



To Use This Product Safely

Be sure to read this before use.
Refer to Intro 27 for general precautions.

Individual Precautions : Low-profile electro pneumatic regulator MEVT Series

Design / Selection

WARNING

- Design pneumatic circuits understanding the characteristics of compressed air.
 - If instantaneous stop holding is required during an emergency stop, functions equivalent to mechanical, hydraulic, or electrical systems cannot be expected.
 - Due to the compressibility and expandability characteristics of air, phenomena such as ejection, jetting, and leakage can occur.

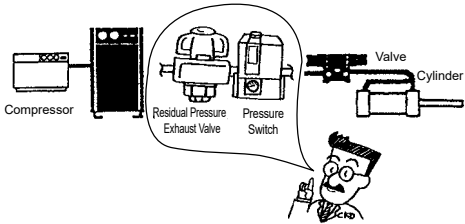
- Confirm that the product can withstand the operating environment before use.

- This product cannot be used in an atmosphere containing corrosive gases, chemical liquids, solvents, water, vapor or ozone. If water, oil, or metal chips (spatter or cutting chips, etc.) could come in contact with the product, provide appropriate protection.
- This product cannot be used in an explosive gas atmosphere.

- Pay attention to the electric circuit during emergency stop and to the cylinder operation during power outages.

- Install a "pressure switch" and "residual pressure exhaust valve" on the device's compressed air supply side.

- The pressure switch disables operation if set pressure cannot be reached. The residual pressure exhaust valve releases compressed air into the pneumatic pressure circuit to prevent accidents caused by pneumatic components operation under residual pressure.



CAUTION

- Specify the maintenance conditions in the device's instruction manual.

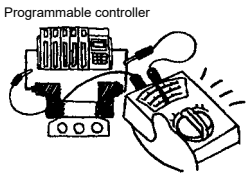
- Depending on the usage conditions, operating environment, and maintenance, the product's functionality may significantly deteriorate, and safety may not be ensured. Proper maintenance allows the product to fully demonstrate its functions.

- Use a constant voltage power supply.

- Set the input signal so that it does not go outside the specification range.

- Applying a signal exceeding the range could have adverse effects on the life and properties. Avoid this type of usage.

- Check for leakage current to avoid malfunction due to leakage current from other control devices.
When using a programmable controller, etc., leakage current could cause the EVT to malfunction.



For 24 VDC 1.8 mA or less

- Take the following measures to avoid malfunction due to noise.

- Install a line filter in the AC power supply line.
- Use a surge suppressor, such as a CR or diode, on the inductive load (solenoid valve, relay, etc.), to remove noise from the source.
- Separate the wiring to the MEVT from electrical lines with strong current.
- Use the designated wire material for the serial transmission line.
- If operation may be affected by noise, wire the power supply independently for each manifold when possible.
- Keep the power supply cable as short as possible.
- Do not share power with an inverter or components causing motor noise, etc.
- Do not lay the power wire, signal wire, and other power cables in parallel.

- Precautions for wiring

- When wiring the common terminal block and D-sub-connector, the power supply gland and signal common are shared. When driving several EVT units with one PLC and D/A unit, depending on the D/A unit circuit, wiring could prevent the correct signal from being input. Contact the PLC manufacturer. When using a shielded wire, connect to the gland on the power supply side.

- This regulator cannot be used with a cylinder having a large leakage rate, such as an air bearing cylinder.

- When using for blowing applications or when back pressure is applied on the secondary side, it is not possible to maintain the set pressure. A loud thrumming sound will be generated and service life will be shortened. Avoid this kind of usage.

- Residual pressure of 2 kPa or less (EVT100) or 10 kPa or less (EVT500) is generated even when the input signal is set to 0 %. If 0 MPa is required, install a three-way valve on the secondary side or release into to the atmosphere, etc.

- Install valves on the primary and secondary sides as necessary.

- If the regulator is left with the power OFF and the primary pressure applied, the secondary pressure could rise to the primary pressure level. If this poses a safety hazard, take system safety measures using a valve on the primary side or secondary side, etc.

- About Operating Environment

Do not use the product where the product is exposed to direct sunlight or may come in contact with water, oil, etc. Consult with CKD on specifications for use outside the designated specifications or for special applications.

- Ambient temperature
 - If used in an environment with a temperature higher than 50 °C or lower than 5 °C
- Vibration/impact
 - Do not use this product in an environment exposed to vibration of 50 m/s² or more, or shock of 300 m/s² or more.

- Pressure accuracy is affected by temperature characteristics and heat generated when energized.
The more manifold stations there are, the greater the effect. Provide a standby time (30 minutes or more after energizing) if you need to obtain a more stable pressure.

- Drip-proof environment

The degree of protection of this product is equivalent to IP40. Do not install in locations with moisture, salt, dust, cutting chips, or under pressurized/depressurized environments. Cannot be used in locations with rapid temperature changes or high humidity environments as condensation inside the main unit may cause problems.

- Responsiveness is affected by the Operating pressure and load volume. Also, if the Operating pressure fluctuates, the secondary control pressure will be affected. If stable reproducibility is required, stabilize the Operating pressure by installing a regulator in the preceding stage.

- When selecting a dryer, air filter, oil mist filter, or regulator, select one with a flow rate higher than the flow rate to be used.

- This product has moving parts in its operation structure, and characteristics such as accuracy will change over time. Before use, evaluate as a system, and depending on operation frequency, take measures such as using it as a regular maintenance part.

- Regularly inspect the product at least once a year to check that it operates correctly.

- This product uses a small solenoid valve as an actuator. The service life may change depending on the frequency of operation triggered by pressure switching, the Operating conditions, etc. The warranty period is set as one year or 3,000,000 repeated operations, whichever comes first, so use this as an inspection guideline.

* The conditions for 3 million operations defined in the warranty period are as follows. When repeatedly applying a step input signal where the control pressure goes from zero to the maximum control pressure. The Operating air quality in this case shall be clean compressed air from the recommended air circuit. The secondary side payload shall be 15 cm³.

- Conditions for CE compliance

This product is CE-marked, indicating conformity with the EMC Directives. The harmonized standard regarding immunity applied to this product is EN61000-6-2, but the following conditions are mandatory for compliance with this standard.

- Condition
- Use a power cable shorter than 3 m.

For precautions regarding mounting, installation, adjustment, operation, and maintenance, please refer to the CKD Components Product Site (<https://www.ckd.co.jp/kiki/en/>) → 'model No.' → [Instruction Manual](#).