

Kai Hung Machinery

Company Introduce



KAI HUNG MACHINERY CO., LTD.

Feedback Win-Win with you!!

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<http://www.kaihung.com>

Basic Information

凱泓機械股份有限公司



- ④ Founder: MING-TA, LEE
- ④ Headquarter – Kai Hung Machinery Co. Ltd.



Established : 1991
Capital : 1 Million (USD)
Area of firm : 8,000m²
Number of Employee : 65

- ④ Services Distributor –
Kai Hung Machinery Co. Ltd.(Jia Shan)



Established : 2008

- ④ China Branch –
Kai Qi Intelligent Machinery Co. Ltd.(Jia Xing)



Established : Oct.,2017
Number of Employee : 15

Development Milestone

凱泓機械股份有限公司



2001

- Whole Plant Automation Production Line for Brushless Motor . (The First Equipment)

2003

- Launch - Hydraulic (Horizontal / Trunnion) Rotary Transfer Machine.

2012

- Launch - Full Servo NC Rotary Transfer Machine.

2014

- Relocation YongKang Technology Industrial Park – Into the Vehicle Industrial Processing Machine Manufacturing.

2015

- Machine with CCD Vision Recognize Automatic System and Online Automatic Measurement System..
- Patent – The rotary transfer structure of multi-spindles rotary transfer machine.....

2016

- Whole Plant Automation Production Line for Brushless Motor which selling it to 20 set Equipment.(Since 2001)

2017

- China Branch - Kai Qi Intelligent Machinery Co. Ltd
- Launch - All-purpose NC (Horizontal / Trunnion) Rotary Transfer Machine.
- Patent – The magnet implanting device and method of rotor.

2018

- Patent – Armature shaft and lamination core assembly machine and resisting alloy method.

Marketing Countries

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Asia-Taiwan	Asia -China	Asia -Others
46%	38%	8%

Kai Hung Cultivate quality technical team, creating the excellent reports in the **Asian market**.

America	Europe	Africa
3%	3%	2%

Entering America, Europe and Africa to serve customers in various regions.

The sales aspect, received enthusiastic response from customers to achieve effective market share expansion

Production Line	6%
Multi-spindles Rotary Transfer Machine	34%
Two-way Processing Machine	14%
Motor Production Equipment	24%
Others Machine	22%

(Analyze by selling the machine ~ 2018)

Source : Kai Hung



Business Scope

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Production Line



Multi-spindles Rotary Transfer Machine
(Trunnion / Horizontal)



Two-way Processing Machine
(Two-way 、 Aluminum Tube 、 Cylinder Rolling)



Motor Production Equipment
(Rotor 、 Stator 、 Assembly Line)

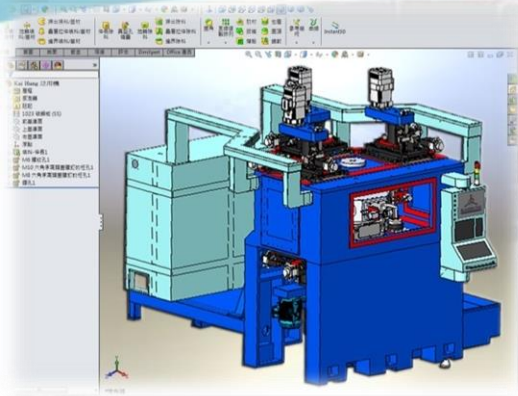


Others Machine

**Customized
Equipment**

Equipment

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Keep improving and developing. Pursuit of perfect work presentation. Manufacture general type special purpose machine.

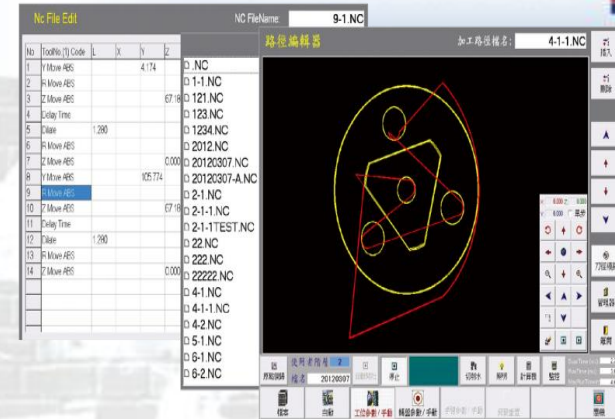
We use **SolidWorks 3D CAD** software to keep the accuracy and stability of machine.



Coordinate Measuring Machine –
Precision measuring equipment ensures our parts and assembling quality.



Precision Assembly Workshop-
The shop equips with air conditioner to keep precision of spindles and component assembling.



Industry Application

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Application / Material	Aluminum	Steel	Brass
Sanitary Ware	<u>0</u>	<u>0</u>	<u>4</u>
Valve	<u>1</u>	<u>4</u>	<u>12</u>
Automobile Parts	<u>5</u>	<u>13</u>	<u>0</u>
Pneumatic Cylinder	<u>9</u>	<u>0</u>	<u>1</u>
Others	<u>1</u>	<u>5</u>	<u>0</u>



Sanitary
Ware



Valve



Automobile
Parts



Pneumatic
Cylinder



Others

Product :

Engine Piston Production Line

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**Turning Piston Crown –
Precious Lathe**



**Turning the O.D. and Front Edge –
Precious Lathe**



**Roughly Boring Wrist Pin –
Two Way Boring Machine**



**Drilling Lubrication Holes –
Two Way Drilling Machine**



**Turning Piston Ring Groove –
Precious Lathe**



**Turning Eccentric Combustion
Chamber - Precious Lathe**



**Milling Intake/ Exhaust Valve
Relief - Machine Center**



**Precisely Boring Wrist Pin -
Piston Boring Special Machine**



**Fine Turning -
Precise Ellipse Horizontal Lathe**



Production Line

Multi-spindles Rotary
Transfer Machine

Two-way Processing
Machine

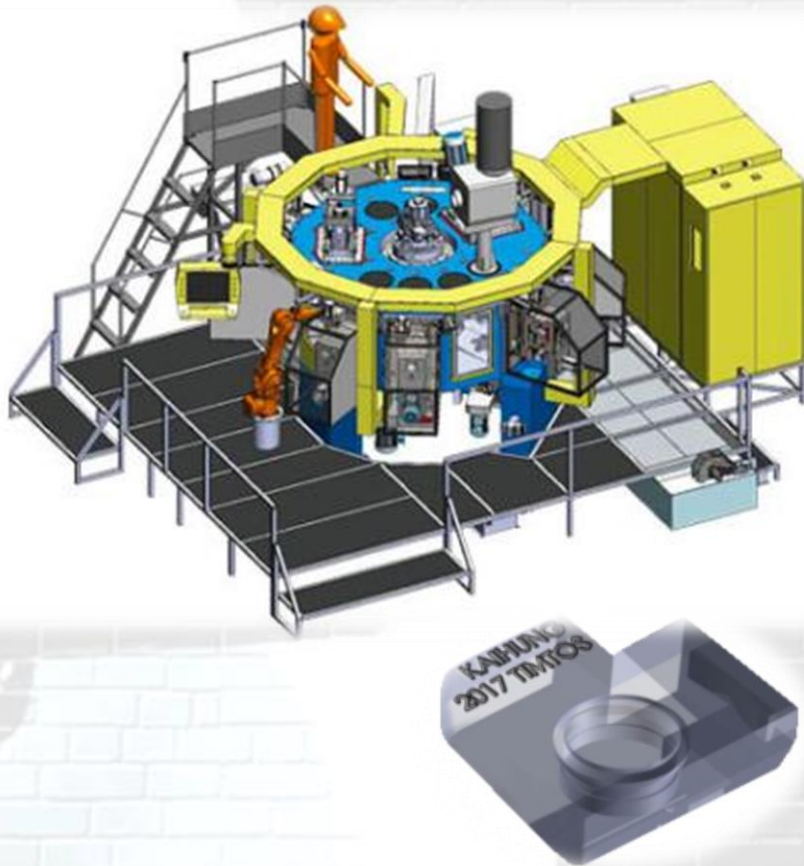
Motor Production
Equipment

Others Machine

Product :

Flexible Manufacturing System

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* Automatic Integration

The automatic manufacturing systems is for integration of multiple CNC lathes, six axes manipulators and multi-spindles machines of Kaihung .

* CCD Vision Recognize System

Using the CCD Vision Recognize workpiece contour informs the manipulator to pick up the workpiece in any different position and angle.

* Laser Engraving

With the laser engraving machine to engrave the serial number on the workpiece.

* Automatic Measuring

With a linear gauge to measure the hole depth automatically , also equip with OK/NG classification.

Production Line

Multi-spindles Rotary
Transfer Machine

Two-way Processing
Machine

Motor Production
Equipment

Others Machine

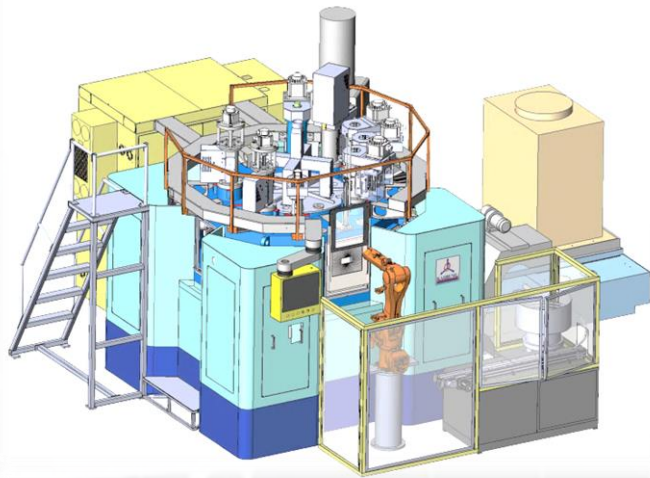
Product :

Multi-spindles (Horizontal) Rotary Transfer Machine

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Servo or Hydraulic



@ High efficiency production

- Multi-spindles : each spindle can be matched with XYZ servo slide.
- Multi-stations : each stations can be set 3 spindles simultaneous processing.
- It can realize 8 to 15 times capacity of general central processing machine and CNC lathe.

@ Flexible Manufacturing

- The control software can edit the machining program.
- It can equip with zero fixture which shorten the fixture exchange time and saving changeover time.
- The spindle can be matched with XYZ servo slide and C Axis angle control.



- * Workpiece: BIT ADAPTER
- * Material: SUS304
- * There are punched/hexagonal holes in the process
- * Specified angle drilling function
- * Processing time : about 10sec.±10% / pcs

Product :

Multi-spindles (Horizontal) Rotary Transfer Machine

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Servo or Hydraulic



- * Workpiece: water meter
- * Material: brass
- * Features:
 - Special fixture design to stabilize the clamping of shaped workpieces.
 - The hydraulic drive spindle has high stability.
 - High-efficiency multi-station simultaneous processing.

Product :

Multi-spindles (Trunnion) Rotary Transfer Machine

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Servo or Hydraulic

- ④ The machine is specially designed for the machining of tri-direction center holes.
- ④ Each spindle is provided with dialogue-type program editing function to carry out boring, tapping and groove cutting functions.



- * Workpiece: Automotive parts (Hydraulic tappet)
- * Material: carbon steel
- * Features:
 - Full servo control, easy to adjust processing parameters, improve production efficiency.
 - High-efficiency multi-station simultaneous processing.
 - No secondary positioning problem, high precision and high stability.
 - With feed tray, manipulator, positioning fixture.
 - With coolant thru spindle to improve tool life.

Product :

Multi-spindles (Trunnion) Rotary Transfer Machine

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Servo or Hydraulic

- * Workpiece: Cut-out valve (1/2", 5/8")
- * C/T : approx. 8 sec. $\pm 10\%$ / pcs
- * Material: brass
- * Features:
 - The hydraulic drive spindle has high stability.
 - High-efficiency multi-station simultaneous processing.



Production Line

Multi-spindles Rotary
Transfer Machine

Two-way Processing
Machine

Motor Production
Equipment

Others Machine

Product :

Two-way Processing Machine

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- * Workpiece: Aluminum Die Casting (hand tool)
- * C/T : approx. 12 sec. $\pm 10\%$ / pcs
- * Material: Aluminum
- * Features:
 - Drilling/tapping finish at once and saving time.
 - The left and right spindles are processing simultaneously to ensure positional tolerance requirements.
 - The shaped fixture is designed to ensure clamping stability.



Production Line

Multi-spindles Rotary
Transfer Machine

Two-way Processing
Machine

Motor Production
Equipment

Others Machine

Product :

Pipe Fitting Machine

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- * Workpiece: cylinder fittings
- * C/T : approx. 12 sec. $\pm 10\%$ / pcs
- * Material: Aluminum extrusion
- * Features:
 - Large processing range - $\varnothing 16 \sim \varnothing 100 / L80-L2000$
 - The processing by end face machining, chamfering and tapping.
 - Compared with the traditional machine, the equipment has the lowest cost and easy to ensure the parallelism of the end face.



Production Line

Multi-spindles Rotary
Transfer Machine

Two-way Processing
Machine

Motor Production
Equipment

Others Machine

Product :

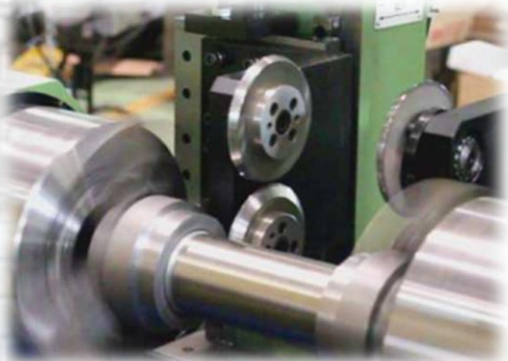
Cylinder Rolling Machine

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- ⊗ Cylinder head/tail cap is synchronous rolling at once.
- ⊗ Adopting the same movement design of the back and front of the chuck (avoiding angular deviation)
- ⊗ Quickly jig exchange to save time for changing workpieces of different sizes.

- * Program simulation tool path
- * Travel range: 6mm~63mm
- * Diameter range: 5mm~1000mm



Production Line

Multi-spindles Rotary
Transfer Machine

Two-way Processing
Machine

Motor Production
Equipment

Others Machine

Product :

Assembly Line

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- * Dust Cleaning the Stator and the Internal Body.
- * Place In Wave Washer.
- * Inspect Washer Thickness.
- * Auto Screw Tightening Station.
- * Testing Axial Clearance Length.
- * Testing Three-phase Voltage Terminal.
- * Inspect Screw Tighten Torque.
- * Using the Bar Code to Distinguish Workpiece.



Production Line

Multi-spindles Rotary
Transfer Machine

Two-way Processing
Machine

Motor Production
Equipment

Others Machine

Product :

Rotor Shaft Processing Machine

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- * Tower type storage for lamination.
- * Feed magnet by bowl feeder and height measurement.
- * Automatic lamination thickness detection, glue instillation, laser engraving, assembly the magnet, hardening heating and testing operations.
- * Cooling zone after hardening.
- * The lamination of phase angle positioning, pull-off force test, dimension measuring.
- * Real time monitor shaft press fit position and force.
- * Shaft series No. detection.



Production Line

Multi-spindles Rotary
Transfer Machine

Two-way Processing
Machine

Motor Production
Equipment

Others Machine

Product :

Stator Epoxy Instillation and Hot-air Drying Oven

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Epoxy Instillation and Hot-air Drying / Hot-air Drying

- * There are divided into preheat, drip, hardening heating and cooling zone, the heating temperature reach up to 250 °C.
- * The basket bench can be mass production which go with auto loading and unloading by manipulator .
- * With safety feature to prevent overheat, protect circuit, exhaust system, explosion proof and prevent staff scald.
- * Customized machine, base on process parameters and capacity requirement.



Production Line

Multi-spindles Rotary
Transfer Machine

Two-way Processing
Machine

Motor Production
Equipment

Others Machine

Product :

Hot Air Drying Oven

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Epoxy Instillation and Hot-air Drying / Hot-air Drying

- * To dry the glue after the stator press-in the case.
The front side is loading area, and the rear side is unloading area.
- * The heating and cooling time is based on customer's requirement.
- * This machine equip with 6-point temperature recorder to make the temperature is available to monitor and adjust.
- * Using multi-protective device. As one unit is fault function, other protective devices will prevent continuous failure.
- * Heavy duty structure and high quality control unit to suit for 24 hours a day, 7 days a week working.



Production Line

Multi-spindles Rotary
Transfer Machine

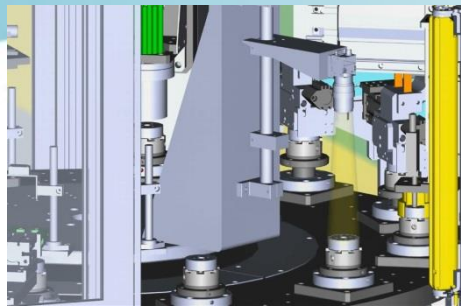
Two-way Processing
Machine

Motor Production
Equipment

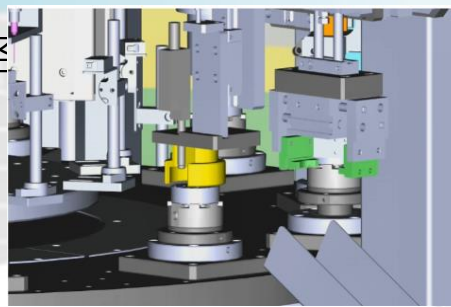
Others Machine

Product :

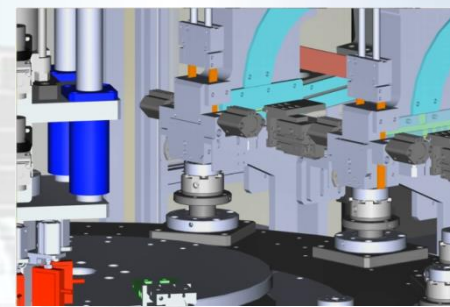
Magnet Insert Into Rotor-core Lamination



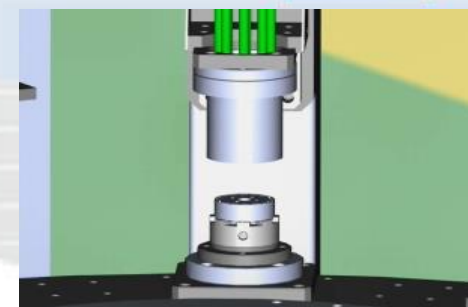
CCD Detection Module
Number



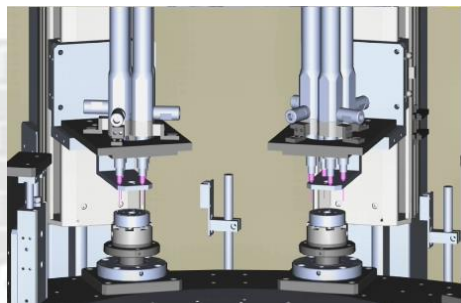
Height Detector -
Rotor Height Measurement



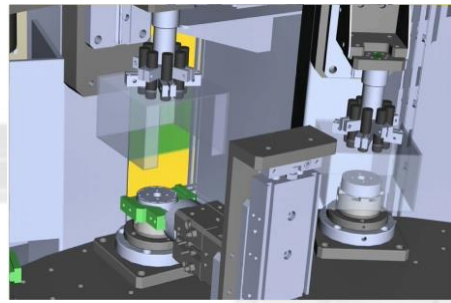
Insert the Magnet



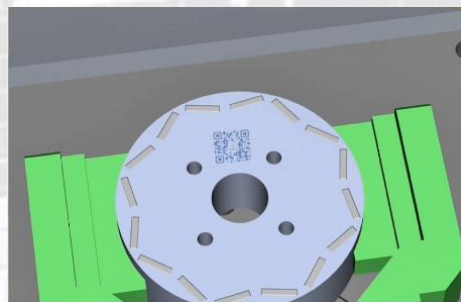
Detecting the Amount
of Magnets



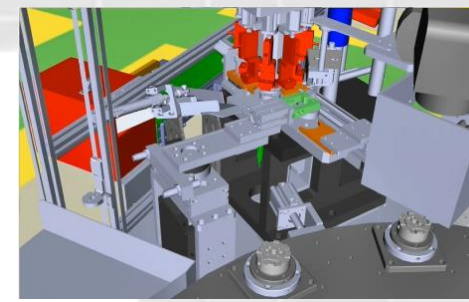
Gluing Instillation



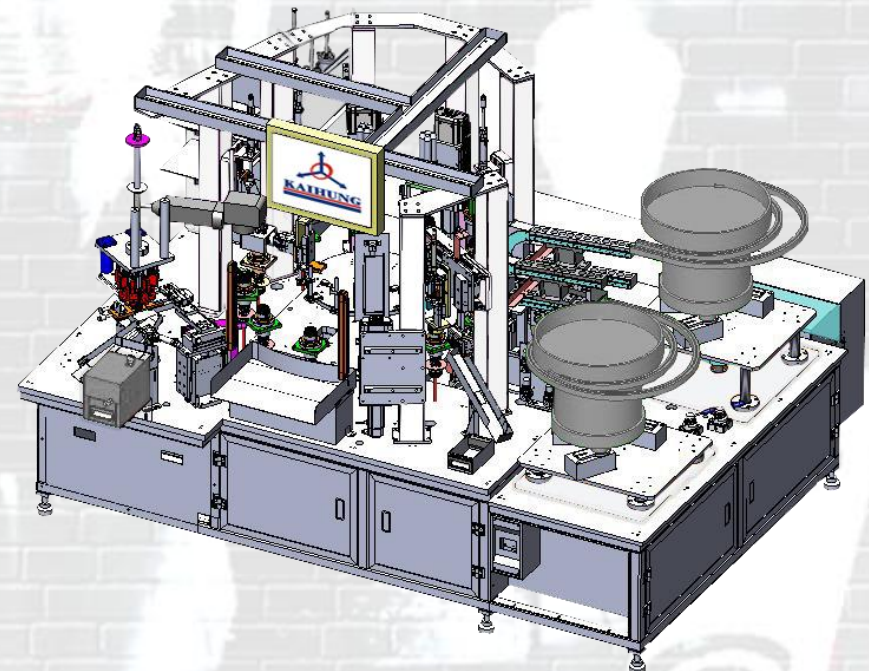
UV Light Hardening Station



Laser Engraving



Pull-off Force Testing



Product :

Full-process Servo Assembling Press Machine

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- * 1T,3T,5T Apply to press and assembling precisely.
- * It can set the process of pressing in manually.
- * Read each dimension of pressure value by load cell, transfer to pressure curve, and it can be recorded by daily, weekly, monthly.



Product :

Others Machine



Pressing Machine



Chamfering Machine



Drilling Machine



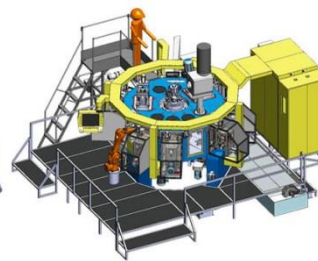
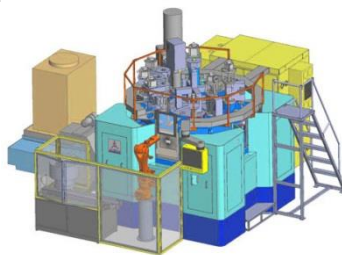
Grinding Machine



Riveting Joint Equipment



Bar Straightening Machine



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