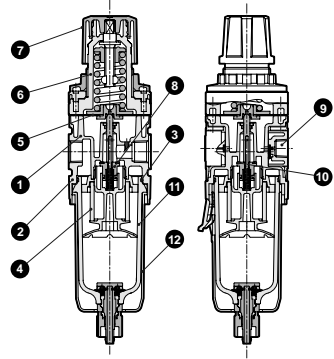
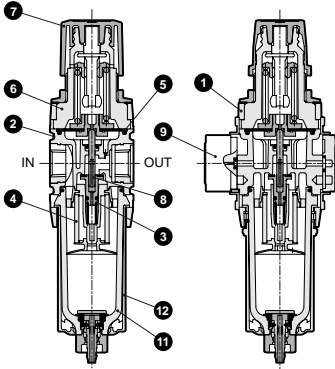


# Filter/Regulator

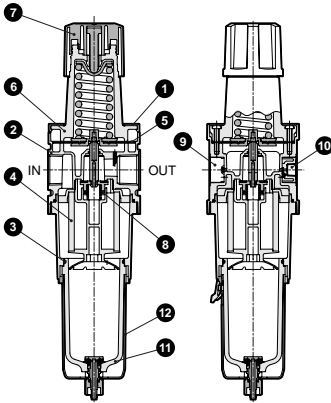
## Internal structure and parts list

• W1000

• W3000 / W4000



• W8000




| No. | Part name                     | Material  |   |   |       |
|-----|-------------------------------|---|---|---|-------|
|     |                               | W1000   | W3000                                   | W4000                                     | W8000 |
| 1   | Plate cover                   | ABS resin   |   |   |       |
| 2   | Body                          | Polyamide resin and steel   | Aluminum ally die casting               |   |       |
| 3   | O ring <small>Note 2</small>  | Special nitrile rubber  |   |   |       |
| 4   | Element <small>Note 1</small> | Polyacetal resin<br>Polypropylene   | Polypropylene                           |   |       |
| 5   | Diaphragm assembly            | Polyacetal resin<br>Polypropylene   | Zinc alloy die-casting / nitrile rubber |   |       |
| 6   | Cover                         | Polyamide resin   | PBT resin                               | Aluminum ally die casting                 |       |
| 7   | Knob                          | Polyacetal resin  |   |   |       |
| 8   | Valve assembly                | Brass and nitrile rubber  |   |   |       |
| 9   | Pressure gauge assembly       | PBT resin, polyacetal resin, polycarbonate resin, nitrile rubber, brass and steel |   |   |       |
| 10  | Gauge plug assembly           | —   |   | Polyamide resin, nitrile rubber and steel |       |
|     | Blanking plug assembly        | PBT resin, nitrile rubber and steel   |   | —   |       |
| 11  | Bowl assembly                 | Polycarbonate resin, polyacetal resin and urethane rubber resin                   |   |   |       |
| 12  | Bowl guard                    | Polyamide resin   | Polyamide resin                         |   |       |

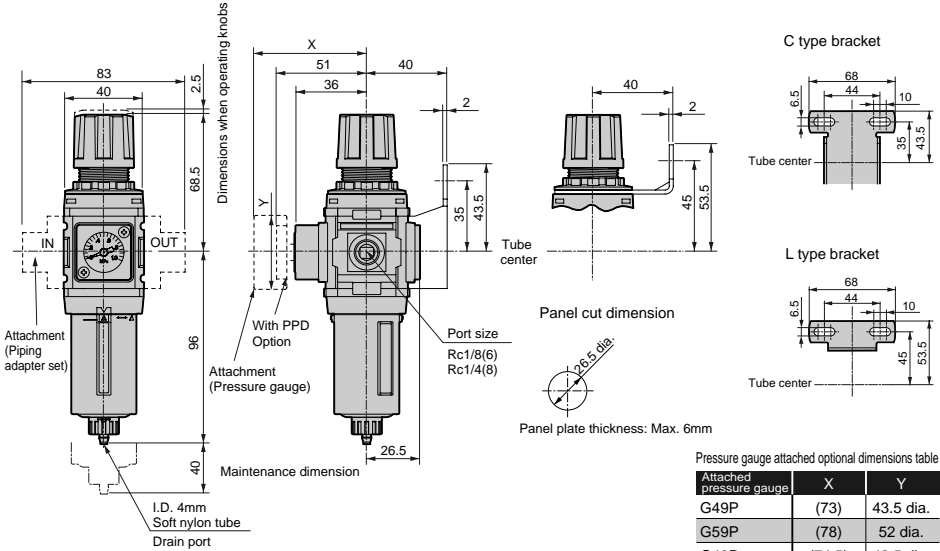
Note 1: An element assembly is provided for W1000.

Note 2: O ring of W1000 has the special shape.

# Filter/Regulator Series


## Dimensions

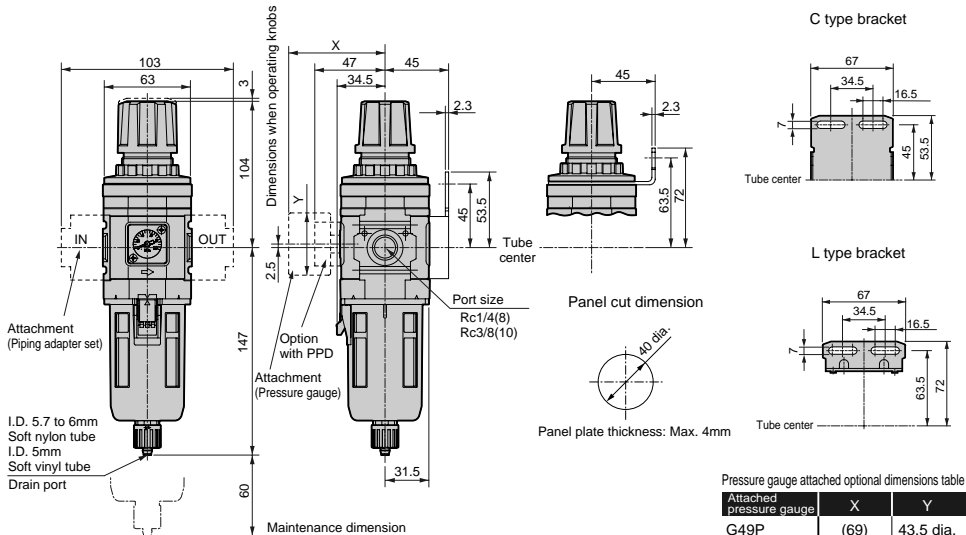
- W1000  (File name: Page 363 or Ending 15)



Pressure gauge attached optional dimensions table

| Attached pressure gauge | X      | Y         |
|-------------------------|--------|-----------|
| G49P                    | (73)   | 43.5 dia. |
| G59P                    | (78)   | 52 dia.   |
| G40P                    | (74.5) | 42.5 dia. |
| G50P                    | (75.5) | 52.5 dia. |
| G41P                    | (74)   | 42 dia.   |

- W3000  (File name: Page 363 or Ending 15)




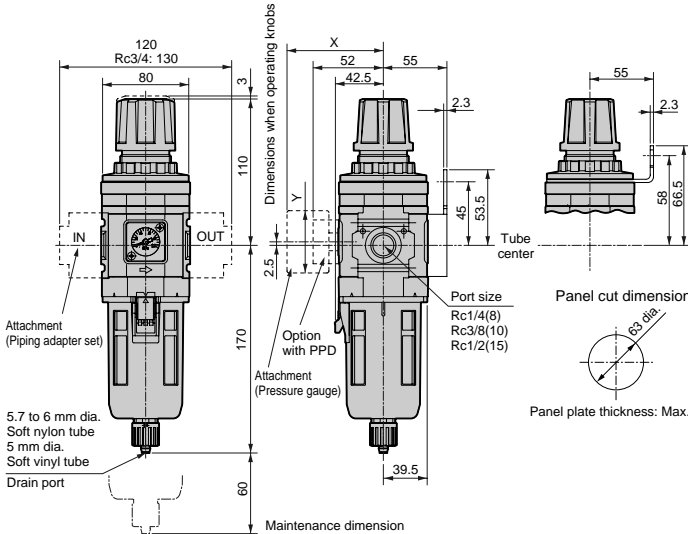
Pressure gauge attached optional dimensions table

| Attached pressure gauge | X      | Y         |
|-------------------------|--------|-----------|
| G49P                    | (69)   | 43.5 dia. |
| G59P                    | (74)   | 52 dia.   |
| G40P                    | (70.5) | 42.5 dia. |
| G50P                    | (71.5) | 52.5 dia. |
| G41P                    | (70)   | 42 dia.   |

• Dimensions of manual cock and automatic drain are same for a plastic bowl.

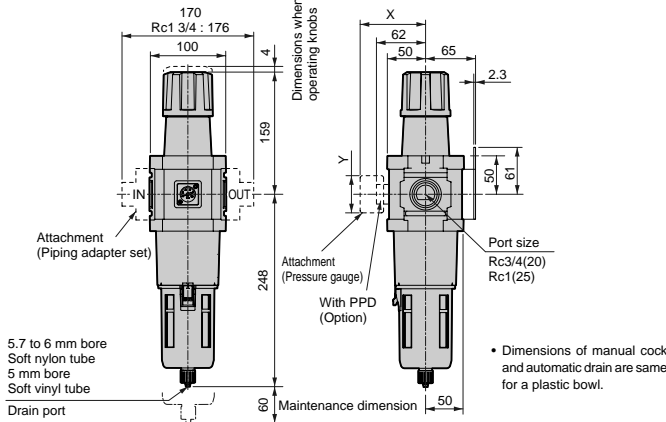
### Dimensions

- W4000  (File name: Page 363 or Ending 15)



- Dimensions of manual cock and automatic drain are same for a plastic bowl.

- W8000  (File name: Page 363 15)

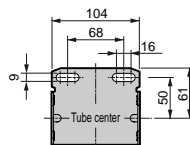


- Dimensions of manual cock and automatic drain are same for a plastic bowl.

Pressure gauge attached option dimensions table


| Attached pressure gauge | X      | Y         |
|-------------------------|--------|-----------|
| G49P                    | (85)   | 43.5 dia. |
| G59P                    | (90)   | 52 dia.   |
| G40P                    | (86.5) | 42.5 dia. |
| G50P                    | (87.5) | 52.5 dia. |
| G41P                    | (86)   | 42 dia.   |

C type bracket

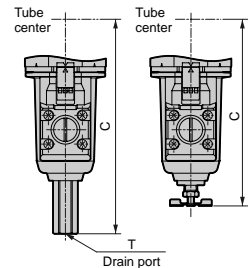


### Optional dimensions

- Metal bowl (option) [W3000,4000,8000]

-  (File name: Page 589 or Ending 20)

With automatic drain (FM, F1M)      Automatic drain cock (M)



Pressure gauge attached option dimensions table

| Attached pressure gauge | With automatic drain |       | Manual cock |
|-------------------------|----------------------|-------|-------------|
|                         | C                    | T     | C           |
| W3000                   | 164                  | Rc1/4 | 140         |
| W4000                   | 187                  | Rc1/4 | 163         |
| W8000                   | 265                  | Rc1/4 | 242         |

Refrigerating type dryer  
Desiccant type dryer  
High polymer membrane dryer  
Air filter  
Automatic drain other  
F.R.L (Module)  
F.R.L (Separate)  
Small F.R.  
Precise R.  
Electro pneumatic R.  
Auxiliary  
Flow control valve  
Silencer  
Check valve / others  
Joint / tube  
Vacuum F.  
Vacuum R.  
Vacuum generator  
Vacuum auxiliary / pad  
Mechanical pressure SW  
Electronic pressure SW  
Electronic dif. pres. SW  
Sealing (close contact conf. SW)  
Pressure SW for coolant  
Flow sensor for air  
Total air system  
Water cooling refrigerator  
Flow sensor for water  
F.R.L unit  
Filter / regulator



Reverse filter / regulator

# W1100/W3100/W4100/W8100 Series

Reverse flow function integrated, 0.3  $\mu\text{m}$  of elements for dust removal and 5  $\mu\text{m}$  for tar removal are available, Port size: Rc1/8 to Rc1

JIS symbol



CAD DATA AVAILABLE.

## Specifications

| Descriptions                    | W1100   | W3100   | W4100   | W8100   |
|---------------------------------|---|---|---|---|
| Appearance                      |  |  |  |  |
| Working fluid                   | Compressed air  |   |   |   |
| Max. working pressure MPa       | 1.0   |   |   |   |
| Withstanding pressure MPa       | 1.5   |   |   |   |
| Working temperature °C          | 5 to 60   |   |   |   |
| Filtration rating $\mu\text{m}$ | 5   | 5 or 0.3  |   |   |
| Set pressure range (Note 2) MPa | 0.05 to 0.85  |   |   |   |
| Relief                          | With relief mechanism   |   |   |   |
| Drain capacity $\text{cm}^3$    | 12  | 45  | 80  | 80 (Note 3)   |
| Port size Rc                    | 1/8 and 1/4 (use an adaptor for 3/8.)   | 1/4 and 3/8 (use an adaptor for 1/2.)   | 1/4, 3/8 and 1/2 (use an adaptor for 3/4.)  | 3/4 and 1 (use an adaptor for 1 1/4.)   |
| Product mass kg                 | 0.175   | 0.6   | 0.9   | 2.0   |
| Standard accessories            | Pressure gauge and bowl guard   |   |   |   |

Note 1: The primary pressure is to be 0.05MPa higher than the secondary pressure.

Note 2: Always review set pressure range for back pressure on Page 305 when selecting a model.

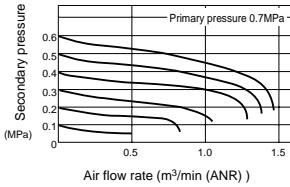
Note 3: Only manual drain cock type can pool drain up to 170m<sup>3</sup> max.

# Filter/Regulator Series

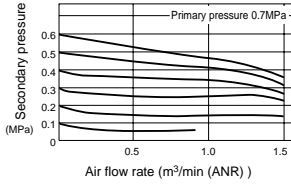
Flow characteristics / pressure characteristics

## Flow characteristics

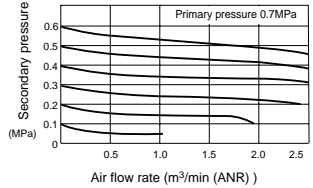
• W1100-6



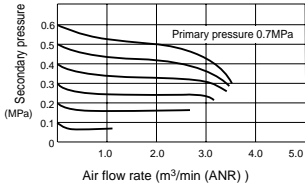
• W1100-8



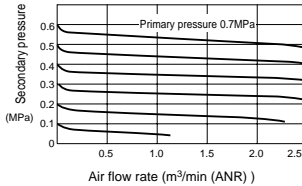
• W3100-8



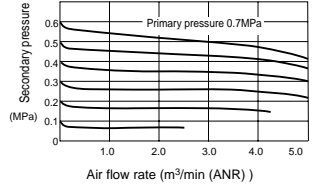
• W3100-10



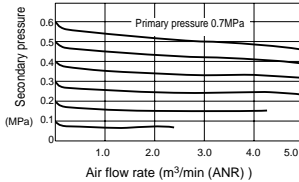
• W4100-8



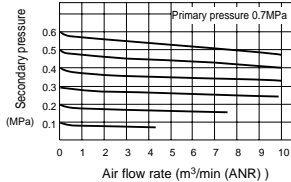
• W4100-10



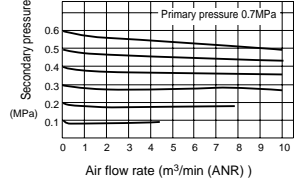
• W4100-15



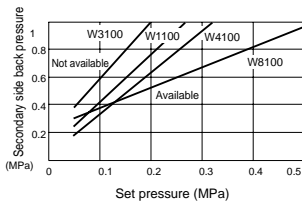
• W8100-20



• W8100-25



• Set pressure range for back pressure

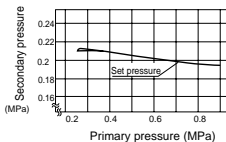


Note: This product can not be used in the upper area of the graph, while can be used in the lower area.

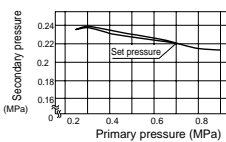
E.g: If the set pressure of W4100 is 0.2MPa, and the secondary side back pressure is 0.6MPa and over, the secondary pressure never reaches the primary side.

## Pressure characteristics

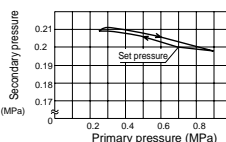
• W1100



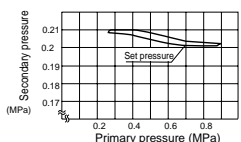
• W3100



• W4100



• W8100

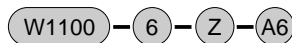


- Refrigerating type dryer
- Desiccant type dryer
- High polymer membrane dryer
- Air filter
- Automatic drain other
- F.R.L (Module)
- F.R.L (Separate)
- Small F.R.
- Precise R.
- Electro pneumatic R.
- Auxiliary
- Flow control valve
- Silencer
- Check valve / others
- Joint / tube
- Vacuum F.
- Vacuum R.
- Vacuum generator
- Vacuum auxiliary / pad
- Mechanical pressure SW
- Electronic pressure SW
- Electronic dif. pres. SW
- Sealing / close constant conf. SW
- Pressure SW for coolant
- Flow sensor for air
- Total air system
- Water cooling refrigerator
- Flow sensor for water

F.R.L. unit  
Reverse filter / regulator

# Filter/Regulator Series

How to order



A Model

B Port size

C Option

Note 1  
Note 2  
Note 3  
Note 4  
Note 5  
Note 6  
Note 7  
Note 10

\*Refer to Page 267 for explanation on options.

D Attachment

Note 8  
Note 9

## Note on model No. selection

- Note 1 : Select options per drainage, bowl material, element, and regulator sections.  
When selecting multiple options, write them from the top.
- Note 2 : If "L" is selected for pressure range, a low pressure gauge (0-0.4MPa) is provided.
- Note 3 : **The positions of 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 : Min. operating pressure of automatic drain is 0.1MPa for option symbol "F".  
Purge air with initially generated drain until pressure rising to 0.1 MPa.
- Note 5 : Min. operating pressure of automatic drain is 0.15MPa for option symbol "F1".
- Note 6 : For "T", a gauge plug is assembled instead of a pressure gauge.
- Note 7 : Refer to Page 259 for "R1" for details. Working temperature range is 5 to 50 °C.
- Note 8 : A piping adaptor set A\*00 \*\* (refer to page 586) is attached.
- Note 9 : Refer to "auxiliary components" (Page 557 to) for attachments.  
Also, a piping adaptor set and a C type bracket can not be used together.
- Note 10: Refer to Page 313 for max. flow rate for option "Y".

| A Model |       |       |       |
|---------|-------|-------|-------|
| W1100   | W3100 | W4100 | W8100 |

| Symbol      | Descriptions |   |   |   |   |
|-------------|--------------|---|---|---|---|
| B Port size |              |   |   |   |   |
| 6           | Rc1/8        | ● |   |   |   |
| 8           | Rc1/4        | ● | ● | ● |   |
| 10          | Rc3/8        |   | ● | ● |   |
| 15          | Rc1/2        |   |   | ● |   |
| 20          | Rc3/4        |   |   |   | ● |
| 25          | Rc1          |   |   |   | ● |

| C 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        | Blank                                     | 5 μm   | ● | ● | ● |
|                | Y   | 0.3 μm (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 is sealed)  | ● | ● | ● |
|                | T8  | Round shaped pressure gauge attached (pressure gauge installation port is not sealed.) | ● | ● | ● |
|                | R1  | Pressure switch with display, PPD assembly   | ● | ● | ● |
| X1             | IN / OUT reverse flow (right → left)      |  | ● | ● | ● |
| P11            | Ozone proof specifications (custom order) |  | ● | ● | ● |

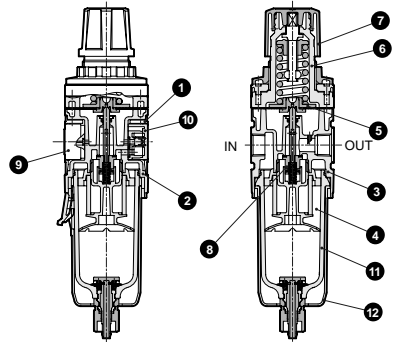
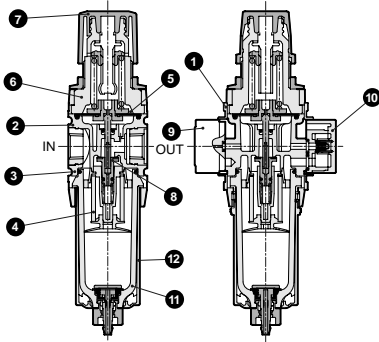
| D Attachment |                            |  |   |   |   |
|--------------|----------------------------|--|---|---|---|
| A6           | Rc1/8 piping adapter set   |  | ● |   |   |
| A8           | Rc1/4 piping adapter set   |  | ● | ● | ● |
| A10          | Rc3/8 piping adapter set   |  | ● | ● | ● |
| A15          | Rc1/2 piping adapter set   |  |   | ● | ● |
| A20          | Rc3/4 piping adapter set   |  |   |   | ● |
| A25          | Rc1 piping adapter set     |  |   |   | ● |
| A32          | Rc1 1/4 piping adapter set |  |   |   | ● |
| B            | C type bracket             |  | ● | ● | ● |
| B3           | L type bracket             |  | ● | ● | ● |
| 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 |  | ● | ● | ● |

# Filter/Regulator

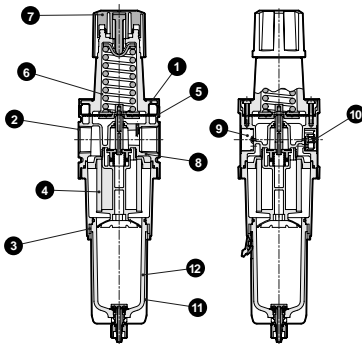
## Internal structure and parts list

• W1100

• W3100 / W4100



• W8100



| No. | Part name                  | Material  |   |                           |       |
|-----|----------------------------|---|---|---------------------------|-------|
|     |                            | W1100   | W3100                                     | W4100                     | W8100 |
| 1   | Plate cover                | ABS resin   |   |                           |       |
| 2   | Body                       | Polymide resin and steel  | Aluminum ally 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 and nitrile rubber |                           |       |
| 6   | Cover                      | Polymide resin  | PBT resin                                 | Aluminum ally die casting |       |
| 7   | Knob                       | Polyacetal resin  |   |                           |       |
| 8   | Valve assembly             | Brass and nitrile rubber  |   |                           |       |
| 9   | Pressure gauge assembly    | PBT resin, polyacetal resin, polycarbonate resin, nitrile rubber, brass and steel |   |                           |       |
| 10  | Check valve total assembly | PBT resin, nitrile rubber, stainless steel wire and steel                         |   |                           |       |
| 11  | Bowl assembly              | Polycarbonate resin, polyacetal resin and urethane rubber resin                   |   |                           |       |
| 12  | Bowl guard                 | Polymide resin  | Polymide resin and steel                  |                           |       |

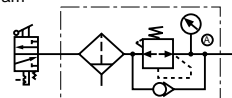
Note 1: An element assembly is provided for W1000.  
 Note 2: O ring of W1100 has the special shape.  
 Note 3: Refer to Page 310 for repair kits model no.

## Functional explanation

If the primary pressure is applied from IN side, since the check valve closes due to the primary pressure and spring load, this regulator functions as a normal regulator. However, if the primary pressure is exhausted by a switching valve such as shut-off valve, etc., the check valve is opened immediately due to the secondary pressure, then the pressure drops by exhausting the pressure in the diaphragm room. The diagram is lowered by the adjusting spring, and the main valve will open to exhaust the air to OUT side.

Note: If the primary pressure is released, the back pressure for the set pressure of regulator is not to be greater than Graph A; "set pressure range for back pressure".


### • Circuit diagram

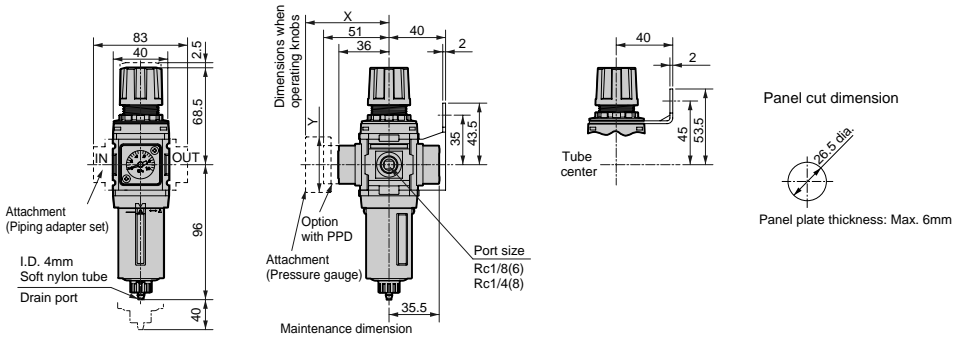


In the case that a shut-off valve is used before a reverse filter / regulator.

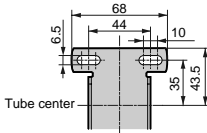
# Filter/Regulator Series

## Dimensions

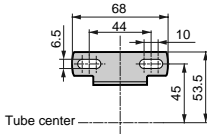
- W1100  (File name: Page 363 or Ending 15)



Attachment (C type bracket)




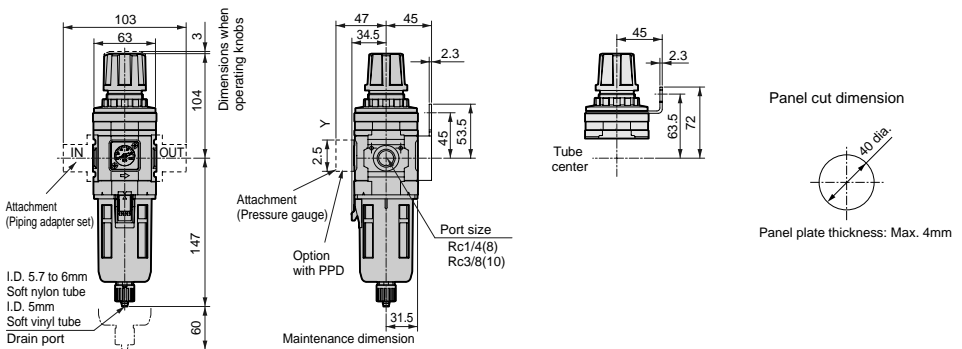
Attachment (L type bracket)



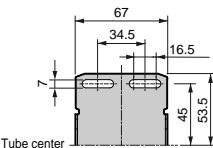
Pressure gauge attached optional dimensions table

| Attached pressure gauge | X      | Y         |
|-------------------------|--------|-----------|
| G49P                    | (73)   | 43.5 dia. |
| G59P                    | (78)   | 52 dia.   |
| G40P                    | (74.5) | 42.5 dia. |
| G50P                    | (75.5) | 52.5 dia. |
| G41P                    | (74)   | 42 dia.   |

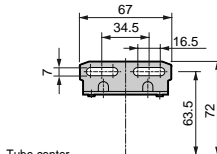
- W3100  (File name: Page 363 or Ending 15)



Attachment (C type bracket)



Attachment (L type bracket)




Pressure gauge attached optional dimensions table

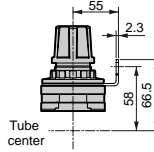
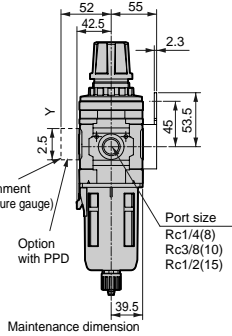
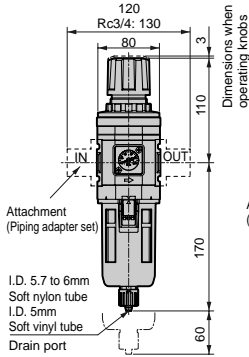
| Attached pressure gauge | X      | Y         |
|-------------------------|--------|-----------|
| G49P                    | (69)   | 43.5 dia. |
| G59P                    | (74)   | 52 dia.   |
| G40P                    | (70.5) | 42.5 dia. |
| G50P                    | (71.5) | 52.5 dia. |
| G41P                    | (70)   | 42 dia.   |

- Bowls with manual cock and automatic drain are same dimensions for a plastic bowl.



### Dimensions

- W4100  (File name: Page 363 or Ending 15)

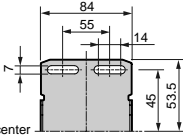


Panel cut dimension

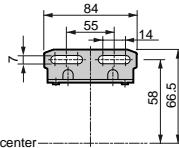


Panel plate thickness: Max. 7mm

#### Attachment (C type bracket)




#### Attachment (L type bracket)

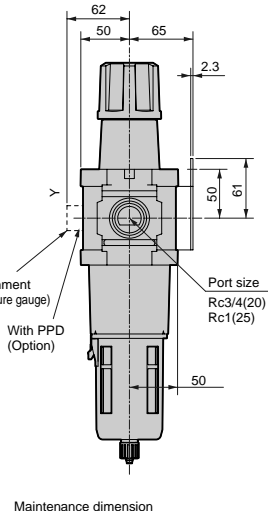
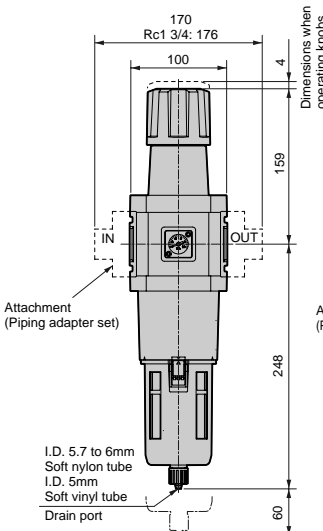


- Bowls with manual cock and with automatic drain are same dimensions for a plastic bowl.

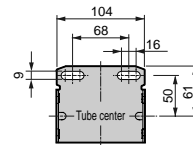
Pressure gauge attached optional dimensions table

| Attached pressure gauge | X      | Y         |
|-------------------------|--------|-----------|
| G49P                    | (74)   | 43.5 dia. |
| G59P                    | (79)   | 52 dia.   |
| G40P                    | (75.5) | 42.5 dia. |
| G50P                    | (76.5) | 52.5 dia. |
| G41P                    | (75)   | 42 dia.   |

- W8100  (File name: Page 363 or Ending 15)



#### Attachment (C type bracket)



- Bowls with manual cock and with automatic drain are same dimensions for a plastic bowl.


Pressure gauge attached optional dimensions table

| Attached pressure gauge | X      | Y         |
|-------------------------|--------|-----------|
| G49P                    | (85)   | 43.5 dia. |
| G59P                    | (90)   | 52 dia.   |
| G40P                    | (86.5) | 42.5 dia. |
| G50P                    | (87.5) | 52.5 dia. |
| G41P                    | (86)   | 42 dia.   |

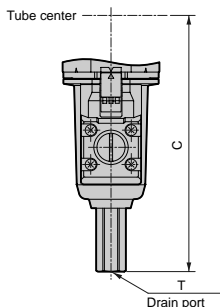
Refrigerating type dryer  
Desiccant type dryer  
High polymer membrane dryer  
Air filter  
Automatic drain other  
F.R.L (Module)  
F.R.L (Separate)  
Small F.R.  
Precise R.  
Electro pneumatic R.  
Auxiliary  
Flow control valve  
Silencer  
Check valve / others  
Joint / tube  
Vacuum F.  
Vacuum R.  
Vacuum generator  
Vacuum auxiliary / pad  
Mechanical pressure SW  
Electronic pressure SW  
Electronic dif. pres. SW  
Sealing / O-ring contact conf. SW  
Pressure SW for coolant  
Flow sensor for air  
Total air system  
Water cooling refrigerator  
Flow sensor for water  
F.R.L. unit  
Reverse filter / regulator

# Filter/Regulator Series

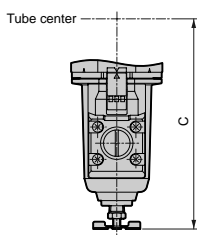
## Optional dimensions

Metal bowl W3100 / W4100 / W8100 (option)  (File name: Page 589 or Ending 20)

• With automatic drain (FM, F1M)



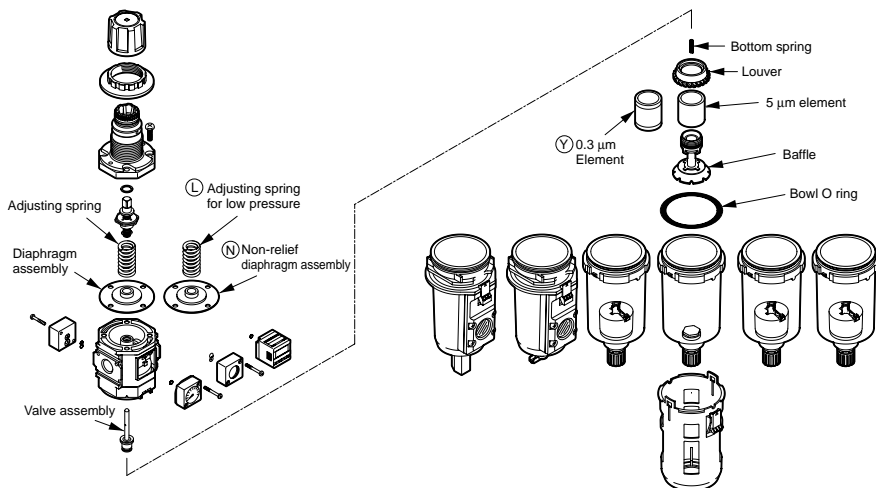
• Manual drain cock (M)



Pressure gauge attached optional dimensions table

| Attached pressure gauge | With automatic drain |       | Manual cock |
|-------------------------|----------------------|-------|-------------|
|                         | C                    | T     | C           |
| W3100                   | 164                  | Rc1/4 | 140         |
| W4100                   | 187                  | Rc1/4 | 163         |
| W8100                   | 265                  | Rc1/4 | 242         |

## Option / parts diagram



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

| Repair kits model no. | Relief type diaphragm<br>5 µm element (blank) | Non-relief type diaphragm<br>5 µm element (N) | Relief type diaphragm<br>0.3 µm element (Y) | Non-relief type diaphragm<br>0.3 µm element (NY) |
|-----------------------|---|---|---|--|
| W1000, W1100          | W1000-KIT                                     | W1000-KIT-N                                   | W1000-KIT-Y                                 | W1000-KIT-NY                                     |
| W3000, W3100          | W3000-KIT                                     | W3000-KIT-N                                   | W3000-KIT-Y                                 | W3000-KIT-NY                                     |
| W4000, W4100          | W4000-KIT                                     | W4000-KIT-N                                   | W4000-KIT-Y                                 | W4000-KIT-NY                                     |
| W8000, W8100          | W8000-KIT                                     | W8000-KIT-N                                   | W8000-KIT-Y                                 | W8000-KIT-NY                                     |

Note: An element and baffle assembly is provided for W1000 / W1100, while a louver is assembled to the body, and not included in repair parts.

Valve assembly (set of valve assembly and bottom spring)

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

\*Refer to options / parts list (Page 338) of the regulator for adjusting spring, diaphragm, and gauge plug assembly.  
Refer to options / parts list of the air filter (Page 318 to 319) for elements, bowl assemblies, and bowl guards.