

RW 300-900

Compact versatile submersible mixers for mixing aggressive and abrasive liquids in a wide range of applications

- For use in any tank shape
- Sized specifically for your application
- Energy efficient self-cleaning propeller
- “Solids Deflecting Ring” protects mechanical seal
- Aerodynamic shape optimizes flow formation
- Rugged compact construction
- Stainless steel construction available
- Suitable for use with variable frequency drives



RW 300-900

For over 50 years ABS has been supplying submersible pumps and motors for applications worldwide. ABS design engineers have incorporated the knowledge gained throughout these years into the ABS submersible mixer. This translates into reliability for you.

ABS produces a wide range of electrical submersible mixers that house 10 motor sizes from 2.3 to 33.5 horsepower with 23 propeller designs to choose from providing optimum sizing for your blending, solids suspension and flow acceleration applications. The propellers are self-cleaning, specifically designed to provide optimum mixer performance and produce efficient flow characteristics. These compact submersible mixers provide a cost-effective alternative to traditional long shaft mixers.

Applications

The RW series submersible mixers have been designed for a wide range of applications in water and wastewater treatment, pulp and paper, industrial, chemical and agricultural plant processes. A few applications are listed below. Your ABS Sales Engineer will be pleased to assist you with any special requirements or applications.

- Suspension of solids:** Waste sludges and free settling solids applications.
- Breaking up floating crusts:** Storage tanks, pump sumps and ice prevention.
- Chemical addition:** Dissolving, emulsification, dispersion and liquid/liquid blending.
- Flow acceleration:** Producing guaranteed fluid velocities in oxidation ditches and closed channels.
- Aeration and mixing:** Enhance oxygen transfer and reduced power consumption by separating mixing and aeration function.

Submersible mixers can be installed in any size or shape tank. Your application and tank geometry will determine the number, size and location of mixer(s) needed.



Installation

ABS mixers are easy to install and can be placed into operation immediately.

The location and orientation of the mixer(s) is critical to the success of the mixing system. Your ABS Sales Engineer can provide the necessary guidance to assure the mixer(s) are placed in the optimum location(s). Proper mixer orientation is easily achieved using an ABS pre-engineered mounting system attached directly to tank walls, eliminating costly bridges and upper support structures needed by long shaft mixers.

Our pre-engineered mounting systems provide the necessary height and angular adjustment to achieve optimum mixer performance. This flexibility allows greater tank coverage with lower power levels than conventional long shaft mixers. Height adjustment is achieved by using a hoist and cable assembly to raise or lower the mixer. Angular adjustment is achieved by turning the mixer mast assembly. Height and angular adjustment can be made without entering or draining the tank.

Application and Pre-Selection

ABS Mixers can be used in a wide variety of applications.

A brief list of industries and applications where ABS mixers can be used is shown.

Industrial Processes

(Chemical, Food & Beverage, Metallurgical, Pulp & Paper, Power Plants, and Metal Processing Industries)

- Blending
- Cooling
- Dispersion
- Suspension
- Quenching
- Lime Slurries
- Metal Sludges

Mining

- Waste Treatment
- Pump Sumps
- Pipeline Slurry Tanks
- Leaching Tanks
- Mineral Sludges

Marine

- Eliminating Ice Formations
- Creating Currents

Municipal and Industrial Waste Treatment Applications

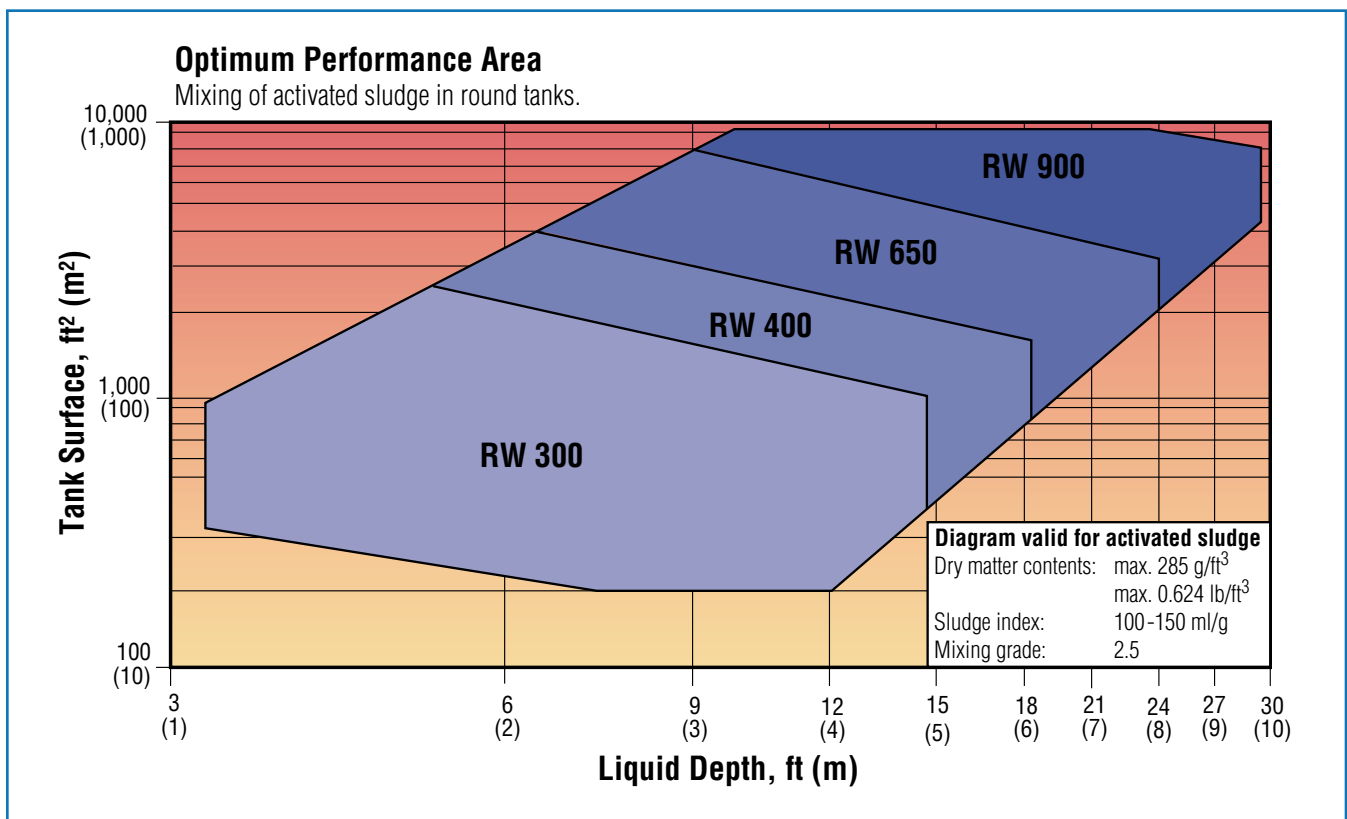
- Pump Station Cleaning
- Equalization Basin Mixing
- Sludge Thickening
- Nitrification and Denitrification
- Submerged Aeration
- Digesters
- Chlorination
- Primary Sludge Basins and Lagoons
- Secondary Sludge Basins and Lagoons
- Mineral Sludges
- Flocculation
- pH Control
- Scum Mixing
- Basin and Lagoon Cleaning

Agriculture

- Manure Suspension
- Fish Farming

Oil Exploration

- Drilling Mud



RW 300-650



Available Options

- All stainless steel construction
- Explosion proof
- Mechanical seal flush
- O-ring materials
- Flow ring
- Special cables
- Cable sleeve materials
- Propeller coatings



Self-cleaning propeller designed to provide effective mixing and vibration-free operation

Hydrodynamically designed solids deflection ring prevents long stringy solids from entering the seal area

Watertight, encapsulated squirrel cage NEMA B three phase motor, Class F insulation, 155°C, thermal sensors in each winding phase

Non-torquing watertight cable entry with anti-kink sleeve and strain relief

Watertight, encapsulated cable connection chamber with terminal board having compression type posts

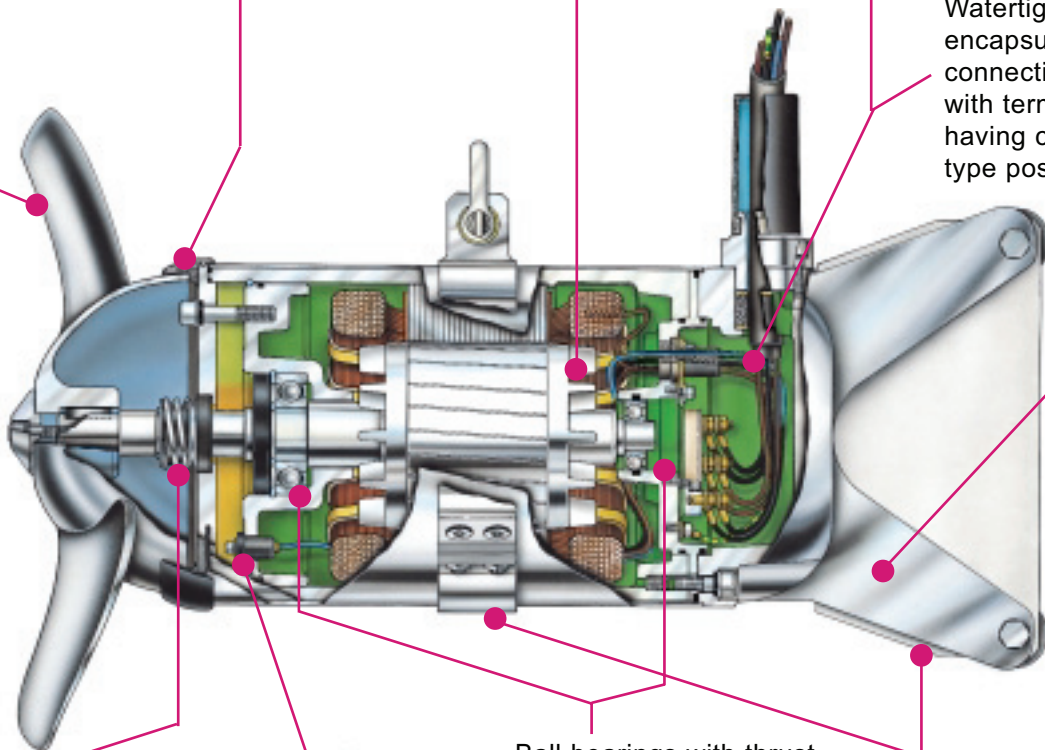
Cast support bracket minimizes vibration

Double shaft sealing with fluid side mechanical seal of pure sintered silicon carbide

Di-electrode seal leakage monitoring indicates seal inspection is needed

Ball bearings with thrust load capability provides 100,000 L₁₀ life minimum

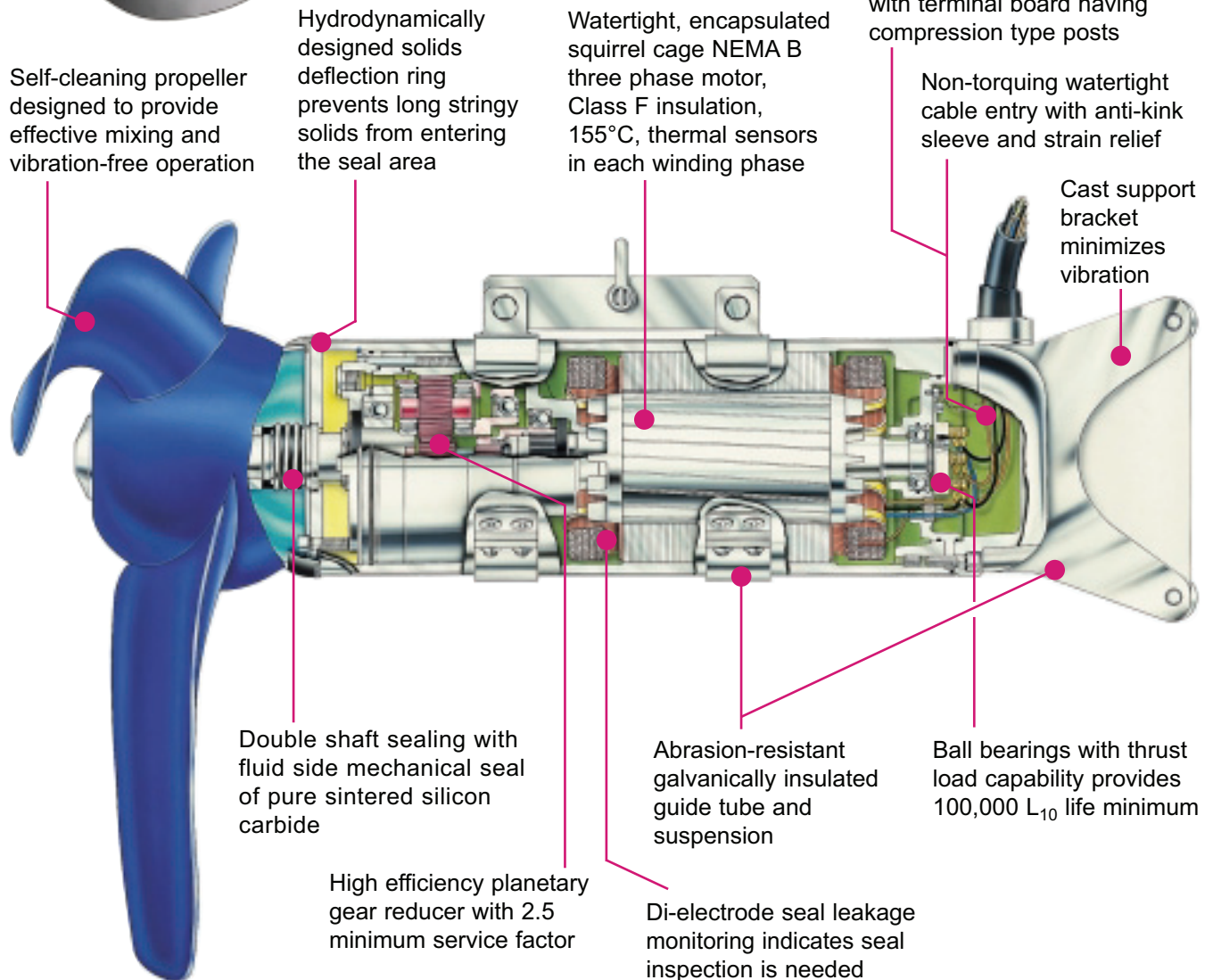
Abrasion-resistant galvanically insulated guide tube bracket and lifting assembly





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RW 300-900

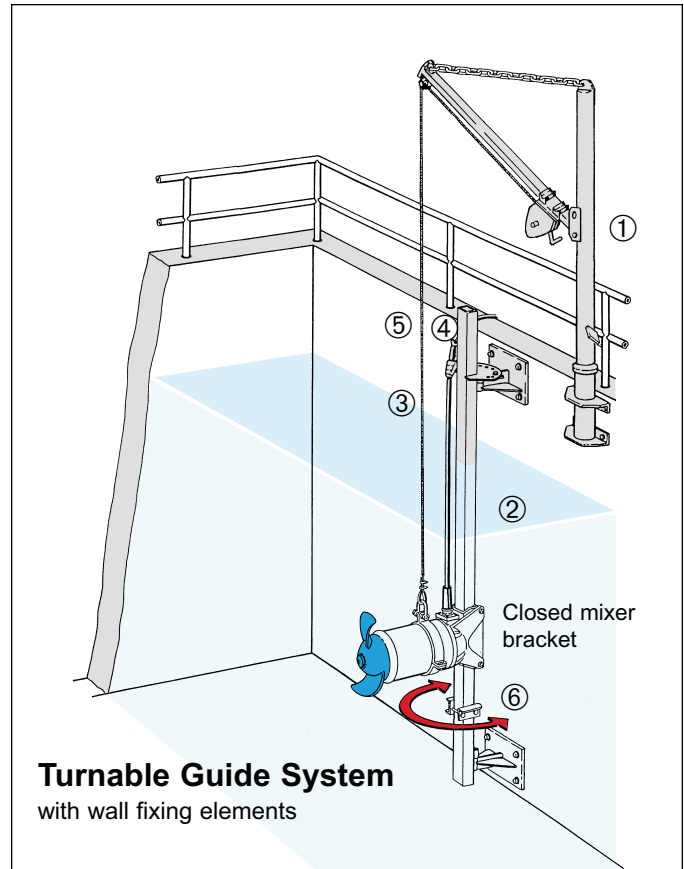
Mounting System — RW 300-900

The RW 300-900 submersible mixers are normally installed using either a 2" or 4" Square Guide Rail Mounting system. This system allows the mixer to rotate side-to-side, or to be raised and lowered to different water depths, preventing dead zones in your tank. This Square Guide Rail Mounting system also allows the mixer to be safely raised and lowered without emptying the tank contents.

A typical Square Guide Rail Mounting system is illustrated containing the following items:

- ① Free-standing lifting davit with adjustable boom suitable for wall or floor mounting.
- ② Guide tube with bottom wall mount.
- ③ Stainless steel rope.
- ④ Power cable support and guide rope.
- ⑤ Strain relief power cable support clamps and hooks.
- ⑥ Mixer stop.

Contact your ABS Sales Engineer for the RW 300-900 mounting system best suited for your application.



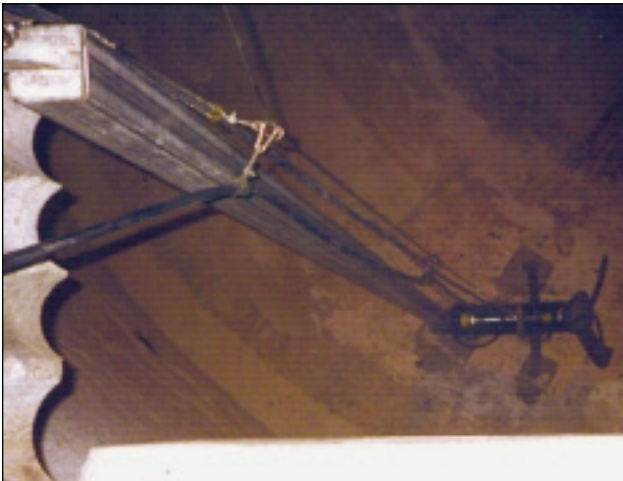
Installation Examples



Oxidation Ditch



Sludge Storage



Sludge Blending



BNR (Anoxic/Anaerobic)



Biological Sludge



Biological Sludge

ABS offers the Complete Program

AFP

Submersible pumps from 1.7 to 1140 hp (1.3 to 850 kW). Pressure-tight encapsulated fully flood-proof motors. Hydraulics with CB (ContraBlock™) system or open, closed, single or multivane impellers for handling clear water, polluted water, sewage containing solids, faecal slurry and sludge. Suitable for both wet well and dry well installation.



FlowBooster®

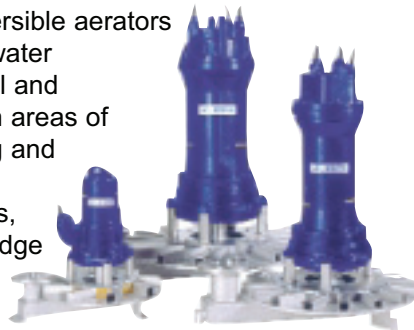
Low speed, highly efficient submersible mixer with a wide range of applications for use in industrial and municipal treatment plants. Mono-cast propeller and patented mixer coupling system. Max. mixer capacity 67,000 gpm (15,250 m³/h) at 6.2 hp (4.6 kW).



ChannelAire™ TA Aerators

Self-aspirating submersible aerators for waste water and water treatment in municipal and industrial plants. Main areas of application are mixing and equalisation tanks, activated sludge tanks, SBR-reactors and sludge storage tanks.

Oxygen transfer up to 250 lb O₂/hr. (113 kgO₂/hr.) max. motor output of 115 hp (86 kW).



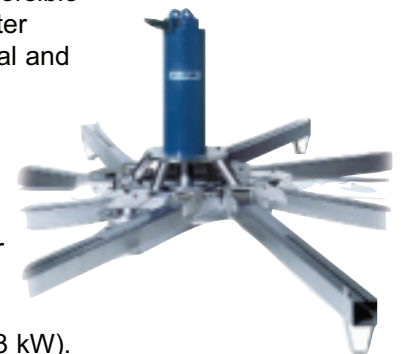
VUP / AFL

Submersible propeller pumps for pumping large volumes up to 110,950 gpm (7,000 l/s) at heads up to 98.5 ft. (30 m). Areas of application: Reclaimed land dewatering, coastal protection, irrigation, aqua-culture, cooling and process water handling as well as recirculation in sewage treatment plants.



BIONOx TRG Aerators

Pre-pressurized submersible aerators for waste water purification in municipal and industrial plants. The aerators are especially well-suited for deep basins and high oxygen transfer rates. Oxygen transfer up to 660 lb O₂/hr (300 kg O₂/h), motor output, max. 58 hp (43 kW).



Distributed by:

ABS reserves the right to alter specifications due to technical developments.



We know how water works

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