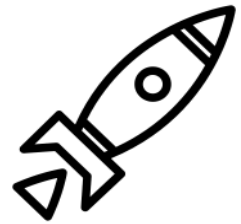
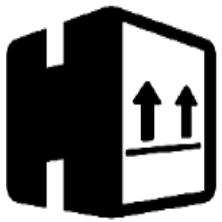





Complete Engineering Solutions...

About KERONE

KERONE is one of the most admired and valuable company for customer satisfaction.

KERONE has reported annual revenue of $18 to $20 Million , increasing year-on-year.

KERONE is possessing employee strength of more than 280 experts continuously putting efforts for happy industrial engineering solutions

KERONE is possessing experience of 48+ years in engineering excellence.

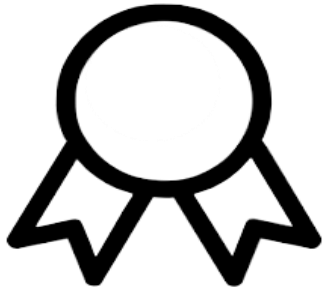
KERONE is having immense expertise in manufacturing and implementing various types of engineering solutions.

KERONE is possessing employee strength of more than 280 experts continuously putting efforts for happy industrial engineering solutions.

KERONE

48+

Years Experience



150+

Experts

5000+

Satisfied Clients

280+

Employees

Our Vision and Mission

Vision

- Turn into world leader in providing specialized, top-notch quality and ecologically sustainable industrial heating, cooling , drying and engineering solution across the globe.
- To attain global recognition as best of quality and environment friendly engineering solution company.

Mission

- To enhance the value of customer operation through our customer need centric engineering solution.
- We are committed to provide our customers, unique and best in class products in Industrial heating, drying and cooling segment, with strategic tie-up for the technical know-how with renowned leader in the industry specific segment.
- We are company that believes in strong ethics and timely commitment helps to build long term relationship.

Value Propositions

Highly
Customized Product

Sound
Infrastructure

Adherence
to
Standards

Timely
Delivery

Team of experts
Delivering Quality

Cost Effective
Solutions

We are in collaboration with...

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Recognized and Rated by CRISIL	CRISIL Verified	Member of A.M.P.E.R.E. (Europe)	ASCB(E) Certification for Best practice

We are Certified by...

ROHS

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CE

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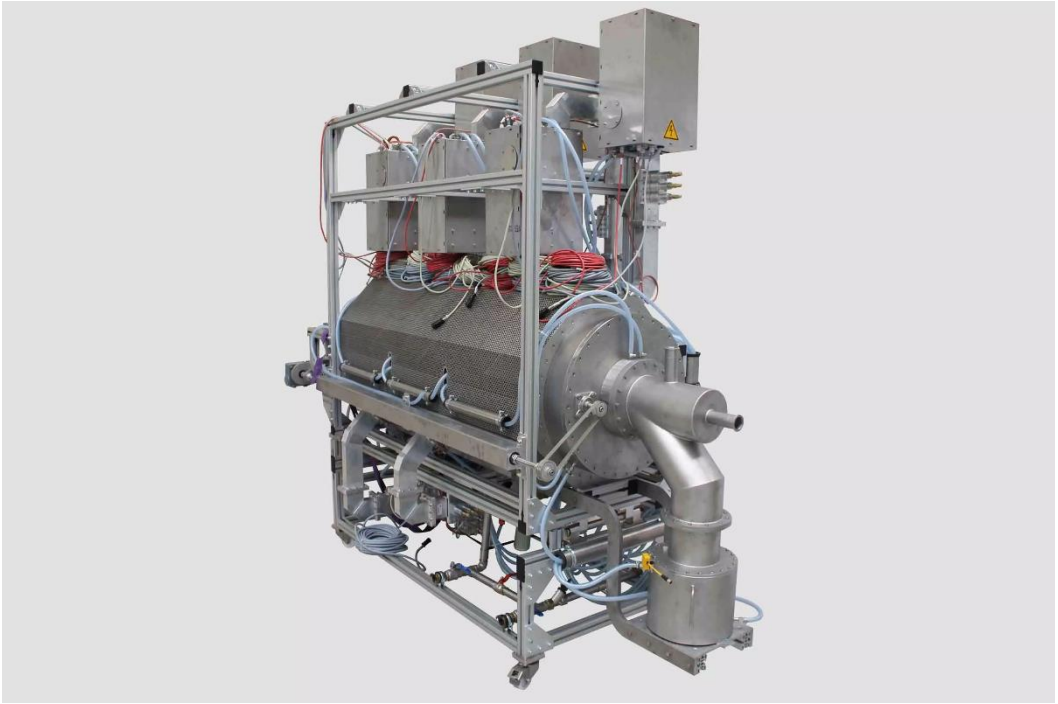
ISO 9001:2008 | ISO 9001:2015 | OHSAS 18001 | EMS 14001

Microwave Pyrolysis Rotary Oven

Introduction

Microwave Pyrolysis Rotary Oven is a type of oven that uses microwave technology and a rotating drum to carry out the pyrolysis process. Pyrolysis is a chemical process in which organic materials are heated in the absence of oxygen to break down into smaller molecules such as gases, liquids, and char. This process is used to convert waste materials into useful products, such as biofuels and chemicals.



Principle

- The principle of Microwave Pyrolysis Rotary Oven involves the use of microwave energy to heat the organic material to be pyrolyzed in a rotating drum. This process takes place in the absence of oxygen, which is necessary to prevent the material from combusting.
- he principle of Microwave Pyrolysis Rotary Oven is based on the use of microwave energy to heat organic material in the absence of oxygen, which causes it to break down into smaller molecules, resulting in the production of valuable products.

Features

- Operating temperature 1000° C.
- Slider to push the material into the tube.
- An outer, gas-tight and fixed jacket housing that reflects microwave radiation and holds it in place.
- An inner, gas-tight rotary tube, transparent to microwave radiation, in which the goods are transported.
- The rotary tube with 3° inclination is driven by a motor whose speed can be adjusted.
- Connections for introducing and extracting process gases (e.g. inert gases) Professional simulation using the software

Application

Microwave pyrolysis rotary oven for increasing the energy and resource efficiency of the recycling of various products:

- Organic-contaminated electronic scrap (aluminium).
- Fiberglass-reinforced plastics.
- Plastics
- Conversion of Waste Materials
- Production of Biofuels
- Chemical Synthesis
- Soil Remediation
- Carbon Capture
- Production of Activated Carbon

Technical Design

- Microwave Generator
- Waveguide
- Oven Chamber
- Rotary Drum
- Gas Collection System
- Liquid Collection System
- Char Collection System
- Control System

Technical Design

- **Microwave Generator**

  This component produces the microwave energy used to heat the organic material. The generator can be a magnetron, klystron, or other type of device that generates microwaves.

- **Waveguide**

  This is a metal tube that carries the microwaves from the generator to the oven chamber.

- **Oven Chamber**

  This is the main component of the oven, where the organic material is heated and pyrolyzed. The chamber is typically made of stainless steel and has a rotating drum that is heated by the microwaves.

- **Rotary Drum**

  This is the rotating cylinder inside the oven chamber that carries the organic material. The drum is typically made of stainless steel and is designed to rotate at a specific speed to ensure even heating and prevent material sticking.

Technical Design

- ## Gas Collection System

  This system collects the gases produced during pyrolysis and sends them to a gas treatment system or combustion system for energy recovery.

- ## Liquid Collection System

  This system collects the liquids produced during pyrolysis and sends them to a storage tank for further processing.

- ## Char Collection System

  This system collects the solid char produced during pyrolysis and sends it to a storage container for further use.

- ## Control System

  This system includes sensors and software that control the heating process and the rotation speed of the drum, as well as monitoring and regulating the temperature, pressure, and other parameters during the pyrolysis process.

Future Developments of Microwave Pyrolysis in Rotary Oven

- **Scale-up**

  Currently, most Microwave Pyrolysis Rotary Ovens are small-scale systems used for laboratory experiments. In the future, the technology could be scaled up to commercial or industrial size to handle larger volumes of organic material.

- **Integration with other technologies**

  Microwave Pyrolysis Rotary Oven could be integrated with other technologies, such as gasification or combustion, to increase energy efficiency and product yields.

- **Advanced control systems**

  Advanced control systems could be developed to optimize the performance of the oven, including temperature control, microwave power control, and feed rate control.

Future Developments of Microwave Pyrolysis in Rotary Oven

- **Microwave frequency optimization**

  The frequency of the microwave radiation could be optimized to improve the efficiency of the pyrolysis process and reduce energy consumption.

- **Reactor design optimization**

  The design of the rotating drum reactor could be optimized to improve the efficiency of heat transfer and reduce the risk of clogging or fouling.

- **Use of catalysts**

  The addition of catalysts could enhance the pyrolysis process and increase the yield of valuable products, such as bio-oil.

Future Developments of Microwave Pyrolysis in Rotary Oven

- **Application in carbon capture**

  Microwave Pyrolysis Rotary Oven could be used for the capture and utilization of carbon dioxide from industrial processes, such as cement manufacturing or steel production.

- **Use of renewable energy sources**

  The use of renewable energy sources, such as solar or wind power, could be explored to power the microwave generator and reduce the carbon footprint of the technology.

Conclusion

Microwave Pyrolysis Rotary Oven is an innovative and promising technology that offers a more sustainable and efficient approach to thermal conversion processes. This technology offers several advantages over traditional pyrolysis methods, including higher energy efficiency, faster processing times, higher product yields, and more uniform heating.

Microwave Pyrolysis Rotary Oven has various applications, including waste management, biofuels, chemicals, soil remediation, and carbon capture. With ongoing research and development in the field, this technology has the potential to be scaled up, integrated with other technologies, and optimized for energy efficiency and product yields.

Microwave Pyrolysis Rotary Oven is a promising technology that has the potential to contribute significantly to a more sustainable and efficient future.

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