The heat exchanger specialist

THE HEAT EXCHANGER SPECIALIST



45 YEARS OF EXCELLENCE

MASTERING HEAT EXCHANGERS



#EfficiencyMatters
Matching the Right Product With Right Application

KICC
The most efficient condenser

KIC BOX
CONDENSER

K-SPEX
The Spiral Heat Exchanger

K-PEX
Plate Heat Exchanger



A LEGACY OF EXCELLENCE IN HEAT EXCHANGERS

45+ YEARS OF EXPERTISE I 18,000+ UNITS SUPPLIED

Global Reach

Exports to 35+ Countries (Germany, Netherlands, UAE, Canada, Malaysia, Brazil, Poland & more...)

Trusted By Industry Leaders

Approved by: UHDE, Aker, Jacobs, Toyo, Shroff, Mott Macdonald



Industries We Serve

Oil and Gas, Chemical & Petrochemical, Power & Refineries, Pharmaceuticals, Steel, Fertilizers and more

What We Manufacture

Shell & Tube Heat Exchangers,Corrugated Tube Heat Exchangers, Helical Baffle Heat Exchangers,Spiral Heat Exchangers,Plate Heat Exchangers.

Certified By

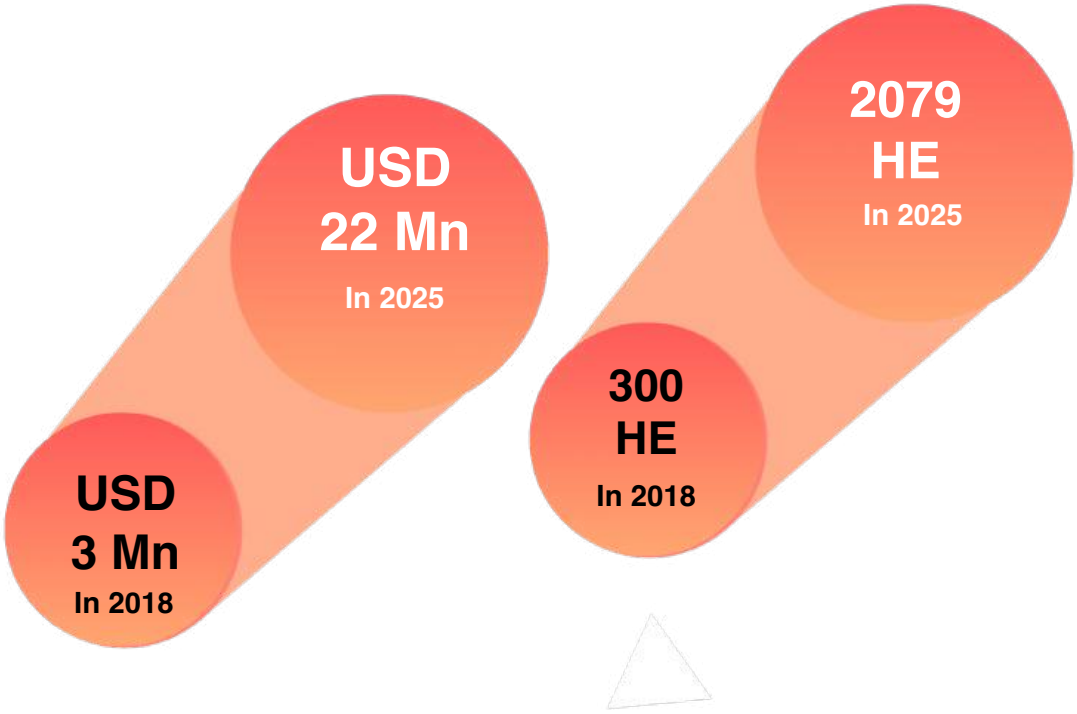
TUV, Chempro, Bureau Veritas, LRIS, SGS

TRUSTED WORLDWIDE

OUR REACH ACROSS BORDERS



6 X GROWTH IN YEARS



Heat Exchangers

18000 + HE installed since inception

Customers

650 + Customers
Across 35+ Countries
From 13 Industries

Team

100 Member Team in 2018 to
350+ Today

MANAGEMENT TEAM



Meet the core leadership team from both companies who bring deep industry experience and a shared vision for growth:
Mr. Aalap Patel, Mr. Mehul Mehta, Mr. Kirit Mehta, Mr. Himanshu Patel, Mr. Nilesh Patel, Mr. Harsh Patel.

Kinam Engineering Industries Pvt. Ltd., a family-owned business established in 1981, has built its reputation of "The Heat Exchanger Specialist" on three strong pillars: high-quality manufacturing, customer satisfaction, and responsive service.

In 2023, Kinam entered into a strategic partnership with HLE Glascoat Limited, India’s leading manufacturer of process equipment. With HLE Glascoat becoming the largest stakeholder in Kinam, this collaboration marks the beginning of an exciting new chapter- one that focuses on expansion, innovation, and transitioning Kinam into the next phase of its growth journey.

INNOVATING FOR BETTER TOMORROW

RESEARCH & DEVELOPMENT

Our Research Philosophy- Rigorous research to redefine Heat Transfer efficiency and performance.

- **Focused Expertise & Dedicated Team:** Leveraging cutting-edge technology with a team of experts in engineering, materials science, and process innovation.
- **Lead By: Dr. Rambir -** PHD IIT Mumbai (Thermal Engineering) I Mtech IIT Delhi I 22 Years Exp. at ISRO, L&T, Kelvion, Sondex and many more.
- **Dedicated Budget:** 1% of revenue invested in R&D.
- **Location:** Dedicated R&D setup of 10000 SqFt.at Maroli Gujarat
- **Patents:** 3 Design Patents Filed



STRATEGICALLY POSITIONED

FOR EXCELLENCE

At The Heart Of Innovation

- Head Office: Sion, Mumbai – The commercial heartbeat of India
- Regional Presence: Dubai, Vadodara, Pune & Hyderabad – Closer to clients, faster responses.

Strategically Positioned

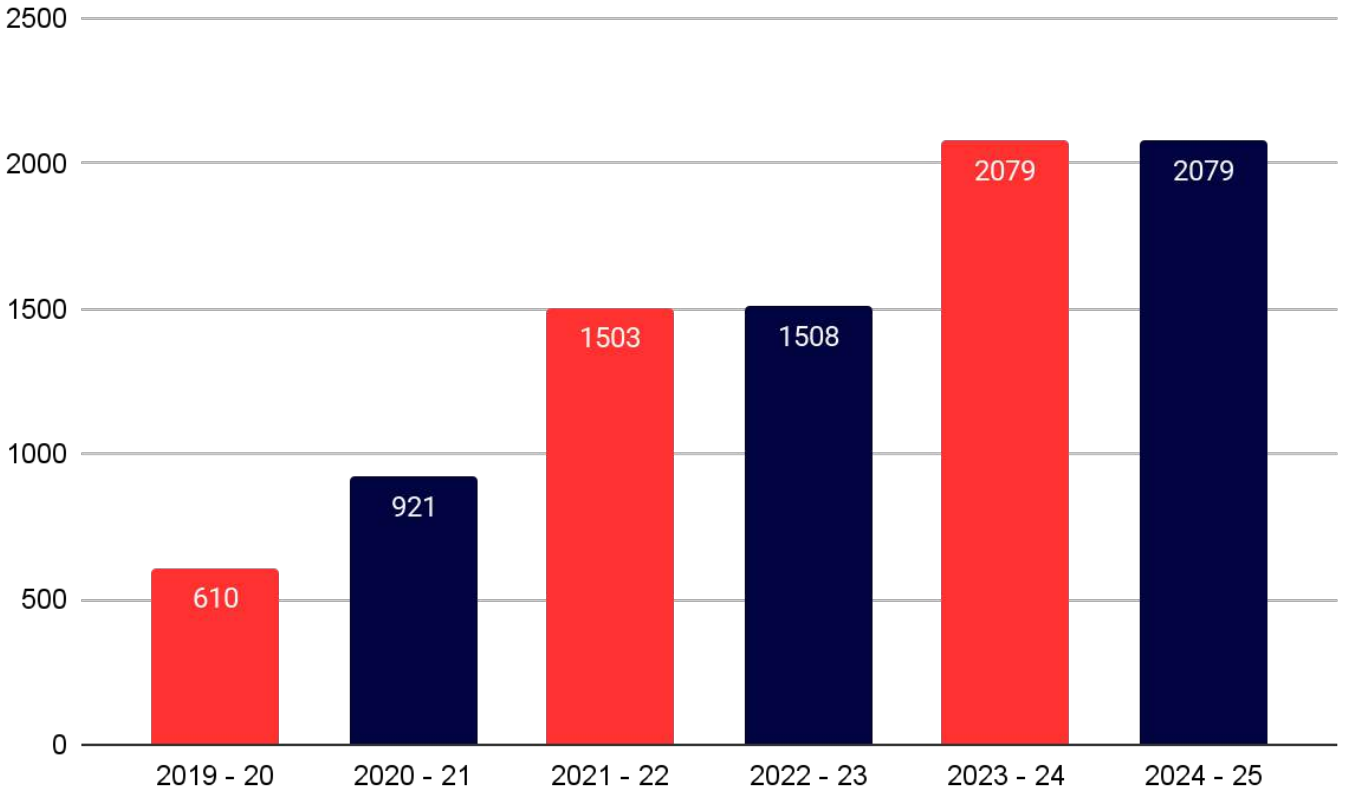
Staff of 42 professionals at Office including 11 Thermal Design Engineers, 12 Sales Engineers, 4 Accounts & Finance, 1 HR, 1 IT, 2 Project Co-ordinators and 3 Design & Sales Co-ordinators.





MANUFACTURING CAPACITY

Capable of manufacturing 3000+ Heat Exchangers



A MANUFACTURING POWERHOUSE

Built For Excellence

- State-of-the-Art Facility – Spanning 1,10,000 sq. ft. in Ambernath, Thane.
- Expert Workforce – 125+ Staff & 240+ Skilled Workers.



Advanced Machining & Quality Control

- Precision Drilling – 2 Deep hole drilling machines for 2000mm tubesheets
- Pharma-Grade Clean Room – 1000 sq. ft. for superior welding of exotic materials
- In-House Finishing – Dedicated Painting & Shot Blasting Rooms

Unparalleled Infrastructure

- Fabrication Bays – Designed for seamless operations 10 EOT Cranes – Ranging from 1.5 to 50 tons, with 12-meter height under crane
- Material Handling Capacity – ~350 MT/month, single equipment capacity up to 250 MT



Cutting-Edge Technology

- CNC Drilling, Plasma & Laser Cutting Machines
- Shell Rolling with Pre-Pinching & 7 Radial Drill Machines (24-hour drilling)
- Automatic Weld Overlay & Orbital Welding for superior joins

Engineering Precision & Capability

- Heat Transfer Area – 1 m² to 6,000 m² HTA
- Max Pressure & Temperature – 200 bar & 1000°C
- Job Execution Capacity – Up to 8m diameter & 25m length



Uncompromising Quality And Testing

- RO Water Hydrotesting – Ensuring precision & reliability with in-house water treatment

MANUFACTURING CAPABILITIES



Shell Diameter	Tube-Sheet Thickness	Overall Length	Design Pressure	Weight Per Equipment	Heat Transfer Area	Single Shift	Double Shift
8 Mtr	2000 MM	Upto 30 Mtr	200 kg /cm²	250 Ton	1m² - 6000m²	3000 HE	4500 HE

INSIDE VIEW - AMBERNATH FACTORY



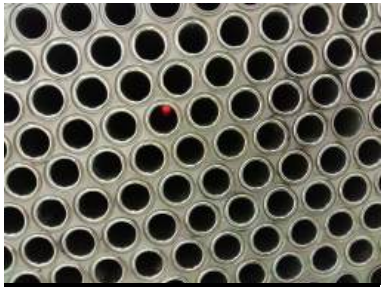
Manufacturing Bay 1



Manufacturing Bay 2

WELDING STRENGTH

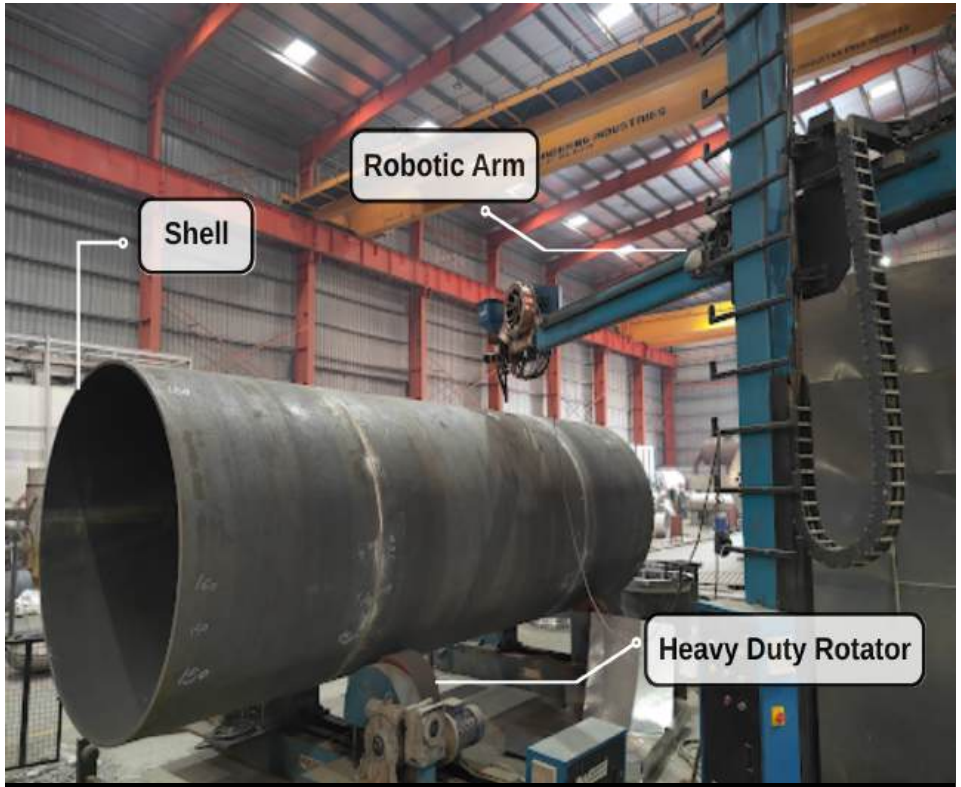
Total Qualified Welders	44 Nos.
Welding Machines	48 Nos. (GTAW), 4 Robotic Arms (SAW), 1 (GMAW) (5 in Spare).
WPS/PQR And Mockup	60+ certificates for different range of materials.
Materials Handled	Titanium, Hastelloy*, Inconel*, Monel*, Duplex, Super Duplex and other Cu-Ni alloys.
Welding Types	SAW, TIG (GTAW), Orbital Welding.



Titanium Tube Sheet With Castellation Groove



Titanium Welding Showing Bright Silver



SAW Welding

WELDING CAPABILITIES

PRECISION WELDING FOR UNMATCHED STRENGTH & QUALITY

Material

Expertise in welding materials like:

- Titanium, Hastelloy C276, C22, C2000
- Nickel Alloys, SS310,SS 316/316L/304/ 304L/316Ti/ 321/CS
- Duplex & Super Duplex Steels

Welding Procedure

- GTAW, SMAW, GMAW, SAW
- Thickness ranging from 1.5 mm to 200mm
- Qualified as per ASME, CE
- Qualified for groove, fillet and overlay welding

Welding Qualification

- GTAW, SMAW, GMAW, FCAW, SAW
- Thickness ranging from 1.5 mm to unlimited
- Minimum pipe diameter 3/8” (DN10)(17.1mm dia.)
- 44 nos Qualified welders
  64 nos qualification and
  7 nos exotic material

EXOTIC METAL FABRICATION DIVISION

- **Class 100,000 Clean Room** (5m to 10m) with HEPA Filtration
- **7 Welders** Specializing in **Exotic Materials Welding**
- **Expert Fitters** trained in **Titanium, Monel, and Inconel**
- Dedicated **QA/QC** Team with **15+ Years** of Expertise in **Exotic Materials**

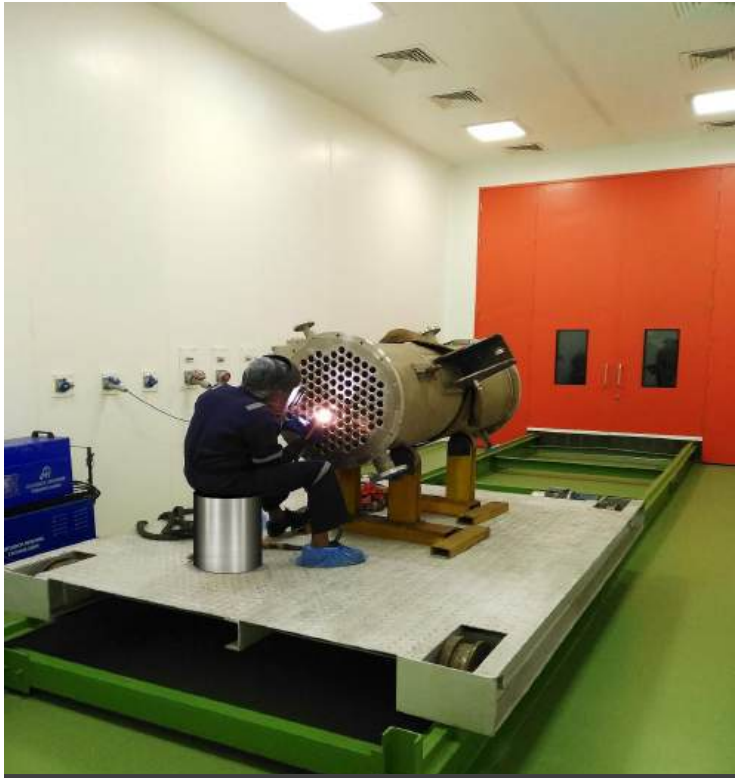


CLEAN ROOM FOR EXOTIC MATERIALS



Clean Room for Titanium and other exotic metal Welding

CLEAN ROOM FOR EXOTIC MATERIALS



Interior of Clean Room



Orbital Welding of Titanium

BUILT UNDER ONE ROOF

UNMATCHED CONTROL, UNCOMPROMISED QUALITY



Vertical CNC Cutting Machine



Shell Rolling Machine
with Pre-pinching Facility

MACHINES THAT DRIVE EXCELLENCE

DRILLING MACHINES





CNC Drilling Machine

MACHINES THAT DRIVE EXCELLENCE

Laser Cutting Machines



Laser Cutting Machine



Inside Laser Cutting Machine

MACHINES THAT DRIVE EXCELLENCE



Shot Blasting Booth and Paint Booth



Inside Shot Blasting Room

WORLD-CLASS TOOLS & SOFTWARE

PRECISION MEETS INNOVATION

For Process Design

HTRI Xchanger Suite 7 | HTRI | ProHE

For Mechanical Design

PV Elite® Vessel Analysis

For Drawing

AUTOCAD® | GstarCAD | ProEd Proprietary Software

For CRM & IT

salesforce | Google Drive

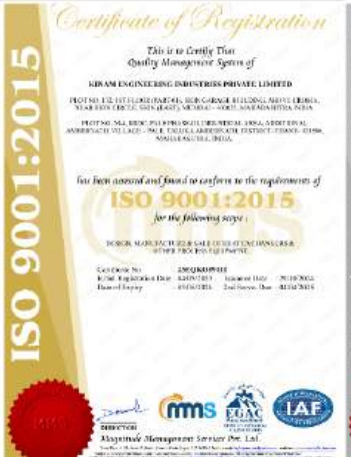
CERTIFICATIONS













ASME U

The American Society of Mechanical Engineers

CERTIFICATE OF AUTHORIZATION

The named company is authorized by The American Society of Mechanical Engineers (ASME) for the scope of activity shown below in accordance with the applicable rules of the ASME Boiler and Pressure Vessel Code. The use of the ASME Single Certification Mark and the authority granted by this Certificate of Authorization are subject to the provisions of the agreement set forth in the application. Any construction stamped with the ASME Single Certification Mark shall have been built strictly in accordance with the provisions of the ASME Boiler and Pressure Vessel Code.

COMPANY:

Kinam Engineering Industries Private Limited
Plot No. M-4, MIDC, Additional Ambernath, Village-Pale
Ambernath, District-Thane
Maharashtra 421506
India

SCOPE:

Manufacture of pressure vessels at the above location and field sites controlled by the above location (This authorization does not cover impregnated graphite)

AUTHORIZED: **November 14, 2023**

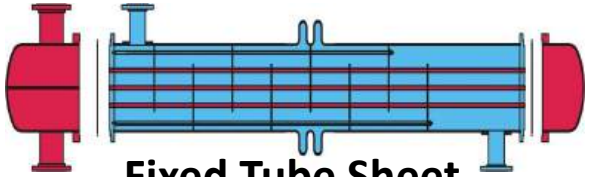
EXPIRES: **November 14, 2026**

CERTIFICATE NUMBER: **61165**

Board Chair,
Conformity Assessment

Senior Director,
Engineering Operations

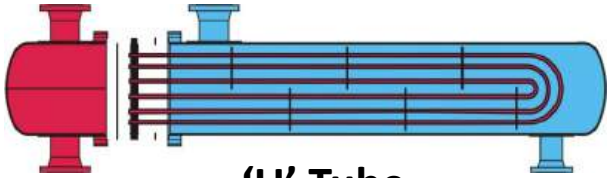
TYPES OF SHELL AND TUBE HEAT EXCHANGERS



Fixed Tube Sheet



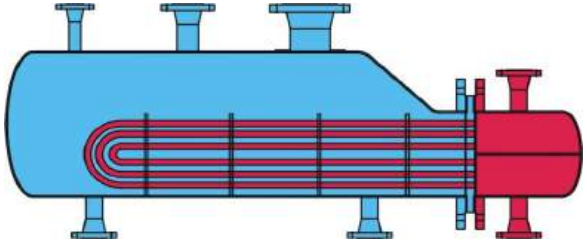
Floating



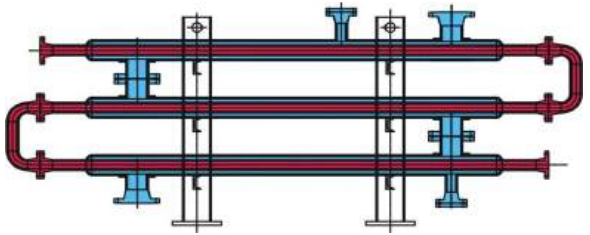
'U' Tube



Hairpin



Kettle Reboilers



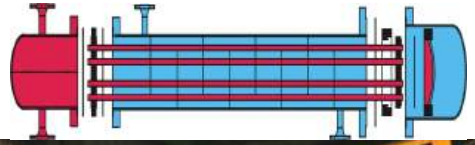
Double Pipe

FIXED TUBESHEET TYPE



710m² Tail Gas Heater
Fertilizer Company, Maharashtra, India

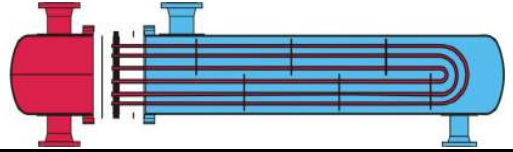
FLOATING HEAD TYPE





1458m² Depropanizer Condenser
Floating head bundle of 4032 Nos. tubes,
Weight : 55 Tonnes
Phenol Plant, Gujarat, India

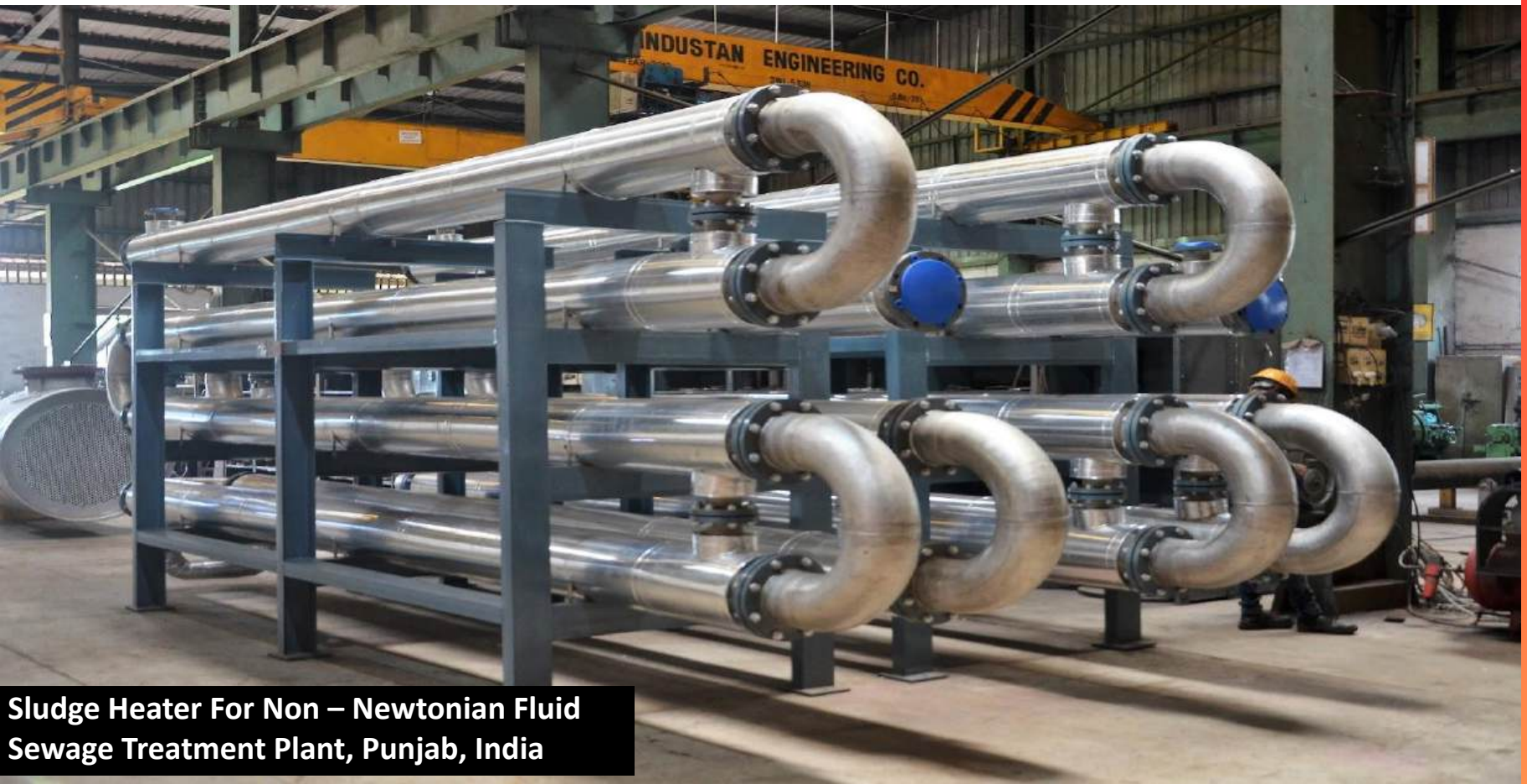
“U” TUBE TYPE





919m² Propylene Feed Column Condenser, 1280 no’s of U-Tubes, Weight : 46 Tonnes
Cumene Plant, Gujarat, India

DOUBLE PIPE TYPE



Sludge Heater For Non – Newtonian Fluid
Sewage Treatment Plant, Punjab, India

KETTLE TYPE REBOILER



Column Kettle Reboiler
Rubber Chemical Plant, Gujarat, India

HAIRPIN HEAT EXCHANGERS - (REMOVABLE TYPE)



Polypropylene column bottom cooler
Cumene Plant, Gujarat, India

KINAM'S PRODUCT RANGE



CORRUGATED TUBE HEAT EXCHANGER

KICC
The most efficient condenser



THE SPIRAL HEAT EXCHANGER

K-SPEX



PHE (PLATE HEAT EXCHANGER)

K-PEX



KIC-BOX HEAT EXCHANGER

KIC BOX
CONDENSER



KINAM'S CONDENSING SYSTEM

KCS

CORRUGATED TUBE HEAT EXCHANGER

CORRUGATED TUBE TECHNOLOGY

KICC Technology

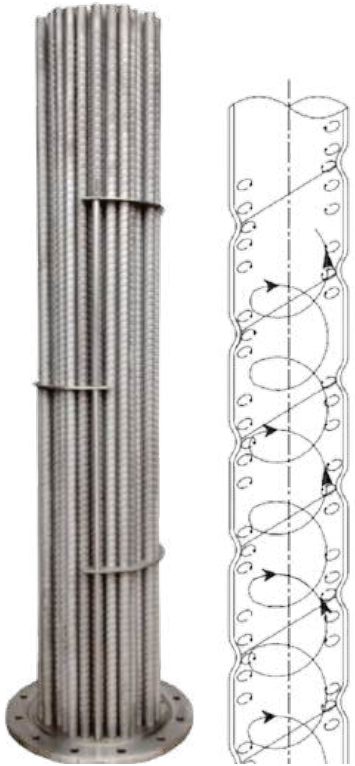
- KICC heat exchangers are similar in construction as conventional tabular heat exchangers.
- Corrugated tubes are manufactured by indenting tubes in spiral pattern.
- No material is removed. No additional stresses. No compromise on the strength of the tubes.

KICC Is The End Result Of?

- Kinam's ongoing research and development.
- In-depth analysis of corrugation profiles and flow dynamics.
- Constant testing for various condensing application.

What Is New?

- New & improved corrugation profile for condensers resulting in even higher heat transfer coefficient.
- Compact & economical design, hence higher savings.
- Manufacturability in all exotic materials like hastelloy, titanium, tantalum & super duplex steels, etc.

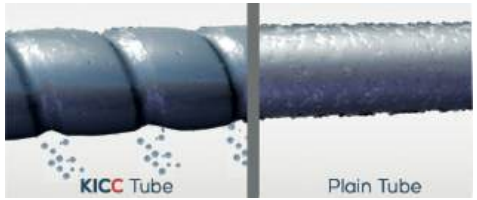


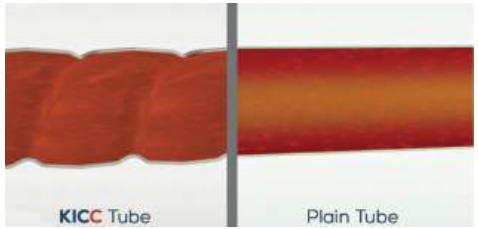
WHY KICC?



Turbulent Flow Resulting In Higher Heat Transfer Coefficient.

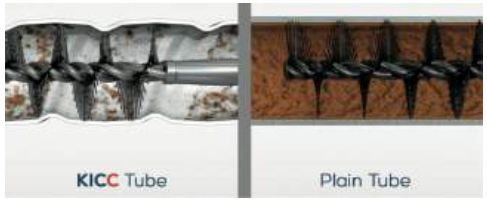
Dropwise Condensation Resulting In A Fresh New Surface For The Vapours To Condense.





Uniform Temperature Distribution.

Easy To Clean Due To Intermittent Scaling.
Longer Running Time.
Low Maintenance.



Higher Heat Transfer Coefficient

Longer Running Cycles

Lower Heat Transfer Area

Low Maintenance

Economical

Uniform Temperature Profile

Reduced Fouling

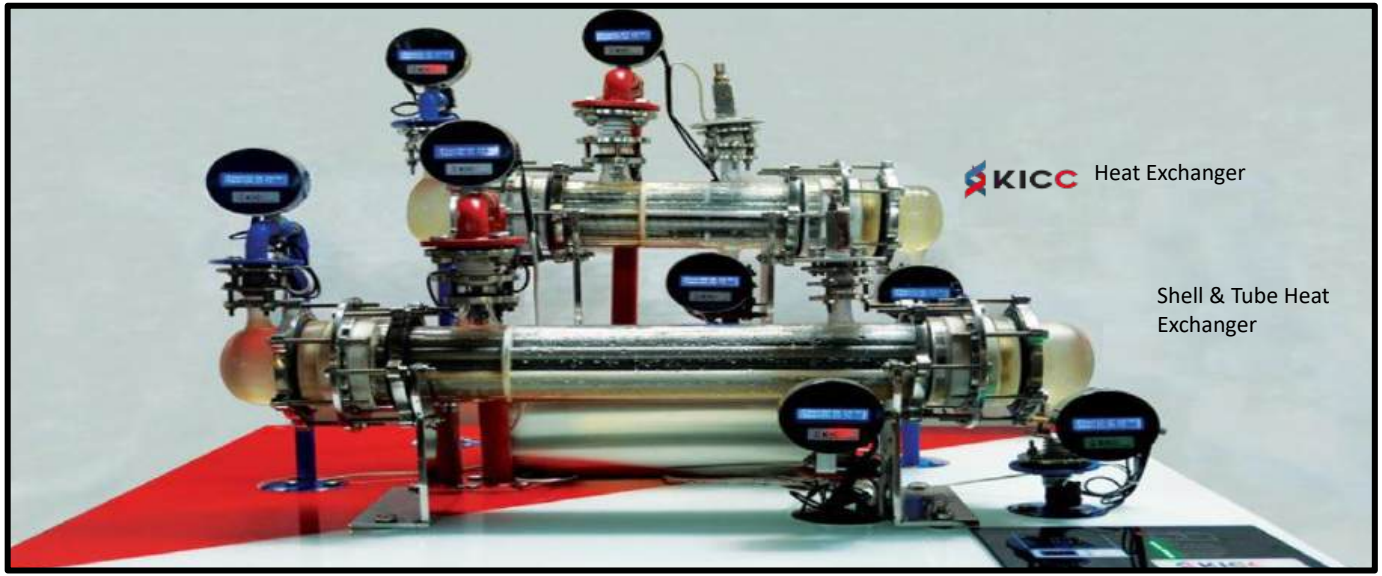
Smaller Footprint

Compact

Versatile

Variety Of Material Of Construction

TEST- RIG

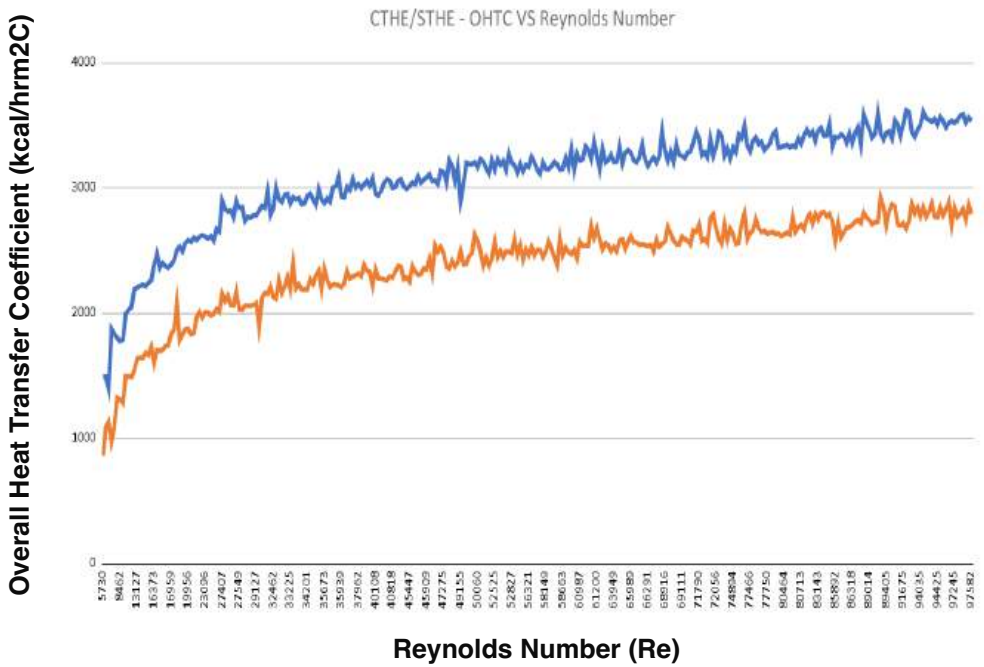


Condenser Type	Shell Side Flow Rate		Shell Side Temperature		Cooling Water Temperature		Tube Length	No. Of Tubes	Heat Transfer Coefficient kcl/h-m2-c
	Steam In	Condensate Out	Steam In	Condensate Out	In	Out			
STHE	30.2	30.2	100.05	99.5	30	34.09	570mm	7	1264
KICC	30.2	30.2	100.05	99.5	30	34.09	300mm	7	1.7 times x 1264

TEST- RIG

CTHE

STHE





Introducing Kinam's KICC



TEST RIG

COMBINES ADVANTAGES OF PHE & STHE

	Shell & Tube Heat Exchanger		Plate Heat Exchanger		KICC Tube Heat Exchanger	
						
Heat Transfer Coefficient	Low	–	High	+	High	+
Size	Huge	–	Compact	+	Compact	+
Temperature Distribution	Non Uniform	–	Uniform	+	Uniform	+
Fouling	High	–	Low	+	Low	+
High Pressure Application	Yes	+	No	–	Yes	+
High Temperature Application	Yes	+	No	–	Yes	+
Maintenance Cost	Low	+	High	–	Low	+

TYPES OF KICC CORRUGATED TUBE HE



KICC Condenser for solvent recovery for a Pharmaceutical company

Types of KICF Corrugated Tube HE



KICF series Heat Exchangers supplied to a food processing plant

TYPES OF KICH CORRUGATED TUBE HE



KICH series Heat Exchangers for an Edible oil application

ADVANCED COAL GASIFICATION TECHNOLOGY



- Kinam's **Gas Liquor Cooler (682 m2)** facilitated a major advancement at our client's plant within **16 weeks**, surpassing previous challenges with plate heat exchangers.
- The implementation of Kinam's Corrugated Tube Heat Exchanger technology, which includes the BES Removable Construction, proved to be the most effective solution.
- This advancement resulted in our client's plant achieving an efficient production rate of 225,000 Nm3/h of Syngas.
- This success highlights the impact of innovation and engineering excellence in the plant's operations.

HeliKorr
Helical Baffle Corrugated Tube Heat Exchanger

HELICAL BAFFLE

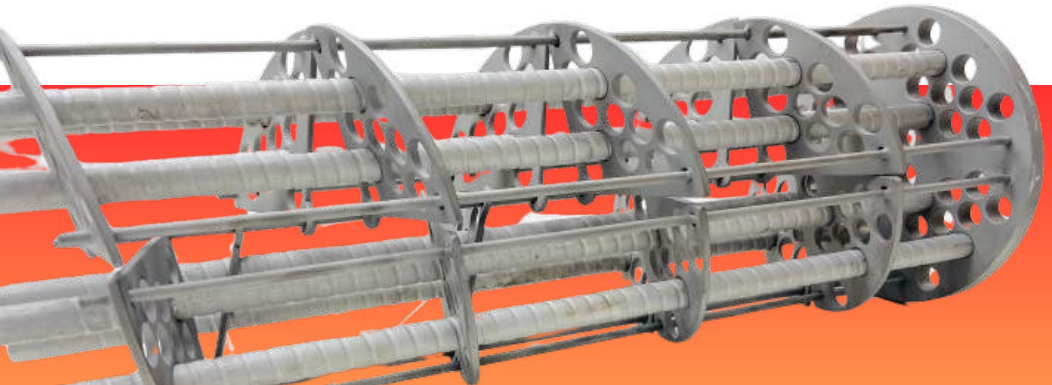
CORRUGATED TUBE HEAT EXCHANGER

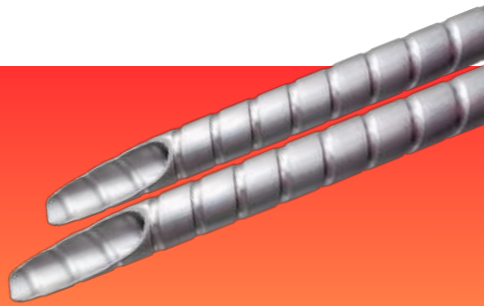
Enhancing both shell side and tube side coefficients in the same Heat Exchanger

By introducing its Corrugated Tube technology to Helical Baffle Shell and Tube heat exchangers, Kinam offers highly efficient and compact heat exchanger. In Helikorr, Heat transfer enhancement occurs both for shell side fluid and tube side fluid due to presence of helical baffle and corrugated tube respectively.

Why Helikorr?

- Compact (Reduces Heat transfer area upto 35 - 50 %)
- Economical (reduced cost upto 30%)
- Enhanced Heat transfer on shell and tube side (upto 35 - 50 %)
- Elimination of dead zones on shell side (Reduced fouling upto 40 %)
- Prevent flow induced vibrations.
- Reduce Pumping cost
- Reduced maintenance frequency & overall life cycle cost.





KINAM'S PRODUCT RANGE



CORRUGATED TUBE HEAT EXCHANGER

KICC
The most efficient condenser



THE SPIRAL HEAT EXCHANGER

K-SPEX



PHE (PLATE HEAT EXCHANGER)

K-PEX



KIC-BOX HEAT EXCHANGER

KIC BOX
CONDENSER



KINAM'S CONDENSING SYSTEM

KCS

K-SPEX

THE SPIRAL HEAT EXCHANGER

What are K-SPEX Spiral Heat Exchangers?

Spiral Heat Exchangers are circular units containing two concentric spiral flow channels, one for each fluid. One Fluid enters the center of the unit and flows to the periphery, whereas the other fluid enters the unit from the periphery and flows to the center. This results in a pure counter-current flow, thus providing higher heat transfer rates.

Available Configurations:

1. Openable
2. Fully Welded



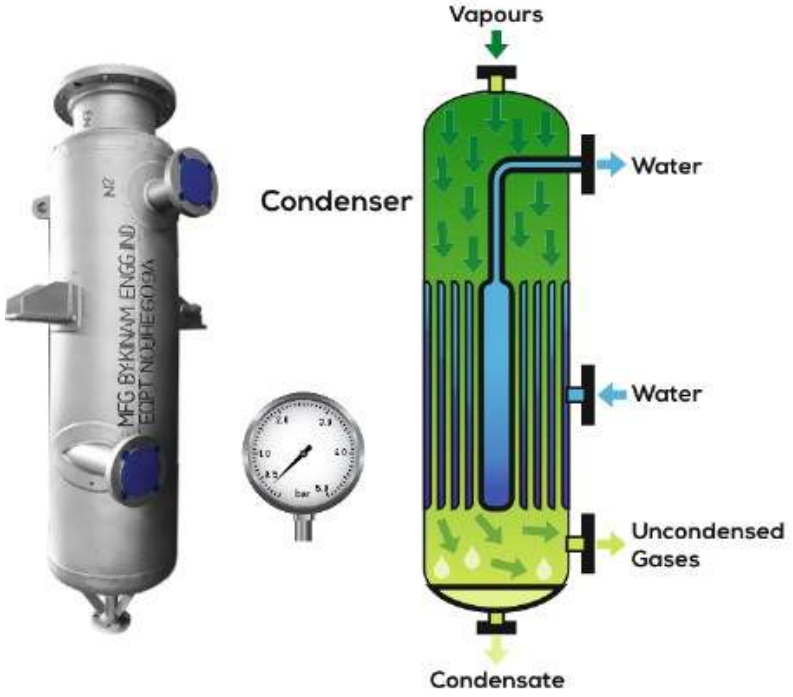
K-SPEX Type I

K-SPEX THE SPIRAL HEAT EXCHANGER

TYPE 2-

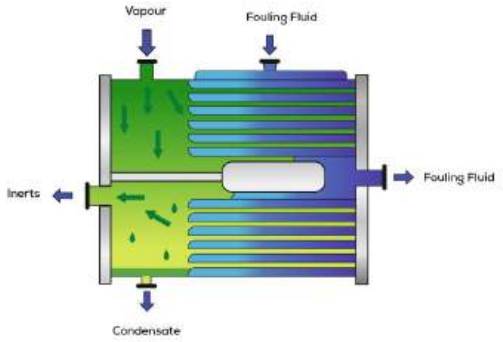
Why And When?

- Highly Compact
- Higher percentage of Heat Recovery
- Clean Utility is preferred
- 100% Cross flow
- Exchanger can be designed with negligible pressure drop
- Gasket free design, no leakage chances
- Generally used for Vapor Liquid Applications



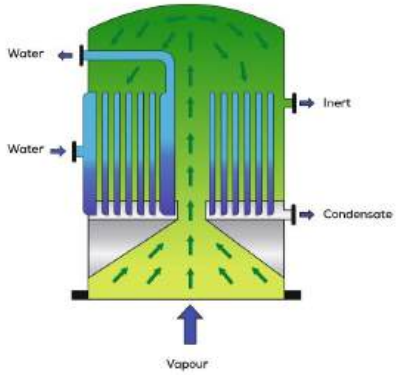
TYPE 3-

- The Type 3 spiral is often called a “steam heater” and has a mixture of Type 1 and Type 2 features.
- It can be horizontal or vertical. The main feature is that the liquid being heated by the steam is generally fouling which means that the circuit must be accessible for cleaning.
- Therefore the liquid circuit is sealed at one side by welding and at the other end by the gasket face of the end cover (same as for Type 1).
- The vapour circuit however is more similar to the Type 2, operating in cross-flow rather than spiral flow, and the circuit is sealed by welding along one side.
- This construction is not so common, most 2-phase applications use the regular type 2



TYPE 4-

- The Type 4 spiral refers to a spiral that is integrated into a column, often as part of a distillation process. In most cases the spiral operates similarly to the Type 2
- Vertically Mounted and diameter is same as column diameter
- In terms of operation the spiral can be a simple reflux type condenser or have condensate collection



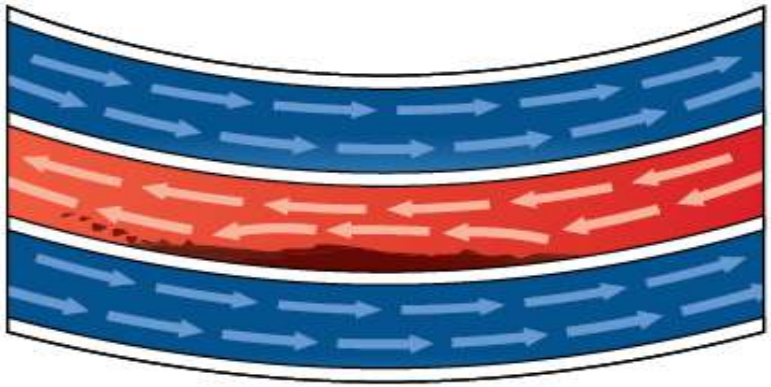
K-SPEX SPIRAL HEAT EXCHANGERS



Spiral Heat Exchangers supplied to one of India's Largest Manufacturer of Steel

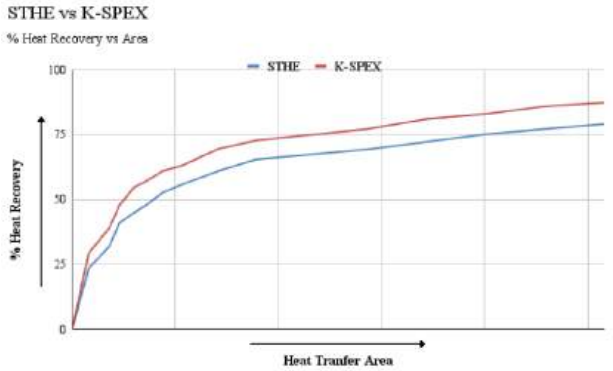
WHY K-SPEX?

Self Cleaning: As the flow in K-SPEX is a fully developed turbulent flow, the continuous curving flow channel causes a self-cleaning effect



High Heat Transfer Rates: With studs and curvature of the single-channel promoting turbulent flow, K-SPEX can give twice the heat transfer coefficient when compared to Shell & Tube. A high heat transfer rate allows K-SPEX to be more compact in terms of area and volume.

High Percentage of Heat Recovery: The Continuously curved flow channels and studs produce high turbulence, thereby enhancing the Heat Transfer Coefficient. With practically 100% counter-current flow, K-SPEX has a high degree of heat recovery than conventional STHE(Comparison chart)



Suitability for High Vacuum Applications and Highly Viscous Fluids: The single flow channel and reduced fouling results in achieving a low-pressure drop in vacuum operations. K-SPEX unique design and reduced deposition fouling facilitates efficient handling of highly viscous fluids with lower maintenance requirements in a compact size

K-SPEX SPIRAL HEAT EXCHANGERS

Difference Between the K-SPEX spiral heat exchangers vs other conventional heat exchangers:

	Shell & Tube Heat Exchanger	Gasketed Plate Heat Exchanger	Welded Plate Heat Exchanger	K-SPEX Heat Exchanger
				
Two Phase Applications	+	–	–	+
Close Temperature Approach	–	+	+	+
Operating Pressure	++	–	+	+
Products With Solid Particles	+	–	–	++
Products With High Viscosity	+	–	–	++
Uniform Temp Distribution	—	+	+	++
Smaller Footprint	—	+	+	+
Less Deposition Fouling	—	+	+	++
High Heat Transfer Coefficient	–	+	+	+

KINAM'S PRODUCT RANGE



CORRUGATED TUBE HEAT EXCHANGER

KICC
The most efficient condenser



THE SPIRAL HEAT EXCHANGER

K-SPEX



PHE (PLATE HEAT EXCHANGER)

K-PEX



KIC-BOX HEAT EXCHANGER

KIC BOX
CONDENSER



KINAM'S CONDENSING SYSTEM

KCS

K-PEX
Plate Heat Exchanger

PHE - PLATE HEAT EXCHANGER

Reduce Your Capex By Using K-PEX!!

Advantages:

- Low Investment
- Compact
- Spare part readily available
- High Heat Transfer Coefficient
- Near Perfect Temperature Approach
- High Turbulent Flow

PHE Manufacturing Capabilities:	
Port Sizes	25NB to 500NB
Type	Gasketed
Gasket Material	Various grades of NBR, EPDM and Viton
Material	Titanium Gr 1 and 11, SMO, Duplex, Hastelloy, SS



KINAM'S PRODUCT RANGE



CORRUGATED TUBE HEAT EXCHANGER

KICC
The most efficient condenser



THE SPIRAL HEAT EXCHANGER

K-SPEX



PHE (PLATE HEAT EXCHANGER)

K-PEX



KIC-BOX HEAT EXCHANGER

KIC BOX
CONDENSER



KINAM'S CONDENSING SYSTEM

KCS

KIC BOX CONDENSER

KIC-BOX HEAT EXCHANGER

Integrated with the new Corrugated Tube Technology

Kinam Introduces India's First KIC-Box Condenser, specifically designed for the Pharmaceutical Industry.

Box Type Condensers integrated with Kinam's KICC Corrugated Tube Technology are designed to be a one-stop solution for all Pharmaceutical Condensing needs.

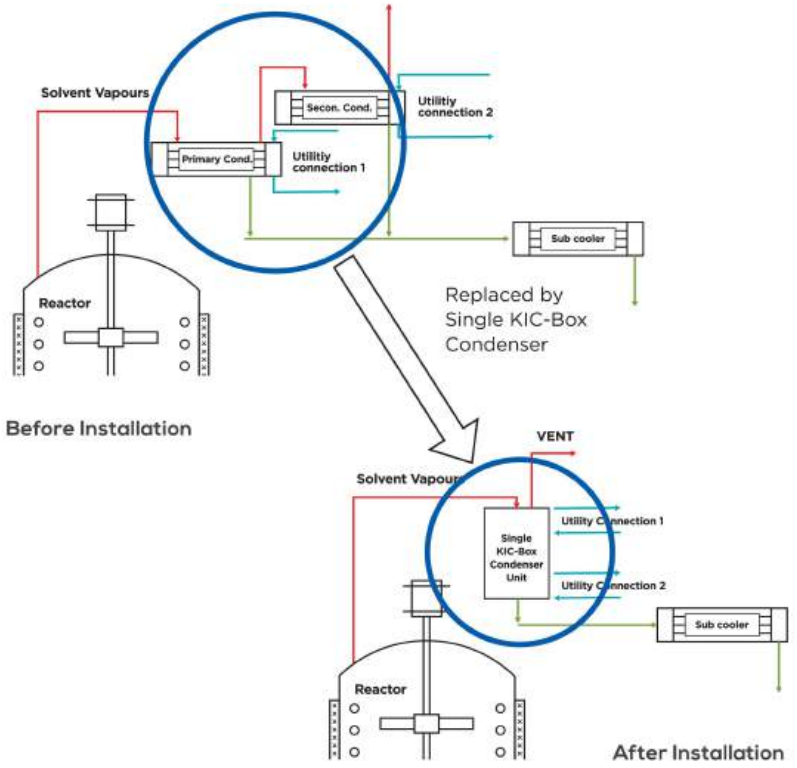




KIC-BOX HEAT EXCHANGER

KIC-Box Heat Exchangers replace the Primary and Secondary Condensers in a Solvent Recovery System.

Here as you can see in the image on the right the primary and secondary condensers are replaced by a single Box-Type HE Unit. This saves **cost** and **space**.

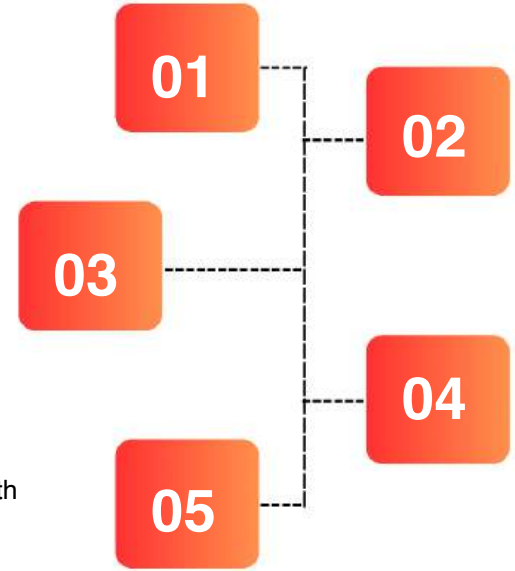


WHY KIC-BOX HEAT EXCHANGER
ADVANTAGES & FEATURES

Compact Design
- Reduced size of Heat Exchangers by 30-40%

Cleanability
- Higher Response to CIP Cleaning

Fully Drainable
- 100% Drainable on both sides



Economical
- Up to 30-50% Savings

Efficiency
- Higher Condensation Efficiency through Cross Flow

KIC BOX CONDENSER

KIC-BOX HEAT EXCHANGER







40 Qty supplied to reputed pharma company in Hyderabad

KINAM'S PRODUCT RANGE



CORRUGATED TUBE HEAT EXCHANGER

KICC
The most efficient condenser



THE SPIRAL HEAT EXCHANGER

K-SPEX



PHE (PLATE HEAT EXCHANGER)

K-PEX



KIC-BOX HEAT EXCHANGER

KIC BOX CONDENSER



KINAM'S CONDENSING SYSTEM

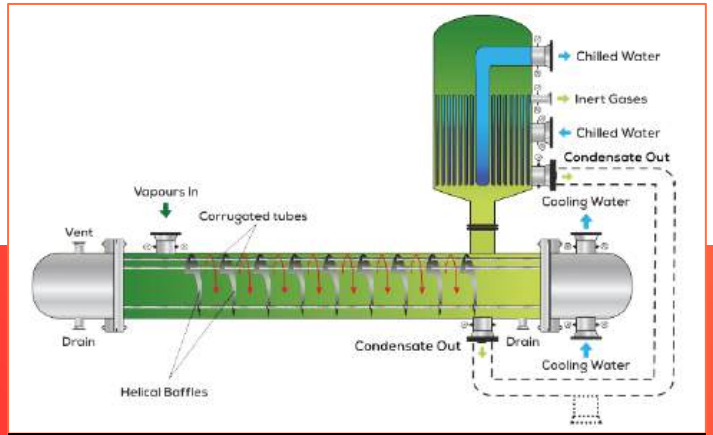
KCS

KINAM'S CONDENSING SYSTEM

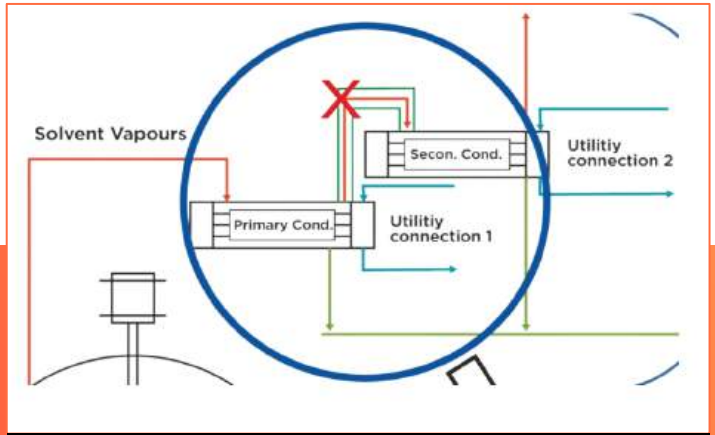
Design Patented by Kinam

Powered with **Helikorr** and **Spiraleco**

Next-Generation Condensing System Driving Efficiency in Chemical & Pharma Plant



Kinam's Condensing System



Conventional Condensing System



KINAM'S CONDENSING SYSTEM

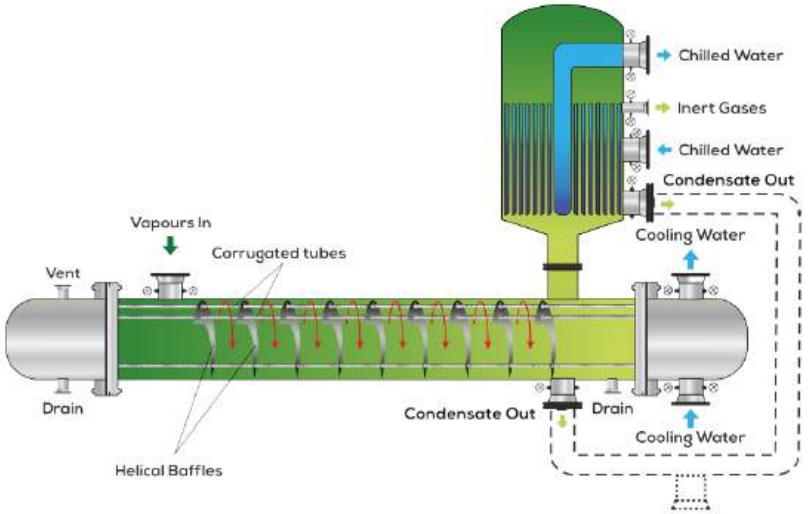
KCS™ Condensing System

- **High Recovery:** Low solvent losses
- **Efficiency:** Up to 30% higher heat transfer rates compared to conventional systems.
- **Compact Design:** Space-saving configuration.
- **Sustainability:** Reduced energy consumption and environmental impact. Low utility consumption (Less OPEX)

KCS™

ADVANTAGES

- **Higher HTC** on shell (helical baffles) and tube (corrugations).
- **Eliminates dead zones**.
- **Low-pressure** drop on vapour side.
- **Accelerates condensation** with helical vapour flow.
- **Enhanced Dropwise Condensation** due to Corrugated Tubes.
- **Fully drainable**.
- **Reduces fouling** & Self-cleaning effect.
- **Higher subcooling** for improved performance.
- **Removes piping** between primary and secondary condensers.
- **Lower Operating Cost**.





CASE STUDY

SOLVENT RECOVERY		Conventional Primary & Secondary	Case 1 - KCS Design with Optimized Area	Case 2 - KCS Design with Same Area
PRIMARY AREA	m2	25	15	25
SECONDARY AREA	m2	5	3	5
Solvent Recovery Calculation				
Batch Mass . Solvent Flow	kg/hr	1582		
Non Cond. Load	kg/hr	3		
Operating Pressure	mmhg	760		
Vapour Inlet Temp	Deg. C	64.7		
Primary Condensate Outlet	Deg. C	45		
Secondary Condensate Outlet	Deg. C	30	25	15
Vapour Temperature Out From Secondary	Deg. C	30	25	15
Condensate Liquid Out	kg/hr	1576.7	1577.62	1578.58
Outlet Vapour Flow	kg/hr	5.3	4.38	3.42
Solvent Loss	kg/hr	2.30	1.38	0.42
Utility Consumption				
COOLING WATER	KG/HR	87746	73200	73200
CHILLED WATER	KG/HR	17919	15177	13728
% SAVING IN UTILITY - APPROX	%		17	24



CASE STUDY

SPACE IMPACT		Conventional Primary & Secondary	Case 1: KCS Design with Optimized Area	Case 2: KCS Design with Same Area
PRIMARY AREA	m2	25	15	25
SECONDARY AREA	m2	5	3	5
SPACE REQUIREMENT FOR INSTALLATION OF PRIMARY AND SECO. HEX				
Primary DIMENSIONS	(L X W X H) mm	2800 X 750 X 800	2800 mm x 500 x 1200	3000 mm x 750 x 1500
SECONDARY DIMENSIONS	(L X W X H) mm	1700 X 450 X 300		
TOTAL PLOT AREA REQUIED FOR INSATALLATION (ref. Image)	(L X W X H) mm	3000 mm x 1500 x 1500		
In Volume (Space Requiement)	m3	6.75	1.68	3.375
Saving In Plot Space	%	NA	75	50
Primary Cost	INR	450000	371429	514286
Secondary	INR	166250	150000	228571
Piping	INR	60000	25000	25000
Total Capex	INR	676250	546429	767857
CAPEX Decreased	INR		**129821**	**– 91607**
CAPEX Decreased	%		**19.20**	**–13.55**



CASE STUDY

CAPEX | OPEX | ROI		Case 1 KCS Design with Optimized Area (Low CAPEX)	Case 2 KCS Design with Same Area
PRIMARY AREA	**m2**	**15**	**25**
SECONDARY AREA	**m2**	**3**	**5**
Solvent Recovery	Kg/hr	0.92	1.88
Solvent Recovery in Lit	Lit/hr	1.06	2.16
Solvent Rate	INR/Lit	75	75
Cost Saved per Day	INR / Day	952	1945
Money Saved Yearly	INR	2.85 Lacs	5.85 Lacs
ROI In Months	Months	19 Months	13 Months (47 Days - Extra Cost)

SPECIALIST IN EXOTIC MATERIALS

Material Handled :

Titanium I Hastelloy * I Inconel * I Monel * I Nickel 200 I Duplex I Super Duplex I Other Cu-Ni- alloys



Titanium Tube Bundle for chlorine recuperator (With PP baffles)



Titanium Corrugated Tube Heat Exchanger for Desalination Pilot Plant

SPECIALIST IN EXOTIC MATERIALS



C-22 Condenser with Corrugated Tubes



C-276 Reboiler

SPECIALIST IN EXOTIC MATERIALS



Incolloy 850
Heat Exchanger



90:10 Cupro-Nickel
Heat Exchanger

SPECIALIST IN EXOTIC MATERIALS



Duplex Heat Exchanger with Titanium Tubes

Super Duplex Heat Exchanger



SPECIALIST IN EXOTIC MATERIALS



Kinam's HammerHead / Column Top Mounted Primary Condenser & Vent Condenser



Fuel Gas Heater supplied to Oil & Gas Industry in Nigeria
Operating pressure: 145 bar

SPECIALIST IN EXOTIC MATERIALS



Heat Exchanger with 5 convolution Thin bellow arrangement

Kettle type Reboiler with Limpet Coil Jacket



CRITICAL HEAT EXCHANGERS



Both side kettle type construction with davit arm for bonnets.

CRITICAL HEAT EXCHANGERS

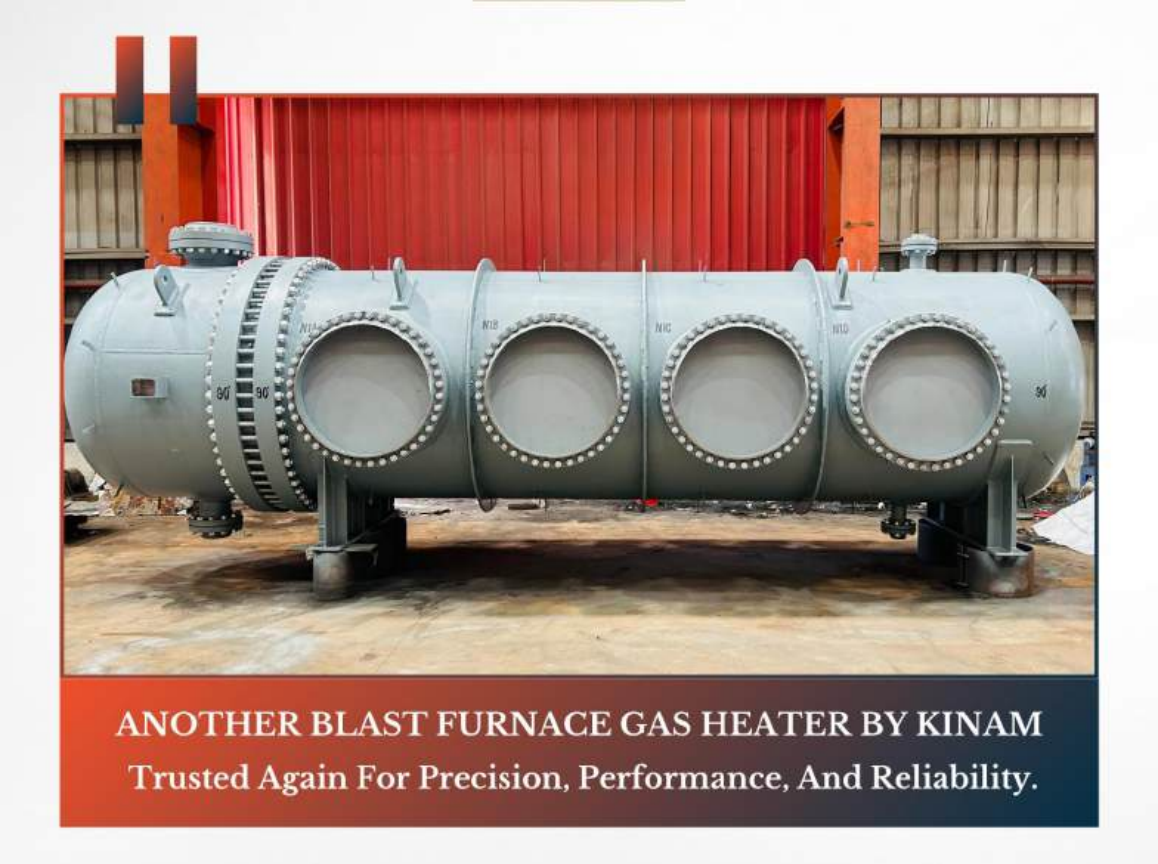


Heat Exchanger with Sparger Arrangement





CRITICAL HEAT EXCHANGERS



Lethal Service

CRITICAL HEAT EXCHANGERS



Lethal Service

CRITICAL HEAT EXCHANGERS



573 m2 Tubular Reactor in Inconel 600

CRITICAL HEAT EXCHANGERS



Chlorine Liquifier used in Refrigeration process

CRITICAL HEAT EXCHANGERS



Supply to Chemical Company
530m2
15 Meters Total Length of Equipment

Critical + Colossal



Pre-heater 2200m 2
Operating Temperature – 900^{0}C
MOC - Stainless Steel 310
Weight – 56 tonnes
Exported to Copper mine at Zambia

RECENT EXECUTION



Supply to Chemical Company
262m2 – 2 Nos

Supply to Fertilizer Company
662m2 – 1 Nos



RECENT EXECUTION



RECENT EXPORT



Falling Film Evaporator exported to Malaysia with DOSH Certification

RECENT EXPORT



12 nos. Heat Exchanger for Gold slurry application, Exported to Kazakhstan

RECENT PROJECT UNDERTAKEN

Kinam was awarded to Design and Manufacture Heat Exchangers for India's Largest Phenol Plant Project, Olefin conversion unit and Cumene plant.

Total Order Value
61 Cr

- India's latest Phenol plant project, valued at $365 million, targets an annual production of 300,000 tonnes of phenol.
- Kinam played a crucial role in designing all 31 Heat Exchangers for this project.
- Manufacturing is currently under process as per IBR.



RECENT PROJECT UNDERTAKEN

Applications Covered-

Acetone Recovery Column Reboiler
Cumene AMS Topping Column Start-Up Reboiler
Pure Phenol Column Condenser
Acetone Stripper Reboiler
Feed Cumene Heater
CHP Evaporator
Raw Acetone Column Reboiler
Raw Acetone Feed Evaporator
Pure Acetone Column Reboiler
Phenol Recovery Column Reboiler
Acetone Reactor Preheater
Raw Phenol Column Condenser
Phenol Extraction Column Reboiler
Glycol Recovery Column Reboiler
Glycol Recovery Column Condenser
Phenol Extraction Column Feed Preheater
Pure Phenol Column Vent Condenser
Water/ Acetone Vent Cooler
Phenol Slop Cooler
Cumene AMS Topping Column Condenser
Acetone Vent Condenser
Cumene AMS Topping Column Interchanger
Raw Acetone Column Vent Condenser

Total Order Value

61 Cr

Kinam is manufacturing one of it's largest Heat Exchanger till date with more than 10,000 tubes with a Heat Transfer Area of 3,654 m2

RECENT PROJECT UNDERTAKEN





Kinam is manufacturing one of it's largest Heat Exchanger till date with more than 10,000 tubes with a Heat Transfer Area of 3,654 m2

RECENT PROJECT UNDERTAKEN







RECENT PROJECT UNDERTAKEN



OUR ESTEEMED CLIENTELE



OUR ESTEEMED CLIENTELE

Fertilizer













Petrochemicals

























EPC

























PROJECTS EXECUTED UNDER CONSULTANTS

Uhde India Ltd.

- Deepak Fertilisers & Petrochemicals
- Lanxess India Private Limited.
- Kanoria Chemicals & Industries Ltd.
- IOCL - Digboi / Guwahati
- Gujarat Narmada Valley Fertilizers Company
- Bharat Petroleum Corporation Ltd.
- Nagarjuna Oil Corporation Ltd.
- Utkal Alumina International Ltd.
- (Gulf Farabi) Farabi Petrochemical Company
- IOCL – BRPL
- Jayashree Chemicals Ltd
- Nirma Ltd.
- Evergreen Oil,
- WCPM - West Cost Paper Mills
- Bihar Caustic and Chemicals Ltd.
- IOCL - PBR Project, Panipat

Shroff & Associates (Engineers) Pvt. Ltd

- Dorf Katal Speciality Catalyst Pvt. Ltd.
- Piramal Healthcare Ltd.
- Chemplast Sanmar Ltd.
- Atul Ltd.
- Firmenich Aromatics India Pvt. Ltd.
- Eco Oil Processors, Sdb Bhd Malaysia
- Sequent Scientifics
- Glenmark Pharmaceuticals Ltd.
- Sandoz Pvt. Ltd.
- Nicholas Piramal India Ltd.
- Cadbury India Ltd.
- UPL Ltd.
- Dai Ichi Karkaria Ltd.
- Akry Organics Pvt. Ltd.
- Sarex Overseas
- Laxmi Organics

PROJECTS EXECUTED UNDER CONSULTANTS

Chemtex Global Engineering of India Ltd.

- Alok Industries Ltd.
- Aditya Birla Chemical Ltd., Thailand
- Reliance Jamnagar
- Reliance Kakinada
- Reliance Silvassa
- B & V - USA
- Momentive Performance Materials
- Bombay Dyeing & Manufacturing Co. Ltd.

Aker Solutions

- Gujarat Fluorochemicals Ltd.
- Supreme Petrochem Ltd.
- Century Pulp & Paper
- The Andhra Petrochemicals Ltd
- VVF Limited.
- Bayer Vapi Pvt. Ltd.
- Elementis Specialties (India) Pvt Ltd
- Perstorp Industries India Pvt Ltd
- IG Petrochemicals Ltd

Mott Macdonald Pvt. Ltd.

- Gujarat Alkalies & Chemicals Ltd.
- Shreyas Intermediates Ltd.
- Hikal Ltd.
- PPG Asian Paints Pvt. Ltd.

Y Chem Consulting

- Punagri Organics Pvt Ltd
- Bluejet healthcare Ltd
- Neuland Laboratories Ltd

PROJECTS EXECUTED UNDER CONSULTANTS

Jacobs Engineering India Pvt. Ltd.

- Grasim Industries Ltd.
- Asian Paints Pvt. Ltd.
- Laxmi Organics Industries Ltd.

Quanta Process Solution Pvt. Ltd.

- Alkyl Amines Chemicals Ltd.
- UPL Ltd.

Toyo Engineering India Ltd.

- Haldia Petrochemicals Limited.
- Piramal Healthcare Ltd.

Tata Consultancy

- Asian Paints Ltd.
- Navin Fluorine International Ltd.

Technip

- Chemplast Sanmar Limited
- Mansoura For Resins & Chemical , Egypt
- Industries Co. S.A.E.-Egypt
- Grasim Industries Ltd

Knexir Consultant Pvt. Ltd.

- Fresenius Kabi Oncology Ltd.
- Thinq Pharma CRO Ltd.
- Unichem Laboratories Ltd.
- Clean Finochem Ltd

PROJECTS EXECUTED UNDER CONSULTANTS

TUV

- IOCL – Digboi / Guwahati
- Wockhardt Ltd.
- Deepak Nitrite Ltd.
- ECO Oil Malaysia

Chemplant Project Consultants

- Firmenich Aromatics India Pvt. Ltd.

L & T Hydrocarbon Engineering Ltd.

- Aarti Industries Ltd.

TESTIMONIALS

" Kinam has supplied us Titanium Heat Exchangers for Chlorine Recuperator and we are satisfied with their overall performance. Their Welding quality and finish in Titanium is remarkable & recommendable. "

Mr. Nimai Panigrahi, GM Projects
Grasim Industries Ltd. Aditya Birla Group

"Uhde India P Ltd." is associated with 'Kinam' since 30 years. Kinam has been an asset to UIPL as it has always displayed consistent performance in quality and timely delivery for manufacturing various process equipment. "

Mr. D.K. Julka , Sr. Manager - Divisional Head, Project Management
Uhde India (P) Ltd

" Kinam has been supplying Corrugated Tube Heat Exchangers since last 7 years to our various plants at Dabhasa, Mandideep, Ankleshwar, Tarapur & Visakhapatnam. We recommend Corrugated Tube Heat Exchangers over the traditional shell & tube heat exchangers looking at the performance for our solvent recovery applications. "

Mr. Prabhat Jain, Sr. Manager Projects
Lupin Limited

TESTIMONIALS

" Kinam has been our essential partner, manufacturing Hastelloy & Inconel 600 Heat Exchangers for our critical process applications . Kinam has always displayed consistent performance in quality & timely delivery "

Mr. Roshan Adhikari, GM Corporate Planning
Navin Fluorine International Ltd.

"Kinam has been our regular trusted vendor for Shell & Tube Heat Exchangers since 15 years . We prefer 'Kinam. For their excellent quality, price competitiveness & Assured delivery "

Mr. R. Raghuvan, VP - Projects
shroff & Associate Pvt. Ltd.

"Kinam is a reliable manufacturer of plain and corrugated tube heat exchangers. Their focus and specialization in heat exchanger products has helped to deliver quality, competitive price and performance "

Mr. Arun Waghmare, VP – Technology and Projects
Pidilite Industries

OUR CONTRIBUTION TOWARDS A GREEN FUTURE



Laxmi Organics



Shroff & Associates



Nira Lifescience



Aarti Industries

Vinati Organics



Formel Labs



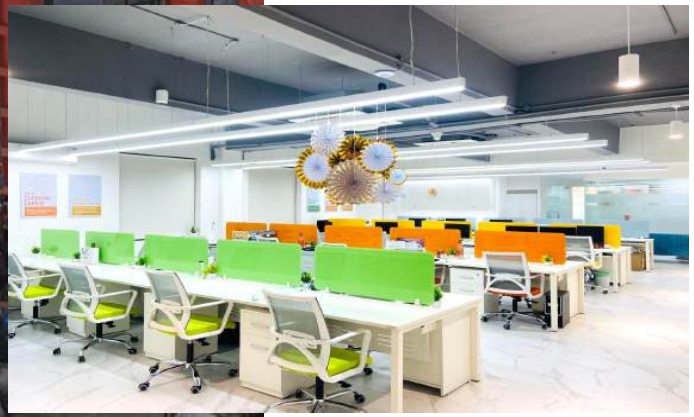


JJ Lurgi

ABB











Your Questions, Our Solutions:

LET’S TALK HEAT EXCHANGERS