



Mechanimix

Side Entry Agitator | HMB SERIES

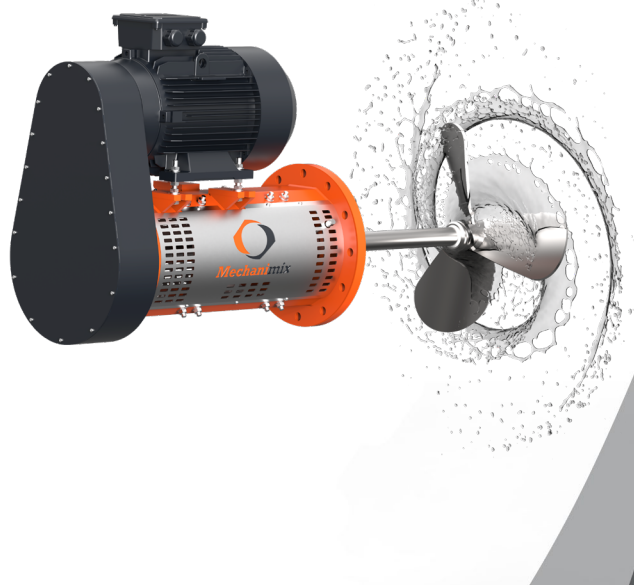
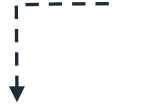
Professional Mixing Technologies

Introduction to Side Entry Agitators

The HMB Series side-entry agitators are designed to maintain continuous fluid movement and uniform mixing in large storage tanks. Their compact design makes them ideal for limited-space applications. The robust belt-driven design ensures reliable operation under heavy-duty conditions. They prevent sedimentation, enhance homogenization, and improve heat transfer. The HMB Series is effectively used in many industries such as petrochemical, chemical, pharmaceutical, mineral processing, water treatment, pulp and paper, paint, and flue gas treatment..



HMB



Mounting Type	Side Entry
Impeller	HWM Series
Mechanical seal	Specially designed mechanical seal ensures reliable and safe operation in demanding applications
Shaft diameter	30 – 120 [mm]
Shut-off device	Allows seal replacement without emptying the tank while keeping the shaft securely supported
Motor power	1.1 – 55 [kW]
Shaft Material	Stainless Steel 316L – 304, Carbon Steel
Models	HMB Series
Industries	Petrochemical, Chemical, Pharmaceutical, Mineral, Water Treatment, Pulp, Coating, Paint, Paper, Flue Gas Desulfurization

Reliable Mixing Solutions

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Advantages

Energy Efficiency:

They often require less power compared to some other mixing methods, resulting in energy savings.

Flexible Installation:

These agitators can be installed at various depths within the tank, allowing customization for specific applications.

Easy Maintenance:

No dismounting of the motor for mechanical seal maintenance required

Robust belt drive:

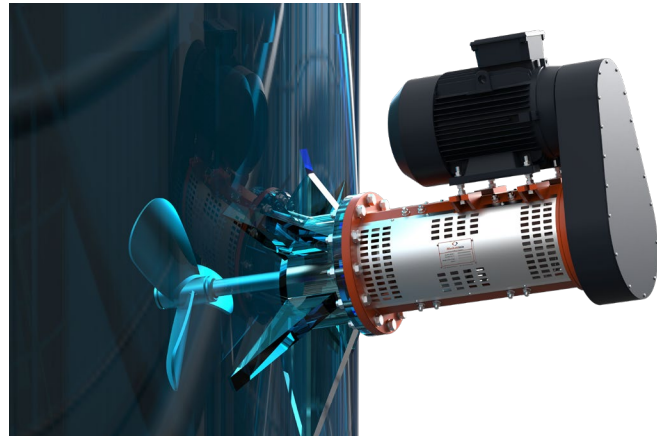
Suitable for heavy-duty applications. Agitator performance can be adjusted through different drive combinations

Optimizing Mixing Efficiency

In the CFD Post A visualization, the strong and balanced flow patterns generated by the HMB side-entry agitators within the tank are clearly observed. This flow structure ensures uniform fluid distribution throughout the entire volume, prevents sedimentation, and enhances heat transfer efficiency. The CFD-based analysis demonstrates the high performance of the HMB series and highlights its ability to maximize process reliability.

Condition Monitoring

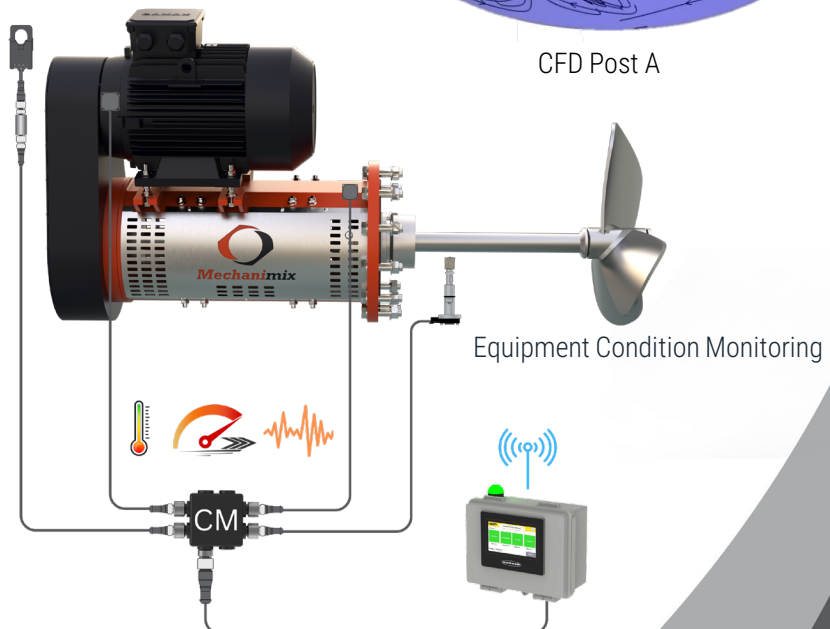
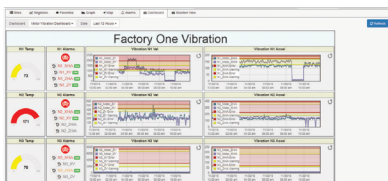
A mixer failure can lead to high costs. With the CBM system, maintenance is performed based on equipment health rather than fixed intervals. This approach reduces maintenance costs, increases safety, and ensures process continuity.



HMB Series Mounted on Tank



CFD Post A



Equipment Condition Monitoring

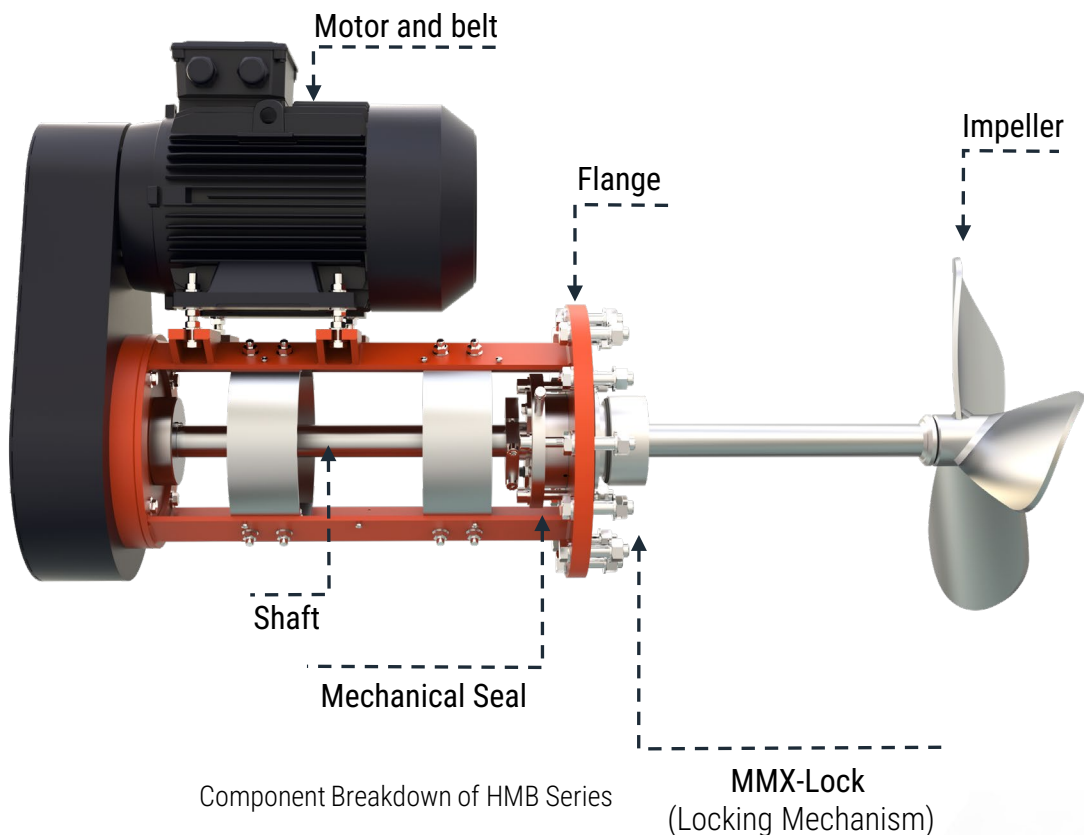
Mechanical Structure and Key Components

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Mechanical Structure and System Components

The HMB Series Side Entry Agitators are equipped with the following key components. This configuration enables simple maintenance and high mixing efficiency in horizontal motor applications. Units are available in materials such as stainless steel, carbon steel, or duplex steel.

- Horizontally mounted motor (ideal for belt-driven systems with adjustable speed and torque)
- Belt drive mechanism (enables easy tensioning and motor replacement without disassembly)
- Mechanical seal (available in single, double, or cartridge designs for reliable sealing)
- Welded or modular shaft (customized for tank geometry and process requirements)
- MMX-Lock, Locking Mechanism (prevents shaft rotation during maintenance)
- Flange connection (ensures secure and efficient tank mounting)



Focus on Modularity and Field Serviceability

The HMB Series is engineered with modularity, enabling quick adaptation to process changes and simplified component replacement in the field. Key parts—such as shafts, seals, and motors—can be swapped or upgraded without requiring full disassembly or off-site servicing. This flexibility minimizes downtime and ensures cost-effective maintenance, even in remote or high-demand

Advanced Mechanical Seal Solutions for Side-Entry Agitators

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Seal Reliability in Demanding Environments

Mechanical seals are critical components that prevent fluid leakage along the rotating shaft. In side-entry agitators, they ensure reliable operation under high pressure and temperature conditions, extending equipment life and minimizing maintenance needs.

Mechanical Seal Features

- Designed for easy replacement without draining the tank
- Balanced design for high-pressure resistance
- Materials: Silicon Carbide, Tungsten Carbide, Carbon, Stainless Steel
- Optional elastomers: Viton, EPDM, FFKM

Advantages of Mechanical Seal in These Models

- Minimum leakage, maximum efficiency
- Reduced downtime during maintenance
- Durable seal faces with minimal wear
- Compatible with a wide range of chemicals

Seal Replacement Without Draining

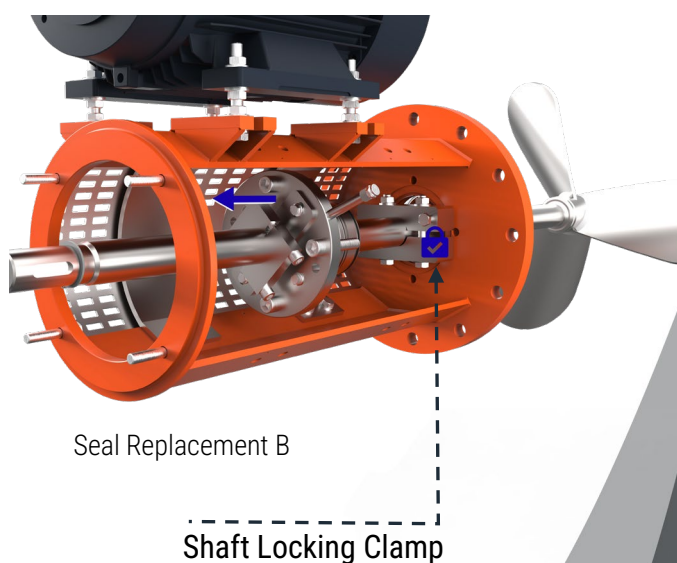
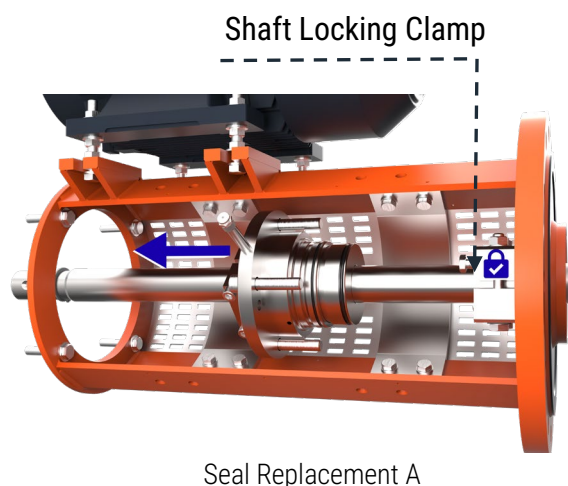
Our side-entry agitators are equipped with mechanical seals that allow seal replacement while the tank is full. This feature minimizes production downtime and ensures maximum process continuity.

Custom Sealing Solutions

Mechanimix offers customized sealing systems tailored to your process requirements, including dry-running configurations, external flushing plans, and pressure-balanced seal designs. Our engineering team works closely with clients to ensure optimal sealing performance for every application.

No Motor Disassembly Required

Mechanimix HMB Series side-entry agitators feature a horizontal belt drive system that enables mechanical seal replacement without removing the motor or disturbing the drive assembly. This unique design eliminates the need for motor realignment or electrical disconnection, significantly reducing service time and enhancing overall maintenance safety and efficiency.



Belt Drive System – Easy Access & Tensioning

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Quick Belt Replacement Without Removing the Motor

Mechanimix HMB Series side-entry agitators are designed with a smart horizontal belt drive system that allows for quick and easy belt replacement without dismantling the motor. This maintenance-friendly design minimizes downtime and ensures operator safety during service.

Adjustable Motor Position for Easy Belt Tensioning

The motor is mounted on precision-engineered slotted brackets, allowing the motor height to be adjusted effortlessly. This enables fast and accurate belt tensioning whenever slack occurs – no need for special tools or disassembly.

Key Benefits of the HMB Series:

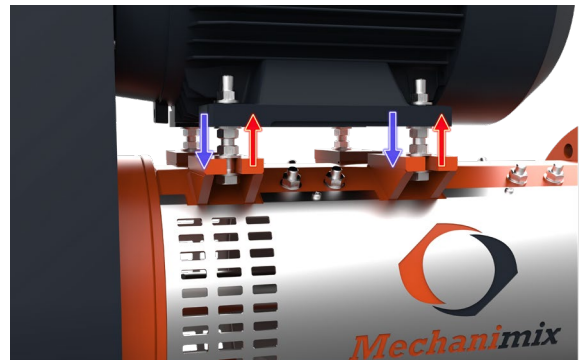
- On-site belt replacement in minutes
- No motor removal or disconnection required
- User-friendly maintenance system
- Extended equipment uptime
- Clean, safe, and cost-effective operation

Engineered for Reliability in Continuous Operation

The HMB Series is built for long-term, continuous operation in demanding process environments. Its robust belt-driven configuration offers smooth power transmission while reducing vibration and load on the motor and gearbox. This contributes to longer service life and fewer maintenance interventions over time.

Designed with Operator Safety in Mind

Mechanimix prioritizes safety by enclosing the entire belt drive system with a protective guard. This design not only prevents accidental contact during operation but also keeps dust and particles away from moving components—ensuring safer, cleaner, and more reliable performance in industrial environments.



Adjustable Motor Position A



Adjustable Motor Position B



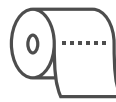
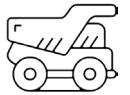
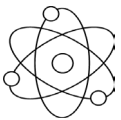
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Side Entry Agitator Dimensions

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Suitable for use in tanks with capacities ranging from 2 m³ to 20,000 m³, the HMB Series agitators are engineered to deliver reliable performance across a wide variety of applications. Designed to accommodate different fluid properties and a broad range of viscosities, they ensure uniform mixing, prevent sedimentation, and maintain process stability. This versatility makes the HMB Series ideal for industries such as petrochemical, chemical, mineral processing, water treatment, pulp and paper, and many other demanding production environments.



Mechanimix offers a wide range of industrial mixers tailored to the needs of various industries. With different model options, it delivers reliable solutions for a broad spectrum of applications.

