



科泰检夹具  
MISSION GAUGE & FIXTURE



# Dongguan Mission Gauge & Fixture Co., Ltd

— Your Reliable Supplier for Checking Fixtures and Welding Jigs —

[www.missiongauge.com](http://www.missiongauge.com)

- Cubing ( Car Cubing UCF PCF )
- Checking Fixtures for Automotives
- Welding Automation Fixtures for Automotives
- Non-standard Precision fixtures



# Contents



**Company  
Overview**



**Business  
Introduction**

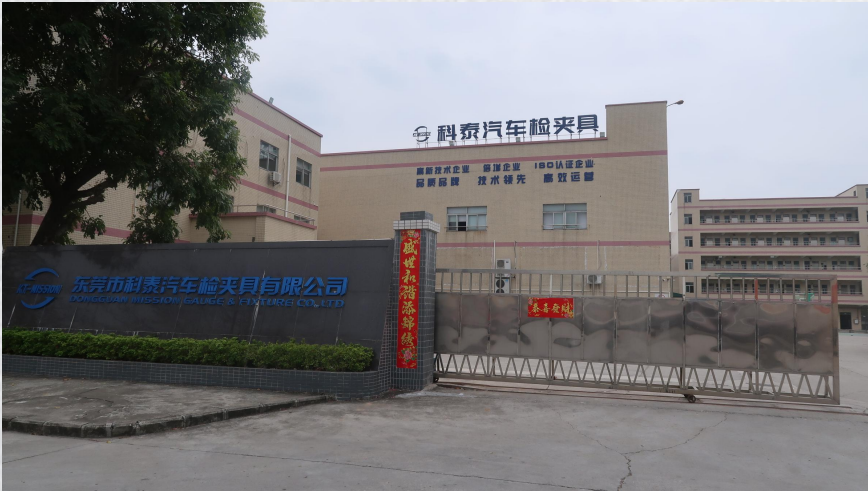


**Delivery  
Assurance**



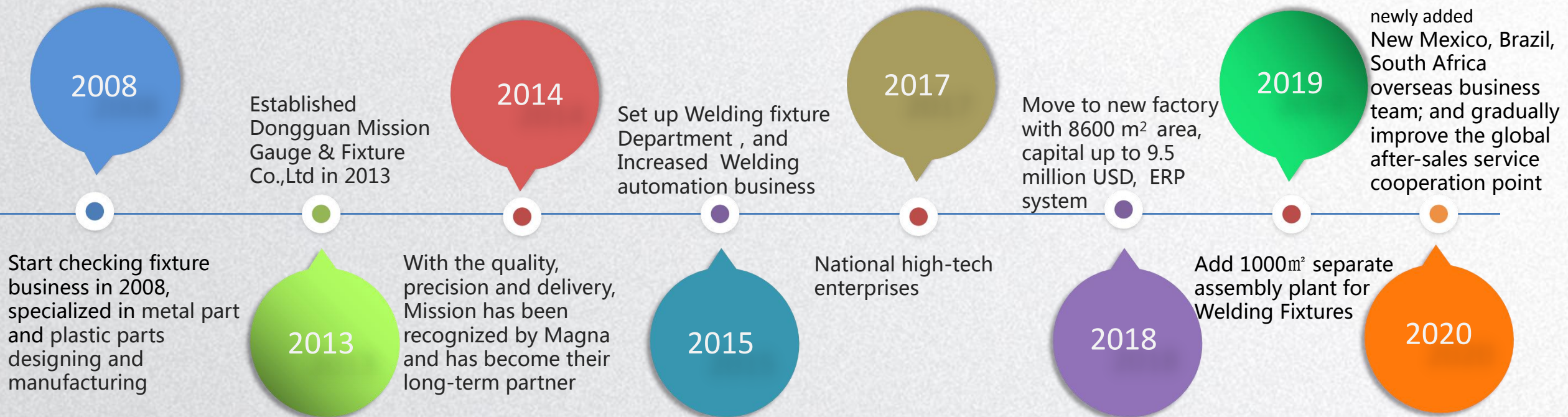
**Project  
Case**

## ➤ 1.1 Company Profile



- In 2008, we started the business of automobile inspection fixture. In 2013, we registered and established Mission, focusing on all precision processing and welding automation production equipment of automobile main model, automobile measurement and testing equipment, aerospace and military precision processing. Now we have become a well-known supplier of inspection fixture and welding equipment at home and abroad.
- 8600m<sup>2</sup> plant area, 180 employees in total for check fixtures . Registered capital of 4 million USD, Annual turnover 17 million USD.
- With 1000m<sup>2</sup> separate plant and 50 staffs for welding jig.
- ISO9001:2015 certificated. State-level high-tech enterprise. 30 national patents.
- 6 sets of 5-axis CNC machines imported from Germany/Italy, 36 sets of 3-axis CNC machines from Taiwan 8 sets of CMM checking machines. Industry-leading human and equipment resources, to ensure highly accuracy requirement, and to be the leader in the industry.
- Main Customer : Magna、Valeo、Yanfeng、Martinrea、Metalsa、Kirchhoff 、 Johnson Control 、 Toyota、 Honda、 FAW Volkswagen、 FAW CAR、 Dongfeng Motor、 Nissan、 Geely、 Ford、 GAGC、 HAIMA、 Xiaopeng、 MITSUBISHI、 Hong Qi、 BJC、 South-East、 BYD etc.
- Mission policy" Customer First, Delivery on Time, Make Customer Satisfied" , vision" To build First-class Enterprises and Achieve Positive Life" .

## ➤ 1.3 Development History



➤ 1.4 company qualification

ISO9001:2015

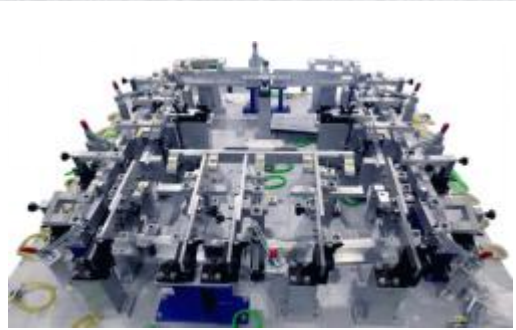
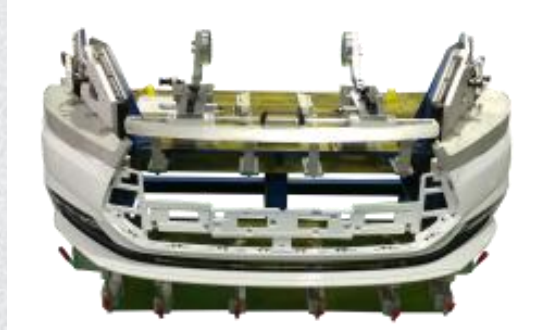
National High-tec Enterprise

30 National Patents

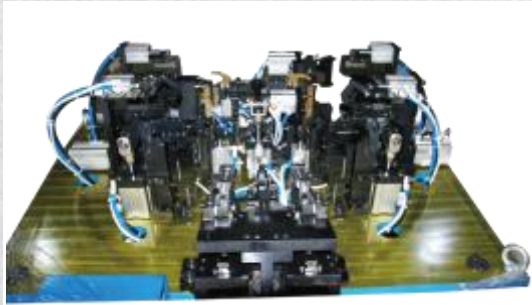
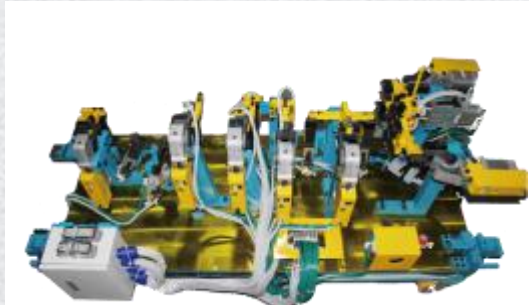
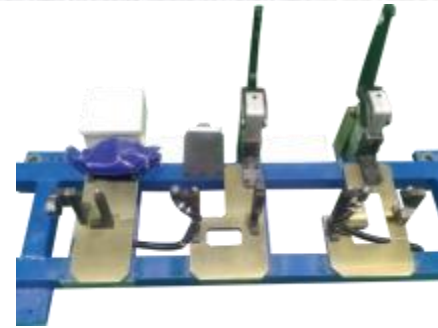
Guangdong High-tec Enterprise



## ➤ 2.1 Main business-part 1

**Gauge-Assy metal part****Gauge-Assy plastic part****Gauge-Single metal part****Gauge-Single plastic part****Functional Master Model****Cubing-Door****CMM Holding Fixture****Flexible Combination**

## ➤ 2.1 Main business-part 2

**Welding jig-Arc welding****Welding jig-Spot welding****Cuting welding jig****Puppet Welding jig****Automation line****Automation line****Welding cell-Spot welding****Welding cell-Arc welding**

## ➤ 2.2 Market distribution

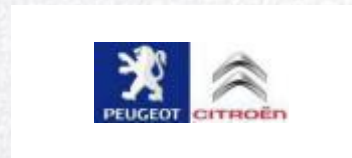
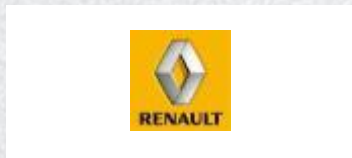







## ➤ 2.3 Direct customer



## ➤ 2.4 Major end customers



| Machining Equipment                      |                |                      |                 |     |                                       |       | PIC   |
|--|----------------|----------------------|-----------------|-----|---------------------------------------|-------|---|
| Machine Type                             | Parameter (mm) | Theoretical Accuracy | Actual Accuracy | QTY | Brand                                 | Total |   |
| 5 axis Machine<br>(Imported from German) | 1250*700       | 0.005 mm             | 0.020 mm        | 2   | DECKEL MAHO<br>(DMU 60/80 Mono BLOCK) | 6     |  |
| 5 axis Machine<br>(Imported from German) | 1000*750       | 0.005 mm             | /               | 2   | DECKEL MAHO<br>(DMU 95 Mono BLOCK)    |       |   |
| 5 axis Machine<br>(Imported from Italy)  | 3000*2000      | 0.005 mm             | /               | 2   | BRETON MATRIX 800                     |       |   |
| High Speed CNC Milling Machine           | 2150*1500      | 0.010 mm             | 0.010 mm        | 2   | HAITIAN                               | 36    |  |
| 3 axis CNC                               | 4025*2400      | 0.010 mm             | 0.020 mm        | 2   | AWEA LP-4025Z                         |       |   |
| 3 axis CNC                               | 1000-1350*600  | 0.010 mm             | 0.020 mm        | 16  | AWEA AF-1250                          |       |   |
| 3 axis CNC                               | 800*600        | 0.010 mm             | 0.030 mm        | 10  | MINGJIE/AWEA/DAWEI                    |       |   |
| 3 axis CNC                               | 540*400        | 0.010 mm             | 0.020 mm        | 6   | QIANGYANG                             |       |   |
| WEDM-MS                                  | 500*350*270    | 0.010 mm             | 0.010 mm        | 9   | FANUC/SUZHOU SANGUANG                 | 9     |   |

| Quality Assurance Equipment |                |           |     |              |   | Total  | PIC |
|-----------------------------|----------------|-----------|-----|--------------|---|--|-----|
| Machine Type                | Parameter(mm)  | Accuracy  | QTY | Brand        |   |  |     |
| 3D Programmable CMM         | 5000*2500*1800 | 0.012mm/M | 1   | HEXAGON      | 9 |  |     |
| 3D Programmable CMM         | 3000*1500*1200 | 0.008mm   | 1   | HEXAGON      |   |  |     |
| 3D Programmable CMM         | 2200*1200*1000 | 0.003mm   | 1   | HEXAGON      |   |  |     |
| 3D Programmable CMM         | 1500*1000*800  | 0.003mm   | 1   | Leader       |   |  |     |
| 3D Programmable CMM         | 1000*800*600   | 0.003mm   | 2   | WKM/Series   |   |  |     |
| 3D Programmable CMM         | 800*600*600    | 0.002mm   | 1   | HEXAGON      |   |  |     |
| Romer Absolute Arm          | 3500/2500      | /         | 2   | FARU/HEXAGON |   |  |     |

## ➤ 3.2 Engineering Capability

◎Main Model ( Cubing UCF PCF ) ◎Plastic Part Gauge ◎Metal Part Gauge ◎Raster Holding Fixture

For checking fixture: 35 engineers in total, 20% are senior engineers, 50% are second class engineers. 45% engineers have 5 years work experience in this area.



## ➤ 3.2 Engineering Capability

◎Welding Work Station ◎Welding Assembly Line ◎Welding Jigs

For welding automation: 26 engineers in total, 20% are production engineers, 12% are electrical engineers, 68% are design engineers. 51% engineers have more than 5 years work experience in this area.

### Design Simulation

- According to static simulation based to ensure the design is feasible.
- According to dynamic simulation based on ensure the welding is feasible.

### Electrical Capacity

- Have PLC programming capacity: MITSUBISHI/SIEMENS/OMRON/AB.
- Have electric online debugging capacity.
- Have offline/online programming capacity.

### Simulation Capacity

- Have robot offline programming capacity.
- Have Cycle-time analyzing capacity.
- Have interference testing capacity.

### Process Design Capacity

- Have RPS analyzing capacity.
- Have panel processing capacity.
- Have spot processing capacity.
- Have cycle-time design capacity.
- Have capacity for choosing welding gun & robot.



### Customer Standard

- Translate and Refine the standard , ensure gauge designing and building meet customers' requirements.



### Software automation

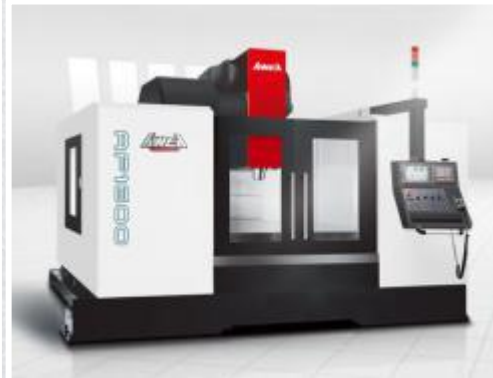
- Continuous investment in R&D costs, "automatic drawing " improve design efficiency by 40%.



### Design simulation

- Simulate the floor activity mechanism by ensure the feasibility of the design.

### ➤ 3.3 Milling Horsepower



#### Equipment capacity

- Work in two shift to ensure max capacity
- Monthly accuracy check to ensure quality
- The fastest delivery:25days

#### OperProcess Standardizationational standardization

- Uniform processing,measuring,tool using mapping, bracket programming,base
- programming and five-axis programming standards

#### Process Standardization

Process design review -Receive the following figure information-Making timing plan-allocating task -Main programming-Program audit-Delivery site manager - Delivery

#### Five-axis programming standards

Clamping-Trial knife -Medium light-Semi polishing-Polishing-Clearance angle - rework-holes

- **3.4 Alignment Ability** Mission has more than 30 assembly technicians, which 40% have more than 6 years' assembly experience in the same industry and 35% have 4-6 years' experience



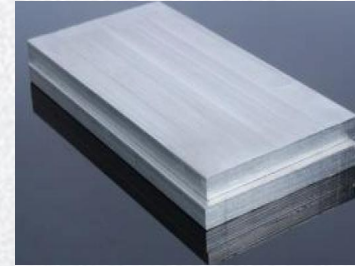
### ➤ 3.5 Project Management



PO Review



Design Review



Material Preparation



Machining



Delivery



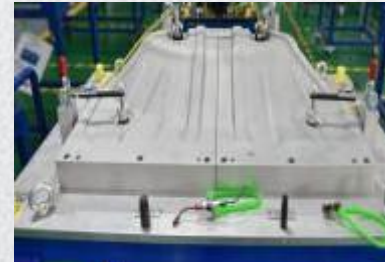
Assembly



3rd Party Certificate



Buy Off



Gauge Improvements



CMM checking



### ➤ 3.6 Total Quality Management(TQM)



#### 9 Sets of CMM

|                        |                       |
|------------------------|-----------------------|
| Brand :                | HEXAGON、Series、leader |
| Software :             | PC-DMIS 2013MR1       |
| Max working platform : | 5000X2500X1800 mm     |
| Highest accuracy :     | 0.012mm/M (5M of CMM) |

#### Quality Assurance

- We has a strong testing capability, with 30 engineers, including 15 measuring engineers, 10 debugging engineers and 5 others.We can measure more than 300 sets fixtures per month

#### Material inspection, Equipment Calibration

- Regular random inspection of raw materials ,
- Regular proceed third party proofreading for CMM equipments

#### ISO17025 Laboratory Accreditation

- ISO/IEC17025 standard laboratory accreditation application is in progress

#### Measuring Equipment

- 9 sets of CMM machine and most of them are HEXAGON brand with high accuracy. The biggest CMM machine's parameter up to 5 meters. The software we are using is PC-DMIS.
- 1set of FARU and HEXAGON Articulated Arm Flexible CMM for each and the software we are using is CAM. The biggest measuring parameter up to 3.5 meters.

#### Measuring Capability

- We has a strong testing capability, with 20 engineers, including 15 measuring engineers, 8 debugging engineers and 5 measuring engineers for welding automation business unit.

CNAS Certification



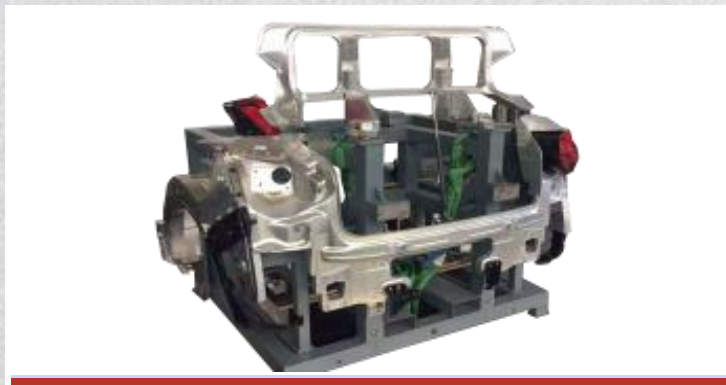
ISO 9001 Certification



Third Party Certification



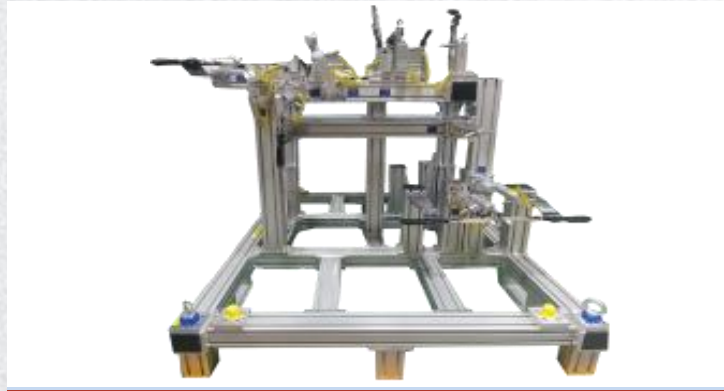
## ➤ 4.0 Cubing

**Master Model****Side Wall Cubing****Seat Cubing****Tail Cubing****Light Cubing****Front Door Cubing**

## ➤ 4.1 Raster Holding Fixture



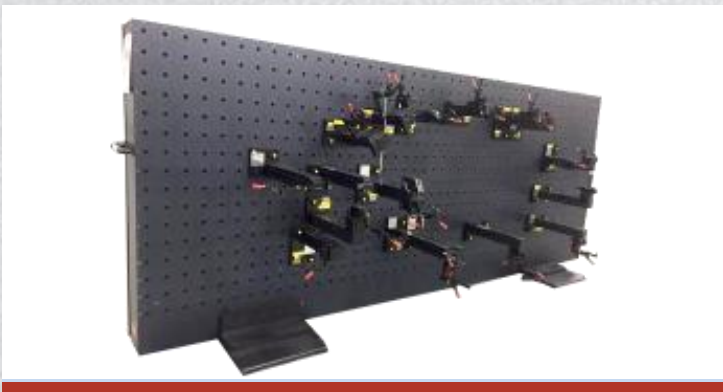
**Holding Fixture**



**Holding Fixture**



**Holding Fixture**



**Flexible Combination**



**Flexible Instrument Panel Holding fixture**

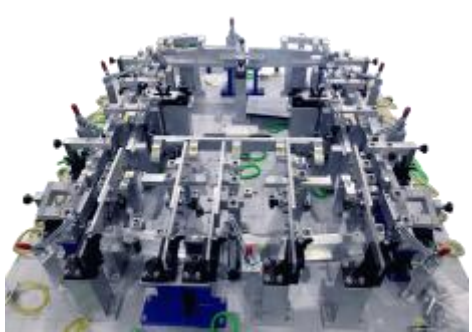


**Body Holding Fixture**

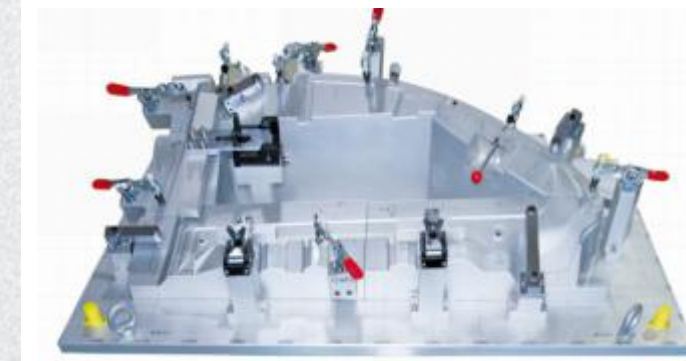
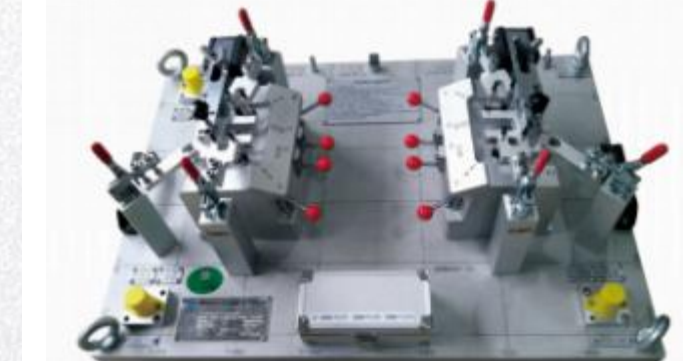
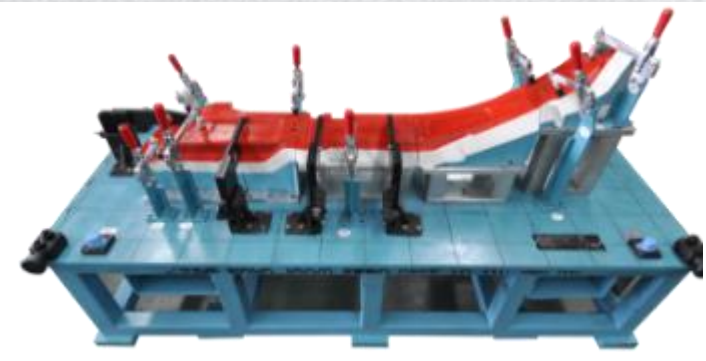
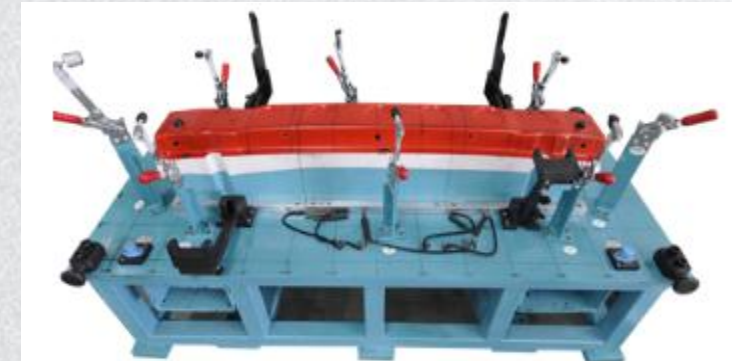
## ➤ 4.2 Assembly gauge

**Rear bumper****Side panel****Wheel Eyebrow Assembly****Roof assembly parts****Front bumper****Dashboard Assembly****Lighting Assembly****Radiator Fan**

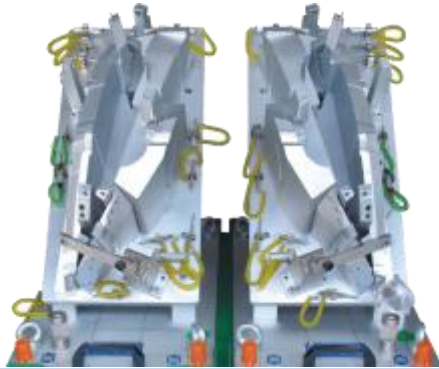
## ➤ 4.3 Assembly gauge

**Roof systems****Wheel Trim Assembly****Carling****B-pillar Assembly****Seat side panel****Csrling****Exhaust parts****Fore port side beam assembly**

## ➤ 4.4 Single Part-metal

**Wheel Trim Gauge****Stamping Part Gauge****Plastic Part Gauge****B-pillar Gauge****Floor crossbeam Gauge****Wheel Trim Gauge**

## ➤ 4.4 Single Part -Plastic Parts



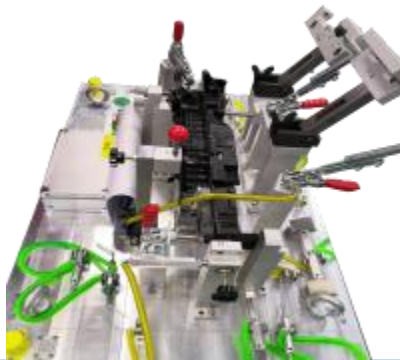
Single Plastic Part



Single Plastic Part



Single Plastic Part



Single Plastic Part

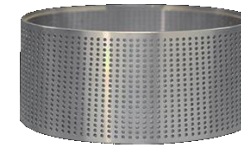
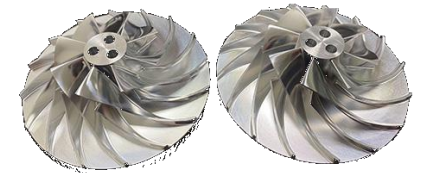


Single Plastic Part



Single Plastic Part

## ➤ 4.5 Precision machining

**Auto parts****Five axis processing of  
SLR Lens****Five axis machining of  
multi angle parts****Five axis machining spiral  
groove****Five axis machining  
turbine****Five axis machining  
impeller****Five axis machining  
turbocharger  
impeller****Five axis drilling****impeller machining**



## ➤ 5.0 Line automation



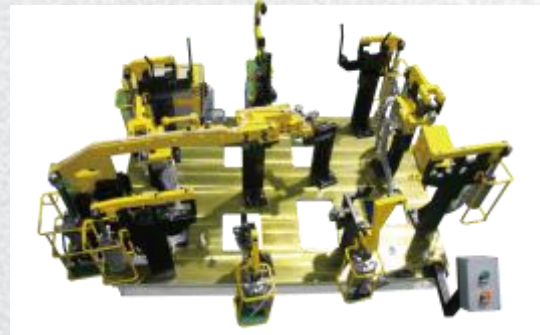
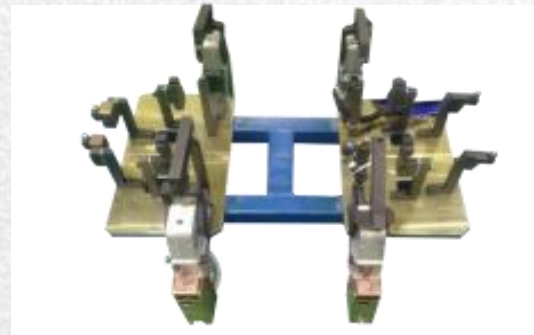
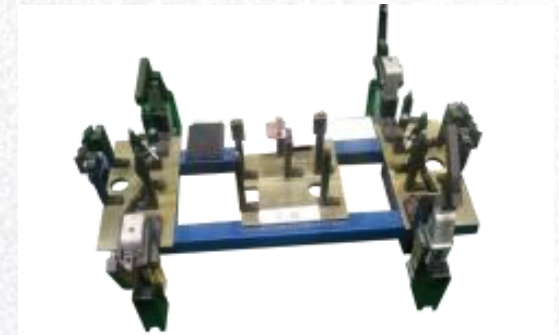
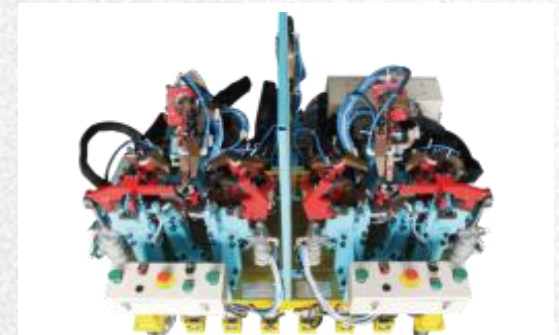
## ➤ 5.1 System Workstation-Arc Welding



## ➤ 5.2 System Workstation-Spot Welding



## ➤ 5.3 Welding fixture

**Arc Welding jig****Arc Welding jig****Cutting Welding jig****Cutting Welding jig****Spot Welding jig****Spot Welding jig****Puppet Welding jig****Puppet Welding jig**



**科泰检夹具**  
MISSION GAUGE & FIXTURE

# THANKS

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## Welcome !

