



Safety precautions

Fluid Control Components: Warnings and Cautions

Be sure to read this section before use.

Precautions for each model series: product-specific cautions

Compact pilot operated solenoid valve for water FWD Series

Design/selection

⚠ WARNING

■ Working fluid

- No liquid other than water can be used.

■ Working environment

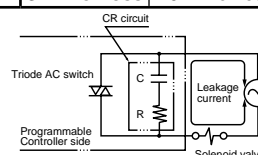
- Install in a place where the product is not exposed to rain, water, or direct sunlight. This valve cannot be used outdoors.

⚠ CAUTION

■ Safety design

- 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.

Voltage Model No.	AC		DC
	100 V	200 V	24 V
FWD	3 mA or less	1.5 mA or less	1 mA or less



Mounting, installation and adjustment

⚠ CAUTION

■ Mounting

- When installing the valve, make sure that no tension is applied to the coil lead wire.
- When carrying the product, hold the body. (Do not dangle the product from the lead wire when carrying it.)

■ Piping

- Dirt or foreign matter in fluid could prevent the product from functioning correctly. Install an 80-mesh or finer air filter.
- When the regulator and solenoid valve are directly coupled, the parts could mutually vibrate, causing resonance and chattering.
- If the piping cross-sectional area on the fluid inlet is reduced, the operation may become unstable due to differential pressure failure during valve operation. For the fluid supply side, use piping of a piping size that matches the port size of the valve.

Use/maintenance

⚠ CAUTION

■ When using the product

- Instantaneous leakage
With the pilot operated 2-port valve, if the pressure is suddenly applied when the pump starts while the valve is closed, the valve may open for an instant causing fluid to leak. Caution is required during use.
- Operation
Do not apply back pressure. This could lead to malfunction.
- Water hammer
If the water hammer poses problems, consider using the CKD "RSV type" solenoid valve or a motor valve.
- Pressure differential

Be sure to set the pressure so that the pressure differential between the primary side and the secondary side while the valve is open does not drop below 0.02 MPa.

In the following cases, the pressure differential between the primary side and the secondary side diminishes:

- When a needle valve is mounted on the secondary side
- When multiple solenoid valves connected in parallel piping are opened simultaneously

■ Disassembly/assembly

- Tightening torque
When disassembling or assembling, use the values below as tightening torques to tighten the screws.

Holder set screw	Body set screw
0.63 to 0.77 N·m	0.81 to 0.99 N·m (port size: 8A, 10A, 15A) 1.5 to 1.8 N·m (port size 20A, 25A)