

# Mixer Vessels



Engineered for Performance and Durability

## Introduction

ERGIL mixer vessels are advanced solutions for mixing, heating, cooling, and blending operations across various industries, including pharmaceuticals, chemicals, food & beverage, and petrochemicals. These vessels are designed to provide optimal performance, reliability, and adaptability to the unique requirements of industrial processes

## Key Features and Benefits

- **Durable Construction:** ERGIL mixer vessels are manufactured using high-quality materials, such as stainless steel (SS304/SS316L) and carbon steel with protective coatings, ensuring long service life and resistance to corrosive materials.
- **Efficient Mixing Technology:** Equipped with precision-engineered agitators, these vessels ensure homogeneous mixing, even for high-viscosity liquids or multi-phase solutions.
- **Advanced Thermal Capabilities:** With integrated heating and cooling jackets, ERGIL mixer vessels allow precise temperature control for processes requiring heating, cooling, or heat retention.
- **Seamless Integration:** Designed with multiple inlet/outlet connections, manholes, and sampling ports, they are compatible with existing systems and easy to install.
- **Customizable Design:** Each vessel can be tailored to meet specific volume, pressure, and temperature requirements, ranging from 100L to 20,000L.
- **Ease of Maintenance:** Features like CIP (Clean-in-Place) systems and polished interiors ( $Ra \leq 0.4\mu m$ ) ensure minimal downtime and high hygienic standards.



## Technical Specifications

**Parameter** Value/Range **Capacity** 100L to 20,000L **Material** SS304/SS316L, Carbon Steel **Agitator Types** Paddle, Anchor, Propeller, Turbine **Surface Finish** Mirror, Matte, Sandblasted **Operating Pressure**  $\leq 0.5$  MPa **Operating Temperature**  $-20^{\circ}C$  to  $150^{\circ}C$  **Sealing Type** Mechanical or Magnetic **Heating Options** Steam, Electric, Hot Water **Insulation** Polyurethane Foam, Mineral Wool.

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## Advanced Features

- **Agitator Technology:** Choose from various agitator types to suit specific applications, including high-shear mixers for emulsification and low-speed anchors for heat-sensitive liquids.
- **Thermal Performance:** Dual-layered jackets with spiral baffles optimize heat transfer while minimizing energy loss.
- **Automation Options:** Optional integration with PLC systems for automated control of mixing speed, temperature, and process timing.
- **Enhanced Safety:** Safety features such as pressure relief valves, rupture discs, and double-sealed gaskets ensure operational security in demanding conditions.



## Applications

- **Pharmaceuticals:** Mixing active ingredients, solvents, and excipients.
- **Food & Beverage:** Preparation of syrups, sauces, and dairy products.
- **Chemical Processing:** Neutralization, emulsification, and polymerization.
- **Petrochemicals:** Homogenizing fuels, lubricants, and additives.

## Quality Assurance

ERGIL mixer vessels comply with **ASME Section VIII, GMP, FDA**, and other global standards. Rigorous testing, including **hydrostatic tests, NDT inspections**, and **dimensional accuracy checks**, ensures the highest quality.

## Custom Engineering by ERGIL

At ERGIL, we specialize in tailoring mixer vessels to unique operational needs. From material selection to agitator configuration, our solutions address the most complex industrial challenges.

For more information, visit: [www.ergil.com](http://www.ergil.com)

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