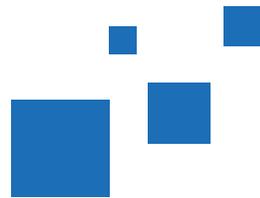


让散热管理服务世界! Let thermal management service the world!



同裕科技

Tongyu Technology

全球散热解决方案服务商和提供商
Global thermal solutions provider and supplier

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同裕优势 Tongyu advantage

一.公司概况--1.关于同裕

I. Company profile--i. About Tongyu



我们的团队 Our Team



- 作为散热行业的领军者，同裕科技自2005年成立以来我们不断致力于为全球客户提供专业的散热解决方案和生产，成为国内外主要的散热产品供应商。
- As a leader in cooling industry, Tongyu technology has been committed to providing global customers with professional heat sink solutions and production since its establishment in 2005, and has become a major heat sink supplier at home and abroad.
- 我们先后建立了三个生产基地(河南信阳、广东东莞、越南北宁)，二个研发中心(东莞松山湖，台北新北市)、和二一个海外服务中心(中国香港)，研发中心和生产基地均配备了国际先进水平的高精密生产设备及检测设备，同时配备自主研发的自动化生产设备，提高了产品质量，降低了成本，使产品更具竞争力。
- We have established three production bases (Henan Xinyang, Dongguan, Guangdong, Beining, Vietnam), two R&D centers (Dongguan SSL, New Taipei City), and two overseas service centers (Hong Kong, China). R&D centers and production bases equipped with internationally advanced high-precision production equipment and testing equipment, and equipped with self-developed automated production equipment, which improves product quality, reduces costs and makes products more competitive.
- 同裕科技已为全世界10多个国家的电力，新能源、通讯、光电，工控，轨道交通等行业持续输出高品质的方案和服务。
- Tongyu Technology has continuously exported high-quality solutions and services to power, new energy, communications, optoelectronics, industrial control, rail transit and other industries in more than 10 countries around the world.

一.公司概况—2.同裕文化

I. Company profile—ii. Tongyu culture

企业愿景 Corporate vision

成为全球散热解决方案提供商和生产商的领军者
Become a leader in global cooling solution providers and manufacturers

经营理念 Business philosophy

品质第一，客户至上，以人为本，永续经营
Quality first, customer first, people-oriented, sustainable management



核心价值观 Core value

诚信，共赢，创新，分享
Integrity, pragmatism, innovation, sharing

人才观 Talent concept

尊重人才、凝聚人才、成就人才
Respect talents, condense talents, and achieve talents

一.公司概况—3. 工厂目录

I. Company profile—iii. Factory directory



01



东坑 | 同裕A厂 Dongkeng | Tongyu Factory A

制程 Processing

焊接 | CNC | 摩擦焊 | 铲齿 | 组装 | 测试
Welding | CNC | Friction welding | Skiving fin |
Assembly line | Test instrument

02



东坑 | 同裕B厂 Dongkeng | Tongyu Factory B

制程 Processing

剖沟 | CNC | 清洗 | 组装 | 冲压
Cross cutting | CNC | Clear | Assembly |
Stamping

03

暂无（建设中）

越南北宁 | 纳鑫 Beining, Vietnam | Naxin

制程 Processing

模切 | 组装
Cutting | Assembly

04



河南信阳 | 同裕C厂 Henan Xinyang | Tongyu
Factory D

制程 Processing

切割 | CNC | 阳极 | 冲压 | 组装
Cutting | CNC | Anode | Stamping | Assembly

05



松山湖 | 同裕热能 SSL | Tongyu
Thermal Energy

经营 Operating

市场营销业务 | 产品研发设计

Marketing business | Product development design Business | R&D

06



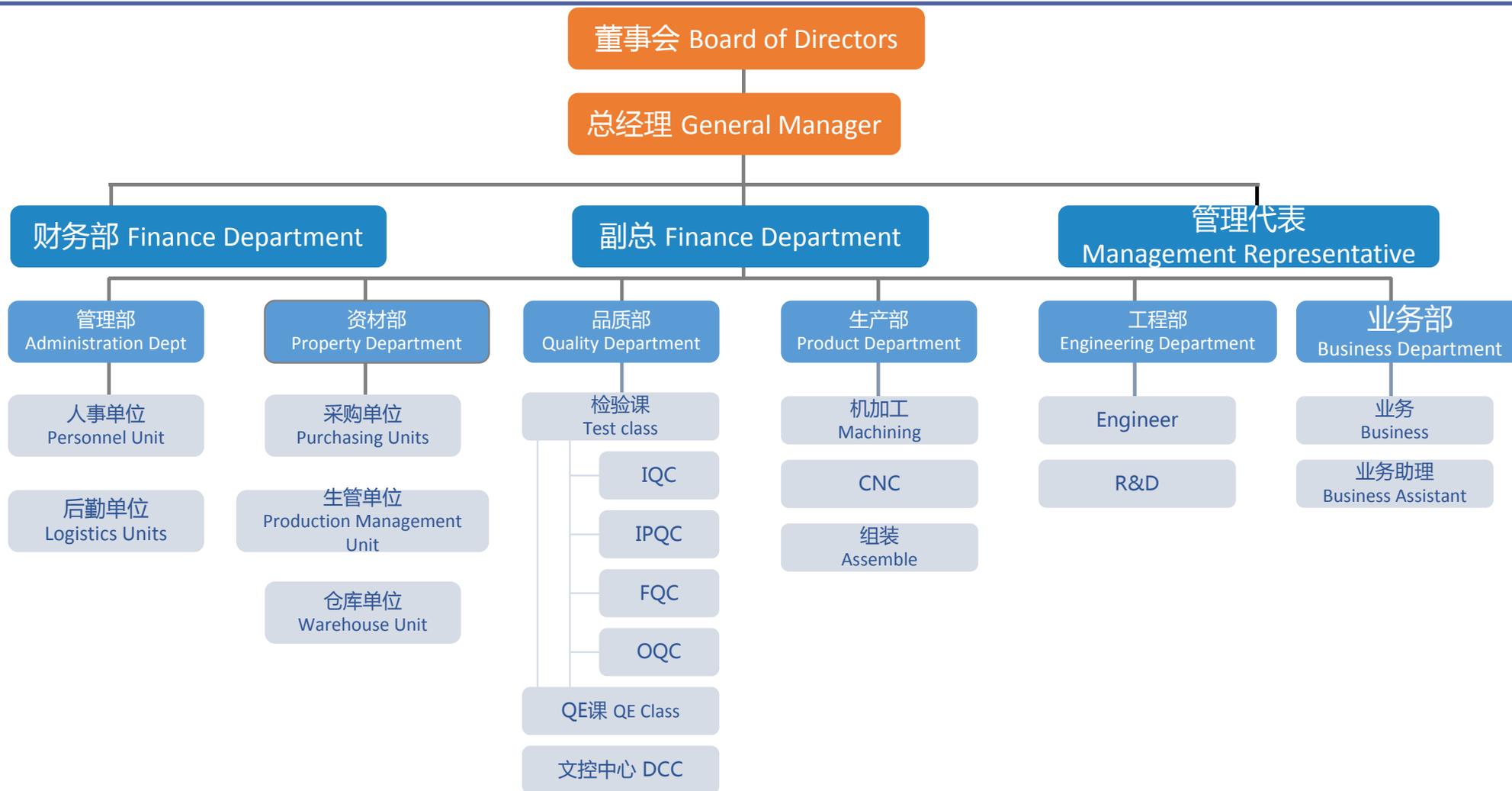
台湾 | 同裕实业 TW | Tongyu Industry

经营 Operating

业务 | R&D

一.公司概况—4.组织架构

I. Company profile—iv. Organization chart

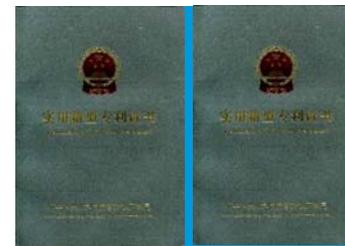


一.公司概况—5.荣誉证书

I. Company profile—v. Certificate of honor



优秀供应商 Excellent Supplier



More than 40 patents have been approved

二.厂区展示—1.东莞工厂(同裕A厂) II. Factory show—i. Dongguan factory (A)



二.厂区展示—2.东莞工厂(同裕A厂) II. Factory show—ii. Dongguan factory (A)



CNC车间 CNC workshop



摩擦焊/铲齿车间
Friction welding / scraping workshop



焊接测试车间 Welding test workshop



焊接车间 Welding workshop



焊接炉 Welding furnace



回流焊组装线
Reflow welding assembly line

二.厂区展示—3.东莞工厂(同裕A厂) II. Factory show—iii. Dongguan factory (A)



包装车间 Packaging Workshop



自动装胶钉机 Automatic nailing machine



自动打PIN机 Automatic PIN machine



自动装胶钉机 Automatic nailing machine

机器名称 Machine Name	数量 Qty
CNC	24
冲床 Punch	3
摩擦焊机 Friction welding machine	1
铲齿机 Skiving fin machine	2
回流焊回焊炉 Reflow soldering reflow furnace	4
组装线 Assembly line	5
自动装胶钉机 Automatic nailing machine	3
自动点锡机 Automatic tin machine	3
自动E形扣机 Automatic E-type button	2
专用机 Special machine	5
合计Total	52

二.厂区展示—4.东莞工厂（同裕B厂）

II. Factory show—iv. Dongguan factory (B)



剖沟车间 Groove workshop



CNC车间 CNC workshop



冲床车间 Punch workshop



包装车间 Packaging workshop

机器名称 Machine name	数量 Qty
专用机 Special machine	21
冲床(16T-63T) Punch	6
CNC	15
組裝線 Assembly line	4
合计 Total	40

二.厂区展示—5.信阳工厂(同裕C厂) II. Factory show—v. Xinyang factory (C)



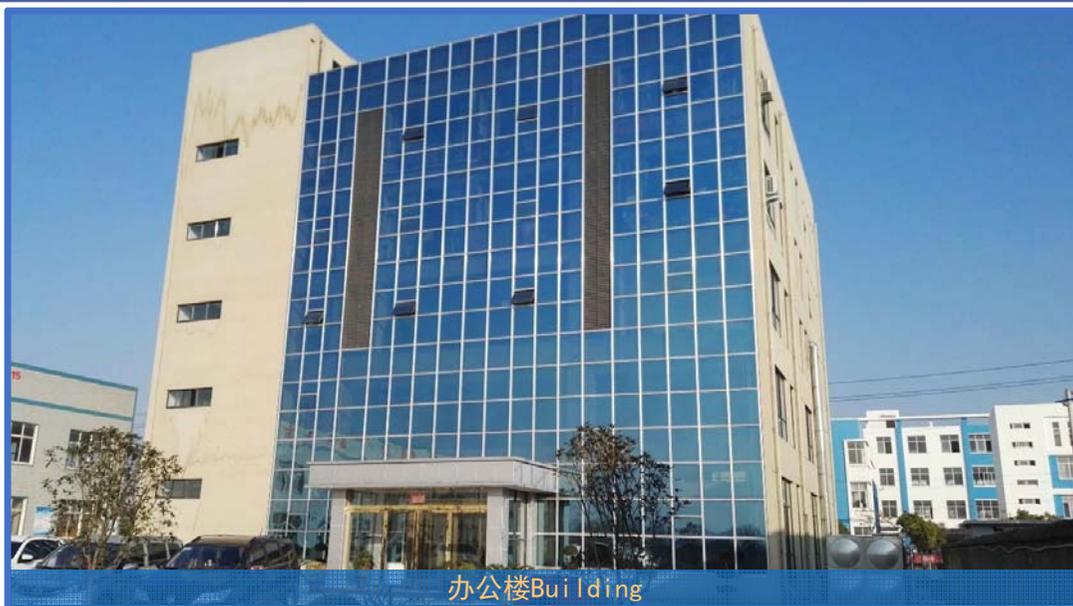
厂房 Factory



CNC车间 CNC workshop



包装车间 Packing workshop



办公楼 Building

机械名称 Machine name	数量 Qty
CNC	38
阳极线 Anode line	1
污水处理线 Sewage treatment line	1
专用机 Special machine	20
组装线 Assembly line	8
冲床 (16T-63T) Punch	10
合计 Total	78

二.厂区展示—6.同裕热能及台北

II. Factory show—vi. Tongyu Thermal energy and Taipei



厂区 Factory	总人数 Total people	研发人员 R & D personnel
东莞A厂区 Dongguan factory A	181	20
东莞B厂区 Dongguan factory B	108	5
信阳D厂区 Xinyang factory D	250	21
台湾办公室 TW office	15	5
松山湖办公室 SSL office	12	5
合计 Total	566	56

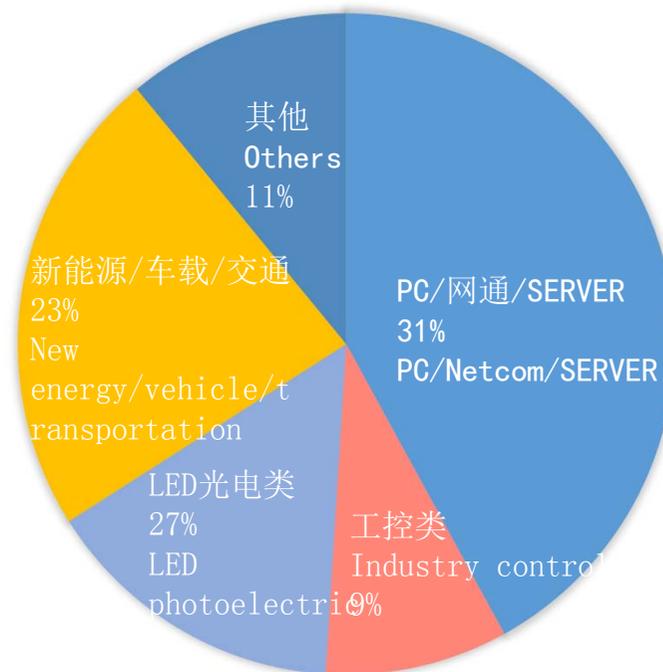
二.厂区展示—7.产能及产品销售占比

II. Factory show—vii. Production capacity and product sales proportion

产品类别 Product Category	月总产能 Month total capacity
铝件Aluminum part	3000K
Cooler	800K
焊接件 Welding part	500K
铲齿/摩擦焊/压铸/冲压/水冷 Skiving fin/ friction welding / die casting / stamping / water cooling	500K



销售占比 Product sales proportion



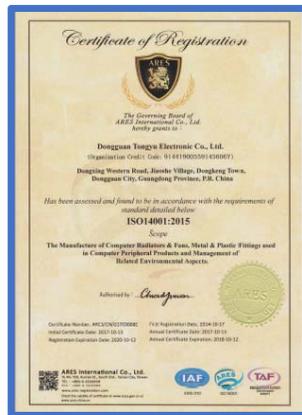
三.品质体系—1.认证证书 III. Quality system—i. Certification



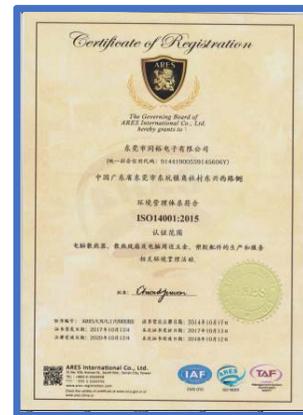
IECQ QC 080000:2012



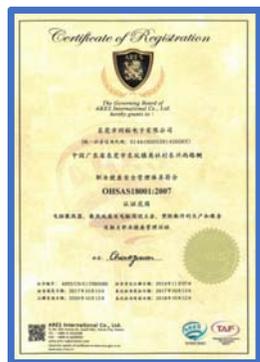
ISO9001:2015



ISO 14001:2015



高新技术企业
High-tech enterprise



OHSAS18001:2007



UL



TUV



CE



IATF 16949



排污许可证
Sewage discharge
permission certification

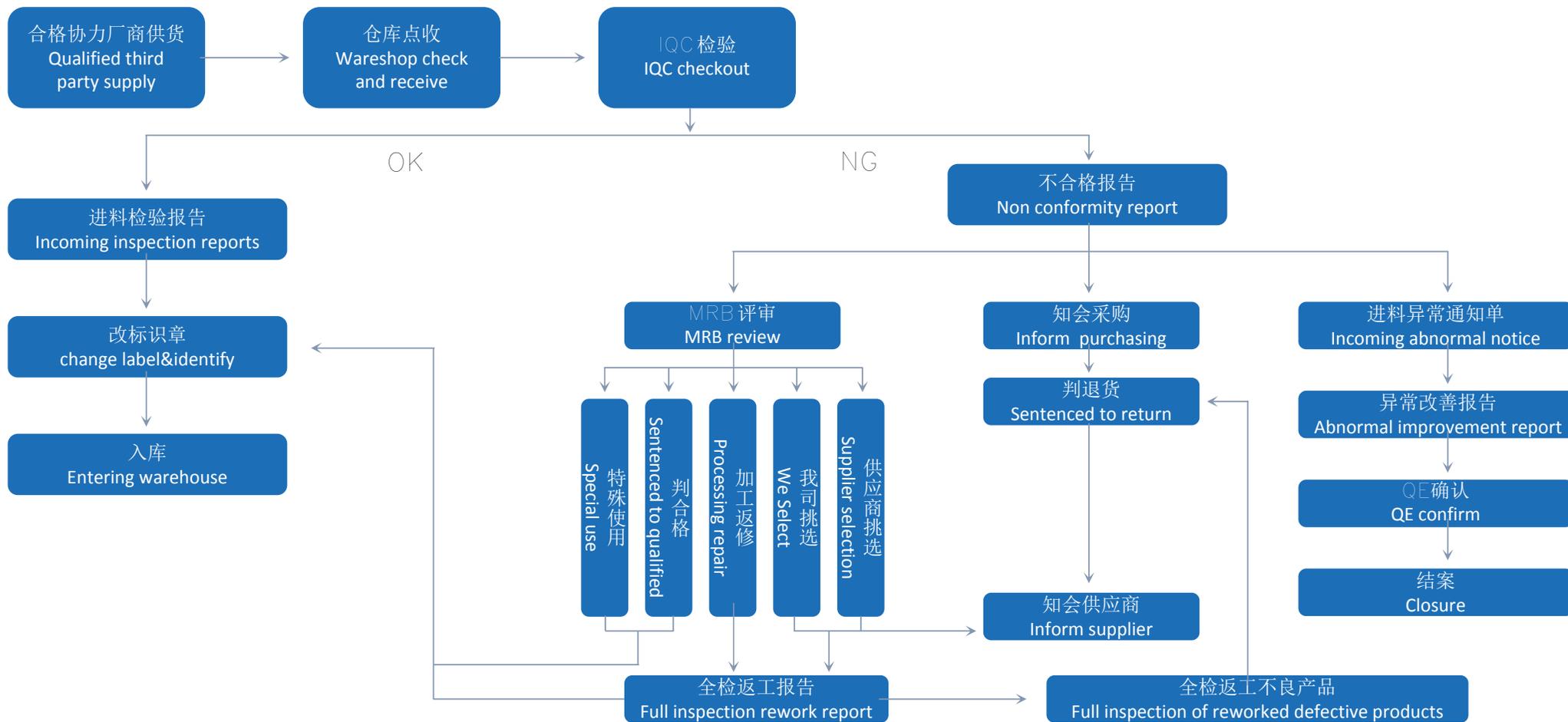


品质第一，客户至上，以人为本，永续经营

Respect talents, condense talents, and achieve talents

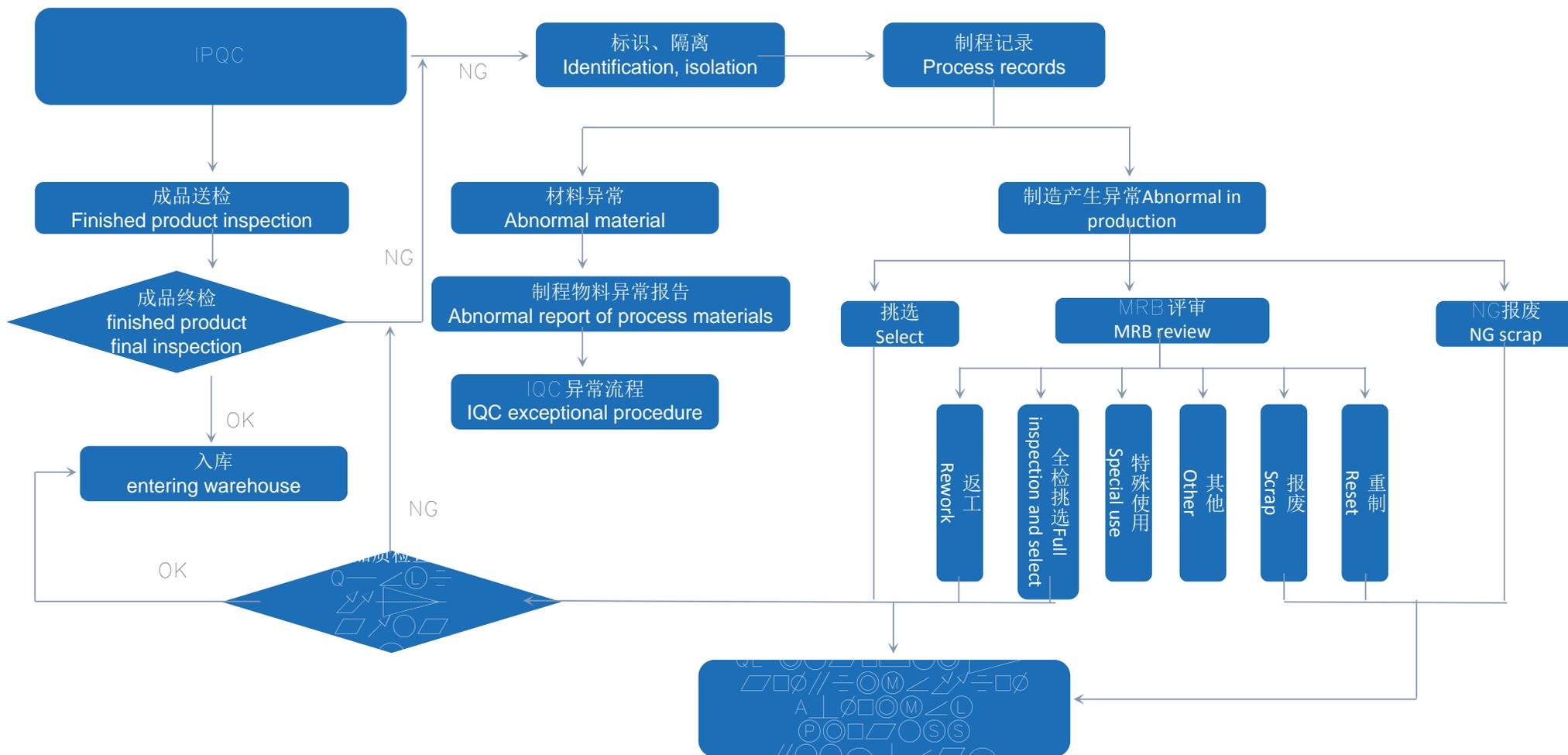
三.品质体系—2.进料检验流程

III. Quality system—ii. Incoming inspection process



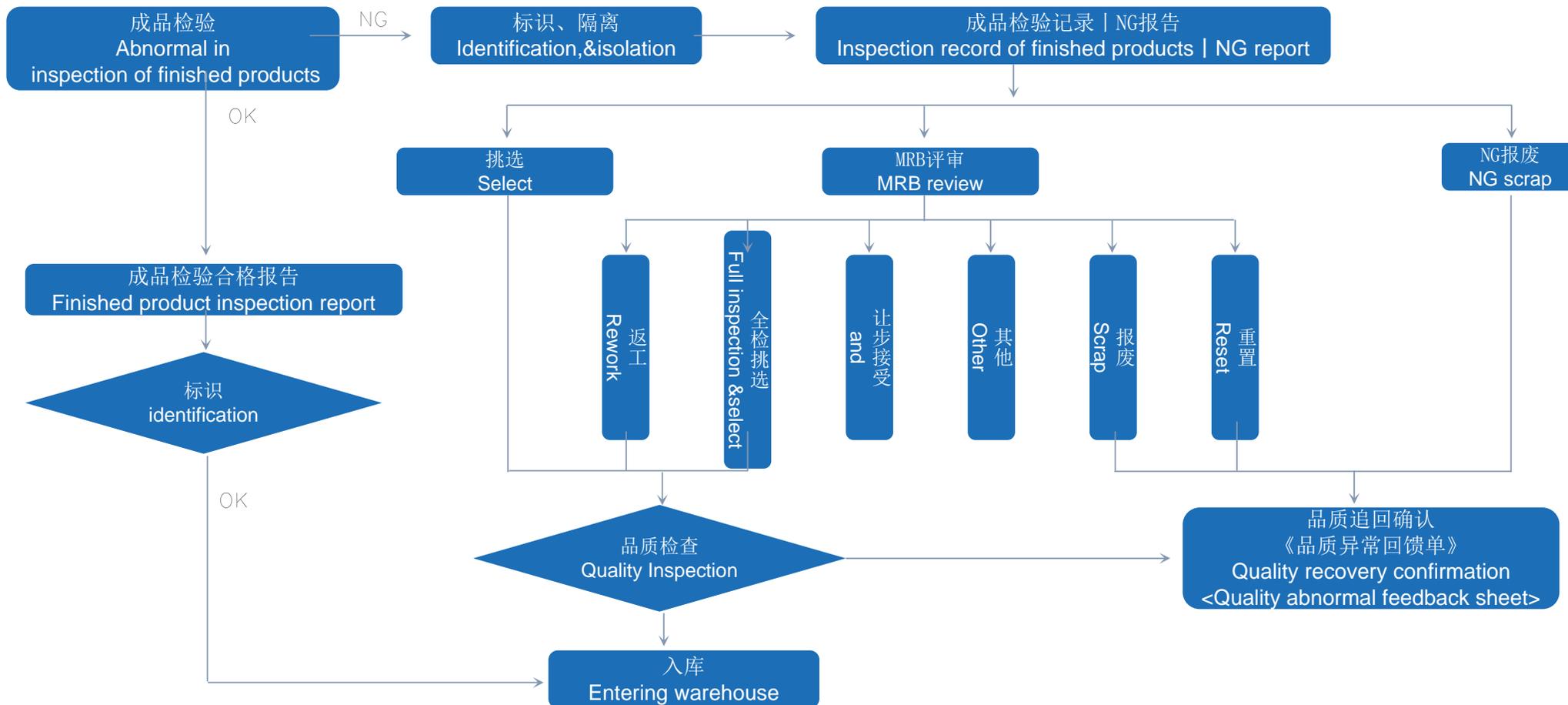
三.品质体系—3.制程检验流程

III. Quality system—iii. Process inspection process



三.品质体系—4.成品出货检验流程

III. Quality system—iv. Finished product delivery inspection process



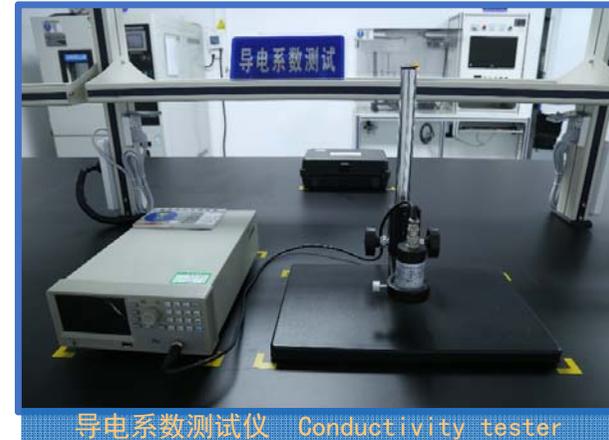
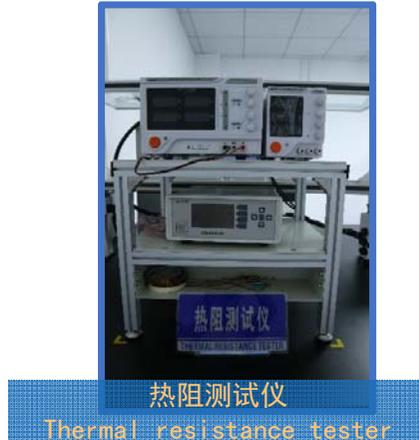
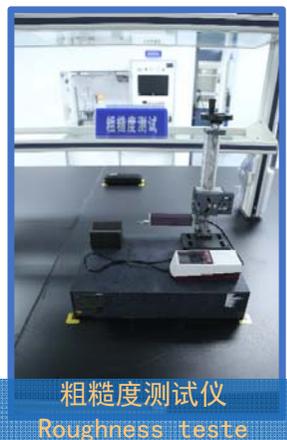
三.品质体系—5.实验室

III. Quality system—v. Laboratory



三.品质体系—6.测试设备(一)

III. Quality system—vi. test equipment(i)



三.品质体系—7.测试设备(二)

III. Quality system—vii. test equipment(ii)



模组热阻测试机
Module thermal resistance tester



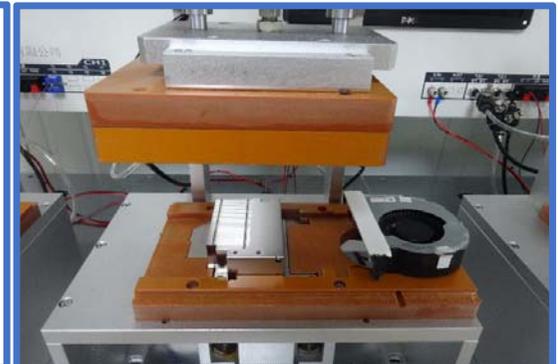
恒温恒湿机
Constant temperature and humidity machine



跌落测试仪
Drop tester



风洞测试
Wind tunnel test



模组热阻测试
Module thermal resistance test



热管热阻测试仪
Heat pipe thermal resistance tester



扣合力测试仪
Buckle force tester



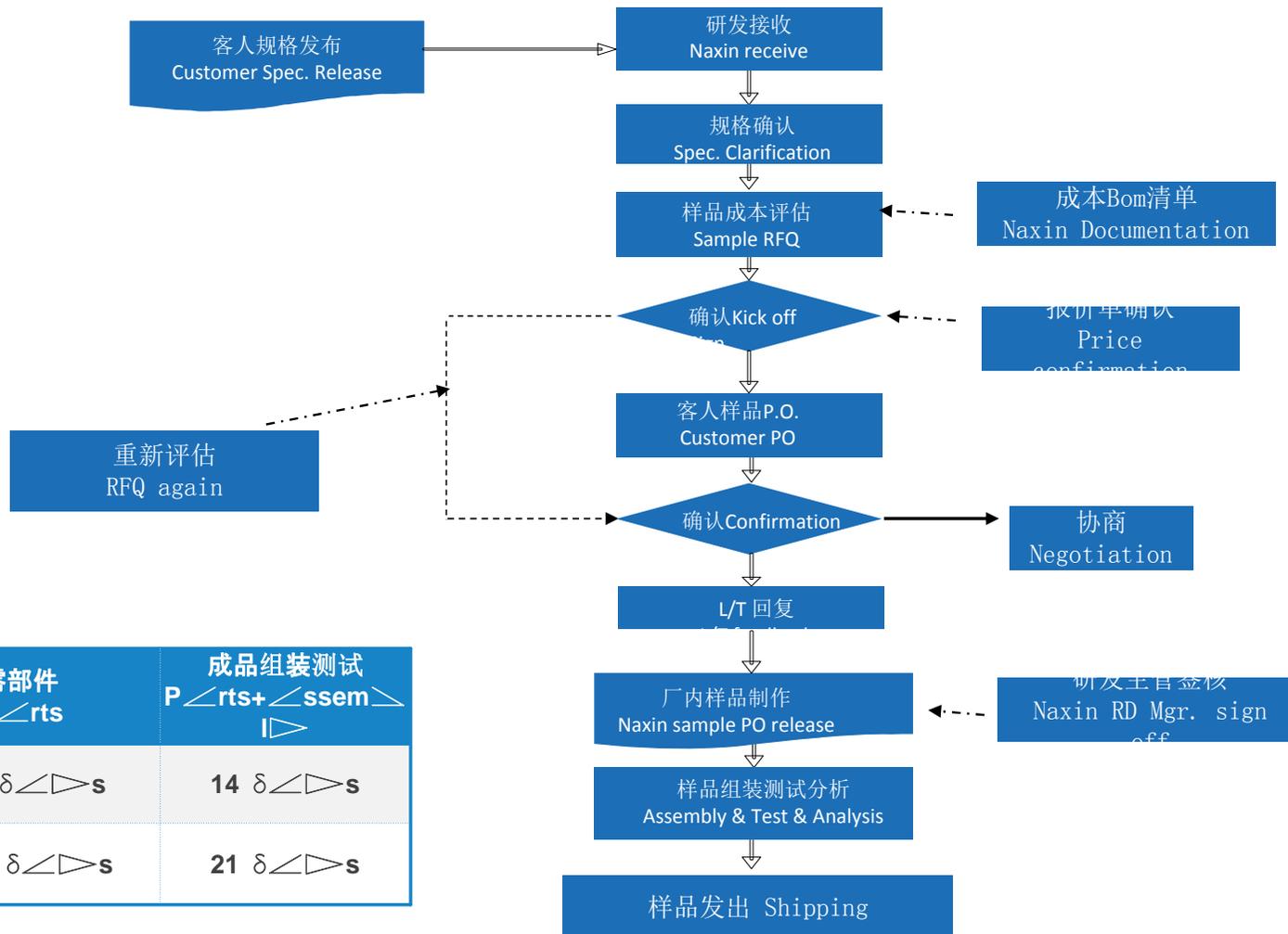
盐雾测试机 Salt spray tester



热管热阻测试 Salt spray tester

四.技术支援—1.开发流程图

IV. Technology support—i. Development flow chart



样品 L/T Sample L/T	零部件 Parts	成品组装测试 Parts+assem ID
常规 Standard	7-10 days	14 days
特殊规格 Special	10-14 days	21 days

四.技术支援—2.热管结构介绍

IV. Technology support—ii. Introduction to heat pipe structure

项目 Items	内部结构 Inner structure	管径 Original diameter[mm]	特征和优势 Characters and advantages
沟槽 Groove		3,4,5,6,8	毛细结构：沟槽 Wick：Inner groove 长时间可靠性；高产能 Long time reliability; Higher capacity
烧结 Sinter		4,5,6,8	毛细结构：铜粉烧结 Wick：Sintered copper powder inside bare tube 重力方向友好 Orientation friendly for top heat solution
超薄烧结 Thinner Sinter		5,6,7,8	毛细结构：特殊形状铜粉烧结 Wick：Special shape of sintered copper powder on bare tube 超薄和高性能 Thinner thickness with higher heat transfer rate
复合 Hybrid		6,8,10	毛细结构：沟槽+铜粉烧结 Wick：Sintered copper powder inside groove tube. 更高的导热功率 Higher heat transfer rate than other heat pipes at a certain diameter
网状物 Mesh		2,3,4,5,6	毛细结构：网状物 Wick：Mesh 厚度1.0mm以下 Thinner thickness below 1.0[mm] for heat spreader and preventing hot spots

四.技术支持—3.热管功率Q-max评估

IV. Technology support—iii. Heat pipe power Q-max assessment



	φ4	φ5	φ6	φ8
80-100 [MM]	28	40	50	60
101-120 [MM]	35	50	65	73
121-150 [MM]	40	57	72	90
151-180 [MM]	37	52	65	80
181-220 [MM]	32	46	57	70
221-270 [MM]	28	40	50	60
271-320 [MM]	22	32	42	50
321-380 [MM]	15	22	30	35

折弯和打扁对Qmax的影响 Flattening and Bending effect on Q-max

折弯 bends	1	2	3	4	5	6	above6
Loss rate	-5%	-10%	-15%	-20%	-25%	-30%	-30%

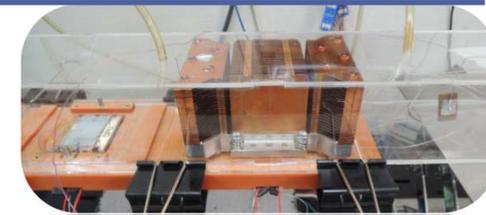
打扁 Thickness	2.0-2.2	2.3-2.7	2.8-3.2	3.3-3.7	3.8-4.2	4.3-4.7	above4.8
Loss rate	-40%	-30%	-20%	-15%	-10%	-5%	0%

四.技术支持—4.热管结构性能对比

IV. Technology support—iv. Comparison of heat pipe structure and performance



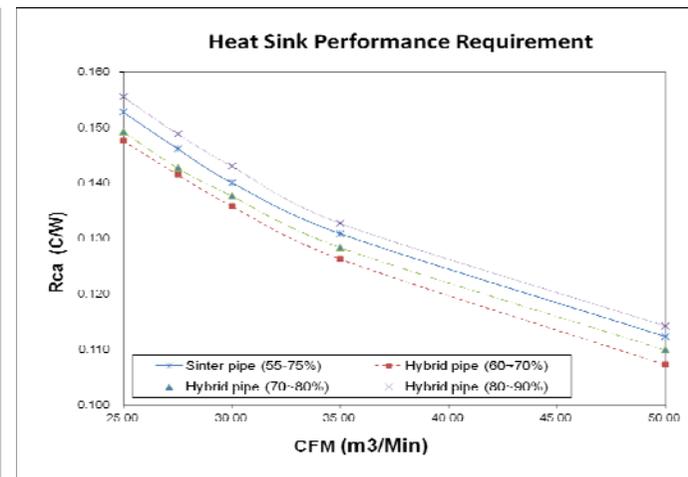
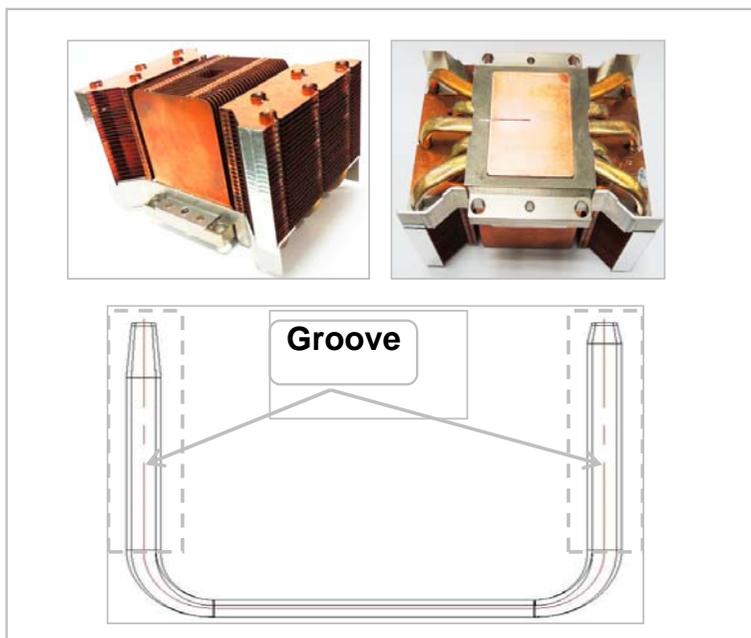
- 环境温度 : 30 [deg C] Ambient temp : 30 [deg C]
- 热管结构 : 见下面照片 Duct structure : refer to figure
- 热源 : Heat source :
 - A. GPU Module -->235W
 - B. HBM DIMM-->6W/each, 24W total
- 风量 Air flow volume : Expected Flowrate" is 25,30,35....50 cfm.



Airflow Direction

复合管和烧结管性能对比测试

Performance comparison between composite pipe and sintered pipe 1



从曲线图可以得知在低风量下，复合管的性能要比烧结管好

From the graph, it shows that hybrid heat pipe performs better than powder sinter heat pipe in low liquid volume.

四.技术支援—5.铝挤开模评估

IV. Technology support—v. Evaluation of aluminum extrusion tooling



开模的参考数据——平模散热器
Tooling reference data----
Flat heat sink

宽度 Width	高度 Height	齿距 Distance	齿厚 Fin thickness	平面度 Flatness	底板厚度 Base thickness	模具寿命 Tooling life
10-20	12-16	1.4-1.6	齿尖(Tip) 0.5齿根(Root) 0.7	0.05-0.08	2	约(about)2000m
20-35	15-25	1.7-2.0	齿尖(Tip) 0.5齿根(Root) 0.8	0.08-0.1	2	约(about)2000m
35-50	20-30	1.8-2.3	齿尖(Tip) 0.6齿根(Root) 0.9	0.1-0.12	2.3	约(about)2000m
45-60	25-35	2.0-2.6	齿尖(Tip) 0.7齿根(Root) 1.1	0.1-0.15	2.2-2.8	约(about)3~4T
60-80	25-40	2.0-3.0	齿尖(Tip) 0.8齿根(Root) 1.2	0.12-0.18	2.4-3.0	约(about)3~4T
80-100	25-45	2.4-3.2	齿尖(Tip) 0.8齿根(Root) 1.3	0.15-0.2	2.6-3.2	约(about)4~5T
100-125	25-50	2.6-3.4	齿尖(Tip) 0.9齿根(Root) 1.4	0.18-0.25	2.7-3.5	约(about)4~5T
125-150	25-60	2.7-3.6	齿尖(Tip) 1.0齿根(Root) 1.5	0.2-0.3	3.0-4.0	约(about)5~6T
150-165	25-35	2.8-4.0	齿尖(Tip) 1.2齿根(Root) 1.6	0.3-0.4	4.0-6.0	约(about)6~7T

开模的参考数据——圆弧散热器
Tooling reference data----
round heat sink

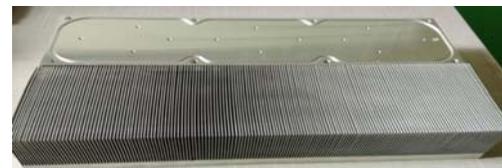
外径 Outer diameter	实心大小 Size	齿距 Distance	齿厚 Fin thickness	挤压速度(米/分) Extrusion speed(M/min)	棒温 Aluminum temperature	模温 Tooling temperature	模具寿命 Tooling life
50	18-20	1.6-1.8	齿尖(Tip) 0.5齿根(Root) 0.7	3	470-500	450-480	约(about)3~4T
60	22-25	1.7-2.0	齿尖(Tip) 0.6齿根(Root) 0.8	2.7	470-500	450-480	约(about)3~4T
70	25-30	1.8-2.2	齿尖(Tip) 0.6齿根(Root) 0.9	2.5	470-500	450-480	约(about)4~5T
80	28-35	1.9-2.4	齿尖(Tip) 0.7齿根(Root) 1.0	2.2	480-510	450-480	约(about)5~6T
90	35-42	2.0-2.8	齿尖(Tip) 0.8齿根(Root) 1.1	2	480-510	450-480	约(about)6~7T
95	35-44	2.2-2.9	齿尖(Tip) 0.9齿根(Root) 1.2	1.8	480-510	450-480	约(about)6~7T
100	35-48	2.4-3.1	齿尖(Tip) 1.0齿根(Root) 1.3	1.7	480-510	450-480	约(about)6~7T
110	35-52	2.6-3.3	齿尖(Tip) 1.1齿根(Root) 1.4	1.6	480-510	450-480	约(about)6~7T
120	35-54	3.0-3.5	齿尖(Tip) 1.2齿根(Root) 1.5	1.5	480-510	450-480	约(about)6~7T

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Respect talents, condense talents, and achieve talents

四.技术支援—6.特种工艺—铲齿

IV. Technology support—vi. Special technology—Skiving fin



铲齿散热器的优点

The advantages of skiving fin heat sink

高精度数控铲齿机

High precision CNC skiving machine

- 散热片和散热底板使用同一块型材，并且没有任何热阻连接点，导热效率能达到该型材材料**100%**。(Heat sink and heat dissipation plate use the same section, and there is no thermal resistance connection point, thermal conductivity can reach 100% of the material.)
- 铲齿能将散热片做得较薄，Pitch做到很小，在有限空间内增加散热表面积，提高散热效率。(The fin can make the heat sink relatively thin and Pitch small, increase the heat dissipation surface area and improve the heat dissipation efficiency in a limited space.)
- 加工工艺简单,模治具费用较少。(The processing technology is simple and the cost of tooling and fixture is less.)

工作台尺寸/mm Working table size	X轴有效行程 X-axis effective stroke	Z轴行程 Z axis stroke	最大宽度 maximum width	齿片最大厚度 Max thickness of fin	齿片最小厚度 Min thickness of fin	最大步距 max pitch	最小步距 (齿厚:间隙) min pitch(fin thickness:gap)	齿片高度 fin height	重复定位精度 repeated positioning accuracy
800*1600	1500	700	铝Al 600 铜 Cu300	铝Al 2.0 铜Cu 1.0	0.2	10 mm	1:1	铝Al 140 铜Cu 40	±0.003

四.技术支援—7.特种工艺—摩擦焊

IV. Technology support—vii. Special technology—Friction welding



设备特点 Equipment Features

静龙门式搅拌摩擦焊接

Static gantry friction stir welding

- 可实现铝、镁、铅、铜、钢、钛、金属基复合材料、异种金属等材料的高效焊接。（It can realize the efficient welding of aluminum, magnesium, lead, copper, steel, titanium, metal matrix composites, heterogeneous metals and other materials.）
- 可实现自动化，设备能耗低，功效高，对作业环境要求低。无需添加焊丝，不需要保护气体，成本低。（Can achieve automation, equipment energy consumption is low, high efficiency, low operating environment requirements. Without adding wire, don't need a protective gas, the cost is low.）
- 无污染、无烟尘、无辐射，安全绿色。（No pollution, no smoke, no radiation, safe and green.）
- 接头残余应力低，焊接变形小。（Joint residual stress is low, welding deformation is small.）

尺寸 Dimension /mm			工作参数 Work parameter										
外形尺寸 Overall dimension	工作台尺寸 working desk size	Z向空间 Z space	最大焊接厚度 Max welding thickness	焊接行程 Welding trip					速度 Speed			转速 revolving speed	
				X轴 X axis	Y轴 Y axis	Z轴 Z axis	B轴 B axis	C轴 C axis	X轴 X axis	Y轴 Y axis	Z轴 Z axis	主轴 principal axis	C轴 C axis
5600*3400*3500mm	1800*1100mm	350mm	8mm	1600mm	1000mm	300mm	0~5°	±360°	6000	3000	1500	2500	20

四.技术支援—8.搅拌摩擦焊接能力—产品材料

IV. Technology support—viii. Friction stir welding ability—product material



铝合金 (Aluminum alloy):

1060, 2A12, 2A14, 2024, 2219, 5083, 6061, 6063, 6082, 7A04, 7005, 7050, 7A52, 7075,



镁合金 (magnesium alloy):

AZ31、AZ81、AZ91、MB2、MB3、MB8、AM50、AM60



铜合金 (Copper alloy):

T1、T2、Ht60、Ht72、Ht90



钢合金 (Steel alloy):

Sus603, 304L, Q235

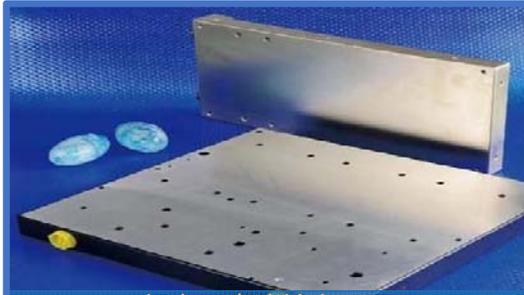


钛合金 (Titanium alloy):

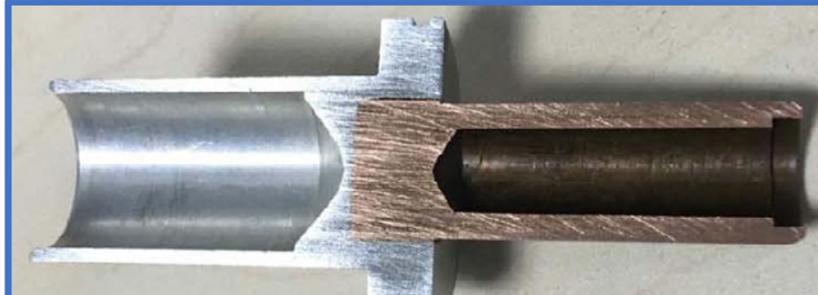
TC4 (Ti6Al4V)

四.技术支援—9.搅拌摩擦焊产品应用

IV. Technology support—ix. Friction stir welding product application



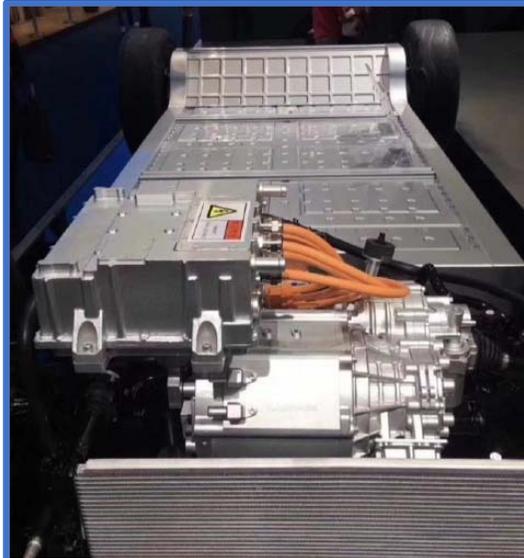
超高压直流输电项目
UHV DC transmission project



光伏发电控制系统
Photovoltaic power generation control system



新能源整车项目
New energy vehicle project



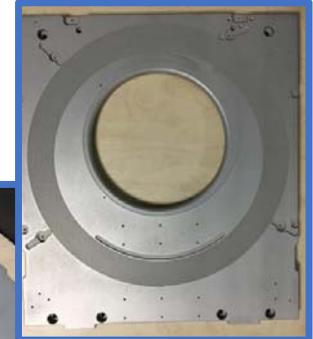
新能源整车项目
New energy vehicle project



高铁机电控制箱项目
High-speed rail electromechanical control box project



激光散热产品
Laser cooling products



四.技术支援—10.搅拌摩擦焊产品应用

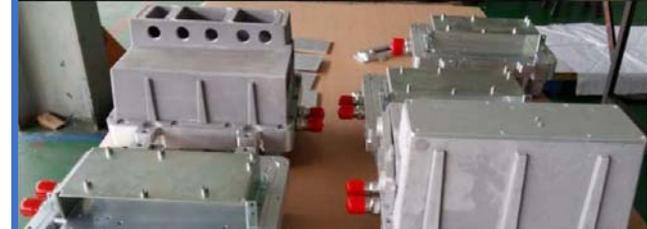
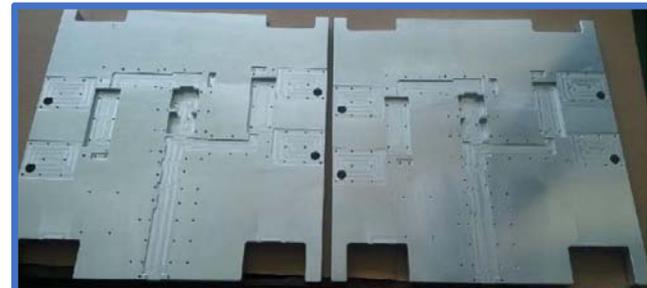
IV. Technology support—x. Friction stir welding product application



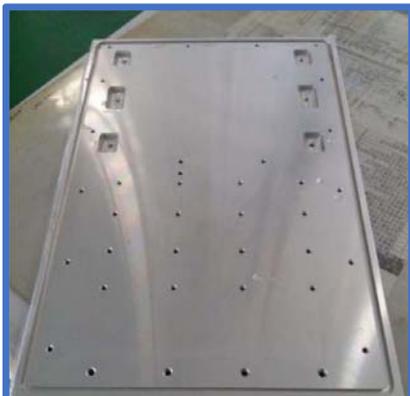
水冷散热器项目
Water cooled heat sink project



LED水冷散热器项目
LED water cooling heat sink project



新能源汽车电控箱
Electric control box of new energy vehicle



新能源汽车电池水冷板
New energy vehicle battery
water cooling plate



新能源汽车电池水冷板
New energy vehicle battery
water cooling plate



新能源汽车电池水冷板
New energy vehicle battery water cooling
plate

四.技术支援—11.照明散热设计方案

IV. Technology support—xi. light cooling solution

LED灯设计 LED light design

铝挤Aluminum extrusion



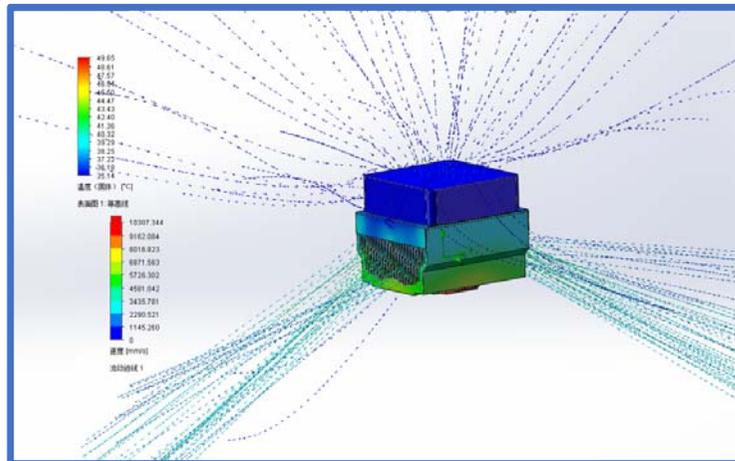
功率 60W
环境温度 35°C

需要降低到60°C以下

测试ok

Need to reduce below 60 °C .

The test is ok.



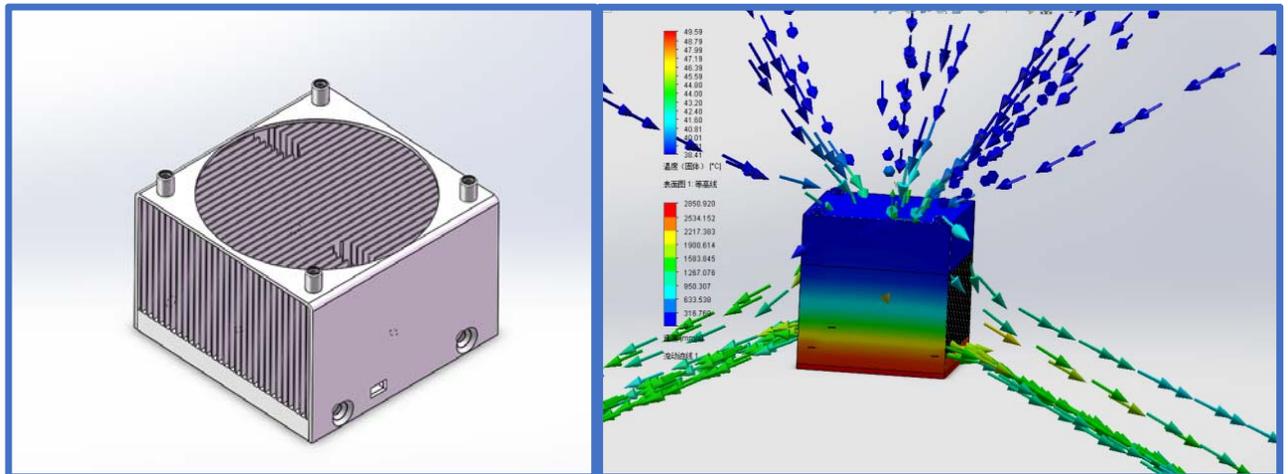
四.技术支援—12.新能源散热设计方案

IV. Technology support—xii. New energy cooling solution

电力能源控制器设计

Electric energy controller design

热管焊接 heat pipe welding



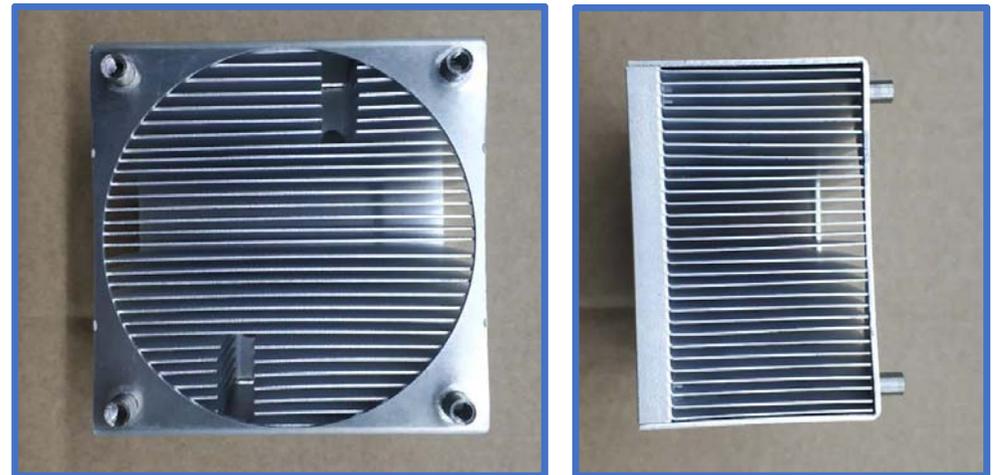
终端客户: Terminal customer

国家电网、南方电网

State Grid, China Southern Power Grid

采取波浪齿fin铝挤结构, 增大散热面积产品工艺简单, 重量轻, 散热性能强, 适合小空间辐射散热

Adopt wave fin aluminum extrusion structure to increase heat dissipation area. The product has simple process, light weight and strong heat dissipation performance, suitable for small space radiation heat dissipation.



四.技术支援—13.电力能源散热设计方案

IV. Technology support—xiii. Electric energy cooling solution



电力能源控制器设计

Electric energy controller design

热管焊接 heat pipe welding

功率 1200W 环境温度

1200W



AM

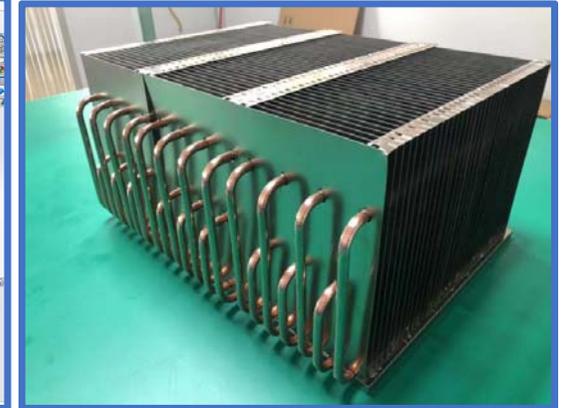
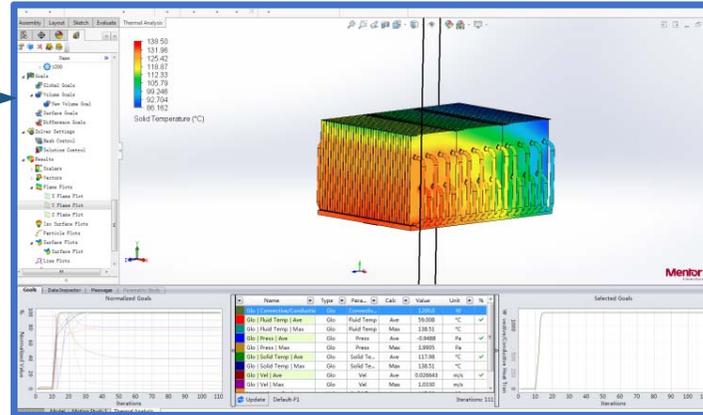


自然散热 natural cooling

50°C

客户要求结温低150°C

Customers request a junction temperature of 150 °C



终端客户: Terminal customer

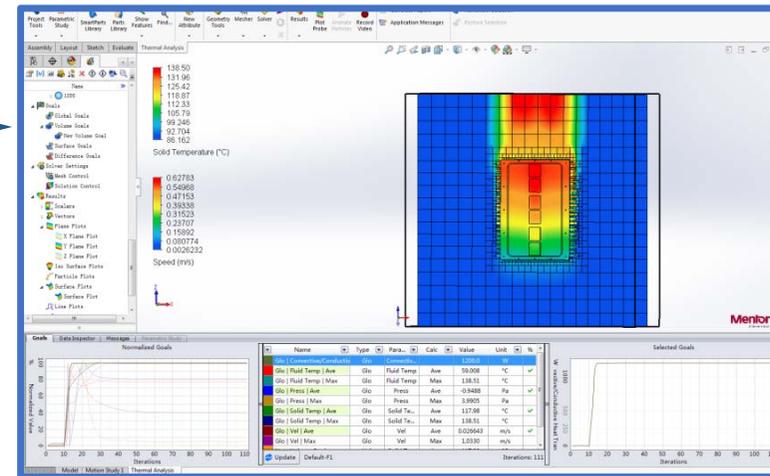
国家电网、南方电网

State Grid, China Southern Power Grid

方案设计 Solution design

采取波浪齿fin铝挤结构, 增大散热面积产品工艺简单, 重量轻, 散热性能强, 适合小空间辐射散热

Adopt wave fin aluminum extrusion structure to increase heat dissipation area. The product has simple process, light weight and strong heat dissipation performance, suitable for small space radiation heat dissipation.



品质第一, 客户至上, 以人为本, 永续经营

Respect talents, condense talents, and achieve talents

四.技术支持—14.新能源汽车散热设计方案

IV. Technology support—xiv. New energy vehicle cooling solution



新能源汽车:水冷设计

New energy vehicles water cooling design

搅拌摩擦焊接 Friction Stir Welding

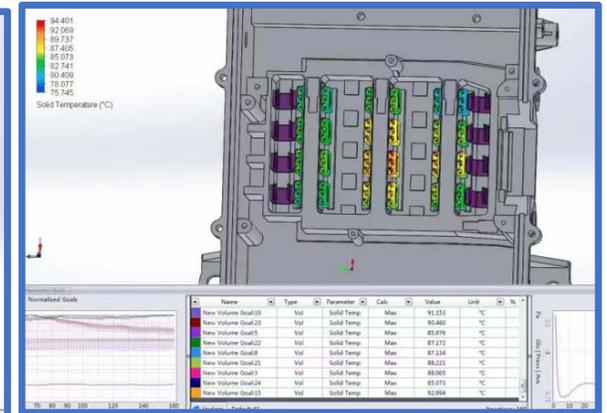
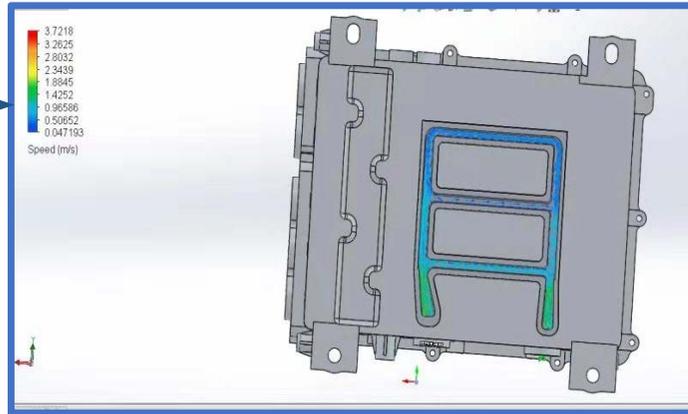
功率 360W

环境温度 60°C

需要降低到90°C以下

It needs to be lowered below 90°C

实测ok The test is ok.



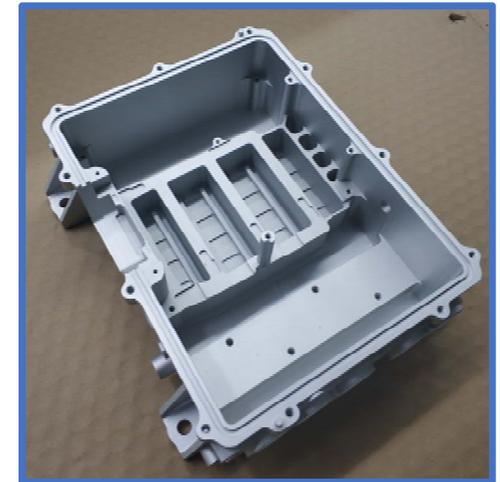
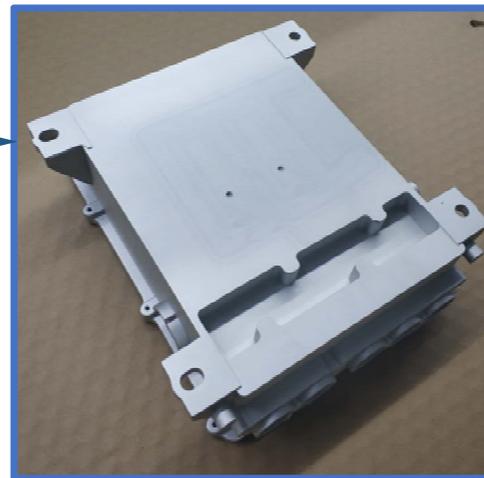
终端客户: BYD

Terminal customer: BYD

方案设计 Solution design

压铸件+CNC+搅拌摩擦焊接水道

Die casting +CNC+ friction stir welding channel



四.技术支持—15.服务器散热设计方案

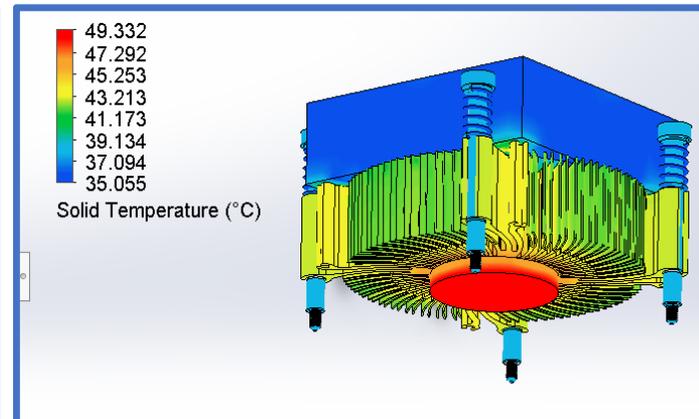
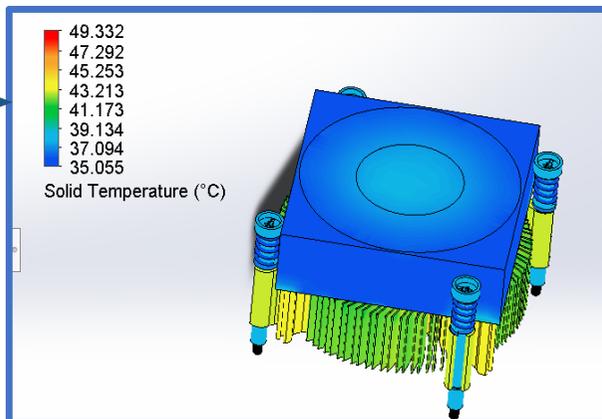
IV. Technology support—xv. Server cooling solution

CPU Cooler太阳花铝挤 Sunflower aluminum extrusion



Tc需要降低到66.5°C以下—实测ok
Tc needs to be lowered below 66.5°C.

The test is on.



终端客户：华为

Terminal customer: HUAWEI

方案设计solution design

铝挤太阳花 + 8025 Fan

Flower aluminum extrusion+8025 fan



四.技术支援—16.服务器散热设计方案

IV. Technology support—xvi. Server cooling solution

CPU Cooler Cu Base + Heat Pipe

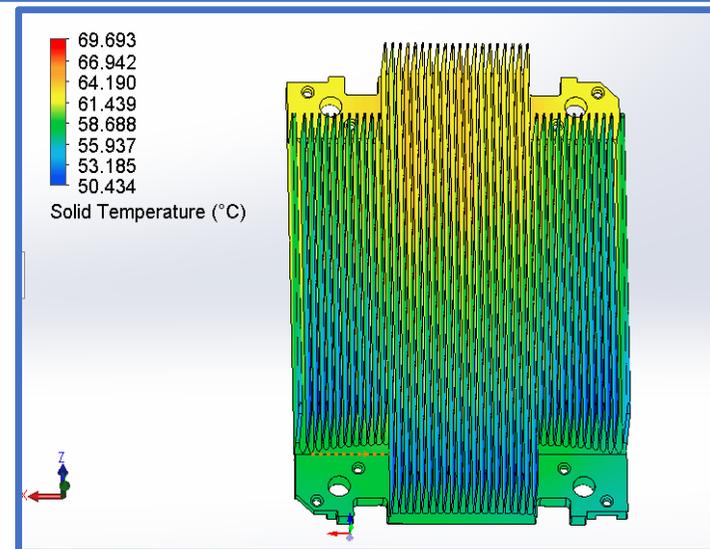
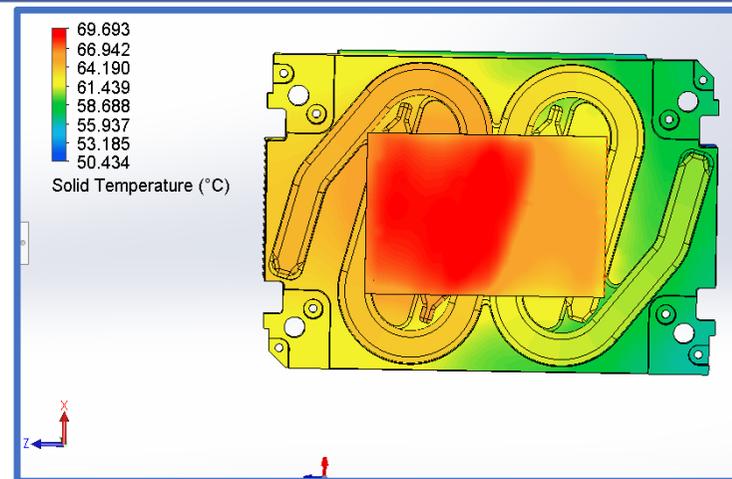


Tc需要降低到72°C以下—实测ok°C
Tc needs to be lowered below 72°C
The test is ok.

终端客户：华为
Terminal customer: HUAWEI

方案设计 Solution design

Cu Base + Heat Pipe



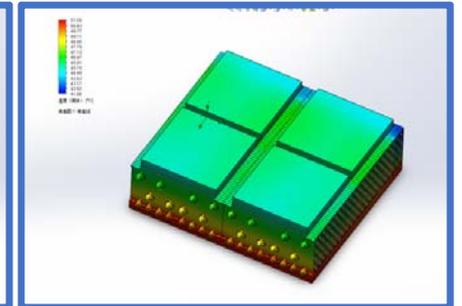
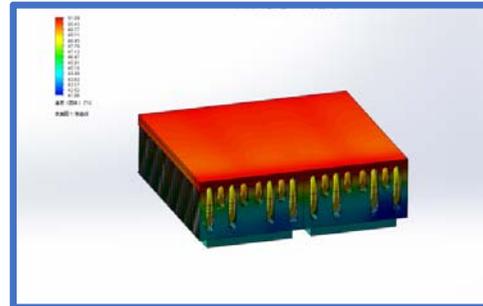
四.技术支援—17.舞台灯散热设计方案

IV. Technology support—xvii. Stage light cooling solution

LED灯设计 LED light design

客户要求 Customer demand

功率 P 800W
环境温度 T_{amb} 80°C
需要降低到60°C以下
It needs to be lowered below 60°C



终端客户：飞利浦 Terminal customer: Philips

方案设计 Solution Design



4个
9025风扇
4 pcs 9025 fans



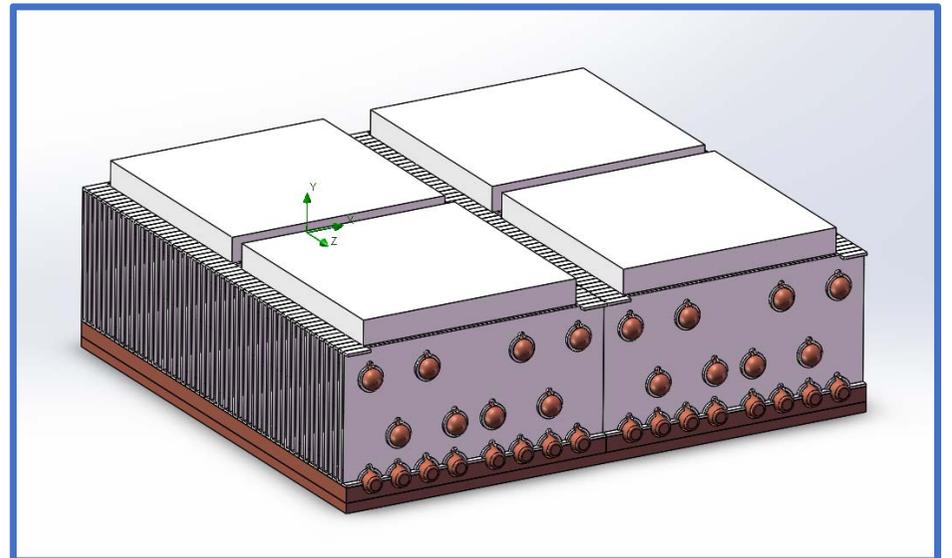
16支
热管穿鳍片
16pcs heat pipe crossing fins

采取4个9025风扇，风冷强制对流设计

使用铜做底部，配合16支热管穿鳍片的结构，散热性能强；能在有效的空间内发挥最大的散热效能；能承受集成LED的瞬间散热

Take 4 9025 fans, air-cooled forced convection design

Use copper as the bottom, with the structure of 16 heat pipe crossing fin, strong heat dissipation; can maximize the heat dissipation efficiency in an effective space; can withstand the instantaneous heat dissipation of integrated LED



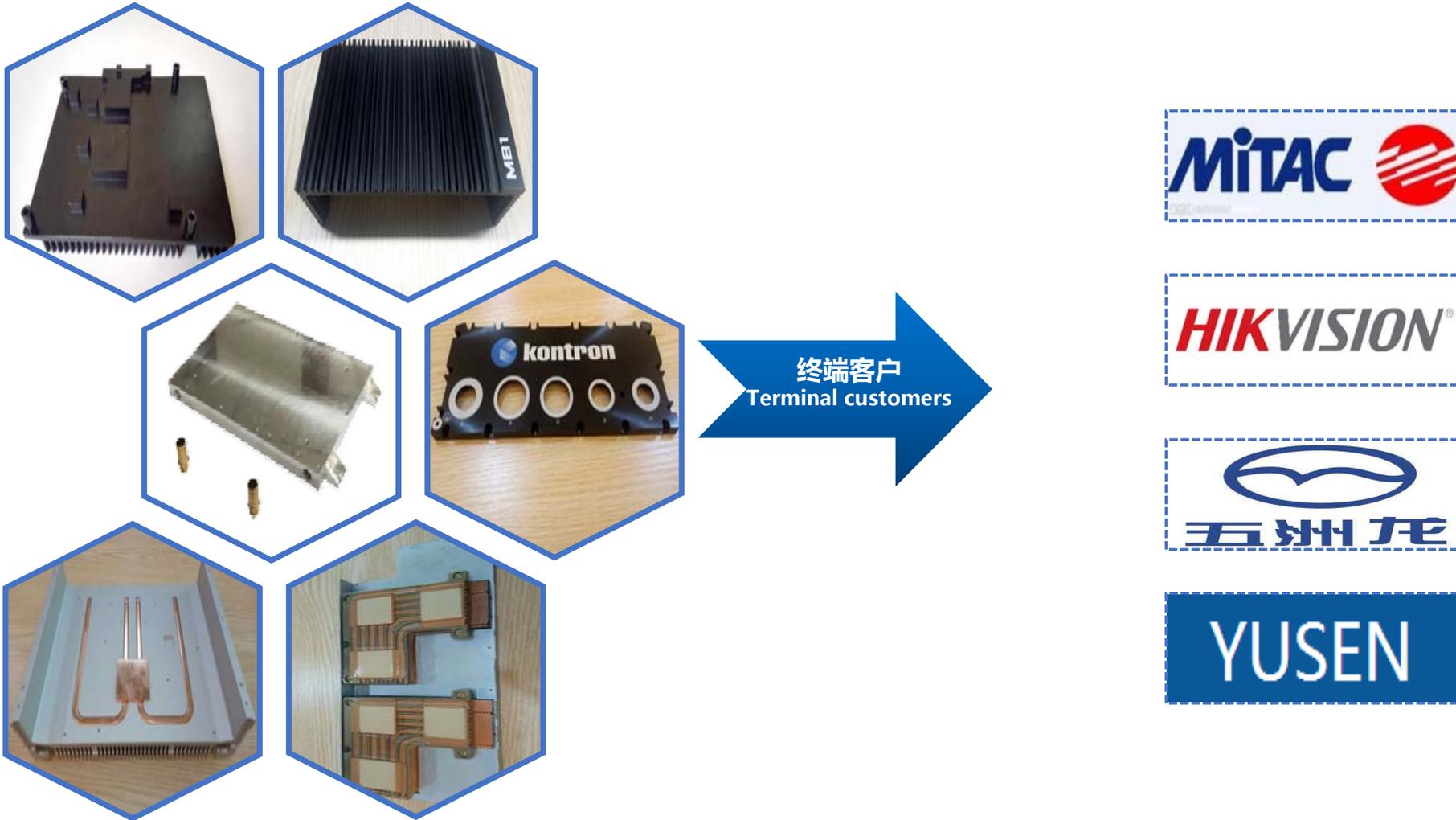
五.产品应用及客户— 1.PC网通服务器

V. Product application and clients—i. PC Netcom server



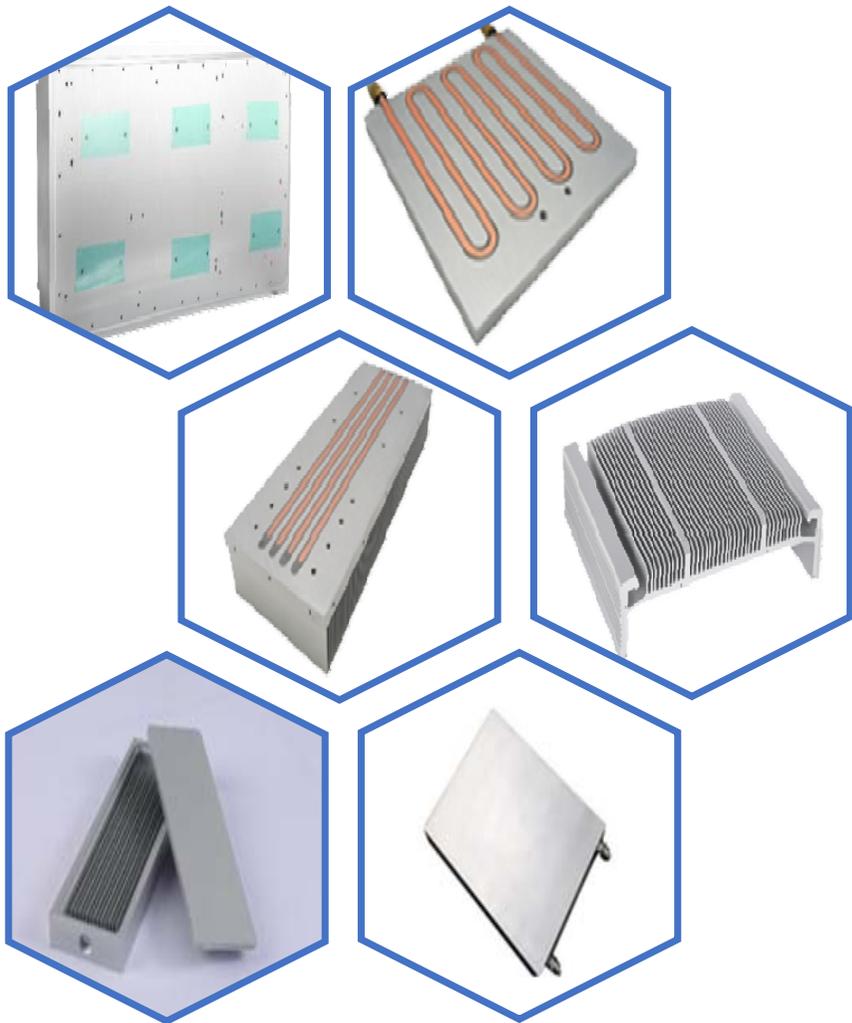
五.产品应用及客户— 2.工控类

V. Product application and clients—ii. Industry control class



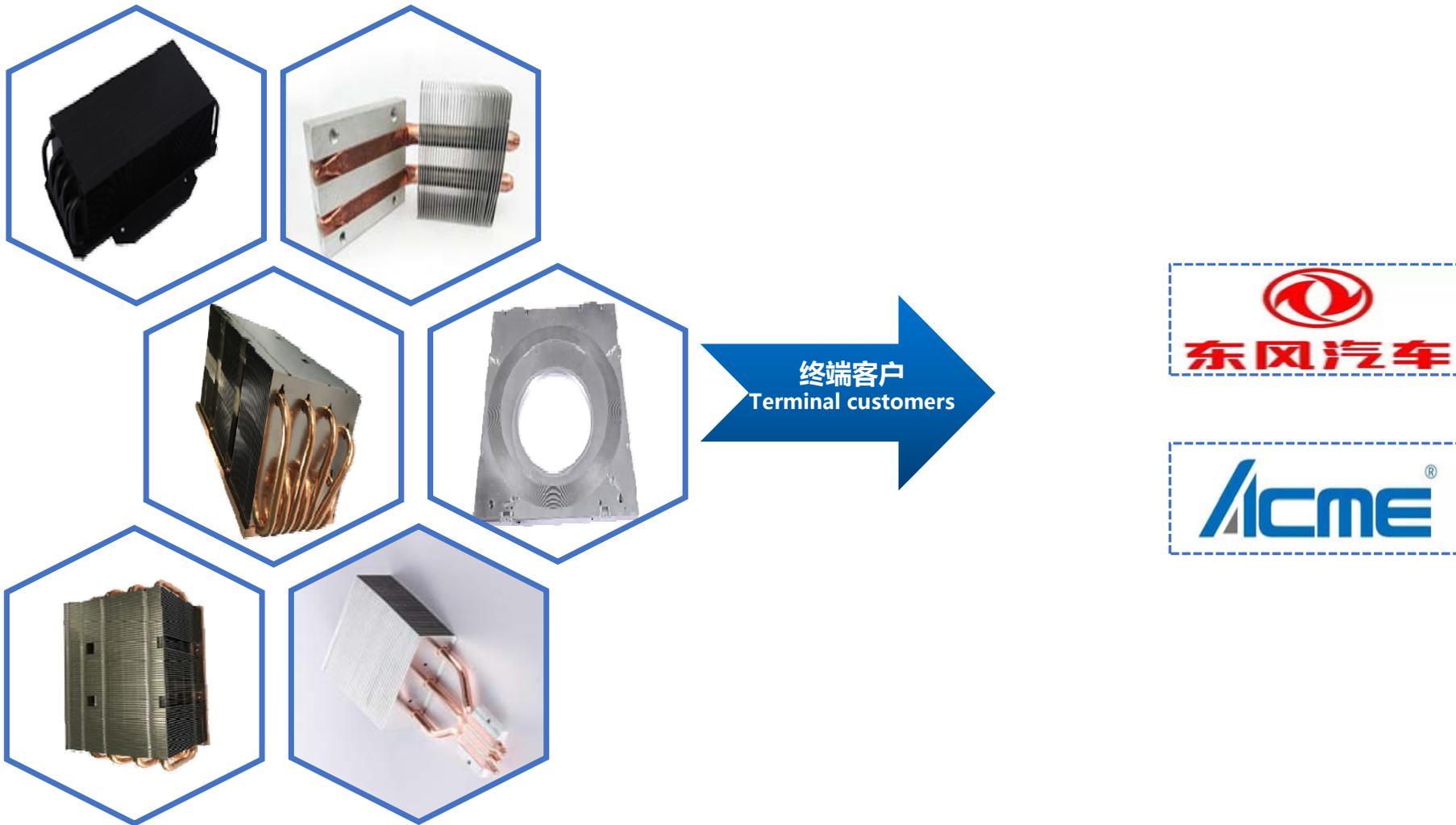
五.产品应用及客户—3.能源类

V. Product application and clients—iii. Energy class



五.产品应用及客户— 4.LED光电照明类

V. Product application and clients—iv. LED photoelectric lighting



五.产品应用及客户—5.车载类

V. Product application and clients—v. Car class



五. 产品应用及客户—6. 主要客户展示（一）

V. Product application and clients—vi. main clients show(i)



五. 产品应用及客户—7. 主要客户展示（二）

V. Product application and clients—vii. main clients show(ii)



六.同裕优势 VI. Tongyu advantages



01

研发优势
R.D advantage

在全球，同裕拥有三座专业散热研发实验室和10年以上散热研发设计经验的团队，运用服务世界500强的丰富经验为客户提供定制化的散热解决方案。
In the world, Tongyu has three professional heat dissipation R&D laboratories and a team with more than 10 years of experience in heat dissipation R&D, and provides customized heat dissipation solutions for customers with rich experience in serving the world's top 500 companies.



02

制造优势
manufacturing advantage

在全球，同裕拥有三家生产基地，越南一家海外工厂，同裕千余名员工，三百余台专业生产机器，运用垂直一体化生产体系和自动化制程，为您提供有竞争力的产品制造服务。
In the world, Tongyu has three production bases, an overseas factory in Vietnam, tongyu has 1000+ employees and 300+ professional production machines, the use of vertical integration production system and automation process, to provide you with competitive product manufacturing services.



03

服务优势
Service advantage

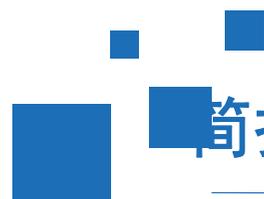
同裕诚信热情的高素质专业服务人员，运用规范的工具和高效的响应机制为全球散热解决方案和生产制造客户提供24小时全面支持--客户的满意是我们追求的唯一目标。
Tongyu's enthusiasm and high-quality professional service staff, using standardized tools and efficient response mechanism to provide 24-hour comprehensive support for global thermal solutions and manufacturing customers - customer satisfaction is our only goal.



04

质量优势
Quality advantage

同裕已获得多项国际标准的质量品质体系认证，且严格按照或高于质量品质认证体系研发生产服务，保障了公司产品质量的优良和稳定。
Tongyu has obtained a number of international standards for quality and quality system certification, and strictly in accordance with or higher than the quality and quality certification system research and development production services, to ensure the product quality is excellent and stable.



2019

简报完毕，谢谢！ Thank you!

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