



Fluid Control Valves

Safety Precautions

Be sure to read this section before use.

Refer to "Fluid control valves (RJ-013AA)" for general precautions Although the above general catalog states that products are not applicable for medical equipment or direct contact with beverages/foodstuffs, the SWD/MWD Series products can be used in such applications as long as they are within the range of the product specifications.

Product-specific cautions: Weir diaphragm valve: SWD/MWD Series

Design / Selection

WARNING

- 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.

- Incorrect equipment selection and handling can cause problems not only in this product, but also to your system. For equipment selection and handling, it is the customer's responsibility to check the specifications of this product and the compatibility with your system before use.

- Take measures to prevent physical harm or property damage in the event of breakdown of this product.

- Liquid ring
When the valve opens and closes, the diaphragm moves up and down, which causes the flow path capacity to change inside the valve. For this reason, if the fluid is an incompressible fluid (liquid), extreme pressures will be created in the valve when operating under conditions that seal the fluid in the valve (liquid ring). In this case, install a release valve on the primary or secondary side of the valve, preventing a liquid ring circuit from forming.

- Working fluids
Check the compatibility of product component materials and working fluids.

- Fluid temperature
Use within the specified fluid temperature range.

- Fluid pressure range
Use within the specified working pressure range.

- Iron rust and foreign materials in the fluid can cause operation faults or leaks and deteriorate product performance. Provide measures to remove foreign matter.

- Use in high temperatures and steam
When hot fluid flows during steam sterilization, the valve body becomes hot, so do not touch with your hand or body. There is a risk of burns if these coils are touched directly. Do not place objects that may deteriorate, melt, or ignite near the unit.

CAUTION

- Rapid changes in fluid temperature may cause internal leakage.

- While the upper side of the diaphragm (actuator side) does not come into contact with the fluid, due to changes in fluid type and fluid temperature, fluid may permeate and turn into fluid atmosphere.

- As for compressed air for actuator operation, use air or inert gas passed through a filter with a filtration rating of 5 μm or more.

- If the product has been out of use for one month or more, perform a test run before starting actual operation.

- When the product will not be used for one month or more, completely remove any water left in the product. Water residue will cause rusting and may lead to malfunction or leaks. If residual water cannot be eliminated, operate the valve several times a day and pass water through to ensure ideal use.

- When the operating air supply time or exhaust time is short, the valve actuation may be unable to keep up.

- Do not allow fluid to come into contact with anything other than the fluid passage section of the product.

- Water hammer and vibration may occur in certain fluid pressure and piping conditions. In most cases, this can be resolved by adjusting the open-close speed using a speed controller, etc. If a problem persists, review and revise the fluid pressure and piping conditions.

- If you use the product infrequently, contact CKD.

- Indicator rises during valve opening. Since grease is applied to the indicator part, be careful of adhesion.

- Do not use valves as a footing or place any heavy objects on top of the valves.

- Use the air operated operating air pressure within the specified pressure range.

- Use the manual operating torque within the specified torque range.

- Observe the operating frequency. Operating frequency is 20 cycles/min or less for SWD1 to 4, and 10 cycles/min or less for SWD5.

- For horizontal piping, liquid accumulation in the valve can be minimized by tilting the valve and piping. Pipe so that the "-CKD-" mark stamped on the body piping section is directly above.

(Refer to Table 1, Fig. 1)

Table 1. Port size and valve tilt angle

Model No.	Port size	Valve tilt angle (θ°)
SWD1※-8, MWD10-8	8 A	23
SWD1※-10, MWD10-10	10A	11
SWD2※-15, MWD20-15	15A	14
SWD3※-25, MWD30-25	25 A (1S)	25
SWD4※-40, MWD40-40	40 A (1.5S)	24
SWD5※-50, MWD50-50	50 A (2S)	23

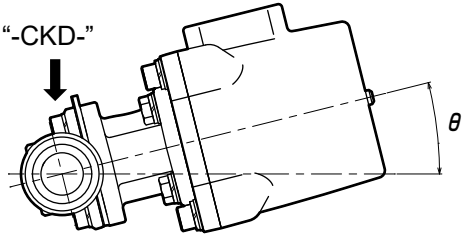


Fig. 1 Valve tilt angle

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