



# To Use This Product Safely

Be sure to read this before use. For general cylinder information, see Intro 41, and for cylinder switches, see P. 1512.

## Individual Precautions: Pin clamp cylinder PCC Series

### Design / Selection

#### 1. Common

##### Warning

■ This cylinder has been designed to simultaneously perform positioning and clamping of the workpiece. Do not use it for other applications, as this may cause accidents, damage to the cylinder, etc.

■ If fingers may be caught in the clamp lever, install a protective cover, etc.

■ When the circuit pressure drops due to power outage or problems in the air source, the clamping force drops, which may cause the workpiece to fall out depending on the mounting orientation of the product. Use a cylinder with fall prevention or take measures on the equipment side to prevent injury or damage to humans or machinery.

■ When mounting this cylinder to a transport robot or the like, it may not be possible to maintain clamping force due to the weight of the workpiece to be transported, inertial force during transportation, etc. Sufficiently consider the weight of the workpiece to be transferred and the inertial force of the workpiece during transfer, and take measures to prevent workpiece scattering as necessary.

#### 2. Drop prevention type PCC-Q

##### Warning

■ This cylinder is equipped with position locking mechanism (for holding clamping position). When used in emergency or emergency stops (while in operation), the service life can be reduced significantly.

■ If back pressure is applied to the locking mechanism, the lock may be released. Use an individual exhaust Discrete or manifold for the valve.

■ When unlocking, make sure to supply pressure to the clamp (rod) side port, and before unlocking, check that load is not applied to the lock mechanism.

■ Due to the structure, the clamp lever moves by about 1 mm when the lock is applied.

##### CAUTION

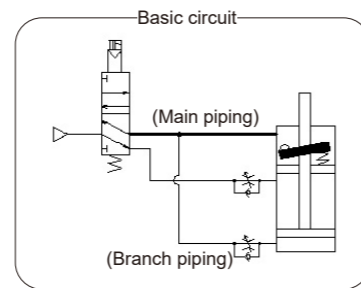
■ Set the clamping of the workpiece within the clamp stroke range.

■ When using this product in the welding process, be sure to ground to avoid current leading to the product.

■ Arrange the air piping of this cylinder (position locking) as shown in the figure below. If piping differently from the diagram below, such as piping to the fall prevention part as a single unit, it may cause a malfunctions such as response delays.

· Be sure to branch the piping for this cylinder after the valve as shown in the figure below, and pipe to the drop prevention unit (main piping) and the cylinder unit (branch piping).

· If the cylinder operation is faster than the unlocking, there is a risk that the lock will not release or the Piston Rod will jump out even if released, so design the piping so that the unlocking is faster than the cylinder operation.



### During Use

#### 1. Drop prevention type PCC-Q

##### Warning

■ Do not lubricate the lock, as this may cause the holding force to decrease.

■ Do not disassemble the lock, as doing so may be dangerous.

■ Always use the product with the dust cover on, except for when performing manual release, in order to prevent failure or malfunction.

##### CAUTION

■ Remove spatter from the product upon removing the plug (R3, 8) of the product side cleaning hole. When working, do not scratch or dent the Piston Rod sliding part.

■ Locating pin and clamp lever are consumable parts. If the locating pin or clamp lever is used in a worn state, etc., the workpiece position may shift during clamping, or clamping may not be possible normally.

■ When locking the first time after leaving the lock released for long periods, a delayed response may occur in the lock. Do not leave the lock part pressurized; operate the lock part with each cylinder operation.

■ If no air pressure is supplied in vertical downward mounting, etc., holding force may not be sufficient when the lock is manually released. This may cause the clamp to release and the workpiece to fall from its own weight.

Clamping

CAC4

UCAC2

CAC-N

UCAC-N

RCS2

RCC2

PCC

Clamping

CAC4

UCAC2

CAC-N

UCAC-N

RCS2

RCC2

PCC

Cylinders Switch

Ending

Cylinders Switch

Ending