

Precision Engineered Thermal & Metal Solutions



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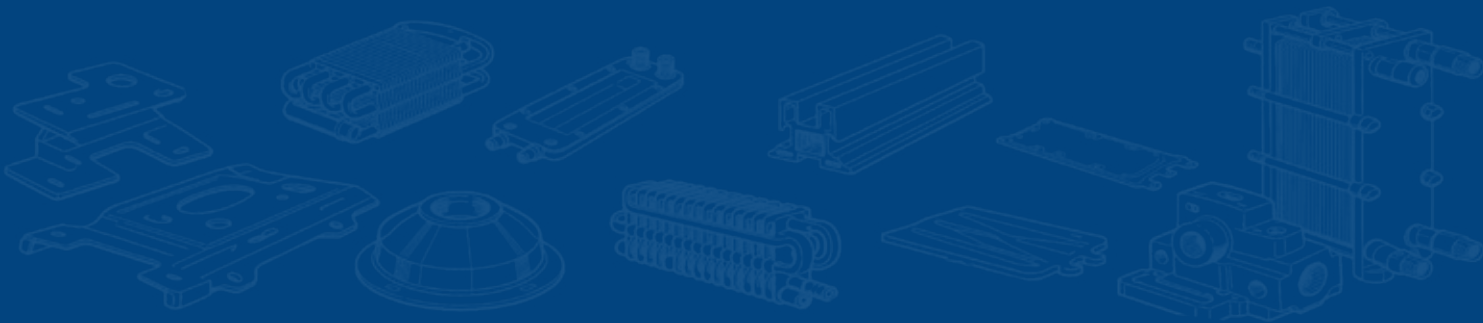


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Precision Engineered Thermal
& Metal Solutions

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The image displays a variety of precision-engineered metal components. In the background, there are three large, rectangular heat exchangers with prominent finned surfaces. To the left, a large, perforated metal plate stands upright. In the foreground, a complex, cast metal housing with internal features is visible. Scattered around are numerous smaller parts: several interlocking gears of different sizes, a circular plate with a radial pattern, a large conical flange, and various bolts, nuts, and small cylindrical fittings. The entire scene is set against a dark, reflective surface, creating subtle reflections of the parts.

Your next breakthrough precision-engineered

Nanjing Metalli

Precision Engineered Thermal & Metal Solutions

Company Profile



For over a decade, Nanjing Metalli has served as a strategic partner to global industry leaders. Leveraging our foundation in precision metal fabrication and advanced thermal management, we deliver robust solutions for the world's most demanding sectors—including new energy, data centers, heavy machinery, and power generation.

Proven Engineering Expertise



Advanced Thermal Systems: Microchannel, plate-fin, and tube-fin heat exchangers; liquid cold plates; pillow plates.

Precision Metal Components: Complex structural assemblies and custom fabrications.

Integrated Manufacturing Excellence



Our comprehensive in-house capabilities—from laser welding and vacuum brazing to large pressing and CNC machining—ensure seamless control over quality and timelines. We pair this with dedicated engineering teams who guide your concepts from specialized prototypes to full-scale production, delivering tailored excellence at any volume.



Globally Certified Precisely Responsive

Certified to ISO 9001, 14001, and 45001 standards, our quality-first culture builds the uncompromising reliability trusted by clients in over 100 countries.

Where others see challenges, we see potential. Partner with us to engineer solutions that redefine performance and set new industry benchmarks.



Metal processing solutions

Your Vision, Engineered to Perfection

Co-Design & Analyze Product Design & DFM | 3D Simulation & Thermal Analysis | Material Science | Prototyping| Cost Benefit Analysis

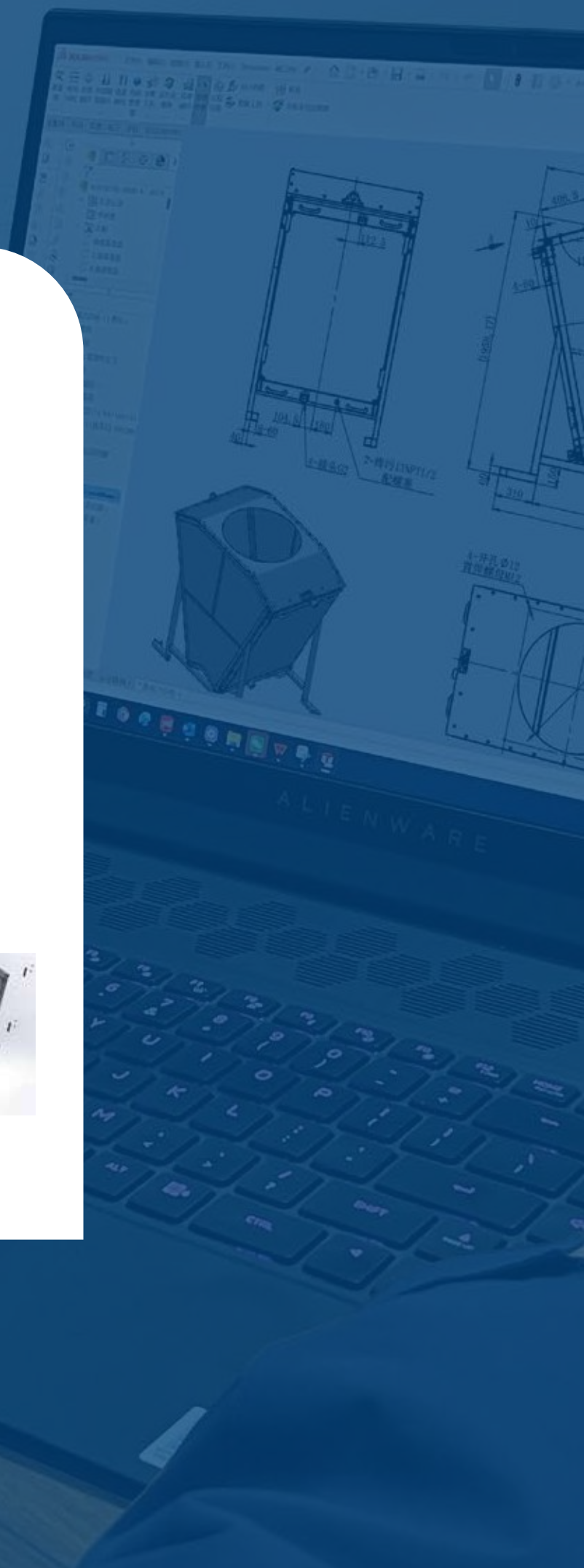
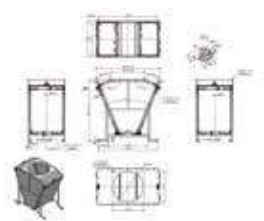
Execute & Deliver Precision Manufacturing | Advanced Process Expertise | Quality Assurance & Performance Validation | Assembly & Global Logistics

Transparent Partnership Dedicated Project Management | Proactive Milestone Updates | Lifetime Technical Support

Product Design

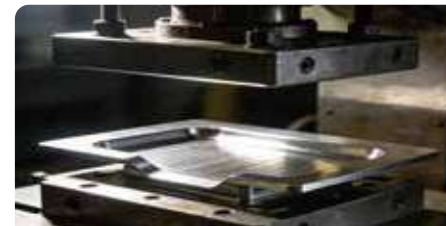
Design and drawing service

3D Simulation



Extrusion

01	Maximum tonnage	4000 tons
02	Maximum size of processed product	400mm*350mm



Stamping

01	Maximum tonnage	200 tons
02	Maximum size of processed product	1000mm X800mm X600mm
03	Maximum material thickness for processing	10mm



Bending

01	Maximum tonnage	160 tons
02	Maximum size of processed product	3200mm
03	Maximum material thickness for processing	6mm



Laser Cutting

01	Maximum size of processed product	4000mm x 2000mm
02	Maximum material thickness for processing	25mm



Welding

01	Maximum size of processed product	2m × 12m
02	Dimensional tolerance of the processed workpiece	0.5 mm



Deep Drawing

01	Maximum tonnage	1200 tons
02	Maximum size of processed product	2000mm x 1600mm x 1500mm
03	Maximum material thickness for processing	6mm



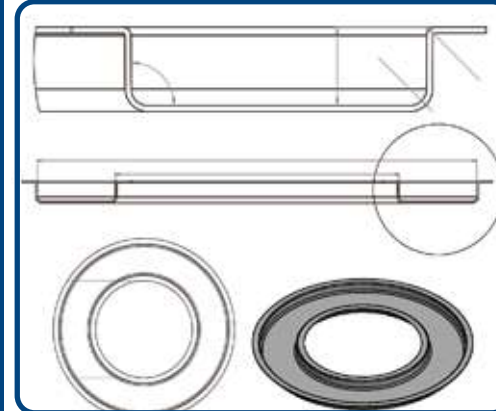
Spinning

01	Maximum size of processed product	800mm
02	Maximum material thickness for processing	6mm

Metal Processing Customization Process



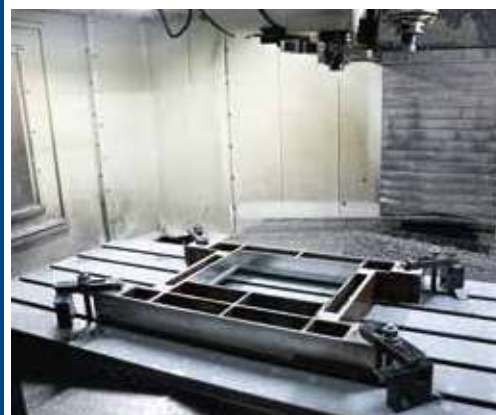
Drawings



Metal mold production



Processing and manufacturing



Surface treatment



Quality control



OEM ODM metal processing products

Spinning

Features: Focused forming range, high material utilization rate, low equipment investment, excellent part performance

Applications: Daily necessities industry, automotive industry, aerospace industry, medical device industry



Welding

Features: Strong connection, high flexibility, controllable cost

Applications: Industrial equipment, transportation vehicles, daily necessities and home appliances, new energy fields



Extrusion

Features: High flexibility, high molding efficiency, high material utilization rate

Applications: Construction, Industrial, Consumer



Bending

Features: High forming accuracy, strong adaptability, low cost, and flexible efficiency

Applications: Home appliance industry, equipment industry, automotive industry, construction industry



Stamping

Features: High-efficiency mass production, stable precision, high material utilization rate, and wide range of applications

Applications: Automotive industry, home appliance industry, electronics industry, medical equipment



Deep Drawing

Features: High molding efficiency, high material utilization, high part strength

Applications: Daily necessities, industrial parts, medical equipment

Laser Cutting

Features: Extremely precise cutting, wide cutting range, strong processing flexibility, and high cutting efficiency

Applications: Electronics industry, equipment industry, automotive industry, medical industry

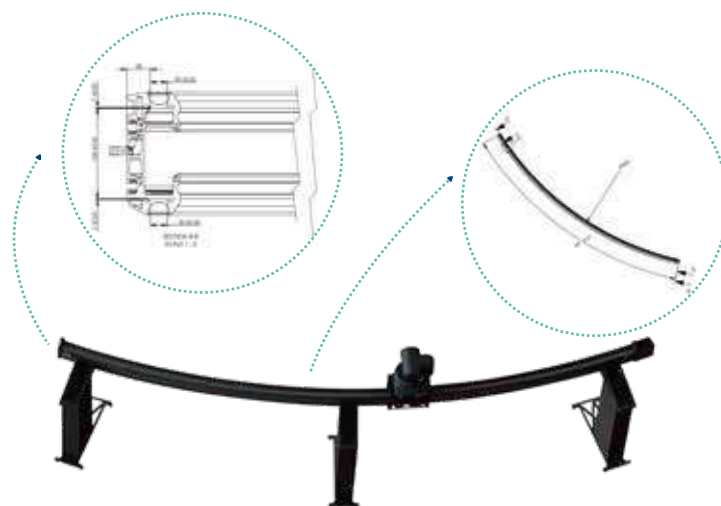


From Precision Parts to Powerful Performance

Every large-scale project success begins with the flawless execution of its smallest components. This is the Metalli advantage: mastering both the granular details and the integrated whole.

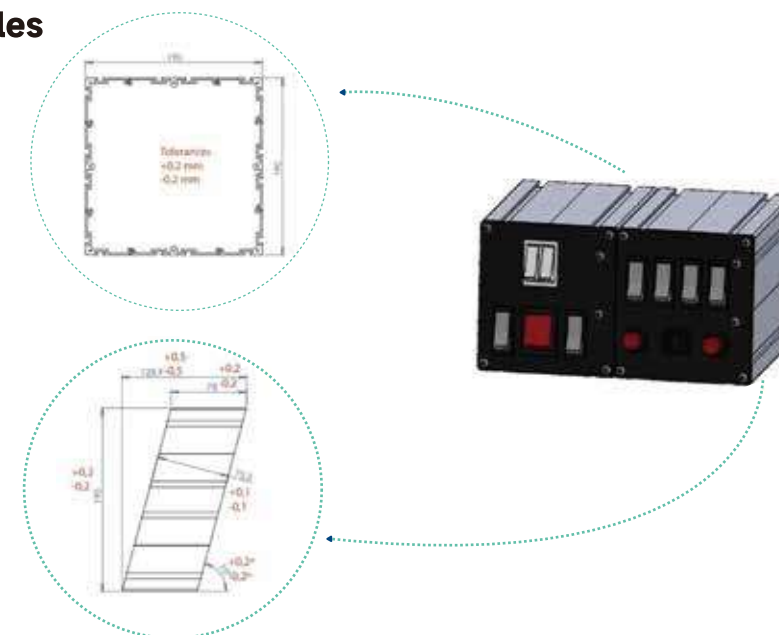
Aluminum bending profile

Available in 3m lengths, either straight or with a 30-degree curve (4m fixed radius). Up to two lengths can be joined together offering production teams maximum creative freedom. Motorized, height adjustable legs ensure fast studio set up, moving the camera plane quickly between 1025 - 1725mm. High standard of $\pm 0.05\text{mm}$ precision tolerance for cross-section 4 meters for bending radius ($45^\circ \pm 0.5^\circ$)



The cutting Assembly profiles

$\pm 0.2\text{mm}$ tolerance for whole part after 8 pcs profiles assembly
75° cutting angle for whole part after 8 pcs profiles assembly



Featured Heat Exchange Products



Microchannel Heat Exchanger

Compact structure, small size and lightweight, with high heat exchange efficiency.

- High efficiency
- Cost reduction
- Smaller size
- Environmentally Friendly



Liquid Cold Plate

Direct contact cooling with custom flow channel design for precise adaptation to various electronic applications.

- Rapid Heat Dissipation
- 100% Pressure Leak Testing
- Temperature Uniformity
- Tailor-Made Designs



Pillow Plate Heat Exchanger

Pillow-shaped inflatable structure, combining mechanical strength with high heat transfer efficiency.

- High Heat Density
- Flexible Customization
- Sanitary Grade
- High Reliability



Plate Fin Heat Exchanger

Light weight and compact multi-layer fin design delivers high heat transfer efficiency, commonly used in oil coolers, intercoolers.

- Superior Heat Transfer
- Multi-Stream Capability
- Built-to-Order
- High Reliability



Tube Fin Heat Exchanger

Combining metal tubing with external fins significantly enhances heat dissipation performance.

- Enhanced Air-Side Efficiency
- High-efficiency
- Versatile Thermal Functions
- Robust & Reliable Operation



Heat sink

Custom passive cooling design maximizes surface area, widely used in LED lighting and power supply modules.

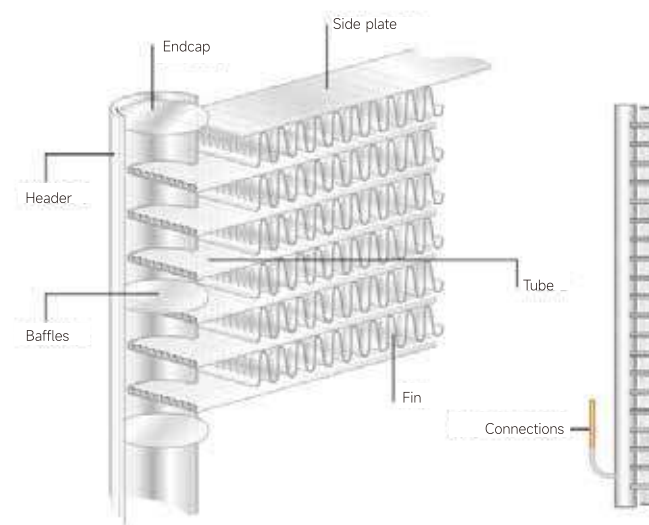
- Efficient Heat Dissipation
- Versatile Fin Configurations
- Lightweight Design
- Cost-Effective Solution



01) Microchannel Heat Exchanger

Benifits

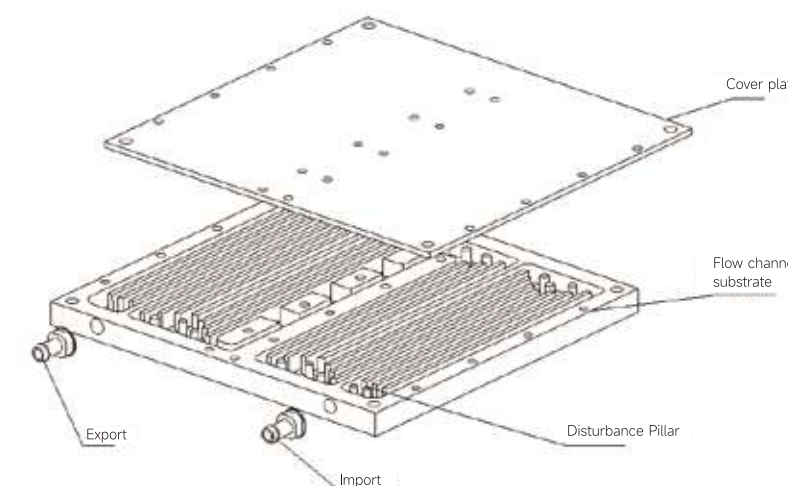
- High-efficiency
- Cost-Effective
- Extended Service Life
- Reduced Weight
- Eco-Friendly
- 100% Recyclable
- Low Airside Pressure Drop
- Corrosion Protection
- High Pressure & Temperature Resistance
- High Reliability
- Easy Installation



02) Liquid Cold Plate

Benifits

- High Heat Transfer Efficiency
- Compatible with Standard Coolant
- Low Pressure Drop
- Lightweight Design
- Uniform Surface Temperature
- 100% Leak Tested
- Easy Installation
- Compact Structure
- High Durability



Main technical characteristics

Capacity	1kW - 20kW
Working Pressure	Max.30 bar
Working Temperature	-15°C-45°C
Material	Brazed Clad Al (4343/3003/4343)
Fin Type	Wavy / Louvered / Flat
Coating	E-coating & Painting (Hydrophilic Option Available)

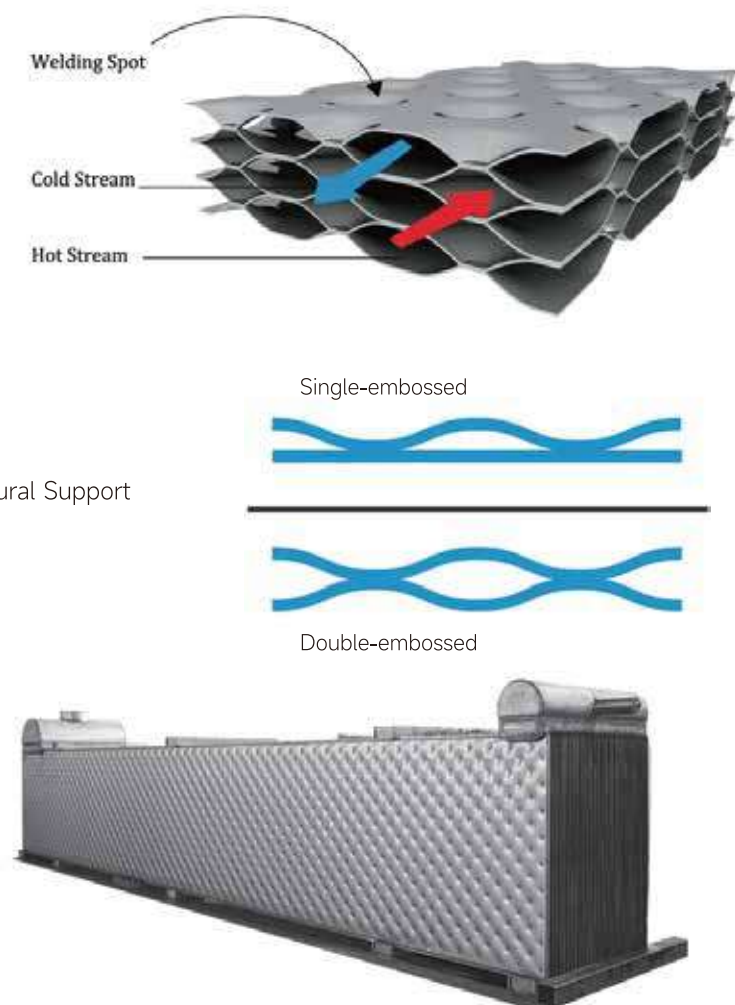
Main technical characteristics

Capacity	1kW - 100kW
Working Pressure	Max. 30 bar
Working Temperature	-15°C - 60°C
Material	Aluminum (6063/6061), Stainless Steel (304), Copper
Finish	Anodizing / Pickling & Passivation / Painting

03) Pillow Plate Heat Exchanger

Benifits

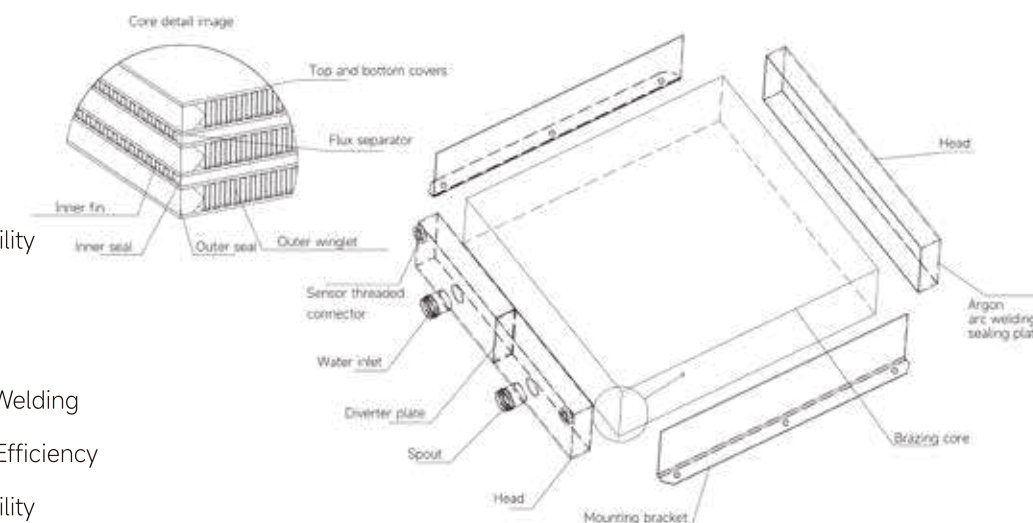
- Advanced Laser Welding Technology
- High Turbulence & Thermal Efficiency
- Flexible Geometry & Contours
- High Temp. & Pressure Resistance
- Corrosion & Scaling Resistance
- Dual Function: Heat Transfer & Structural Support
- Ideal for Strict Hygienic Applications
- High Heat Transfer Density
- Precise Temperature Control
- Low Thermal Inertia
- Compact Structure
- High Surface-to-Volume Ratio



04) Plate Fin Heat Exchanger

Benifits

- High-efficiency
- Multi-Stream Capability
- Built-to-Order
- High Reliability
- Advanced Vacuum Welding
- High Heat Transfer Efficiency
- Multi-Stream Capability
- High Reliability
- Advanced Vacuum Brazing
- Multi-Circuit Design
- Low Pressure Drop
- Leak-Free Performance
- High Quality Consistency
- Compact Design
- Dimensional Stability
- Optional Fan & Shroud Assembly



Main technical characteristics

Capacity	1kW - 100kW
Working Pressure	Max.30 bar
Working Temperature	Max.1700°C
Material	Stainless Steel (304/316/2205), Titanium, Aluminum
Finish	Pickling & Passivation / Painting / Brushed

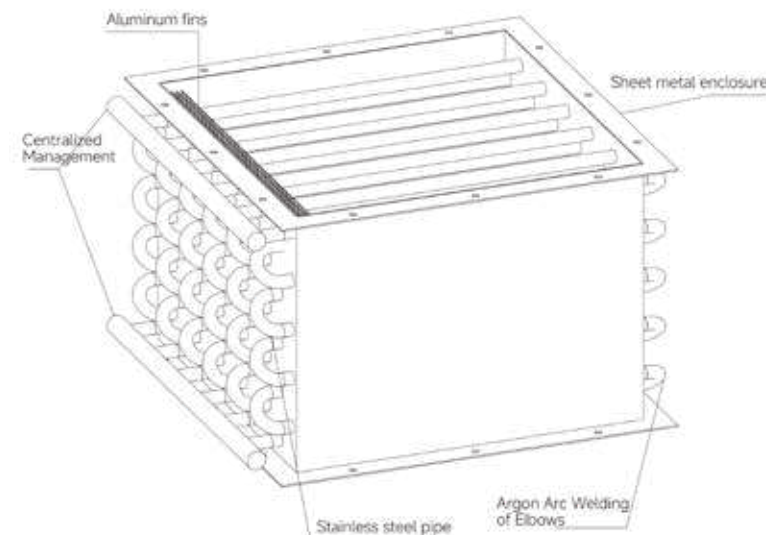
Main technical characteristics

Capacity	1kW - 20kW
Working Pressure	Max. 30 bar
Working Temperature	-15°C -200°C
Material	Brazed Clad Aluminum (4343/3003/4343), 6000 Series Headers
Fin Type	Wavy / Louvered / Flat / Serrated / Perforated
Coating	E-coating & Powder Coating

05) Tube Fin Heat Exchanger

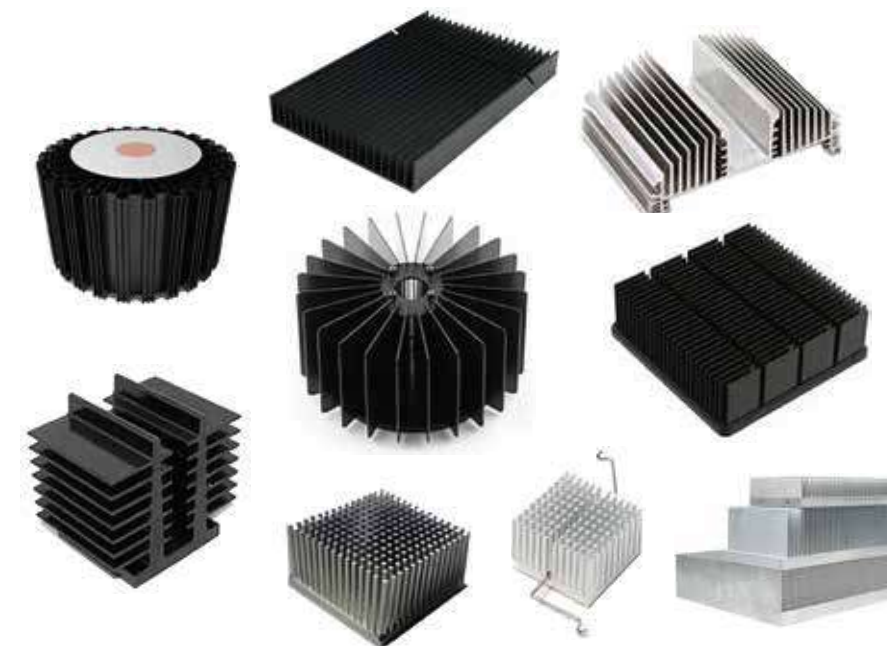
Benifits

- Superior Air-Side Performance
- High Energy Efficiency
- Robust & Reliable
- High heat transfer coefficient
- Maximized Surface Area
- Low Pressure Drop
- High Performance
- Low Maintenance
- All-Aluminum Option Available
- Optimized for HVAC & R
- Versatile Thermal Functions
(Evaporation, Condensation, Cooling, Heating)



06) Heat sink

- Bonded fin heat sink
- Skived fin heat sink
- Extruded heat sink
- Cold forged heat sink
- Brazed fin heat sink
- Heat pipe heat sink
- Die Cast heat sink



07) Composite Materials



Sidebar



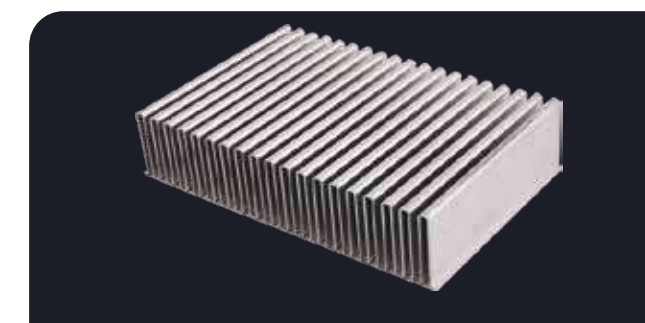
Tank



Microchannel Tubes



Cladding Material Apply For Brazing



Fin

Main technical characteristics

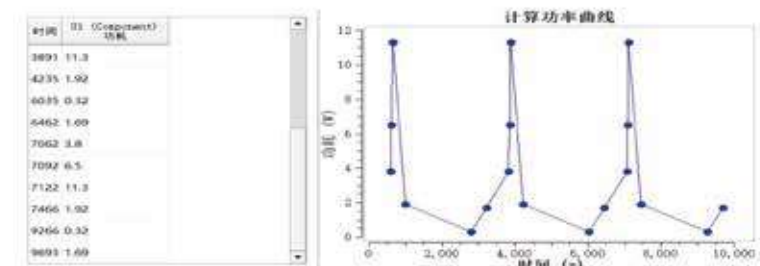
Capacity	1kW-20kW
Working Pressure	Max.30 bar
Working Temperature	-25°C-45°C
Material	Copper Tubing/Stainless Steel/Aluminum Fins/Galvanized Sheet Metal
Fin Type	Wavy / Louvered / Flat
Coating	E-coating / Powder Coating

R&D Capabilities

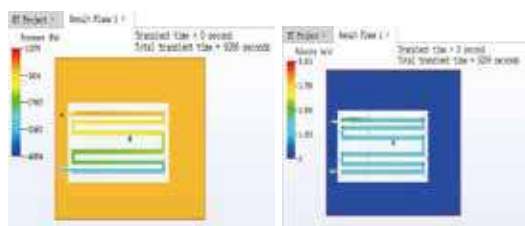
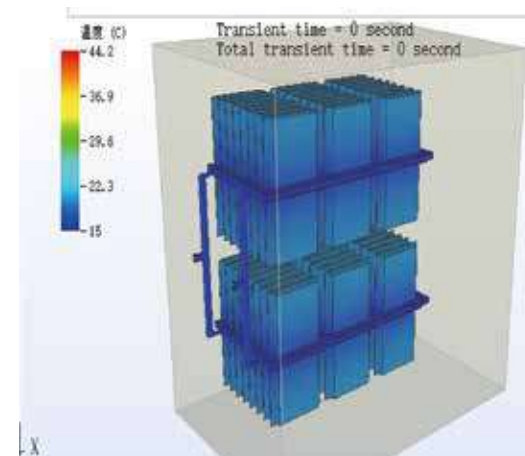
We specialize in the research, development, and design of heat exchanger products. Through CFD thermal-fluid simulation and structural analysis, we accurately predict product performance under various operating conditions. Based on simulation results, we optimize structural designs to deliver efficient and reliable thermal management solutions.

Simulated Operating Conditions

Process	Heat generation per cell (W)	Volume(m ³)	Heat generation rate (W/m ³)
600s	3.8	0.000238	15966.4
630s	6.5	0.000238	27310.9
660s	11.3	0.000238	47479
1004s	1.92	0.000238	8067.2
2804s	0.32	0.000238	1344.5
3231s	1.69	0.000238	1.69



Simulation Results



Manufacturing capacity

Metalli is equipped with a full range of heat exchanger production and testing equipment. We possess industry leading hardware capabilities spanning every stage of the process—from fin stamping and vacuum brazing to full assembly. This comprehensive manufacturing configuration enables us to flexibly and efficiently transform your diverse thermal management designs into reality.

CAB Continuous Furnace



CAB Continuous Furnace



Laser Welding Machine



Specialized Fin Forming Machine



Friction Stir Welding



MIG Welding

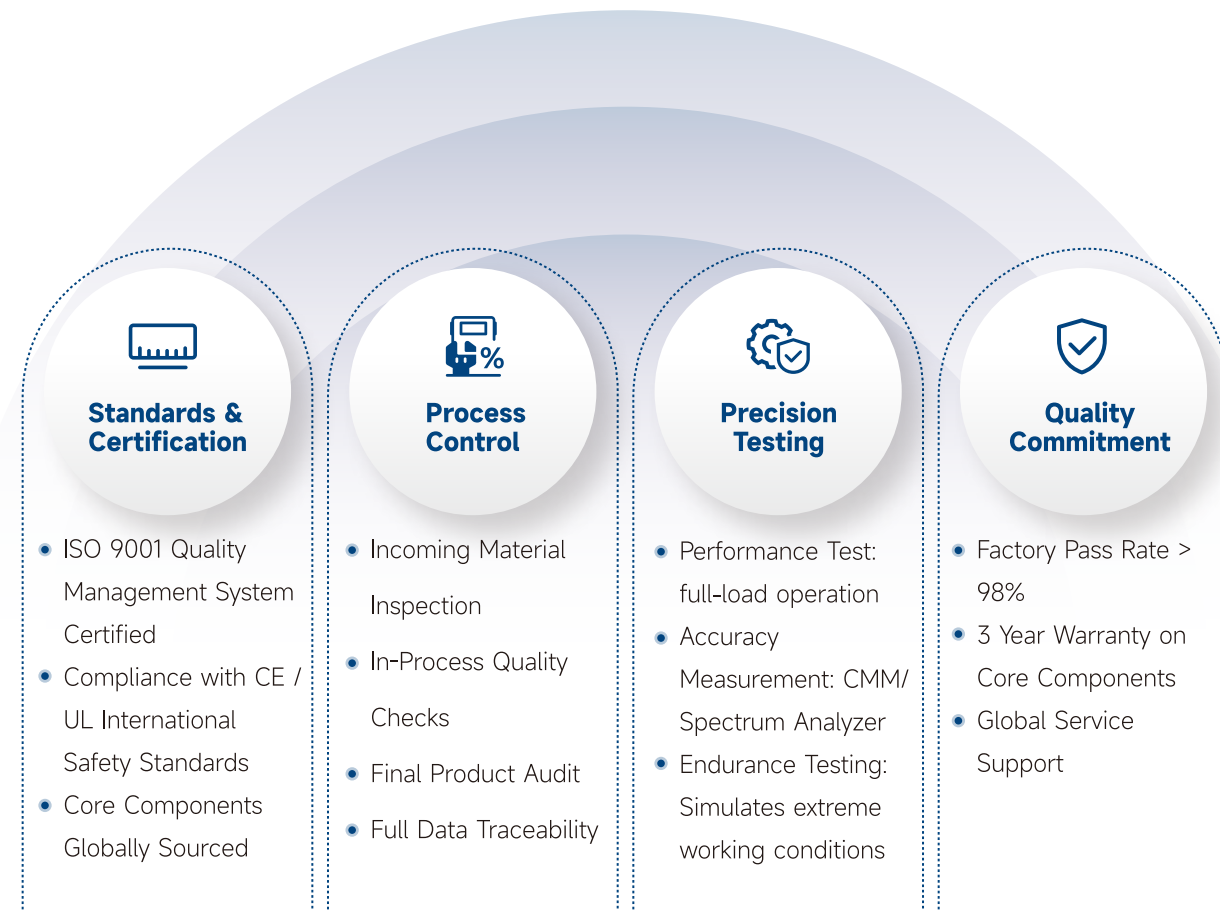


TIG Welding



Quality Assurance / Control System

We have built a precision quality fortress throughout the entire product lifecycle to ensure every product delivers superior reliability and durability.



Quality Inspection Tester

Specialized quality equipment for machining accurately controls product dimensions, precision and surface quality.



Precision Controlled Reliability Assured

Our Free Scan Trak Nova ensures full dimensional precision control, while spectroscopy guarantees material compliance, making excellence a certainty.



Technical Parameter

Scanning accuracy	Maximum 0.02mm
Volume accuracy	0.046+0.012mm/m
Deep Hole Scanning Accuracy	0.025mm
Scanning speed	Up to 6,100,000 points/s
Resolution	0.01 mm-10 mm
Max scanning area	550mmx600mm



Precise Composition, Foundation of Quality

We utilize advanced spectrometers for rapid, non-destructive elemental analysis of raw materials, ensuring compliant composition from the source to build intrinsic reliability and lasting durability.



Technical Parameter

Wavelength range	140-680nm
Analysis time	Less than 40s/time
Detector	High-Performance Linear Array CMOS
Excitation light source	Fully Digital Plasma Spark Light Source Technology
Full-spectrum analysis	Cover all elemental spectral lines
Env Protection and Safety	No chemical reagent consumption



Global Case Excellence End-to-End Solutions

Oil cooler for data center computers

- Project location: USA
- Launching time: 2022 to 2023



Cooling plate for EV tractor charging solution

- Project location: USA
- Launching time: 2024



Cooling plate for Ultra high efficiency transmitter systems

- Project location: Germany
- Launching time: 2021



Cooling plate for electric vans

- Project location: Russia
- Launching time: 2022



Air filter tanks, valves and metal accessories

- Project location: Israel
- Launching time: 2021



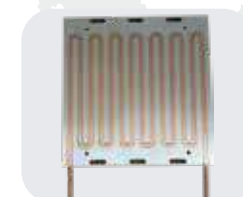
Air-oil heat exchanger customization

- Project location: Mexico
- Launching time: 2023



Liquid cold plate for the Electric Motors

- Project location: The Republic of Austria
- Launching time: 2024



Aluminum cladding material and accessories for heat exchanger manufacturing

- Project location: India
- Launching time: 2021



Large liquid cold plate assembly for microwave application

- Project location: South Africa
- Launching time: 2019



Liquid Cooling plate for Subsystems to defense and Industries

- Project location: Australia
- Launching time: 2019



Aluminum LED track extrusion

- Project location: Argentina
- Launching time: 2018



Our Supply Chain Network for Your Success

One Stop, Many Hubs. We deliver on this promise through an orchestrated ecosystem of China's premier specialists, treating their capabilities as an extension of our own operations. This model, fortified with our quality control and major project experience, ensures seamless and reliable production for your most demanding challenges.

Hebei Cangzhou
Sheet Metal Fabrication



Hebei Botou
Sheet Metal Fabrication



Zhejiang shaoxing
Microchannel Heat Exchanger



Anhui Anqing
Pillow Plate Heat Exchanger



Anhui Suzhou
Heat exchanger



Guangdong Foshan
Aluminum Extrusion



Shanghai
Metallic materials



Jiangsu zhenjiang
Microchannel Heat Exchanger



Jiangsu Wuxi
Plate Fin Heat Exchanger



Jiangsu zhangjiagang
Aluminum Extrusion



Jiangsu wuhu
Sheet Metal Fabrication



Jiangsu changzhou
Microchannel Heat Exchanger

