



荣泰科技 山东荣泰感应科技有限公司
Shandong Rongtai Induction Technology Co., Ltd.

地址：山东省潍坊市坊子区凤翔街 1872 号
Add：No. 1872, Fengxiang Street, Fangzi District, Weifang City, Shandong Province
邮编 /ZipCode：261206
电话 /Tel：0086-536 3083660/3083663
传真 /Fax：0086-536-3083639
网址 /Web：www.erongtai.cn
邮箱 /E-mail：800@erongtai.com

山东荣泰感应科技有限公司
Shandong Rongtai Induction Technology Co.,Ltd.



豪 迈 向 前
HIMILE MOVING FORWARD

CORPORATE CULTURE 企业文化

给别人信心就是给自己机遇



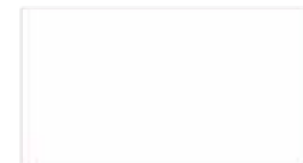
打造利益共同体、事业共同体和精神共同体

ABOUT RONGTAI 荣泰与豪迈

山东荣泰感应科技成立于 1997 年，为豪迈集团子公司，依托集团强大的技术和研发实力，专注于中频感应熔化设备的研发与制造，以双供电和多供电中频设备为核心产品，延伸涵盖自动加配料、炉前除尘、铁水自动周转、浇铸机等范围，能够为用户提供铸造全流程系统解决方案。

Shandong Rongtai Induction Technology Co., Ltd. was established in 1997. It is a subsidiary of Himile Group. Relying on the strong technology and R&D strength of the Group, it focuses on R&D and manufacturing of Medium Frequency induction melting furnace. Based on the core products of dual-track and multi-output MF furnace, and optionally equipped with Automatic Batching device, Fume Collectors and Hoods, Automatic Transfer of Molten Metal, Pouring Machine, etc., we can provide foundry with cost-effective and environment friendly turnkey melting solutions.

科技有限公司



GROUP INTRODUCTION

集团简介

豪迈集团始创于1995年，地处山东半岛高密市。20多年来，公司以年均复合增长率近50%的速度快速稳健发展，现拥有20多家子分公司，含1家A股上市公司（证券代码002595），员工1万多人，总资产80亿元；涉足机械制造、海工、轨道交通、铸造熔炼装备等领域，拥有GE、三菱、东芝、西门子、卡特彼勒、米其林等20多家世界500强客户群。

Founded in 1995, Himile Group is located in Weifang City, Shandong Province. For more than 20 years, the company has developed rapidly and steadily at a compound annual growth rate of nearly 50%. Now it has more than 20 subsidiaries, including one A-shares listed company (Stock Code 002595), more than 10,000 employees, total assets RMB 8 billion; involved in machinery manufacturing, ocean engineering, rail transit, foundry melting equipment and other fields, has more than 20 customers in Fortune Global 500, including GE, Mitsubishi, Toshiba, Siemens, Caterpillar and Michelin etc.



INTRODUCTION OF RONGTAI

荣泰简介

荣泰感应科技作为豪迈集团子公司，占地 206 亩，建设有 5.6 万平米现代化厂房。公司主营中频感应成套装备以及配套自动化装备，核心产品为感应熔化炉，感应加热炉、在线调质生产线等，服务于国内外众多高端机械制造企业。

荣泰坚持自主技术创新和研发，拥有王钦峰为主导的优秀技术团队，建有省级实验室一座、省级企业技术中心一座，参与《全国工业电热设备标准化技术》标准修订工作，山东铸造电炉行业能耗标准制定者。

荣泰致力成为世界一流感应装备制造制造商。

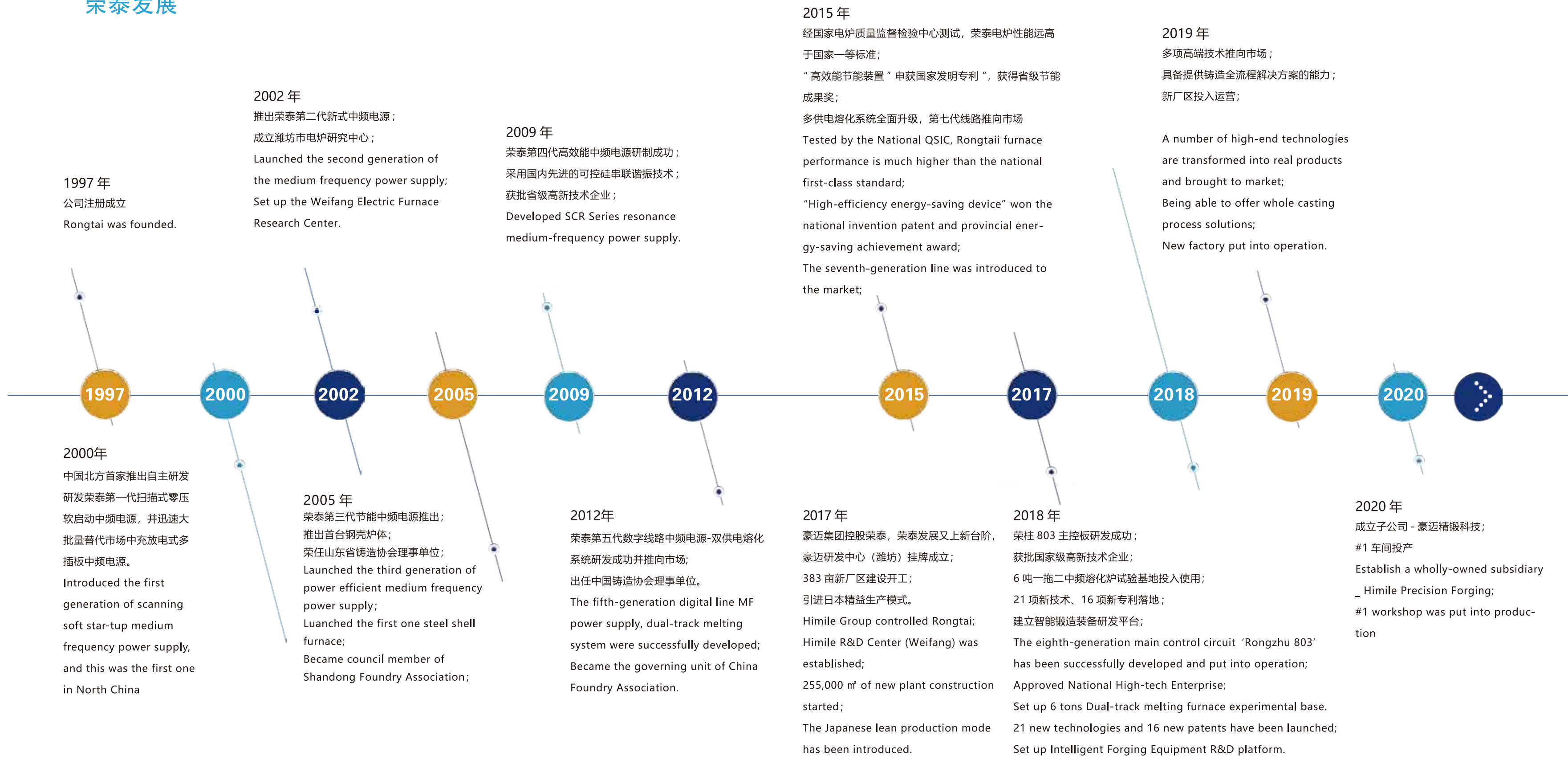
As a key subsidiary of Himile Group, Rongtai Induction Technology covers an area of 137,000 m² and has 5 modern factories with a total area of 56,000 square meters. The company's main products are medium frequency induction equipment and supporting automation equipment. The core products are induction melting furnace, induction heating furnace, online quenching and tempering production line, etc., serving many metal thermal processing factories at home and abroad.

Rongtai adheres to independent technological innovation and research and development. It has an excellent technical team led by Wang Qinfeng, a provincial-level laboratory and a provincial-level enterprise technology center. It is the maker of energy consumption standards for the foundry electric furnace industry in Shandong Province, and participates in the revision of the National Standardization Technology for Industrial Electric Heating Equipment.

Rongtai is committed to becoming a world-class manufacturer of induction equipment.



HISTORY HIGHLIGHTS
荣泰发展





国家权威鉴定 National Authority Identification



国家电炉质量监督检验中心对荣泰可控硅串联谐振电炉型式实验测试，各项指标均符合国家标准GB/T10066.2-2014。按照GB/T10067.3-2005、GB59569.3-2008技术要求，3T双供电中频熔化炉单位电耗低至507KW.H/T,功率因数高达0.99，大幅优于国家一等标准。

The State Electric Furnace Product Quality Supervision and Inspection Center has tested Rongtai SCR series resonance furnace, and all the indexes are in line with the national standard GB/T10066.2-2014. According to the technical requirements of GB/T10067.3-2005 and GB59569.3-2008, The unit power consumption of the 3 tons dual-track medium frequency melting furnace is as low as 507 kW·h/t, and the power factor is as high as 0.99, which is significantly better than national first class standard.



荣获年度节能成果奖 Energy Saving Award

荣泰第七代高效节能感应熔化装置采用国际先进的新式可控硅串联谐振技术，调频调功，频率适应范围宽，控制板自适应负载谐振频率，设备运行稳定高效，荣获当年节能成果奖。

Rongtai's seventh-generation high-efficiency energy-saving induction melting furnace adopts advanced SCR series resonance technology, Adjusting the power by adjusting the frequency, wide frequency adaptation range, adaptive load resonance frequency of control board, which makes the furnace operate more stable.

荣柱803数字中频电源 RONGZHU 803

承袭了世界领先的电气设计理念，豪迈全球一流的电火花电气设计团队历时8个月研发成功荣泰第八代数字化线路，稳定性能更加卓越，耗电量指标达到国际先进水平，是国内唯一具有完全自主知识产权的线路技术，为用户提供更安全、更稳定、更智能的产品。

Inheriting the world's leading electrical design concept, Himile's world-class EDM electrical design team has successfully developed the 8th generation digital line of Rongtai in 8 months. The stability is more excellent and the power consumption index has reached the international advanced level. It is the only line technology with complete independent intellectual property rights in China, which provides users with safe, stable and intelligent products.





荣泰市场定位

Rongtai Market Positioning



以中频熔化电炉为核心产品，提供铸造全流程系统解决方案。

荣柱803数字中频电源保证用户选用设备的稳定性和节能运作，保证客户使用价值的更大化。

高标准的工艺和核心零部件选型，同寿命的设计理念。

日本品控专家亲身打造的质量管控体系，设计制作全流程可控可追溯。

With the MF melting furnace as the core product, provide the complete melting process solution for foundry.

The RONGZHU 803 digital MF power supply guarantees the stability and energy-saving operation of the equipment, ensuring greater use value of the equipment.

High standard process and core component selection, whole life design concept.

The quality control system created by Japanese quality control experts, the whole process of design and production can be controlled and traced.





荣泰节能熔化系统

Rongtai Energy-saving Melting Furnace



荣泰双供电以及多供电中频电源和多个炉体构成多供电熔化系统，输出功率在炉体之间无极任意分配，保温和熔化状态根据实际工况一键调节。全开放的24脉整流设计，获得更高的功率因数、更低的谐波含量。

Rongtai dual-track or multi-output power supply and multiple furnaces constitute a multi-output melting system. The output power is randomly distributed between the furnace bodies. The holding and melting state can be adjusted according to the actual working conditions. Fully open 24-pulses rectification design for higher power factor and lower harmonic content.

人性化的柜体结构，功率组块设计，让所有电器元件处于可观察、易于维护的位置。

同寿命设计理念，以最高使用寿命的元器件为选型标准，产品实际使用寿命更加吻合设计寿命，维护成本极大降低。

数字化线路，光纤传输触发信号，抗干扰能力强，系统更加稳定。

荣泰卓越的主回路设计，更高的绝缘等级、更低的运行损耗，更优的工艺选择，让产品具备极具竞争力的耗电量指标。

The humanized cabinet structure and modular power unit design make all electrical components in an observable and easy to maintain position.

With the whole life design concept, the components with the longest operation life are selected as the selection criteria, and the actual operation life of the product is more consistent with the design lifetime, the failure rate and maintenance cost are greatly reduced as well.

Digital analog line, triggering signal transmitted by fiber and strong anti-interference ability make the system work more stable.

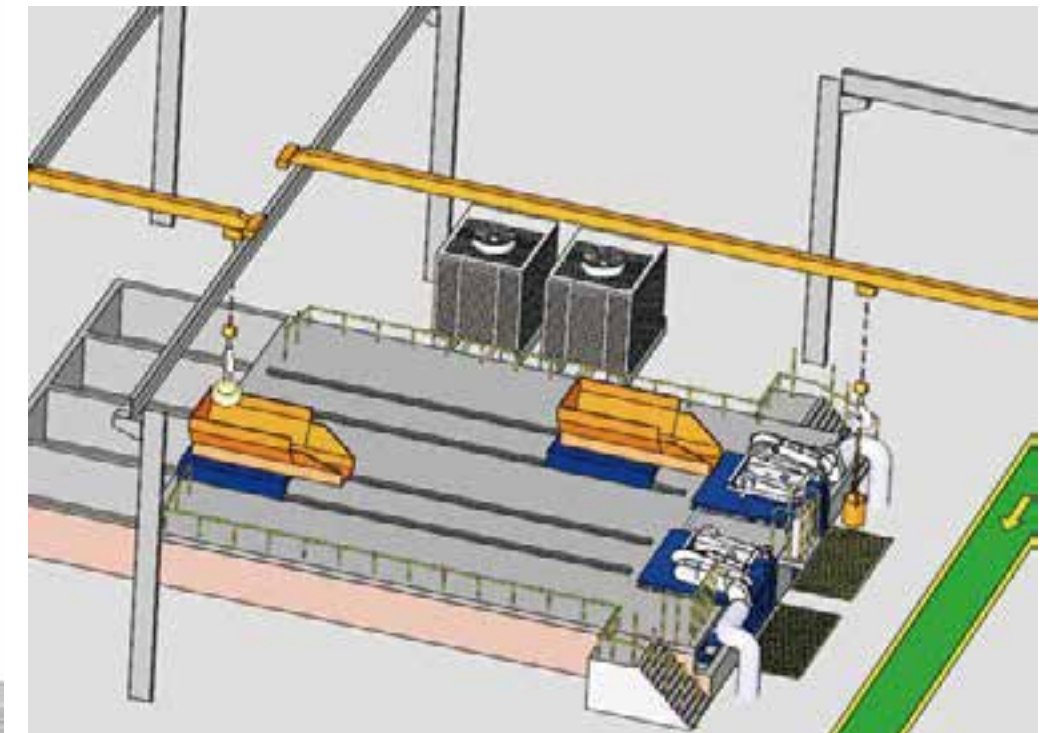
More scientific main circuit design, higher insulation grade, lower operating loss and better process selection make the product has a very competitive power consumption index.





多供电（一拖多）熔化系统现场布局图

Layout of Multi-output Melting Furnace

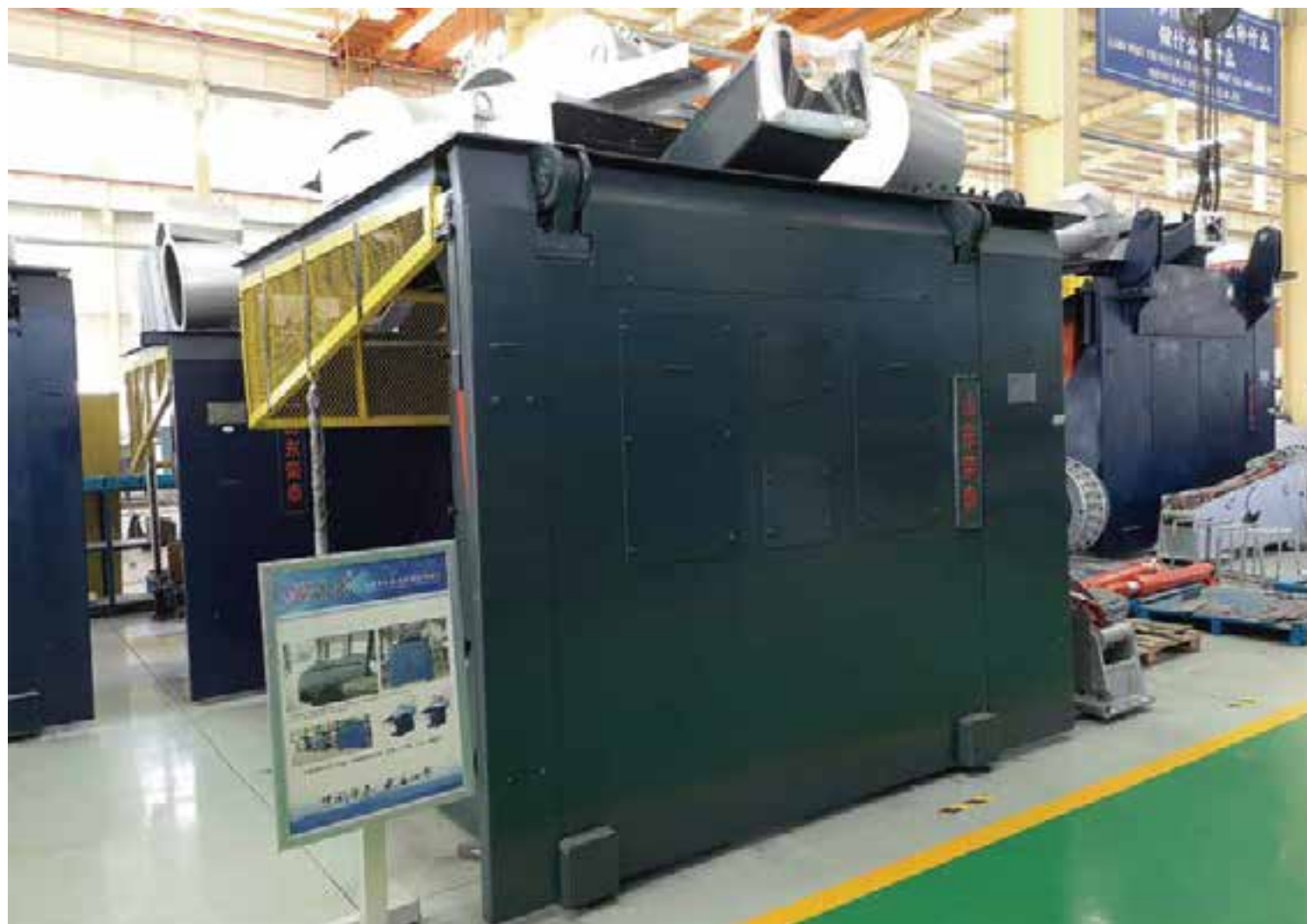




炉体技术

Furnace Body Technology

- ◆ 可用于熔化黑色和有色金属;
- ◆ 0.15-60T可供选择;
- ◆ 电源功率0.25-18MW;
- ◆ 可靠的炉衬厚度检测系统;
- ◆ 炉体开放式的设计, 易于维护;
- ◆ 带有高磁感型磁轭, 降低磁场损耗;
- ◆ Can be used to melt ferrous and nonferrous metals;
- ◆ 0.15-60t is available;
- ◆ Power supply 0.25-18MW;
- ◆ Reliable lining thickness detection system;
- ◆ The open design of the furnace body is easy to maintain;
- ◆ With high magnetic induction yoke, reducing magnetic field loss;



- ◆ 配套旋风式吸烟罩;
- ◆ 配套防跌落护栏, 防护工人安全;
- ◆ 配套炉衬快速推出装置, 提高筑炉效率;
- ◆ 炉体前后倾翻结构 (选配), 前倾出钢水, 后倾扒渣, 降低工人工作强度;
- ◆ 炉体称重系统 (选配), 采集熔化和出钢水量;
- Optional Features:
- ◆ Integrated Fume Ring, Fume Collecting Hood;
- ◆ Safety Pit Guards to protect worker;
- ◆ Lining push-out device to improve lining building efficiency;
- ◆ Front and back tilting structure makes the furnace tilt forward for molten metal pouring, or tilt backward for slagging to reduce the working intensity;
- ◆ Weigh system to collect the amount of melting and tapping;

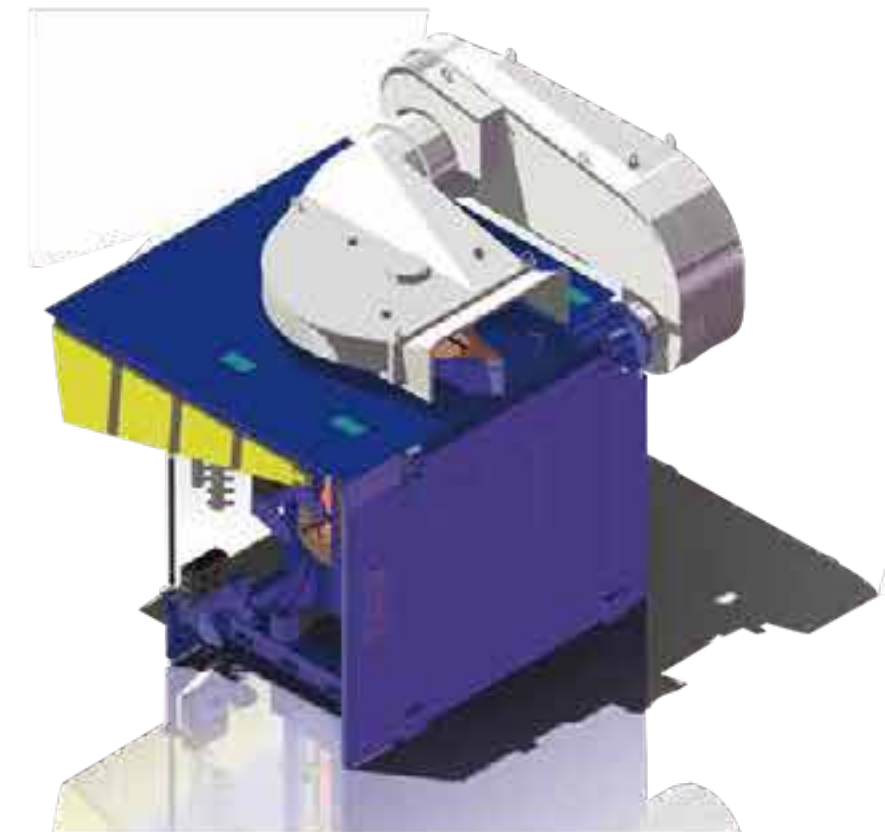
炉体集尘炉盖

Dust Collection Furnace Cover

荣泰钢壳炉炉体配备龙卷风式和环式吸尘炉盖。

龙卷风式收尘罩, 采用坚固耐高温的钢结构设计, 进口轴承, 吸尘罩中间打筑耐火材料, 可前后任意倾翻停留, 方便吸走烟气粉尘, 同时保护操作人员加工料、扒渣、倒铁水。

环式收尘罩, 安全可靠, 运作简单, 易于操作, 占地面积小。



Rongtai steel shell furnace body can be optionally equipped with integrated fume ring or fume collecting hood, which has excellent fume collecting effect to meet requirement of environmental protection.

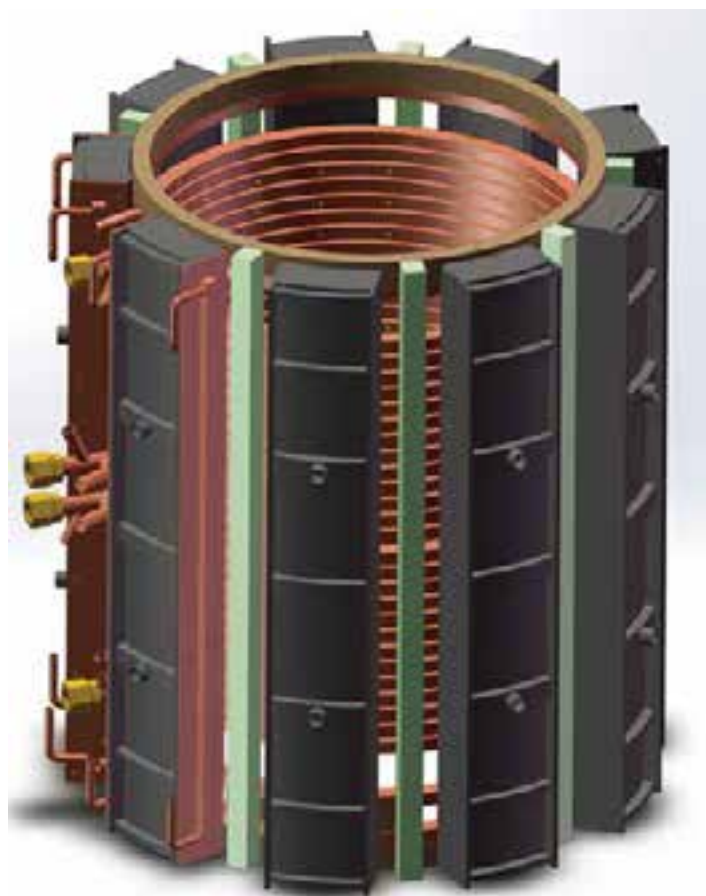
Fume collecting hood adopts the design of strong and heat-resisting steel structure. Using imported bearings and refractory materials are built in the middle of the fume collecting hood. It can be tilted forward and backward freely, so that it can easily remove fume and protect the operator during the process of charging, slagging and pouring.

Integrated fume ring has the characteristics of safety, stable and easy operation and small space occupation etc.



线圈技术 Coil Technology

- ◆ TU1无氧铜铜管的使用大幅降低线圈能量损耗;
- ◆ 行业先进的线圈绝缘处理工艺, 线圈耐压达6.5KV以上;
- ◆ 线圈的平绕绕制方式, 漏磁少, 加热效率高;
- ◆ 合理的线圈结构, 磁力线损失少, 磁场效率高;
- ◆ 线圈浆料整体灌封, 强度高, 锥度标准;



※ 延长炉衬使用寿命30%.
Extend the service life of furnace lining by 30%.

- ◆ The use of TU1 oxygen-free copper tube significantly reduces coil energy loss;
- ◆ Advanced coil insulation treatment, the coil withstand voltage up to 6.5KV;
- ◆ The coil is wound in a flat winding manner, with less magnetic leakage and high heating efficiency;
- ◆ Reasonable coil structure, less magnetic field loss and high magnetic field efficiency;
- ◆ The coil is embedded in slurry as a whole, with high strength and precise taper;



电气技术 Power Supply Technology

技术参数:

- ◆ 每个模块功率: 750KW
- ◆ 频率: 150-1000Hz
- ◆ 功率因数: ≥ 0.96
- ◆ 整流方式: 12脉、24脉
- ◆ 组合功率: 0.25-18MW

Technical Parameters:

- ◆ Power Module: 750KW
- ◆ Frequency: 150-1000Hz
- ◆ Power Factor: ≥ 0.96
- ◆ Rectifying Mode: 12 pulses, 24 pulses
- ◆ Combined Power: 0.25-18MW



电源技术:

- ◆ 自主知识产权的数字控制技术;
- ◆ 整流方式12脉、24脉结构, 高次谐波小;
- ◆ 逆变串联谐振设计, 整流全开放, 功率因数高 (≥ 0.96);
- ◆ 逆变器件采用非对称晶闸管, 开关时间短, 功耗低;
- ◆ 模块化结构, 组合方便, 线路简单, 可靠性高;
- ◆ 信号采用光纤传输, 抗干扰;
- ◆ 可实现一拖一、一拖二、一拖多, 逆变之间功率任意分配;

Power Supply Technology:

- ◆ Digital control technology with independent intellectual property;
- ◆ Rectifying mode is 12-pulse or 24-pulse structure, the upper harmonics are less;
- ◆ Inverter series resonance design, rectification is fully open, power factor is high (≥ 0.96);
- ◆ The inverter components adopt asymmetric SCR, which has short turn-off time and low power consumption;
- ◆ Modular structure, easy assembly, simple circuit and high reliability;
- ◆ The signal is transmitted by optical fiber and is anti-interference;
- ◆ It can achieve signal output, dual-track, multi-track, and the power between the inverters is arbitrarily distributed;



水冷系统

Water Cooling System



全封闭冷却系统优点:

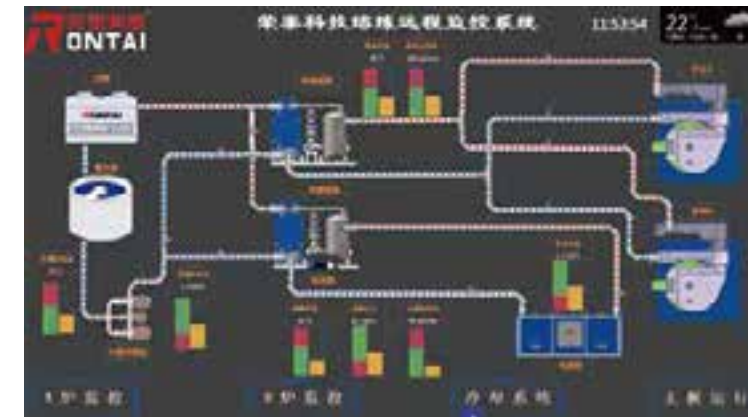
1. 全封闭式循环冷却，杜绝杂物引起的管路堵塞；
2. 采用软水循环冷却，无水垢生成，避免因水垢引起的电源，可控硅，IGBT 模块，感应线圈等损坏现象；
3. 无需水池和冷却塔，占地小，移动方便；
4. 散热效率高，运行成本低；
5. 封闭式循环，耗水量小，符合节能环保的要求。

Fully Closed Cooling System Advantages:

1. Fully closed cooling circulation, eliminate pipeline blockage caused by dust;
2. The cooling medium is soft water, and no scale is formed to avoid damage to the power supply, thyristor, IGBT module, induction coil, etc. caused by scale;
3. No need for water pool and cooling tower, less space and easy to move;
4. High cooling efficiency and low operating cost;
5. Closed circulation, low water consumption, in line with the requirements of energy saving and environmental protection.

感应熔化智能控制系统

Induction Melting Intelligent Control System



技术特点:

1. 主控板线路自主研发，核心控制技术持续升级；
2. 网络拓扑结构设计的数字化、智能控制系统，功能拓展性强；
3. 可通过功能拓展，加装一系列控制功能，如远程控制、称重等，并接入用户生产信息化管理系统（MES），实现智能化工厂管理；

监测功能:

1. 检测设备运行过程中的各项参数，包括电压、电流、有功功率、无功功率、功率因数、能耗等；
2. 多点测温并实时显示检测温度，包含电源和炉体各支路水温；
3. 系统将采集的监测数据与设定的报警值进行对比，并自动判断执行报警或停机功能；

可选功能:

1. 远程控制：可实现远程数据采集、监控以及故障排查等功能；
2. 称重功能：可选配炉体称重功能，对熔化金属重量、倒出重量以及剩余重量称重并记录；

Technical Features:

1. The main control board circuit is independently researched and developed, and the core control technology is continuously upgraded;
2. The digital and intelligent control system designed according to the network topology structure, has strong function expandability;
3. Through the function expansion, add a series of control functions, such as remote control, weighing, etc., and access the user Manufacturing Execution System (MES) to achieve intelligent factory management;

Monitoring Function:

1. Monitor various electrical parameters during the operation of the equipment, including voltage, current, active power, reactive power, power factor, power consumption, etc.
2. Multi-point temperature measurement and real-time display of the monitoring temperature, including each branch water temperature of the power supply and furnace body;
3. The system compares the collected data with the alarm value set by the user, and automatically judges the execution of the alarm or shutdown function;

Optional Features:

1. Remote control: It can achieve functions such as remote data collection, monitoring and troubleshooting;
2. Weighing function: The furnace body weighing frame can be equipped, and the weight of the molten metal, poured metal and remaining metal are weighed and recorded;



精益生产

Lean Production



用创新对话未来

Dialogue with Future on Innovation

先进的荣泰文化和创新机制，保证荣泰全员始终保持高涨的创新热情，拥有持续的创新能力，让荣泰产品更具竞争力，公司发展动力强劲。

The advanced Himile culture and innovative mechanism ensure that all members of Rongtai always maintain high innovative enthusiasm, and have continuous innovation ability to make Rongtai products more competitive and development momentum stronger.

1. 提升企业综合素质，优化工作环境，员工积极性提高；
2. 减少废品率，制作细节严谨认真，精益求精；
3. 严格质量管控，检测重要的设备参数，各环节设有关键质量管控点，严把质量关；
4. 工艺流程优化，降低维护成本，减少人工，为用户提供长远计划；

1. Improve the overall quality of the company, optimize the working environment, and improve the enthusiasm of employees;
2. Reduce the scrap rate, make the details rigorous and conscientious, and strive for excellence;
3. Strict quality control, important equipment parameters inspection, key quality control points in all links;
4. Optimize production process, reduce maintenance and labor costs, and to provide users long-term plans.

日本Hirokazu Isoi先生精益生产培训



创新改善专题看板





客户业绩

Part of Our Users





产品系列 Products



中频感应加热系统

Medium Frequency Induction Heating System

荣泰还为锻造工厂提供感应加热解决方案，具备完整的锻造工艺、智能锻造生产线设计和装备提供能力。

Rongtai also provides induction heating solutions for forge shops, and has complete forging process solution, intelligent forging production line design and equipment supply capabilities.



感应熔化炉

Induction Melting Furnace

淬火机床

Quenching Machine Tool

感应加热炉

Induction Heating Furnace

配套配件

Accessory Parts

感应热处理

Induction Heat Treatment

真空炉

Vacuum Furnace

锻造自动化

Forging Automation

水冷系统

Water Cooling System

IGBT 设备

IGBT Furnace

电弧炉

Electric Arc Furnace



心服务

Service with Heart



荣泰感应科技

RONGTAI INDUCTION TECHNOLOGY

公司宗旨 努力把荣泰建设成员工实现自我价值奉献社会的理想平台
PRINCIPLE TRY OUR BEST TO BUILD RONGTAI INTO AN IDEAL PLATFORM FOR
ALL OF EMPLOYEES TO ACHIEVE OUR VALUE AND TO CONTRIBUTE
TO SOCIETY

