



KANGSHUO GROUP

PIONEER IN INTELLIGENT MANUFACTURING



A blue-tinted photograph of a large industrial robotic arm in a factory setting. The arm is positioned in the center-right of the frame, reaching towards the left. The background shows various industrial structures, pipes, and equipment, creating a complex and busy environment. The overall tone is professional and technological.

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01 ABOUT KANGSHUO

Born in 2010, Kangshuo Group is a pioneer in intelligent high-end equipment manufacturing. Through 5 bases distributed in Shanxi, Chongqing, Jiangxi, Beijing and Shanghai and 10 branches of intellectual manufacturing, R&D and testing organisations such as the Central Research Institute, it has gradually formed an intelligent manufacturing cloud service system covering the whole world.

GROUP INTRODUCTION



**R&D and
Innovation
Capability**



**Intelligent
Manufacturing
Capability**



**Resource
Integration
Capability**

- Kangshuo Electric Group Co., Ltd.

- Kangshuo (Chongqing) Intelligent Manufacturing Co., Ltd.

- Kangshuo (Jiangxi) Intelligent Manufacturing Co., Ltd.

- Kangshuo Future Intelligent Technology (Beijing) Co., Ltd.

- Kangshuo (Shanxi) Intelligent Manufacturing Co., Ltd.

- Kangshuo (Shanxi) Institute for Residual Stress in Manufacturing

- Kangshuo (Chongqing) Smart Manufacturing System Technology Research Institute

- Kangshuo (Shanxi) Smart Manufacturing System Technology Research Institute



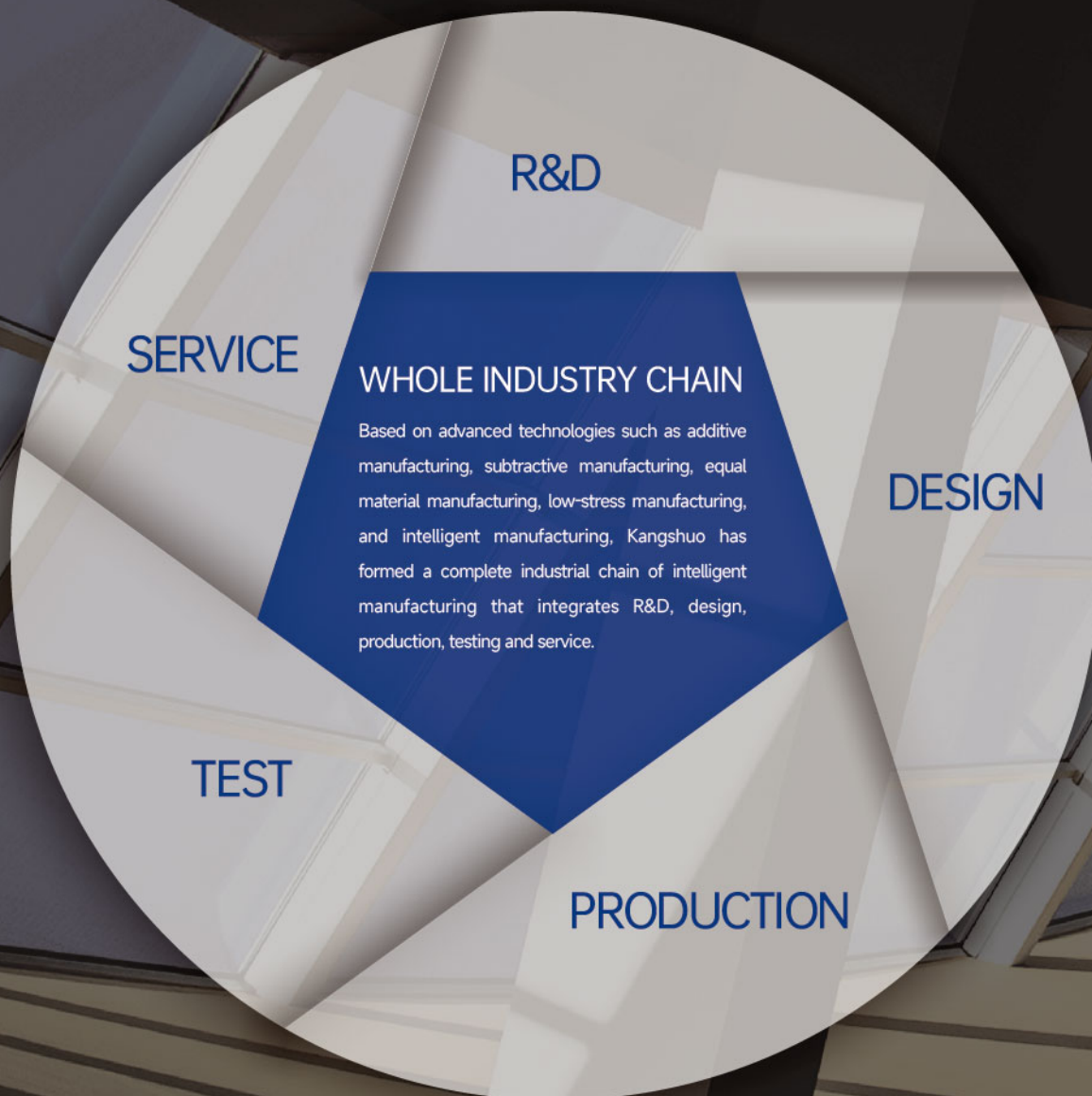
INTELLECTUAL PROPERTY RIGHTS & HONORS



500+ intellectual property rights accumulated

500+





INTEGRATED SERVICES

Intelligent Manufacturing Equipment
R&D And Supply Of Raw Materials
Mechanical Processing
Software Development

Key Components Manufacturing
Inspection And Testing
Process R&D

Low-stress Service
3d Printing Service
Innovative Design

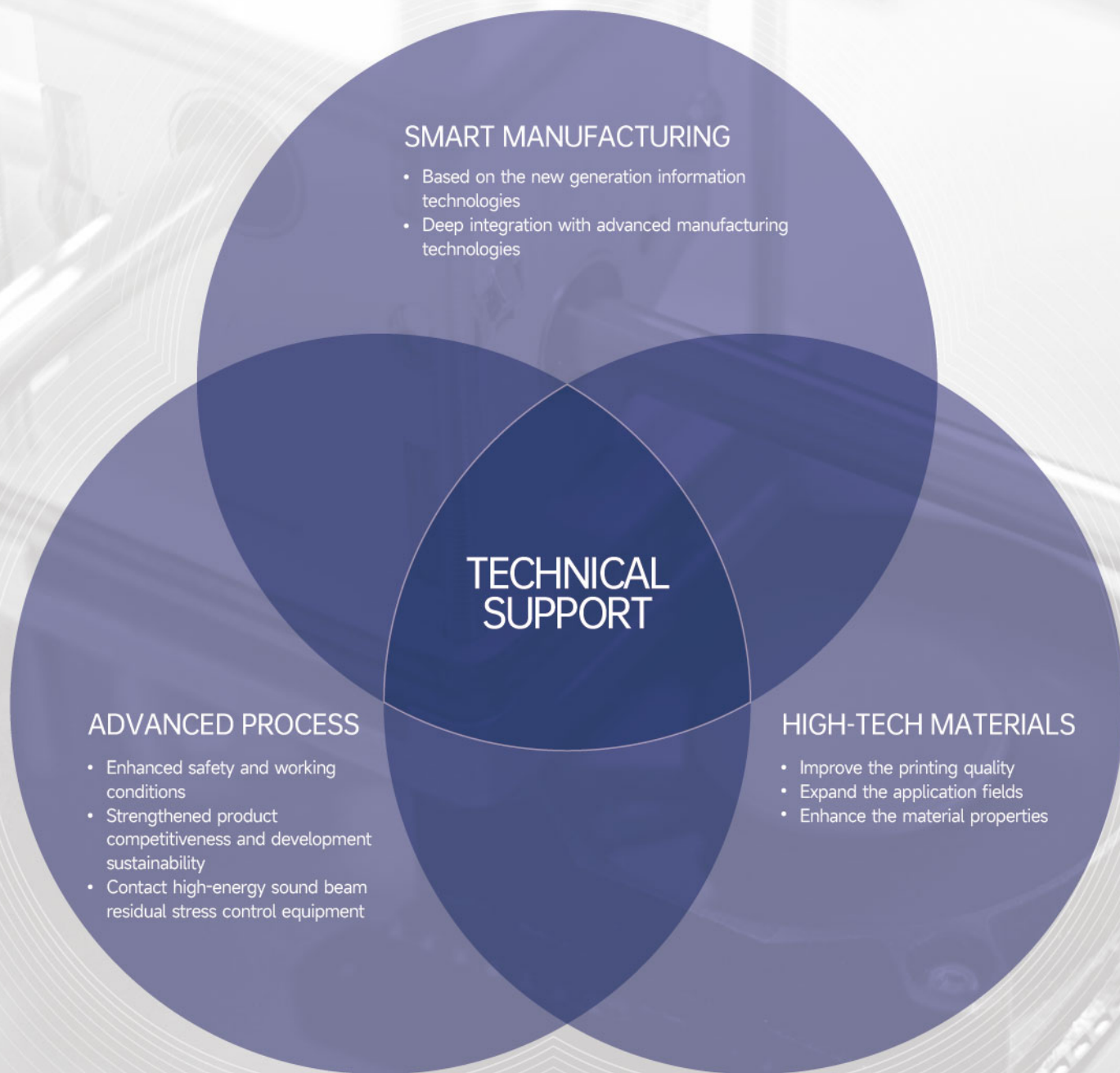
MANAGEMENT SYSTEM



MANAGEMENT SYSTEM

03 R&D AND PRODUCTION

Kangshuo Central Research Institute, established especially, is aimed at the sore points and needs of high-end equipment manufacturing industry and oriented towards intelligent manufacturing, advanced technology and high-tech materials. It actively pursues the study on applications, strenuously develops the field of intelligent manufacturing, and keeps continual innovation and breakthrough.



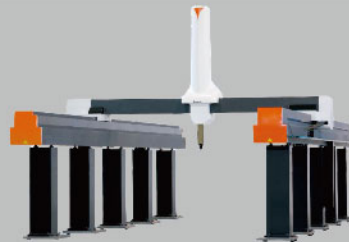
SMART FACTORY

- Building Area: 51,000 square meters
- Annual Engine Production Capacity:
Over 100,000 sets
- Annual Production Capacity for Medium
and Large Cast Iron and Cast Steel Parts:
Over 5,000 tons
- World-Leading Automatic Production
Line for Engine Cold Core Molding
- World-Leading Production Line for
Medium and Large Castings Using Resin
Sand Technology
- World-Leading Automatic Production
Line for Large Cylinder Block and
Cylinder Head Core Shooting with
Sand Molds



MACHINING EQUIPMENTS

High-precision centers include five-axis machining center, four-axis machining center, three-axis machining center, drilling and milling center, milling center, boring and planing center, and grinding center, which can machine large, medium and small components.



3D SAND PRINTER

Utilizing advanced additive manufacturing technology, this sand 3D printer rapidly constructs high-precision sand molds by layer-by-layer spraying of sand and binder.

The core equipment, KSS1800B, features dual-direction printing technology with a resolution up to 400 DPI, achieving sand mold precision at the CT7 level, significantly enhancing production efficiency.

The sand 3D printer supports digital interconnection and can seamlessly integrate with production lines to achieve intelligent manufacturing. It offers a one-stop service from consultation, design to deployment, aiding in the digital transformation of foundries.

APPLICATION FIELDS



3DP SAND PRINTING TECHNIQUES

KSS1800B

3D High-Speed Printing Equipment



Technical Data

| | |
|-----------------------------|--|
| Dimensions (LxWxH): | 4500x2170x3460mm |
| Molding Range (LxWxH): | 1800x1000x700mm |
| Sand Laying Method: | Bidirectional sand laying |
| Printing Resolution: | 400dpi |
| Printing Layer Thickness: | 0.3mm - 0.6mm |
| Number of Nozzles: | 8 (1024 nozzles per head) |
| Max printing speed: | 1200mm/s |
| Power Supply Requirements: | Three-phase 380VAC $\pm 10\%$, Frequency 50-60Hz |
| Heating Power: | 9KW |
| Total Weight: | 5.4T (including one working box) |
| Max Printing Efficiency: | 160-270L/h |
| Consumables: | Furan resin or phenolic resin, curing agent, silica sand, ceramic sand |
| Number of Working Boxes: | Single working box with independent drive |
| Sand Processing Center: | Automatic sand processing + any ratio mixing of old and new sand |
| Host Peak Power: | 11KW |
| Noise: | <60 decibels |
| Environmental Requirements: | Operating Temperature 22-38°C |



"TRIPLE FEATURES"

Greenization
Intelligentization
Digitalization

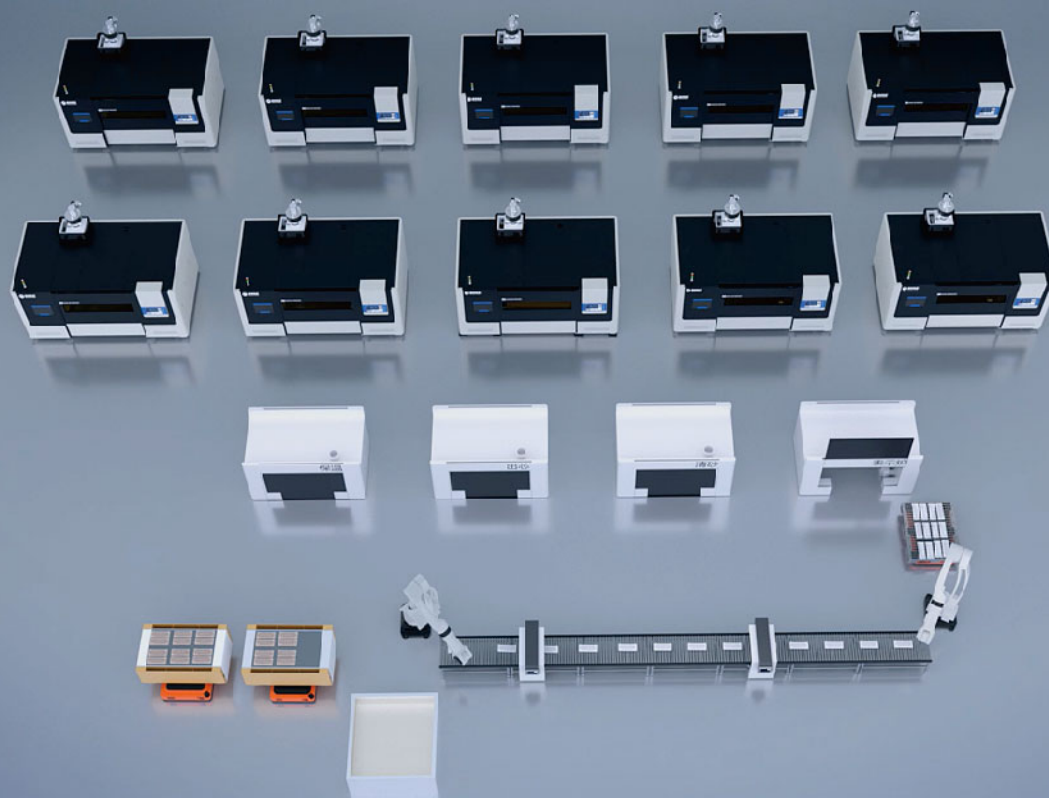


"Six Properties"

Excellent Reliability, Maintainability, Supportability,
Testability, Safety and
Environmental Adaptability

AUTOMATIC INTELLIGENT ADDITIVE MANUFACTURING PRODUCTION LINE

ACHIEVE FULLY AUTOMATIC INDUSTRIAL APPLICATION OF MULTIPLE EQUIPMENT CONNECTED ONLINE



SELECTIVE LASER MELTING

3D Printing Equipment

KSJ280A

3D METAL PRINTER

Kangshuo Group's metal 3D printer is based on selective laser melting technology, characterized by high precision and efficiency. The equipment supports a range of metal materials, including refractory alloys (such as tungsten-based and titanium-based alloys), and has developed related molding patent technologies. The printed metal parts have excellent mechanical properties and surface quality, widely applicable in high-end manufacturing such as aerospace.

Technical Data

Dimensions (L×W×H): 2390×1040×2300mm

Molding Range (L×W×H): 280×280×400mm

Laser Maximum Scanning Speed: 5000mm/s

Laser Power: 500W

Printing Efficiency: 2-20cm³/h

Molding Accuracy: <0.1mm (when the build size >100mm, molding accuracy <0.1%)

Print Thickness: 0.02-0.1mm

Z-axis repeatability: 0.03mm

Working Atmosphere: Argon gas

Minimum Oxygen Content: ≤100ppm

Printable Metal Powder Materials: Stainless steel, copper alloy, aluminum alloy, titanium alloy, etc.

Operating Voltage: 380VAC±10%, Frequency 50-60Hz

Rated Power: 11.5kW



ETHERCAT

High-speed communication,
precise synchronization



MULTIPLE SAFETY INTERLOCKS

Human-machine safety,
dual protection



INTELLIGENT SOFTWARE

Real-time monitoring,
traceable

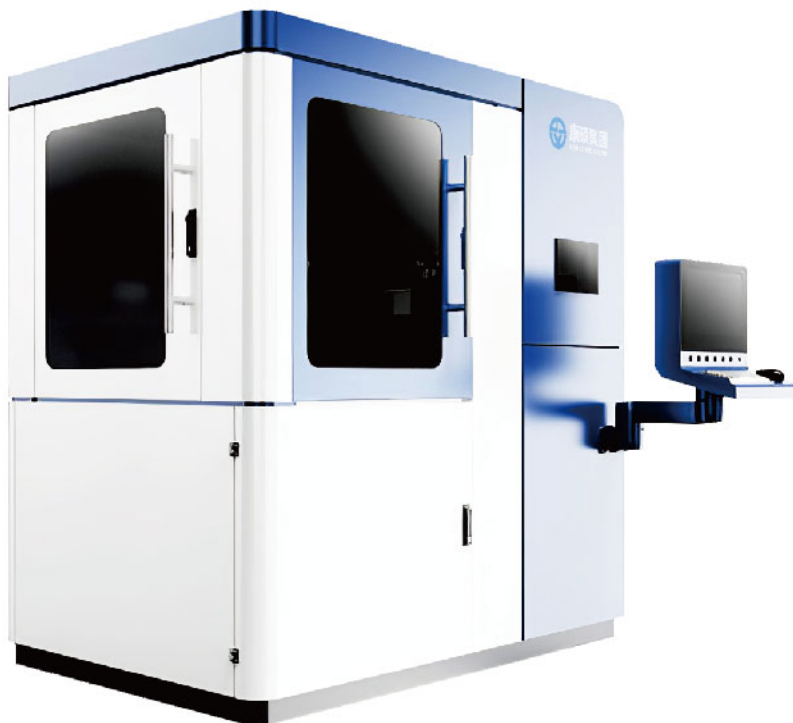


IMPORTED CORE COMPONENTS

International brands,
stable and reliable

3D CERAMIC PRINTER

The ceramic 3D printer employs advanced additive manufacturing technology to efficiently print complex ceramic components. It supports printing with a variety of materials including Al₂O₃, SiO₂, Si₃Zr, and HAP, with high printing precision capable of accurately presenting details over 200 microns. The sintered products have a density close to 100% and excellent mechanical properties, meeting the needs of high-end fields such as aerospace and biomedicine.



Technical Data

| | |
|--------------------------------|---|
| Dimensions (L×W×H): | 1980×1340×2150mm |
| Molding Range (L×W×H): | 300×300×160mm |
| Printing Speed: | 6000-10000mm/s |
| Printing Thickness: | 0.05mm |
| Printing Accuracy: | ±0.1mm |
| Surface Finish: | Ra1um~2μm |
| Power Supply Requirements: | 220-240 VAC/50Hz |
| Total Machine Power: | 5.5kW |
| Light Source Type: | UV Laser |
| Laser Wavelength: | 355nm |
| Focus Diameter: | 30μm |
| Room Temperature Requirements: | 20-25°C |
| Humidity Requirements: | Below 50% |
| Compressed Air: | 6 bars |
| Printing Materials: | SiO ₂ , Al ₂ O ₃ , ZrO ₂ , HAP/TCP, silicon-zirconium composite materials, etc. |



NON-CONTACT SUPPORT SYSTEM

Support but not directly connected to it
No need to specifically remove after sintering
Improve production efficiency and product accuracy



PERSONALIZED CONFIGURATION

Multiple moulding sizes available
300*100mm/300*200mm
Meeting different application needs

LOW STRESS EQUIPMENT

Low stress is a technical method to effectively reduce and eliminate the residual stress in mechanical components and enhance their fatigue strength and corrosion resistance. As an important technical index to ensure the machining quality and service reliability of high-end equipment, low stress is of great significance to the development of equipment manufacturing industry.

APPLICATION FIELDS



Energy
and power



Automobile
manufacturing



Construction
engineering



Rail traffic

CONTACT HIGH-ENERGY SOUND BEAM RESIDUAL STRESS CONTROL EQUIPMENT

KS1701C CRS



Technical Data

| | |
|-----------------------|--|
| Pre-tightening force: | The force between the coupling and the box is adjustable between 0.2Mpa and 5Mpa |
| Control method: | Each point location adopts a separate inching motion mode, and each can adjust the distance independently, and can control flat surfaces and most special-shaped surfaces. |
| Control range: | maximum adjustable size L×W×H = 1.6×1.4×0.8M |
| Control material: | metal components (steel, copper, titanium alloy, aluminum, nickel, magnesium, tungsten, etc.) |
| Power requirement: | 220V-240VAC/50HZ |



Ultrasonic converted energy
Around 20,000 times per second



High frequency
Efficiency Focus



Surface metal structure
Occurrence of changes

ROBOTIC ARM LOW STRESS WELDING EQUIPMENT

KS2001AW CRS



Technical Data

| | |
|--------------------------|--|
| Applicable materials: | Aluminum alloy, stainless steel, copper alloy, low carbon steel, titanium alloy, tungsten alloy, etc |
| Equipment forming range: | 2000x2000x1000mm; |
| Ultrasonic exciter type: | 20K、15K |
| Actuator: | Six-axis single robotic arm |
| Configured software: | LUNFOPNT |



**HIGH WELDING
EFFICIENCY**

Perform welding without manual operations, unnecessarily considering the harm of harmful gases to human body, allowing for continuous operation.



**HIGH WELDING
QUALITY**

Control the welding process by ultrasonic exciter, effectively reducing welding stress and deformation and improving weld quality.



**EASY
OPERATION**

Proceed to welding automatically through preset program, without the need for manual complex operations, reducing the skill requirements for workers.



**LOW LABOR
INTENSITY**

Reduce the labor intensity of workers and improve work efficiency

AEROSPACE

As key "members" of aerospace manufacturing, aerospace key components, including airframe parts, engine parts, avionics components, airborne equipment and other components, play an important role in the industry.

APPLICATION FIELDS



Commercial
Aviation



商用航天



Aerospace
Exploration



Commercial Aviation

POWER SYSTEM

Power system refers to the energy conversion system that drives the operation of mechanical equipment, including engine, transmission device, power steering system, etc. In all kinds of mechanical equipment, the power system is a very important part, and its role is directly related to the performance and efficiency of the equipment.

APPLICATION FIELDS



INTERNAL COMBUSTION ENGINE SHIP FIELD



Ship Power System



Ship Cylinder Head



Ship Cylinder Block

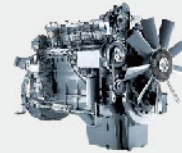


Intake and exhaust system

INTERNAL COMBUSTION ENGINE COMMERCIAL VEHICLE FIELD



Power System of Commercial Vehicle



Cylinder Block of
Commercial Vehicle



Cylinder Head of
Commercial Vehicle



Transmission Case

INTERNAL COMBUSTION ENGINE PASSENGER CAR FIELD



Power System of Passenger Vehicle



Automotive
Cylinder Head



Automotive
Cylinder Block



Transmission
housing



Intake and
exhaust system



Automotive
Turbocharger
Housing



Automotive
Stator Housing

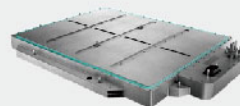


Automotive
Supercharger
Housing

INTERNAL COMBUSTION ENGINE PASSENGER CAR FIELD



New energy battery



Battery Case



Motor shell



Sub-frame

ENERGY INDUSTRY

Energy industry refers to an industry that focuses on the development, production and utilization of various energy resources, including petroleum, natural gas, electricity, coal, nuclear energy, solar energy, wind energy, geothermal energy, hydropower, etc.

APPLICATION FIELDS



Wind Power



Petroleum



Petrochemical



Nuclear Power

PETROLEUM AND PETROCHEMICAL FIELDS



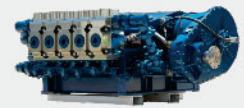
Fracturing Truck



Cryogenic Circulating Pump



Natural Gas Compressor

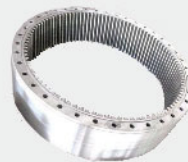


Fracturing Pump

WIND POWER FIELD



Yaw Pitch Gearbox



Wind Turbine Gear Ring



Output Shaft Gear



Wind Turbine Casing

CONSTRUCTION MACHINERY FIELD



Gearbox



Turbocharger Housing



Turbocharger Housing



Closed Housing

INSPECTION AND TESTING SERVICES

Automatic Brinell Hardness Tester



Spectroscopic physicochemical testing



Mechanical properties testing



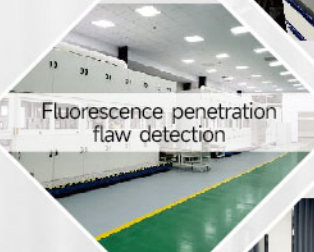
Microstructure testing



Magnetic particle inspection



Fluorescence penetration
flaw detection



X-ray flaw detection



PRODUCT TEST

Three-coordinate test



Fatigue Resistance Testing



Hardness Testing



Tungsten Filament Scanning
Electron Microscope



Impact Resistance Testing



METROLOGY & TESTING

Geometric metrology

Thermal metrology

Mechanical metrology

Electromagnetic metrology

Optical metrology

Chemical metrology

500⁺



PARTNERSHIPS

CORPORATE CULTURE

MISSION

Guide the way of "intelligent manufacturing" and promote the high-quality development of manufacturing industry.

VISION

Work to develop into a global enterprise that contributes to society by independent R&D.

VALUES

Talents Recruitment -

Have both virtue and competence, put virtue first.

Management -

Combine care with fairness, rule the enterprise with virtue.

Service -

Achieve win-win cooperation, attract customers with virtue.

Responsibility -

Give back to the society, carry the business by virtue.

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