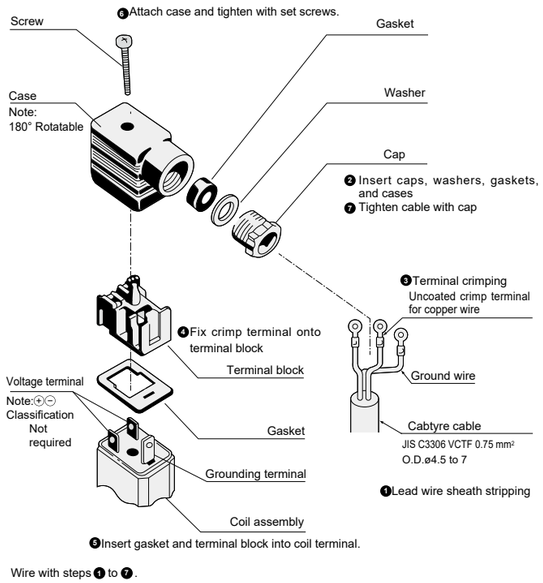
## How to connect terminal box

Refer to the figure below for the connection method to a DIN terminal box or T-type terminal box.

### DIN terminal box (Pg9), DIN terminal box with lamp (Pg9)

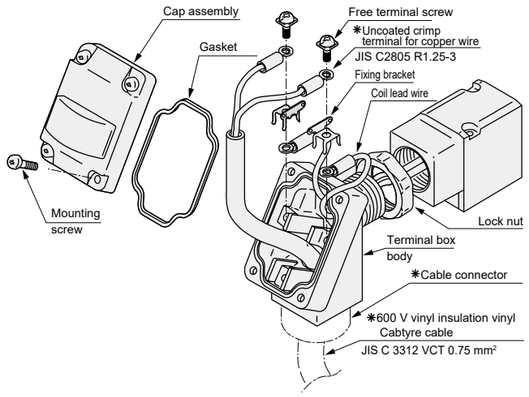
① Use the following cabtyre cable.
· Cable O.D.: ø4.5 to ø7
· Nominal section area: 0.75 mm²
② Put the crimp terminal for copper wire on the cabtyre cable's lead wire and crimp the terminal. The terminal box thread size is M3.
③ Tighten the screws with the following tightening torque.
· Set screw tightening torque...0.5 Nm
· Terminal screw tightening torque...0.5 Nm




✱The orientation of the cord can be changed by removing the terminal block from the case, rotating it by 180°, and then replacing the block into the case.

### T-type terminal box (G1/2), T-type terminal box with lamp (G1/2)

① Use the following cabtyre cable.
· Nominal section area: 0.75 mm²
② Put the crimp terminal for copper wire on the cabtyre cable's lead wire and crimp the terminal. The terminal box thread size is M3.
③ Tighten the screws with the following tightening torque.
· Mounting screw tightening torque...0.5 Nm
· Terminal screw tightening torque...0.5 Nm




✱Parts marked with an asterisk are not included with CKD products.

✱Changing the direction of the T-type terminal boxes

If you wish to change the orientation of the T-type terminal box as shipped, please follow the procedure below.

① Clamp the two side widths (25 widths) of the T-type terminal box with a tool (monkey wrench, spanner, etc.) and turn counterclockwise to loosen.
② Loosen the lock nut.
③ Rotate the T-type terminal box in the tightening direction (clockwise) until it is about 15° before the desired position.
④ Tighten the lock nut to the coil side by hand until it is lightly tightened.
⑤ Clip the two side widths of the T-type terminal box with a tool and rotate to the desired position (about 15˚) to tighten.

Note: When changing the orientation by further tightening the terminal box from the shipping position, do so within 1/2 turn.





Pneumatic Components

# Safety Precautions

Be sure to read this section before use.
Refer to Intro Page 29 for general valve precautions.

Product-specific cautions: Pilot operated 3-port valve NP / NAP / NVP Series

## Design / Selection

### ⚠WARNING

■Ambient environment
(1) NP / NVPSeries cannot be used in an explosive gas atmosphere. When using in an explosive gas atmosphere, change to the NAP Series, and provide a separate explosion-proof solenoid valve on the pilot air circuit.
(2) If there are high levels of dust in the area, install a silencer or fitting on the exhaust port so that dust does not enter.

■This product cannot be used as an emergency shut-off valve.
It is not designed to function as a safety valve, such as an emergency shut-off valve. When using in such a system, always take separate measures that will ensure safety.

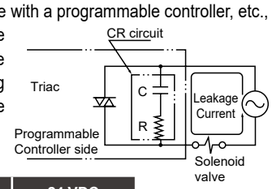
■Fluid temperature
Be sure to use the coolant check valve within the specified fluid temperature range.

■Ambient environment
(1) Do not use this product in a corrosive gas atmosphere or an atmosphere that could affect the component materials.
(2) Do not use this product near a heat generating source or in a location where it may be exposed to radiant heat.
(3) Use this product within the operating ambient temperature.
(4) When you use the products in a cold climate, take necessary measures to prevent freezing.
(5) Take appropriate safeguards according to the degree of protection listed in the catalog specifications. Consult with CKD when using outdoors.
(6) Take appropriate measures when using this product in places where oil or welding spatter, etc., could come in contact with it.

### ⚠CAUTION

■Ultra-dry Air
The inside of the valve is pre-lubricated with grease. This valve may not be appropriate if ultra dry air quality is required at the end of the circuit.

■Leakage current from other fluid control components
When operating the solenoid valve with a programmable controller, etc., check that the output leakage current from the programmable controller is within the following specifications. Failure to observe this could lead to malfunctions.




| 100 VAC | 200 VAC | 24 VDC |
|---|---|---|
| 3.0 mA or less | 1.5 mA or less | 1.8 mA or less |

■Notes for external pilot air
(1) Draining: Compressed air contains a large amount of drainage (water, oil oxides, tar, foreign matter). This is a factor that significantly reduces the reliability of the pneumatic components. For drainage measures, improve air quality by dehumidifying with an after cooler or dryer, removing foreign matter with a filter, and removing tar with a tar removal filter, etc.
(2) Pre-lubrication: This series is pre-lubricated, so no lubricator is required. However, once lubrication has been started, it must be continued so that the lubricant does not run out. Use turbine oil Class 1 ISO VG32 (#90) or equivalent for lubrication.
(3) Filter: Install a filter with a 5 µm or less filter element.
(4) If pilot air is supplied, the valve may operate even if the pressure is less than the working pressure range.

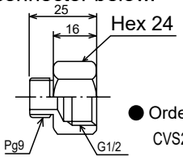
■Min. working pressure
The pressure must be 0.2 MPa and over to operate the NP Series. If the piping cross-section area on the fluid inlet is reduced, the operation may become unstable due to a pressure drop during valve operation.

■Securing maintenance space
Secure sufficient space for maintenance and inspection.

■Vibration
Install this product in a place not subject to vibration.

■Refer to the technical data (on page 244) for connection methods to a DIN terminal box or T-type terminal box.

■The thread size for the junction box outlets of the DIN terminal box can be changed from Pg9 to G1/2 using the optional connector below.




● Order Model No.:
CVS2-CONNECTOR-F4-202936

■Recommended fittings for NP, NVP Series exhaust port
When mounting a fitting to the exhaust port (Rc1/8), use "GWS/-6-S single straight (round)".
✱For some parts of the NP and NVP Series, piping connection using a wrench may not be easy, and fittings are tightened with an Allen wrench. Use "SLW-6A or SLW-6S" when mounting the silencer.

For cautions for mounting, installation, adjustment, use and maintenance, refer to the CKD components Product Site (https://www.ckd.co.jp/kiki/jp/en/) → "Model No.→ Instruction manual for details.