Pneumatic Components

To Use This Product Safely

Be sure to read this before use.
For cylinders in general, refer to P. 39 of the introduction; for hand chucks in general, refer to P. 336, 490; and for cylinder switches, refer to P. 628.

Laws and Regulations Related to Robot Safety

Please read the following standards thoroughly before use.

ISO10218, JIS B 8433 (Robots and Robotic Devices)
ISO/TS 15066 (Robots and Robotic Devices)

Individual Precautions: Gripper for Collaborative Robot

During Design / Selection

Warning

■ If there is a risk that the moving workpiece may pose a danger to the human body, or a risk of fingers being pinched by the attachments, please implement safety measures such as installing a protective cover.

■ If circuit pressure drops due to a service interruption or problems in the air source, gripping power drops and the workpiece could drop. Provide position locking measures, etc., so that personnel are not injured or machines damaged.

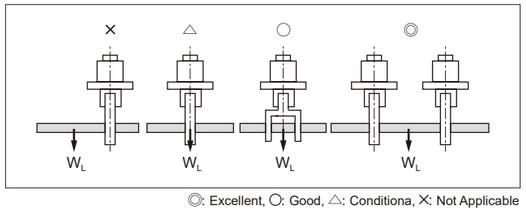
Caution

■ Usage Environment

In cutting, casting, and welding factories, foreign matter such as cutting fluid, chips, and dust may enter. Prevent these as much as possible with covers, etc.Also, do not use in the following environments.

- Exposure to cutting fluid (due to abrasives or abrasive powder in the fluid abrading the sliding parts)
- When organic solvents, chemicals, acids, alkalis, kerosene, etc. are contained in the atmosphere
- Exposure to water

■ When gripping long or large workpieces, gripping the center of gravity is a prerequisite for stable gripping, but consider increasing the size or using multiple units to ensure stability.



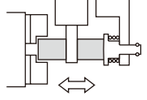
◎: Excellent, ○: Good, △: Conditiona, ×: Not Applicable

■ Select a model with sufficient gripping force for the workpiece weight.

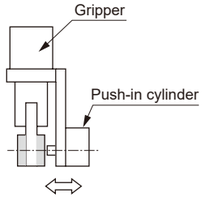
■ Select a model with sufficient opening/closing width relative to the workpiece size.

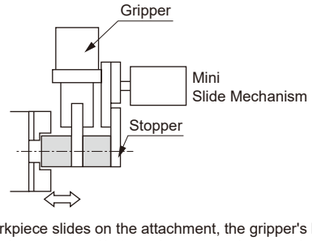
■ When directly inserting a workpiece into a jig with the gripper, design with clearance in mind. The gripper may be damaged.

● Pushing against a jig by springing out



● When using a push-in cylinder





Note) If the workpiece slides on the attachment, the gripper's lifespan may be significantly reduced. Sufficient consideration must be given to the shape of the attachments.

Individual Precautions

■ If the attachment lacks rigidity, deflection may cause the fingers to bind, adversely affecting operation.

■ Adjust the gripper opening/closing speed using the speed controller. If used at high speed, play may occur sooner. Also, the workpiece may vibrate due to the impact of opening and closing, which may result in gripper errors, workpiece insertion failures, or poor repeatability.

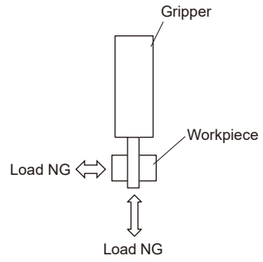
■ When using small bore/short stroke actuators at high frequency, condensation (water droplets) may form in piping depending on conditions. Take measures to prevent condensation by using a quick exhaust valve, etc.

■ To prevent workpiece drop when the signal is interrupted, use a 2-position double solenoid directional control valve.

During Use

Caution

■ Do not apply excessive load to the fingers or attachments during workpiece attachment/detachment or transfer. Scratches or dents may occur on the rolling surface of the finger's linear guide, leading to malfunction.



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