

Low Shear Agitator with a Superior Impeller Design

The Rotofoil is a low shear agitator for mixing immiscible liquids and dissolving solids that are unlikely to agglomerate. The Rotofoil prevents sedimentation, heat input, and floc circulation, and is ideal for viscosities up to 5,000 mPa*s. It has been used for years across various industries including food and beverage, pharmaceutical, cosmetic, chemical/coatings, and wastewater treatment.

High Efficiency Rotofoil Blade Design

The unique characteristics of the Rotofoil impeller blades results in a highly efficient low energy consumption mixer that provides uniform flow and minimal turbulence.

The profile – the blade has a graduated width where it is slim at the tip where the speed is greatest, and wider at the base where the speed is the lowest. The shape provides uniform flow across the impeller diameter.

The twist – the twist in the Rotofoil blade decreases evenly from the inner hub out toward the tip. The twist is carefully proportioned to avoid turbulence.

The arc – the arc, or radius of the blade is strong and directs the flow downward:

- Provides a low angle of attack at the leading edge while allowing the trailing edge to direct powerful currents downward
- Strengthens the blade, making it four times stronger, even though it weighs about one third less than a traditional impeller of the same diameter. In addition, the blade is 50% thinner, further contributing to reduced power consumption.



Hydrodynamics – the key to lower energy costs

Just like a wing of an airplane, a mixing impeller creates turbulence from the back of the blades if their angle of attack is too steep. Turbulence provides no agitation but draws a lot of power. The hydrodynamic Rotofoil transmits almost all the energy for movement of the liquid, with minimal energy wasted on turbulence.

This table shows an example of an actual mixing job* performed by a pitch blade turbine, a marine type propeller, and a Rotofoil.

	Pitch Blade Turbine	Marine Propeller	Rotofoil
RPM	300	300	300
Impeller Diameter	415 mm	450 mm	500 mm
Flow Rate	21.1 m/min	21.5 m/min	22.1 m/min
Power draw	2.03 kW	0.96 kW	0.69 kW
Required shaft length	2500 mm	2450 mm	1500 mm
Required shaft diam	55 mm	45 mm	30 mm
Agitator weight	148 kg	96 kg	43 kg
Agitator purchase price factor	1.00	0.74	0.49
Flow per kilowatt	10.4 m/min	22.4 m/min	32.0 m/min

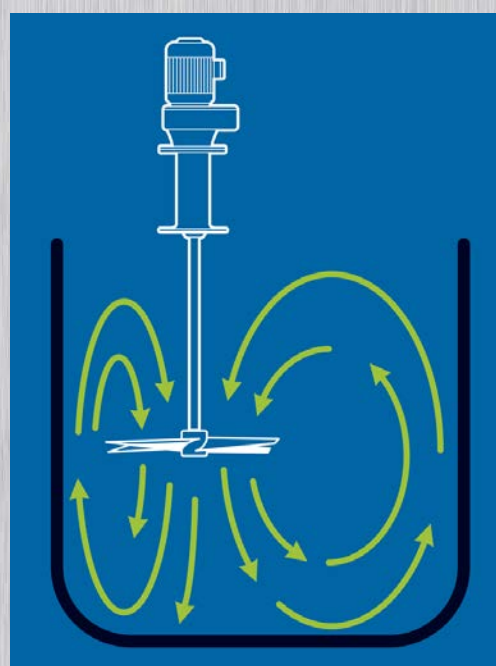
*Batch size: 10 m³ | Viscosity: 50 mPa*s | Specific gravity: 1.1 | Required flow rate: About 21 m³ per min

EMPLOYEE OWNED... CUSTOMER FOCUSED

At Admix, we bring a unique perspective and attitude to servicing our customers. As a 100% employee owned company, we know that our success is completely dependent upon your satisfaction. We trust that when you communicate with us, you'll sense our enthusiasm and commitment to meet or exceed your expectations.

Axial Mixing with Energy Savings

The hydrodynamic design of the Rotofoil impeller ensures uniform flow combined with low power consumption, low turbulence and low shear. Most liquid-liquid blending and solids suspension applications require a controlled uniform flow pattern throughout the entire batch. The Rotofoil develops strong axial currents that flow downward towards the bottom of the tank. The flow continues to the outer edges of the tank, eliminating any dead zones. Even heavier particles are forced upward into the flow pattern. A 70% energy savings can be expected when compared to traditional 45° pitch turbines that spread the flow 45° or more resulting in a disrupted flow pattern.



Impeller and Gear Motor Options

Rotofoil impellers are custom manufactured and range in size from 200mm – 3990mm (8 in. – 157 in.). The Rotofoil's gear motors range in size from 0.25 to 22kW, 800rpm – 10rpm.

Optional Customization

Let Admix create a customized solution for you. Our experienced applications experts are available to work with you and recommend an optimal configuration for you based your viscosities, densities, ingredients, and batch sizes. You are assured a solution that is neither too small nor too big for your application.