



江苏瑞鼎环境工程有限公司

JIANGSU RUIDING ENVIRONMENTAL
ENGINEERING CO., LTD



Specialize in
Emissions Control System

Provision of complete EPC (Engineering, Procurement and Construction) solutions



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Ruiding Smart Manufacturing, Meeting Safety Standards

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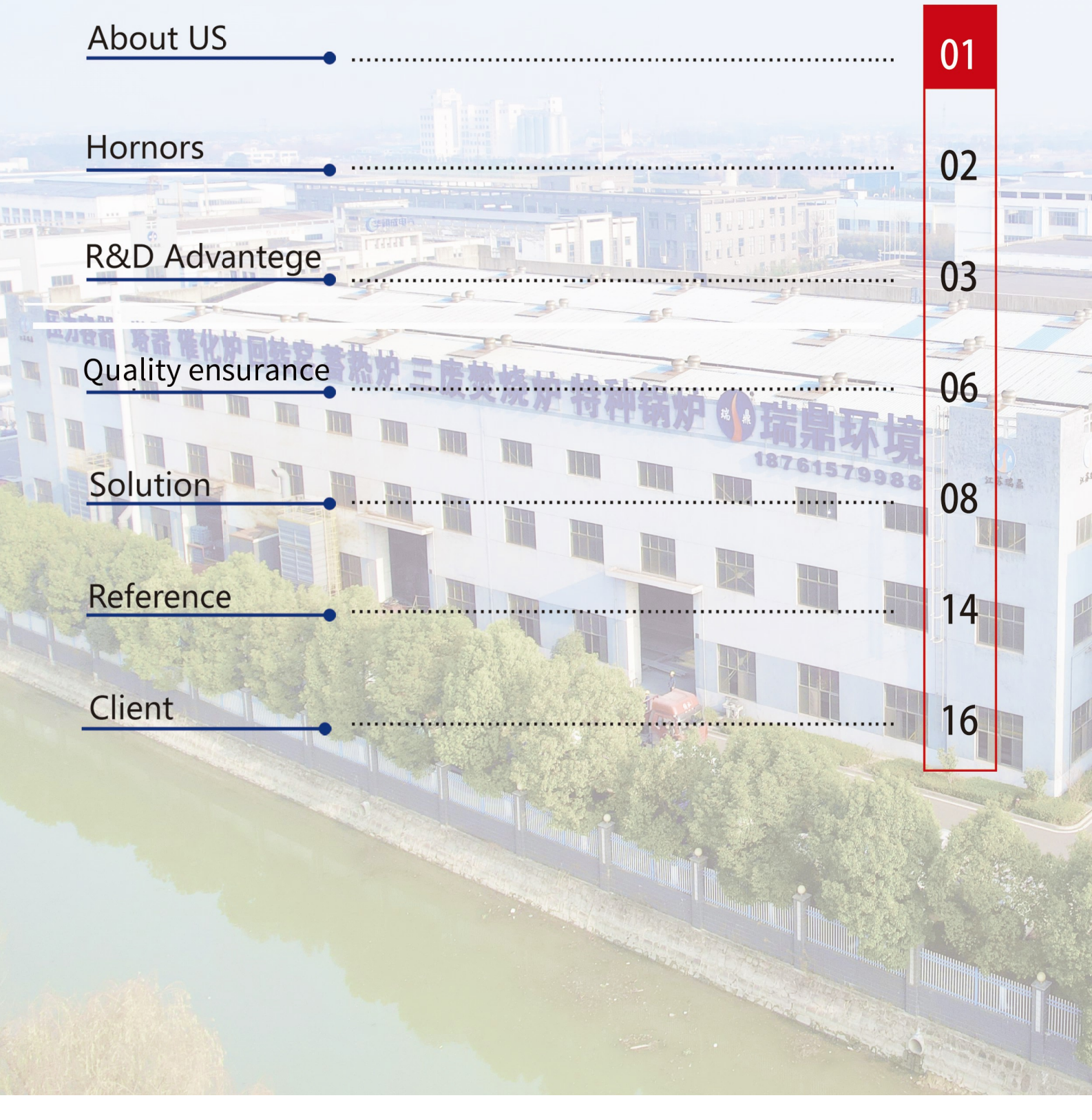
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About Us

Ruiding is engaged in the research, design, production, installation, commissioning, and project services of energy-saving and emission control system.

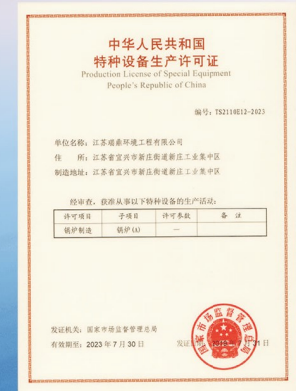
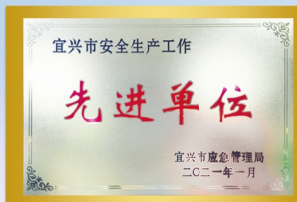
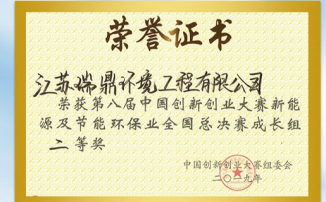
Ruiding specializes in three main areas: thermal oxidizer (incinerator), Class A boiler, and plate heat exchanger. We hold a secondary qualification for environmental engineering contracting, manufacturing licenses for Class A boilers, first-class boiler installation and transformation certificates, D1 and D2 pressure vessel design and manufacturing certificates, GC1, GC2, GD2 pressure pipe design and installation certificates, specialized qualifications for environmental engineering design (Class B) and environmental pollution control (Class A) for waste, emissions, and effluents.

Ruiding writes two national standards and one industry standard



Ruiding boasts three plant locations – east, west, and south – collectively covering a land area of 200 mu (approximately 13.3 hectares) and an expansive built-up area of over 250,000 square meters. Ruiding employs nearly 350 technical professionals and has undertaken more than 500 engineering projects references across various industries, including petroleum, chemical, pharmaceuticals, and hazardous waste treatment.

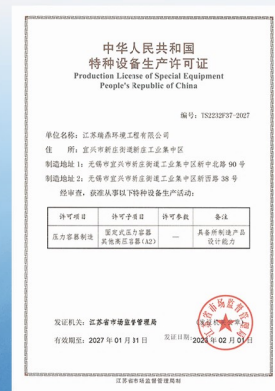
Honors



Special equipment safety licenses



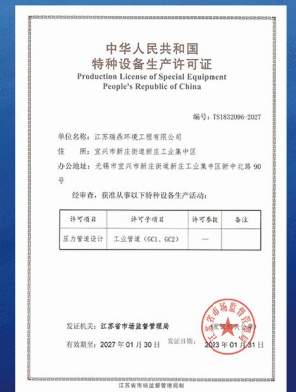
Certificate of installation and maintenance of special equipment



Pressure pipe manufacturing license



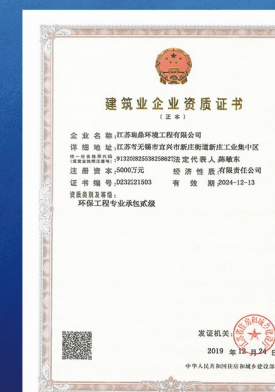
ressure piping installation license



Pressure piping design license



Pressure vessel design license



Pressure piping installation license



Credit evaluation certificate



High-tech enterprises

Specialized laboratories

The laboratory is equipped with a consumables room, sample room, hazardous chemicals room, comprehensive physical and chemical room, spare laboratory, calorific value room, metal elements room, pretreatment room, high-temperature room, chromatography room, and an emergency response room. These areas are designed for functional testing and are outfitted with advanced equipment such as ICP (Inductively Coupled Plasma) emission spectrometers, atomic absorption spectrophotometers, atomic fluorescence photometers, high-temperature combustion chromatographs, high-temperature combustion rate analyzers, and rapid equilibrium flash point testers.



Testing and Analysis Laboratory

As a premier equipment operator and manufacturer specializing in industrial waste combustion and emission control in China, RuiDing has garnered success through sustained independent research and development, collaborative efforts with academic and research institutions, and strategic international partnerships. The company has successfully developed over thirty innovative products and solutions, each underpinned by independent intellectual property rights, core technologies, and robust market competitiveness.



Chemical Analysis Laboratory



Physical-Chemical Metallurgical Mechanics Laboratory



Structural and Hydraulic Laboratory



Non-Destructive Testing (NDT) Room



Material Testing Laboratory

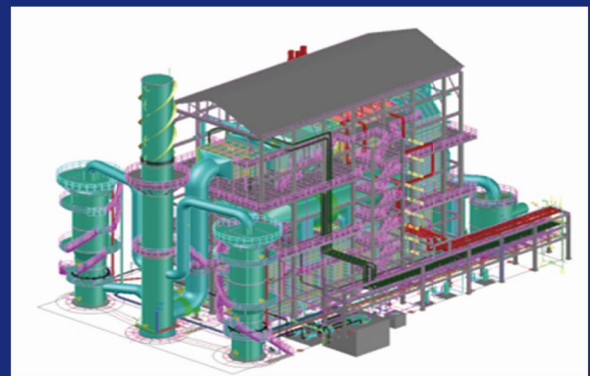
R&D Advantage



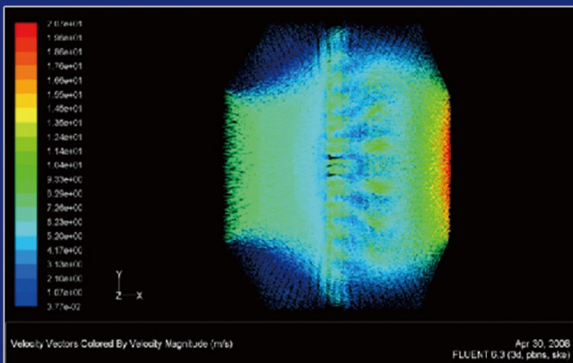
Professional Team

Our comprehensive team comprises over 60 research and development professionals specializing in chemical engineering, thermal engineering, mechanical engineering, structural mechanics, combustion, environmental engineering, and more.

Advanced Software

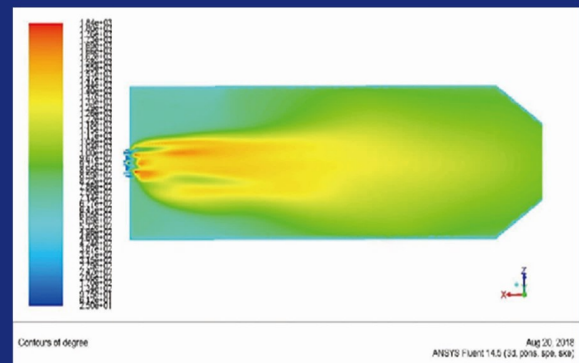


- ▶ Professional and 3D visualization using CADWORX, PDMS, Caesar II software for piping design
- ▶ Early collision checks to rectify unreasonable pipe arrangements
- ▶ Precise detailing of every valve and fitting for more rational operational design
- ▶ Comprehensive design database for visual guidance during on-site installation.



Analysis of reactor flow field and temperature distribution.

Combining simulation with experiments to design more rational burner and furnace head



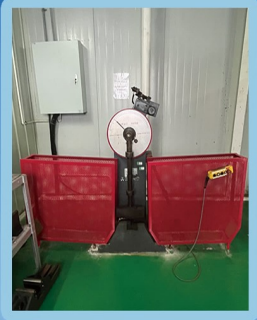
Analysis of Temperature Field Distribution in the Thermal Oxidation Chamber.

Avoid temperature dead spots for a more uniform distribution of the temperature field.

Quality ensurance

Inspection devices

Ruiding is equipped with corresponding instruments and equipments, including sealing performance test device, catalyst evaluation device, catalytic pilot device, FID tester, damper tester, laboratory equipment, etc. Meanwhile, Ruiding has set up archives and online service center, which can provide perfect archives and online after-sales service.



» Production equipment



► RuiDing is equipped with a full set of advanced production equipment, committed to crafting high-tech incineration technology products. Our arsenal includes a membrane wall automatic submerged arc welding machine, laser cutting machine, plasma cutter, automatic plate welder, CNC hydraulic four-roller plate bending machine, tube screen pipe bender, shot blasting machine, etc.

► Ruiding independently operates 'Three-' hundred-ton cranes, serving for our engineering services and auxiliary lifting operations. This capability enhances on-site project installation efficiency by 50%, significantly reducing delivery time.

Solutions

➤ REGENERATIVE THERMAL OXIDIZER (RTO)

Regenerative Thermal Oxidizers (RTO) is a type of industrial technology used for air pollution control. They are specifically designed to treat volatile organic compounds (VOCs), hazardous air pollutants (HAPs), and other air pollutants generated by industrial processes.

➤ CATALYTIC RECUPERATIVE OXIDIZERS (CO)

Catalytic Oxidation is a process that leverages catalysts (precious metals or common metal oxides) to lower the auto-ignition point of combustible components. This allows the incineration reaction to occur at lower temperatures (250-350 ° C). RuiDing utilizes imported high-performance catalysts, which are designed for even lower reaction temperatures,

➤ REGENERATIVE CATALYTIC OXIDIZER (RCO)

Regenerative Catalytic Oxidizer (RCO) is an industrial air pollution control technology that combines functions of regenerative thermal oxidation (RTO) and catalytic oxidation (CO) . RCO reduces heat loss and energy consumption, while significantly lowering the temperature of the outlet gas .

➤ SELETIVE CATALYTIC REDUCTION (SCR)

SCR is a catalytic denitrification technology used in fuel and gas internal combustion engines, fuel and gas boilers, kilns, and other equipment that require treatment of nitrogen oxides (NO_x).

➤ DIRECT THERMAL OXIDIZER (DTO)

The direct-fired thermal oxidizer (DTO) is suitable for industries such as chemical, pharmaceutical, and petrochemical, which produce waste gases and residues with high calorific values. It is also well-suited for the specialized carbon fiber industry.

Off-gas treatment ◀◀



Maleic anhydride off-gas | 368373Nm³/h*2



Acrylic acid off-gas | 40820kg/h



Chemical industry off-gas | 17000Nm³/h



Pharmaceutical industry off-gas | 40000Nm³/h



MMA off-gas | 71603Nm³/h

➤ Saline waste liquid incinerator



Waste liquid (heavy-ends) | 3500kg/h
Saline waste liquid | 10000kg/h



Saline waste liquid | 2000kg/h



Saline waste liquid | 1250kg/h

For situations with high salt content in the waste liquid, RuiDing employs a unique technology. This enables the membrane wall thermal oxidizer to rapidly lower the temperature of melting liquid salt, facilitating the formation of salt crystals adhering to the inner wall of the furnace. This effectively prevents corrosion of the thermal oxidizer's inner walls by liquid salt solutions at high temperatures, thereby significantly enhancing the equipment's lifespan.

➤ Organic waste liquid incinerator



waste liquid (heavy ends) | 32t/h



By-products of Acrylic Acid | 800kg/h

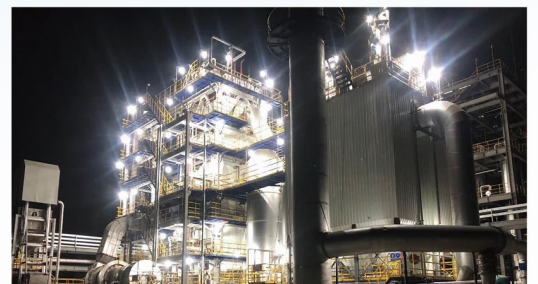


Acrylic Acid Waste Liquid | 800kg/h

In scenarios with high-calorific-value organic wastewater, we use an integrated furnace-thermal oxidizer system. The combustion chamber maintains a temperature of 1100-1200°C, optimizing organic substance combustion. RuiDing's precise design considers industry needs, controlling residence time and optimizing energy use, enhancing the traditional thermal oxidizer's efficiency.

➤ HAZARDOUS WASTE INCINERATOR

It is an ideal product for the harmless treatment of waste from pharmaceuticals, chemicals, industrial conditions, solid waste, and disposal centers. Specifically designed for the centralized treatment of hazardous waste, it can incinerate various hazardous wastes, including medical waste, in solid, liquid, semi-solid, colloidal forms, as well as sludge, salt residue, chemical residues, and more.



WASTE OIL & SLUDG | 2.4t/h



➤ ROTARY KILN



Hazardous waste | 200t/d



Fuse powder waste liquid and residue | 1.5t/h



Chemical sludge and tar | 1200kg/h

The rotary kiln is widely adopted in China's hazardous waste treatment field, commanding a market share of over 80% in this sector.

➤ OIL SLUDGE INCINERATOR

The oil sludge thermal oxidizer is designed for burning bio-oil sludge, refinery sludge, and similar waste materials. It achieves thorough incineration, requiring minimal additional auxiliary fuels after post-combustion. The thermal oxidizer operates at low costs, and its heat can be efficiently recovered, showcasing significant energy-saving and environmental benefits.



Oil refinery sludge | 200kg/h

➤ THE PYROLYSIS INCINERATOR



Medical waste | 8 t/d

The pyrolysis thermal oxidizer utilize staged combustion within the furnace to pyrolyze waste in a reducing atmosphere. Combustible products undergo complete combustion in the secondary combustion chamber.

Solutions



Our company addresses the demands of short maintenance cycles and extended equipment operation in the petroleum and chemical industries with a new modular waste heat boiler. Welding and assembly of pressure components are done in the production workshop, ensuring quality. This innovative boiler offers high heat transfer efficiency, low flue gas resistance, easy ash cleaning, and a compact design, reducing on-site installation time and costs while facilitating maintenance.

Class A boiler

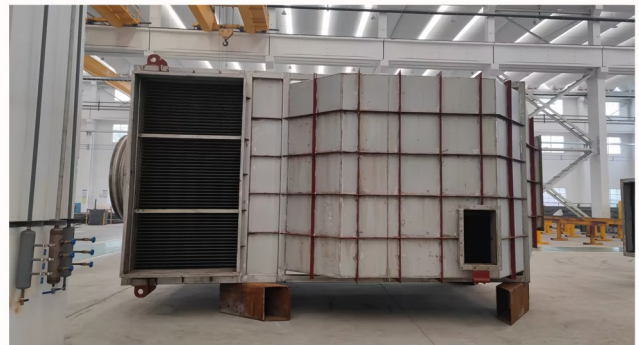
Ruiding holds Class A boiler manufacturing license and a first-class boiler installation and modification certificate. The company's modular waste heat boilers, high-salinity waste liquid boilers, large cavity membrane wall boilers, and fire tube boilers are widely used in refining, chemical, pharmaceutical, and coal chemical industries.





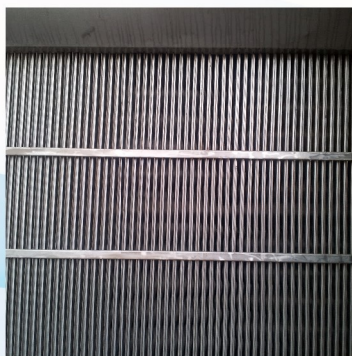
Plate Heat Exchanger

plate heat exchanger is used to exchange heat between high-temperature flue gas and air. In a thermal oxidizer, it produces supplementary oxygen air, improving fuel efficiency. RuiDing's plate heat exchangers, featuring advanced technology and a modular design, find applications in chemical, petroleum, power, metallurgy, and coating industries for heating, cooling, and heat recovery.

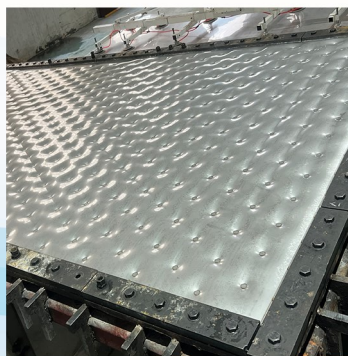


► Categorization

Fully welded pressurized plate heat exchanger / Large Plate Air (Exhaust) Preheater



Laser deep melt welding,
all double-seam welding.



Each piece is pressed,
ensuring absolute zero leakage.



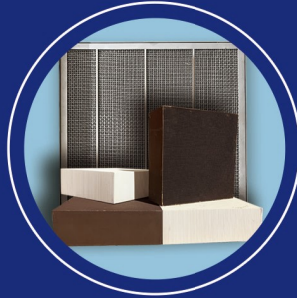
Corrosion-resistant with a long lifespan.
High-temperature and high-pressure resistant.

Solutions

» Incineration auxiliaries



➤ Solid waste crusher



➤ Catalyst



➤ Sludge dryer



➤ Slag cooler

➤ Customized Thermal Oxidizers

➤ Length of Flame

➤ Output 30-12000KW

➤ Low NOX emissions

➤ Gas, Oil, specialty applications combustion solutions.



Reference

» High-salt organic wastewater furnace-boiler integrated oxidizer system.

Customer Profile:

The customer annually needs to process approximately 320,000 tons of acrylic acid and esters. RuiDing's equipment demonstrates outstanding capabilities in handling 16,000 m³/h tank area exhaust gas, 3,500 kg/h recombined component waste liquid, and 10,000 kg/h saline wastewater (with a salt content of 19%).

Solution

RuiDing has introduced an innovative furnace-boiler integrated thermal oxidizer system tailored for treating high-salt organic wastewater. This solution optimizes waste heat utilization by combining the heat recovery system with the incineration furnace, significantly reducing traditional heat losses. With a focus on customer needs and waste characteristics, the system efficiently processes high-concentration organic wastewater, waste solvents, organic waste gas, and a small amount of solid waste through a combination-type multi-nozzle burner. The generated waste heat, producing 28,000 kg per hour of saturated steam, aids in the reaction between salt and carbon dioxide, forming solid salt for easy recovery while simultaneously reducing carbon emissions. This design enhances refractory material lifespan and effectively addresses salt remov-



» Combined oxidizer

- Organic off-gas and liquid combined multi-chamber thermal storage integrated incineration system

Customer Profile

The client owns a facility that produces 150,000 tons of maleic anhydride annually. Harmless treatment is required for the off-gas generated during the maleic anhydride production process using n-butane and a small amount of waste liquid from the facility.

Solution

Ruiding addresses VOC challenges with an innovative RTO+TO+heat recovery system in a compact multi-chamber thermal storage incinerator. It effectively treats large low-concentration exhaust gases and waste liquids, meeting diverse client needs. The streamlined design reduces land usage, cutting project costs. Additionally, using a waste heat boiler, excess heat becomes steam, boosting energy efficiency. This system not only tackles environmental issues but also brings customers



- Organic Waste Gas and Wastewater Combined Catalytic Thermal Integrated Incineration System

Customer Profile

The client has a combined requirement to simultaneously treat 130t/h of organic off-gas and wastewater.

Solution

To meet the client's needs, Ruiding designed this organic waste gas and wastewater combined catalytic thermal integrated incineration system. It not only handles a large volume of off-gas and wastewater simultaneously but also captures and recovers the generated waste heat using a heat recovery system. This recovered heat, producing 100t/h of superheated steam for the main unit's turbine, not only meets emission standards but also generates significant economic benefits. Ruiding has suc-



Clients



As of 2023, Riding has completed **500** projects

Serving **300+** clients worldwide

