



浙江尔格科技股份有限公司

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Zhejiang Province,P.R.China



冷却系统解决方案提供商

RELIABLE COOLING SYSTEM SOLUTION PROVIDER

浙江尔格科技股份有限公司
Zhejiang ERG Technology Joint Stock Co.,Ltd.



董事长致辞

Address from the Chairman

我们深信今天的业绩来自于昨天努力的结果，明天的成效看我们今天的工作程度。人生是一个过程，我们留下的脚印，见证了岁月是有痕迹的，未来是由现在创造的。只要选择正确越努力向前离目标就会越近。

当今面对世界百年唯有之大变局，确定性与不确定性风起云涌，我们唯有保持增长定力，提高自身实力的确定性，才能拥抱时代变迁的不确定性，直面挑战，穿越各种困局。我们全心聚焦品牌，成为细分领域的凤凰。

我们坚信：市场的源泉是创新，通过模式赋能，资源整合，数字化转型升级，拓展增量，方可成就实力派的企业；推进战略布局，人文底蕴，洞察变化，思考应变能力，创造产品最高性价比，才会立于不败之地！

我们应始终坚守底线思维，品质可靠性、安全环境保证、诚信经营，尊重人才。为此，我们的重心是“向内练功，向外合作”的共赢模式，提升管理维度与创新高度，要在大浪淘沙的经济社会中跨越式发展！

We are convinced that today's achievements comes from yesterday's efforts, and tomorrow's results depend on the extent of our work today. Life is a process. The footprints we left witness the traces of years and the future is created now. As long as you make the right choice, the harder you move forward, the closer you will get to your goal.

In the face of a century of great changes in the world, certainty and uncertainty are spreading like a storm. We can embrace the uncertainty of the changes of the times only by maintaining our growth and improving the certainty of our own strength. We focus on the brand wholeheartedly and strive to become the leader in the subdivided field.

We firmly believe that innovation is the source of the market. Only through mode empowerment, resource integration, digital transformation and upgrading, and expansion of increment can we become a powerful enterprise; We must promote the strategic layout, strengthen the cultural heritage, insight into changes, think about adaptability, and create the highest cost performance ratio of products to be invincible!

We should always adhere to the bottom line thinking, and pay attention to quality reliability, safety and environmental assurance, integrity management and respect talent. For this reason, we focus on the switching mode of "practicing skills inward and cooperating outwards", improve the management dimension and innovation height, and achieve leapfrog rise in the turbulent economic society!

2022.10.23 (壬寅年九月廿八)

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 - YSLB型变压器用螺旋板式油水冷却器 YSLB type transformer spiral plate type oil water cooler/P21
 - ▶ 发电机及高压发电机冷却系统 Cooling system for generator and high-voltage generator
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 - BZ型变压器轴流泵 Axial pumps/P26
 - 智能油泵 Intelligent pump/P26
 - 液力悬浮变压器油泵 Hydraulic oil pump/P27
 - Sf₆气泵 Sf₆ pump/P27
 - 风机 Fan/P28
 - 控制柜 Control cabinet/P29
 - 远程控制柜 Remote control cabinet/P31
 - 户内金属铠装移开式开关设备(KYN28A-12) Indoor metal armored removable switchgear(KYN28A-12)/P32
 - 箱型固定式金属封闭环网开关设备(HXGN-12) Box-type fixed metal closed ring net switchgear(HXGN-12)/P33
 - 低压开关设备(GGD) low voltage switch equipment(GGD)/P34
 - 户内金属封闭抽屉式开关柜(MNS) Indoor metal-enclosed drawer-type switchgear(MNS)/P35
 - 低压无功功率补偿柜(GGJ) Low-voltage reactive power compensation cabinet(GGJ)/P36
 - 组合式变电站-美变(ZGS11) Combined substation-substation(ZGS11)/P37
 - 预装式变电站-欧变(YB-12/0.4) Pre-installed type substation-European transformer(YB-12/0.4)/P38
 - GIS汇控柜 GIS meeting control cabinet/P39
 - 免维护吸湿器 Self dehydrating transformer breather/P40
 - 油流继电器 Oil flow relay/P41
 - BCT端子盒 BCT terminal box/P42
 - TCT端子盒 TCT terminal box/P43
 - CT接线板 CT terminal plate/P44
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公司简介

Company profile

浙江尔格科技股份有限公司创立于 1994 年，位于浙江省台州市，公司专注于电力设备冷却系统与清洁能源核心部件的研制和制造。

公司目前拥有院士专家工作站、博士后工作站、国家评定认可 CNAS 实验室、省级企业研究院、省级企业技术中心。累计拥有自主知识产权 100 余项（其中发明 65 项），参与国际、国内行业标准起草 9 项。

新产品研制 300 余项，填补国内空白十余项。其中多项产品获政府科技奖项，经省级以上专家鉴定处国际先进，国内领先水平近百项产品。先后被列入国家级高新技术企业、工信部专精特新重点国家级“小巨人”企业。

公司秉持“诚信、合作、双赢、创新”之理念，与海内外客户共谋发展！

Zhejiang Erg Technology Joint Stock Co., Ltd., founded in 1994, is located in Taizhou, Zhejiang Province. Erg focuses on the development and manufacturing of the cooling system of electric power equipment and the core components of clean energy.

At present, Erg has academician expert & postdoctoral workstation, national evaluation and accreditation CNAS laboratory. Erg has obtained more than 100 independent intellectual property rights (including 65 inventions) and participated in drafting 9 international and domestic industrial standards.

More than 300 new products were developed, filling more than 10 gaps in China. Many of these products have won the government's science and technology awards. They have been internationally advanced by experts at or above the provincial level, and nearly 100 products are domestically leading. It has been successively listed as a national high-tech enterprise and a national "Little Giant" enterprise specializing in special and new technologies by the Ministry of Industry and Information Technology.

Erg adheres to the concept of "integrity, cooperation, win-win and innovation", and seeks common development with customers at home and abroad!



地理位置

Location



工厂: 34590 平方米

Factory: 34590 sqm

建筑: 30381.5 平方米

Buliding: 30381.5 sqm

我们的团队

Our Team:

总人数: 313 人

Total number of employees: 313

管理: 79 人

Administration: 79

营销: 25 人

Sales & Marketing: 25

科技人员与技师工匠: 104 人

Technicians and craftsmen: 104

高层次人才: 18 人

High-level talents: 18

企业文化

Company culture

愿景 Vision

追求全球冷却系统与储能行业引领者，推动能量绿色转化，造福人类美好明天

To be a leader in the global cooling system and energy storage industry. Promote the green energy use and benefit mankind for a better tomorrow.

使命 Mission

专注冷却系统研制，与世界一流企业同步，致力能量转换绿色产业

Focus on the cooling system. Keep pace with world-class enterprises and devote to sustainable

价值观 Values

研制节能环保绿色低碳产品，成就客户、创新合作、超越自我、贡献社会

Develop energy-saving, environment-friendly, green and low-carbon products, customer success, innovation and cooperation, surpass self and make contribution to society.



年终表彰暨2022目标动员大会



技能学院培训



弘扬中华汉服文化



焊接比赛



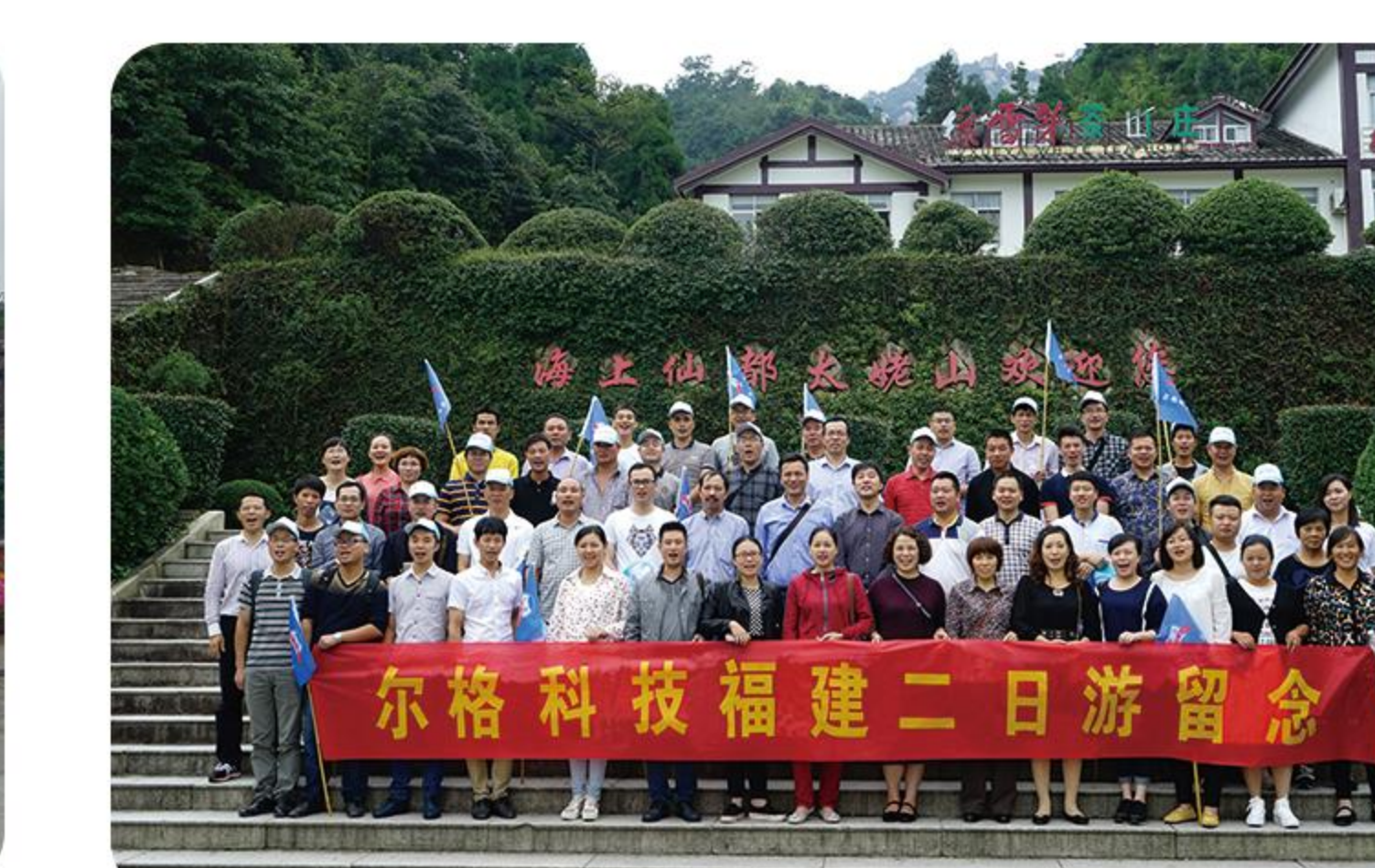
年度表彰



销售冠军奖



“循党纪、践初心、担使命”
主题党日活动



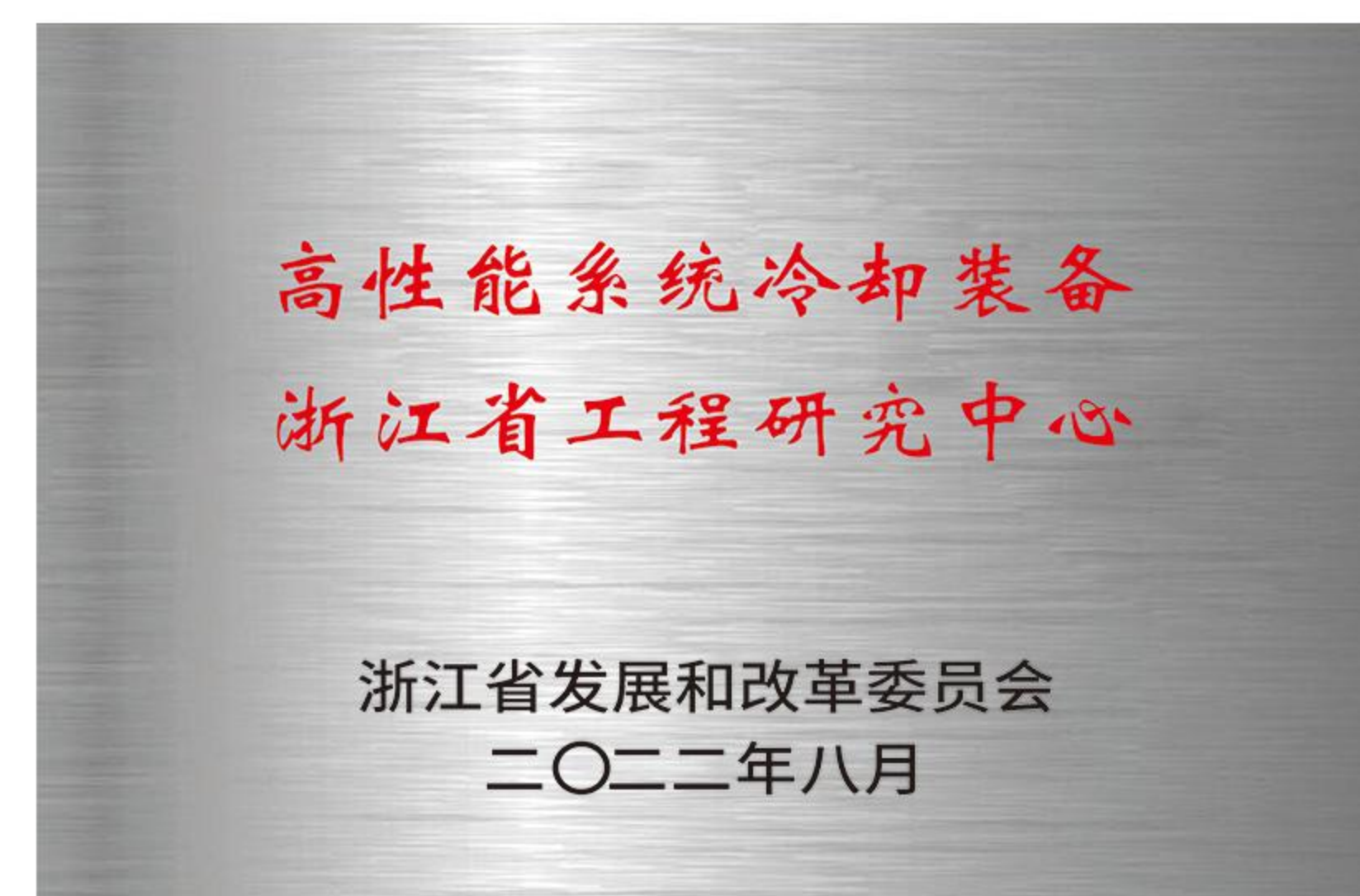
福建太姥山旅游



全体员工一日游

公司资质及荣誉

Company qualification



高性能系统冷却系统冷却装备
浙江省工程研究中心



国家级专精特新“小巨人”企业



A类企业



2020年度三门县政府质量奖



浙江省博士后工作站



浙江省尔格科技冷却系统装备
省级企业研究院



浙江省院士专家工作站



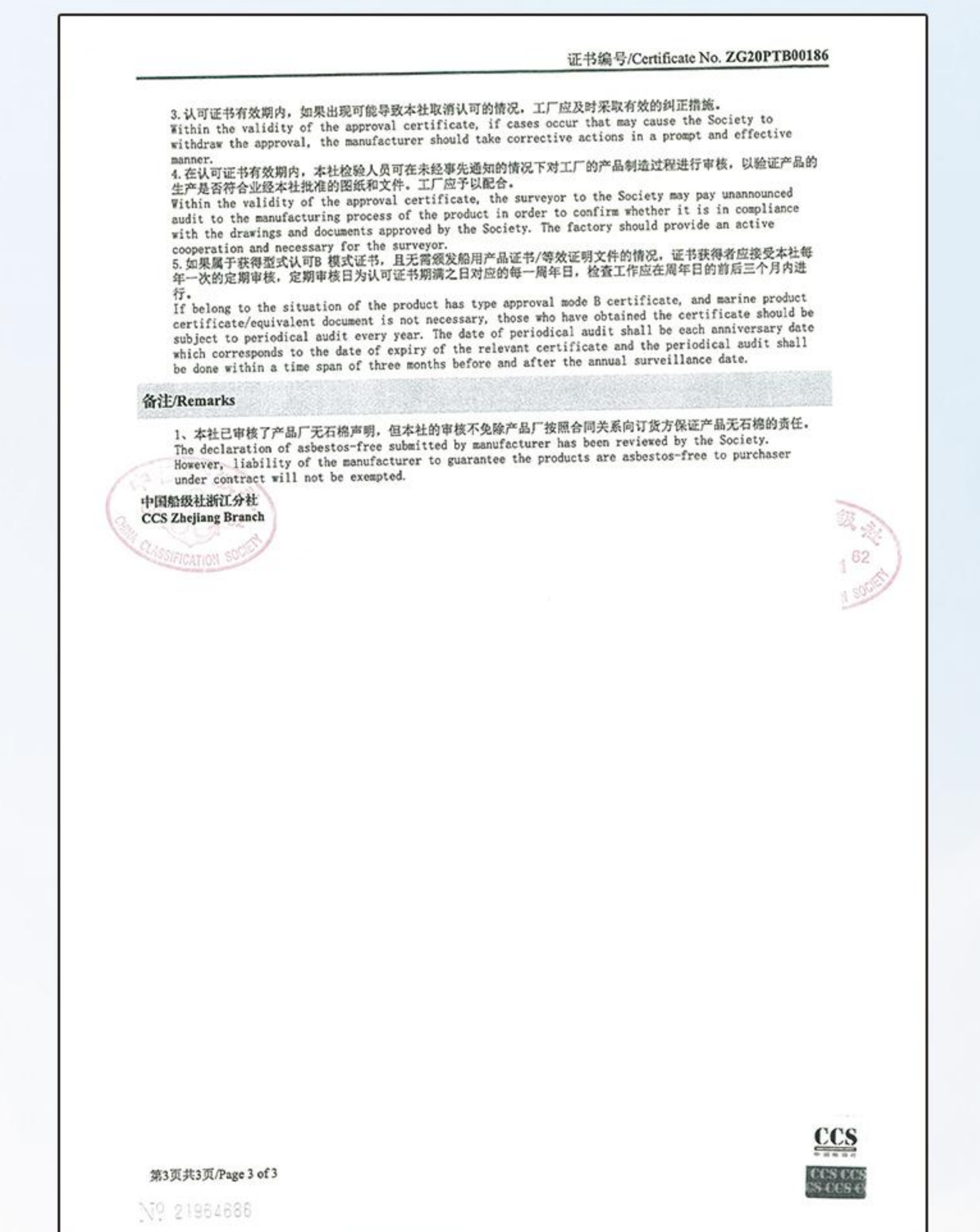
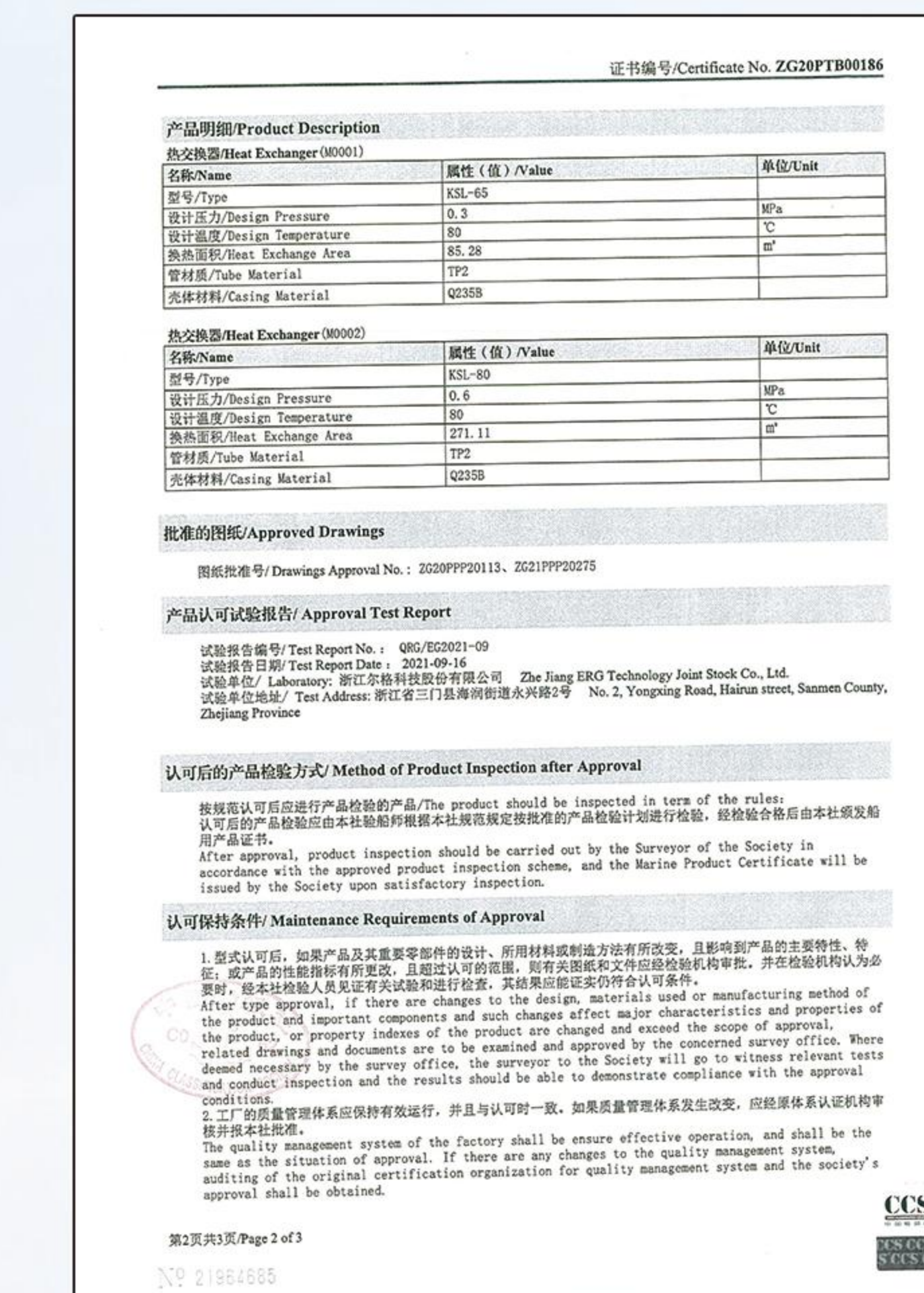
国家火炬计划产业化示范项目



国家火炬计划高新技术企业



浙江制造认证



KSL-80 KSL-65空水冷却器船级社认证



CNAS认可实验室证书 (2021)

设备展示

Facilities

生产设备 Production facilities



片散生产线



风机生产线



风筒线



激光火焰切割



环氧模具



喷漆房



水胀机



液压同步折弯机



加工中心



油冲洗台

试验设备 Test facilities



风机测试系统



空冷测试系统



控制箱试验台



气泵测试系统



油泵测试台



三坐标检测室



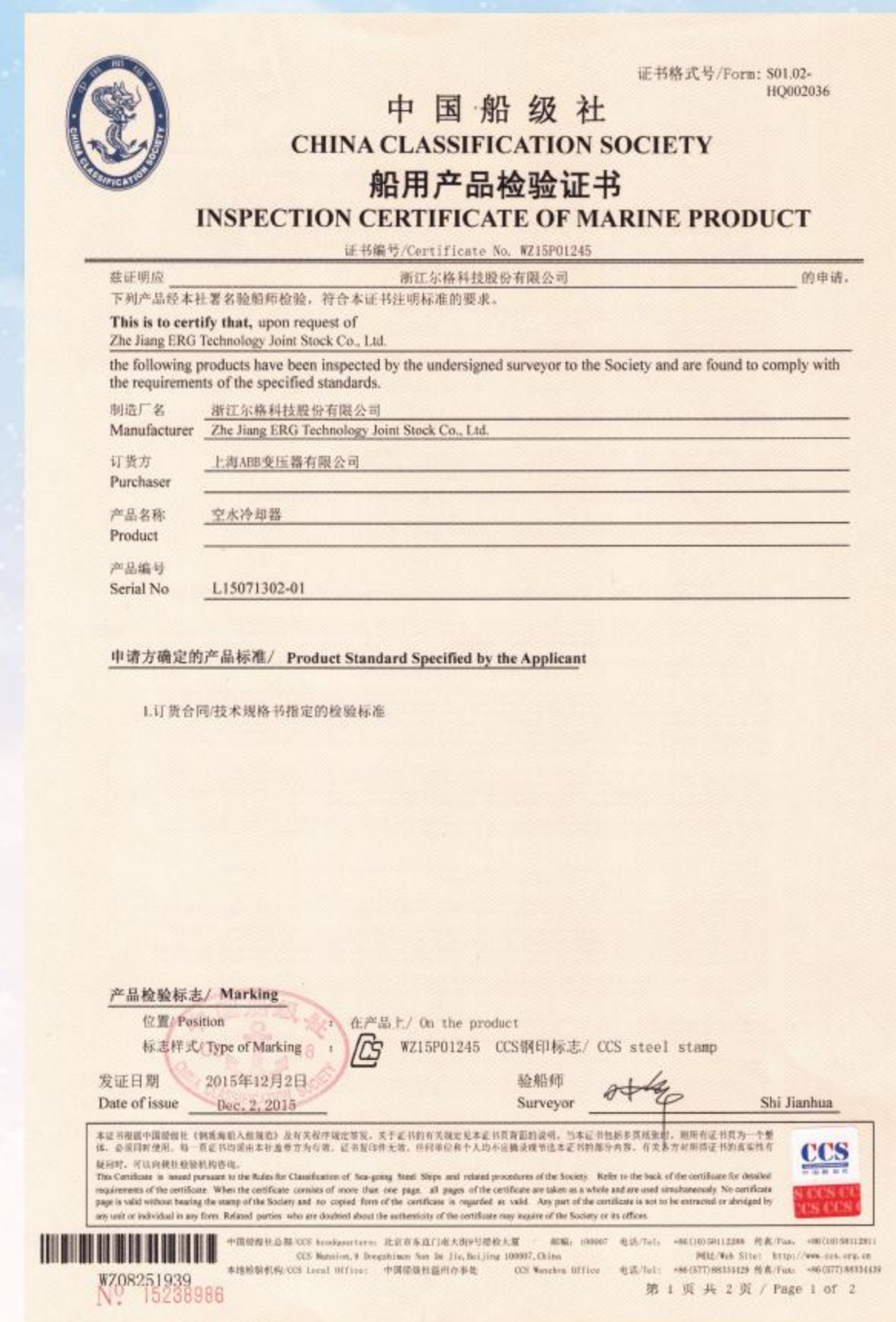
理化实验室



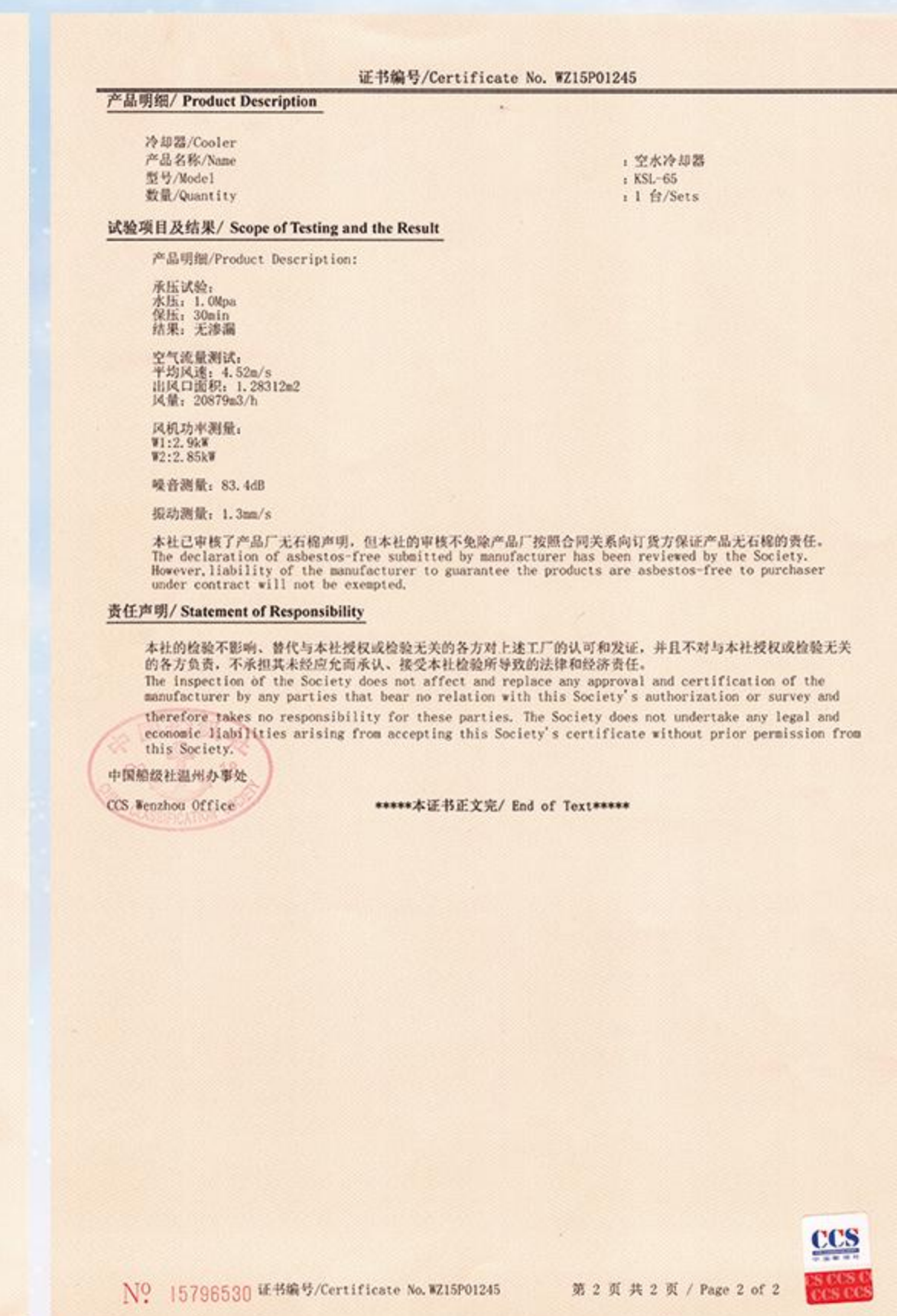
ISO14001环境管理体系证书



OHSMS-职业健康管理体系证书



冷却器用船级认证证书

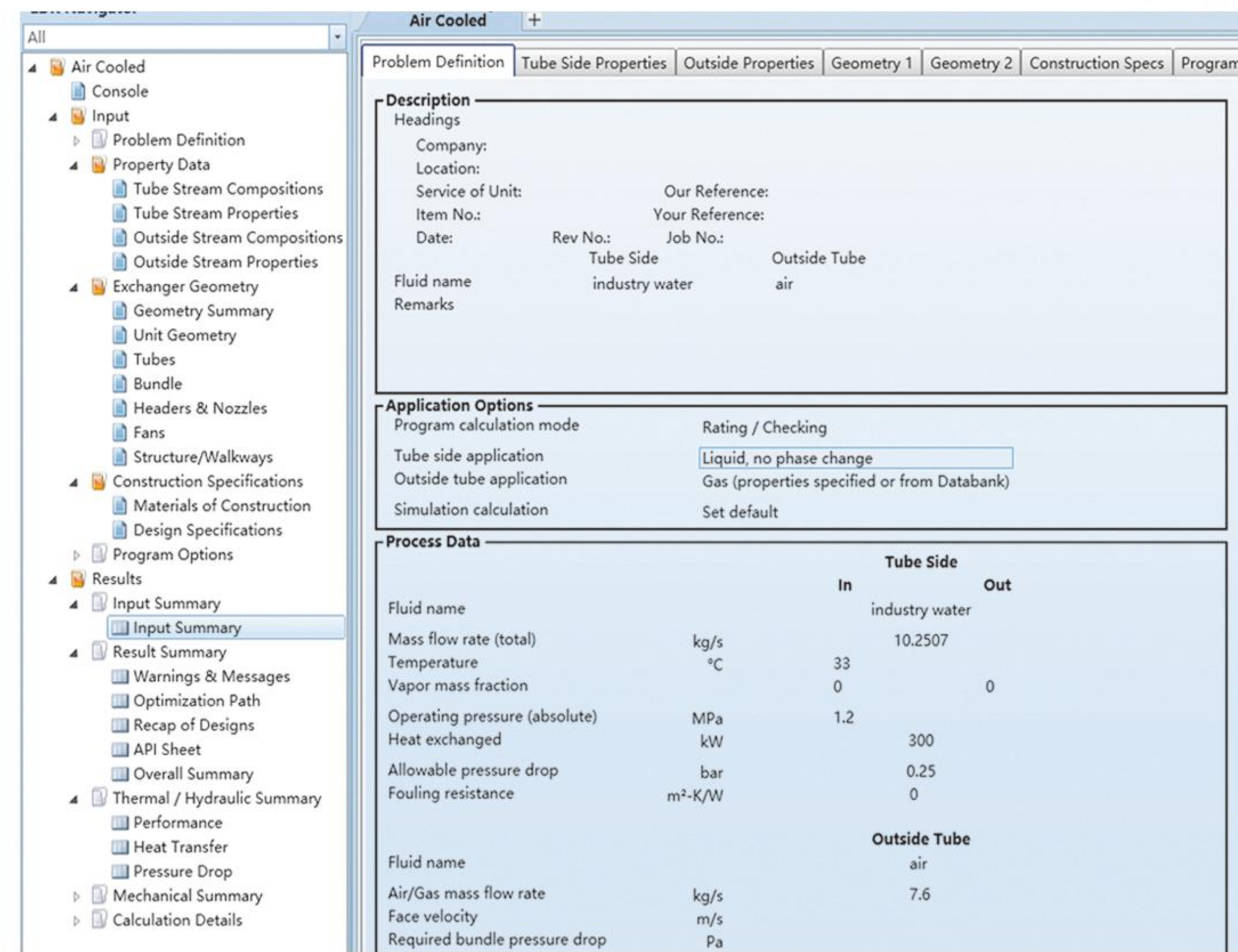


ISO9001质量管理体系证书

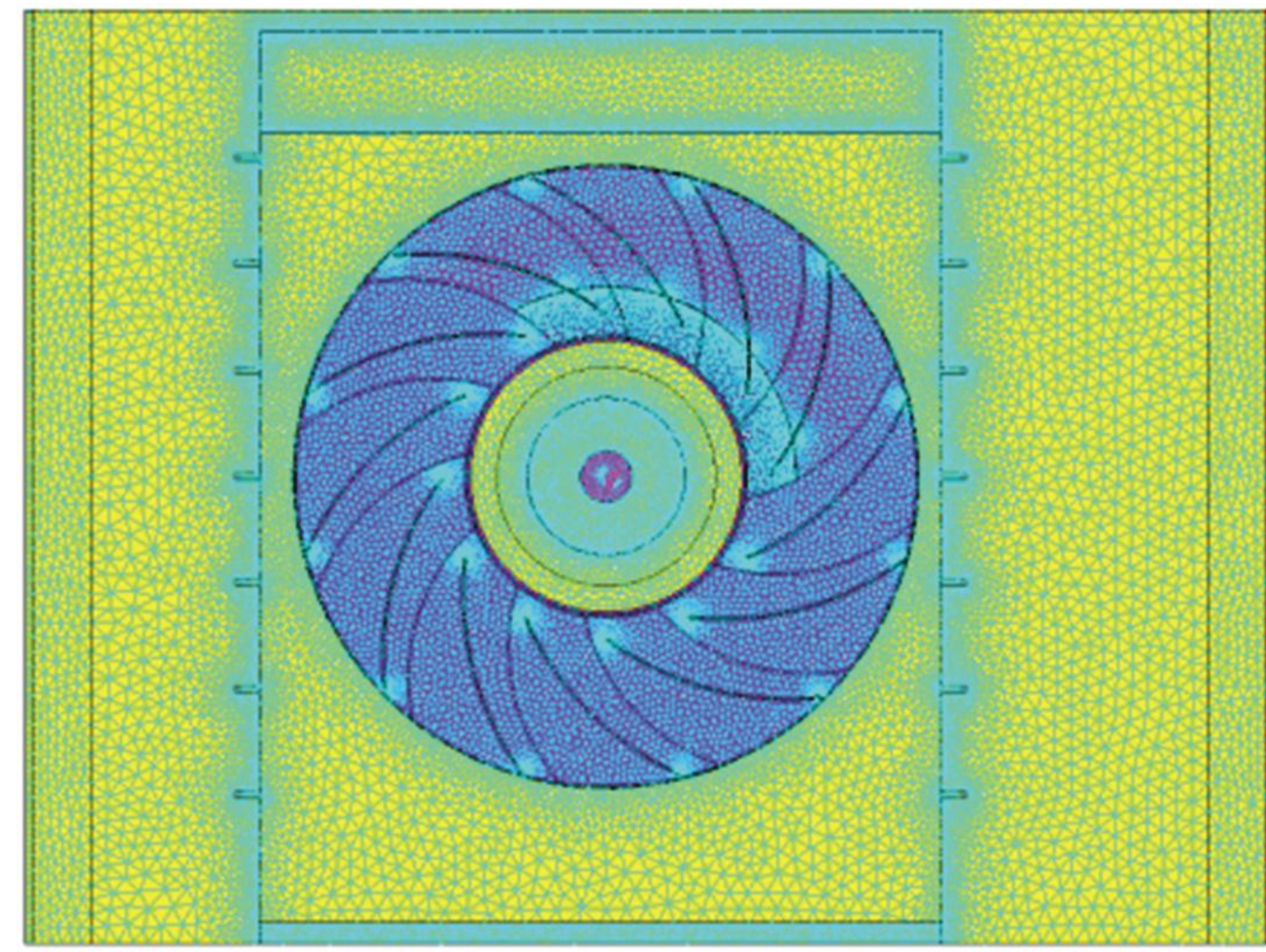


设计-研发能力

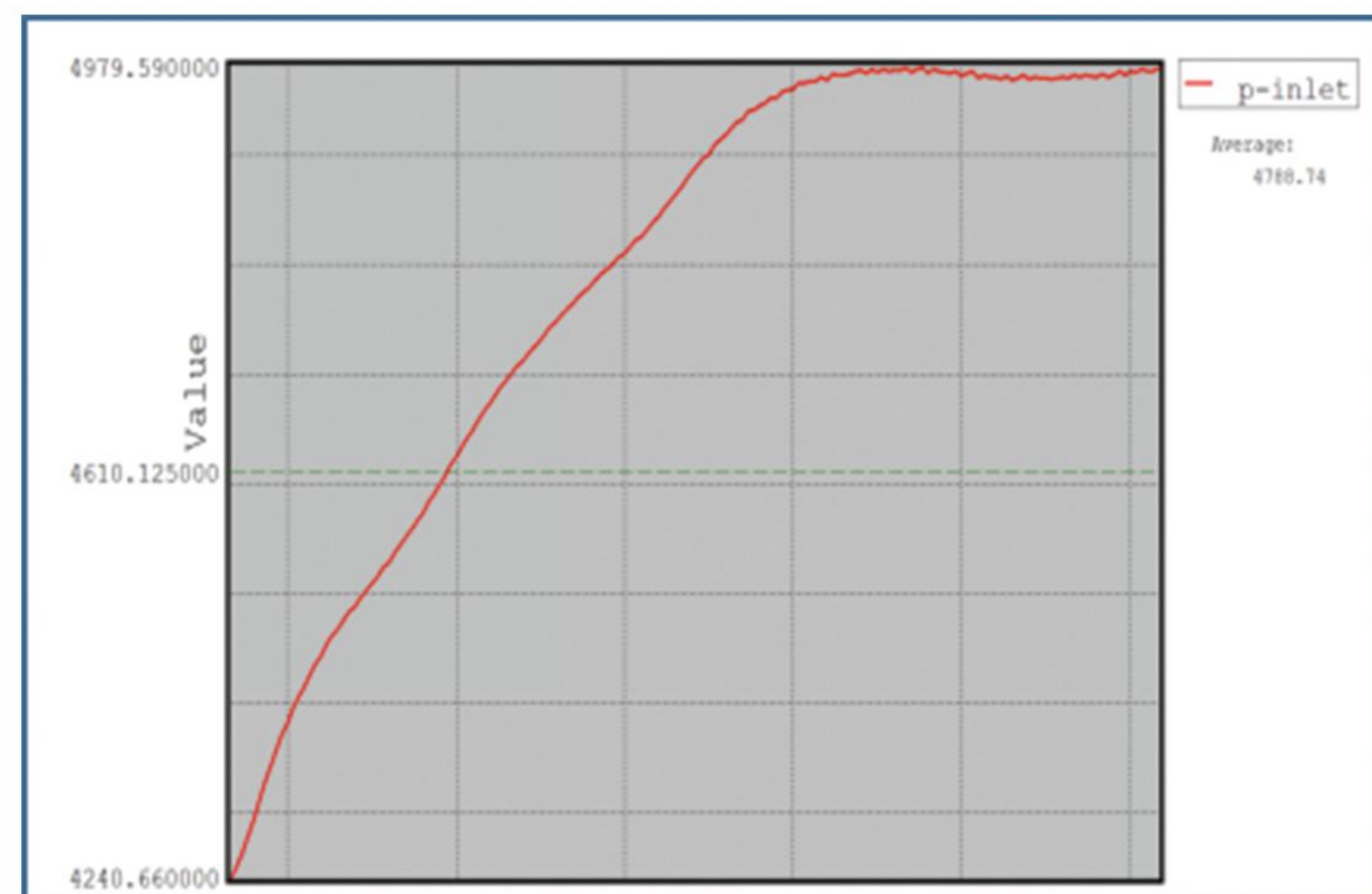
Design - R&D capability



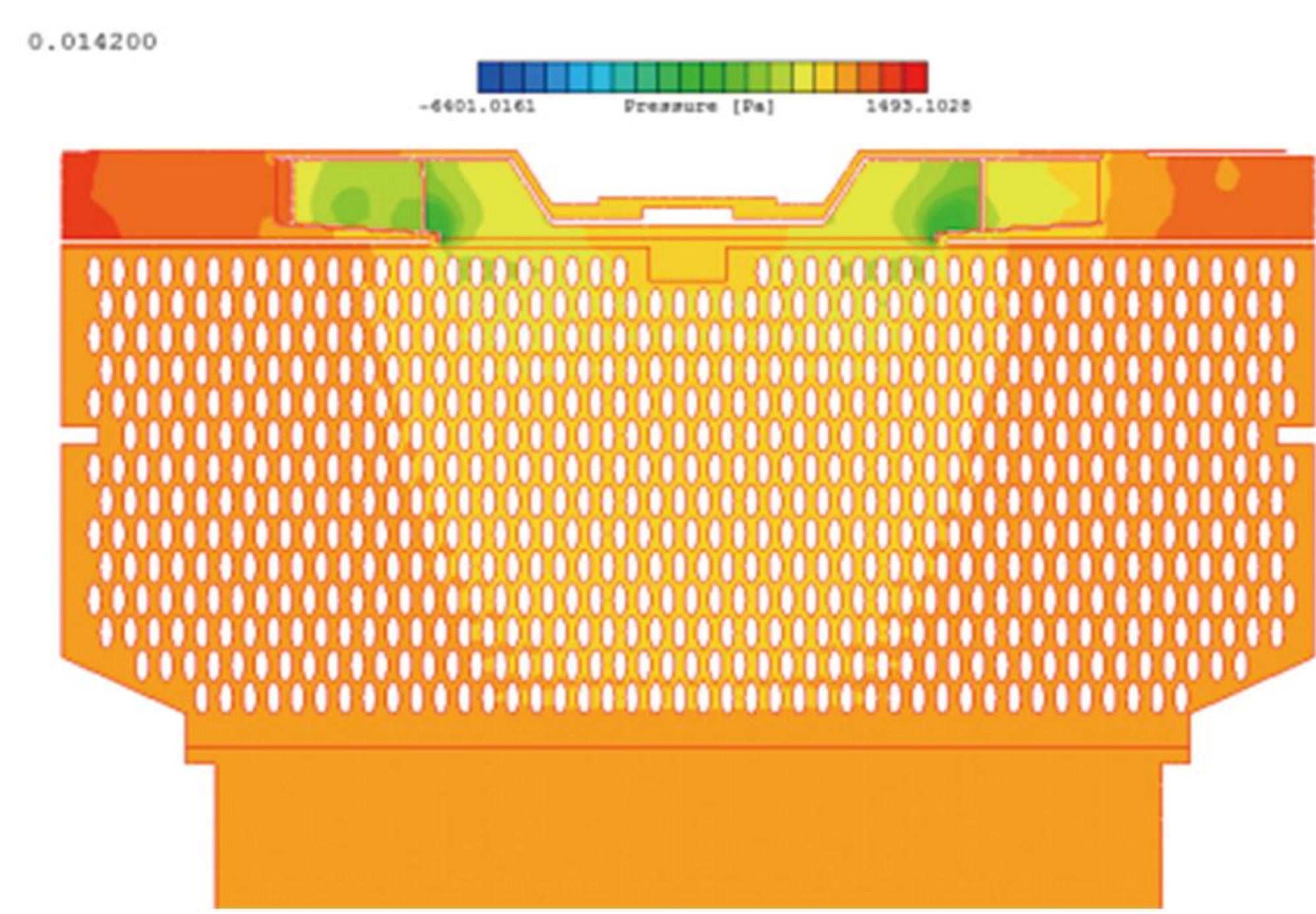
专业产品热工造型软件
Professional product thermal selection software



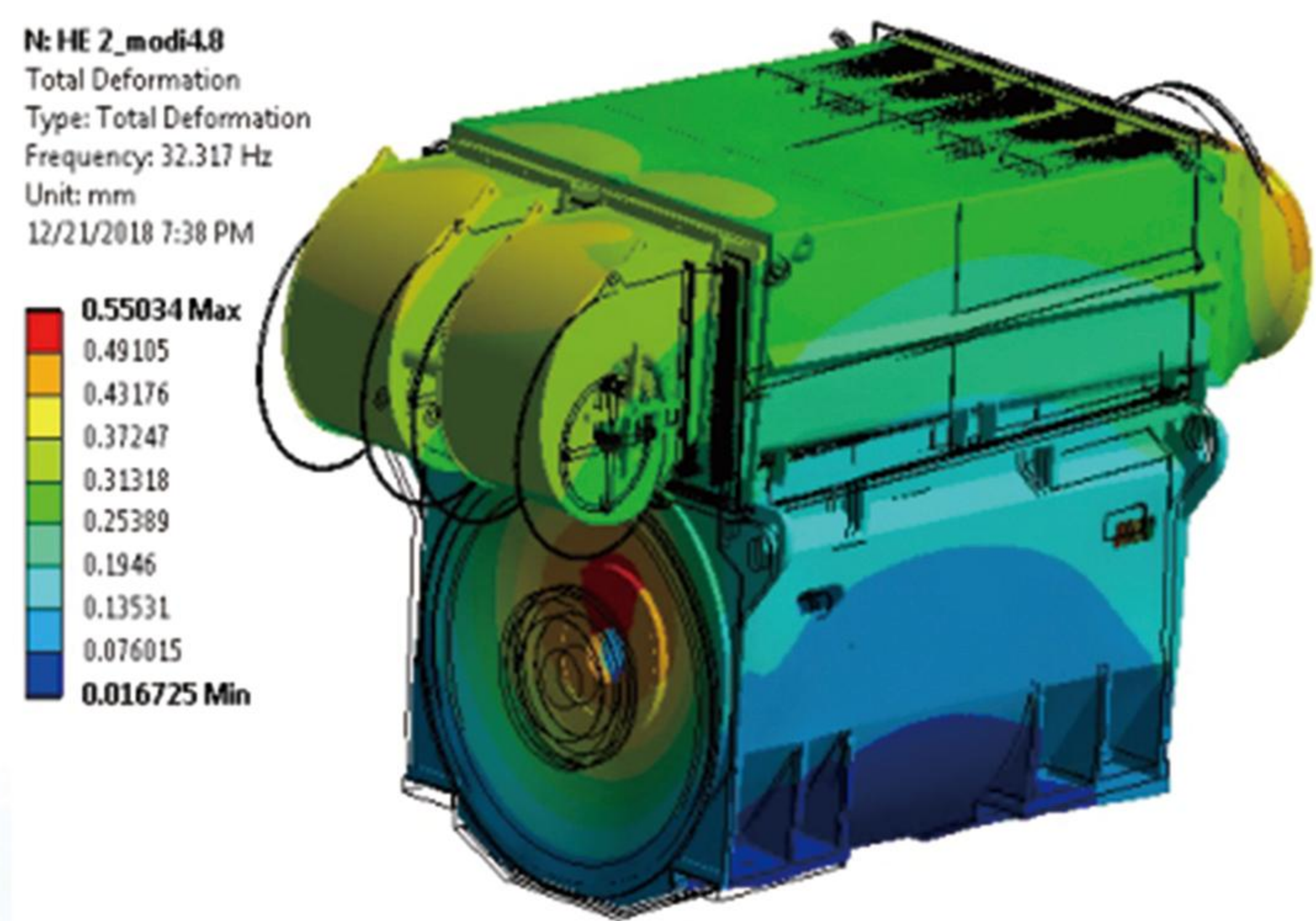
流体模拟分析
Fluid simulation analysis



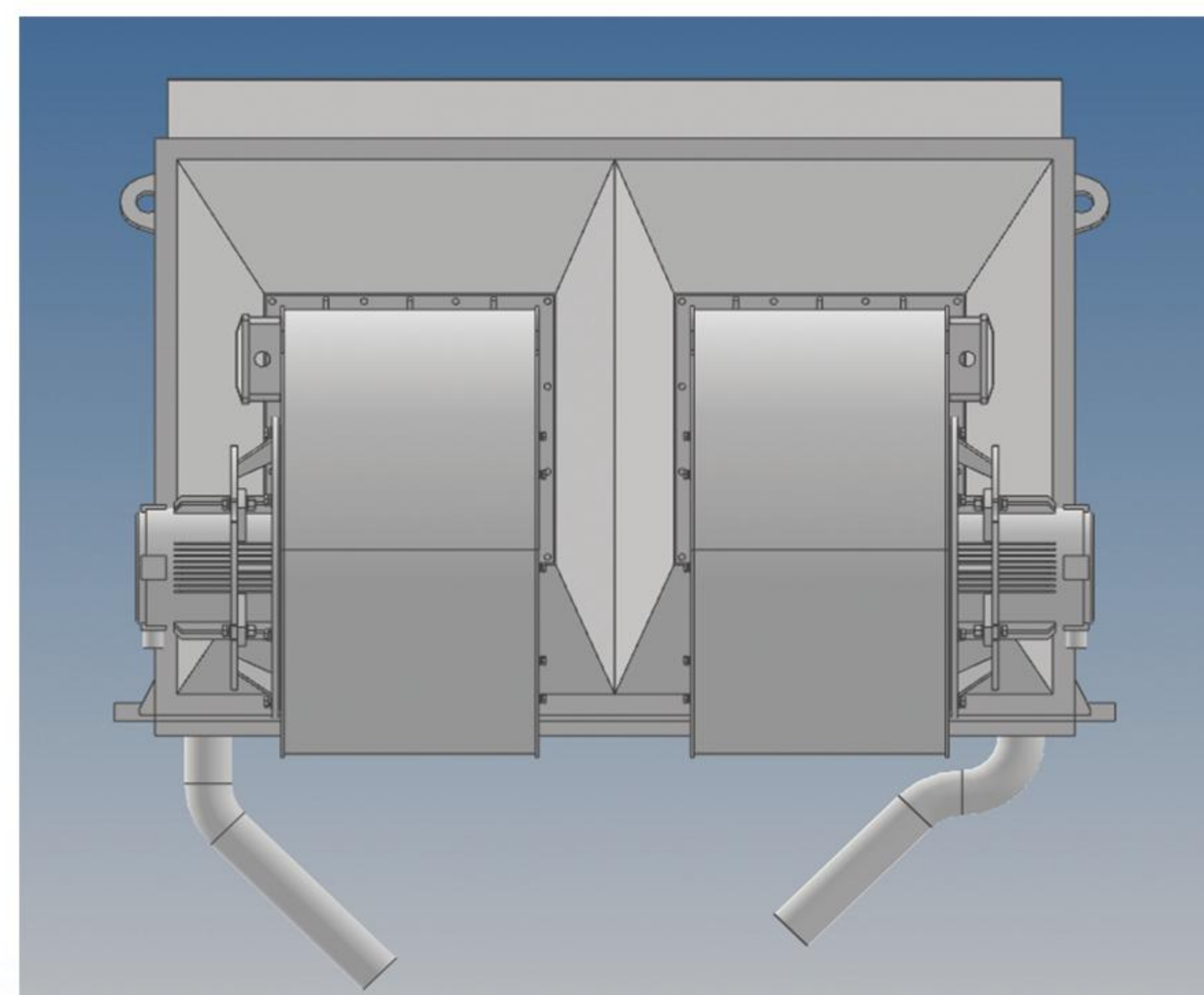
性能曲线
Performance curve



热流体模拟分析
Thermal fluid simulation analysis



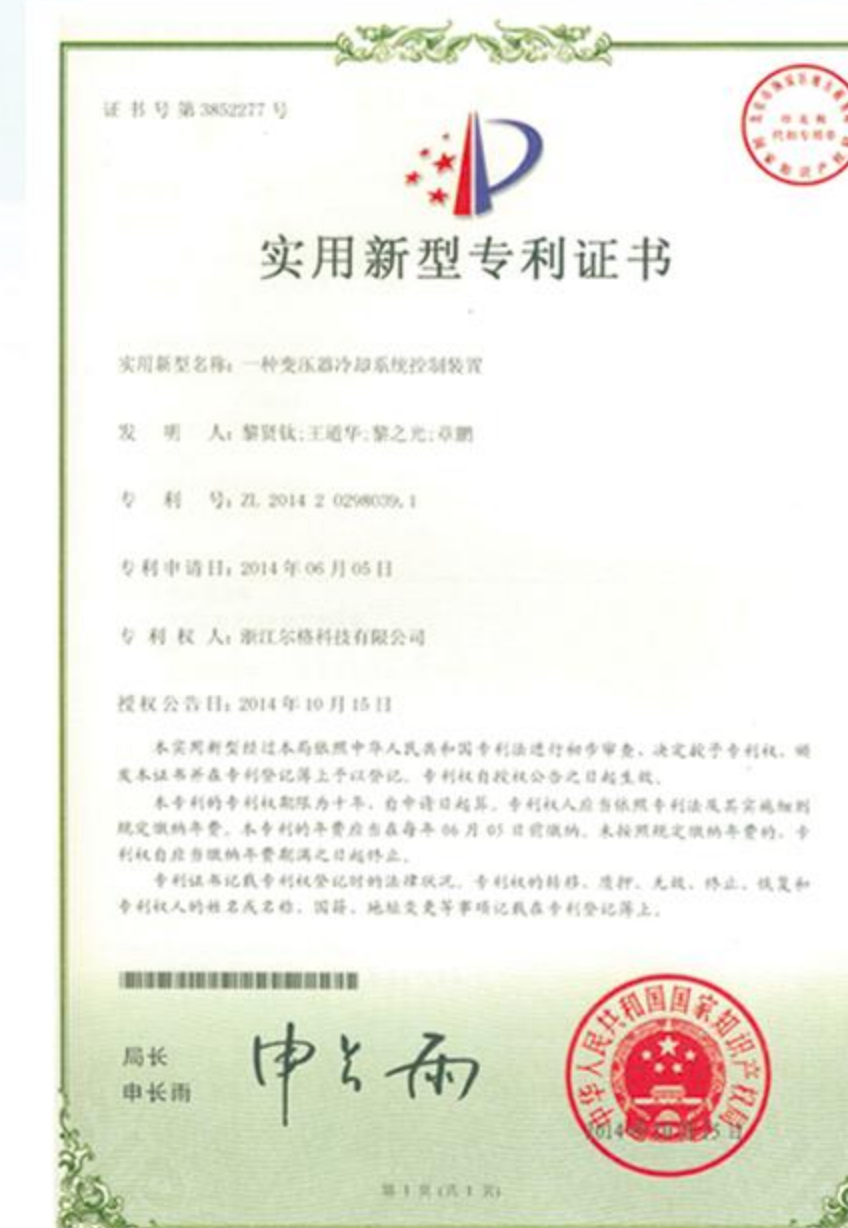
系统模拟分析
System simulation analysis



三维结构设计
3D structure design

设计及创新能力展示

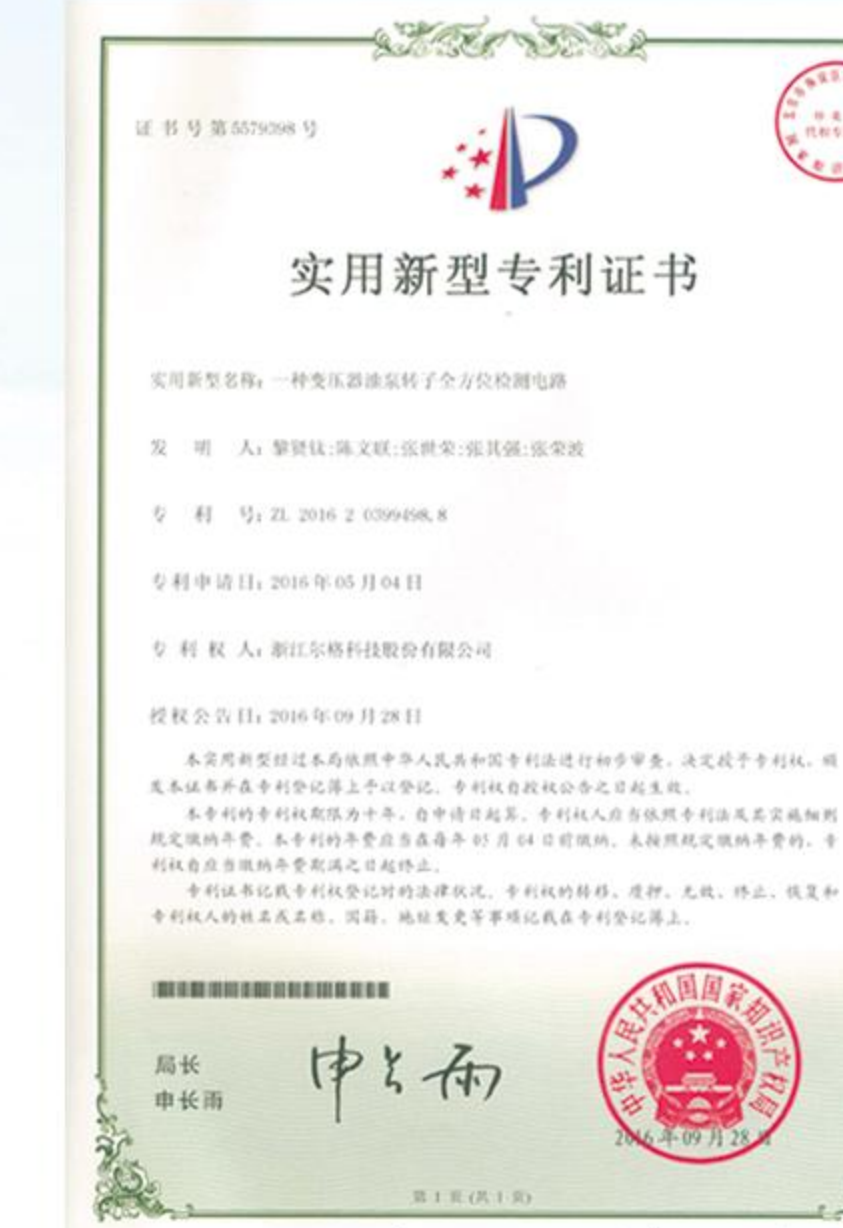
Design and innovation ability



一种变压器冷却系统控制装置



一种发电机冷却器



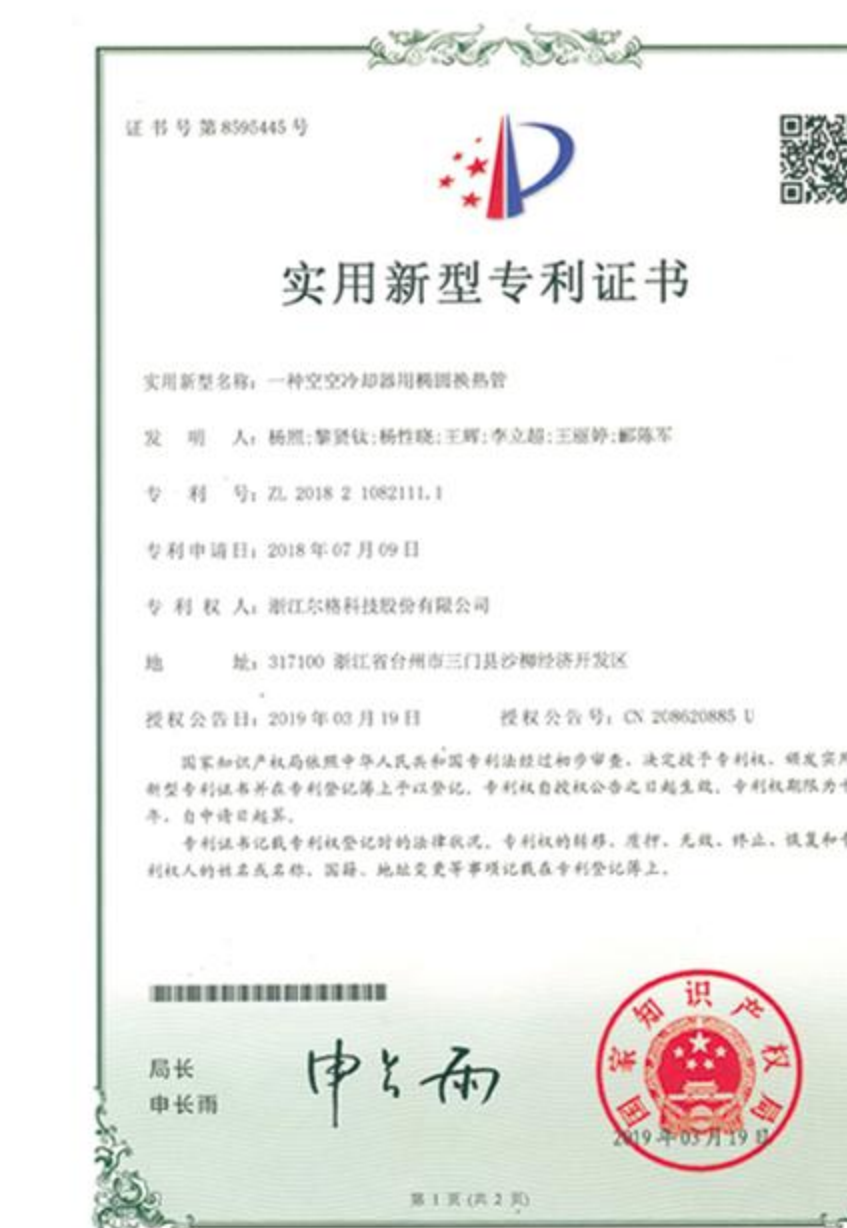
一种变压器油泵转子全方位检测电路



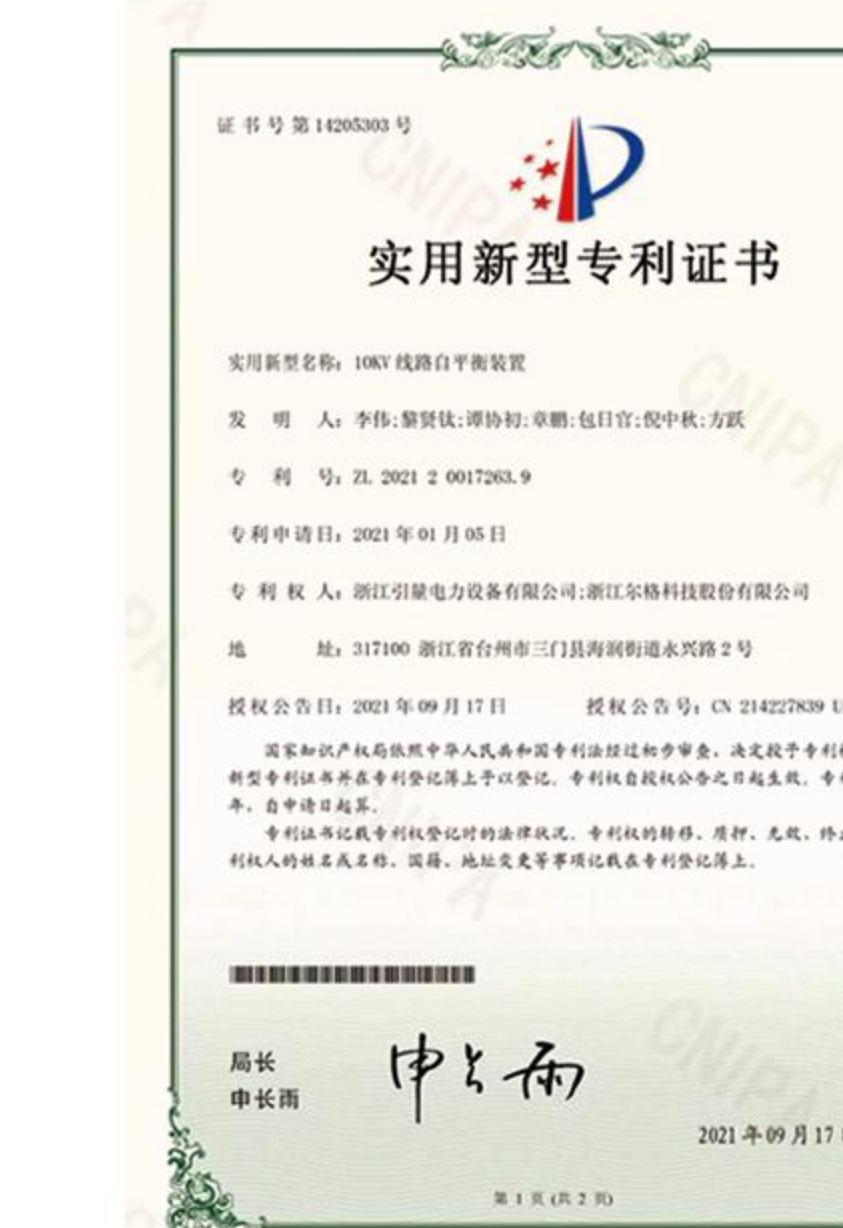
一种空水冷却器



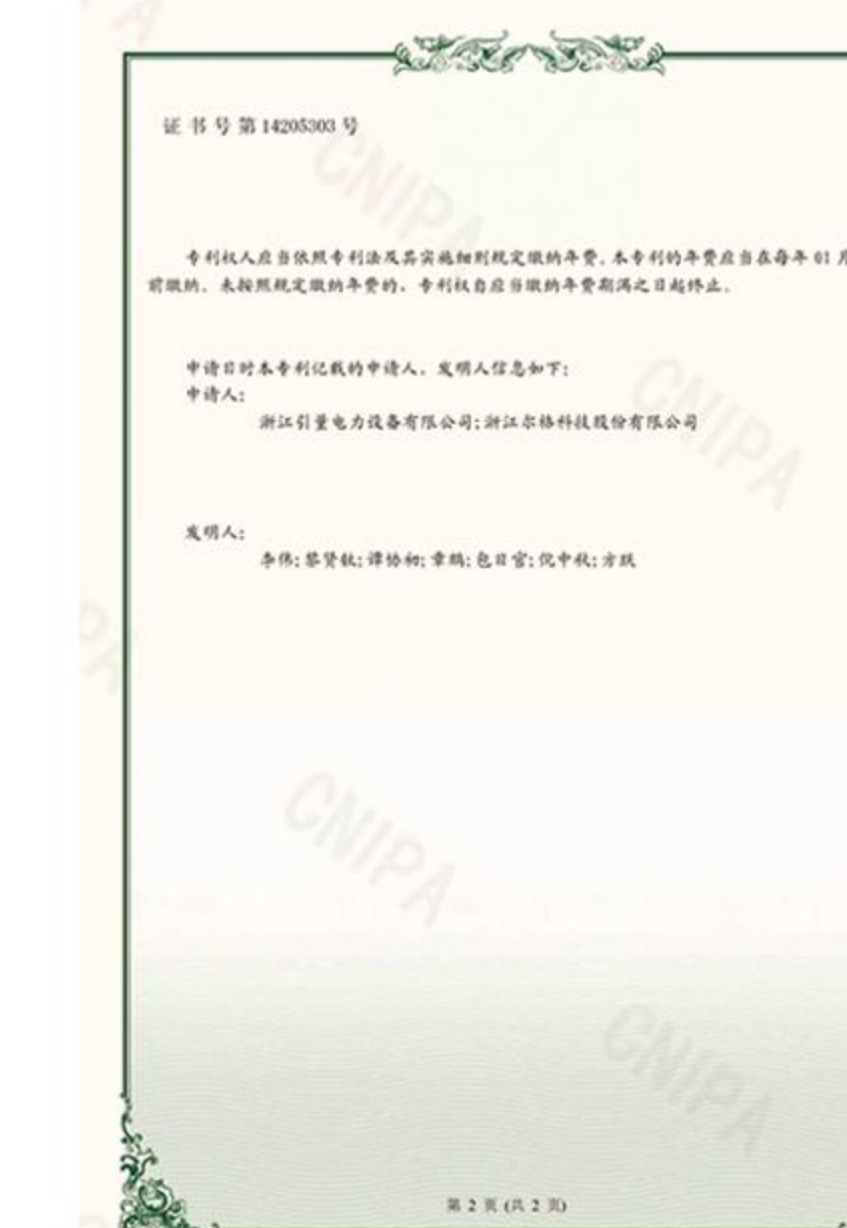
一种智能型低压末端调压补偿装置



一种空空冷却器用椭圆换热管



10KV线路自平衡装置



10KV线路自平衡装置



轴向小尺寸油浸风冷式变压器用冷却风机



大流量高效离心风机



风塔筒送风系统及其配备的空气过滤装置



具有调压和监测保护功能的冷却器试验装置



一种新型蝶阀



六柱型电力机车变压器油泵的相序指示器



一种快速装配的试漏装置



一种风机及风机叶轮

应用领域

Application



输变电
Power Transmission



发电
Electric power generation



轨道交通
Rail transit



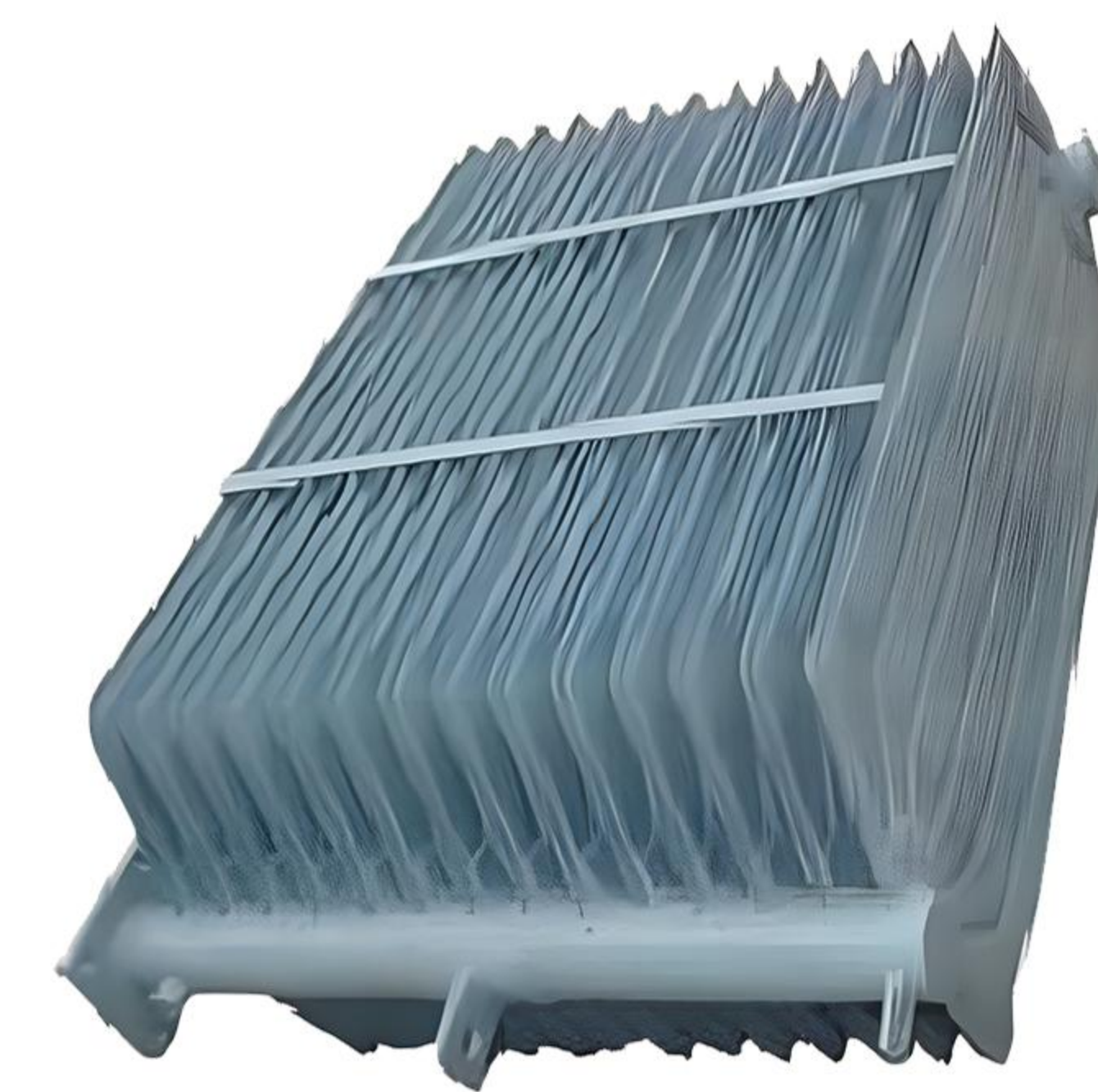
新能源发电
New energy power generation



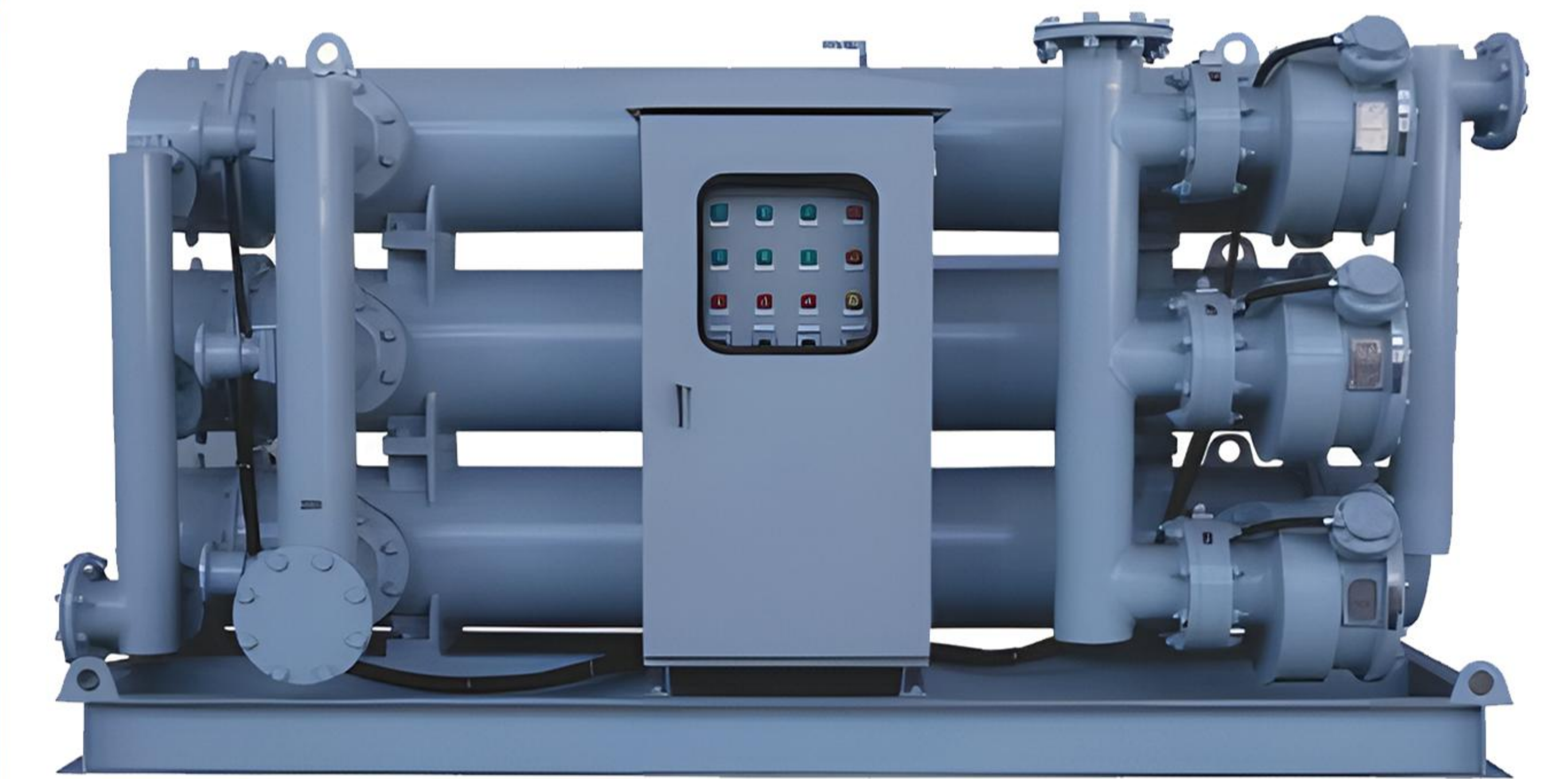
冶金化工
Metallurgical chemical industry

产品展示-变压器冷却系统

Product Display-Transformer Cooling System



● 标准型片散 Radiator



● 紧凑型油水冷却集成系统 Compact TOWC Skid



● 热浸锌椭圆管风冷
OFAF with hot dip galvanized elliptic tube



● 螺旋板式油水冷却器
Spiral plate oil-water cooling system



● 双管油水冷却器
Double Tube OFWF Heat-exchanger



● 钢铝复合管风冷
OFAF with Steel-aluminum tube



● 冷却集成系统 TOWC Skid

产品展示-发电机及高压电机冷却系统

Product Display-Motor and Generator Cooling System



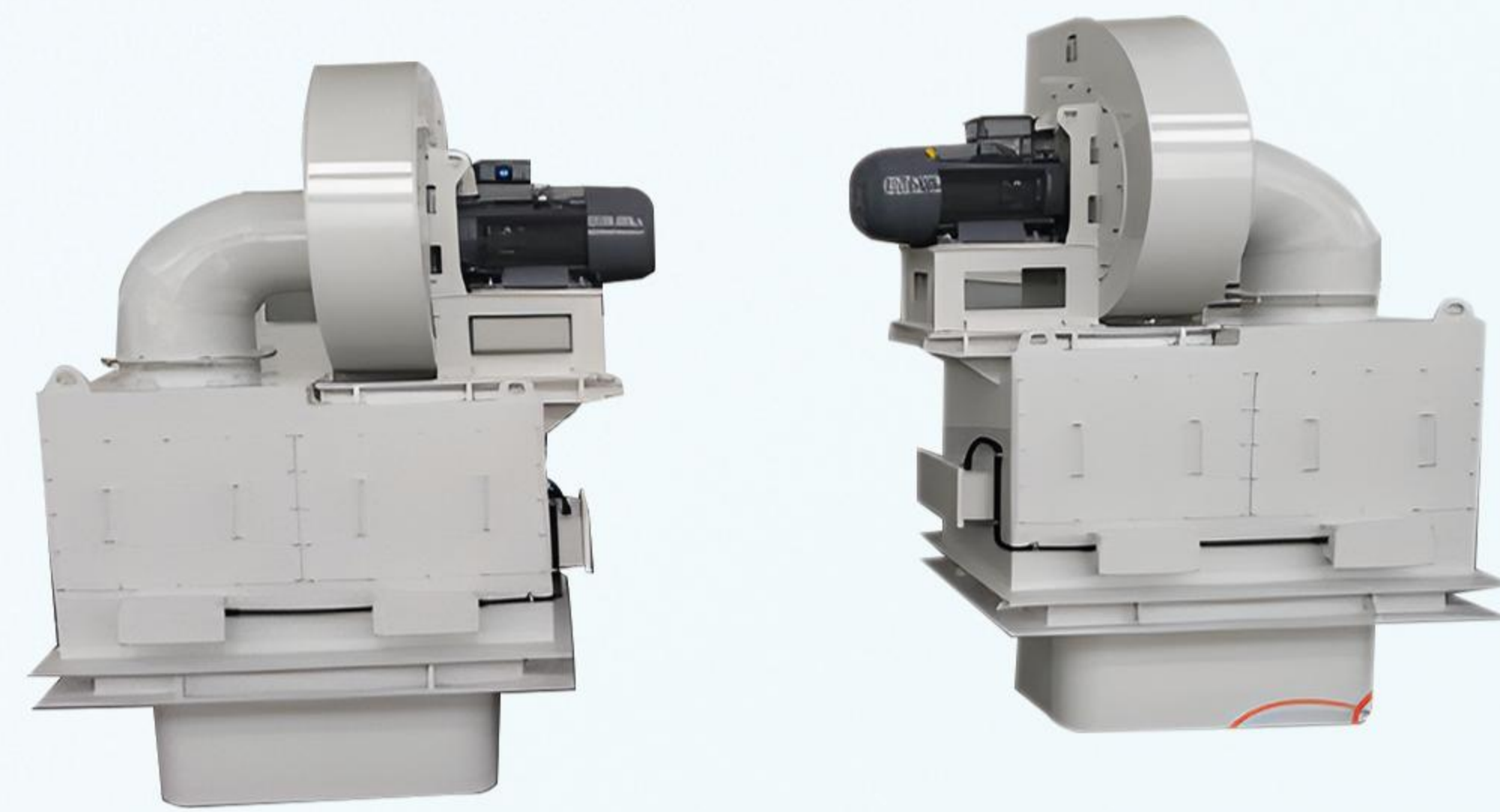
● 空空冷却器 Air-air cooler



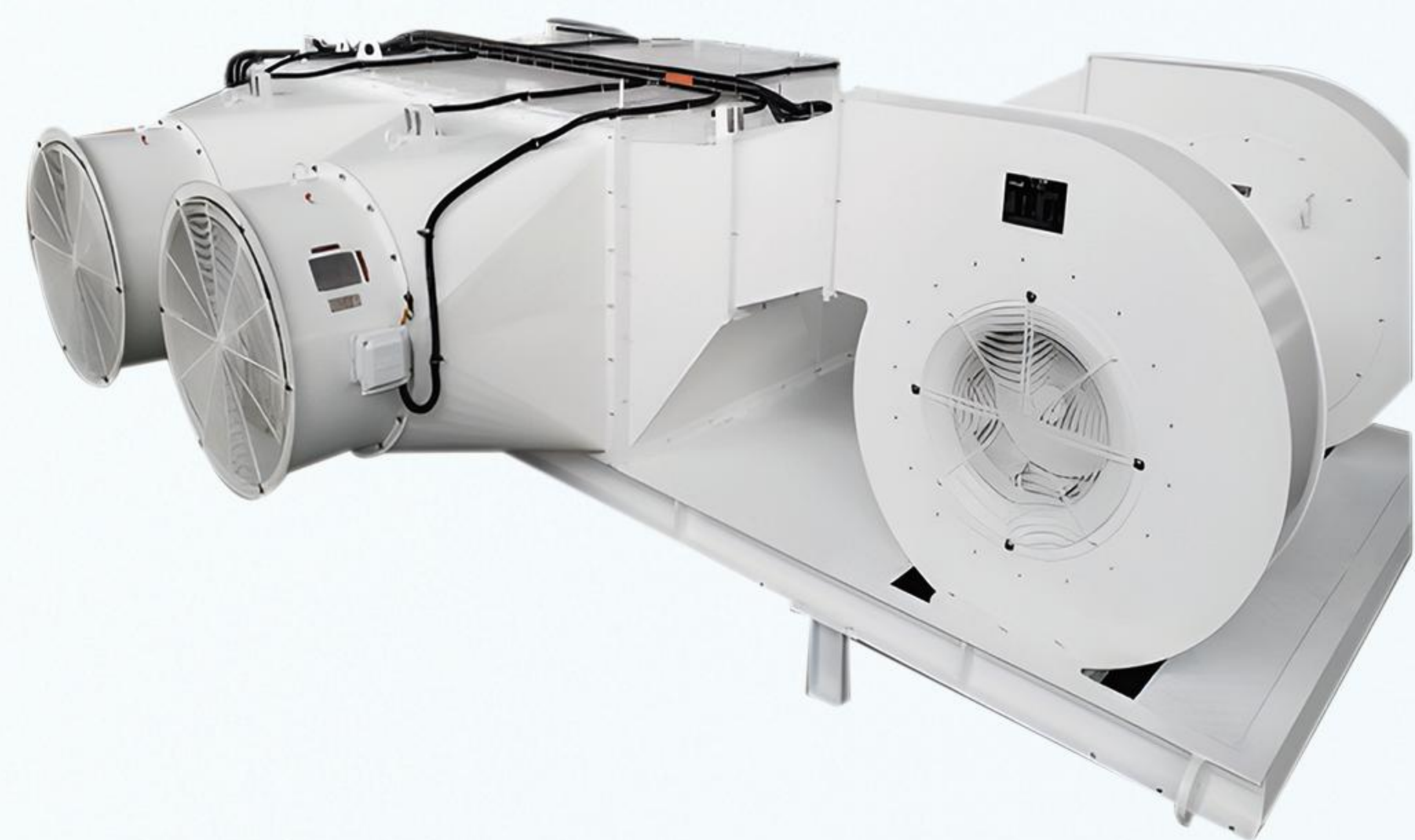
● 椭圆冷却管空空冷却器 Air-air elliptic tube



● 高压电机背包散热器
Air-water cooler for HV motor



● 直驱发电机空空冷却器
Direct-Driven Generator Air-air Cooler



● 半直驱发电机空空t冷却器
Semi-Direct-Driven Generator Air-air Cooler



● 水力发电机空气冷却器
Hydraulic generator Air-air cooler

产品展示-专用冷却系统

Product Display-Special Cooling System



● 海上塔筒脂油变水冷却器
Oil-water cooler of offshore tower



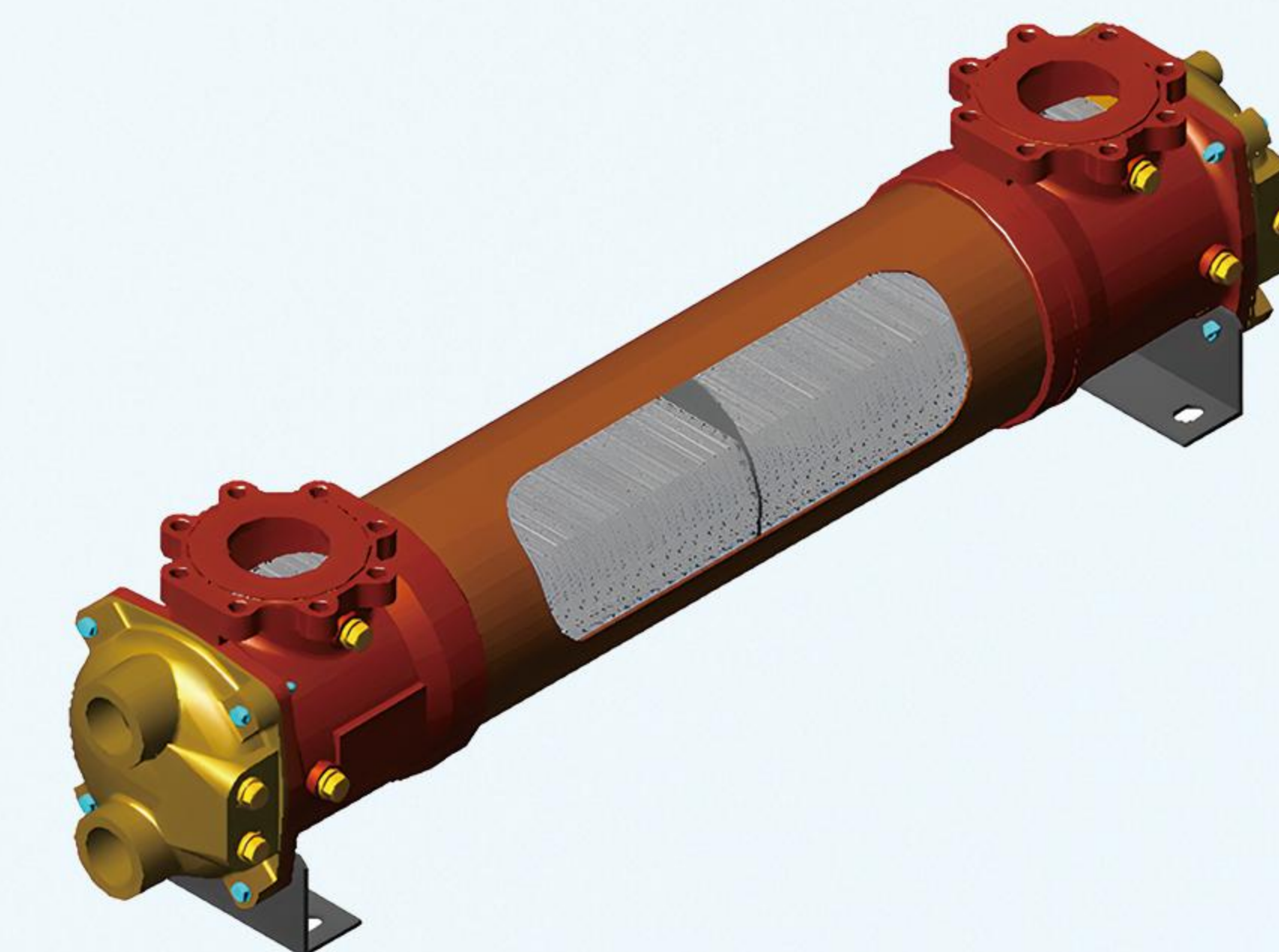
● 化工用空气冷却器
Air cooler for chemical industr



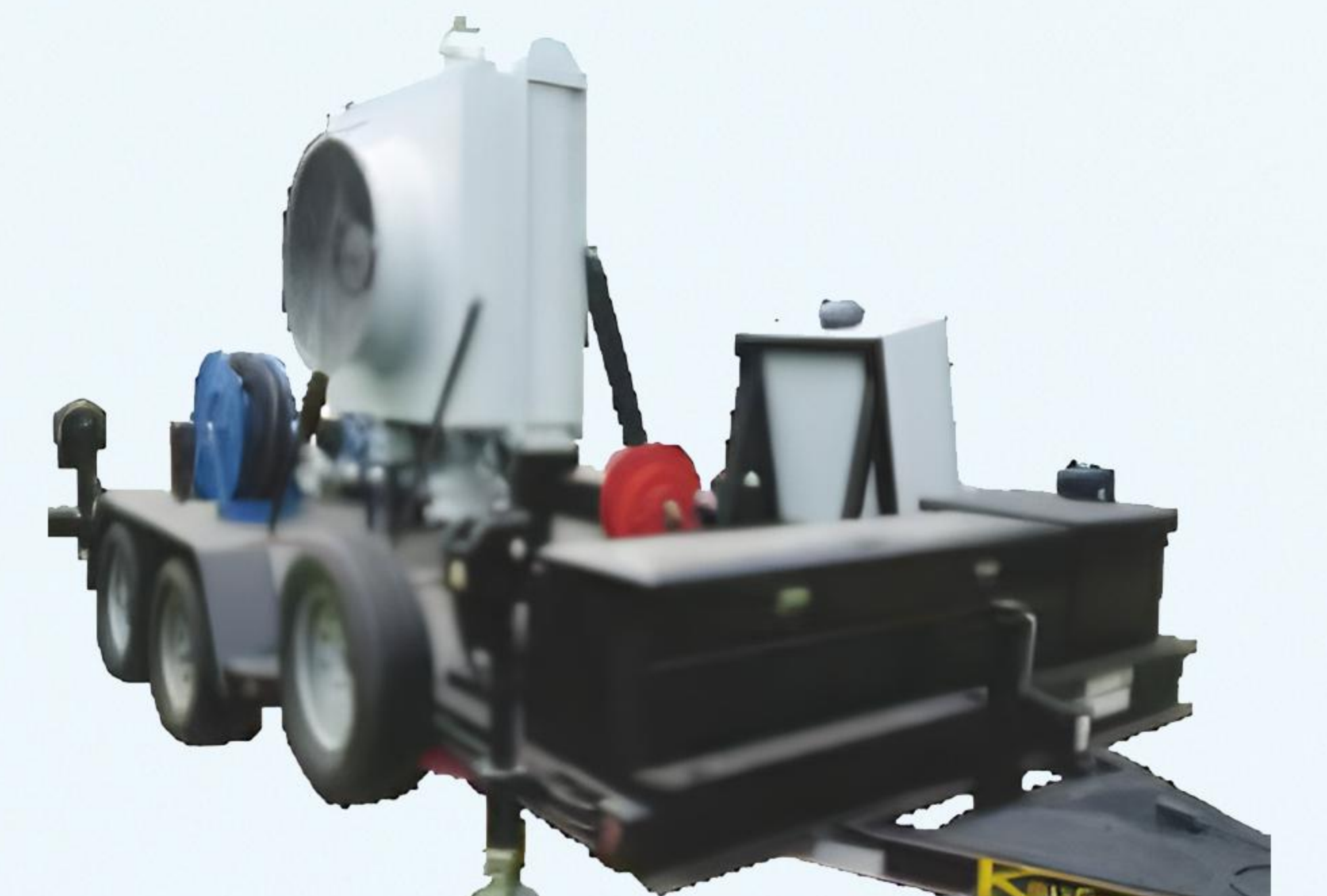
● 空气冷却器 Air cooler



● 干式变压器水风散热器（系统）
Water-Air Cooler for Resin Transformer



● 油冷却器 Oil cooler



● 移动变用冷却系统
Mobile transformer cooling system

产品展示-变压器组件

Product Display-Transformer accessories



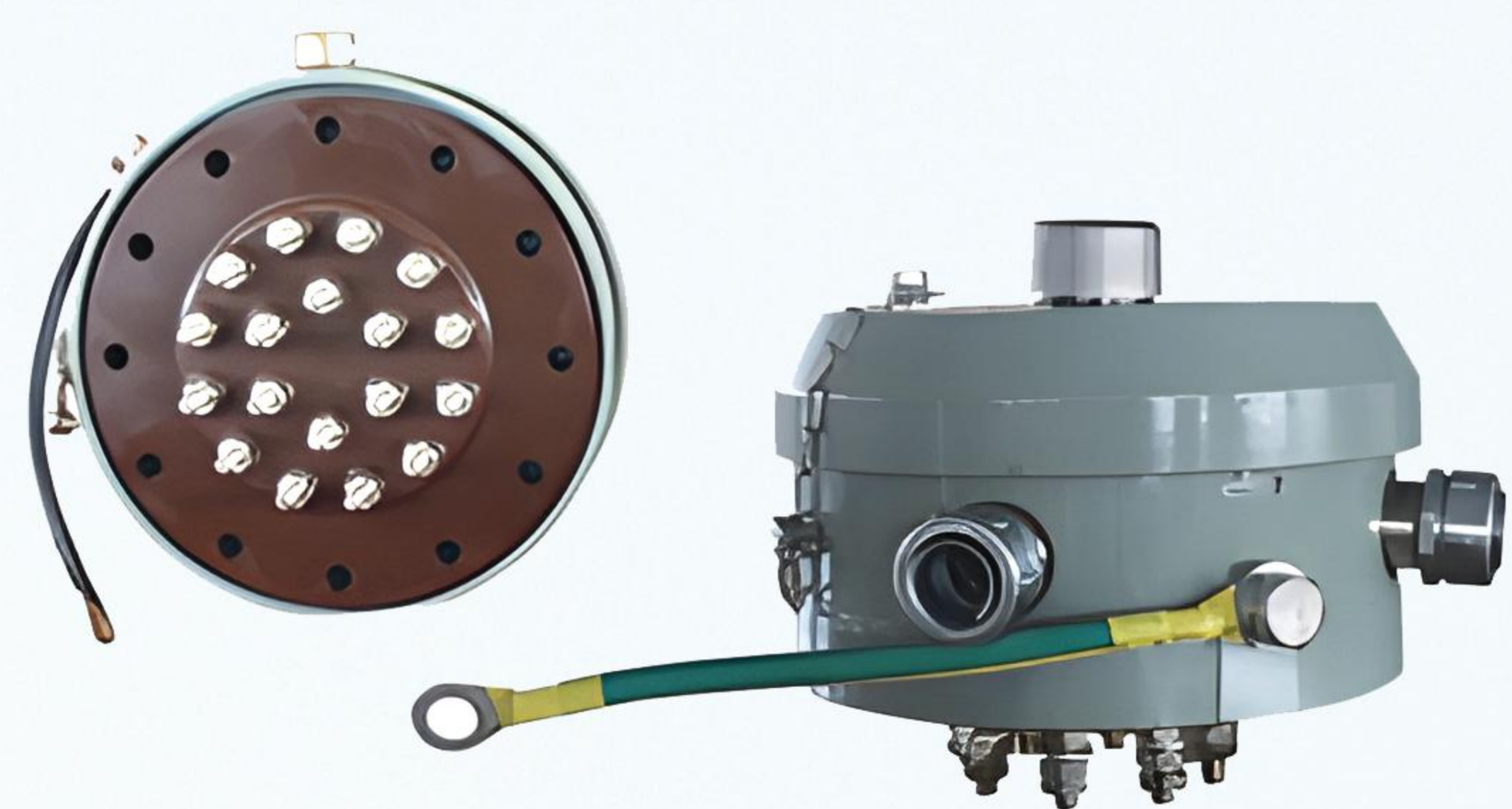
● PLC控制柜
PLC control cabinet



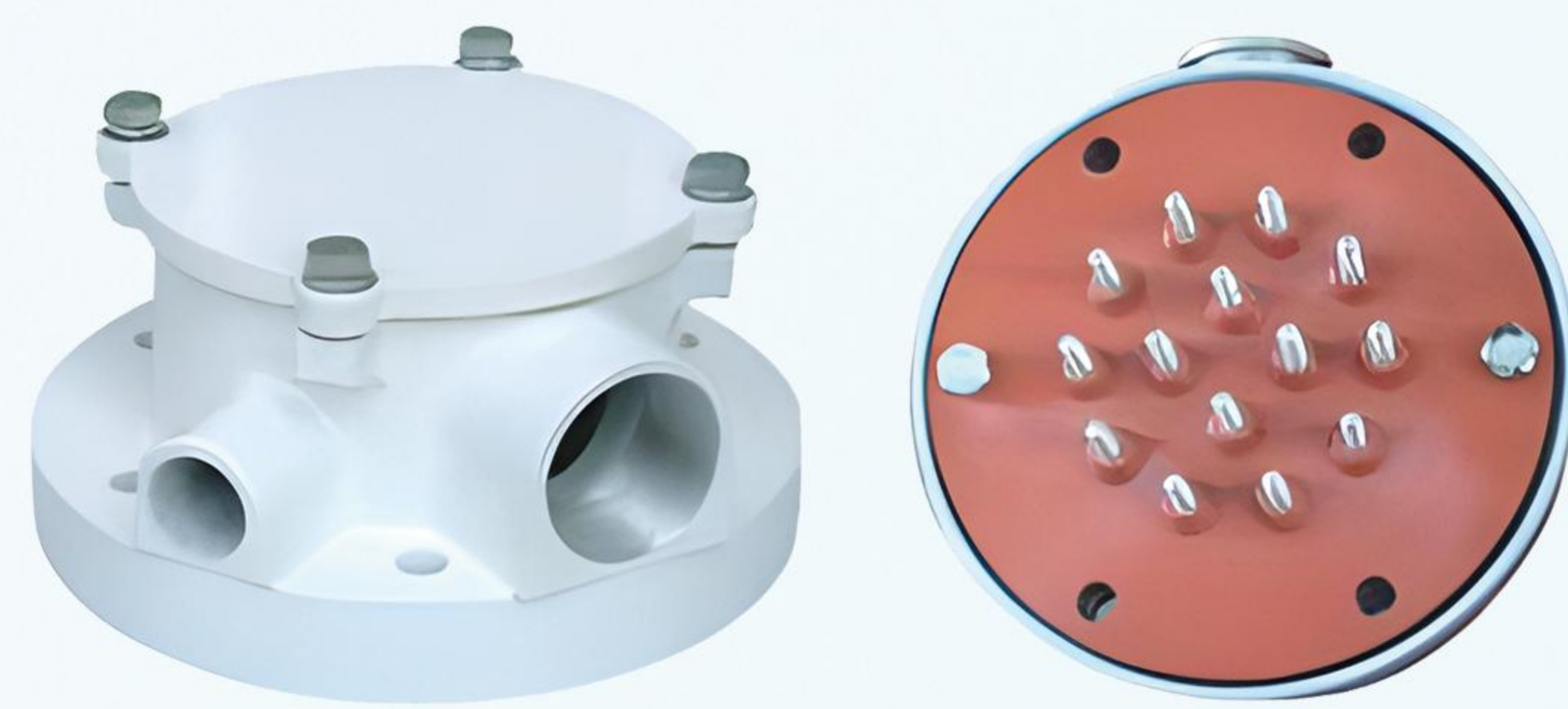
● 低压无功功率补偿柜
Low voltage reactive power compensation cabinet



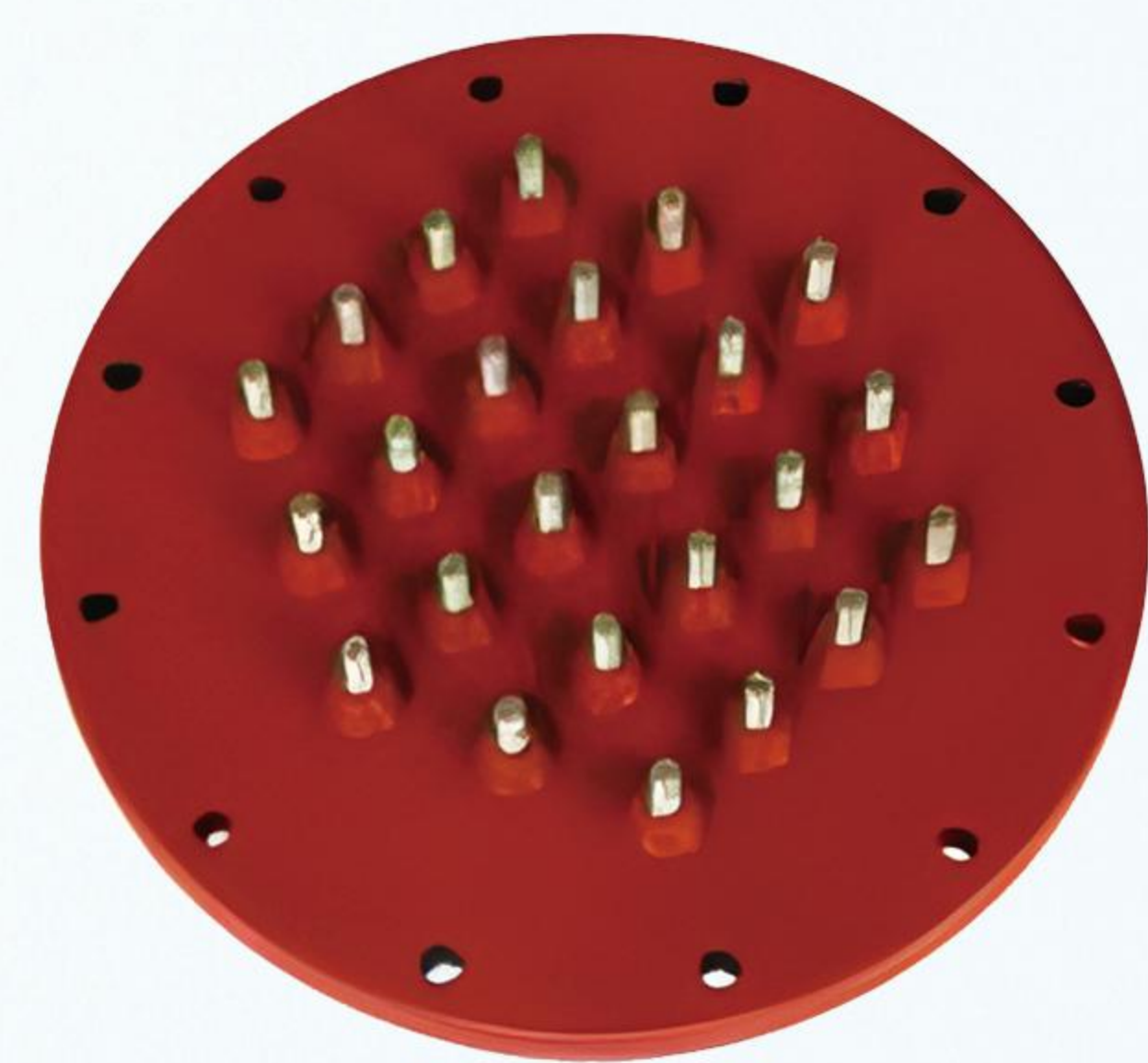
● KWXF-S型变压器冷却控制系统
KWXF-S Transformer Cooling Control System



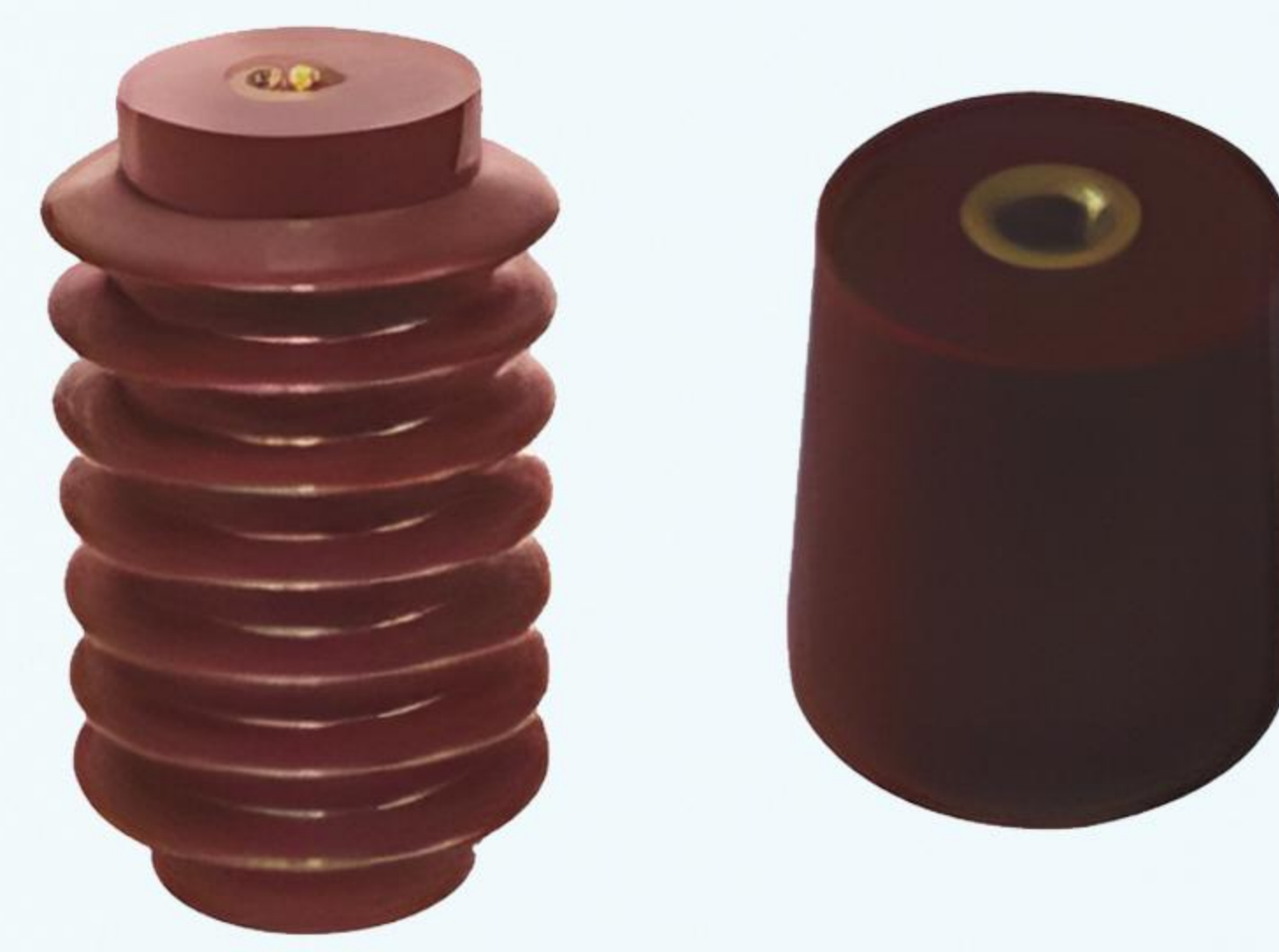
● TCT端子盒 TCT Terminal box



● BCT端子盒 BCT Terminal box



● CT接线板 CT Terminal plates



● 绝缘端子 Insulation terminals

产品展示-变压器组件

Product Display-Transformer accessories



● CFZ系列变压器风扇
CFZ series transformer cooling fan



● DBF系列变压器冷却风扇
DBF series transformer cooling fan



● 片散吹风装置
Fan for radiators



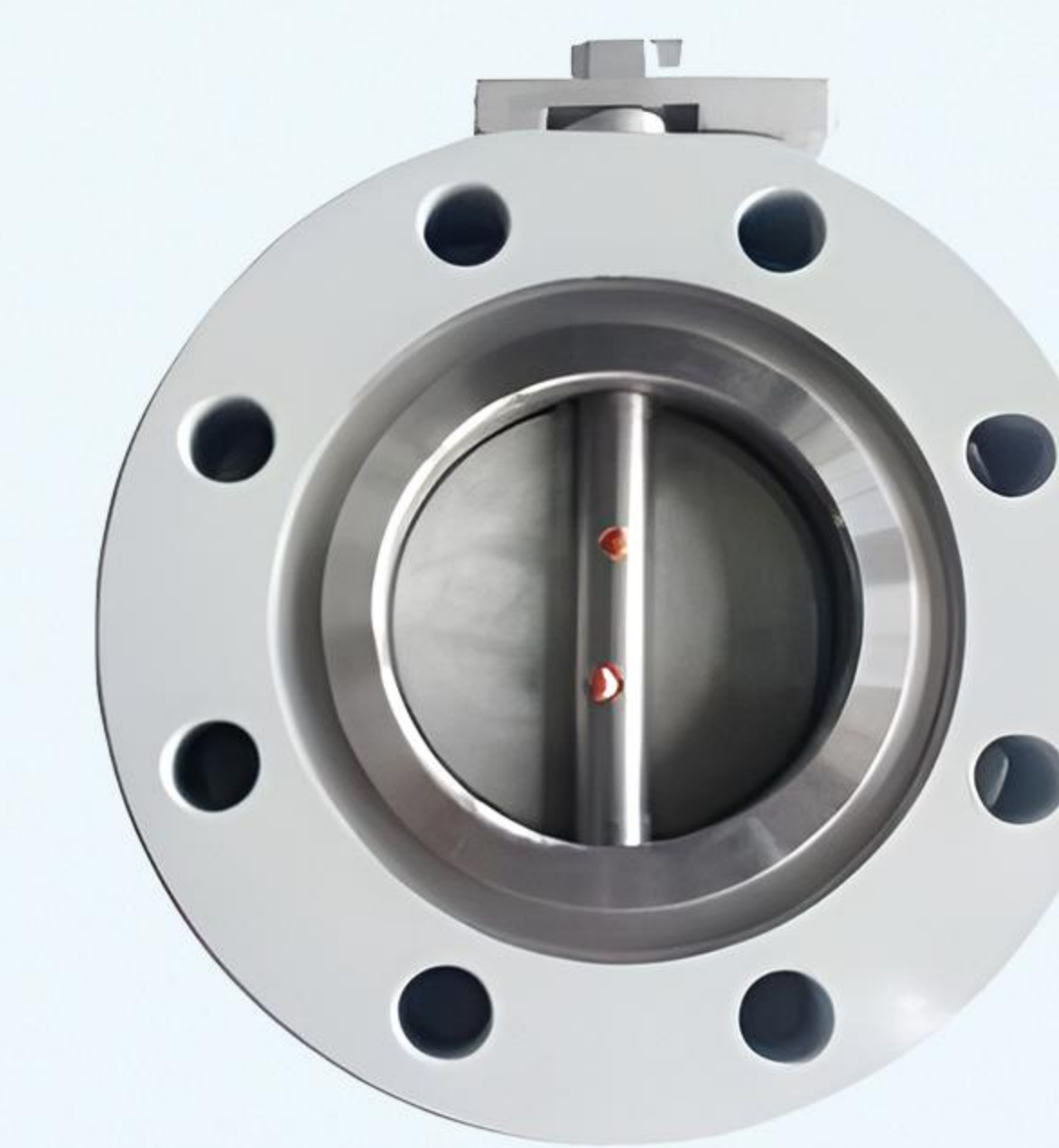
● 油流继电器 Oil flow relay



● 可调节油流继电器
Adjustable oil flow relay



● 免维护吸湿器
Self dehydrating transformer breather



● 变压器专用蝶阀 Butterfly valve

产品展示-变压器组件

Product Display-Transformer accessories



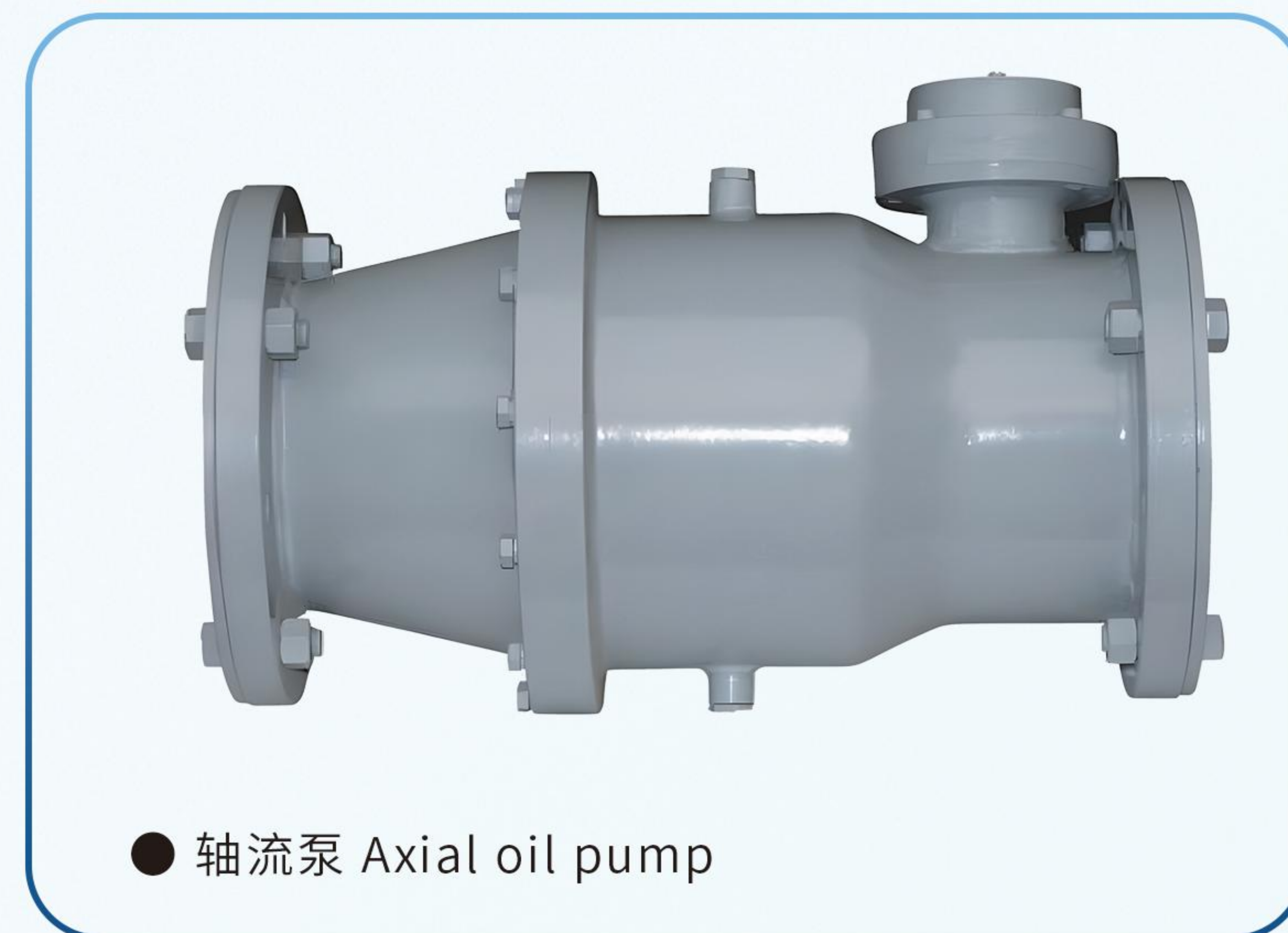
● 盘式泵 Disc oil pump



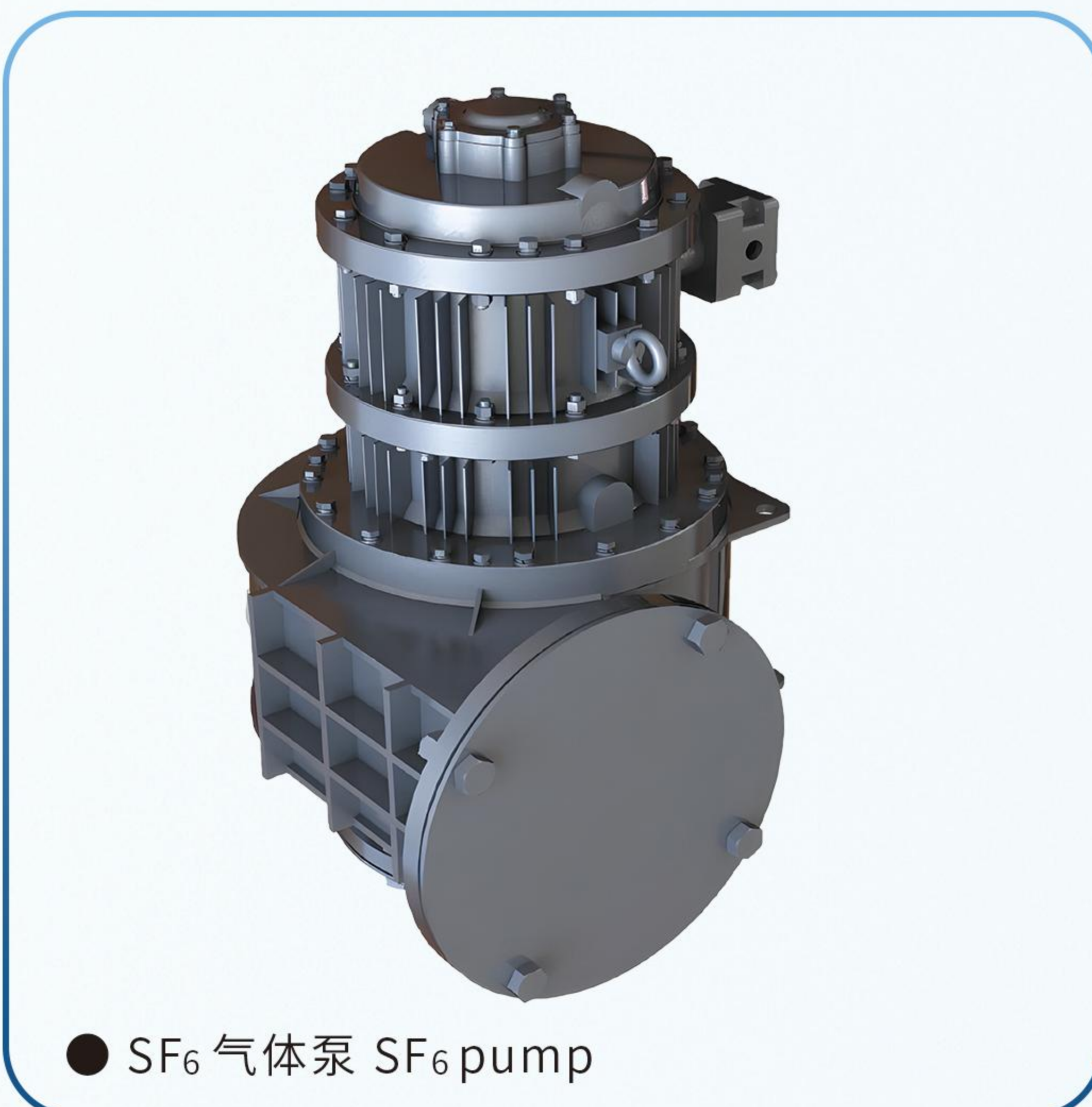
● 液力悬浮油泵 Hydraulic suspension oil pump



● 电力机车油泵 Locomotive oil pump



● 轴流泵 Axial oil pump



● SF₆ 气体泵 SF₆ pump



● 风电油泵 Wind power pump

产品分项介绍-变压器冷却系统

Product breakdown-Transformer cooling system

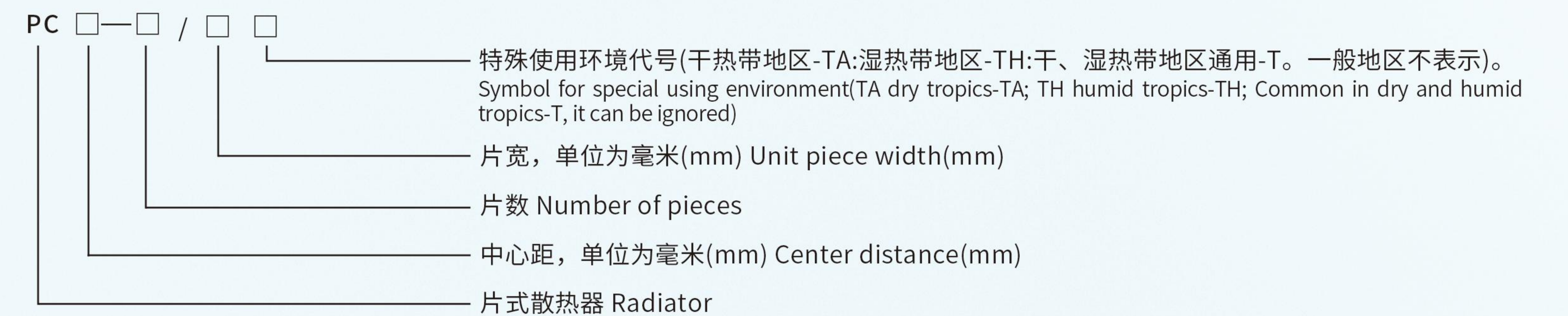
◆ 片散 Radiator

▶ 产品描述 Product overview



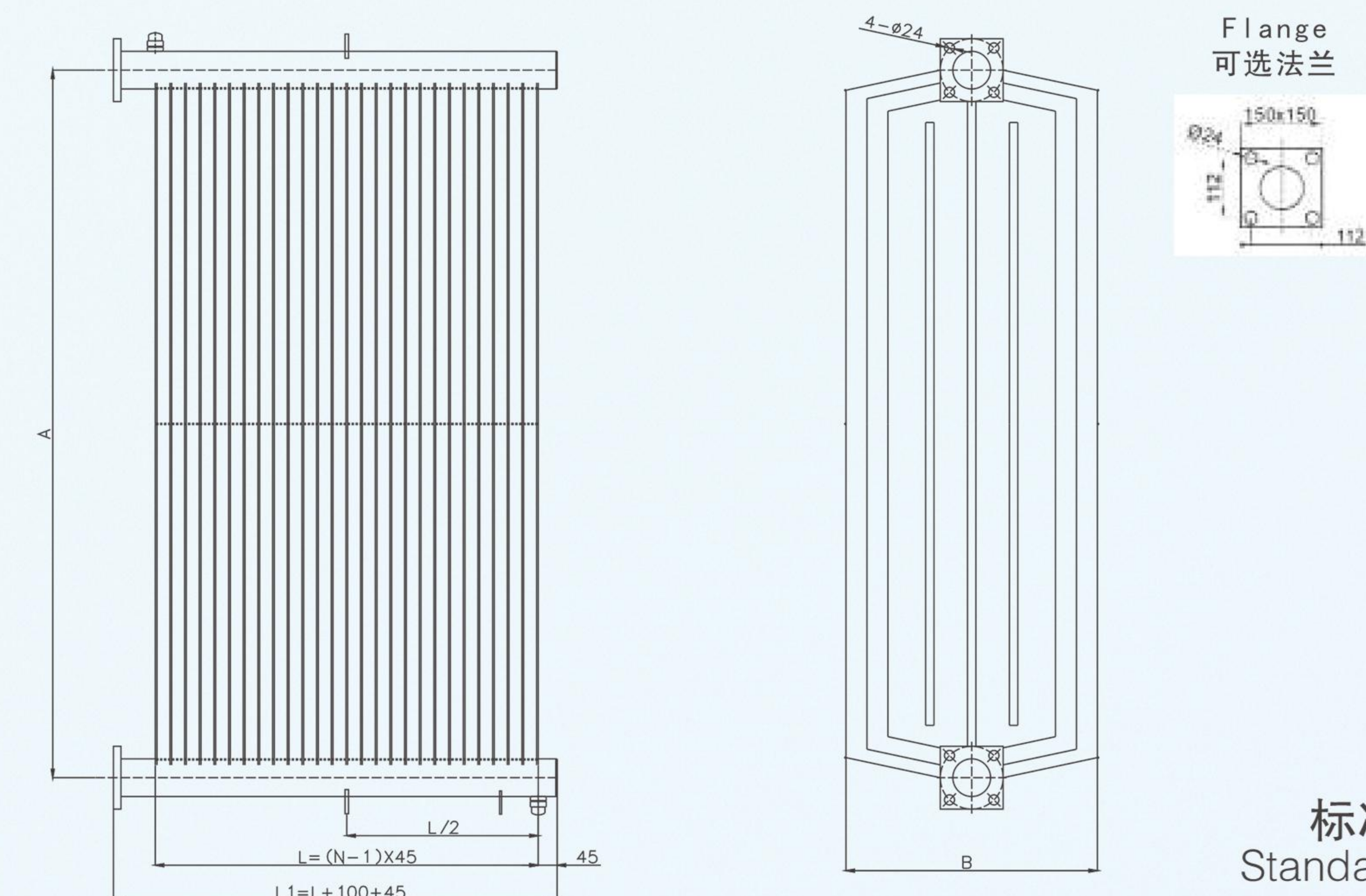
- ※单元片采用独特的结构设计, 已受理发明专利
- ※散热效率高5%以上
- ※成熟的工艺, 保证内部清洁度
- ※自动化生产线, 保证可靠性
- ※符合JB/T 5347标准
- ※片宽主要有480mm和520mm, 最大中心距有4米
- ※表面的油漆处理符合ISO12944标准要求
- ※The unit pieces adopt unique structural design, accepted invention patent
- ※More than 5% higher heat dissipation efficiency
- ※Mature process to ensure internal cleanliness
- ※Automatic production line to ensure reliability
- ※Comply with the standard of JB/T 5347
- ※Unit piece width: 480mm and 520mm, the maximum center distance is 4m
- ※Surface paint treatment meet the standard of ISO12944

▶ 型号说明 Type Description



示例: 中心距为3400mm, 片数为34片, 片宽520mm, 用于湿热带地区的可拆卸式散热器的产品型号为PC3400-34/520TH

For example: PC3400-34/520TH: Center distance:3400mm, Number of pieces:34, Unit pieces width: 520mm, Symbol for special using environment: TH humid tropics

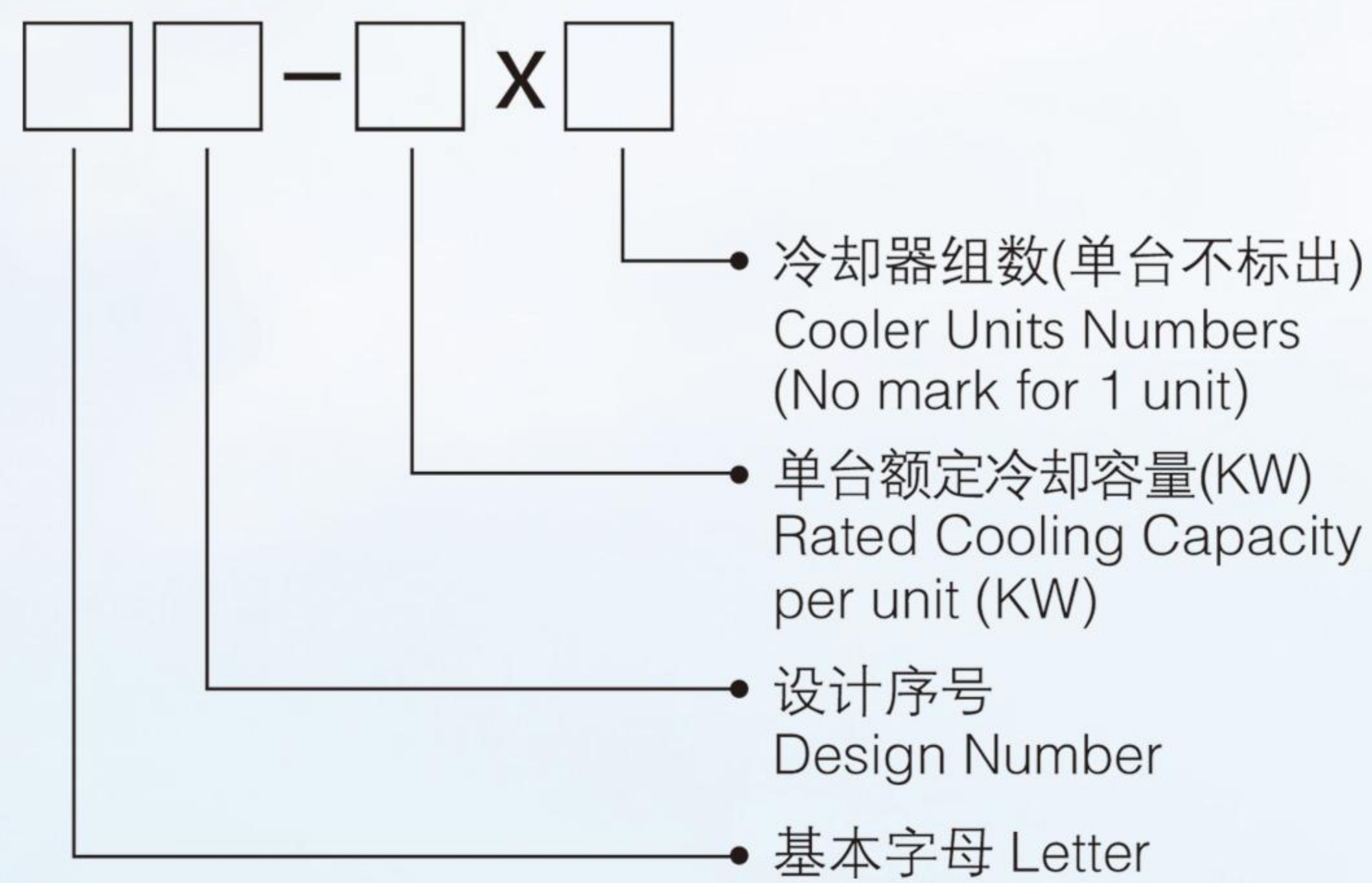


◆ 变压器强迫油循环水冷却器 OFWF Heat exchanger

产品描述 Product overview

- ※管板孔内开环形槽，胀接后牢固嵌入管板孔内，保证无渗漏
- ※拥有先进的机械式和液压式胀接设备和胀接技术，胀接充分，冷却效率高
- ※双重管设计，外管外部油循环，内管内部水循环，内外管之间有导流腔
- ※当油路或水路有渗漏，介质会顺着导流腔进入积液腔流入渗漏报警器，触发报警
- ※避免油水混合，起到双重防护的作用
- ※特殊的安全设计能使运行中冷却水的压力不受油压的限制
- ※Annular groove is opened in the tube plate hole and firmly embedded into the tube plate hole after expansion to ensure no leakage
- ※With advanced mechanical and hydraulic expansion equipment and expansion technology, the expansion is sufficient and the cooling efficiency is high
- ※Double pipe design, external oil circulation of external pipe, water circulation of internal pipe, and there are diversion cavity between internal and external pipes
- ※When there is leakage in the oil or water circuit, the medium will enter the liquid accumulation chamber along the diversion chamber and flow into the leakage alarm, triggering the alarm
- ※Avoid mixing of oil and water, with dual protection function
- ※The special safety design make the pressure of cooling water not limited by oil pressure during operation

型号说明 Type Description



示例：额定冷却容量为 200kW，强迫油循环，采用铜铝轧片式结构的二重管式冷却器，底座安装方式 第一次设计时的产品型号为 YSFS1-200。

Rated cooling capacity of 200kW, forced oil circulation, copper-aluminum material, rolled type structure and double tube cooler, base installation, product model for first design is YSFS1-200.

冷却器产品型号基本字母排列顺序及含义见下表 Alphabetical order and meaning of cooler mode

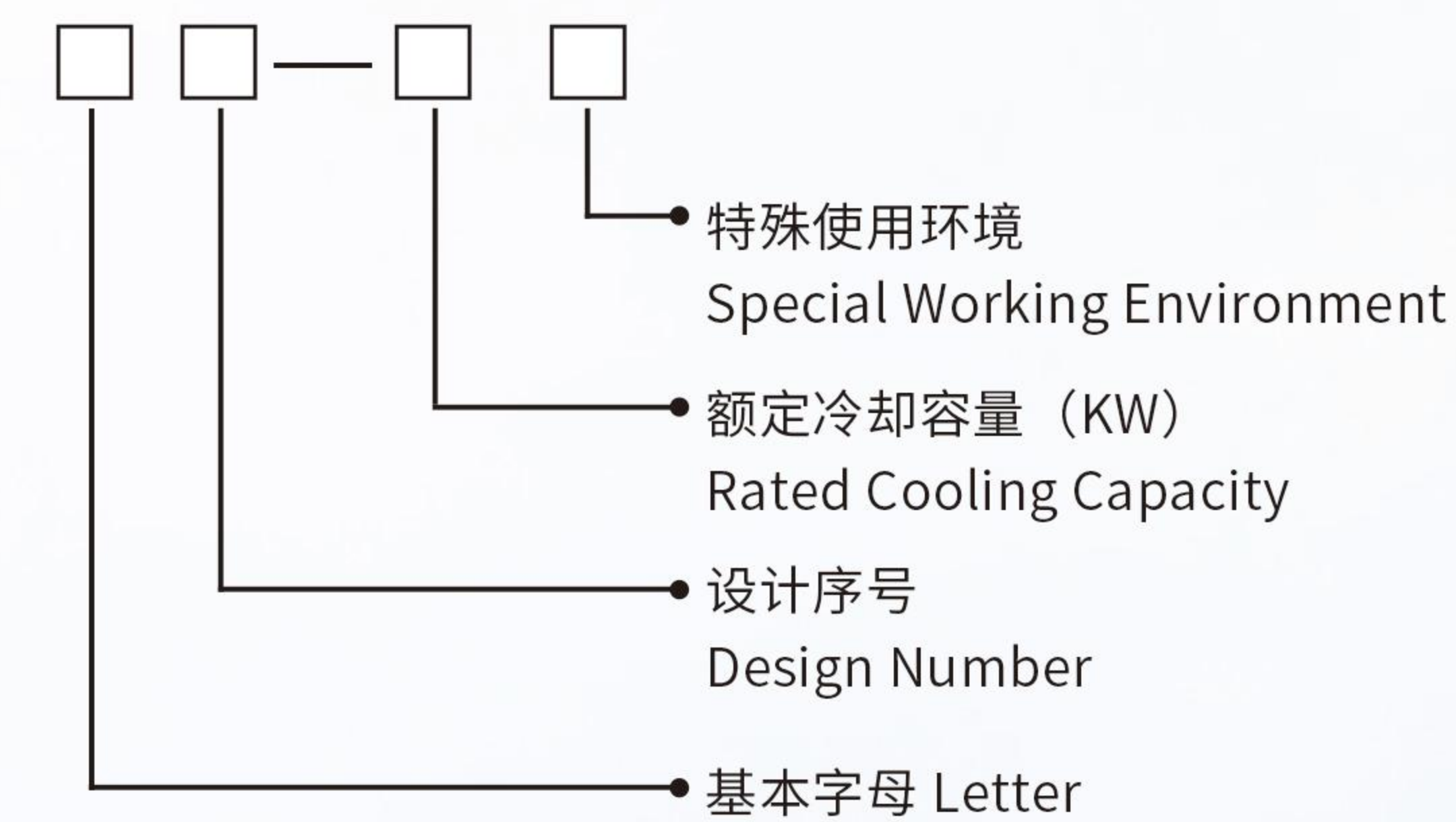
序号 No.	分类 Classification	含义 Meaning	代表符号 Letter meaning
1	被冷却介质循环方式 Cooled Medium Circulation Mode	强油循环 Forced Oil Circulation	Y
2	冷却介质循环方式 Mode of Circulation	强水循环 Forced Water Circulation	S
3	结构型式 Structure Type	单管、单管板式 Single Tube, Single Tube Plate Type	—
		单管、双管板式 Single Tube, Double Tube Plate Type	S
		二重管式 Double Tube Type	F
		底座 Base	S
4	安装方式 Installation method	壁挂式 Wall-mounted	H
		卧式 Horizontal	L

◆ 变压器强迫油循环风冷却器 OFAF Heat exchanger

产品描述 Product overview

- ※管板采用孔内开双环槽或全焊接结构
- ※管束内加装扰流装置，提高冷却效率
- ※外形罩体采用折边焊接技术
- ※选用大流量、低扬程、低转速油泵
- ※选用大风量、低转速、低噪音风机
- ※体积小、重量轻，无渗漏之虑
- ※多年运行稳定可靠
- ※Double ring grooves or all welded structure are adopted for tube plate
- ※Spoiler is installed in the tube bundle to improve the cooling efficiency
- ※Folding welding technology is adopted for the outer cover
- ※Select the oil pump with large flow, low lift and low speed
- ※Small size, light weight, no leakage
- ※Stable and reliable operation for many years

型号说明 Type Description



示例：额定冷却容量为 200kW，强迫油循环，采用钢铝材，轧片式结构的吸风式冷却器，第一次设计时的产品型号为 YFZGLS1-200。
Rated cooling capacity of 200kW, forced oil circulation, steel-aluminum material, rolled type structure suction cooler, product model for first design is YFZGLS1-200.

冷却器产品型号基本字母排列顺序及含义见下表 Alphabetical order and meaning of cooler model

序号No.	分类 Classification	含义 Meaning	代表符号 Letter meaning
1	被冷却介质循环方式 Cooled Medium Circulation Mode	强油循环 Forced oil Circulation	Y
2	冷却介质循环方式 Mode of Circulation	强迫通风 Forced Ventilation	F
3	结构型式 Structure Type	绕片式 Piral Plate Type	—
		轧片式 Rolled Type	Z
		板片式 Plate Type	P
		椭圆管式 Elliptical Tube Type	D
4	冷却元件材质 Cooling Components Material	板翅式 Plate-fin Type	C
		钢铝材 Steel-aluminum	GL
		铜铝材 Copper-aluminum	TL
		铜材 Copper	T
		铝材 Aluminum	L

◆ YSLB型变压器用螺旋板式油水冷却器 YSLB type transformer spiral plate type oil water cooler

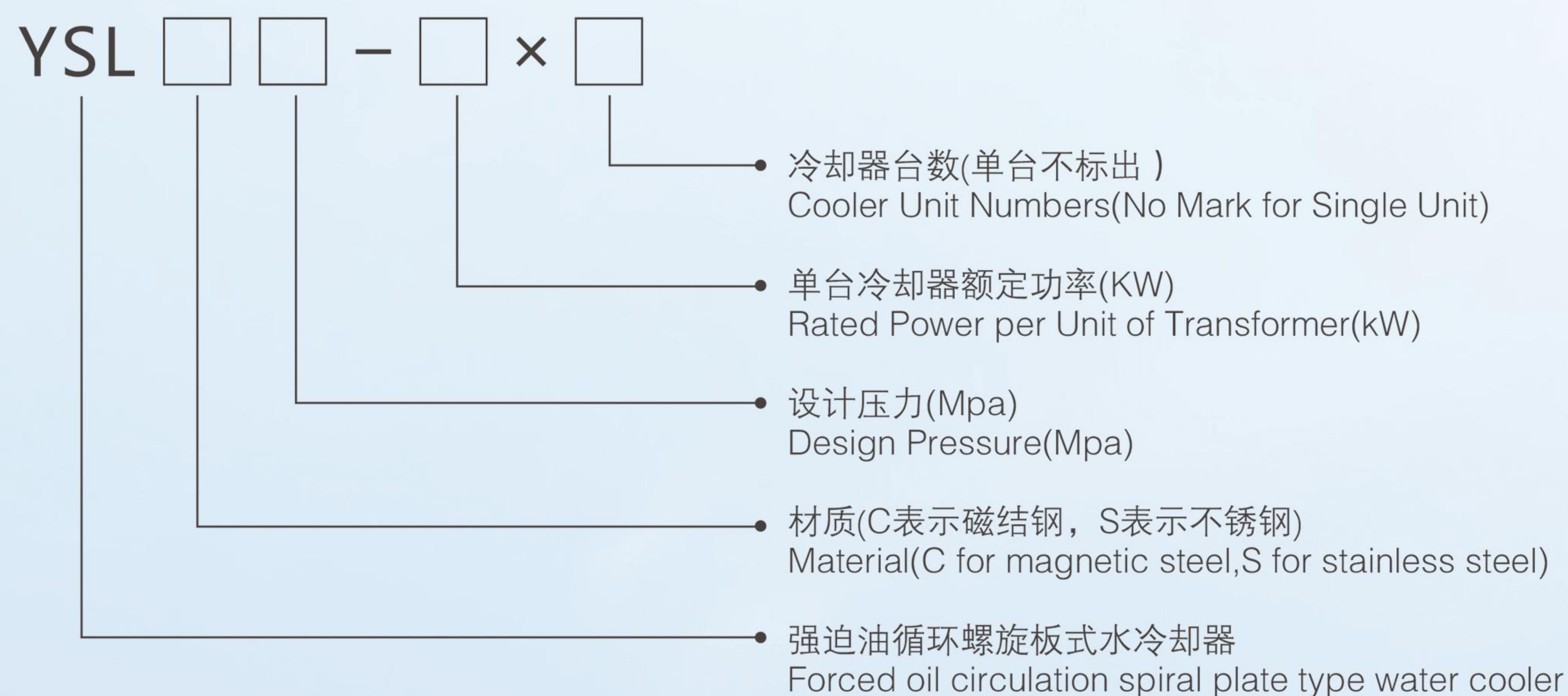
▶ 产品描述 Product overview

YSL 型油水冷却器根据国内外同行业的基础上优化设计而成，是一种新型变压器用螺旋板式冷却装置；它具有体积小、结构紧凑、冷却效率高、抗腐蚀性能强、噪音低、安装维护便捷、减少占地空间面积等特点。由于其独特的螺旋结构采用油水两道分离外焊接工艺技术，因此比传统的水冷却器更安全可靠，YSL 型冷却器主要适用于油浸式电力变压器和特种变压器的强迫油循环冷却系统，广泛用于制金、化工、石油机械等行业。变压器用螺旋板式油水冷却器设计制造验收符合 JB/T7633 标准。

YSL type oil-water cooler, designed on the basis of the same industry from home and abroad, is a new spiral plate cooling device of transformer with the characteristics of small dimension, compact, high cooling efficiency, corrosion resistance, low noise, convenient installation and maintenance, less area occupation and so on. Due to its unique welding technology of oil-water twoway seperation, it's more secure and reliable than traditional water coolers. YSL type cooler is mainly suitable for forced oil circulation cooling system of oil-immersed power transformers and special transformers knife, and are widely used in the industry of metallurgy, chemical, petroleum machinery and others.



▶ 型号说明 Type Description



产品分项介绍-发电机及高压发电机冷却系统

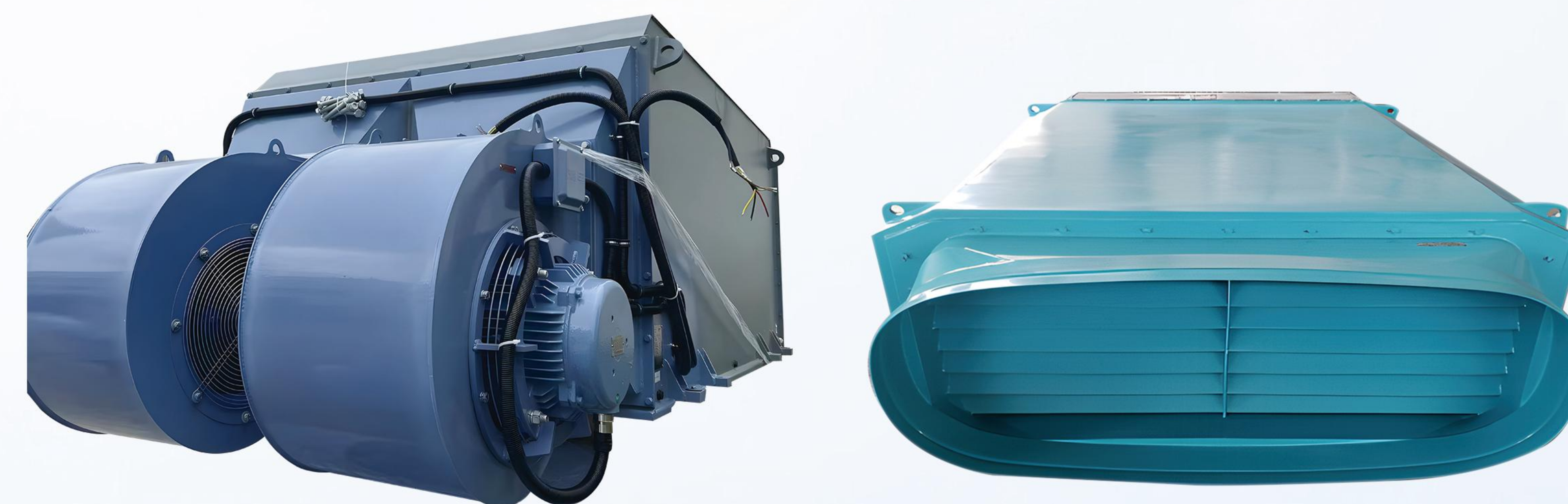
Product breakdown-Cooling system for generator and high-voltage generator

◆ 空-空冷却器 Air-air cooler

▶ 产品描述 Product overview

电机、发电机采用较高的电磁负荷，以提高材料的利用率，发电机在运行时会产生大量热量，因此必须对电机、发电机进行冷却，以提高散热能力。空-空冷却器是一种常用的冷却设备，它通过环境空气来冷却电机或发电机内部的热循环空气。

Motor and generator adopt high electromagnetic load to improve the utilization of materials. The generator will generate a lot of heat during operation, so the it must be cooled to improve the heat dissipation capacity. Air-air cooler is a common cooling equipment, which cools the thermal circulating air inside the motor or generator through ambient air.



▶ 产品特点 Product characteristics

- | | |
|------------|----------------------------------|
| ※IC616冷却方式 | ※IC616 Cooling type |
| ※IC666冷却方式 | ※IC666 Cooling type |
| ※高效传热能力 | ※Higher heat transfer efficiency |
| ※可变的管子布局 | ※Variable tube arrangement |
| ※椭圆管技术 | ※Elliptical Tube solution |

◆ 空-水冷却器 Air-water cooler

▶ 产品描述 Product overview

双管循环空冷却器是一种高效、紧凑型热交换器，是将电机或发电机运行时产生的热量带走，以保证设备正常运行的关键设备。

其工作原理如下：利用空气作为热量传递介质，把电机产生的热量通过空冷却器与冷却水进行热交换，以达到电机设备冷却的目的。

双管空冷却器技术在保障高效换热性能的前提下，极大地提高了空冷却器漏水对电机造成损害的安全保障。

The double tube Air-water cooler is an efficient and compact heat exchanger, which is the key equipment to take away the heat generated during the operation of the motor or generator to ensure the normal operation of the equipment.

Working principle: the air is used as the heat transfer medium to exchange the heat generated by the motor with the cooling water through the air cooler to achieve the purpose of cooling the motor equipment.

The technology of double tube Air-water cooler greatly improves the safety guarantee of motor damage caused by water leakage of air cooler on the premise of ensuring efficient heat transfer performance.



▶ 产品特点 Product characteristics

- ※全胀接、穿片式高效紧凑式设计
- ※专业的热工软件设计及模拟试验
- ※工厂有性能试验条件进行验证
- ※根据客户要求可采用单管或双管设计方案
- ※根据水质要求选择不同的管子材料
- ※翅处材料: 铝、铝镁、铜
- ※提供罩和管道系统

- ※Full expansion, high efficiency and compact design
- ※Professional thermal software design and simulation test
- ※Our factory can provide performance test to verify
- ※Single or double tube solution for selection
- ※Select different tube materials according to water quality requirements (Tube: Copper, SS, Titanium)
- ※Fins Material: aluminum, aluminum magnesium, copper
- ※Hood and pipe system supplied

▶ 双管技术的特点 Characteristics of double tube technology

- ※散热器的泄漏状态处于监控并可报警
- ※散热器的泄漏不会损毁被冷却设备
- ※泄漏的散热器可以满足运行直到下次计划停机检修
- ※The leakage status of the cooler can be remotely monitored and alarmed.
- ※When the cooler leaks, the cooled equipment will not be damaged.
- ※The leaking cooler can operate at full load until the next planned shutdown

◆ 海上风电塔筒变压器油水冷却器

Oil-water cooler of offshore wind power tower transformer

▶ 产品描述 Product overview

结构型式:

标准板翅式换热器的芯体单元由隔板、翅片及封条组成，在两块隔板间夹入波纹状或其他形状的金属翅片，两边以封条进行密封，从而形成一个密闭通道，这样就构成了一个换热基本单元——芯体单元

板翅材质:

铝合金，不锈钢，钛材等，目前我司主要用的是铝合金材质

优点:

- (1) 热传导效率高;
- (2) 结构紧凑;
- (3) 重量轻;
- (4) 适应性强,通过芯体单元的不同布置、组合,可以完成逆流、错流、多股流、多程流等不同的换热工况

外部防腐:

C5-M

Structure:

Structure type: the core unit of standard plate fin heat exchanger is composed of diaphragm, fins and seals. Corrugated or other shaped metal fins are sandwiched between two diaphragms, and both sides are sealed with seals to form a closed channel, thus forming a basic heat exchange unit - core unit.

Plate fin material:

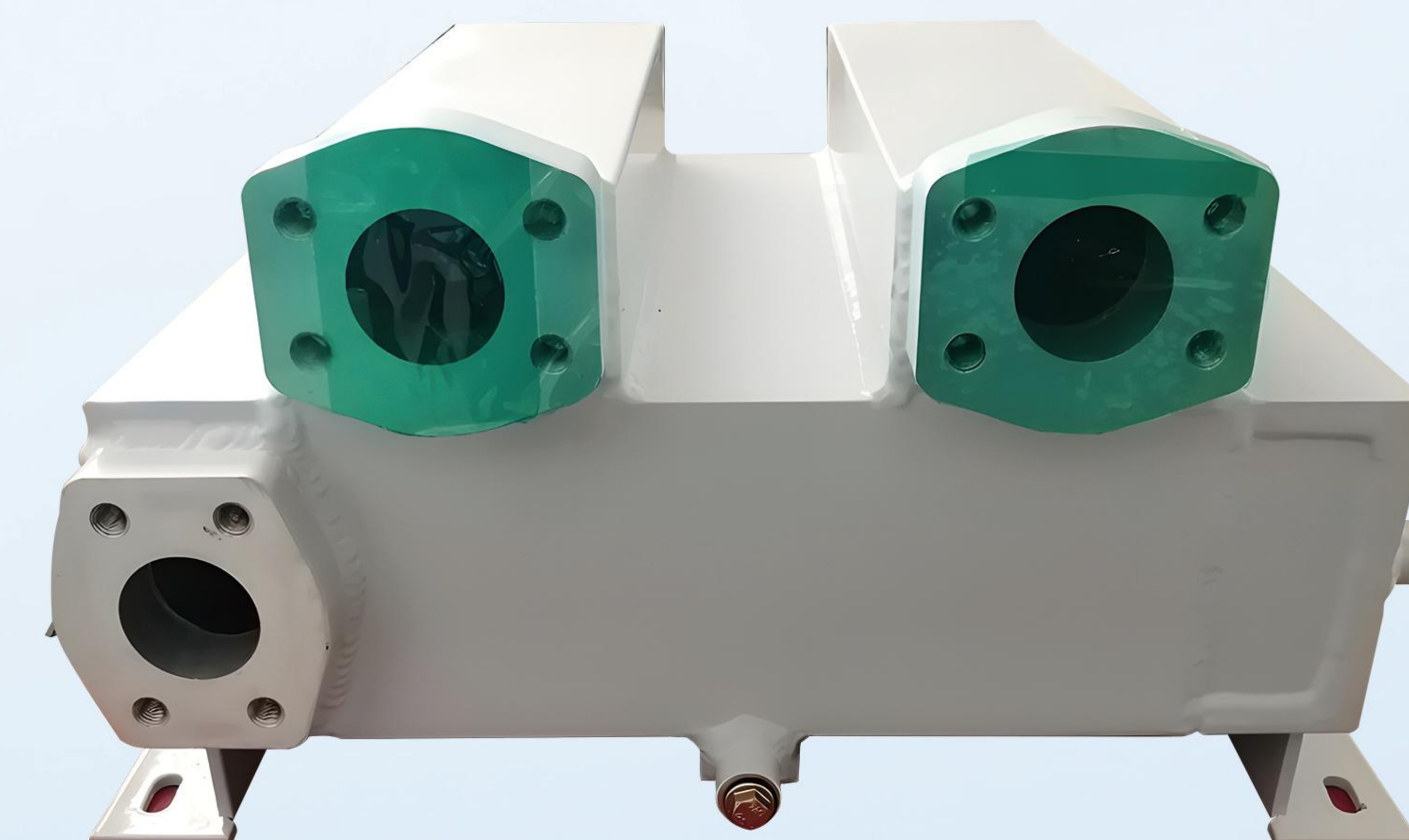
aluminum alloy, stainless steel, titanium, etc. At present, our company mainly uses aluminum alloy material.

Advantages:

- (1) High heat conduction efficiency;
- (2) Compact structure;
- (3) Light weight;
- (4) Strong adaptability Through different arrangements and combinations of core units, different heat transfer conditions such as countercurrent, cross flow, multi stream flow and multi pass flow can be completed

External anti-corrosion:

C5-M



产品分项介绍-变压器组件

Product breakdown- Transformer accessories

◆ 盘式泵 Disc oil pump

▶ 产品描述 Product overview

变压器循环油泵应用于大型电力变压器，为冷却系统的重要组成部分。此类变压器包括 HVDC 变压器、发电厂升压主变压器、电炉变压器、超高压输电变压器，此类变压器的共同特点为重要性高、容量大、需要提供充足冷却能力，冷却方式通常采用 OFAF、OFWF、ODAF、ODWF 等。循环油泵的主要功能是迫使变压器热油在变压器顶部的油箱和冷却系统之间的循环。

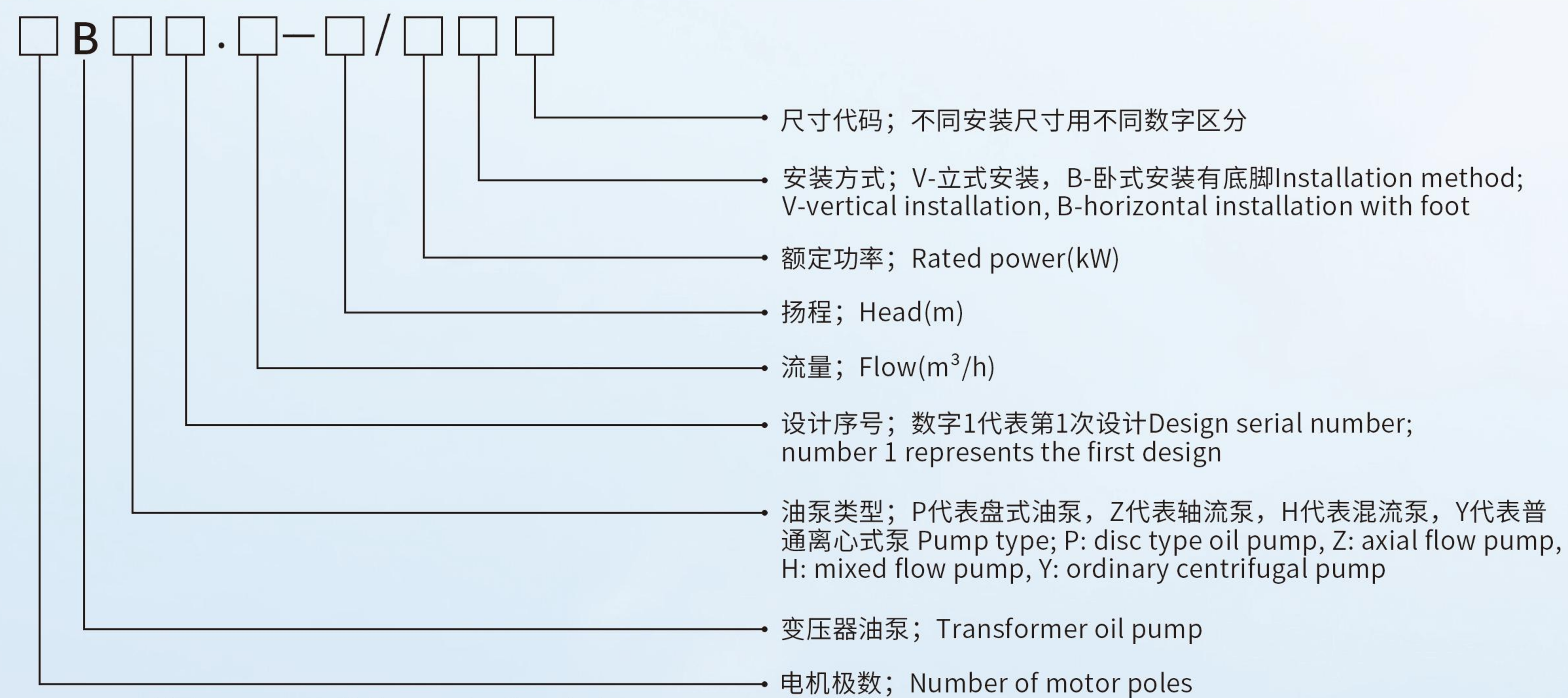
The transformer oil pump is an important part of the cooling system applied to large power transformers. Such transformers include HVDC transformers, power plant step-up transformers, furnace transformers, and ultra-high voltage transmission transformers. Such transformers have the common characteristics of large cooling capacity. OFAF, OFWF, ODAF, ODWF, etc. are usually used as cooling methods. The main function of the oil pump is to force the hot transformer oil circulate between the oil tank and the cooling system.



▶ 产品特点 Product characteristics

- ※壳体采用钢板结构，能够根据条件采用不同钢板
- ※Steel plate welding structure, which can be changed according to working condition
- ※轴承采用高精度进口品牌产品
- ※High precision international famous brand is adopted for bearing
- ※防护等级达到IP55
- ※Protection class: IP55
- ※结构紧凑，重量轻，维护方便
- ※Compact design, light weight, easy to maintain

▶ 型号说明 Type Description



◆ BZ型变压器轴流泵 Axial pumps

▶ 产品描述 Product overview

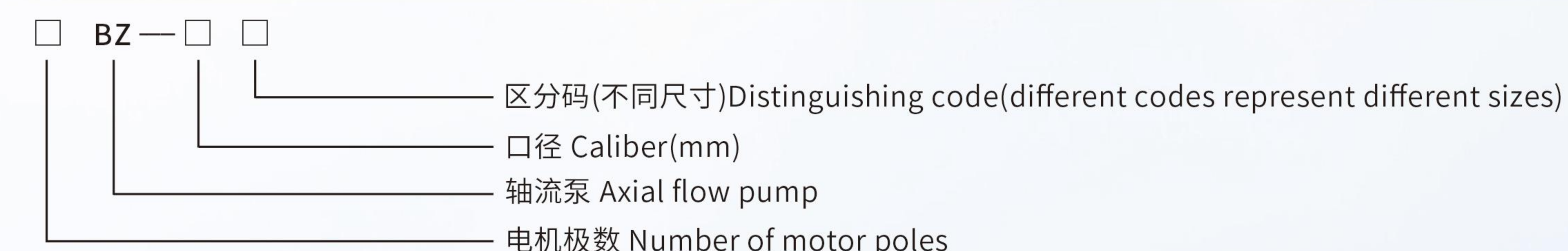
BZ 型轴流油泵主要应用于大型电力变压器片式散热器三级冷却模式中。

BZ axial oil pumps are widely used in the three-stage cooling mode of large power transformer plate radiator.

- ※壳体采用钢板结构，尺寸紧凑
- ※防护等级达到IP67
- ※轴承采用高精度国际知名品牌
- ※接口连接尺寸DN150-DN300
- ※Steel plate welding structure, compact size
- ※Protection class IP67
- ※Adopt international brand bearing
- ※Connection DN150-DN300



▶ 型号说明 Type Description



◆ 智能油泵 Intelligent pump

▶ 产品描述 Product overview

针对油泵使用过程中轴承易损且难以检测的问题，我公司研发了互联网+变压器油泵故障监测系统。该系统可实现油泵运行状态实时在线监测与定位，当监测到油泵运行异常时，可及时向使用客户及厂家技术服务人员发送报警信息，并根据定位情况提前安排油泵的维护服务。系统主要包括现场监测仪器、云计算监测诊断中心、客户端平台及企业数据中心4个核心部分。

On the problem that the bearing is vulnerable and difficult to detect during the use of oil pump, our company has developed the internet+ fault monitoring system for oil pump. The system can achieve real-time on-line monitoring and positioning of the oil pump running state. When the abnormal operation is detected, the alarm information can be sent to the customer and the factory technical personnel in time and it will arrange the maintenance service in advance according to the positioning. The system mainly includes four core parts: on-site monitoring instrument, cloud computing monitoring and diagnosis center, client platform and enterprise data center.



互联网+机车油泵
Internet+Locomotive Oil Pump



互联网+轴流泵
Internet+Axial Flow Pump

◆ 液力悬浮变压器油泵 Hydraulic oil pump

▶ 产品描述 Product overview

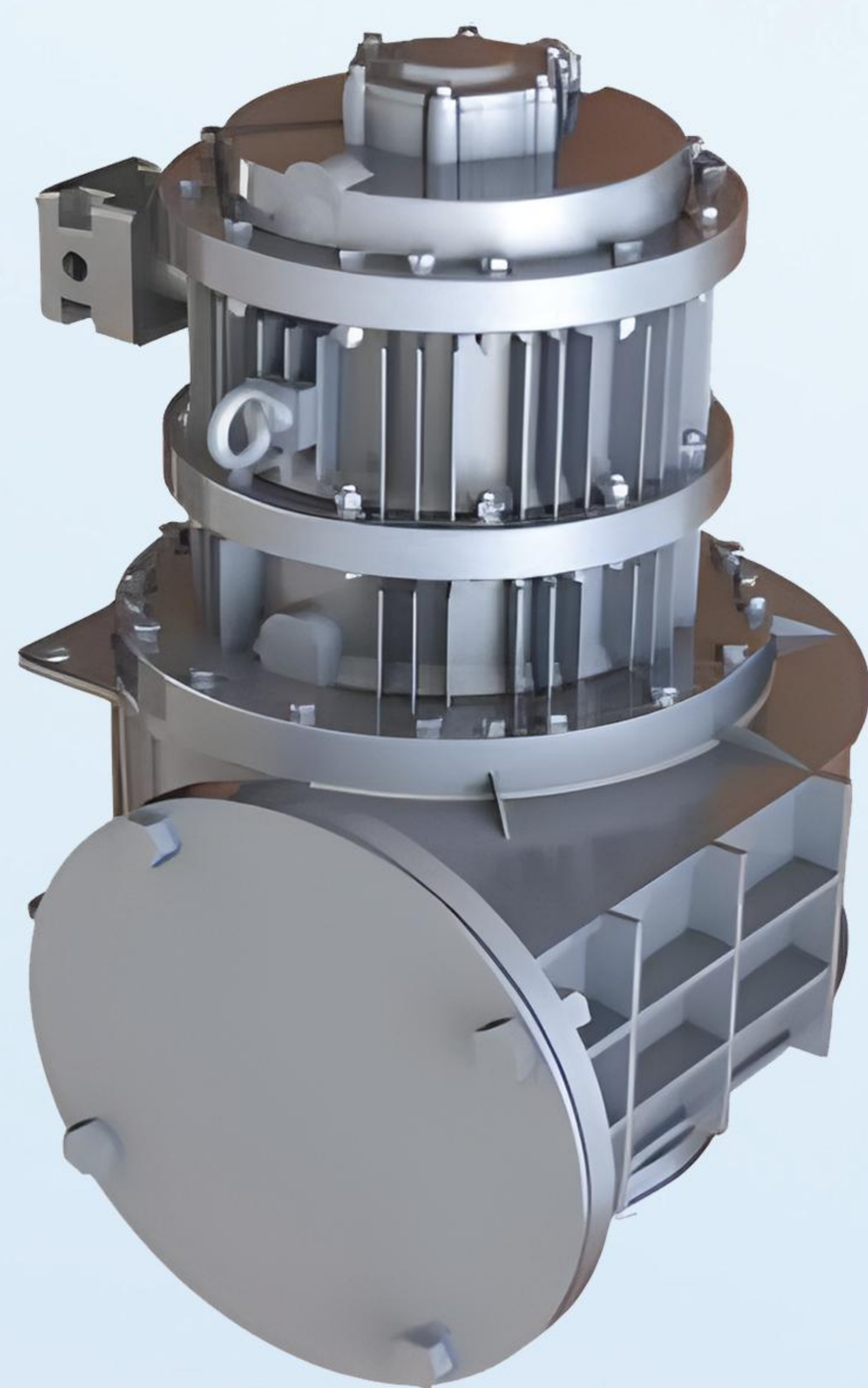
液力悬浮变压器油泵主要适用于电力变压器冷却系统，尤其适用于对噪音、可靠性要求高的场合。油泵电机转轴采用空心结构，油流通过空心转轴后再进入叶轮，叶轮与转子合为一体，结构紧凑。油泵采用耐磨轴套与液力悬浮器相配套的结构，替代滚动轴承，形成一种无轴承的油泵，具有高可靠性、低振动、低噪声的特点。



The hydraulic suspension transformer oil pump is mainly used in the power transformer cooling system, especially suitable for occasions with high noise and reliability requirements. The oil pump motor shaft adopts a hollow structure, and the oil flows through the hollow shaft and then enters the impeller. The impeller and the rotor are integrated into one body, and the structure is compact. The oil pump adopts the structure of wear-resistant bushing matching with hydraulic suspension to replace the rolling bearing, forming a bearingless oil pump with the characteristics of high reliability, low vibration and low noise.

◆ Sf6 气泵 pump

▶ 产品描述 Product overview



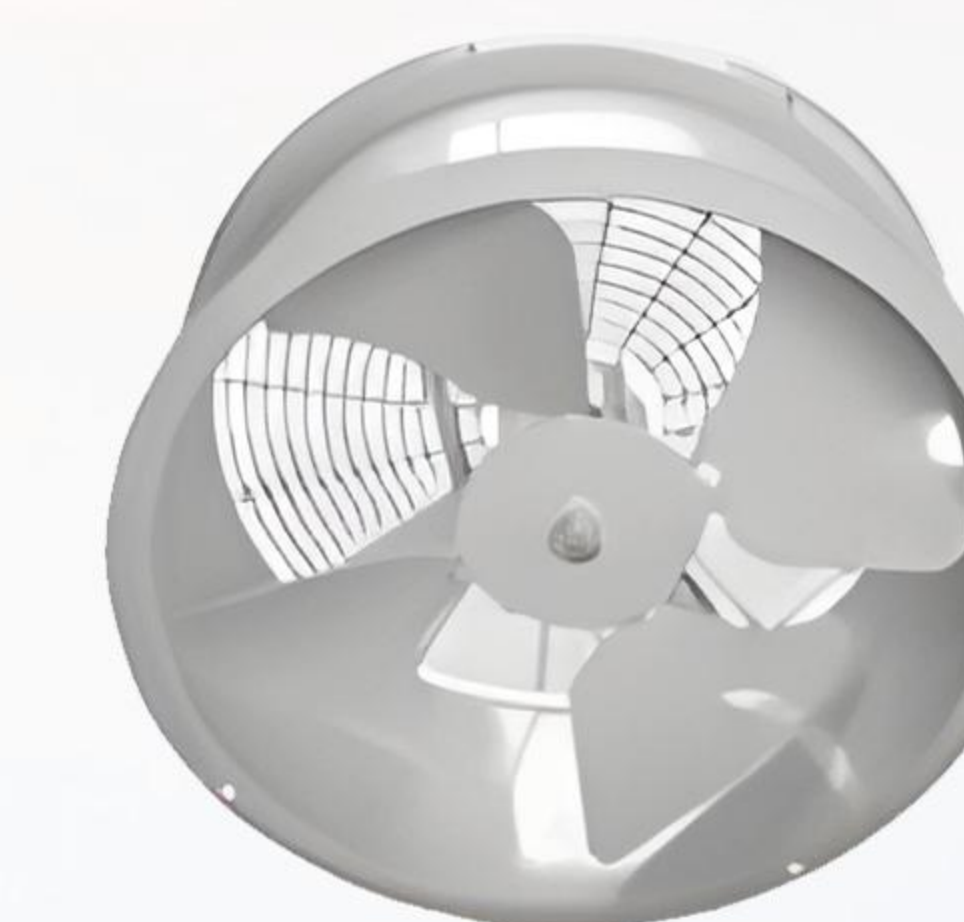
本产品主要用于气体绝缘变压器（GIT），该变压器以 SF₆ 气体作为绝缘介质，SF₆ 气体具有优秀的绝缘特性、不燃性和记好的环保性能，它可以在变压器中代替变压器油。本产品的作用是强迫变压器中 SF₆ 气体循环冷却。

The pump is mainly used in gas insulated transformer (GIT) which uses SF₆ gas as the insulating medium. SF₆ gas has excellent insulation properties, incombustibility and good environmental performance. It can replace transformer oil in transformer. This pump aims to force the SF₆ gas circulating cooling in the transformer.

◆ 风机 Fan

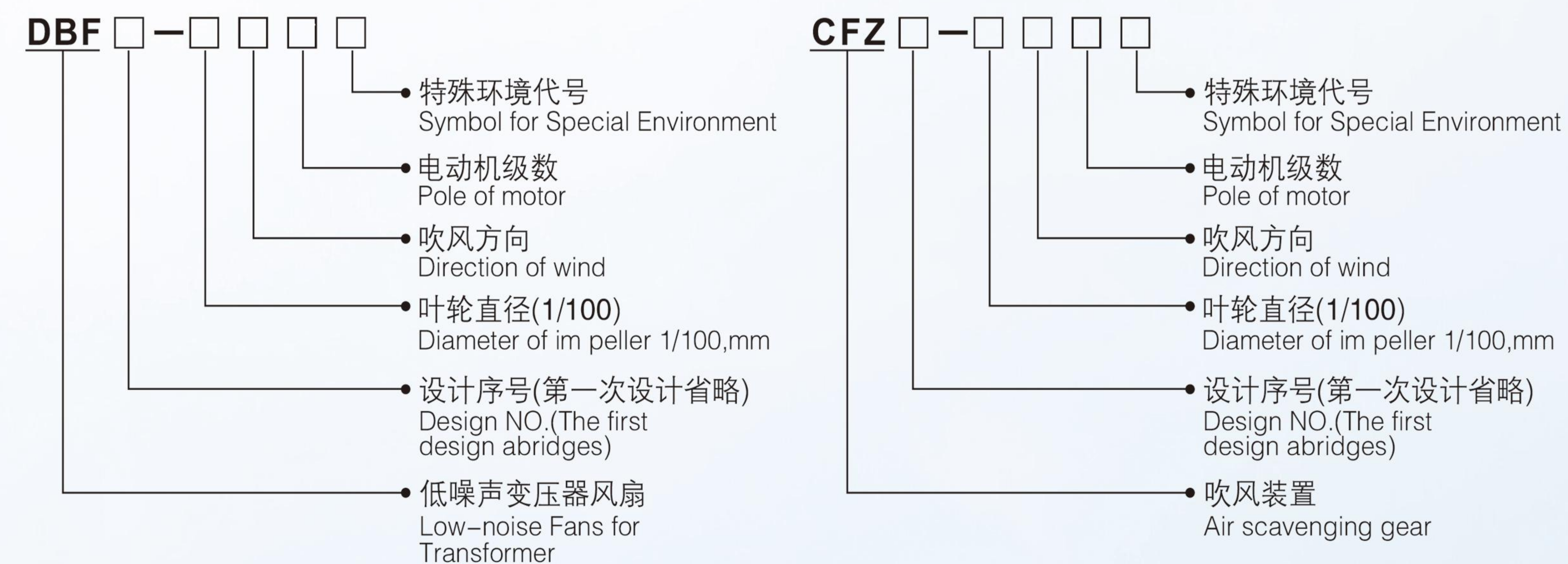
▶ 产品描述 Product overview

- ※采用半截面型机翼叶片，风量大、风压高、噪声低
- ※叶片采用高强度铝合金精密制造，重量轻，耐腐蚀
- ※采用NSK或SKF轴承，使用寿命长
- ※适用于不同安装方式，可水平或垂直吹风
- ※电动机为全封闭户型三相电机，内部有热敏电阻过载保护，防护等级IP55



- ※Semi sectional wing blades are used, with large air flow, high air pressure and low noise
- ※The blades are precisely made of high-strength aluminum alloy, light in weight and corrosion resistant
- ※NSK or SKF bearing is adopted, with long service life
- ※It is suitable for different installation methods, and can be used for horizontal or vertical blowing
- ※The motor is a fully enclosed three-phase motor with thermistor overload protection inside, and the protection grade is IP55

▶ 型号说明 Type Description



注

特殊环境说明

W: 一般户外型，省略不标；
TH: 湿热带型；
TA: 干热带型

吹风方向

Q: 前吹式（气流从电机流向叶轮）；
H: 后吹式（气流从叶轮流向电机）
订货时注明。

◎ Special Environment Instruction

W-general outside condition and can be ignored.
TH-TH humid tropic.
TA-TA dry tropic.

◎ Air Direction

Q-front (air from the motor to the impeller)
H-back (air form the impeller to the motor)
Note:Give indication of the product specification and type while you order it.

◆ 控制柜 Control cabinet

▶ 产品描述 Product overview

变压器冷却器装置系统控制柜是我司最新设计开发生产的一种带有自动温、湿度控制的新式控制柜，在产品的设计，加工制作上集国内外同类产品之精华，它外形美观、坚固耐用、性能可靠，是大、中型电力变压器冷却装置系统控制的最佳选择。

Our newly developed control cabinet has the function of automatic control with temperature and humidity. We take the advantages of the product design and manufacture essence both from domestic and abroad. Control cabinet has the characteristic of nice appearance, durability and reliable performance, which is the best choice for cooling device system control of large and medium-sized power transformer.

▶ 产品特点 Product characteristics

本控制柜的主要功能是为电力变压器冷却系统进行配电和自动化控制。内部可集中电力变压器上所有的测量及信号端子(包括温度控制器、油流继电器、压力释放阀、气体继电器、套管电流互感器、油位指示等，是否全部集中在控制柜内由用户决定，也可另做端子箱)。根据变压器的现场安装情况，控制柜可分为落地式和壁挂式，其中柜体由优质钢板(表面喷塑处理)或高级不锈钢板弯折及焊接构成，用户也可根据自己的实际需要，以及安装现场的气候条件，运行环境等，自由选择控制柜柜体材料的种类。柜门采用专业密封胶条密封，柜内通过顶部的通气孔与大气相连。控制柜的防护等级为IP54，可防尘、防水。柜内元器件选用施耐德、西门子、ABB等进口或合资公司产品，经济适用，运行可靠。

The main function of the control cabinet is to carry out power distribution and automation control for the power transformer cooling system. Internally it could concentrate all measurements and signal terminals of power transformers (including temperature controllers, oil flow relay, pressure relief valves, gas relay, bushing current transformer, oil level indication, whether all concentrated in the control cabinet is determined by the user, also could make another terminal box). According to on-site installation of the transformer, control cabinet can be divided into floor standing type and wall-mounted type, wherein the cabinet housing is made of high quality steel (surface spray treatment) or high grade stainless steel plate by bending and welding configuration. Users are free to choose the type of control cabinet material according to their actual needs. The cabinet door use professional sealing strip, inside is connected the outside atmosphere through the vent window. Its protection class is IP54, dust-proof and water-proof. Cabinet components are selected from Schneider, Siemens, ABB and other imported or joint venture products, affordable and reliable operation.

▶ 型号说明 Type Description



▶ 使用条件 Service conditions

- ※ 工作环境温度: -30°C~+50°C;
- ※ 工作相对湿度: 当空气环境温度+25°C, 湿度不大于95%;
- ※ 海拔高度: 不超过2000米;
- ※ 周围无剧烈震动和颠簸的场所。
- ※ Ambient temperature: -30°C~+50°C
- ※ Relative humidity: When the air temperature is +25°C relative humidity ≤ 90%
- ※ Altitude ≤ 2000m;
- ※ No severe vibration and bumps around the place.

▶ 技术参数 Technical parameter

- ※ 此控制柜可采用电源供电或双电源供电，当采用双电源供电时，两路电源可互为工作和备用，并能够自动转换
- ※ 主回路可采用接触器或无触点固态继电器
- ※ 为远程监控提供了丰富的运行、故障、报警等信号;通过温湿度控制器，用于阻止凝露和预设温度
- ※ 冷却器变压器温度或负载大小自动启停
- ※ The control cabinet could use either single power supply or dual power supply. While using the dual power supply, one power supply works and the other is for spare, they could automatically convert.
- ※ The main circuit could adopt contactor or non-contact solid-state relay
- ※ To provide rich signals of operation, fault, for remote monitoring
- ※ Temperature and humidity controller is used to prevent the condensed water and preset temperature
- ※ Temperature or load capacity of transformer cooler can start and stop



◆ 远程控制柜 Remote control cabinet

▶ 产品描述 Product overview

- ※ 电力变压器远程控制柜是引进和参照国外及国内各种控制柜的技术标准，我公司最新设计开发生产的一种带有自动温、湿度控制的新式大、中型电力变压器的有载开关远程控制系统，在产品的设计、加工制作上集国内、外同类产品之精华，它外型美观、坚固耐用、性能可靠，是大、中型电力变压器的有载开关远程控制的最佳选择。
- ※ 该控制柜柜体结构按户内型，柜体防护等级达到IP52标准，可以适应不同地区的各种不同运行环境条件所以能够满足用户对控制柜运行使用的要求。
- ※ 控制柜柜体使用材料种类分别为优质冷轧钢板或优质不锈钢板，用户可根据自己的实际需要，以及安装现场的气候条件，运行环境等，自由选择控制柜柜体材料的种类。如无特殊要求，一般用冷轧钢板制作。
- ※ On the basis of various technical standards from domestic and abroad our remote control cabinet of power transformer is equipped with load switch remote control system which can control temperature and humidity automatically. We take the advantages of the product design and manufacture essence both from domestic and abroad. Control cabinet has nice appearance, durability and reliable performance, which is the best choice for cooling device system control of large and medium-sized power transformer.
- ※ The indoor control cabinet with a protection class IP52 can be applied to a variety of different operating environments in different areas which can meet users' operational requirements of the control cabinet.
- ※ The cabinet body materials are high-quality cold-rolled steel or stainless steel. The user can select material alternatively according to their actual needs, climate condition of installation site, operation environment and so on. If there are no special requirements, we generally use cold rolled steel plate as the materials.

▶ 型号说明 Type Description

R T C C

● 变压器有载开关远程控制系统:
Remote control system with load switch of transformer



◆ 户内金属铠装移开式开关设备(KYN28A-12) Indoor metal armored removable switchgear(KYN28A-12)

▶ 产品描述 Product overview

本设备系3-10千伏三相交流50HZ单母线及单母线分段系统的成套配电装置。主要用于发电厂，变电所，工矿企业等的配电系统中，实现电能接受，分配及对配电设备进行控制，检测和保护的。本开关设备一次接线方案完整，全面，能满足客户各种安装要求，其中的高压真空断路器各主流品牌均可选配。

The equipment is a complete set of power distribution device of 3-10 kV three-phase AC 50HZ single bus line and single bus line section system. It is mainly used in power plants, substations, industrial and mining enterprises to realize the acceptance, distribution and control, detection and protection of power distribution equipment. The switchgear primary wiring scheme is complete, comprehensive, can meet the customer's various installation requirements, among which the high voltage vacuum circuit breaker each mainstream brands are optional.

▶ 技术参数 Technical parameter

- | | |
|-----------------------|--|
| ※ 额定电压：12KV | ※ Rated voltage: 12KV |
| ※ 额定电流：630—4000A | ※ Rated current: 630-4000A |
| ※ 额定短时耐受电流：20—40KA,4S | ※ Rated short-time tolerance current: 20-40KA, 4S |
| ※ 额定峰值耐受电流：50—100KA | ※ Rated peak tolerance current: 50-100KA |
| ※ 1min工频耐压：42KV | ※ 1min power frequency voltage resistance: 42KV |
| ※ 雷电冲击耐压：75KV | ※ Lightning impact pressure resistance: 75KV |
| ※ 额定短路电流开断次数：50次 | ※ Rated short-circuit current start number: 50 times |
| ※ 机械寿命：2000次 | ※ Mechanical life: 2,000 times |
| ※ 防护等级：IP4X | ※ Level of protection: IP4X |

▶ 产品特点 Product characteristics

本开关设备满足DL/T404, JEC298, GB3906等标准要求，整体是由柜体和可抽出部分（即手车）组成。柜体采用覆铝锌板，具有重量轻，机械强度高，外形美观等特点。所有元器件均可按客户要求选配，具有多种接线方案。可从正面进行安装，调试和维护，因此可以背靠背双重排列或靠墙安装，提高了开关设备的安全性，灵活性，减少了占地面积。具有防止带负荷推拉断路器手车，防止误分合断路器，防止接地开关处在闭合位置时关合断路器，防止误入带电隔室，防止在带电时误合接地开关的五防连锁功能。可加装综合控制保护器，与计算机联网，实现对用户供电系统的全天候微机保护监控。

The switchgear meets the standard requirements of DL / T404, JEC298, GB3906 and etc, and is composed of cabinet and medium removable part (i. e. trolley). The cabinet is covered with aluminum and zinc plate, with light weight, high mechanical strength and beautiful appearance. All the components can be selected according to the customer requirements, with a variety of wiring schemes. It can be installed, debugged and maintained from the front, so it can be double-arranged back-to-back or wall-mounted, improving the safety, flexibility and flexibility of the switchgear and reducing the footprint. It has the five-prevention linkage function of



◆ 箱型固定式金属封闭环网开关设备(HXGN-12) Box-type fixed metal closed ring net switchgear(HXGN-12)

产品描述 Product overview

本设备简称环网柜，是三相交流额定电压12KV,额定频率50HZ的环网供电系统和辐射式供电系统中的开关设备，作为变压器，电缆，架空线等电力设备的保护和控制之用。主要由负荷开关及其组合电器与金属柜体组装而成，根据开关电器不同安装方向，柜体有两种基本柜型（侧装柜和正装柜）。

This equipment is referred to as the ring network cabinet, which is a switchgear in the three-phase AC power supply and distribution system and radiation power supply and distribution system with rated voltage of 12KV and rated frequency of 50HZ, used for the protection and control of transformers, cables, overhead lines and other power equipment. Mainly by the load switch and its combined electrical appliances and metal cabinet assembly, according to the switch electrical appliances in different installation direction, the cabinet has two basic types of cabinet (side cabinet and formal cabinet).

技术参数 Technical parameter

※额定电压：12KV	※Rated voltage: 12KV
※额定电流：630A	※Rated current: 630A
※额定频率：50HZ	※Rated frequency: 50HZ
※额定短路开断电流：31.5KA	※Rated short-circuit open-break current: 31.5KA
※1min工频耐压：42KV	※1min power frequency voltage resistance: 42KV
※雷电冲击耐压：75KV	※Lightning impact pressure resistance: 75KV
※防护等级：IP4X	※Level of protection: IP4X

产品特点 Product characteristics

柜与柜之间以全工况穿墙套管阻隔，能有效阻隔母线室事故的蔓延。柜内主开关，接地开关，柜门之间均采用强制闭锁方式，具有完善的五防功能。相间，相对地电气间隙一律大于125mm，所有电气元件均采用大爬距元件，可实现全工况要求。柜内有贯穿整个柜体的接地总母线，保证可靠的对地联接。并柜简单，占地面积小，维护方便。

Between the cabinet and the cabinet through the wall casing barrier, can effectively block the spread of bus room accidents. The main switch, grounding switch, the cabinet door between the forced lock mode, with perfect five prevention function. In alternate phase, the relative electrical clearance is more than 125mm, and all electrical components adopt large climbing distance components, which can realize the requirements of full working conditions. There is a grounding bus throughout the cabinet to ensure reliable ground connection. The cabinet is simple, small area, convenient maintenance.



◆ 低压开关设备 (GGD) low voltage switch equipment(GGD)

产品描述 Product overview

该型交流低压配电柜适用于发电厂，变电站，厂矿企业等电力用户的交流50HZ,额定工作电压380V,额定工作电流至2500A的配电系统，作为动力，照明及配电设备的电能转换，分配与控制之用。

This type of AC low-voltage distribution cabinet is suitable for the power distribution system of AC 50HZ, rated working voltage, 380V, rated working current to 2500A, as the power conversion, distribution and control of power, lighting and distribution equipment.

技术参数 Technical parameter

※额定电压：380V	※Rated voltage: 380V
※额定电流：100—2500A	※Rated current: 100-2500A
※额定短路开断电流：30KA	※Rated short-circuit open-break current: 30KA
※额定峰值耐受电流：63KA	※Rated peak tolerance current: 63KA
※防护等级：IP30	※Level of protection: IP30

产品特点 Product characteristics

该型配电柜采用通用柜型式，柜架用8MF冷弯型钢局部焊接组装而成，并有20模的安装孔，通用系数高。充分考虑散热问题，在柜体上下端均有不同数量的散热槽孔，当柜内电器元件发热后，热量上升，通过上端槽孔排出，而冷风不断地由下端槽孔补充进柜，使密封的柜体自下而上形成一个自然通风道，达到散热的目的。柜体的顶盖在需要时可拆除，便于现场主母线的装配和调整，柜顶的四角装有吊环，便于起吊和装运。元器件可根据客户要求自由选配。

This type of power distribution cabinet adopts the general cabinet type, the cabinet rack is made of 8MF cold bending steel partial welding assembly, and has a 20 mold installation hole, high general coefficient. Fully consider the heat dissipation problem, there are different number of heat sink holes in the upper and lower ends of the cabinet. When the electrical components in the cabinet heat, the heat rises, through the upper groove outlet, and the cold air is constantly supplemented by the lower groove hole into the cabinet, so that the sealed cabinet from the bottom up to form a natural ventilation channel, to achieve the purpose of heat dissipation. The top cover of the cabinet can be removed when needed, which facilitates the assembly and adjustment of the main bus on the site. The four corners of the cabinet top are equipped with hanging rings to facilitate lifting and loading. Components can be freely selected according to customer requirements.



◆ 户内金属封闭抽屉式开关柜(MNS) Indoor metal-enclosed drawer-type switchgear(MNS)

产品描述 Product overview

该型成套开关设备是为适应电力工业发展的需求，参考国外ABB系列低压开关柜设计并加以改进开发的高级型低压开关柜。该产品符合国家标准GB7251、VDE660和ZBK36001-89《低压抽出式成套开关设备》，国际标准IEC439规定MNS型低压开关柜适应各种供电，配电的需求，能广泛用于发电厂，变电站，工矿企业，大楼宾馆，市政建设等各种低压配电系统。

This type of switchgear is designed to meet the demand of the power industry and refer to foreign ABB series low voltage switchgear. The product conforms to the national standards GB7251, VDE660 and ZBK36001-89 "Low voltage pull-out complete switchgear", the international standard IEC439 provisions MNS low voltage switch cabinet to meet the needs of various power supply, distribution, can be widely used in power plants, substations, industrial and mining enterprises, building hotels, municipal construction and other low voltage distribution systems.

技术参数 Technical parameter

※额定电压：380V	※Rated voltage: 380V
※额定电源电流：100-4000A	※Rated power supply current: 100-4000A
※额定短路耐受电流：65KA	※Rated short-circuit tolerance current: 65KA
※额定峰值耐受电流：136KA	※Rated peak tolerance current: 136KA

产品特点 Product characteristics

该型开关柜的结构设计可满足各种进出线方案要求：上进上出，上进下出，下进上出，下进下出。柜体结构设计紧凑，以较小的空间容纳较多的功能单元，占地面积小。母线用高强度阻燃型，高绝缘强度的塑料功能板保护，具有抗故障电弧性能，使运行维护安全可靠。各种大小抽屉的机械联锁机构符合标准规定，有连接，试验，分离三个明显的位置，安全可靠。采用标准模块设计，分别可组成保护，操作，转换，控制，调节，测定，指示等标准单元，可以根据要求任意组装，检修方便。

The structure design of this type of switch cabinet can meet the requirements of various in and out line scheme: up and out, up in and out, down in and out, down in and out. The cabinet structure design is compact, with a smaller space to accommodate more functional units, covering a small area. The bus is protected by high strength flame retardant type, high insulation strength plastic function board, with anti-fault arc performance, making the operation and maintenance safe and reliable. The mechanical interlocking mechanism of various sizes of drawers meets the standard provisions, with connection, test, separation of three obvious positions, safe and reliable. Using the standard module design, respectively can form the protection, operation, conversion, control, adjustment, measurement, indication and other standard units, can be arbitrarily assembled according to the requirements, convenient maintenance.



◆ 低压无功功率补偿柜(GGJ) Low-voltage reactive power compensation cabinet(GGJ)

产品描述 Product overview

该型交流该无功补偿柜适用于频率50HZ电压400V城市配网的无功功率自动补偿，它采用了一系列国内领先的技术和最新的元器件，集无功补偿与电网监测于一体，不但可以补偿电网中的无功损耗，提高功率因数，降低线损，从而提高电网的负载能力和供电质量；同时还能实时监测电网的三相电压，电流，功率因数等运行数据，可完成对整个低压配电线路的监测，分析处理，报表输出等综合管理，为低压配电线路的科学管理提供第一手数据。低压配电柜适用于发电厂，变电站，厂矿企业等电力用户的交流50HZ,额定工作电压380V,额定工作电流至2500A的配电系统，作为动力，照明及配电设备的电能转换，分配与控制之用。

The reactive power compensation cabinet is suitable for reactive power automatic compensation of urban distribution network with frequency 50HZ voltage 400V. It adopts a series of domestic leading technology and the latest components, integrating reactive power compensation and power grid monitoring to compensate for reactive power loss, improve power factor and reduce line loss, thus providing first-hand data for the scientific management of low-voltage distribution line.

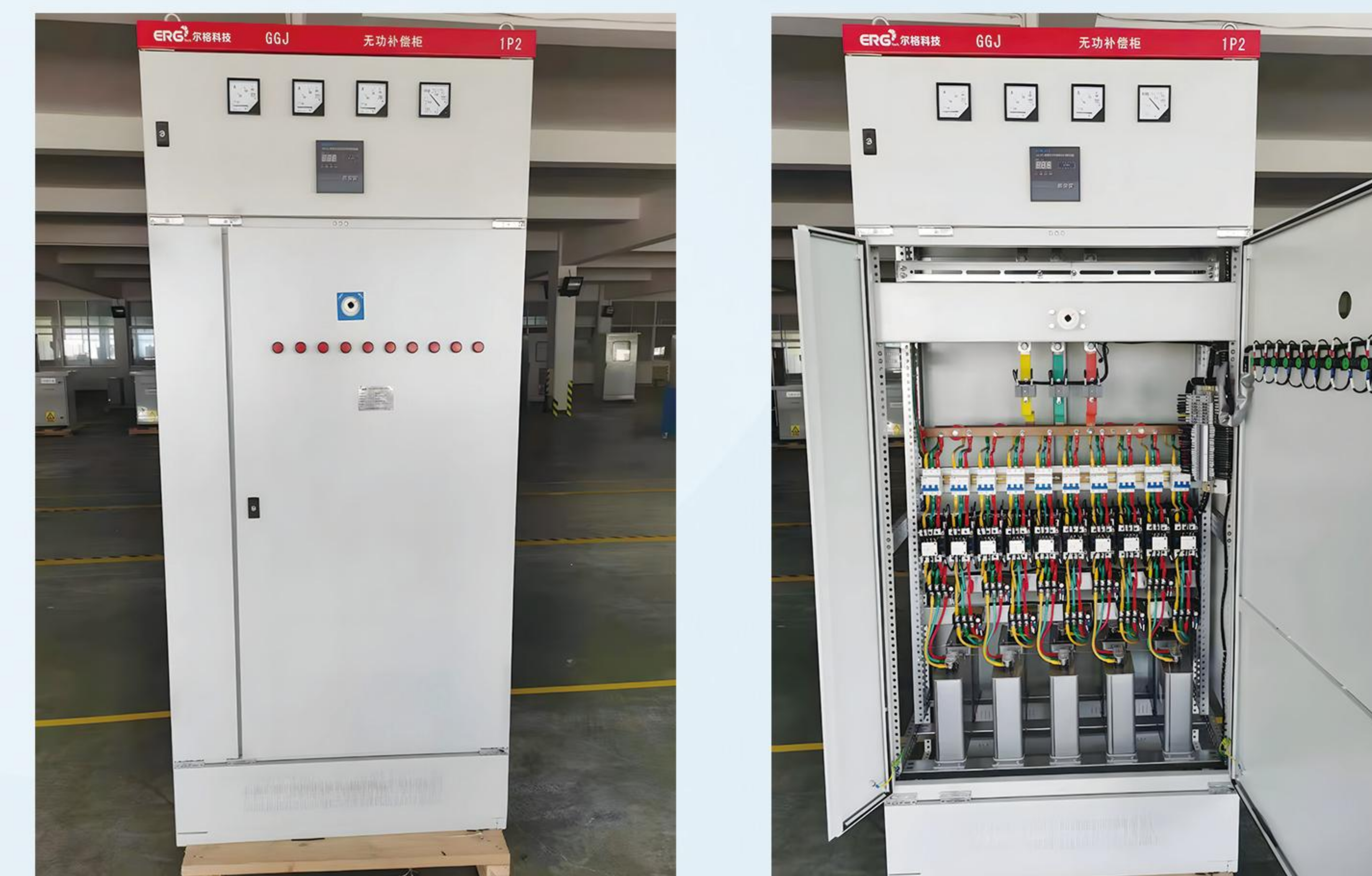
技术参数 Technical parameter

※额定工作电压：380V	※Rated operating voltage: 380V
※额定频率：50HZ	※Rated frequency: 50HZ
※额定绝缘电压：660V	※Rated insulation voltage: 660V
※电容器标称容量：60—420kvar	※Nominal capacity of the capacitor: 60-420kvar
※额定短时耐受电流：15KA	※Rated short-time tolerance current: 15KA
※补偿方式：单.三相结合补偿	※Compensation method: single. Three-phase combination compensation
※投切元件：复合开关或接触器	※Cutting element: composite switch or contactor
※防护等级：IP40	※Protection and other aspects: IP40

产品特点 Product characteristics

该无功补偿柜结构简单，可靠性高，方便检修，补偿容量大，增容方便，价格便宜。设有友好的人机交互界面，方便用户查询电压，电流，功率因数，有功，无功功率补偿电流等参数，带有电容投切状态显示，用户可根据需要更改设置电压过压值，过温值，容量，延时，变比，功率因数上下限值等参数。用户可自由选配常规电容器或带谐波抑制功能的智能电容器。

The reactive power compensation cabinet has simple structure, high reliability, convenient maintenance, large compensation capacity, convenient capacity increase and cheap price. There is a friendly human-computer interaction interface, convenient for users to query voltage, current, power factor, active power, reactive power compensation current and other parameters, with capacitor cut state display, users can change the set voltage overvoltage value, overtemperature value, capacity, delay, variable ratio, power factor upper and lower limit and other parameters. Users can freely choose from conventional capacitors or intelligent capacitors with harmonic suppression function.



◆ 组合式变电站-美变(ZGS11) Combined substation-substation(ZGS11)

▶ 产品描述 Product overview

美式箱变将变压器的铁芯和绕组与高压负荷开关，熔断器等设备同置于一个密封箱体内，以变压器油为绝缘介质。这种组合式变压器体积小，结构简单，安装方便，操作灵活，既可以用于户外又可用于户内。

The American box transformer, the transformer core and winding and the high voltage load switch, fuse and other equipment are placed in a sealed box body, with the transformer oil as the insulation medium. This combination transformer is small in size, simple in structure, convenient in installation, flexible in operation, and can be used both outdoors and indoor.

▶ 技术参数 Technical parameter

※额定电压：12/0.4KV	※Rated voltage: 12/0.4KV
※额定容量：100-1250KVA	※Rated capacity: 100-1250KVA
※1min工频耐压：35KV	※1min power frequency voltage resistance: 35KV
※雷电冲击耐压：75KV	※Lightning impact pressure resistance: 75KV
※负荷开关额定负荷电流开断次数：200次	※Number of rated load current disconnection of load switch: 200 times
※负荷开关机械寿命：2000次	※Mechanical life of the load switch: 2,000 times
※噪音等级：≤50dB	※Noise level: 50dB
※防护等级：IP44	※Level of protection: IP44

▶ 产品特点 Product characteristics

该系列箱变结构紧凑，体积小，重量轻，安装方便，低噪音，低损耗，高可靠性，能广泛替代进口，广泛应用于住宅小区，商业中心，轻站，机场，厂矿，企业，医院，学校等场所。其为全绝缘结构，全密封，可靠保证人身安全。采用双熔丝保护，降低运行成本，插入式熔断器熔丝为双敏熔丝（温度，电流）。既可用终端系统，也可用于环网系统。高压进线采用电缆插接件结构，具有隔离开关的特点，操作方便，灵活。变压器为三相三柱或三相四柱结构，铁芯采用阶梯接缝工艺，因此噪声低，损耗低，抗短路和过载能力强。采用高燃点绝缘油，外表经“三防”处理，可适用于各种恶劣环境。

This series of box transformer is compact structure, small volume, light weight, easy installation, low noise, low loss, high reliability, can be widely replaced by imports, widely used in residential areas, commercial centers, light stations, airports, factories and mines, enterprises, hospitals, schools and other places. It is a fully insulated structure, fully sealed, reliable to ensure personal safety. Using double fuse protection to reduce the operating cost, the plug-in fuse is double sensitive fuse (temperature, current). Both the terminal system and the ring network system can be used. High voltage incoming line using cable connector structure, has the characteristics of isolation switch, convenient operation, flexible. The transformer is a three-phase three-column or three-phase four-column structure, and the iron core adopts the ladder joint process, so the low noise, low loss, strong short circuit resistance and overload capacity. Using high combustion point insulation oil, the appearance of the "three prevention" treatment, can be applied for all kinds of harsh environment.



◆ 预装式变电站-欧变(YB-12/0.4) Pre-installed type substation-European transformer (YB-12/0.4)

▶ 产品描述 Product overview

该系列变电站用于6-10KV环网或辐射式电网供电系统的户外型成套配电装置。产品是将6-10KV高压开关设备，6-10KV/0.4KV最大容量1250KVA的电力变压器和低压开关组合在一起，安装在封闭的箱体内，构成一个独立的公众能接受的变电站。该产品具有成套性强，结构紧凑，体积小，便于移动，安装维护方便等特点，适用于安装在建筑工地，工厂，矿山，油田，住宅小区，商业中心，高层建筑，街道旁等处。可以最大限度地深入负荷中心，接受电能，变换电压，给低压用户供电。

This series of substations is used for outdoor distribution sets of 6-10KV ring network or radiation power supply system. The product is the 6-10KV high-voltage switchgear, the 6-10KV/0.4KV power transformer with a maximum capacity of 1250KVA and the low-voltage switch combined together, installed in the closed box, forming an independent public acceptable substation. The product has the characteristics of strong complete set, compact structure, small volume, easy to move, convenient installation and maintenance, suitable for installation in construction sites, factories, mines, oil fields, residential areas, commercial centers, high-rise buildings, street side and other places. It can maximize the depth of the load center, accept the electricity, change the voltage, and supply the power to the low-voltage users.

▶ 技术参数 Technical parameter

※额定电压：12/0.4KV	※Rated voltage: 12/0.4KV
※额定容量：100-1250KVA	※Rated capacity: 100-1250KVA
※1min工频耐压：42KV	※1min power frequency voltage resistance: 42KV
※雷电冲击耐压：75KV	※Lightning impact pressure resistance: 75KV
※噪音等级：≤45dB	※Noise level: 45dB
※防护等级：IP44	※Level of protection: IP44

▶ 产品特点 Product characteristics

该系列箱变占地面积仅为配置相同容量变压器传统土木建筑变电站的1/5-1/4，非常节约空间。综合成本仅为相同容量变电站的1/3-1/2，综合造价也非常低。选用节能环保型S9/S11全密封油浸式或SCB9型干式变压器，因此空载损耗低，噪音低，无环境污染。加之体积小可安装在负荷中心位置，减少了线损，保证了供电质量。防护等级可达IP44,防尘，防雨，防小动物，防误操作，可靠性高，内部元件组合紧凑，自动化监视齐全，维护工作量相对较少。用户在现场合理预制的条件下，整体吊装，紧固地脚后，即可接线，调试，运行，非常方便。

This series of box transformer covers an area of only 1 / 5-1 / 4 of the traditional civil building substation equipped with the same capacity transformer, which is very space-saving. The comprehensive cost is only 1 / 3-1 / 2 of the substation with the same capacity, and the comprehensive cost is also very low. Choose the energy-saving and environmental protection type S9 / S11 fully sealed oil immersion type or SCB9 type dry type transformer, so the low no-load loss, low noise, no environmental pollution. In addition, the small volume can be installed in the load center position, reducing the line loss, and ensuring the quality of power supply. Protection level of IP44, dust, rain, small animals, misoperation, high reliability, compact internal components, complete automatic monitoring, relatively less maintenance workload. On the basis of reasonable prefabrication on site, users can be hoisted, tightened feet, wiring, debugging, operation, very convenient.



◆ GIS汇控柜 GIS meeting control cabinet

▶ 产品描述 Product overview

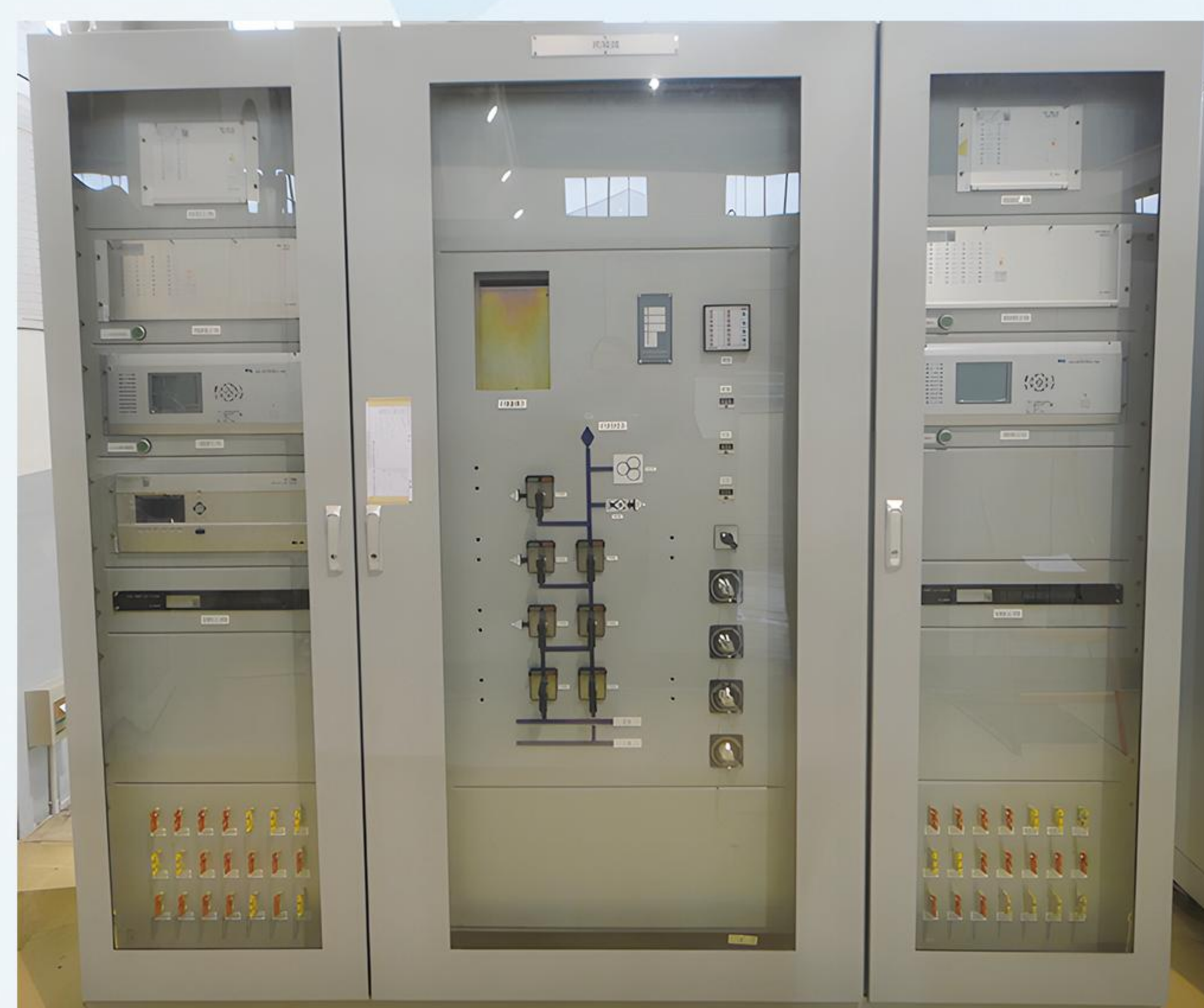
该款GIS汇控柜可根据用户要求定制，柜体结构尺寸，元器件种类数量均可自由选配，采用PLC来实现对GIS的监测和控制，主要包含以下功能：

This GIS currency control cabinet can be customized according to user requirements. The cabinet structure size and the number of components can be selected freely selected. PLC is used to realize the monitoring and control of GIS, mainly including the following functions:

- | | |
|--|---|
| <p>一.控制功能</p> <ol style="list-style-type: none"> 1.断路器的分闸、合闸操作 2.隔离开关的分闸、合闸操作 3.接地刀的分闸、合闸操作 4.自动投退加热器 <p>二.监测功能</p> <ol style="list-style-type: none"> 1.各开关状态自动监测 2.断路器合闸次数自动监测 3.各开关合闸次数自动监测 4.分合闸超时自动监测和保护 5.断路器气室压力闭锁信号和告警监测 6.其他气室压力告警监测 7.储能信号监测 8.避雷器泄露电流监测 <p>三.可实现远程监测和控制</p> | <p>one.control function</p> <ol style="list-style-type: none"> 1.Separation and closing operation of the circuit breaker 2.Opening and closing operation of the isolation switch 3.Opening and closing operation of the grounding knife 4.Automatic return heater <p>two. Monitoring function</p> <ol style="list-style-type: none"> 1.Automatic monitoring of each switch status 2.Automatic monitoring of circuit breaker closing times 3.Automatic monitoring of the closing times of each switch 4.Automatic monitoring and protection of switching and closing overtime 5.Circuit breaker air chamber pressure lock signal and alarm monitoring 6.Other air chamber pressure alarm monitoring 7.Energy storage signal monitoring 8.Monitoring of the leakage current of the lightning arrester <p>three. Remote monitoring and control can be achieved</p> |
|--|---|

▶ 产品特点 Product characteristics

- ※可扩充性强：模块化设计，便扩充易增容。
- ※实用性强：可随用户要求增加气室SF6密度在线监测、工作电流监测、储能电机电流监测、避雷器泄露电流监测等。
- ※具有控制GIS中各部件的信号中转、分合闸操作、状态指示、故障显示等基本功能，以及过载、短路、缺相保护等保护功能，实现多回路供电，确保发生雷电等故障时及时反馈故障信号，检测到故障点并即刻切断故障源。
- ※可根据用户需求量身设计控制回路及柜体外形。控制柜柜体具有结构紧凑、尺寸可定制，IP防护等级能达到IP54,使用寿命长等特点。
- ※ Strong scalability: modular design, then expansion and easy to increase capacity.
- ※ Strong practicability: it can increase the gas chamber SF6 density online monitoring, working current monitoring, energy storage motor current monitoring, lightning arrester leakage current monitoring, etc., along with the user's requirements.
- ※ With basic functions such as controlling signal transfer, switch operation, status indication, fault display of each component in GIS, as well as overload, short circuit, phase absence protection and other protection functions, to realize multi-loop power supply, ensure timely feedback of fault signal when lightning and other faults occur, detect the fault point and immediately cut off the fault source.
- ※ The control circuit and cabinet shape can be designed according to the user needs. The control cabinet cabinet has the characteristics of compact structure, customized size, IP protection level can reach IP54, and long service life.



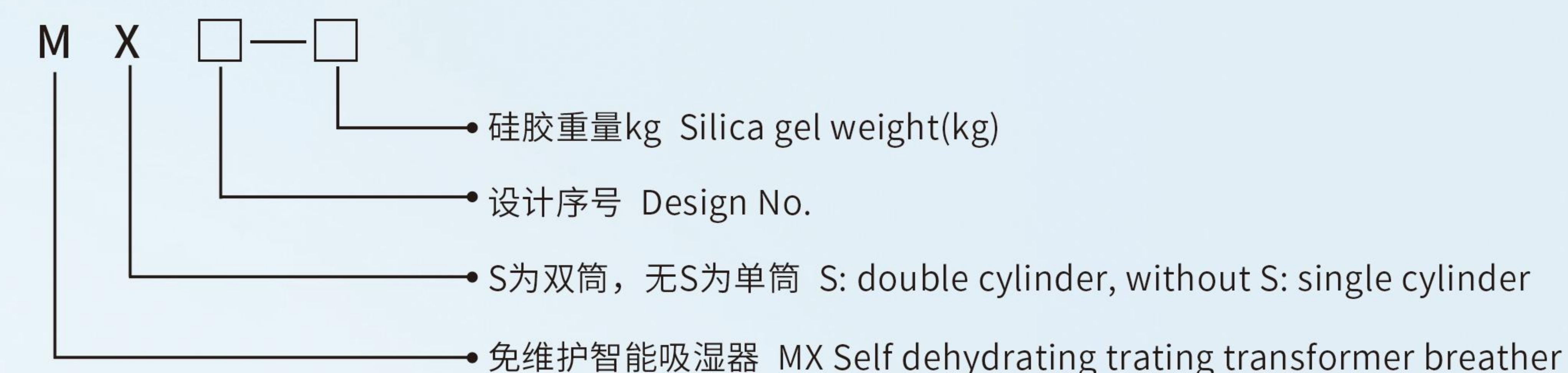
◆ 免维护吸湿器 Self dehydrating transformer breather

▶ 产品描述 Product overview

- ※根据温湿度信号自动控制对硅胶的再生，为油浸变压器的空气自动净化装置
- ※减轻人工巡视、记录、更换
- ※硅胶可重复再生利用
- ※产品有RS-485接口
- ※支持ModBus通讯协议
- ※具有自检功能
- ※故障报警
- ※提升数字化、智能化水平，具有远程监控及在线检测，提升产品可靠性确保变压器安全运行
- ※It is an automatic air purification device for oil immersed transformer, which automatically controls the regeneration of silica gel according to temperature and humidity signals
- ※Reduce artificial inspection, recording and replacement
- ※The silica gel can be recycled
- ※RS-485 interface
- ※Support ModBus communication protocol
- ※Auto-detection Function
- ※Fault Alarm
- ※With remote monitoring and online detection, it can improve the level of digitalization and intelligence, improve the reliability of products, and ensure the safe operation of transformers



▶ 型号说明 Type Description



▶ 型号规格、技术参数及选用 Model and technical parameters

型号Model	电源 Power supply (V/Hz)	额定功率 Rated power (W)	硅胶重量 Weight of Silica gel (kg)	直径 Diameter (mm)	总高 Total height (mm)	变压器储油量 Oil capacity of transformer (kg) (推荐)
MX1-1	AC220 50/60	300	1	175	406	5000-10000
MX1-1.5		400	1.5	175	426	10000-15000
MX1-5		1200	5	225	653	15000-50000
MX1-10		2400	10	225	653 (双筒)	50000以上

◆ 油流继电器 Oil flow relay

产品描述 Product overview

- ※主动轴和被动轴采用轴承支撑，转动灵敏，不易卡死
- ※指针采用防震结构，稳定性强
- ※撑板转动轴带动微型开关触点，精度高，安全可靠
- ※推动板下的支轴承面与油流继电器联管长度相等，轴的强度高
- ※The driving shaft and passive shaft are supported by bearings, which are sensitive to rotation and not easy to get stuck
- ※The pointer adopt the shockproof structure and has strong stability
- ※The supporting plate rotating shaft drives the micro switch contact, which is high in precision, safe and reliable
- ※The length of the support bearing surface under the push plate is consistent with that of the oil flow relay, and the strength of the shaft is high



普通油流继电器

可调节油流继电器

型号说明 Type Description

例：YJ □ . □ / □ - □ □ □

- 密封槽状态；无密封槽用W表示，有密封槽省略不标
Sealing groove state; no sealing groove is indicated by W, and it is omitted when there is a sealing groove
- 触点数量；双触点用2表示，单触点省略不标
Number of contacts; double contacts are indicated by 2, single contacts are omitted
- 油流方向oil flow direction
- 额定油流量Rated oil flow(m³/h)
- 管路标称直径Nominal diameter of pipeline (mm)
- 设计序号；数字1代表第1次设计Design NO.; number 1 represents the first design
- 油流继电器；Oil flow relay

注 注：油流方向：水平从右向左为Y，水平从左向右为Z，垂直从下向上为X，垂直从上向下为S
Note:oil flow direction: Horizontally from right to left is Y, horizontally from left to right is Z, vertically from bottom to top is X, and S is from top to bottom vertically.

◆ BCT端子盒 BCT terminal box

产品描述 Product overview

- ※采用进口改性环氧树脂，可靠性高
- ※选用改性增韧剂合理配方，保证其性能条件
- ※通过高温、高压工艺注射成型，光洁美观
- ※解决了环氧树脂与导电杆之间的粘着问题及两者胀缩系数不同而产生的剥脱现象，杜绝渗漏隐患
- ※壳体采用铝合金压铸成型，强度高，重量轻
- ※获得国家专利，专利号：0014071.7
- ※外壳防护等级高，结构紧凑
- ※Adopt imported modified epoxy resin with high reliability
- ※Select reasonable formula of modified toughening agent to ensure its performance conditions
- ※Injection molding through high temperature and high pressure process, smooth and beautiful
- ※Solve the adhesion problem between epoxy resin and conductive rod and the peeling phenomenon caused by the difference of their expansion and contraction coefficients, and eliminate the hidden danger of leakage.
- ※The shell is formed by aluminum alloy die casting, with high strength and light weight
- ※National patent number: 0014071.7
- ※High protection grade and compact structure



型号说明 Type Description

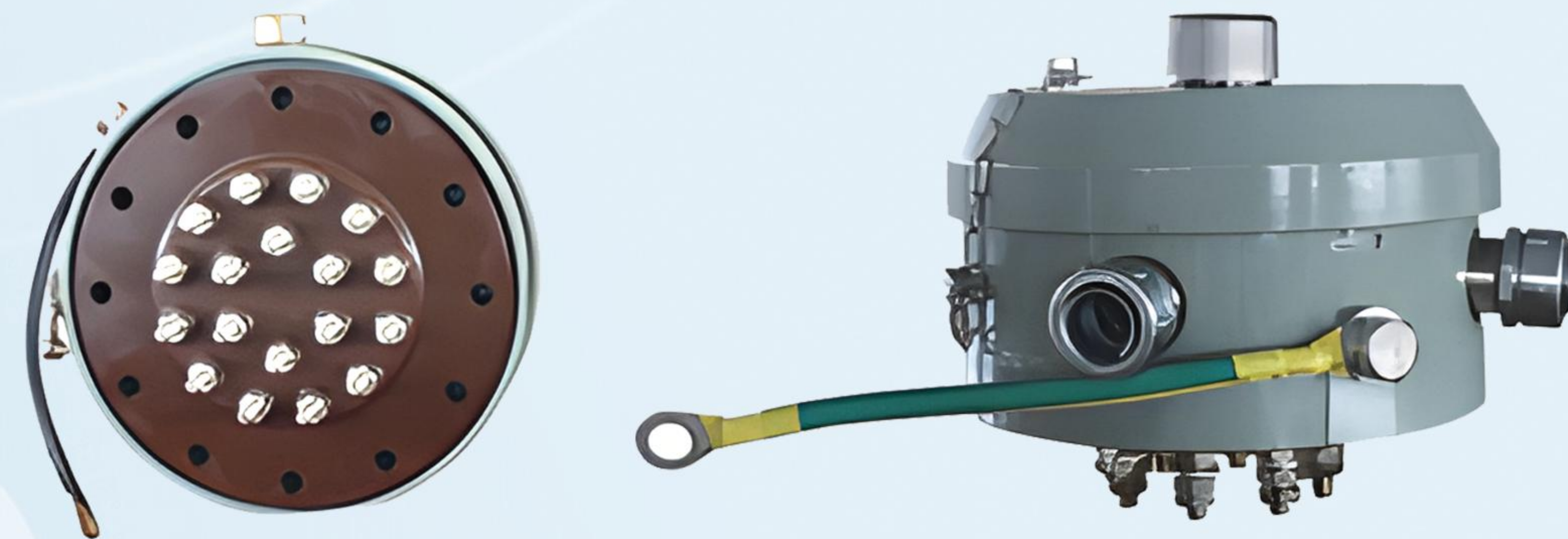
BCT □ — □ / □

- 端子盒出线孔(a单出线孔, b双出线孔)
Terminal box outlet hole(a is single outlef hole, b is double outlet hole)
- 出线头个数(端子数)Number of outlet end (terminal number)
- 壳体于变压器升高座连接处口径
Caliber of connection between housing and flange of transformer (1-φ191, 2-φ206,3-φ246,4-φ264)
- 变压器、互感器用端子盒
Terminal box for transformer and instrment transformer

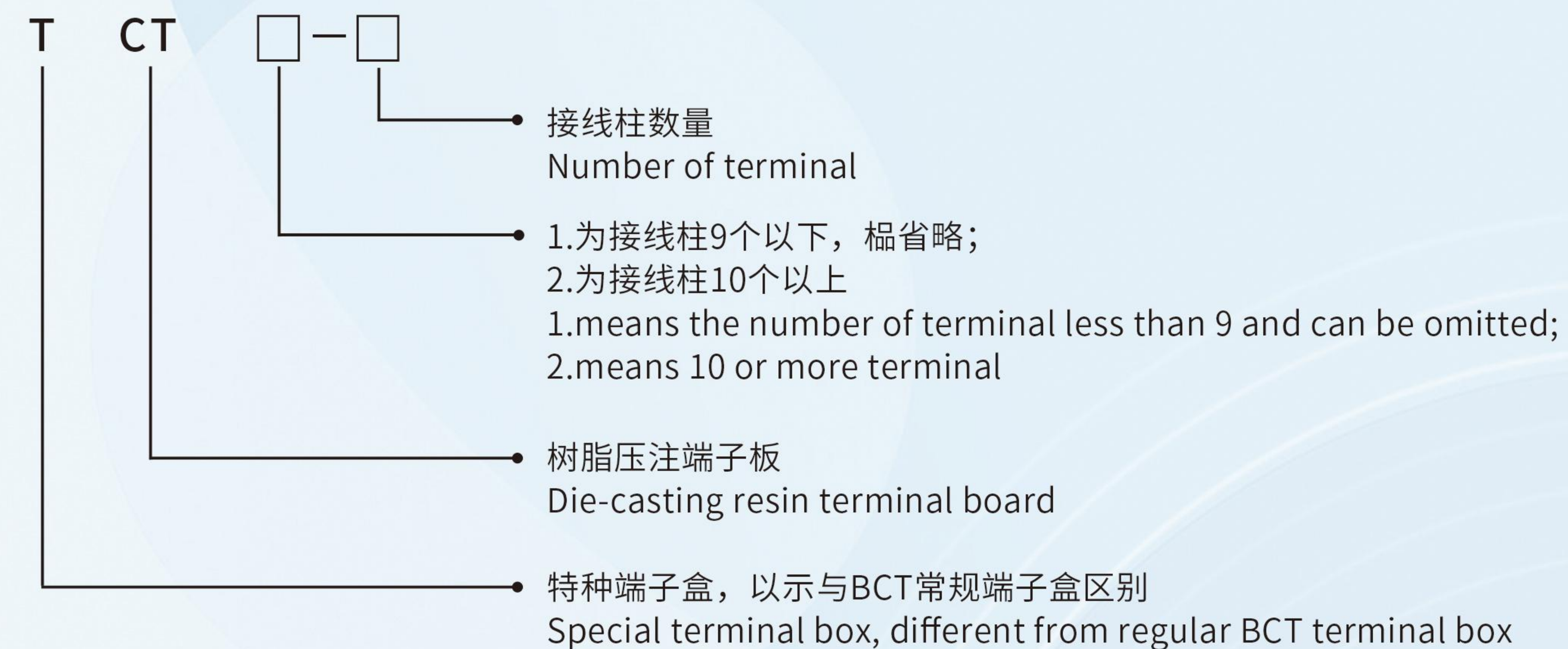
◆ TCT端子盒 TCT terminal box

产品描述 Product overview

- ※采用高性能树脂真空压注工艺，可靠性高，密封面光滑平整
 - ※壳体采用铝合金压铸成型，强度高，韧性强
 - ※树脂和铜导电杆热胀系数匹配，防止变压器油从铜杆处泄漏，降低安全隐患
 - ※通气性好，防水性能强
 - ※绝缘等级F级及以上
 - ※结构紧凑，便于二次接线施工
- ※High performance resin vacuum injection process is adopted, with high reliability and smooth sealing surface
 - ※The shell is formed by aluminum alloy die casting, with high strength and toughness
 - ※The thermal expansion coefficient of resin and copper conducting rod is matched to prevent transformer oil from leaking from the copper conducting rod and reduce potential safety hazards
 - ※Good ventilation and waterproof performance
 - ※Insulation class F
 - ※Compact structure, convenient for secondary wiring construction



型号说明 Type Description



◆ CT接线板 CT terminal plate

产品描述 Product overview

- ※采用高性能树脂真空压注工艺，可靠性高，密封面光滑平整
 - ※树脂和铜导电杆热胀系数匹配，防止变压器油从铜杆处泄漏，降低安全隐患
 - ※绝缘等级F级及以上，可耐120°C高温
 - ※获得专利，专利号：ZL200820163447.0
- ※High performance resin vacuum injection process is adopted, with high reliability and smooth sealing surface
 - ※The thermal expansion coefficient of resin and copper conducting rod is matched to prevent transformer oil from leaking from the copper conducting rod and reduce potential safety hazards
 - ※Insulation class F, can withstand 120 °C high temperature
 - ※Patent No.: ZL200820163447.0



型号说明 Type Description



◆ 绝缘端子 Insulation terminal

产品描述 Product overview

- ※采用进口改性环氧树脂，可靠性高，密封面光滑平整
- ※采用高温、高压压注工艺，机械强度高，韧性好
- ※绝缘性能好
- ※客户需求定制
- ※获得专利，专利号：ZL0332171X
- ※Imported modified epoxy resin is adopted, which has high reliability and smooth sealing surface
- ※High temperature and pressure injection process is adopted, with high mechanical strength and good toughness
- ※Good insulation performance
- ※Customized
- ※Patent No.: ZL0332171X



型号说明 Type Description

型号 Model	A (mm)	B (mm)	C (mm)
φ40xφ50x40	40	50	40
φ40xφ50x50	40	50	50
φ50x50	50	50	50
φ50x60	50	50	60
φ40x40	40	40	40
φ60x60	60	60	60
φ70x180	70	70	180
φ60x220	60	60	220
φ60x130	60	60	130
φ65x130	65	65	130

合作伙伴

cooperative partner



业绩

Achievements

风电冷却系统业绩表 (2021年主要客户) Performance Table of Wind Power Cooling System (2021 Main Customers)		
用户名称Customer	产品型号Product Family	数量quantity
韩国晓星集团Hyosung Corporation	空水冷却器Water-Air Cooler	5
北京三一智能电机有限公司 Beijing Sany Intelligent Motor Co., Ltd	空空冷却器Air-Air Cooler	99
	空空冷却器本体Air-Air Cooler Bundle	27
成都中车电机有限公司Chengdu CRRC Motor Co., Ltd	空空冷却器Air-Air Cooler	18
东方电气(乐山)新能源设备有限公司 Dongfang Electric (Leshan) New Energy Equipment Co., Ltd	空空冷却器Air-Air Cooler	118
东方电气集团东风电机有限公司Dongfang Electric Group Dongfeng Motor Co., Ltd	空空冷却器Air-Air Cooler	1
东方电气新能科技(成都)有限公司Dongfang Electric Xinneng Technology (Chengdu) Co., Ltd	空空冷却器Air-Air Cooler	15
湖南湘电动力有限公司 Hunan Xiangdian Power Co., Ltd	空空冷却器Air-Air Cooler	934
	空水冷却器Water-Air Cooler	62
	后水室rear water chamber	1
江苏中车电机有限公司 Jiangsu CRRC Motor Co., Ltd	空空冷却器Air-Air Cooler	8
	空水冷却器Water-Air Cooler	27
南京汽轮机长风新能源股份有限公司 Nanjing Turbine Motor Changfeng New Energy Co., Ltd	空空冷却器Air-Air Cooler	1
上海电气集团上海电机厂有限公司 Shanghai Electric Group Shanghai Motor Works Co., Ltd	空空冷却器Air-Air Cooler	38
西安盾安电气有限公司 Xi'an Dun'an Electric Co., Ltd	空空冷却器Air-Air Cooler	1
西安中车永电捷力风能有限公司永济分公司 Yongji Branch of Xi'an CRRC Yongdian Jieli Wind Energy Co., Ltd	空空冷却器Air-Air Cooler	289
	空水冷却器Water-Air Cooler	3
英达电气 Yingda Electric	空空冷却器Air-Air Cooler	180
杭州杭发兴和机电工程有限公司 Hangzhou Hangfa Xinghe Electromechanical Engineering Co., Ltd	空水冷却器Water-Air Cooler	1
宜兴华永电机有限公司 Yixing Huayong Motor Co., Ltd	空水冷却器Water-Air Cooler	9
沈阳隆基电磁科技股份有限公司 Shenyang Longji Electromagnetic Technology Co., Ltd	空水冷却器Water-Air Cooler	1

变压器冷却系统业绩表 (2021年主要客户) Performance Table of Transformer Cooling System (2021 Main Customers)		
用户名称Customer	产品型号Product Family	数量quantity
BUMI TEKNIKAL SOLUTION SDN BHD	油风冷却器OFAF Heat exchanger	1
GE Renewable Energy	油风冷却器OFAF Heat exchanger	2
保定天威集团特变电气有限公司 Baoding Tianwei Group TBEA Electric Co., Ltd	油风冷却器OFAF Heat exchanger	8
在平信发华兴化工有限公司 Chiping Xinfu Huaxing Chemical Co., Ltd	316L不锈钢螺旋板式油水冷却器 316L stainless steel spiral plate oil water cooling	3
佛冈建滔实业有限公司 Fogang Jiantao Industry Co., Ltd	不锈钢螺旋板式油水冷却器 Stainless steel spiral plate oil-water cooling	1
广西柳州特变科技有限责任公司 Guangxi Liuzhou TBEA Technology Co., Ltd	油风冷却器OFAF Heat exchanger	2
	油风冷却器OFAF Heat exchanger	9
	油水冷却器OFWF Heat exchanger	6
杭州卓胜电气有限公司 Hangzhou Zhuosheng Electric Co., Ltd	304不锈钢螺旋板式油水冷却器 304 stainless steel spiral plate oil water cooling	1
合肥ABB变压器有限公司 Hefei ABB Transformer Co., Ltd	油水冷却器OFWF Heat exchanger	3
河北建设集团股份有限公司 Hebei Construction Group Co., Ltd	油风冷却器OFAF Heat exchanger	4
河南铜牛变压器有限公司 Henan Tongniu Transformer Co., Ltd	201不锈钢螺旋板式油水冷却器 201 stainless steel spiral plate oil water cooling	4
湖南科瑞变流电气股份有限公司 Hunan Kerui Converter Electric Co., Ltd	油水冷却器OFWF Heat exchanger	4
江山源力变压器有限公司 Jiangshan Yuanli Transformer Co., Ltd	304不锈钢螺旋板式油水冷却器 304 stainless steel spiral plate oil water cooling	6
	油水冷却器OFWF Heat exchanger	3
江苏新特变科技股份有限公司 Jiangsu New Tebian Technology Co., Ltd	304不锈钢螺旋板式油水冷却器 304 stainless steel spiral plate oil water cooling	2
	碳钢螺旋板式油水冷却器 Carbon steel spiral plate oil water cooler	14
	油风冷却器OFAF Heat exchanger	2
江西变压器科技股份有限公司 Jiangxi Transformer Technology Co., Ltd	油水冷却器OFWF Heat exchanger	1
	201不锈钢螺旋板式油水冷却器 201 stainless steel spiral plate oil water cooling	2
	304不锈钢螺旋板式油水冷却器 304 stainless steel spiral plate oil water cooling	1
聊城研聚新材料有限公司 Liaocheng Yanju New Materials Co., Ltd	304不锈钢螺旋板式油水冷却器 304 stainless steel spiral plate oil water cooling	1
山东鲁能泰山电力设备有限公司 Shandong Luneng Taishan Power Equipment Co., Ltd	油风冷却器OFAF Heat exchanger	4
陕西汉中变压器有限责任公司 Shaanxi Hanzhong Transformer Co., Ltd	油风冷却器OFAF Heat exchanger	9
上海电气集团(张家港)变压器有限公司 Shanghai Electric Group (Zhangjiagang) Transformer Co., Ltd	304不锈钢螺旋板式油水冷却器 304 stainless steel spiral plate oil water cooling	1
	碳钢螺旋板式油水冷却器 Carbon steel spiral plate oil water cooler	1
上海森迪调压变设备有限公司 Shanghai Sendi Voltage Regulating and Transformation Equipment Co., Ltd	油风冷却器OFAF Heat exchanger	14
沈阳隆基电磁科技股份有限公司 Shenyang Longji Electromagnetic Technology Co., Ltd	油风冷却器OFAF Heat exchanger	37
	油水冷却器OFWF Heat exchanger	8
特变电工股份有限公司新疆变压器厂 TBEA Xinjiang Transformer Factory	油风冷却器OFAF Heat exchanger	4
特变电工衡阳变压器有限公司 TBEA Hengyang Transformer Co., Ltd	油风冷却器OFAF Heat exchanger	4
特变电工湖南电气有限公司 TBEA Hunan Electric Co., Ltd	油水冷却器OFWF Heat exchanger	1
通用电气电网工程(上海)有限公司 GE Grid Engineering (Shanghai) Co., Ltd	油风冷却器OFAF Heat exchanger	6
西安西变中特电气有限公司 Xi'an Xibian Zhongte Electric Co., Ltd	油水冷却器OFWF Heat exchanger	3
西安西电变压器有限责任公司 Xi'an XD Transformer Co., Ltd	油风冷却器OFAF Heat exchanger	6
浙江宝威电气有限公司 Zhejiang Baowei Electric Co., Ltd	油风冷却器OFAF Heat exchanger	1
	油水冷却器OFWF Heat exchanger	2
浙江江山科达变压器有限公司 Zhejiang Jiangshan Keda Transformer Co., Ltd	碳钢螺旋板式油水冷却器 Carbon steel spiral plate oil water cooler	9
	油水冷却器OFWF Heat exchanger	2
浙江协成电气有限公司 Zhejiang Xiecheng Electric Co., Ltd	201不锈钢螺旋板式油水冷却器 201 stainless steel spiral plate oil water cooling	14
	碳钢螺旋板式油水冷却器 Carbon steel spiral plate oil water cooler	51
	油风冷却器OFAF Heat exchanger	3
正泰电气股份有限公司 Chint Electric Co., Ltd	油风冷却器OFAF Heat exchanger	10
中山ABB变压器有限公司 Zhongshan ABB Transformer Co., Ltd	油水冷却器OFWF Heat exchanger	1



油水冷却器应用于巴基斯坦苏基纳里水电站单机容量为 221MW 的冲击式水轮发电机组
OFWF applied to pakistan sukkiknari hydropower station, whose impulse turbine generator unit has the unit capacity of 221MW



油风冷却器应用于中山 ABB 项目上
OFAF cooler-ABB Zhongshan



10MW 冷却器应用于海上风电
10MW Cooler for Offshore Wind Power



85KW 强迫油循环水冷应用于海上风力发电机 (8MW)
TOWC for Offshore wind-generator



变压器油泵于 2006 年开始应用在长江三峡主变压器冷却系统
Transformer oil pump was applied in the cooling system of the main transformer of the Three Gorges Project in 2006



油风冷却器应用于铝项目上
OFAF coolers for Aluminium project



电力机车油泵应用于标动复兴号
Locomotive pumps for Fuxing Train



气泵应用于地铁上
Gas pump for subway



变压器油泵及油流继电器、蝶阀应用于泰山核电站第一座 30 万千瓦压力堆核电站
Transformer oil pump, oil flow relay and butterfly valve are applied to the first 300000kW pressure reactor nuclear power plant in Qinshan Nuclear Power Station



油泵及油流继电器、蝶阀应用于澳大利亚塔隆电厂采用的常州东芝 500 千伏安变压器中
oil pump, oil flow relay and butterfly valve matched with Changzhou Toshiba 500kVA transformer were used in Talon Power Plant, Australia



油泵应用于核电上 AE.
Power oil pump for nuclear power



油水冷却器应用于杨家湾水电站
OFAF for Yangjiawan Hydropower Station



变压器冷却器用于换流变
Transformer cooler for converter



变压器冷却器用于 1000 千伏特高压交流输电
Transformer cooler for 1000 kV UHV AC transmission