



**Automobile** Industry

Industry

Industry

Chemical Industry

Food Industry Oil & Gas Industry

Aerospace Industry

Steel Industry

Paper Industries

# **Infrared Heating System**

#### **About KERONE**



KERONE is possessing experience of 40 years in engineering excellence.



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

MANUFACTURING EXCELLENCE



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-vear.

#### **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



(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 Infrared**



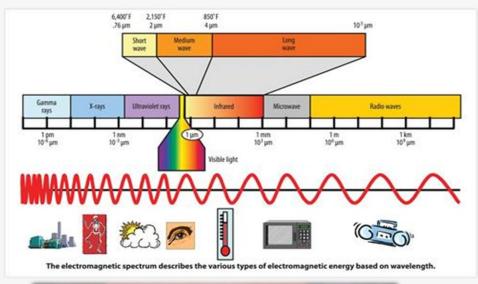
Infrared Heating System are part of Electromagnetic heating family.

Infrared heaters uses IR radiating waves falls just below visible light spectrum.

Infrared radiators heats produces heat on the surface of material.

Heat is transferred from outer surface to inner body.

Infrared heating system produces heat same as 'SUN' from hot surface to cold surface.





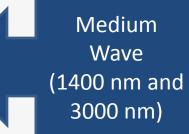
# **Infrared Heating Systems Classification**



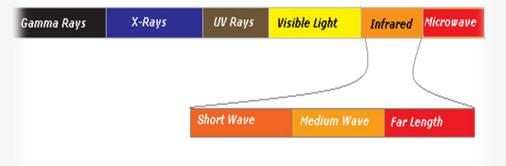
Infrared Heating System are basically classified based on its emitting wave length:

Short Wave (780 nm to 1400 nm )

Far Infrared (3000 nm and Above)







### **Infrared Heating System Vs Conventional Heating System**



#### **Infrared Heating System**

IR heating systems are fast heating system, results in saving of time.

Instant heating of the material, hence no warm up time.

Environmental friendly and green heating solution, no carbon emission.

100% energy utilization, Heats only desired spot of material.

Better floor utilization index.

No Temperature loss in surrounding, ambient workplace.

#### **Conventional Heating System**

Conventional heaters have slow hating rate, heat is transferred via means of air.

Instance heating does not takes place, it requires warm-up of surrounding.

Produces carbon or toxic gases hence not much environmental friendly heating solutions.

100% energy utilization is not possible, as material is heated by surrounding hot air.

Poor floor utilization index.

Surrounding air temperature rises with rise in heater temperature.

# **Infrared Heating System Vs Microwave Heating System**



#### **Infrared Heating System**

# Microwave/RF Heating System

IR heating systems utilizes electromagnetic system uses wavelength of about 0.01 centimeters.

Heats the object from surface of object.

Compact system providing better floor utilization index.

Infrared heaters are better substitution of traditional convention heaters.

Depth of heat penetration is lower in infrared heaters as it heats from surface.

Rate of heating depends on the surface characteristics of material.

Microwave heating systems utilizes electromagnetic system uses wavelength of about 1 centimeters.

Heats the objects from within the object.

Microwave heaters also does not require larges space hence offers better floor utilization index.

Microwave heaters cant not substitute the conventional heaters.

Depth of heat penetration is higher in Microwave heaters.

Rate of heating depends on the moisture content within the material.

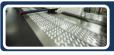
# **Infrared Heating System in Pharmaceutical Industries**



Pharmaceutical industries has various application require efficient heating/drying for quality and hygienic output.



**Drying of Tablets** 



Aqueous film coating



**Chemical Processing** 



Powder Making

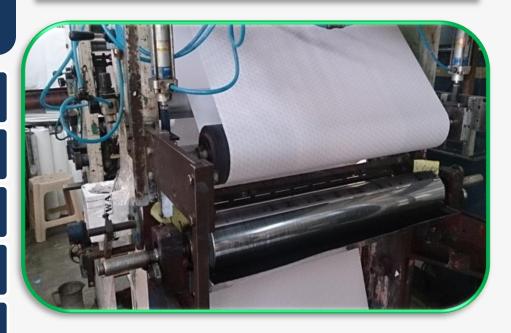


Herbs Drying



**Bottle Sterilization** 

Infrared Dyer for Bandage manufacturing



# **Infrared Heating System for Pharmaceutical**



#### Infrared Dyer for Pharma



#### Infrared Dyer for Herbs dryer



# **Infrared Heating System for Pharmaceutical**



#### Infrared based Umbrella dryer



#### Infrared Dyer for Bottle Sterilization



# **Infrared Heating System for Pharmaceutical**



#### Infrared for Powder making



#### Infrared oven for chemical Processing



# Infrared Heating System in Plastic and Rubber Industries



Plastic and Rubber has increased its application in various application, so the demand. Below and few important applications those require heating:



# Plastic Thermoforming



Rubber extrusions



Curing thermoset plastics



Drying for injection molding





# Infrared Heating System in Plastic and Rubber Industries





# **Rubber Curing**



Plastic Annealing



Heat thermoset composites



**Plastic Welding** 



Re-glossing





# **Infrared Heating System in Packaging**



The packing industry is evolving with large amount of packed goods required to be transported with care. Following are the areas require IR heating:



# Activate adhesives



Seal plastic foil packages



Safety seal bottles



Shrink film





# Infrared Heating System in Paper Production and Printing



Paper is one of the oldest industrial production process that require heating at very large scale from manufacturing to Printing. Below are some application in which IR fits in:



Corrugated cardboard adhesive curing



Dry paper sheet



**Drying of Printing Ink** 



Coating of Paper





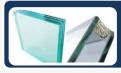
# **Infrared Heating System in Glass and Ceramics**



#### Infrared Heaters find multiple application in Glass and Ceramics:



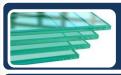
Bend glass



Bond double-pane and laminated safety glass



Dry extruded ceramic



Temper glass



Fire glazes





# **Infrared Heating System in Metal Industries**



Infrared heaters and dryers find following applications in metal industries:



# Foundries



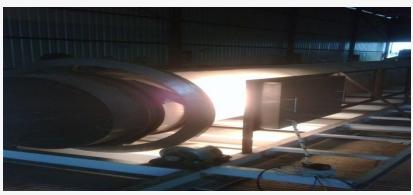
Annealing



Brazing and soldering



Stress relief of springs





# **Infrared Heating System in Automobile Industries**



Infrared heaters and dryers find following applications in Automobiles:



# **Drying Paints**



Super plastic forming







Rapid heat treating



Weld stress relief





# **Trusted Partner of following consultants**







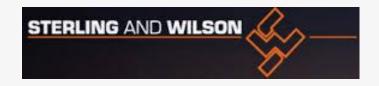






















#### **Our Clients**

























































































































#### **Serving across Continents:**



We are Exporting more than 50 Countries...

# THANK YOU THANK YOU

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