

Booster the Aerospace Aviation

Finework(HuNan) New Energy Technology Co., Ltd











Chengdu guanhang **Business Unit**













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Unit Introduction-Chengdu Guanhang BU



Finework Technology's Aerospace Division Chengdu Guanhang Business Unit was established in 2019, and has built a core production, assembly and testing center for key engine components such as oilfield equipment parts, engine integral discs, slender shafts and casings.

This unit is supported by a core team with many years of experience in processing and assembling core components for oil and aviation engines. It masters advanced precision processing and combined assembly technologies for various rotor and stator components such as slender shafts, integral discs and complex structure casings, and has the ability to formulate various efficient and mature machining and assembly process plans. It is equipped with key equipment such as high-precision five-axis machining centers, CNC machining centers and CNC lathes, three-coordinate measuring machines, CNC vertical lathes and high-precision dynamic balancing machines.

The Chengdu Guanhuan Business Unit of Finework Technology's Aerospace Business Group is committed to becoming a "lean manufacturing team that creates high value-added products for customers".







Integral disk, rotating and stationary blade, disk-shaft integrated parts

Material:

Stainless steel: 1Cr11Ni2W2MoV, 17-4 PH,etc;

Superalloys: INC718、INC600,etc;

Titanium alloys: Ti-6Al-4V, Ti-6Al-6V-2Sn.

Processes:

By means of professional programming, simulation software and online detection technology, processing time is shortened and the quality of parts is improved.

Data:

The contour of the wheel blades can be controlled within the range of \pm 0.04;

Surface roughness Ra0.8;

Machinable blade depth 200mm.











High or low temperature aeroengine Parts

Application:

eVTOL aeroengine. High and low compressor components. Turbine and combustion chamber components.

Processes:

Through early intervention in customer design schemes, lean planning, risk analysis and control in advance, the core team effectively improves the manufacturing efficiency and test compliance rate of component-level products.

Data:

The ignition success rate of the whole set of aeroengines is 100%;

Component level test achieved 97%









Sealing shell, Floating ring seal, Pump shell

Material:

Stainless steel: 1Cr11Ni2W2MoV, 12Cr13,etc;

Superalloys: INC718、INC600,etc;

Nonmetal: Graphite.

Process:

Shell products through professional programming technology, optimize the pump shell cavity structure tool path, shorten the processing time, seal products with the corresponding precision grinding tools, can be developed and batch production according to demand;

Data:

The flatness of the seal is controlled within 0.0009mm; Sealing surface roughness Ra0.1;









Fuel, oxidizer pump housing

Pump shaft



Oilfield equipment parts

Material:

Stainless steel: 1Cr11Ni2W2MoV, 17-4PH,etc;

Superalloys: INC718 INC600,etc; Aluminium alloy: 6061, 7075,etc.

Features:

- 1, the process is complex and includes a variety of special processes;
- 2, the cavity structure is complex;
- 3, high surface quality requirements.

Process:

HVOF spraying;

Vacuum electron beam welding;

Copper plating











Oilfield equipment parts

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Rotary Steerable drilling tool



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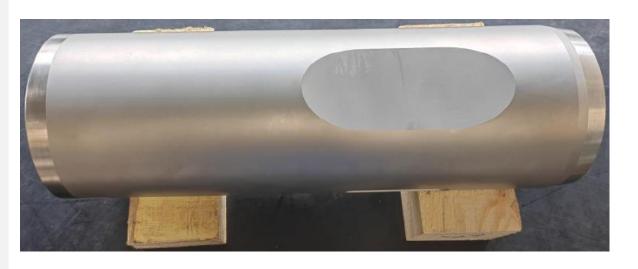
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Vacuum electron beam welding;

Copper plating







Rotary Steerable drilling tool

O3 Core competencies-Key technology



| 1 | Blisk processing, simulation and |
|---|----------------------------------|
| | on-line detection technology |

Component level product processing technology

Integrated blisk and shaft processing technology

Complex cavity product processing technology

Complex special process integration technology

O3 Core competencies - Key processing equipment











Five axis machining center

Brand and model

"Sigma" FLEXI-5S

Equipment accuracy

Positioning accuracy: X/Y/Z0.006

A/C 8":

Repeatability: X/Y/Z0.003 A/C 4"

Quipment itinerary

X/Y/Z 500/450/400

Horizontal machining center

Brand and model

"BYJC" MAR-800H-e

Equipment accuracy

Positioning accuracy: X/Y/Z 0.005

C 8";

Repeatability: X/Y/Z 0.0015 C 4 "

Quipment itinerary

Χ/Ζ Φ1450*1450

Turn-mill combination

Brand and model

"MAZAK" INTEGREX i-500

Equipment accuracy

Positioning accuracy: 0.004

Quipment itinerary

X700*Z3074

Five axis machining center

Brand and model

"Doosan" DC4050

Equipment accuracy

Positioning accuracy: $X/Y/Z \pm 0.003$ B 15";

Repeatability: X/Y/Z0.0015 B 4"

Quipment itinerary

X/Y/Z 800/500/500

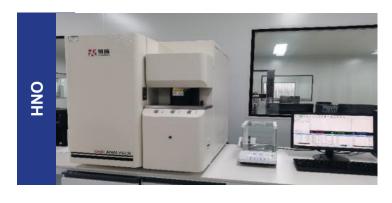
04 Detectability























Qualification certificate



ISO 9001:2015



THANKS!



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