



# 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: High Energy Absorption Cylinders HCM Series

### Design / Selection

#### CAUTION

- Although the cylinder port is designed to achieve speeds of 2000 mm/s or more, be sure to mount a speed controller in order to use it within the specified range.
- The Max speed for the working piston is 2000 mm/s, which is not the average speed.
- Avoid using the product so as to apply lateral load to the Piston Rod of the cylinder. If a lateral load is applied, the desired speed cannot be obtained, and the bearing part will wear unevenly, significantly reducing performance.
- Cushion  
The air cushion absorbs kinetic energy that the piston generates by using air compressibility and prevents the piston and cover from colliding at the stroke end. Therefore, note that it is not a function for reducing the piston speed near the stroke end.

- Consider the system selection guide of the cylinder only as a guideline, as it may vary depending on the operating conditions (Operating Pressure, travel method and direction of the load and piping length).
- Operating the cylinder at high speed increases the instantaneous flow rate of the air, allowing drainage to accumulate more easily. Install an air tank to prevent drain from entering the cylinder and prevent pressure loss when passing through the oil mist filter.
- Install the speed controller near the cylinder piping port. If installed far away, speed control will not be possible.
- If the cushion specifications (allowable absorption energy) are exceeded, install a separate shock absorbing device.

### During Use

#### CAUTION

- When adjusting speed with the speed controller, gradually open the needle from the closed state and increase speed. Adjusting from the open state is dangerous as the Piston Rod may suddenly fly out.
- If operation is started while the exhaust side is at atmospheric pressure, the rod could pop out and cause a dangerous situation. Apply pressure to the exhaust side at startup.
- Since the switch rail is joined with industrial adhesive tape, use in an atmosphere of inorganic/organic solvents and steam will cause rail peeling, so do not use.  
Main Inorganic/Organic Solvents  
Inorganic/Organic Solvents: Sodium Hydroxide, Hydrochloric Acid, etc.  
Organic Solvents: Toluene, ethanol, hexane, Gasoline, kerosene, etc.

- Remove all oil, water, dust, etc., from the body (tube) before laying adhesive tape for switch rails. (Adhere by referring to the instruction manual included with the parts.)
- When disassembling the cylinder, grip the tang portion of either of the head cover or the rod cover with a vice, etc., apply a wrench or an adjustable wrench to the tang portion of the other cover and loosen it to remove the cover.

When retightening the cover with the "LB" Foot Bracket, tighten so brackets on both sides have no play. When using other than an "LB" Foot Bracket, retighten from the position set before disassembly.

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](#).

High Speed Type

HCM

HCA

Cylinders Switch

Ending

High Speed Type

HCM

HCA

Cylinders Switch

Ending