The heat exchanger specialist

INNOVATING SINCE 1981

45 YEARS OF EXCELLENCE

A Member of HTRI

The Most Efficient Condenser

KICC

CORRUGATED TUBE HEAT EXCHANGER

Substantially Reduce Your Heat Transfer Area

Save Upto 30% On Your Initial Investment

Reduced Fouling

KICC Technology

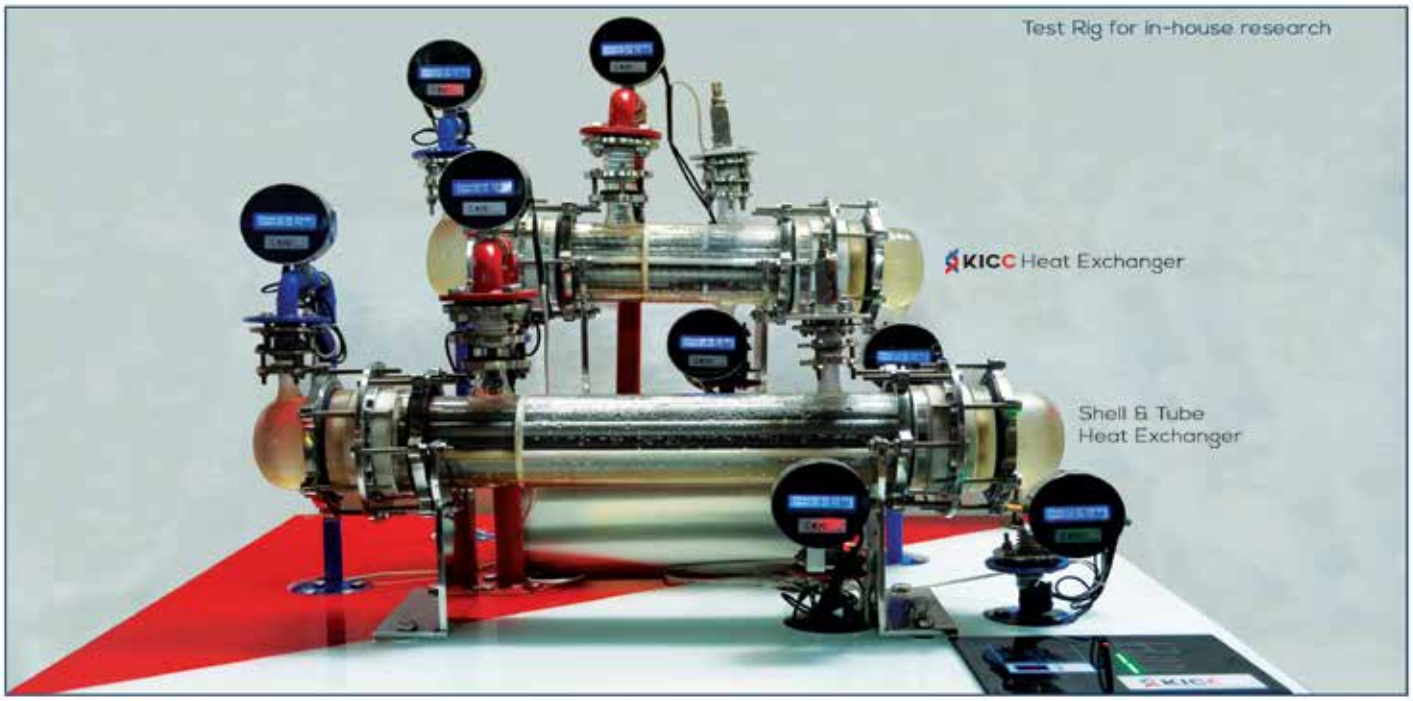
Corrugations are produced by indenting the tube along the length in a helical pattern with the use of special machine designed for corrugation of the tube without thinning of wall or development of stresses in the tube. The helical pattern of the corrugations and the optimal depth of the indentation causes a two regime flow in the tube side fluid, spiral at core and eddies at the periphery creating turbulence even at a lower velocity of fluid resulting in higher Heat Transfer Coefficient

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 applications

What is New?

New and improved corrugation profile for condensers resulting in even higher heat transfer coefficient.
Compact and economical design, hence higher savings.
Manufacturability in all exotic materials like Hastelloy. Titanium, Tantalum and Super Duplex Steels etc.



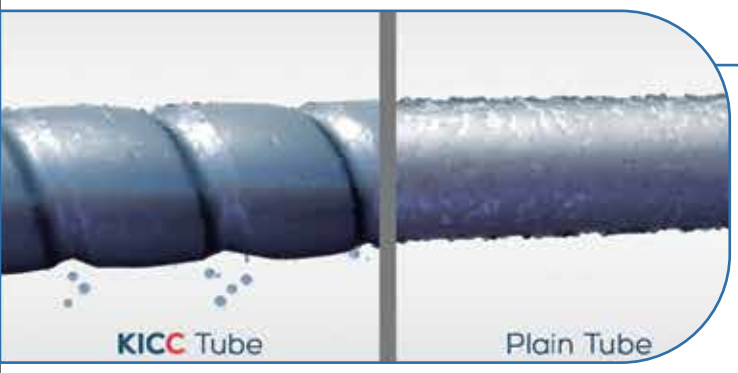
One of the test results of our extensive research had the following outcome:

Condenser Type	Shell side flow rates		Shell side Temp		Cooling Water temp		Tube length	No. of tubes	Heat Transfer Coefficient Kcal/h-m2-C
	Steam In	Condensate Out	Steam In	Condensate Out	In	Out			
STHE	13 kg/hr	12.2 kg/hr	98.75°C	97.9°C	23°C	33°C	570mm	7	423.8
KICC	13.2 kg/hr	12.5 kg/hr	98.75°C	96.75°C	23°C	32.6°C	300mm	7	1.9 Times x 423.8

Why KICC?

Higher Heat Transfer Coefficient.

Turbulent flow inside the corrugated tubes due to it's helical indentation enables a more effective mixing & agitation resulting in a high heat transfer coefficient.

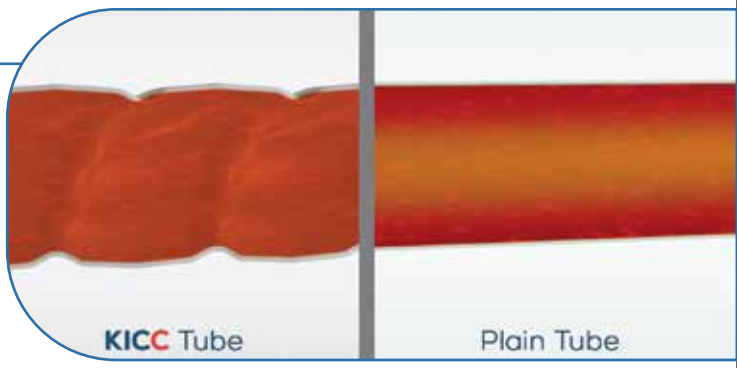


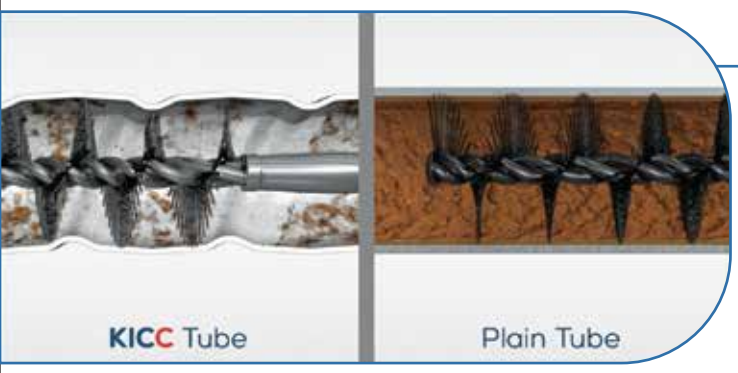
Drop Wise Condensation

Drop wise condensation resulting in better condensation compared to thin film formation in plain tubes. The corrugation provides a channel to the condensate layer formed on the surface of tube, always providing a fresh ne surface for the vapours condense.

Equal Temperature Distribution

Even temperature distribution due to flow pattern, since new layers come in contact with the tube boundary.

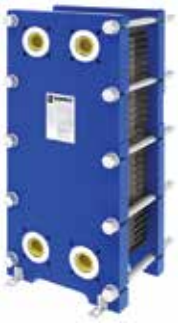




Lower Fouling

Higher periphery turbulence does not allow the suspended solid particle in the tubes to settle, thus giving is a self-cleaning effect which results in reduced fouling that ensure longer running time. Easier to clean due to intermittent scaling as compared to Plain tube.

KICC combines best advantages of PHE and 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 +

KICC series:

KICC series for condensing applications
KICH series for heating and cooling applications
KICF series for food processing and pasteurization applications

Applications:

- Solvent Condenser
- Product Cooler
- Heat Recovery Applications
- Surface Condenser
- Feed Pre-Heater
- Process Heater

And more

OFFICE:
Kinam Engineering Industries Private Limited
Part-01, 1st Floor, Sion Garage Building, Above Croma, Sion Koliwada, Plot No. 112, Sion, Mumbai - 400022
T: +91-22-46177689 / 022 46177688 / 022 46177687

FACTORY:
Plot No. M-4, MIDC, Pale Phase-III, Industrial Area, Additional Ambernath, Village – Pale,
Taluka Ambernath, District – Thane 421506, India.

www.kinam.in | sales@kinam.in