



# GAS COMBUSTION

Environment Friendly Engineering Solution Company



In Association with SVCH-Technologii, Moscow (Russia)

[www.kerone.com](http://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.

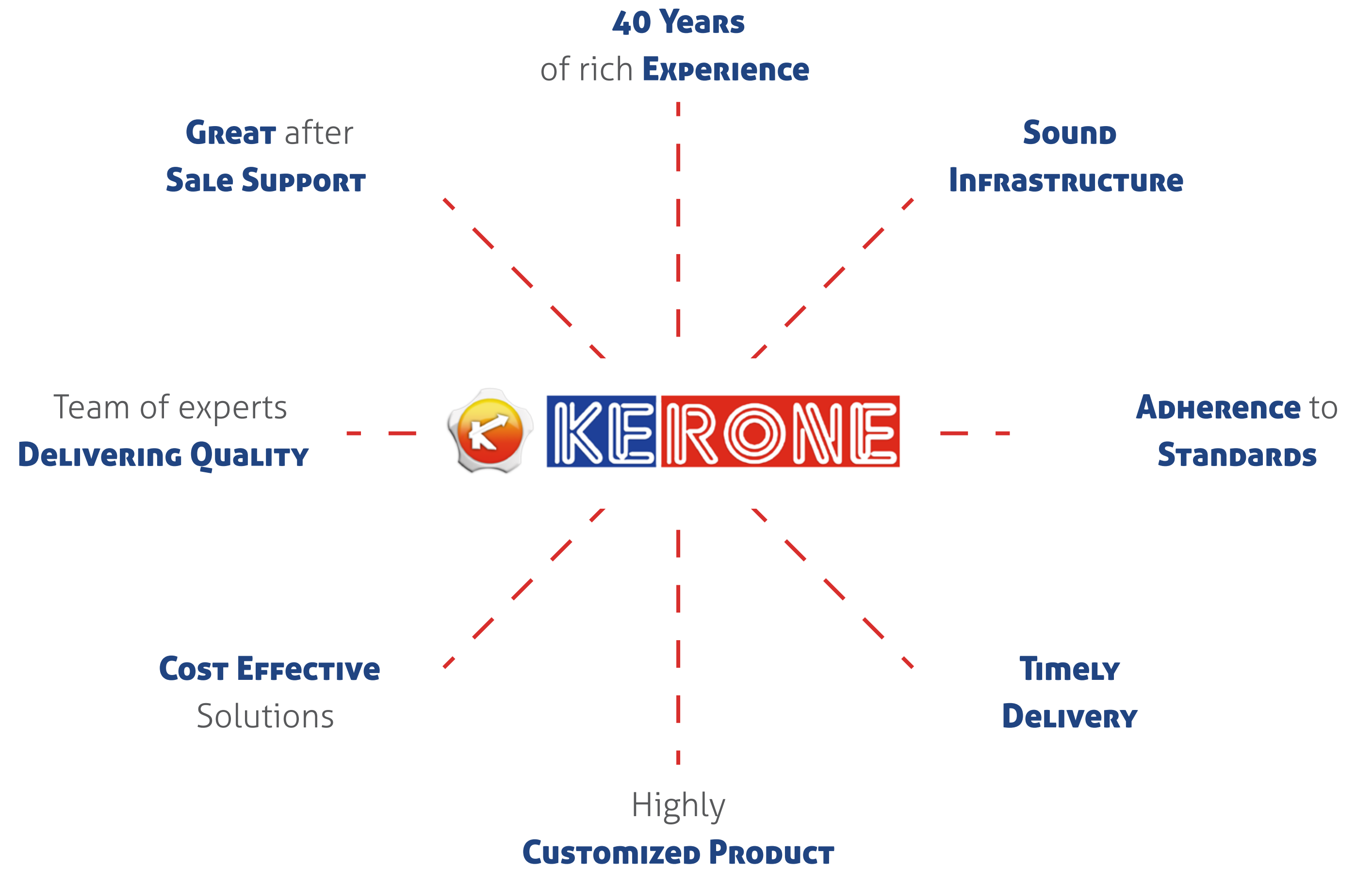
**“Enhance the value of customer operation through our customer need centric engineering solution”**

## *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.



## Introduction to Gas Combustion

A safe system design is known by its composition of gas. Any design is always set for a particular type of gas and variation in which will lead to safety hazard.

A system designed for Propane or natural gas cannot have Butane due to its lower self ignition temperature (450 0C), will cause flashback and explosion, as the temperature of Propane is 550 0C and natural gas is 750 0C.

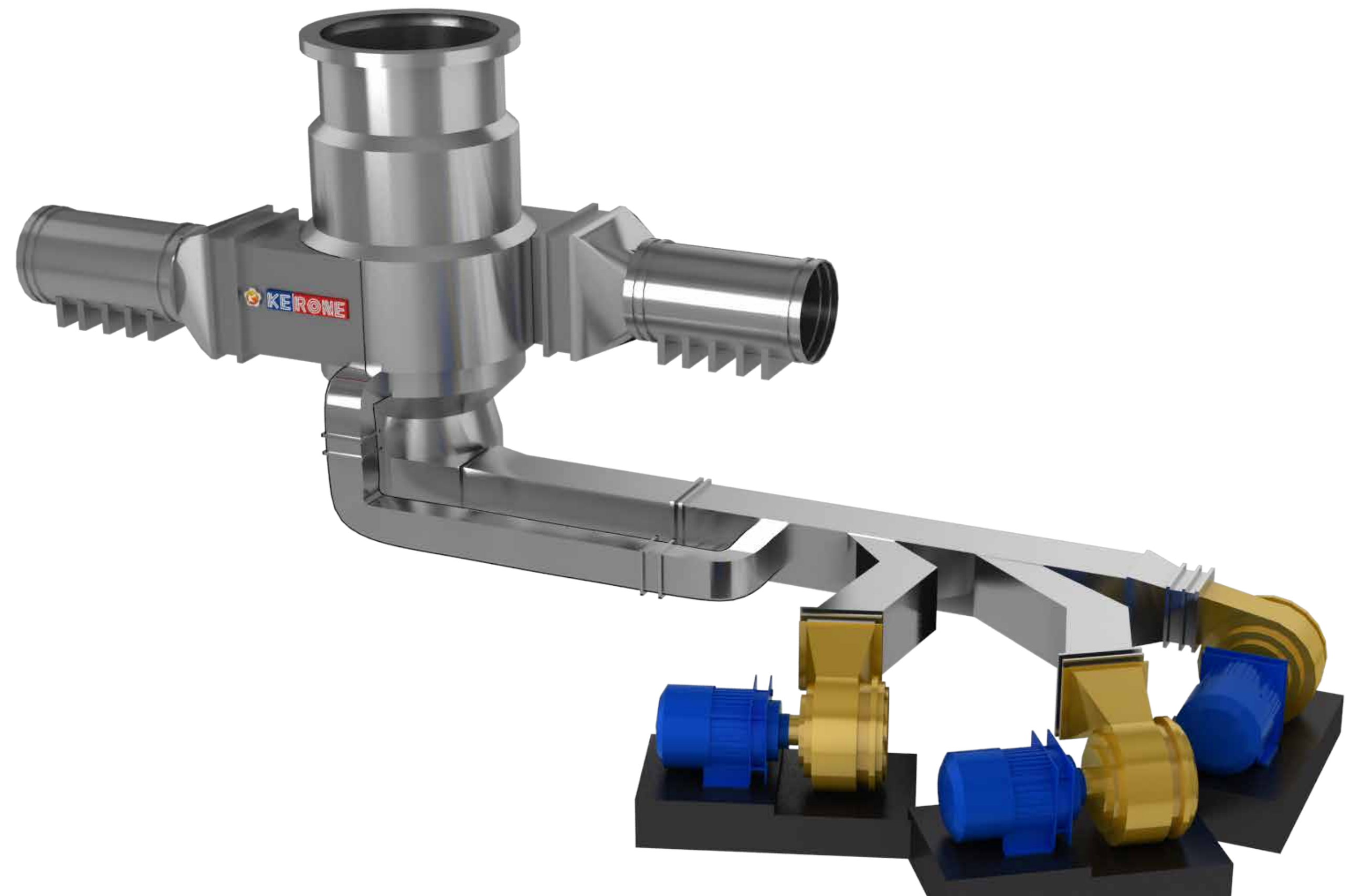
### Construction of MFB Burner

A thin perforated sheet supports the burner as the cloth does not have strength of its own. There is equal distribution of premix as it is fully welded with diverters inside and the housing is made up of SS304.

The housing comes with or without collar. The gas can be made to enter from the back or its side. The height will increase in case of side entry of the gas. MFB Cloth 100 is used for blue applications for its low density - 1.5 KG/m<sup>2</sup>.

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## Radiant/ Blue flame modes

With premix flow leading to heat intensity in the range of 100-500KW/m<sup>2</sup>, most of the combustion takes place within the surface of the burner itself. This makes the surface heat, glow and transfer the heat in radiant form. This is infrared mode. Here the surface temperature is highest at 1050°C.

If premix quantity is increased, the burner actually cools down because of excess nitrogen flow. Combustion takes place outside the burner. This is blue flame mode. Here the heat transfer is in convection mode. Intensities as high as 20 MW/m<sup>2</sup> are possible. In both the cases flue gases are released in the air. For radiant operation,  $\eta = 1.05$  to  $1.1$  For blue flame mode,  $\eta = 1.1$  to  $1.2$

## Efficiencies in Radiant mode

At lower intensities higher amount of combustion takes place within the surface. At around 125KW/m<sup>2</sup> the radiant efficiency is highest at approx. 55-60%. Below 100KW/m<sup>2</sup> the flame cannot be sustained. Efficiency is high in face down position. It can be increased in any position by adding a grid in front.

# Trusted Partner



# Our Clients



**KERONE**

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