Radio Frequency Heating Systems
KERONE is possessing experience of 40 years in engineering excellence.

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

KERONE is pioneer in application and implementation engineering.

KERONE is having immense expertise in manufacturing and implementing various types of heaters and dryers.

KERONE is possessing employee strength of more than 140 experts continuously putting efforts for happy industrial heating solutions.

KERONE has reported annual revenue of $8 to $10 Million, increasing year-on-year.
Our Vision and Mission

Vision

• Turn into world leader in providing specialized, top-notch quality and ecological industrial heating, cooling and drying 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

40 years of rich experience

Sound infrastructure

Adherence to standards

Timely delivery

Highly customized product

Cost effective solutions

Team of experts delivering quality

Great after sale support

KERONE (An ISO 9001-2008 Company)

A CRISIL-NSIC RATED COMPANY
ISO-9001-2008 COMPANY
AFFILIATED TO THE UNIVERSITY OF NOTTINGHAM
MEMBER OF A.M.P.E.R.E.,(EUROPE)

ASCB(E) Certification for
Best practice

IRQAO Certified for
quality

Member of A.M.P.E.R.E.
(Europe).

ISO 9001-2008
Certified company

Recognized and Rated by
CRISIL

CRISIL Verified

In Association with SVCH-Technologii,
Moscow (Russia)
Introduction of Radio Frequency Heating System

Radio Frequency (RF) heating Systems is a type of Electromagnetic radiating system.

Radio Frequency (RF) heating systems generates electromagnetic radiation of 30-300Mhz.

RF heating System heats materials and substances by igniting conductive molecules.

RF heating is similar to microwave heating at lower frequency.

RF heating is also known as Induction Heating and/or Dielectric Heating.
Radio Frequency Heating System Classification

Radio Frequency Heating Systems are classified as follows:

- Batch Radio Frequency Heating System
- Continuous Radio Frequency Heating System
- Hybrid Radio Frequency + IR Heating System
### Radio Frequency Heating System Vs Conventional Heating System

<table>
<thead>
<tr>
<th>Radio Frequency Heating System</th>
<th>Conventional Heating System</th>
</tr>
</thead>
<tbody>
<tr>
<td>RF heating systems are fast, as heat is generated due to induction of electromagnetic waves in material.</td>
<td>Conventional heaters have slow heating rate, heat is transferred via means of air.</td>
</tr>
<tr>
<td>Ions within the material gets ignited due to changing radio frequency.</td>
<td>Instance heating does not take place, it requires warm-up of surrounding.</td>
</tr>
<tr>
<td>Environmental friendly and green heating solution, no carbon emission.</td>
<td>Produces carbon or toxic gases hence not much environmental friendly heating solutions.</td>
</tr>
<tr>
<td>100% energy utilization, as heating takes place within the material.</td>
<td>100% energy utilization is not possible, as material is heated by surrounding hot air.</td>
</tr>
<tr>
<td>Better floor utilization index as it doesn’t require chamber area.</td>
<td>Poor floor utilization index as it require bigger chamber area for material to rotate.</td>
</tr>
<tr>
<td>No Temperature loss in surrounding, ambient workplace.</td>
<td>Surrounding air temperature rises with rise in heater temperature.</td>
</tr>
</tbody>
</table>
# Radio Frequency Heating System Vs Infrared Heating System

<table>
<thead>
<tr>
<th>Radio Frequency Heating System</th>
<th>Infrared Heating System</th>
</tr>
</thead>
<tbody>
<tr>
<td>RF heating system are part of Electromagnetic heating utilizes frequency of 30 to 300 Mhz.</td>
<td>IR heating system are also part of Electromagnetic heating but it utilize frequency of 20 to 214 Thz.</td>
</tr>
<tr>
<td>Heats the objects from within the object.</td>
<td>Heats the object from surface of object.</td>
</tr>
<tr>
<td>Radio Frequency heating systems are known as Direct heaters.</td>
<td>Infrared heating systems are known as Indirect heaters.</td>
</tr>
<tr>
<td>RF heating systems does not require large space hence offers better floor utilization index.</td>
<td>Compact system providing better floor utilization index.</td>
</tr>
<tr>
<td>Depth of heat penetration is higher for the RF heaters.</td>
<td>Depth of heat penetration is lower in infrared heaters as it heats from surface.</td>
</tr>
<tr>
<td>Rate of heating depends on the moisture content within the material.</td>
<td>Rate of heating depends on the surface characteristics of material.</td>
</tr>
</tbody>
</table>
### Advantages Radio Frequency Heating System

<table>
<thead>
<tr>
<th>Advantage</th>
<th>Benefit</th>
</tr>
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<tbody>
<tr>
<td>Consistent heating throughout the material.</td>
<td>Increase in speed of heating as heat is generated internally.</td>
</tr>
<tr>
<td>High energy efficiency.</td>
<td>Improved quality of output material.</td>
</tr>
<tr>
<td>Compact in size hence better floor utilization.</td>
<td>Reduction in unwanted side reaction.</td>
</tr>
<tr>
<td>Rapid turn ON/OFF control can be achieved.</td>
<td>Better and more rapid process control is achieved.</td>
</tr>
<tr>
<td>Selective heating i.e. heating selectively one reaction component.</td>
<td>Improve reproducibility.</td>
</tr>
<tr>
<td>High efficiency of heating.</td>
<td>Environmental heat loss is save, Reduce wastage of heat.</td>
</tr>
</tbody>
</table>
RF Heating System find wide applications in the growing and critical pharmaceutical and Chemical Industries, few of them are mentioned below:

- Drug Extraction
- Chemical Synthesis
- Sterilization of bottles, injections and packing materials
- Drying of Powders and pills
- Drying of Gelatin
- Drying of water-based Adhesives
- Thawing
- Chemical reaction or decomposition
RF Heating System in Plastic Industries

Plastic industries has various applications that require heating and RF heating systems provides many advantages:

- Curing and Preheating of PVC sheet
- Welding and Embossing of PVC and other plastics
- Phenolic Resin PC Boards
- Laminating Flexible PC Boards
- Welding of PVC Interior
- Plastic Thermoforming
RF Heating System Rubber and Wood Industries

RF heating system finds various application in Rubber and Wood Industries:

- Pre-heating Rubber
- Pre Heating Of Solid Rubber Tyres
- Extrusion and Post Curing
- Rubber Coating
- Veneer Drying of plywood
- Glue drying for Edge bonding
- Lumber Drying
RF Heating System in Textile Industries

Textile in the oldest industry that requires heating or drying for various process, RF heating systems help textile industry to achieve better quality output at lesser cost:

- Drying Pantyhose
- Drying Bulk Yarn
- Drying Tow and Webs of Woven Material
- Heat Setting Of Nylon Rope
- Printing of Carpet Tiles
- Heating of Wool Bales
- Drying of Wool
- RF Transfer Printing
- Textile Bonding
- Drying of Synthetic Fibers
RF Heating System in Food Industry

The Food and Packed Food industry has multiple applications that require RF Heating, as follows:

- Tempering of Frozen Products
- Thawing
- Blanching
- Baking
- Drying/Dehydrating
- Pasteurization and Sterilization
- Cooking and Roasting
**RF heating System in Paper and Printing Industry**

Paper and Printing industries are having various applications that requires RF heating systems:

<table>
<thead>
<tr>
<th>Application</th>
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<tbody>
<tr>
<td>Drying of Paper</td>
</tr>
<tr>
<td>Drying of Adhesives on Carton Board</td>
</tr>
<tr>
<td>Drying of Adhesives on Stationary Products</td>
</tr>
<tr>
<td>Drying of Glue for Blister Packs</td>
</tr>
<tr>
<td>Moisture Profiling of Paper</td>
</tr>
<tr>
<td>Drying Matchbox striking Edges</td>
</tr>
<tr>
<td>Drying of Water based printing inks</td>
</tr>
<tr>
<td>Paper Roll formation</td>
</tr>
<tr>
<td>Smudging Paper</td>
</tr>
</tbody>
</table>
RF Heating System for Some Miscellaneous Applications

RF Heating Systems find applications across various processes of Industry few are listed below:

- Increasing the Fertility of Seeds
- Drying Agricultural Products
- Drying of Salt
- Drying of Refractory Products
- Accelerated Concrete Curing
- Drying of Glass
- Drying of Sand Cores
- Phenolic Resin PC Boards
- Laminating Flexible PC Boards
- Cracking of Concrete
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Our Clients

Serving across Continents:

We are Exporting more than 50 Countries...
Reach us at:

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