



OVEN SELECTION GUIDE

Environment Friendly Engineering Solution Company



In Association with SVCH-Technologii, Moscow (Russia)

www.kerone.com

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

About Kerone

KERONE now renowned name in serving specialized need of customers with best quality and economical process Heating /cooling and drying products, manufactured in high quality environment by well trained and qualified workforce(special purpose machineries) .

KERONE is pioneer in application and implementation engineering with its vast experience and team of professionals. KERONE is devoted to serve the industry to optimize their operations both economically and environmentally with its specialized heating and drying solutions.

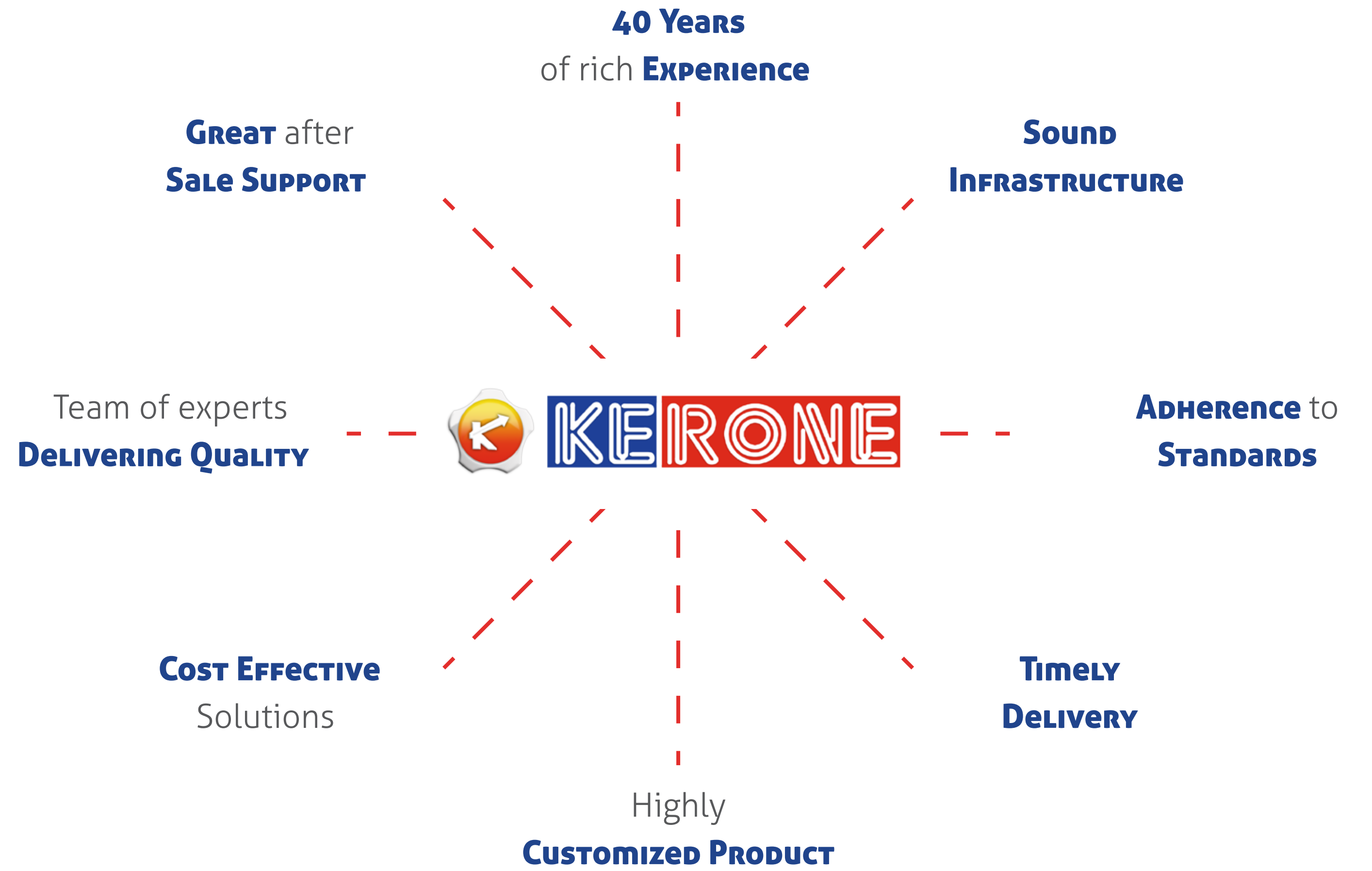
“Enhance the value of customer operation through our customer need centric engineering solution”

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.

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.



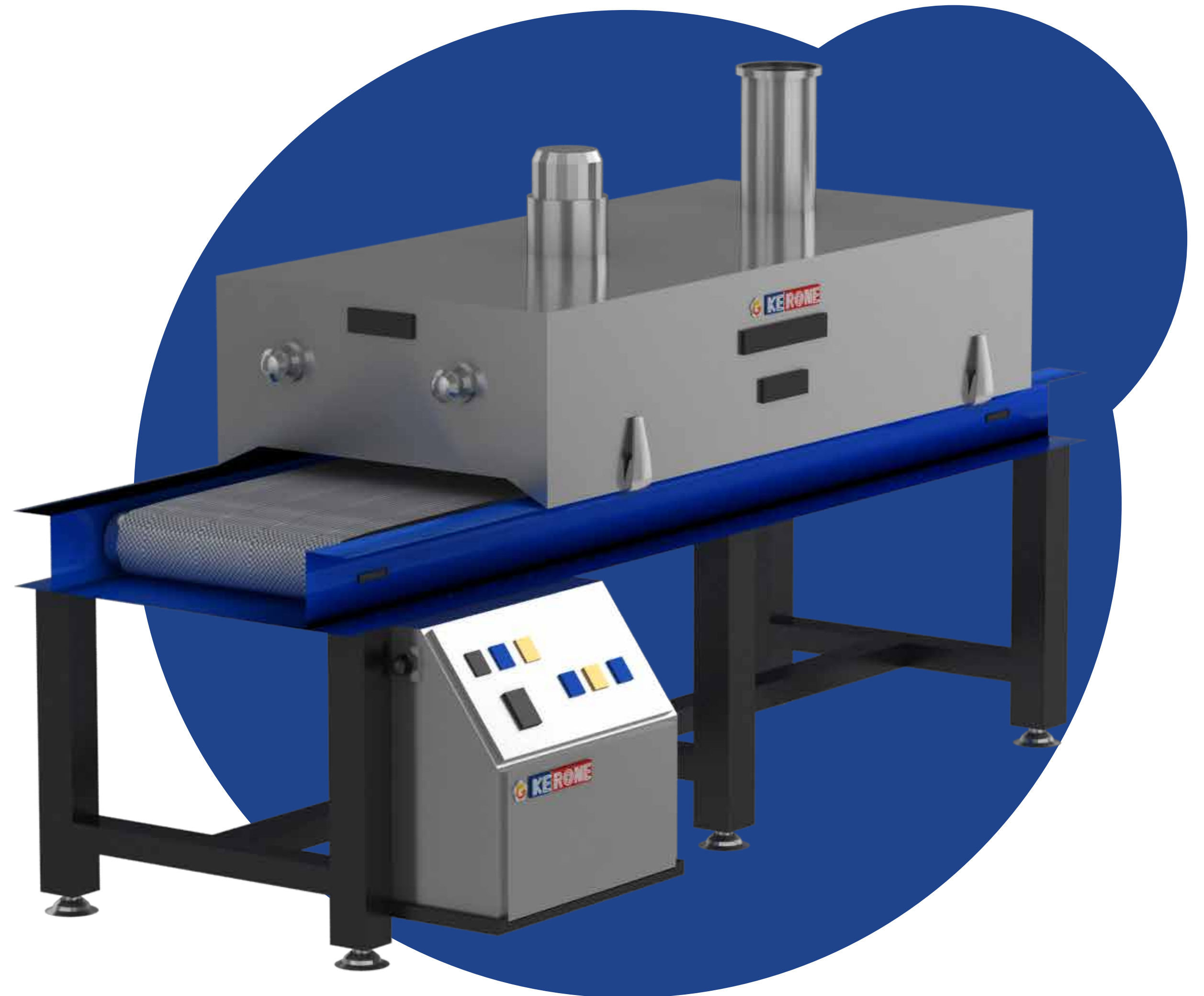
Outline The Purpose Of Oven

It all starts with what your needs are, first and very critical step in selection of oven and any equipment is to have clarity that what are our expectations? What we want this machine to do for us?

The scope of thermal application needs to be clearly articulated, as the application is endless and it can be used in any type of processing from normal bakery baking to highly end sophisticated radioactive material treatment. Few of the common application are below:

- Aging
- Annealing
- Baking
- Bonding
- Burn-In Testing
- Normalizing
- Depyrogenation
- Drying
- Disinfestation
- Heat Treating
- Homogenizing
- Pre-Heating
- Tempering
- Sterilization
- Stress Reliving
- Curing

Defining application is primary for any oven for whatever the type of oven required, conventional or technically advanced.



Determine Process Type

Once you are clear with your purpose/ application of oven, next essential part it to determine what type of processing will be best fitted to your application and material to be processed. Key selection considerations in making process choice are: the product material type, the quantity of products to be processed, the homogeneity in size and shape of the product, and the permissible temperature range (higher and lower side) and tolerances.

Batch Process Ovens

Batch oven becomes ideal choice if production volume varies substantially, along with the size, volume and total required load. Batch ovens offer higher rate of flexibility, they can be of walk-in and cabinet oven



Continuous Process Conveyor Ovens

As the name suggest these type of ovens is having conveyor belts to move the product continuously across, here a large quantity of similar product types being processed. Continuous ovens help ensure consistent thermal processing times for each part in high-volume applications. We Kerone have designed and built variety of standard conveyor oven and custom conveyor ovens, we help in selecting that best suit your application.



Select the size, choose it carefully

Choosing adequate size chamber is critical, as the chamber size help you decide size of product that can be treated, number of product that can be treated as once, circulation of air, exhaust required and available floor space.

If chamber is undersized it can result in inefficient processing and poor product quality, or might become bottle-neck for your production plant. Oversized oven will result in wastage in terms of thermal power and energy required for operating the oven and will take more floor area. While sizing oven the distance must be maintained between wall and product placed.

Come to Kerone! we have designed thousands of ovens having different dimensions for clients process and floor space requirement.

How much to heat- Decide on Temperature

The capability of oven to process any input product in specified time interval depends on its temperature it can attain in the processing cycle. Attainable maximum and minimum temperature should be accurately set hence might result in under processed product. Do consider below points before taking final call:

- The needed abide time at temperature, and total processing time.
- To bring product desired state its necessary to bring the product to desirable heating temperature.
- Carefully study temperature requirement of product as controlled rate of heating or steep temperature rise required.
- Any specific cool-down requirements
- While seeing the temperature requirements for your application, first note the minimum and maximum operating temperatures required.

Kerone produces ovens that had found it application in wide temperature fluctuations from low temperature heating to high temperature heat treatment.

Keep it uniform! Temperature Uniformity

Temperature uniformity can be defined as the complete temperature variation in the oven chamber. Restricted oven uniformities confirm that all portions within the competent zone are exposed to the equal temperature for constant product quality. Below are the factors that affect uniformity:

- Heat loss through oven walls and openings
- Air distribution and the volume of airflow
- Control accuracy
- Construction techniques

Choose how the air circulation should take place

Temperature uniformity and performance depends on air circulation pattern within the chamber, the main consideration is the load configuration. Below are few of the air circulation pattern for you to select from:

Dual Airflow:

In dual airflow, the hot air is fed from both side walls and returned through a top plenary. Dual airflow is the most adaptable and common airflow configuration specially for batch type ovens.

Horizontal Airflow:

In horizontal airflow, the hot air is fed from one of the wall and dragged through horizontally to the other wall. Horizontal airflow is selected when the parts being heated are loaded on multiple shelves. Horizontal airflow is suitable if the air needs to be pulled directly through a part.

Vertical Airflow:

In vertical Airflow, the hot air is supplied from either ceiling or from bottom the dragged to opposite side floor or ceiling.

Kerone provides solution that offers best operational results, based on the size, availability of space, product under processing and etc.



Construction is very much important

A well-constructed oven will help to maintain the maximum temperature without losses, the walls have to be well insulated and properly painted to eliminate the heat losses.

Stainless steel interior helps in maintaining high degrees of cleanliness, cleanability and resistance to corrosion. Surface temperature specifications may require special construction techniques and load support design will depend on the type and weight of the load.

Kerone's standard construction guideline help to produce oven that offers:

- Scratch resistant exterior walls
- Sufficient insulation to minimize heat loss
- Easily readable controls
- Door system with sufficient thermal expansion
- Structural integrity to avoid warping.

Get Your controls rights

Controllers have vital role to play for overall success of oven, to offer high degree to controllability and precise measuring capability. Kerone utilises advanced computer based accurate measuring system and controllable panels with intuitive user control panels.

Solo temperature controllers are very simple to use and are appropriate when the process demands one set point temperature.

Sophisticated programmable controller based controls are ideal for the multiple temperature point controlling, which demands different temperatures are different points.

Select from standard oven or get one customised for you:

Select any standard oven with specific feature and configurations or else the one custom built for you. We at Kerone are specialised on making technically advanced oven for your specific process need, our engineers are with versed with lasted technologically advanced know-hows to build future ready solution for you.

Get Expert Advice

Still unclear about which type of oven will ease your life and make your production/processing smooth and hiccup free. Then pick up your phone and dial Kerone, your partner in engineering. Visit us at www.kerone.com or write us at info@kerone.com.

Happy to heating...



UNIT I

B/10, Marudhar Industrial Estate, Goddev Fatak road, Bhayander(E), Mumbai-401105

Phone : +91-22-28150612/13/14

EMAIL

info@kerone.com | sales@kerone.com
marketing@kerone.com

UNIT II

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

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

WEBSITE

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