



Pneumatic components

Safety Precautions

Be sure to read this section before use.

Refer to Intro Page 63 for precautions for general pneumatic components.

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

Product-specific cautions: Compact direct acting precision regulator RJB500 Series

Design/selection

CAUTION

- Avoid using this product where strong pulsation of pressure or vibration is applied.
- Contact CKD regarding frequent operation.
- Install a 5 µm or smaller air filter on the primary side of the regulator.
- Differential pressure between primary and secondary sides is to be 0.1 to 0.7 MPa.
- This product cannot be used as a cut-off valve (The primary pressure cannot be sealed even if the pressure adjustment knob is loosened).

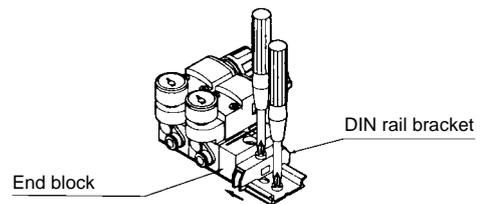
- Even if the primary and secondary pressures differ by 0.7 MPa or less, the secondary pressure may cause pulsation or vibration noise. In this case, lower primary pressure. If pulsation or noise continues, contact CKD.
- ON/OFF operation with the directional switching valve on the primary side of regulator will cause large set pressure changes. Therefore, it is recommended that the directional switching valve be installed on the secondary side of the regulator.
- Output pressure exceeding the regulator's set pressure could result in damage or faulty operation of the secondary side devices. Be sure to install a safety device.

Mounting, installation and adjustment

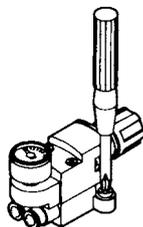
CAUTION

- When transporting or installing the product, do not drop it. Failure of indicator accuracy may occur.
- Do not install the product in a location with high temperatures or high humidity. Otherwise, malfunctions may result.
- When installing a pressure gauge, be sure to use a wrench on the width across flats. If another section is used, air leakage or damage could result.
- When installing or piping, observe the following points.
 - Confirm the direction of the IN arrow indicating the air inlet before connecting. A reverse connection could result in improper operation.
 - Do not move or swing the product by the pressure adjustment knob.
 - When installing a compact regulator, use M4 plain washer attached screws, and fix them with tightening torque 1.4 to 2.0 N·m or less.

- When installing a block manifold with DIN rail, fix the DIN rail while fixing the bracket between the manifold end blocks. Recommended tightening torque of DIN rail bracket is 1.4 to 2.0 N·m. Fix DIN rail bracket, while making no gaps between end blocks. Care must be taken when expanding, maintaining or disassembling regulator blocks.



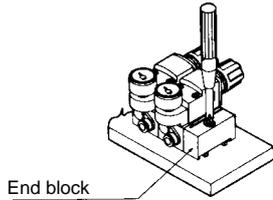
- Do not install this product in a location where it may be subject to vibrations or shocks.
- Before mounting the air pipe to be used, flush it out well.
- Tighten with 3.5 N·m or less tightening torque when mounting a pressure gauge or a fitting for external porting to the pressure gauge mounting board.



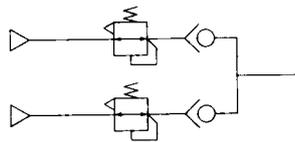
Mounting, installation and adjustment

CAUTION

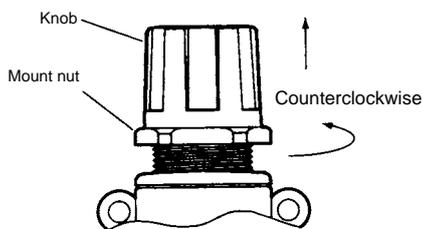
- When installing the product directly without a DIN rail (direct mount), fix the end blocks on both sides with M4 set screws.
Recommended tightening torque is 1.4 to 2.0 N·m.
Install the product on a fully flat surface. If the seating surface is small, external pressure from above may damage the manifold connection section. If flat seating plane is not available, use DIN rail mount.



- When using in parallel as below, the OUT side of the circuit must not be closed. If closed circuit is required, install a check valve on each OUT side.



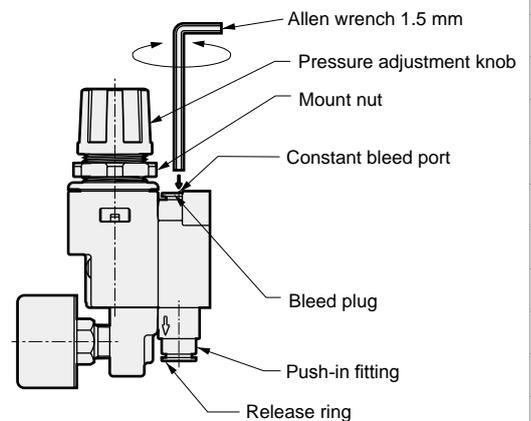
- When installing on a panel, loosen the mounting nut; it will function as a jack and make the knob easily removable. Fix the product on a panel with a mount nut.



- A push-in fitting is used for the regulator piping. The tube may come off or air leakage may occur depending on diametric accuracy, wall thickness, or hardness of piping tube. Use a CKD specified tube. When mounting or dismantling a fitting, press the release ring evenly, then pull out the tube without twisting it. To reuse the tube, cut the section scored by the chuck finger.

Tube	O.D. (mm)	Outer diam-tolerance (mm)	Bore (mm)	Min. bending range (mm)
Soft nylon F-1500 Series	ø4	±0.1	ø2.5	10
	ø6		ø4	20
	ø8		ø5.7	30
Urethane U-9500 Series	ø4	+0.1	ø2	10
	ø6	-0.15	ø4	20
	ø8	+0.1	ø5	30
Urethane NU Series	ø4	±0.1	ø2.5	8
	ø6		ø4.5	15
	ø8		ø6	24

- Securely insert piping tube into push-in fitting and check that tube does not dislocate before use.
- Cut the push-in fitting tube at right angles with a dedicated tool.
- Adjusting constant bleed
Turn the set screw of the constant bleed port to adjust the constant bleed amount. Although the constant bleed amount increases in proportion to the set pressure, it can be reduced if the set pressure is 0.1 MPa or over. In low pressure ranges, constant bleed should be increased to improve sensitivity.
Constant bleed is set to 1.5 l/min (ANR) before the product is shipped from CKD. Insert an Allen wrench into the constant bleed port and adjust the rate. After adjustment, confirm that set pressure does not increase. When adjusting the constant bleed, do not turn the set screw in the closed direction completely. It will not be possible to adjust pressure and damage could occur.



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R (Reg)
L (Lub)
Drain Separ
Mech Press SW
Res press exh valve
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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

Use/maintenance

CAUTION

■ Working air quality

- Use clean compressed air filtered with a 5 µm air filter.
- Use only compressed air. Air containing corrosive gases, fluids or chemicals could result in improper pressure adjustment due to body damage or rubber swelling.

■ Working environment

Avoid using the products in the following environments.

- When ambient temperature exceeds the range of 5 to 60°C.
- Places where the unit will be exposed to dripping water and/or coolant.
- Highly humid places where dew condenses due to temperature fluctuations.
- Where salt air or splashing seawater contacts the product.
- In atmospheres containing corrosive gases, liquids and chemicals.
- Where the product is exposed to direct sunlight.

■ Pressure management

- Confirm primary pressure before setting.
- Pressure higher than the primary pressure cannot be set.
- Turn the pressure adjustment knob clockwise to increase the secondary pressure, and counterclockwise to lower the pressure. When adjusting the pressure, pull up the knob to check that the lock is not applied.
- Pressure is set in the depressurizing direction (high pressure → low pressure), enabling highly precise setting to be made.
- Lock the pressure adjustment knob after setting the pressure.
- Air constantly leaks from the bleed hole. This is necessary for precise pressure control, so do not plug the hole.
- When setting pressure, turn the secondary directional switching valve several times and confirm set pressure. Failure to confirm pressure could cause the set pressure to change significantly.
- The set pressure changes from the initial set point due to the working environment and conditions, as well as the aging of part materials. Check the pressure regularly, and reset if conditions have changed.

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