



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: High energy absorption cylinder 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.
- Note that the working piston speed of 2000 mm/s is the max. speed, not the average speed.
- Avoid using the product so as to apply lateral load to the piston rod of the cylinder. The required speed may not be attained, bearings may wear abnormally, and performance may drop.

■ 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 (working 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. Provide an air tank to prevent drain from entering the cylinder and to prevent pressure loss when filtering oil mist.

Mounting, installation and adjustment

CAUTION

- When adjusting speed with the speed controller, gradually open the needle from the closed state and increase speed. The piston rod may suddenly pop out and create a hazard if speed is adjusted while the needle is open.
- If operation is started while the exhaust side is at atmospheric pressure, the rod could pop out and cause a dangerous situation. Pressurize the exhaust side before starting.
- Switch rails are adhered with industrial adhesive tape. If used in an atmosphere containing inorganic or organic solvents or water vapor, rails may become loose.
Main inorganic solvents/organic solvents
Inorganic solvents : Sodium hydroxide, hydrochloric acid, etc.
Organic solvents : Toluene, ethanol, hexane, gasoline, kerosene, etc.

- Remove all oil, moisture, dust, etc., from the body (tube) in order to adhere the switch rail.
(Perform adhesion by referring to instructions attached to the part.)

- Mount the speed controller near the cylinder piping port. Otherwise, speed cannot be controlled.

- When the unit will be used where the specifications of the cushion (allowable absorbed energy) will be exceeded, provide a separate external shock absorber.

Use/maintenance

CAUTION

- When disassembling the cylinder, grip the width across flats portion of either of the head cover or the rod cover with a vice, etc., apply a wrench or an adjustable wrench to the width across flats portion of the other cover and loosen it to remove the cover.

When retightening the cover with “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.