



Regulator

R1000/R3000/R4000/R8000 Series

Compact pressure gauge integrated type

Port size: Rc1/8 to Rc1

JIS symbol



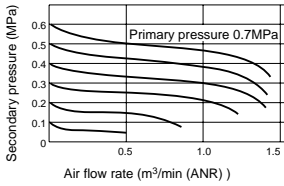
CAD DATA AVAILABLE.

Specifications

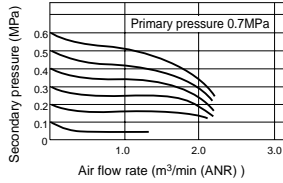
| Descriptions | R1000 | R3000 | R4000 | R8000 |
|---------------------------|---|---|---|--|
| Appearance |  |  |  |  |
| Working fluid | Compressed air | | | |
| Max. working pressure MPa | 1.0 | | | |
| Withstanding pressure MPa | 1.5 | | | |
| Working temperature °C | 5 to 60 | | | |
| Set pressure range MPa | 0.05 to 0.85 | | | |
| Relief | With relief mechanism | | | |
| 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 | 0.16 | 0.45 | 0.7 | 1.6 |
| Standard accessories | Nut for pressure gauge and panel mount | | | Pressure gauge |

Flow characteristics

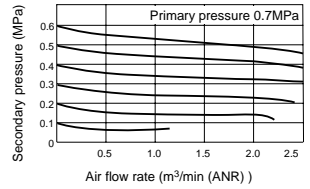
• R1000-6



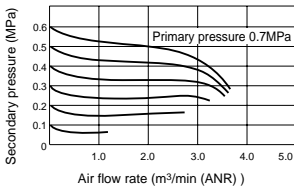
• R1000-8



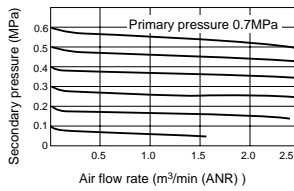
• R3000-8



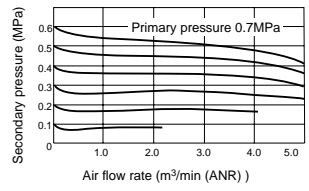
• R3000-10



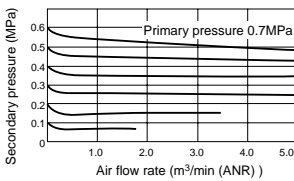
• R4000-8



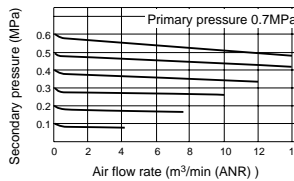
• R4000-10



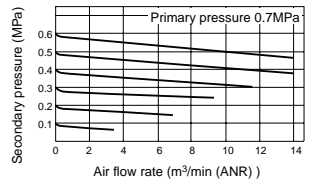
• R4000-15



• R8000-20

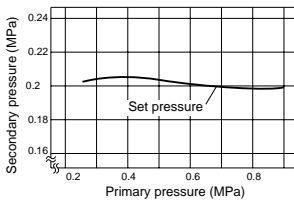


• R8000-25

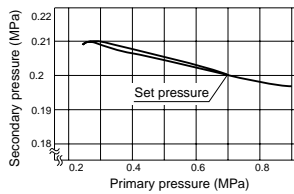


Pressure characteristics

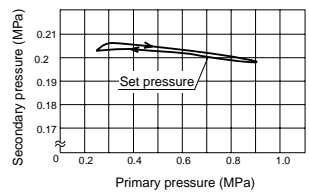
• R1000



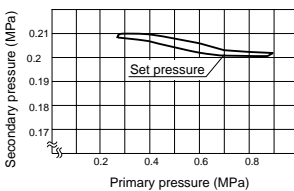
• R3000



• R4000

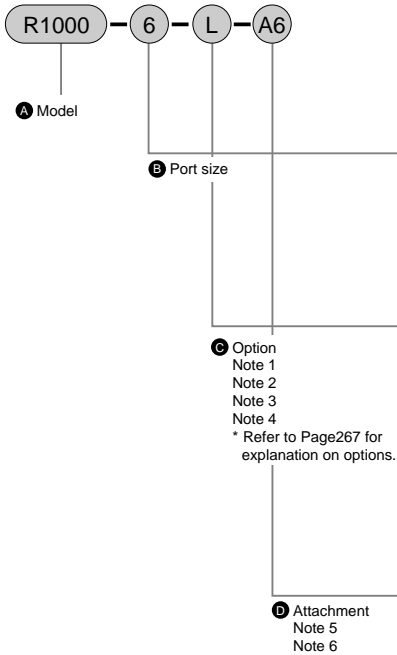


• R8000



Regulator Series

How to order



| A Model | |
|---------|--|
| R1000 | |
| R3000 | |
| R4000 | |
| R8000 | |

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

| C Option | | | | | | |
|-----------------|-------|--|---|---|---|---|
| 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 assembled in sealed state.) | ● | ● | ● | ● |
| | T8 | Round shaped pressure gauge attached (pressure gauge port is assembled in open state.) | ● | ● | ● | ● |
| | R1 | Pressure switch with display PPD assembly | ● | ● | ● | ● |
| | X1 | IN / OUT reverse flow (right → left) | ● | ● | ● | ● |
| | P11 | Ozone proof specifications (custom order) | ● | ● | ● | ● |

| D Attachment (attached) | | | | | |
|--------------------------------|-----------------------------|---|---|---|---|
| A6 | Rc1/8 piping adapter sets | ● | | | |
| A8 | Rc1/4 piping adapter sets | ● | ● | ● | |
| A10 | Rc3/8 piping adapter sets | ● | ● | ● | |
| A15 | Rc1/2 piping adapter sets | | ● | ● | |
| A20 | Rc3/4 piping adapter sets | | | ● | ● |
| A25 | Rc1 piping adapter set | | | | ● |
| A32 | Rc1 1/4 piping adapter sets | | | | ● |
| 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 | ● | ● | ● | ● |

C Option
 Note 1
 Note 2
 Note 3
 Note 4
 * Refer to Page267 for explanation on options.

D Attachment
 Note 5
 Note 6

⚠ Note on model No. selection

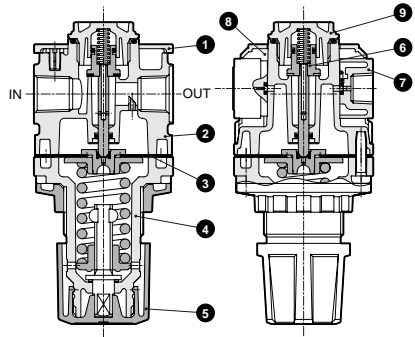
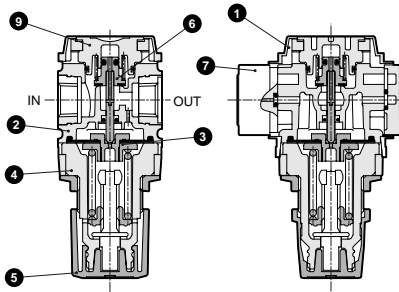
- Note 1: When selecting multiple options, write them from the top.
- Note 2: If "L" is selected for pressure range, a low pressure gauge (0-0.4MPa) is provided.
- Note 3: For "T", a gauge plug is assembled instead of a pressure gauge.
- Note 4: Refer to Page 259 for "R1" details.
Working temperature range is 5 to 50 °C.
- Note 5: A piping adaptor set A*00-* (refer to Page 586) is attached.
- Note 6: Refer to "auxiliary components" (Page 557 to) for attachments.
Also, piping adapter set and C type bracket can not be used together.

Regulator

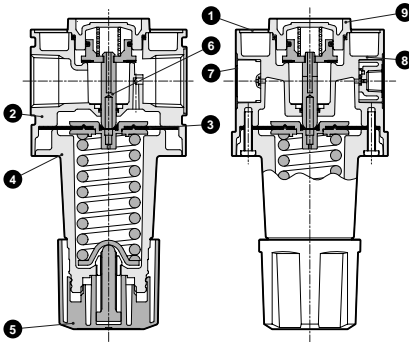
Internal structure and parts list

• R1000

• R3000 / R4000



• R8000




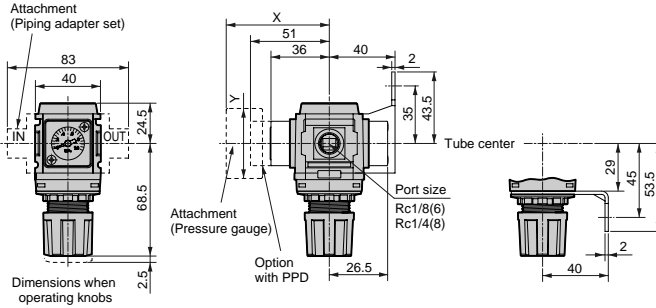
| No. | Part name | Material | | | |
|-----|-------------------------|---|---|---------------------------|---------------------------|
| | | R1000 | R3000 | R4000 | R8000 |
| 1 | Plate cover | ABS resin | | | |
| 2 | Body | Polyamide resin and steel | Aluminum ally die casting | | |
| 3 | Diaphragm assembly | Polyacetal resin Nitrile rubber | Zinc alloy die-casting and nitrile rubber | | |
| 4 | Cover | Polyamide resin | PBT resin | Aluminum ally die casting | |
| 5 | Knob | Polyacetal resin | | | |
| 6 | Valve assembly | Brass and nitrile rubber | | | |
| 7 | Pressure gauge assembly | PBT resin, nitrile rubber, polyacetal resin, polycarbonate resin, brass and steel | | | |
| 8 | Gauge plug assembly | — | Polyamide resin, nitrile rubber and steel | | |
| | Blanking plug assembly | Note 1 | PBT resin Nitrile rubber and copper | — | |
| 9 | Bottom plug | Polyacetal resin | | | Aluminum ally die casting |

Note 1: A blanking plug is attached to R1000 standard type. If a gauge plug assembly attached type is required instead of a blanking plug, indicate R1000-“T1”-.

Regulator Series

Dimensions

- R1000  (File name: Page 364 or Ending 16)



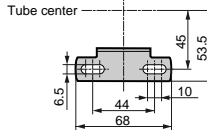
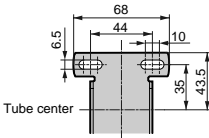
Panel cut dimension



Panel plate thickness: Max. 6mm


Attachment (C type bracket)

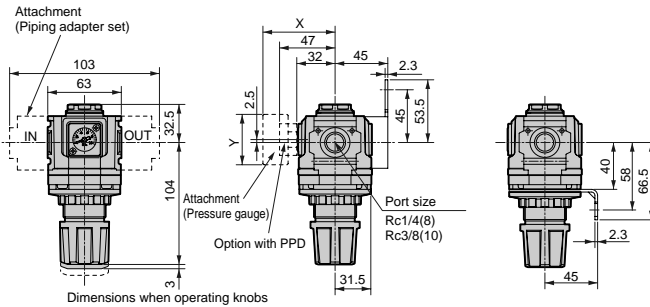
Attachment (L type bracket)



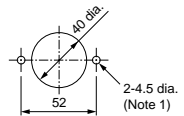
Pressure gauge attached option dimensions table

| 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. |

- R3000  (File name: Page 364 or Ending 16)



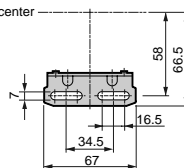
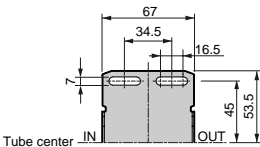
Panel cut dimension



Panel plate thickness: Max. 7mm

Attachment (C type bracket)

Attachment (L type bracket)




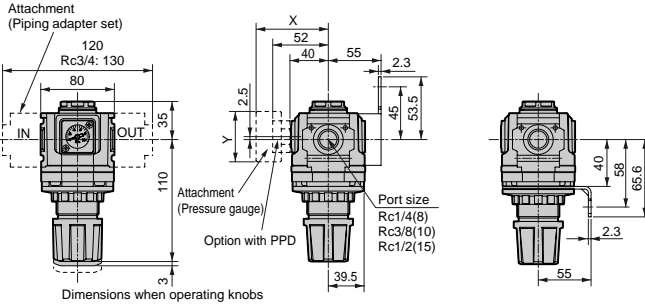
Pressure gauge attached option dimensions table

| 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. |

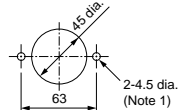
Note 1: Non-rotating fixing can be done by M4 screw. Screw length is to be plate thickness + 8mm or less, and can be screwed in without female thread machining.

Dimensions

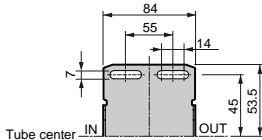
- R4000  (File name: Page 364 or Ending 16)



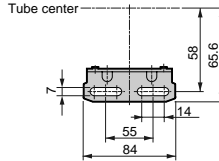
Panel cut dimension



Attachment (C type bracket)




Attachment (L type bracket)

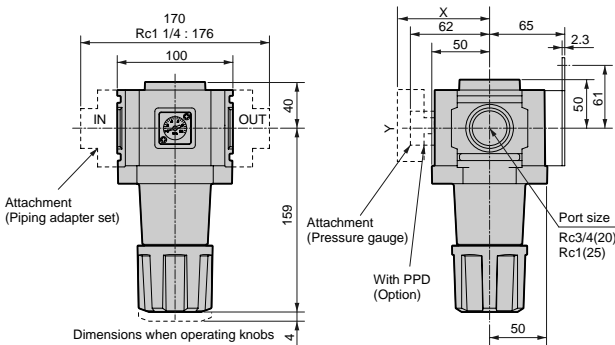


Note 1: Non-rotating fixing can be done by M4 screw. Screw length is to be plate thickness + 8mm or less, and can be screwed in without female thread machining.

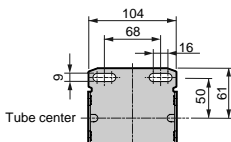
Pressure gauge attached option dimensions table

| 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. |

- R8000  (File name: Page 364 or Ending 16)



Attachment (C type bracket)



Pressure gauge attached option dimensions table

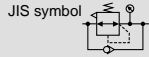
| Attached pressure gauge | X | Y |
|-------------------------|--------|-----------|
| G49P | (85) | 43.5 dia. |
| G59P | (90) | 52 dia. |
| G40P | (86.5) | 42.5 dia. |
| G50P | (87.5) | 52.5 dia. |
| G41P | (86) | 42 dia. |



Reverse regulator

R1100/R3100/R4100/R8100 Series

Reverse flow function integrated. Secondary pressure to primary side
Port size: Rc1/8 to Rc1



CAD DATA AVAILABLE.

Specifications

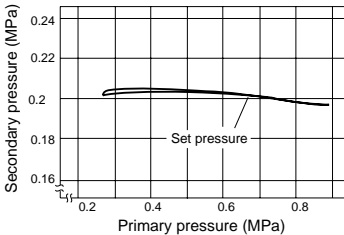
| Descriptions | R1100 | R3100 | R4100 | R8100 |
|---------------------------------|---------------------------------------|---------------------------------------|--|---------------------------------------|
| Appearance | | | | |
| Working fluid | Compressed air | | | |
| Max. working pressure MPa | 1.0 | | | |
| Withstanding pressure MPa | 1.5 | | | |
| Working temperature °C | 5 to 60 | | | |
| Set pressure range (Note 2) MPa | 0.05 to 0.85 | | | |
| Relief | With relief mechanism | | | |
| 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 | 0.16 | 0.45 | 0.7 | 1.6 |
| Standard accessories | Pressure gauge, nut for panel mount | | | Pressure gauge |

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

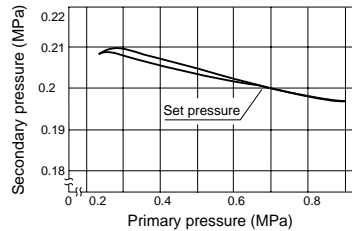
Note 2: Always review the set pressure for back pressure on Page 333 when selecting a model.

Pressure characteristics

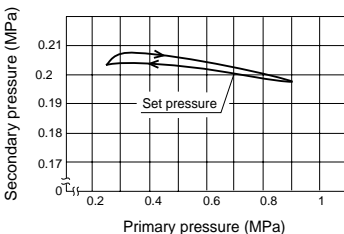
• R1100



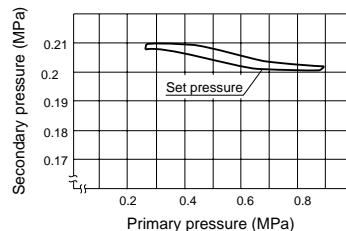
• R3100



• R4100

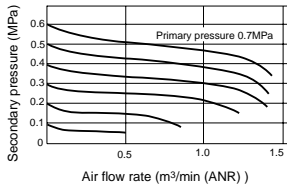


• R8100

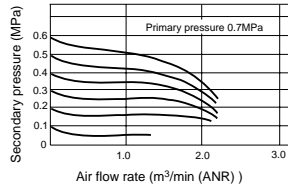


Flow characteristics

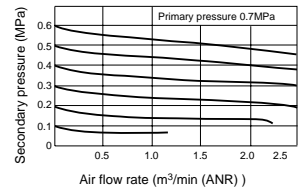
• R1100-6



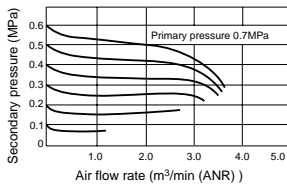
• R1100-8



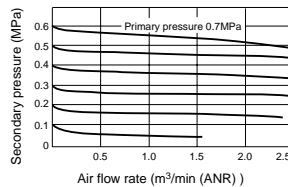
• R3100-8



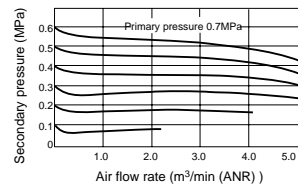
• R3100-10



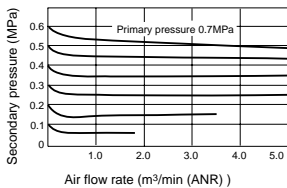
• R4100-8



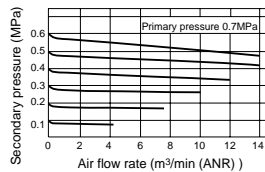
• R4100-10



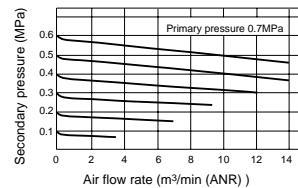
• R4100-15



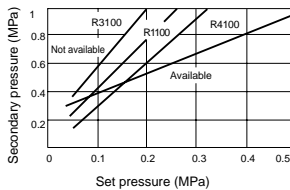
• R8100-20



• R8100-25



• Set pressure range for back pressure



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

E.g: For model R4100, if the set pressure is 0.2MPa, and secondary side back pressure is 0.6MPa and over, the secondary pressure never achieves to the primary side.

- 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
- Seating / close contact conf. SW

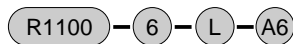
- Pressure SW for coolant
- Flow sensor for air
- Total air system

- Water cooling refrigerator
- Flow sensor for water

F.R.L. unit
Reverse regulator

Regulator Series

How to order



A Model

B Port size

C Option
 Note 1
 Note 2
 Note 3
 Note 4
 Note 5
 *Refer to Page 267 for explanation on options.

D Attachment
 Note 6
 Note 7

| A Model | | | |
|---------|-------|-------|-------|
| R1100 | R3100 | R4100 | R8100 |

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

| C Option | | | | | | |
|----------------|-------|---|---|---|---|---|
| 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 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 | ● | ● | ● | ● |

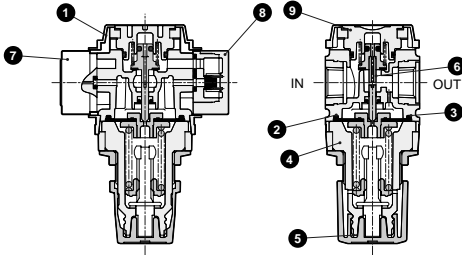
⚠ Note on model No. selection

- Note 1: 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: Positions of a check valve and a pressure gauge can not be changed. If the reverse direction of IN and OUT is required, indicate "X1" in the end of optional sections.
- Note 4: For "T", a gauge plug is assembled instead of a pressure gauge.
- Note 5: Refer to Page 259 for "R1" for details.
Working temperature range is 5 to 50 °C.
- Note 6: A piping adaptor set A*00-* (refer to page 586) is attached.
- Note 7: Refer to "auxiliary components" (Page 557 to) for attachments.
Also, a piping adapter set and a C type bracket can not be used together.

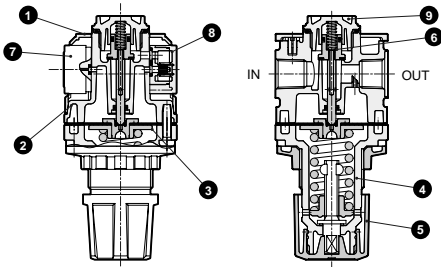
Regulator

Internal structure and parts list

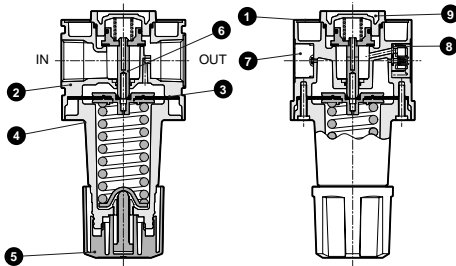
• R1100



• R3100 / R4100



• R8100

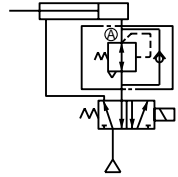


Functional explanation

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.

• Circuit diagram

When head side and rod side pressure of a cylinder differ.




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*.

| No. | Part name | Material | | | |
|-----|----------------------------|--|---|-------|-------------------|
| | | R1100 | R3100 | R4100 | R8100 |
| 1 | Plate cover | ABS resin | | | |
| 2 | Body | Aluminum ally die casting | | | |
| 3 | Diaphragm assembly | Polyacetal resin Nitrile rubber | Zinc alloy die-casting and nitrile rubber | | |
| 4 | Cover | Polyamide resin | PBT resin | | Aluminum ally die |
| 5 | Knob | Polyacetal resin | | | |
| 6 | Valve assembly | Brass and nitrile rubber | | | |
| 7 | Pressure gauge assembly | PBT resin, nitrile rubber, polyacetal resin, polycarbonate resin, brass and copper | | | |
| 8 | Check valve total assembly | PBT resin, nitrile rubber, stainless steel wire and steel | | | |
| 9 | Bottom plug | Polyacetal resin | | | Aluminum ally die |

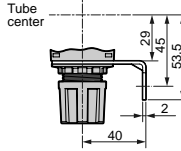
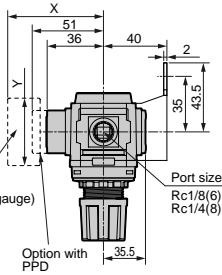
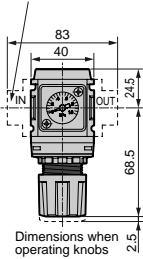
Note 1: Refer to Page 338 for repair kits.

Regulator Series

Dimensions

- R1100  (File name: Page 364 or Ending 16)

Attachment
(Piping adapter set)

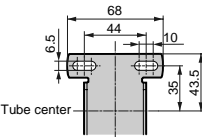


Panel cut dimension

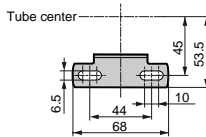


Panel plate thickness: Max. 6mm

Attachment (C type bracket)




Attachment (L type bracket)

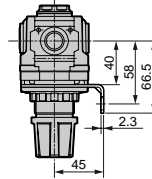
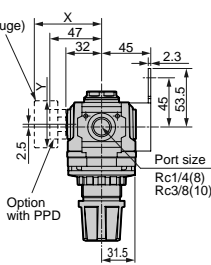
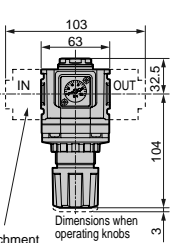


Pressure gauge attached option dimensions table

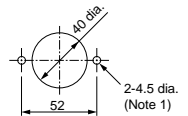
| Attached pressure gauge | X | Y |
|-------------------------|--------|-----------|
| G49P | (73) | 43.5 dia. |
| G59P | (78) | 52 dia. |
| G40P | (74.5) | 42.5 dia. |
| G50P | (75.5) | 52.5 dia. |
| G41P | (74) | 42 dia. |

- R3100  (File name: Page 364 or Ending 16)

Attachment
(Pressure gauge)

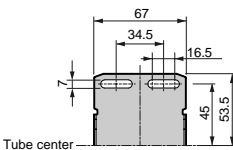


Panel cut dimension

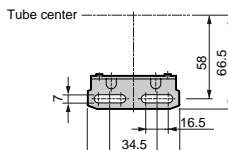


Panel plate thickness: Max. 7mm

Attachment (C type bracket)



Attachment (L type bracket)




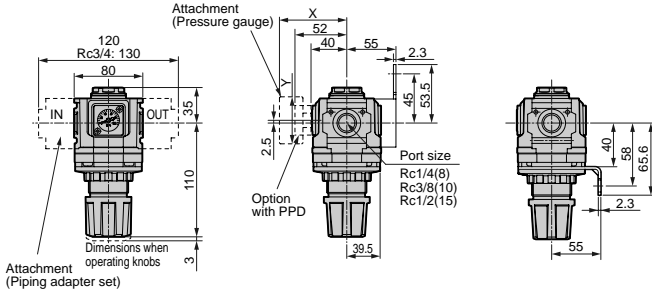
Pressure gauge attached option dimensions table

| 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. |

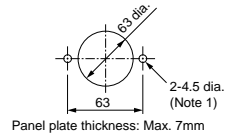
Note 1. Non-rotating fixing can be done by M4 screw. Screw length is to be plate thickness +8mm or less, and a set screw can be screwed into without female thread machining.

Dimensions

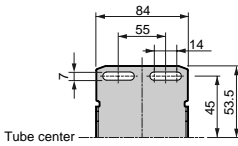
- R4100  (File name: Page 364 or Ending 16)



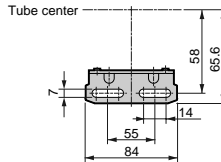
Panel cut dimension



Attachment (C type bracket)




Attachment (L type bracket)

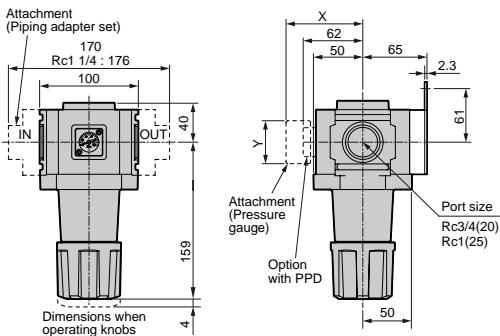


Note 1. Non-rotating fixing can be done by M4 screw. Screw length is to be plate thickness +8mm or less, a set screw can be screwed into without female machining.

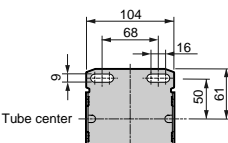
Pressure gauge attached option dimensions table

| 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. |

- R8100  (File name: Page 364 or Ending 16)



Attachment (C type bracket)



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. |

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
Reverse regulator

Regulator Series

Optional parts drawing

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

| Repair kits model no. Model | Relief type diaphragm | Non-relief type diaphragm |
|--------------------------------|-----------------------|---------------------------|
| R1000, R1100 | R1000-KIT | R1000-KIT-N |
| R3000, R3100 | R3000-KIT | R3000-KIT-N |
| R4000, R4100 | R4000-KIT | R4000-KIT-N |
| R8000, R8100 | R8000-KIT | R8000-KIT-N |

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

| Model | Valve assembly model no. |
|--------------|--------------------------|
| R1000, R1100 | R1000-VALVE-ASSY |
| R3000, R3100 | R3000-VALVE-ASSY |
| R4000, R4100 | R4000-VALVE-ASSY |
| R8000, R8100 | R8000-VALVE-ASSY |

*Refer to Page 113 for gauge plug assembly.

Check valve assembly for reverse regulator

| Model | Check valve assembly model no. |
|--|--------------------------------|
| R1100, W1100 | R1100-CHECK-VALVE-ASSY |
| R3100, W3100 R4100, W4100 R8100, W8100 | R3100-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, R1100 W1000, W1100 | R1000-SPRING | R1000-SPRING-L |
| R3000, R3100 W3000, W3100 | R3000-SPRING | R3000-SPRING-L |
| R4000, R4100 W4000, W4100 | R4000-SPRING | R4000-SPRING-L |
| R8000, R8100 | R8000-SPRING | R8000-SPRING-L |
| W8000, W8100 | W8000-SPRING | W8000-SPRING-L |

Diaphragm assembly (diaphragm assembly only)

| Diaphragm assembly model no. Model | Relief type diaphragm | Non-relief type diaphragm |
|---------------------------------------|-----------------------|---------------------------|
| R1000, R1100 W1000, W1100 | R1000-DIAPHRAGM-ASSY | R1000-DIAPHRAGM-ASSY-N |
| R3000, R3100 W3000, W3100 | R3000-DIAPHRAGM-ASSY | R3000-DIAPHRAGM-ASSY-N |
| R4000, R4100 W4000, W4100 | R4000-DIAPHRAGM-ASSY | R4000-DIAPHRAGM-ASSY-N |
| R8000, R8100 | R8000-DIAPHRAGM-ASSY | R8000-DIAPHRAGM-ASSY-N |
| W8000, W8100 | W8000-DIAPHRAGM-ASSY | W8000-DIAPHRAGM-ASSY-N |

