

Rapidex delivers intense agitation & low power consumption

The Rapidex is a low shear agitator with uniquely designed marine type propeller blades that ensure a cavitation-free operation while providing extremely intense agitation. Available from 110mm – 800mm diameters, the smooth shape and finish of the Rapidex impeller blade make it very suitable for sanitary applications. The Rapidex operates at a low tip speed and consumes very little power.

Applications and Industries

The Rapidex is used across many industries including food, beverage, pharmaceutical, cosmetic, chemical/coatings, and wastewater treatment. Ideal for high viscosities up to 25,000 cps, the Rapidex is perfect for mixing miscible liquids, dissolving of solids that are unlikely to agglomerate, as well as preventing sedimentation and improve heat transfer.

Reliable Engineering

The Rapidex is engineered for trouble-free agitating year after year. All components including the shaft, ball bearings, coupling and motor are designed to withstand maximum loads while delivering stability and minimal need for service.



Model variations

Offering a high level of flexibility, the Rapidex is available in four different drive principles:

- Directly powered by motor
- With attached variable frequency converter speed
- Powered by gear drive motor (ranging in size from 0.25kW to 22kW)
- Belt drive

Low tip speed / low power consumption

The power consumption of any mixing impeller is a result of the following parameters:

1. viscosity and specific gravity of the mix.
2. diameter, rpm and power number of the impeller.

The parameters of the mix itself may be given, whereas two parameters of the impeller can be varied to obtain a certain impeller tip speed. The combination of the speed (RPM) and the impeller diameter results in the actual tip speed. A high tip speed requires high energy whereas a low tip speed will result in considerable energy savings. The table shows how the tip speed influences the power consumption of a Rapidex agitator.

	ex. 1	ex. 2	ex. 3
Batch size, m³	25	25	25
Viscosity, mPa*s	50	50	50
Specific gravity	1.1	1.1	1.1
Impeller diam. mm	350	475	650
Speed, RPM	965	379	158
Tip speed, m/sec.	17.68	9.43	5.38
Flow rate, m ³ /min.	27.20	26.68	27.57
Power consump. kW	8.89	2.47	0.86

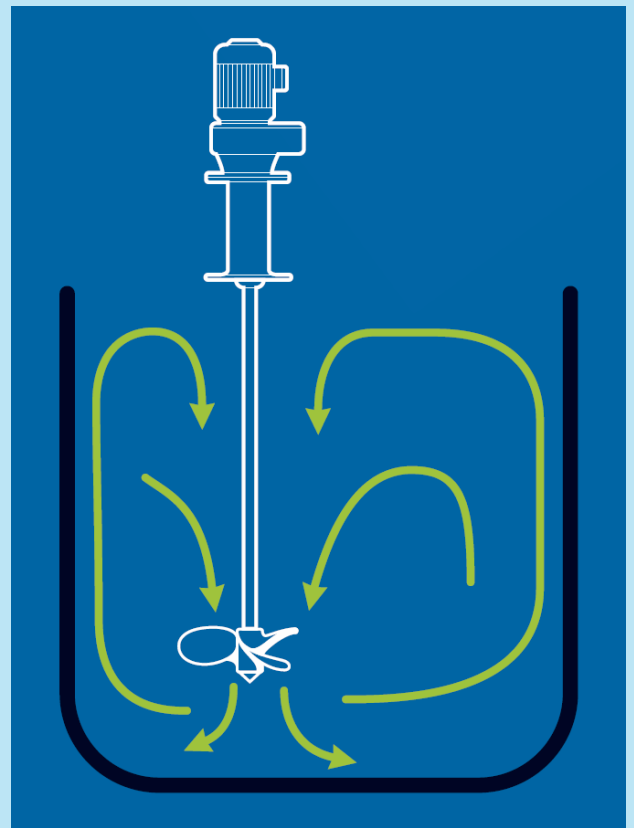
Note that the power consumption of example No. 3 is only one tenth of example No. 1, and the flow rate remains unchanged.

Shaft Strength

Admix ensures its shafts are sufficiently strong, have a high finish and are built within a tolerance of 0.1 mm. This provides greater safety and counteracts wear and tear on the system.

Blade Design

The blade is designed to draw fluid away quickly without generating turbulence. This ensures high circulation and low energy consumption. Because the propeller is twisted from the shaft to the tip and angled, turbulence formation is avoided on the back of the entire wing and the entire blade length.



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.