



To Use This Product Safely

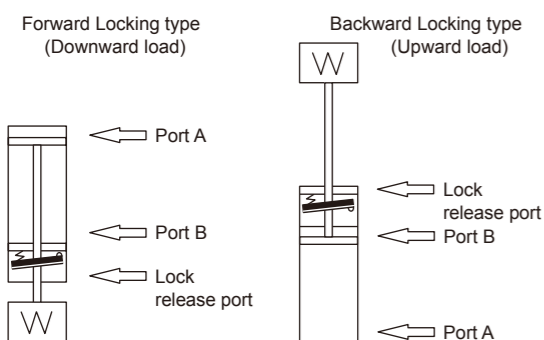
Be sure to read this before use. For general cylinder information, see Intro 41, and for cylinder switches, see P. 1512.

Individual Precautions: Free position locking flat cylinder UFCD Series

Design / Selection

Warning

- Cylinder with position locking mechanism (for holding cylinder stationary). If used for emergency stop or urgent stop (stopping from cylinder operating state), the service life will be significantly reduced.
- If back pressure is applied to the locking mechanism, the lock may be released. Use a discrete valve, or use an individual exhaust manifold.
- Do not apply torque to the rod when locked because the holding force may decrease, creating a dangerous condition. Also, use with a mechanism that prevents rod rotation.
- To release the lock, when using Forward Locking, supply pressure to port B, and when using Backward Locking, supply pressure to port A. Check that load is not applied to the locking mechanism. If pressure is supplied to port A for Forward Locking type or port B for Backward Locking type while both ports A and B are exhausted and the piston is locked, the lock may not release, or even if released, the Piston rod may extend suddenly, which is very dangerous.



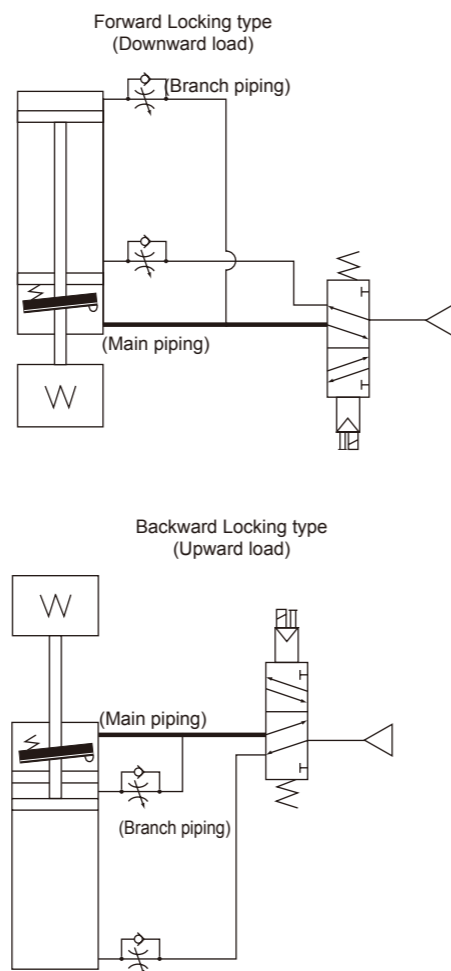
- Do not use multiple synchronized cylinders with position locking. If a synchronization error occurs, excessive moment load or load concentration may occur on the cylinder that locked first, potentially causing lock release failure, reduced lifespan, or damage.

CAUTION

Basic Circuit Diagram

Configure the air piping for this cylinder as shown below. Piping to the fall prevention unit alone or piping different from the figure below may cause problems such as response delay.

1. Be sure to branch the piping after the valve as shown below, and pipe to the fall prevention unit (lock release port as main piping) and cylinder unit (cylinder port as branch piping).
2. If cylinder operation is faster than lock release, the lock may not release or the Piston rod may extend suddenly, so design the piping so that lock release is faster than cylinder operation.



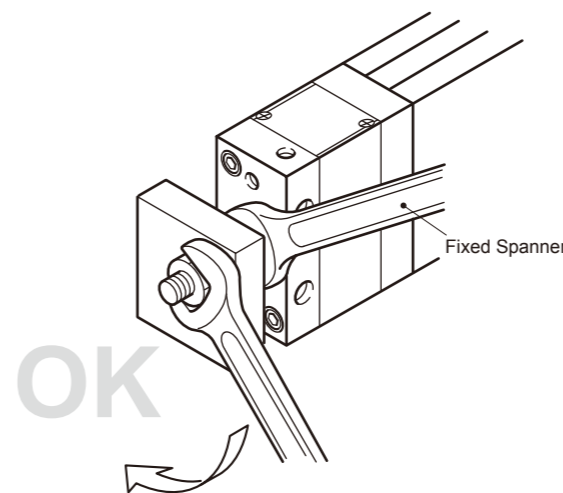
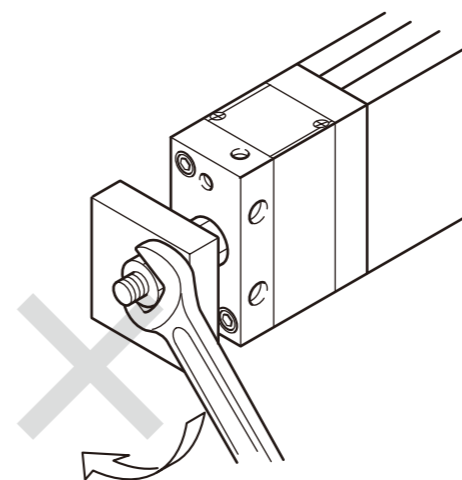
If emergency stop or urgent stop is performed with the air piping shown above, the Forward Locking type will continue to retract and the Backward Locking type will continue to extend, returning to the origin position. (If residual pressure is gone, it will stop at that position.)

Warning

- Do not apply grease to the Piston Rod because holding force drops and creates a hazard.

CAUTION

- Main piping in the basic circuit diagram on the previous page should be thicker and shorter than branch piping.
- For male threads with load mounted on ends, fix the wrench hook at the end of the rod with a wrench and tighten.



- For female threads, fix the wrench hook at the end of the rod with a wrench using a standard tool (Allen wrench), and tighten.

- Avoid using the product so as to apply rotation torque to the Piston Rod. If unavoidable, use within the allowable rotational torque range.

Item	Model No. Equivalent to ø25	Equivalent to ø32	Equivalent to ø40	Equivalent to ø50	Equivalent to ø63
Allowable rotational torque (N·m)	1	1.6	2.5	3.9	5.9

- Even when the value is within the allowable torque range, do not apply rotation torque with impact, or with instantaneous changes in torque Load Direction.

- 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. (Please use the basic circuit diagram on P. 580)

- If the cylinder is held with pressure applied on the locking mechanism, the lock could be released. Do not use 3-position closed-center and 3-position P·A·B connection solenoid valves.

- Due to the structure, the Piston Rod drops by about 1 mm when the lock is applied.

- The Cylinder Body may be damaged or may malfunction if a unit with excessive inertia, etc., is actuated. Use within the allowable absorbed energy range.

With Brake / With Lock

ULK□

JSK2/ JSM2

JSG

JSC3, JSC4

USSD

UFCD

USC

With Brake / With Lock

ULK□

JSK2/ JSM2

JSG

JSC3, JSC4

USSD

UFCD

USC

Cylinders Switch

Ending

Cylinders Switch

Ending

During Use

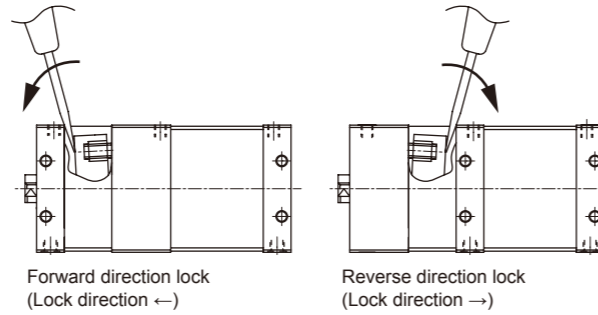
Warning

- Do not apply additional grease to the Piston Rod or wipe off the grease that is already applied.
- Do not disassemble the unit, 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.
- If no air pressure is supplied in vertical mounting, etc., holding force may not be sufficient when the lock is manually released. This may cause the rod to move (drop) with the load's weight. In that case, for safety, perform the following preparations before manual release.

- Move the load to the bottom end.
- Provide a stopper to the load
- Apply air pressure to the cylinder to balance the load.

CAUTION

■ How to unlock manually



- Remove the cover, insert a flathead screwdriver or the like and lightly push it down in the direction of arrow A to lift the lock plate, unlock and free the Piston Rod.

MEMO

With Brake / With Lock

ULK□

JSK2/
JSM2

JSG

JSC3,
JSC4

USSD

UFCD

USC

Cylinders
Switch

Ending

For precautions during mounting, installation, adjustment, use, and maintenance, please see "Precautions for Use" in this catalog and the CKD Components product site (<https://www.ckd.co.jp/kiki/en/>) → "Model No." → Instruction Manual.

With Brake / With Lock

ULK□

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Cylinders
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