Fusion Impeller Styles			
Impeller	Description	Power Number (N_p)	Pumping Number (N_q)
 Marine Style	The Marine Style is the most common type of mixing impeller. Because the design has its roots in the marine propulsion industry, it is the most effective axial pumper at higher mixing speeds. It is most commonly used with direct drive mixers operating 900-1800RPM. This impeller fits the most common shaft sizes (5/8" to 1-1/4") and comes standard in investment CAST 316 Stainless Steel. The Power and Flow numbers shown above reflect 1.0 pitch/diameter ratio. Fusion also offers 1.5 pitch/diameter ratio upon request.	0.34	0.50
 PF3 Hyrdrofoil	The modern design of this PF3 Hydrofoil impeller provides excellent pumping ability with a strong axial flow. While useful in most applications, this design excels in thinner fluids that are susceptible to settling and provides the MOST pumping per unit of torque (more bang for your buck). This impeller is available as a welded or bolted assembly. The PF3 impeller can be fabricated to fit ANY shaft diameter and comes standard in 316 Stainless Steel. Various surface finishes are available. Fusion also offers high-viscosity designs (10,000 cP +) for special applications requiring axial flow in thick fluids.	0.30	0.50
 Pitch Blade Turbine	This Pitch Blade Turbine impeller is the workhorse of the mixing industry. The simple design of this impeller provides a combination of both radial and axial flow, generates high shear levels, and provides excellent mixing ability while providing easy cleanup. Because of the simple design, it is also very cost effective in large applications and high viscosity applications. While useful in most applications, this design excels in heavy mixing. The PBT impeller can be fabricated to fit ANY shaft diameter and comes standard in 316 Stainless Steel. Various surface finishes are available.	1.27	0.79
 Rushton	The Rushton impeller, named after its designer, is one of the first mixing impeller designs to be documented. The classic design of this impeller provides a simple radial flow pattern that moves material from the center of the vessel outward where it flows along the outer walls of the tank. It is most commonly used in reactor tanks, two phase mixing (liquid/gas), and any application requiring INTENSE mixing. This impeller can be fabricated to fit ANY shaft diameter and comes standard in 316 Stainless Steel. Various surface finishes are available.	5.75	0.72
 Cowles/Sawblade	The Cowles/Sawblade design of this impeller provides mixing by generating high shear levels. This design is most commonly used in applications where the high shear levels are needed to prevent clumping. The Cowles/Sawblade is suggested for use in wetting out powders, dispersing fine solids, and creating emulsions. This impeller can be fabricated to fit almost any shaft diameter and comes standard in 316 Stainless Steel. Various surface finishes are available.	0.45	0.26
 BioProp - Sanitary (Marine Style)	The BioProp - Marine Style impeller was developed by Fusion engineering and our key biotech distributors to serve the sanitary and biotech markets. This new design provides excellent pumping ability while providing easy cleanup. The most important characteristic of this impeller is that it provides similar performance to the marine propeller, but it is fabricated from mill stock. Impellers from polished mill stock do not have the casting porosity commonly found in Marine-style impellers. This impeller can be made to fit ANY shaft diameter. It comes standard in 316 Stainless Steel. Various surface finishes are available.	0.40	0.45
 BioProp - Sanitary (Mass Flow)	The BioProp Mass Flow impeller was designed for sanitary and biotech applications that require advanced pumping rates. The wide blades of the Mass Flow BioProp impeller deliver very high pumping rates in a compact package. Like the original BioProp, the manufacturing and design allows for sanitary finishes and coatings, which supports easy cleanup and sanitation. This impeller can be made to fit ANY shaft diameter. It comes standard in 316 Stainless Steel. Various surface finishes are available.	3.00	0.74
 Retreat	The unique design of a Retreat impeller provides a simple radial flow pattern that moves material from the center of the vessel outward where it flows along the outer walls of the tank. An added benefit to this design is that it provides radial flow with a significantly low amount of shear, making it perfect for shear sensitive fluids. Due to the skewed blade design, the Retreat also resists build-up of fibrous solids on the blades. This impeller can be fabricated to fit ANY shaft diameter and comes standard in 316 Stainless Steel, but 304 Stainless Steel, Aluminum, and Carbon Steel versions are also available. Various surface finishes are available.	2.52	0.74
 Folding Impellers	The Folding impeller is most commonly used in applications where access to the vessel is limited, such as drum mixers and tote mixers. The folding design allows the impeller and shaft to be inserted and retracted through the entry hole of the vessel to be mixed. The Folding Impeller provides a combination of both radial and axial flow, generates high shear levels, and provides excellent mixing ability while allowing easy mixer installation and removal. The Folding Impeller comes standard in 316 Stainless Steel. Various surface finishes are available too.	0.50	0.50
 Custom Impellers	Custom impellers, including helical and ribbon impellers can be produced to your exact specifications supporting your specific tank geometry and protected proprietary processes. We can also design and produce replacement impellers, or modified and hybrid versions of other designs in a variety of materials, including 304 Stainless Steel, 316 Stainless Steel, Hastelloy, Aluminum, or Carbon Steel.	-	-
Most impellers are available in other materials, like 304SS, Hastelloy, Aluminum, Carbon Steel, & Teflon.			