Advanced Technology for Superior Performance

**RL-3**
- Engineered to prevent fibrous material build up by eliminating edges and protrusions that would allow fibrous material to agglomerate
- High axial flow impeller for superior mixing performance in blending and solids suspension applications
- Strong central hub and sturdy blades designed to handle the loads related to material and flow impingement to ensure reliable operation and long service life

**JT-2**
- Transitional flow impeller for superior blending
- The design promotes blending by efficiently moving material in one direction in the center of the tank and the opposite direction on the outside of the tank

**BT-6**
- Parabolic blade design engineered for maximum performance
- Highest gas dispersing capability at nearly six times the D-6 (Rushton) turbine
- Lower power drop in the gassed state improves mass transfer
- Relatively insensitive to viscosity

**CD-6**
- CD-6: Curved blade design similar to the BT-6
- CD-6 has gas dispersing capability over two times that of the D-6 (Rushton) turbine

**WSE-3**
- Advanced side entering hydrofoil design with high efficiency for maximum pumping action
- More cavitation resistant than other designs through effective hydrodynamic design
- Reduced wear through lower tip speeds

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**Impeller Selection Guide**

<table>
<thead>
<tr>
<th>Application</th>
<th>Impeller Type(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Miscible Fluids Blending</td>
<td>High Efficiency (XE-3, HE-3, SC-3, RL-3)</td>
</tr>
<tr>
<td>Solids Suspension</td>
<td>High Efficiency (XE-3, HE-3, SC-3, RL-3, Maxflo W)</td>
</tr>
<tr>
<td>Three Phase Process</td>
<td>Gas Dispersion (BT-6, CD-6, Maxflo W)</td>
</tr>
<tr>
<td>Immiscible Fluids Blending</td>
<td>ChemShear, P-4</td>
</tr>
<tr>
<td>High Viscosity</td>
<td>Helix, Anchor, Screw</td>
</tr>
<tr>
<td>Transitional Flow</td>
<td>JT-2</td>
</tr>
</tbody>
</table>

**Solids Suspension**

<table>
<thead>
<tr>
<th>Intensity</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solids Motion</td>
<td>Solids are allowed to settle on the vessel bottom, but remain in motion.</td>
</tr>
<tr>
<td>Complete Suspension</td>
<td>None of the solids remain on the vessel base for a significant length of time.</td>
</tr>
<tr>
<td>Uniform Suspension</td>
<td>Homogeneous distribution of solids throughout the liquid volume.</td>
</tr>
</tbody>
</table>

**ChemScale™**
The industry standard method for effective mixer selection

<table>
<thead>
<tr>
<th>ChemScale</th>
<th>Blending Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1–2</td>
<td>Mild blending and motion. Produces a flat, but moving fluid surface.</td>
</tr>
<tr>
<td>3–5</td>
<td>Intermediate/moderate blending of miscible liquids when specific gravity differences are less than 0.6. Produces surface rippling at water-like viscosities.</td>
</tr>
<tr>
<td>6–8</td>
<td>Moderate to vigorous agitation for uniform blending of miscible liquids when specific gravity differences are less than 0.6. Produces surface rippling at lower viscosities.</td>
</tr>
<tr>
<td>9–10</td>
<td>Very vigorous agitation for uniform blending of miscible liquids when specific gravity differences are less than 1.0. Produces violent surface motion at lower viscosities.</td>
</tr>
</tbody>
</table>
XE-3
- Most efficient axial flow impeller for heat transfer, blending and solids suspension applications
- Mechanical design reduces weight allowing longer shafts without the need for additional support
- Can replace less efficient impellers and reduce energy costs

HE-3
- An established industry standard for axial flow impellers
- Extremely efficient: creates greater fluid motion with less energy
- Ideal for blending, heat transfer and solids suspension

Maxflo W
- Excellent performance in abrasive solids suspension, liquid-solid-gas and boiling or near boiling applications
- High solidity blade design translates into improved mass transfer over other high efficiency impellers

SC-3
- Engineered for deep tank applications utilizing rolled blade design
- Produces flow of larger impellers without added weight or loss of efficiency

P-4
- Axial flow design suitable for wide changes in process viscosity
- Efficient for immiscible blending applications where shear and pumping is required
- Excellent for solids incorporation from the liquid surface

JP-3
- Marine style energy efficient design
- Ideal for small batches
- Handles higher viscosities than hydrofoil designs

S-4
- Close clearance design for operation near the tank bottom
- Excellent for low liquid level solids suspension applications
- Designed for use in laminar regime applications

ChemShear
- Customize levels of shear to suit your process
- Proper fluid turnover minimizes the need for auxiliary pumping impellers
- Small particles possible: 2 microns achieved in processes such as micro-encapsulation
- Traditional dispersion blades—such as the BT-6, CD-6, and D-6—can also be used in high shear applications

Double Helical Ribbon
- Proven the best high viscosity, laminar flow impeller
- Highly effective in heat transfer
- Efficiently incorporates surface liquids and solids
- For viscosities over 30,000 cP

Anchor
- Most economical laminar flow impeller available
- Horizontal flow well suited for low liquid level geometries
- Solve heat transfer fouling problems with optional wall scrapers

Screw (Auger)
- Ideal for shear sensitive, uniform blending applications (polymers)
- Excellent top to bottom turnover flow characteristics
- Use in mildly pseudoplastic applications with power law indexes as low as 0.5

Smoothline
- Innovative patented design
- Liquid-shedding surfaces and concealed hardware for enhanced CIP performance
- FDA/USP CL VI materials
- Removable components allow ease of installation through small openings
- Axial or radial flow, single or multiple impellers

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