Safety Precautions

Be sure to read this section before use.

Refer to Intro Page 73 for general information of the cylinder, and to Intro Page 80 for general information of the cylinder switch.

Product-specific cautions: Cylinder with valve CAV2/COV$^{P}_{N}$2 Series

Design/selection

⚠WARNING

■ An inhale effect may be generated at the exhaust port of the valve due to valving element operation, causing the intake of foreign matter near the exhaust port. Foreign matter may also enter when the exhaust port is pointed upwards. Install a silencer and/or arrange the piping of the exhaust port to open facing downward.

● The actuator will not operate correctly if the exhaust air is not discharged smoothly.

⚠CAUTION

■ Instantaneous energization

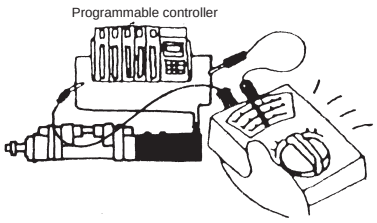
When the double solenoid is used with instantaneous energization, 0.1 sec. and over energization time is required.

■ If the 2-position double solenoid is started and then switched, it will hold that status unless a reverse operation electrical signal is input.

■ Check for leakage current to avoid malfunction caused by leakage current from other fluid control components.

● When a programmable controller is used, leakage current may affect the valve and cause a malfunction.

● The values affected by leakage current depend on the voltage type. Refer to the table below.



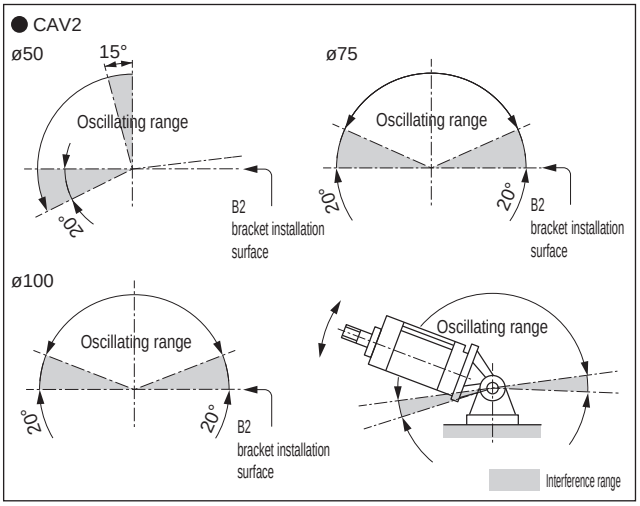
Reference

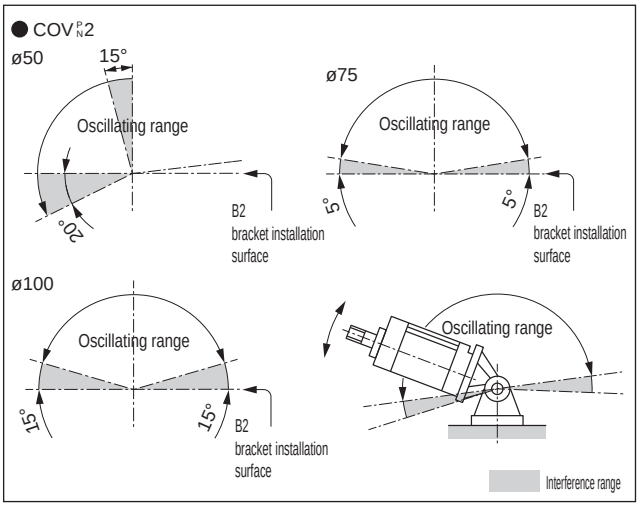
Using 100 VAC	3.0 mA or less
Using 200 VAC	1.5 mA or less

■ Switch the valve at least once every 30 days to prevent malfunction.

■ Oscillating range

◎ Note that the oscillating range of the combination of eye bracket (CA) and clevis bracket (B2) is limited as in the figure below.





● With terminal box (TB1 and TB2)

TB1

●CAV2

ø50
The same as the type without terminal box

ø75
Oscillating range
80°
80°

●COV$^{P}_{N}$2

ø50
The same as the type without terminal box

ø75
Oscillating range
80°
15°

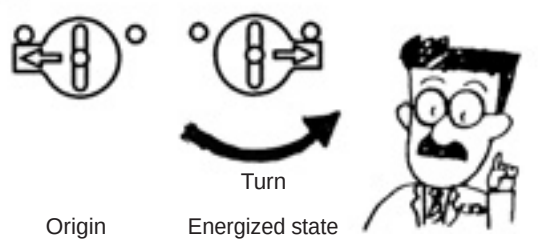
The oscillating range of TB2 (CAV2 ø50) is the same as that of the type without terminal box.
COV$^{P}_{N}$2 ø50/ø75 and CAV2 ø75 cannot be selected.

Mounting, installation and adjustment

⚠ WARNING

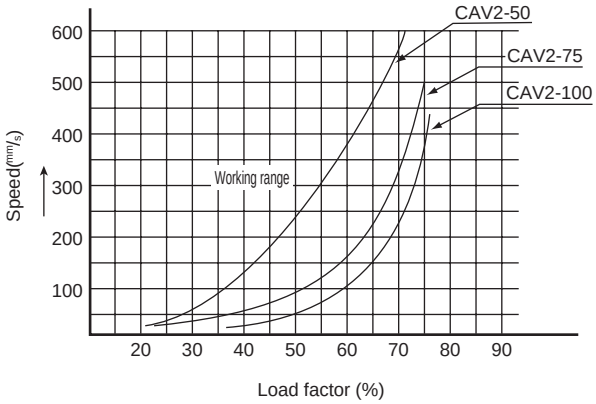
■ Manual operation causes the connected device to function. Make sure that there is no danger before performing manual operation.
If you have activated the manual override of the valve, return it to the origin (OFF state) before operating the equipment. Be sure to confirm automatic return (for non-locking CAV2, COVPN2) or origin (OFF state) (for locking COVPN2).

[Example]



● If compressed air is supplied when not at origin, the cylinder will become operational, creating hazardous conditions.

■ When moving the load with CAV2/COV2 attached vertically, use within the specified range shown as below.
The speed of the cylinder cannot be adjusted outside the range.



⚠ CAUTION

■ Be careful not to hit the solenoid valve with a tool or the equipment during mounting.

■ Do not support the cylinder with pipes during mounting.

■ Do not pick up the product by the coil lead wire.
● This may lead to disconnection.

■ Polarity
All series are without polarity. (Non-polar)

■ Applied voltage
When wiring the valve, check that the voltage (AC or DC) and voltage are correct. Failure to comply may cause defective operation or burnout of the coil.

■ Checking wiring
After wiring, check that the connections are correct.

Use/maintenance

⚠WARNING

■ Manual operation causes the connected device to function. Make sure that there is no danger before performing manual operation.

⚠CAUTION

■ Infrequent use

● Switch the valve at least once every 30 days to prevent malfunction.

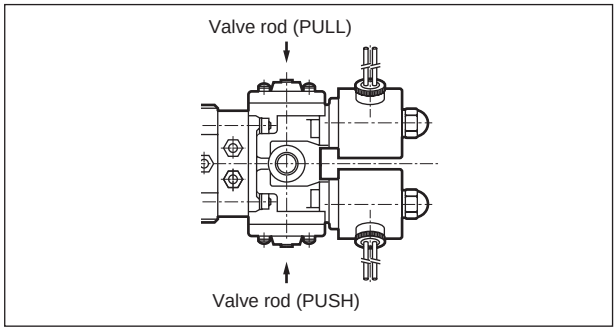
■ After disassembling and assembling the valve, be sure to check normal valve operation with the following procedure.

Work procedure

1. Check that the locking manual override is at the origin (OFF state).
2. Configure the unit to low pressure. (0.15MPa)
3. Set the manual override to the operation side (push the non-locking, turn the manual dial for the locking) to check that the cylinder is operational.
4. Return the locking manual override to the origin (OFF state) and check that the cylinder returns. (Manual operation check is complete.)
5. Check the operation electrically.
   ●After manual operation check, energize/de-energize to confirm operation.

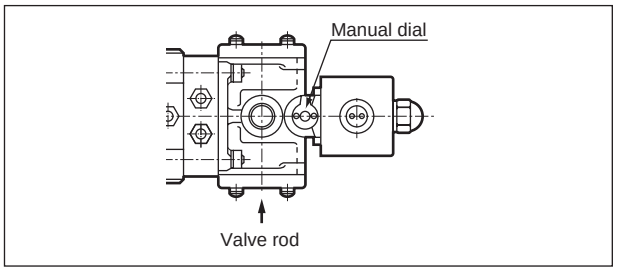
■ Manual operation

● For CAV2



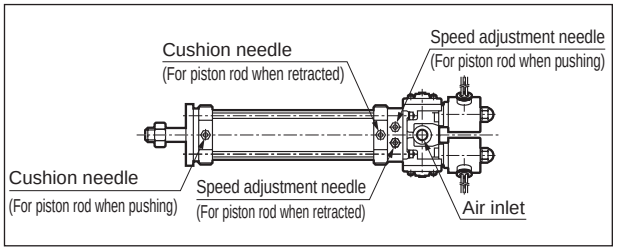
● Pushing the valve rod (PUSH) with a screwdriver extrudes the piston rod.
● Pushing the valve rod (PULL) with a screwdriver retracts the piston rod.
● Although this product is a non-locking, the piston rod is held as it is when PUSH or PULL is pressed.

● For COV2



● Turning the manual dial energizes the solenoid. (Locking)
● Pressing the valve rod with a screwdriver, etc., energizes the solenoid. (Non-locking)
For COV2-75 and 100 with CA or B2 mounting bracket, ⚠manual operation is possible with the non-locking but not with the locking.

■ How to adjust the speed and cushion of CAV2/COV2



1. The speed decreases when the speed adjustment needle is turned clockwise with a screwdriver, and increases when it is turned counterclockwise.
2. The cushioning effect increases when the cushion needle is turned clockwise with a screwdriver, and decreases when it is turned counterclockwise.