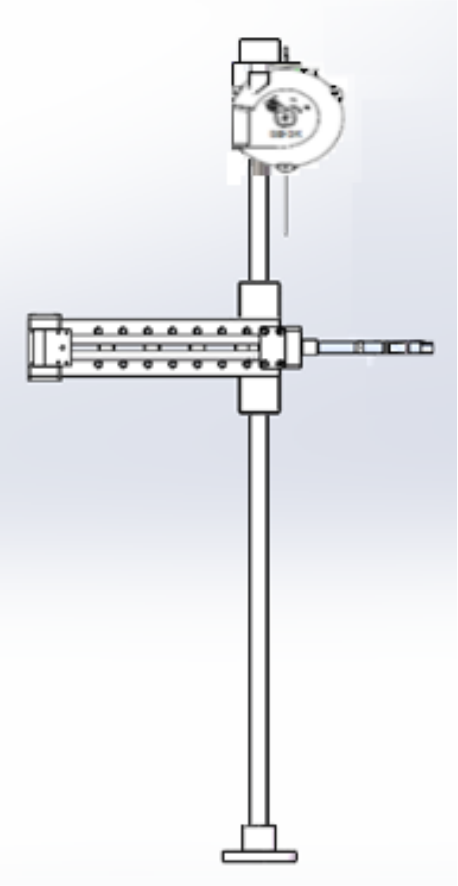
OPERATION AND MAINTENANCE MANUAL

KP-AUX-TL-670A



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Y2F243B-1-003

Introduction

The crank-type robotic arm is a tightening assistance tool designed based on ergonomic principles. It is primarily used in conjunction with tightening tools to assist in screw fastening, reduce operator fatigue, and enhance overall functionality. It improves operational safety, reliability, and stability, increases production efficiency, enhances the operator's working environment, and helps prevent repetitive tasks that could lead to excessive physical strain and negatively impact the operator's health.

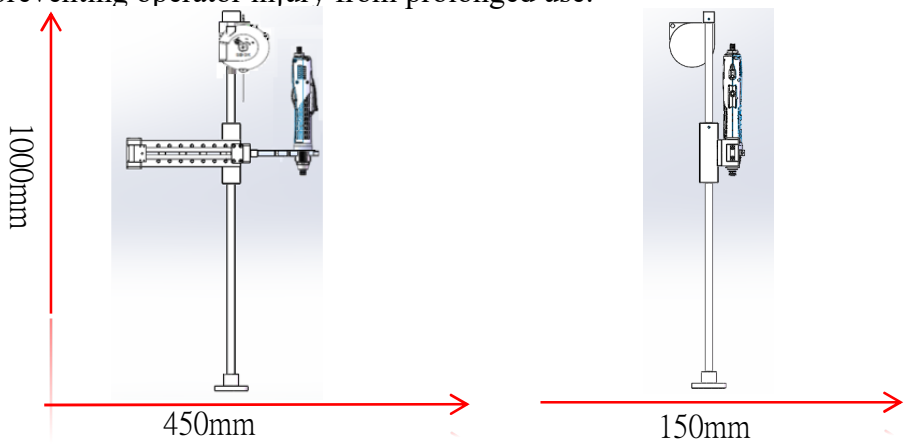
It reduces the operator's physical workload and the impact force generated during the tightening process. By utilizing the principle of reaction force to counteract the torque produced by the tightening tool, it prevents wrist injuries and effectively lowers the labor intensity during operation, thereby enhancing operator comfort, safety, and stability.

Improves the quality of tightening operations – During the tightening process, the vertical stability of the arm mechanism ensures that the tightening tool engages the workpiece perpendicularly, enhancing assembly quality and torque accuracy. ◦

Model Overview & Features

1.Model KP-AUX-TL-670A – Crank-Type Robotic Arm

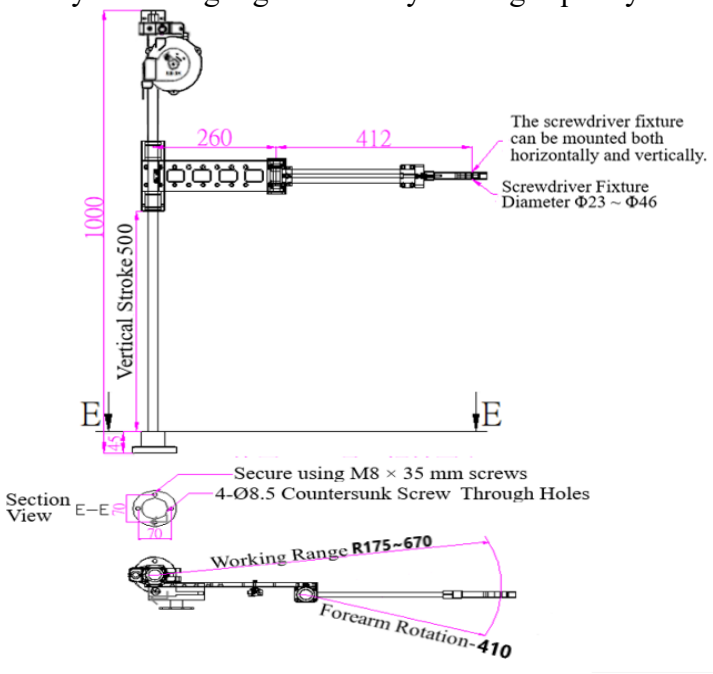
This model is primarily used to absorb the reaction force generated by an electric screwdriver during screw tightening. The crank-type robotic arm directly absorbs and withstands the reaction force that occurs during the fastening process, preventing operator injury from prolonged use.



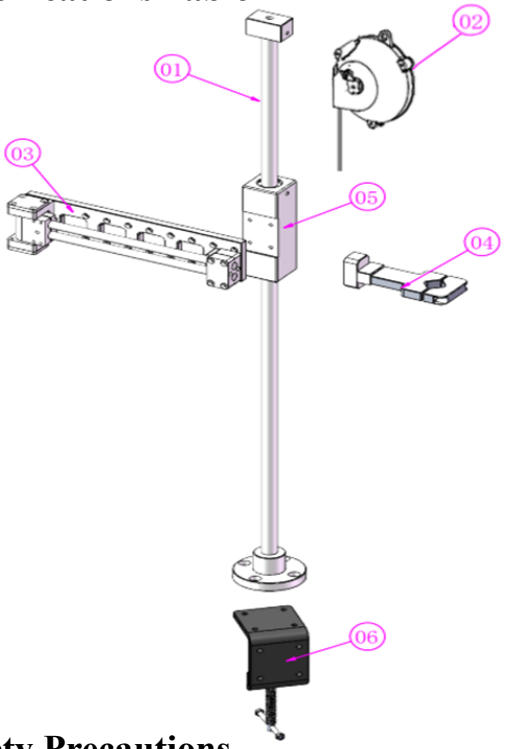
2. Features

The entire arm structure can rotate 360°, allowing for both rotational movement and vertical adjustment. The height can be raised or lowered along with the electric screwdriver and will remain fixed at the desired position. This design enables the operator to quickly and stably fasten screws into the workpiece, improving work efficiency and quality while reducing the risk of injury, ultimately achieving high-efficiency and high-quality production. As shown in the figure:

Model	**KP-AUX-TL-670A**
Total Height (mm)	**1000**
Vertical Stroke (mm)	**500**
Working Range (mm)	**R175-R670**
Maximum Load (kg)	**5**
MaximumAllowable Screwdriver Torque (kg)	**200**



3. Specifications Table



Parts List

NO.	Name / Description	Unit	Quantity
1	Torque Arm Body	Set	1
2	Balancer	Set	1
3	Crank Mechanism	Set	1
4	Screwdriver Mount Assembly	Set	1
5	Vertical Slide Assembly	Set	1
6	C-Type Mounting Clamp	Set	1

4. Safety Precautions

To ensure proper use of this product and to prevent harm to yourself, others, or property, please carefully read and strictly follow the safety instructions provided in this manual. Failure to do so may result in accidents or injury.

<Please be sure to follow instruction>

1. Sign definitions

【PROHIBITION】Attempting to perform without notice may cause body injury or damage to the auxiliary arm.

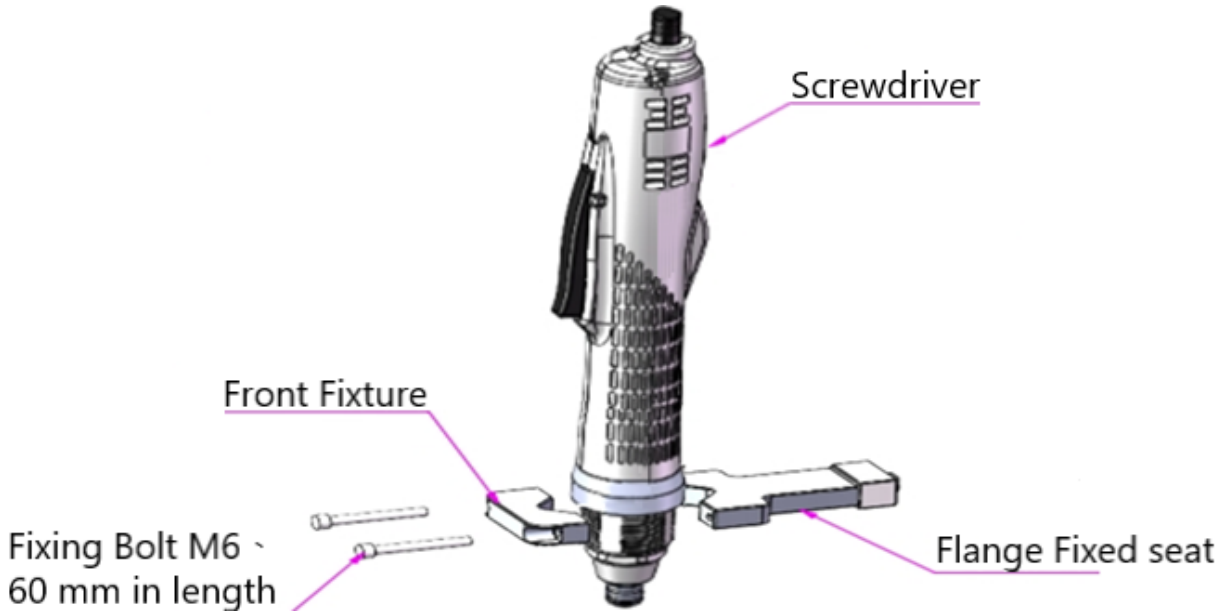
【WARNING】Attempting to perform without notice may cause body injury or damage to your objects.

2. Safety notification

	Follow instructions in this manual and operate machine correctly.
	Do not spread unknown contaminants to the machine such as oil or water.
	Modification and disassembly are not allowed.
	Keep hand in the safty area while machine is operating.
	Measure tool’s weight and adjust balancer to a proper position.
	Please maintain and clean the machine regularly.

5. Product Description

Crank-Type Mechanical Arm:
After opening the packaging box, the product consists of five main components. Please assemble them according to the following steps (as illustrated below):
1.Use four M8*30L hex socket screws to secure the **Base (5)** onto a stable workbench, or fix it using a **C-type clamp**.
2.Fix the Balancer Assembly from the top using M6*25L hex socket screws.
3.Connect the Balancer Assembly (3) with the Vertical Slide Assembly (6).
4.After securing the components, adjust the **balancer's load setting** according to the weight of the tool mounted on the arm.



6. Maintenance

For better condition and extending life cycle of this machine, please clean and maintain regularly.

1. **Daly** Lubricate the machine with the industrial oil like WD-40 daily as a frequent user.
2. **Weekly** Add proper greases into the linear bearing part weekly.

<u>You may shorten maintenance time period, if the machine has been used under a bad weather condition or a higher frequent use.</u>

Our company reserves the right to modify the product without prior notice.