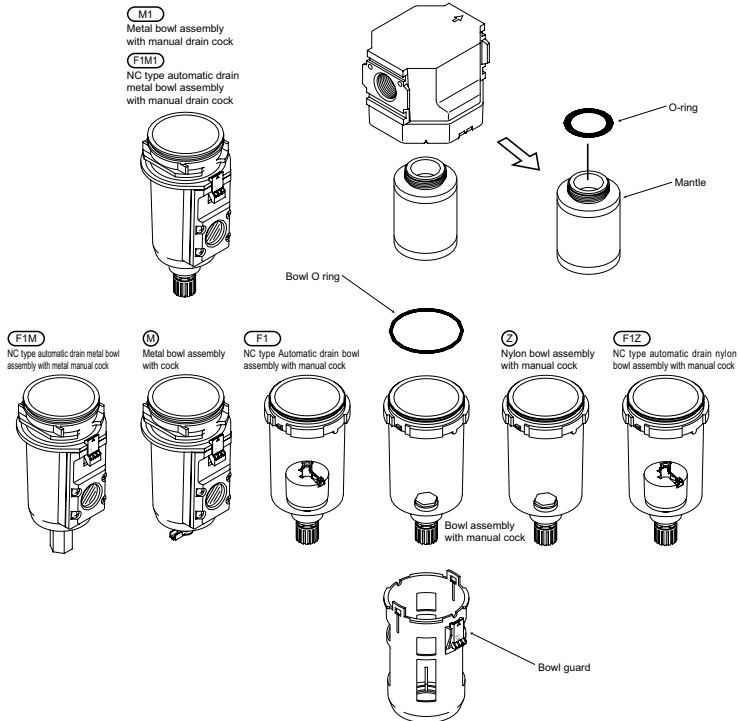
(M1)



Dimensions table

| Model no. | F1M | M | M1 |
|-----------|-----|-------|-----|
| | A | B | C |
| 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 |

Option parts table for oil mist filter



Repair kit model no. (Set of O ring, mantle and bowl O ring)

| Model | 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 kit model no. (Set of O ring and mantle)

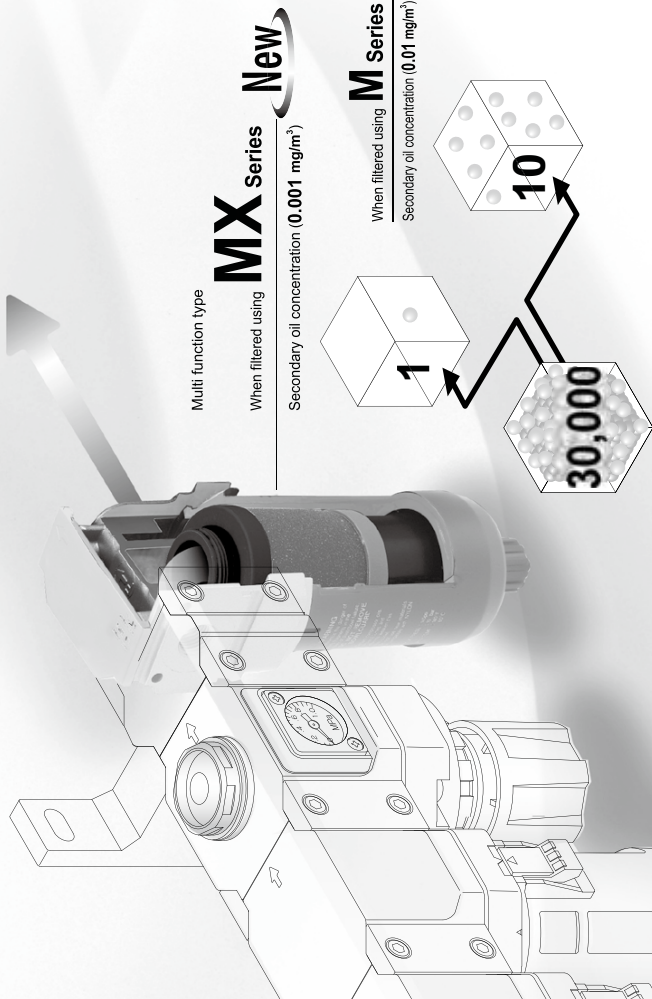
| Model | M type | S type | X type |
|-------------------|----------------------|-----------------------|---------------------|
| M1000-W | M1000-MANTLE-ASSY | M1000-MANTLE-ASSY-S | M1000-MANTLE-ASSY-X |
| M1000-W-F1 | M1000-MANTLE-ASSY-F1 | M1000-MANTLE-ASSY-F1S | - |
| M2000-W | M2000-MANTLE-ASSY | M2000-MANTLE-ASSY-S | M2000-MANTLE-ASSY-X |
| M3000-W, MM3000-W | M3000-MANTLE-ASSY | M3000-MANTLE-ASSY-S | M3000-MANTLE-ASSY-X |
| M4000-W, MM4000-W | M4000-MANTLE-ASSY | M4000-MANTLE-ASSY-S | M4000-MANTLE-ASSY-X |
| M6000-W, MM6000-W | M6000-MANTLE-ASSY | M6000-MANTLE-ASSY-S | M6000-MANTLE-ASSY-X |
| M8000-W, MM8000-W | M8000-MANTLE-ASSY | M8000-MANTLE-ASSY-S | M8000-MANTLE-ASSY-X |

* Parts of M type are compatible with M1000-W, 3000-W, 4000-W, 8000-W Series manufactured before '98.5.

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

High-performance with x10 oil removal.

Highly efficient oil removing mantle removes oil up to a secondary oil concentration 0.001 mg/m³. MX Series high-performance oil mist filter with x10 (compared to oil mist filter M Series) oil removal.

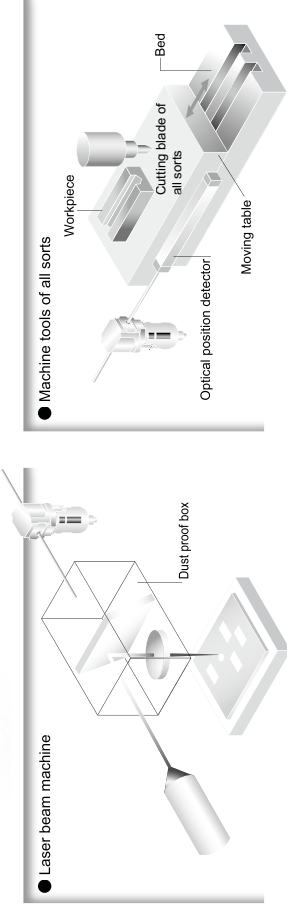


Compressed air generated with compressor
Secondary oil concentration (30 mg/m³)

Oil concentration of compressed air

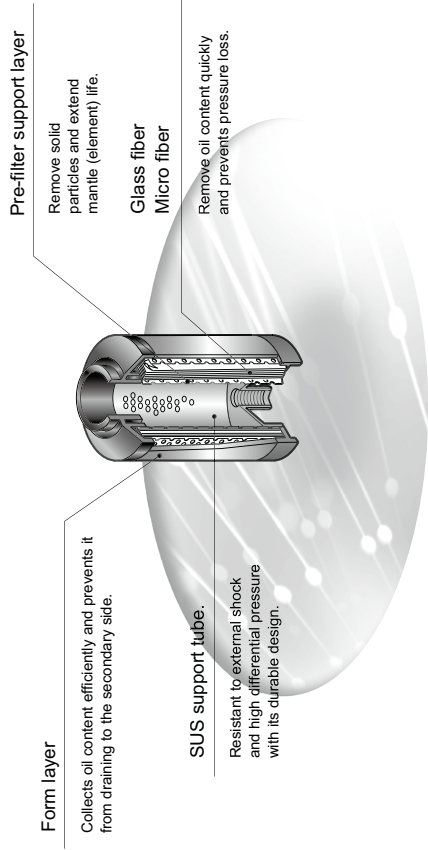
Further expanding high-purity oilfree air applications

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



High performance oil mist filter MX Serie

Mantle structural explanation



Secondary oil concentration 0.001mg/m³ or less

The highly efficient oil removing mantle removes oil up to the secondary oil concentration of 0.001 mg/m³ at 21°C. This series is compatible with the JIS Standards Oil Class 1.

Modular connection possible

A system is configured with module connections in the same manner as the conventional filter F Series and oil mist filter M Series.

Diverse models

Five types -- MX1000, 3000, 4000, 6000, and 8000 --are available for different flow.

Long service life, low pressure loss

Fibers with a gap rate of 94% used for the mantle reduces pressure loss and prolong service life.

Suitable for clean room

P70 Series available. (3000, 4000, 6000 Series available)

High performance oil mist filter
MX series variations

| MX Series | 1000 Series | 3000 Series | 4000 Series | 6000 Series | 8000 Series | Initial temperature °C |
|-----------|------------------|---------------|-------------|--------------|-------------|------------------------|
| MX Series | 75 | 180 | 370 | 670 | 1490 | 5 to 60 |
| M Series | 0.01 | 0.001 or less | 0.01 | 0.01 or less | 0.01 | 5 to 60 |
| M Type | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 5 to 60 |
| S Type | 0.3 | 0.5 or less | 0.3 | 0.3 | 0.3 | 5 to 60 |
| X Type | Activated carbon | 0.003 or less | 0.003 | 0.003 | 0.003 | 5 to 30 |

Read Safety Precautions to ensure correct, safe product use.



High performance oil mist filter Standard white Series

MX1000 / MX3000 / MX4000 MX6000 / MX8000-W Series

Secondary side oil concentration 0.001 mg/m³ Secondary oil concentration (0.001mg/m³)

Suitable for optical equipment such as optical positioning units and laser processing machines

Port size: 1/8 to 1

JIS symbol



Specifications

| Descriptions | MX1000-W | MX3000-W | MX4000-W | MX6000-W | MX8000-W |
|---|--|-----------------------------------|--|-----------------------------------|-----------------------------------|
| Exterior | | | | | |
| Working fluid | Compressed air | | | | |
| Working pressure range MPa | 0.1 to 1.0 Note 4, Note 5 | | | | |
| Withstanding pressure MPa | 1.5 Note 4 | | | | |
| Ambient temperature range °C | 5 to 60 | | | | |
| Filtration rating μm | 0.01 (nominal) | | | | |
| Secondary oil concentration mg/m ³ | 0.001 or less Note 2, Note 3 | | | | |
| Maximum flow rate ℓ/min (ANR) Note 1 | 75 Note 4 | 180 | 370 | 670 | 1480 |
| Drain capacity cm ³ | 3 | 45 | 80 | 80 | 80 |
| Port size Rc, PT, 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) | 3/4, 1 (1 1/4 uses an adaptor) |
| Product weight kg | 0.096 | 0.28 | 0.52 | 0.95 | 1.35 |
| Mantle (element) replacement | 1 year (6000 hours) or pressure drop of 0.1MPa | | | | |
| Standard accessories | Bowl guard | | | | |

Note 1: Primary pressure 0.7MPa 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: The secondary oil density is the value when the primary oil density is 30 mg/m³, the inlet air temperature is 21°C and before the oil is saturated.

Note 3: Install an oil mist filter (S type) as a prefilter on the primary side to prevent early clogging.

Note 4: MX1000-W-F1 with an automatic drain has a min. working pressure of 0.2MPa, max. working pressure of 0.7MPa, withstanding pressure of 1.05MPa, and please refer to the flow characteristics on the next page for max. treating flow rate.

Note 5: The minimum operating pressure is 0.15 MPa for models with automatic drain "F1".

Clean specification (Catalog No. CB-033SA)

● Dust generation preventing structure for use in cleanrooms

MX * 000 - - P7*

Super Oil Mist Filter Series

How to order

How to order



* Refer top page 9 for an explanation of the options.

| A Model no. | | | | |
|-------------|---|---|---|---|
| M | M | M | M | M |
| X | X | X | X | X |
| 1 | 3 | 4 | 6 | 8 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |

A Model no.

B Port size

C Port thread type

D Port thread type

E Displayed unit

F Piping adaptor set (included)

G Bracket (attached)

| Symbol | Descriptions | M | X | M | X | M | X |
|--------------------|--------------|---|---|---|---|---|---|
| B Port size | | | | | | | |
| 6 | 1/8 | ● | | | | | |
| 8 | 1/4 | ● | ● | ● | | | |
| 10 | 3/8 | | ● | ● | | | |
| 15 | 1/2 | | | ● | | | |
| 20 | 3/4 | | | | ● | ● | |
| 25 | 1 | | | | ● | ● | |

| C Port thread type | | Note 1 | | | | |
|--------------------|------------|--------|---|---|---|---|
| Blank | Rc thread | ● | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● | ● |

| D Option | | Note 2 | | | | | |
|---------------------------------|-------------------|---|---|---|---|---|---|
| Drainage | Blank | With manual drain cock | ● | ● | ● | ● | ● |
| | F1 Note 3, Note 4 | Automatic drain with manual override (NC type) | ● | ● | ● | ● | ● |
| Bowl material | Blank | Polycarbonate bowl | ● | ● | ● | ● | ● |
| | Z | Nylon bowl | ● | ● | ● | ● | ● |
| | M | Metal bowl | | ● | ● | ● | ● |
| Differential pressure detection | M1 | Metal bowl with manual drain cock | | ● | ● | ● | ● |
| | Blank | Without differential pressure detection port | ● | ● | ● | ● | ● |
| | Q | With differential pressure detection port (Rc1/4) | | | | ● | ● |
| Flow Direction | Blank | Standard flow (left to right) | ● | ● | ● | ● | ● |
| | X1 | Reverse flow (right to left) | ● | ● | ● | ● | ● |

| E Displayed unit | | M | X | M | X | M | X |
|------------------|----------------------------|---|---|---|---|---|---|
| Blank | MPa display, Rc thread | ● | ● | ● | ● | ● | ● |
| J1 | MPa display, NPT, G thread | ● | ● | ● | ● | ● | ● |

| F Piping adaptor set (included) | | Note 5 pages 155 to 157 Note 6 | | | | |
|---------------------------------|--------------------------|--------------------------------|---|---|---|---|
| Blank | Not attached | ● | ● | ● | ● | ● |
| A6*W | 1/8 piping adaptor set | ● | | | | |
| A8*W | 1/4 piping adaptor set | ● | ● | ● | | |
| A10*W | 3/8 piping adaptor set | ● | ● | ● | | |
| A15*W | 1/2 piping adaptor set | | ● | ● | | |
| A20*W | 3/4 piping adaptor set | | | ● | ● | ● |
| A25*W | 1 piping adaptor set | | | | ● | ● |
| A32*W | 1 1/4 piping adaptor set | | | | ● | ● |

| * Adaptor thread type | | M | X | M | X | M | X |
|-----------------------|------------|---|---|---|---|---|---|
| Blank | Rc thread | ● | ● | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● | ● | ● |

| G Bracket (attached) | | Page 152 | | | | |
|----------------------|----------------|----------|---|---|---|---|
| Blank | Not attached | ● | ● | ● | ● | ● |
| BW | C type bracket | ● | ● | ● | ● | ● |

⚠ Cautions for model No. selection

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

Note 2: Select options for each drainage discharge, bowl material and differential pressure detection.

When selecting options for several items, list options in order from the top.

Note 3: N.O. automatic drain cannot be selected.

Note 4: Refer to page 12 for working conditions of the automatic drain.

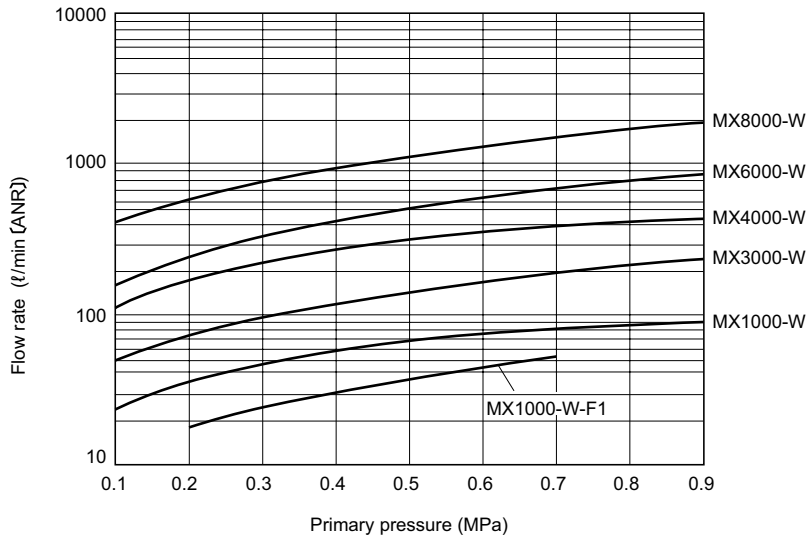
Note 5: Piping adaptor set and C type bracket cannot be used together.

Note 6: A joiner set is attached with the piping adapter set.

Super Oil Mist Filter Series

Flow characteristics (Maximum flow rate)

● MX * 000-W



Selecting optional mantle for oil mist filters

Recommended circuit

Applications

◆ S type



General industrial air
(Secondary side air content
0.5mg/m³ or less)

- Air tools
Air drill, air driver
air grinder
- Labor saving device and components
- Pneumatic jigs and tools
- Air chuck
- Air vice
- Air for cleaning precision parts

◆ M type



Oil free air
(Secondary side air content
0.01mg/m³ or less)

- Instrumentation
- Measurement
- Sequence control
Movable element, pure fluid element
- Luxury painting
- Precision industry

◆ X type



Odor free air
(Secondary side air content
0.003mg/m³ or less)

- Food industry
- Pharmaceutical industry
- Stirring
- Transportation
- Drying
- Packaging
- Air for brewing

◆ MX type



Super oil
free air
(Secondary side air content
0.001mg/m³ or less)

- Optical positioning equipment
- Laser machining

Option symbol and shape of mantles

| | Option symbol | Appearance |
|------------|----------------|---|
| M※000-W | Blank (M type) | End plate black Plastic foam red |
| | S (S type) | End plate green Plastic foam red |
| | X (X type) | End plate black Punching metal |
| MX * 000-W | | Black End plate Green Plastic foam Red |

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.

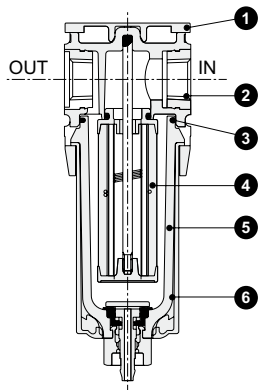
CAUTION: Secondary oil content is measured at inlet air temperature of 21 degrees celcius and primary oil content of 30mg/m³.

Super Oil Mist Filter Series

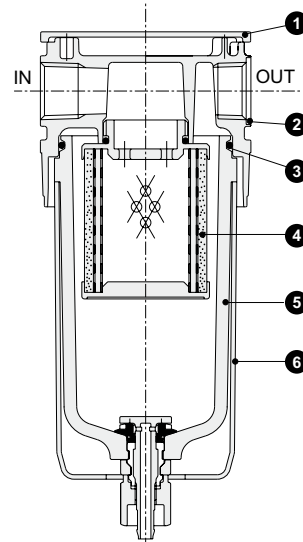
Internal structure and parts list

Internal structure and parts list

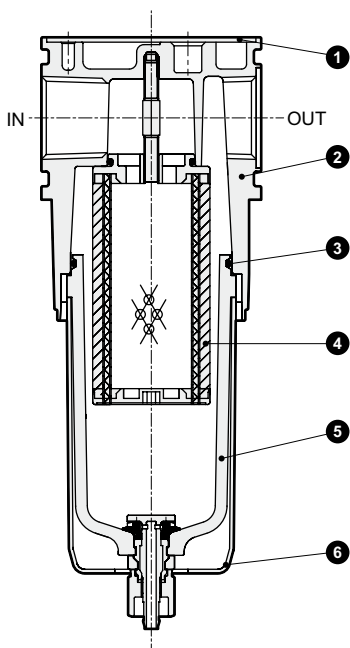
● MX1000-W



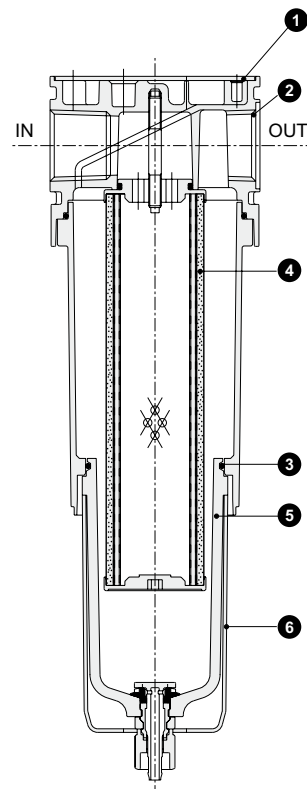
● MX3000-W·MX4000-W



● MX6000-W



● MX8000-W



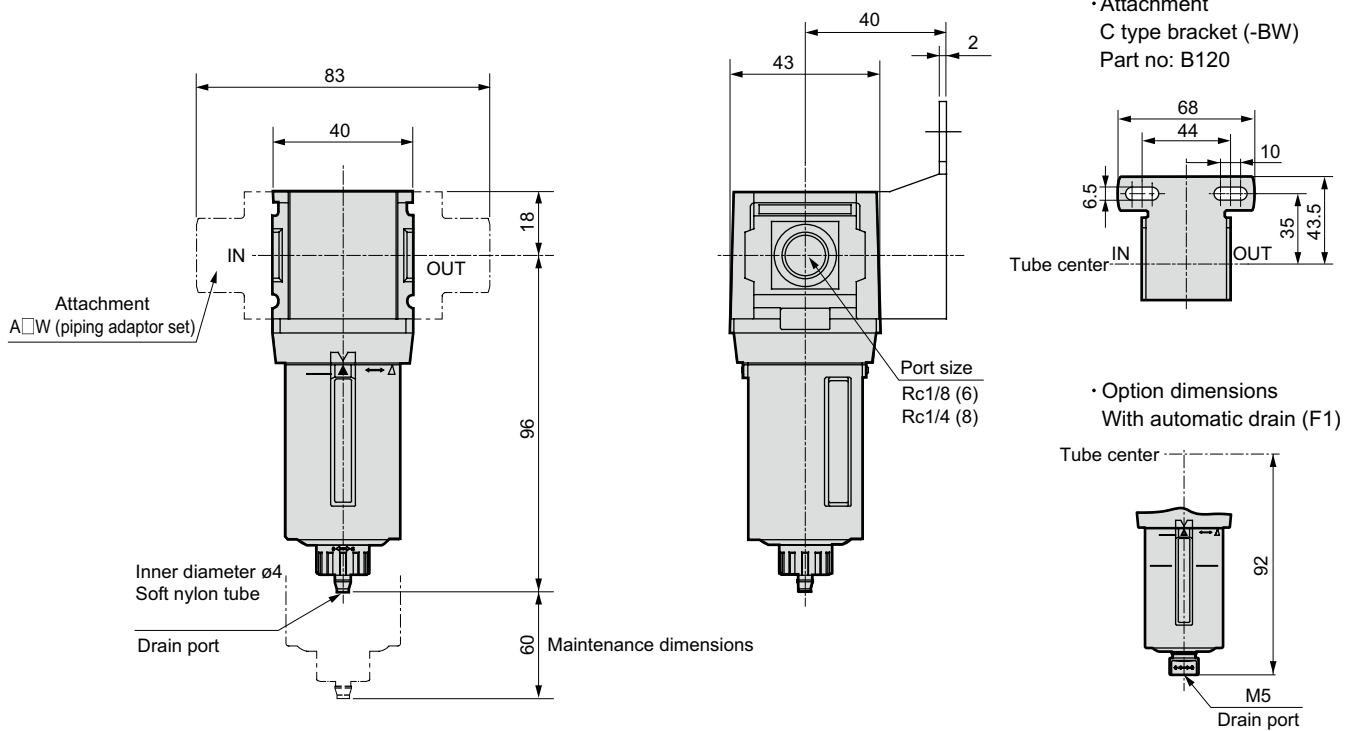
| No. | Part name | Material | | | | |
|-----|-----------------|---|----------------------------|----------|----------|----------|
| | | MX1000-W | MX3000-W | MX4000-W | MX6000-W | MX8000-W |
| 1 | Plate cover | ABS resin | | | | |
| 2 | Body | Polyamide resin | Aluminum alloy die-casting | | | |
| 3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

Note 1: O ring for MX1000-W will have a special shape.

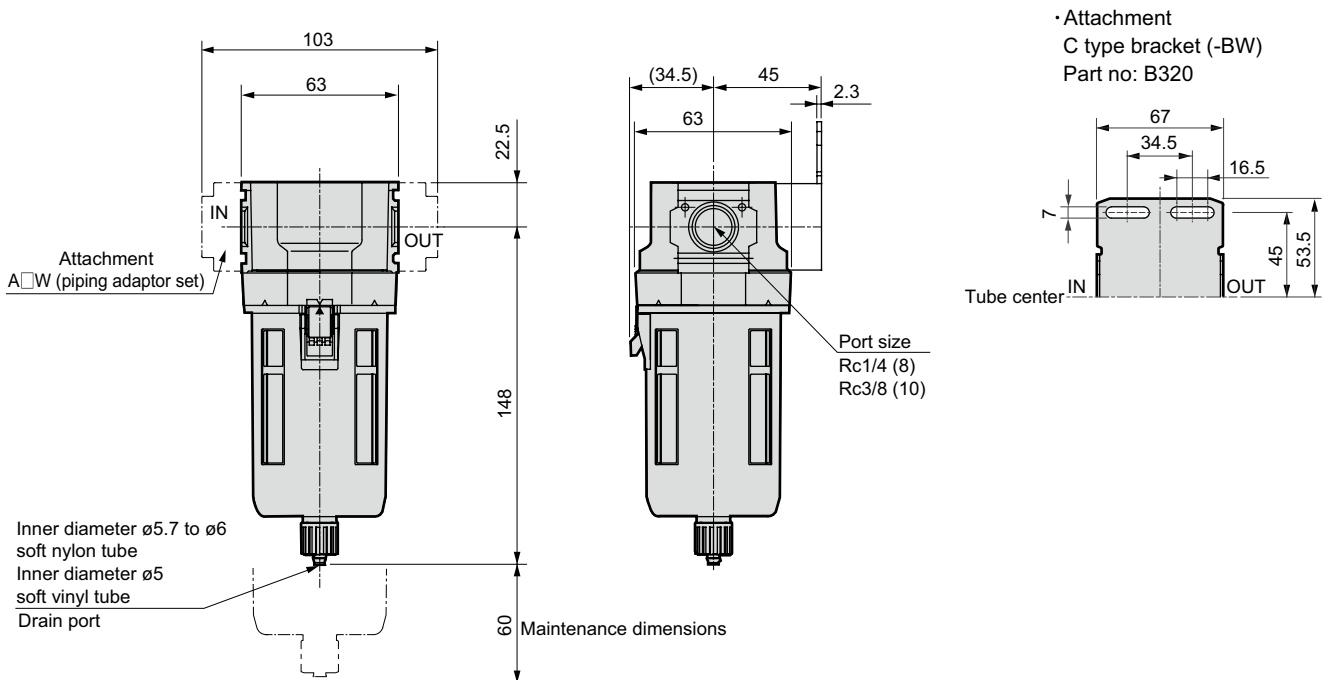
Super Oil Mist Filter Series

Dimensions

● MX1000-W



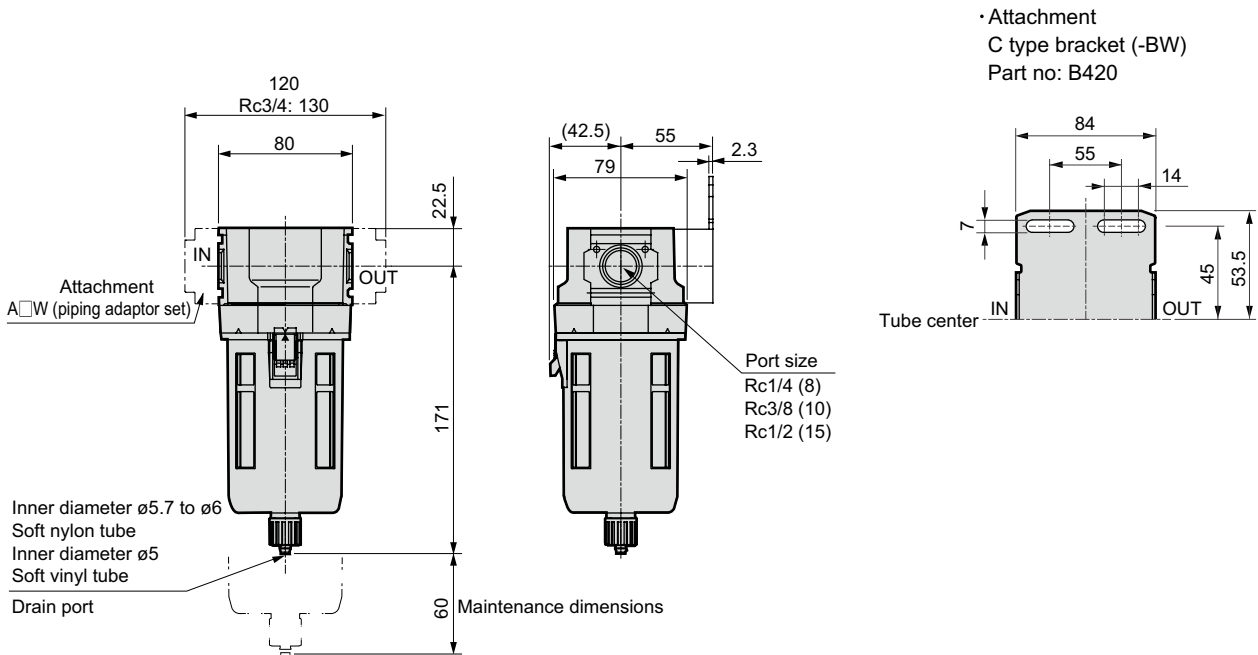
● MX3000-W



● The dimensions for the plastic bowl is the same whether the manual drain cock or automatic drain is installed.
 Note: The C-type bracket and piping adapter set attachments cannot be used at the same time.

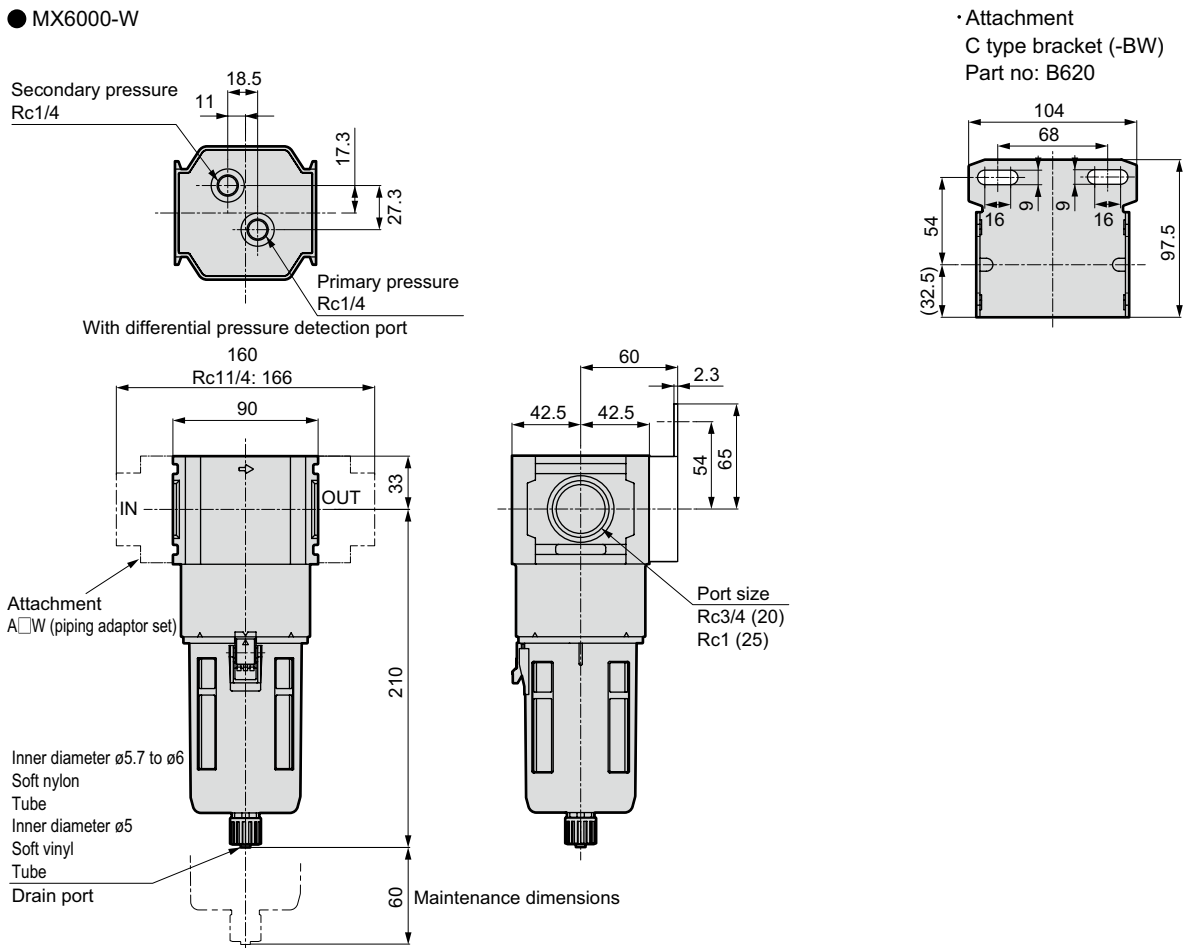
Dimensions

● MX4000-W



● The dimensions for the plastic bowl is the same whether the manual drain cock or automatic drain is installed.

● MX6000-W



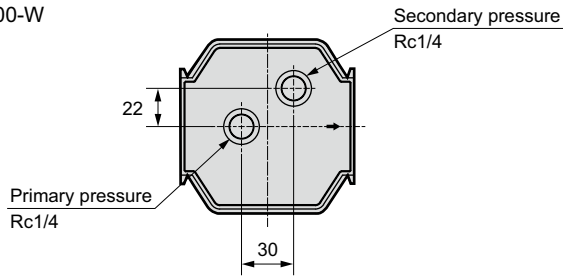
● The dimensions for the plastic bowl is the same whether the manual drain cock or automatic drain is installed.

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

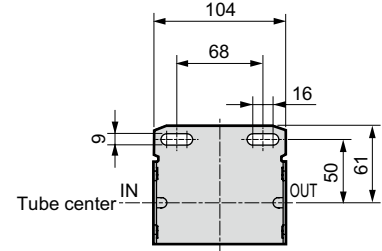
Super Oil Mist Filter Series

Dimensions

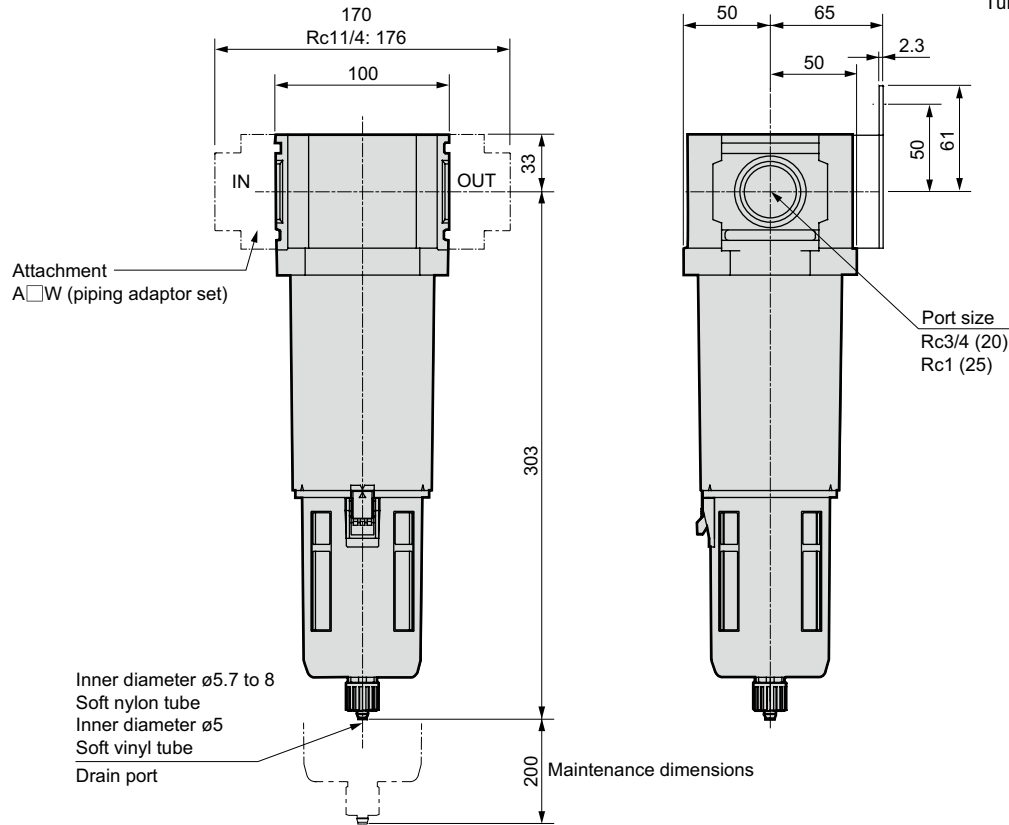
● MX8000-W



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



Option
(With differential pressure detection port)



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

● Metal bowl (option)

(MX3000-W, MX4000-W, MX6000-W, MX8000-W)

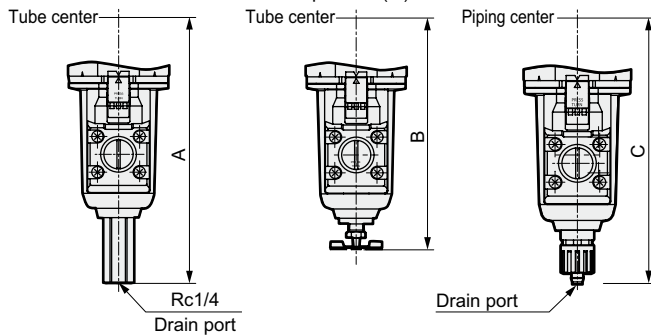
Metal manual cock

With automatic drain (F1M)

With petcock (M)

Standard manual drain cock

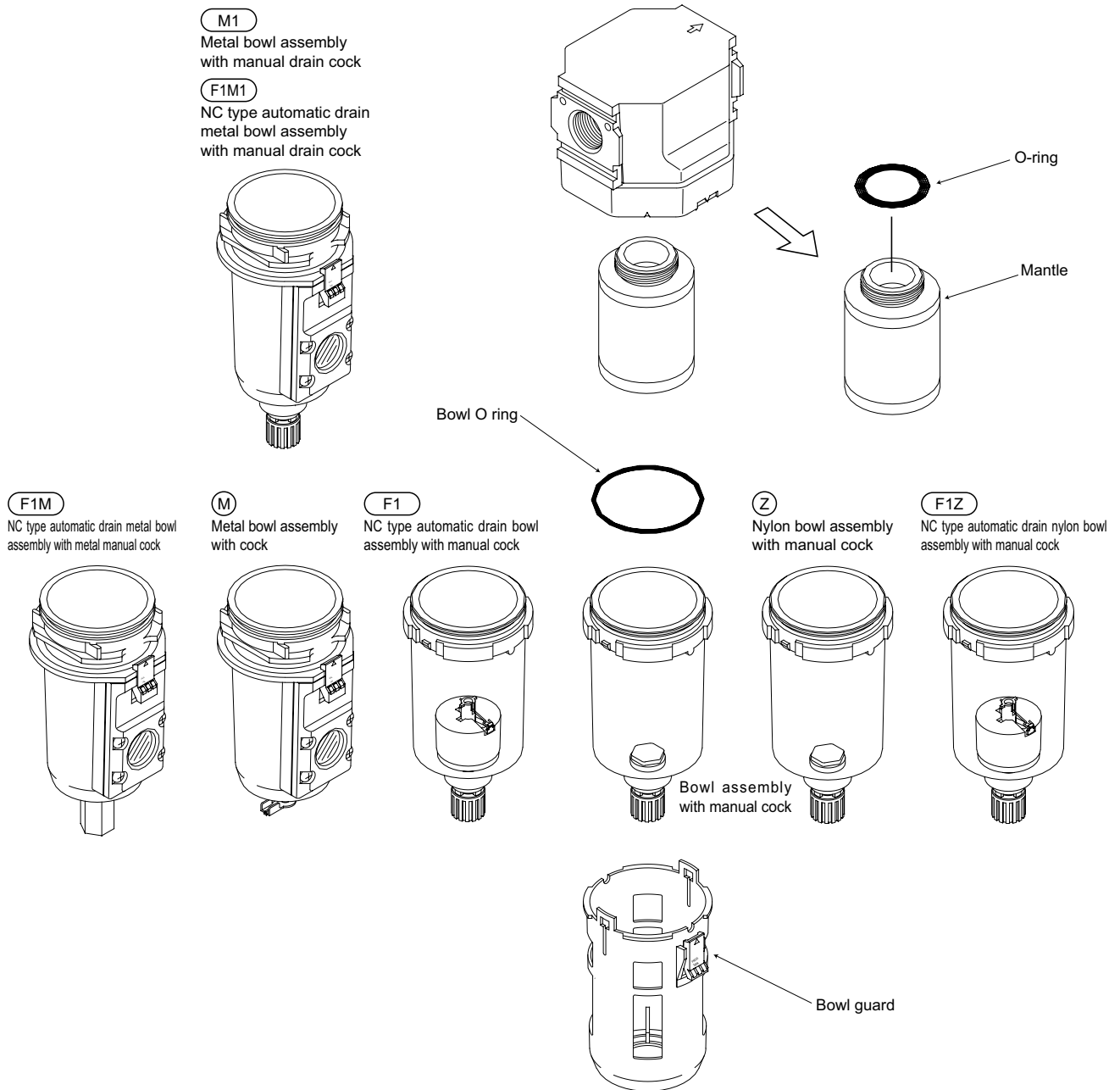
(M1)



Dimensions table

| Model no. | F1M | M | M1 |
|-----------|-----|-------|-----|
| | A | B | C |
| MX3000-W | 164 | 143.5 | 154 |
| MX4000-W | 187 | 166.5 | 177 |
| MX6000-W | 226 | 205 | 216 |
| MX8000-W | 319 | 298 | 309 |

Option parts table for oil mist filter



Repair kit model no. (Set of O ring, mantle and 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 kit model no. (Set of O ring and 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 Option and parts table on page 93 and 94 for bowl assy and bowl guard.



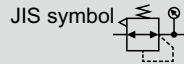
Regulator Standard white series

R1000/R2000/R3000

R4000/R6000/R8000-W Series

Low profile with built in pressure gauge.

Port size: 1/8 to 1



Specifications

| Descriptions | R1000-W | R2000-W | R3000-W | R4000-W | R6000-W | R8000-W |
|------------------------------|---|-----------------------------------|-----------------------------------|--|-----------------------------------|-----------------------------------|
| Exterior | | | | | | |
| Working fluid | Compressed air | | | | | |
| Max. working pressure MPa | 1 | | | | | |
| Withstanding pressure MPa | 1.5 | | | | | |
| Ambient temperature range °C | 5 to 60 Note 1 | | | | | |
| Set pressure range MPa | 0.05 to 0.85 | | | | | |
| Relief | With relief mechanism | | | | | |
| 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) | 3/4, 1 (1 1/4 uses an adaptor) |
| Product weight kg | 0.16 | 0.31 | 0.45 | 0.7 | 1.0 | 1.6 |
| Standard accessories | Pressure gauge, nut for panel mount | | | | | Pressure gauge |

Note 1: The working temperature for the PPD option "R1" is 5 to 50°C.

Ozone specifications

(Page 187)

R * 000 - ... - W ... -

P11

Clean specification

(Catalog No. CB-033SA)

- Dust generation preventing structure for use in cleanrooms

R * 000 - -

P7*

Specification for LiB production

(Catalog No. CC-947A)

- Specification for LiB manufacturing process

R * 000 - -

P4*

How to order

* Refer top page 9 for an explanation of the options.



| A Model no. | | | | | |
|-------------|-----|-----|-----|-----|-----|
| R 1 | R 2 | R 3 | R 4 | R 6 | R 8 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |

| F Piping adaptor set (included) | | A Model no. | | | | | |
|---------------------------------|--------------|-------------|-----|-----|-----|-----|-----|
| Symbol | Descriptions | R 1 | R 2 | R 3 | R 4 | R 6 | R 8 |
| B Port size | | | | | | | |
| 6 | 1/8 | ● | | | | | |
| 8 | 1/4 | ● | ● | ● | ● | | |
| 10 | 3/8 | | ● | ● | ● | | |
| 15 | 1/2 | | | | ● | | |
| 20 | 3/4 | | | | | ● | ● |
| 25 | 1 | | | | | ● | ● |

| C Port thread type | | Note 1 | | | | | |
|--------------------|------------|--------|---|---|---|---|---|
| Blank | Rc thread | ● | ● | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● | ● | ● |

| D Option | | Note 2 | | | | | | |
|----------------|-------|---|--------|---|---|---|---|---|
| Pressure Range | Blank | 0.05 to 0.85MPa | ● | ● | ● | ● | ● | ● |
| | L | 0.05 to 0.35MPa | Note 3 | ● | ● | ● | ● | ● |
| Relief | Blank | With relief mechanism | ● | ● | ● | ● | ● | ● |
| | N | Non-relief type | ● | ● | ● | ● | ● | ● |
| Pressure gauge | Blank | Standard pressure gauge (G401-W) | ● | ● | ● | ● | ● | ● |
| | T | Without pressure gauge (gauge port (Rc1/4) assembled sealed) | ● | ● | ● | ● | ● | ● |
| | T8 | Pressure gauge attachable (gauge port (Rc1/4) assembled open) | ● | ● | ● | ● | ● | ● |
| | T6 | Compatibility with digital pressure sensor PPX | Note 4 | ● | ● | ● | ● | ● |
| Flow Direction | Blank | Standard flow (left to right) | ● | ● | ● | ● | ● | ● |
| | X1 | Reverse flow (right to left) | ● | ● | ● | ● | ● | ● |

| E Displayed unit | | Note 2 | | | | | |
|------------------|----------------------------|--------|---|---|---|---|---|
| Blank | MPa display, Rc thread | ● | ● | ● | ● | ● | ● |
| J1 | MPa display, NPT, G thread | ● | ● | ● | ● | ● | ● |

| F Piping adaptor set (included) | | Note 6, 7 pages 155 to 157 | | | | | |
|---------------------------------|--------------------------|----------------------------|---|---|---|---|---|
| Blank | Not attached | ● | ● | ● | ● | ● | ● |
| A6*W | 1/8 piping adaptor set | ● | | | | | |
| A8*W | 1/4 piping adaptor set | ● | ● | ● | ● | | |
| A10*W | 3/8 piping adaptor set | ● | ● | ● | ● | | |
| A15*W | 1/2 piping adaptor set | | ● | ● | ● | | |
| A20*W | 3/4 piping adaptor set | | | | ● | ● | ● |
| A25*W | 1 piping adaptor set | | | | | ● | ● |
| A32*W | 1 1/4 piping adaptor set | | | | | ● | ● |

| * Adaptor thread type | | Note 6, 7 pages 155 to 157 | | | | | |
|-----------------------|------------|----------------------------|---|---|---|---|---|
| Blank | Rc thread | ● | ● | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● | ● | ● |

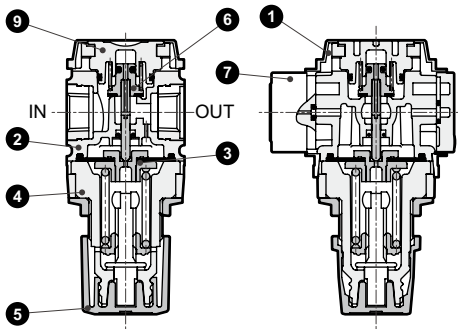
| G Attachment | | Note 8 Page 152, 198 | | | | | |
|--------------|--------------------------------------|----------------------|---|---|---|---|---|
| Blank | Not attached | ● | ● | ● | ● | ● | ● |
| BW | C type bracket | ● | ● | ● | ● | ● | ● |
| B3W Note 5 | L type bracket | Note 9 | ● | ● | ● | ● | ● |
| B4W | B type bracket | | ● | | | | |
| G45P | G45D-8-P10 (L: G45D-8-P04) | | ● | ● | ● | ● | ● |
| G49P | G49D-8-P10 (L: G49D-8-P04) | | ● | ● | ● | ● | ● |
| G59P | G59D-8-P10 (L: G59D-8-P04) | | ● | ● | ● | ● | ● |
| G40P | G40D-8-P10 (L: G40D-8-P04) | | ● | ● | ● | ● | ● |
| G50P | G50D-8-P10 (L: G50D-8-P04) | | ● | ● | ● | ● | ● |
| G41P | G41D-8-P10 (L: G41D-8-P04) | | ● | ● | ● | ● | ● |
| G52P | G52D-8-P10 (L: G52D-8-P10) | | ● | ● | ● | ● | ● |
| R2 Note 4 | Digital pressure sensor: PPX-R10N-6M | | ● | ● | ● | ● | ● |

⚠ Cautions for model No. selection

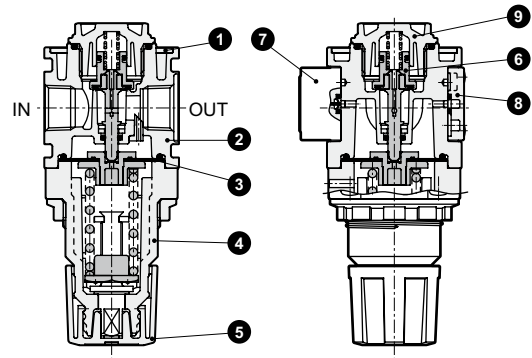
- Note 1: G and NPT threads are available for IN, OUT, and gauge ports.
- Note 2: When selecting options for several items, list options in order from the top.
- Note 3: Pressure gauge display range will be 0 to 0.4 MPa for option "L".
- Note 4: When option "T6" is selected, only "blank" or "R2" is selected for the (G) pressure gauge (enclosed). The digital pressure sensor PPX mounting port (Rc1/8) is assembled ventilated.
- Note 5: Output type will be NPN transistor output. Consult with CKD if PNP transistor output is required.
- Note 6: The piping adapter set and C bracket cannot be used together.
- Note 7: A joiner set is attached with the piping adapter set.
- Note 8: If NPT is selected for the "C" piping thread type, a NPT pressure gauge is enclosed. If Rc or G thread is selected, an R thread pressure gauge is enclosed.
- Note 9: Refer to Section 2. Regulator, in "⚠ PRECAUTIONS for Installation and Adjustment" (page 15) for details on mounting the L-type bracket.

Internal structure and parts list

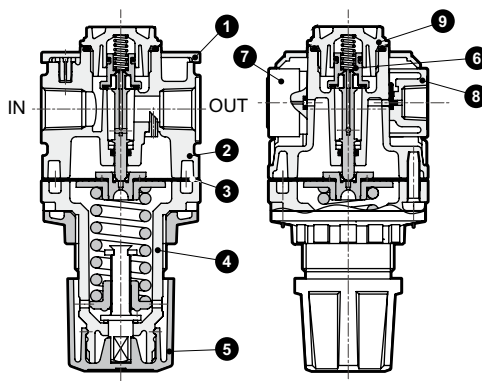
● R1000-W



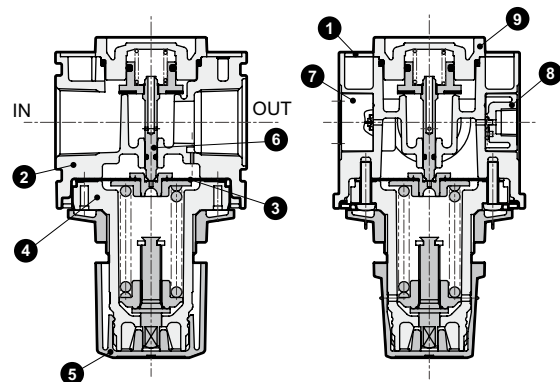
● R2000-W



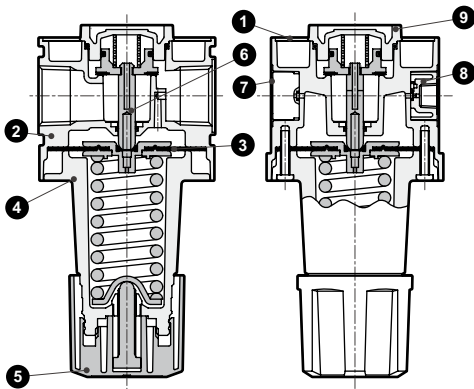
● R3000-W-R4000-W



● R6000-W



● R8000-W



| No. | Part name | Material | | | | | |
|-----|-------------------------------|---|----------------------------|---|----------------------------|---------|----------------------------|
| | | R1000-W | R2000-W | R3000-W | R4000-W | R6000-W | R8000-W |
| 1 | Plate cover | ABS resin | | | | | |
| 2 | Body | Polyamide resin, steel | Aluminum alloy die-casting | Aluminum alloy die-casting | | | |
| 3 | Diaphragm assembly | Polyacetal resin nitrile rubber | | Zinc alloy die-casting, nitrile rubber Note 3 | | | |
| 4 | Cover | Polyamide resin | PBT Resin | | | | Aluminum alloy die-casting |
| 5 | Knob | Polyacetal resin | | | | | |
| 6 | Valve assembly | Brass, hydrogenated nitrile rubber (polyacetal resin: R2100-W, R3100-W, R4100-W only) | | | | | |
| 7 | Pressure gauge assembly | PBT resin, polyacetal resin, polycarbonate resin, nitrile rubber, brass, steel | | | | | |
| 8 | Gauge plug assembly | Polyacetal resin nitrile rubber | | | | | |
| | Blanking plug assembly Note 1 | PBT resin, nitrile rubber, copper | | - | - | - | - |
| 9 | Bottom plug Note 4 | Polyacetal resin | | | Aluminum alloy die-casting | | |

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

Note 2: Refer to page 128 for repair parts.

Note 3: Aluminum will be added for R6000-W for low pressure.

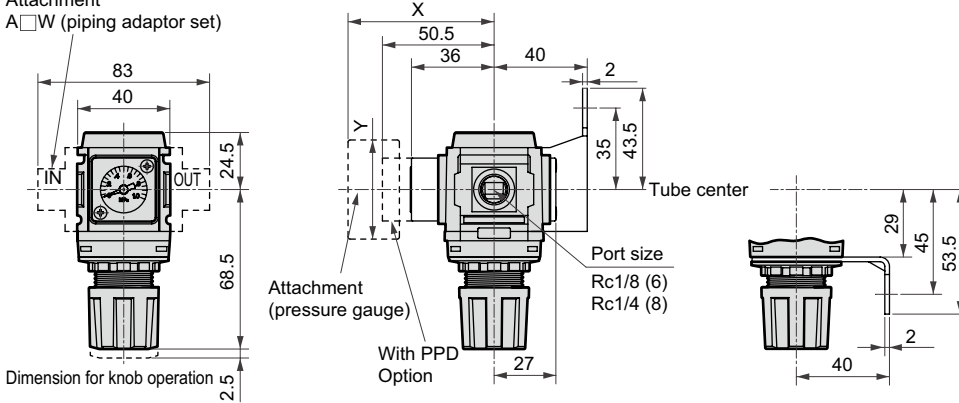
Note 4: The material for RM3000-W, RM4000-W is aluminum alloy die casting.

Regulator series

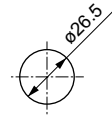
Dimensions

● R1000-W

Attachment
A□W (piping adaptor set)



Panel cut dimensions

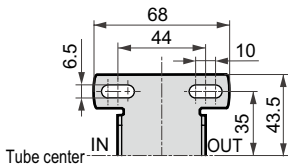


Panel thickness: Max. 6mm

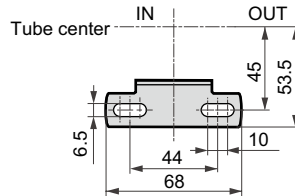
Option dimensions with pressure gauge attached

| Attached pressure gauge | X | Y |
|-------------------------|--------|-------|
| G45P | (74) | ∅39 |
| G49P | (73.5) | ∅43.5 |
| G59P | (76) | ∅52 |
| G40P | (75.5) | ∅42.5 |
| G50P | (75.5) | ∅52.5 |
| G41P | (74) | ∅42 |
| G52P | (86) | ∅52.5 |
| R2 | (74) | □30 |

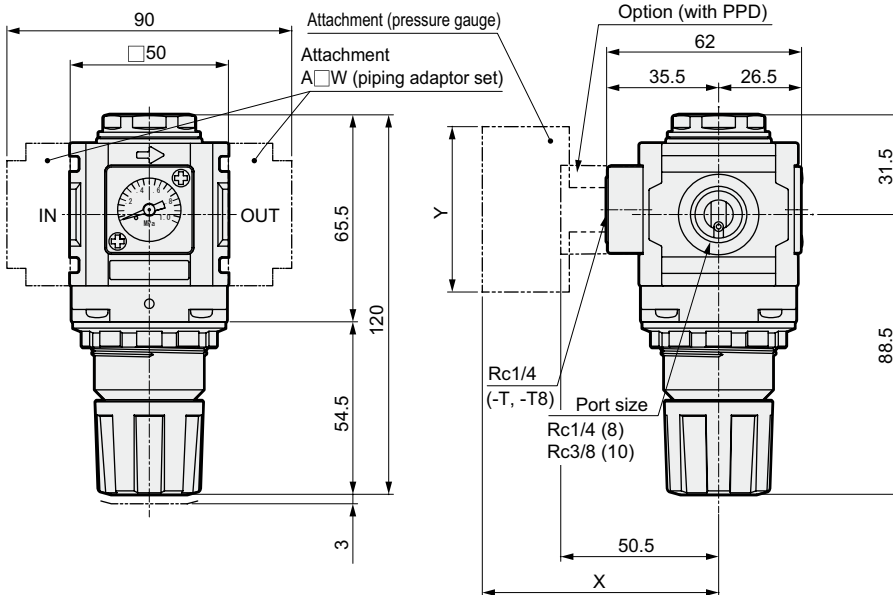
Attachment
C type bracket (-BW)
Part no: B120



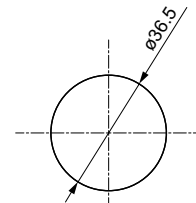
L type bracket (-B3W)
Part no: B130



● R2000-W



Panel cut dimensions

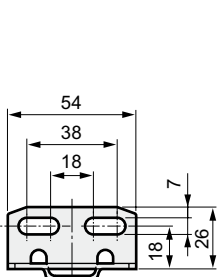


Panel thickness: Max. 4mm

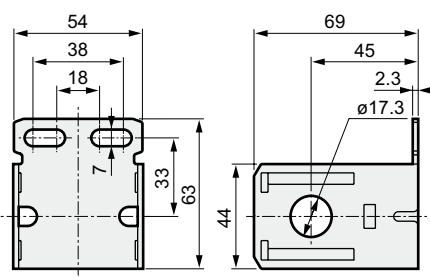
Option dimensions with pressure gauge attached

| Attached pressure gauge | X | Y |
|-------------------------|--------|-------|
| G45P | (73.5) | ∅39 |
| G49P | (73) | ∅43.5 |
| G59P | (75.5) | ∅52 |
| G40P | (75) | ∅42.5 |
| G50P | (75) | ∅52.5 |
| G41P | (73.5) | ∅42 |
| G52P | (85.5) | ∅52.5 |
| R2 | (73) | □30 |

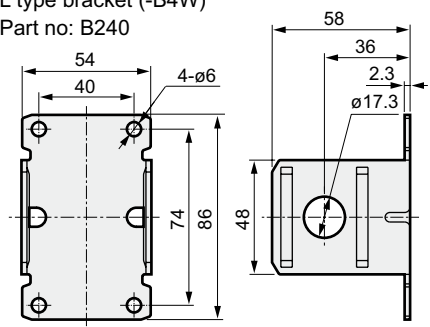
● L type bracket (-B3W)
Part no: B230



● C type bracket (-BW)
Part no: B220



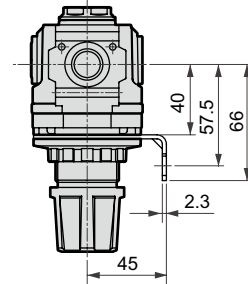
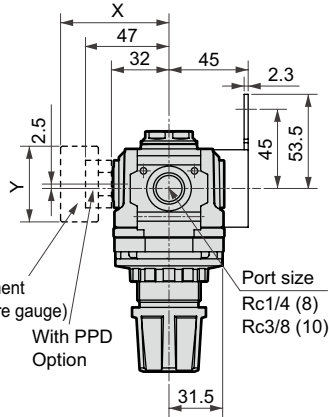
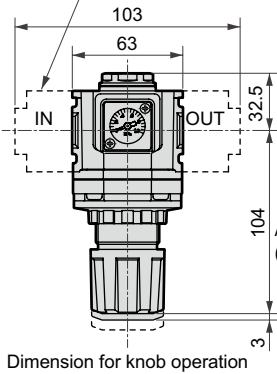
● L type bracket (-B4W)
Part no: B240



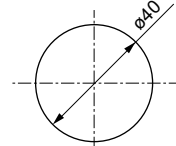
Dimensions

● R3000-W

Attachment
A□W (piping adaptor set)

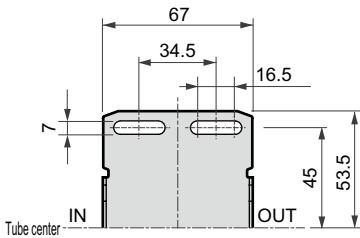


Panel cut dimensions

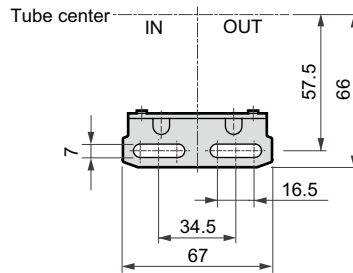


Panel thickness: Max. 7mm

· Attachment (C type bracket)
C type bracket (-BW)
Part no: B320



L type bracket (-B3W)
Part no: B330

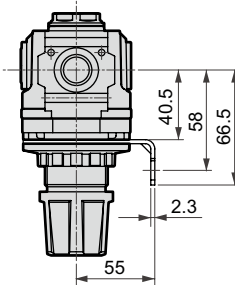
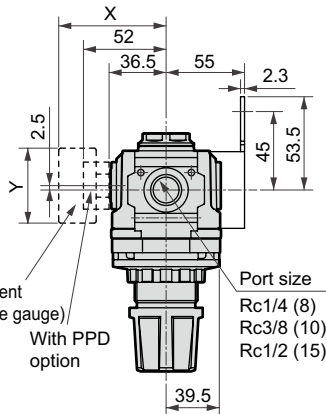
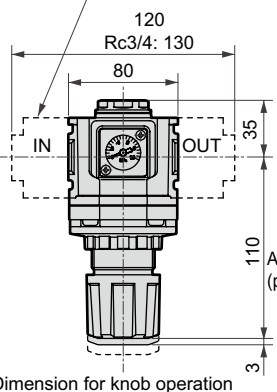


Option dimensions with pressure gauge attached

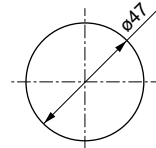
| Attached pressure gauge | X | Y |
|-------------------------|--------|-------|
| G45P | (70) | ø39 |
| G49P | (69.5) | ø43.5 |
| G59P | (72) | ø52 |
| G40P | (71.5) | ø42.5 |
| G50P | (71.5) | ø52.5 |
| G41P | (70) | ø42 |
| G52P | (82) | ø52.5 |
| R2 | (69.5) | □30 |

● R4000-W

Attachment
A□W (piping adaptor set)

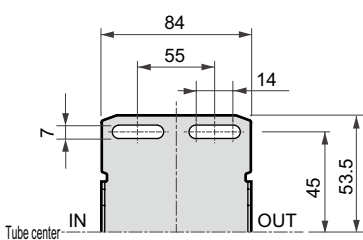


Panel cut dimensions

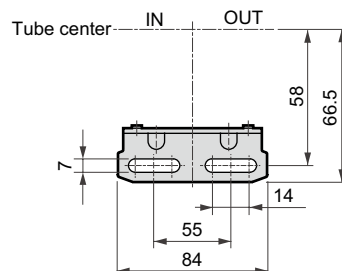


Panel thickness: Max. 7mm

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



L type bracket (-B3W)
Part no: B430



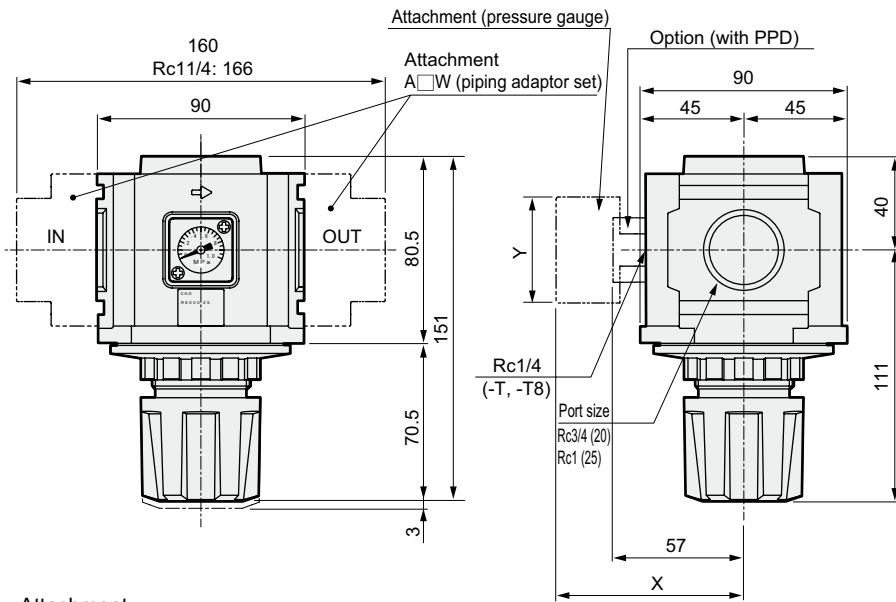
Option dimensions with pressure gauge attached

| Attached pressure gauge | X | 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 |
| G52P | (86) | ø52.5 |
| R2 | (75) | □30 |

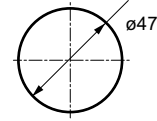
Regulator Series

Dimensions

● R6000-W



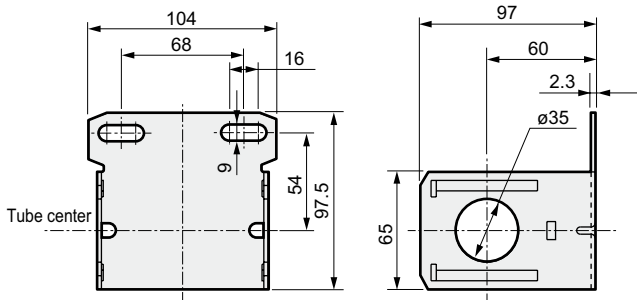
Panel cut dimensions



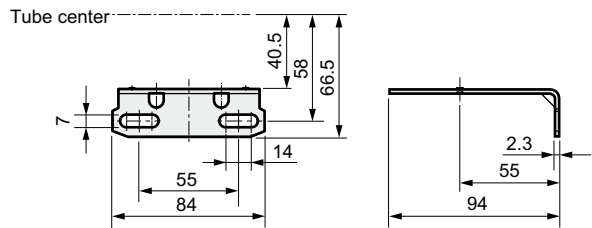
Option dimensions with pressure gauge attached

| Attached pressure gauge | X | 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 |

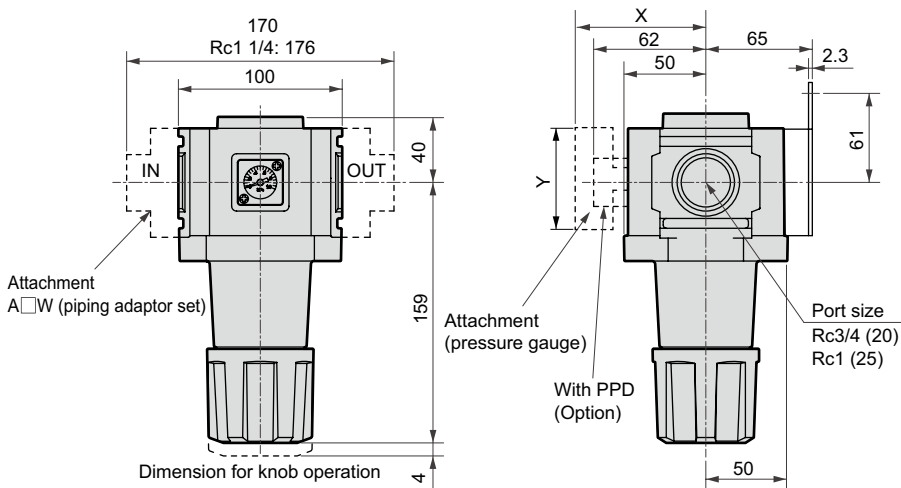
· Attachment
C type bracket (-BW)
Part no: B620



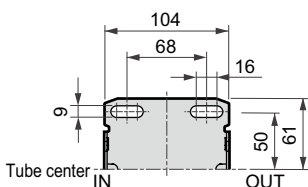
L type bracket (-B3W)
Part no: B430



● R8000-W



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



Option dimensions with pressure gauge attached

| 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 |

MEMO



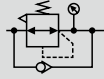
Reverse regulator Standard white series

R1100/R2100/R3100 R4100/R6100/R8100-W Series

From secondary pressure to primary pressure with back flow function.

Port size: 1/8 to 1

JIS symbol



Specifications

| Descriptions | R1100-W | R2100-W | R3100-W | R4100-W | R6100-W | R8100-W |
|---------------------------------|-------------------------------------|-----------------------------------|-----------------------------------|--|-----------------------------------|-----------------------------------|
| Exterior | | | | | | |
| Working fluid | Compressed air | | | | | |
| Max. working pressure MPa | 1.0 | | | | | |
| Withstanding pressure MPa | 1.5 | | | | | |
| Ambient temperature range °C | 5 to 60 | | | | | Note 3 |
| Set pressure range (Note 2) MPa | 0.05 to 0.85 | | | | | |
| Relief | With relief mechanism | | | | | |
| Port size Rc, PT, | 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) | 3/4, 1 (1 1/4 uses an adaptor) |
| Product weight kg | 0.16 | 0.31 | 0.45 | 0.7 | 1.0 | 1.6 |
| Standard accessories | Pressure gauge, nut for panel mount | | | | | Pressure gauge |

Note 1: Check that the primary pressure is at least 0.05 MPa or more than the secondary pressure.

Note 2: Refer to the set pressure range for the back pressure given on page 123 when selecting the model.

Note 3: The working temperature range of the pressure switch with indicator PPD assembly "R1" is 5 to 50°C.

Ozone specifications

(Page 188)

R* 100 - ...W... - **P11**

Clean specification

(Catalog No. CB-033SA)

● Dust generation preventing structure for use in cleanrooms

R* 100 - - **P7***

Specification for LiB production

(Catalog No. CC-947A)

● Specification for LiB manufacturing process

R* 100 - - **P4***

How to order

* Refer top page 9 for an explanation of the options.



| A Model no. | | | | | |
|-------------|-----|-----|-----|-----|-----|
| R 1 | R 2 | R 3 | R 4 | R 6 | R 8 |
| 1 | 1 | 1 | 1 | 1 | 1 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |

| Symbol | Descriptions | | | | | | |
|--------------------|--------------|---|---|---|---|---|---|
| B Port size | | | | | | | |
| 6 | 1/8 | ● | | | | | |
| 8 | 1/4 | ● | ● | ● | ● | | |
| 10 | 3/8 | | ● | ● | ● | | |
| 15 | 1/2 | | | | ● | | |
| 20 | 3/4 | | | | | ● | ● |
| 25 | 1 | | | | | ● | ● |

| C Port thread type | | Note 1 | | | | | |
|---------------------------|------------|--------|---|---|---|---|---|
| Blank | Rc thread | ● | ● | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● | ● | ● |

| D Option | | Note 2, Note 3 | | | | | | |
|-----------------|-------|---|---|---|---|---|---|---|
| Pressure Range | Blank | 0.05 to 0.85MPa | ● | ● | ● | ● | ● | ● |
| | L | 0.05 to 0.35MPa Note 4 | ● | ● | ● | ● | ● | ● |
| Relief | Blank | With relief mechanism | ● | ● | ● | ● | ● | ● |
| | N | Non-relief type | ● | ● | ● | ● | ● | ● |
| Pressure gauge | Blank | Standard pressure gauge (G401-W) | ● | ● | ● | ● | ● | ● |
| | T | Without pressure gauge (gauge port (Rc1/4) assembled sealed) | ● | ● | ● | ● | ● | ● |
| | T8 | Pressure gauge attachable (gauge port (Rc1/4) assembled open) | ● | ● | ● | ● | ● | ● |
| | T6 | Compatibility with digital pressure sensor PPX Note 5 | ● | ● | ● | ● | ● | ● |
| Flow Direction | Blank | Standard flow (left to right) | ● | ● | ● | ● | ● | ● |
| | X1 | Reverse flow (right to left) | ● | ● | ● | ● | ● | ● |

| E Displayed unit | | | | | | | |
|-------------------------|----------------------------|---|---|---|---|---|---|
| Blank | MPa display, Rc thread | ● | ● | ● | ● | ● | ● |
| J1 | MPa display, NPT, G thread | ● | ● | ● | ● | ● | ● |

| F Piping adaptor set (included) | | Note 7, 8 pages 155 to 157 | | | | | |
|--|--------------------------|----------------------------|---|---|---|---|---|
| Blank | Not attached | ● | ● | ● | ● | ● | ● |
| A6*W | 1/8 piping adaptor set | ● | | | | | |
| A8*W | 1/4 piping adaptor set | ● | ● | ● | ● | | |
| A10*W | 3/8 piping adaptor set | ● | ● | ● | ● | | |
| A15*W | 1/2 piping adaptor set | | ● | ● | ● | | |
| A20*W | 3/4 piping adaptor set | | | | ● | ● | ● |
| A25*W | 1 piping adaptor set | | | | | ● | ● |
| A32*W | 1 1/4 piping adaptor set | | | | | ● | ● |

| * Adaptor thread type | | | | | | | |
|------------------------------|------------|---|---|---|---|---|---|
| Blank | Rc thread | ● | ● | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● | ● | ● |

| G Attachment | | Note 9 Page 152, 198 | | | | | |
|---------------------|--------------------------------------|----------------------|---|---|---|---|---|
| Blank | Not attached | ● | ● | ● | ● | ● | ● |
| BW | C type bracket | ● | ● | ● | ● | ● | ● |
| B3W | L type bracket Note 10 | ● | ● | ● | ● | ● | |
| B4W | B type bracket | | ● | | | | |
| G45P | G45D-8-P10 (L: G45D-8-P04) | ● | ● | ● | ● | ● | ● |
| G49P | G49D-8-P10 (L: G49D-8-P04) | ● | ● | ● | ● | ● | ● |
| G59P | G59D-8-P10 (L: G59D-8-P04) | ● | ● | ● | ● | ● | ● |
| G40P | G40D-8-P10 (L: G40D-8-P04) | ● | ● | ● | ● | ● | ● |
| G50P | G50D-8-P10 (L: G50D-8-P04) | ● | ● | ● | ● | ● | ● |
| G41P | G41D-8-P10 (L: G41D-8-P04) | ● | ● | ● | ● | ● | ● |
| G52P | G52D-8-P10 (L: G52D-8-P10) | ● | ● | ● | ● | ● | ● |
| R2 Note 5 | Digital pressure sensor: PPX-R10N-6M | ● | ● | ● | ● | ● | ● |

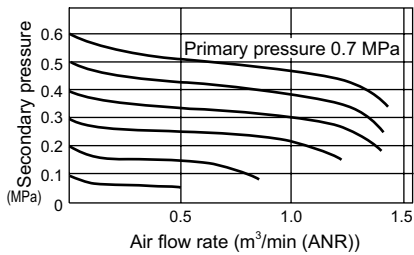
⚠ Cautions for model No. selection

- Note 1: G and NPT threads are available for IN, OUT, and gauge ports.
- Note 2: When selecting options for several items, list options in order from the top.
- Note 3: Position of the check valve and pressure gauge can not be changed. If the reverse direction of IN and OUT are required, indicate "X1" in the end of optional section.**
- Note 4: Pressure gauge display range will be 0 to 0.4 MPa for option "L".
- Note 5: When option "T6" is selected, only "blank" or "R2" is selected for the (G) pressure gauge (enclosed). The digital pressure sensor PPX mounting port (Rc1/8) is assembled ventilated.
- Note 6: Out put type will be NPN transistor output. Consult with CKD if PNP transistor output is required.
- Note 7: The piping adapter set and C bracket cannot be used together.
- Note 8: A joiner set is attached with the piping adapter set.
- Note 9: If NPT is selected for the "C" piping thread type, 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 "⚠ PRECAUTIONS for Installation and Adjustment" (page 15) for details on mounting the L-type bracket.

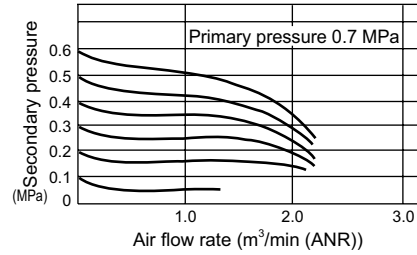
Regulator series

Flow characteristics

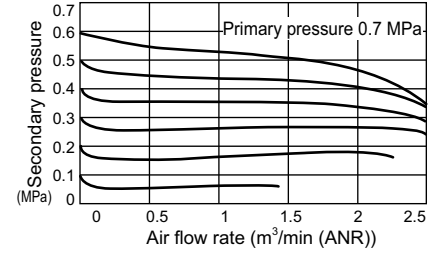
● R1100-6-W



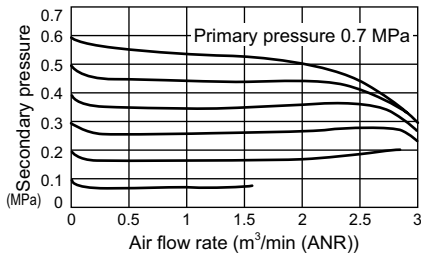
● R1100-8-W



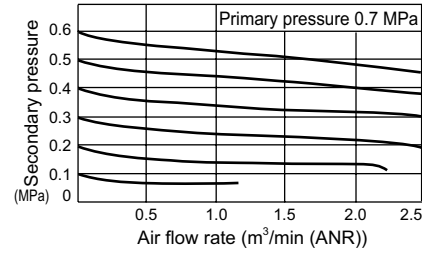
● R2100-8-W



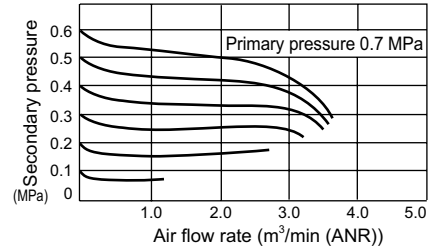
● R2100-10-W



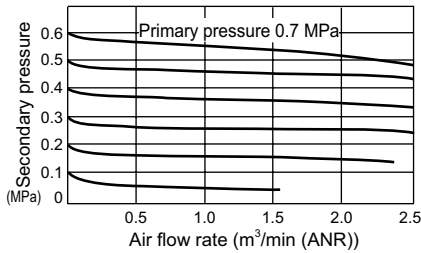
● R3100-8-W



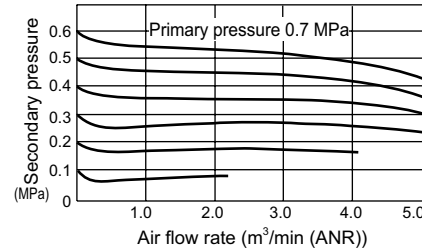
● R3100-10-W



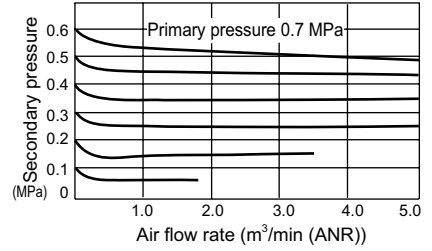
● R4100-8-W



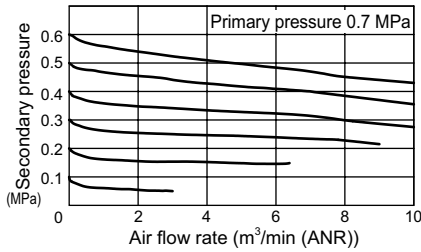
● R4100-10-W



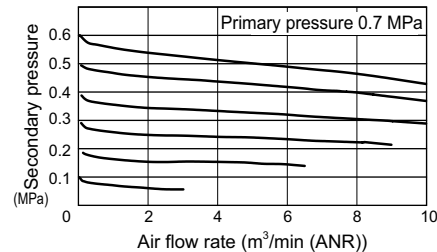
● R4100-15-W



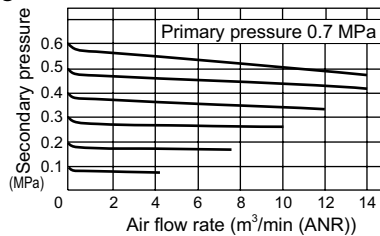
● R6100-20-W



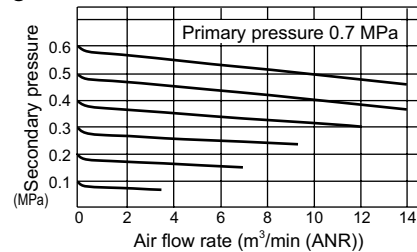
● R6100-25-W



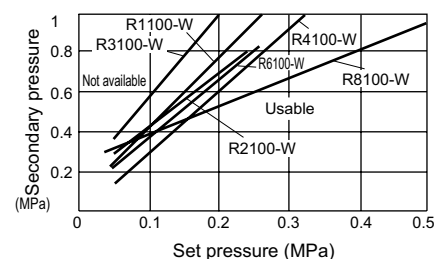
● R8100-20-W



● R8100-25-W



● Set pressure range for back pressure

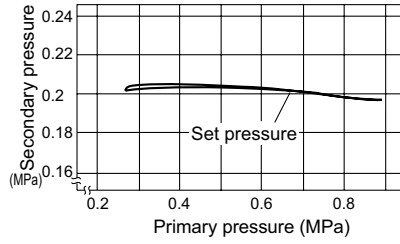


Note: The upper side of the graph is nonusable and the lower side usable.

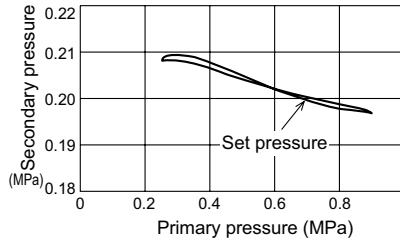
Example: If W4100-W is set to set pressure 0.2 MPa and the secondary back pressure is 0.6 MPa or more, the secondary pressure will not be released to the primary side.

Pressure characteristics

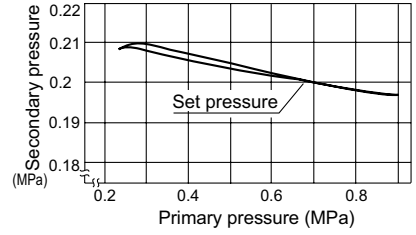
● R1100-W



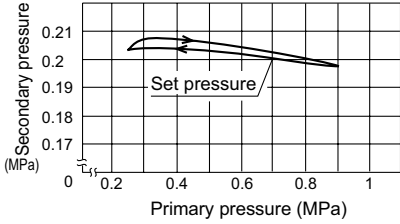
● R2100-W



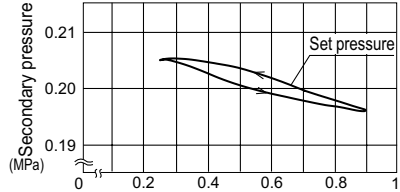
● R3100-W



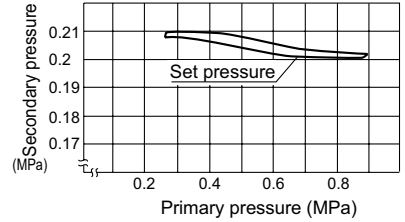
● R4100-W



● R6100-W

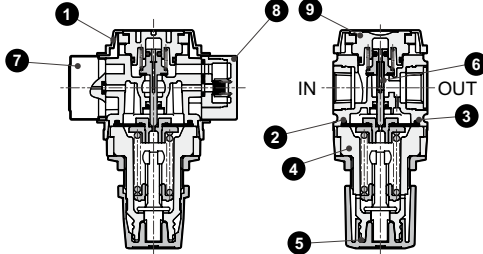


● R8100-W

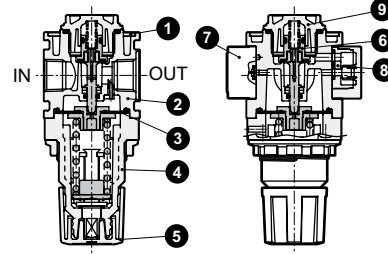


Internal structure and parts list

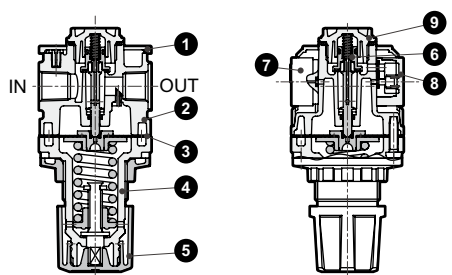
● R1100-W



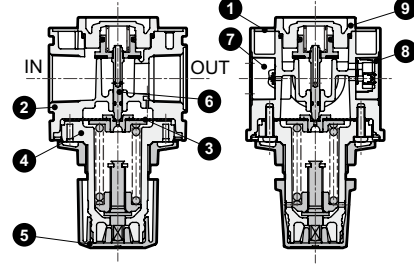
● R2100-W



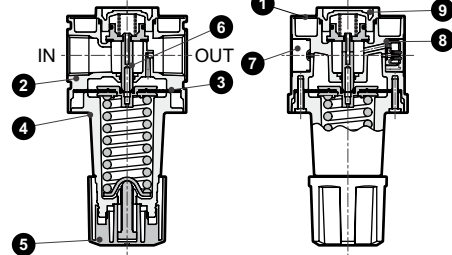
● R3100-W-R4100-W



● R6100-W



● R8100-W

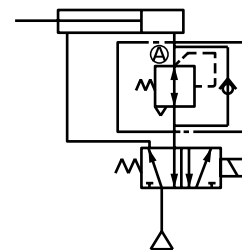


Functional explanation

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 changeover 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 side and rod side pressure is different.



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

| No. | Part name | Material | | | | | |
|-----|---------------------------|---|-----------|---|---------|----------------------------|----------------------------|
| | | R1100-W | R2100-W | R3100-W | R4100-W | R6100-W | R8100-W |
| 1 | Plate cover | ABS resin | | | | | |
| 2 | Body | Polyamide resin, steel | | Aluminum alloy die-casting | | | |
| 3 | Diaphragm assembly | Polyacetal resin nitrile rubber | | Zinc alloy die-casting, nitrile rubber Note 2 | | | |
| 4 | Cover | Polyamide resin | PBT Resin | | | | Aluminum alloy die-casting |
| 5 | Knob | Polyacetal resin | | | | | |
| 6 | Valve assembly | Brass, hydrogenated nitrile rubber (polyacetal resin: R2100-W, R3100-W, R4100-W only) | | | | | |
| 7 | Pressure gauge assembly | PBT resin, polyacetal resin, polycarbonate resin, nitrile rubber, brass, copper | | | | | |
| 8 | Check valve full assembly | PBT resin, nitrile rubber, stainless steel wire, steel | | | | | |
| 9 | Bottom plug | Polyacetal resin | | | | Aluminum alloy die-casting | |

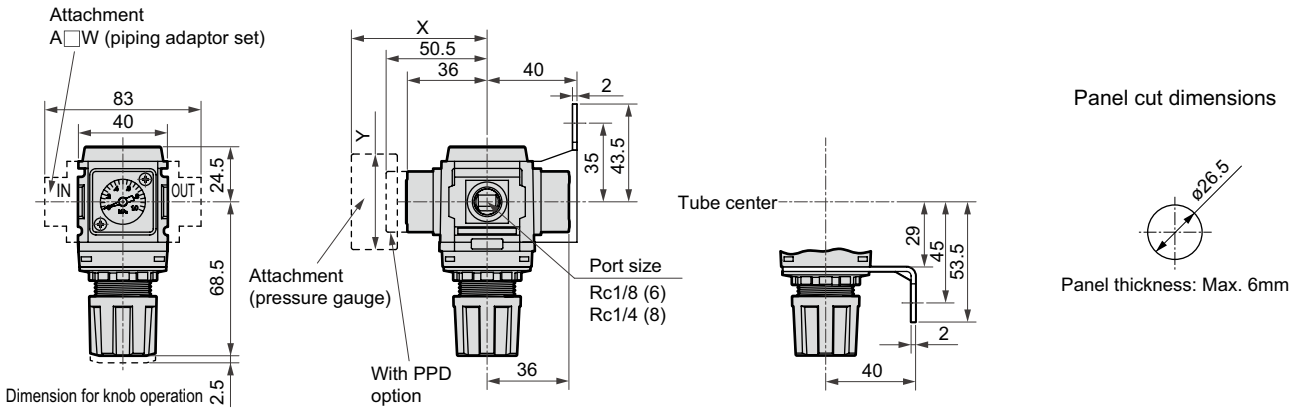
Note 1: Refer to page 128 for repair parts kits.

Note 2: Aluminum will be added for R6000-W for low pressure.

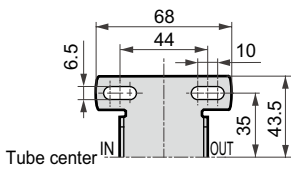
Regulator series

Dimensions

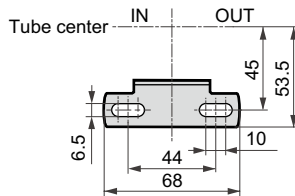
● R1100-W



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



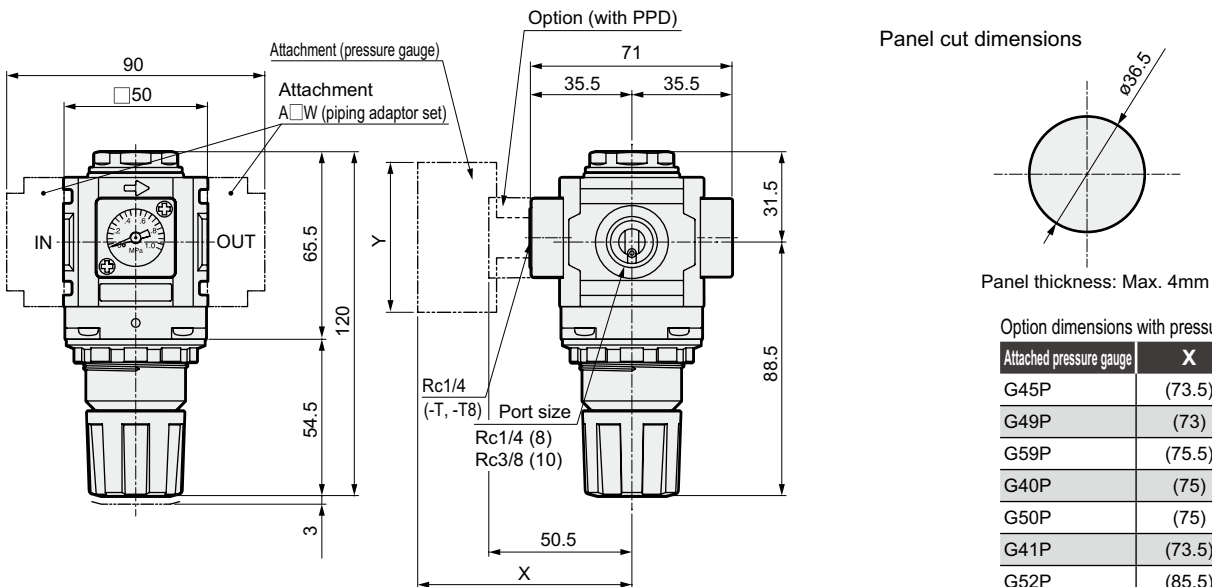
L type bracket (-B3W)
Part no: B130



Option dimensions with pressure gauge attached

| Attached pressure gauge | X | 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 |

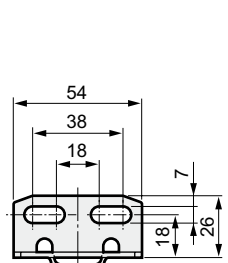
● R2100-W



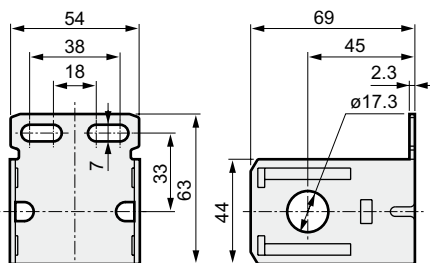
Option dimensions with pressure gauge attached

| Attached pressure gauge | X | 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 |

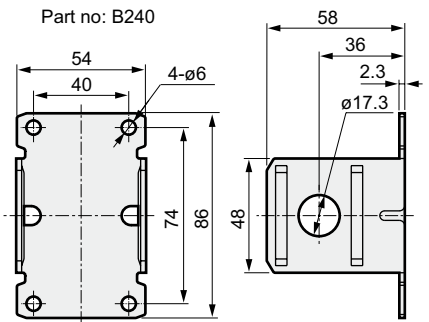
● L type bracket (-B3W)
Part no: B230



● C type bracket (-BW)
Part no: B220

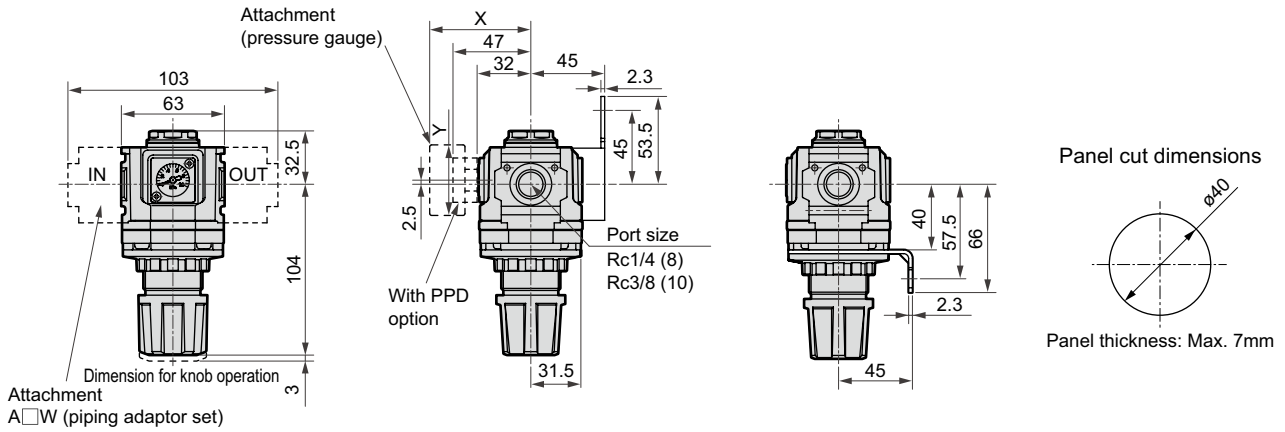


● L type bracket (-B4W)
Part no: B240



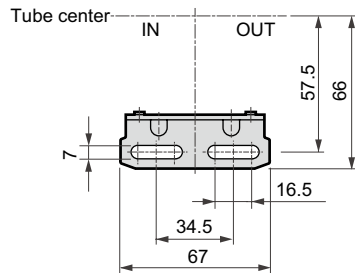
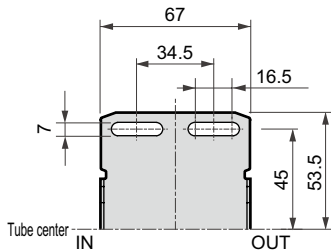
Dimensions

● R3100-W



· Attachment
C type bracket (-BW)
Part no: B320

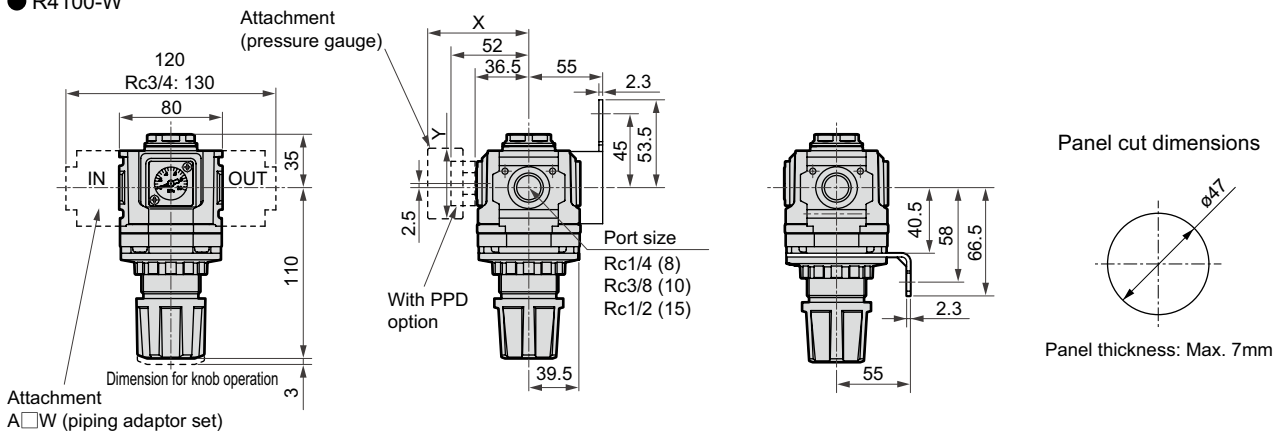
L type bracket (-B3W)
Part no: B330



Option dimensions with pressure gauge attached

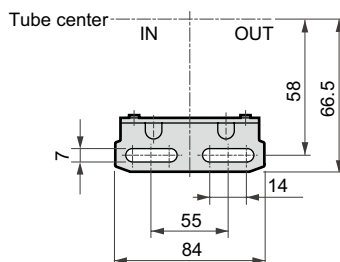
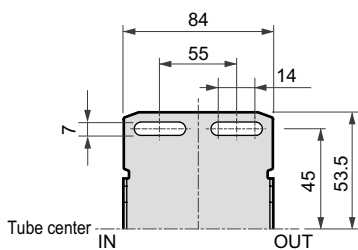
| Attached pressure gauge | X | Y |
|-------------------------|--------|-------|
| G45P | (70) | ø39 |
| G49P | (69.5) | ø43.5 |
| G59P | (72) | ø52 |
| G40P | (71.5) | ø42.5 |
| G50P | (71.5) | ø52.5 |
| G41P | (70) | ø42 |
| G52P | (82) | ø52.5 |
| R2 | (69.5) | □30 |

● R4100-W



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

L type bracket (-B3W)
Part no: B430



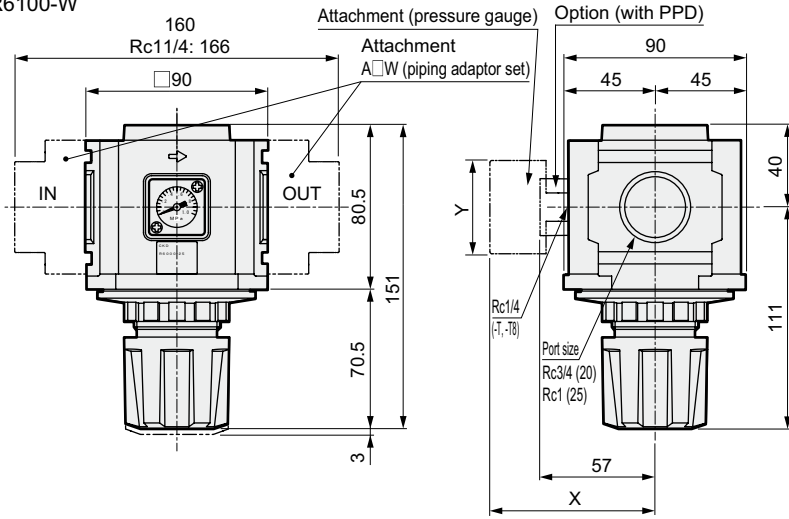
Option dimensions with pressure gauge attached

| Attached pressure gauge | X | 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 |
| G52P | (86) | ø52.5 |
| R2 | (75) | □30 |

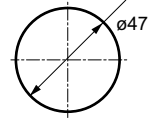
Regulator Series

Dimensions

● R6100-W



Panel cut dimensions

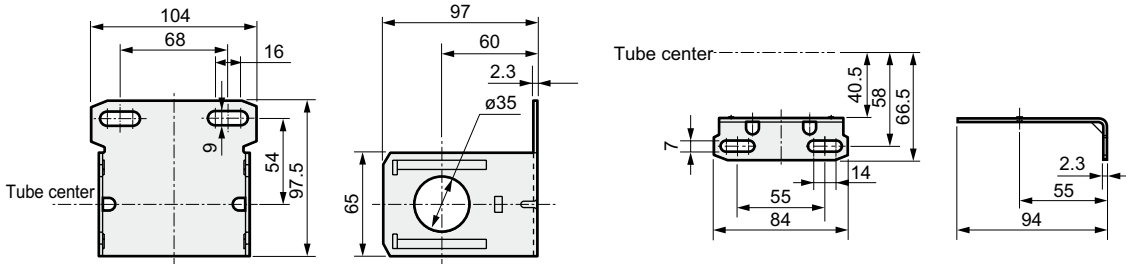


Pressure gauge option dimensions

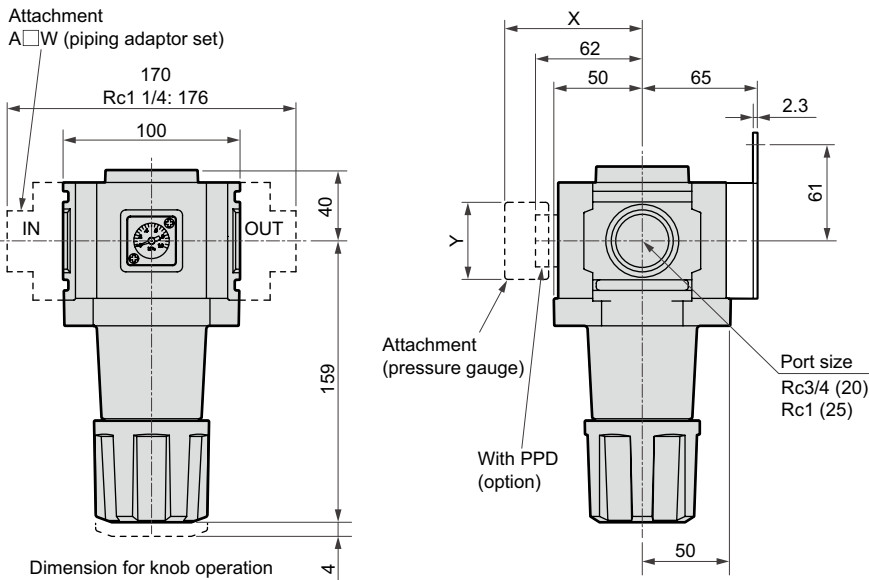
| Attached pressure gauge | X | Y |
|-------------------------|--------|-------|
| G45P | (80) | ø39 |
| G49P | (79.5) | ø43.5 |
| G59P | (82) | ø52 |
| G40P | (81.5) | ø42.5 |
| G50P | (81.5) | ø52.5 |
| G41P | (80) | ø42 |
| G52P | (93) | ø52.5 |
| R2 | (80) | □30 |

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

L type bracket (-B3W)
Part no: B430



● R8100-W

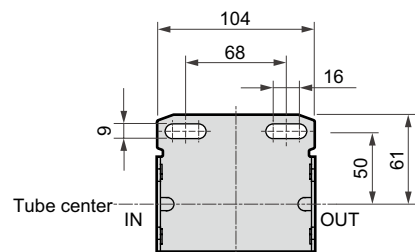


Dimension for knob operation

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

Option dimensions with pressure gauge attached

| 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 |



Optional parts drawing

Repair parts kit (Set consisting of diaphragm assembly, valve assembly, bottom spring, louver, element, baffle, bowl O ring)

| Repair kit model no. Model | Relief type diaphragm | No relief type diaphragm |
|-------------------------------|---|--|
| 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 (for low pressure range) | R6000-KIT-N R6000-KIT-LN (for low pressure range) |
| R8000-W, R8100-W | R8000-KIT | R8000-KIT-LN |

Valve assembly (valve assembly, bottom spring, bottom O ring set)

| 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 209 for gauge plug assembly

Check valve for reverse regulator assembly

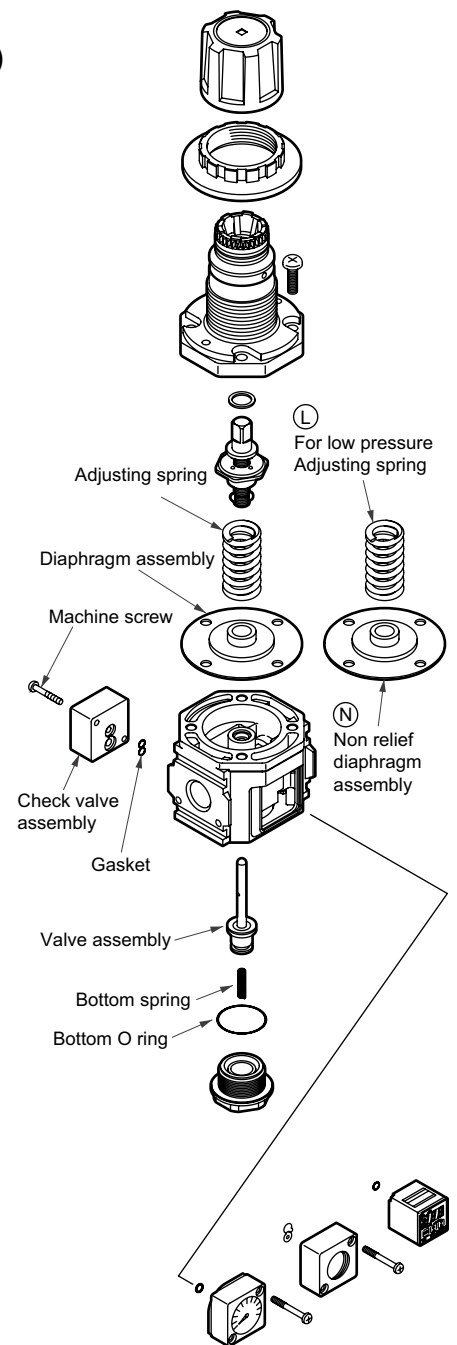
| Model | Check valve assembly model no. |
|---|--------------------------------|
| R1000-W, R1100-W | R1100-W-CHECK-VALVE-ASSY |
| R2100-W | R3100-W-CHECK-VALVE-ASSY |
| R3100-W, RM3000-W, W3100-W R4100-W, RM4000-W, W4100-W R6100-W, R8100-W W8100-W | R3100-W-CHECK-VALVE-ASSY |

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 (diaphragm assembly only)

| Diaphragm assembly model no. Model | Relief type Diaphragm | Non-relief type 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 (for low pressure range) | R6000-DIAPHRAGM-ASSY-N R6000-DIAPHRAGM-ASSY-LN (for 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 |





Lubricator Standard white series

L1000/L3000/L4000/L8000-W Series

Supply fine mist oil.

Port size: 1/8 to 1

JIS symbol



Specifications

| Descriptions | L1000-W | L3000-W | L4000-W | L8000-W |
|--|--|--------------------------------|-------------------------------------|--------------------------------|
| Exterior | | | | |
| Working fluid | Compressed air | | | |
| Max. working pressure MPa | 1.0 | | | |
| Withstanding pressure MPa | 1.5 | | | |
| Working temperature °C | 5 to 60 | | | |
| Minimum drip flow Note 1 m ³ /min (ANR) | 0.015 | 0.03 | 0.065 | 0.065 |
| Oil capacity cm ³ | 20 | 85 | 170 | 170 (MAX360) |
| Applicable 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 (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 amount of flow that allows five drops of turbine oil drip per minute at primary pressure of 0.5 MPa and intake air temperature of 20°C. (Can not be used for dry fog)

Float switch electrical specifications

| Descriptions | |
|--|---|
| Control points | 1 points |
| Operation | Rising float will (oil full) will turn the switch OFF, and lowering float (no oil) will turn the switch ON. |
| Maximum working voltage | AC240V, DC200V |
| Maximum opening/closing capacity | 50 VA or 50 W, whichever is smaller |
| Maximum opening/closing current | 0.5A |
| Withstanding pressure between contacts | DC400V for 1 min, leakage current 1mA or less |
| Contact resistance | 220mΩ or less (between terminal sections) |
| Insulation resistance | 100MΩ and over (between terminal and cases, 500 VDC megger) |
| Withstanding voltage | AC1500V 1min. (between case and terminal) |
| Electrical service life | 10 ⁶ cycles (AC200V, 200mA, with resistance) |

How to order

L1000 - **6** - **W** - **C** - **A6W** - **○**

* Refer top page 9 for an explanation of the options.

A Model no.

B Port size

C Port thread type

D Option

E Displayed unit

F Piping adaptor set (included)

⚠ Cautions for model No. selection

- Note 1: G and NPT threads are available for IN, OUT.
- Note 2: When selecting options for several items, list options in order from the top.
- Note 3: The adjusting dome is made of polycarbonate for a nylon bowl or metal bowl. Consult with CKD if a different material is required.
- Note 4: Have a choice drain discharge option "C" or "F" and "F1" for option "M1".
- Note 5: The piping adapter set and C bracket cannot be used together.
- Note 6: A joiner set is attached with the piping adapter set.

Drainage and bowl material combination (how to order "D")

Option ● with float switch

| 3000/4000/8000 Series | | | |
|-----------------------|---------------|-------|------------|
| Shape | | | |
| Material | Plastic bowl | | Metal bowl |
| | Polycarbonate | Nylon | Aluminum |
| Lubricator Lx000-W | LL | LLZ | LLM |

A Model no.

| L | L | L | L |
|---|---|---|---|
| 1 | 3 | 4 | 8 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |

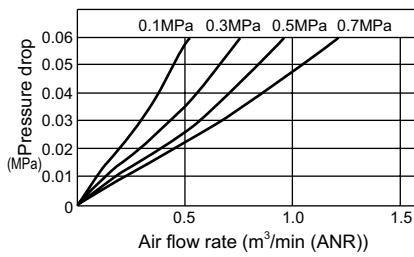
G Bracket (attached)

| Symbol | Descriptions | | | | | |
|--|----------------------------|--|---|---|---|---|
| B Port size | | | | | | |
| 6 | 1/8 | ● | | | | |
| 8 | 1/4 | ● | ● | ● | | |
| 10 | 3/8 | | ● | ● | | |
| 15 | 1/2 | | | ● | | |
| 20 | 3/4 | | | | ● | |
| 25 | 1 | | | | ● | |
| C Port thread type Note 1 | | | | | | |
| Blank | Rc thread | ● | ● | ● | ● | |
| N | NPT thread | ● | ● | ● | ● | |
| G | G thread | ● | ● | ● | ● | |
| D Option Note 2 | | | | | | |
| Drain Discharge | Blank | No manual cock | ● | ● | ● | ● |
| | C | With manual cock | ● | ● | ● | ● |
| | LL | With float switch | | ● | ● | ● |
| Bowl Material | Blank | Polycarbonate bowl | ● | ● | ● | ● |
| | Z | Nylon bowl | ● | ● | ● | ● |
| | M | Metal bowl | | ● | ● | ● |
| | M1 | Metal bowl with manual drain cock Note 4 | | ● | ● | ● |
| Flow Direction | Blank | Standard flow (left to right) | ● | ● | ● | ● |
| | X1 | Reverse flow (right to left) | ● | ● | ● | ● |
| E Displayed unit | | | | | | |
| Blank | MPa display, Rc thread | ● | ● | ● | ● | |
| J1 | MPa display, NPT, G thread | ● | ● | ● | ● | |
| F Piping adaptor set (included) Note 5, 6 pages 155 to 157 | | | | | | |
| Blank | Not attached | ● | ● | ● | ● | |
| A6*W | 1/8 piping adaptor set | ● | | | | |
| A8*W | 1/4 piping adaptor set | ● | ● | ● | | |
| A10*W | 3/8 piping adaptor set | ● | ● | ● | | |
| A15*W | 1/2 piping adaptor set | | ● | ● | | |
| A20*W | 3/4 piping adaptor set | | | ● | ● | |
| A25*W | 1 piping adaptor set | | | | ● | |
| A32*W | 1 1/4 piping adaptor set | | | | ● | |
| * Adaptor thread type | | | | | | |
| Blank | RC thread | ● | ● | ● | ● | |
| N | NPT thread | ● | ● | ● | ● | |
| G | G thread | ● | ● | ● | ● | |
| G Bracket (attached) | | | | | | |
| Blank | Not attached | ● | ● | ● | ● | |
| BW | C type bracket | ● | ● | ● | ● | |

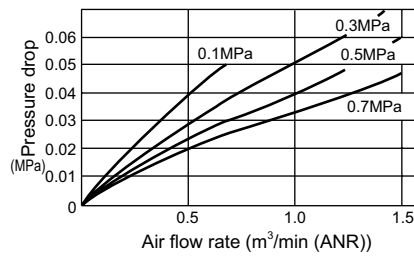
Lubricator Series

Flow characteristics

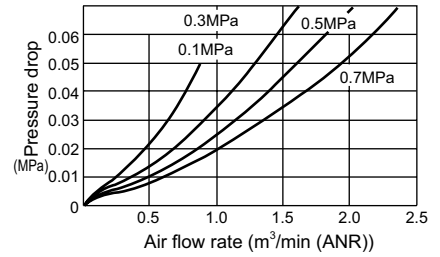
● L1000-6-W



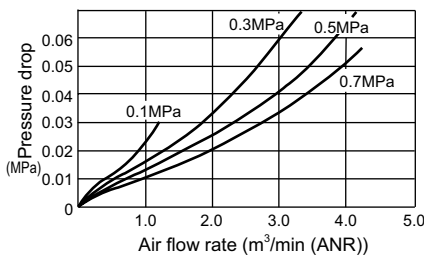
● L1000-8-W



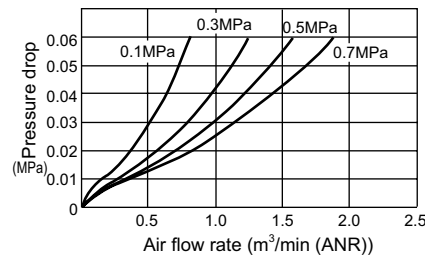
● L3000-8-W



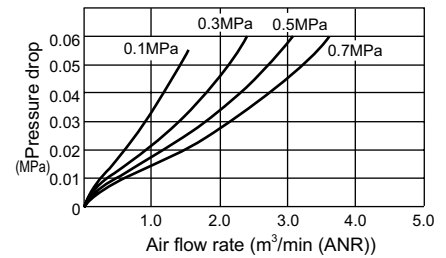
● L3000-10-W



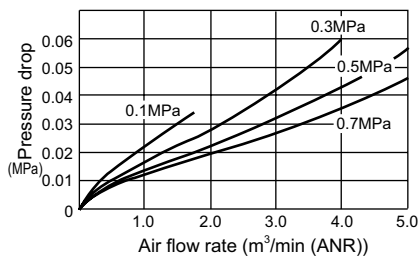
● L4000-8-W



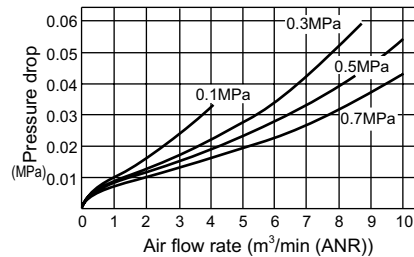
● L4000-10-W



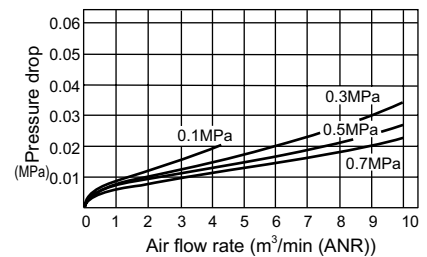
● L4000-15-W



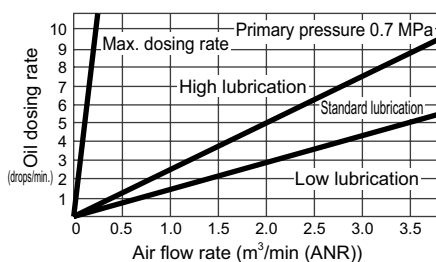
● L8000-20-W



● L8000-25-W

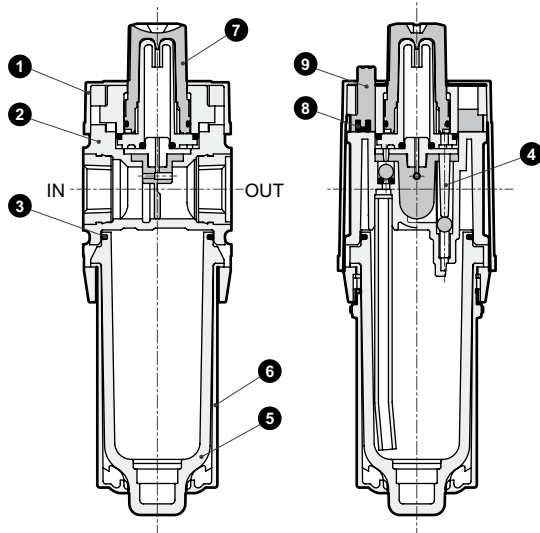


Oil dosing rate

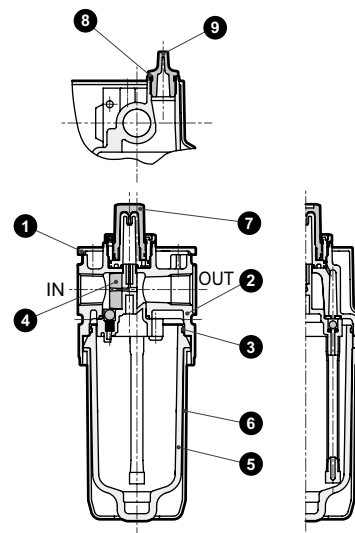


Internal structure and parts list

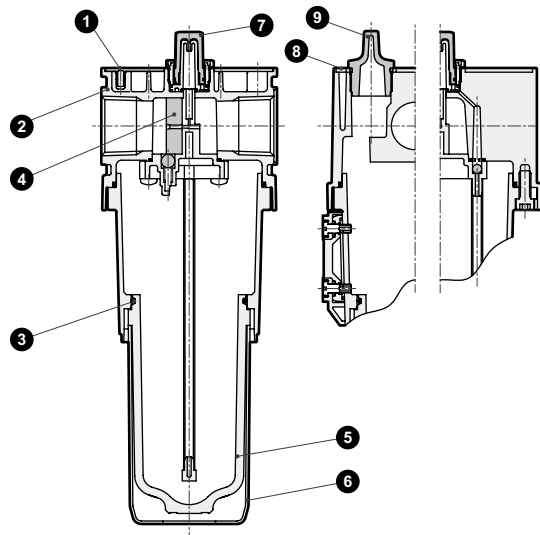
● L1000-W



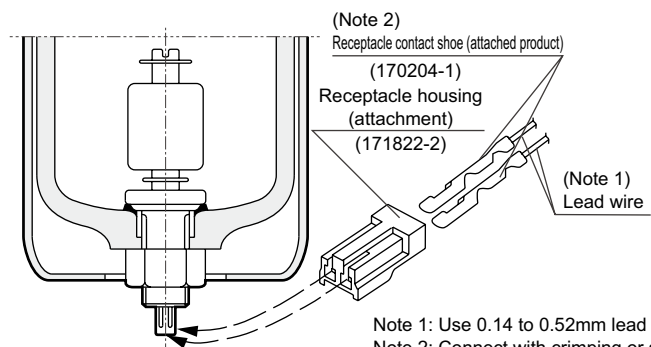
● L3000-W·L4000-W



● L8000-W



● Optional float switch



Note 1: Use 0.14 to 0.52mm lead wire.
 Note 2: Connect with crimping or soldering.
 Japan AMP post header (part No. AMP171825-2) is used for the terminal.
 AMP171822-2 (standard) or AMP172142-2 (low profile) connectors are compatible.

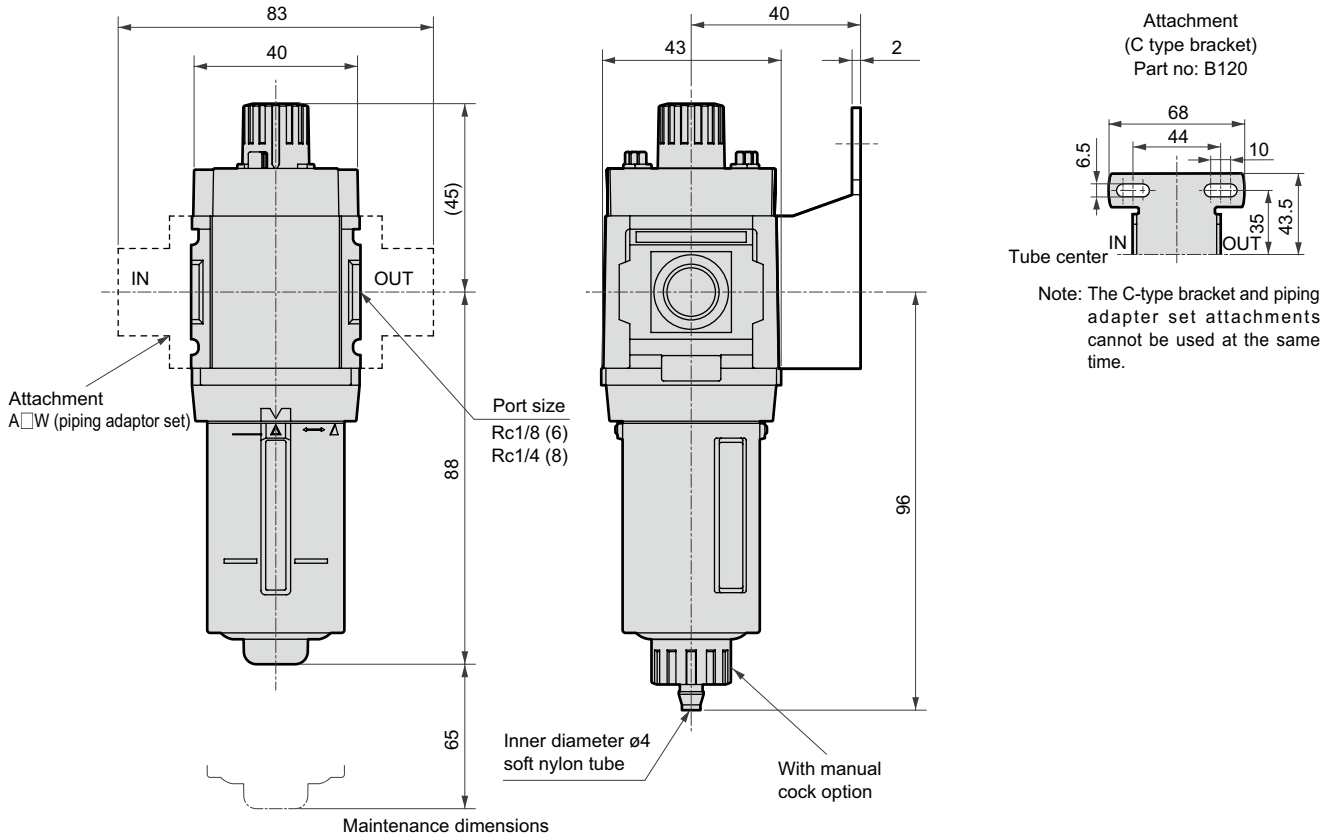
| No. | Part name | Material | | | |
|-----|----------------|------------------------|----------------------------|----------------|---------|
| | | L1000-W | L3000-W | L4000-W | L8000-W |
| 1 | Plate cover | ABS resin | | | |
| 2 | Body | Polyamide resin, steel | Aluminum alloy die-casting | | |
| 3 | O-ring | Note 1 | Special nitrile rubber | | |
| 4 | Flow guide | Urethane rubber resin | | Nitrile rubber | |
| 5 | Bowl | Polycarbonate resin | | | |
| 6 | Bowl guard | Polyamide resin | Polyamide resin, steel | | |
| 7 | Adjusting dome | Transparant nylon | | | |
| 8 | O-ring | Nitrile rubber | | | |
| 9 | Filling plug | Polyacetal resin | | | |

Note 1: L1000-W O ring has a special shape.

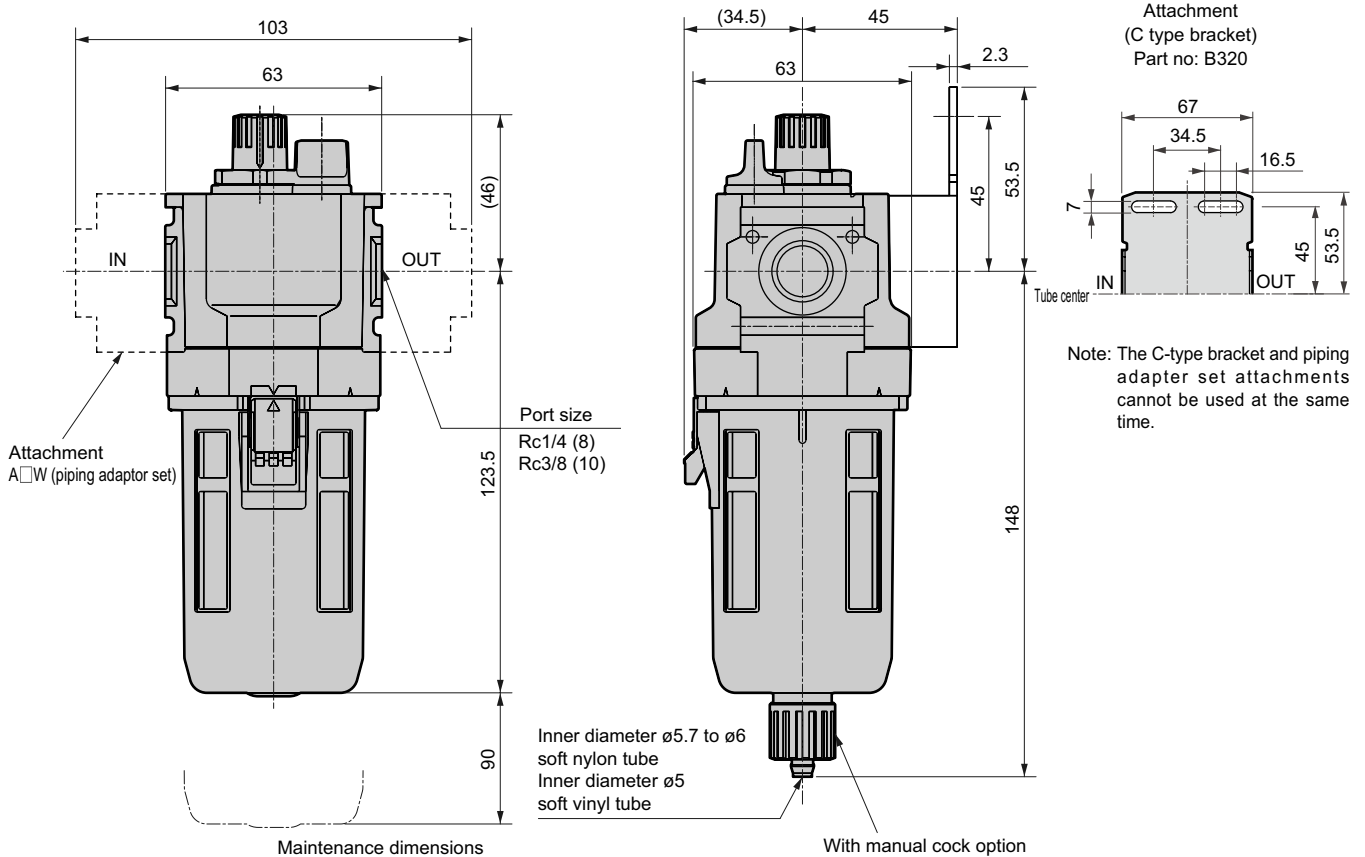
Lubricator Series

Dimensions

● L1000-W

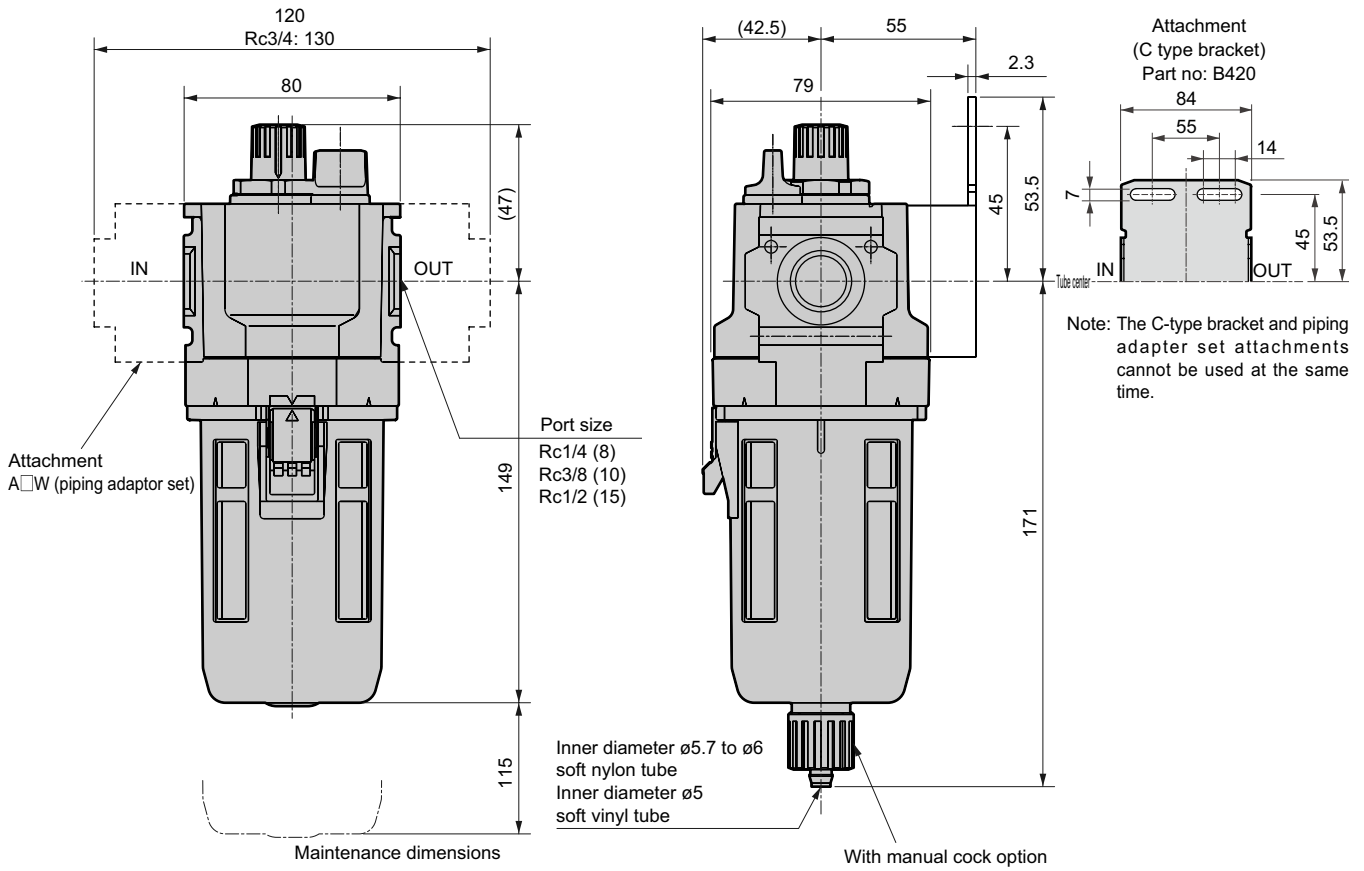


● L3000-W



Dimensions

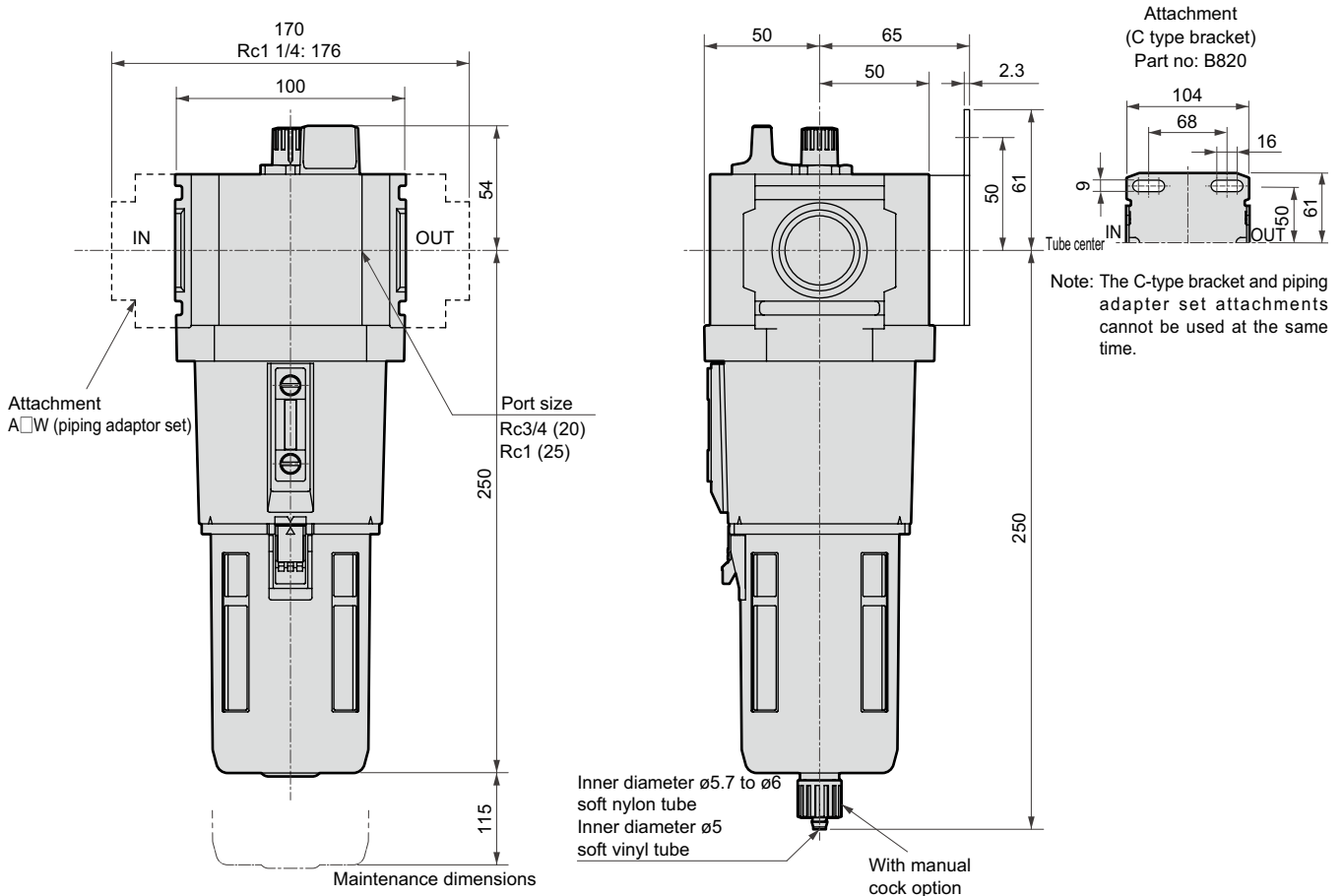
● L4000-W



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

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

● L8000-W



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

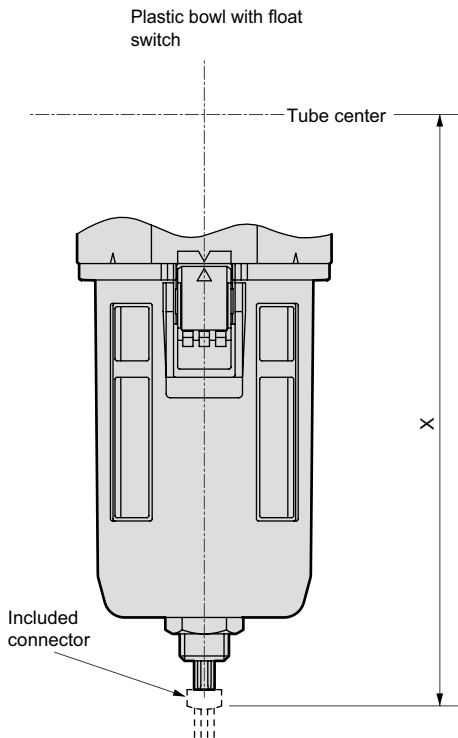
Lubricator Series

Option dimensions

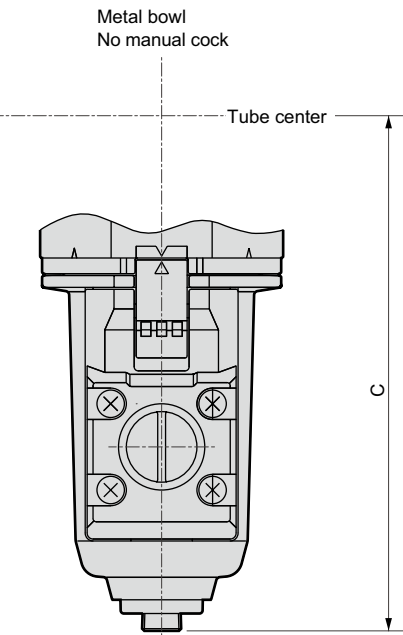


Other options [L3000-W, 4000-W, 8000-W]

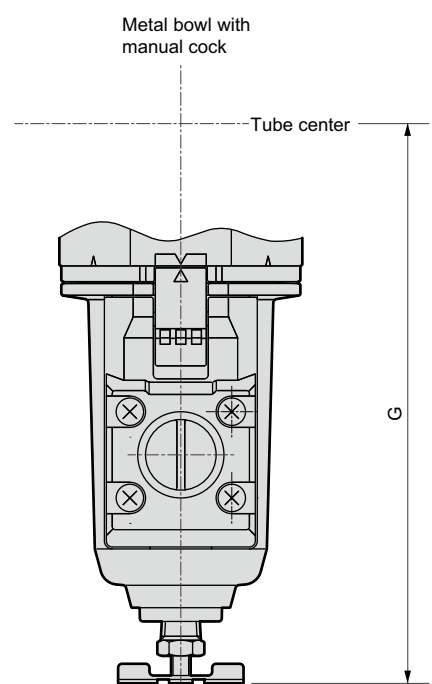
● Plastic bowl (Blank)



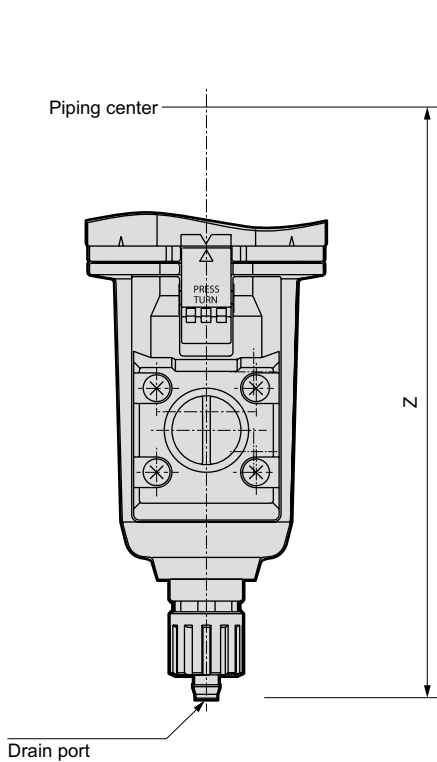
● Metal bowl (manual cock) (M)



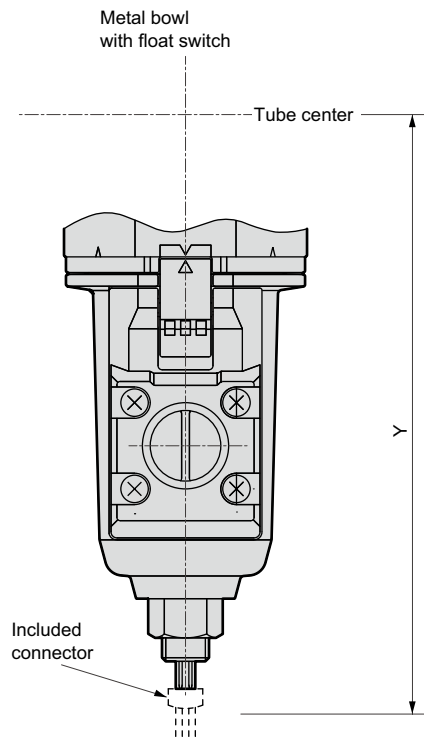
● Metal bowl with manual cock (CM)



● Metal bowl with manual drain cock (CM1)

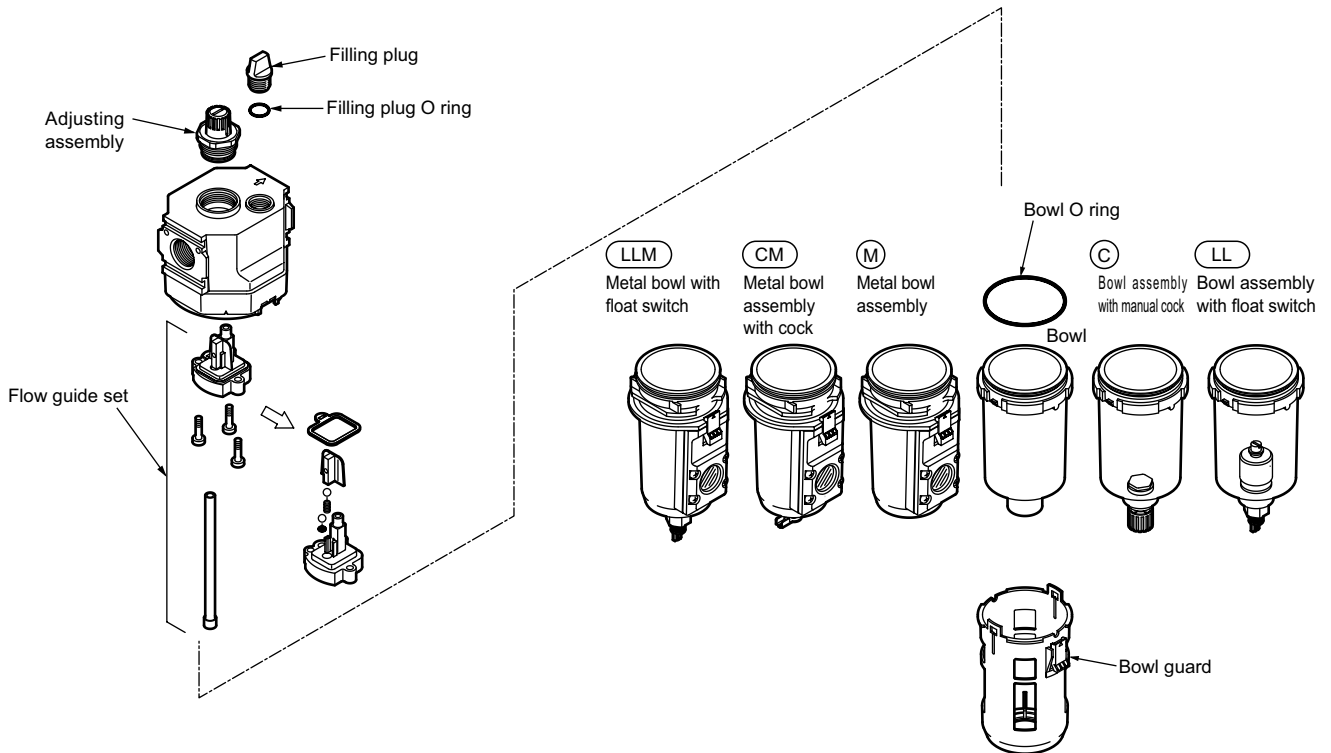


● Metal bowl with float switch (LLM)



| Model no. | C | G | X | 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 |

Option dimensions



Repair parts (filling plug O ring, adjusting assembly, flow guide set, bowl O ring set)

| Model no. | Repair kit model no. for polycarbonate bowl | Repair kit model no. for nylon bowl and 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)

| Bowl assembly model no. | Polycarbonate bowl without cock (Blank) | Nylon bowl without cock (Z) | Metal bowl without cock (M) | Polycarbonate bowl with cock (C) | With cock Nylon bowl (CZ) | Metal bowl with cock (CM) | Polycarbonate bowl with float switch (LL) | Nylon bowl with float switch (LLZ) | Metal bowl with float switch (LLM) |
|-------------------------|---|-----------------------------|-----------------------------|----------------------------------|---------------------------|---------------------------|---|------------------------------------|------------------------------------|
| L1000-W | L1000-BOWL | L1000-BOWL-Z | - | F1000-W-BOWL | F1000-W-BOWL-Z | - | - | - | - |
| 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 |
| 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 |

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

Adjusting assembly

| Model no. | Adjusting assembly model no. (for polycarbonate bowl) | Adjusting assembly model no. (for nylon and 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 (fill plug and fill plug O ring)

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



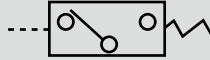
Mechanical pressure switch Standard white series

P4000-W Series

Wide pressure setting range covers 0.1 to 0.8 MPa.

● Port size: 1/4 to 1/2

JIS symbol



Specifications

| Descriptions | P4000-8-W | P4000-10-W | P4000-15-W |
|---|--|------------|------------|
| Working fluid | Compressed air | | |
| Max. working pressure MPa | 1.0 | | |
| Withstanding pressure MPa | 1.5 | | |
| Pressure adjusting range MPa | 0.1 to 0.8 | | |
| Fluid temperature °C | 5 to 60 | | |
| Port size Rc | 1/4 | 3/8 | 1/2 |
| Microswitch model no. | Z15GD-B (OMRON) | | |
| Contact configuration ab | 1 | | |
| Hysteresis MPa | Hysteresis 0.049 or less at 0.1 to 0.49. | | |
| | Hysteresis 0.078 or less at 0.5 to 0.8. | | |
| Repeatability MPa | ±0.02 of set pressure range | | |
| Withstanding cycle frequency cycles/min | 20 | | |
| Insulation resistance MΩ | 100 or more (at CD500V megger) | | |
| Product weight kg | 0.5 | | |
| Mounting | Install adjusting screw vertically. | | |

Microswitch rated

| Load | Noninductive load (A) | | | | Inductive load (A) | | | |
|---------|-----------------------|-----|-----------|------|--------------------|-----|---------------------|-----|
| | Resistance load | | Lamp load | | Inductive load | | Electric motor load | |
| Circuit | N.C | N.O | N.C | N.O | N.C | N.O | N.C | N.O |
| AC125V | 15 | 15 | 3.0 | 1.5 | 15 | 15 | 5.0 | 2.5 |
| AC250V | 15 | 15 | 2.5 | 1.25 | 15 | 15 | 3.0 | 1.5 |
| DC30V | 6.0 | 6.0 | 3.0 | 1.5 | 5.0 | 5.0 | 5.0 | 2.5 |

How to order

P4000 - **8** - **W** - **1N** - **BW**

Ⓐ Port size

Ⓑ Option

Ⓒ Attachment

| Symbol | Descriptions |
|------------------------------------|--------------------------------------|
| Ⓐ Port size | |
| 8 | Rc1/4 |
| 10 | Rc3/8 |
| 15 | Rc1/2 |
| Ⓑ Option | |
| Blank | Without indicator light |
| 1N | For AC100V/200V with indicator light |
| 3N | For DC24V with indicator light |
| T | Without pressure gauge |
| Ⓒ Attachment Note 1, Note 3 | |
| Blank | Not attached |
| A8W | Rc1/4 piping adaptor set |
| A10W | Rc3/8 piping adaptor set |
| A15W | Rc1/2 piping adaptor set |
| A20W | Rc3/4 piping adaptor set |
| BW | C type bracket |

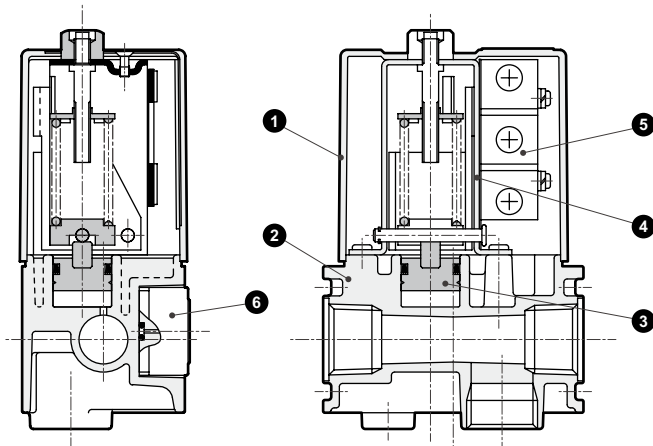
⚠ Cautions for model No. selection

Note 1: C type bracket and piping adapter set can not be used together.

Note 2: Due to modular design, a gasket is attached.

Note 3: A joiner set is attached with the piping adapter set.

Internal structure and parts list



| No. | Part name | Material | No. |
|-----|-------------------------|----------------------------------|-----------------|
| 1 | Cover | Resin | - |
| 2 | Body | Aluminum alloy die-casting | - |
| 3 | Piston assembly | Polyacetal resin, nitrile rubber | - |
| 4 | Frame | Steel | - |
| 5 | Microswitch | - | Z15GD-B (OMRON) |
| 6 | Pressure gauge assembly | PBT resin, brass | G401-W |

* Remove cover ① and wire directly to the microswitch ⑤.

* 1 gasket attached

⚠ Safety precautions

■ Design & Selection

⚠ CAUTION

1 Microswitch contact specification.

Closed circuit Maximum 30 A Open circuit Maximum 15A
Rush current should be measured beforehand.

■ Installation & Adjustment

⚠ CAUTION

1 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.
AC100V 1.5mA AC200V 2.0mA DC24V 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. Also, attach it on the cover where it is easily visible
Name plate post **pressure up → lights on**
- 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. Also, attach it on the cover where it is easily visible.
Name plate post **pressure up → lights off**
- If there is a large amount of drainage, pipe so that the pressure adjustment screw is facing upward.

3 Avoid using in hot places because the cover is made of resin.

4 Hold the body when piping or installing.

5 Use with air that has been passed through an air filter.

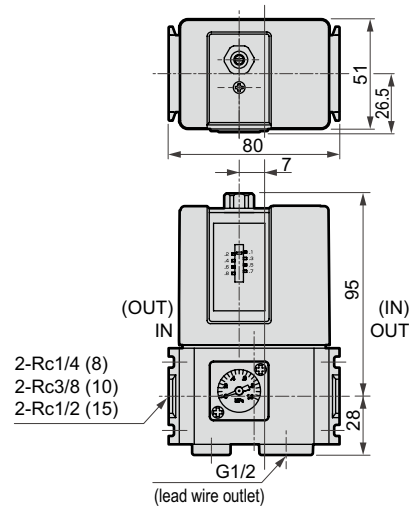
6 Use the pressure absorbing nipple (6556) to detect sudden changes in pressure such as when confirming air cylinder pressure.

7 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.

8 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. Use an 13mm wrench and a slotted screw driver to fix the nut after setting.

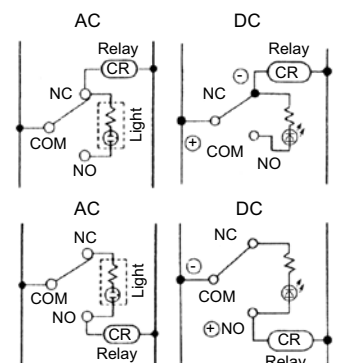
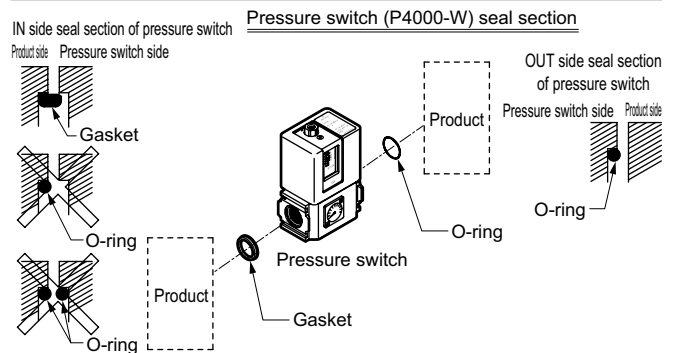
9 The scale is only for reference. (scale margin of error within $\pm 0.05\text{MPa}$)

Dimensions



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

How to assemble





Reed switch type compact mechanical pressure switch standard white series P1100-W/P4100-W/P8100-W Series

Compatible with modular connection with FRL



Specifications

| Descriptions | P□100-W |
|--|---|
| Working fluid | Compressed air |
| Max. working pressure MPa | 1 |
| Set pressure range MPa | 0.1 to 0.6 |
| Hysteresis MPa | 0.08 or less |
| Repeatability MPa | ±0.02 or less |
| Contact configuration | 1a Note 1 |
| Wiring | Lead wire 1m (oil resistant vinyl cabtire cable 2-conductor 0.2 mm ²) |
| Ambient temperature and fluid temperature. | 5 to 60°C |
| Protective structure Note 2 | Equivalent to IP20 |

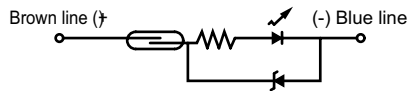
Note 1: The contact turns on if air pressure exceeding the scale setting pressure is applied.

Note 2: The protective structure is IP 65 or equivalent if an optional joint is connected to the atmospheric pressure introduction port and extended with tubes to a place free of water. This port can not be used outdoors.

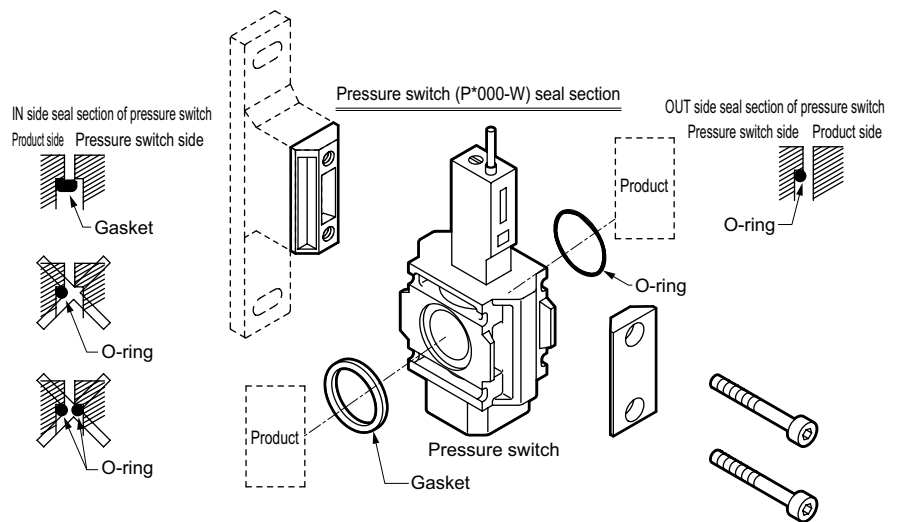
Electric component section specification

| | | |
|--------------------------|---|-----------|
| Load voltage | DC12/24V | AC100V |
| Load voltage | 5 to 50mA | 7 to 20mA |
| Internal voltage drop | 3V or less | |
| Light | LED(ON lighting) | |
| Maximum shock resistance | 294m/S ² | |
| Insulation resistance | 20MΩ and over at 500 VDC megger | |
| Withstanding voltage | No abnormality after application of AC1000V for 1 minute. | |

Internal circuit diagram



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



How to order (modular connection compatible)

P **1100** - **6** **L** - **W** - **B11W** - **3** - **○**
(White type)

A Series model no

B Port size

C Branching direction

D Attachment

E Lead wire length

F Option

| Symbol | Descriptions | | | |
|-------------------------------------|---|------|------|------|
| A Series model no | | | | |
| 1100 | For 1000-W Series modular connection | | | |
| 4100 | For 2500-W, 3000-W, 4000-W Series modular connection | | | |
| 8100 | For 6000-W, 8000-W Series modular connection | | | |
| B Port size | | | | |
| | | 1100 | 4100 | 8100 |
| 6 | Rc1/8 | ● | | |
| 8 | Rc1/4 | ● | ● | |
| 10 | Rc3/8 | | ● | |
| 15 | Rc1/2 | | ● | |
| 20 | Rc3/4 | | | ● |
| 25 | Rc1 | | | ● |
| C Branching direction Note 1 | | | | |
| Blank | Note 2 | L | R | |
| | | | | |
| D Attachment | | | | |
| | | 1100 | 4100 | 8100 |
| Blank | Joiner set and gasket | ● | ● | ● |
| B11W | T type bracket and gasket | ● | | |
| B31W | T type bracket and gasket | | ● | |
| B41W | T type bracket and gasket | | ● | |
| B81W | T type bracket and gasket | | | ● |
| 4 | Fitting for atmospheric releas port attached (M3 elbow) | ● | ● | ● |
| E Lead wire length | | | | |
| Blank | 1m | | | |
| 3 | 3m | | | |
| 5 | 5m | | | |
| F Option | | | | |
| Blank | None | | | |
| P6 | Copper and PTFE free (custom order) | | | |

⚠ Cautions for model No. selection

Note 1: This is used for intermediate connection of the module series so the module connection section is not threaded.

Note 2: A masking plug matching the port size is enclosed.

Note 3: When piping the isolated P*100-W unit, use piping adapter A*00-W.
 (The horizontal direction port does not have threads)

Specification for LiB production (Catalog No.CC-947A)

● Specification for LiB manufacturing process

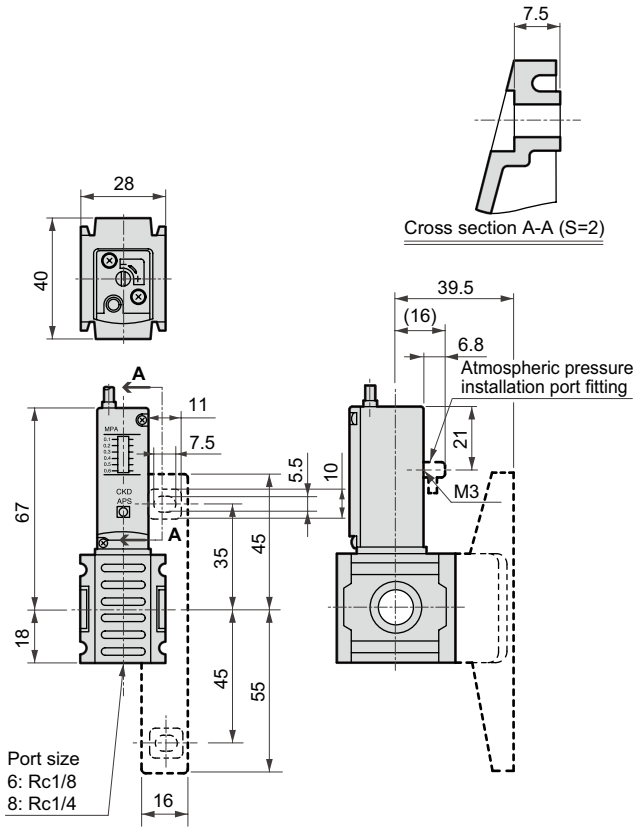
P4100 - - **P4**

P*100-W Series

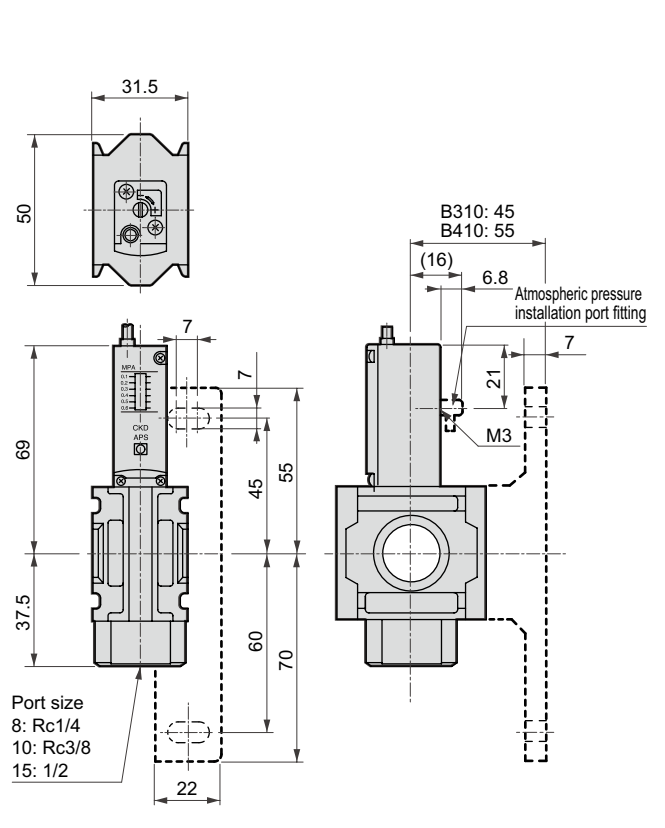
Dimensions 

● P1100-W

● P4100-W

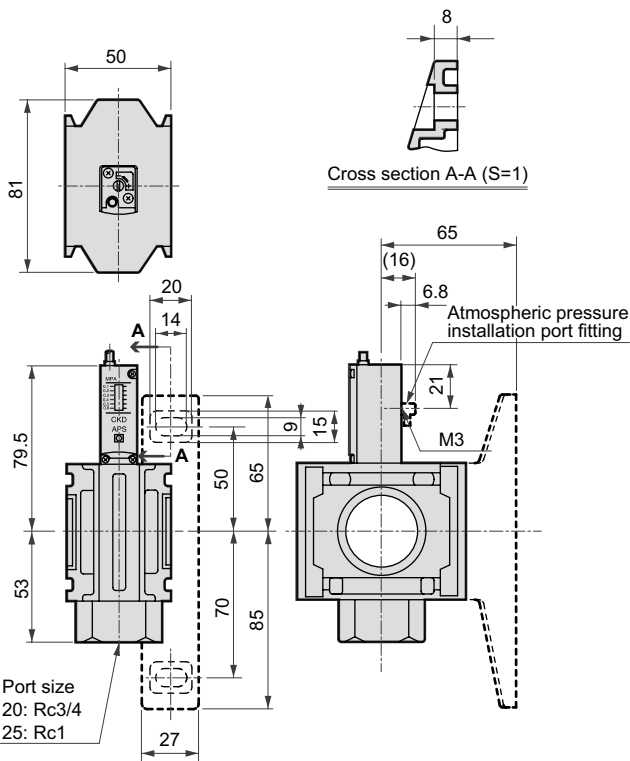


Weight 126g



Weight 190g

● P8100-W



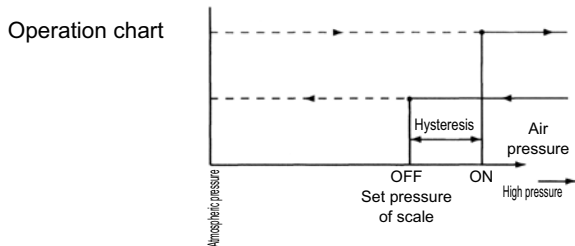
Weight 467g

⚠ Safety precautions

■ Installation & Adjustment

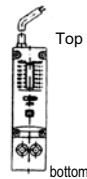
⚠ CAUTION

- 1 Setting pressure Settings are applied when the value is changed.
 - 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 value when the contact is on, set the pressure displayed on the scale plate to a value smaller than that from which hysteresis has been subtracted. If not set, operation may not take place at the set value.
(Hysteresis is the the difference of pressure it is required to turn the switch off after it has been turned on at the set pressure)



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 as it may lead to disconnection
- Do not use this sensor near a strong magnetic field or large current (large magnet or spot welder, etc.) because the sensor could malfunction.
- The pressure switch is equivalent to IP-20, but the installation direction is limited to upward vertical. If water enters the introduction port for atmospheric pressure from below, pipe an M3 joint and extend with tubing to where water will not enter. Do not plug the fork lift holes as recycled air is discharged. (Only SHD Series) 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 suddenly. Product performance could drop or the product could be damaged.



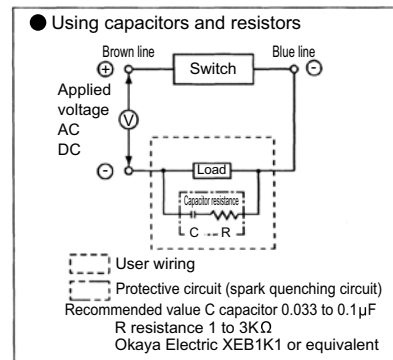
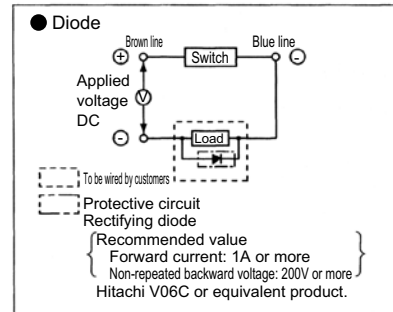
3 Wiring

- Connecting the lead wire
 - ① Do not connect the lead directly to the power supply. Connect the load serially. Failure to do so could lead to disconnection.
 - ② When using for DC, connect the brown wire to the ⊕ side and the blue wire to the ⊖ side. The light 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 light may not light. In this case, the light will light if the switch lead polarity is reversed.
- Contact capacity
Do not exceed the specified load voltage and load current range.

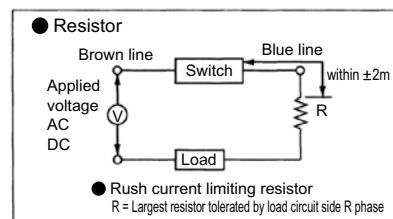
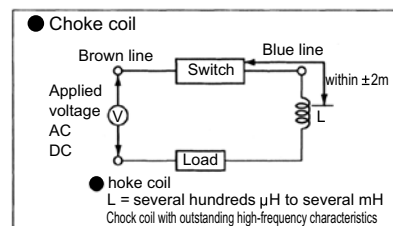
Failure to do so could lead to disconnection or blown light. The light may not light if the current is less than the rated current value.

● 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 If DC wiring exceeds 50 m or AC wiring exceeds 10 m, the wiring capacity will be attained. A inrush current will occur, damaging the switch or shortening life.
Install a contact protection circuit if the wiring length is exceeded.



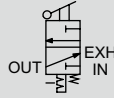


Shut-off valve Standard white series



V1000-W/V3000-W Series

1 action exhaust operation Prevent accidents caused by residual pressure.
Port size: 1/8 to 1/2

JIS symbol

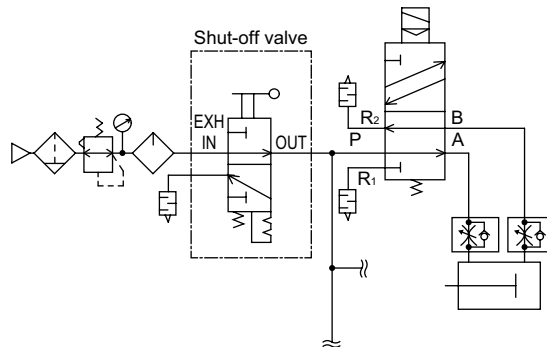


Specifications

| Descriptions | | V1000-W | | V3000-W | | |
|---|-----------------|---|-----------|---|------------|------------|
| Exterior | |  | |  | | |
| Descriptions | | V1000-6-W | V1000-8-W | V3000-8-W | V3000-10-W | V3000-15-W |
| Working fluid | | Compressed air | | | | |
| Max. working pressure MPa | | 1.0 | | | | |
| Withstanding pressure MPa | | 1.5 | | | | |
| Fluid temperature °C | | 5 to 60 | | | | |
| Operation lever switching angle | | 90° | | | | |
| Operating force | Pushing force N | 18 | | 80 | | |
| | Torque N·m | 0.5 | | 2 | | |
| Valve section leakage ℓ/min (ANR) | | 10 | | | | |
| External leakage ℓ/min (ANR) | | 10 | | | | |
| Port size (Rc, NPT, G) | IN·OUT | 1/8 | 1/4 | 1/4 | 3/8 | 1/2 |
| | EXH | 1/8 | | 3/8 | | |
| Product weight kg | | 0.17 | | 0.25 | | |
| Effective sectional area (mm ²) | IN·OUT | 15 | 18 | 40 | 70 | 85 |
| | OUT·EXH | 5 | | 40 | 50 | 50 |

Applications

Explanation: When a solenoid valve and an air cylinder, etc. are repaired and adjusted, to ensure the safety, exhaust compressed air in the pneumatic circuit with a shut-off valve before starting work.



How to order

- For FRL 1000 Series



- For FRL 3000, 4000 Series



A Model no.

B Port size

C Port thread type

D Option

E Displayed unit

F Attachment

| A Model no. | |
|-------------|---|
| V | V |
| 1 | 3 |
| 0 | 0 |
| 0 | 0 |
| 0 | 0 |

| Symbol | Descriptions | | |
|---|-------------------------------------|---|---|
| B Port size | | | |
| 6 | Rc1/8 | ● | |
| 8 | Rc1/4 | ● | ● |
| 10 | Rc3/8 | | ● |
| 15 | Rc1/2 | | ● |
| C Port thread type | | | |
| Blank | Rc thread | ● | ● |
| N | NPT thread | ● | ● |
| G | G thread | ● | ● |
| D Option | | | |
| Blank | Standard flow (left to right) | ● | ● |
| X1 | In/out reverse flow (right to left) | ● | ● |
| E Displayed unit | | | |
| Blank | MPa display, Rc thread | ● | ● |
| J1 | MPa display, NPT, G thread | ● | ● |
| F Attachment Note 1, Note 2 | | | |
| Blank | No attachments | ● | ● |
| A6*W | 1/8 piping adaptor set | ● | |
| A8*W | 1/4 piping adaptor set | ● | ● |
| A10*W | 3/8 piping adaptor set | ● | ● |
| A15*W | 1/2 piping adaptor set | | ● |
| A20*W | 3/4 piping adaptor set | | ● |
| BW | C type bracket | ● | ● |
| S | Silencer | ● | ● |
| * Adaptor thread type | | | |
| Blank | Rc thread | ● | ● |
| N | NPT thread | ● | ● |
| G | G thread | ● | ● |

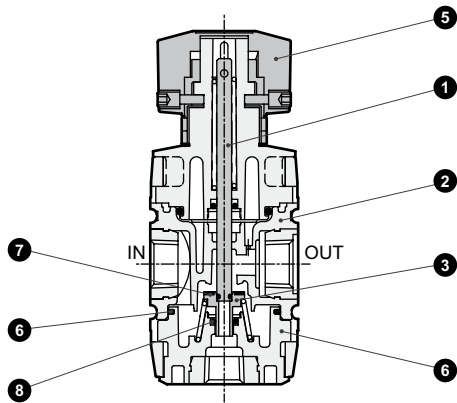
⚠ Cautions for model No. selection

Note 1: The piping adapter set and C bracket cannot be used together.
 Note 2: A joiner set is attached with the piping adapter set.

⚠ 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.

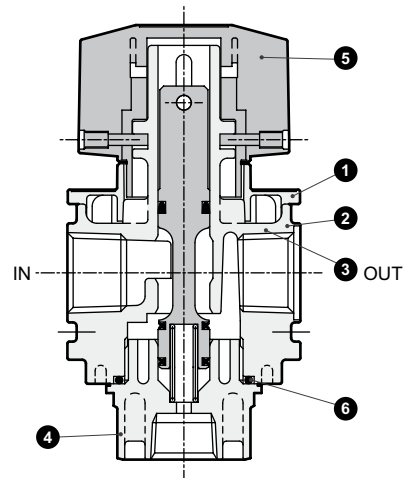
Internal structure and parts list

● V1000-W



| No. | Part 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 | Nitrile rubber |
| 7 | O-ring | Nitrile rubber |
| 8 | O-ring | Nitrile rubber |

● V3000-W



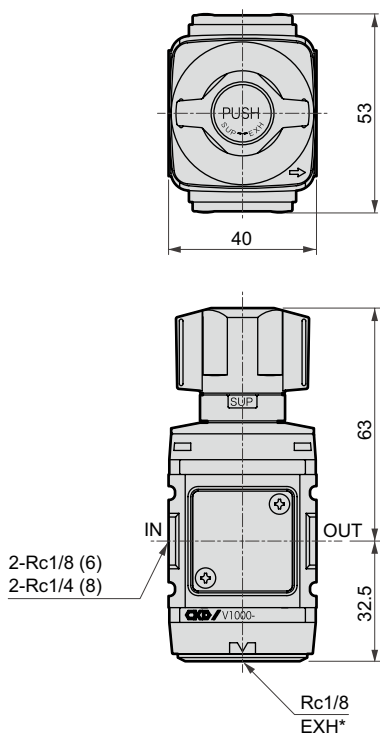
| No. | Part name | Material |
|-----|----------------|-------------------------------|
| 1 | Plate cover | ABS resin |
| 2 | Body | Aluminum alloy die-casting |
| 3 | Spool assembly | Aluminum alloy urethane resin |
| 4 | Bottom plug | PBT resin Note 1 |
| 5 | Knob | Polyacetal resin |
| 6 | O-ring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

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

Dimensions

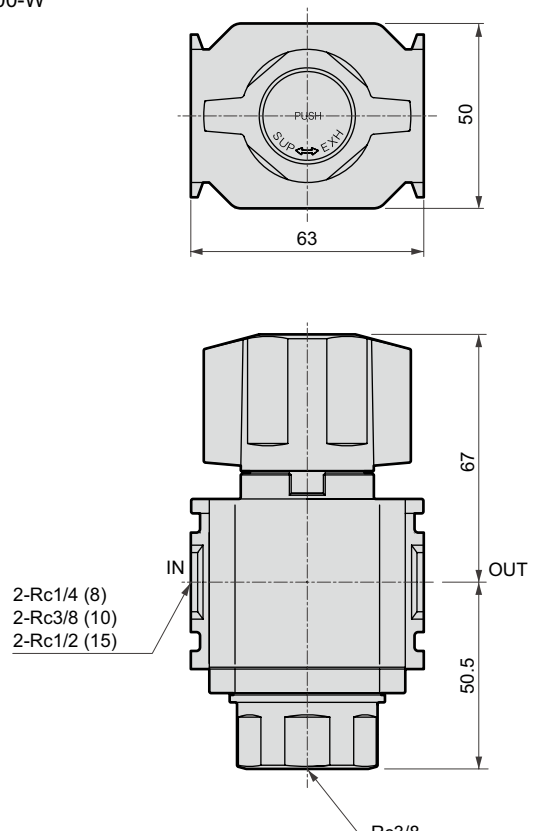


● V1000-W



* The EXH port is dedicated for installation of the silencer.

● V3000-W



* The EXH port is dedicated for installation of the silencer.



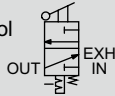
Lockout valve (OSHA compliant) Standard white series

V3010-W/V6010-W Series

Prevent accidents caused by residual pressure.

Port size: 1/4 to 1

JIS symbol



Specifications

| Descriptions | | V3010-8-W | V3010-10-W | V3010-15-W | V6010-20-W | V6010-25-W |
|---|------------------|----------------|------------|------------|------------|------------|
| Working fluid | | Compressed air | | | | |
| Max. working pressure MPa | | 1 | | | | |
| Withstanding pressure MPa | | 1.5 | | | | |
| Fluid temperature °C | | 5 to 60 | | | | |
| Operation lever switching angle | | 90° | | | | |
| Operating force | Pushing force N | 80 or less | | | | |
| | Torque N·m | 2.5 or less | | | | |
| Valve seat leakage cm ³ /min (ANR) | | 10 or less | | | | |
| External leakage cm ³ /min (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 | |
| Product weight kg | | 0.3 | | | 0.8 | |
| Effective sectional area(mm ²) | IN→OUT | 40 | 70 | 85 | 145 | 150 |
| | OUT→EXH | 40 | 50 | 50 | 105 | 110 |

OSHA (Occupational Safety and Health Administration)

Standards for worker safety set by the United States.

<Lockout-Tagout>

When servicing 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

● FRL 2000, 4000 Series

V3010-8-W - (White type) - A8W

● For FRL 6000, 8000 Series

V6010-20-W - (White type) - A20W

A Model no.

B Port size

C Port thread type

D Option

E Displayed unit

F Attachment

⚠ Cautions for model No. selection

Note 1: The piping adapter set and C bracket cannot be used together.

Note 2: A joiner set is attached with the piping adapter set.

⚠ Select the reverse regulator (R*100-W) or reverse filter regulator (W*100-W) when installing the V*010-W onto the primary side of the regulator or filter regulator.

Specification for LiB production

(Catalog No.CC-947A)

● Design applicable for LiB manufacturing process

V3010 - - P4*

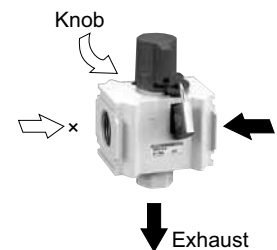
How to use

● Regular use



● Maintenance work

It can be locked at the position where residual pressure is released.



A Model no.

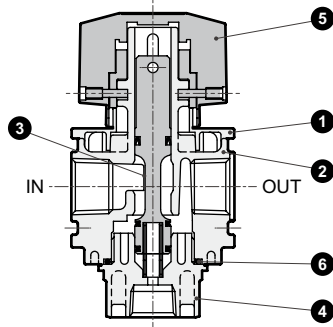
| | |
|---|---|
| V | V |
| 3 | 6 |
| 0 | 0 |
| 1 | 1 |
| 0 | 0 |

| Symbol | Descriptions | | |
|------------------------------------|-------------------------------------|---|---|
| B Port size | | | |
| 8 | 1/4 | ● | |
| 10 | 3/8 | ● | |
| 15 | 1/2 | ● | |
| 20 | 3/4 | | ● |
| 25 | 1 | | ● |
| C Port thread type | | | |
| Blank | Rc thread | ● | ● |
| N | NPT thread | ● | ● |
| G | G thread | ● | ● |
| D Option | | | |
| Blank | None | ● | ● |
| X1 | IN/out reverse flow (right to left) | ● | ● |
| E Displayed unit | | | |
| Blank | MPa display, Rc thread | ● | ● |
| J1 | MPa display, NPT, G thread | ● | ● |
| F Attachment Note 1, Note 2 | | | |
| Blank | No attachments | ● | ● |
| A8W | 1/4 piping adaptor set | ● | |
| A10W | 3/8 piping adaptor set | ● | |
| A15W | 1/2 piping adaptor set | ● | |
| A20W | 3/4 piping adaptor set | ● | ● |
| A25W | 1 piping adaptor set | ● | ● |
| A32W | 1 1/4 piping adaptor set | | ● |
| BW | C type bracket | ● | ● |
| S | Silencer | ● | ● |
| * Adaptor thread type | | | |
| Blank | Rc thread | ● | ● |
| N | NPT thread | ● | ● |
| G | G thread | ● | ● |

V*010-W Series

Internal structure and parts list

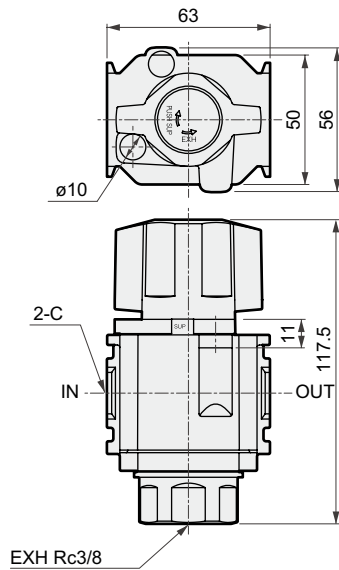
● V3010-W



| No. | Part name | Material |
|-----|----------------|-------------------------------|
| 1 | Plate cover | ABS Resin (Note 2) |
| 2 | Body | Aluminum alloy die-casting |
| 3 | Spool assembly | Aluminum alloy urethane 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 resistant resin UL94 standard equivalent

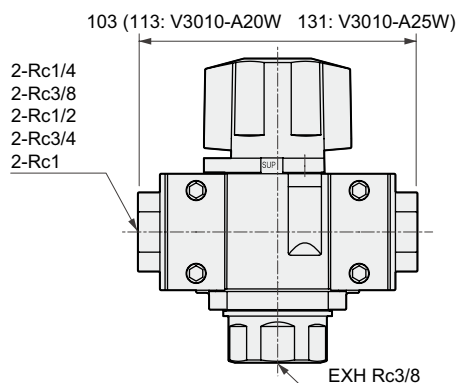
Dimensions (V3010-W)



* The EXH port is dedicated for installation of the silencer.

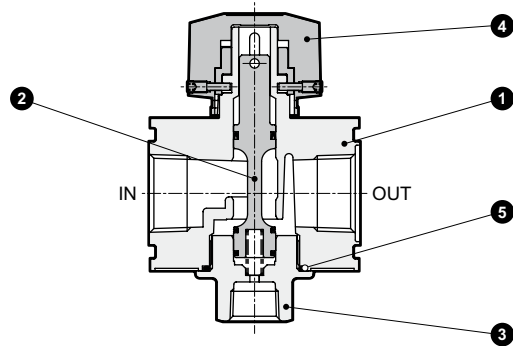
| Descriptions | C |
|--------------|-------|
| V3010-8-W | Rc1/4 |
| V3010-10-W | Rc3/8 |
| V3010-15-W | Rc1/2 |

● Adaptor attachment



Piping adaptor set will not be installed upon shipment.

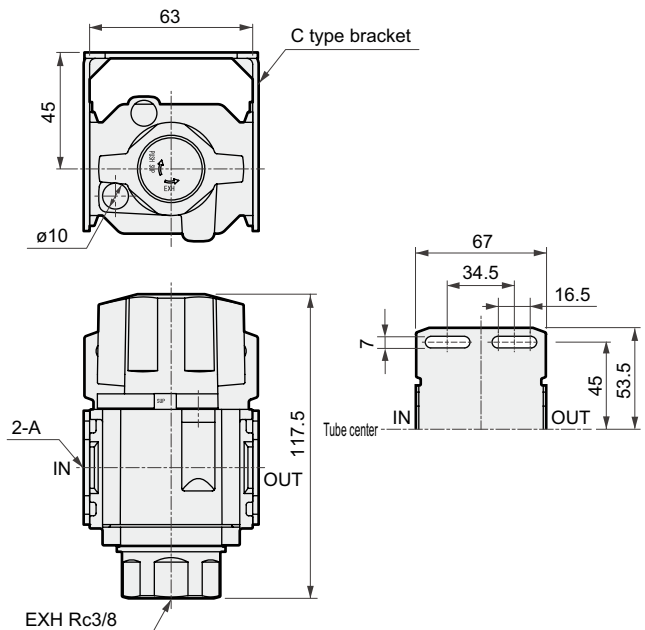
● V6010-W



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

● C type bracket (-BW)

Part no: B320

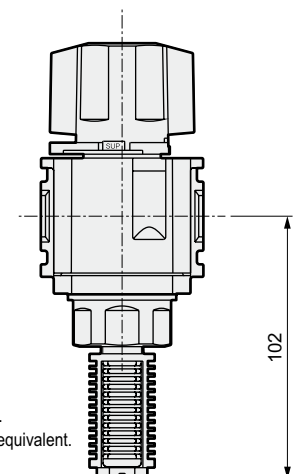


The C type bracket is attached at shipment.

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

● Silencer (-S)

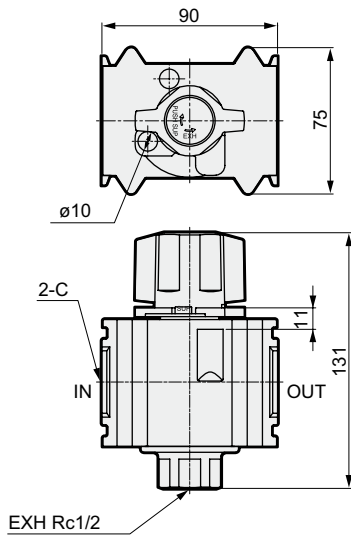
Part no: SLW-10A



Silencer will not be installed upon shipment.

Silencer is flame resistant resin UL94 standard V-0 equivalent. However, element is not flame resistant.

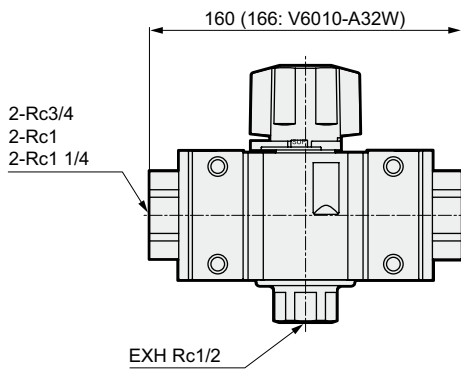
Dimensions (V6010-W)



* The EXH port is dedicated for installation of the silencer.

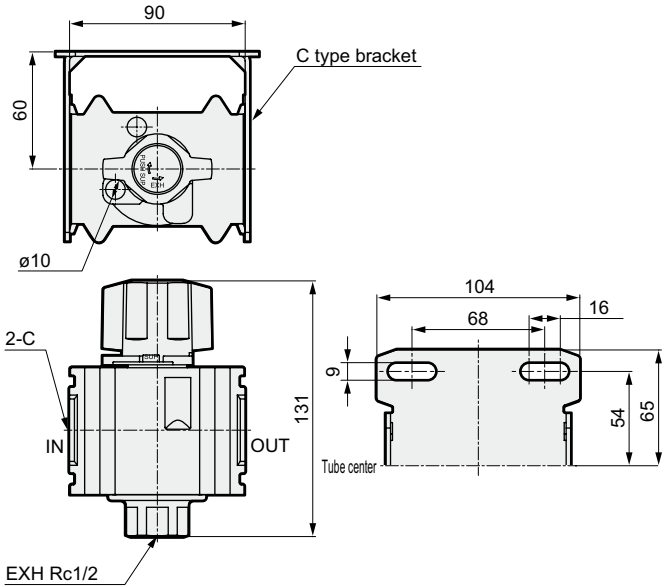
| Descriptions | C |
|--------------|-------|
| V6010-20-W | Rc3/4 |
| V6010-25-W | Rc1 |

● Adaptor attachment



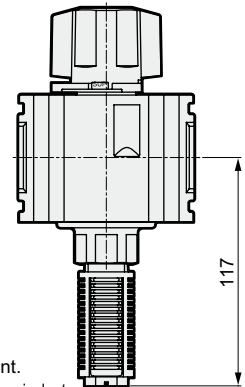
Piping adaptor set will not be installed upon shipment.

● C type bracket (-BW) Part no: B620



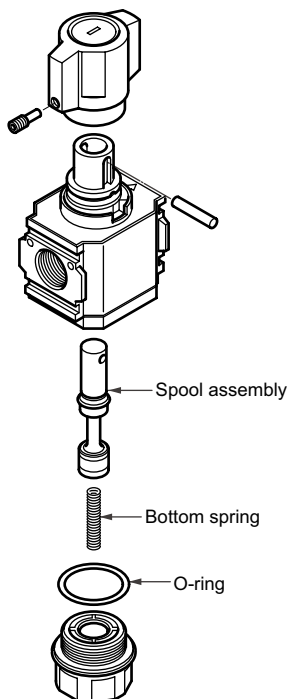
The C type bracket is attached at shipment.
C type bracket and piping adapter set can not be used together.

● Silencer (-S) Part no.: SLW-15A



Silencer will not be installed upon shipment.
Silencer is flame resistant resin UL94 standard V-0 equivalent.
However, element is not flame resistant.

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



Spool assembly

(Spool assembly and bottom spring set)

| Model | Spool assembly model no. |
|--------------|--------------------------|
| V3000, V3010 | V3000-SPOOL |



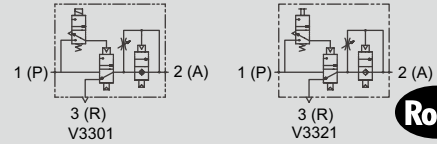
Slow start valve standard white series

V3301-W/V3321-W Series

Securing safety at starts and stops.

● Port size: Rc1/4 to Rc1/2

JIS symbol



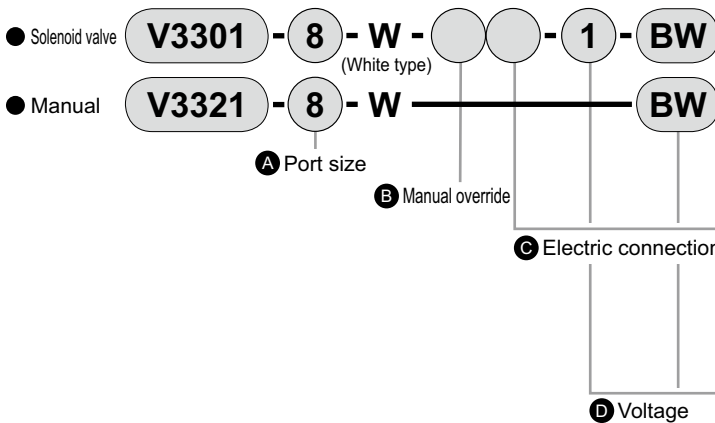
Specifications

| Descriptions | | V3301-W/V3321-W | | |
|--|--------------------|---|-----------------|-------|
| Operating method | | Pilot operated soft spool valve | | |
| Working fluid | | Compressed air (excluding super dry air) Note 1 | | |
| Working pressure range MPa | | 0.2 to 1.0 | | |
| Withstanding pressure MPa | | 1.5 | | |
| Ambient temperature range °C | | 5 to 60 | | |
| Port size | 1 (P), 2 (A) port | Rc1/4 | Rc3/8 | Rc1/2 |
| | 3 (R) port | Rc3/8 | | |
| | Gauge port | Rc1/4 | | |
| Effective sectional area mm ² | Low speed intake | 6 | | |
| | High speed intake | 40 | 64 | 76 |
| | High speed exhaust | 50 | 74 | 78 |
| Response time | | 0.2sec or less | | |
| Lubrication | | Oil-free Note 2 | | |
| Weight g | | V3301-W: 635 V3321-W: 515 | | |
| Solenoid valve specification | | V3301-W | | |
| Rated voltage V | | AC100 (50/60Hz) | AC200 (50/60Hz) | DC24 |
| Starting current A | | 0.076/0.058 | 0.038/0.030 | 0.092 |
| Holding current A | | 0.038/0.029 | 0.019/0.015 | |
| Power consumption W | | 2.2/1.7 | 2.2/1.7 | 2.2 |
| Temperature increase K | | 40 or less | | |
| Voltage fluctuation range | | ±10% | | |
| Insulation class | | B class | | |
| Electric connection | | Grommet lead wire, terminal box | | |

Note 1: Contact CKD when using ultra dry compressed air.

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

How to order



⚠ Select the reverse regulator (R*100-W) or reverse filter regulator (W*100-W) when installing the V3301-W or V3321-W onto the primary side of the regulator or filter regulator.

Specification for LiB production (Catalog No.CC-947A)

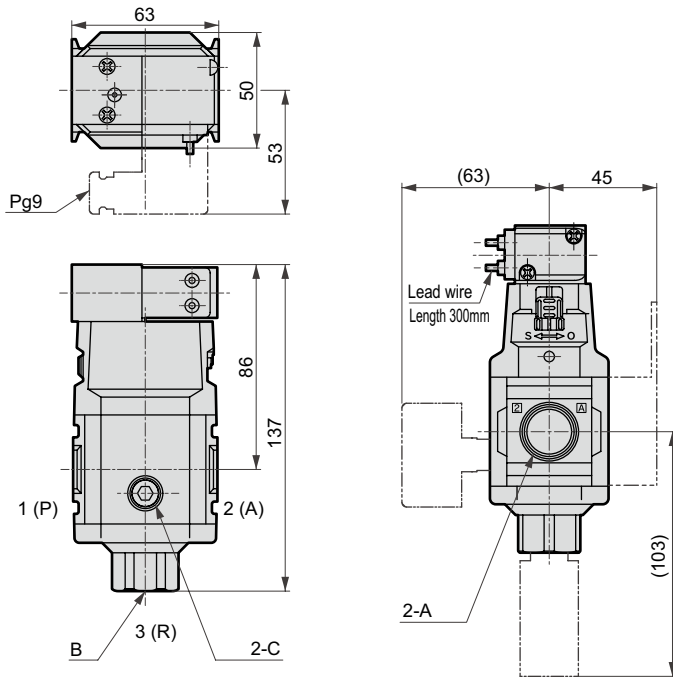
● Specification for LiB manufacturing process

V3301 - - **P4***

| Symbol | Descriptions | |
|------------------------------|---|----------|
| A Port size | | |
| 1 (P), 2 (A) port | | |
| 08 | Rc1/4 | |
| 10 | Rc3/8 | |
| 15 | Rc1/2 | |
| B Manual override | | |
| Blank | Non-locking type | |
| M1 | Locking type | |
| C Electric connection | | |
| Blank | Grommet lead wire | |
| S | Grommet lead wire with surge suppressor | |
| B | Terminal box | |
| LS | Terminal box surge suppressor with lamp | |
| D Voltage | | |
| 1 | AC100V 50/60Hz | Standard |
| 2 | AC200V 50/60Hz | |
| 3 | DC24V | Option |
| 4 | DC12V | |
| 5 | AC110V 50/60Hz | |
| 6 | AC220V 50/60Hz | |
| E Attachment | | |
| Blank | No attachments | |
| BW | C type bracket | |
| G49P | Pressure gauge: G49D-8-P10 | |
| S | Silencer | |

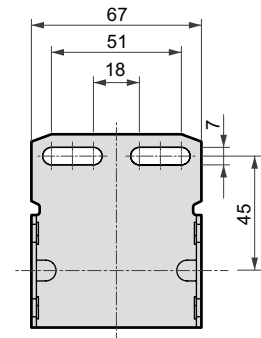
Dimensions

● V3301-W

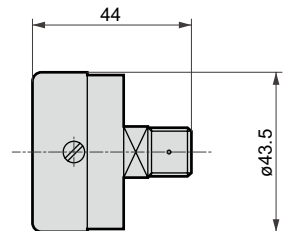


| | A | B | C |
|------------|-------|-------|-------|
| V3301-08-W | Rc1/4 | Rc3/8 | Rc1/4 |
| V3301-10-W | Rc3/8 | | |
| V3301-15-W | Rc1/2 | | |

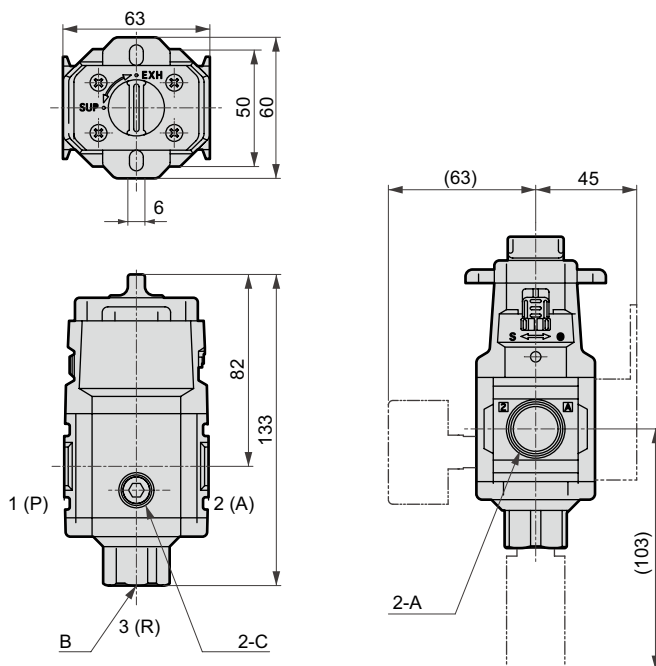
● Bracket: B320



● Pressure gauge: G49D-8-P10

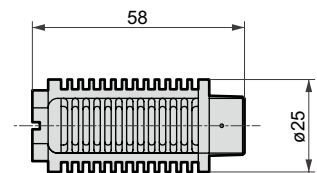


● V3321-W



| | A | B | C |
|------------|-------|-------|-------|
| V3321-08-W | Rc1/4 | Rc3/8 | Rc1/4 |
| V3321-10-W | Rc3/8 | | |
| V3321-15-W | Rc1/2 | | |

● Silencer: SLW-10A

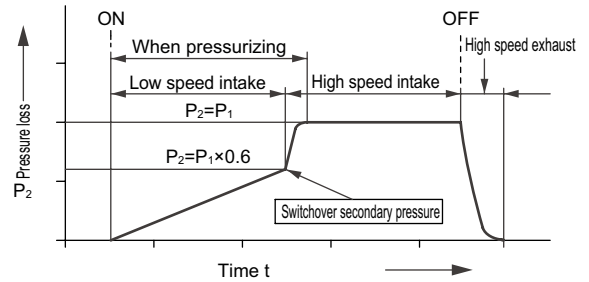


Operational explanation (refer to operating principles)

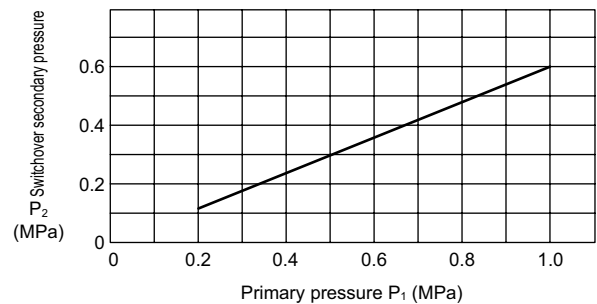
The slow start valve turns on when the solenoid valve is energized or the manual section is set to SUP. The valve turns off when the solenoid valve is deenergized or the manual section is set to EXH.

- (1) First, when the main unit is turned on, the low-speed supply path opens, and the compressed air starts to flow to the secondary side. The secondary pressure gradually starts to rise. The operable cylinders in the unit will start moving at a low speed and thus will 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)
- (3) When the main unit is turned OFF, high speed exhaust starts and residual pressure in the unit is exhausted.

● Operational properties



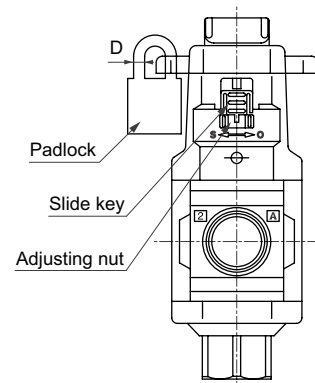
● Switchover secondary pressure



How to adjust slow start function (refer to side view)

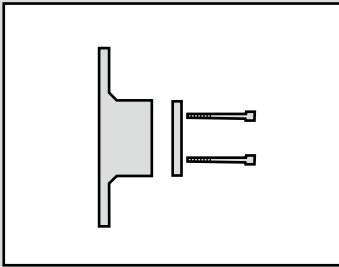
- (1) Press the slide key up and release the adjustment nut lock.
- (2) Turn the main unit on, and confirm the cylinder operation speed and secondary pressure rise time. Then turn the main unit off.
- (3) Turn the adjustment nut as explained below, and adjust the state.
Cylinder pops out → Turn to the S side
Low speed operation time is too long → 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 adjustment nut.
- (6) Confirm that the main unit is off.

● Side view



⚠ Safety precautions

- Note 1: This valve is dedicated for starting and stopping (including emergency stop) the device. This valve should not be 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 kept from popping out, is less than 50% of the working pressure, popping out will not be prevented.
- Note 3: The manual override is locked with the manual valve type. Select a padlock with a D dimension of 3.8 to 5.8 mm.
- Note 4: Connect a silencer or exhaust filter, etc., to the exhaust port for safety and sound absorption.



Bracket Standard white series

B-W/B Series

Joiner Standard white series

J-W Series



Dimensions and applications

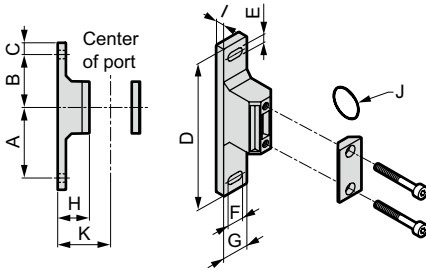
T type bracket set

● Model no.: B110-W·B310-W·B410-W·B810-W

● Applications



Note: Select B410-W when using the 3000-W Series and 4000-W Series combined.



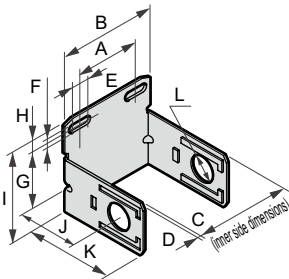
| Model no. | Applicable model | A | B | C | D | E | F | G | H | I | J | K |
|-----------|------------------|----|----|----|-----|-----|-----|----|----|-----|--------------|----|
| B110-W | 1000 Series | 45 | 35 | 10 | 100 | 5.5 | 7.5 | 16 | 25 | 7.5 | JASO-2013 | 40 |
| B310-W | 2000 Series | 60 | 45 | 10 | 125 | 7 | 14 | 22 | 27 | 7 | JISB2401-P21 | 45 |
| | 3000 Series | | | | | | | | | | | |
| B410-W | 4000 Series | 60 | 45 | 10 | 125 | 7 | 14 | 22 | 37 | 7 | JISB2401-P21 | 55 |
| B810-W | 6000 Series | 70 | 50 | 15 | 150 | 9 | 14 | 27 | 37 | 8 | AS568-127 | 65 |
| | 8000 Series | | | | | | | | | | | |

C type bracket

● Model no.: B120·B220·B320·B420·B620·B820

● Attachment: BW

● Applications



| Model no. | Applicable model | A | B | C | D | E | F | G | H | I | J | K | L |
|-----------|------------------|------|-----|-----|------|------|-----|----|-----|------|----|-----|-------|
| B120 | 1000 Series | 44 | 68 | 40 | 12.0 | 10 | 6.5 | 35 | 8.5 | 61.5 | 40 | 60 | ø19.5 |
| B220 | 2000 Series | 28 | 54 | 50 | 12.3 | 10 | 7 | 33 | 8 | 63 | 45 | 69 | 17.3 |
| B320 | 3000 Series | 34.5 | 67 | 63 | 12.3 | 16.5 | 7 | 45 | 9 | 75.5 | 45 | 69 | ø21.7 |
| B420 | 4000 Series | 55 | 84 | 80 | 12.3 | 14.0 | 7 | 45 | 9 | 75.5 | 55 | 79 | ø21.7 |
| B620 | 6000 Series | 68 | 104 | 90 | 12.3 | 16 | 9 | 54 | 11 | 97.5 | 60 | 97 | ø35 |
| B820 | 8000 Series | 68 | 104 | 100 | 12.3 | 16 | 9 | 50 | 11 | 93.5 | 65 | 102 | ø35 |

L type bracket

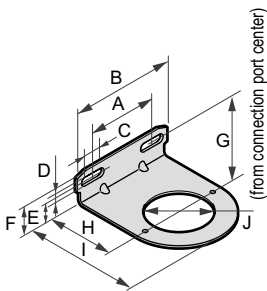
● Model no.: B130·B230·B330·B430

● 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.

Refer to page 15 for the details.

● Applications



| Model no. | Applicable model | A | B | C | D | E | F | G | H | 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 | Values in () are for W3000·3100 |
| B430 | 4000 Series 6000 Series | 55 | 84 | 14 | 7 | 17.5 | 26 | 58 | 55 | 94 | ø47 | |

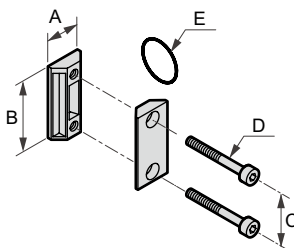
Joiner set

● Model no.: C1000-J100-W

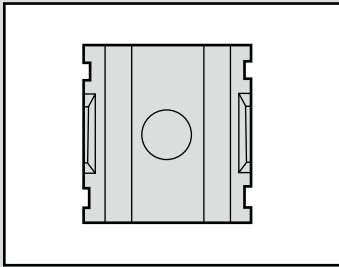
C4000-J400-W

C8000-J800-W

● Applications



| Model no. | Applicable model | A | B | C | D | E |
|--------------|------------------|----|----|----|------|---------------|
| C1000-J100-W | 1000 Series | 10 | 36 | 26 | M3.5 | JASO-2013 |
| C4000-J400-W | 2000 Series | 21 | 44 | 32 | M5 | JIS B2401-P21 |
| | 3000 Series | | | | | |
| | 4000 Series | | | | | |
| C8000-J800-W | 6000 Series | 26 | 65 | 50 | M6 | AS568-127 |
| | 8000 Series | | | | | |

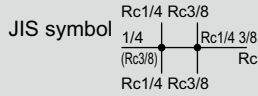


Distributor Standard white series

D101/D401/D801/D300-W Series

Applicable for pipe branching.

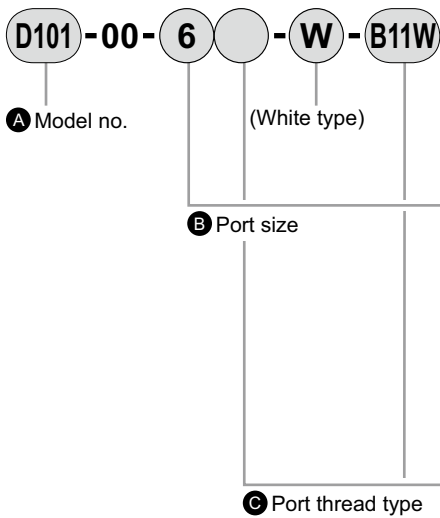
Port size: 1/8 to 1



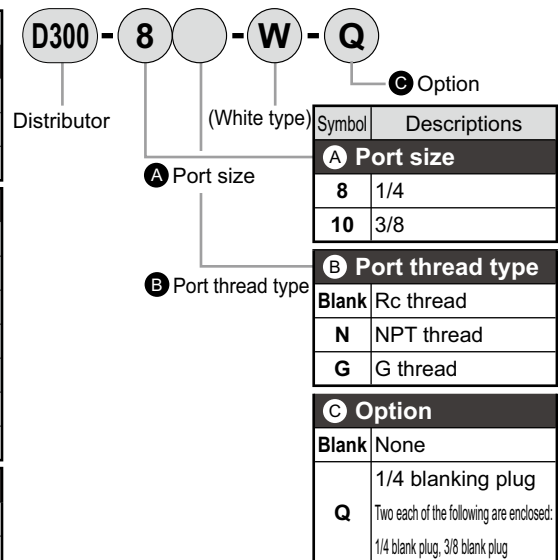
Specifications

| Descriptions | D101-00-W | D401-00-W | D801-00-W | D300-W |
|---------------------------|----------------|---------------|-----------|----------|
| Working fluid | Compressed air | | | |
| Max. working pressure MPa | 1.0 | | | |
| Withstanding pressure MPa | 1.5 | | | |
| No. of branch ports | 1 | | | 4 |
| Port size Rc, PT, | 1/8, 1/4 | 1/4, 3/8, 1/2 | 3/4, 1 | 1/4, 3/8 |
| Working temperature °C | 5 to 60 | | | |
| Product weight kg | 0.045 | 0.13 | 0.35 | 0.26 |

How to order



| Symbol | Descriptions |
|---------------------------|-----------------------------|
| A Model no. | |
| D101 | For 1000 Series |
| D401 | For 2000, 3000, 4000 Series |
| D801 | For 6000, 8000 Series |
| B Port size | |
| | D101 D401 D801 |
| 6 1/8 | ● |
| 8 1/4 | ● ● |
| 10 3/8 | ● ● |
| 15 1/2 | ● ● |
| 20 3/4 | ● ● |
| 25 1 | ● ● |
| C Port thread type | |
| Blank | Rc thread |
| N | NPT thread |
| G | G thread |
| D T type bracket | |
| Blank | None ● ● ● |
| B11W | For 1000 Series ● |
| B31W | For 2000 Series ● |
| B41W | For 4000 Series ● |
| B81W | For 6000 Series ● |



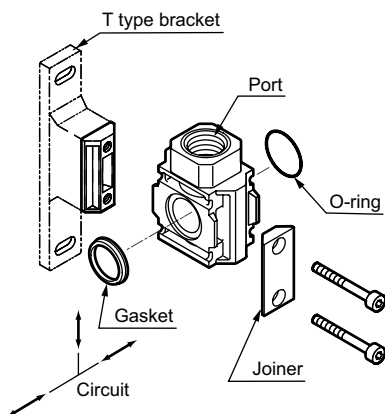
Cautions for model No. selection

- Note 1: A joiner set (joiner/bolt/O-ring) and a gasket are attached as standard.
- Note 2: Consult with CKD for 2 way branch.
- Note 3: D401-W can be connected to both 3000-W and 4000-W series.

Cautions for model No. selection

- Note 1: When using with C3000-W, C4000-W, a joiner set C4000-J400-W, or T type bracket set B310-W or B410-W is required to connect.
- Note 2: Joiner set C4000-J400-W or T type bracket set should be ordered separately. (Refer to page 152)

How to install (D101-00-W, D401-00-W, D801-00-W)

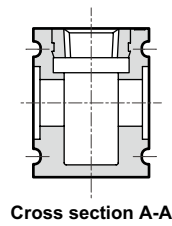
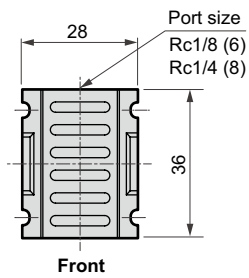
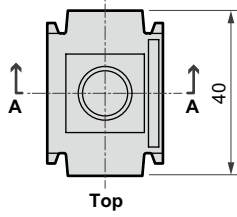


- Note 1: When installing at the primary side, insert an O ring, while installing at the secondary side, insert a gasket.
- Note 2: When inserting O ring and gasket to assemble, O ring and gasket must not be folded.

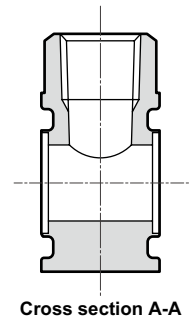
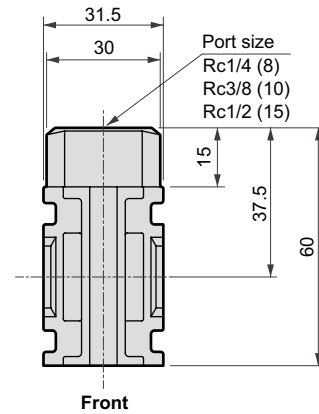
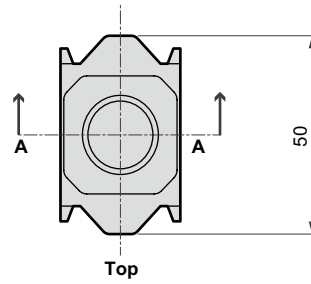
Example (D101-00-W, D401-00-W, D801-00-W)



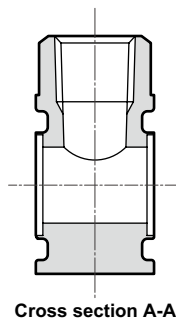
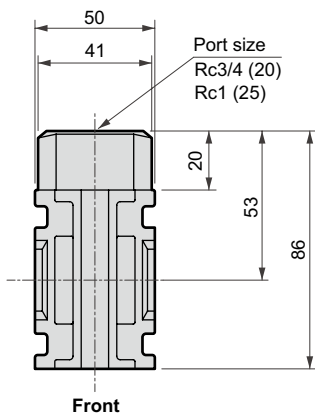
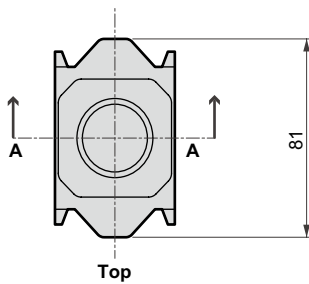
● D101-00-W



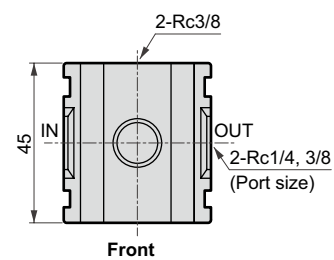
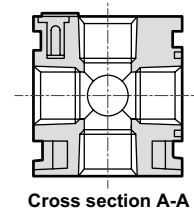
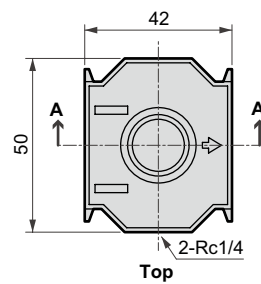
● D401-00-W

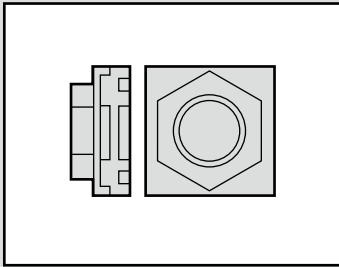


● D801-00-W



● D300-W





Piping adapter standard white series

A100/A400/A800-W Series

Port size: 1/8 to 1

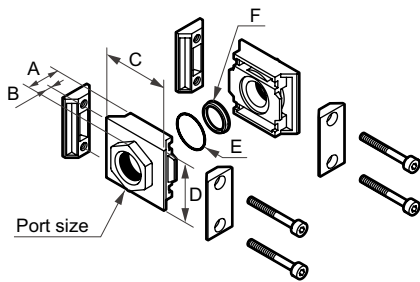


Dimensions and applications

Piping adaptor set

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

● Applications



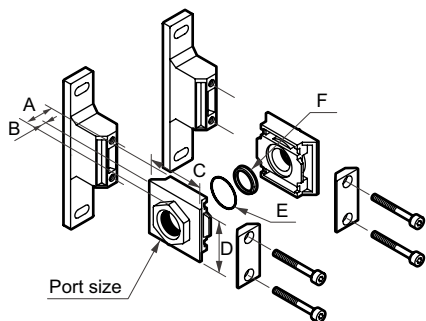
| Model no. | Port size | Applicable model | A | B | C | D | E (O-ring) | F (Gasket) | Other |
|------------|-----------|--|--------------------|-------------------|----|----|-------------------------------|------------|--|
| A100-6*-W | 1/8 | 1000 Series | 21.5 | 13.5 | 40 | 36 | JASO-2013 1 programs | 1 programs | - |
| A100-8*-W | 1/4 | | | | | | | | |
| A100-10*-W | 3/8 | | | | | | | | |
| A400-8*-W | 1/4 | 2000 3000 Series Series Series | 20 (25) {34} | 6 (11) {20} | 50 | 45 | JISB2401 P21 1 programs | 1 programs | Numbers in () are for 3/4 Numbers in { } are for 1 |
| A400-10*-W | 3/8 | | | | | | | | |
| A400-15*-W | 1/2 | | | | | | | | |
| A400-20*-W | 3/4 | | | | | | | | |
| A400-25*-W | 1 | | | | | | | | |
| A800-20*-W | 3/4 | | | | | | | | |
| A800-25*-W | 1 | | | | | | | | |
| A800-32*-W | 1 1/4 | | | | | | | | |

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

Piping adaptor set with T type bracket

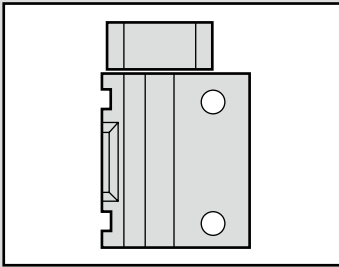
- Model no.: A100-6, 8, 10-W-B11W
A400-8, 10, 15-W-B31W
A400-8, 10, 15, 20-W-B41W
A800-20, 25, 32-W-B81W
(T type bracket)

● Applications



| Model no. | Port size | Applicable model | A | B | C | D | E (O-ring) | F (Gasket) | Other |
|-----------------|-----------|---------------------|--------------------|-------------------|----|----|-------------------------------|------------|--|
| A100-6*-W-B11W | 1/8 | 1000 Series | 21.5 | 13.5 | 40 | 36 | JASO-2013 1 programs | 1 programs | - |
| A100-8*-W-B11W | 1/4 | | | | | | | | |
| A100-10*-W-B11W | 3/8 | | | | | | | | |
| A400-8*-W-B31W | 1/4 | 2000 3000 Series | 20 | 6 | 50 | 45 | JISB2401 P21 1 programs | 1 programs | Numbers in () are for 3/4 Numbers in { } are for 1 |
| A400-10*-W-B31W | 3/8 | | | | | | | | |
| A400-15*-W-B31W | 1/2 | | | | | | | | |
| A400-8*-W-B41W | 1/4 | | | | | | | | |
| A400-10*-W-B41W | 3/8 | | | | | | | | |
| A400-15*-W-B41W | 1/2 | | | | | | | | |
| A400-20*-W-B41W | 3/4 | | | | | | | | |
| A400-25*-W-B41W | 1 | 4000 Series | 20 (25) {34} | 6 (11) {20} | 50 | 45 | JISB2401 P21 1 programs | 1 programs | Numbers in () are for 3/4 Numbers in { } are for 1 |
| A800-20*-W-B81W | 3/4 | | | | | | | | |
| A800-25*-W-B81W | 1 | | | | | | | | |
| A800-32*-W-B81W | 1 1/4 | 6000 8000 Series | 35 (38) | 15 (18) | 81 | 66 | AS568-127 1 programs | 1 programs | Numbers in () are for 1 1/4 |

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



Lpiping adaptor White Series

A101/A401/A801-W Series

Port size: 1/8 t 1

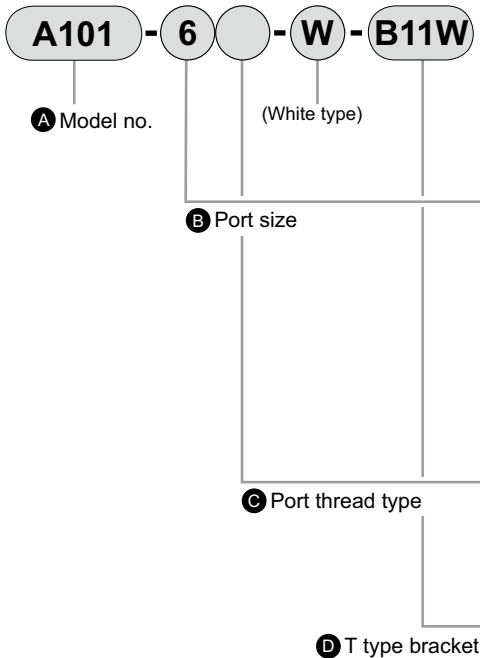


Specifications

| 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, PT, | 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 Series and 4000-W Series.

How to order



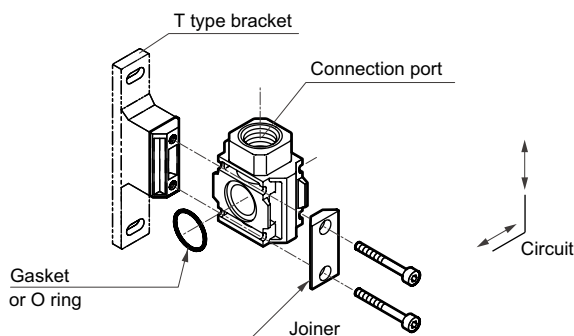
| Symbol | Descriptions | | | | |
|---------------------------|------------------------------------|--------|------|------|---|
| A Model no. | | | | | |
| A101 | L type piping adaptor | | | | |
| A401 | L type piping adaptor | | | | |
| A801 | L type piping adaptor | | | | |
| B Port size | | | | | |
| | | A101 | A401 | A801 | |
| 6 | 1/8 | ● | | | |
| 8 | 1/4 | ● | ● | | |
| 10 | 3/8 | | ● | | |
| 15 | 1/2 | | ● | | |
| 20 | 3/4 | | | ● | |
| 25 | 1 | | | ● | |
| C Port thread type | | | | | |
| Blank | Rc thread | | | | |
| N | NPT thread | | | | |
| G | G thread | | | | |
| D T bracket | | | | | |
| Blank | None | Note 1 | ● | ● | ● |
| B11W | For 1000 Series | | ● | | |
| B31W | For 2000 Series For 3000 Series | | | ● | |
| B41W | For 4000 Series | | | ● | |
| B81W | For 6000 Series For 8000 Series | | | | ● |

- Applicable models
- A101-6, 8-W
..... 1000-W Series
 - A401-8, 10, 15-W
..... 2000, 3000, 4000-W Series
 - A801-20, 25-W
..... 6000, 8000-W Series

⚠ Cautions for model No. selection

Note 1: Joiner set (joiner, bolt, O ring) and 1 gasket included.

L type piping adaptor



● Applications



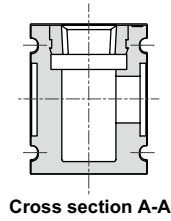
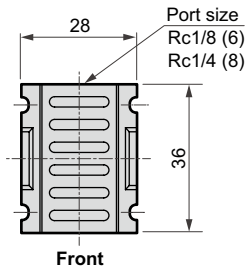
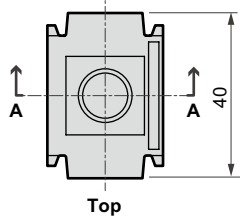
Note: Insert the fitting for replacement vertically until it reaches the back. Insert the O ring when mounting on the primary side for the air flow, and insert the gasket when mounting on the secondary side.

Note: Refer to the next page for dimensions.

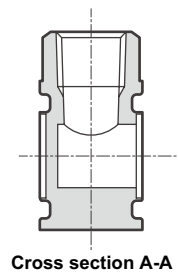
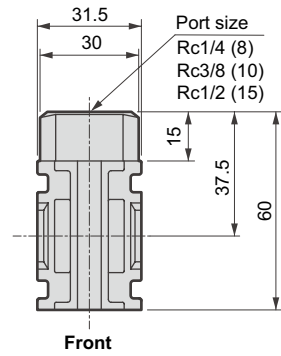
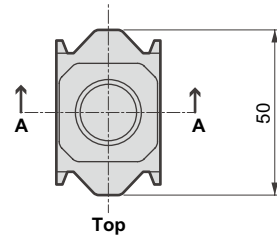
Piping adaptor

Dimensions 

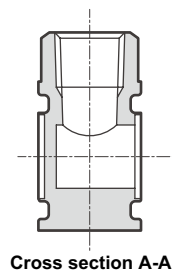
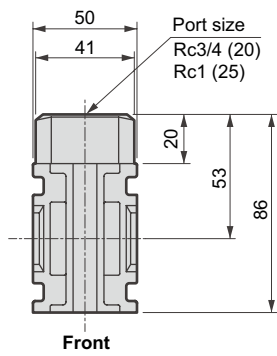
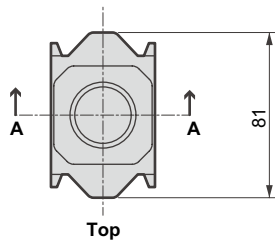
● A101-W



● A401-W



● A801-W



**F.R.L.
Modular type**

Medium pressure

■ Components for air preparation/F.R.L. unit



C O N T E N T S

| | |
|------------------------------|---------|
| Product introduction | Intro 1 |
| Series variation | 1 to 6 |
| ▲ Safety precautions | 11 |
| <hr/> | |
| Air filter | |
| ● Air filter (FM*000-W) | 159 |
| ● Oil mist filter (MM*000-W) | 165 |
| <hr/> | |
| Bracket, joiner (B, J) | 152 |
| Distributor (D*01-00) | 153 |
| Piping adaptor (A ***) | 155 |
| <hr/> | |
| Regulator | |
| ● Regulator (RM*000-W) | 171 |



Air filter medium pressure type

FM3000-W · FM4000-W · FM6000-W · FM8000-W Series

F3000 to 8000 Series with medium pressure specification

Port size: 1/4 to 1

JIS symbol



Specifications

| Model no. | FM3000-W | FM4000-W | FM6000-W | FM8000-W |
|--------------------------------|---------------------------|---------------|----------|-----------|
| Exterior | | | | |
| Working fluid | Compressed air | | | |
| Max. working pressure MPa | 1.6 (Note2, 3) | | | |
| Withstanding pressure MPa | 2.4 | | | |
| Ambient temperature °C | -5 to 60 (to be unfrozen) | | | |
| Fluid temperature °C | 5 to 60 | | | |
| Filtration rating μm | 5 or 0.3 | | | |
| Drain capacity cm ³ | 45 | 80 | 80 | 80 Note 1 |
| Port size Rc, PT, | 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: Drainage accumulates up to 170 cm³ only with the manual drain cock.

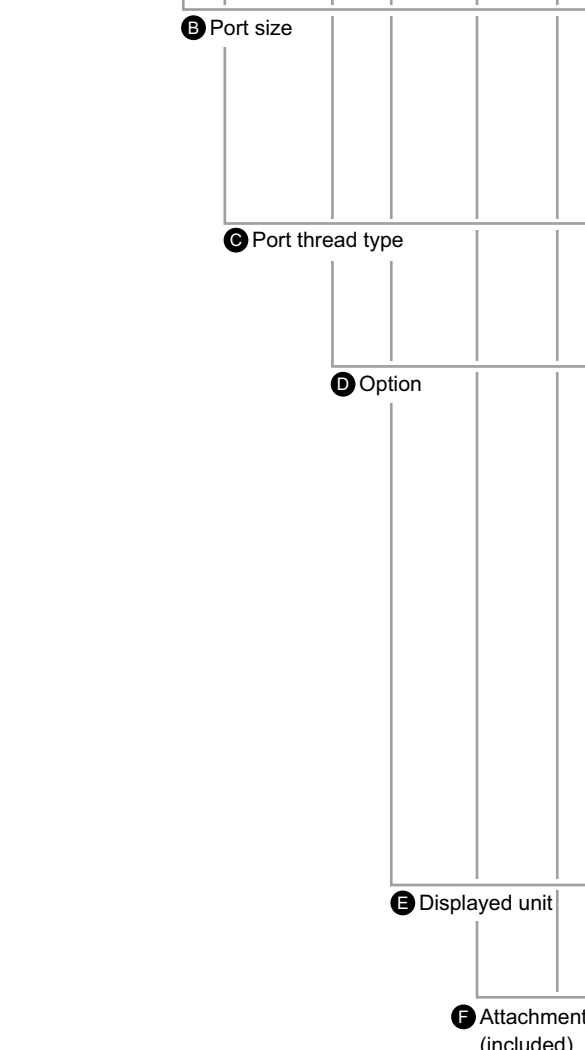
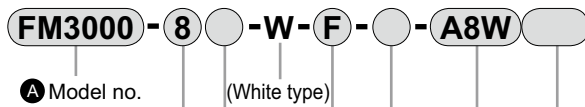
Note 2: The min. working pressure of the automatic drain for models with automatic drain "F" is 0.1MPa.

Air will purge with drain until it reaches 0.1MPa. Other specification will be as follows: max. working pressure 1.5MPa, withstanding pressure 2.25MPa, ambient temperature -5 to 45°C, fluid temperature 5 to 45°C.

Note 3: The min. working pressure of the automatic drain for models with automatic drain "F" is 0.15MPa.

Other specification will be as follows: max. working pressure 1.5MPa, withstanding pressure 2.25MPa, ambient temperature -5 to 45, fluid temperature 5 to 45.

How to order



* Refer top page 9 for an explanation of the options.

| A Model no. | | | |
|-------------|---|---|---|
| F | F | F | F |
| M | M | M | M |
| 3 | 4 | 6 | 8 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |

| Symbol | Descriptions | | | | | |
|---|----------------------------|--|---|---|---|---|
| B Port size | | | | | | |
| 8 | 1/4 | ● | ● | | | |
| 10 | 3/8 | ● | ● | | | |
| 15 | 1/2 | | ● | | | |
| 20 | 3/4 | | | ● | ● | |
| 25 | 1 | | | ● | ● | |
| C Port thread type Note 1 | | | | | | |
| Blank | Rc thread | ● | ● | ● | ● | |
| N | NPT thread | ● | ● | ● | ● | |
| G | G thread | ● | ● | ● | ● | |
| D Option Note 2 | | | | | | |
| Drainage <small>Note 3, Note 4</small> | Blank | With manual drain cock | ● | ● | ● | ● |
| | F | NO type automatic drain Drain port Rc1/8 <small>Max. working pressure 1.5 MPa, Max. working temperature 45°C</small> | ● | ● | ● | ● |
| | F1 | N.C. type automatic drain (exhaust without pressurized): drain port Rc1/8 <small>Max. working pressure 1.5 MPa, Max. working temperature 45°C</small> | ● | ● | ● | ● |
| Bowl material | Blank | Metal bowl | ● | ● | ● | ● |
| Element | Blank | 5µm | ● | ● | ● | ● |
| | Y | 0.3µm | ● | ● | ● | ● |
| Differential pressure detection | Blank | Without differential pressure detection port | ● | ● | ● | ● |
| | Q | With differential pressure detection port (Rc1/4) | | | ● | ● |
| Flow direction | Blank | Standard flow (left to right) | ● | ● | ● | ● |
| | X1 | Reverse flow (right to left) | ● | ● | ● | ● |
| E Displayed unit | | | | | | |
| Blank | MPa display, Rc thread | ● | ● | ● | ● | |
| J1 | MPa display, NPT, G thread | ● | ● | ● | ● | |
| F Attachment Note 5 pages 155 to 157 Note 6 | | | | | | |
| Blank | Not attached | ● | ● | ● | ● | |
| A8*W | 1/4 piping adaptor set | ● | ● | | | |
| A10*W | 3/8 piping adaptor set | ● | ● | | | |
| A15*W | 1/2 piping adaptor set | ● | ● | | | |
| A20*W | 3/4 piping adaptor set | | ● | ● | ● | |
| A25*W | 1 piping adaptor set | | | ● | ● | |
| A32*W | 1 1/4 piping adaptor set | | | ● | ● | |
| * Adaptor thread type | | | | | | |
| Blank | Rc thread | ● | ● | ● | ● | |
| N | NPT thread | ● | ● | ● | ● | |
| G | G thread | ● | ● | ● | ● | |
| G Bracket (attached) Page 152 | | | | | | |
| Blank | Not attached | ● | ● | ● | ● | |
| BW | C type bracket | ● | ● | ● | ● | |

⚠ Cautions for model No. selection

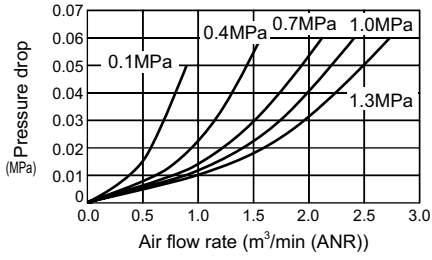
- Note 1: When G threads or NPT threads are selected, the IN, OUT, and drainage discharge port are available.
- Note 2: Select the option from drain exhaust, bowl material and differential pressure detection. When selecting options for several items, list options in order from the top.
- Note 3: Refer to page 12 for the working conditions of the automatic drain
- Note 4: The large discharge automatic drain is provided only when "F" or "F1" is selected for FM8000-W drain discharge.
- Note 5: The piping adapter set and C bracket cannot be used together.
- Note 6: A joiner set is attached with the piping adapter set.

G Bracket (included)

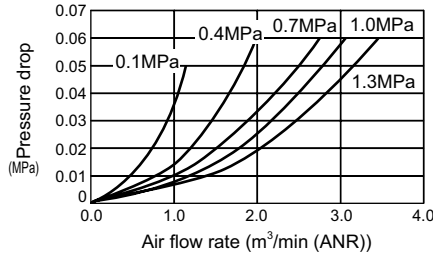
Air Filter Series

Flow characteristics

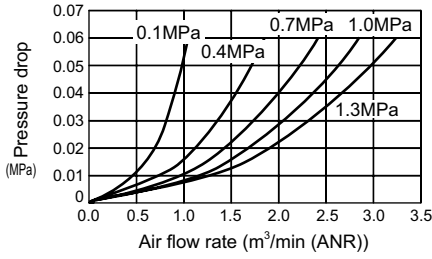
● FM3000-8-W



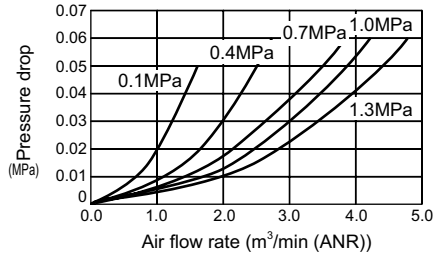
● FM3000-10-W



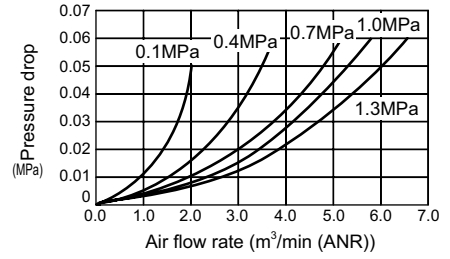
● FM4000-8-W



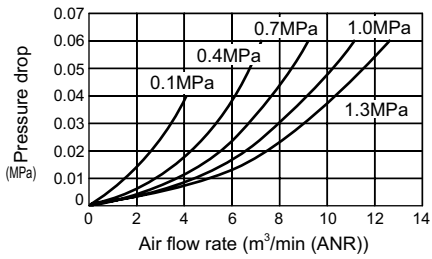
● FM4000-10-W



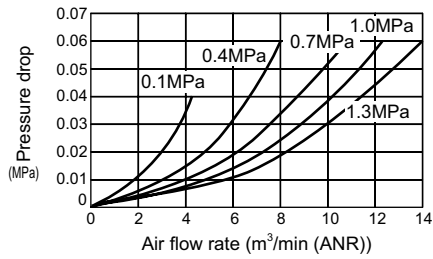
● FM4000-15-W



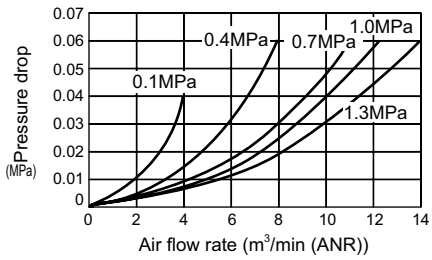
● FM6000-20-W



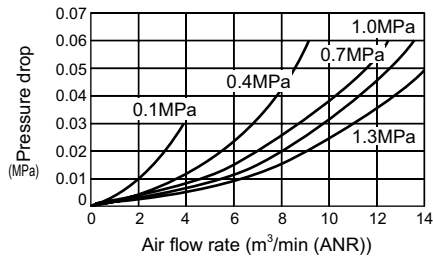
● FM6000-25-W



● FM8000-20-W



● FM8000-25-W



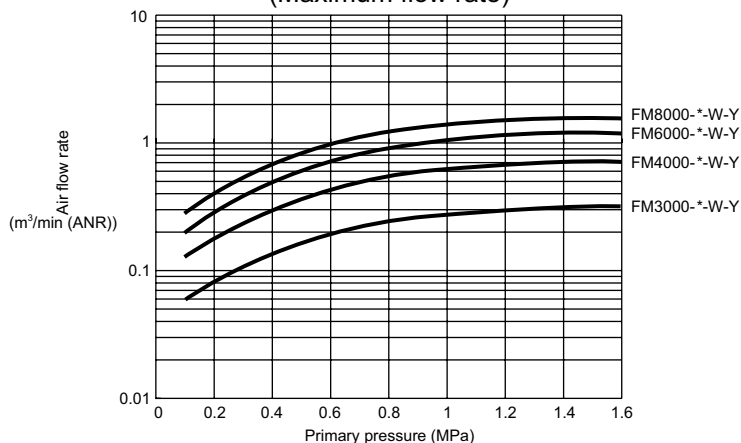
FM3000

● FM4000-^{*}-W-Y (0.3μm element)

FM6000

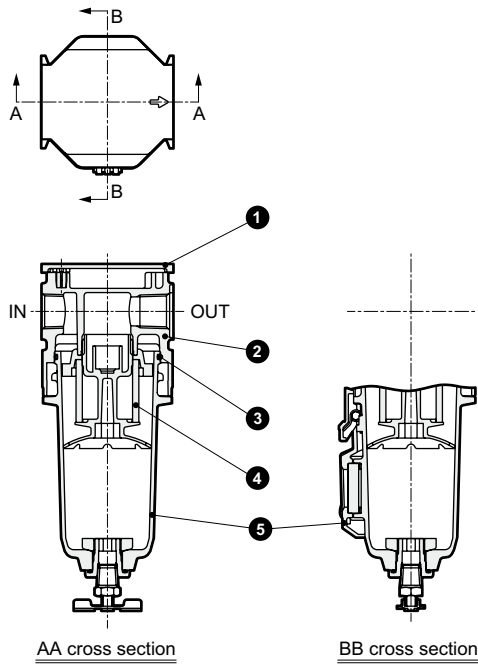
FM8000

(Maximum flow rate)

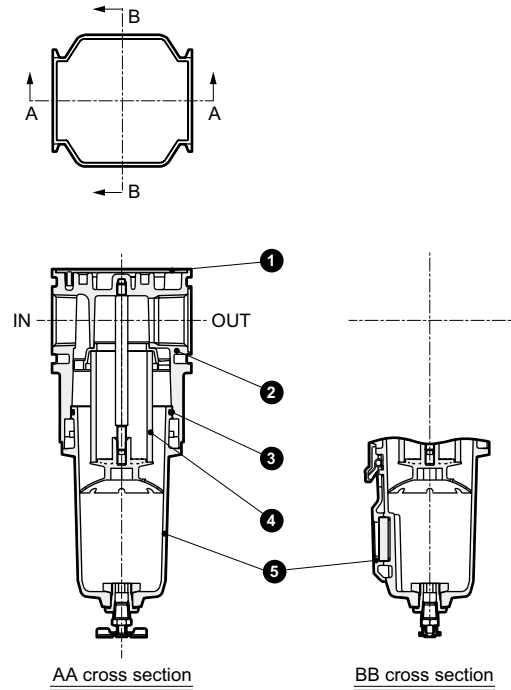


Internal structure and parts list

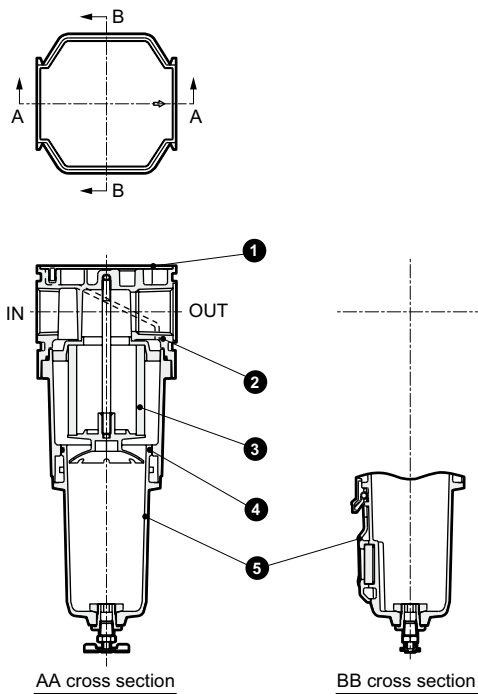
● FM3000-W·FM4000-W



● FM6000-W



● FM8000-W



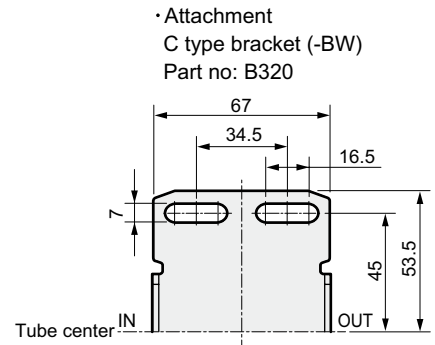
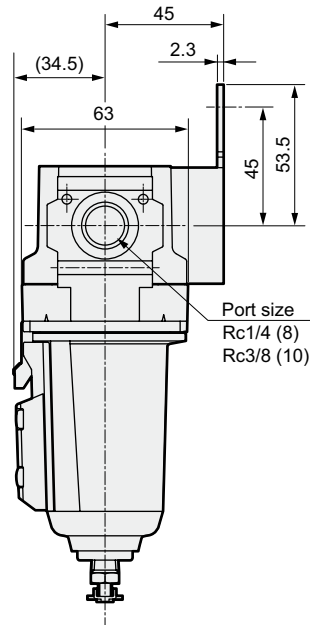
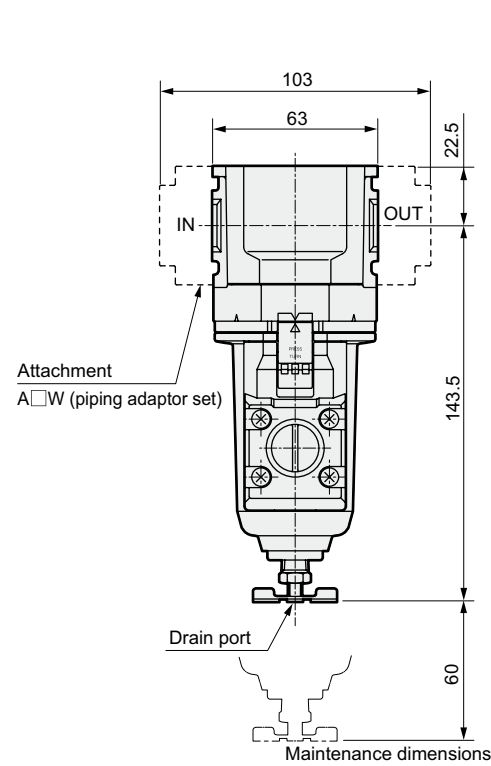
| No. | Part name | Material |
|-----|-----------------------|--|
| ① | Plate cover | ABS resin |
| ② | Body | Aluminum alloy die-casting |
| ③ | O-ring | Special nitrile rubber |
| ④ | Element (5 μ m) | Polypropylene |
| | Element (0.3 μ m) | - |
| ⑤ | Metal bowl assembly | Aluminum alloy die casting, brass, glass, nitrile rubber, steel, stainless steel |

Note 1: Refer to page 93 and 94 for elements(consumable), repair parts kit and bowl assembly.

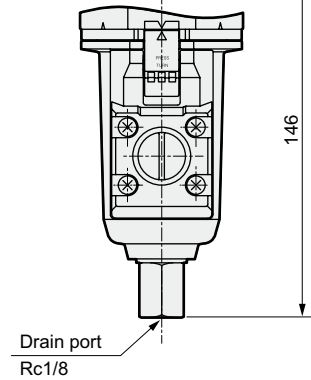
Air Filter Series

Dimensions

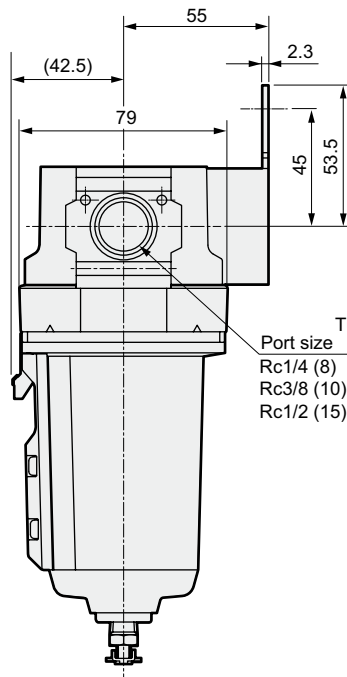
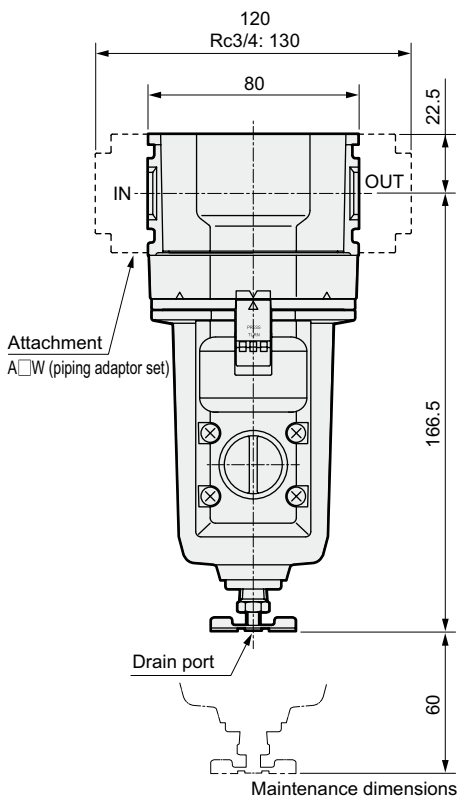
● FM3000-W



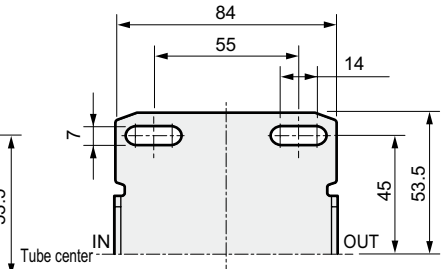
Option dimensions
Automatic drain (F, F1)



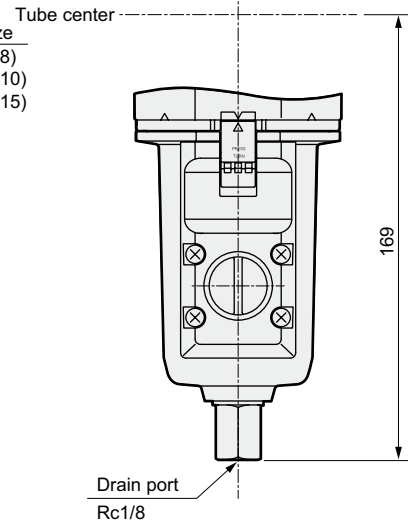
● FM4000-W



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



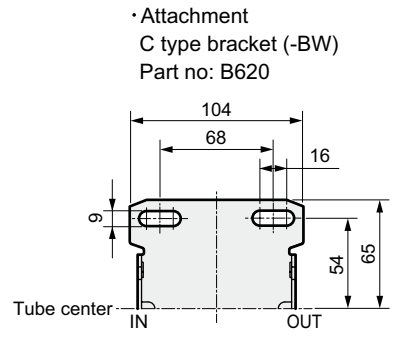
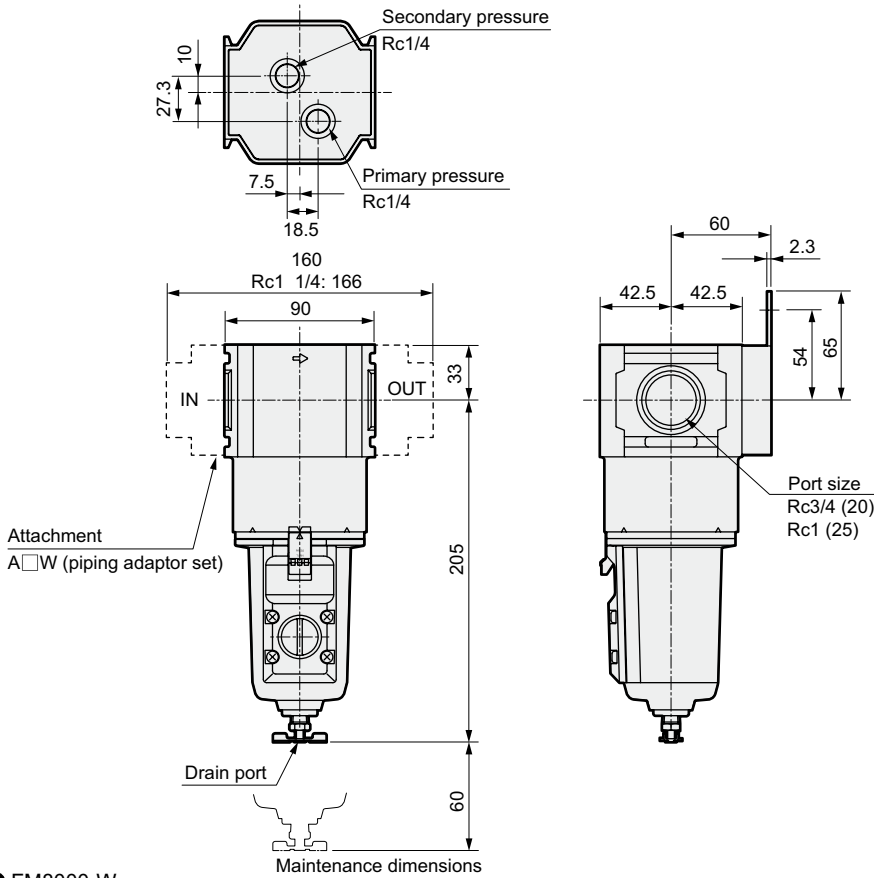
Option dimensions
Automatic drain (F, F1)



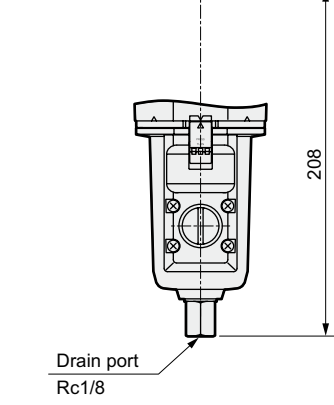
Dimensions

● FM6000-W

- Option dimensions
- With differential pressure detection port (Q)

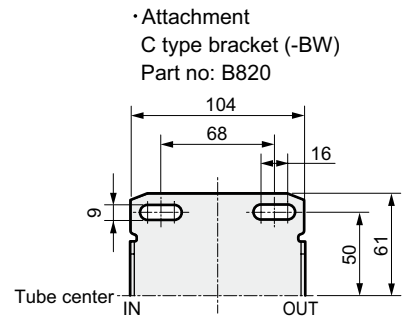
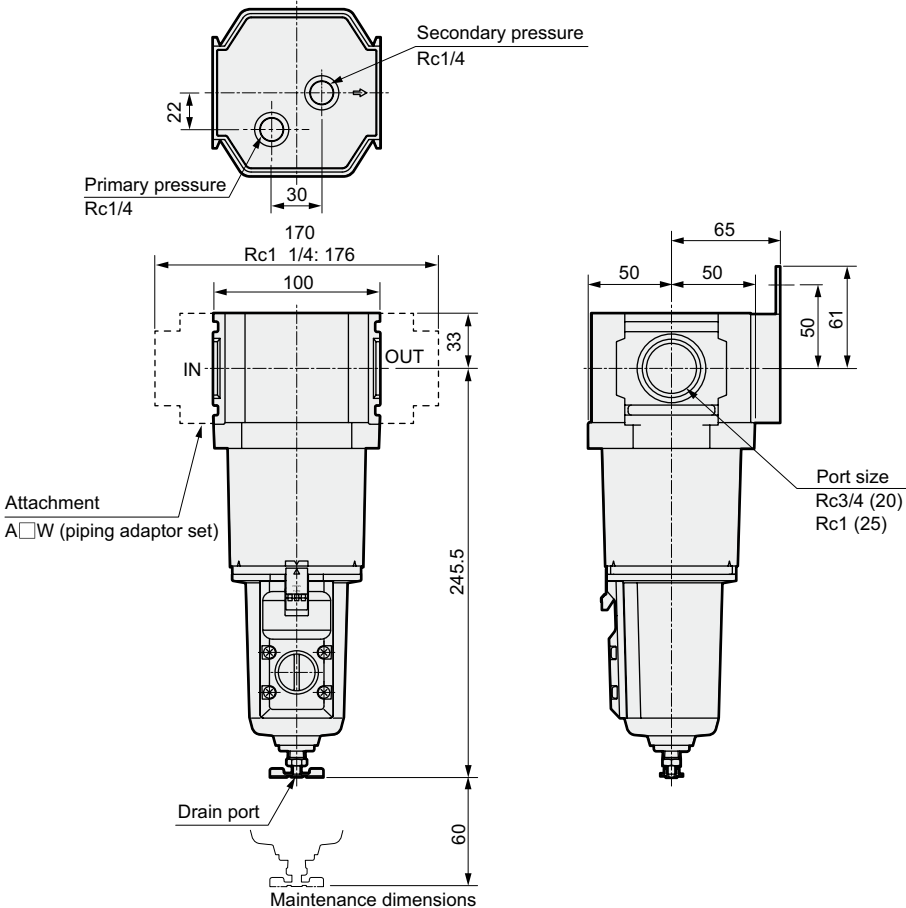


- Option dimensions
- Automatic drain (F, F1)

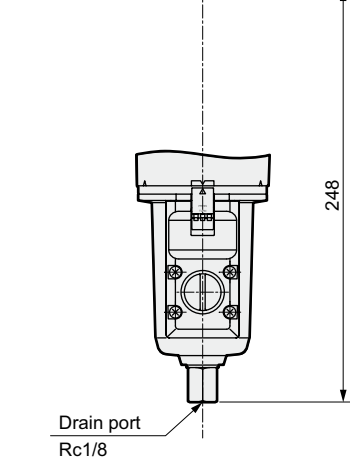


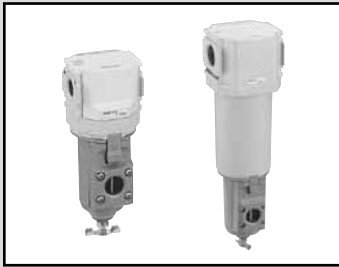
● FM8000-W

- Option dimensions
- With differential pressure detection port (Q)



- Option dimensions
- Automatic drain (F, F1)





Oil mist filter for medium pressure

MM3000-W/MM4000-W/MM6000-W/MM8000-W Series

M3000 to 8000 Series medium pressure specification

Port size: 1/4 to 1

JIS symbol



Specifications

| Model no. | MM3000-W | MM4000-W | MM6000-W | MM8000-W |
|--------------------------------|-------------------|---------------|----------|----------|
| Exterior | | | | |
| Working fluid | Compressed air | | | |
| Max. working pressure MPa | 0.1 to 1.6 Note 7 | | | |
| Withstanding pressure MPa | 2.4 | | | |
| Drain capacity cm ³ | 45 | 80 | 80 | 804 |
| Port size Rc, PT, | 1/4, 3/8 | 1/4, 3/8, 1/2 | 3/4, 1 | 3/4, 1 |
| Product weight kg | 0.35 | 0.55 | 1 | 1.48 |

| Mantle option name | Blank (M type) | S (S type) | X (X type) |
|---|--|--------------------|---|
| Processing flow MM3000-□-W | 490 | 610 | 610 |
| ℓ/min (ANR) MM4000-□-W | 1130 | 1370 | 1370 |
| Primary pressure 1.4 MPa MM6000-□-W | 1740 | 1920 | 1920 |
| Pressure drop 0.01 MPa MM8000-□-W | 3560 | 3980 | 3980 |
| Ambient temperature °C | -5 to 60 (to be unfrozen) | | -5 to 30 (to be unfrozen) |
| Fluid temperature °C | 5 to 60 | | 5 to 30 |
| Filtration rating μm | 0.01 (nominal) | 0.3 | Adsorption by activated charcoal Note 4 |
| Secondary oil concentration mg/m ³ | 0.01 or less Note 2, Note 3 | 0.5 or less Note 2 | 0.003 or less Note 2, Note 5 |
| Mantle (element) replacement | 1 year (6000 hours) or pressure drop of 0.1MPa | | - Note 6 |

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: Primary side oil concentration 30mg/m³ when inlet air temperature is 21°C.

Note 3: Install an oil mist filter (S type) as a prefilter on the primary side to prevent early clogging.

Note 4: Activated carbon 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: When an oil mist filter (M Series M type) is installed on the primary side.

Note 6: The X type mantle (element) replacement period depends on odor density in compressed air and cannot be clearly indicated.

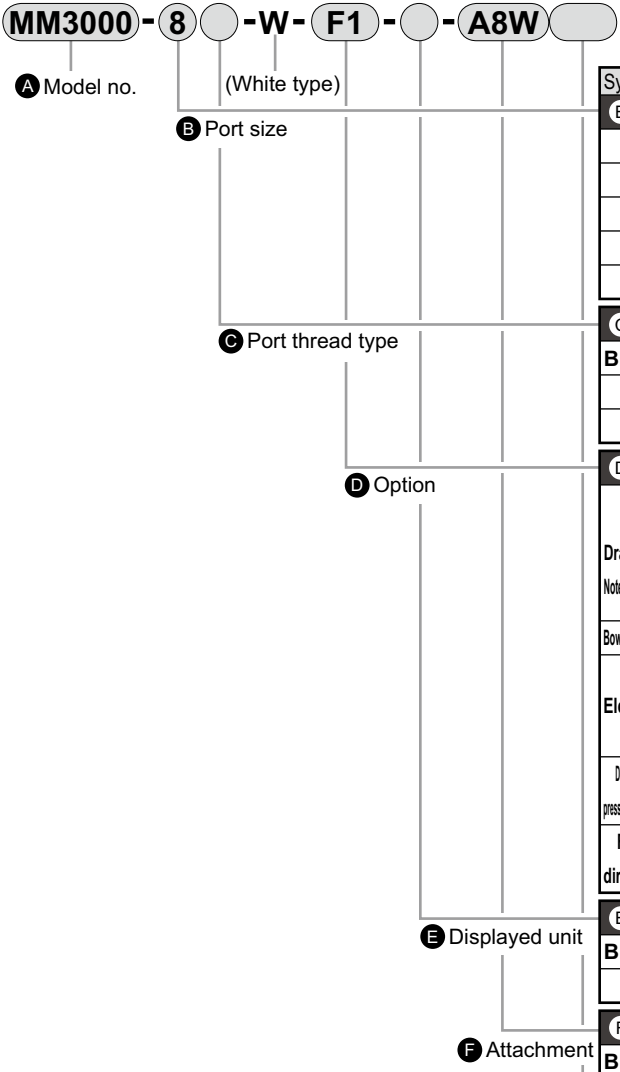
Consider the total period from initial installation to when the smell of oil is confirmed as the effective deodorizing period, and replace the mantle (element) regularly.

The primary air temperature must be 30°C or less. Deodorizing decreases if the temperature is high, so provide measures to dissipate heat.

Note 7: The minimum operation pressure of the automatic drain is 0.15 MPa for the "F1" with an automatic drain. Max. working pressure 1.5MPa, withstanding pressure 2.25MPa, ambient temperature -5 to 45°C, fluid temperature 5 to 45°C.

How to order

* Refer top page 9 for an explanation of the options.



| A Model no. | | | |
|-------------|---|---|---|
| M | M | M | M |
| 3 | 4 | 6 | 8 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |

| Symbol | Descriptions | | | | | |
|---|----------------------------|--|---|---|---|---|
| B Port size | | | | | | |
| 8 | 1/4 | ● | ● | | | |
| 10 | 3/8 | ● | ● | | | |
| 15 | 1/2 | | ● | | | |
| 20 | 3/4 | | | ● | ● | |
| 25 | 1 | | | ● | ● | |
| C Port thread type Note 1 | | | | | | |
| Blank | Rc thread | ● | ● | ● | ● | |
| N | NPT thread | ● | ● | ● | ● | |
| G | G thread | ● | ● | ● | ● | |
| D Option Note 2 | | | | | | |
| Drainage <small>Note 3, Note 4</small> | Blank | With manual drain cock | ● | ● | ● | ● |
| | F1 | N.C. type automatic drain (exhaust without pressurized): drain port Rc1/8 <small>Max. working pressure 1.5 MPa, Max. working temperature 45°C</small> | ● | ● | ● | ● |
| Bowl material | Blank | Metal bowl | ● | ● | ● | ● |
| Element | Blank | M type (nominal 0.01 μm; remaining oil 0.01 mg/m ³) | ● | ● | ● | ● |
| | S | S type (0.3 μm; remaining oil 0.5 mg/m ³) | ● | ● | ● | ● |
| | X | X type (deodorization; remaining oil 0.003mg/m ³) <small>Note 5</small> | ● | ● | ● | ● |
| Differential pressure detection | Blank | Without differential pressure detection port | ● | ● | ● | ● |
| | Q | With differential pressure detection port (Rc1/4) | | | ● | ● |
| Flow direction | Blank | Standard flow (left to right) | ● | ● | ● | ● |
| | X1 | Reverse flow (right to left) | ● | ● | ● | ● |
| E Displayed unit | | | | | | |
| Blank | MPa display, Rc thread | | ● | ● | ● | ● |
| J1 | MPa display, NPT, G thread | | ● | ● | ● | ● |
| F Attachment Note 6 pages 155 to 157 Note 7 | | | | | | |
| Blank | Not attached | | ● | ● | ● | ● |
| A8*W | 1/4 piping adaptor set | | ● | ● | | |
| A10*W | 3/8 piping adaptor set | | ● | ● | | |
| A15*W | 1/2 piping adaptor set | | ● | ● | | |
| A20*W | 3/4 piping adaptor set | | | ● | ● | ● |
| A25*W | 1 piping adaptor set | | | | ● | ● |
| A32*W | 1 1/4 piping adaptor set | | | | ● | ● |
| * Adaptor thread type | | | | | | |
| Blank | Rc thread | | ● | ● | ● | ● |
| N | NPT thread | | ● | ● | ● | ● |
| G | G thread | | ● | ● | ● | ● |
| G Bracket (included) Page 152 | | | | | | |
| Blank | Not attached | | ● | ● | ● | ● |
| BW | C type bracket | | ● | ● | ● | ● |

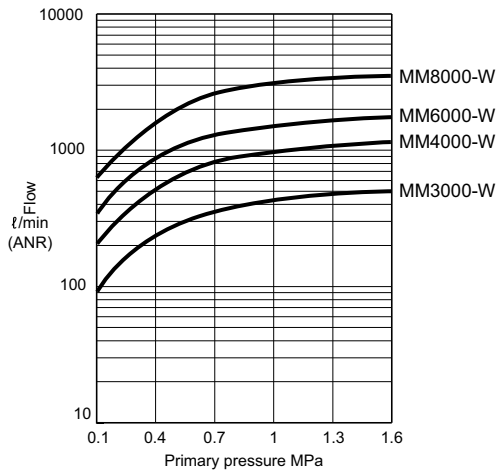
⚠ Cautions for model No. selection

- Note 1: When G threads or NPT threads are selected, the IN, OUT, and drainage discharge port are available.
- Note 2: Select the option from drain exhaust, bowl material and differential pressure detection. When selecting options for several items, list options in order from the top.
- Note 3: The NO automatic drain cannot be selected.
- Note 4: Refer to page 12 for working conditions of the automatic drain.
- Note 5: Combination with option F1 is not possible.
- Note 6: The piping adapter set and C bracket cannot be used together.
- Note 7: A joiner set is attached with the piping adapter set.

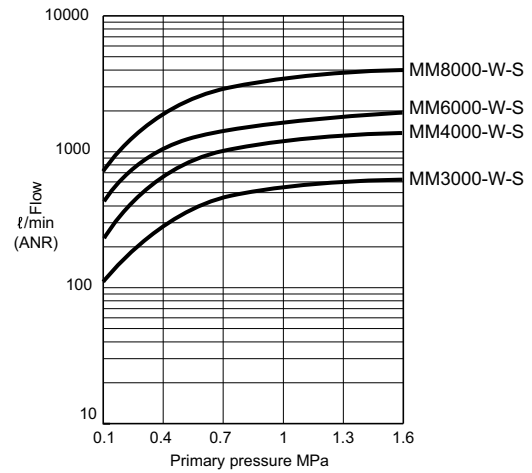
Oil Mist Filter Series

Flow characteristics (Maximum flow rate)

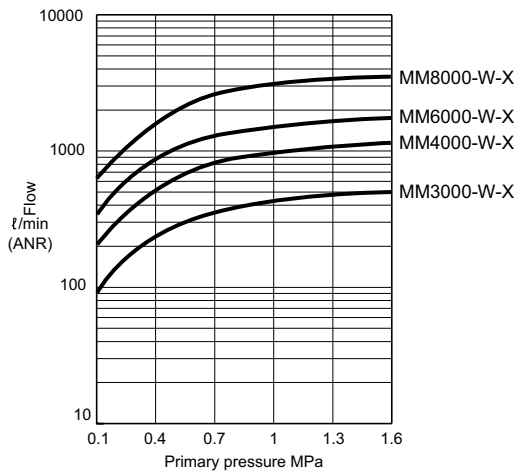
● MM*000-W



● MM*000-W-S



● MM*000-W-X



Selecting optional mantle for oil mist filters

Recommended circuit

◆ S type



Applications

- General industrial air
- Air tools
 - Air drill, air driver
 - air grinder
 - Labor saving device and components
 - Pneumatic jigs and tools
 - Air chuck
 - Air vice
 - Air for cleaning precision parts

◆ M type



Oil free air

- Instrumentation
- Measurement
- Sequence control
 - Movable element, pure fluid element
- Luxury painting
- Precision industry

◆ X type



Deodorized air

- Food industry
- Pharmaceutical industry
- Stirring
- Transportation
- Drying
- Packaging
- Air for brewing

Option symbol and shape of mantles

| Option symbol | Appearance |
|----------------|--|
| Blank (M type) | <p>End plate black</p> <p>Plastic foam red</p> |
| S (S type) | <p>End plate green</p> <p>Plastic foam red</p> |
| X (X type) | <p>End plate black</p> <p>Punching metal</p> |

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.

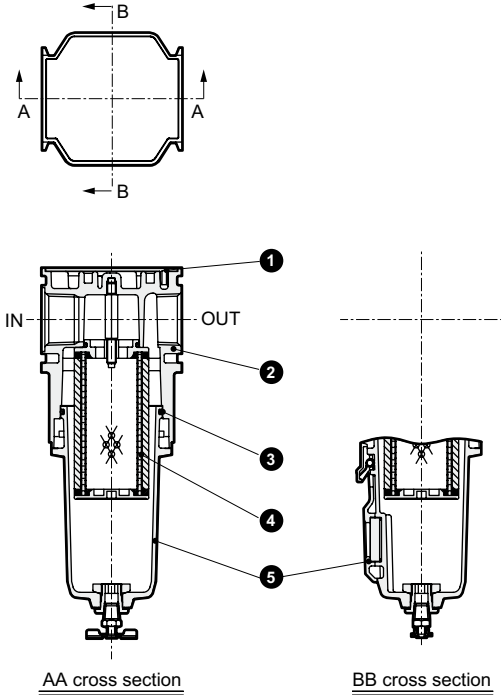
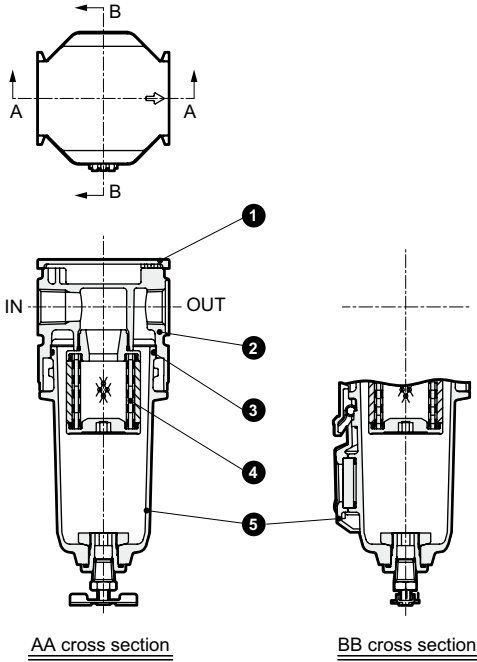
Oil Mist Filter Series

Internal structure and parts list

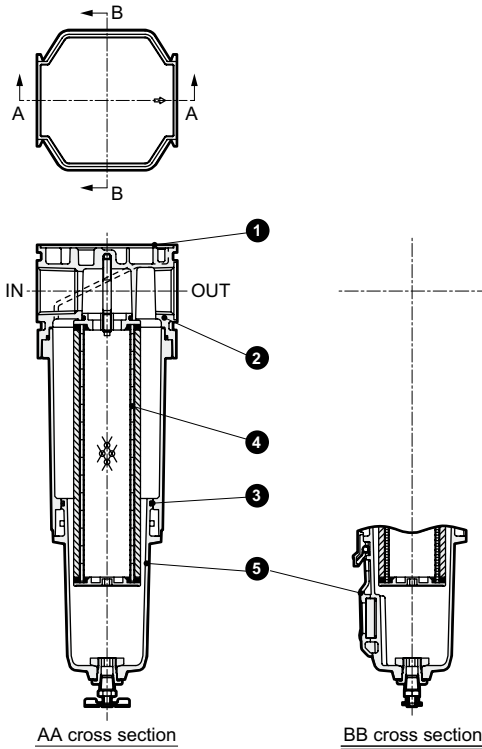
Internal structure and parts list

● MM3000-W・MM4000-W

● MM6000-W



● MM8000-W



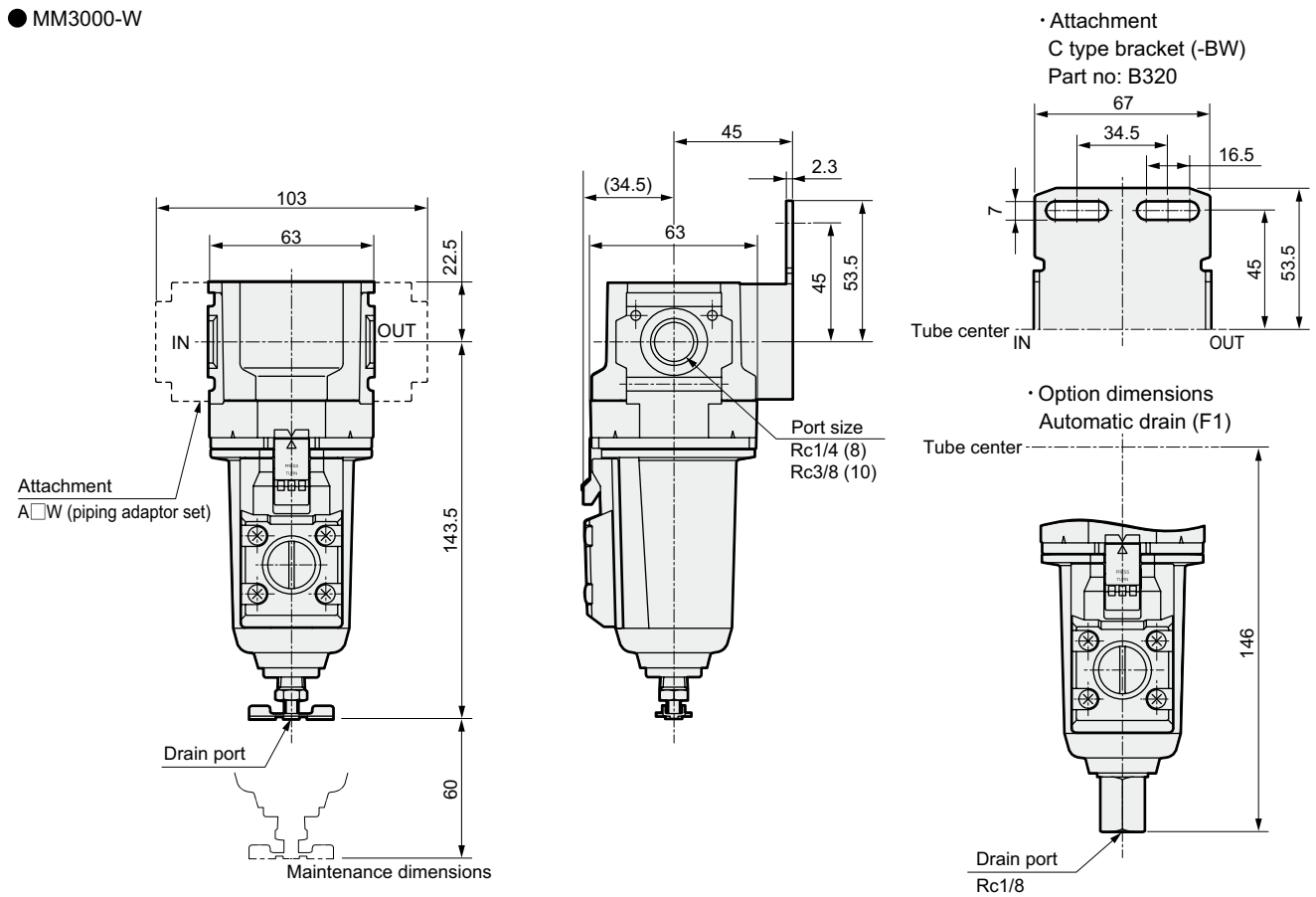
| No. | Part name | Material |
|-----|---------------------|--|
| ① | Plate cover | ABS resin |
| ② | Body | Aluminum alloy die-casting |
| ③ | O-ring | Special nitrile rubber |
| ④ | Mantle assembly | - |
| ⑤ | Metal bowl assembly | Aluminum alloy die casting, brass, glass, nitrile rubber, steel, stainless steel |

Note 1: The same repair parts kit and mantle are same as M*000-W. Refer to repair parts on page 102.

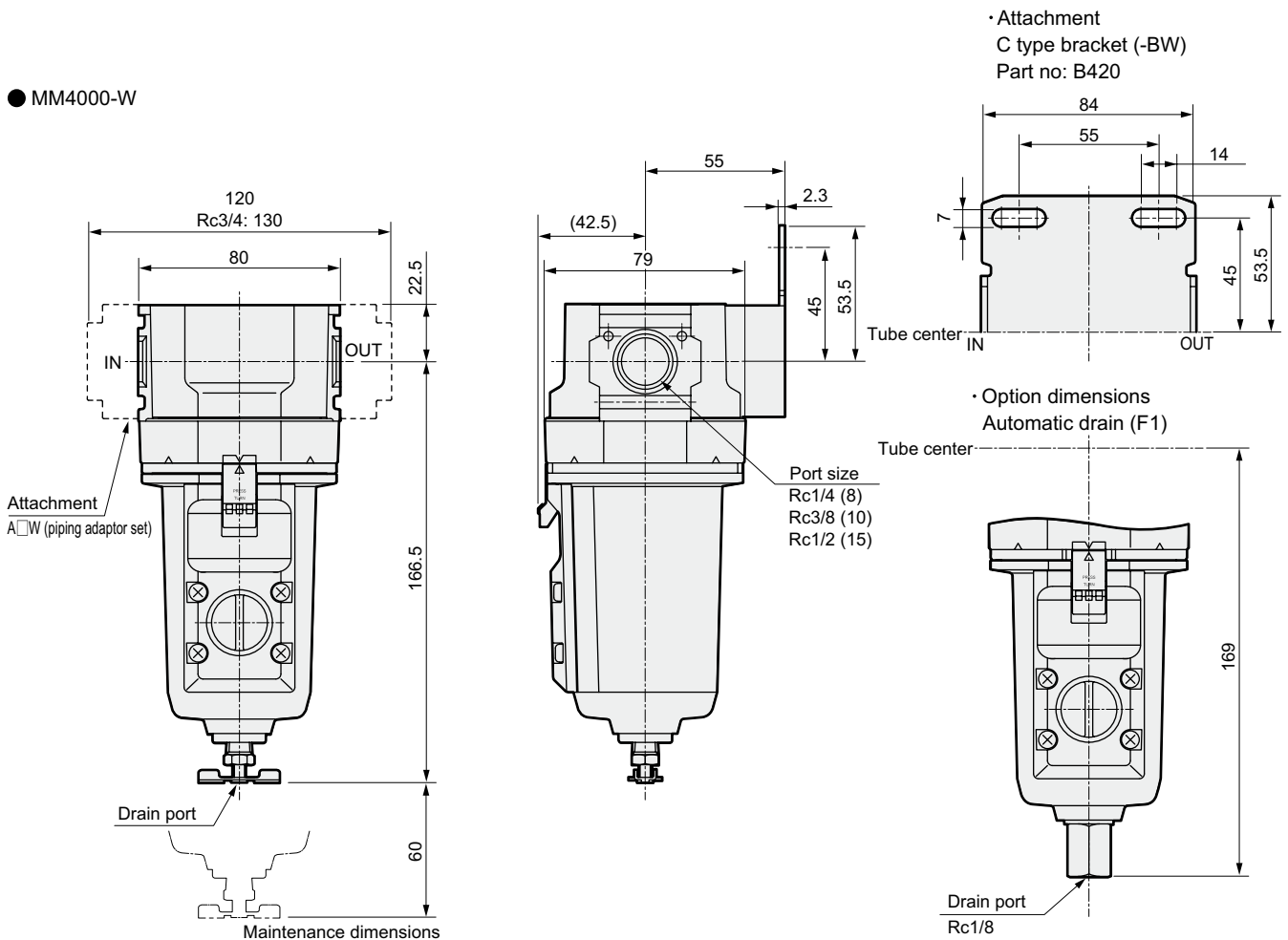
Oil Mist Filter Series

Dimensions

● MM3000-W



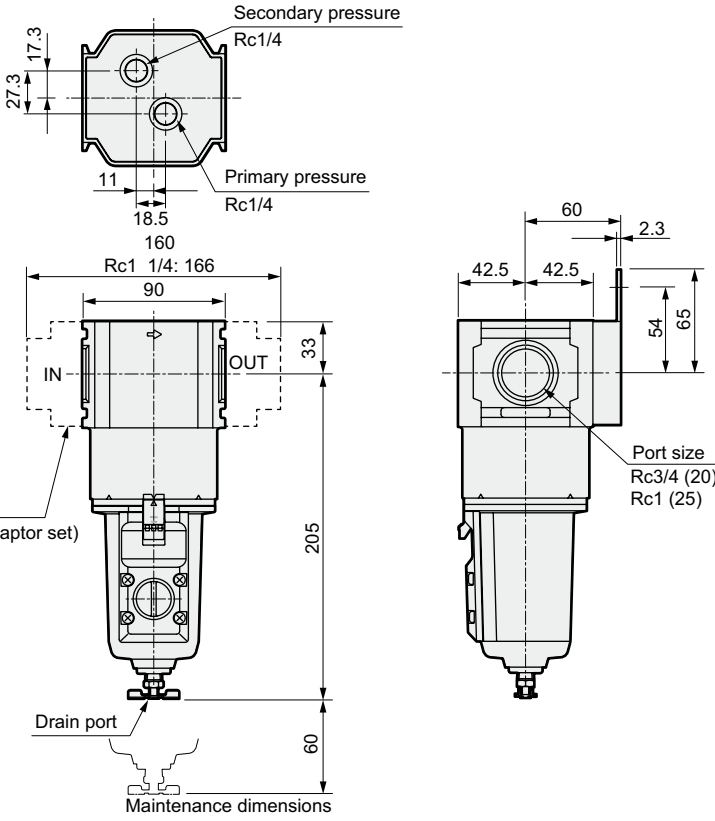
● MM4000-W



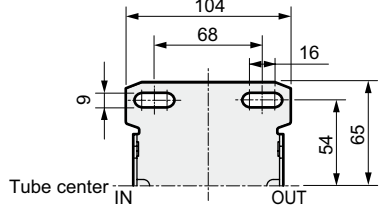
Dimensions

● MM6000-W

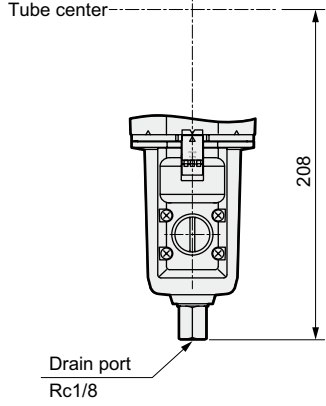
• Option dimensions
With differential pressure detection port (Q)



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

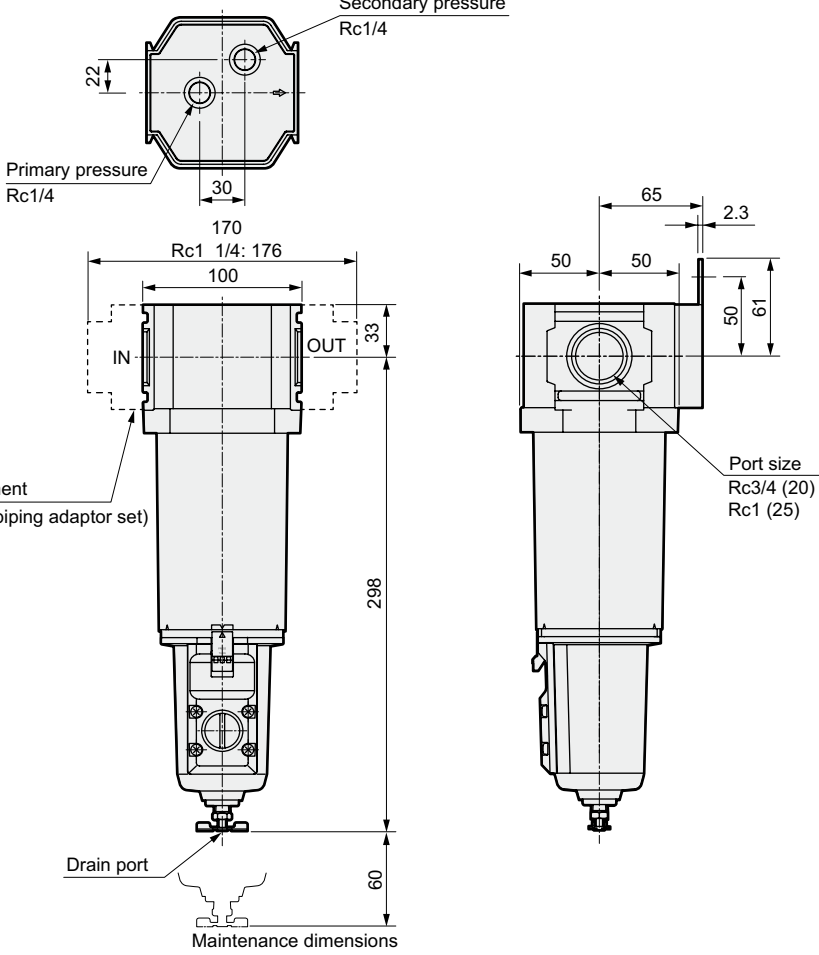


• Option dimensions
Automatic drain (F1)

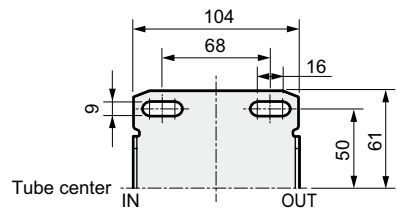


● MM8000-W

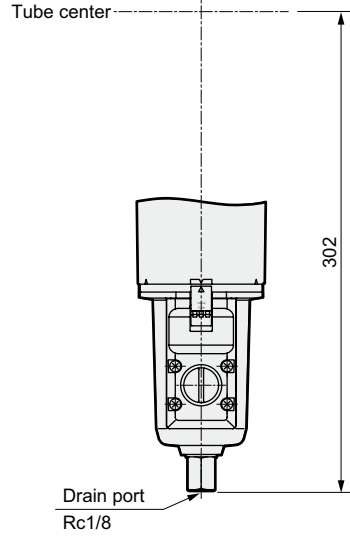
• Option dimensions
With differential pressure detection port (Q)



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



• Option dimensions
Automatic drain (F1)





Regulator for medium pressure

RM3000-W/RM4000-W Series

Medium pressure specification R3000-W·R4000-W Series

Port size: 1/4 to 1/2

JIS symbol



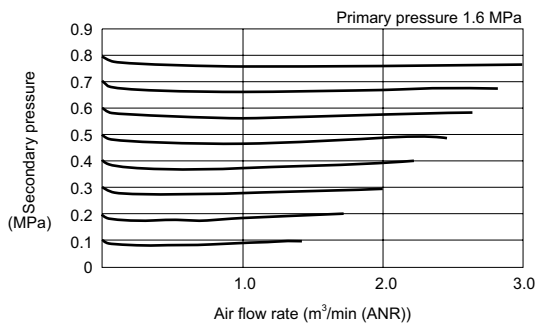
Specifications

| Descriptions | RM3000-W | RM4000-W |
|------------------------------|-------------------------------------|-------------------------------------|
| Working fluid | Compressed air | |
| Max. working pressure MPa | 1.6 | |
| Withstanding pressure MPa | 2.4 | |
| Ambient temperature range °C | -5 to 60 (not freezing) (Note 1) | |
| Set pressure range MPa | 0.05 to 0.85 | |
| Relief | With relief mechanism | |
| Port size Rc, PT, | 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 accessories | Pressure gauge, nut for panel mount | |

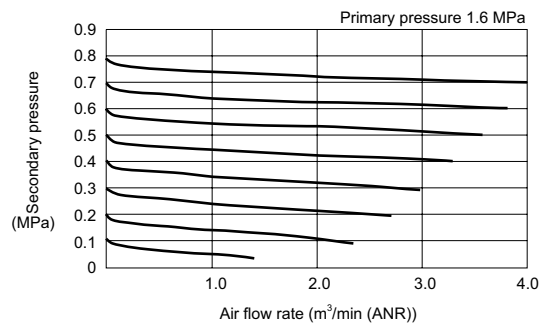
Note 1: The working temperature range of the pressure switch with indicator PPD assembly "R1" is 5 to 50°C.

Flow characteristics

● RM3000-10-W

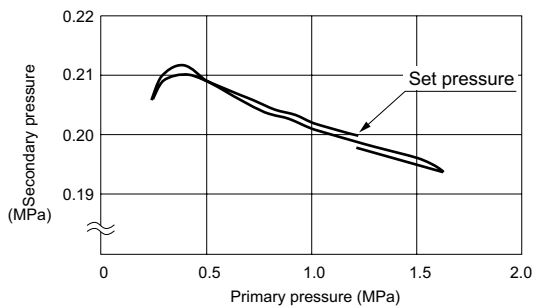


● RM4000-15-W

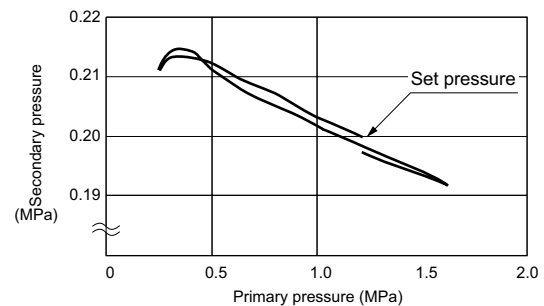


Pressure characteristics

● RM3000-W



● RM4000-W



How to order

RM3000 - **8** - **W** - **N** - **A8W**

A Model no.

(White type)

G Attachment

B Port size

C Port thread type

D Option

E Displayed unit

F Piping adaptor set (included)

* Refer top page 9 for an explanation of the options.

| A Model no. | |
|-------------|---|
| R | R |
| M | M |
| 3 | 4 |
| 0 | 0 |
| 0 | 0 |
| 0 | 0 |

| Symbol | Descriptions | | | |
|--|--|---|---|---|
| B Port size | | | | |
| 8 | 1/4 | ● | ● | |
| 10 | 3/8 | ● | ● | |
| 15 | 1/2 | | ● | |
| C Port thread type Note 1 | | | | |
| Blank | Rc thread | ● | ● | |
| N | NPT thread | ● | ● | |
| G | G thread | ● | ● | |
| D Option Note 2 | | | | |
| Relief | Blank | With relief mechanism | ● | ● |
| | N | Non-relief type | ● | ● |
| Pressure gauge | Blank | With standard pressure gauge (G401) | ● | ● |
| | T Note 3 | Without pressure gauge (gauge port (Rc1/4) assembled sealed) | ● | ● |
| | T8 | Pressure gauge attachable (gauge port (Rc1/4) assembled open) | ● | ● |
| Flow Direction | R1 | Pressure switch with display PPD assembled | ● | ● |
| | Blank | Standard flow (left to right) | ● | ● |
| X1 | Reverse flow (right to left) | ● | ● | |
| E Displayed unit | | | | |
| Blank | MPa display, Rc thread | ● | ● | |
| J1 | MPa display, NPT, G thread | ● | ● | |
| F Piping adaptor set (included) Note 4 pages 155 to 157 Note 9 | | | | |
| Blank | Not attached | ● | ● | |
| A8*W | 1/4 piping adaptor set | ● | ● | |
| A10*W | 3/8 piping adaptor set | ● | ● | |
| A15*W | 1/2 piping adaptor set | ● | ● | |
| A20*W | 3/4 piping adaptor set | | ● | |
| * Adaptor thread type | | | | |
| Blank | Rc thread | ● | ● | |
| N | NPT thread | ● | ● | |
| G | G thread | ● | ● | |
| G Attachment Note 5, 6 Page 152, 183 | | | | |
| Blank | Not attached | ● | ● | |
| BW | C type bracket | ● | ● | |
| B3W Note 8 | L type bracket | ● | ● | |
| G45P | Pressure gauge: G45D-8-P10 | ● | ● | |
| G49P | Pressure gauge: G49D-8-P10 | ● | ● | |
| G59P | Pressure gauge: G59D-8-P10 | ● | ● | |
| G40P | Pressure gauge: G40D-8-P10 | ● | ● | |
| G50P | Pressure gauge: G50D-8-P10 | ● | ● | |
| G41P | Pressure gauge: G41D-8-P10 | ● | ● | |

⚠ Cautions for model No. selection

Note 1: G and NPT threads are available for IN, OUT, and gauge ports.

Note 2: When selecting options for several items, list options in order from the top.

Note 3: When "T" is selected, the gauge plug is assembled instead of the pressure gauge.

Note 4: Refer to Pneumatic, Vacuum and Auxiliary Components Catalog (No. CB-024S) for details on "R1"

Note 5: Piping adaptor set A*00**-W (Refer to related components page 155) included.

Note 6: Refer to related components for details on attachments. The piping adapter set and C bracket cannot be used together.

Note 7: If NPT is selected for the "C" piping thread, an NPT pressure gauge is included. If an Rc or G thread is selected, an R thread pressure gauge is included.

Note 8: Refer to Safety Precautions for the F.R.L. Unit for details on mounting the L-type bracket.

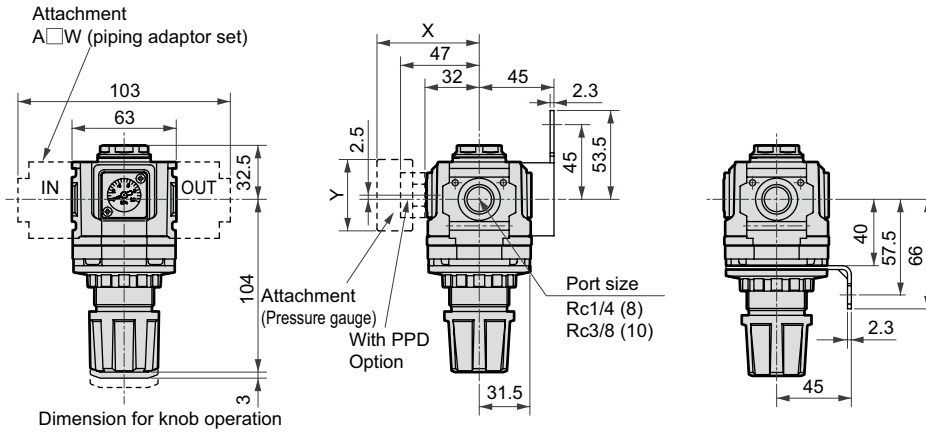
Note 9: A joiner set is attached with the piping adaptor set.

- The internal structure and parts list are common with the R*-000-W. Refer to page 116 for details.
- Refer page 128 for more details of options.

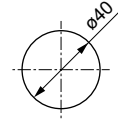
Regulator Series

Dimensions

● RM3000-W

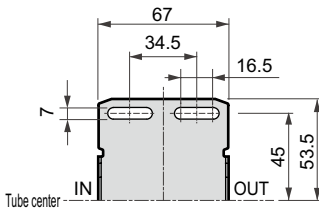


Panel cut dimensions

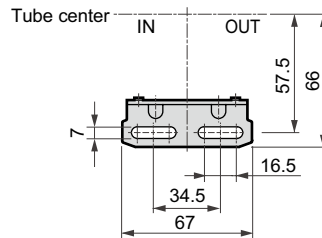


Panel thickness: Max. 7mm

• Attachment (C type bracket)
C type bracket (-BW)
Part no: B320



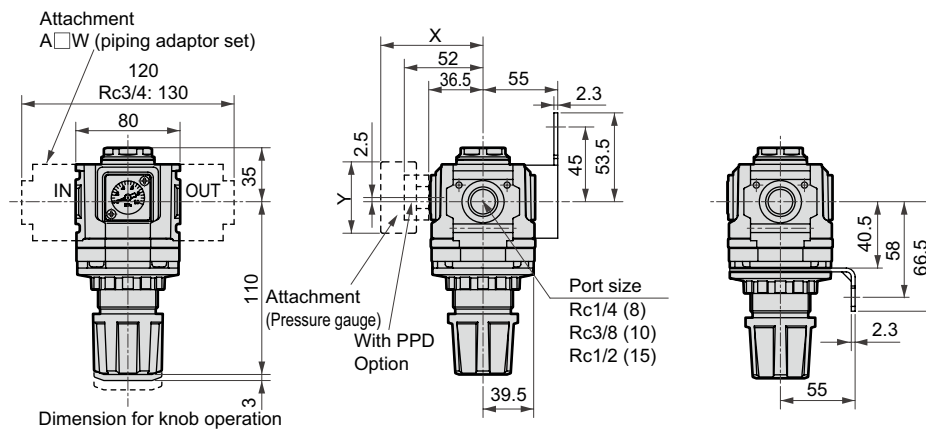
L type bracket (-B3W)
Part no: B330



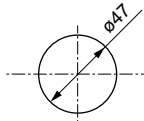
Option dimensions with pressure gauge attached

| Attached pressure gauge | X | 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 |

● RM4000-W

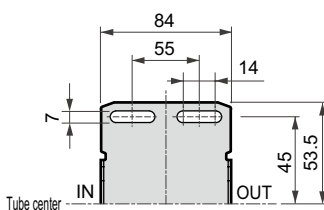


Panel cut dimensions

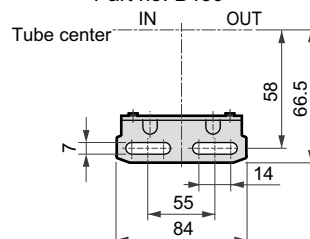


Panel thickness: Max. 7mm

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



L type bracket (-B3W)
Part no: B430



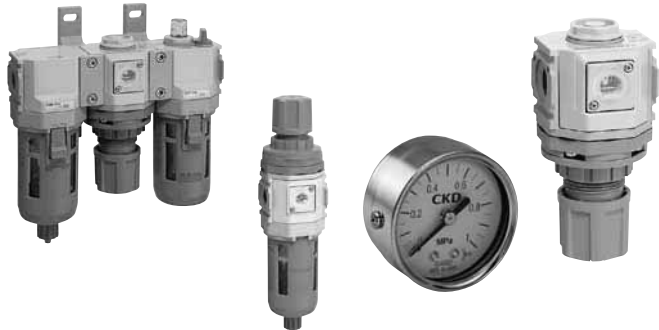
Option dimensions with pressure gauge attached

| Attached pressure gauge | X | 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 |

F.R.L. Modular type

Copper and PTFE free series

■ Components for air preparation/F.R.L. unit



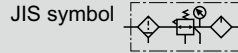
C O N T E N T S

| | |
|---|---------|
| Product introduction | Intro 1 |
| Series variation | 1 to 6 |
| ▲ Safety precautions | 11 |
| Combination | |
| ● F.R.L. combination (C*000-W-P6) | 175 |
| Filter·regulator | |
| ● Filter·regulator (W*000-W-P6) | 176 |
| ● Reverse filter·regulator (W*100-W-P6) | 177 |
| Air filter | |
| ● Air filter (F*000-W) | 178 |
| ● Oil mist filter (M*000-W) | 179 |
| Regulator | |
| ● Regulator (R*000-W-P6) | 180 |
| ● Reverse regulator (R*100-W-P6) | 181 |
| Lubricator | |
| ● Lubricator (L*000-W) | 182 |
| Pressure gauge (G49D-P6/G59D-P6) | 183 |
| Bracket, joiner (B-W·J-W) | 152 |
| Distributor (D*01-00-W) | 153 |
| Piping adaptor (A***-W) | 155 |

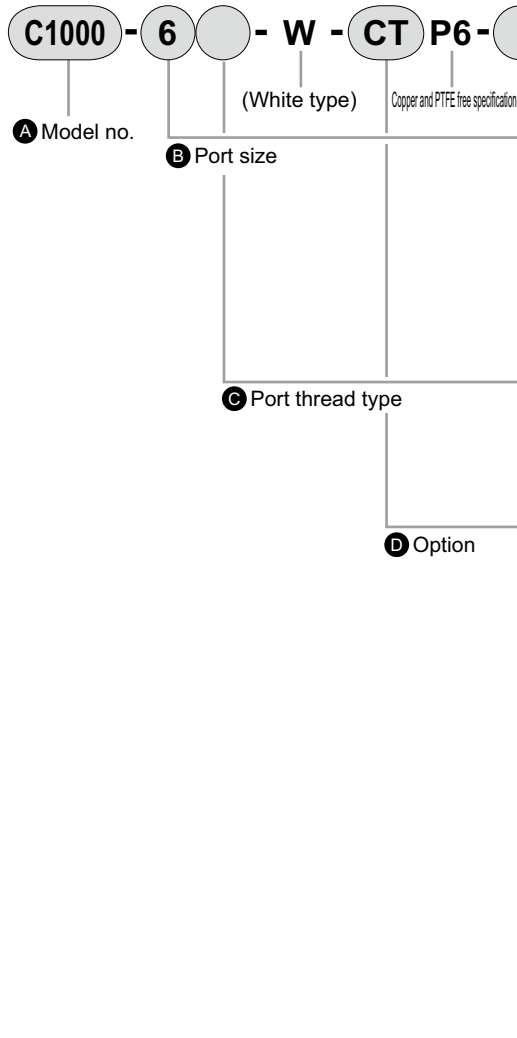


F.R.L. combination: copper and PTFE free specification
C1000/C2500/C3000
C4000/C6500/C8000-W-P6 Series

Copper ion prevention treatment
 Port size: 1/8 to 1



How to order



* Refer top page 9 for an explanation of the options.

| A Model no. | | | | | |
|-------------|-----------|-----------|-----------|-----------|-----------|
| C 1 0 0 0 | C 2 5 0 0 | C 3 0 0 0 | C 4 0 0 0 | C 6 5 0 0 | C 8 0 0 0 |
| ● | ● | ● | ● | ● | ● |

| Symbol | Descriptions | | | | | | |
|--------------------|--------------|---|---|---|---|---|---|
| B Port size | | | | | | | |
| 6 | 1/8 | ● | | | | | |
| 8 | 1/4 | ● | ● | ● | ● | | |
| 10 | 3/8 | | ● | ● | ● | | |
| 15 | 1/2 | | | | ● | | |
| 20 | 3/4 | | | | | ● | ● |
| 25 | 1 | | | | | ● | ● |

| C Port thread type | | Note 2 | | | | | |
|--------------------|------------|--------|---|---|---|---|---|
| Blank | Rc thread | ● | ● | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● | ● | ● |

| D Option | | Note 3 | | | | | | |
|---------------------------------|-------|---|---|---|---|---|---|---|
| Drainage | Blank | Filter with manual drain cock, lubricator without manual drain cock | ● | ● | ● | ● | ● | ● |
| | C | Lubricator with manual cock | ● | ● | ● | ● | ● | ● |
| Bowl material | Blank | Polycarbonate bowl | ● | ● | ● | ● | ● | ● |
| | Z | Nylon bowl | ● | ● | ● | ● | ● | ● |
| Element | Blank | 5µm | ● | ● | ● | ● | ● | ● |
| | Y | 0.3µm (submicron) | | ● | ● | ● | ● | ● |
| Differential pressure detection | Blank | Without differential pressure detection port | ● | ● | ● | ● | ● | ● |
| | Q | With differential pressure detection port (Rc1/4) | | | | | ● | ● |
| Regulator | T | Without pressure gauge, setting: 0.05 to 0.85 MPa, relief type | ● | ● | ● | ● | ● | ● |
| | LT | Without pressure gauge, setting: 0.05 to 0.35 MPa, relief type | ● | ● | ● | ● | ● | ● |
| | NT | Without pressure gauge, setting: 0.05 to 0.85 MPa, non-relief type | ● | ● | ● | ● | ● | ● |
| | LNT | Without pressure gauge, setting: 0.05 to 0.35 MPa, non-relief type | ● | ● | ● | ● | ● | ● |
| Flow Direction | Blank | Standard flow (left to right) | ● | ● | ● | ● | ● | ● |
| | X1 | Reverse flow (right to left) | ● | ● | ● | ● | ● | ● |

| E Displayed unit | | | | | | | |
|------------------|----------------------------|---|---|---|---|---|---|
| Blank | MPa display, Rc thread | ● | ● | ● | ● | ● | ● |
| J1 | MPa display, NPT, G thread | ● | ● | ● | ● | ● | ● |

| F Piping adaptor set (included) | | Pages 155 to 157 Note 5 | | | | | |
|---------------------------------|--------------------------|-------------------------|---|---|---|---|---|
| Blank | Not included | ● | ● | ● | ● | ● | ● |
| A6*W | 1/8 piping adaptor set | ● | | | | | |
| A8*W | 1/4 piping adaptor set | ● | ● | ● | ● | | |
| A10*W | 3/8 piping adaptor set | ● | ● | ● | ● | | |
| A15*W | 1/2 piping adaptor set | | ● | ● | ● | | |
| A20*W | 3/4 piping adaptor set | | | | ● | ● | ● |
| A25*W | 1 piping adaptor set | | | | | ● | ● |
| A32*W | 1 1/4 piping adaptor set | | | | | ● | ● |

| * Adaptor thread type | | | | | | | |
|-----------------------|------------|---|---|---|---|---|---|
| Blank | Rc thread | ● | ● | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● | ● | ● |

| G Shut-off valve (included) | | Page 142 | | | | | |
|-----------------------------|---------------------------------------|----------|---|---|---|---|---|
| Blank | Not included | ● | ● | ● | ● | ● | ● |
| VW | Shut-off valve (V3000-W) + joiner set | | ● | ● | ● | | |

⚠ Cautions for model No. selection

- Note 1: Refer to page 21 to 28 for specifications, dimensions and flow characteristics.
- Note 2: G and NPT threads are available for IN, OUT, and gauge ports, drain port, including the attachment V.
- Note 3: Select options from drain exhaust, bowl material, element, differential pressure detection, regulator, and regulator. When selecting options for several items, list options in order from the top. Select one of the regulator options.
- Note 4: Combinations other than those above are used as custom combinations (Page 189).
- Note 5: A joiner set is attached with the piping adapter set.



Filter with regulator: copper and PTFE free specification

W1000/W3000 W4000/W8000-W-P6 Series

Copper ion prevention treatment

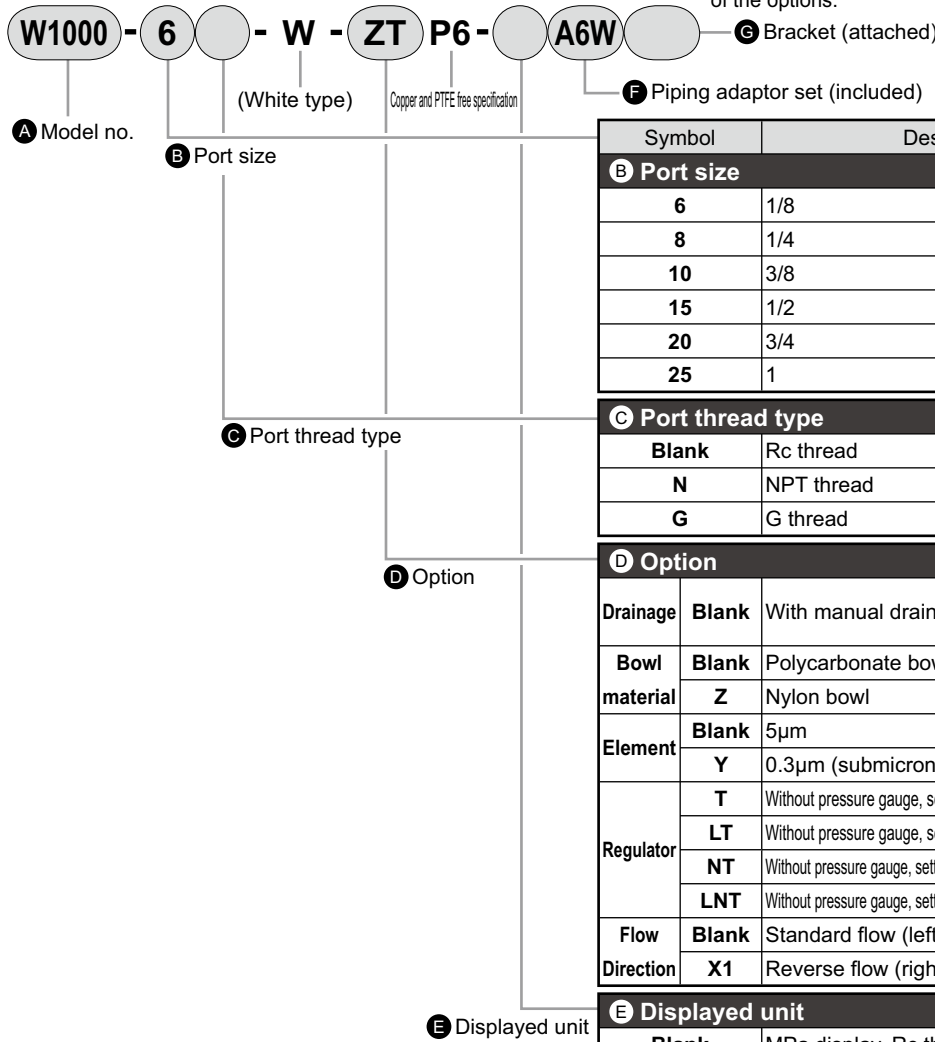
Port size: 1/8 to 1

JIS symbol



How to order

* Refer top page 9 for an explanation of the options.



| A Model no. | | | |
|-------------|---|---|---|
| W | W | W | W |
| 1 | 3 | 4 | 8 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |

| Symbol | Descriptions | | | | |
|--------------------|--------------|---|---|---|---|
| B Port size | | | | | |
| 6 | 1/8 | ● | | | |
| 8 | 1/4 | ● | ● | ● | |
| 10 | 3/8 | | ● | ● | |
| 15 | 1/2 | | | ● | |
| 20 | 3/4 | | | | ● |
| 25 | 1 | | | | ● |

| C Port thread type | | Note 2 | | | |
|--------------------|------------|--------|---|---|---|
| Blank | Rc thread | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● |

| D Option | | | Note 3 | | | |
|----------------|------------------------------|--|--------|---|---|---|
| Drainage | Blank | With manual drain cock | ● | ● | ● | ● |
| | Bowl material | Blank Polycarbonate bowl | ● | ● | ● | ● |
| Element | Z | Nylon bowl | ● | ● | ● | ● |
| | Blank | 5µm | ● | ● | ● | ● |
| Regulator | Y | 0.3µm (submicron) | | ● | ● | ● |
| | T | Without pressure gauge, setting: 0.05 to 0.85 MPa, relief type | ● | ● | ● | ● |
| | LT | Without pressure gauge, setting: 0.05 to 0.35 MPa, relief type | ● | ● | ● | ● |
| | NT | Without pressure gauge, setting: 0.05 to 0.85 MPa, non-relief type | ● | ● | ● | ● |
| Flow Direction | LNT | Without pressure gauge, setting: 0.05 to 0.35 MPa, non-relief type | ● | ● | ● | ● |
| | Blank | Standard flow (left to right) | ● | ● | ● | ● |
| X1 | Reverse flow (right to left) | ● | ● | ● | ● | |

| E Displayed unit | | | | | |
|------------------|----------------------------|---|---|---|---|
| Blank | MPa display, Rc thread | ● | ● | ● | ● |
| J1 | MPa display, NPT, G thread | ● | ● | ● | ● |

| F Piping adaptor set (included) | | Note 4 pages 155 to 157 | | Note 5 | |
|---------------------------------|--------------------------|-------------------------|---|--------|---|
| Blank | Not attached | ● | ● | ● | ● |
| A6*W | 1/8 piping adaptor set | ● | | | |
| A8*W | 1/4 piping adaptor set | ● | ● | ● | |
| A10*W | 3/8 piping adaptor set | ● | ● | ● | |
| A15*W | 1/2 piping adaptor set | | ● | ● | |
| A20*W | 3/4 piping adaptor set | | | ● | ● |
| A25*W | 1 piping adaptor set | | | | ● |
| A32*W | 1 1/4 piping adaptor set | | | | ● |

| * Adaptor thread type | | | | | |
|-----------------------|------------|---|---|---|---|
| Blank | Rc thread | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● |

| G Bracket (attached) | | Page 152 | | | |
|----------------------|----------------|----------|---|---|---|
| Blank | Not attached | ● | ● | ● | ● |
| BW | C type bracket | ● | ● | ● | ● |
| B3W | L type bracket | ● | ● | ● | |

⚠ Cautions for model No. selection

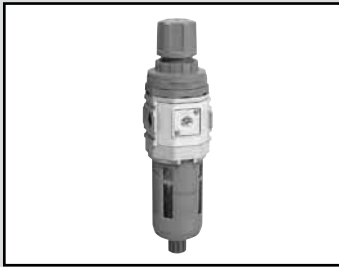
Note 1: Refer to page 69 to 74 for specifications, dimensions and flow characteristics.

Note 2: G and NPT threads are available for IN, OUT, and gauge ports, drain port.

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: The piping adapter set and C bracket cannot be used together.

Note 5: A joiner set is attached with the piping adapter set.

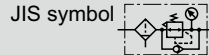


Reverse filter with regulator: copper and PTFE free specification

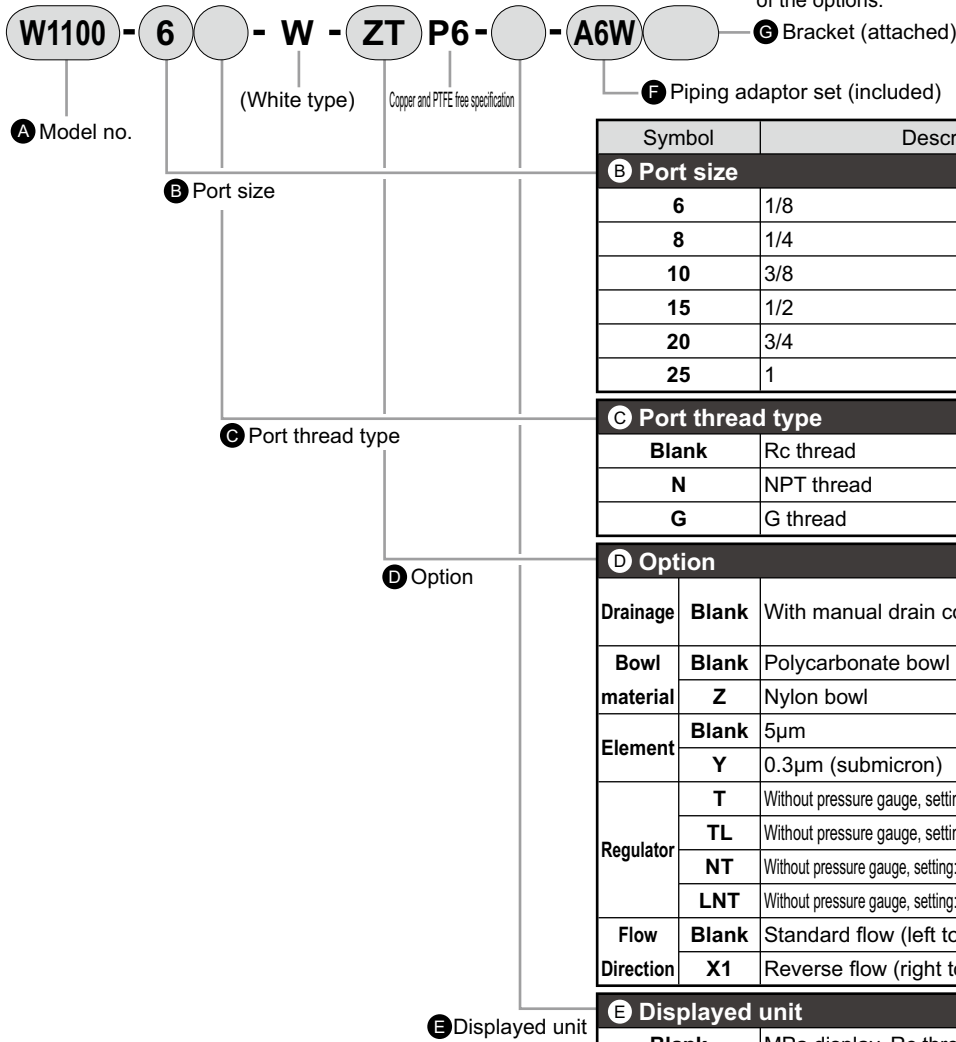
W1100 · W3100 W4100 · W8100 - W-P6 Series

Copper ion prevention treatment

Port size: 1/8 to 1



How to order



| A Model no. | | | |
|-------------|---|---|---|
| W | W | W | W |
| 1 | 3 | 4 | 8 |
| 1 | 1 | 1 | 1 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |

| Symbol | Descriptions | | | | |
|--------------------|--------------|---|---|---|---|
| B Port size | | | | | |
| 6 | 1/8 | ● | | | |
| 8 | 1/4 | ● | ● | ● | |
| 10 | 3/8 | | ● | ● | |
| 15 | 1/2 | | | ● | |
| 20 | 3/4 | | | | ● |
| 25 | 1 | | | | ● |

| C Port thread type | | Note 2 | | | |
|--------------------|------------|--------|---|---|---|
| Blank | Rc thread | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● |

| D Option | | | Note 3 | | | |
|----------------|-------|--|--------|---|---|---|
| Drainage | Blank | With manual drain cock | ● | ● | ● | ● |
| Bowl material | Blank | Polycarbonate bowl | ● | ● | ● | ● |
| | Z | Nylon bowl | ● | ● | ● | ● |
| Element | Blank | 5μm | ● | ● | ● | ● |
| | Y | 0.3μm (submicron) | | ● | ● | ● |
| Regulator | T | Without pressure gauge, setting: 0.05 to 0.85 MPa, relief type | ● | ● | ● | ● |
| | TL | Without pressure gauge, setting: 0.05 to 0.35 MPa, relief type | ● | ● | ● | ● |
| | NT | Without pressure gauge, setting: 0.05 to 0.85 MPa, non-relief type | ● | ● | ● | ● |
| | LNT | Without pressure gauge, setting: 0.05 to 0.35 MPa, non-relief type | ● | ● | ● | ● |
| Flow Direction | Blank | Standard flow (left to right) | ● | ● | ● | ● |
| | X1 | Reverse flow (right to left) | ● | ● | ● | ● |

| E Displayed unit | | | | | |
|------------------|----------------------------|---|---|---|---|
| Blank | MPa display, Rc thread | ● | ● | ● | ● |
| J1 | MPa display, NPT, G thread | ● | ● | ● | ● |

| F Piping adaptor set (included) | | Note 4 pages 155 to 157 Note 6 | | | |
|---------------------------------|--------------------------|--------------------------------|---|---|---|
| Blank | Not attached | ● | ● | ● | ● |
| A6*W | 1/8 piping adaptor set | ● | | | |
| A8*W | 1/4 piping adaptor set | ● | ● | ● | |
| A10*W | 3/8 piping adaptor set | ● | ● | ● | |
| A15*W | 1/2 piping adaptor set | | ● | ● | |
| A20*W | 3/4 piping adaptor set | | | ● | ● |
| A25*W | 1 piping adaptor set | | | | ● |
| A32*W | 1 1/4 piping adaptor set | | | | ● |

| * Adaptor thread type | | | | | |
|-----------------------|------------|---|---|---|---|
| Blank | Rc thread | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● |

| G Bracket (attached) | | Page 152 | | | |
|----------------------|----------------|----------|---|---|---|
| Blank | Not attached | ● | ● | ● | ● |
| BW | C type bracket | ● | ● | ● | ● |
| B3W | L type bracket | ● | ● | ● | |

⚠ Cautions for model No. selection

- Note 1: Refer to page 77 to 84 for specifications, dimensions and flow characteristics.
- Note 2: G and NPT threads are available for IN, OUT, and gauge ports, drain port.
- 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: The piping adapter set and C bracket cannot be used together.
- Note 5: Position of the check valve and pressure gauge can not be changed. If the reverse direction of IN and OUT are required, indicate "X1" in the end of optional section.
- Note 6: A joiner set is attached with the piping adapter set.



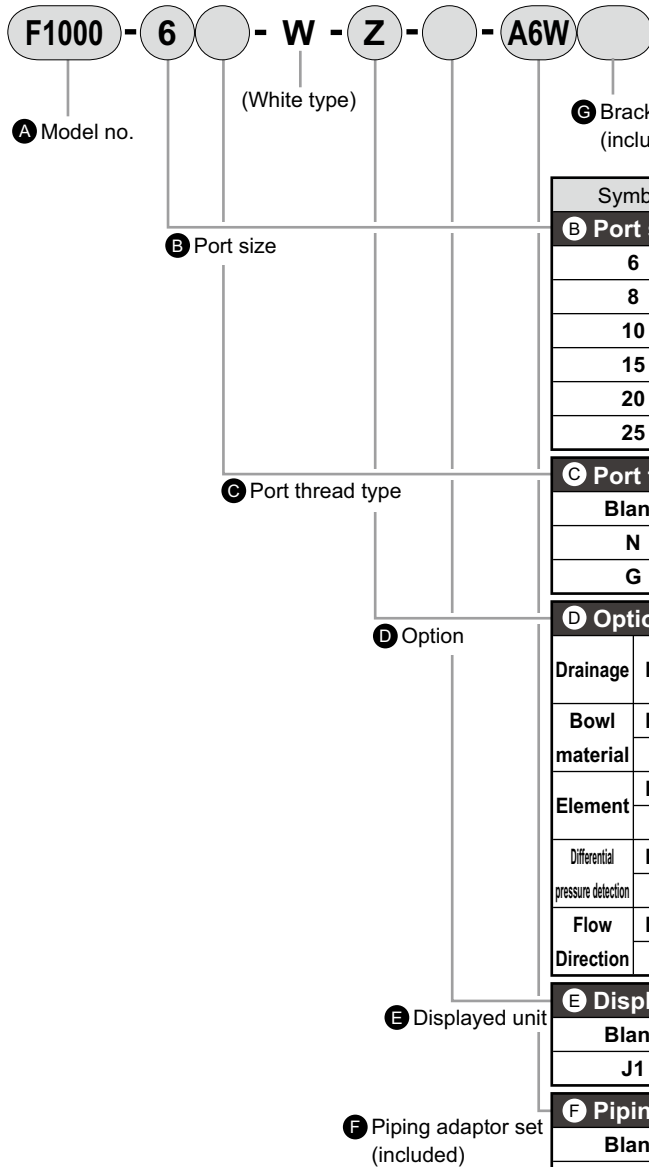
Air filter: copper and PTFE free specification
F1000/F3000
F4000/F6000/F8000-W Series

Copper ion prevention treatment Copper and PTFE free specification as standard.
 Port size: 1/8 to 1

JIS symbol



How to order



* Refer top page 9 for an explanation of the options.

| A Model no. | | | | |
|-------------|---|---|---|---|
| F | F | F | F | F |
| 1 | 3 | 4 | 6 | 8 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |

| Symbol | Descriptions | | | | | |
|--|----------------------------|---|---|---|---|---|
| B Port size | | | | | | |
| 6 | 1/8 | ● | | | | |
| 8 | 1/4 | ● | ● | ● | | |
| 10 | 3/8 | | ● | ● | | |
| 15 | 1/2 | | | ● | | |
| 20 | 3/4 | | | | ● | ● |
| 25 | 1 | | | | ● | ● |
| C Port thread type Note 2 | | | | | | |
| Blank | Rc thread | ● | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● | ● |
| D Option Note 3 | | | | | | |
| Drainage | Blank | With manual drain cock | ● | ● | ● | ● |
| Bowl material | Blank | Polycarbonate bowl | ● | ● | ● | ● |
| | Z | Nylon bowl | ● | ● | ● | ● |
| Element | Blank | 5µm | ● | ● | ● | ● |
| | Y | 0.3µm (submicron) | | ● | ● | ● |
| Differential pressure detection | Blank | Without differential pressure detection port | ● | ● | ● | ● |
| | Q | With differential pressure detection port (Rc1/4) | | | ● | ● |
| Flow Direction | Blank | Standard flow (left to right) | ● | ● | ● | ● |
| | X1 | Reverse flow (right to left) | ● | ● | ● | ● |
| E Displayed unit | | | | | | |
| Blank | MPa display, Rc thread | ● | ● | ● | ● | ● |
| J1 | MPa display, NPT, G thread | ● | ● | ● | ● | ● |
| F Piping adaptor set (included) Note 4 pages 155 to 157 Note 5 | | | | | | |
| Blank | Not included | ● | ● | ● | ● | ● |
| A6*W | 1/8 piping adaptor set | ● | | | | |
| A8*W | 1/4 piping adaptor set | ● | ● | ● | | |
| A10*W | 3/8 piping adaptor set | ● | ● | ● | | |
| A15*W | 1/2 piping adaptor set | | ● | ● | | |
| A20*W | 3/4 piping adaptor set | | | ● | ● | ● |
| A25*W | 1 piping adaptor set | | | | ● | ● |
| A32*W | 1 1/4 piping adaptor set | | | | ● | ● |
| * Adaptor thread type | | | | | | |
| Blank | Rc thread | ● | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● | ● |
| G Bracket (included) Page 152 | | | | | | |
| Blank | Not included | ● | ● | ● | ● | ● |
| BW | C type bracket | ● | ● | ● | ● | ● |

⚠ Cautions for model No. selection

- Note 1: Refer to page 85 to 94 for specifications, dimensions and flow characteristics.
- Note 2: When G threads or NPT threads are selected, the IN, OUT, gauge port, and drainage discharge port (metal bowl automatic drain) are the target, as are attachments P and V.
- Note 3: Select options for each drainage discharge, bowl material and element. When selecting options for several items, list options in order from the top.
- Note 4: The piping adapter set and C bracket cannot be used together.
- Note 5: A joiner set is included with the piping adapter set.



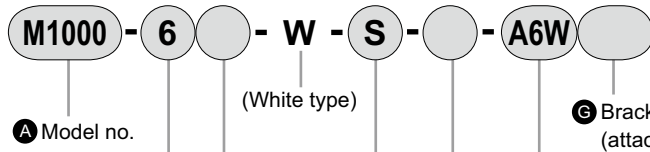
Oil mist filter: copper and PTFE free specification
M1000 / M3000
M4000 / M6000 / M8000 -W Series

Copper ion prevention treatment Copper and PTFE free specification as standard.
 Port size: 1/8 to 1

JIS symbol



How to order



* Refer top page 9 for an explanation of the options.

| A Model no. | | | | |
|-------------|---|---|---|---|
| M | M | M | M | M |
| 1 | 3 | 4 | 6 | 8 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |

| Symbol | Descriptions | M1000 | M3000 | M4000 | M6000 | M8000 |
|--|--|-------|-------|-------|-------|-------|
| B Port size | | | | | | |
| 6 | 1/8 | ● | | | | |
| 8 | 1/4 | ● | ● | ● | | |
| 10 | 3/8 | | ● | ● | | |
| 15 | 1/2 | | | ● | | |
| 20 | 3/4 | | | | ● | ● |
| 25 | 1 | | | | ● | ● |
| C Port thread type Note 2 | | | | | | |
| Blank | Rc thread | ● | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● | ● |
| D Option Note 3 | | | | | | |
| Drainage | Blank With manual drain cock | ● | ● | ● | ● | ● |
| Bowl material | Blank Polycarbonate bowl | ● | ● | ● | ● | ● |
| | Z Nylon bowl | ● | ● | ● | ● | ● |
| Differential pressure detection | Blank Without differential pressure detection port | ● | ● | ● | ● | ● |
| | Q With differential pressure detection port (Rc1/4) | | | | ● | ● |
| Flow Direction | Blank Standard flow (left to right) | ● | ● | ● | ● | ● |
| | X1 Reverse flow (right to left) | ● | ● | ● | ● | ● |
| E Displayed unit | | | | | | |
| Blank | MPa display, Rc thread | ● | ● | ● | ● | ● |
| J1 | MPa display, NPT, G thread | ● | ● | ● | ● | ● |
| F Piping adaptor set (included) Note 4 pages 155 to 157 Note 5 | | | | | | |
| Blank | Not attached | ● | ● | ● | ● | ● |
| A6*W | 1/8 piping adaptor set | ● | | | | |
| A8*W | 1/4 piping adaptor set | ● | ● | ● | | |
| A10*W | 3/8 piping adaptor set | ● | ● | ● | | |
| A15*W | 1/2 piping adaptor set | | ● | ● | | |
| A20*W | 3/4 piping adaptor set | | | ● | ● | ● |
| A25*W | 1 piping adaptor set | | | | ● | ● |
| A32*W | 1 1/4 piping adaptor set | | | | ● | ● |
| * Adaptor thread type | | | | | | |
| Blank | Rc thread | ● | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● | ● |
| G Bracket (included) Page 152 | | | | | | |
| Blank | Not included | ● | ● | ● | ● | ● |
| BW | C type bracket | ● | ● | ● | ● | ● |

⚠ Cautions for model No. selection

- Note 1: Refer to page 95 to 102 for specifications, dimensions and flow characteristics.
- Note 2: When G threads or NPT threads are selected, the IN, OUT, and drainage discharge port are available.
- Note 3: Select options for each drainage discharge, bowl material and differential pressure detection. When selecting options for several items, list options in order from the top.
- Note 4: The piping adaptor set and C bracket cannot be used together.
- Note 5: A joiner set is included with the piping adaptor set.

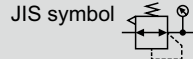


Regulator: copper and PTFE free specification

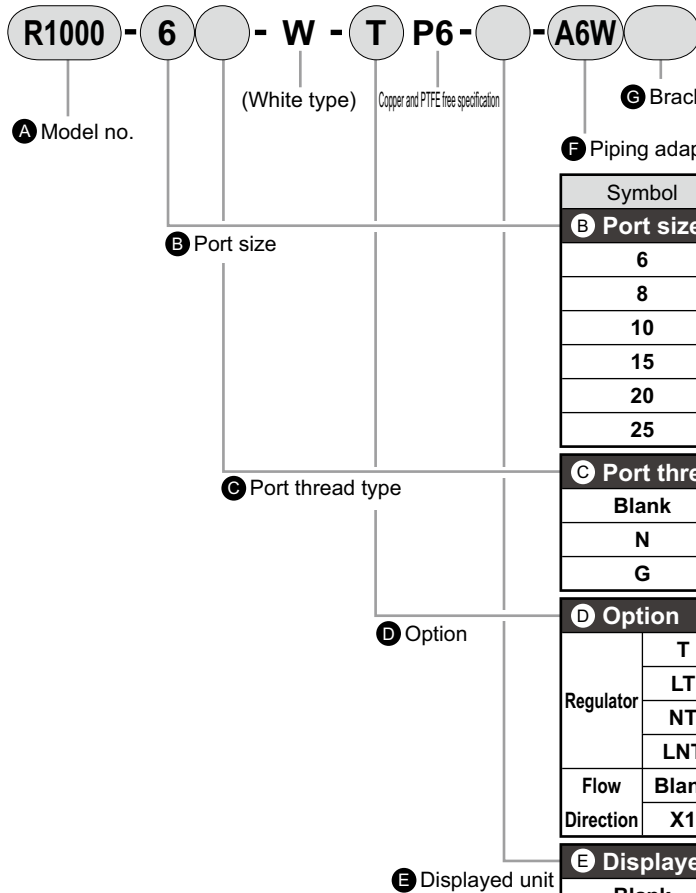
R1000 · R2000 · R3000 R4000 · R6000 · R8000 -W-P6 Series

Copper ion prevention treatment

Port size: 1/8 to 1



How to order



* Refer top page 9 for an explanation of the options.

| A Model no. | | | | | |
|-------------|-----|-----|-----|-----|-----|
| R 1 | R 2 | R 3 | R 4 | R 6 | R 8 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |

| Symbol | Descriptions | | | | | | |
|--|----------------------------|--|---|---|---|---|---|
| B Port size | | | | | | | |
| 6 | 1/8 | ● | | | | | |
| 8 | 1/4 | ● | ● | ● | ● | | |
| 10 | 3/8 | | ● | ● | ● | | |
| 15 | 1/2 | | | | ● | | |
| 20 | 3/4 | | | | | ● | ● |
| 25 | 1 | | | | | ● | ● |
| C Port thread type | | Note 2 | | | | | |
| Blank | Rc thread | ● | ● | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● | ● | ● |
| D Option | | Note 3 | | | | | |
| Regulator | T | Without pressure gauge, setting: 0.05 to 0.85 MPa, relief type | | ● | ● | ● | ● |
| | LT | Without pressure gauge, setting: 0.05 to 0.35 MPa, relief type | | ● | ● | ● | ● |
| | NT | Without pressure gauge, setting: 0.05 to 0.85 MPa, non-relief type | | ● | ● | ● | ● |
| | LNT | Without pressure gauge, setting: 0.05 to 0.35 MPa, non-relief type | | ● | ● | ● | ● |
| Flow Direction | Blank | Standard flow (left to right) | | ● | ● | ● | ● |
| | X1 | Reverse flow (right to left) | | ● | ● | ● | ● |
| E Displayed unit | | | | | | | |
| Blank | MPa display, Rc thread | ● | ● | ● | ● | ● | ● |
| J1 | MPa display, NPT, G thread | ● | ● | ● | ● | ● | ● |
| F Piping adaptor set (included) | | Note 4 pages 155 to 157 Note 5 | | | | | |
| Blank | Not attached | ● | ● | ● | ● | ● | ● |
| A6*W | 1/8 piping adaptor set | ● | | | | | |
| A8*W | 1/4 piping adaptor set | ● | ● | ● | ● | | |
| A10*W | 3/8 piping adaptor set | ● | ● | ● | ● | | |
| A15*W | 1/2 piping adaptor set | | ● | ● | ● | | |
| A20*W | 3/4 piping adaptor set | | | | ● | ● | ● |
| A25*W | 1 piping adaptor set | | | | | | ● |
| A32*W | 1 1/4 piping adaptor set | | | | | | ● |
| * Adaptor thread type | | | | | | | |
| Blank | Rc thread | ● | ● | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● | ● | ● |
| G Bracket (attached) | | Page 152 | | | | | |
| Blank | Not attached | ● | ● | ● | ● | ● | ● |
| BW | C type bracket | ● | ● | ● | ● | ● | ● |
| B3W | L type bracket | ● | ● | ● | ● | ● | |
| B4W | B type bracket | | ● | | | | |

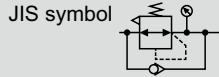
⚠ Cautions for model No. selection

- Note 1: Refer to page 113 to 120 for specifications, dimensions and flow characteristics.
- Note 2: G and NPT threads are available for IN, OUT, and gauge ports.
- Note 3: Select one option.
- Note 4: The piping adapter set and C bracket cannot be used together.
- Note 5: A joiner set is attached with the piping adapter set.

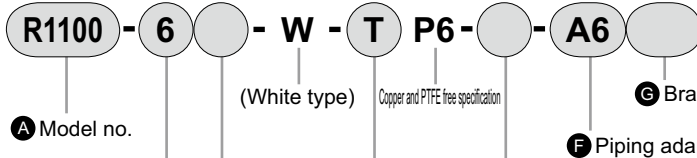


Reverse regulator: copper and PTFE free specification
R1100/R2100/R3100
R4100/R6100/R8100 -W-P6 Series

Copper ion prevention treatment
 Port size: 1/8 to 1

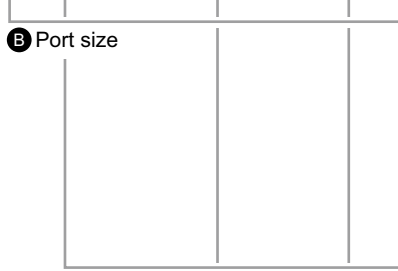


How to order

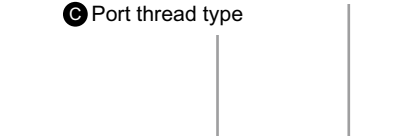


* Refer top page 9 for an explanation of the options.

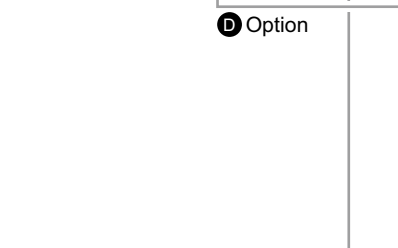
| A Model no. | | | | | |
|-------------|---|---|---|---|---|
| R | R | R | R | R | R |
| 1 | 2 | 3 | 4 | 6 | 8 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |



| Symbol | Descriptions | A Model no. | | | | | |
|--------------------|--------------|-------------|---|---|---|---|---|
| B Port size | | | | | | | |
| 6 | 1/8 | ● | | | | | |
| 8 | 1/4 | ● | ● | ● | ● | | |
| 10 | 3/8 | | ● | ● | ● | | |
| 15 | 1/2 | | | | ● | | |
| 20 | 3/4 | | | | | ● | ● |
| 25 | 1 | | | | | ● | ● |



| C Port thread type | | Note 2 | | | | | |
|--------------------|------------|--------|---|---|---|---|---|
| Blank | Rc thread | ● | ● | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● | ● | ● |



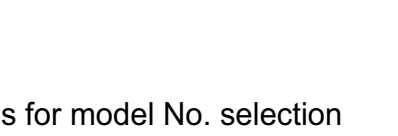
| D Option | | Note 3 | | | | | | |
|----------------|-------|--|---|---|---|---|---|---|
| Regulator | T | Without pressure gauge, setting: 0.05 to 0.85 MPa, relief type | ● | ● | ● | ● | ● | ● |
| | TL | Without pressure gauge, setting: 0.05 to 0.35 MPa, relief type | ● | ● | ● | ● | ● | ● |
| | NT | Without pressure gauge, setting: 0.05 to 0.85 MPa, non-relief type | ● | ● | ● | ● | ● | ● |
| | LNT | Without pressure gauge, setting: 0.05 to 0.35 MPa, non-relief type | ● | ● | ● | ● | ● | ● |
| Flow Direction | Blank | Standard flow (left to right) | ● | ● | ● | ● | ● | ● |
| | X1 | Reverse flow (right to left) | ● | ● | ● | ● | ● | ● |



| E Displayed unit | | | | | | | |
|------------------|----------------------------|---|---|---|---|---|---|
| Blank | MPa display, Rc thread | ● | ● | ● | ● | ● | ● |
| J1 | MPa display, NPT, G thread | ● | ● | ● | ● | ● | ● |



| F Piping adaptor set (included) | | Note 4 pages 155 to 157 Note 6 | | | | | |
|---------------------------------|--------------------------|--------------------------------|---|---|---|---|---|
| Blank | Not attached | ● | ● | ● | ● | ● | ● |
| A6*W | 1/8 piping adaptor set | ● | | | | | |
| A8*W | 1/4 piping adaptor set | ● | ● | ● | ● | | |
| A10*W | 3/8 piping adaptor set | ● | ● | ● | ● | | |
| A15*W | 1/2 piping adaptor set | | ● | ● | ● | | |
| A20*W | 3/4 piping adaptor set | | | | ● | ● | ● |
| A25*W | 1 piping adaptor set | | | | | | ● |
| A32*W | 1 1/4 piping adaptor set | | | | | | ● |

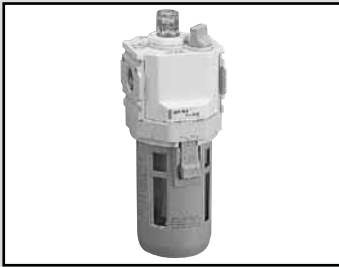


| * Adaptor thread type | | | | | | | |
|-----------------------|------------|---|---|---|---|---|---|
| Blank | Rc thread | ● | ● | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● | ● | ● |

⚠ Cautions for model No. selection

- Note 1: Refer to page 121 to 128 for specifications, dimensions and flow characteristics.
- Note 2: G and NPT threads are available for IN, OUT, and gauge ports.
- Note 3: Note 3: Select one option.
- Note 4: The piping adapter set and C bracket cannot be used together.
- Note 5: Position of the check valve and pressure gauge can not be changed. If the reverse direction of IN and OUT are required, indicate "X1" in the end of optional section.
- Note 6: A joiner set is included with the piping adapter set.

| G Bracket (included) | | Page 152 | | | | | |
|----------------------|----------------|----------|---|---|---|---|---|
| Blank | Not attached | ● | ● | ● | ● | ● | ● |
| BW | C type bracket | ● | ● | ● | ● | ● | ● |
| B3W | L type bracket | ● | ● | ● | ● | ● | |
| B4W | B type bracket | | ● | | | | |



Lubricator: copper and PTFE free specification

L1000 · L3000 L4000 · L8000 -W Series

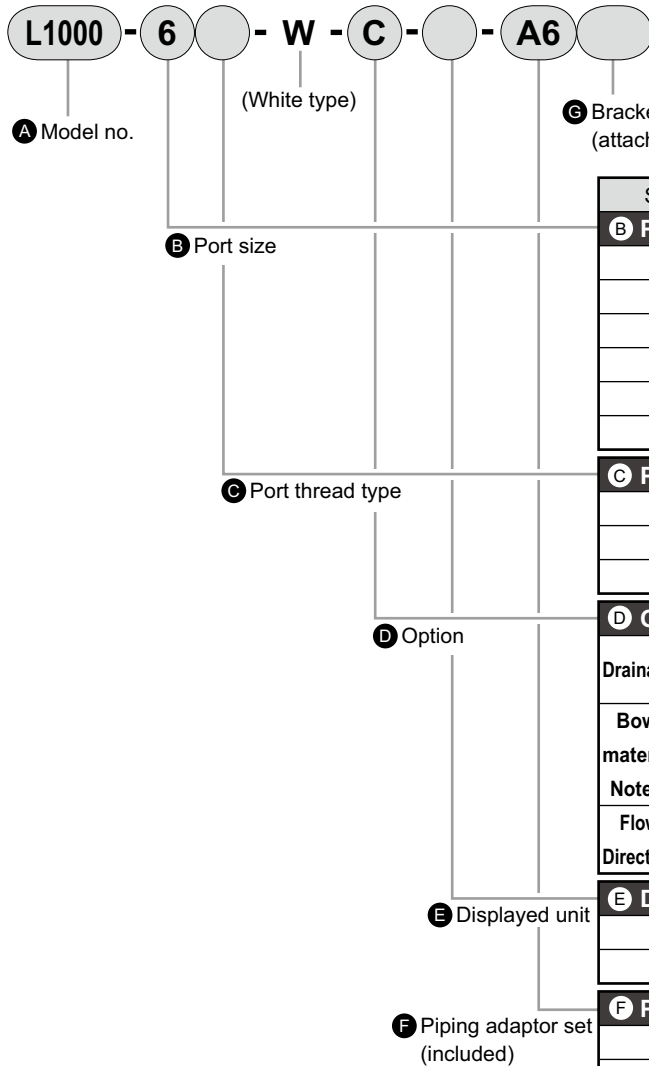
Copper ion prevention treatment
Port size: 1/8 to 1

Copper and PTFE free specification as standard.

JIS symbol



How to order



* Refer top page 9 for an explanation of the options.

| A Model no. | | | |
|-------------|---|---|---|
| L | L | L | L |
| 1 | 3 | 4 | 8 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |

| Symbol | Descriptions | | | | |
|--|----------------------------|-------------------------------|---|---|---|
| B Port size | | | | | |
| 6 | 1/8 | ● | | | |
| 8 | 1/4 | ● | ● | ● | |
| 10 | 3/8 | | ● | ● | |
| 15 | 1/2 | | | ● | |
| 20 | 3/4 | | | | ● |
| 25 | 1 | | | | ● |
| C Port thread type Note 2 | | | | | |
| Blank | Rc thread | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● |
| D Option Note 3 | | | | | |
| Drainage | Blank | No manual cock | ● | ● | ● |
| Bowl material | Blank | Polycarbonate bowl | ● | ● | ● |
| | Z | Nylon bowl | ● | ● | ● |
| Note 4 | M | Metal bowl | | ● | ● |
| Flow Direction | Blank | Standard flow (left to right) | ● | ● | ● |
| | X1 | Reverse flow (right to left) | ● | ● | ● |
| E Displayed unit | | | | | |
| Blank | MPa display, Rc thread | ● | ● | ● | ● |
| J1 | MPa display, NPT, G thread | ● | ● | ● | ● |
| F Piping adaptor set (included) Note 5 pages 155 to 157 Note 6 | | | | | |
| Blank | Not attached | ● | ● | ● | ● |
| A6*W | 1/8 piping adaptor set | ● | | | |
| A8*W | 1/4 piping adaptor set | ● | ● | ● | |
| A10*W | 3/8 piping adaptor set | ● | ● | ● | |
| A15*W | 1/2 piping adaptor set | | ● | ● | |
| A20*W | 3/4 piping adaptor set | | | ● | ● |
| A25*W | 1 piping adaptor set | | | ● | ● |
| A32*W | 1 1/4 piping adaptor set | | | | ● |
| * Adaptor thread type | | | | | |
| Blank | Rc thread | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● |
| G Bracket (attached) Page 152 | | | | | |
| Blank | Not attached | ● | ● | ● | ● |
| BW | C type bracket | ● | ● | ● | ● |

⚠ Cautions for model No. selection

Note 1: Refer to page 129 to 136 for specifications, dimensions and flow characteristics.

Note 2: G and NPT threads are available for IN, OUT.

Note 3: Select options for drainage discharge, bowl material and others.

When selecting options for several items, list options in order from the top.

Note 4: The side dome is polycarbonate even for nylon or metal bowls. Consult with CKD if a different material is required.

Note 5: The piping adapter set and C bracket cannot be used together.

Note 6: A joiner set is attached with the piping adapter set.



Other components: copper and PTFE free specification
 Pressure gauge Shut-off valve Exhaust cleaner

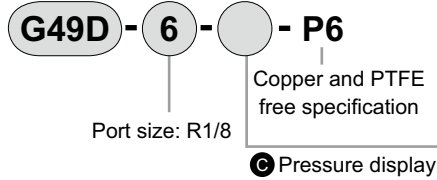
G49D-P6 V3000-W FA*31 Series

G59D-P6 V3010-W V6010-W

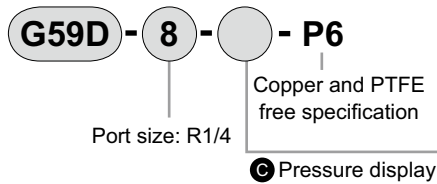


How to order

● Pressure gauge



| Symbol | Descriptions |
|---------------------------------|--------------|
| Ⓢ Pressure display (MPa) Note 1 | |
| P02 | 0 to 0.2MPa |
| P04 | 0 to 0.4MPa |
| P10 | 0 to 1.0MPa |



| Symbol | Descriptions |
|---------------------------------|--------------|
| Ⓢ Pressure display (MPa) Note 1 | |
| P02 | 0 to 0.2MPa |
| P04 | 0 to 0.4MPa |
| P10 | 0 to 1.0MPa |
| P20 | 0 to 2.0MPa |

⚠ Cautions for model No. selection

Note 1: Refer to page 203 for dimensions.

Other components

● Shut-off valve

- V3000-W (Page 143)
- V3010-W/V6010-W (Page 146)

* The above products are copper and PTFE free as standard.

● Exhaust cleaner

- FA *31 (Pneumatics, Vacuum, Auxiliary Components No.CB-024S)

**F.R.L.
Modular type**

Ozone proof

■ Components for air preparation/F.R.L. unit



C O N T E N T S

| | |
|--|---------|
| Product introduction | Intro 1 |
| Series variation | 1 to 6 |
| ⚠ Safety precautions | 11 |
| <hr/> | |
| Filter·regulator | |
| ● Filter·regulator (W*000-W-P11) | 185 |
| ● Reverse filter·regulator (W*100-W-P11) | 186 |
| <hr/> | |
| Regulator | |
| ● Regulator (R*000-W-P11) | 187 |
| ● Reverse regulator (R*100-W-P11) | 188 |

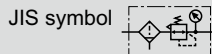


Filter regulator: ozone proof

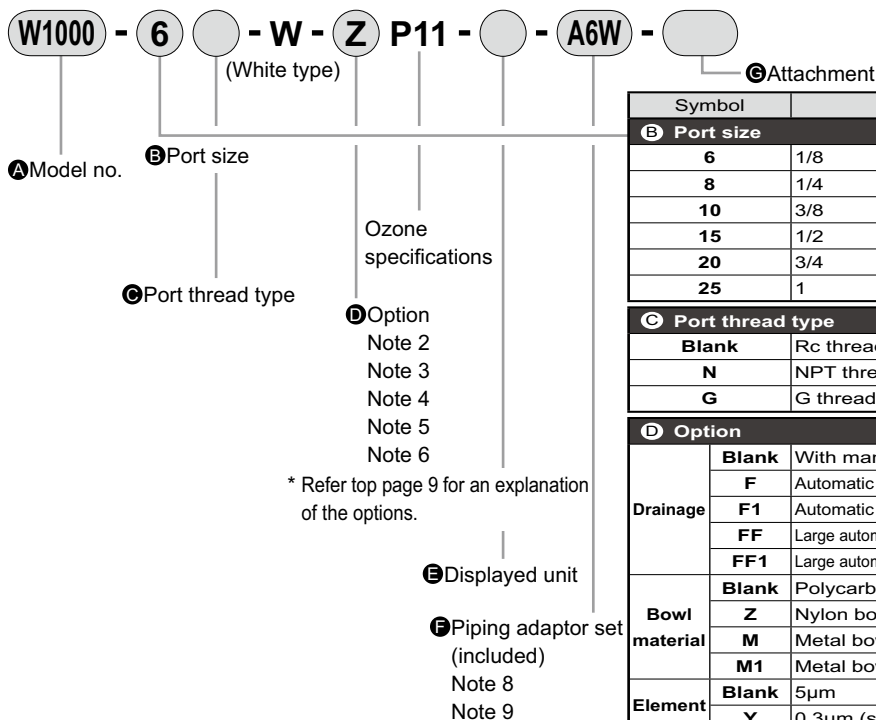
W1000 / W3000 W4000 / W8000-W-P11 Series

Fluorine rubber and hydrogenated nitrile rubber, etc., used for rubber part materials.

• Port size: Rc1/8 to Rc1



How to order



| A Model no. | | | |
|-------------|---|---|---|
| W | 3 | 4 | 8 |
| 1 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |

| Symbol | Descriptions | | | | | |
|--|--------------------------------------|--|---|---|---|---|
| B Port size | | | | | | |
| 6 | 1/8 | • | • | • | • | |
| 8 | 1/4 | • | • | • | • | |
| 10 | 3/8 | | • | • | | |
| 15 | 1/2 | | | • | | |
| 20 | 3/4 | | | | • | |
| 25 | 1 | | | | • | |
| C Port thread type | | Note 10 | | | | |
| Blank | Rc thread | • | • | • | • | |
| N | NPT thread | • | • | • | • | |
| G | G thread | • | • | • | • | |
| D Option | | | | | | |
| Drainage | Blank | With manual drain cock | • | • | • | • |
| | F | Automatic drain with manual override NO type | | • | • | • |
| | F1 | Automatic drain with manual override NC type | | • | • | • |
| | FF | Large automatic drain with manual override NO type | | | | • |
| | FF1 | Large automatic drain with manual override NC type | | | | • |
| Bowl material | Blank | Polycarbonate bowl | • | • | • | • |
| | Z | Nylon bowl | • | • | • | • |
| | M | Metal bowl | | • | • | • |
| | M1 | Metal bowl with manual drain cock | | • | • | • |
| Element | Blank | 5µm | • | • | • | • |
| | Y | 0.3µm (submicron) | | • | • | • |
| Pressure Range | Blank | 0.05 to 0.85MPa | • | • | • | • |
| | L | 0.05 to 0.35MPa | • | • | • | • |
| Relief | Blank | With relief mechanism | • | • | • | • |
| | N | Non-relief type | • | • | • | • |
| Pressure gauge | Blank | With standard pressure gauge (G401) | • | • | • | • |
| | T | Without pressure gauge (gauge port assembled sealed) | • | • | • | • |
| | T8 | Compatibility with pressure gauge option (gauge port assembled open) | • | • | • | • |
| | T6 Note 7 | Compatibility with digital pressure sensor PPX | • | • | • | • |
| X1 | IN/OUT reverse flow (right to left) | • | • | • | • | |
| E Displayed unit | | | | | | |
| Blank | MPa display, Rc thread | • | • | • | • | |
| J1 | MPa display, NPT, G thread | • | • | • | • | |
| F Piping adaptor set (included) | | Note 11, Note 13 | | | | |
| Blank | No attachments | • | • | • | • | |
| A6*W | 1/8 piping adaptor set | • | | | | |
| A8*W | 1/4 piping adaptor set | | • | • | | |
| A10*W | 3/8 piping adaptor set | | • | • | | |
| A15*W | 1/2 piping adaptor set | | | • | | |
| A20*W | 3/4 piping adaptor set | | | | • | |
| A25*W | 1 piping adaptor set | | | | • | |
| A32*W | 1 1/4 piping adaptor set | | | | • | |
| * Adaptor thread type | | | | | | |
| Blank | Rc thread | • | • | • | • | |
| N | NPT thread | • | • | • | • | |
| G | G thread | • | • | • | • | |
| G Attachment | | Note 12 | | | | |
| Blank | No attachments | • | • | • | • | |
| BW | C type bracket | • | • | • | • | |
| B3W | L type bracket | • | • | • | • | |
| G45P | Pressure gauge: G45D-8-P10 | • | • | • | • | |
| G49P | Pressure gauge: G49D-8-P10 | • | • | • | • | |
| G59P | Pressure gauge: G59D-8-P10 | • | • | • | • | |
| G40P | Pressure gauge: G40D-8-P10 | • | • | • | • | |
| G50P | Pressure gauge: G50D-8-P10 | • | • | • | • | |
| G41P | Pressure gauge: G41D-8-P10 | • | • | • | • | |
| R2 Note 7 | Digital pressure sensor: PPX-R10N-6M | • | • | • | • | |

⚠ Cautions for model No. selection

- Note 1: Refer to page 69 to 70 for specifications for specifications and attachments.
- Note 2: Select options per drainage, bowl material, element, and regulator sections. When selecting options for several items, list options in order from the top.
- Note 3: The low-pressure gauge (0 to 0.4 MPa) is used when "L" is selected for the pressure range option.
- Note 4: Minimum operating pressure of automatic drain is 0.1MPa for option symbol "F". Initially generated drainage and air are purged until pressure reaches 0.1 MPa.
- Note 5: Minimum operating pressure of automatic drain is 0.15MPa for option symbol "F1".
- Note 6: When "T" is selected, the gauge plug is assembled instead of the pressure gauge.
- Note 7: When option "T6" is selected, only "blank" or "R2" is selected for the (H) pressure gauge (enclosed). The digital pressure sensor PPX mounting port (Rc1/8) is assembled ventilated.
- Note 8: Piping adaptor set A*00-*W is attached.
- Note 9: The piping adapter set and C bracket cannot be used together.
- Note 10: G threads and NPT threads are available for IN, OUT, gauge port and drain discharge port (metal bowl with automatic drain).
- Note 11: The adapter port size can be selected from Rc, NPT or G. Blank: Rc thread/N: NPT thread/G: G thread (e.g.) A8G
- Note 12: If NPT is selected for the "C" piping thread type, a NPT pressure gauge is enclosed. If Rc or G thread is selected, an R thread pressure gauge is enclosed.
- Note 13: A joiner set is included with the piping adapter set.

Dimensions

Same as standard parts. Refer to page 73 to 75.



Reverse filter, regulator: ozone proof

W1100 / W3100 W4100 / W8100-W-P11 Series

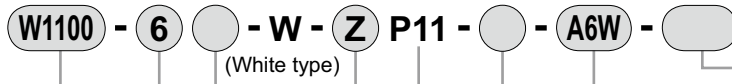
Fluorine rubber and hydrogenated nitrile rubber, etc., used for rubber part materials.

• Port size: Rc1/8 to Rc1

JIS symbol



How to order



A Model no.

B Port size

(White type)

Ozone specifications

C Port thread type

D Option

Note 2
Note 3
Note 4
Note 5
Note 6
Note 7

* Refer top page 9 for an explanation of the options.

E Displayed unit

F Piping adaptor set (included)
Note 9
Note 10

⚠ Cautions for model No. selection

- Note 1: Refer to page 77 to 78 for specifications for specifications and attachments.
- Note 2: Select options per drainage, bowl material, element, and regulator sections.
When selecting options for several items, list options in order from the top.
- Note 3: The low-pressure gauge (0 to 0.4 MPa) is used when "L" is selected for the pressure range option.
- Note 4: **Position of the check valve and pressure gauge can not be changed. If the reverse direction of IN and OUT are required, indicate "X1" in the end of optional section.**
- Note 5: Minimum operating pressure of automatic drain is 0.1MPa for option symbol "F".
Initially generated drainage and air are purged until pressure reaches 0.1 MPa.
- Note 6: Minimum operating pressure of automatic drain is 0.15MPa for option symbol "F1".
- Note 7: When "T" is selected, the gauge plug is assembled instead of the pressure gauge.
- Note 8: When option "T6" is selected, only "blank" or "R2" is selected for the (H) pressure gauge (enclosed). The digital pressure sensor PPX mounting port (Rc1/8) is assembled ventilated.
- Note 9: A piping adaptor set A*00-**-W is included.
- Note 10: The piping adapter set and C bracket cannot be used together.
- Note 11: G threads and NPT threads are available for IN, OUT, gauge port and drain discharge port (metal bowl with automatic drain).
- Note 12: The adapter port size can be selected from Rc, NPT or G.
Blank: Rc thread/N: NPT thread/G: G thread (e.g.) A8G
- Note 13: If NPT is selected for the "C" piping thread type, a NPT pressure gauge is enclosed. If Rc or G thread is selected, an R thread pressure gauge is enclosed.
- Note 14: A joiner set is included with the piping adapter set.

Dimensions

Same as standard parts. Refer to page 81 to 83.

| | | A Model no. | | | | |
|--|--------------------------------------|--|-------|-------|-------|---|
| | | W1100 | W3100 | W4100 | W8100 | |
| Symbol | Descriptions | | | | | |
| B Port size | | | | | | |
| 6 | 1/8 | ● | | | | |
| 8 | 1/4 | ● | ● | ● | | |
| 10 | 3/8 | | ● | ● | | |
| 15 | 1/2 | | | ● | | |
| 20 | 3/4 | | | | ● | |
| 25 | 1 | | | | ● | |
| C Port thread type | | | | | | |
| Note 11 | | | | | | |
| Blank | Rc thread | ● | ● | ● | ● | |
| N | NPT thread | ● | ● | ● | ● | |
| G | G thread | ● | ● | ● | ● | |
| D Option | | | | | | |
| Drainage | Blank | With manual drain cock | ● | ● | ● | ● |
| | F | Automatic drain with manual override NO type | | ● | ● | ● |
| | F1 | Automatic drain with manual override NC type | | ● | ● | ● |
| | FF | Large automatic drain with manual override NO type | | | | ● |
| | FF1 | Large automatic drain with manual override NC type | | | | ● |
| Bowl material | Blank | Polycarbonate bowl | ● | ● | ● | ● |
| | Z | Nylon bowl | ● | ● | ● | ● |
| | M | Metal bowl | | ● | ● | ● |
| Element | M1 | Metal bowl with manual drain cock | | ● | ● | ● |
| | Blank | 5µm | ● | ● | ● | ● |
| Pressure Range | Y | 0.3µm (submicron) | | ● | ● | ● |
| | Blank | 0.05 to 0.85MPa | ● | ● | ● | ● |
| Relief | L | 0.05 to 0.35MPa | ● | ● | ● | ● |
| | Blank | With relief mechanism | ● | ● | ● | ● |
| Pressure gauge | N | Non-relief type | ● | ● | ● | ● |
| | Blank | With standard pressure gauge (G401) | ● | ● | ● | ● |
| | T | Without pressure gauge (gauge port assembled sealed) | ● | ● | ● | ● |
| | T8 | Compatibility with pressure gauge option (gauge port assembled open) | ● | ● | ● | ● |
| X1 | T6 | Compatibility with digital pressure sensor PPX | ● | ● | ● | ● |
| | Blank | IN/OUT reverse flow (right to left) | ● | ● | ● | ● |
| E Displayed unit | | | | | | |
| Blank | MPa display, Rc thread | ● | ● | ● | ● | |
| J1 | MPa display, NPT, G thread | ● | ● | ● | ● | |
| F Piping adaptor set (included) | | | | | | |
| Note 12, Note 14 | | | | | | |
| Blank | No attachments | ● | ● | ● | ● | |
| A6*W | 1/8 piping adaptor set | ● | | | | |
| A8*W | 1/4 piping adaptor set | ● | ● | ● | | |
| A10*W | 3/8 piping adaptor set | ● | ● | ● | | |
| A15*W | 1/2 piping adaptor set | | ● | ● | | |
| A20*W | 3/4 piping adaptor set | | | ● | ● | |
| A25*W | 1 piping adaptor set | | | | ● | |
| A32*W | 1 1/4 piping adaptor set | | | | ● | |
| * Adaptor thread type | | | | | | |
| Blank | Rc thread | ● | ● | ● | ● | |
| N | NPT thread | ● | ● | ● | ● | |
| G | G thread | ● | ● | ● | ● | |
| G Attachment | | | | | | |
| Note 13 | | | | | | |
| Blank | No attachments | ● | ● | ● | ● | |
| BW | C type bracket | ● | ● | ● | ● | |
| B3W | L type bracket | ● | ● | ● | ● | |
| G45P | Pressure gauge: G45D-8-P10 | ● | ● | ● | ● | |
| G49P | Pressure gauge: G49D-8-P10 | ● | ● | ● | ● | |
| G59P | Pressure gauge: G59D-8-P10 | ● | ● | ● | ● | |
| G40P | Pressure gauge: G40D-8-P10 | ● | ● | ● | ● | |
| G50P | Pressure gauge: G50D-8-P10 | ● | ● | ● | ● | |
| G41P | Pressure gauge: G41D-8-P10 | ● | ● | ● | ● | |
| R2 Note | Digital pressure sensor: PPX-R10N-6M | ● | ● | ● | ● | |

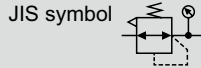


Regulator: ozone proof

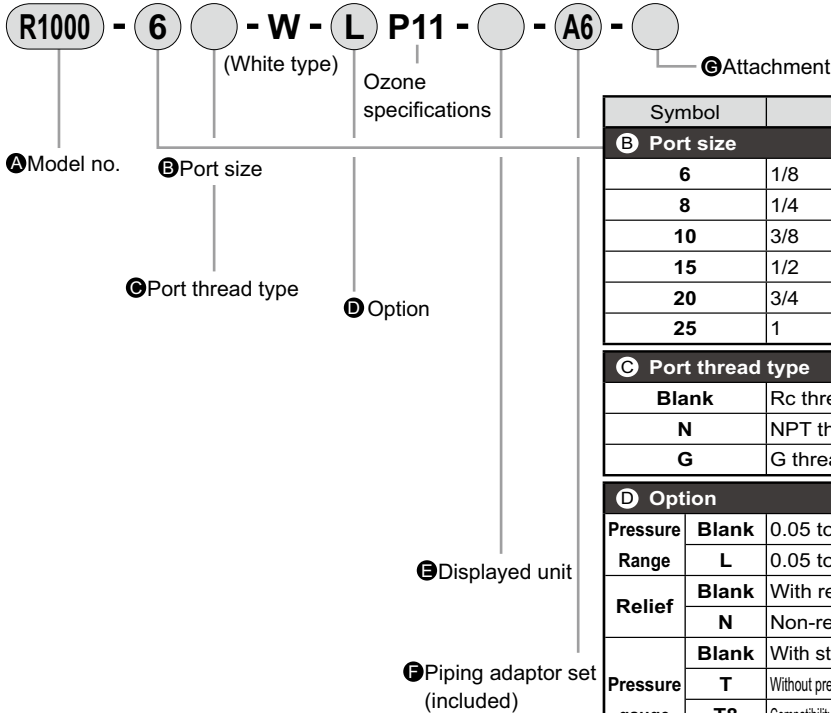
R1000 / R2000 / R3000 R4000 / R6000 / R8000-W-P11 Series

Fluorine rubber and hydrogenated nitrile rubber, etc., used for rubber part materials.

Port size: Rc1/8 to Rc1



How to order



| A Model no. | | | | | |
|-------------|---|---|---|---|---|
| R | R | R | R | R | R |
| 1 | 2 | 3 | 4 | 6 | 8 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |

| Symbol | Descriptions | | | | | | |
|---|---|--|---|---|---|---|---|
| B Port size | | | | | | | |
| 6 | 1/8 | ● | | | | | |
| 8 | 1/4 | ● | ● | ● | ● | | |
| 10 | 3/8 | | ● | ● | ● | | |
| 15 | 1/2 | | | | ● | | |
| 20 | 3/4 | | | | | ● | ● |
| 25 | 1 | | | | | ● | ● |
| C Port thread type Note 2 | | | | | | | |
| Blank | Rc thread | ● | ● | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● | ● | ● |
| D Option Note 3 | | | | | | | |
| Pressure Range | Blank | 0.05 to 0.85MPa | | | ● | ● | ● |
| | L | 0.05 to 0.35MPa Note 4 | | ● | ● | ● | ● |
| Relief | Blank | With relief mechanism | | ● | ● | ● | ● |
| | N | Non-relief type | | ● | ● | ● | ● |
| Pressure gauge | Blank | With standard pressure gauge (G401) | | ● | ● | ● | ● |
| | T | Without pressure gauge (gauge port assembled sealed) Note 5 | | ● | ● | ● | ● |
| | T8 | Compatibility with pressure gauge option (gauge port assembled open) | | ● | ● | ● | ● |
| | T6 | Compatibility with digital pressure sensor PPX Note 6 | | ● | ● | ● | ● |
| X1 | IN/OUT reverse flow (right to left) | | ● | ● | ● | ● | |
| E Displayed unit | | | | | | | |
| Blank | MPa display, Rc thread | | ● | ● | ● | ● | ● |
| J1 | MPa display, NPT, G thread | | ● | ● | ● | ● | ● |
| F Piping adaptor set (included) Note 7, 8 | | | | | | | |
| Blank | No attachments | | ● | ● | ● | ● | ● |
| A6*W | 1/8 piping adaptor set | | ● | | | | |
| A8*W | 1/4 piping adaptor set | | ● | ● | ● | ● | |
| A10*W | 3/8 piping adaptor set | | ● | ● | ● | ● | |
| A15*W | 1/2 piping adaptor set | | | ● | ● | ● | |
| A20*W | 3/4 piping adaptor set | | | | | ● | ● |
| A25*W | 1 piping adaptor set | | | | | | ● |
| A32*W | 1 1/4 piping adaptor set | | | | | | ● |
| * Adaptor thread type Note 9 | | | | | | | |
| Blank | Rc thread | | ● | ● | ● | ● | ● |
| N | NPT thread | | ● | ● | ● | ● | ● |
| G | G thread | | ● | ● | ● | ● | ● |
| G Attachment Note 10 | | | | | | | |
| Blank | No attachments | | ● | ● | ● | ● | ● |
| BW | C type bracket Note 11 | | ● | ● | ● | ● | ● |
| B3W | L type bracket | | ● | ● | ● | ● | |
| B4W | B type bracket | | | ● | | | |
| G45P | Pressure gauge: G45D-8-P10 | | ● | ● | ● | ● | ● |
| G49P | Pressure gauge: G49D-8-P10 | | ● | ● | ● | ● | ● |
| G59P | Pressure gauge: G59D-8-P10 | | ● | ● | ● | ● | ● |
| G40P | Pressure gauge: G40D-8-P10 | | ● | ● | ● | ● | ● |
| G50P | Pressure gauge: G50D-8-P10 | | ● | ● | ● | ● | ● |
| G41P | Pressure gauge: G41D-8-P10 | | ● | ● | ● | ● | ● |
| R2 Note 5 | Digital pressure sensor: PPX-R10N-6M | | ● | ● | ● | ● | ● |

⚠ Cautions for model No. selection

- Note 1: Refer to page 113 to 114 for specifications for specifications and attachments.
- Note 2: G and NPT threads are available for IN, OUT, and gauge ports.
- Note 3: When selecting options for several items, list options in order from the top.
- Note 4: The low-pressure gauge (0 to 0.4 MPa) is used when "L" is selected for the pressure range option.
- Note 5: When "T" is selected, the gauge plug is assembled instead of the pressure gauge. Working temperature is 5 to 50°C.
- Note 6: When option "T6" is selected, only "blank" or "R2" is selected for the (H) pressure gauge (enclosed). The digital pressure sensor PPX mounting port (Rc1/8) is assembled ventilated.
- Note 7: A piping adaptor set A*00-**-W is included.
- Note 8: A joiner set is included with the piping adapter set.
- Note 9: If NPT is selected for the "C" piping thread type, a NPT pressure gauge is enclosed. If Rc or G thread is selected, an R thread pressure gauge is enclosed.
- Note 10: The adapter port size can be selected from Rc, NPT or G. Blank: Rc thread/N: NPT thread/G: G thread (e.g.) A8G
- Note 11: The piping adapter set and C bracket cannot be used together.

Dimensions

Same as standard parts. Refer to page 117 to 119.



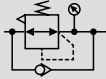
Reverse regulator: ozone proof

R1100/R2100/R3100 R4100/R6100/R8100-P11 Series

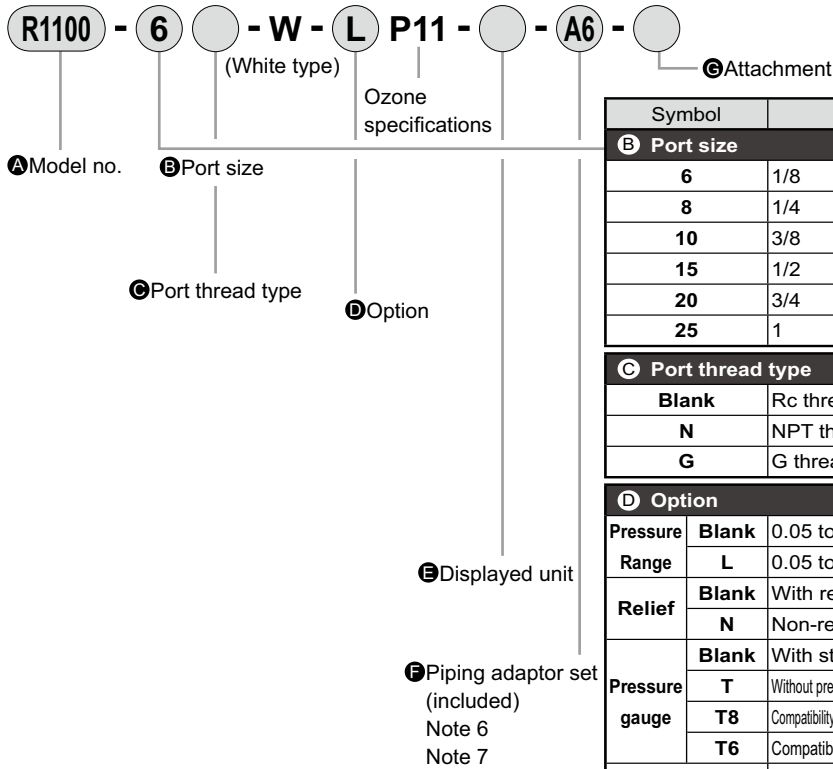
Fluorine rubber and hydrogenated nitrile rubber, etc., used for rubber part materials.

Port size: Rc1/8 to Rc1

JIS symbol



How to order



| A Model no. | | | | | |
|-------------|-------|-------|-------|-------|-------|
| R1100 | R2100 | R3100 | R4100 | R6100 | R8100 |

| Symbol | Descriptions | | | | | | |
|--|--------------------------------------|--|---|---|---|---|---|
| B Port size | | | | | | | |
| 6 | 1/8 | ● | | | | | |
| 8 | 1/4 | ● | ● | ● | ● | | |
| 10 | 3/8 | | ● | ● | ● | | |
| 15 | 1/2 | | | | ● | | |
| 20 | 3/4 | | | | | ● | ● |
| 25 | 1 | | | | | ● | ● |
| C Port thread type | | Note 2 | | | | | |
| Blank | Rc thread | ● | ● | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● | ● | ● |
| D Option | | Note 3, 4 | | | | | |
| Pressure Range | Blank | 0.05 to 0.85MPa | | ● | ● | ● | ● |
| | L | 0.05 to 0.35MPa Note 5 | | ● | ● | ● | ● |
| Relief | Blank | With relief mechanism | | ● | ● | ● | ● |
| | N | Non-relief type | | ● | ● | ● | ● |
| Pressure gauge | Blank | With standard pressure gauge (G401) | | ● | ● | ● | ● |
| | T | Without pressure gauge (gauge port assembled sealed) Note 6 | | ● | ● | ● | ● |
| | T8 | Compatibility with pressure gauge option (gauge port assembled open) | | ● | ● | ● | ● |
| | T6 | Compatibility with digital pressure sensor PPX Note 7 | | ● | ● | ● | ● |
| X1 | IN/OUT reverse flow (right to left) | | ● | ● | ● | ● | |
| E Displayed unit | | | | | | | |
| Blank | MPa display, Rc thread | ● | ● | ● | ● | ● | ● |
| J1 | MPa display, NPT, G thread | ● | ● | ● | ● | ● | ● |
| F Piping adaptor set (included) | | Note 8, 9 | | | | | |
| Blank | No attachments | ● | ● | ● | ● | ● | ● |
| A6*W | 1/8 piping adaptor set | ● | | | | | |
| A8*W | 1/4 piping adaptor set | ● | ● | ● | ● | | |
| A10*W | 3/8 piping adaptor set | ● | ● | ● | ● | | |
| A15*W | 1/2 piping adaptor set | | ● | ● | ● | | |
| A20*W | 3/4 piping adaptor set | | | | ● | ● | ● |
| A25*W | 1 piping adaptor set | | | | | ● | ● |
| A32*W | 1 1/4 piping adaptor set | | | | | ● | ● |
| * Adaptor thread type | | Note 10 | | | | | |
| Blank | Rc thread | ● | ● | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● | ● | ● |
| G Attachment | | Note 11 | | | | | |
| Blank | No attachments | ● | ● | ● | ● | ● | ● |
| BW | C type bracket Note 12 | | | ● | ● | | |
| B3W | L type bracket | | | ● | ● | | |
| B4W | B type bracket | | ● | | | | |
| G45P | Pressure gauge: G45D-8-P10 | ● | ● | ● | ● | ● | ● |
| G49P | Pressure gauge: G49D-8-P10 | ● | ● | ● | ● | ● | ● |
| G59P | Pressure gauge: G59D-8-P10 | ● | ● | ● | ● | ● | ● |
| G40P | Pressure gauge: G40D-8-P10 | ● | ● | ● | ● | ● | ● |
| G50P | Pressure gauge: G50D-8-P10 | ● | ● | ● | ● | ● | ● |
| G41P | Pressure gauge: G41D-8-P10 | ● | ● | ● | ● | ● | ● |
| R2 Note 7 | Digital pressure sensor: PPX-R10N-6M | ● | ● | ● | ● | ● | ● |

⚠ Cautions for model No. selection

- Note 1: Refer to page 121 to 122 for specifications for specifications and attachments.
- Note 2: G and NPT threads are available for IN, OUT, and gauge ports.
- Note 3: When selecting options for several items, list options in order from the top.
- Note 4: Position of the check valve and pressure gauge can not be changed. If the reverse direction of IN and OUT are required, indicate "X1" in the end of optional section.
- Note 5: The low-pressure gauge (0 to 0.4 MPa) is used when "L" is selected for the pressure range option.
- Note 6: When "T" is selected, the gauge plug is assembled instead of the pressure gauge.
- Note 7: When option "T6" is selected, only "blank" or "R2" is selected for the (H) pressure gauge (enclosed). The digital pressure sensor PPX mounting port (Rc1/8) is assembled ventilated.
- Note 8: Piping adaptor set A*00-**-W is included.
- Note 9: A joiner set is included with the piping adaptor set.
- Note 10: The adapter port size can be selected from Rc, NPT or G. Blank: Rc thread/N: NPT thread/G: G thread (e.g.) A8G
- Note 11: If NPT is selected for the "C" piping thread type, a NPT pressure gauge is enclosed. If Rc or G thread is selected, an R thread pressure gauge is enclosed.
- Note 12: The piping adapter set and C bracket cannot be used together.

Dimensions

Same as standard parts. Refer to page 125 to 127.

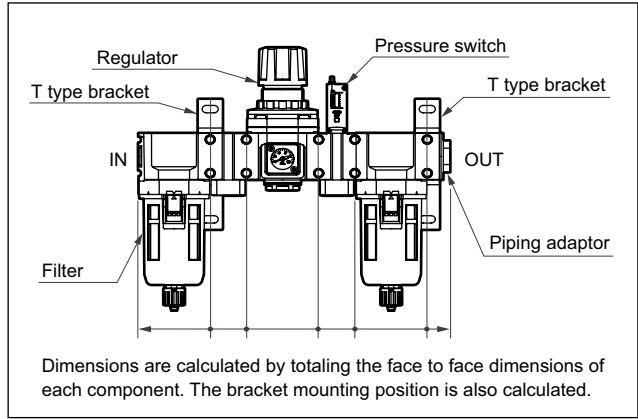
Custom combination specifications

General Description

Customized combinations are customer-oriented combinations that meet user needs for diverse combinations. Place orders by filling out the specifications below.

Preparing custom combination specifications

- See individual pages for component ordering and details, etc.
- 3000 and 4000 Series combinations are used for products other than the pressure switch. Refer to specifications for C4000 in this case.



C3000 Series custom combination specifications

Contact _____ Quantity _____ sets
 Slip no. _____ Request date _____

Issue date _____
 Your company name _____
 Contact _____
 Purchase order no. _____

● Model no. **C3000-UN-** -

CKD Sales will have the factory check the specifications, and fill the number in if it passes.

Designate the direction of compressed air flow as seen from the front. Leave blank when selecting "blank".

| Flow direction | |
|----------------|------------|
| Blank | Left→Right |
| X1 | Right→Left |

Technical confirmation no. _____

★ For products with an asterisk (*), indicate up/down. Indicate up or down for the regulator's knob direction, and the port up/down for other components.

Indicate the installation position in order from left to right as seen from the front.

Only one piping adaptor is included. Indicate required fields for more.

| Part name: | Face to face dimensions | Model no. | Direction | Mounting position | | | | | | Field for Engineers | |
|------------------------|-------------------------|-----------------|-----------|-------------------|--|--|--|--|--|---------------------|--|
| Piping adaptor | 20 | A400-UN-10-W | | | | | | | | | |
| Air filter | 63 | F3000-8-W | | | | | | | | | |
| Filter-regulator | 63 | W3000-W | | | | | | | | | |
| | | W3100-W | | | | | | | | | |
| Regulator* | 63 | R3000-8-W | Up | | | | | | | | |
| | | R3100-W | | | | | | | | | |
| Oil mist filter | 63 | M3000-8-W | | | | | | | | | |
| Lubricator | 63 | L3000-W | | | | | | | | | |
| Distributor* | 31.5 | D401-UN-00-8-W | Down | | | | | | | | |
| Distributor | 42 | D300-W | | | | | | | | | |
| Pressure switch | 31.5 | P4100-UN-8-W | | | | | | | | | |
| | | P4000-W | | | | | | | | | |
| Shut-off valve | 63 | V3000-W | | | | | | | | | |
| L type piping adaptor* | 31.5 | A401-UN-W | | | | | | | | | |
| T type bracket set | *1 | B310-UN-W | | | | | | | | | |
| Joiner set | | C4000-J400-UN-W | | | | | | | | | |

Sample for completing form for above product.

Use this field when using products with different options and port sizes, etc.

*1: The distance from the pipe center to the mounting surface is 45mm.

Cautions

"UN" in the model no. indicate that it is a discrete part that does not include 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.

CKD Sales will have the factory check the specifications, and fill the number in if it passes.

Technical confirmation no. _____

| Approval | Inspector | Contact |
|----------|-----------|---------|
| | | |

Field for confirmation stamp by CKD.

Engineer Comment Field

| | | |
|--|--|--|
| | | |
|--|--|--|

C1000 Series custom combination specifications

Contact _____
Slip no. _____

Quantity _____ sets
Request date _____

Issue date _____
Your company name _____
Contact _____
Purchase order no. _____

● Model no. **C1000-UN-** -

| Flow direction | | Technical confirmation no. |
|----------------|------------|----------------------------|
| Blank | Left→Right | |
| X1 | Right→Left | |

★ For products with an asterisk (*), indicate up/down.

Indicate up or down for the regulator's knob direction, and the port up/down for other components.

Indicate the installation position in order from left to right as seen from the front.

| Part name: | Face to face dimensions | Model no. | Direction | Mounting position | | | | | | | | Field for Engineers | |
|------------------------|-------------------------|-----------------|-----------|-------------------|--|--|--|--|--|--|--|---------------------|--|
| Piping adaptor | 21.5 | A100-UN- -W | | | | | | | | | | | |
| Air filter | 40 | F1000- -W | | | | | | | | | | | |
| Filter-regulator | 40 | W1000- -W | | | | | | | | | | | |
| | | W1100- -W | | | | | | | | | | | |
| Regulator* | 40 | R1000- -W | | | | | | | | | | | |
| | | R1100- -W | | | | | | | | | | | |
| Oil mist filter | 40 | M1000- -W | | | | | | | | | | | |
| Lubricator | 40 | L1000- -W | | | | | | | | | | | |
| Distributor* | 28 | D101-UN-00- -W | | | | | | | | | | | |
| Pressure switch | 28 | P1100-UN- -W | | | | | | | | | | | |
| Shut-off valve | 40 | V1000- -W | | | | | | | | | | | |
| L type piping adapter* | 28 | A101-UN- -W | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| T type bracket set | *1 | B110-UN-W | | | | | | | | | | | |
| Joiner set | | C1000-J100-UN-W | | | | | | | | | | | |

Cautions

"UN" in the model no. indicate that it is a discrete part that does not include 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.

When selecting the pressure switch P*100-UN-W for the combination end, select the piping adaptor A*00-UN-W on the end side. (The horizontal direction port does not have threads)

*1: The distance from the pipe center to the mounting surface is 40mm.

Technical confirmation no. _____

| Approval | Inspector | Contact |
|----------|-----------|---------|
| | | |

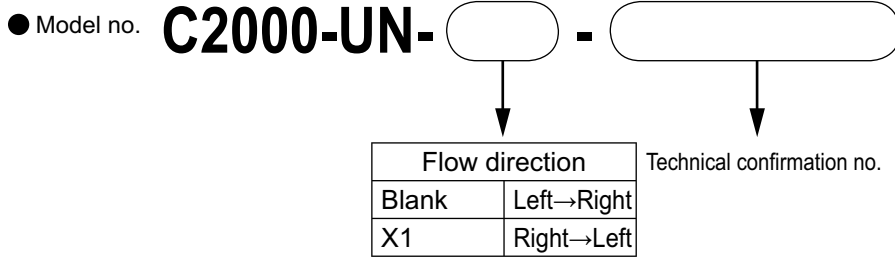
| Engineer Comment Field | | |
|------------------------|--|--|
| | | |

C2000 Series custom combination specifications

Contact _____
Slip no. _____

Quantity _____ sets
Request date _____

Issue date _____
Your company name _____
Contact _____
Purchase order no. _____



★ For products with an asterisk (*), indicate up/down.

Indicate up or down for the regulator's knob direction, and the port up/down for other components.

Indicate the installation position in order from left to right as seen from the front.

| Part name: | Face to face dimensions | Model no. | Direction | Mounting position | | | | | | | | Field for Engineers |
|------------------------|-------------------------|-----------------|-----------|-------------------|---|---|---|---|---|---|---|---------------------|
| | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | |
| Piping adaptor | 20 | A400-UN- -W | | | | | | | | | | |
| Air filter | 50 | F2000- -W | | | | | | | | | | |
| | 63 | F3000- -W | | | | | | | | | | |
| Filter-regulator | 50 | W2000- -W | | | | | | | | | | |
| | | W2100- -W | | | | | | | | | | |
| Regulator* | 50 | R2000- -W | | | | | | | | | | |
| | | R2100- -W | | | | | | | | | | |
| Oil mist filter | 50 | M2000- -W | | | | | | | | | | |
| | 63 | M3000- -W | | | | | | | | | | |
| Lubricator | 63 | L3000- -W | | | | | | | | | | |
| Distributor* | 31.5 | D401-UN-00- -W | | | | | | | | | | |
| Distributor | 42 | D300- -W | | | | | | | | | | |
| Pressure switch | 31.5 | P4100-UN- -W | | | | | | | | | | |
| | 80 | P4000- -W | | | | | | | | | | |
| Shut-off valve | 63 | V3000- -W | | | | | | | | | | |
| L type piping adapter* | 31.5 | A401-UN- -W | | | | | | | | | | |
| | | | | | | | | | | | | |
| T type bracket set | *1 | B310-UN-W | | | | | | | | | | |
| Joiner set | | C4000-J400-UN-W | | | | | | | | | | |

Cautions

"UN" in the model no. indicate that it is a discrete part that does not include 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.

When selecting the pressure switch P*100-UN-W for the combination end, select the piping adaptor A*00-UN-W on the end side. (The horizontal direction 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 the pipe center to the mounting surface is 45mm.

Technical confirmation no. _____

| Approval | Inspector | Contact |
|----------|-----------|---------|
| | | |

| Engineer Comment Field | | |
|------------------------|--|--|
| | | |

C2000 Series custom combination specifications

Contact _____
Slip no. _____

Quantity _____ sets
Request date _____

Issue date _____
Your company name _____
Contact _____
Purchase order no. _____

● Model no. **C2500-UN-** -

| Flow direction | | Technical confirmation no. |
|----------------|------------|----------------------------|
| Blank | Left→Right | |
| X1 | Right→Left | |

★ For products with an asterisk (*), indicate up/down.

Indicate up or down for the regulator's knob direction, and the port up/down for other components.

Indicate the installation position in order from left to right as seen from the front.

| Part name: | Face to face dimensions | Model no. | Direction | Mounting position | | | | | | | | Field for Engineers | |
|------------------------|-------------------------|-----------------|-----------|-------------------|--|--|--|--|--|--|--|---------------------|--|
| Piping adaptor | 20 | A400-UN- -W | | | | | | | | | | | |
| Air filter | 63 | F3000- -W | | | | | | | | | | | |
| Filter-regulator | 63 | W3000- -W | | | | | | | | | | | |
| | | W3100- -W | | | | | | | | | | | |
| Regulator* | 50 | R2000- -W | | | | | | | | | | | |
| | | R2100- -W | | | | | | | | | | | |
| Oil mist filter | 63 | M3000- -W | | | | | | | | | | | |
| Lubricator | 63 | L3000- -W | | | | | | | | | | | |
| Distributor* | 31.5 | D401-UN-00- -W | | | | | | | | | | | |
| Distributor | 42 | D300- -W | | | | | | | | | | | |
| Pressure switch | 31.5 | P4100-UN- -W | | | | | | | | | | | |
| | 80 | P4000- -W | | | | | | | | | | | |
| Shut-off valve | 63 | V3000- -W | | | | | | | | | | | |
| L type piping adapter* | 31.5 | A401-UN- -W | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| T type bracket set | *1 | B310-UN-W | | | | | | | | | | | |
| Joiner set | | C4000-J400-UN-W | | | | | | | | | | | |

Cautions

"UN" in the model no. indicate that it is a discrete part that does not include 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.

When selecting the pressure switch P*100-UN-W for the combination end, select the piping adaptor A*00-UN-W on the end side. (The horizontal direction port does not have threads)

*1: The distance from the pipe center to the mounting surface is 45mm.

Technical confirmation no. _____

| Approval | Inspector | Contact |
|----------|-----------|---------|
| | | |

| Engineer Comment Field | | |
|------------------------|--|--|
| | | |

C3000 Series custom combination specifications

Contact _____
Slip no. _____

Quantity _____ sets
Request date _____

Issue date _____
Your company name _____
Contact _____
Purchase order no. _____

● Model no. **C3000-UN-** -

| Flow direction | | Technical confirmation no. |
|----------------|------------|----------------------------|
| Blank | Left→Right | |
| X1 | Right→Left | |

★ For products with an asterisk (*), indicate up/down.

Indicate up or down for the regulator's knob direction, and the port up/down for other components.

Indicate the installation position in order from left to right as seen from the front.

| Part name: | Face to face dimensions | Model no. | Direction | Mounting position | | | | | | | | Field for Engineers |
|------------------------|-------------------------|-----------------|-----------|-------------------|--|--|--|--|--|--|--|---------------------|
| | | | | | | | | | | | | |
| Piping adaptor | 20 | A400-UN- -W | | | | | | | | | | |
| Air filter | 63 | F3000- -W | | | | | | | | | | |
| Filter-regulator | 63 | W3000- -W | | | | | | | | | | |
| | | W3100- -W | | | | | | | | | | |
| Regulator* | 63 | R3000- -W | | | | | | | | | | |
| | | R3100- -W | | | | | | | | | | |
| Oil mist filter | 63 | M3000- -W | | | | | | | | | | |
| Lubricator | 63 | L3000- -W | | | | | | | | | | |
| Distributor* | 31.5 | D401-UN-00- -W | | | | | | | | | | |
| Distributor | 42 | D300- -W | | | | | | | | | | |
| Pressure switch | 31.5 | P4100-UN- -W | | | | | | | | | | |
| | 80 | P4000- -W | | | | | | | | | | |
| Shut-off valve | 63 | V3000- -W | | | | | | | | | | |
| L type piping adapter* | 31.5 | A401-UN- -W | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| T type bracket set | *1 | B310-UN-W | | | | | | | | | | |
| Joiner set | | C4000-J400-UN-W | | | | | | | | | | |

Cautions

"UN" in the model no. indicate that it is a discrete part that does not include 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.

When selecting the pressure switch P*100-UN-W for the combination end, select the piping adaptor A*00-UN-W on the end side. (The horizontal direction port does not have threads)

*1: The distance from the pipe center to the mounting surface is 45mm.

Technical confirmation no. _____

| Approval | Inspector | Contact |
|----------|-----------|---------|
| | | |

| Engineer Comment Field | | |
|------------------------|--|--|
| | | |

C4000 Series custom combination specifications

Contact _____
Slip no. _____

Quantity _____ sets
Request date _____

Issue date _____
Your company name _____
Contact _____
Purchase order no. _____

● Model no. **C4000-UN-** -

*1: Port size 8, 10, 15 are 20mm, 20 is 25mm.
*2: The distance from the pipe center to the mounting surface is 55 mm.

| Flow direction | |
|----------------|------------|
| Blank | Left→Right |
| X1 | Right→Left |

Technical confirmation no. _____

★ For products with an asterisk (*), indicate up/down.

Indicate up or down for the regulator's knob direction, and the port up/down for other components.

Indicate the installation position in order from left to right as seen from the front.

| Part name: | Face to face dimensions | Model no. | Direction | Mounting position | | | | | | | | | | Field for Engineers | | | |
|------------------------|-------------------------|-----------------|-----------|-------------------|--|--|--|--|--|--|--|--|--|---------------------|--|--|--|
| Piping adaptor | *1 | A400-UN- -W | | | | | | | | | | | | | | | |
| Air filter | 63 | F3000- -W | | | | | | | | | | | | | | | |
| | 80 | F4000- -W | | | | | | | | | | | | | | | |
| Filter-regulator | 63 | W3000- -W | | | | | | | | | | | | | | | |
| | | W3100- -W | | | | | | | | | | | | | | | |
| | 80 | W4000- -W | | | | | | | | | | | | | | | |
| | | W4100- -W | | | | | | | | | | | | | | | |
| Regulator* | 63 | R3000- -W | | | | | | | | | | | | | | | |
| | | R3100- -W | | | | | | | | | | | | | | | |
| | 80 | R4000- -W | | | | | | | | | | | | | | | |
| | | R4100- -W | | | | | | | | | | | | | | | |
| Oil mist filter | 63 | M3000- -W | | | | | | | | | | | | | | | |
| | 80 | M4000- -W | | | | | | | | | | | | | | | |
| Lubricator | 63 | L3000- -W | | | | | | | | | | | | | | | |
| | 80 | L4000- -W | | | | | | | | | | | | | | | |
| Distributor* | 31.5 | D401-UN-00- -W | | | | | | | | | | | | | | | |
| Distributor | 42 | D300- -W | | | | | | | | | | | | | | | |
| Pressure switch | 31.5 | P4100-UN- -W | | | | | | | | | | | | | | | |
| | 80 | P4000- -W | | | | | | | | | | | | | | | |
| Shut-off valve | 63 | V3000- -W | | | | | | | | | | | | | | | |
| L type piping adapter* | 31.5 | A401-UN- -W | | | | | | | | | | | | | | | |
| T type bracket set | *2 | B410-UN-W | | | | | | | | | | | | | | | |
| Joiner set | | C4000-J400-UN-W | | | | | | | | | | | | | | | |

Cautions

"UN" in the model no. indicate that it is a discrete part that does not include 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.

When selecting the pressure switch P*100-UN-W for the combination end, select the piping adaptor A*00-UN-W on the end side. (The horizontal direction port does not have threads)

Technical confirmation no. _____

| Approval | Inspector | Contact |
|----------|-----------|---------|
| | | |

| Engineer Comment Field | | |
|------------------------|--|--|
| | | |

C6000 Series custom combination specifications

Contact _____
Slip no. _____

Quantity _____ sets
Request date _____

Issue date _____
Your company name _____
Contact _____
Purchase order no. _____

● Model no. **C6000-UN-** -

| Flow direction | | Technical confirmation no. |
|----------------|------------|----------------------------|
| Blank | Left→Right | |
| X1 | Right→Left | |
| | | |

★ For products with an asterisk (*), indicate up/down.
Indicate up or down for the regulator's knob direction, and the port up/down for other components.

Indicate the installation position in order from left to right as seen from the front.

| Part name: | Face to face dimensions | Model no. | Direction | Mounting position | | | | | | | | Field for Engineers | |
|------------------------|-------------------------|-----------------|-----------|-------------------|--|--|--|--|--|--|--|---------------------|--|
| Piping adaptor | *1 | A800-UN- -W | | | | | | | | | | | |
| Air filter | 90 | F6000- -W | | | | | | | | | | | |
| | 100 | F8000- -W | | | | | | | | | | | |
| Filter-regulator | 100 | W8000- -W | | | | | | | | | | | |
| | | W8100- -W | | | | | | | | | | | |
| Regulator* | 90 | R6000- -W | | | | | | | | | | | |
| | | R6100- -W | | | | | | | | | | | |
| | 100 | R8000- -W | | | | | | | | | | | |
| | | R8100- -W | | | | | | | | | | | |
| Oil mist filter | 90 | M6000- -W | | | | | | | | | | | |
| | 100 | M8000- -W | | | | | | | | | | | |
| Lubricator | 100 | L8000- -W | | | | | | | | | | | |
| Distributor* | 50 | D801-UN-00- -W | | | | | | | | | | | |
| Pressure switch | 50 | P8100-UN- -W | | | | | | | | | | | |
| L type piping adapter* | 50 | A801-UN- -W | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| T type bracket set | *2 | B810-UN-W | | | | | | | | | | | |
| Joiner set | | C8000-J800-UN-W | | | | | | | | | | | |

Cautions

"UN" in the model no. indicate that it is a discrete part that does not include 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.

When selecting the pressure switch P*100-UN-W for the combination end, select the piping adaptor A*00-UN-W on the end side. (The horizontal direction port does not have threads)

*1: Port size 20, 25 are 35mm, 32is 38mm.
*2: The distance from the pipe center to the mounting surface is 65mm.

Technical confirmation no. _____

| Approval | Inspector | Contact |
|----------|-----------|---------|
| | | |

| Engineer Comment Field | | |
|------------------------|--|--|
| | | |

C8000 Series custom combination specifications

Contact _____
Slip no. _____

Quantity _____ sets
Request date _____

Issue date _____
Your company name _____
Contact _____
Purchase order no. _____

● Model no. **C8000-UN-** -

| Flow direction | | Technical confirmation no. |
|----------------|------------|----------------------------|
| Blank | Left→Right | |
| X1 | Right→Left | |

*1: Port size 8, 10, 15 are 35mm, 32 is 38mm.

*2: The distance from the pipe center to the mounting surface is 65mm.

★ For products with an asterisk (*), indicate up/down.

Indicate up or down for the regulator's knob direction, and the port up/down for other components.

Indicate the installation position in order from left to right as seen from the front.

| Part name: | Face to face dimensions | Model no. | Direction | Mounting position | | | | | | | | Field for Engineers | |
|------------------------|-------------------------|-----------------|-----------|-------------------|--|--|--|--|--|--|--|---------------------|--|
| Piping adaptor | *1 | A800-UN- -W | | | | | | | | | | | |
| Air filter | 100 | F8000- -W | | | | | | | | | | | |
| Filter-regulator | 100 | W8000- -W | | | | | | | | | | | |
| | | W8100- -W | | | | | | | | | | | |
| Regulator* | 100 | R8000- -W | | | | | | | | | | | |
| | | R8100- -W | | | | | | | | | | | |
| Oil mist filter | 100 | M8000- -W | | | | | | | | | | | |
| Lubricator | 100 | L8000- -W | | | | | | | | | | | |
| Distributor* | 50 | D801-UN-00- -W | | | | | | | | | | | |
| Pressure switch | 50 | P8100-UN- -W | | | | | | | | | | | |
| L type piping adapter* | 50 | A801-UN- -W | | | | | | | | | | | |
| T type bracket set | *2 | B810-UN-W | | | | | | | | | | | |
| Joiner set | | C8000-J800-UN-W | | | | | | | | | | | |

Cautions

"UN" in the model no. indicate that it is a discrete part that does not include 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.

When selecting the pressure switch P*100-UN-W for the combination end, select the piping adaptor A*00-UN-W on the end side. (The horizontal direction port does not have threads)

Technical confirmation no. _____

| Approval | Inspector | Contact |
|----------|-----------|---------|
| | | |

| Engineer Comment Field | | |
|------------------------|--|--|
| | | |

MEMO

Pressure gauge/indicator

Related products

■ Components for air preparation/F.R.L. unit



C O N T E N T S

Pressure gauge

- Pressure gauge assembly (G401-W) 199
- Pressure gauge with safety sign (G40D, G50D) 200
- Pressure gauge with limit mark (G45D) 201
- Pressure gauge with limit mark (G41D) 202
- General purpose pressure gauge (G49D, G59D) 203
- Pressure gauge for panel mount (G53D) 205
- Pressure gauge with switch (G52D) 207

Pressure switch

- Compact mechanical pressure switch (APS-W) 210

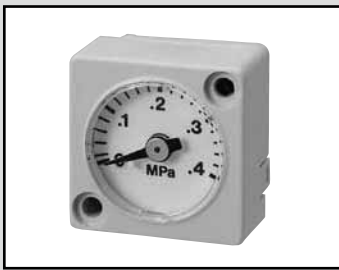
Drain discharger

- Automatic drain (DT3000-W, DT4000-W) 213

⚠ Handling the pressure gauge

Repeated and sudden increase and decrease in the pressure and pressure pulsation must be avoided because this could adversely affect the life of the pressure gauge. Either ease the pressure fluctuation in the circuit or check with CKD so that a pressure gauge with a cushioning screw is prepared.

- ⚠ Refer to "Pneumatics, Vacuum, Auxiliary Components Catalog" (No. CB-024SA) for general precautions for pneumatic components, refer to "⚠ Safety Precautions" in this catalog for detailed precautions for each series.



Thin pressure gauge

G401-W Series

Thin, compact design ideal for incorporating devices.

Suitable for filter regulator, regulator, and pressure switch (P4000-W).

● Connection: O ring seal, set screw

JIS symbol



Specifications

| Descriptions | | G401-W |
|---------------------------|---------|--------------------------|
| Working fluid | | Compressed air |
| Fluid temperature °C | | 5 to 60 |
| Ambient temperature °C | | 5 to 60 |
| Precision Class | | ±3%F.S. (at 5 to 35°C) |
| Shape | | Square shaped, set screw |
| Length of display section | | ø26 |
| Material | Housing | PBT Resin |
| | Lens | Polycarbonate resin |
| Pressure range MPa | | 0 to 0.4 |
| | | 0 to 1.0 |
| Connection | | O ring seal, set screw |
| Weight g | | 11 |

How to order

G401 - **W** - **0P** - **P04**

(Standard white series)

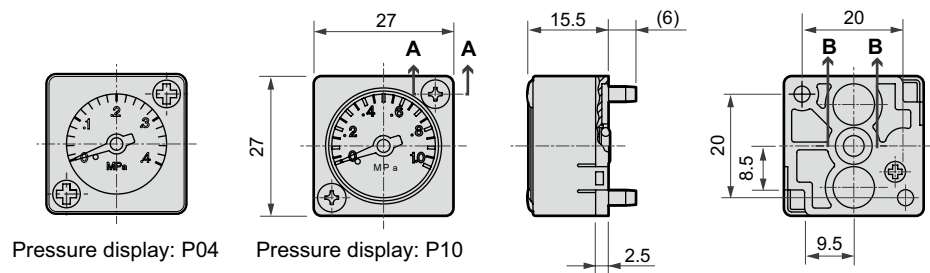
● **A** Connection

● **B** Pressure display

| Symbol | Descriptions |
|---------------------------------|---|
| A Connection | |
| Blank | Set screw for metal (nominal 3 tapping screw) (R3000, 4000, 8000 Series provided as standard) (R3100, 4100, 8100 Series provided as standard) |
| OP | Set screw for resin (nominal 3 tapping screw) (R1000, W1000 Series provided as standard) |
| B Pressure display [MPa] | |
| P04 | 0 to 0.4MPa |
| P10 | 0 to 1.0MPa |

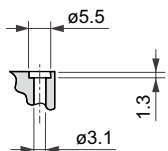
Dimensions and parts material

● G401



Pressure display: P04

Pressure display: P10



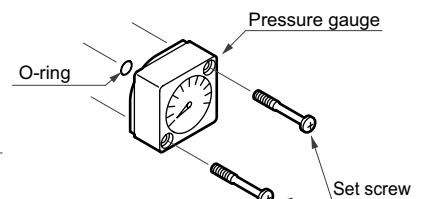
Cross section A-A



Cross section B-B

| Part name: | Material |
|--------------|---------------------|
| Bourdon tube | Phosphor bronze |
| Case | PBT Resin |
| Lens | Polycarbonate resin |

● Pressure gauge assembly



* Tighten the mounting screw to 0.6 N·m or less.

Applications





Pressure gauge with safety mark

G40D / G50D Series

Green zone and red zone for easy management.

● Port size: Rc1/8 to Rc1/4

JIS symbol



Specifications

| Descriptions | G40D, G50D | |
|-------------------------------|------------------------|-------------|
| | P10 | P04 |
| Working fluid | Compressed air | |
| Full scale MPa | 1 | 0.4 |
| Safety mark setting range MPa | 0.15 to 1.0 | 0.06 to 0.4 |
| Maximum setting range MPa | 0.45 | 0.18 |
| Ambient temperature °C | 5 to 60 | |
| Fluid temperature °C | 5 to 60 | |
| Port size R | 1/8, 1/4 | |
| Precision | ±3%F.S. (at 5 to 35°C) | |
| Weight g | G40D: 85 | G50D: 100 |

How to order

G40D - 8 - P10

A Model no.

B Port size

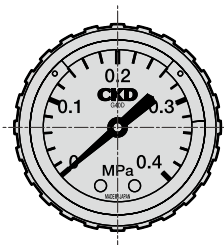
C Pressure display

| Symbol | Descriptions |
|---------------------------|---------------------------------|
| A Model no. | |
| G40D | Pressure gauge with safety mark |
| G50D | Pressure gauge with safety mark |
| B Port size | |
| 6 | R1/8 |
| 8 | R1/4 |
| C Pressure display | |
| P10 | For 0 to 1.0MPa |
| P04 | For 0 to 0.4MPa |

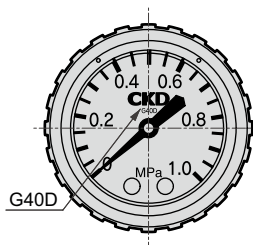
⚠ Cautions for model No. selection

- * Designate R1/4 when mounting on F.R.L. Series.
- * Designate G40D-8 when selecting for F.R.L. 1000 Series.

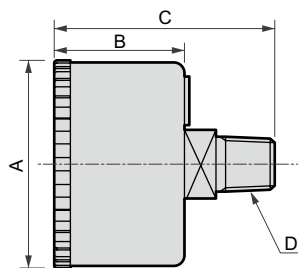
Dimensions and parts material



Pressure display: P04

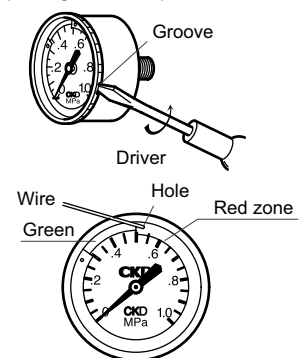


Pressure display: P10



How to adjust pressure range

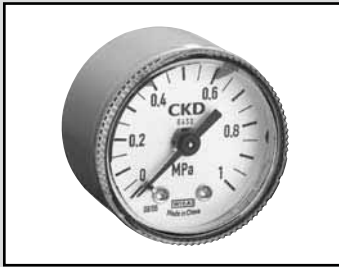
When opening the transparent case



| Part name: | Material |
|---------------------|-------------------|
| Bourdon tube, stock | Brass |
| Housing | Steel sheet+paint |
| Lens | Polyamide resin |
| Mark section | PBT Resin |

| Model no. | A | B | C | D |
|-----------|------|------|----|------|
| G40D-6 | ∅ | 26.5 | 44 | R1/8 |
| G40D-8 | 42.5 | 26.5 | 46 | R1/4 |
| G50D-6 | ∅ | 27.5 | 44 | R1/8 |
| G50D-8 | 52.5 | 27.5 | 46 | R1/4 |

Remove the transparent cover and insert a wire to the hole in red zone to move the red zone. After the adjustment, always supply compressed air after assembling the transparent cover.



Pressure gauge with limit mark

G45D Series

Easy visual inspection with green arrow.

● Port size: Rc1/8 to Rc1/4

JIS symbol



Specifications

| Descriptions | | G45D |
|---------------------------|--------------|----------------------------------|
| Working fluid | | Compressed air |
| Fluid temperature | °C | 5 to 60 |
| Ambient temperature | °C | 5 to 60 |
| Precision | Note 1 | JIS Class 2.5 equivalent |
| Shape | | Back side thread |
| Length of display section | | ø39 |
| Material | Stud | Brass |
| | Housing | Steel sheet+paint (white) |
| | Lens | Polyamide resin |
| | Mark section | Polyacetal resin |
| Pressure range | MPa | 0 to 0.2 0 to 0.4 0 to 1.0 |
| Port size | | R1/8, 1/4 |
| Weight | g | 74 |

Note 1: The guaranteed display accuracy temperature is 20 ± 15°C.

How to order

G45D - 6 - P04

A Model no.

B Port size

C Pressure display

⚠ Cautions for model No. selection

Note 1: NPT thread and G tread are custom orders.

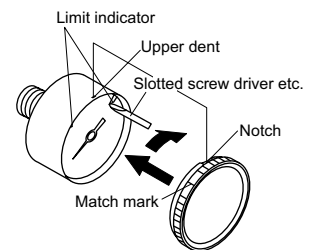
| Symbol | Descriptions |
|---------------------------|--------------------------------|
| A Model no. | |
| G41D | Pressure gauge with limit mark |
| B Port size Note 1 | |
| 6 | R1/8 |
| 8 | R1/4 |
| C Pressure display | |
| P02 | 0 to 0.2MPa |
| P04 | 0 to 0.4MPa |
| P10 | 0 to 1.0MPa |

How to adjust

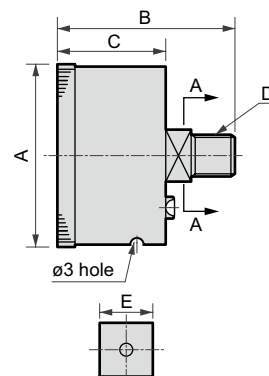
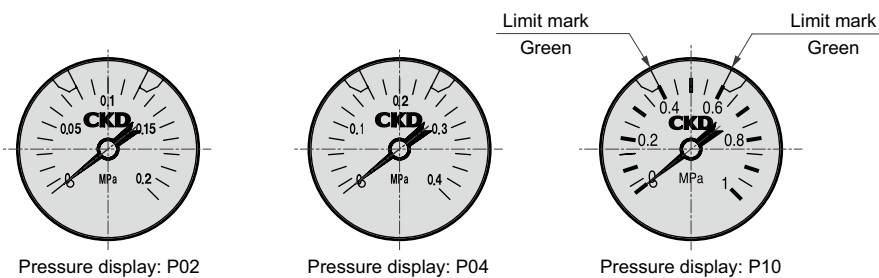
Turn the clear case counterclockwise and pull forward.

Move the green arrow with a slotted driver to set the limit mark. After the adjustment, always supply compressed air after assembling the transparent cover.

Do not bend other indicators and scale when setting the limit mark.



Dimensions



Cross section A-A

| Model no. | A | B | C | D | E |
|-----------|-----|------|----|------|----|
| G45D-6 | ø39 | 41.5 | 26 | R1/8 | 14 |
| G45D-8 | ø39 | 44.5 | 26 | R1/4 | 14 |



Pressure gauge with limit mark

G41D Series

Easy visual inspection with green arrow.

● Port size: Rc1/8 to Rc1/4

JIS symbol



Specifications

| Descriptions | | G41D |
|---------------------------------------|--------------|------------------------|
| Working fluid | | Compressed air |
| Fluid temperature °C | | 5 to 60 |
| Ambient temperature °C | | 5 to 60 |
| Precision Note 1 Class | | ±3%F.S. (at 5 to 35°C) |
| Shape | | Back side thread |
| Length of display section | | ø42 |
| Material | Stud | Brass |
| | Housing | Stainless steel |
| | Lens | Polycarbonate resin |
| | Mark section | Polyacetal resin |
| Pressure range MPa (setting range) | | 0 to 0.2 |
| | | 0 to 0.4 |
| | | 0 to 1.0 |
| Port size Note 1 | | R1/8, 1/4 |
| Weight | g | 82 |

Note 1: The guaranteed display accuracy temperature is 20 ± 15°C.

How to order

G41D - 6 - P04

A Model no.

B Port size

C Pressure display

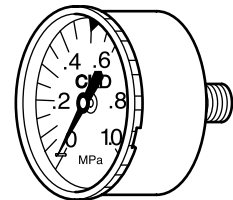
| Symbol | Descriptions |
|---------------------------|--------------------------------|
| A Model no. | |
| G41D | Pressure gauge with limit mark |
| B Port size Note 1 | |
| 6 | R1/8 |
| 8 | R1/4 |
| C Pressure display | |
| P02 | 0 to 0.2MPa |
| P04 | 0 to 0.4MPa |
| P10 | 0 to 1.0MPa |

⚠ Cautions for model No. selection

Note 1: NPT thread and G thread are custom orders.

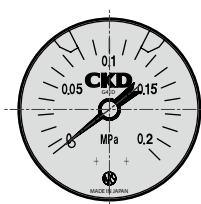
How to adjust

Remove the transparent cover, then move the green arrow with a screw driver, etc.
After the adjustment, always supply compressed air after assembling the transparent cover.



Remove the transparent cover by turning it counterclockwise and pulling it off.

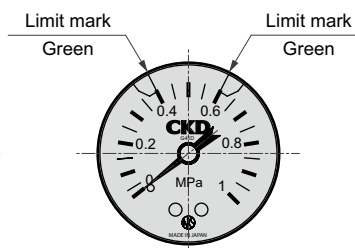
Dimensions



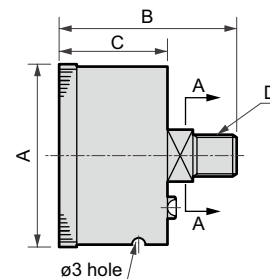
Pressure display: P02



Pressure display: P04



Pressure display: P10



| Model no. | A | B | C | D | E |
|-----------|-----|------|------|------|----|
| G41D-6 | ø42 | 40.5 | 24.5 | R1/8 | 12 |
| G41D-8 | ø42 | 44.5 | 24.5 | R1/4 | 14 |



Cross section A-A



General purpose pressure gauge

G49D / G59D Series

● Port size: Rc1/8 to Rc1/4

JIS symbol



Specifications

| Descriptions | G49D | G59D |
|---------------------------|--|----------------------------|
| Working fluid | Compressed air | |
| Fluid temperature °C | 5 to 60 | |
| Ambient temperature °C | 5 to 60 | |
| Precision Note 1 | ±3%F.S. (at 5 to 35°C) | |
| Shape | Back side thread | |
| Length of display section | ø42 | ø52 |
| Material | Stud | Brass Note 2 |
| | Housing | Steel sheet+chrome plating |
| | Lens | Glass |
| Pressure range MPa | 0 to 0.2 0 to 0.4 0 to 1.0 0 to 2.0 | |
| Port size R | 1/8, 1/4 | |
| Weight g | 86 | 115 |

Clean specification (Catalog No. CB-033SA)

● Dust generation preventing structure for use in cleanrooms

G49D - - **P9**※

G59D - - **P9**※

Copper and PTFE free specification (Page 179)

G49D - - **P6**

G59D - - **P6**

Note 1: The guaranteed display accuracy temperature is 20 ± 15°C.

Note 2: The material of the Bourdon's tube is phosphor bronze only for pressure indication "P20."

How to order

G49D - **6** - **P02**

A Model no.

B Port size

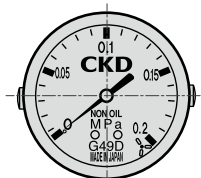
C Pressure display

| Symbol | Descriptions |
|--|--|
| A Model no. | G49D G59D |
| B Port size Note 2 | 6 R1/8 8 R1/4 |
| C Pressure display (MPa) Note 1 | P02 0 to 0.2 P04 0 to 0.4 P10 0 to 1.0 P20 0 to 2.0 |

⚠ Cautions for model No. selection

Note 1: Consult with CKD for indications other than MPa.
Note 2: NPT thread are custom orders.

Dimensions



Pressure display: P02



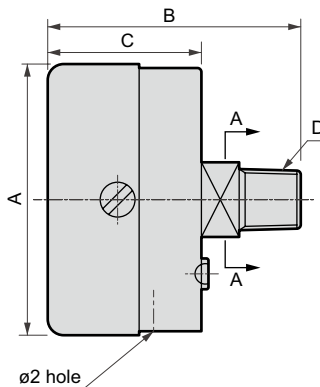
Pressure display: P04



Pressure display: P10



Pressure display: P20



Cross section A-A

| Model no. | A | B | C | D | E |
|-----------|-------|------|------|------|----|
| G49D-6 | ø43.5 | 40.5 | 24.5 | R1/8 | 12 |
| G49D-8 | ø43.5 | 44 | 24.5 | R1/4 | 14 |
| G59D-6 | ø52 | 44.5 | 28 | R1/8 | 12 |
| G59D-8 | ø52 | 46.5 | 28 | R1/4 | 14 |
| G49D-6-P6 | ø42.8 | 43.5 | 27.5 | R1/8 | 12 |
| G59D-8-P6 | ø51.8 | 52.5 | 30 | R1/4 | 14 |

MEMO



Pressure gauge for panel mount

G53D Series

JIS symbol



Main features

- Pressure gauge for panel mount
- M3 female thred port provided as standard

Specifications

| Model no. | | G53D |
|---------------------------|---------|--|
| Working fluid | | Compressed air |
| Fluid temperature | °C | 5 to 60 |
| Ambient temperature | °C | -5 to 60 (to be unfrozen) |
| Precision | Note 1 | ±3% F.S. (at 5 to 35°C) |
| Shape | | Back side thread |
| Length of display section | | ø52 |
| Material | Stud | Brass |
| | Housing | Steel sheet+chrome plating |
| | Lens | Glass |
| Pressure range | MPa | 0 to 0.2 0 to 0.4 0 to 1.0 |
| Port size | R | 1/8 (with M5 female thread), 1/4 (with M5 female thread) |
| Weight | g | 100 |

Note 1: The guaranteed display accuracy temperature is 20 ± 15°C.

How to order

G53D - 8 - P02

Model no.

A Port size

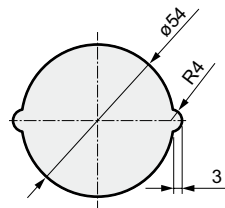
B Pressure display

| Symbol | Descriptions |
|--------------------------------------|-------------------------|
| A Port size Note 1 | |
| 6 | Rc1/8, M5 female thread |
| 8 | Rc1/4, M5 female thread |
| B Pressure display MPa Note 2 | |
| P02 | 0 to 0.2 |
| P04 | 0 to 0.4 |
| P10 | 0 to 1.0 |

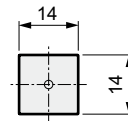
⚠ Cautions for model No. selection

Note 1: Consult with CKD when ordering NPT thread.
 Note 2: Consult with CKD for indications other than MPa.

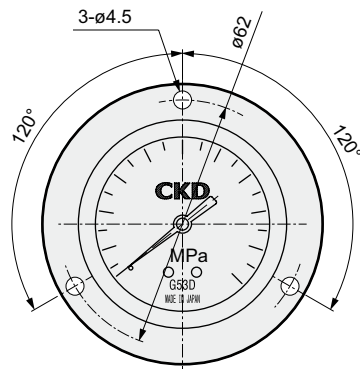
Dimensions



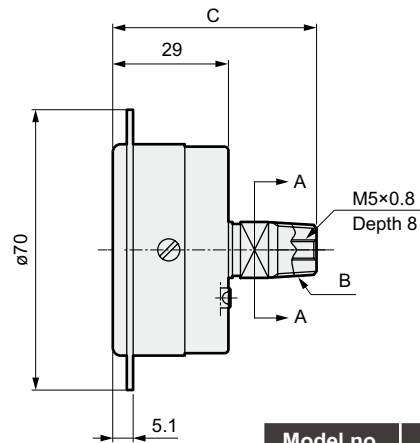
Panel cut dimensions



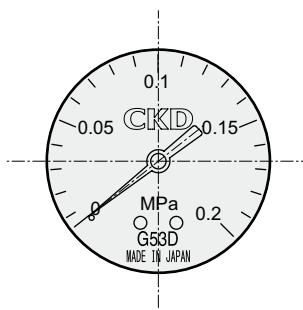
Cross section A-A



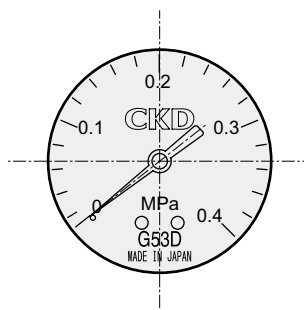
Scale indication



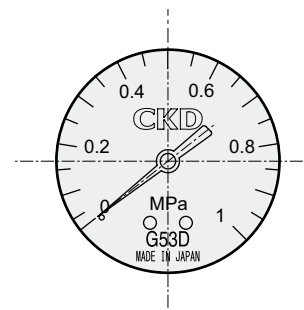
| Model no. | B | C |
|-----------|-------|----|
| G53D-6 | Rc1/8 | 48 |
| G53D-8 | Rc1/4 | 51 |



Pressure display: P02



Pressure display: P04



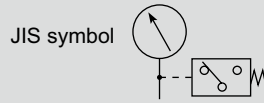
Pressure display: P10

⚠ Safety precautions

- Check that no impact or vibration is applied directly to the product.
- Repeated and sudden increase and decrease in pressure and pressure pulsation must be avoided because it could adversely affect the life of the pressure gauge.
Ease the pressure fluctuation in the circuit.



Pressure gauge with switch G52D Series



Main features

- Introducing a pressure switch function to the analog pressure gauge
- Optional non polarized connector
- Optional operation indicator light

Specifications

| Descriptions | | Pressure gauge |
|------------------------|----------------|----------------------------|
| Working fluid | | Compressed air |
| Fluid temperature °C | | 5 to 60 |
| Ambient temperature °C | | -5 to 60 (to be unfrozen) |
| Precision Note 1 | | ±3% F.S. (at 5 to 35°C) |
| Shape | | Back side thread |
| Material | Stud | Brass |
| | Bourdon tube | Phosphor bronze |
| | Housing | Steel sheet+chrome plating |
| | Lens | Polycarbonate resin |
| | Setting needle | ABS resin (green) |
| Pressure range Note 2 | | 0 to 1.0MPa |
| Port size | R | 1/4 |
| Weight | g | 150 |

Note 1: The guaranteed display accuracy temperature is 20 ± 15°C.

Note 2: Do not apply pressure beyond max. indicated pressure. Otherwise, malfunctioning may occur.

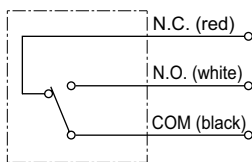
| Descriptions | | Pressure switch |
|-----------------------------------|--|---|
| Pressure switch setting range | | 0.1 to 0.8 MPa |
| Hysteresis | | 0.07MPa |
| Contact configuration | | Without indicator light: 1ab (NO, NC), with indicator light: 1a (NO) |
| Setting indicator margin of error | | ±0.05MPa |
| Lead wire length | | 300mm |
| Electric connection | | Without light: lead wire 3 pcs. With light:M12 connector (4 pin) |
| Indicator light | | LED (load current: 8 to 30 mA) |

Microswitch rated

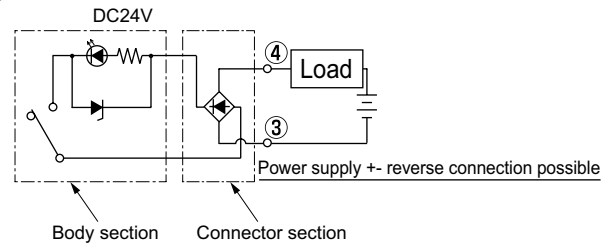
| Load | Resistance load | |
|-----------------------|-----------------|-----------|
| Rated voltage | DC30V | AC125V |
| Working current range | 0.1 to 1A | 0.1 to 1A |

Wiring drawing

○ Without light



○ With light, LED



How to order

G52D - 8 - P10 - 3N

Model no.

B Port size

C Pressure display

D Option

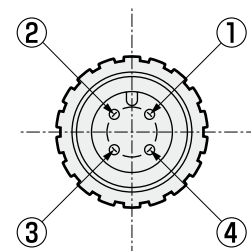
| Symbol | Descriptions |
|-------------------------------|---------------------------|
| B Port size | Note 1 |
| 8 | R1/4 |
| C Pressure display MPa | Note 2 |
| P10 | 0 to 1.0 |
| D Option | |
| Blank | Without light |
| 3N | LED (DC24V) Not polarized |

⚠ Cautions for model No. selection

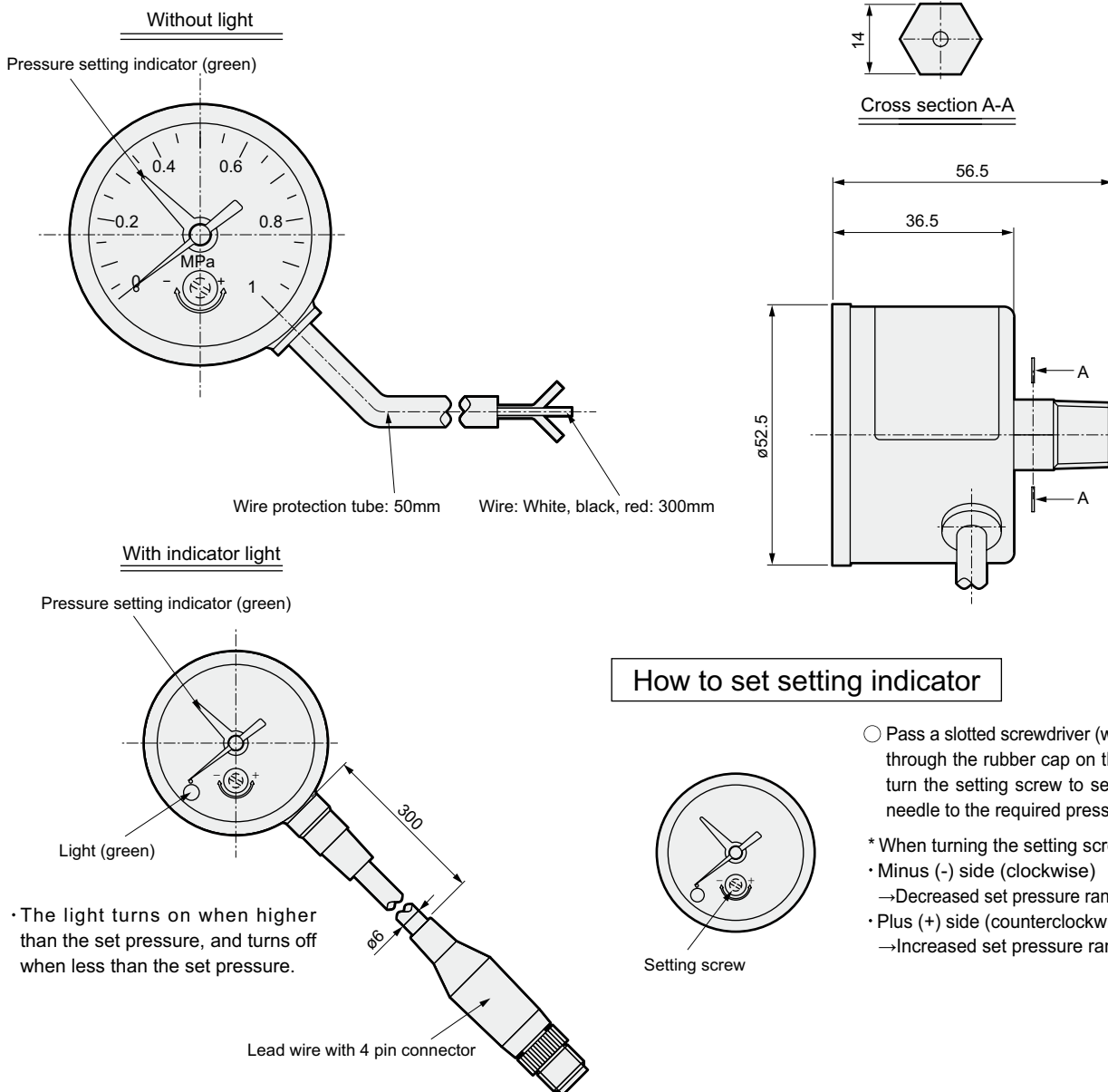
Note 1: Consult with CKD when ordering NPT thread.

Note 2: Consult with CKD for indications other than MPa.

Terminal layout of male connector



Dimensions



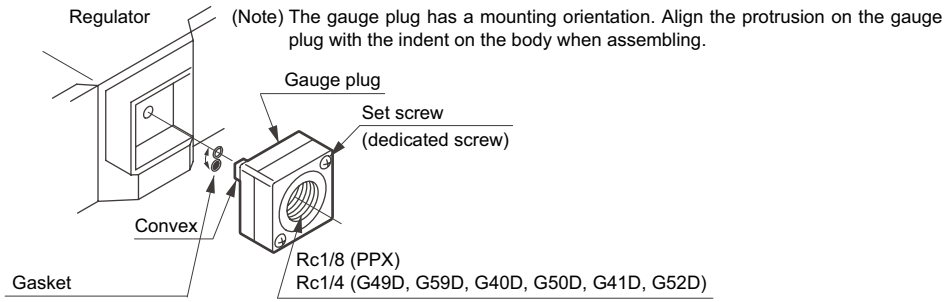
⚠ Safety precautions

- Do not apply impact or vibration directly to the product.
- Repeated and sudden increase and decrease in pressure and pressure pulsation must be avoided because it could adversely affect the life of the pressure gauge. Ease the pressure fluctuation in the circuit.
- The pressure switch uses disable operation if set pressure cannot be reached. Set the pressure switch value so that the setting indicator turns clockwise. If the setting indicator passes the setting position, turn the setting indicator counterclockwise once, then reset.
- Set the setting with a difference of 0.1 MPa or more from the working pressure (including pressure drop). Malfunctions could result if the difference is small. Refer to the drawings above for details on setting the setting needle. When using the pressure switch in the normal open state, the switch may not turn on when the pressure drops unless a pressure, to which the set indication error (± 0.05 MPa), hysteresis (0.07 MPa), and indicated accuracy ($\pm 3\%F/S$) have been added, has been applied.
- Add the pressure gauge's indication accuracy to the maximum value of the setting indicator and indicator's error (set indicator error).
- When the DC light is used, the internal voltage drop is to be 4 V or less and load current 8 to 30 mA at 24 VDC.
- Wire the lead so that the repeated bending strain and tensile strength are not applied to the wire. Otherwise, braking faults may occur.

Pressure Gauge Series

Gauge Plug Assembly (gauge plug, gasket, set screw assembly)

Use when mounting the pressure gauge.



If the gasket is turned 180° as shown in the drawing, regulator pressure flows to the pressure gauge.

- * Tighten the pressure gauge with a torque of 10 to 15N·m.
- * This can also be used to measure the pressure inside the regulator externally.
- * Contact CKD for NPT or G thread.

| Gauge plug assembly model no. | Applicable model | Applicable pressure gauge |
|-------------------------------|-------------------------|------------------------------------|
| R1000-W-G-PLUG | 1000-W Series | G49D, G59D, G40D, G50D, G41D, G52D |
| R1000-W-T6-PLUG | | PPX |
| R3000-W-G-PLUG | 2000-W, 3000-W, 4000-W, | G49D, G59D, G40D, G50D, G41D, G52D |
| R3000-W-T6-PLUG | 6000-W, 8000-W | PPX |



Compact mechanical pressure switch

APS-W Series

• General purpose discrete specifications (APS)

JIS symbol



Specifications

| Descriptions | APS-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 | 1a Note 1 |
| Wiring | Lead wire 1m (oil resistant vinyl cabtire cable 2-conductor 0.2 mm ²) |
| Ambient temperature and fluid temperature | 5 to 60°C |
| Protective structure Note 2 | IP 65 equivalent |

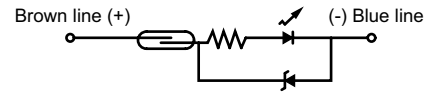
Note 1: The contact turns on if air pressure exceeding the scale setting pressure is applied.

Note 2: However mounting direction must be vertical. When water entrains into the bleed port from bottom, connect an optional joint, and extend the tube until water does not entrain. This port can not be used outdoors.

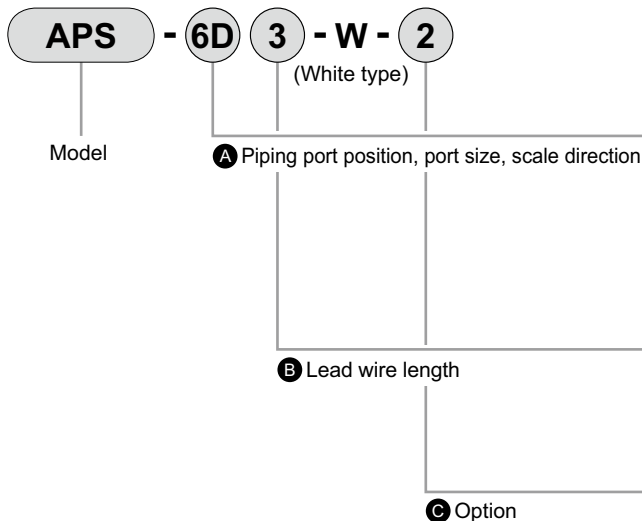
Electric component section specification

| | | |
|--------------------------|---|-----------|
| Load voltage | DC12/24V | AC100V |
| Load voltage | 5 to 50mA | 7 to 20mA |
| Internal voltage drop | 3V or less | |
| Light | LED (ON lighting) | |
| Maximum shock resistance | 294m/S ² | |
| Insulation resistance | 20MΩ and over at 500 VDC megger | |
| Withstanding voltage | No abnormality after application of AC1000V for 1 minute. | |

Internal circuit diagram



How to order



| Symbol | Descriptions |
|---|--|
| A Piping port position, port size, scale direction | |
| 6B | Rear Rc1/8, vertical Note 1 |
| 6D | Bottom Rc1/8, vertical |
| 6F | Bottom flange, vertical |
| 6L | Both sides Rc1/8, vertical Note 1 |
| 6Y | Rear slange, side |
| B Lead wire length | |
| Blank | 1m |
| 3 | 3m |
| 5 | 5m |
| C Option | |
| Blank | None |
| 1 | DIN rail bracket attached (6D) only |
| 2 | Nipple attached (6D) only |
| 4 | Fitting for atmospheric release port attached (elbow for M3) |

Specification for LiB production

(Catalog No.CC-947A)

Note 1: When installing on the bottom, be careful not to block the bleed port.

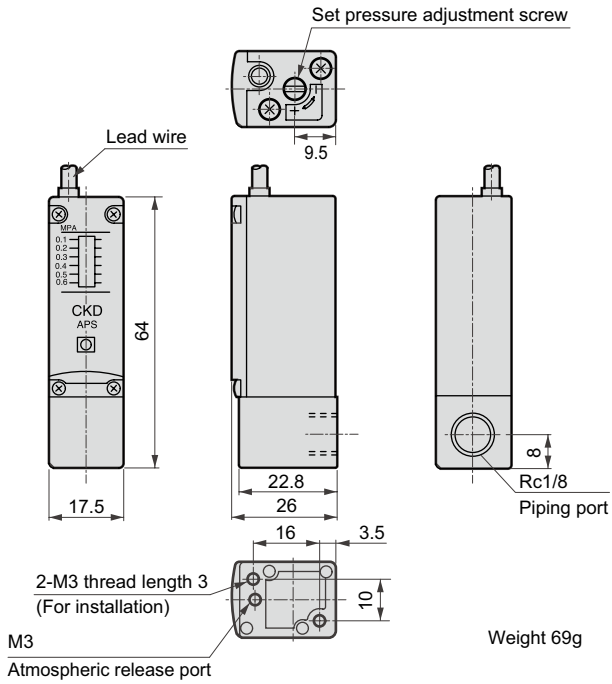
● Specification for LiB manufacturing process

APS - - **P4**

APS-W Series

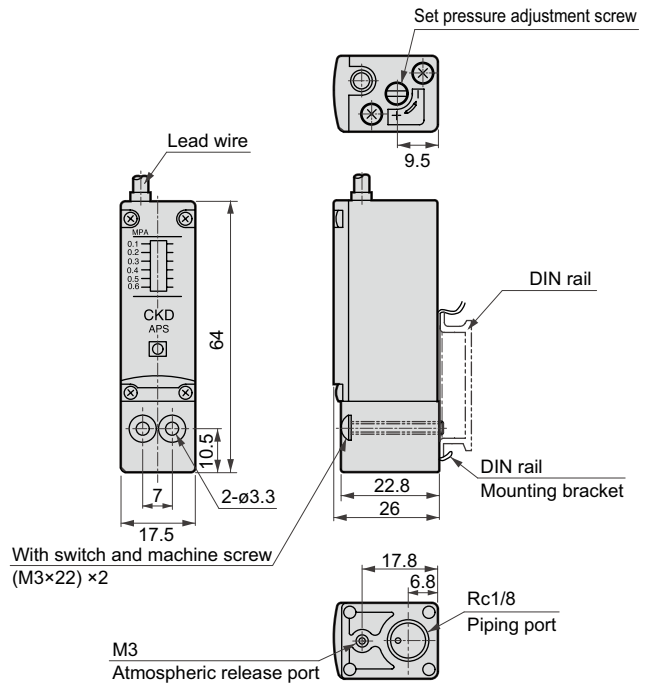
Dimensions

● APS-6B-W

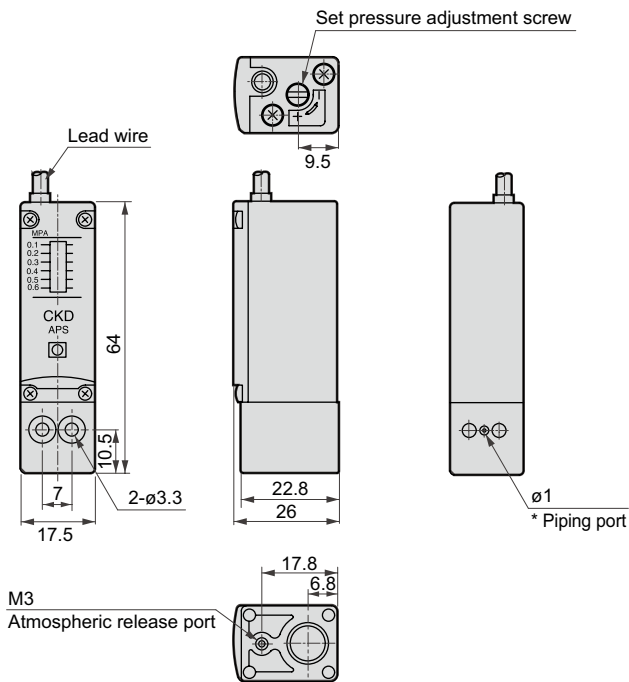


Note: When installing on the bottom, be careful not to block the bleed port.

● APS-6D-W

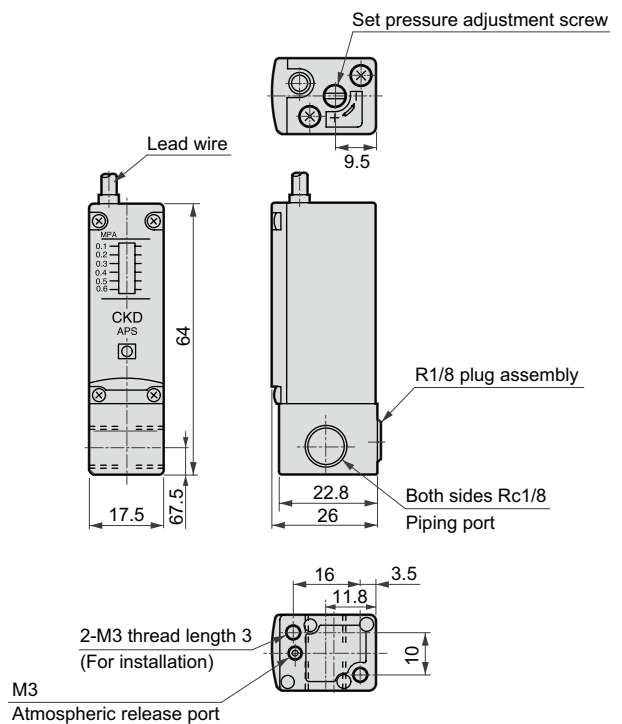


● APS-6F-W



* CAUTION: The I.D. of the sealing O ring is ϕ 1.2.
Drill a ϕ 1 or less pressure outlet hole on the mounting face.

● APS-6L-W

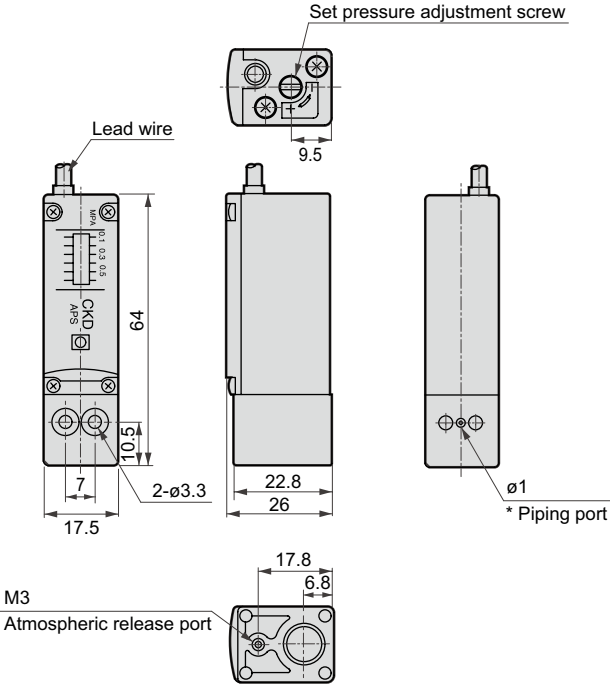


Note: When installing on the bottom, be careful not to block the bleed port.

Dimensions



● APS-6Y-W



* CAUTION: The I.D. of the sealing O ring is ϕ 1.2.
Drill a ϕ 1 or less pressure outlet hole on the mounting face.



Automatic drain

DT3000-W/DT4000-W Series

Lightweight, compact automatic drain discharger.
applicable compressor: 0.75kW to 75kW.

JIS symbol



Specifications

| Descriptions | DT3000-W | DT4000-W | DT3010-W | DT4010-W |
|------------------------------|--|----------|-----------------|----------|
| Type | Normally open (Note 1) | | Normally closed | |
| Working fluid | Drain withing compressed air (water or oil) | | | |
| Withstanding pressure MPa | 1.5 | | | |
| Working pressure range MPa | 0.1 to 1 | | 0.15 to 1 | |
| Ambient temperature range °C | 5 to 60 | | | |
| Port size Rc, NPT, G | 3/8, 1/2 | | | |
| Drain port | Barbed nipple (ø5.7 to ø6 dia. Soft nylon tube can be directly connected.) | | | |
| Product weight kg | 0.3 | 0.45 | 0.3 | 0.45 |

Note 1: If the working compressor is less than 0.75 kW (discharge flow 0.09 m³/min), select the normal close type.

How to order

DT3000 - **10** - **W** - **Z** - **BW**
(White type)

A Model no.

B Port size

C Port thread type

D Option

E Attachment
Note 2

| Symbol | Descriptions | | |
|---------------------------|-------------------------|--|--------------------------------------|
| A Model no. | | | |
| DT3000 | NO type automatic drain | | |
| DT3010 | NC type automatic drain | | |
| DT4000 | NO type automatic drain | | |
| DT4010 | NC type automatic drain | | |
| B Port size | | | |
| 10 | 3/8 | | |
| 15 | 1/2 | | |
| C Port thread type | | | |
| Blank | Rc thread | | |
| N | NPT thread | | |
| G | G thread | | |
| D Option | | | |
| Bowl material | Blank | Polycarbonate bowl | |
| | Z | Nylon bowl | |
| | M Note 1 | Metal bowl drain port with gauge Rc1/8 | |
| | M2 Note 1 | Metal bowl drain port with gauge Rc1/4 | |
| | Petcock included | Blank | Pipe plug assembly |
| | | C Note 1 | Petcock attached (without pipe plug) |
| E Attachment | | | |
| Blank | Not attached | | |
| BW | C type bracket | | |

⚠ Cautions for model No. selection

Note 1: Petcock attached.

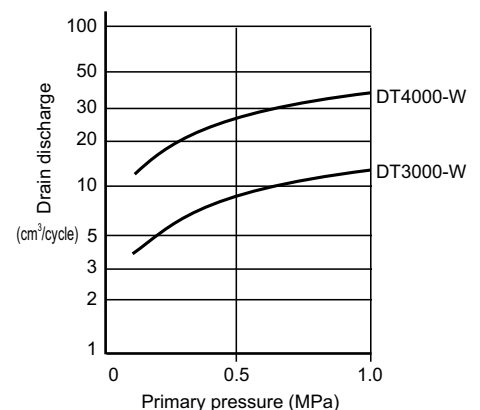
Note 2: C type bracket model no. DT3000-W.....B320
DT4000-W.....B420

Note 3: A masking plug matching the port size is enclosed.

Bowl types and shapes

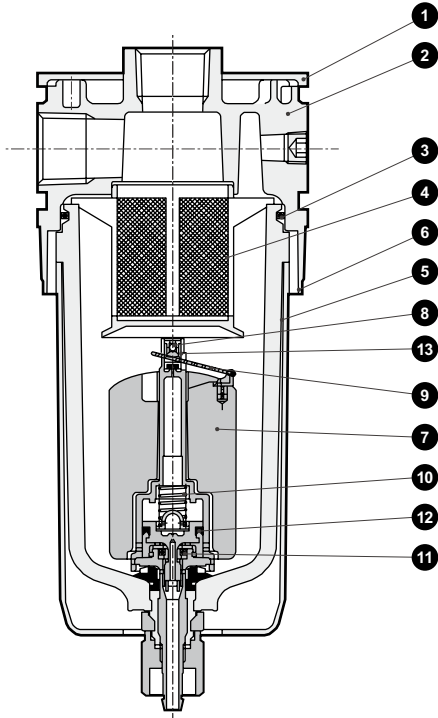
| Type | | NO type [Open at no pressure] DT3000-W/DT4000-W | NC type [Closed at no pressure] DT3010-W/DT4010-W |
|----------------------|---------|---|---|
| DT3000-W DT4000-W | Plastic | <ul style="list-style-type: none"> With manual cock | <ul style="list-style-type: none"> With manual cock |
| | Metal | <ul style="list-style-type: none"> Without manual cock [M, M2] <p>Rc1/8 (M) Rc1/4 (M2)</p> | <ul style="list-style-type: none"> Without manual cock [M, M2] <p>Rc1/8 (M) Rc1/4 (M2)</p> |

Automatic drain performance graph



Internal structure and parts list

- NO type (open at no pressure)
DT3000-W/DT4000-W

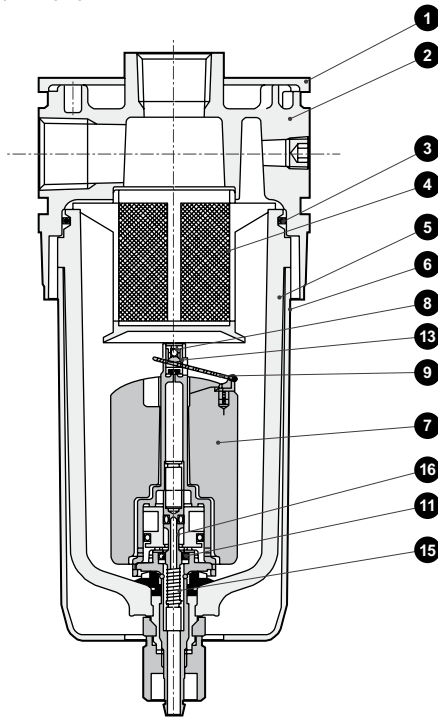


When pressure is not applied in the bowl, valve ⑫ is pressed down by spring ⑩, and is separated from stem packing ①. When a pressure of 0.1 MPa or more is applied to the bowl, pressure on valve ⑫ increases to more than the force of spring ⑩, valve ⑫ is pressed up and is sealed by the stem packing ①.

When drainage accumulates in the bowl, float ⑦ rises, and orifice spring ⑬ is pressed up by float level arm ⑨.

Orifice seat assembly ④ opens with a snap action of the orifice spring ⑬, and compressed air is led into the upper chamber of valve ⑫ to pressurize it. When valve ⑫ is pressed downward and separated from the stem packing ①, drainage is released into the atmosphere. Once released, the float ⑦ drops and orifice seat assembly ④ is closed by float level arm ⑨ and the compressed air pressurizing the upper chamber of valve ⑫ is released into the atmosphere through valve ⑫ orifice. The pressure applied to valve ⑫ from the bottom exceeds the force of spring ⑩, causing valve ⑫ to rise and be sealed by stem packing ①.

- NC type (closed at no pressure)
DT3010-W/DT4010-W



When pressure is not applied to the bowl, valve ⑬ is pressed up by spring ⑮ and sealed by stem packing ①.

When a pressure of 0.15 MPa or more is applied to the bowl and drainage accumulates, float ⑦ rises and orifice spring ⑮ is pressed up by float level arm ⑨.

Orifice seat assembly ④ opens with a snap action of the orifice spring ⑮, and compressed air is led into the upper chamber of valve ⑬ to pressurize it. When valve ⑬ is pressed downward and separated from stem packing ①, drainage is released into the atmosphere.

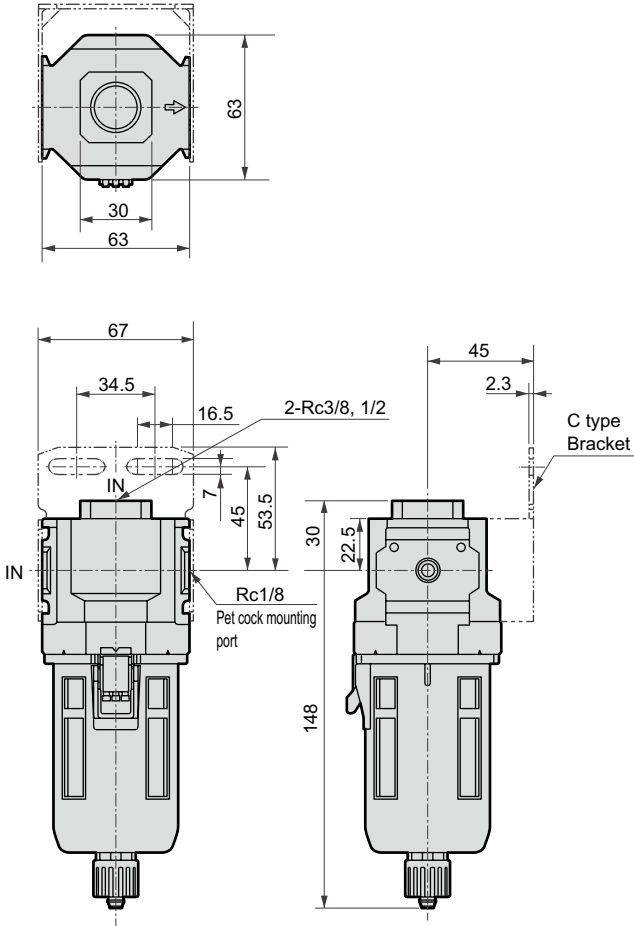
Once released, float ⑦ lowers and orifice seat assembly ④ is closed by float level arm ⑨, and the compressed air pressurizing the upper chamber of valve ⑬ is released into the atmosphere through the valve ⑬ orifice. Valve ⑬ is pressed up by the force of spring ⑮ from below, and is sealed by stem packing ①.

| No. | Part name: | Material | Model no. | | | |
|-----|----------------------------------|-----------------------------|---------------------|---------------------|---------------------|---------------------|
| | | | DT3000-W | DT3010-W | DT4000-W | DT4010-W |
| 1 | Plate cover | ABS resin | - | - | - | - |
| 2 | Body | Aluminum alloy die-casting | - | - | - | - |
| 3 | O-ring | Special nitrile rubber | F3000-ORING | F3000-ORING | F4000-ORING | F4000-ORING |
| 4 | Screen | Polyacetal resin, polyester | DT3000-SCREEN | DT3000-SCREEN | DT4000-SCREEN | DT4000-SCREEN |
| 5 | Bowl assembly (including O ring) | - | DT3000-W-BOWL | DT3010-W-BOWL | DT4000-W-BOWL | DT4010-W-BOWL |
| 6 | Bowl guard | Polyamide resin, steel | DT3000-W-BOWL-GUARD | DT3000-W-BOWL-GUARD | DT4000-W-BOWL-GUARD | DT4000-W-BOWL-GUARD |

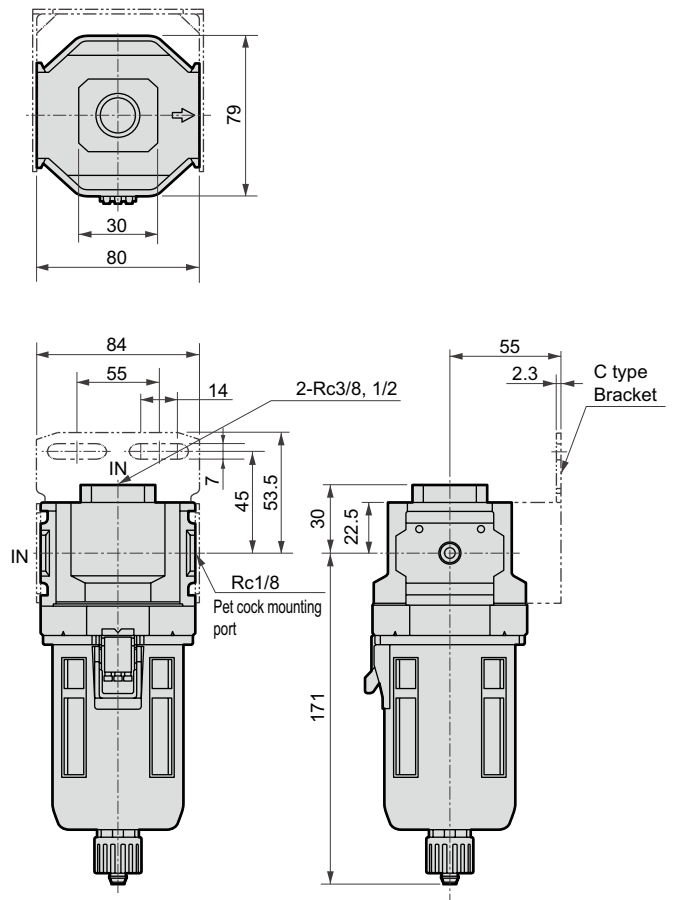
DT3000-W/DT4000-W Series

Dimensions

● DT3000-W/DT3010-W



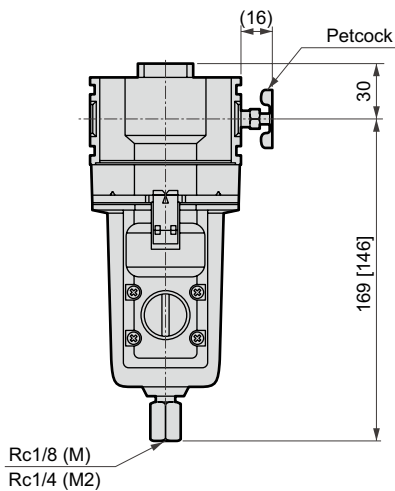
● DT4000-W/DT4010-W



Note: A $\phi 5.7$ to $\phi 6$ bore size soft nylon tube is directly connected to the drainage discharge port.
 Note: Provide a space of 60 mm or more under the bowl for maintenance.

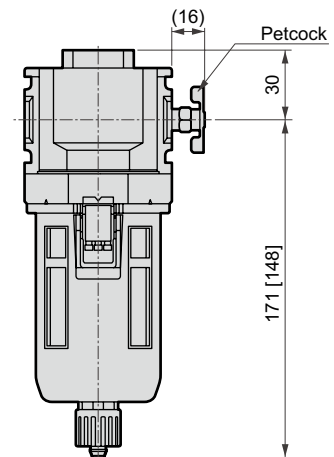
Metal bowl specification

● Option [M, M2]



Petcock specification

● Option [C]



Note: Dimensions in [] is for DT3000-W.

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