KERONE
Kerone Engineering Solutions Limited

INFRARED
BASED SALT GRANULES DRYER

In Association with SVCH-Technologii, Moscow (Russia)

ISO 9001:2015 | ISO 14001:2015 | ISO 45001:2018

ABOUT US

KERONE is now renowned for serving the specialized needs of customers with the best quality and economical process of Heating /cooling and drying products, manufactured in a high-quality environment by a trained and qualified workforce (special purpose machinery)

KERONE is a pioneer in application and implementation engineering with its vast experience and team of professionals.

KERONE is devoteded to serve the industry to optimize its operations both economically and environmentally with its specialized heating and drying solutions.

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.

WHY CHOOSE US

> Enhance the value of customer operation through our customer need centric engineering solution.

With decades of expertise, cutting-edge technology, and a customer-centric approach, Kerone Engineering offers tailor-made heating solutions that prioritize quality, flexibility, and cost-effectiveness. Benefit from our commitment to excellence, post-sales support, and innovative solutions for your unique heating needs. Choose Kerone Engineering for reliability, performance, and unmatched value.

MISSION

- To enhance the value of customer operation throughi our customer need centricengineefing solution
- We are cominitted to provide our customers, unique arid 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

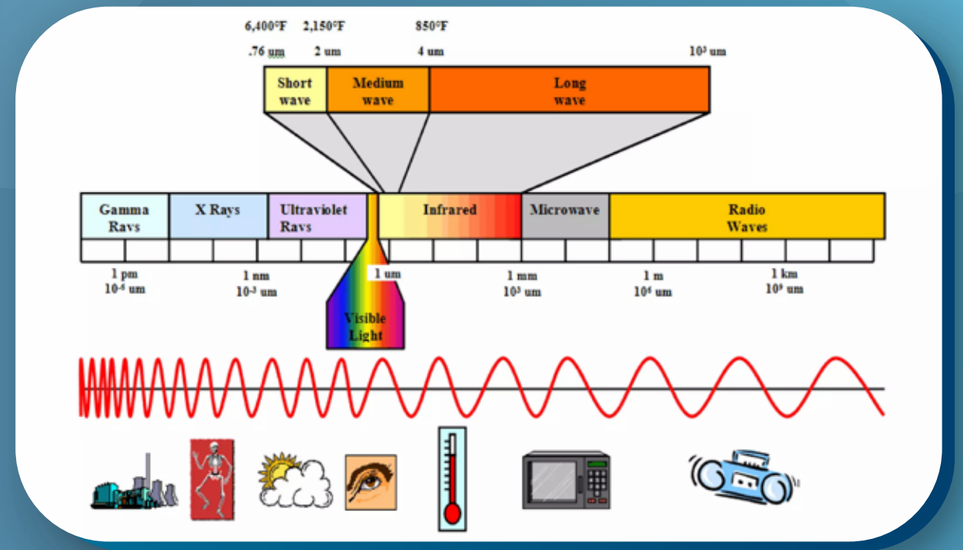
- Turn into a world leader in providing specialized, top-notch quality and ecological industrial heating, cooling, and drying solutions across the globe.
- To attain global recognition as the best of quality and environment-friendly engineering solution company.

Introduction

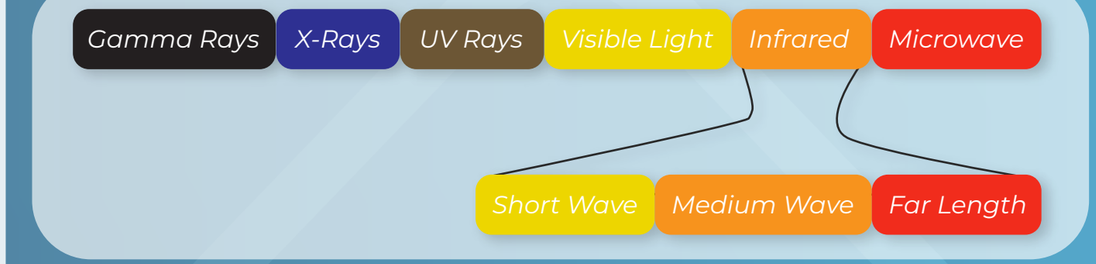
An Infrared Based Salt Granules Dryer is an advanced drying system designed to efficiently remove moisture from salt granules using infrared radiation. Unlike traditional drying methods, this technology directly heats the salt granules, allowing for rapid and uniform moisture removal. The infrared dryer operates with high energy efficiency, significantly reducing processing time and energy consumption. It also offers precise temperature control, ensuring that the salt granules dry evenly without clumping or degrading in quality. This method is ideal for producing high-purity, free-flowing salt, making it a valuable tool in industries where consistent quality and efficiency are paramount.

Introduction of Infrared

- Infrared Heating System are part of Electromagnetic heating family.
- Infrared heater uses IR radiation waves falls just below visible light spectrum.
- Infrared radiator heat produce heat on the surface of material.
- Heat is transferred from outer surface to inner body.
- Infrared heating system produce heat same as ‘SUN‘ from hot surface to cold surface.



The electromagnetic spectrum describes the various types of electromagnetic energy best on wavelength



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

Far Infrared (3000 nm and Above)	Medium Wave (1400 nm and 3000 nm)	Short Wave (780 nm to 1400 nm)

Infrared Based Salt Granules Dryer

Working Principle

Input

Salt granules are fed into Kerone's advanced sensor based feed mechanism that ensures continues supply of adequate quantity only within the IR dryer

Transport

Salt granules to be dried are transported through the surface of rotary drum using internal helix

Exposure

The drum is fitted in such as manner to get the maximum and equal IR exposure to each Salt granules

Heating

IR lamps produce the infrared wave that produces the heat when it strikes the material

Drying

IR rays penetrates within the Salt granules and starts removing moisture from inside-out

Moisture removal

Moisture gets out of the flake and are removed from drum with flow of air

Output

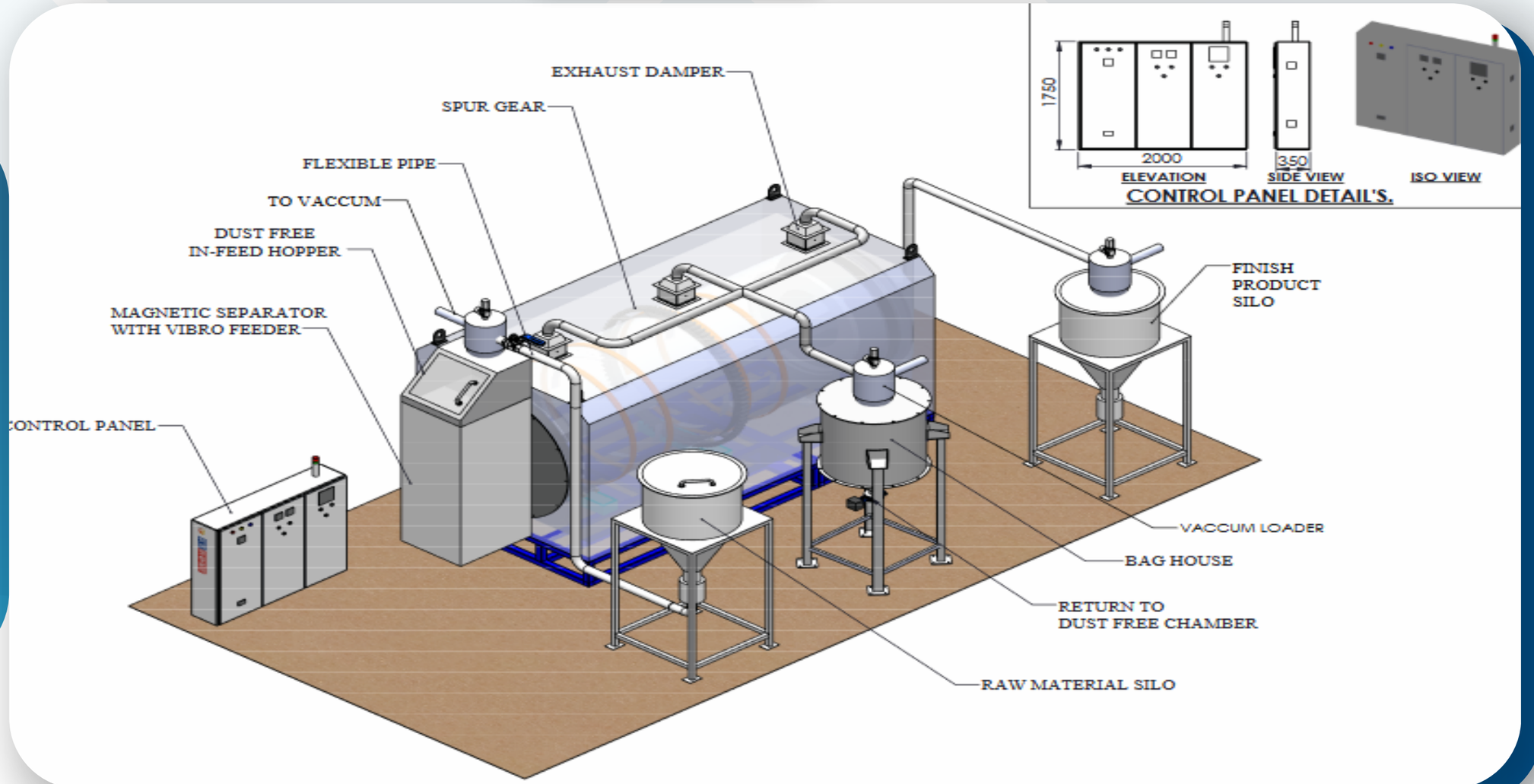
Salt Granules transported to output chamber and collected there.

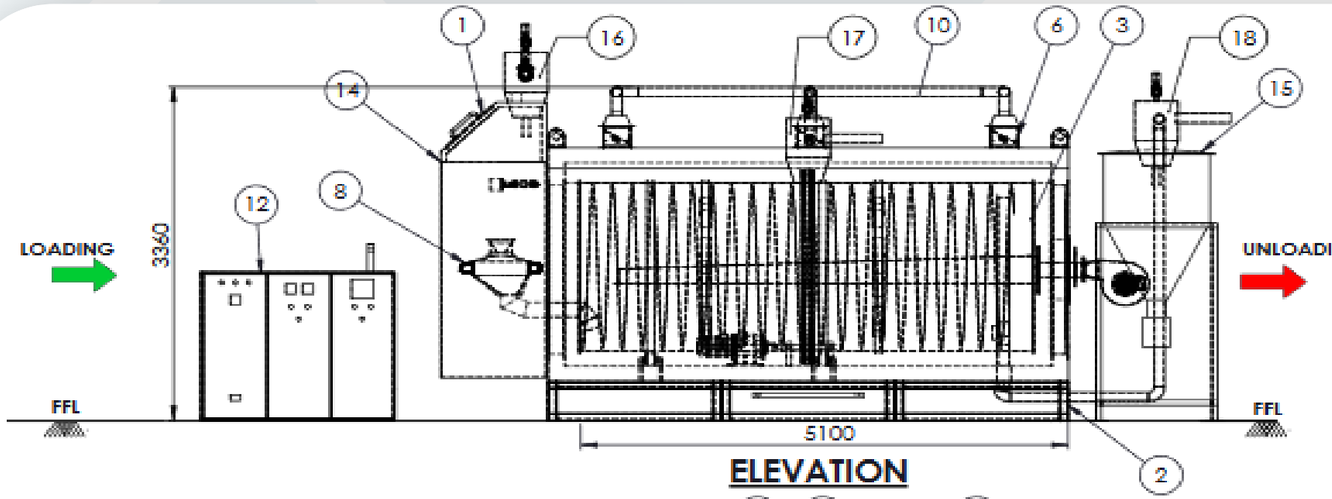
Control

Entire process is monitored and controlled by very easy to understand and highly sophisticated control mechanism with LCD screen and touch based control

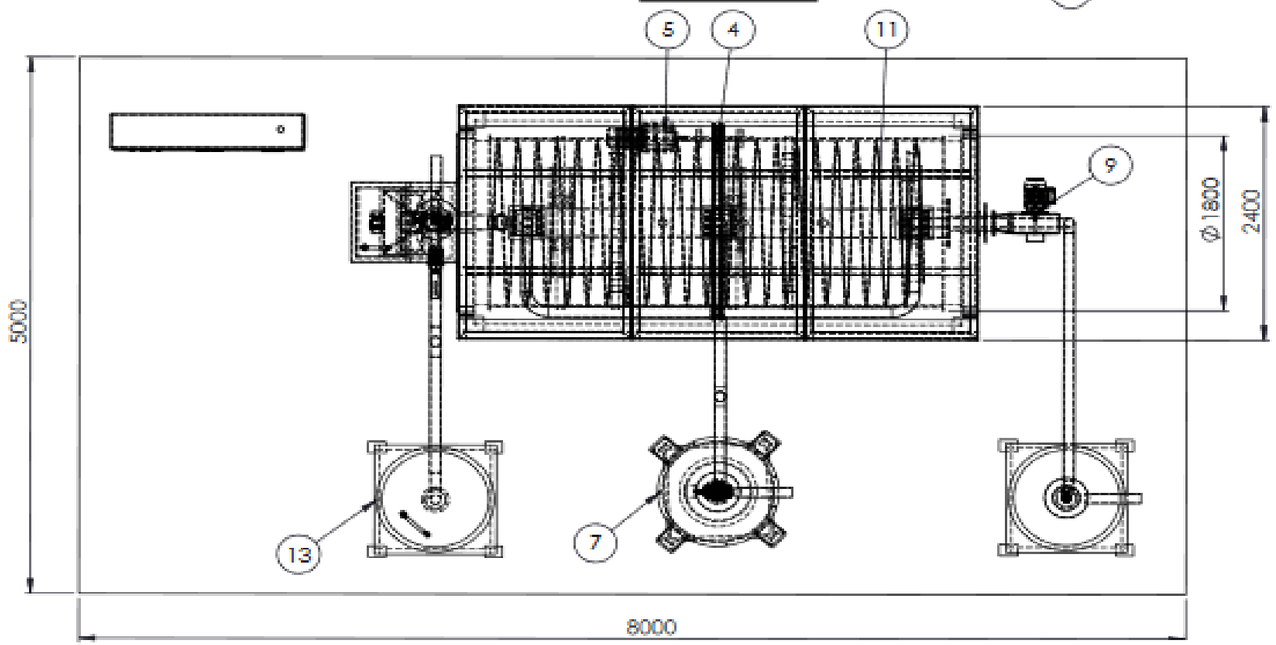
Infrared Based Salt Granules Dryer

Schematic





ELEVATION



PLAN

SR.NO	DESCRIPTION	REMARK	QTY
1	HOPPER WITH VIBROMOTOR	SS304	1
2	SUPPORT STRUCTURE	MS PAINTED	--
3	ROTARY DRUM	SS304	1
4	SPUR GEAR	MS	--
5	GEAR MOTOR DRIVE	REPUTED MAKE	1
6	EXHAUST DAMPER	MS PAINTED	2
7	BAG-HOUSE	MS PAINTED	1
8	VIBRO FEED MOTOR	CASTED	2
9	BLOWER	MS PAINTED	1
10	DUCTS	MS PAINTED	1
11	IR HEATERS	QUARTZ INFRARED	--
12	CONTROL PANEL	MS POWDER COATED	1
13	RAW MATERIAL SILO	MS PAINTED	1
14	MAGNETIC SEPARATOR	MS PAINTED	1
15	FINISH MATERIAL SILO	MS PAINTED	1
16	VACUUM LOADER 1	SS 304	1
17	VACUUM LOADER 2	SS 304	1
18	VACUUM LOADER 3	SS 304	1

Infrared Based Salt Granules Dryer

Features

One Step Process

IR based systems are capable of crystallizing and/or drying up to 33000 lb/hr (15000 Kg/hr) in single stroke

Energy Savings

IR crystallizers/ dryers provide energy saving of up to 45% as it dries in single run and in minimum time

Quick Change over

Unlike conventional systems it does not requires 5-6hrs for processing. Drying takes place within one hour only.

Less floor area consumption

IR systems offers upto 400% space saving less in-process inventory and smaller footprint

Digitally controlled

100% digital control mechanism, quick start and stop

4-5 times faster than conventional System

IR systems reduces moisture from over 3500 ppm to less than 50 ppm in about an hour.

Conventional systems requires 5-6 hrs

Infrared Dryer Myths

Myth	Realty
Infrared rays destroy the IV properties of PET flake	Shorter exposure to heat in IR dryer helps in preserving the properties
IR is new and maintenance cost is high	More than 100 are running successfully and maintained efficiently

Myth	Realty
Installation Cost of IR dryers are huge compared to Conventional	Initial costs of IR dryers are marginally high but profitable in long run compared to Conventional
Application is limited to Salt only	Kerone has provided the IR systems for more huge type of applications

Myth	Realty
IR technology is only applicable on low throughout applications	IR dryers are capable of drying over 4,000 lb/hr.
IR dryers can reduce the moisture only up to 50ppm	Moisture level of less than 50 ppm is reached in just one hour and the mois-ture content can be controlled to higher levels if required

Infrared Heating System *Vs*

Conventional Heating System

IR heating system are fast heating system, result in saving of time.	Conventional heaters have slow heating rate, heat is transferred via means of air.
Instant heating of the material, hence no warm up time.	Instance heating does not takes place, it requires warm-up of surrounding.
Environmental friendly and green heating solution, no carbon emission.	Produces carbon or toxic gases hence not much environmental friendly heating solutions.
100% energy utilization, Heats only desired spot of material.	100% energy utilization is not possible, as material is heated by surrounding hot air.
Better floor utilization index. No Temperature loss in surrounding, ambient workplace.	Poor floor utilization index. Surrounding air temperature rises with rise in heater temperature.

TRUSTED PARTNERS

AFCONS

Technip

TÜV ISO 14001:2004

TOYO ENGINEERING

EIL

LLOYD'S

ZEPPELIN WE CREATE SOLUTIONS

Reliance Engineering Associates Pvt. Ltd.

TATA CONSULTING ENGINEERS LIMITED

SC Shroff Consultants

STERLING & WILSON

THANK YOU

UNIT I

- 4 & 5, Marudhar IndustrialEstate, Panchal Road, Opp. Syndicate Bank, Bhayander (E), Mumbai-401105. (India)
- Contact Us
  +91-22 48255071, 48255072

UNIT II

- Kerone Engineering Solutions LTD., Plot No. B-47, Addl. Midc Anandnagar, Ambernath (E), Dist. Thane (India)- 421506
- Contact Us
  +91(0251)2620542/43/44/45/46

SCAN HERE

Our Mails

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

Website

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