



Regulator Standard White Series R1000/R2000/R3000 R4000/R6000/R8000-W Series

Compact, pressure gauge embedded.

● Port size: 1/8 to 1

JIS symbol



Specifications

| Item | R1000-W | R2000-W | R3000-W | R4000-W | R6000-W | R8000-W |
|---------------------------------|--|-----------------------------------|-----------------------------------|--|-----------------------------------|-----------------------------------|
| Appearance | | | | | | |
| Working fluid | Compressed air | | | | | |
| Max. working pressure MPa | 1.0 (≈150 psi, 10 bar) | | | | | |
| Proof pressure MPa | 1.5 (≈220 psi, 15 bar) | | | | | |
| Ambient / fluid temperatures °C | 5 (41°F) to 60 (140°F) *1 | | | | | |
| Set pressure MPa | 0.05 (≈7.3 psi, 0.5 bar) to 0.85 (≈120 psi, 8.5 bar) | | | | | |
| Pressure 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) |
| Weight kg | 0.16 | 0.31 | 0.45 | 0.7 | 1.0 | 1.6 |
| Standard accessories | Pressure gauge, nut for panel mount | | | | | Pressure gauge |

*1: The ambient / fluid temperatures is 5 to 50°C for pressure switch with display PPR assembly "RN"/"RP" or digital pressure sensor PPX attachment "R2".

Option weight

* Add to the weight of the standard accessories.

Unit: kg

| Code | Pressure gauge | | Pipe adaptor set | | | | | | | Attachment | | |
|-------|----------------|-------|------------------|------|-------|-------|-------|-------|-------|------------|------|------|
| | T* | RN/RP | A6*W | A8*W | A10*W | A15*W | A20*W | A25*W | A32*W | BW | B3W | B4W |
| R1000 | 0 | 0.04 | 0.09 | 0.09 | 0.09 | | | | | 0.1 | 0.04 | |
| R2000 | 0 | 0.04 | | 0.16 | 0.16 | 0.16 | | | | 0.15 | 0.06 | 0.17 |
| R3000 | 0 | 0.04 | | 0.16 | 0.16 | 0.16 | | | | 0.17 | 0.07 | |
| R4000 | 0 | 0.04 | | 0.16 | 0.16 | 0.16 | 0.16 | | | 0.21 | 0.11 | |
| R6000 | 0 | 0.04 | | | | | 0.53 | 0.53 | 0.53 | 0.34 | 0.11 | |
| R8000 | 0 | 0.04 | | | | | 0.53 | 0.53 | 0.53 | 0.36 | | |

| Code | Attachment | | | | | |
|-------|------------|-------|-------|-------|------|------|
| | G45P | G49P | G59P | G40P | G52P | R2 |
| R1000 | 0.074 | 0.086 | 0.115 | 0.085 | 0.15 | 0.04 |
| R2000 | 0.074 | 0.086 | 0.115 | 0.085 | 0.15 | 0.04 |
| R3000 | 0.074 | 0.086 | 0.115 | 0.085 | 0.15 | 0.04 |
| R4000 | 0.074 | 0.086 | 0.115 | 0.085 | 0.15 | 0.04 |
| R6000 | 0.074 | 0.086 | 0.115 | 0.085 | 0.15 | 0.04 |
| R8000 | 0.074 | 0.086 | 0.115 | 0.085 | 0.15 | 0.04 |

Ozone-proof specs (Ending Page 12)

Clean-room specs (Catalog No. CB-033SA)

Specs for rechargeable battery (Catalog No. CC-1226A)

R*000 - ... - W... - **P11**

● Anti-dust generation structure for use in cleanrooms

● Structure compatible with rechargeable battery manufacturing process

R*000 - - **P7***

R*000 - - **P4***

How to order



A Model No.

B Port size

C Port thread

D Option

E Unit indicated *9

* Refer to page 30 for the explanation of the option.

| A Model No. | | | | | |
|---|--|---|-------|-------|-------|
| R1000 | R2000 | R3000 | R4000 | R6000 | R8000 |
| F Pipe adaptor set (attachments) | | | | | |
| Code | | Description | | | |
| B Port size | | | | | |
| 6 | 1/8 | ● | | | |
| 8 | 1/4 | ● | ● | ● | |
| 10 | 3/8 | | ● | ● | |
| 15 | 1/2 | | | ● | |
| 20 | 3/4 | | | | ● |
| 25 | 1 | | | | ● |
| C Port thread | | | | | |
| Blank | | Rc thread | | | |
| N | | NPT thread | | | |
| G | | G thread | | | |
| D Option | | | | | |
| Pressure range | Blank | 0.05 to 0.85 MPa | | | |
| | L | 0.05 to 0.35 MPa *3 | | | |
| Pressure relief | Blank | With relief mechanism | | | |
| | N | Non-relief | | | |
| Pressure gauge | Blank | With standard pressure gauge (G401-W) | | | |
| | T | No pressure gauge (gauge port (1/4) is assembled sealed) | | | |
| | T8 | Pressure gauge ready (gauge port (1/4) is left open) | | | |
| | T6 | Digital pressure sensor PPX attachment option *4 | | | |
| | RN | Pressure switch with display, PPR assembled (NPN output 1 point) | | | |
| Flow direction | RP | Pressure switch with display, PPR assembled (PNP output 1 point) | | | |
| | Blank | Standard flow (left → right), knob downward | | | |
| | X1 | Reverse flow (right → left), knob downward | | | |
| | X2 | Standard flow (left → right), knob upward | | | |
| X3 | Reverse flow (right → left), knob upward | | | | |
| E Unit indicated | | | | | |
| Blank | | MPa display (Rc thread), psi display (NPT thread), bar display (G thread) | | | |
| J1 | | MPa display (NPT, G threads) | | | |
| F Pipe adaptor set (attachments) | | | | | |
| Blank | | Not included | | | |
| A6*W | | 1/8 pipe adaptor set | | | |
| A8*W | | 1/4 pipe adaptor set | | | |
| A10*W | | 3/8 pipe adaptor set | | | |
| A15*W | | 1/2 pipe adaptor set | | | |
| A20*W | | 3/4 pipe adaptor set | | | |
| A25*W | | 1 pipe adaptor set | | | |
| A32*W | | 1 1/4 pipe adaptor set | | | |
| * Adaptor thread | | | | | |
| Blank | | Rc thread | | | |
| N | | NPT thread | | | |
| G | | G thread | | | |
| G Attachment | | | | | |
| Blank | | Not included | | | |
| BW | | C-bracket | | | |
| B3W | | L-bracket *8 | | | |
| B4W | | B-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) | | | |
| G52P | | G52D-8-P10(L:G52D-8-P10) | | | |
| R 2 *4 | | Digital pressure sensor: PPX-R10N-6M | | | |

| |
|---------------------------------|
| F.R.L. |
| F.R. |
| F (Filtr) |
| R (Reg) |
| L (Lub) |
| Drain Separ |
| Mech Press SW |
| Res press exh valve |
| SlowStart |
| Anti-bac/Bac-remove Filtr |
| Film Resist FR |
| Oil-ProhR |
| Med Press FR |
| No Cu/ PTFE FRL |
| Outdrs FRL |
| Adapter Joiner Press Gauge |
| CompFRL |
| LgFRL |
| PrecsR |
| VacF/R |
| Clean FR |
| ElecPneuR |
| AirBoost |
| Speed Ctrl |
| Silncr |
| CheckV/ other |
| Fit/Tube |
| Nozzle |
| Air Unit |
| PrecsCompn |
| Electro Press SW |
| ContactSW |
| AirSens |
| PresSW Cool |
| Air Flo Sens/Ctrl |
| WaterRISens |
| TotAirSys (Total Air) |
| TotAirSys (Gamma) Gas generator |
| RefrDry |
| DesicDry |
| HiPolymDry |
| MainFiltr |
| Dischrg etc |
| Ending |

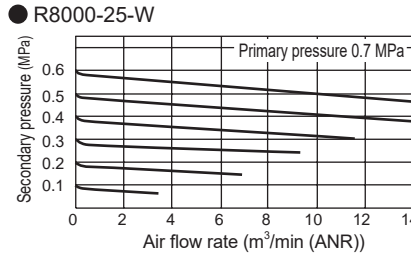
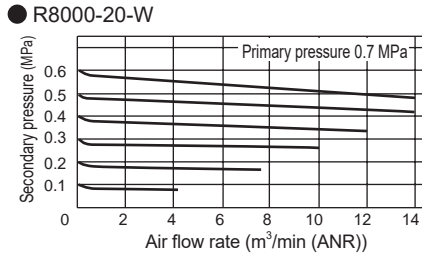
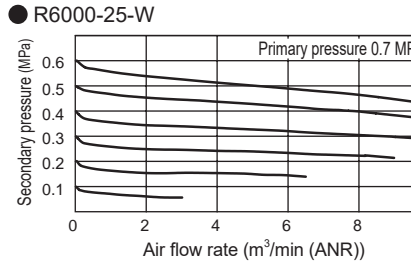
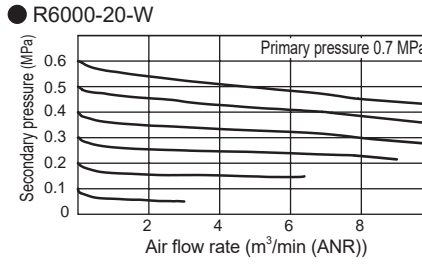
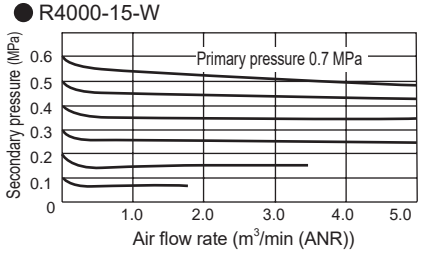
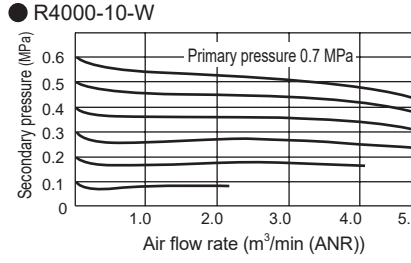
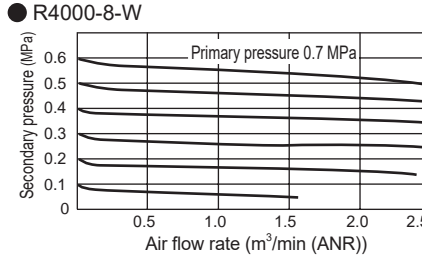
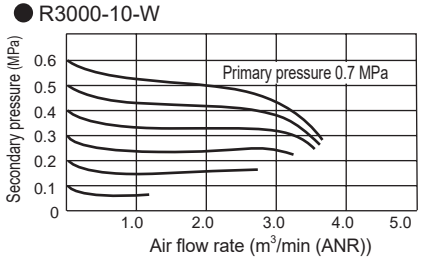
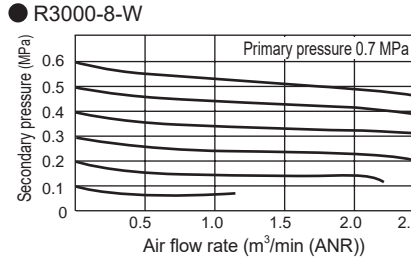
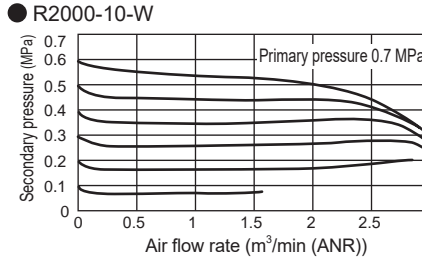
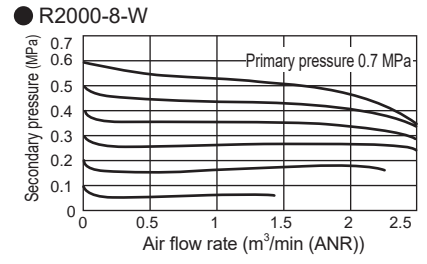
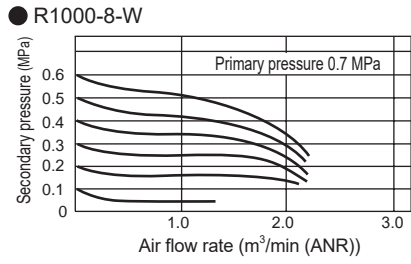
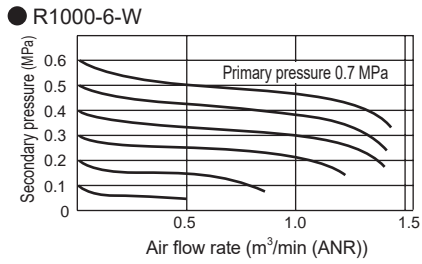
⚠ Precautions for model No. selection

- *1: G threads and NPT threads are available for IN, OUT and gauge ports.
- *2: When selecting options for several items, list options in order from the top.
- *3: The pressure gauge's indication range is 0 to 0.4 MPa for the option "L".
- *4: When the option "T6" is selected, only "Blank" or "R2" can be selected for G Other attachments. The digital pressure sensor PPX mounting port (Rc1/8) is left open.
- *5: The pipe adaptor set and C-bracket cannot be used together.
- *6: The joiner set is enclosed with the pipe adaptor set.
- *7: The pressure gauge and digital pressure sensor (included) can be selected only when C Port thread is Rc thread.
- *8: For details on mounting the L-bracket, refer to (2. Regulator) of "⚠ Cautions and Installation & Adjustment" (page 357).
- *9: Display unit options when selecting NPT threads: If Blank is selected, the pressure unit is psi and the temperature display unit is °F. When G thread and Blank display unit option are selected, the pressure unit will be bar and the temperature display unit will be °C. When NPT/G thread and "J1" display unit option are selected, the pressure unit will be MPa and the temperature display unit will be °C.

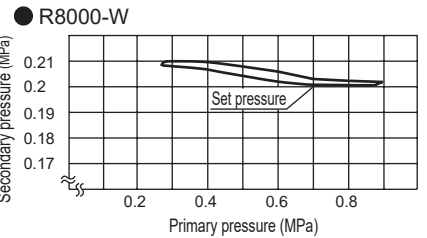
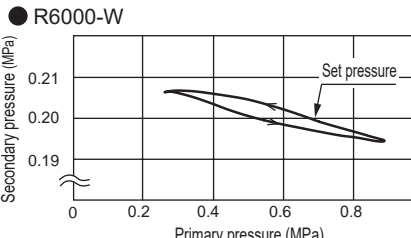
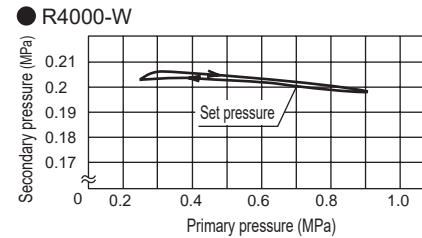
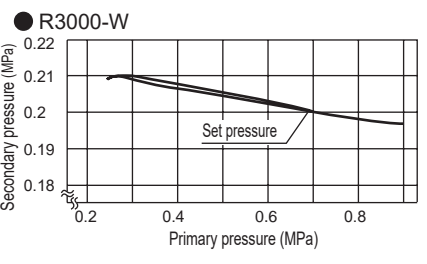
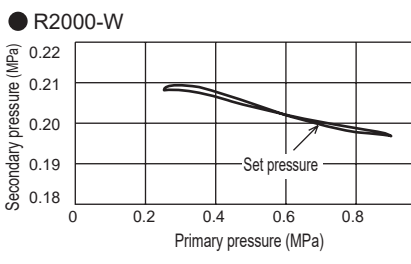
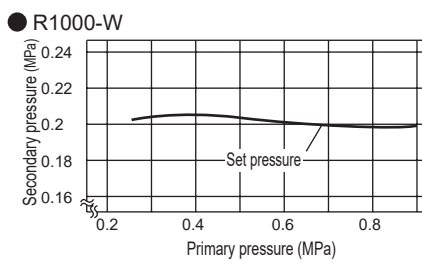
Regulator Series

F.R.L. Flow characteristics

- F.R.
- F (Filtr)
- R (Reg)**
- L (Lub)
- Drain Separ
- Mech Press SW
- Res press exh valve
- SlowStart
- Anti-bac/remove Filtr
- Film Resist FR
- Oil-Prohr
- Med Press FR
- No Cu/PTFE FRL
- Outdrs FRL
- Adapter Joiner Press Gauge
- CompFRL
- LgFRL
- PrecsR
- VacF/R
- Clean FR
- ElecPneUR
- AirBoost
- Speed Ctrl
- Silncr
- CheckV/other
- Fit/Tube
- Nozzle
- Air Unit
- PrecsCompn
- Electro Press SW
- ContactSW
- AirSens
- PresSW Cool
- Air Flo Sens/Ctrl
- WaterRiSens
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Gas generator
- RefrDry
- DesiccDry
- HiPolymDry
- MainFiltr
- Dischrg etc
- Ending

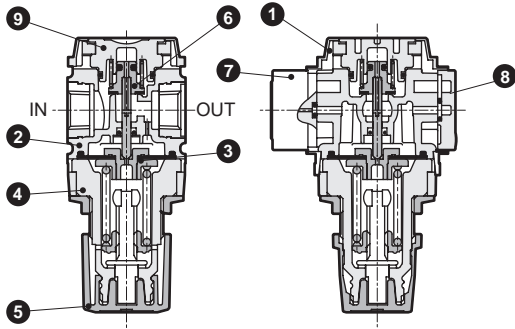


Pressure characteristics

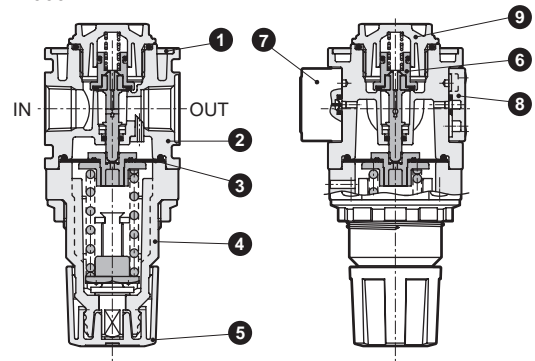


Internal structure and parts list

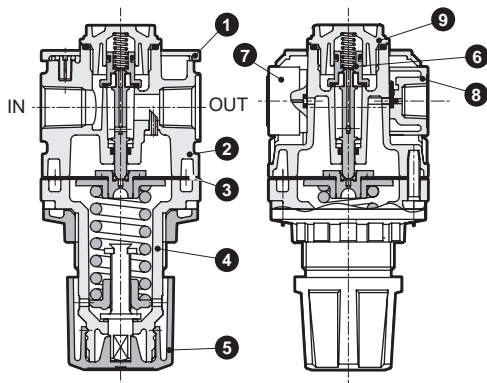
● R1000-W



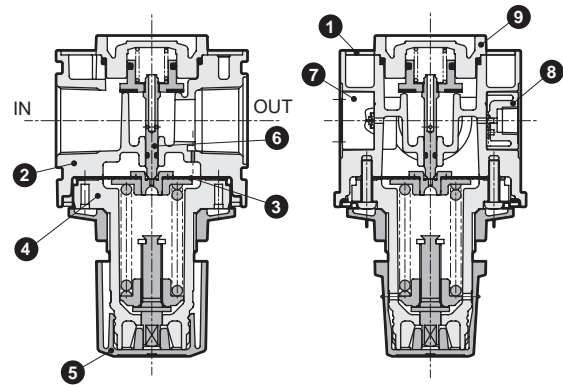
● R2000-W



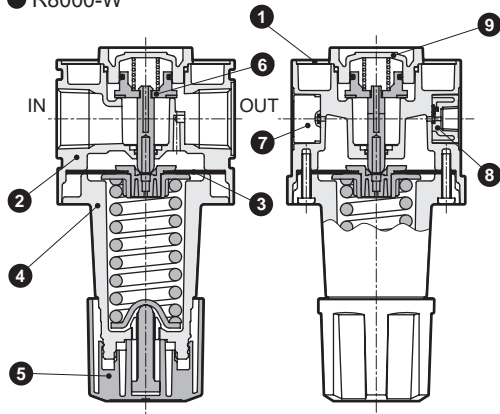
● R3000-W/R4000-W



● 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 *3 | | | |
| 4 | Cover | Polyamide resin | PBT resin | | | | Aluminum alloy die-casting |
| 5 | Knob | Polyacetal resin | | | | | |
| 6 | Valve assembly | Copper alloy, hydrogenated nitrile rubber (polyacetal resin: R2000, R3000, 4000, 8000) | | | | | |
| 7 | Pressure gauge assembly | PBT resin, nitrile rubber, polyacetal resin, polycarbonate resin, copper alloy, steel | | | | | |
| 8 | Gauge plug assembly | Polyamide resin, nitrile rubber, steel | | | | | |
| | Blanking plug assembly *1 | PBT resin, nitrile rubber, copper | | - | - | - | |
| 9 | Bottom plug *4 | Polyacetal resin | | | | Aluminum alloy die-casting | |

*1: A blanking plug is attached to R1000-W and R2000-W standard types.

*2: Refer to page 151 for repair parts.

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

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

- F.R.L.
- F.R.
- F (Filtr)
- R (Reg)
- L (Lub)
- Drain Separ
- Mech Press SW
- Res press exh valve
- SlowStart
- Anti-bac/Bac-remove Filtr
- Film Resist FR
- Oil-ProhR
- Med Press FR
- No Cu/ PTFE FRL
- Outdris FRL
- Adapter Joiner Press Gauge
- CompFRL
- LgFRL
- PreCsR
- VacF/R
- Clean FR
- ElecPneuR
- AirBoost
- Speed Ctrl
- SilIncr
- CheckV/ other
- Fit/Tube
- Nozzle
- Air Unit
- PresCompn
- Electro Press SW
- ContactSW
- AirSens
- PresSW Cool
- Air Flo Sens/Ctrl
- WaterRISens
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Gas generator
- RefrDry
- DesicDry
- HiPolymDry
- MainFiltr
- Dischrg etc
- Ending

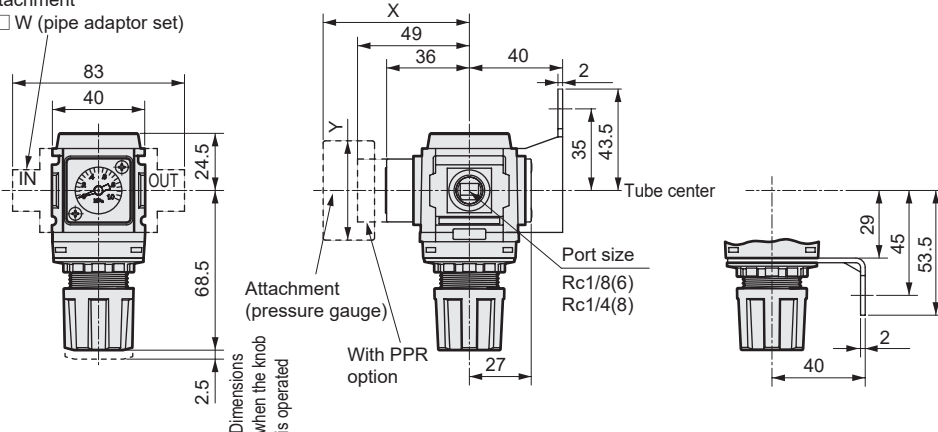
Regulator Series



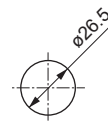
F.R.L. Dimensions

F.R. ● R1000-W

Attachment
A□W (pipe adaptor set)



Panel cut dimension



Panel plate thickness: max. 6 mm

Pressure gauge attached optional dimensions table

| Pressure gauge | X | Y |
|----------------|--------|-------|
| G45P | (74) | ø39 |
| G49P | (73.5) | ø43.5 |
| G59P | (76) | ø52 |
| G40P | (75.5) | ø42.5 |
| G52P | (86) | ø52.5 |
| R2 | (74) | □30 |

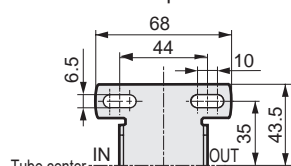
Attachment

C-bracket (-BW)

Part model No.: B120

Material: Steel

Zinc plated

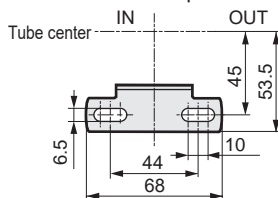


L-bracket (-B3W) Part

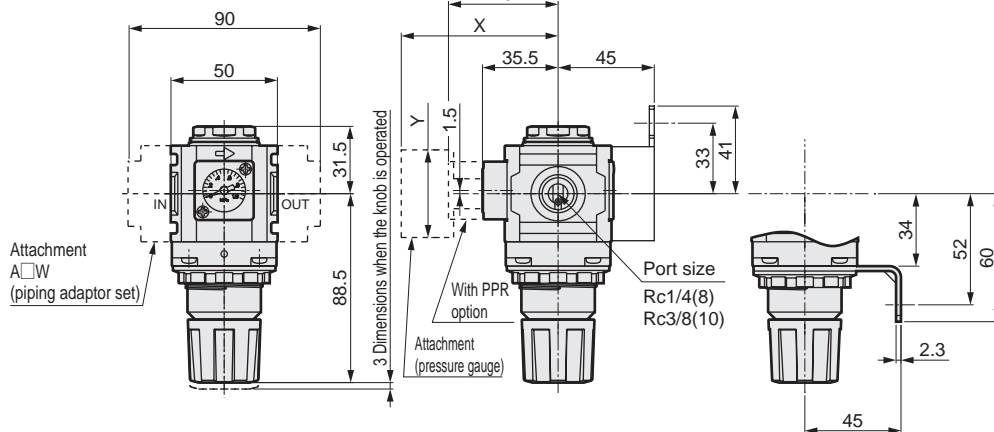
model No.: B130

Material: Steel

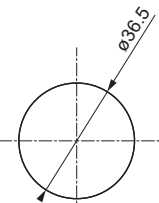
Zinc plated



● R2000-W



Panel cut dimension



Panel plate thickness: max. 4 mm

Pressure gauge attached optional dimensions table

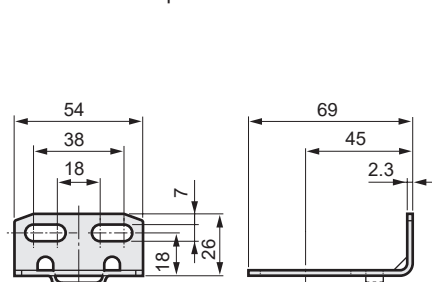
| Pressure gauge | X | Y |
|----------------|--------|-------|
| G45P | (73.5) | ø39 |
| G49P | (73) | ø43.5 |
| G59P | (75.5) | ø52 |
| G40P | (75) | ø42.5 |
| G52P | (85.5) | ø52.5 |
| R2 | (73) | □30 |

● L-bracket (-B3W)

Part model No.: B230

Material: Steel

Zinc plated

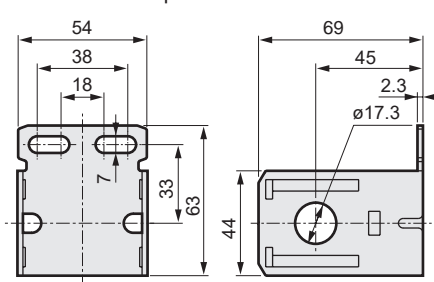


● C-bracket (-BW)

Part model No.: B220

Material: Steel

Zinc plated

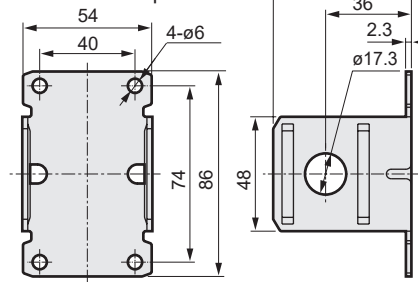


● B-bracket (-B4W)

Part model No.: B240

Material: Steel

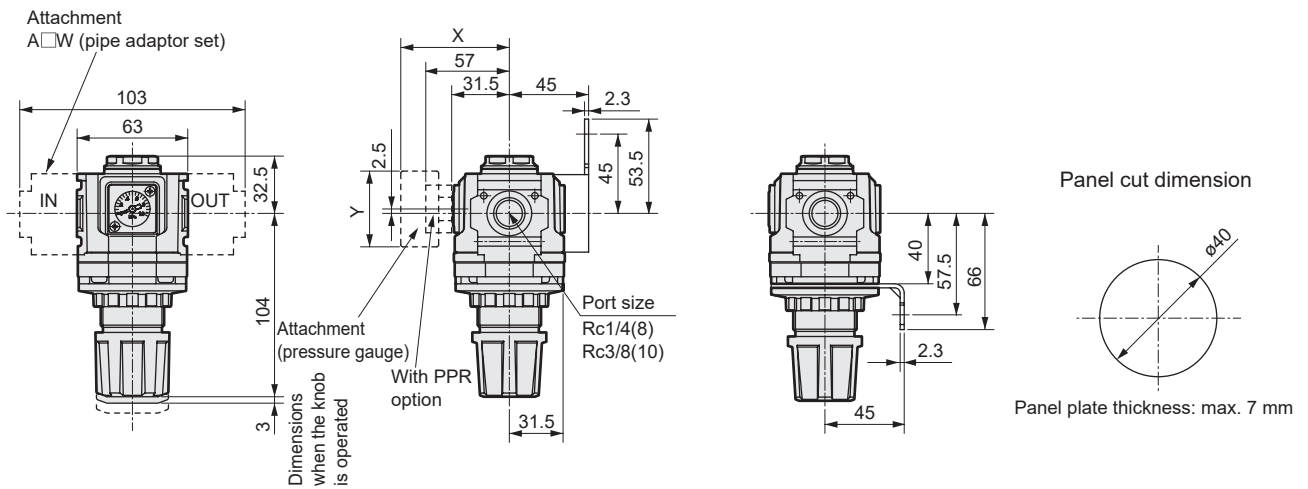
Zinc plated



Dimensions

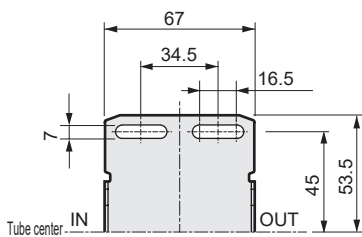


● R3000-W



- Attachment (C-bracket)
- C-bracket (-BW)
- Part model No.: B320
- Material: Steel

Zinc plated

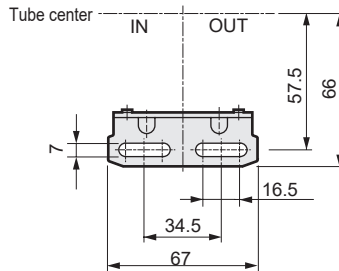


L-bracket (-B3W)

Part model No.: B330

- Material: Steel

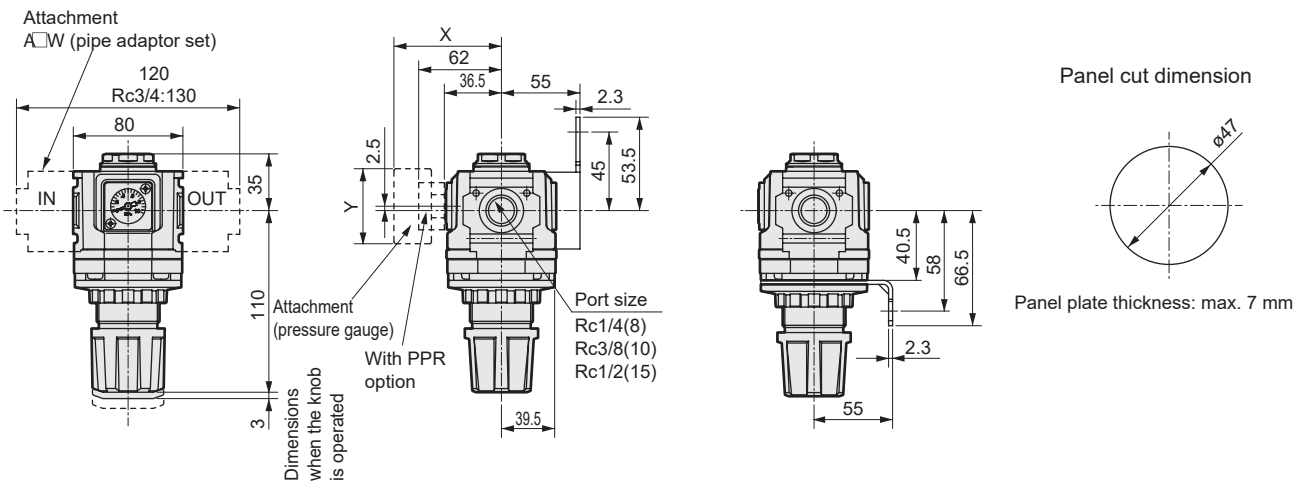
Zinc plated



Pressure gauge attached optional dimensions table

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

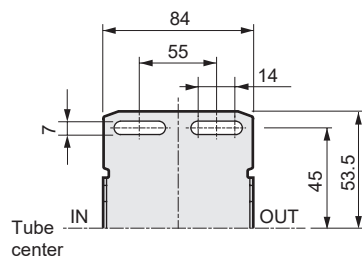
● R4000-W



- Attachment

- C-bracket (-BW)
- Part model No.: B420
- Material: Steel

Zinc plated

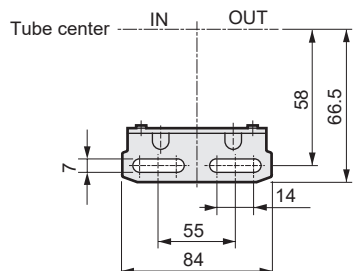


L-bracket (-B3W)

Part model No.: B430

- Material: Steel

Zinc plated



Pressure gauge attached optional dimensions table

| Pressure gauge | X | Y |
|----------------|--------|-------|
| G45P | (75) | ø39 |
| G49P | (74.5) | ø43.5 |
| G59P | (77) | ø52 |
| G40P | (76.5) | ø42.5 |
| G52P | (86) | ø52.5 |
| R2 | (75) | □30 |

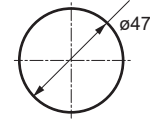
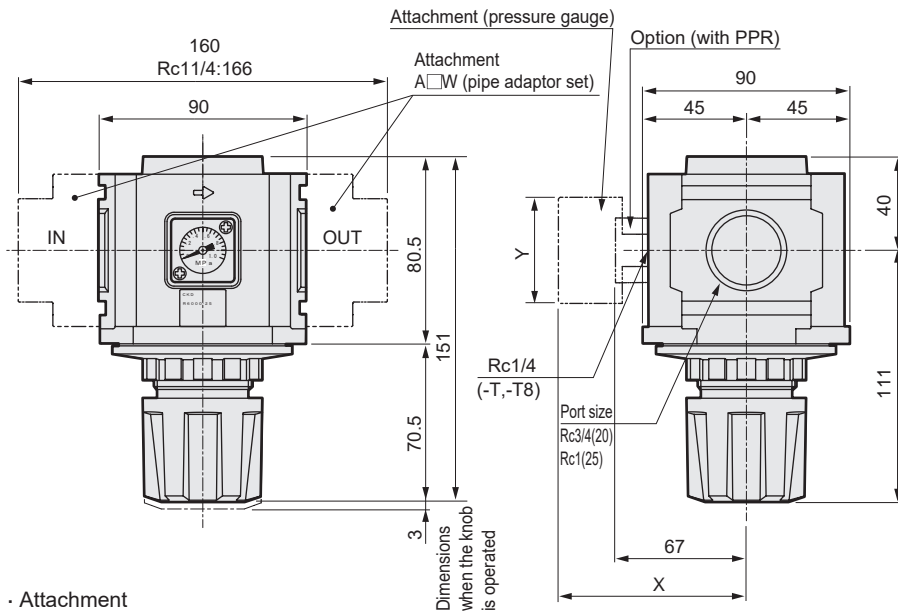
- F.R.L.
- F.R.
- F (Filtr)
- R (Reg)**
- L (Lub)
- Drain Separ
- Mech Press SW
- Res press exh valve
- SlowStart
- Anti-bac/Bac-remove Filtr
- Film Resist FR
- Oil-Prohr
- Med Press FR
- No Cu/ PTFE FRL
- Outdrs FRL
- Adapter Joiner Press Gauge
- CompFRL
- LgFRL
- PrecsR
- VacF/R
- Clean FR
- ElecPneuR
- AirBoost
- Speed Ctrl
- Silncr
- CheckV/ other
- Fit/Tube
- Nozzle
- Air Unit
- PresCompn
- Electro Press SW
- ContactSW
- AirSens
- PresSW Cool
- Air Flo Sens/Ctrl
- WaterRISens
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Gas generator
- RefrDry
- DesicDry
- HiPolymDry
- MainFiltr
- Dischrg etc
- Ending

Regulator Series



F.R.L. Dimensions

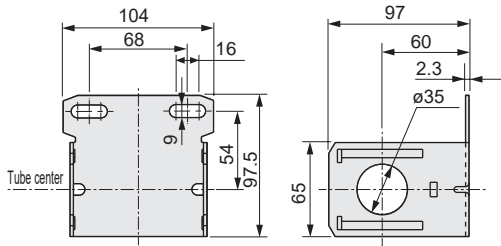
F.R. ● R6000-W



Panel cut dimension
(Panel plate thickness: max. 7 mm)

Attachment
C-bracket (-BW)
Part model No.: B620
Material: Steel
Zinc plated

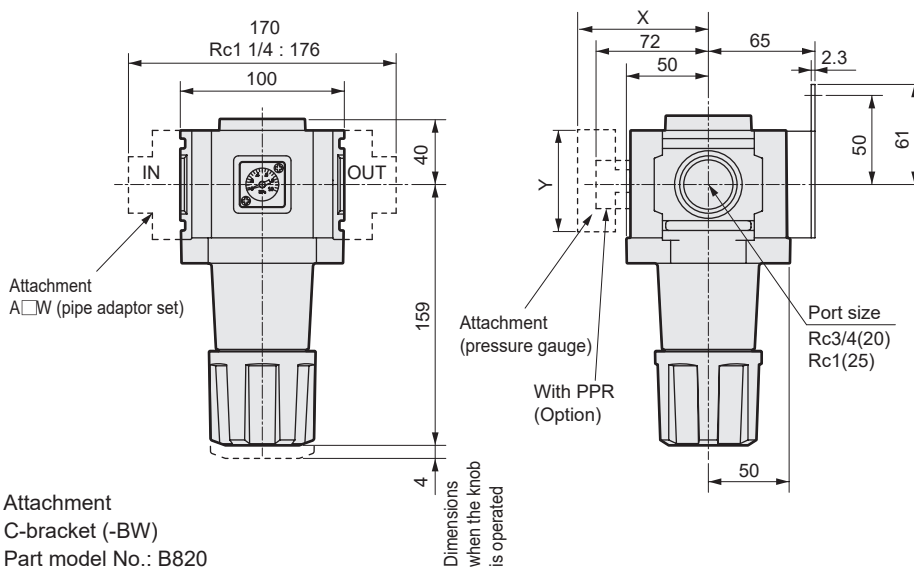
L-bracket (-B3W)
Part model No.: B430
Material: Steel
Zinc plated



Pressure gauge attached optional dimensions table

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

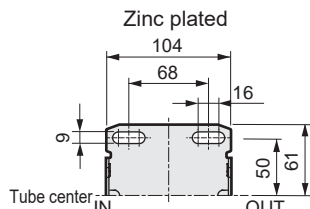
● R8000-W



Attachment
C-bracket (-BW)
Part model No.: B820
Material: Steel
Zinc plated

Pressure gauge attached optional dimensions table

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



| |
|-------------------------------|
| F.R.L. |
| F.R. |
| F (Filtr) |
| R (Reg) |
| L (Lub) |
| Drain Separ |
| Mech Press SW |
| Res press exh valve |
| SlowStart |
| Anti-bac/Bac- remove Filtr |
| Film Resist FR |
| Oil-ProhR |
| Med Press FR |
| No Cu/ PTFE FRL |
| Outdrs FRL |
| Adapter Joiner |
| Press Gauge |
| CompFRL |
| LgFRL |
| PrecsR |
| VacF/R |
| Clean FR |
| ElecPneuR |
| AirBoost |
| Speed Ctrl |
| Silncr |
| CheckV/ other |
| Fit/Tube |
| Nozzle |
| Air Unit |
| PresCompn |
| Electro Press SW |
| ContactSW |
| AirSens |
| PresSW Cool |
| Air Flo Sens/Ctrl |
| WaterRISens |
| TotAirSys (Total Air) |
| TotAirSys (Gamma) |
| Gas generator |
| RefrDry |
| DesicDry |
| HiPolymDry |
| MainFiltr |
| Dischrg etc |
| Ending |



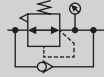
Reverse regulator Standard White Series

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

From secondary pressure to primary side with reverse flow function built in.

● Port size: 1/8 to 1

JIS symbol



Specifications

| Item | R1100-W | R2100-W | R3100-W | R4100-W | R6100-W | R8100-W |
|---------------------------------|--|----------------------------------|----------------------------------|--------------------------------------|----------------------------------|----------------------------------|
| Appearance | | | | | | |
| Working fluid | Compressed air | | | | | |
| Max. working pressure MPa | 1.0 (≈150 psi, 10 bar) | | | | | |
| Proof pressure MPa | 1.5 (≈220 psi, 15 bar) | | | | | |
| Ambient / fluid temperatures °C | 5 (41°F) to 60 (140°F) *2 | | | | | |
| Set pressure (*1) MPa | 0.05 (≈7.3 psi, 0.5 bar) to 0.85 (≈120 psi, 8.5 bar) | | | | | |
| Pressure 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) |
| Weight kg | 0.16 | 0.31 | 0.45 | 0.7 | 1.0 | 1.6 |
| Standard accessories | Pressure gauge, nut for panel mount | | | | | Pressure gauge |

*1: Refer to the set pressure range for the back pressure given on page 146 when selecting the model.

*2: The ambient / fluid temperatures is 5 to 50°C for the pressure switch with display PPR assembly "RN"/"RP" or digital pressure sensor PPX attachment "R2".

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

Option weight

* Add to the weight of the standard accessories.

Unit: kg

| Code | Pressure gauge | | Pipe adaptor set | | | | | | | Attachment | | |
|-------|----------------|-------|------------------|------|-------|-------|-------|-------|-------|------------|------|------|
| | T* | RN/RP | A6*W | A8*W | A10*W | A15*W | A20*W | A25*W | A32*W | BW | B3W | B4W |
| R1100 | 0 | 0.04 | 0.09 | 0.09 | 0.09 | | | | | 0.1 | 0.04 | |
| R2100 | 0 | 0.04 | | 0.16 | 0.16 | 0.16 | | | | 0.15 | 0.06 | 0.17 |
| R3100 | 0 | 0.04 | | 0.16 | 0.16 | 0.16 | | | | 0.17 | 0.07 | |
| R4100 | 0 | 0.04 | | 0.16 | 0.16 | 0.16 | 0.16 | | | 0.21 | 0.11 | |
| R6100 | 0 | 0.04 | | | | | 0.53 | 0.53 | 0.53 | 0.34 | 0.11 | |
| R8100 | 0 | 0.04 | | | | | 0.53 | 0.53 | 0.53 | 0.36 | | |

| Code | Attachment | | | | | |
|-------|------------|-------|------|-------|------|------|
| | G45P | G49P | G59P | G40P | G52P | R2 |
| R1100 | 0.074 | 0.086 | 0.12 | 0.085 | 0.15 | 0.04 |
| R2100 | 0.074 | 0.086 | 0.12 | 0.085 | 0.15 | 0.04 |
| R3100 | 0.074 | 0.086 | 0.12 | 0.085 | 0.15 | 0.04 |
| R4100 | 0.074 | 0.086 | 0.12 | 0.085 | 0.15 | 0.04 |
| R6100 | 0.074 | 0.086 | 0.12 | 0.085 | 0.15 | 0.04 |
| R8100 | 0.074 | 0.086 | 0.12 | 0.085 | 0.15 | 0.04 |

Ozone-proof specs (Ending Page 13)

Clean-room specs (Catalog No. CB-033SA)

Specs for rechargeable battery (Catalog No. CC-1226A)

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

● Anti-dust generation structure for use in cleanrooms

● Structure compatible with rechargeable battery manufacturing process

R*100 - - P7*

R*100 - - P4*

How to order



A Model No.

B Port size

C Port thread

D Option

E Display unit
*10

* Refer to page 30 for the explanation of the option.

| | | Model No. | | | | | |
|--------------------------------------|---|---|-------|-------|-------|-------|-------|
| | | R1100 | R2100 | R3100 | R4100 | R6100 | R8100 |
| F Pipe adaptor set (included) | | *6, *7 Page 350 | | | | | |
| Code | Description | | | | | | |
| B Port size | | | | | | | |
| 6 | 1/8 | ● | | | | | |
| 8 | 1/4 | ● | ● | ● | ● | | |
| 10 | 3/8 | | ● | ● | ● | | |
| 15 | 1/2 | | | | ● | | |
| 20 | 3/4 | | | | | ● | ● |
| 25 | 1 | | | | | ● | ● |
| C Port thread | | *1 | | | | | |
| Code | Description | | | | | | |
| Blank | Rc thread | ● | ● | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● | ● | ● |
| D Option | | *2, *3 | | | | | |
| Code | Description | | | | | | |
| Pressure range | Blank | 0.05 to 0.85 MPa | ● | ● | ● | ● | ● |
| | L | 0.05 to 0.35 MPa *4 | ● | ● | ● | ● | ● |
| Pressure relief | Blank | With relief mechanism | ● | ● | ● | ● | ● |
| | N | Non-relief | ● | ● | ● | ● | ● |
| Pressure gauge | Blank | With standard pressure gauge (G401-W) | ● | ● | ● | ● | ● |
| | T | No pressure gauge (gauge port (1/4) is assembled sealed) | ● | ● | ● | ● | ● |
| | T8 | Pressure gauge ready (gauge port (1/4) is left open) | ● | ● | ● | ● | ● |
| | T6 | Digital pressure sensor PPX included option *5 | ● | ● | ● | ● | ● |
| | RN | Pressure switch with display PPR mounted (NPN output 1 point) | ● | ● | ● | ● | ● |
| Flow direction | Blank | Standard flow (left → right), knob downward | ● | ● | ● | ● | ● |
| | X1 | Reverse flow (right → left), knob downward | ● | ● | ● | ● | ● |
| | X2 | Standard flow (left → right), knob upward | ● | ● | ● | ● | ● |
| | X3 | Reverse flow (right → left), knob upward | ● | ● | ● | ● | ● |
| E Display unit | | | | | | | |
| Code | Description | | | | | | |
| Blank | MPa display (Rc thread), psi display (NPT thread), bar display (G thread) | ● | ● | ● | ● | ● | ● |
| J1 | MPa display (NPT, G thread) | ● | ● | ● | ● | ● | ● |
| F Pipe adaptor set (included) | | *6, *7 Page 350 | | | | | |
| Code | Description | | | | | | |
| Blank | Not included | ● | ● | ● | ● | ● | ● |
| A6*W | 1/8 pipe adaptor set | ● | | | | | |
| A8*W | 1/4 pipe adaptor set | ● | ● | ● | ● | | |
| A10*W | 3/8 pipe adaptor set | ● | ● | ● | ● | | |
| A15*W | 1/2 pipe adaptor set | | ● | ● | ● | | |
| A20*W | 3/4 pipe adaptor set | | | | ● | ● | ● |
| A25*W | 1 pipe adaptor set | | | | | ● | ● |
| A32*W | 1 1/4 pipe adaptor set | | | | | ● | ● |
| * Adaptor thread | | | | | | | |
| Code | Description | | | | | | |
| Blank | Rc thread | ● | ● | ● | ● | ● | ● |
| N | NPT thread | ● | ● | ● | ● | ● | ● |
| G | G thread | ● | ● | ● | ● | ● | ● |
| G Other attachments | | *8 Pages 346, 363 | | | | | |
| Code | Description | | | | | | |
| Blank | Not included | ● | ● | ● | ● | ● | ● |
| BW | C-bracket | ● | ● | ● | ● | ● | ● |
| B3W | L-bracket *9 | ● | ● | ● | ● | ● | ● |
| B4W | B-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) | ● | ● | ● | ● | ● | ● |
| G52P | G52D-8-P10(L:G52D-8-P10) | ● | ● | ● | ● | ● | ● |
| R2 *5 | Digital pressure sensor: PPX-R10N-6M | ● | ● | ● | ● | ● | ● |

⚠ Precautions for model No. selection

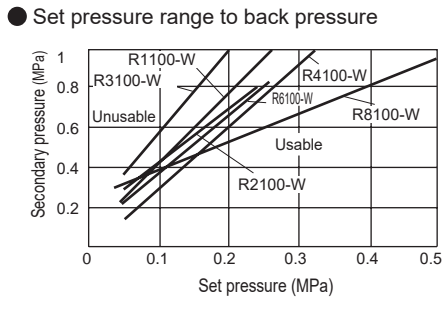
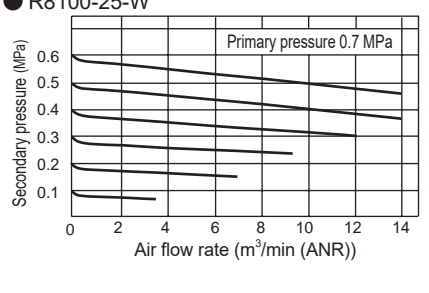
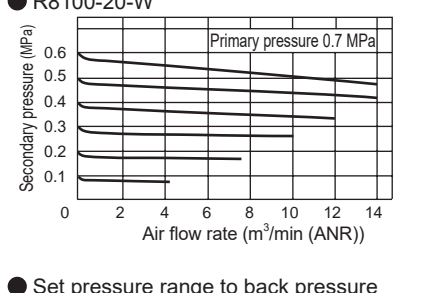
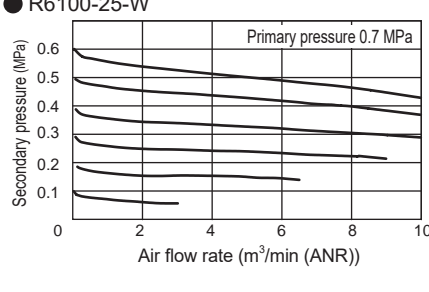
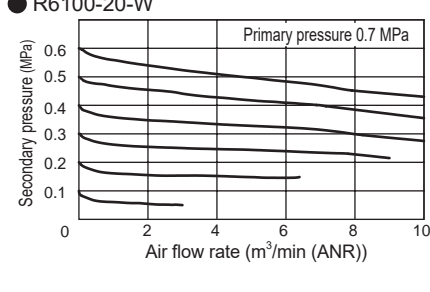
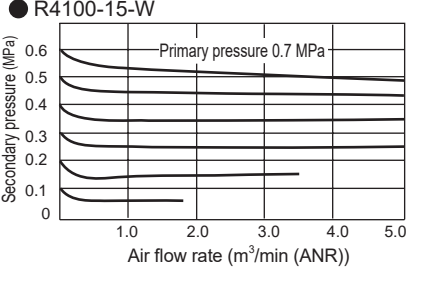
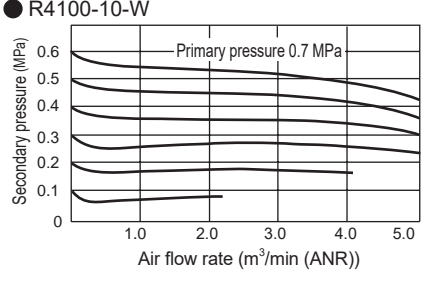
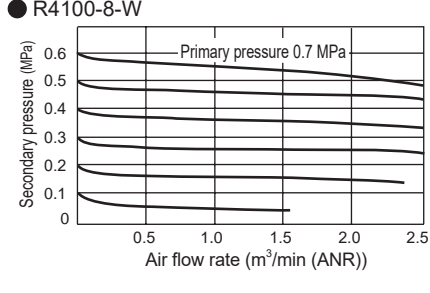
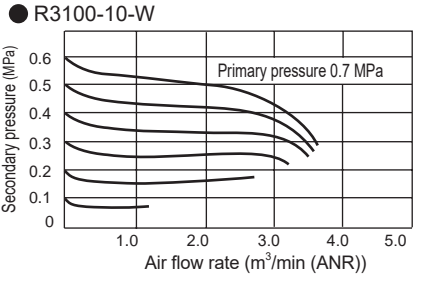
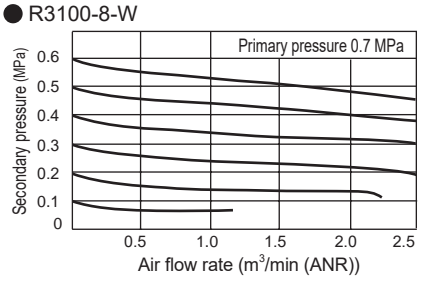
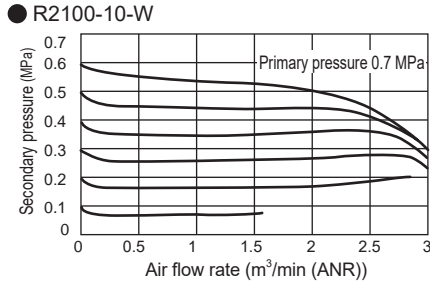
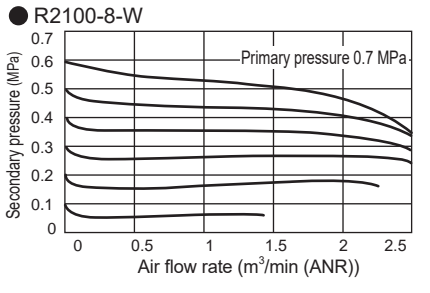
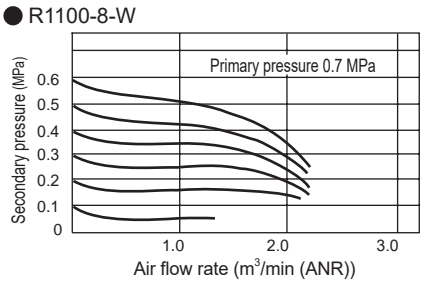
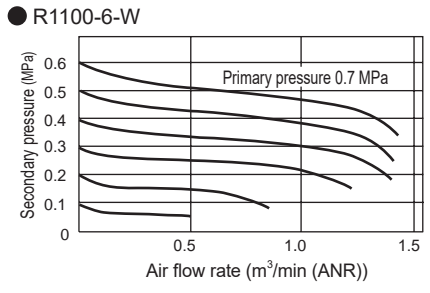
- *1: G and NPT threads are available for IN, OUT and gauge ports.
- *2: When selecting options for several items, list options in order from the top.
- *3: **Positions of check valve and pressure gauge cannot be changed. If the IN and OUT directions must be reversed, indicate "X1" at the end of the option field.**
- *4: The pressure gauge's indication range is 0 to 0.4 MPa for the option "L".
- *5: When the option "T6" is selected, only "Blank" or "R2" can be selected for **G** Other attachments. The digital pressure sensor PPX mounting port (Rc1/8) is left open.
- *6: The pipe adaptor set and C-bracket cannot be used together.
- *7: The joiner set is enclosed with the pipe adaptor set.
- *8: The pressure gauge and digital pressure sensor (included) can be selected only when **C** Port thread is Rc thread.
- *9: For details on mounting the L-bracket, refer to (2. Regulator) of "⚠ Cautions and Installation & Adjustment" (page 357).
- *10: Display unit options when selecting NPT threads: If Blank is selected, the pressure unit is psi and the temperature display unit is °F. When G thread and Blank display unit option are selected, the pressure unit will be bar and the temperature display unit will be °C. When NPT/G thread and "J1" display unit option are selected, the pressure unit will be MPa and the temperature display unit will be °C.

| |
|----------------------------|
| F.R.L. |
| F.R. |
| F (Filtr) |
| R (Reg) |
| L (Lub) |
| Drain Separ |
| Mech Press SW |
| Res press exh valve |
| SlowStart |
| Anti-bac/Bac-remove Filtr |
| Film Resist FR |
| Oil-ProhR |
| Med Press FR |
| No Cu/ PTFE FRL |
| Outdrs FRL |
| Adapter Joiner Press Gauge |
| CompFRL |
| LgFRL |
| PrecsR |
| VacF/R |
| Clean FR |
| ElecPneuR |
| AirBoost |
| Speed Ctrl |
| Silncr |
| CheckV/ other |
| Fit/Tube |
| Nozzle |
| Air Unit |
| PrecsCompn |
| Electro Press SW |
| ContactSW |
| AirSens |
| PresSW Cool |
| Air Flo Sens/Ctrl |
| WaterRISens |
| TotAirSys (Total Air) |
| TotAirSys (Gamma) |
| Gas generator |
| RefrDry |
| DesicDry |
| HiPolymDry |
| MainFiltr |
| Dischrg etc |
| Ending |

Regulator Series

F.R.L. Flow characteristics

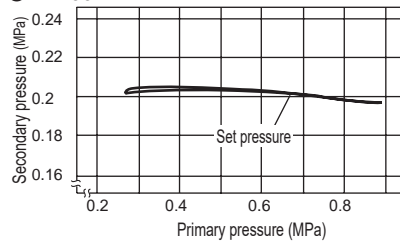
- F.R.
- F.R.
- F (Filtr)
- R (Reg)
- L (Lub)
- Drain
- Separ
- Mech
- Press SW
- Res press
- exh valve
- SlowStart
- Anti-bac/Bac-
- remove Filtr
- Film
- Resist FR
- Oil-Prohr
- Med
- Press FR
- No Cu/
- PTFE FRL
- Outdrs FRL
- Adapter
- Joiner
- Press
- Gauge
- CompFRL
- LgFRL
- PrecsR
- VacF/R
- Clean FR
- ElecPneur
- AirBoost
- Speed Ctrl
- Silncr
- CheckV/
- other
- Fit/Tube
- Nozzle
- Air Unit
- PrecsCompn
- Electro
- Press SW
- ContactSW
- AirSens
- PresSW
- Cool
- Air Flo
- Sens/Ctrl
- WaterRtSens
- TotAirSys
- (Total Air)
- TotAirSys
- (Gamma)
- Gas
- generator
- RefrDry
- DesiccDry
- HiPolymDry
- MainFiltr
- Dischrg
- etc
- Ending



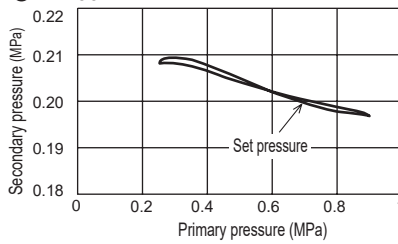
Note: The area above the graph line shows the unusable range and that below the graph line shows the usable range.
 Example: If R4100-W is set to the set pressure 0.2 MPa and the secondary back pressure is 0.6 MPa and over, the secondary pressure will not be released to the primary side.

Pressure characteristics

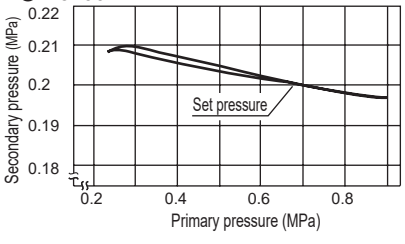
● R1100-W



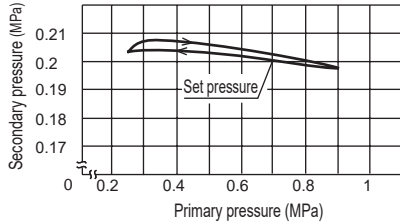
● R2100-W



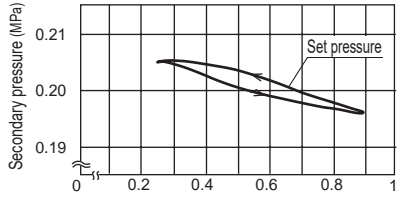
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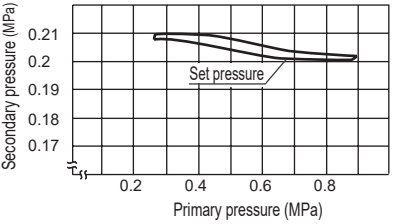
● R4100-W



● R6100-W

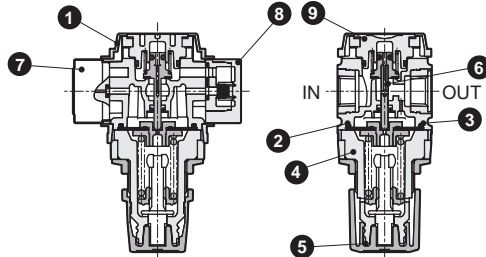


● R8100-W

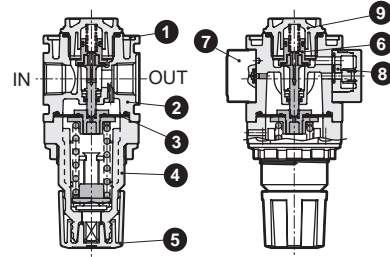


Internal structure and parts list

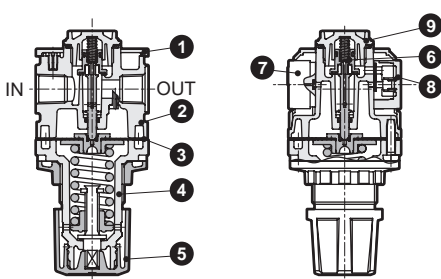
● R1100-W



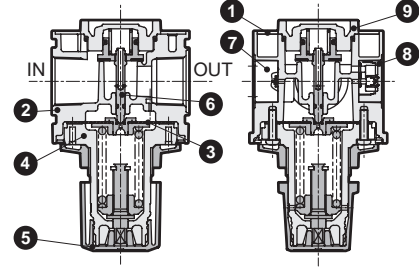
● R2100-W



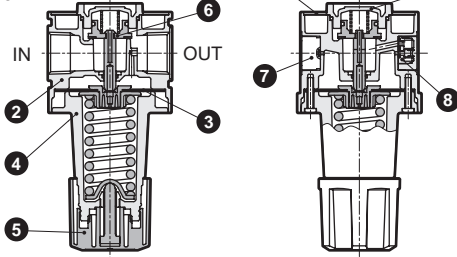
● R3100-W/R4100-W



● R6100-W



● R8100-W

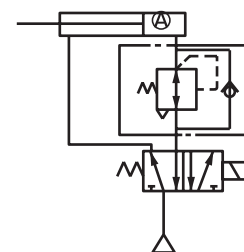


Functions

When the primary pressure is introduced from the IN side, the check valve functions as a regular regulator because it closes with primary pressure and spring load. When primary pressure is released by a switching valve such as a residual pressure exhaust 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 pressures differ



Note: When the primary side pressure is released, back pressure A must be equal to or less than the set pressure range of the regulator corresponding to the back pressure shown in the graph.

| No. | Part name | Material | | | | | |
|-----|----------------------------|--|----------------------------|---|----------------------------|---------|---------------|
| | | R1100-W | R2100-W | R3100-W | R4100-W | R6100-W | R8100-W |
| 1 | Plate cover | ABS resin | | | | | |
| 2 | Body | PA resin, steel | Aluminum alloy die-casting | | | | |
| 3 | Diaphragm assembly | Polyacetal resin nitrile rubber | | Zinc alloy die-casting, nitrile rubber *2 | | | |
| 4 | Cover | Polyamide resin | PBT resin | | | | Alum die-cast |
| 5 | Knob | Polyacetal resin | | | | | |
| 6 | Valve assembly | Copper alloy, hydrogenated nitrile rubber (polyacetal resin: R2100-W, R3100-W, 4100-W, 8100-W) | | | | | |
| 7 | Pressure gauge assembly | PBT resin, nitrile rubber, polyacetal resin, polycarbonate resin, copper alloy, copper | | | | | |
| 8 | Check valve total assembly | PBT resin, nitrile rubber, stainless steel wire, steel | | | | | |
| 9 | Bottom plug | Polyacetal resin | | | Aluminum alloy die-casting | | |

*1: Refer to page 151 for repair parts kits.

*2: Aluminum is added for the R6100-W low-pressure type.

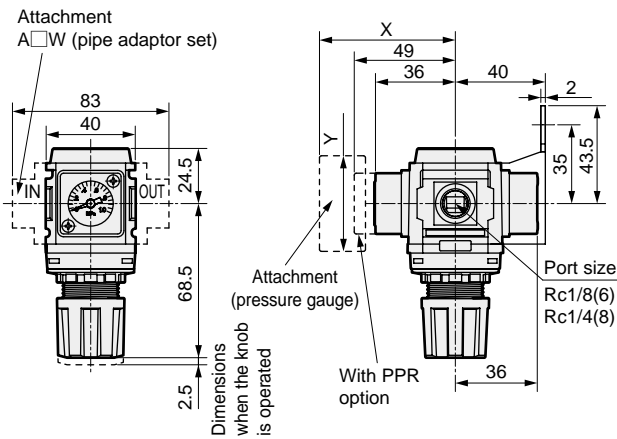
- F.R.L.
- F.R.
- F (Filtr)
- R (Reg)
- L (Lub)
- Drain Separ
- Mech Press SW
- Res press exh valve
- SlowStart
- Anti-bac/Bac-remove Filtr
- Film Resist FR
- Oil-Prohr
- Med Press FR
- No Cu/ PTFE FRL
- Outdrs FRL
- Adapter Joiner
- Press Gauge
- CompFRL
- LgFRL
- PrecsR
- VacF/R
- Clean FR
- ElecPneuR
- AirBoost
- Speed Ctrl
- Silncr
- CheckV/ other
- Fit/Tube
- Nozzle
- Air Unit
- PrecsCompn
- Electro Press SW
- ContactSW
- AirSens
- PresSW Cool
- Air Flo Sens/Ctrl
- WaterRISens
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Gas generator
- RefrDry
- DesicDry
- HiPolymDry
- MainFiltr
- Dischrg etc
- Ending

Regulator Series

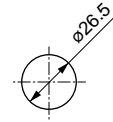
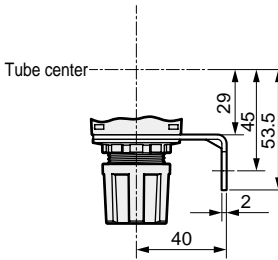


F.R.L. Dimensions

F.R. ● R1100-W



Panel cut dimension



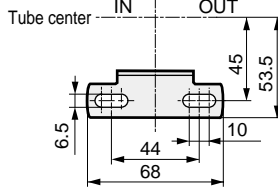
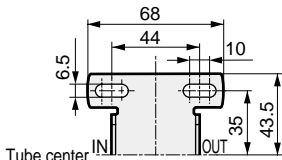
Panel plate thickness: max. 6 mm

Pressure gauge attached optional dimensions table

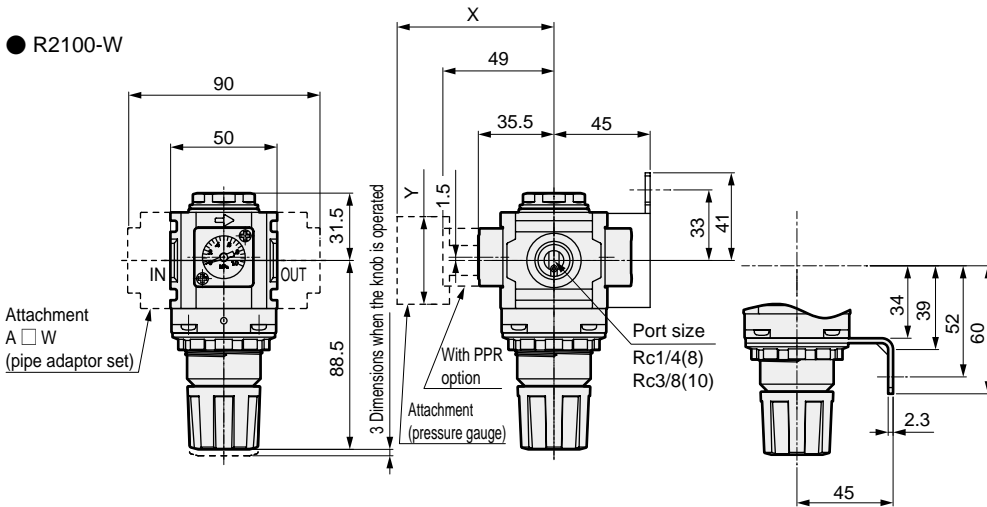
| Pressure gauge | X | Y |
|----------------|--------|--------------------|
| G45P | (74) | $\varnothing 39$ |
| G49P | (73.5) | $\varnothing 43.5$ |
| G59P | (76) | $\varnothing 52$ |
| G40P | (75.5) | $\varnothing 42.5$ |
| G52P | (86) | $\varnothing 52.5$ |
| R2 | (74) | $\square 30$ |

- Attachment C type bracket (-BW)
Part model No.: B120
- Material: Steel
- Zinc plated

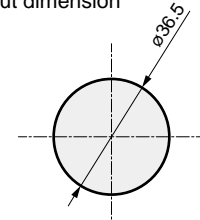
- L type bracket (-B3W)
Part model No.: B130
- Material: Steel
- Zinc plated



● R2100-W



Panel cut dimension



Panel plate thickness: max. 4 mm

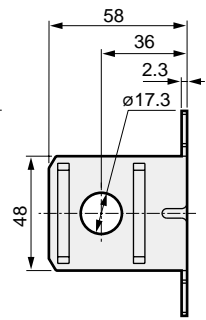
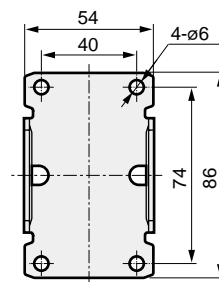
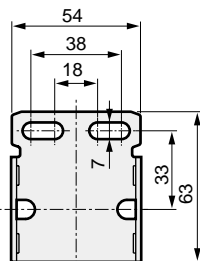
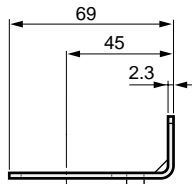
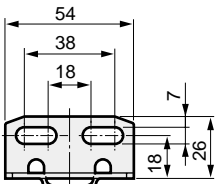
Pressure gauge attached optional dimensions table

| Pressure gauge | X | Y |
|----------------|--------|--------------------|
| G45P | (73.5) | $\varnothing 39$ |
| G49P | (73) | $\varnothing 43.5$ |
| G59P | (75.5) | $\varnothing 52$ |
| G40P | (75) | $\varnothing 42.5$ |
| G52P | (85.5) | $\varnothing 52.5$ |
| R2 | (73) | $\square 30$ |

- L type bracket (-B3W)
Part model No.: B230
- Material: Steel
- Zinc plated

- C type bracket (-BW)
Part model No.: B220
- Material: Steel
- Zinc plated

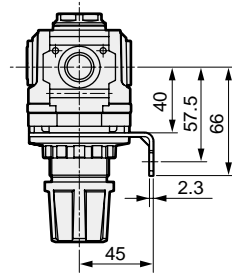
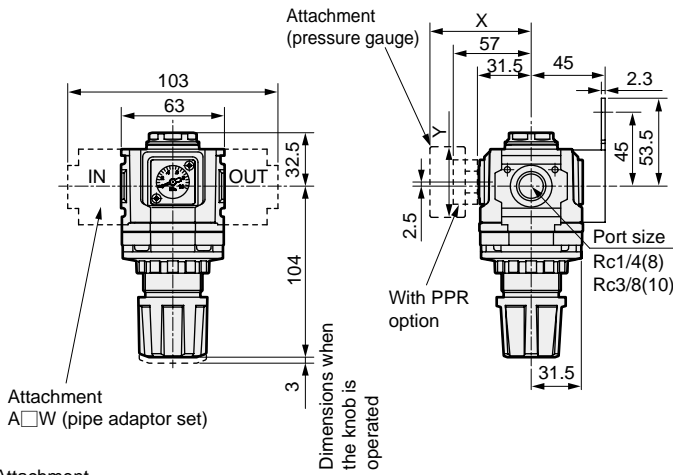
- B type bracket (-B4W)
Part model No.: B240
- Material: Steel
- Zinc plated



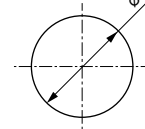
Dimensions



● R3100-W



Panel cut dimension



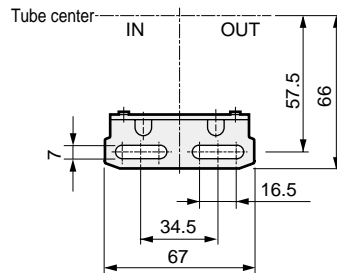
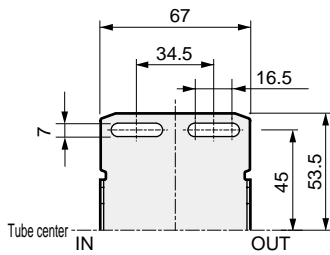
Panel plate thickness: max. 7 mm

- Attachment
- C type bracket (-BW)
- Part model No.: B320
- Material: Steel
- Zinc plated

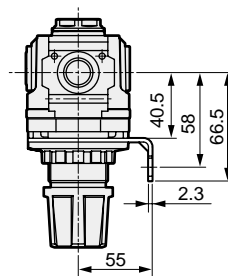
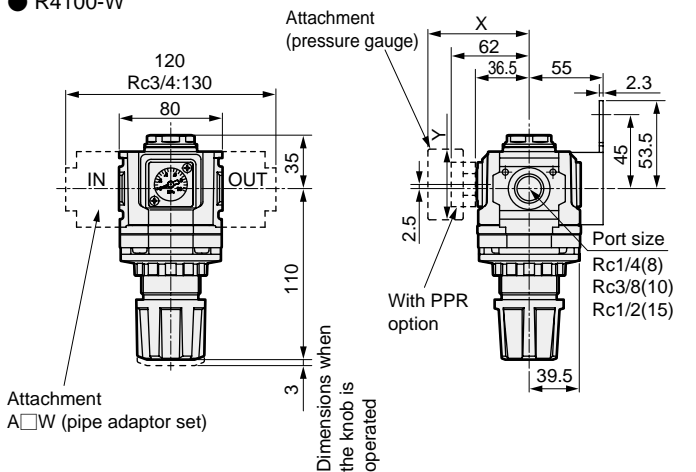
- L type bracket (-B3W)
- Part model No.: B330
- Material: Steel
- Zinc plated

Pressure gauge attached optional dimensions table

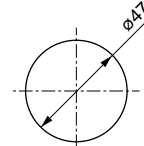
| Pressure gauge | X | Y |
|----------------|--------|-------|
| G45P | (70) | ø39 |
| G49P | (69.5) | ø43.5 |
| G59P | (72) | ø52 |
| G40P | (71.5) | ø42.5 |
| G52P | (82) | ø52.5 |
| R2 | (69.5) | □30 |



● R4100-W



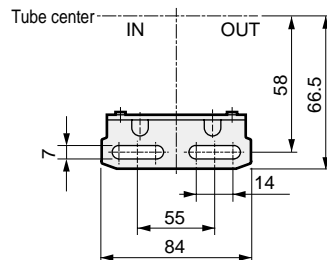
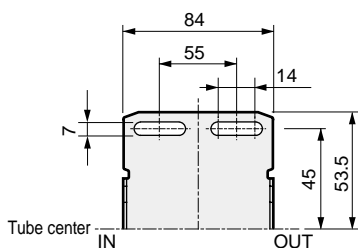
Panel cut dimension



Panel plate thickness: max. 7 mm

- Attachment
- C type bracket (-BW)
- Part model No.: B420
- Material: Steel
- Zinc plated

- L type bracket (-B3W)
- Part model No.: B430
- Material: Steel
- Zinc plated



Pressure gauge attached optional dimensions table

| Pressure gauge | X | Y |
|----------------|--------|-------|
| G45P | (75) | ø39 |
| G49P | (74.5) | ø43.5 |
| G59P | (77) | ø52 |
| G40P | (76.5) | ø42.5 |
| G52P | (86) | ø52.5 |
| R2 | (75) | □30 |

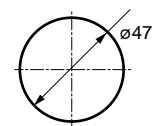
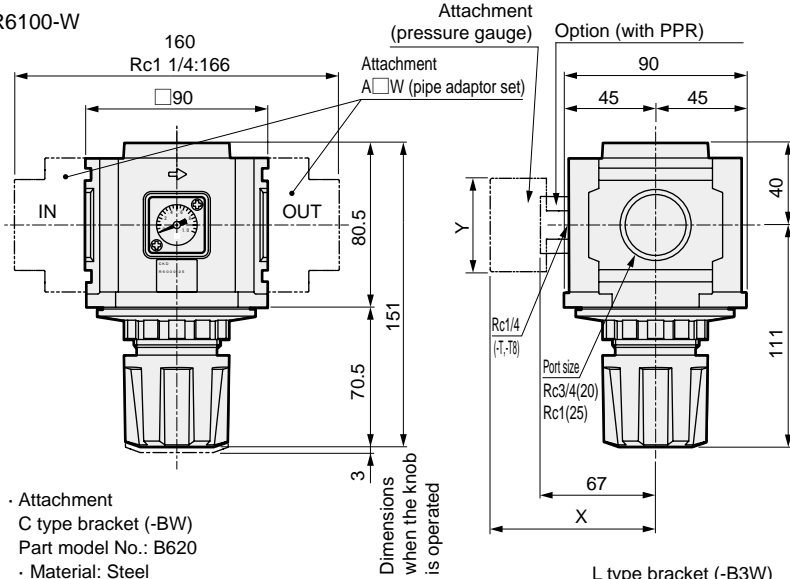
Regulator Series



F.R.L. Dimensions

- F.R.
- F (Filtr)
- R (Reg)
- L (Lub)
- Drain Separ
- Mech Press SW
- Res press exh valve
- SlowStart
- Anti-bac/Bac-remove Filt
- Film Resist FR
- Oil-Prohr
- Med Press FR
- No Cu/ PTFE FRL
- Outdrs FRL
- Adapter Joiner
- Press Gauge
- CompFRL
- LgFRL
- PrecsR
- VacF/R
- Clean FR
- ElecPneur
- AirBoost
- Speed Ctrl
- Silncr
- CheckV/ other
- Fit/Tube
- Nozzle
- Air Unit
- PrecsCompn
- Electro Press SW
- ContactSW
- AirSens
- PresSW Cool
- Air Flo Sens/Ctrl
- WaterRtSens
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Gas generator
- RefrDry
- DesiccDry
- HiPolymDry
- MainFiltr
- Dischrg etc
- Ending

● R6100-W



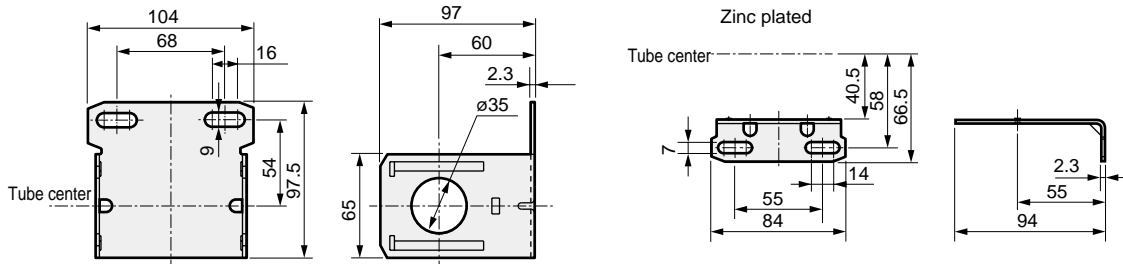
Panel cut dimension
(Panel plate thickness: max. 7 mm)

Pressure gauge optional dimensions table

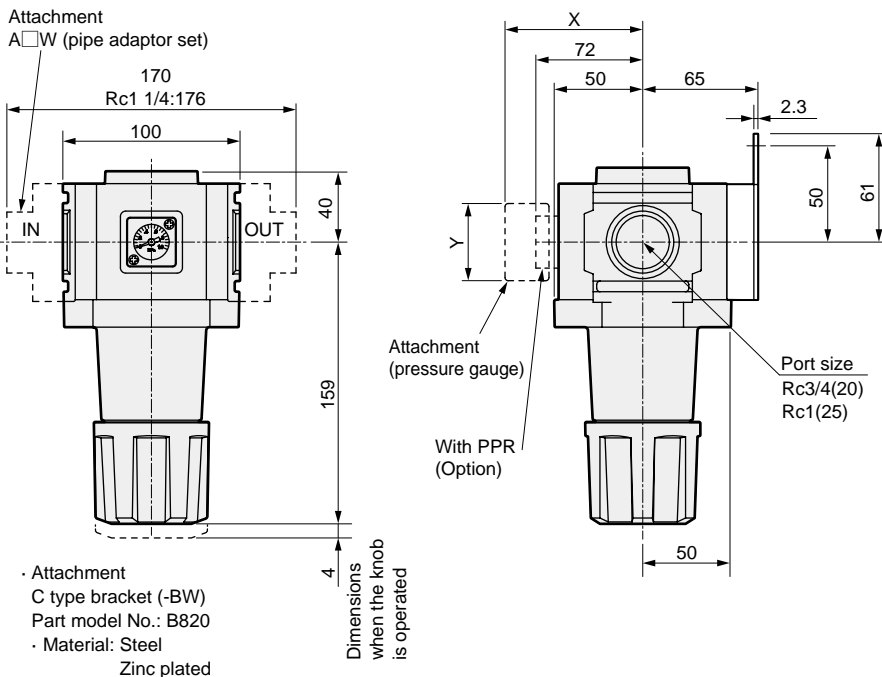
| Pressure gauge | X | Y |
|----------------|--------|-------|
| G45P | (80) | ø39 |
| G49P | (79.5) | ø43.5 |
| G59P | (82) | ø52 |
| G40P | (81.5) | ø42.5 |
| G52P | (93) | ø52.5 |
| R2 | (80) | □30 |

- Attachment C type bracket (-BW)
- Part model No.: B620
- Material: Steel
- Zinc plated

- L type bracket (-B3W)
- Part model No.: B430
- Material: Steel
- Zinc plated



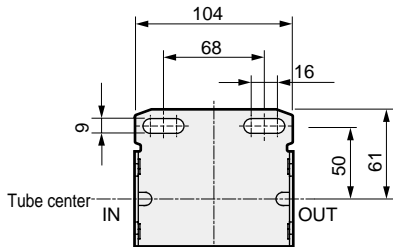
● R8100-W



- Attachment C type bracket (-BW)
- Part model No.: B820
- Material: Steel
- Zinc plated

Pressure gauge attached optional dimensions table

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



Optional parts diagram

Repair parts kit (set of diaphragm assembly, valve assembly, bottom spring, bottom O-ring)

| Repair parts kits model No. Model | Relief diaphragm | Non-relief 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 (set of valve assembly, bottom spring, bottom O-ring)

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

* Refer to page 377 for the gauge plug assembly.

Check valve assembly for reverse regulator

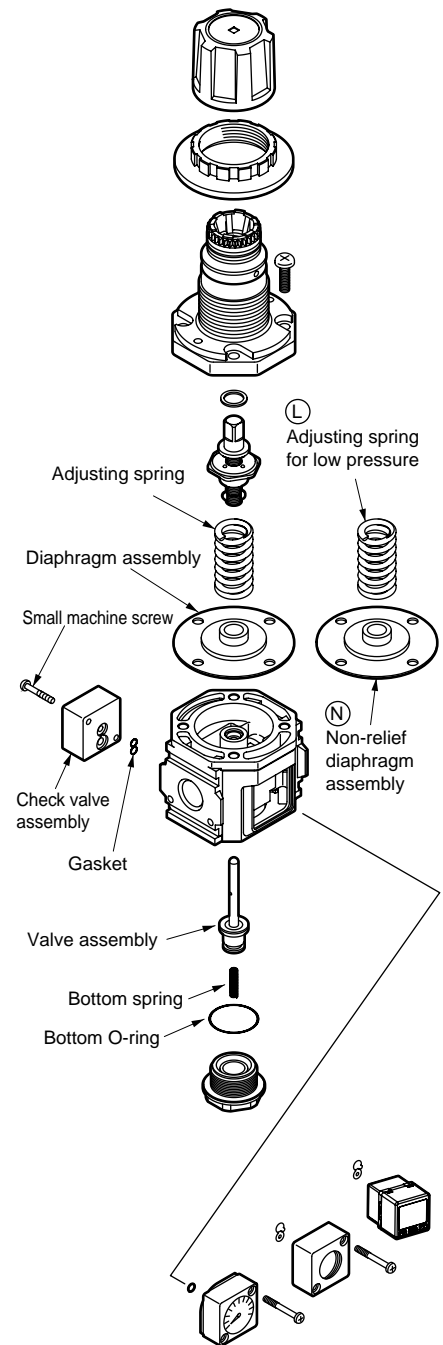
| Model | Check valve assembly model No. |
|--|--------------------------------|
| R1000-W,R1100-W | R1100-W-CHECK-VALVE-ASSY |
| R2100-W | R3100-W-CHECK-VALVE-ASSY |
| R3100-W,RM3000-W,W3100-W R4100-W,RM4000-W,W4100-W R6100-W,R8100-W W8100-W | R3100-W-CHECK-VALVE-ASSY |

Adjusting spring

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

Diaphragm assembly (only diaphragm assembly)

| Diaphragm assembly model No. Model | Relief diaphragm | Non-relief 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 |



| |
|---------------------------|
| F.R.L. |
| F.R. |
| F (Filtr) |
| R (Reg) |
| L (Lub) |
| Drain Separ |
| Mech Press SW |
| Res press exh valve |
| SlowStart |
| Anti-bac/Bac-remove Filtr |
| Film Resist FR |
| Oil-ProhR |
| Med Press FR |
| No Cu/ PTFE FRL |
| Outdrs FRL |
| Adapter Joiner |
| Press Gauge |
| CompFRL |
| LgFRL |
| PrecsR |
| VacF/R |
| Clean FR |
| ElecPneuR |
| AirBoost |
| Speed Ctrl |
| Silncr |
| CheckV/ other |
| Fit/Tube |
| Nozzle |
| Air Unit |
| PrecsCompn |
| Electro Press SW |
| ContactSW |
| AirSens |
| PresSW Cool |
| Air Flo Sens/Ctrl |
| WaterR/Sens |
| TotAirSys (Total Air) |
| TotAirSys (Gamma) |
| Gas generator |
| RefrDry |
| DesicDry |
| HiPolymDry |
| MainFiltr |
| Dischrg etc |
| Ending |