# Rotary Clamp Cylinders - Overview

## Overview

The square and space-saving cylinders are built in rotary (swing) clamping mechanisms. Suitable for clamping small workpieces such as sheet metal parts in limited spaces.

### Features

- **Space Saving / Square**
- **Stomach of the waitress** is preventable to the cylinders.
- **For enhanced dust resistance**, the cylinders are equipped with two-guide-grooves compatible with all diameters. In addition, each of the guide pins is outfitted with a roller (Ø32 ~ Ø50).

### Basic Specifications of Cylinders

<table>
<thead>
<tr>
<th>Model</th>
<th>Tube I.D. (mm)</th>
<th>Stroke (mm)</th>
<th>Stroke on Clamping (mm)</th>
<th>Operating Range</th>
<th>Max. Operating Pressure (MPa)</th>
<th>Guaranteed Withstand Pressure (MPa)</th>
<th>Pressure Area</th>
<th>Piston Speed (mm/s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MKRCA25</td>
<td>Ø60</td>
<td>100</td>
<td>60</td>
<td>-10 ~ 60</td>
<td>15</td>
<td>15</td>
<td>±1° ±0.9° ±0.7°</td>
<td></td>
</tr>
<tr>
<td>MKRCA32, 40, 50</td>
<td>Ø70</td>
<td>100</td>
<td>60</td>
<td>-10 ~ 60</td>
<td>20</td>
<td>20</td>
<td>±1° ±0.9° ±0.7°</td>
<td></td>
</tr>
</tbody>
</table>

## Rotary Clamp Cylinders

### Design / Selection

- **NOTE:**
  - The square and space-saving cylinders have built-in rotary (swing) clamping mechanisms.
  - Sensors of all diameters (Contact / No Contact) are mountable to the cylinders.
  - In addition, each of the guide pins is outfitted with a roller (Ø32 ~ Ø50).
  - For enhanced wear resistance, the cylinders are equipped with two guide grooves compatible with all diameters.

### Arm Length & Operating Pressure

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Ø32</th>
<th>Ø40</th>
<th>Ø50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tube I.D.</td>
<td>Stroke</td>
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</tr>
<tr>
<td>Ø32</td>
<td>50</td>
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<td>50</td>
<td>30</td>
<td>-10 ~ 60</td>
</tr>
</tbody>
</table>

### Clamping Position

- **NOTE:**
  - Do not clamp while the arm is rotating.
  - Do not rotate the arm while the piston rod is extended.

### Arm Inertia Moment & Piston Speed

- **NOTE:**
  - Select the arm length and the operating pressure to be within the ranges below.

### Selection Example A

- **EXAMPLE:**
  - For Ø32: 100mm/s
  - For Ø40: 100mm/s
  - For Ø50: 100mm/s

### Arm Moment of Inertia (kgm²)

<table>
<thead>
<tr>
<th>Model</th>
<th>Ø32</th>
<th>Ø40</th>
<th>Ø50</th>
</tr>
</thead>
<tbody>
<tr>
<td>MKRCA25</td>
<td>0.2</td>
<td>0.5</td>
<td>1.0</td>
</tr>
<tr>
<td>MKRCA32, 40, 50</td>
<td>0.2</td>
<td>0.5</td>
<td>1.0</td>
</tr>
</tbody>
</table>

### Lever Inertia Moment (kgm²)

<table>
<thead>
<tr>
<th>Model</th>
<th>Ø32</th>
<th>Ø40</th>
<th>Ø50</th>
</tr>
</thead>
<tbody>
<tr>
<td>MKRCA25</td>
<td>2.0x10^-3</td>
<td>3.0x10^-3</td>
<td>5.0x10^-3</td>
</tr>
<tr>
<td>MKRCA32, 40, 50</td>
<td>2.0x10^-3</td>
<td>3.0x10^-3</td>
<td>5.0x10^-3</td>
</tr>
</tbody>
</table>

### Precautions for Handling Rotary Clamp Cylinders

- **NOTE:**
  - Use back or vented and becifically instructed to install the direction cross-like 绞線 to avoid possible entrapment of small parts.
  - **Integrating the Speed Controller:**
    - The speed controller must not be thrust on the exhaust side to the air pressure addid side.
    - The performance of the speed controller is affected the operation of the cylinder.
    - Use a speed controller with low-crossing pressure.
  - **Installing Conditioning Equipment:**
    - Cylinder failure is mostly caused by foreign materials in the atmosphere or dust.
    - Protect the cylinder from damage by installing an air filter or filter aspirator.
  - **Space:**
    - Provide sufficient space around the equipment to ensure easy handling.

**IMPORTANT!** Precautions for Handling Rotary Clamp Cylinders

- **WARNING:**
  - Do not clamp while the arm is rotating.
  - Do not rotate the arm while the piston rod is extended.
  - Do not use a speed controller with low-crossing pressure.
  - Use a speed controller with low-crossing pressure.
  - Install the direction cross-like 绞線 to avoid possible entrapment of small parts.

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