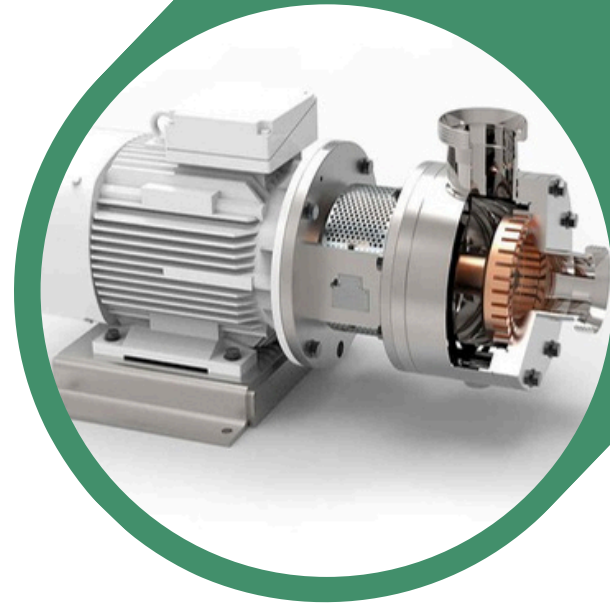
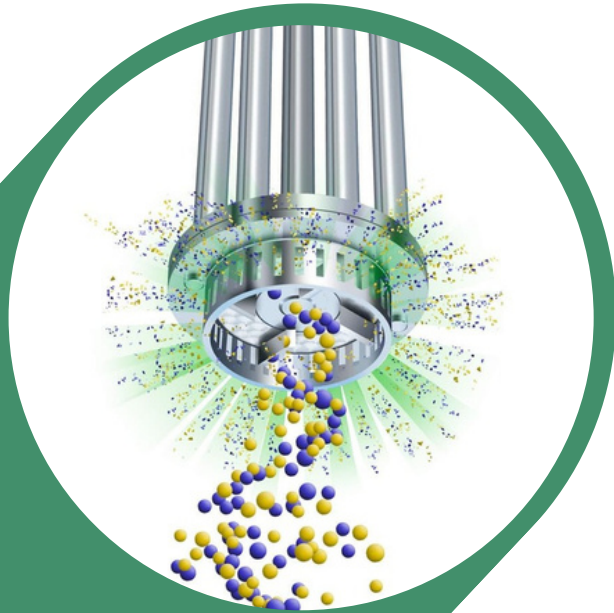


WET MIXING MACHINE MANUFACTURER

Engineered Excellence in Wet Mixing Solutions. Machines that used in industries like paints, chemical, pharmaceutical etc..



MECWORKS INNOVATION



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ABOUT US

Mecworks Innovation, founded in 2024, is dedicated to advancing wet mixing machinery solutions for a variety of industries. As a new player in the market, we specialize in providing high-performance, precision-engineered equipment tailored to the needs of sectors such as pharmaceuticals, food and beverage, chemicals, and more. Our focus is on delivering innovative wet mixing systems designed to enhance efficiency, consistency, and reliability in manufacturing processes. By leveraging the latest technology and industry insights, Mecworks Innovation offers cutting-edge solutions that address the unique challenges faced by our B2B clients. Despite being a new company, our commitment to excellence and customer satisfaction drives us to exceed expectations and set new standards in the industry. Partner with us to experience the next generation of mixing technology and elevate your operational capabilities.

WHY CHOOSE US?

- **Unmatched Durability:** We source premium materials and utilize cutting-edge manufacturing processes to ensure our machines are built to withstand the demands of even the most rigorous industrial environments. Expect years of reliable performance.
- **Engineered Excellence:** Our team of seasoned mechanical engineers is passionate about creating high-performance machines. We combine decades of experience with cutting-edge design principles to deliver machines optimized for efficiency, precision, and power.
- **Innovation at Your Service:** We believe in constantly pushing the boundaries of industrial machine technology. Our dedication to research and development ensures we offer the latest advancements to keep your operations at the forefront of your industry.
- **Dedicated Customer Support:** We do not just build machines – we build partnerships. Our team is available to provide expert advice, comprehensive training, and exceptional after-sales service to ensure you get the most out of your investment.



INILINE HOMOGENIZER

The MECWORKS INNOVATION Inline Homogenizer delivers exceptional performance for emulsifying, dispersing, blending, dissolving, particle size reduction, disintegrating, mixing and homogenizing mixtures

- Small Capacity (50-500 L/hr)
- Medium Capacity (500-5,000 L/hr)
- Large Capacity (5,000 L/hr and above)
- Selection Of Shaft Sealing
- Output Ranging from 20-200,000 lt/hr

STAGES WE OFFER :



- **SINGLE STAGE** : You will get final particle size upto 40-50 microns.



- **TWO STAGES** : You will get final particle size upto 20-30 microns.



- **FOUR STAGES** : You will get final particle size upto 5-15 microns.

(IN FEW APPLICATIONS, WE ADDITIONALLY OFFER DOUBLE MECHANICAL SEAL WITH THERMOSYPHON SYSTEM FOR SEAL COOLING & COOLING JACKET FOR ROTOR STATOR ASSEMBLY)

KEY APPLICATIONS :

- Food Industry
- Pharmaceutical Industry
- Cosmetics Industry
- Bitumen Processing
- Paints Industry



HIGH SPEED DISPESER

High-speed dispersers are versatile tools used in various industries to mix, blend, and disperse materials efficiently. Here are some key applications:

- Paints and coatings
- Pharmaceutical Industry
- Cosmetics Industry
- Food And Beverages
- Chemicals
- Adhesives and Sealants
- Pulp And Paper

Rotor design is in cowel blade.
Speed : 0-3000 RPM

(CAPACITY RANGING FROM LAB TO INDUSTRIAL MODEL)



POWDER-LIQUID MIXER

A powder-liquid mixer is a device designed to blend powders with liquids to create a uniform mixture. These mixers are used in a variety of industries, including food and beverage, pharmaceuticals, chemicals, and cosmetics.

- Small Capacity (50-500 L/hr)
- Medium Capacity (500-5,000 L/hr)
- Large Capacity (5,000 L/hr and above)
- Selection Of Shaft Sealing
- Output Ranging from 20-200,000 lt/hr
- Hopper for addition of powder
- Suction of powder by creating vaccum



BEAD MILL

Bead mills are versatile devices used primarily for the nano grinding, particle reduction and milling of materials in various industries.

- Paints and coatings
- Inks
- Cosmetics Industry
- Food And Beverages
- Nanomaterials

By using zirconium beads to agitate and break down particles, bead mills achieve nano particles, making them essential for producing high-quality products across these diverse applications.

KEY FEATURES OF MECWORKS BEAD MILLS:

- Submicron Grinding
- Versatile Applications
- Scalable Technology
- User-Friendly Design
- Durable Construction
- Safety Features

MECWORKS DYNO/BEAD MILL MODELS:

MecWorks offers a variety of lab bead mill models to cater to your specific needs. Here's a quick overview:

- **Mini Series**
- **Standard Series**
- **Advanced Series**

CUSTOMIZATION OPTION :

MecWorks understands that no two labs are alike. We offer a variety of customization options to tailor your bead mill to your specific requirements. These include:

- Feed Pumps
- Grinding Media Selection
- Automation



BITUMEN EMULSION PLANT

A bitumen emulsion plant is a facility where bitumen (a type of viscous, black, and sticky substance derived from crude oil) is emulsified with water and various emulsifying agents to create bitumen emulsion. This product is used in various applications, particularly in road construction and maintenance.

RANGE OF BITUMEN EMULSION PLANTS:

1. Small-Scale Bitumen Emulsion Plant (1 TPH)
2. Medium-Scale Bitumen Emulsion Plant (5 TPH)
3. Large-Scale Bitumen Emulsion Plant (10 TPH)

KEY FEATURES & BENEFITS:

- Superior Emulsion Quality
- Efficient Production
- Robust Construction
- Flexibility
- Environmental Friendliness
- Expert Support

PLANT COMPONENT & PROCESS:

- Emulsifier Storage and Dosing System
- Bitumen Melting and Heating System
- Colloid Mill
- Cooling System
- Storage Tanks
- Control System

APPLICATIONS:

- Road construction and maintenance
- Soil stabilization
- Waterproofing
- Dust suppression
- Agricultural applications

CUSTOMIZATION AND SUPPORT:

MecWorks Innovation offers comprehensive customization options to tailor bitumen emulsion plants to specific customer needs. Our expert team provides installation, training, and ongoing technical support to ensure optimal plant performance.



PLANT COMPONENT & PROCESS:

- Emulsifier Storage and Dosing System
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PMB & CRMB

PMB - POLYMER MODIFIED BITUMEN EMULSION PLANT :

A bitumen emulsion plant is a facility where bitumen (a type of viscous, black, and sticky substance derived from crude oil) is emulsified with water and various emulsifying agents to create bitumen emulsion. This product is used in various applications, particularly in road construction and maintenance.

CRMB - CRUMB RUBBER BITUMEN EMULSION PLANT :

A Crumb Rubber Bitumen Emulsion Plant is designed for the production of bitumen emulsions that incorporate crumb rubber, which is derived from recycled tires. These plants are used to create bitumen products with enhanced properties, such as improved elasticity and durability, often used in road construction and maintenance.

RANGE OF BITUMEN EMULSION PLANTS:

1. Small-Scale Bitumen Emulsion Plant (1 TPH)
2. Medium-Scale Bitumen Emulsion Plant (5 TPH)
3. Large-Scale Bitumen Emulsion Plant (10 TPH)

PMB - POLYMER MODIFIED BITUMEN EMULSION PLANT :

PRODUCTION PROCESS

- **Heating** : Bitumen is heated to reduce its viscosity, making it easier to mix. The polymer is also prepared by dissolving or dispersing it in water or other carriers.
- **Mixing** : Bitumen, polymer, and emulsifying agents are mixed in the emulsion mixer. The mixture is then processed through the homogenizer to achieve a stable emulsion.
- **Cooling and Storage** : The hot emulsion is cooled and transferred to storage tanks. Temperature controls are important to maintain the quality of the emulsion.

CRMB - CRUMB RUBBER BITUMEN EMULSION PLANT :

PRODUCTION PROCESS

- **Crumb Rubber Preparation** : Crumb rubber is processed to ensure it is of the correct size and quality for blending with bitumen.
- **Heating** : Bitumen is heated to reduce its viscosity. Sometimes, the crumb rubber is also pre-heated or conditioned to improve its compatibility with the bitumen.
- **Blending** : Crumb rubber is mixed with heated bitumen. This blending process may involve a high-shear mixer to ensure that the rubber particles are well-integrated into the bitumen.
- **Emulsion Production** : The rubber-modified bitumen is then combined with water and emulsifying agents in the emulsion mixer. The mixture is processed through the homogenizer to achieve a stable emulsion.
- **Cooling and Storage** : The emulsion is cooled and stored in tanks. Temperature control is crucial to maintaining the quality of the emulsion.



- **Single vs. Double Ribbon:** Single ribbon blenders have one ribbon that moves the material from one end of the trough to the other. Double ribbon blenders have two sets of ribbons, one inside the other, which enhances mixing efficiency and reduces mixing times.

ADVANTAGES:

- Uniformity
- Gentle Mixing
- Scalability
- Low Maintenance

APPLICATIONS:

- Food Industry
- Pharmaceuticals
- Chemicals
- Plastics

RIBBON BLENDER

Ribbon blenders are versatile and widely used equipment for mixing powders, granules, and other bulk materials. They are particularly effective for achieving a uniform mix in large quantities and are commonly used in industries such as food processing, pharmaceuticals, chemicals, and plastics. Here's an overview of ribbon blenders:

DESIGN & OPERATION:

- **Structure:** A ribbon blender consists of a horizontal U-shaped trough and a central shaft equipped with helical ribbons or blades. These ribbons are usually arranged in a double or single helix configuration.
- **Mixing Action:** The ribbons rotate, moving the material in both directions along the length of the trough. This action creates a gentle but thorough blending of the contents, ensuring a uniform mix.



- **Speed Settings:** Planetary mixers typically come with multiple speed settings to handle different mixing tasks and achieve the desired consistency.

ADVANTAGES:

- Versatility
- Efficiency
- Ease of Use
- Consistency

APPLICATIONS:

- Food Industry
- Pharmaceuticals
- Chemicals
- Cosmetics

PLANETRY MIXER

A planetary mixer is a versatile piece of equipment used for mixing, blending, and kneading a variety of materials. It's named for its mixing mechanism, which resembles the way planets orbit around the sun. Here's a detailed look at planetary mixers:

DESIGN & OPERATION:

- **Structure:** The mixer features a central mixing bowl that rotates on its axis while the mixing tools (such as beaters or paddles) orbit around the bowl. This dual motion ensures thorough mixing and blending of ingredients.
- **Mixing Tools:** Common attachments include:
 - Flat Beater
 - Wire Whip
 - Dough Hook



INTANK HOMOGENIZER

An in-tank homogenizer is a piece of equipment used to mix or blend substances within a tank to achieve a uniform consistency. These devices are commonly used in various industries, including food and beverage, pharmaceuticals, and chemical processing.

DESIGN AND STRUCTURE :

- **Material** : Typically made from materials resistant to corrosion and high temperatures, such as stainless steel, titanium, or glass-lined steel.
- **Shape** : Often cylindrical, but can also be spherical or other shapes depending on the process requirements.
- **Insulation and Jacket** : May include insulation or a jacket for temperature control, which can be essential for exothermic or endothermic reactions.

COMPONENTS :

- Motor
- Rotor Stator Assembly
- Tierods

FUNCTIONALITY :

- Reaction Control
- Safety
- Versatility

APPLICATIONS:

- Fertilizers
- Pharmaceutical Industry
- Chemical Industry
- Food & Beverages



REACTOR VESSEL

A reactor vessel is a critical component in various industrial processes, designed to facilitate chemical reactions or other transformations under controlled conditions. These vessels are used in fields such as chemical manufacturing, pharmaceuticals, petrochemicals, and environmental engineering.

KEY COMPONENTS :

- High Speed Rotor
- Stator Ring
- Mixing Vessel

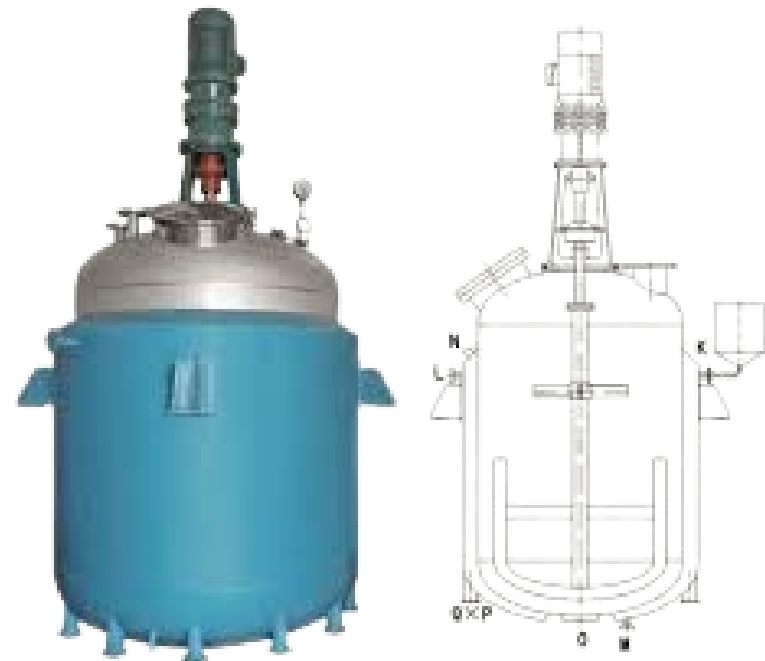
(STATOR DESIGN VARY ACCORDING TO PRODUCT)

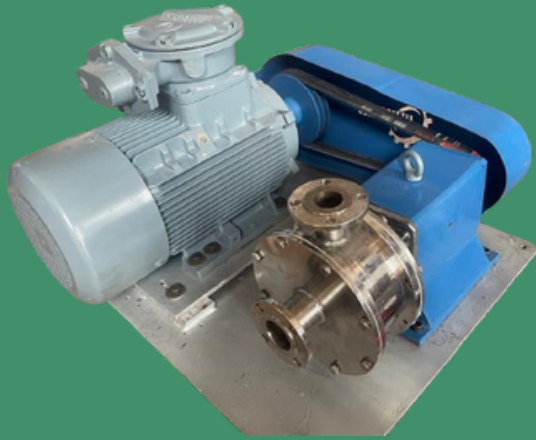
APPLICATIONS:

- Food & Beverage Industry
- Pharmaceutical Industry
- Chemical Industry

BENEFITS:

- Uniform Consistency
- Improved Quality
- Efficiency





COLLOIDAL MILL

A colloidal mill/Rapid shear mill is a machine that reduces the size of particles in a liquid to create stable colloidal suspensions. It works by forcing the liquid through a narrow gap between a rotating rotor and a stationary stator, resulting in homogenization.

- Rotor Speed : upto 6000 RPM
- Final Particle Size : 3-5 microns
- Small Capacity (50-500 L/hr)
- Medium Capacity (500-5,000 L/hr)
- Large Capacity (5,000 L/hr and above)
- Selection Of Shaft Sealing
- Output Ranging from 20-200,000 lt/hr

KEY COMPONENTS :

- Rotor
- Stator
- Belt & Pulley Mechanism
- Discharge Outlet
- Motor

APPLICATIONS:

- Food & Beverage Industry
- Pharmaceutical Industry
- Chemical Industry
- Cosmetics Industry

BENEFITS:

- Uniform Particle Size
- Improved Stability
- Efficient Homogenization
- Reduced Processing Time

LAB SCALE MODELS

1. INLINE HOMOGENIZER :

An inline homogenizer is a machine that mixes substances together to create a uniform mixture.

- Small Capacity
- Selection Of Shaft Sealing
- Output Ranging from 20-200,000 lt/hr
- Single & Double Stage



2. INTANK HOMOGENIZER :

An intank homogenizer is a type of mixer that can be mounted on top of a reaction vessel or stand to mix, emulsify, and homogenize a variety of substances.

- Agitators
- Rotor Stator Assembly
- Tierods



3. BEAD MILL :

A bead mill is a machine that grinds and disperses particles into smaller sizes, down to the micro and nano scale.

- Mini Series
- Chamber volume 500 ml to 5 lt
- Grinding Disk- SS 304
- Zirconium oxide Beads
- Particle Size >1 microns



APPLICATIONS



CHEMICAL PROCESSING

1. Vaccines
2. Cough Syrups
3. EC Formulation
4. SC Formulation
5. WDG Processing
6. Insecticides



PAINTS, INKS & PIGMENTS

1. Screen Inks
2. Offset Inks
3. Acrylic Paints
4. Oil Based Paints
5. Carbon Black
6. Solvent Based Paints



BITUMEN PROCESSING

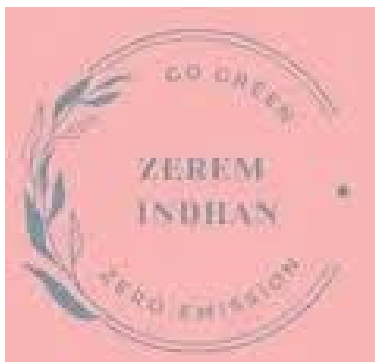
1. Bitumen Emulsion
2. Lube Oils
3. CRMP
4. PMB
5. Cutback Bitumen
6. Bitumen Paints



FOOD & BEVERAGES PROCESSING

1. Chilly Paste
2. Mayonnaise
3. Hummus
4. Peanut Butter
5. Onion Paste
6. Ginger Paste

PRESTIGIOUS CLIENTS



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