# HAND HELD NUTRUNNER

Developed by a leading manufacturer of nut-runners,

it combines quality control and ergonomics.

Ultra-compact and lightweight electric hand tools!

**ERGONOMICS**

**QUALITY CONTROL**

**TRACEABILITY**

## Pistol



| Model No | A sq | B | C | D | E Hex | φF | φG | H | φJ | L | M | Weight (kg) |
|----------|------|---|---|---|-------|----|----|---|-----|---|---|-------------|
| GP–15 Hex Bit | – | – | – | 18 | 6.35 | 17 | 30 | 61 | 42 | 205 | 127 | 0.75 |
| GP–15 Shank | 9.52 | 5 | 11 | 13 | – | – | 30 | 56 | | 200 | | |
| GP–30 | | | | | | | 37 | 85 | | 250.7 | | 1.2 |

## Angle
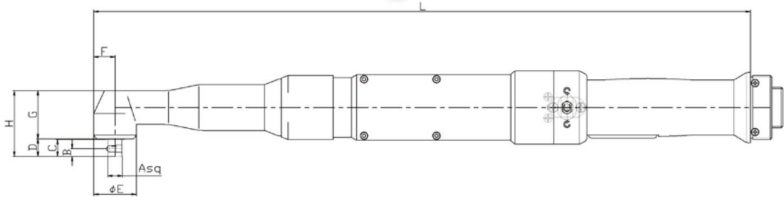


| Model No | A sq | B | C | D | φE | F | G | H | L | Weight (kg) |
|----------|------|---|---|---|----|---|---|---|---|-------------|
| GA–30 | | | | | 28 | 14 | 32 | 43 | 430.6 | 1.4 |
| GA–50 | 9.52 | 5 | 11 | 12 | 32 | 16 | 35 | 47 | 444.1 | 1.5 |
| GA–50H | | | | | 35.5 | 17.75 | 41 | 53 | 526.9 | 2.3 |
| GA–70 | | | | | 35 | 17.5 | 41 | 57.5 | 469.6 | 1.9 |
| GA–70H | 12.7 | 8 | 16 | 16.5 | 40 | 20 | 43.5 | 60 | 536.7 | 2.6 |
| GA–100 | | | | | 40 | 20 | 47 | 63.5 | 538.1 | 3.0 |
| GA–200 | | | | | 18 | 53 | 26.5 | 57.5 | 75.5 | 576.6 | 4.0 |
| GA–300 | 19.05 | 10 | 20 | 20.5 | 62 | 31 | 61.5 | 82 | 599.1 | 4.4 |

## Straight
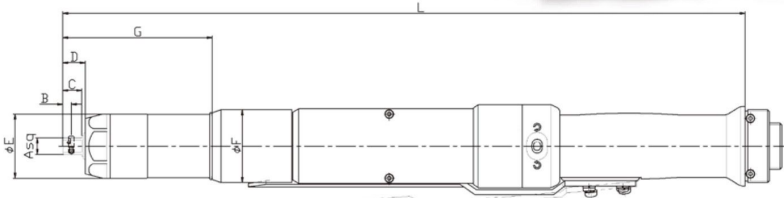


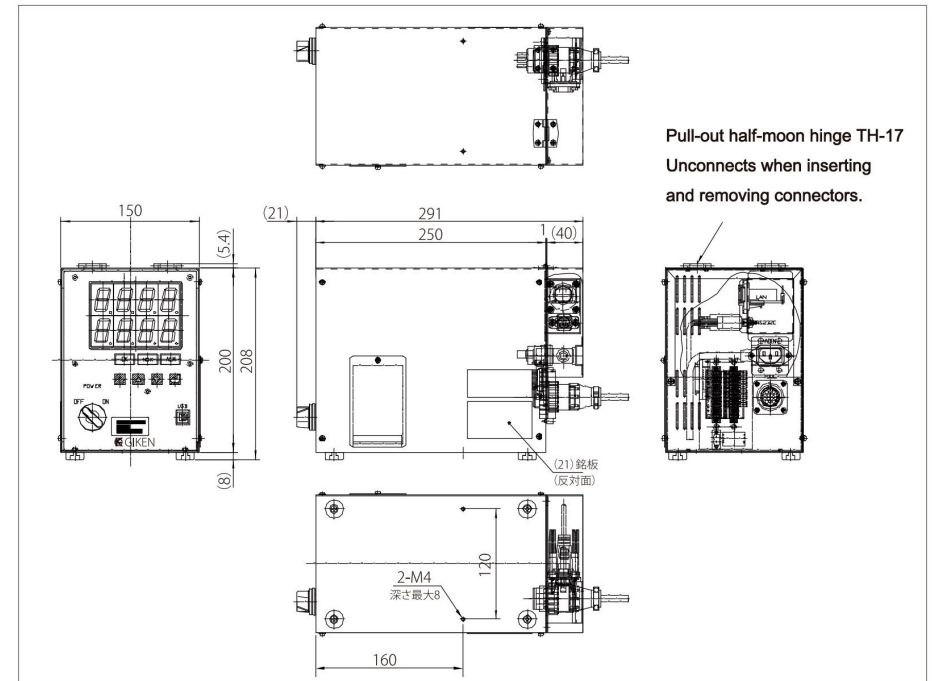| Model No | A sq | B | C | D | φE | F | G | L | Weight (kg) |
|----------|------|---|---|---|----|---|---|---|-------------|
| GS–15 | 9.52 | 5 | 11 | 12 | 32 | 42 | 66 | 341.6 | 0.9 |
| GS–30 | 9.52 | 5 | 11 | 13 | 37 | 42 | 86.5 | 394.6 | 1.3 |
| GS–70 | 12.7 | 8 | 16 | 17 | 38 | 42 | 115 | 423.6 | 1.4 |
| GS–70H | | | | | 47 | 53 | 96.8 | 473 | 2.5 |

| Tool Type | Tool Model | Proper Torque At 200V (Nm) | Proper Torque At 100V (Nm) | Maximum Torque (Nm) | Maximum RotationSpeed (rpm) | Controller |
|---|---|---|---|---|---|---|
| Pystol | GP-15 | 3～13 | 3～13 | 15 | 1250 | GP-T1-N05-M |
| | GP-30 | 6～27 | 6～24 | 30 | 950 | GA-T1-N05-M |
| Angle | GA-30 | 6～27 | 6～21 | 30 | 800 | GA-T1-N05-M |
| | GA-50 | 10～45 | 10～35 | 50 | 470 | GA-T1-N05-M |
| | GA-50H | 10～45 | 10～35 | 50 | 935 | GA-T5-N04-M |
| | GA-70C | 15～63 | 15～43 | 70 | 400 | GA-T1-N05-M |
| | GA-70H | 15～63 | 15～43 | 70 | 740 | GA-T5-N04-M |
| | GA-100C | 20～90 | 20～68 | 100 | 500 | GA-T5-N04-M |
| | GA-200C | 40～180 | 40～139 | 200 | 220 | GA-T5-N04-M |
| | GA-300C | 60～250 | 60～185 | 270 | 145 | GA-T5-N04-M |
| Straight | GS-15 | 3～13 | 3～13 | 15 | 1250 | GA-T1-N05-M |
| | GS-30 | 6～27 | 6～24 | 30 | 950 | GA-T1-N05-M |
| | GS-70 | 15～63 | 15～55 | 70 | 300 | GA-T1-N05-M |
| | GS-70H | 15～63 | 15～55 | 70 | 760 | GA-T5-N04-M |



(N・m)

| | GP-15 GS-15 | GP-30 GA-30 GS-30 | GA-50 GA-50H | GA-70 GA-70H GS-70 GS-70H | GA-100 | GA-200 | GA-300 |

## Controller



Pull-out half-moon hinge TH-17
Unconnects when inserting
and removing connectors.

2-M4
深さ最大8

(21)銘板
(反対面)

Front

Back



Display

Power On

At the time of input

Tightening is completed

Error

Alarm
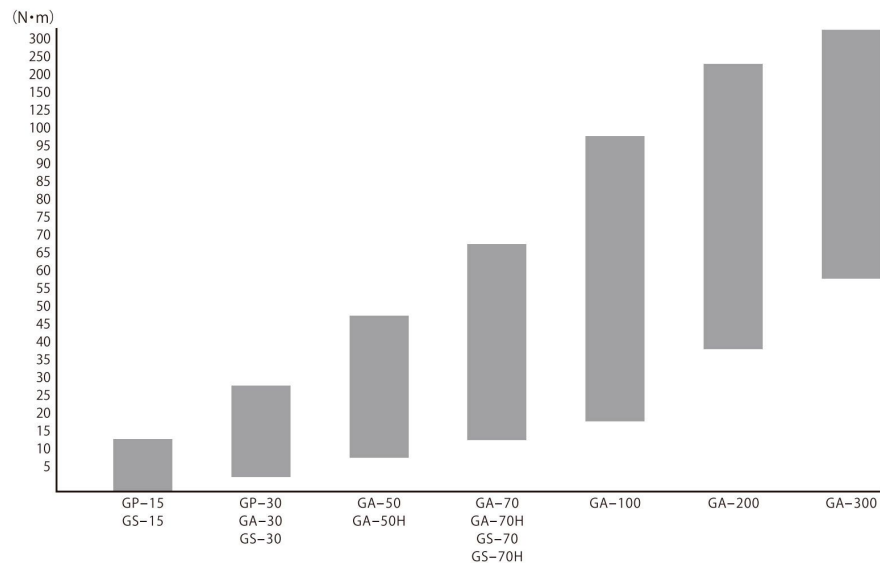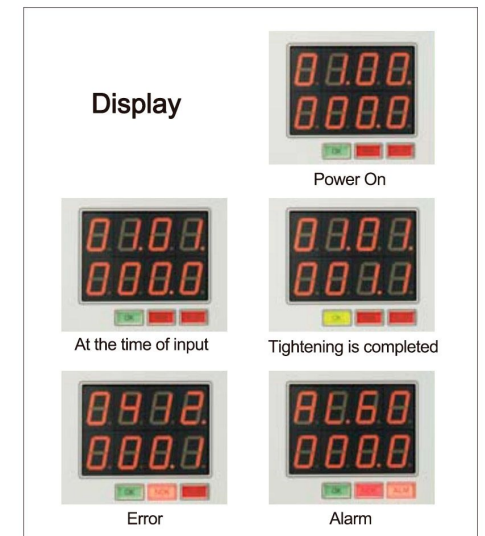
## CONTROLLER (SYSTEM CONFIGURATION)

Ethernet (LAN)

RS-232C

Upper instruction

PLC

Relay input/output 8 points each

Parallel I/O

Interlock

SocketChanger

Handtools

POWER

OFF　ON

電源再投入の場合
3秒以上
待って下さい。

USB

GIKEN

HOST PC

Setting PC
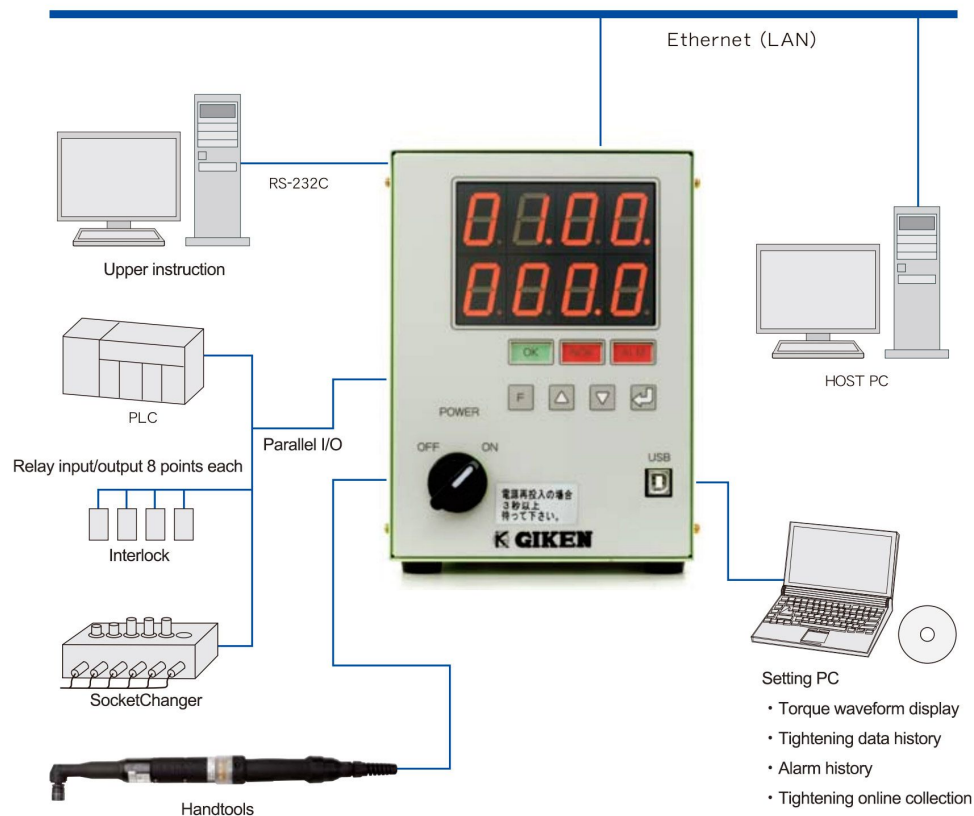・Torque waveform display
・Tightening data history
・Alarm history
・Tightening online collection

### High performance and Multi-functionality

**High-speed tightening, high-speed seating**: Built-in motor performance and high-speed response software

**Programs for various types**: 24 models, switchable by an external signal

**Algorithm of tightening reaction force**: Soft stop control, soft gradient control, pulse control

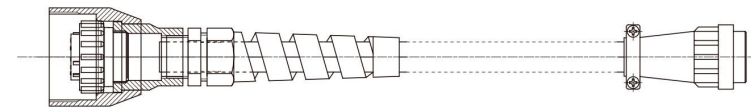**Block tightening**: count setting of tightening times, number of blocks: 20

**External communication network**: Standard RS-232C, Ethernet, parallel I/O, fieldbus support as an option

**Built-in tightening data history function**: Number of data: 6000, number of abnormal alarm history: 20
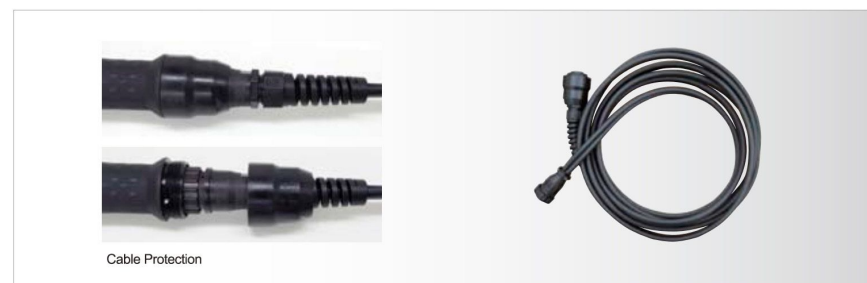
## CABLE

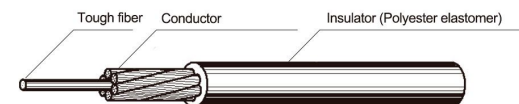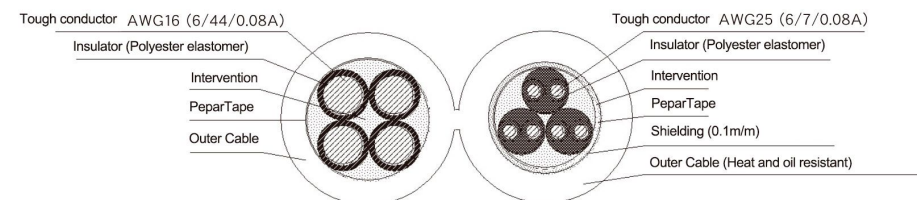### A compact, lightweight , flexibility robotcable

5m Cable（GPR-K-5M）

15m Extend Cable（GPR-KL-15M）

Cable Protection

### Structure of tough conductor

Tough fiber　Conductor　Insulator (Polyester elastomer)

### Structure

Tough conductor　AWG16 (6/44/0.08A)
Insulator (Polyester elastomer)
Intervention
PeparTape
Outer Cable

Tough conductor　AWG25 (6/7/0.08A)
Insulator (Polyester elastomer)
Intervention
PeparTape
Shielding (0.1m/m)
Outer Cable (Heat and oil resistant)

Main menu

Torque setting
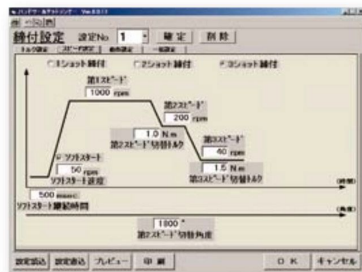
RPM setting

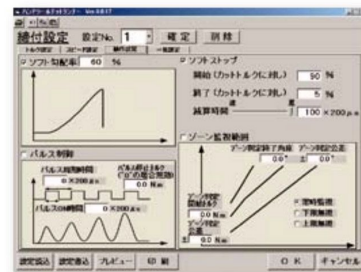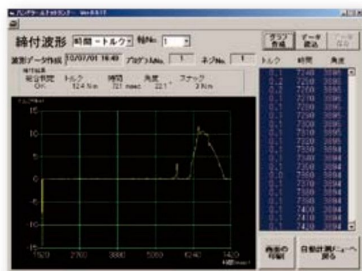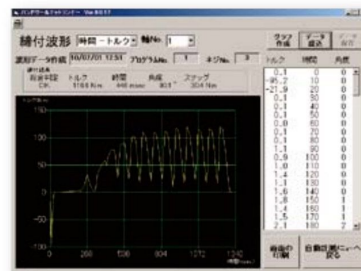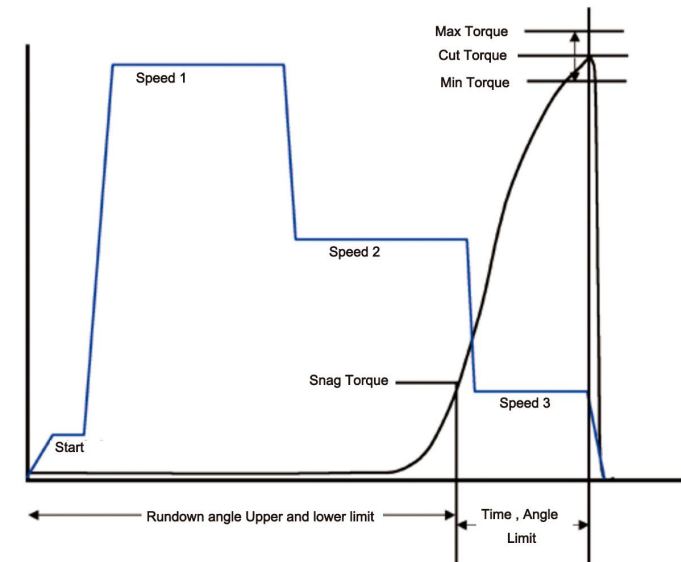Controll setting

Tightening waveform (normal)

Tightening waveform (pulse)

## Operation control during tightening



Max Torque
Cut Torque
Min Torque

Speed 1

Speed 2

Speed 3

Snag Torque

Start

Rundown angle Upper and lower limit
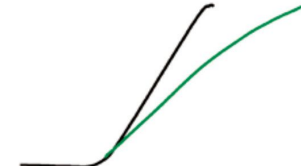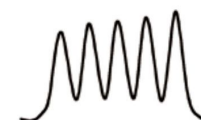
Time , Angle Limit

Soft stop control
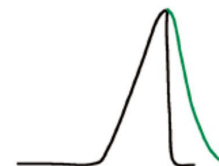
Slow down the motor stop after tightening to reduce the reaction force.
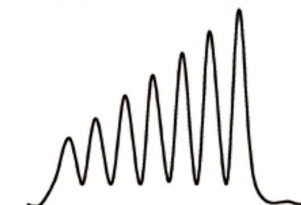
Soft slope control

By gradually increasing the ability to reach the tightening torque, the reaction force until the end of tightening is reduced.

Pulse control

By turning the motor current on and off, the feeling of hitting is tightened and the reaction force is reduced.

It is possible to tighten while gradually increasing the striking force by setting the combination with the soft gradient.

High functionality, high accuracy, high durability, reliability.

Unit configuration that supports tightening work

### High brightness LED lamp

The status of the tool is displayed by a lamp and notified by a buzzer.

### Motor

A motor developed for hand tools. It is a powerful motor of 4pin resolver.

### Torque sensor

Noise countermeasures, built-in amplifier.

### Start trigger

You won't get tired even if you work for a long time. The forward / reverse switch prevents malfunction during work.

### Angle head

Precision design, durability. It is a gear that eliminates the torque loss.

### Connector

The number of pins can be reduced by link communication, and connections can be made easily. Strong against drops and impacts.

### Basis

IC board installed inside the tool. Equipped with link communication function.

### Reduction gear

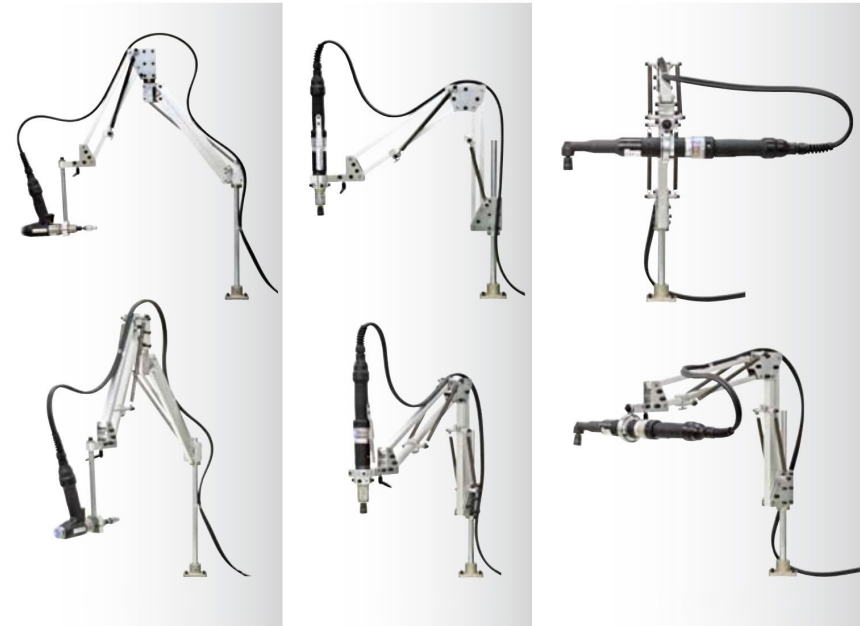By applying nut runner technology, a mechanism with high output and excellent durability is adopted.

Protective cover for Pistol type

hook for hanging





Parallel arm



Other

Straight holding fixture

Angled hand tool retainer

Reaction force support

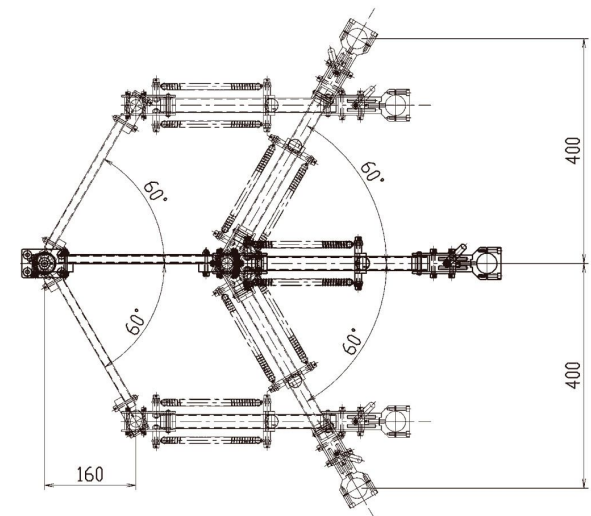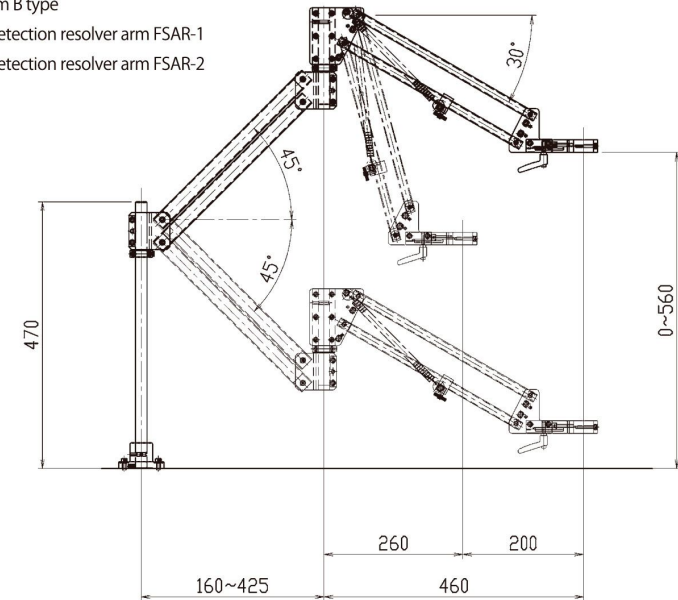We can design and provide in response to customer requests.

Programming socket folder



The program is automatically selected by taking out the socket to be used. ( At Parallel I/O)

## Parallel arm

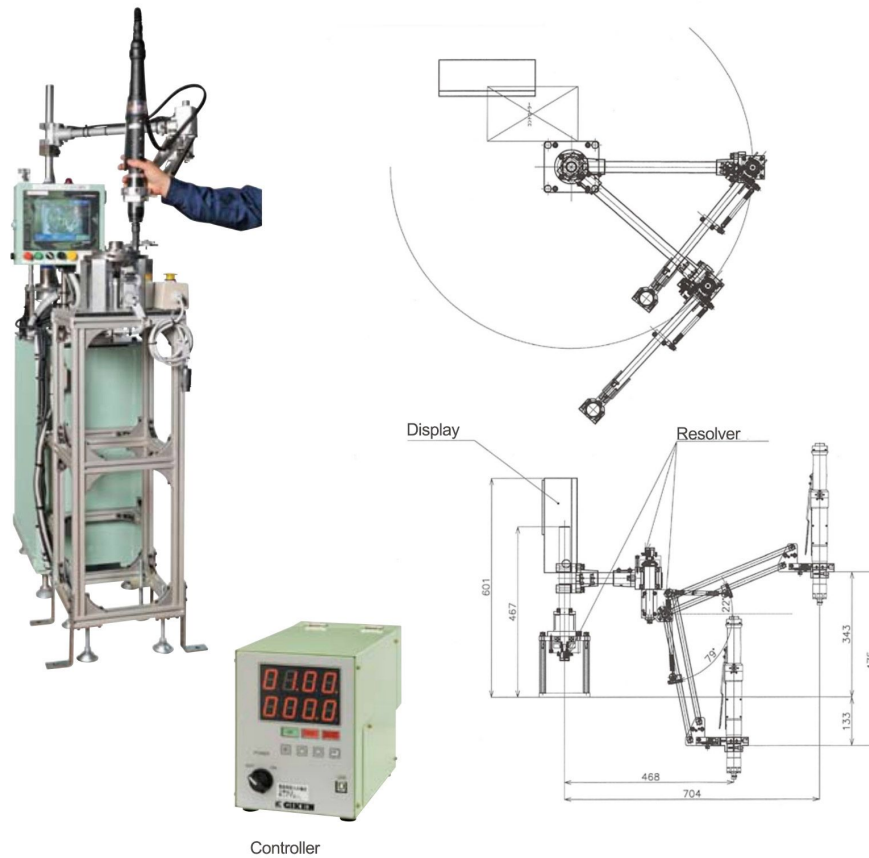· Parallel arm A type
· Parallel arm B type
· Position detection resolver arm FSAR-1
· Position detection resolver arm FSAR-2



30°

45°

45°

470

0~560

260    200

160~425    460



60°    60°

60°    60°

400

400

160

Type A

## Parallel arm system with tightening coordinate detection

GSAR

Display

Resolver

601

467

78°

343

475

133

468

704

Controller

## Overview

- Positional XY coordinate accuracy of ±0.02
- System eliminates the possibility of forgetting to tighten bolts or making errors, resulting in zero output of defective products.
- The arm reduces the reaction force and the weight of the tool, making it easier to work with.
- The controller has a built-in coordinate calculation function.
- The controller is compact and inexpensive with a built-in coordinate calculation function.
- Coordinate setting is easy and simple.
- Can be used for QL process in the defect process

## Example

GS-70H

CONTROL BOX

ST1

ST1