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: Rodless cylinder MRG2 Series

Design/selection

⚠WARNING

■With the cylinder, there is the risk of the table popping out in cases when a change of force occurs due to disruption of the sliding portions of the machine.
This could cause physical harm, such as pinched hands or feet, or mechanical damage. Adjust the machines so that they operate smoothly and design so that physical harm will be avoided.

■If requiring deceleration circuit and shock absorber
If the driven object moves at high speeds or is very heavy, it may be difficult to absorb impact with the standardly provided shock absorber alone. Take measures to ease impact by installing a deceleration circuit before the shock absorber or by using an external shock absorber. The machine's rigidity must also be considered.

■The piston may become derailed if the unit is used in an environment of pressure greater than the max. working pressure or in cases when a load greater than the allowable value is applied.

Mounting, installation and adjustment

⚠CAUTION

■Be careful of the gap between the end plate and the slider.
Be careful when operating the cylinder as getting a hand or finger caught in the unit may lead to injury.

■Do not apply a load to the cylinder that is greater than or equal to the allowable load listed in the materials for selection.

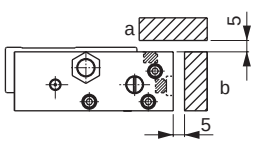
■Do not use with the table fixed.
Use the cylinder with the end plate fixed. Avoid use with the table fixed.

■Mount so that the table functions with the min. working pressure value of all processes.
When the flatness of the surface for cylinder installation is poor, the min. working pressure will rise due to guide unit torsion and cause early wear of the bearing section. For this reason, install the unit so that the table functions with the min. working pressure value or less of all processes. Although mounting mating surfaces should be highly flat, adjust with shims when this cannot be confirmed.

■Be careful to avoid scratching or denting the outer peripheral surface of the cylinder tube.
This will cause damage to the lubricator and slider wear ring and may lead to defective operation.

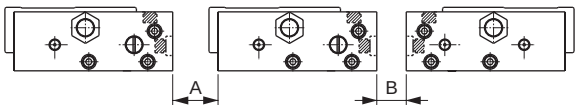
■The cylinder switch may malfunction if there is a magnetic substance such as a metal plate installed adjacently. Be sure that more clearance than the dimensions listed below is provided.

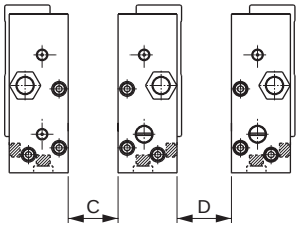
Magnetic substance such as a steel plate

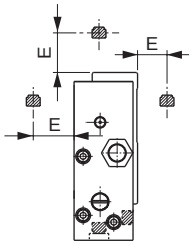


Avoid simultaneous a and b.

■When using cylinders adjacent with each other or when using other magnetic sensors nearby, in order to prevent malfunctioning due to the leaked magnetic field of the cylinder embedded magnet, separate the cylinder or magnetic sensors by at least the values listed below.





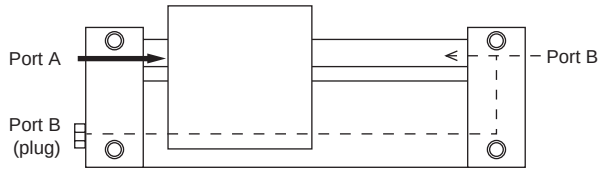


Unit: mm

Bore size	A	B	C	D	E
ø10	20	10	10	10	20
ø16	20	10	10	10	20
ø25	50	20	20	20	50

When this distance is dimension E or less, malfunctions can be prevented by placing a magnetic substance (steel plate with thickness of 2 mm or above) between the unit and the table.

■ Piping port position and operating direction



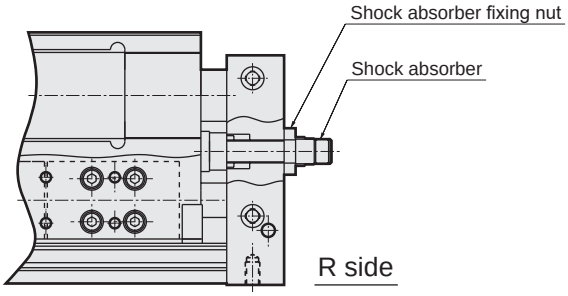
The slide table will move to the right side of the figure when port A is pressurized.
The slide table will move to the left side of the figure when port B is pressurized.
Port B (plug) is sealed with a plug at shipment. Common piping is possible by removing the plug and sealing port B on the right side.

■ CKD's shock absorber is a repair part.

Replace it when the energy absorption performance has degraded or the operation is not smooth.

■ Stroke adjusting procedure

Stroke (-) direction ⟷ Stroke (+) direction



Adjustable stroke (one side)

Bore size (mm)	Stroke (-) direction	Stroke (+) direction
ø10	5	5
ø16	5	5
ø25	6	4

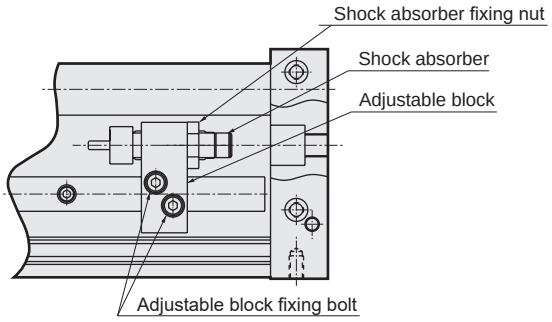
1. Loosen the shock absorber fixing nut, make adjustments by turning the shock absorber until the slide table is at the intended position, and tighten the shock absorber fixing nut to fix the unit in place. The tightening torque is to be in accordance with the table on the right.

CAUTION

Although it is possible to adjust the stroke of the above table with adjustment of the shock absorber, take care as switch detection will become impossible on the R side only at the stroke end when adjusting the (+) stroke direction.

■ Adjustment method for full stroke adjustable bracket

Stroke (-) direction ⟷ Stroke (+) direction



Full stroke adjustment volume (adjustment volume per full stroke adjustable bracket)

Bore size (mm)	A		A1		A2	
	Stroke (-) direction	Stroke (+) direction	Stroke (-) direction	Stroke (+) direction	Stroke (-) direction	Stroke (+) direction
ø10	Stroke	0	Stroke	24	Stroke	24
ø16	Stroke	0	Stroke	24	Stroke	24
ø25	Stroke	15	Stroke	65	Stroke	65

1. Movement of adjustment block
Loosen the adjustment block fixing bolt, and after moving the unit to a random position, fasten the adjustment block fixing bolt to fix the unit in place. The tightening torque is to be in accordance with the table below.

2. Fine adjustment of the shock absorber
Loosen the shock absorber fixing nut and make adjustments by turning the shock absorber until the slide table is at the intended position. After adjustment, tighten the shock absorber fixing nut to fix the shock absorber. The tightening torque is to be in accordance with the table below.

Tightening torque / Bore size (mm)	Shock absorber fixing nut (N·m)	Adjustable block fixing bolt (N·m)
ø10	1.2 to 2.0	2.2 to 3.0
ø16	3 to 4	2.2 to 3.0
ø25	5 to 6	4.6 to 6.3

Use/maintenance

⚠ CAUTION

■ The magnetic strength of the embedded magnet is powerful. Do not disassemble.