

PRIMARY & SECONDARY CONDENSER IN SINGLE UNIT

Introducing

**KIC
BOX**

CONDENSER



Integrated with
new corrugated tube
technology

1. Compact Design

Reduced Size of HE by 30-40%

2. Economical

Up to 30-50% Savings

3. Single unit of KIC-Box

Replaces Primary and Secondary Condensers

4. Fully Drainable

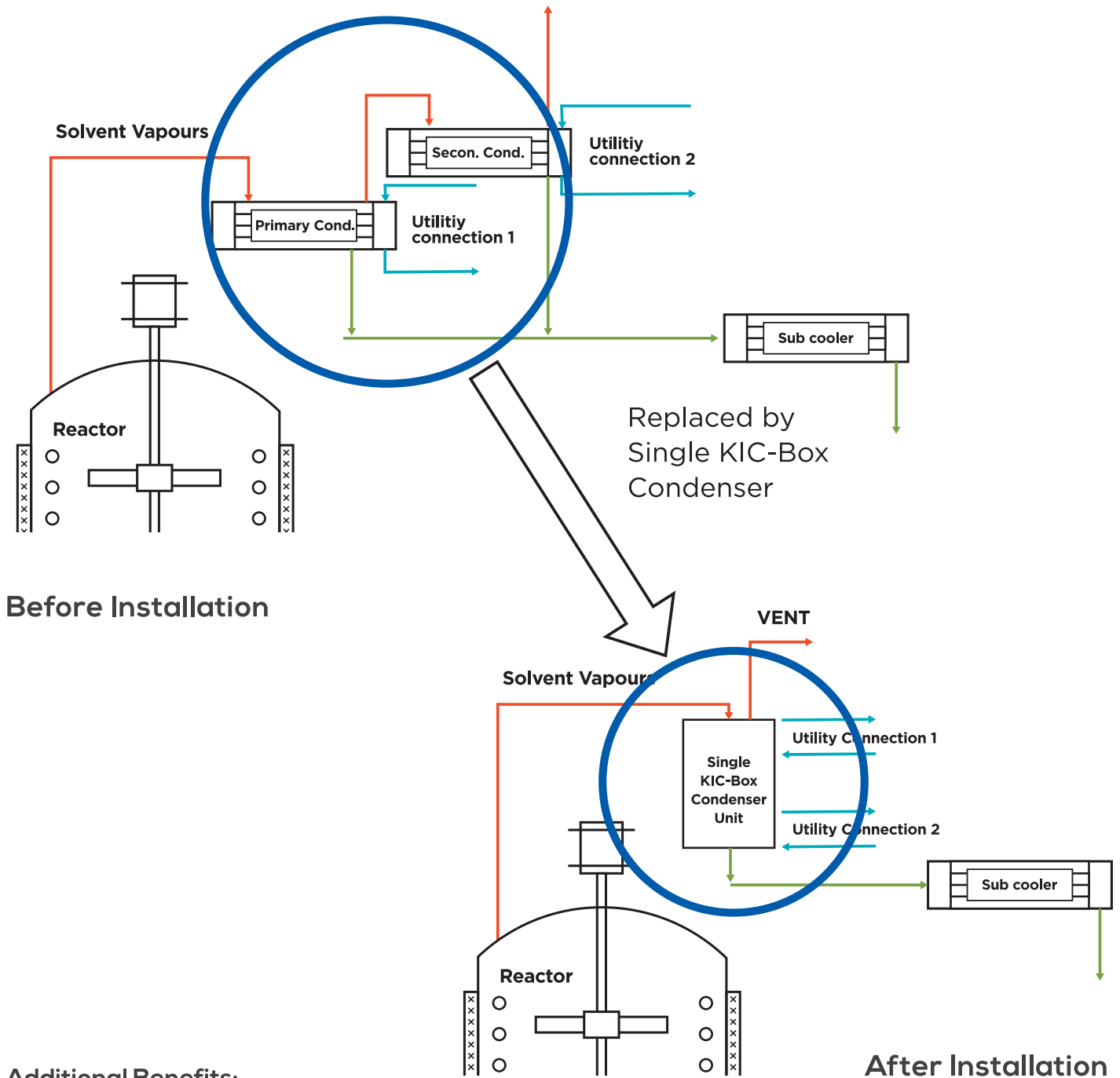
100% drainability on both sides



With thermal design and process guarantee

Where it is used?

KIC-Box is your one-stop solution for all Pharmaceutical condensing needs!
Box type heat exchangers replace the primary and secondary condensers in the solvent Recovery System.



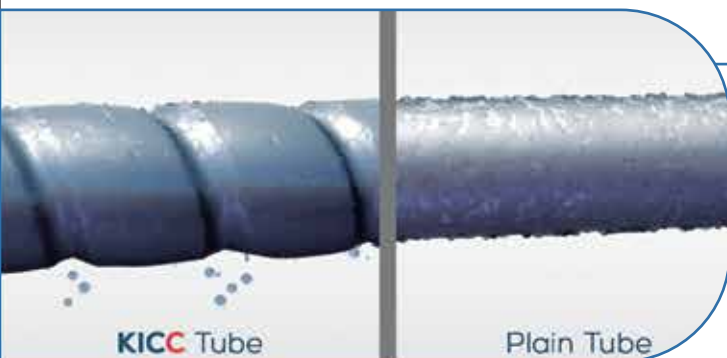
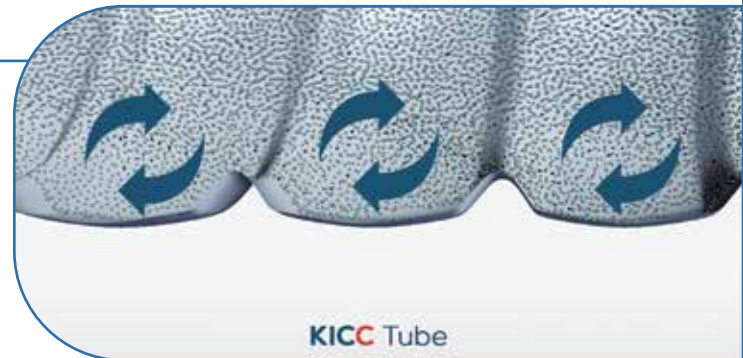
Additional Benefits:

1. Higher Condensation Efficiency through Cross Flow.
2. Higher response to CIP Cleaning.

Why corrugated tubes in KIC-Box?

Higher Heat Transfer Coefficient.

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

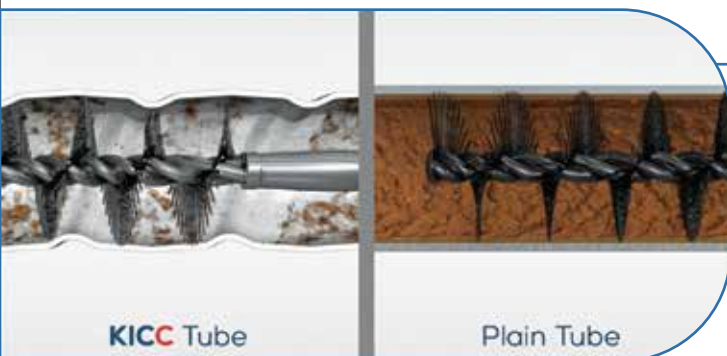
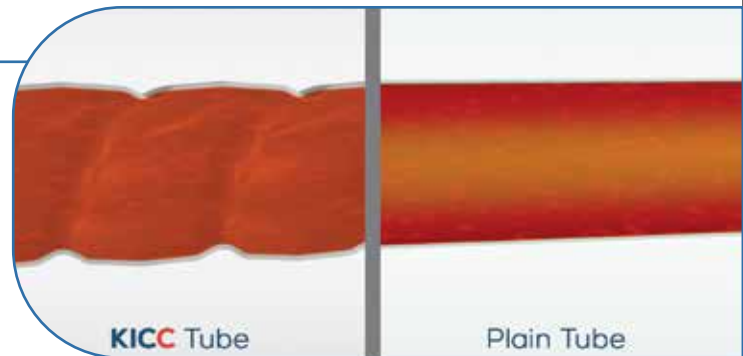


Drop Wise Condensation

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.

KIC-Box Condensers are specifically designed for the needs of the Pharmaceutical Industry

	Shell & Tube Heat Exchanger	Welded Plate Heat Exchanger	KIC-Box Condenser
			
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 -	No -
High Temperature Application	Yes +	No -	No -
Maintenance Cost	Low +	High -	Low +
Suitability	All Applications +	Only for clean service -	Only Condensing Applications +
Cross Flow Pattern	No -	No - cross flow -	Yes +
Drainability	Partial -	No - Drainability -	Full +
Cost	High -	Low cost +	Low +

OTHER PRODUCTS BY KINAM:



Shell & Tube Heat Exchanger:

The most conventional type of heat exchanger suitable for high temperature and high pressure conditions.



KICC Corrugated Tube Heat Exchanger:

Enhanced corrugated tube heat exchanger offering higher heat transfer coefficient resulting in a compact and economical heat exchanger.



K-SPEX Spiral Heat Exchanger:

Kinam's next generation compact heat exchanger with counter-current flow & higher heat recovery than conventional heat exchangers

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