



Dongguan World Precision Manufacture Co., Ltd.





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Profile**

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Growth**

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Qualification**



Company Profile



- Established in 2003, registered capital of **280 million CNY**, a plant area of 200,000 m².
- Headquartered located in Wanjiang District, Dongguan City, the world's manufacturing center innovation city.
- There are more than **2,600** employees.
- Specializing in precision mechanical parts machining, sheet-metal working and module.
- Since 2016, it has been assessed as a high-tech enterprise by the Guangdong Provincial Government for 6 consecutive years.
- In November 2020, the company was recognized as one of the top 500 manufacturing enterprises in Guangdong Province.
- Passed ISO9001, ISO13485, ISO14001, AS9100D quality and environmental management system certifications.

World Precision Vision

Becoming a leading intelligent equipment solution provider

World Precision Mission

Excellent wisdom makes a better world



Development Memorabilia



Wuxi World Precision Establish



Move the HQ to DG new site of 80,000 m²



Suzhou World Precision Automation Technology Limited establishment



DG HQ
Establish

2003

HK Office
Establish

2007

2010

2014

2015

2019

2020



DG Kind Precision Establish



US Santa Clara office Establish



DG Sheetmetal Factory Establish



Groundbreaking ceremony
for the new headquarters building



Location Scale



Location	DG Former Headquarter	WX	KS	DG New Industrial Park	Total Area(㎡)
Area (㎡)	80,000	6,500	4,500	110,000	201,000

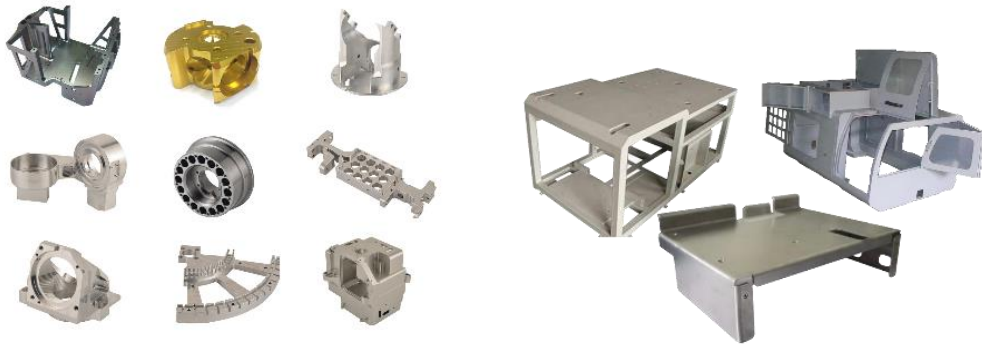


Product Development History



After nearly **20** years of development, WP gradually formed **2** major business groups!

Precision parts processing



Non-standard automation equipment



Precision
Component

Sheet
Metal Part

Precision
modules

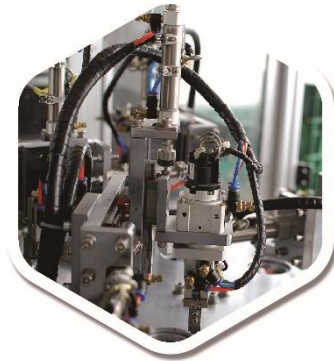
Non-standard
Automation



Industry Area



Medical
instruments



Automation



Aerospace



Semiconductor



Consumer
Electronics



Optoelectronics
Industry



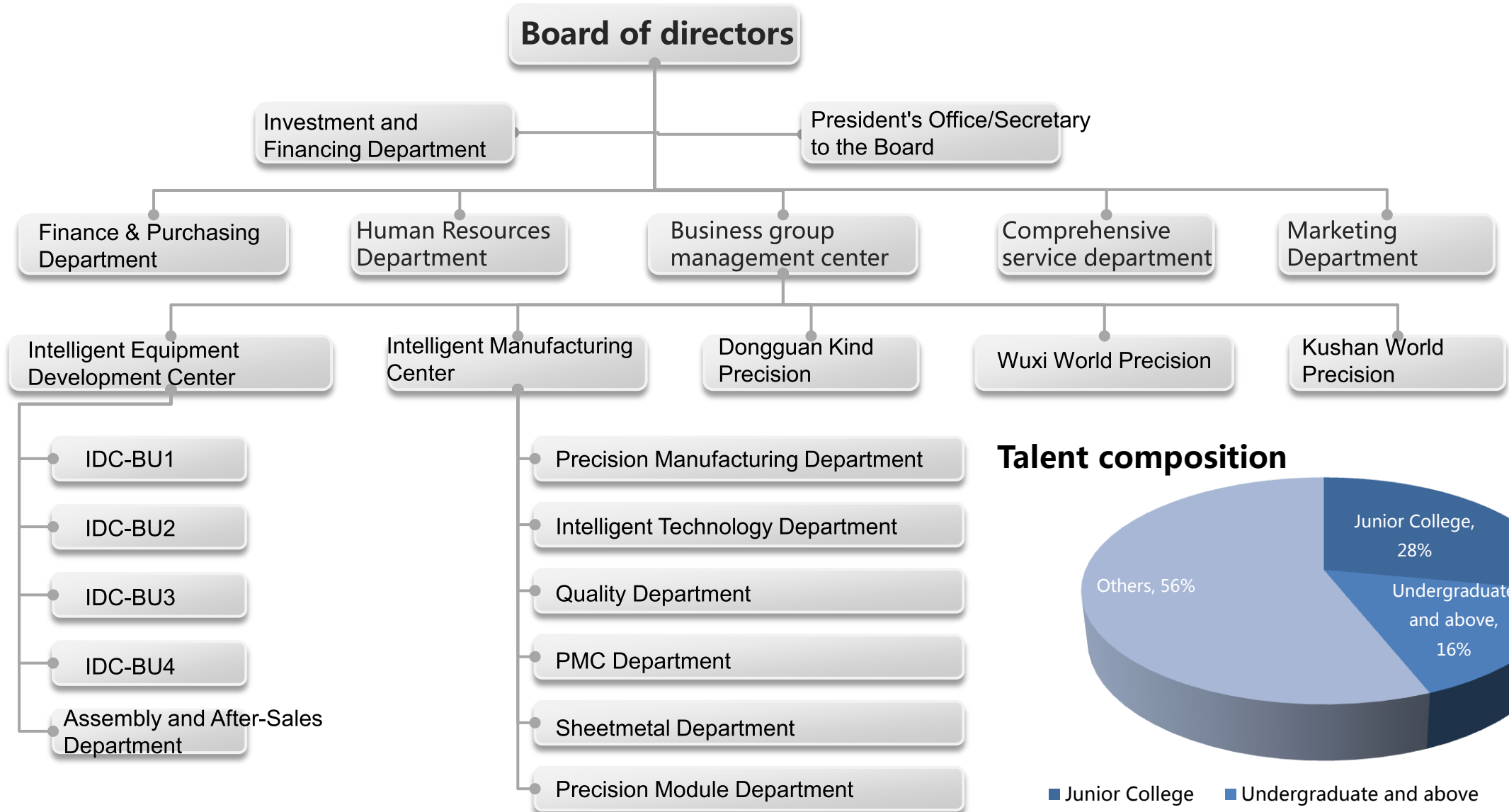
Automobile
components



Emerging
Energy



Organizational and Talent





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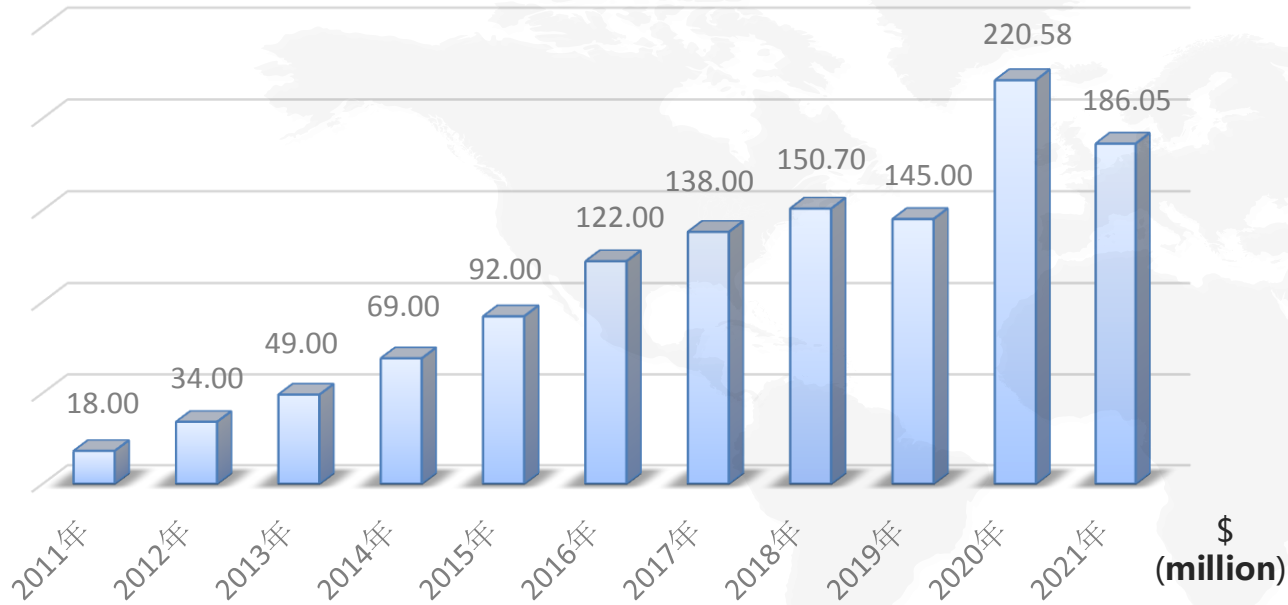
Honor and
Qualification



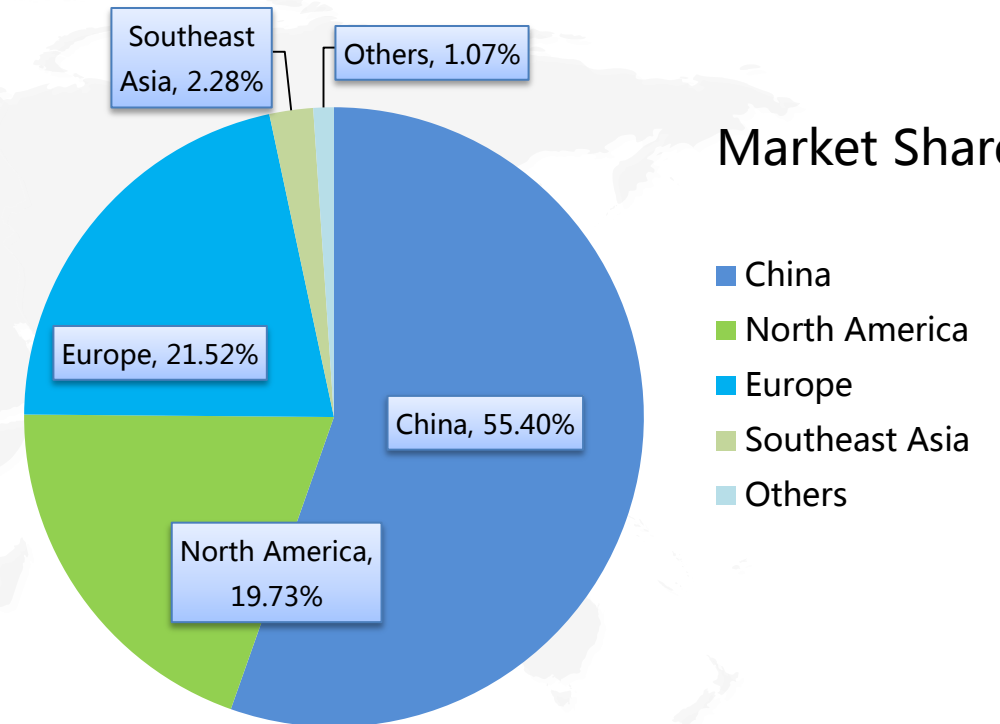
Sales and Distribution



Sales Turnover



Market Share



34%

Precision Machining

66%

Automation System

■ 2021 Overall Sales

\$186,050,000



Major Clients



Knorr-Bremse Group

The world's leading rail vehicles and commercial vehicle brake system manufacturers



US Wabtec Company

Global leader in railway equipment and services



US Danaher Group

Leading the industry in life sciences, medical diagnosis, etc



Mazak Machinery

A world-renowned machine tool manufacturer in Yamazaki, Japan



French ECA Group

Professional robotics, automatic system development technology and simulation technology



Canadian ATS Company

The world leader in advanced automation solutions



Axcelis Technology Co., Ltd

Leader in ion implantation technology



HIWIN Technology Co., Ltd

Worldwide transmission control products and professional manufacturer of system technology products



US Dover Group

A world-renowned diversified industrial product manufacturing company



Japan Denso

The world's top global supplier of automotive technology, systems and parts



Other Clients





International Vision



GERMANY

HANNOVER MESSE
MOTek
SPSIPCDRIVES



U.S

ATX East
IMTS
ATX West
PACK EXPO
INTERNATIONAL



EUROPE

UK SUBCON
FRANCE AEROMART
TOULOUSE



JAPAN

TOKYO M-TECH
OSAKA M-TECH

In order to expand international horizon, World Precision not only built up branch in US but also actively participate in different exhibitions all over the world including: Germany, US, UK, Japan, Singapore, Thailand, Vietnam, France etc.



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Precision Machining Capability



Dongguan World Precision MFG has introduced a large number of high-end precision five-axis, horizontal, turning-milling composite and advanced testing equipment from Germany and Japan; a leading role in the global precision processing industry in term of the product precision machining and processing capabilities.

- ◆ **Raw material inspection** : Material composition analysis, ensure high-quality product materials
- ◆ **Heat treatment workshop** : Improve the mechanical properties of materials, eliminate residual stress and improve metal machinability, increase material hardness, abrasion resistance, mechanical properties such as strength, ensure product stability and service life
- ◆ **Processing workshop** : Have the ability to complete the complete process of precision parts processing
- ◆ **Test Equipment** : Ensure product quality meets customer standards
- ◆ **Assembly workshop** : All parts of the product are assembled strictly according to customer and industry requirements, connect, and carry out precision, stability and life testing, ensure





Machining Center



Five-axis High-precision Machining Center

- ◆ Able to perform pentahedron processing in one positioning
- ◆ Surface processing, hollow processing
- ◆ Precision accuracy $\pm 0.005\text{mm}$
- ◆ Surface finish can reach micron level





Machining Center

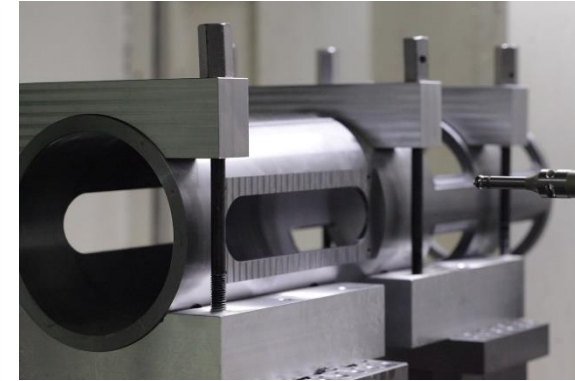


Four-axis Machining Center

- ◆ One-time loading, multi-sided processing
- ◆ Stopping the machine is not required to change module, high efficiency
- ◆ Suitable for complex structure workpieces
- ◆ Precision accuracy $\pm 0.002\text{mm}$



Four axis horizontal machining center



Four axis vertical machining center



Machining Center



Three axis machining center

- ◆ Capable of batch processing
- ◆ Possesses multi-variety and small-batch processing capabilities



CNC milling machine



CTX gamma TC



Precision Turn Milling Compound Center

- ◆ Multifunctional turning and milling
- ◆ One-time processing and forming
- ◆ Precision accuracy $\pm 0.002\text{mm}$





Precision Machining Capability



CNC Precision Automatic Lathe

- ◆ It can complete compound processing of turning, milling, drilling, boring, tapping, engraving and other combinations at the same time
- ◆ Mainly used in batch processing of special-shaped non-standard parts such as precision hardware and shafts
- ◆ Bidirectional high processing efficiency



CNC Precision Automatic Lathe



Precision Machining Capability

EDM (Electrical discharge machining)



- ◆ Suitable for materials that are difficult to process with traditional processing methods
- ◆ Special and complex shape parts can be processed
- ◆ Can change part's processing route



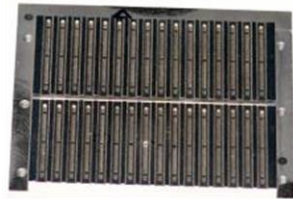
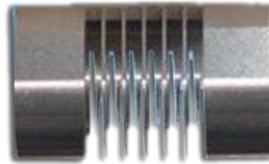
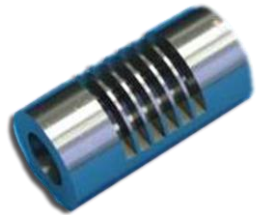


Precision Machining Capability



Wire Cutting: Slow/Medium/Fast wire

- ◆ Suitable for ordinary machining methods that are difficult to process, complex shape, high hardness, high precision accuracy requirements, conductive materials
- ◆ Precision accuracy : 0.002 mm





Precision Machining Capability



Heat Treatment

- ◆ Vacuum heat treatment can be performed in the factory headquarters
- ◆ Annealing, normalizing, carburizing, nitriding and other processes



Vacuum quenching furnace



Lon nitriding furnace





Other Common Processing



Lathe
Machine



Milling
Machine



Grinding
Machine



Pincers
Fitter



Sheet Metal Factory

- ◆ Bystronic laser cutting machine, can process copper plate, aluminum plate, thick stainless steel and other conventional materials, processing thickness of 0.5-20mm
- ◆ Japan Amada turret CNC punch, high processing accuracy, stable processing quality.
- ◆ CNC punch cutting precision, small burr, workpiece flatness is good, forming quality is high, the number of punching processing accuracy can reach 0.1mm, size consistency is good, suitable material thickness 0.5-2.5mm
- ◆ Japanese Amada CNC bending machine, high precision, stable processing performance, accuracy $\pm 0.1\text{mm}$
- ◆ The company is certified by CWB of Canadian Welding Bureau, and the pass rate of welding workers is over 60%
- ◆ We have 20 Panasonic welders and a THREE-DIMENSIONAL welding platform for all kinds of welding processing requirements





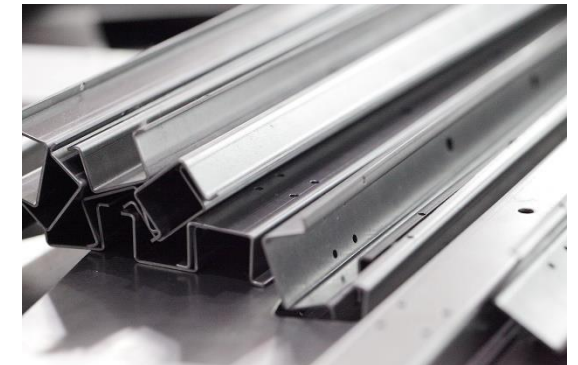
Laser Cutting

Automatic Fiber Laser Pipe Cutting Machine

- ◆ CCD pipe section identification system is adopted
- ◆ Automatic baling feeding system
- ◆ Automatic sorting system for finished pipe fittings
- ◆ Pipe floating trusteeship agency
- ◆ Intelligent remote monitoring system
- ◆ Tube-plate length automatic measurement system, etc



Device Category	Raw Material	Thickness (mm)
Laser cutting	Steel	~ 12
	Aluminum	~ 3
Bending	Stainless Steel	~ 6
	Low carbon steel	~ 6
	Aluminum	~ 3





Precision Machining Products



Machined parts

Can meet customers' different order needs:

- Many varieties and small batch
- Large batch

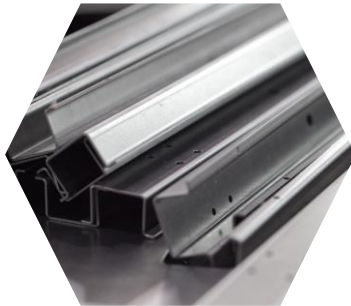
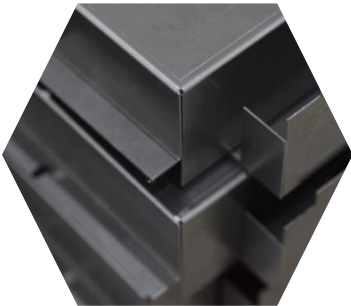
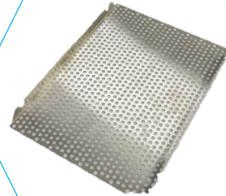
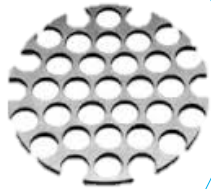




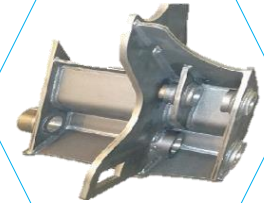
Precision Machining Products



Sheet Metal Parts



The Welding Parts



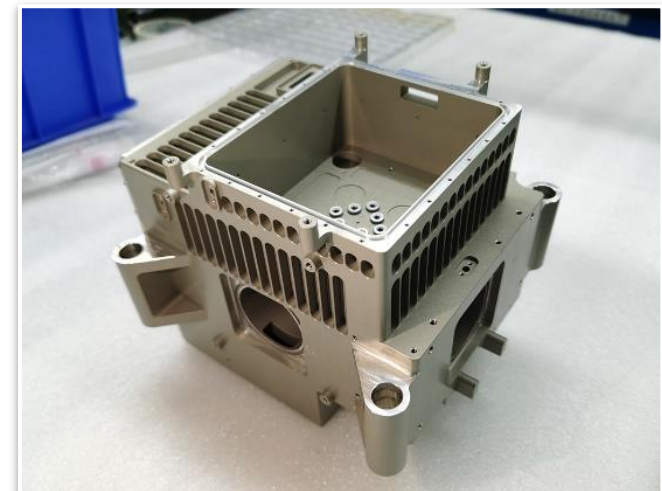
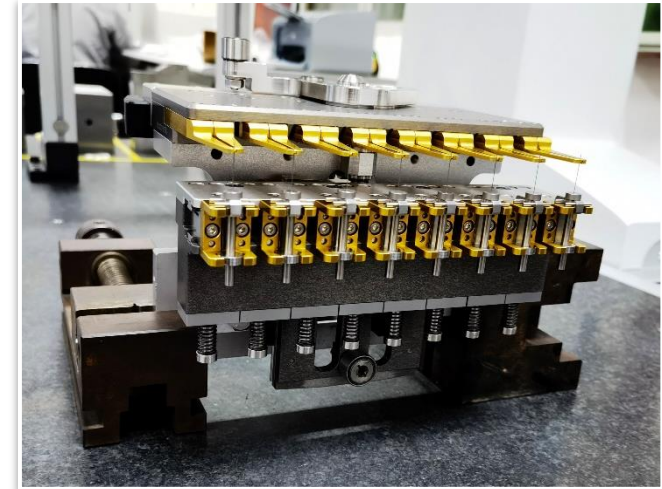


Precision Module



Precision Modules

- ◆ FA & SOP operation process support
- ◆ Electrical engineering
- ◆ Support Annual output value of more than 30 million





Equipment List



Product Name	Brand	Made in	Degree of Precision	Quantity
5-axis CNC machining center	DMG	Germany	0.005mm	11
	MAZAK	Japan	0.005mm	5
Horizontal CNC machining center	LG Mazak	Japan	0.002mm	2
	DMG	Germany	0.005mm	4
CNC turning milling compound machining center	LG Mazak	Japan	0.002mm	2
	DMG	Germany	0.002mm	1
Vertical CNC machining center	Haas	USA	0.005mm	1
	Chang ZHUN	Taiwan	0.01mm	111
	Feeler	Taiwan	0.005mm	40
	DMG	Germany	0.005mm	2
	MAZAK	Japan	0.003mm	13
	HARDINGE	USA	0.005mm	56
	MAKINO	Japan	0.003mm	6
	Feeler	Taiwan	0.002mm	3
	MAZAK	Japan	0.002mm	4
Cnc lathe	TAKISAWA	Japan	0.002mm	6
	STS	China	0.01mm	14

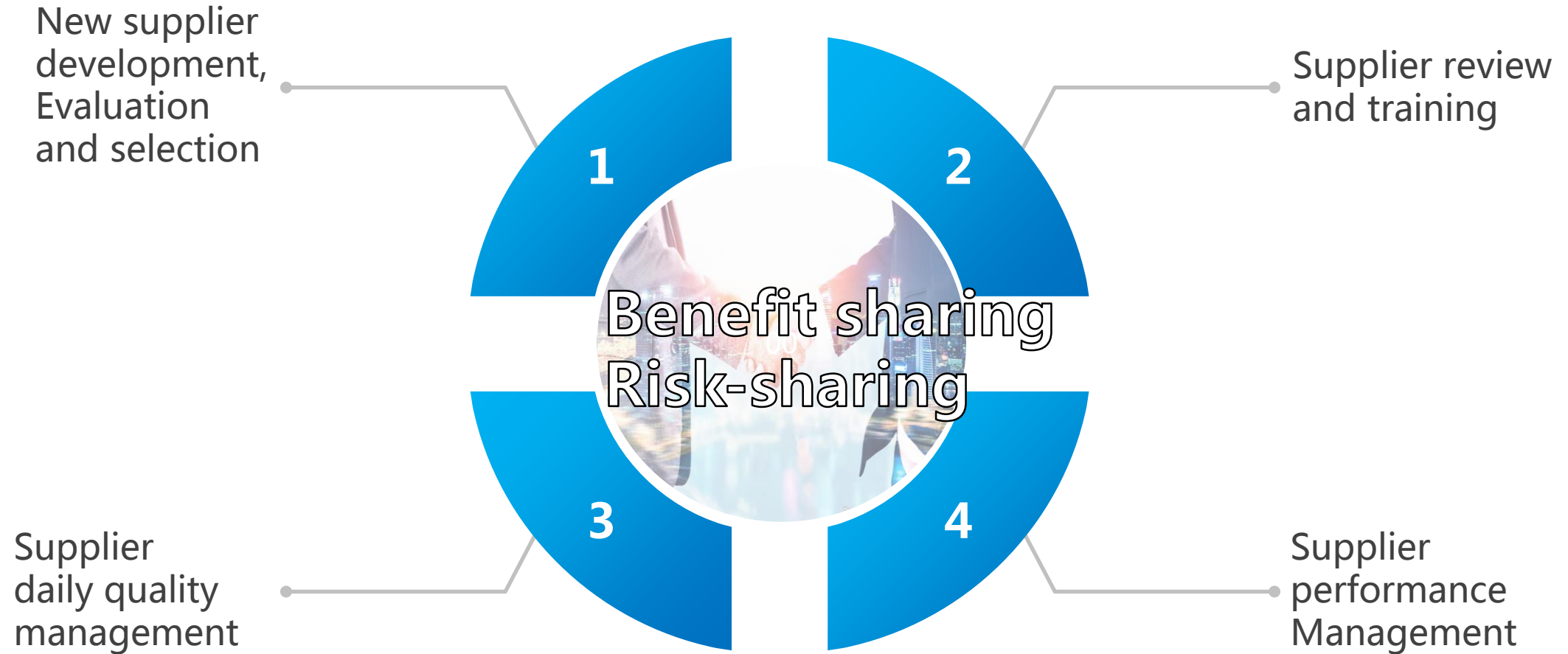
Product Name	Brand	Made in	Degree of Precision	Quantity
Slow- feeding wire cut machine	SODICK	Japan	0.002mm	5
High speed NC WEDM tool	San Guan/Gao Cheng	Taiwan	0.01mm	10
CNC milling machine	Joint	China	0.01mm	1
Milling machine	GENTIGER	China	0.01mm	50
Lathe	Nan Fang/San huang	China	0.01mm	14
Grinding table	Jian De	Taiwan	0.003mm	3
Surface grinding machine	Wang Pan / Yu Qing	China/Taiwan	0.002mm	15
	NAGASHIMA	Japan	0.001mm	5
Outside and inside diameter grinding machine	NAGASHIMA	Japan	0.001mm	1
Large CNC	CHANGZHUN	China	0.002mm	2

Sheet Metal Equipment

Product Name	brand	Made in	Degree of Precision	Quantity
Welding Machine	Rui Ling	China	N/A	8
Laser Marking Machine	Hans laser	China	N/A	2
Bending Machine	Amada	Japan	N/A	6
CNC Laser Cutting Machine	Bystronic	Switzerland	0.15mm	3
Punching Machine	Amada	Japan	N/A	1
Automatic Laser Tube Cutter	Songu	China	0.03mm	1



Supply Chain Management





Supply Chain Management



External Negotiation Surface Treatment Capability

- ◆ ISO9001, IATF16949 and other certification
- ◆ Quality control through ward quality system





External negotiation process Capability

Efficient to Provide a Variety of Customized Process Type Services

Type of surface treatment	Function	Thickness (um)	The layer appearance	Suitable material
Anodize	Oxidation resistance, wear resistance and decorative surface	5 ~ 12	White, yellow, black	aluminium alloy
Hard anodizing	Oxidation resistance, wear resistance and decorative surface	25 ~ 35	Grey, black	aluminium alloy
Chemical nickel-plating	Oxidation resistance, wear resistance and decorative surface	3 ~ 42	Yellow light,	Steel, aluminum alloy and copper alloy
Black oxide	Oxidation resistance and decorative surface	0.5 ~ 1	Black, black	Ferrous stainless steel
Passivation	Oxidation resistance and decorative surface	0.05 ~ 0.1	gray	stainless steel
Electropolishing	Surface roughness improvement and surface decoration	2.5 ~ 10	bright white	stainless steel
galvanize	Oxidation resistance, wear resistance and decorative surface	8 ~ 12	According to Customer requirements (white, color)	steel
chromeplate	Oxidation resistance, wear resistance and decorative surface	3 ~ 12	Bright gold, bright white	steel
tri-valent chromate	Corrosion resistant, Rohs compliant	3 ~ 12	Bright silver, blue	steel
xylan	Reduce friction, improve wear resistance, non – stick	20~50	Grey, black	steel
Polane T (S. Williams) Low gloss black finish	Chemical and water resistance, wear resistance, adhesion	3~4	black	Aluminum, steel, plastic





- ◆ Material and drawing information
- ◆ PMC plan
- ◆ Process the data
- ◆ Recording the production process



- ◆ The order information
- ◆ Quality inspection information
- ◆ Customer complaint traceability
- ◆ Track the steps





Use of Raw Materials



Metal Material

Some common raw materials we can supply for aviation industry applications include:

- ◆ Titanium, AMS 4902, AMS 4905, AMS 4911, CP class 1, CP class 2;
- ◆ Aluminum 7075, AMS-QQ-A-250, aluminum 6061 T6, T651, AMS4027, etc.;
- ◆ Chromium molybdenum alloy steel, AISI4120, 4150, etc.

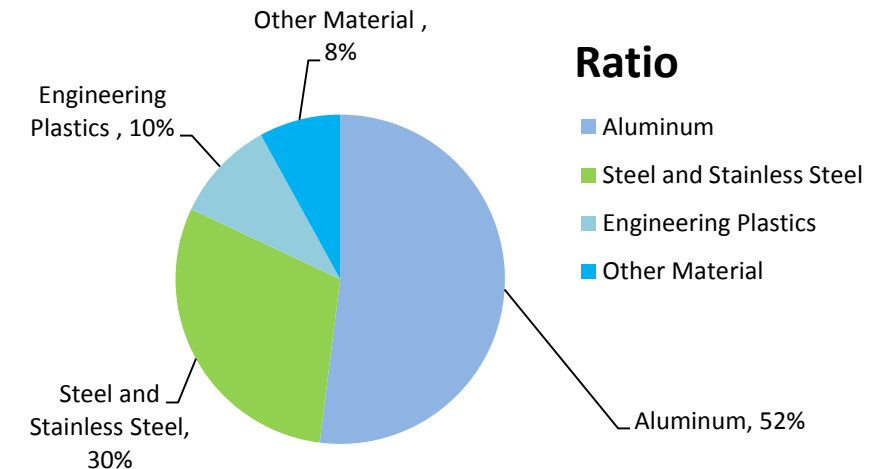
Metal Material	China (GB)	USA (ASTM)	Japan (JIS)	Germany (DIN)
Rolled steel for common structures	Q235A	A36	SS400	1.0040
Rolled steel for welded structures	Q235B	A283M Gr.D	SM400B	1.0042
Carbon steel for mechanical structures	45	1045	S45C	1.0503
Manganese steel for mechanical structures	40Mn	1039	S40C	1.1157
Chromium steel for mechanical construction	40Cr	5140	SCr440	1.7035
Chromium molybdenum steel for mechanical construction	30CrMo	4130	SCr430	1.7220
Manganese chromium steel for mechanical construction	20CrMn	5120	SMnC420	1.7147
Corrosion-resistant stainless steel	0Cr18Ni9	AISI 304	SUS304	1.4301
Nickel-chromium superalloy	GH4169	Inconel718	-	Mo3
alloyed tool steel	Cr12Mo1V1	D2	-	1.2379
Corrosion-resistant stainless steel	0Cr19Ni10	AISI 304L	SUS304L	1.4306
Corrosion-resistant stainless steel	0Cr17Ni12Mo2	AISI 316	SUS316	1.4401
Corrosion-resistant stainless steel	0Cr17Ni14Mo2	AISI 316L	SUS316L	1.4435
Corrosion-resistant stainless steel	9Cr18	AISI 440C	SUS440C	1.4125
Aluminum and aluminum alloy sheet, plate and strip	6A02	6061	A6061P	3.3207
Aluminum and aluminum alloy rod, rod, wire	LD6061	6061	A6061BE	--
Aluminum and aluminum alloy rod, rod, wire	2A12	2024	A2024BE	3.1355
Aluminum and aluminum alloy rod, rod, wire	7A04	7075	A7075BE	3.4365
copper bar	H70	C2600	C2600BE	2.0265
Copper sheet, copper plate and copper strip	H90	C22000	C2200P	2.0230
Copper and copper alloy bars	HPb61-1	C36000	C3604BE	2.0401



Use of Raw Materials

Engineering Plastics

Engineering Plastic Materials	Chemical Name
Delrin	Acetal Resin
ESD225	Static electricity dissipates polyacetals
ESD420	Electrostatic dissipation polyacetal electrostatic dissipation polyimide
ESD520	Electrostatic dissipation enhances polyimide
TEFLON	Polytef
NYLON	Perlon
501CDR6	Electrostatic dissipated monomer cast nylon
PEI	Ultem1000
Peek1000	Polyether-ether-ketone
Peek450	Polyether-ether-ketone
ACRYLIC	PAA
PC	Polycarbonate fibre
PP	Polypropylene
BAKELITE	Phenolic resin
ZrO2	Ceramics





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Quality and Environment Certification



ISO 9001:2015
Quality Management
System Certification



ISO 13485:2016
Medical Parts
Manufacturing Certification



ISO 14001:2015
Environmental Management
System Certification

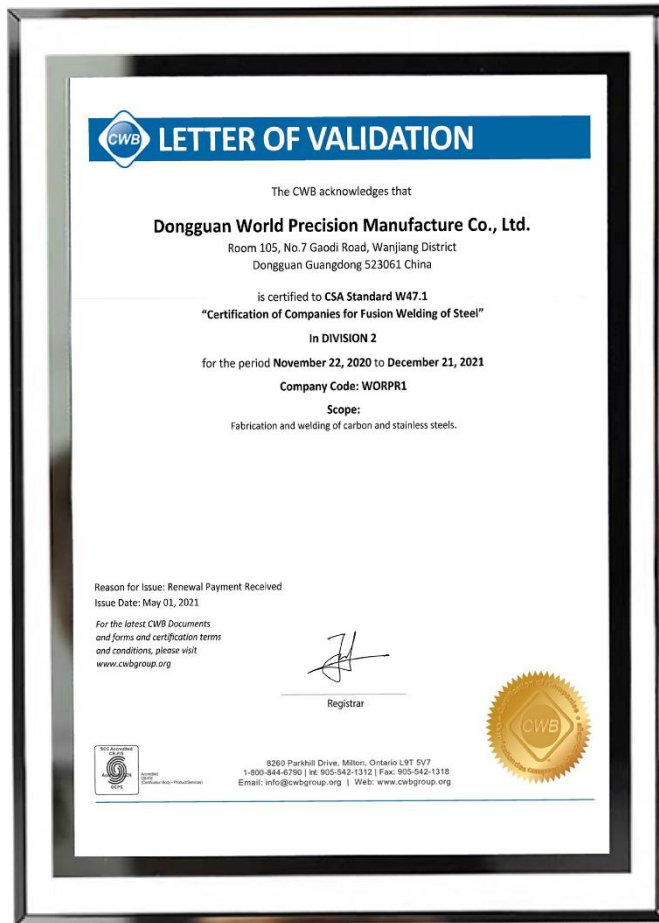


AS 9100D
Aerospace Industry
Manufacturing Certification

Excellent quality system support IQC, IPQC, FQC, OQC



Technical Certificate



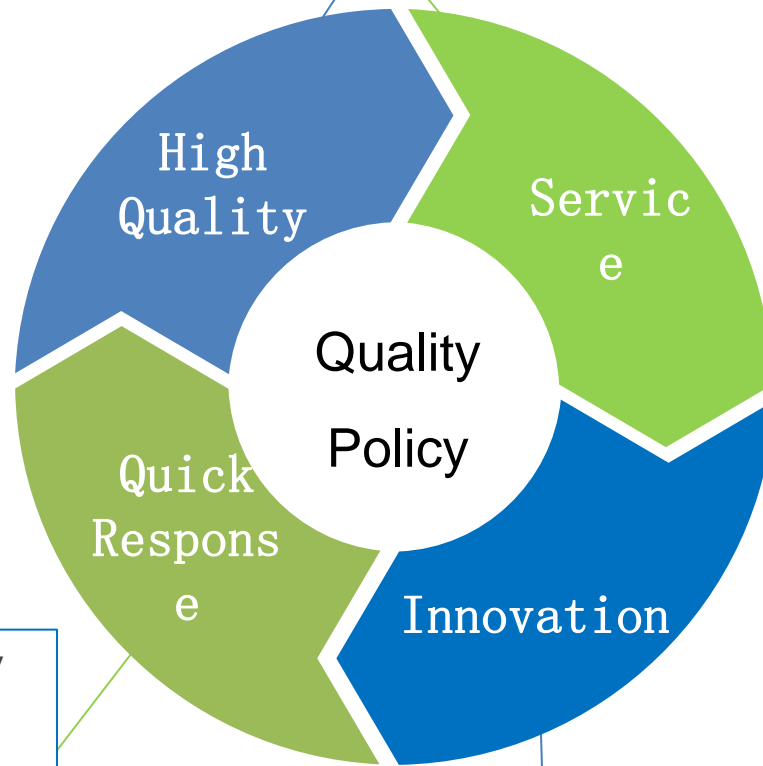
Canadian Welding Bureau Certification (CWB)



Standardized Quality Inspection



The company promises to meet customer requirements and other applicable requirements' quality products and services



Respond quickly and deliver on time when responding to customer needs

Continuously innovate, continuously improve the company's quality management system and performance, enhance customer satisfaction



Roundness Measuring Instrument



Hardness Tester



Tensile Testing Machine



Profile Measuring Instrument



Altimeter



Coordinate Measuring Machine



List Of Inspection Instruments

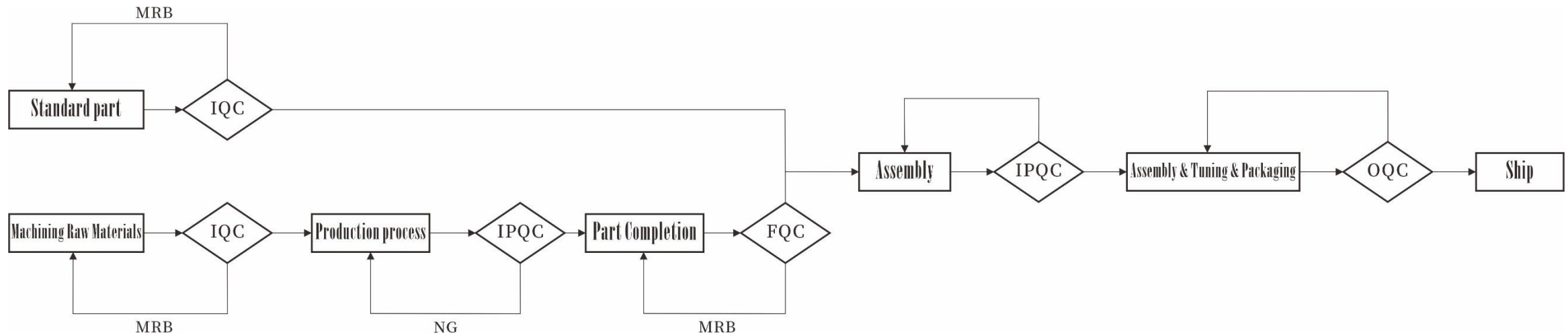


Product Name	Brand	Made in	Degree of Precision	Quantity
CMM	ZEISS	Germany	0.0015mm	2
	HEXAGON	Sweden	0.0015mm	4
MRS	GNR	Italy	N/A	1
Projector	MITUTOYO	Japan	0.003mm	1
Contourgraph	TOKYO	Japan	$\pm(1.5+ 2H /100)\mu\text{m}$	1
Roughness Tester	MITUTOYO	Japan	Ra0.05 ~ Ra32	1
Rockwell Hardness Tester	Yong Feng	China	N/A	1
Marble Platform	XINLEI	China	Grade 000	6
Altimeter	TRIMOS	Switzerland	$3+L(\text{mm})/300\mu\text{m}$	15
	TESA	Switzerland	$2.5+4L(\text{m})\mu\text{m}$	
Microscope	EASSON	Taiwan	0.003mm	4
Coating Thickness Tester	FISCHER	Germany	$\pm 1\mu\text{m}$	1
MRS	XoS	USA	1mm	1

Product Name	Brand	Made in	Degree of Precision	Quantity
Visual System	T-King	China	$\pm 3\mu\text{m}$	11
Auto Vision System	Zhi Tai	China	$3+L/200$	1
Hardness Testing Machine	LAIZHOULAIHUA	China	N/A	3
Tension Tester	AI GU	China	$\pm 0.2\%$ F.S.	1
Rubber Hardometer	HAIBAO	China	0.02mm	2
Electron Microscope	STILL	China	N/A	5
Surface Resistance Tester	TALOS	China	$\pm 10\%$	2
Marble Terrace	XINLEI	China	0.007mm	19
Charpy Tester	Kunlun	China	N/A	1
Electronic Hydraulic Meter	MITUTOYO	Japan	0.005mm	4
Callipers	MITUTOYO	Japan	0.02mm	272
Micrometer	MITUTOYO	Japan	0.001mm	57



Quality Control Flow Chart



Dept	Doc Description	Reference Document
PUR	BOM	• Table
QA	IQC report	• Standard part IQC report example • Machining part IQC report example • MRB slip example
MFG	SOP	• Machining part processing station SOP
IPQC	IPQC report	• Machining part processing IPQC report example
PMC	BOM	• Table

Dept	Doc Description	Reference Document
QA	FQC report	• Machining part processing PQC report example
IE	SOP	• Machine type assembly station SOP
IPQC	IPQC report	• Machine type assembly IPQC Report
IE	SOP	• Machine type functional test station' s SOP • Machine Type packaging guidelines
QA	OQC report	• Machine type OQC Report example
PMC	Notice	• Internal order shipping information



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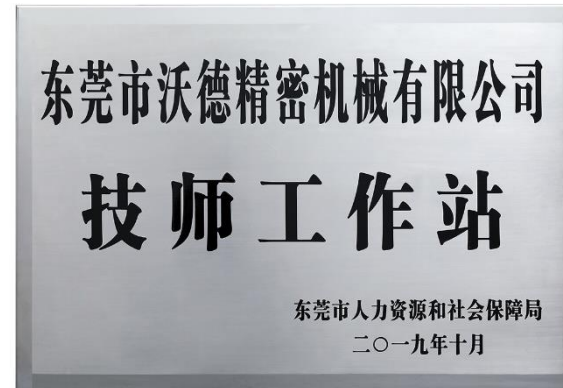
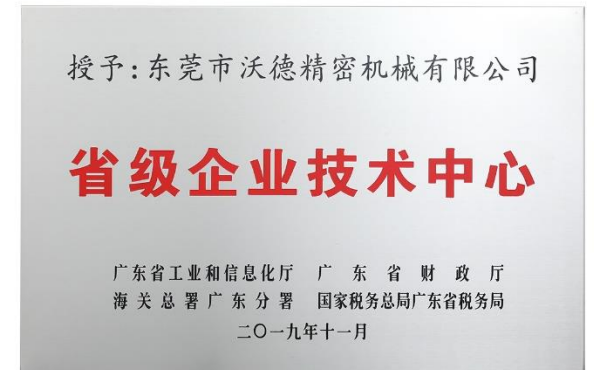
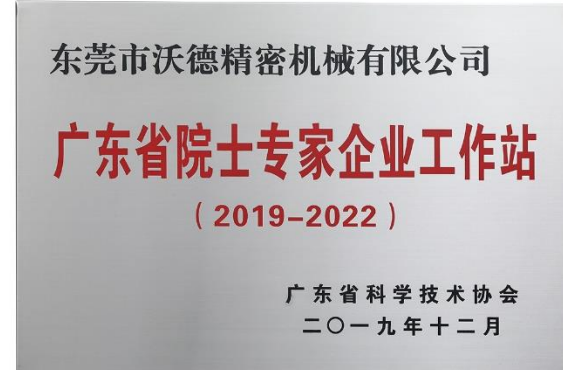
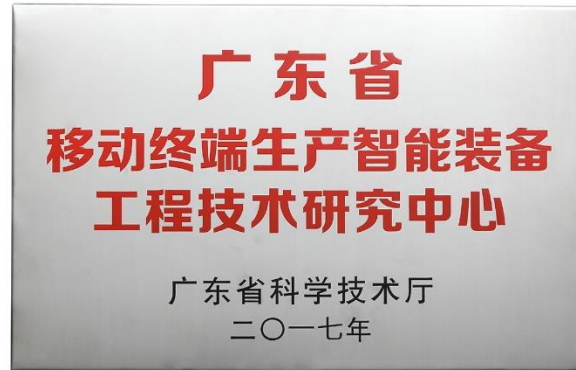
Quality
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Honor and
Qualification



Company Honor





Honorary Patents

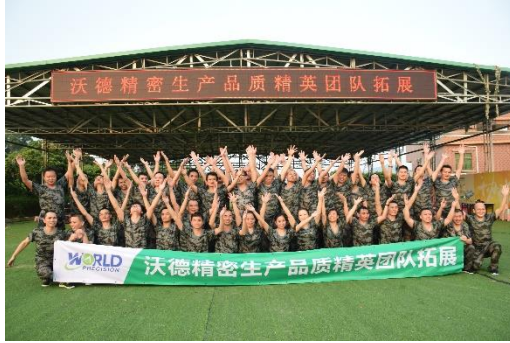




Staff Presence



Staff outdoor development



The company party



Evaluation and recognition





THANKS !

