



THE PERFECT MIXING TECHNOLOGY



AGITATORS | REACTORS | HEAT EXCHANGERS | TOOTH PASTE MIXER | PRESSURE VESSELS & STORAGE TANKS

Leading Excellence through Innovation

Thermotech is one of the leading organization in the field of Design, Manufacturing and Supply of various process equipment's like Reactors, Agitators, Special Equipment's with Mass Transfer & Heat Transfer Design and Shell & Tube Heat Exchangers. Till date we have supplied thousands of Reactors and Heat Exchangers to many satisfied customers in the field of Chemical, Pharmaceutical, Food and PP Industry.

Many years' experience, combined with modern technology and a team of skilled technocrats, provide us the know-how to design and manufacture process equipment's that meet customers' demands for modern technology and functionality to a broad range of industries specializing in optimum design of Agitators. Thermotech is working with consultants like KPG, UHDE, MECON, DUREL, DCL, BAX - COUNCEL, CHEMPRO, TDC, ONGC, BARC, HPCL, DALAL-MOTS and many more.

Our full-fledged design department with ASME / ASTM programmer for process and mechanical design makes it possible for us to give the best solution. Research and development has helped us to create process solutions that are accurate and efficient. Innovative products, after sales services and cost effective solutions have earned us thousands of satisfied customers worldwide.



PRODUCT RANGE

Agitator



Heat Exchanger



Cream Mixer



Paste Mixer



Mixing Tanks



Pressure Vessels



HEAT EXCHANGERS

Shell and Tube (Plain Tubes)

Thermotech Heat Exchanger offers design and fabrication of shell and tube type heat exchangers built in accordance with ASME Code Section VIII Division I, ASME Code Stamps include U.R. UM & TEMA Code standards.

Industries Served

Chemical, Pulp & Paper, Pharmaceutical, Refinery, Off-Shore Technology, Fuel Gas Desulfurization, Water Purification, Food & Beverage Industry, Geothermal, Steel Processing.

Materials of Construction

Titanium, Zirconium, Tantalum, Niobium, Nickel Alloys, Inconel, Duplex Stainless Steel, Stainless Steel, Explosive Bonded Materials.

- Tube Sizes : 3/8" to 2"
- Shell Dia : 6" to Unlimited
Shell Length : Unlimited

Quality Standards

ASME Section VIII Division 1, ASME Section IX, TEMA.

Engineering

ASME Section VIII Division 1, B-JAC (Thermal Design), HTRI (Thermal Design), CodeCalc (Mechanical Design), PV Elite (Mechanical Design), AutoCAD (Drawings).

Special Applications

CGMP Designs for Pharma with polishing from inside & outside, Gaskets / Packing of Food Grade and Hygiene Quality.

Shell and Tube Type Heat Exchangers Plain/Corrugated Type

Upto 200 m² HTA and in various material combinations.



U BENT HEAT EXCHANGERS

Is intended for operations using high pressure and temperature (because tube plate offers high savings), for large temperature difference along the tube bundle since each tube can expand independently of the others. This model is used for closed circuit water heating in radiator or heat convertor systems, using steam, heated or superheated or superheated water inside the pipes and water, including natural circulation, on the outside.



FIXED TUBESHEET HEAT EXCHANGERS

Straight tubes are expanded on two opposite tubesheets, which are welded directly to the shell. Widespread application, except in cases that requires the removal of the tube bundle for maintenance. It is particularly recommended for vacuum operations on the outer circuit or when gaskets are not desired on this circuit. In particular, it is used as a coolant for oil, transformers or lubrication system or for small instant diesel oil heaters using steam outside the tubes.

CORRUGATED TUBES

Corrugated tube is produced by indenting a plain tube with a spiral pattern. No tube wall place & no strength is lost. A smooth indented inner profile ensures easy cleaning. Turbulent low fluid velocities and enhance the heat transfer in the tube.

Fouling on the tube surface wide range of diameter & styles are available.

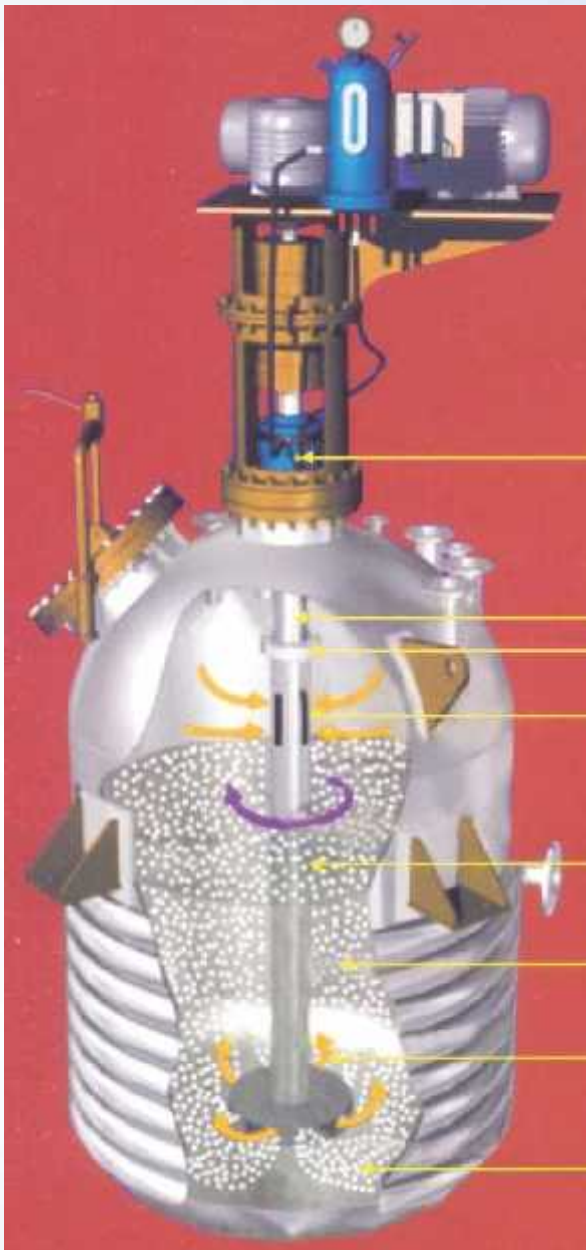
There are three types of corrugated tubes- Soft, Hard and Dimpled.

For provision of optimum design in terms of area, pressure drop, fouling etc. For a part application the corrugation type is based on the following factors. Corrugation depth, Corrugation pitch, Corrugation angle, Number of starts.

By choosing the depth, angle and width of the indentation carefully, the rate of decrease in resistance can exceed the art of increase in pressure loss to provide the optimum design area, pressure drop, fouling, etc. for the particular application.

More efficient than normal shell & tube
In many cases area reduced by about 50 to 60%
Higher heat transfer co-efficient due to 0 tubes.

HYDROGENATORS



INDUCED DRAFT HYDROGENATOR

- Desire requirement
- Complete gas consumption
- Uniform mixing of catalyst and proper throughout suspension
- High Yield and reaction productivity
- Effective recirculation of the reaction gasses

Mechanical Seal

Solid Shaft
Transmission Coupling

Gas Suction Insert

Hollow Shaft

Gas Dispersion

Uniform Catalyst Suspension

Gas Discharge

GAS INDUCTION REACTOR

THERMOTECH offers you the following :

- Either jacketed or limpeted design.
- Robust construction with drive assembly design and proper shaft sealing system.
- Option of magnetic coupled or standard Agitator with mechanical seal.
- Wide range of operating temperature & pressure.
- Higher productivity through high mass transfer rates.
- Proper mechanical design for low maintenance & downtime.
- Clients include Cipla PTG, Cipla Kurkumbh, Shivam, Bhushipa, Macleods, Sandoz, SCI & more.

TECHNICAL SPECIFICATIONS

CAPACITY	- 500 ltr. to 25000 ltr.
PROCESS RANGE	- Upto 90 Bar
TEMPERATURE	- 30 to 300 c.
MOC	- SS, Hastelloy, Inconel
SEALING	- Shaft Sealing Option, Mechanical Seal, Mag Coupling
FEATURE	- Catalyst Lifting Device.

AGITATORS

| Efficient | Accurate | Guaranteed Results |



Thermotech specialize in design and manufacture of agitators for various applications. Backed with years of experience, we have supplied more than 8000 Agitators ranging up to 300HP. Our engineers have many years of experience in mechanical design and in manufacturing Agitators of all sizes.

Approved by consultants like KPG, UHDE, MECON, DALAL-MOTS, CHEMPRO, BAX-COUNCIL, SHROFF & ASSOCIATES, ONGC, BARC, TDC and HPCL, the construction of Thermotech Agitators has been standardized to a high degree of quality and reliability.

We use the most modern technology and design in the manufacture of all types of Agitators like -

Top Entering - Over Hung Shaft

Bottom Entering - Stub Shaft

Side Entering - are used for low viscosity blending application

Inclined Mounting - Portable with Driven Clamp on

IMPELLERS

Selection of the correct process HP for any fluid mixing application is of obvious importance. There can be a "correct" HP only in combination with a specific type, size (D/T ratio), quality and position(s) of mixing impeller. No one impeller design has such outstanding capabilities as to be the preferred type for a preponderant majority of fluid mixing applications. To apply mixer for optimum results requires a sound knowledge of all practical types available as well as the limits for their capabilities.

- Hydrofoils designs are conventionally low shear high flow impellers. Hydrofoils are ideal for operation like blending, PH control, dissolution, dilution, mixing, solid suspension, washing etc.
- Turbine with flat vertical blades extending to the shaft is suited to the vast majority of mixing duties upto 1,00,000 cp. or so at high pumping capacity.



'A' type also known as cowler being an open type.

Impeller, it allows suction from top and bottom.

A high velocity radial discharge rotating stream from the vanes breaks down the particle mass by hydraulic attrition.

Application include Paint, Dyes, Textile, Chemicals, Adhesives, Construction etc.



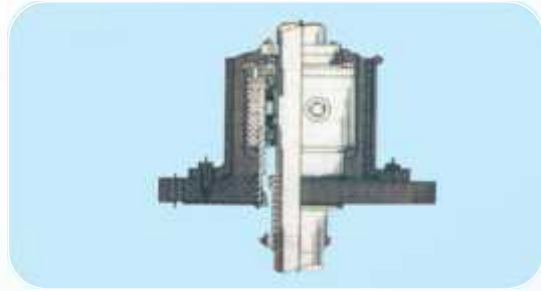
- Turbine with blades are inclined 45. Construction with two to eight blades are used, combined axial and radial flow one achieved.
- The horizontal plate to which the impeller blades of this turbine are attached has a stabilizing effect.
- Curved blades turbines effectively disperse fibrous materials without fouling.

SHAFT SEALS

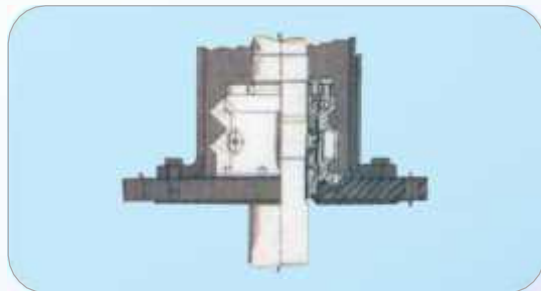
PRESSURE

The Thermotech model is designed for use on the more sensitive closed tank operations in the chemical, pharmaceutical and food processing industries. The double mechanical seals utilized are designed for top and bottom entry of pressure vessels. Special units have been supplied to meet the most rigorous operating requirements of process industries.

MECHANICAL SEAL ASSEMBLY



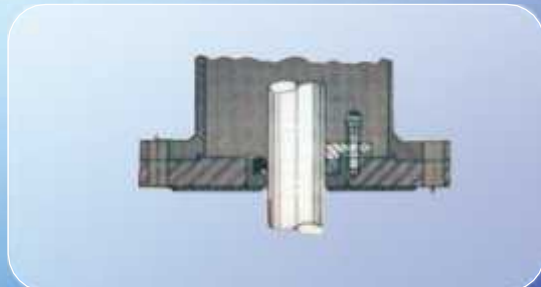
NON-METALLIC AND SPECIAL ALLOY MECHANICAL SEAL ASSEMBLY



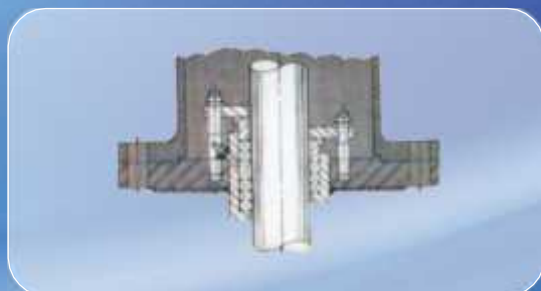
NON-PRESSURE

The standard stuffing boxes shown are designed to operate with vessel pressures ranging from full vacuum to 10 BAR, temperatures to 200°C. And above depending upon effective range of packing type required for process conditions. Optional water cooled stuffing boxes are supplied where needed.

VAPOR SEAL ASSEMBLIES



STUFFING BOX ASSEMBLIES



cGMP REACTORS & MIXING VESSELS



cGMP reactors and distillation systems upto 50 kl capacity as per codes and in various materials of construction like Hastelloy, Titanium, SS 904L, SS316L / SS 304.



Pressure Vessels with Limpet and Agitators in materials like SS / Titanium / Hastelloy / Inconel etc.



Agitated tanks and Vessels upto 200m³ capacity with most efficient and robust agitators and in different materials of constructions.



- Offered complete GMP Systems with Basic, Process Engineering, Layout & Detail Engineering.
- Also meeting 'C-GMP' Standards and stringent requirements of international regulatory bodies like USFDA, UKMCA, TGA, etc.
- Designed in accordance with the various international codes for pressure parts.
- 'Internal surface finish' up to 600 Grits with Mechanical / Eletro-polishing having service-free internals to avoid contamination and facilitate thorough cleaning during product changeovers.
- Condenser vapour side is removable to facilitate manual cleaning.

- Pre-insulation for hot and cold service with removable SS 304 cladding.
- Specially designed sealing mechanisms for bearing housing to prevent grease leakage.
- Offered with various types agitators such as Anchor, Turbine, Mig, Hydrofoil, Propeller and contra mixer etc.
- The Vessel, Receiver, Columns & Condensers with bolted openings can be dismantled to facilitate manual cleaning periodically or between product changeovers.
- The Nozzle & the Reflux line connections can be provided with Sanitary Triclam, DIN, SIMS IDF or flange ends as specified by the user.



Tooth Paste Mixer

- 500 to 5000 kg capacity
- Easy hydraulic lifting arrangement
- Complete scrapping
- GMP construction
- Efficient mixing reduces batch time



Cream Mixer

- 500 to 5000 kg capacity
- Complete scrapping
- GMP construction
- Efficient shine on product
- Uniformity mixed batches



Manufacturing Facilities

Unit I

We have state-of-the-art manufacturing facility with completely covered shade of about 25,000 sq. ft. totally equipped with EOT overhead cranes over full shop floor with 20 tonne capacity and full trimix flooring.

Our fabrication shop is equipped with excellent facilities for material handling, welding and finishing. Excellent machineries and skilled manpower combined with very good knowledge of codes, GMP standards and innovative methods help us achieve quality results.

Unit II

New expansion with ultramodern new facility at Talawade - MIDC with total 30,000 Sq.ft. land and 20,000 Sq.ft. shade with state- of-the-art facilities like imported beveling machine, automated polishing machine, number of overhead cranes etc.



UNIT I : CHINDWAD



DESIGN OFFICE



UNIT II : TALAWADE

Design and Testing Facilities

Thermotech utilizes computer aided design software, extensive application databases and a state-of-the-art lab facility to provide optimize solution. Our design department with ASME / ASTM programmer for process and mechanical design offer the right solution for our product range meeting exactly your requirement.

We have excellent facilities for measuring and testing instruments. Before delivery, every product is undertaken an extensive test run using this facility. Our design-engineering group is highly efficient in responding to customers' need of process and equipment design.



Esteemed Customers

PHARMA



AGRO & FERTILIZER



CHEMICAL



PAINT



FOOD & PERSONAL CARE



OTHER



ENGINEERING CONSULTANTS



EXPORTS TO...



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Unit II - Gat No. 103, Plot No. 704 Nigdi Talawade Road, Jyotiba Nagar, Pune-412114.