



**TUYAN INDUSTRIES**

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**P**

*The Way Of Business*

**Catalogue**

**Paint & Coating Equipment**

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## Company Brief

### History

TUYAN INDUSTRIES has started business in 1991 as a proprietorship firm. From the very beginning we have Manufacturing Paint making /Processing Plant and Machinery for paint, Chemical, Adhesive, Ink, Pharmaceuticals, Mineral, Ceramic, Food and related industries.

- Over the year with advance Engineering and making equipments. We cater to the process equipments Needs of many kinds of Industries including Chemical Manufacturing, Glass and Ceramic. Paint Color coating, Pharmacy, Adhesives, Plastic and more. We are taking good and advance tool room to meet many specific requirements of our Industries around the world.
- Our machine is very easy to install and have been designed with the requirements of the customers and Industrial challenges and using factors.
- Our Machine / Plant has approved by the Experts with the various test of Efficiency and Product Quality. We have a big team to install all big plant and machinery all over the INDIA & any part of the world.
- We are the leading manufacture and exporter of quality machine in NORTH INDIA. We are always ready to give services to our valuable customers.
- We have gain fame with best and efficient engineers, technicians and skilled workers. Their efforts for excellent product manufacturing and timely delivered.
- We are committed to provide best products, service and value added benefits for our valuable Customers.
- We have taken well Equipped Laboratories in our Factory. There we are testing our Raw-Materials, Quality, x-ray of welding before start the new Invention of New Plant and Machinery.
- We have arrangements in house for R&D engineers, CAD designers, Draftsman who is Developing New process Plant for an Industry.
- We offer trial run on Lab Machine to get the Manufacturing Result in one shot.
- This site is presence you to simplifying the whole process of Business and know how about our working and Product. If you have any Query kindly write feels free to us. Our responsible customers care team will come to you as early as Possible.

### Discipline

Our Engineers has a broad base of engineering staff including specialist toolmakers, machinists, coded welders and formally qualified project managers and design engineers. Their skills are typically applied in the following areas:

- Project Control and planning using Microsoft Project and job cost management systems.
- Design and Detailing of Ancillary equipment, e.g. tanks, vessels, pipe-work and supports, etc.
- Development of work methodologies, weld procedures and statutory compliance documentation.
- Fabrication, machining, assembly.
- Site installation
- Health and Safety documentation and implementation.

### Management Skills

Our Engineers has a staff of around 20 people including engineering/technical trades and administration. This gives us the flexibility in providing people to meet the need for the short-term increases in site numbers during special situations - changeovers etc. TUYAN INDUSTRIES has a strong reputation as being a competent and professional project management contracting company.



## CONTI MILL



### How Conti Mill Work

The Conti Mill is a compact vertical design suitable for continuous production of large quantities of materials. Advantages of using a Conti Mill include continuous large production, fastest grinding and processing, excellent temperature control, simple, safe operation and low power consumption.

### Advantages of Using a Conti Mill:

- Replacement of Horizontal Bead Mill
- Does not require an expensive shaft seal.
- Does not require water chiller
- Continuous large production
- Fastest grinding and processing
- Excellent temperature control
- Simple and safe to operate
- Low maintenance and power consumption

### Common Applications for Conti Mill:

- Minerals, ores, coal
- Paints, toners, inks
- Ceramics
- Food products
- Chocolate, confectionery
- Agricultural flowables
- Chemicals

## HORIZONTAL BEAD MILL



### How Its Work

The Horizontal bead mill stands market tests for long time. It can meet the demand for continuous mass production. The machine adopts special wear-resisting material to ensure of long service life. It has strong adaptability of material viscosity, easy to start, and high grinding efficiency. It can use explosion-proof controller components to reach reliable explosion-proof requirements also with advanced electric control system and fault alarm device. Against different materials processing, different feeding pump is optional, such as air diaphragm pump, gear pump.

### Advantages of Using a Horizontal Bead Mill

- Suitable for low and medium viscosity materials and micron scale fineness.
- Multiple cooling systems, powerful cooling efficiency.
- Efficient separation system, not break beads, discharging more smoothly and more quickly
- High energy intensive output, even smaller grinding fineness
- With excellent length and diameter ratio, narrower particle size distribution







## VERTICAL SAND MILL



### The New Vertical Sand Mill

To address these process demands, engineers decided that the ideal solution would be a vertical mill because a mechanical seal would not be required to seal the vessel. The mill would be lined with an elastomer grade of polyurethane (PU) because of its well-known abrasion resistance characteristics.

The resulting vertical mill offers a relatively high energy density compared to ball mills, attrition mills and other classic vertical grinding systems. Additionally, the mill uses the advanced grinding media separation system at both the discharge and feed sides of the mill to centrifuge the media out of the slurry. The separation system is installed at the top of the mill as an integral part of the agitator.

Grinding media is added during the grinding process through a system that feeds the media to the "center.

### Advantages of the Vertical Sand mill.

The primary advantage of the new vertical mill is its simplified operating system. The machine has only a few wear parts, including the agitator discs, chamber lining and separation system components. The media addition system is easily controlled and simple in design, eliminating the possibility of parts wearing. The use of an Air pump to feed the mill reduces maintenance costs because the tubing is inexpensive and easy to replace.

Several of the new mills have been installed in ceramic plants and are being used to grind SiC using SiC grain as the grinding media. This experience shows wear life of the agitator parts in excess of 2000 hours, which is remarkable considering the abrasive nature of this application. The process is easily automated with flow, temperature and pressure switches to allow unattended operation.

## BASKET MILL

### Operating Principle

Basket mills are fast-running high-performance mills in stationary design with infinitely variable speed adjustment by static frequency converter for the discontinuous fine dispersing & fine grinding in the batch production.

### Advantages of Basket Mill

- Dispersing with milling as one procedure
- Promoting the circulation of material effectively
- Avoiding the blind angle while the material is cycled
- Fastest grinding
- Easy Temp Control
- No need grinding media separation
- Easy washing
- Easy Cooling System
- Two Way Cooling System
- Easy Dust Control
- Easy Tank Holding

### Special Features of Basket Mill

- Suitable for Small industrial batch manufacturing
- Stable and convenient hydraulic lift is adopted with solid and durable structure
- Combining dispersing with milling in one procedure: dispersion and superfine milling to be done within one time
- High performance, economic, easy to clean
- Inverter available for speed variation
- Explosion proof options
- Customized design to meet customers' requirements
- Belt, manual and Tank clamps for choices



# TUYAN INDUSTRIES



## ATTRITOR MILL

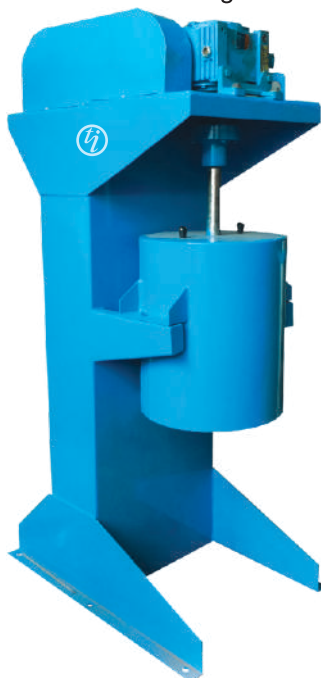
Wet / Dry Grinding

### How it's Work Attritors Mill

This Highly efficient machine is mainly Used For Ink, Paint, Food, Pharmaceuticals, Chemicals, Ceramic, Minerals & Other Allied Products. This Vessel is Made of Stainless Steel, Mild Steel, and other Material. Jacketed with Shell Having Inlet/Outlet for Cooling. A Ball Valve Fitted At The Bottom Discharges The Batch in on Time. The Machine Has Extra Facility to Speedily Discharge The Material With Tilting Type System, No Ungrind Pigment get Deposited in the Vessel. The Specially Designed Agitators Shaft of SS 304/316 with Replaceable Alloy Steel / Stainless Steel Arms of Special Steel Produces a Fine Grinding Media.



**New Model**



### Advantages of using a Attritor Mill:

- Ten times faster than ball mills
- Simple to operate
- Energy efficient
- No premixing required
- Minimum maintenance required
- Compact design
- No special foundation necessary
- Dispersing with milling as one time
- Material Circulation system fitted
- Easy grinding Small batch
- Easy Temp Control
- No need grinding media separation
- Easy washing
- Multi type grinding media used

## BEAD MILL

### Operating Principle

This Machine is Suitable for wet grinding with three related operation of premixing, grinding and dispersing can be made on this machine Generally used glass beads for grinding purpose so you can found good brightness of pigments. After that grinding the pigment this machine has instant grinding in batches.

### Advantages of Bead Mill

- Dispersing with milling as one time
- Material Circulation system fitted
- Easy grinding Small batch
- Easy Temp Control
- No need grinding media separation
- Easy washing
- Multi type grinding media used



WET / DRY MILL

# TUYAN INDUSTRIES



## BALL MILL FOR WET / DRY

### Operating Principle

One machine that is heavily used for crushing and grinding tasks is the ball mill. This machine is described as a grinding device, capable to crush and transform large hard materials into fine paste. A ball mill is a cylindrical machine and generally used for Grinding paints pigment, ores and other hard materials. By rotating on horizontal axis the ball mill effectively turns hard materials into fine paste. There are different ball mills on the market but all of them use the same working principle and are consisted of the same elements. For example grinding materials can be found in every ball mill.

Beside the material that needs to be transformed into fine paste. Every ball mill contains grinding materials. The grinding materials are actually small balls which grinded the material that is inside the ball mill. Usually stainless steel or ceramic balls are used as grinding materials. When the ball mill rotates the balls grinding the material inside creating in this way loose powder. The end result is Grinded material that can be used for other purposes.



The industrial ball mill can operate Batch type. This industrial machine is controlled by another device that feeds the ball mill with materials that need to be grinded into fine paste. Smaller ball mills operate efficiently with cylindrical containers that contain tight caps. Such ball mills are part of pulley systems that use pulley mechanisms and belts in order to control ball mills. The rock tumbler, a device that is used for polishing various rocks, is similar to this ball mill.

## HORIZONTAL TUBE MILL

HORIZONTAL TUBE MILL consists of a cylindrical drum containing Knife shaped mixing elements that are mounted on a horizontal shaft. It creates a mechanical fluidized bed mixing action. The mixing tools project and hurl material away from the wall into free space in a crisscross direction and inversely back again. The Knife separates and lifts the product into three-dimensional motion while the number and arrangement of the tools insure agitation back and forth along the length of the vessel.

### Advantages of Horizontal Tube Mill

- High speed and homogenous mixing
- Wide range of applications
- Short mixing time
- Easy to clean
- Avoid heat generation
- Capacity range from 300-5000kg
- Mild steel/stainless steel construction
- Easy to open and close
- Normal temperature and pressure inside mixer
- Gear reducer motor
- Gland packing seal + air purge seal
- Pneumatic operated outlet valve





# TUYAN INDUSTRIES



## HIGH SPEED DISPERSER



### Application and Introduction

High speed disperser is with quick dispersing, homogenizing, shearing and mixing function, can be used on mass production of liquid materials. Which is widely used in Paint, printing Ink, pigment, emulsion, chemicals, Dye stuff, food, adhesive, fertilizer and so on. The disperser is with an disperser disc drive by the shaft connected with driving part. The disc rotating with high speed and the materials touched the disc will be mixed by smaller size. The disperser are ideal for dispersion that the material viscous up to 50000 centipoise, It is the best disperser for liquid materials.

Especially the high speed disperser for paint. It is widely used in water based paint industry, it is the best choice for different paint materials premix and dispersion, This paint mixer is suitable for mass paint production, and it is the economic choice.



## TWIN SHAFT DISPERSER

### Operating Principle of Twin Shaft Disperser

The disperser is not only able to disperse the materials with low fineness requirement but also blend them into final products directly. Disperser's saw tooth-shaped dispersing impeller intensely stirs the paste in the vessel while rotating at high speed. The material particles become finer particulates during strong impact and shearing force. The mixing impeller blade is fabricated according to the size of material tank in order to fully disperse the materials inside the tank and meet production process requirements.

### Advantages of Twin Shaft Disperser

- High Speed/low speed one time run
- Homogenous Mixing
- Wide Range of Applications
- Short Mixing Time
- Easy to Clean
- Capacity range from 0.5KL-10KL
- Mild Steel/Stainless Steel construction
- Normal Temperature and Pressure inside mixer
- Hydraulic Up/Down
- Easy Tank Removable
- More sufficient processing of the materials
- Hydraulic lift ensures stability and reliability
- Large power with stronger processing ability



**HYDRAULIC  
TYPE**



**FIX TYPE**

# TUYAN INDUSTRIES



## PUG / RIBBON MIXER

### Purpose of Pug / Ribbon Mixer

Pug mill widely used in the (powder and liquid) solid-pulp (powder and glue solution), such as putty paste of the mix In particular to adapt to the viscous material mixture. The density difference between the materials mixing. The mixer is suitable Putty paste, biological, pharmaceutical, Paint and other industries, it is recommended to use stainless steel. Between the motor and the mixing spindle through the cycloid reducer directly connected simple structure, high reliability and easy maintenance.

### Standard Features of Pug / Ribbon

- Capacity range from .5 Ton-10 Ton Pug Mill
- Mild Steel/Stainless Steel construction
- Gland Packing Seal + Air Purge Seal
- Heating/Cooling Jacket for ribbon blender
- Spraying Nozzle for liquid
- Heavy-duty drive unit
- Various Outlet Valve depend on customer's process requirement
- Explosion-proof for electricity



DOUBLE SHAFT

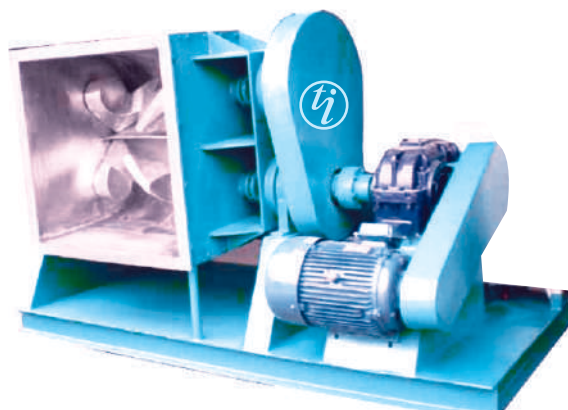
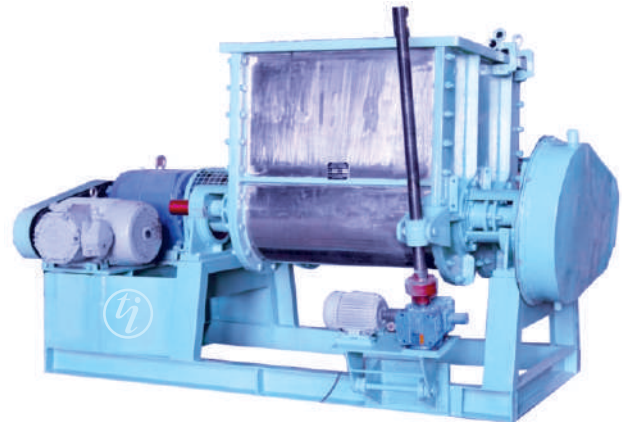


SINGLE SHAFT

## SIGMA MIXER

### How its work Sigma Mixer

TUYAN introduces the modern and heavy duty, strong built Sigma mixer to produce uniform mixing and Dispersing heavier viscosity materials. The Sigma mixture is suitable for many applications like mixing, kneading, grinding, dispersion, drying etc. The sigma mixer have application to produce highly viscous materials like different kinds of Chemical, Dyes & Pigments, Paint, Polymers Plastic, Putties, Plastic, Pharmaceuticals, Printing ink, stiff pastes, adhesives, polyester Compounds, flush colors, brake lining compounds, resign, soap, PVC coatings, Rubber compounds, Confectionery, Magnetic Tape Coatings, Ceramic, Carbon Black, doughs,, Food Products, Fiber Glass, Grease, Lead Storage Battery, Soap & Detergent etc.



### Sigma Mixer Operation

Sigma mixer, the tangential action of mixing and dispersing is thoroughly obtained by 'Z' (SIGMA) shaped blades, which rotates very accurately at different speed towards each other causing product to be transferred from blade to blade. Discharge of the mixed product is achieved by tilting the container or through the valves at the bottom or by means of an extrusion screw below the container if provided.





## TRIPLE SHAFT DISPERSER

### Operating Principle

There are lots of mixing forms or their combinations that are properly configured for options, such as distributed type, paddle type, Lightnin type, anchor type, frame type and wall-mount type.

### Applicable Industry

The Three-shaft mixing disperser is applicable to the chemical industry, such as printing ink, paint, coating and pigment, etc. This machine is suitable for material dispersing, mixing, blending and other production processes.

### Advantages of Triple Shaft Mixer

- High speed and homogenous mixing
- Independent drive of each shaft to achieve different process route according to different procedure
- Full and highly efficient mixing effect is achieved with combined mixing forms
- Suitable for highly viscous or thixotropic materials
- Satisfactory proposals will be offered to you if you can submit your required processing volume, equipment form, dimension requirements, property of your material to be processed and the process route.

### Wide Range of Applications

- Short Mixing Time
- Capacity Range From 10-10kl
- Mild Steel/stainless Steel Construction
- Pneumatic Operated Outlet Valve
- Hydraulic Up/down
- Easy Tank Removable
- Vacuum Type
- More Sufficient Processing of The Materials
- Large Power With Stronger Processing Ability
- Three-shaft Mixing Form

### Application of Triple Shaft Disperser

- Semi Paste Mixing
- Mixing of Wet Slurries
- Wet Granulation
- Liquid Coating of Powders and Granules
- Fat and Oil Incorporation
- Vacuum Drying
- Foods
- Cosmetic
- Pharmaceuticals
- Soaps
- Agricultural Chemicals
- Coatings
- Ink
- Dye
- Colorant





## RESIN REACTOR

Complete range of chemical reactor for Resin, Paints and other industries.



### What is Chemical Reactor

A chemical reactor or reaction vessel is vessels design to facilitate chemical reaction among various raw chemicals, known as reactants. Reaction Vessels are also used for other processes such as solids dissolution, product mixing, crystallization, liquid/liquid extraction and polymerization. Reactors are also identified based on process for which it will be used. (Such as blender or crystallizer).

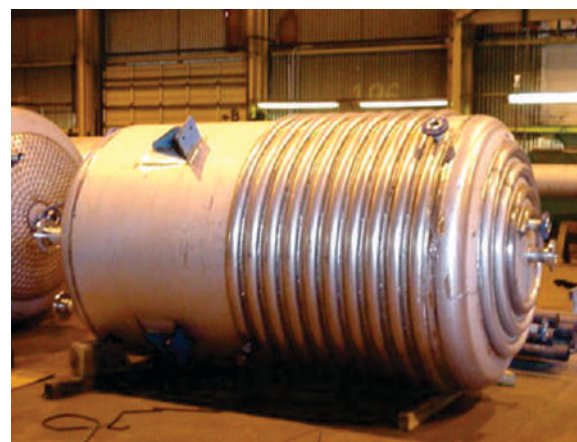
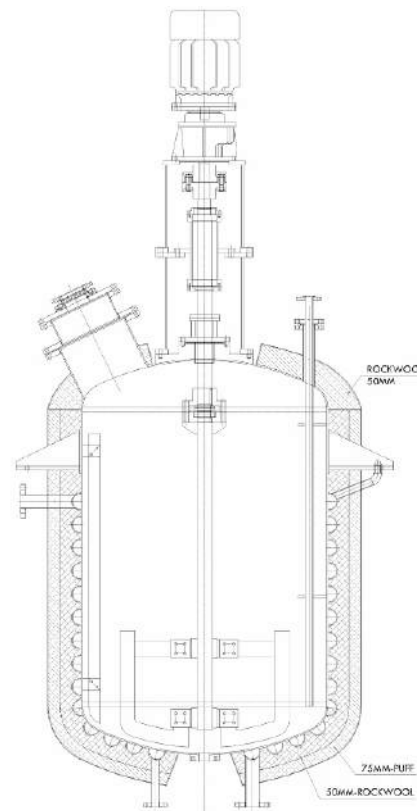
We are a chemical reactor manufacturer for Chemical, Paint and other industries.

### Type of Chemical Reactors

As per your process demand we fabricate jacketed vessel, limpet coil reactor, dimple type reactor, high pressure reactor or autoclave. Our customers are spared across the world. We serve reputed companies like Shalimar paint ltd, karna paints, Akross coating, Nippon paints India ltd, Superon India ltd and many more in India and abroad.

### Benefits of using Reactors

- Complete range of chemical reactors as per your specifications
- Proven quality. 700+ reactor vessels working successfully
- Adheres to ASME and other standards with special attention to Argon and Arc welding procedures
- Offered in Stainless Steel (SS-316L, SS-304L) as well as Carbon Steel material
- Raw material sourced from Tata, Jindal and Essar.
- Man, Machine and System Infrastructure to execute big projects
- Value added service offered separately for valves, fittings, pipe and automation
- Different types of agitator design
- Registered with leading consultants and third party inspection agency.
- Reliable After sales support
- On time delivery





# TUYAN INDUSTRIES



## ACCESSORIES



S.S. STORAGE TANK



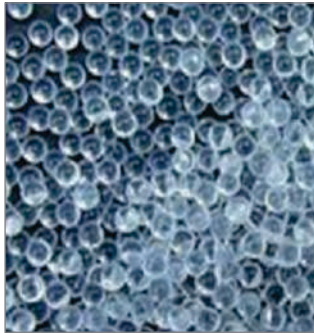
S.S. STORAGE TANK



S.S. STORAGE TANK



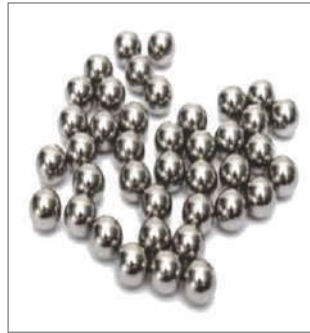
S.S. STORAGE TANK



GLASS BEADS



ZIRCONIUM OXIDE



STEEL BALLS



POWDER LIFTER

## OUR TURNKEY PROJECTS



ACCESSORIES / TURNKEY PROJECTS



# Thanks



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