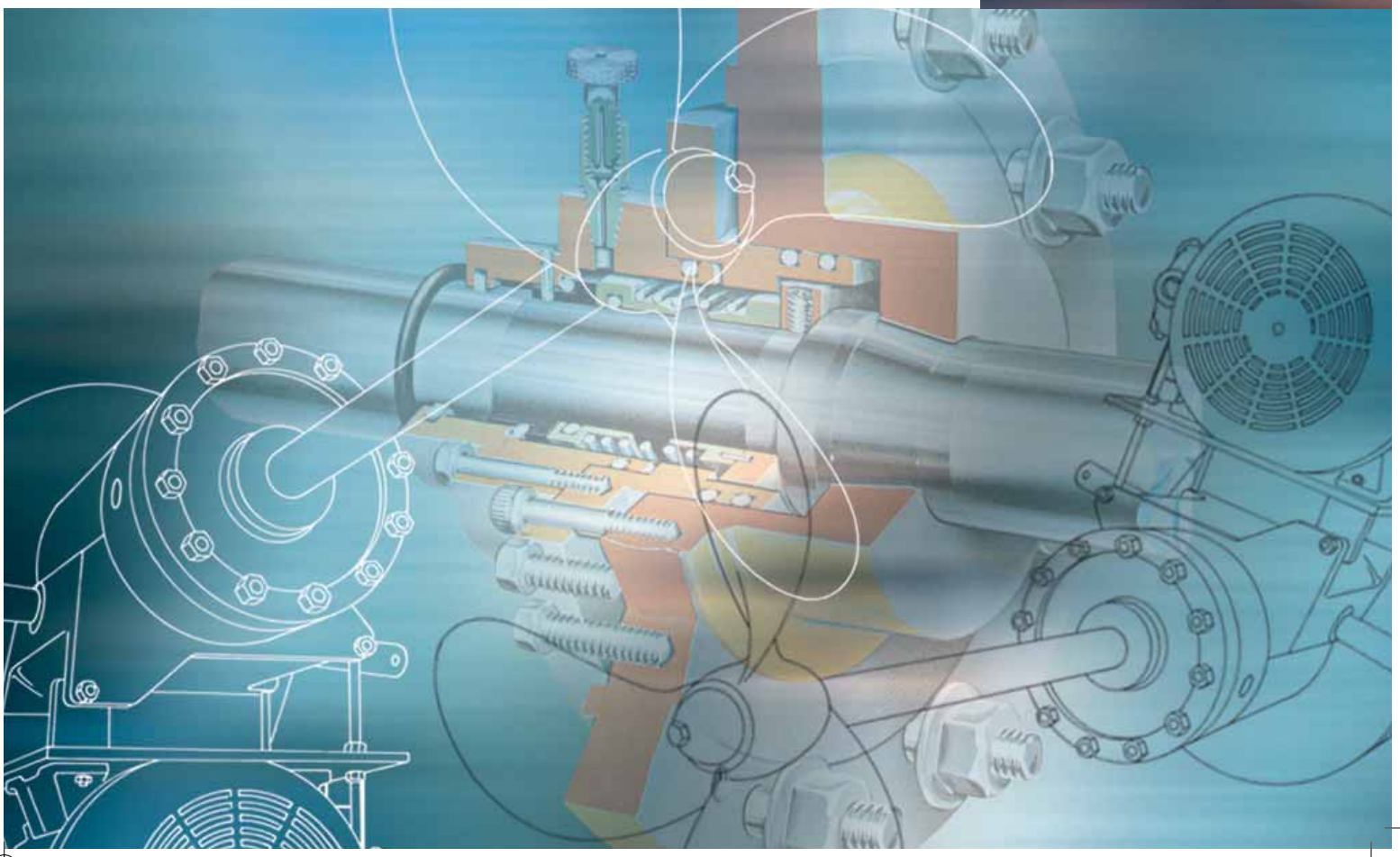
LIGHTNIN® Plenty

The Leader in Mixing Technologyq

Side Entry Tank Mixers

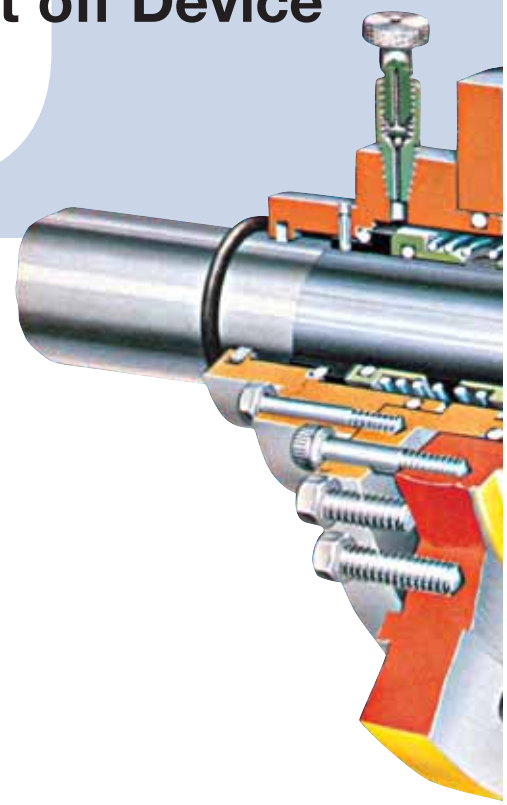


Fixed Angle Heavy Duty Side Entry Tank Mixers

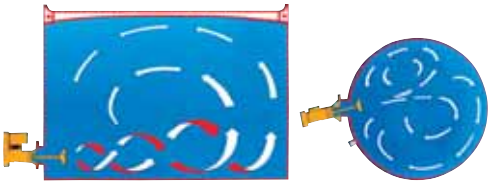
For Blending, Homogenizing and Temperature Uniformity Duties

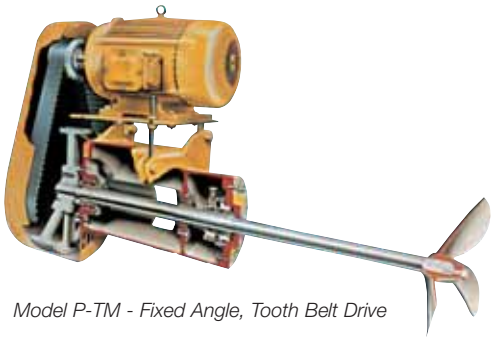
- Over 40 years operational experience
- Rugged, heavy duty design for extended service life
- Minimum maintance requirements
- Positive tank shut off device
- High efficiency cast impeller
- Gear or belt drive options
- Mechanical seal is standard supply

Unique Side Entry Mixer Tank Shut off Device

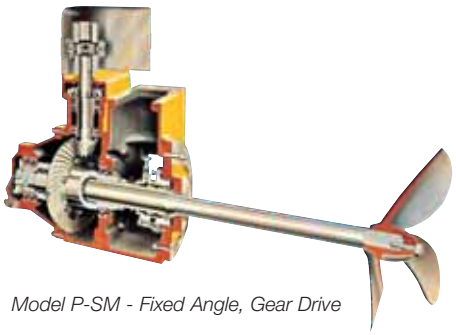


Flow Patterns for Blending, Homogenizing and Temperature Uniformity Duties





Model P-TM - Fixed Angle, Tooth Belt Drive

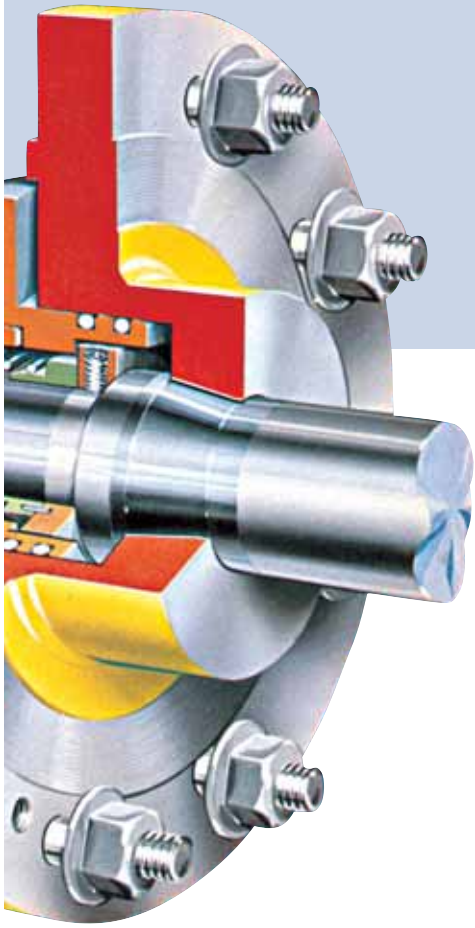


Model P-SM - Fixed Angle, Gear Drive

Permits the bearing and mechanical seal to be changed under full tank conditions

- Incorporated tapered metal to metal seal faces. All tapered faces are wear and corrosion resistant
- Faces are positively clamped by a bolted flange which securely locks and supports the shaft during changes
- Most importantly the unit incorporates a check valve for ensuring that shut off is 100% effective prior to dis-mantling
- No materials are used which deform, wear or perish with time-such as flexible, O' rings

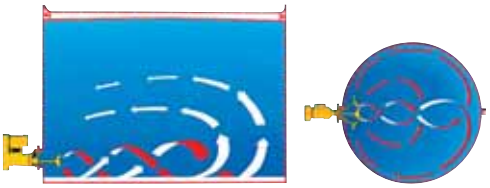
Swivel Angle Heavy Duty Side Entry Tank Mixers



For Tank Cleaning Operations and the Prevention of Harmful Sludge Settling

- Major savings per tank from more product volume
- Over 40 years operational experience specifically developing and utilizing swivel angle mixing technology
- Identical rugged, heavy duty design as for fixed angle mixers to extend service life
- Automatic, mechanical or electrical swivel devices available
- Minimum maintance requirements
- Positive tank shut off device
- High efficiency cast impeller
- Gear or belt drive options
- Mechanical seal is standard supply
- Manufactured on modern computer controlled machining centers
- All units are tested prior to shipping

Flow Patterns for Sediment Removal in Crude Oil Tanks

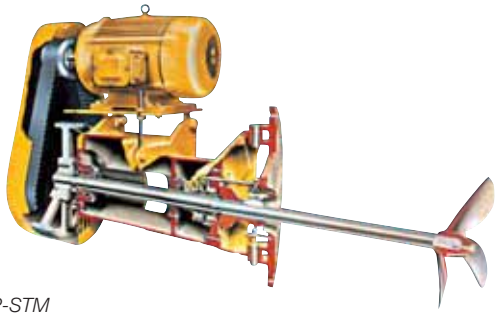


Why Side Entry Tank Mixers?

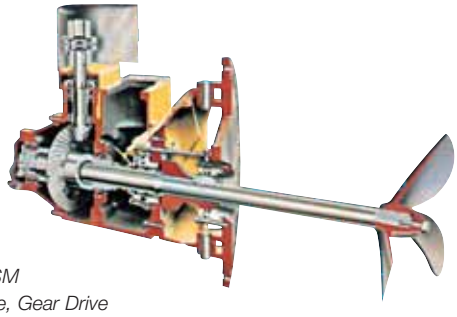
Fact: The in tank side entry mixer is the most efficient converter of energy into fluid motion!

- Jet mixers suffer significant energy losses at the pump, in the pipework, in the bends but most significantly at the jet nozzles. Also capital costs are higher and access to any in tank components is restricted. Frequently urgent maintenance has to wait until tanks are emptied and cleaned.
- Top entry mixers are effective, but not as efficent, and are significantly more expensive for larger diameter tanks. Practical considerations preclude their use on tanks with floating roofs.

Fact: A properly selected side entry mixer, complete with reliable shut off device and high efficiency impeller out-performs all other mixing devices



Model P-STM
Swivel Angle, Tooth Belt Drive



Model P-SSM
Swivel Angle, Gear Drive

LIGHTNIN® Plenty

Unique advanced impeller design

- High Pumping
- High Thrust
- Minimum Power Draw
- No Cavitation
- Solid Reliability

Years of research in the field of fluid dynamics have been utilised in developing the Lightnin Plenty Side Entry impeller.

Minimum Diameter - to permit ease of installation through standard manholes so that fully assembled mixers can be fitted from the outside of tanks- personnel not required to enter tanks to fit the impeller. Smaller diameter also permit floating roofs to come lower in the tank producing lower ullage loss.

No Cavitation - by necessity a side entry impeller is located close to the tank wall. Some high pumping impellers have a tendency to cavitate due to restricted flow paths behind the impeller blades. This can lead to premature tank wear, wasted energy and resultant low flows.

High Concentrated Thrust - to reach across large diameter storage tanks a concentrated mixing 'beam' is required. Just as a parabolic reflector will emit light beams a long way, a side entry impeller must project the thrust a long distance.

High Fluid Flow - process performance is normally a function of impeller flows. Minimal mixing time is achieved with a high performance impeller.

Minimum Power Draw - the design objective is to achieve all the above with the minimum use of energy.

The Lightnin Plenty impeller is a true helical pitch propeller with forward rake is unique to Plenty Mixers and is most significant in meeting the above design parameters.

This design provides for optimum cavitation free suction conditions while promoting maximum fluid pumping and entrainment for any installed power.

Each propeller is an accurately casted one piece component, thus eliminating the pitch setting variances and welding problems often present with fabricated designs.

Proven equipment installed worldwide

Swivel angle belt driven mixers installed in a crude oil terminal in Netherlands

Swivel angle gear driven mixer installed in a Russian refinery.

Swivel angle belt mixer undergoing site test as part of a continuing development program.

Your local contact

BRAN+LUEBBE
http://www.branluebbe.com

LIGHTNIN
http://www.lightninmixers.com

Plenty
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PREMIER MILL
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