ORCINUS PROCESS TECHNOLOGIES PRIVATE LIMITED

Company Profile

PROCESS DESIGN, ENGINEERING AND MANUFACTURING OF THE PROCESS EQUIPMENTS IN CHEMICALS, PETROCHEMICALS AND PHARMACEUTICAL INDUSTRIES

Orcinus Process Technologies Private Limited is the quality-oriented company offering Process Design, Engineering, and Manufacturing of the Process Equipment's in the field of Distillation, Extraction, Absorption, Evaporation, Heat Exchangers, Reaction System, Mixing Technologies, Pusher Centrifuges, and Water Treatments Application. As a customer-focused organization we strive to fully understand our customer′s needs to better anticipate their requirements. We also offer Process Solutions with our in house application like Engineering and Technical support services to create a competitive advantage. Our success is based on the close and continuing interaction with our customers by giving them our innovative solution and product with a competitive price. Our Process Equipment's range includes

- DISTILLATION & FRACTIONATING COLUMNS
- ABSORPTION AND SCRUBBING COLUMNS
- LIQUID-LIQUID EXTRACTION COLUMNS
- HEAT EXCHANGERS
- REACTORS
- MIXING TECHNOLOGIES
- AGITATORS
- EVAPORATORS
- PUSHER CENTRIFUGES
- SPRAY BALL AND INLINE HOMOGENIZER
- BEVERAGE AND BREWERY PROCESS EQUIPMENT
- WATER TREATMENTS EQUIPMENTS
- ALL TYPE OF PROCESS VESSELS AND STORAGE TANKS

DISTILLATION AND FRACTIONATING COLUMN

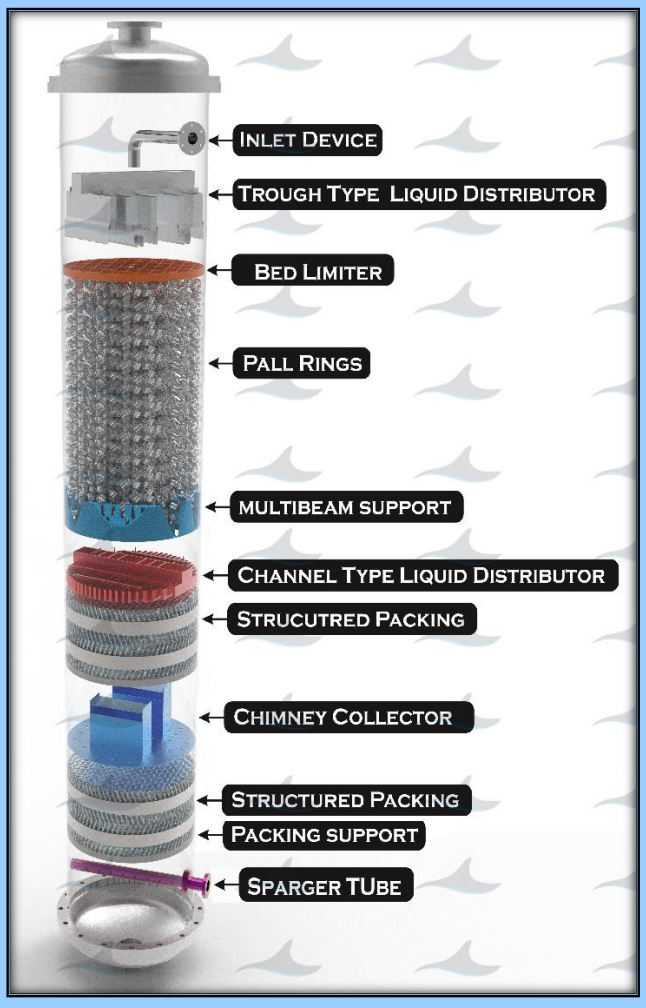
A Distillation Column is equipment used in the separation of liquid mixtures into its component parts, or fractions, based on the differences in volatilities. There are many types of distillation columns each designed to perform specific types of separations and each design differs in terms of complexity.

BATCH COLUMNS

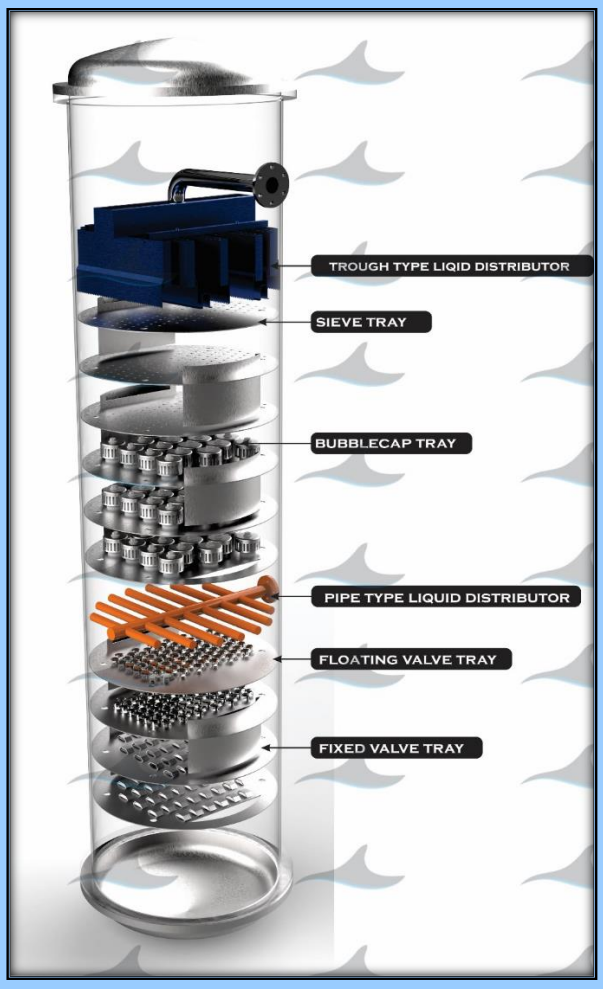
In batch operation the feed to the column is introduced batch-wise. That is the column is charged with a 'batch' and then the distillation process is carried out.

CONTINUOUS COLUMNS

In continuous columns process a continuous feed stream. No interruptions occur unless there is a problem with the column or surrounding process units. It is capable of handling high throughputs.



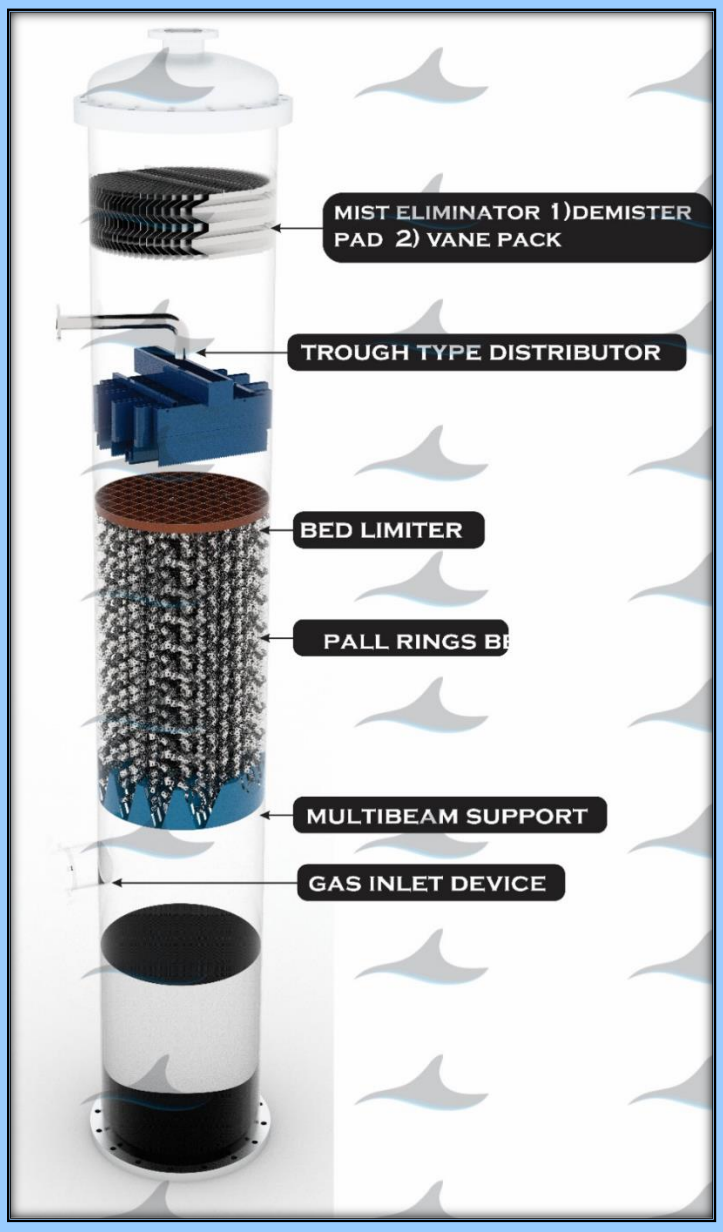
PACKED COLUMN



TRAY COLUMN

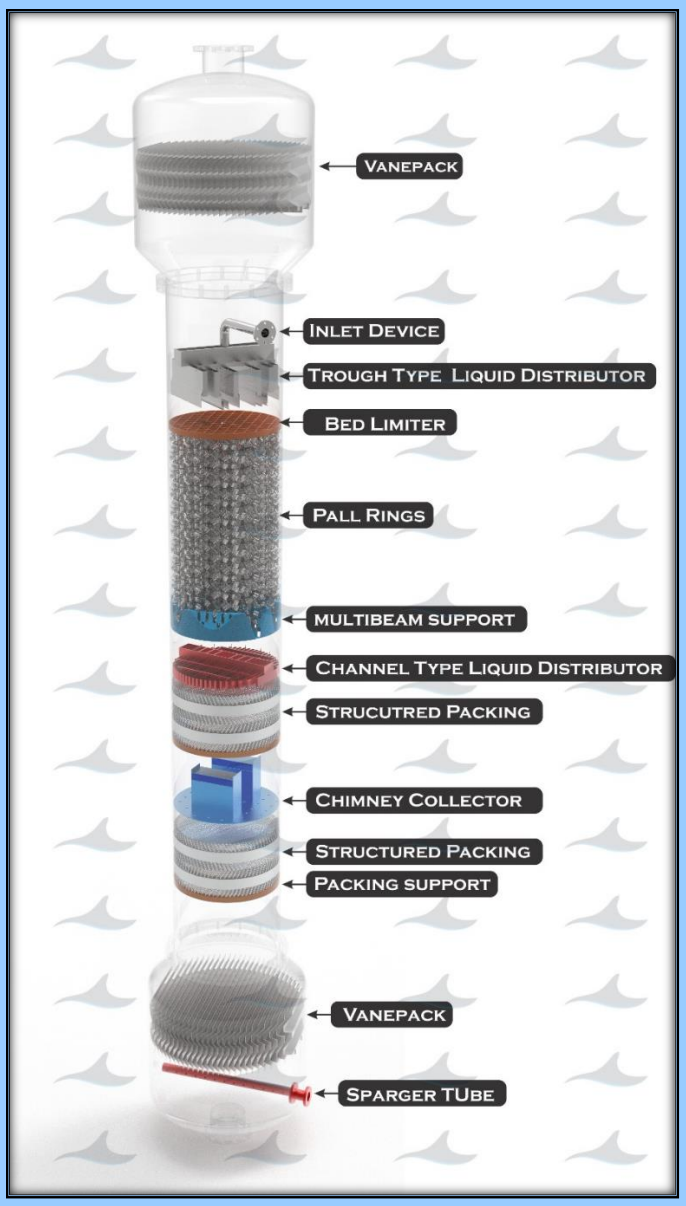
ABSORBTION AND SCRUBBING COLUMN

A long vertical column used in industry for absorbing gases. The gas is introduced at the bottom of the column and the absorbing liquid, often water, passes in at the top and falls down against the countercurrent of gas. The towers are also known as scrubbers. In that operating pressure should be high and temperature low for an absorber to minimize stage requirements or absorbent flow rate to lower the equipment volume required accommodating the gas flow.

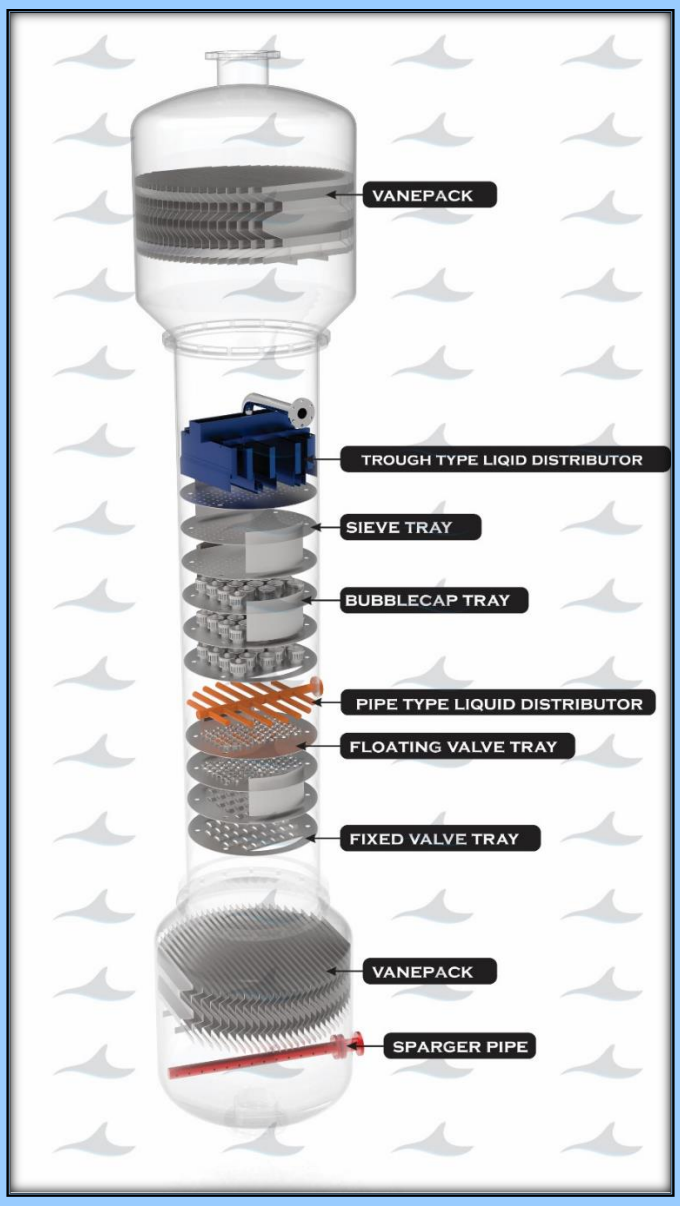


LIQUID-LIQUID EXTRACTION COLUMN

Liquid–liquid extraction (LLE) also known as Solvent Extraction and it is a method to separate compounds or metal complexes based on their relative solubility in two different immiscible liquids usually water and an organic solvent. The key elements to successful LLE are solvent selection and effective mass transfer. The solvent needs to be able to extract the desired solute from the feed stream, be immiscible with the other components of the feed stream, and have high recoverability.



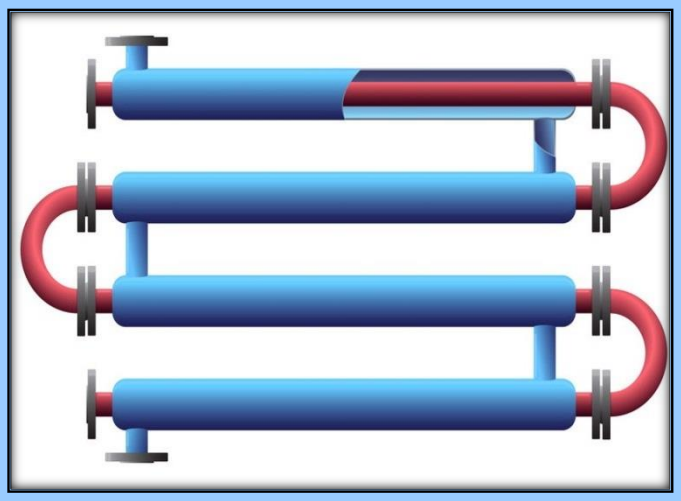
PACKED COLUMN



TRAY COLUMN

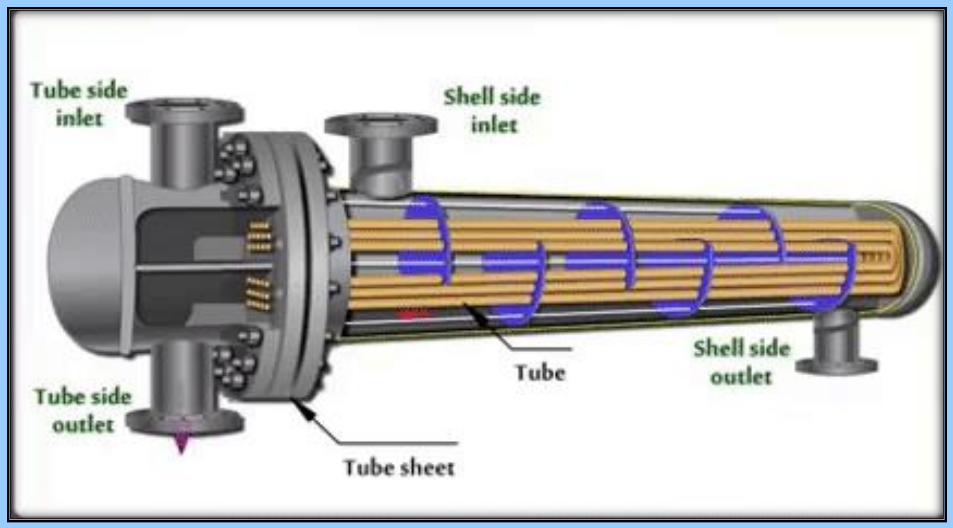
HEAT EXCHANGER

A Heat exchanger is a device that allows heat from a fluid (a liquid or a gas) to pass to a second fluid (another liquid or gas) without the two fluids having to mix together or come into direct contact. Types of Heat Exchanger are classified below.



Double pipe Heat Exchanger

Plate Heat Exchanger



Shell and Tube Heat Exchanger

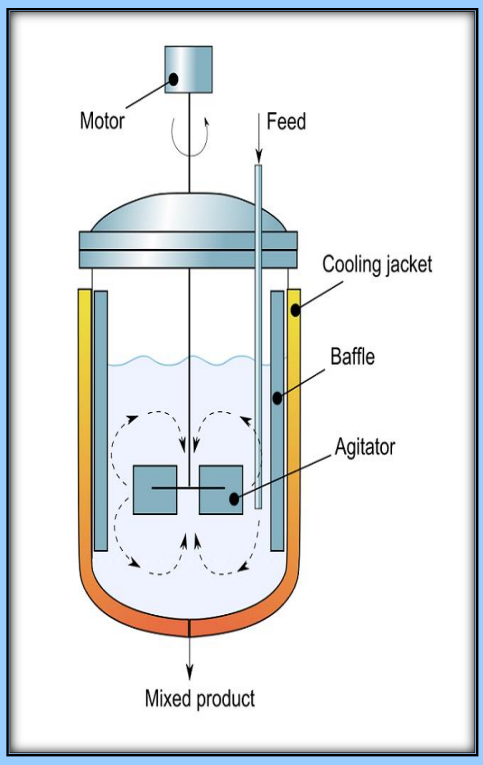
REACTORS

In chemical engineering it is generally understood to be a process vessel used to carry out a chemical reaction which is one of the classic unit operations in chemical process analysis.

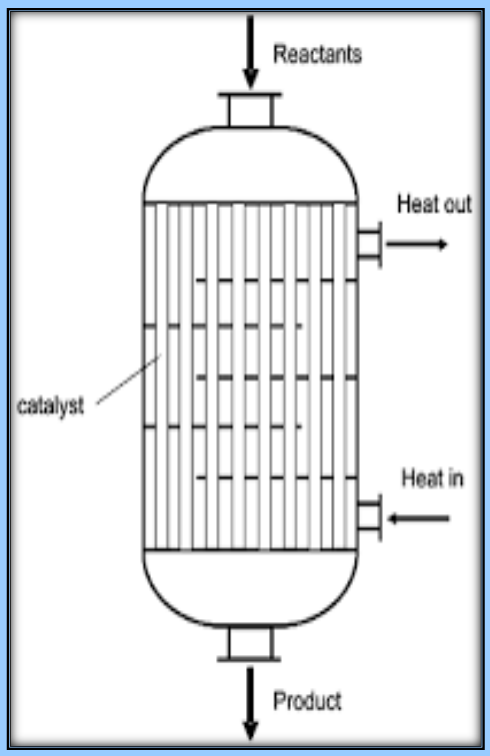
Types: 1) Batch Reactor 2) Continuous Stirred Tank Reactor (CSTR) 3) Catalytic Reactor

The simplest type of reactor is a batch reactor. Materials are loaded into a batch reactor and the reaction proceeds with time. In a CSTR one or more fluid reagents are introduced into a tank reactor which is typically stirred with an impeller to ensure proper mixing of the reagents while the reactor effluent is removed.

Limpet Coil Reactor



Jacketed Type Reactor



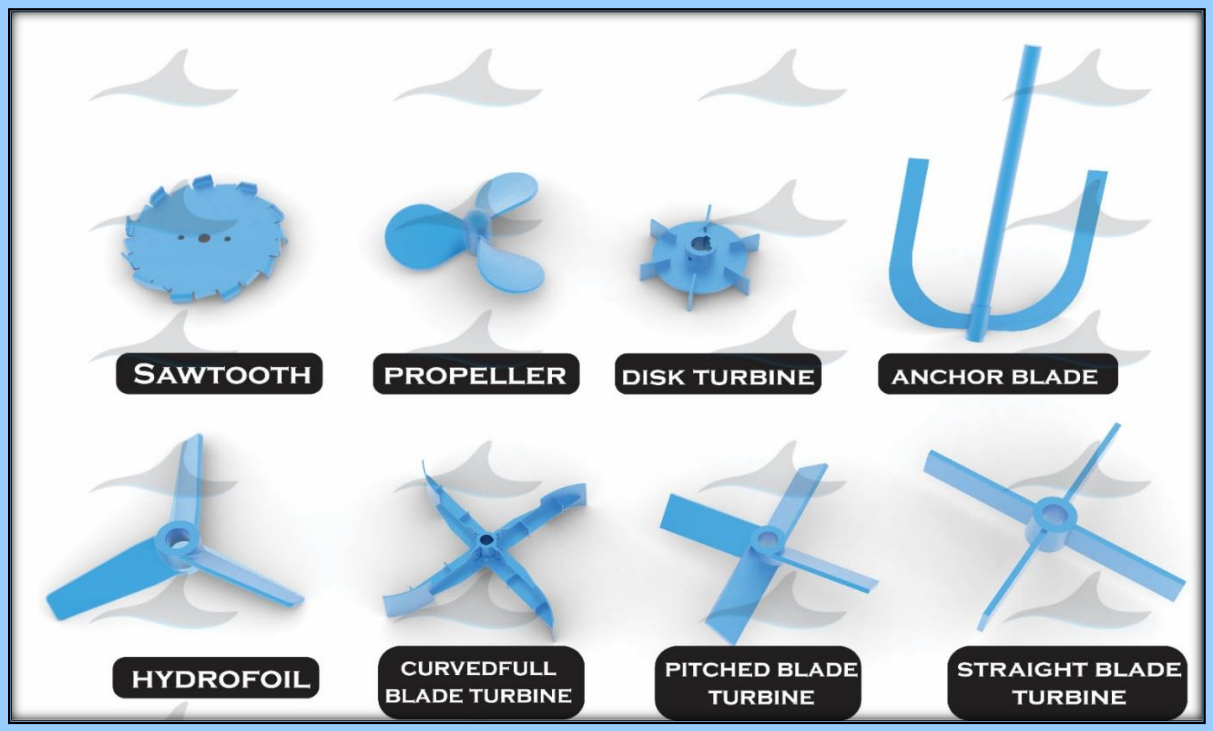
Tubular Reactor

A tubular reactor can often be a packed bed. In this case the tube or channel contains particles or pellets usually a solid catalyst. The reactants in liquid or gas phase are pumped through the catalyst bed. It is also called the fluidized bed.

AGITATORS

Agitator used for mixing of phases can be accomplished and by which mass and heat transfer can be enhanced between phases or with external surfaces. the process of mixing is concerned with combinations of phases. Agitator the assembly consisting of impeller, impeller shaft and drive including other parts such as gland, and bearing used in conjunction with the above.

- Impeller: The actual element which imparts movement to the charge (fluid).
- Propeller: A high-speed impeller which essentially imparts axial thrust to the fluid.
- Turbine: An impeller with essentially constant blade angle with respect to a vertical plane, over its entire length or over finite sections, having blades either vertical or set at an angle less than 90” with the vertical.
- Paddle: – An impeller with four or fewer blades, horizontal or vertical, and essentially having a high impeller to vessel diameter ratio.
- Anchor: Basically, a paddle type impeller which is profiled to sweep the wall of the containing vessel with a small clearance.
- Baffle: An element fixed inside the vessel to impede swirl.
- Draught Tube: A tubular fitting which is arranged to direct the liquid flow produced by the impeller.
- Filling Ratio: The ratio of liquid depth in the Vessel-to-Vessel Diameter.
- Swirling: The Continuous Rotation of liquid about a Fixed Axis.
- Vortex: A depression in the surface of a liquid produced by swirling. Fully Baffled Condition: A condition when any further increase in baffling causes no significant increase in power consumption, this may be considered as a state where the liquid swirl in the vessel has become negligibly small and when all the power input to the impeller expended to create turbulence.

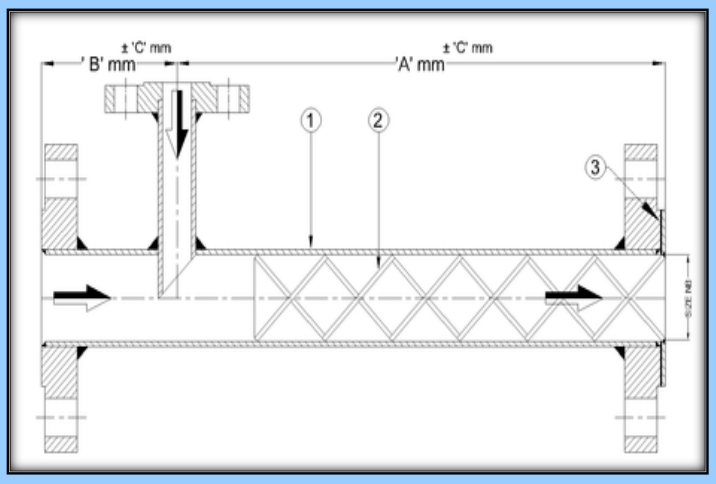


MIXING TECHNOLOGY

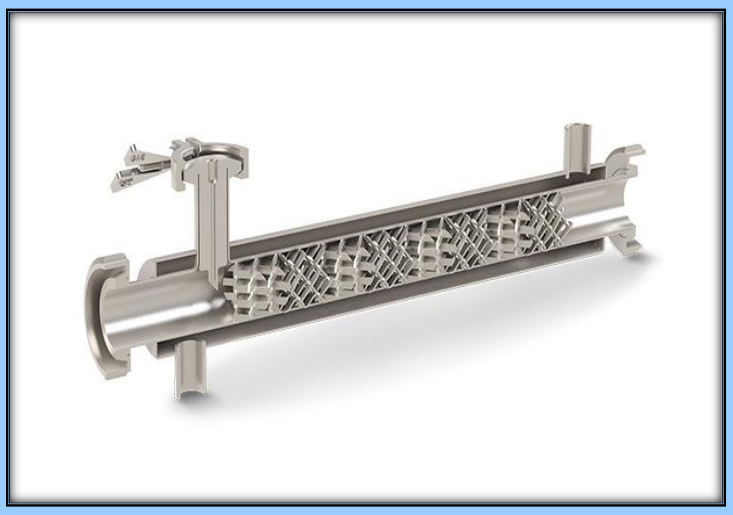
STATIC MIXER

A Static Mixer is a precision engineered device for the continuous mixing of fluid materials. Normally the fluids to be mixed are liquid but static mixers can also be used to mix gas streams, disperse gas into liquid or blend immiscible liquids. The energy needed for mixing comes from a loss in pressure as fluids flow through the static mixer.

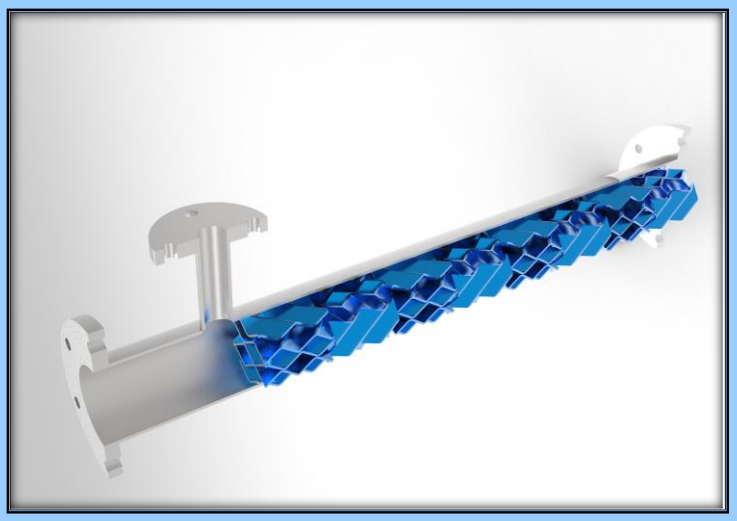
3D VIEW OF STATIC MIXER



SCHEMATIC DIAGRAM



X TYPE ELEMENT



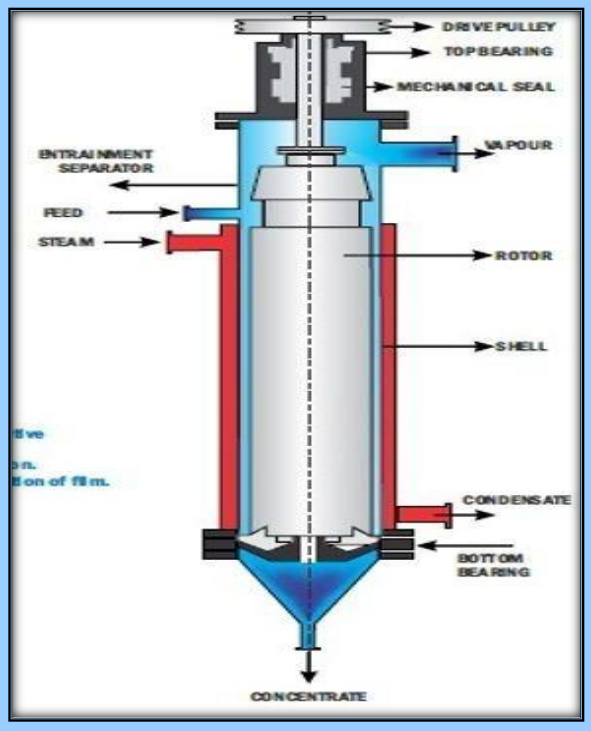
V TYPE ELEMENTS

INLINE SHEAR MIXER

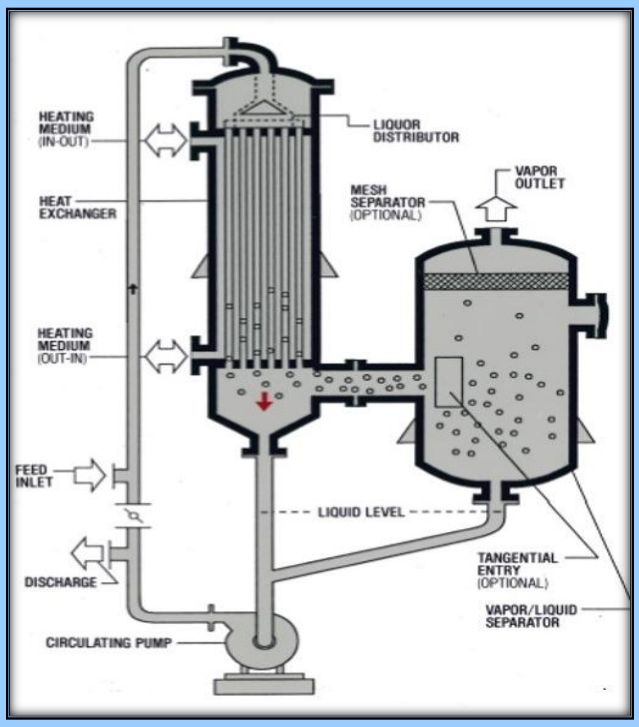
Inline High Shear Mixer offers a possibility to pump for Disperse, Homogenize and emulsify the product. Generally viscous chemicals, Food-Processing, Pharmaceutical and Cosmetics production processes require this type of Inline Mixer. It installed in a recirculation tank reaching the best efficiency after several passes of the product through the mixer. Usually in that One-pass process is often used when powder with high solubility has to be dissolved in short time whereas the multi-pass process is used when a high quantity of powder must emulsify with instance oil, gum or flavors.

EVAPORATORS

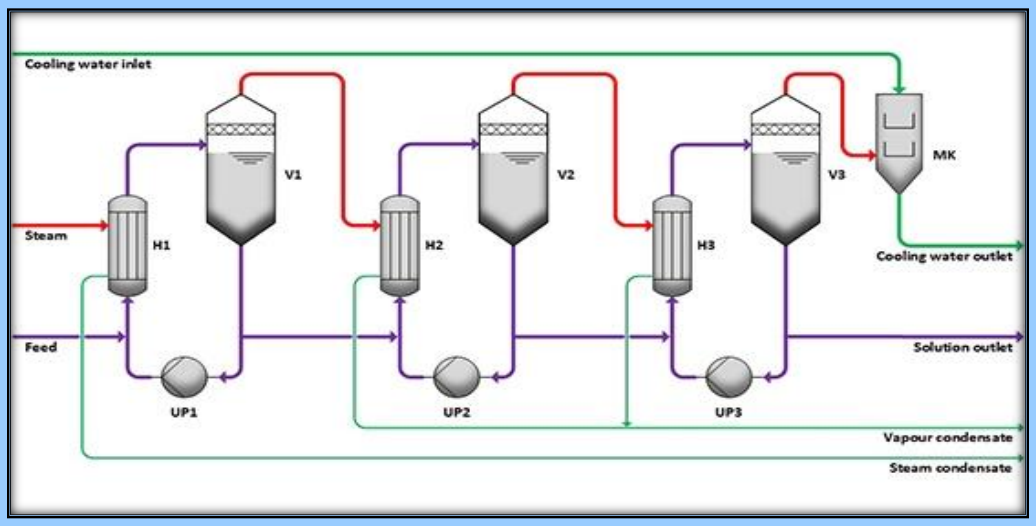
Evaporation is nothing but concentering the solution by vaporizing the solvent. Evaporation is a type of vaporization that occurs on the surface of a liquid as it changes into the gas phase. Based on application to application following are the various type of evaporation used to get the proper efficient product.



AGITATED THIN FILM EVAPORATION



FALLING FILM EVAPORATION



MULTIPLE EFFECT EVAPORATION SYSTEM

Registered Office Address:

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