

## IMPELLER TECHNOLOGY

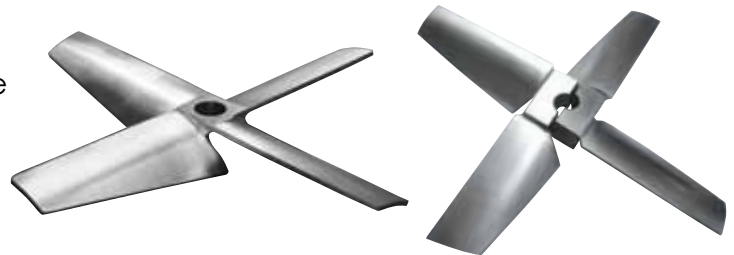
No single impeller can perform well in all applications. Sharpe Mixers provides a variety of industry standard and specialized proprietary impeller designs that are optimized for specific mixing applications.

### Hyflo Impellers

Sharpe Mixers' most popular hydrofoil style impeller generates the most flow for the least amount of power, reducing operating costs and improved performance. Each impeller model is designed for specific applications using high, medium, or low viscosity blending.

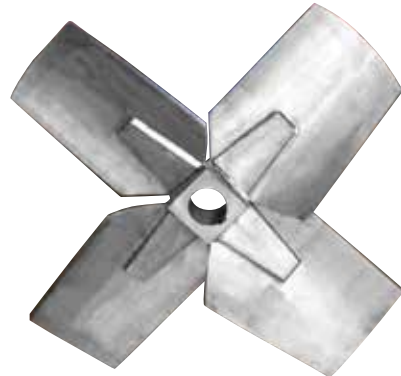
#### HYF-218:

- Best for low viscosity products
- Low blade angle and hydrofoil blade shape reduce shear rates
- Four blade design



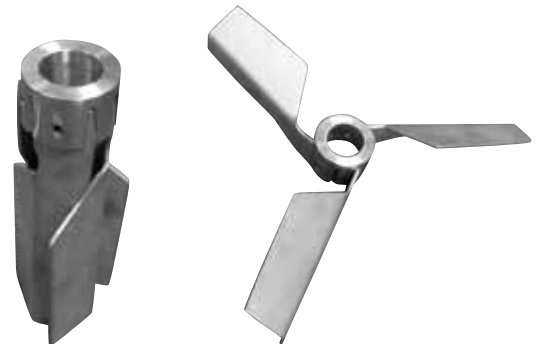
#### HYF-518:

- Wide blade "Hyflo" high-efficiency hydrofoil impeller
- Best for medium viscosity ( $N_{Re} < 500$ ) products
- Provides equal flow with half the power
- High-solidity design optimum for gas handling applications
- Four blade design



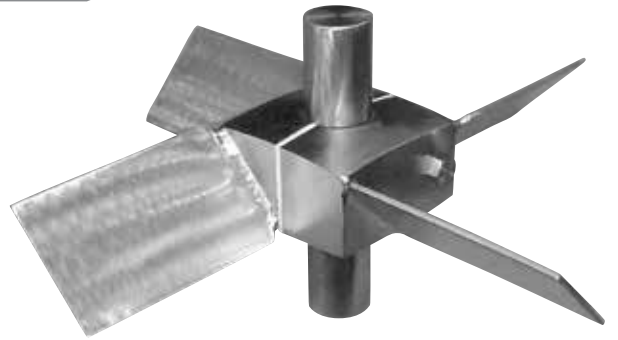
#### FHY-345:

- Collapsible blades that will fit through small diameter openings
- No tank access required to install mixer
- Patented 3-blade folding impeller



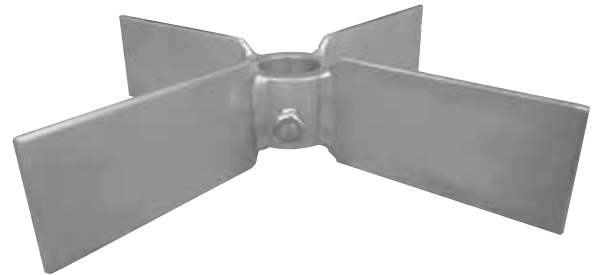
### AFT-455:

- 45-degree flat blade axial flow turbine impeller
- Creates high turbulence in lower viscosity and better shear in high viscosity liquids ( $N_{Re} < 200$ )
- Folding AFT-455 is great for mixers with limited access or small openings that don't allow space for maintenance
- Out performs hydrofoil impellers 5,000-50,000 cps viscosity mixing



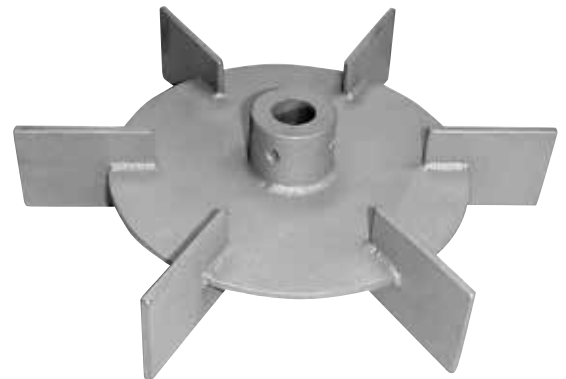
### FBT-700:

- 90-degree flat blade radial flow impeller
- Creates high flow and shear rates
- Best for dispersion at high tip speeds ( $> 30$ fps) and blending miscible fluids
- Typically used as "tickler" impellers to mix low liquid levels



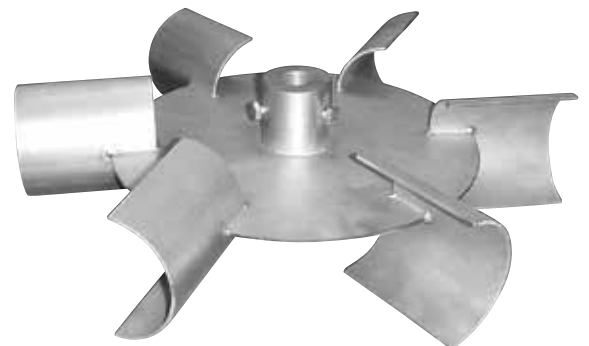
### RTD-710:

- "Rushton" disc radial impellers are used for high shear and gas dispersion



### CBD-730:

- "Smith" radial flow disc impeller provides necessary shear for gas dispersion
- The cupped blades create larger bubble surface areas to improve gas transfer



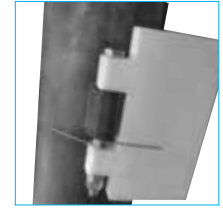
### HSD-800:

- "Cowless" high shear disc impeller designed for high speed operation
- Creates high shear to prevent clumping, wet out powders, reduce particle size, and emulsify
- Can be used in conjunction with an axial impeller to provide tank circulation and high shear



### ANC-101:

- “Anchor” impeller are used to mix higher viscosity ( $NRe < 200$ ) products
- Scraper blades can be added to clean vessel walls
- Industrial or sanitary configuration available
- Multi-mixer systems available to add high shear



Scraper Blade

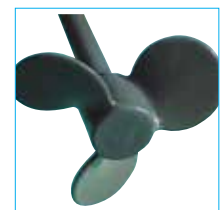
### HLX-102:

- Single and double helix impellers are best for blending viscous liquids ( $NRe < 50$ )
- Can be used in conjunction with anchor, auger, axial flow impeller, and/or scraper blades



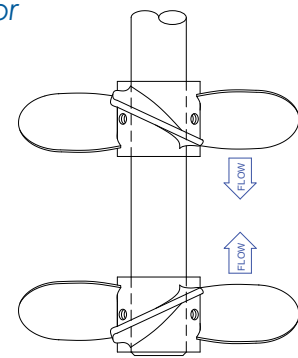
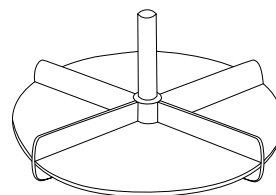
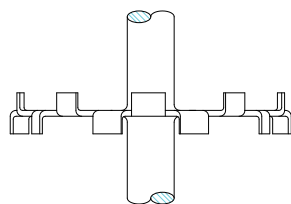
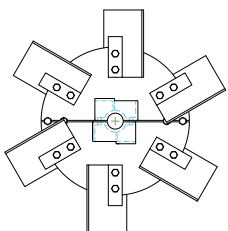
### Prop 1.0:

- Standard 3-blade propeller
- Designed for small diameter high-speed applications
- Electro-polished, rubber, or halar coating available



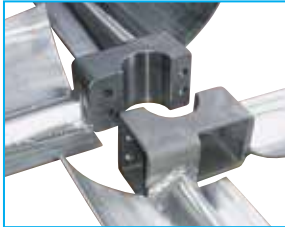
Halar Coating

*Whether a down flow or up flow, bottom mount or top mount, bolted or welded; Sharpe Mixers has a specific impeller for your mixing needs.*



## IMPELLER ASSEMBLY AND HUB OPTIONS

Sharpe Mixers offers several assembly and hub options for impeller installations depending on the mixing application.



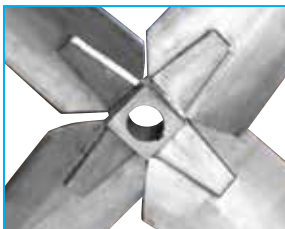
### Split Hub:

- Works with solid or pipe shafts
- Requires only four bolts to assemble
- Easy installation and adjustment
- Fits through standard man-ways



### Split Block:

- Special alloy with easy clean design
- Polish/EP available
- Gaskets and o-rings available
- Optional key or torque pin
- Tapered configuration



### One-Piece:

- Typical dual set screw design
- Optional key-way
- Easy to adjust



### Bolted:

- Ease of installation
- Special alloys



### All-Welded:

- Sanitary
- Electro-polished, rubber, or halar coating

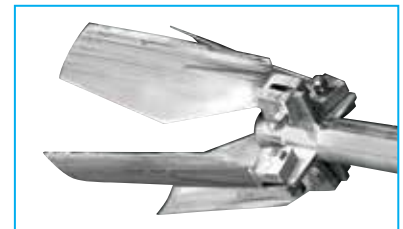


### Stabilizer Ring or Fin:

- Added stabilizer rings or fins used to help stabilize longer shafts
- Stabilizes impeller during liquid draw down through impeller

### Folding Impellers:

- Blades collapse to fit through small opening and expand to full size during operation
- Impeller for small tank openings
- Locking and unlock configurations available
- No need for personnel to enter tank



Folding HYF-218 Impeller

### Shroud Ring:

- Protects
- Sanitary
- Electro-polished, rubber, or halar coating



Shroud Ring

