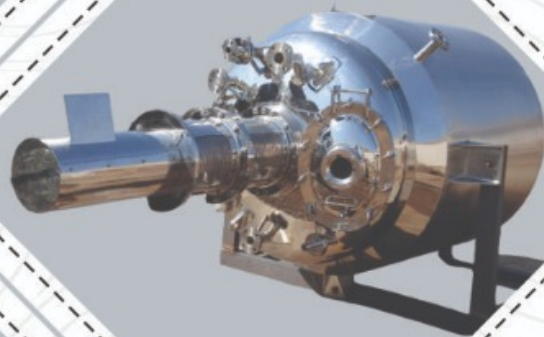




# CHEMECH SYSTEM

*Design for Excellence*







CheMech System is an organization where We are into designing and manufacturing of Process Equipment for end-users in core industry segments like Chemicals, Pharmaceuticals, Fertilizers, Petrochemicals, Refineries, Oil & Gas and Food industries to enhance your product quality at reduced time, higher efficiency with cost effective power and resources.

**Capabilities :** With our core expertise in Design, Manufacturing, Fabrication, Welding & Quality, we deliver custom made Equipment as per varied needs of our customer.

## Our Products & Services

### Reactors & Agitators

**Reactors & Agitators are widely used in following processes :**

Continues Reaction, Liquid to Liquid Mixing, Gas to Liquid Mixing, Solid to Liquid Mixing, Homogenizing & Particle Size Reduction, Blend Miscible Liquids, Disperse Immiscible Liquids, Blending & Wet Grinding.

#### Design Capability & Range

**Capacity :** 20 Ltrs to 20,000 Ltrs or as per need

**Pressure Range :** Full Vacuum to 50 Kg/cm<sup>2</sup>

**Thickness :** 4 mm to 20 mm

**Temperature :** 0°c to 300°c

**MOC :** SS 304, SS 316, Hastelloy, EN8, MS, MSRL, MSRL+HDPE, FRP, PP & HALAR LINED

In Chemical Process Industries reactors plays a major role and key factor for better mixing is the right impeller. Impellers are meant to generate shear and flow to compete the chemical process. There are so many impellers are available in the industries which are meant for getting the desired results. In Chemech System we have all kinds of Agitator system with suitable design of Impeller to fulfill your mixing needs.

#### Anchor Impeller

##### Features/Benefits

Creates Horizontal flow and well suited for low-liquid-level geometries. Solve heat transfer fouling problems with optional wall scrapers.



#### Hydrofoil Impeller

##### Features/Benefits

Generates High axial flow with low power requirement. Well suited for reaction, dispersion and heat transfer process.



#### Pitch Blade Impeller

##### Features/Benefits

It generates high radial flow and axial mixing. It is also good for blending and dispersion operation. It's blade angle more efficient for solid incorporation.



#### Propellor Impeller

##### Features/Benefits

They are primarily used in applications to stir low viscosity liquids. It don't let the solid particles settle. Generates high axial flow with slight high power requirement than hydrofoil.



#### Hellical Ribbon

##### Features/Benefits

They are primarily used in applications to stir very high viscosity liquids. In it scrapper can be used to remove viscous materials at reactor wall.



#### Disc Impeller

##### Features/Benefits

It is used for gas dispersion. It's concave or curve blade generates radial parabolic flow.





## High Speed Agitators & High Shear Mixers

### High Speed Dispenser

It is used for High Shear applications as they create lots of turbulence for breaking down solids. Because of its designs and edges it breaks the lumps and shear its particle size.

#### Features/Benefits

They are primarily used in applications to stir very high viscosity liquids. Typically used in the food sector, paints and other abrasive applications. It can be used for particle size reduction, dispersion & solid dissolution.



### Stator Rotor Impeller

In this kind of impeller, there are two main components. One is stator and other is rotor as specific by names stator is stationary part and rotor is rotary part. In this rotor revolves inside the stator at very close tolerance and very high speed so when the slurry passes through this impeller it particle size is reduced and forms the emulsification.

#### Features/Benefits

It is highly useful for particle size reduction, homogenizing & high shear purpose. They are primarily used in applications to stir very high viscosity liquids.



## Customized/Multi Shaft Design

### Co-Axial



#### Various Application

Solid-Liquid Mixing  
Disperse & Dissolve  
De-agglomeration  
Homogenization & Emulsion



### All in One

## Ribbon Blenders

Ribbon blenders are used for batch or continuous mixing. In batch operated ribbon blenders, the solids are charged and mix until satisfactory and discharge from the bottom. In continuously operated units, the solids are fed from one end of the trough and discharge from the other end. In the path from the feed to discharge end, solids are mixed.

#### Advantages of Ribbon Blender

- Ribbon blenders can be used in both batch and continuous mode.
- High shear caused by baffles causes aggregate breakdown.

#### Design Capability & Range

Capacity : 200 kgs to 10 Ton

MOC : Stainless Steel & Carbon Steel  
and Alloy Materials







## Nutsche Filter/Dryer Applications

**Nutsche filter/dryers are best selected for applications with the following process requirements :**

- Minimum floor space
- Risk of environmental hazard from toxic or flammable products
- Precise temperature control
- Re slurry washing
- Absolute separation between the mother liquor and wash solutions
- Delicate cakes (i.e. tend to crack easily)

### Design Capability & Range

**Capacity :** 300 Ltrs To 1500 Ltrs

**Pressure Range :** Full Vacuum To 30 Kg/cm<sup>2</sup>

**Thickness :** 4 mm to 20 mm

**MOC :** Stainless Steel, Hastelloy, Titanium, Carbon Steel, Halar & Rubber Lined



## Tray Dryer

Tray Dryers are used to remove liquids or moisture from bulk solids, powders, parts, continuous other liquids by evaporation. Heat transfer is done by circulation of hot air using electric heaters or steam in radiator coils. Blower fans are installed inside to ensure proper circulation and transfer of heat. These are commonly used for Pharmaceutical, Chemicals dyes, Food & Bakery Industries.

### Advantages of Tray Dryer :

- Each batch is handled as a separate entity.
- It's more efficient in fuel consumption.
- It's operated batch-wise.
- It's simple to use.

### Design Capability & Range

**Capacity :** 6 to 192 Trays

**MOC :** Stainless Steel & Carbon Steel and Alloy Materials



## Vacuum Tray Dryer

Vacuum drying is generally used for the drying of substances which are hygroscopic and heat sensitive, and is based on the principle of creating a vacuum to decrease the chamber pressure below the vapor pressure of the water, causing it to boil. With the help of vacuum pumps, the pressure is reduced around the substance to be dried. This decreases the boiling point of water inside that product and thereby increases the rate of evaporation significantly. The result is a significantly increased drying rate of the product.

### The main advantage of using VTD are as follows :

- It is very good for heat sensitive material
- We can dry the material at low temperature due to use of Vacuum
- we can dry the material faster due to more surface area available
- We can use it for hygroscopic material

### Design Capability & Range

**Capacity :** 6 to 192 Trays

**MOC :** Stainless Steel & Carbon Steel and Alloy Materials





## FILTERS

All types of filtration system is meant to extract impure or unwanted materials from a flow of liquid and gas. Filtering prevents damage that could be caused by the exposure of such contaminants to product or people, in the case of industrial chemical & water filtration. The most effective chemical filters are those that combine effective filter media design with sound mechanical design.

### Filter Housing

#### Design Capability & Range

**MOC :** All kind of Stainless Steel, MS, Carbon Steel, MSRL, UPVC & PP

**Cartridge Fitting :** Push Fit, DOE or Code 7

**Flow rate :** 1000 kl/hr

**Capacity :** 5 Inch Long X 1 no. To 40 Inch Long X 200 nos. Cartridge

**Pressure Range :** Full Vacuum To 80 Kg/cm<sup>2</sup>

**Thickness :** 3 mm to 20 mm

**Temperature :** 0°c to 300°c



Single Cartridge Filter Housing



Multi Cartridge Filter Housing



Basket Filter Housing



PP Filter Housing



Bag Filter Housing

### Filter Cartridge



SS Pleated Filter

**Size :** 10", 20", 30", 40", 50" & Customized  
**Micron rating :** 1 To 100 Micron  
**Configuration :** Double Open End, Code 7 & Customized  
**MOC :** SS304 & SS316 Woven Mesh

Paper Pleated Filter



Sintered Powder Filter

**Size :** 10", 20", 30", 40", 50" & Customized  
**Micron rating :** 1 To 300 Micron  
**Configuration :** Double Open End, Code 7 & Customized  
**MOC :** SS304 & SS316 Woven Mesh



PP type Filter

**Size :** 10", 20", 30", 40", 50" & 60"  
**Micron rating :** 1 To 100 Micron  
**Configuration :** Double Open End  
**MOC :** Polypropylene



Filter Bags



PP Pleated Filter



PP Wound Filter



PP Spun Filter



Dust Collection Filters



## Heat Exchanger (Condenser)

Chemech system is also into designing and manufacturing of all kinds of shell and tube type heat exchanger which are usually used for heating, cooling and condensation processes. Our designs are as per ASME SEC VIII Div-1.

### Design Capability & Range

**Capacity :** 0.5 m<sup>2</sup> to 100 m<sup>2</sup>

**Pressure Range :** Full Vacuum to 50 Kg/cm<sup>2</sup>

**Temperature Range :** 0°C to 300°C

**MOC :** All kind of Stainless Steel, Hastelloy, Titanium, & Carbon Steel & Alloy Materials



Shell & Tube

## Our Products

Agitator

Reactor

Filter

Dryer

Heat Exchanger

## You may find us in below Industries

- Pharmaceutical
- Agro Chemical
- Speciality Chemical
- Dyes & Intermediates
- Pigments
- Paint & Colour
- Polymer-Resin
- Petrochemical
- Refineries
- Food & Beverages
- Ink



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