

KEIRONE

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.

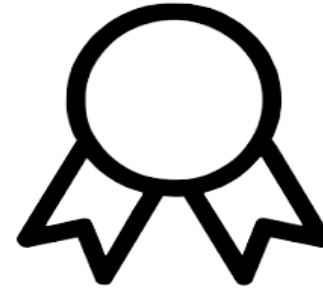
KERONE is possessing employee strength of more than 280 experts continuously putting efforts for happy industrial engineering solutions.





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...

Member of AIMCAL



Member of IHEA



Strategic Partners of
Emitech Italy



IRQAO Certified For
Quality



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



VDE



CE



BIS



UL



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

Microwave Chamber Dryer

What is Microwave Chamber Dryer?

Microwave chamber dryer is an advanced drying technology that uses microwaves to dry various materials such as food, agricultural products, pharmaceuticals, and chemicals. The process involves placing the material to be dried inside a sealed chamber that is equipped with a microwave generator. The microwaves generate heat within the material, which results in faster and more efficient drying compared to traditional drying methods.



Purpose of Drying

- In a microwave chamber dryer, the material to be dried is placed inside a sealed chamber, which is equipped with a microwave generator. The microwaves generate heat within the material, which results in faster and more efficient drying compared to traditional drying methods.
- The drying process can be controlled by adjusting the power of the microwave generator and the duration of the drying process. This allows for precise control over the drying process, which is important for maintaining the quality and integrity of the dried material.



Working

Microwave chamber dryers work by using electromagnetic waves to generate heat within the material being dried.

- **Loading**

The material to be dried is loaded onto trays or shelves and placed inside the sealed chamber.

- **Heating**

The chamber is sealed, and microwaves are generated using a magnetron or a similar device. These microwaves travel through the chamber and are absorbed by the material being dried.

- **Moisture Removal**

The absorbed microwave energy causes the water molecules within the material to vibrate, generating heat and causing the moisture to evaporate.

Working

- **Airflow**

A ventilation system is used to circulate the air within the chamber, carrying away the moisture and maintaining the desired temperature.

- **Completion of Drying**

Once the material has reached the desired moisture content, the microwave generator is turned off, and the material is removed from the chamber.

The amount of energy absorbed by the material can be controlled by adjusting the microwave power and the duration of the drying process. This allows for precise control over the drying process and helps to preserve the quality, flavor, and nutritional value of the dried material.

Construction

■ Chamber Design

The drying chamber is typically made of metal and is designed to be microwave-transparent. The chamber is sealed to prevent the escape of microwaves and to maintain the desired temperature and humidity inside the chamber.

■ Microwave Generator

The microwave generator is typically a magnetron or a similar device that generates microwaves at a specific frequency and power level. The generator is housed outside the chamber and is connected to the chamber through a waveguide.

■ Turntable and Trays

The turntable is a rotating platform that holds the trays or shelves containing the material to be dried. The turntable ensures even exposure of the material to the microwaves, and the trays or shelves are made of materials that are transparent to microwaves.

Construction

■ Ventilation System

The ventilation system consists of fans, ducts, and filters that circulate the air inside the chamber and exhaust the moist air to the outside. The ventilation system maintains the desired temperature and humidity inside the chamber and removes the moisture evaporated from the material being dried.

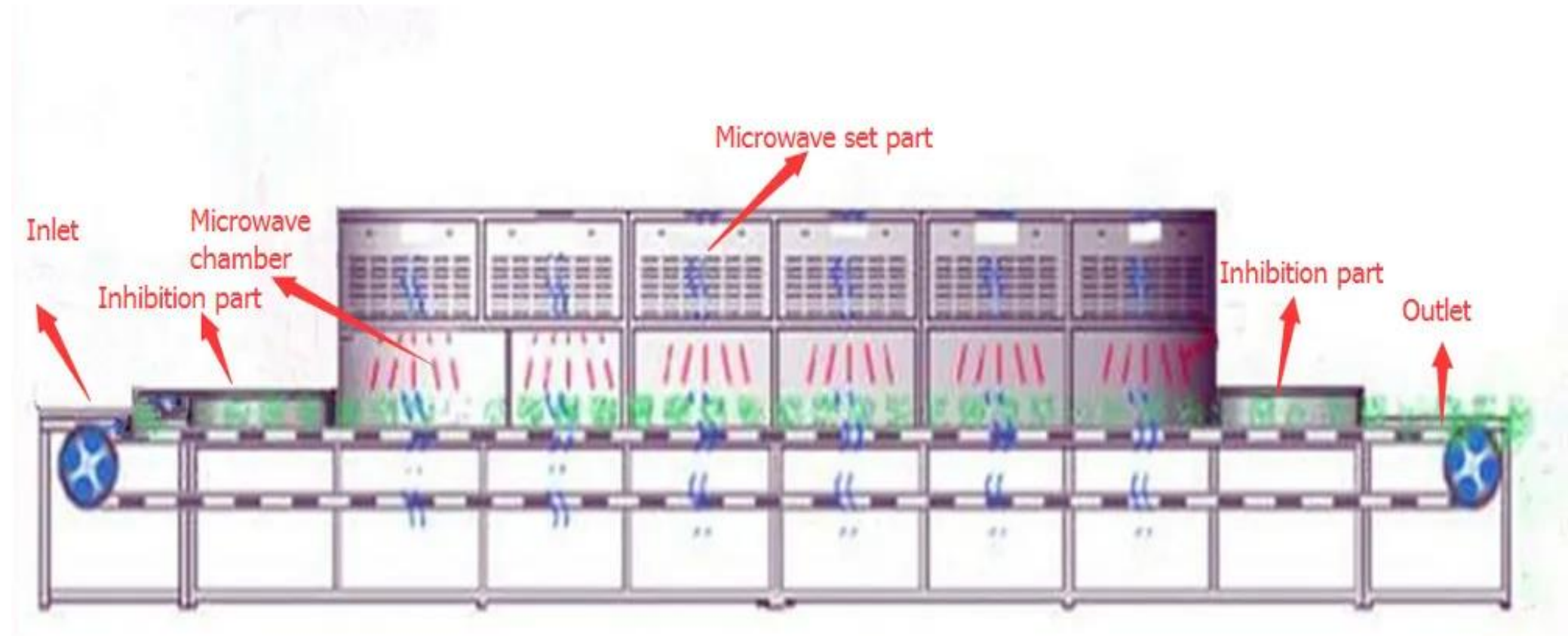
■ Control System

The control system includes various sensors and controllers that monitor the temperature, humidity, and other parameters inside the drying chamber. It allows the operator to set the desired drying conditions and monitor the progress of the drying process.

■ Microwave Generator

This is the heart of the microwave drying system. It generates microwaves at a specific frequency and power level and delivers them to the drying chamber.

Construction



Factors that affect microwave drying

■ Material Properties

The properties of the material being dried can significantly affect the efficiency of microwave drying. The moisture content, density, shape, and size of the material can impact how the material absorbs and responds to the microwave energy.

■ Microwave Power and Frequency

The power and frequency of the microwave generator can affect the heating and drying rate of the material. Higher power and frequency can result in faster drying times but may also increase the risk of overheating and damage to the material.

■ Temperature and Humidity

The temperature and humidity inside the drying chamber can impact the drying rate and the quality of the dried material. Maintaining the proper temperature and humidity levels can ensure effective and efficient drying without causing damage to the material.

Factors that affect microwave drying

■ **Moisture Content**

The initial moisture content of the material being dried can impact the efficiency of microwave drying. Materials with higher initial moisture content may require more energy and longer drying times to reach the desired moisture content.

■ **Material Composition**

The composition of the material being dried can impact its response to microwave energy. Materials with high dielectric properties, such as water and some food products, absorb microwave energy more efficiently than materials with low dielectric properties, such as ceramics and metals.

■ **Microwave Absorbing Material**

The use of microwave-absorbing materials such as graphite or carbon can help improve the efficiency of microwave drying by absorbing and transferring microwave energy to the material being dried.

Advantages

- Faster Drying
- Energy Efficiency
- Uniform Drying
- Reduced Processing Time
- Preservation of Quality
- Sterilization

Safety considerations

- Electrical Safety
- Fire and Explosion Safety
- Personal Protective Equipment
- Equipment Maintenance
- Material Safety
- Radiation Safety

Conclusion

Microwave drying chamber is an innovative and efficient technology that has revolutionized the drying process in various industries. The technology uses microwave radiation to heat and dry materials quickly and efficiently while preserving the quality, nutritional value, and texture of the material being dried. Microwave drying chamber is used in various industries, including food processing, pharmaceuticals, and ceramics, among others, to improve the efficiency and effectiveness of the drying process and reduce energy consumption.

The research and development in microwave drying chamber lead to new innovations and improvements that optimize the drying process, improve energy efficiency, and reduce processing time. Overall, microwave drying chamber is an important technology that has transformed the drying process in various industries and holds significant promise for the future.

Trusted Partner of following consultants...



Our Clients...

Serving Across Borders...





KEIRONE



 **Locate-Us**

UNIT I

A/4, Marudhar Industrial Estate,
Goddev Fatak road, Bhayander(E),
Mumbai-401105

Phone : +91-22-28150612/14

UNIT II

Plot No. B-47, Addl.
MIDC Anandnagar, Ambernath (East),
Dist. Thane- 421506

Phone : +91-251-2620542/43/44/45/46

EMAIL

info@kerone.com | sales@kerone.com |
unit2@kerone.com

WEBSITE

www.kerone.com | www.kerone.net |
www.keroneindia.com

INDIA | EUROPE | UAE | UK | USA | BANGLADESH | THAILAND | AUSTRALIA