



Homogenizer



Reliability

The Greerco Homogenizer series offers a full range of tank-mounted, high shear mixers for laboratory to production scale. The design exceeds the high quality standards necessary to achieve optimal process results and withstand the rigors of difficult processes that require high shear mixing.

- High-speed turbine running in close proximity to a fixed stator creates intense hydraulic and shear forces where product is broken down into its primary particle size or dispersed throughout the carrier phase
- Tightly held tolerances on machined components allow for consistent and predictable performance
- The robust stator design handles severe duty better than competitive designs that utilize screen technology
- The axial in-axial out flow path results in higher throughputs with lower horsepower requirements

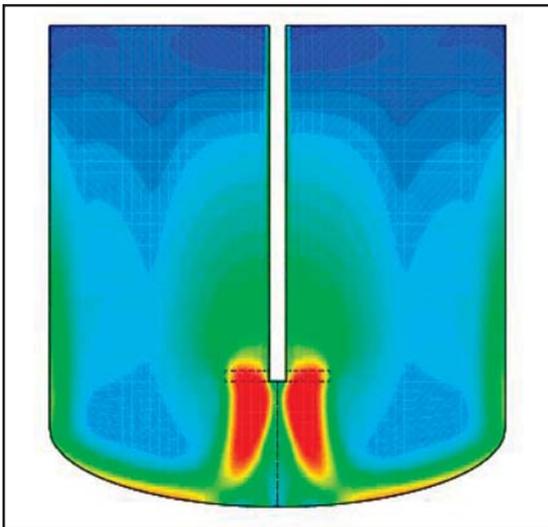
Greerco Processing Advantages

Vs. Traditional Agitator Impeller Systems

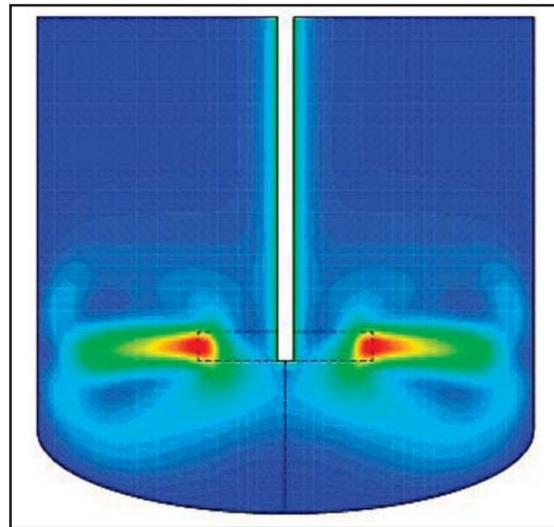
The Homogenizer offers operating speeds and shear rates not available in traditional impeller systems. This allows the Greerco unit to dramatically reduce process times for difficult applications as well as complete complex operations where standard impeller technology isn't an option (*see application section for examples*).

Vs. Alternate High Shear Mixing Head Designs

The Greerco rotor-stator design is unique in that it utilizes an axial-in/axial-out flow pattern and allows for reversible operation. When operated in the forward direction, the Homogenizer creates an up-pumping umbrella flow pattern as opposed to the localized radial-out pattern offered by competitive technology (*see CFD images for illustration*). In the reverse direction, a vortex is created that can be used to incorporate solids directly into the mixing head for immediate dispersion.



Axial-Umbrella Flow Pattern of Greerco Technology



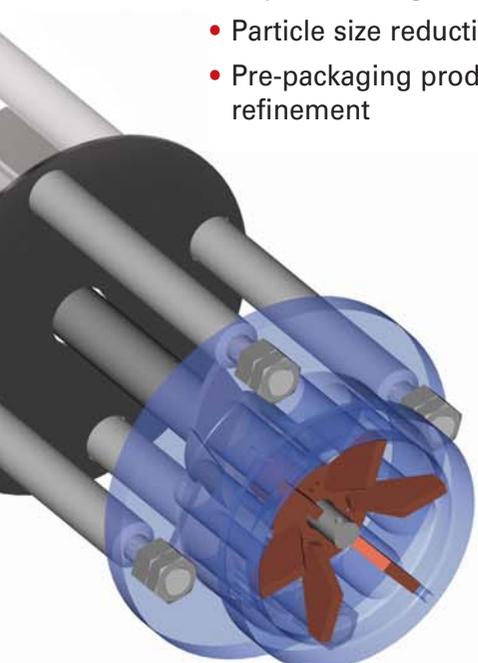
Radial Flow Offered by Competitive Technology

Aerosols • Antacids • Antibiotics • Antiperspirants • Bacterial Slurries • Biologicals • Cell Rupturing • Coatings • Cold Creams • Color Dispersions • Flavor Syrups • Fluxes • Gum Dispersions • Hair Gel • Herbicides • Hormone Emulsions • Injectables • Insecticides • Liquid Make-Up • Lotions • Printing Inks • Refractory Dispersions • Salad Dressing • Sauces • Serums • Shampoo • Shaving Cream • Silicone Emulsions • Sulfur Dis

With over 65 years of experience servicing the needs of the high shear market and its customers

Applications

- Solids incorporation
- Homogeneous dispersions
- Solids deagglomeration
- Rapid blending
- Particle size reduction
- Pre-packaging product refinement



Cost Effective Solution

Low Horsepower

Reduces initial investment and energy consumption

High Throughput

Faster processing rates improve productivity

Robust Design

Minimal downtime and maintenance costs

Mechanical Construction

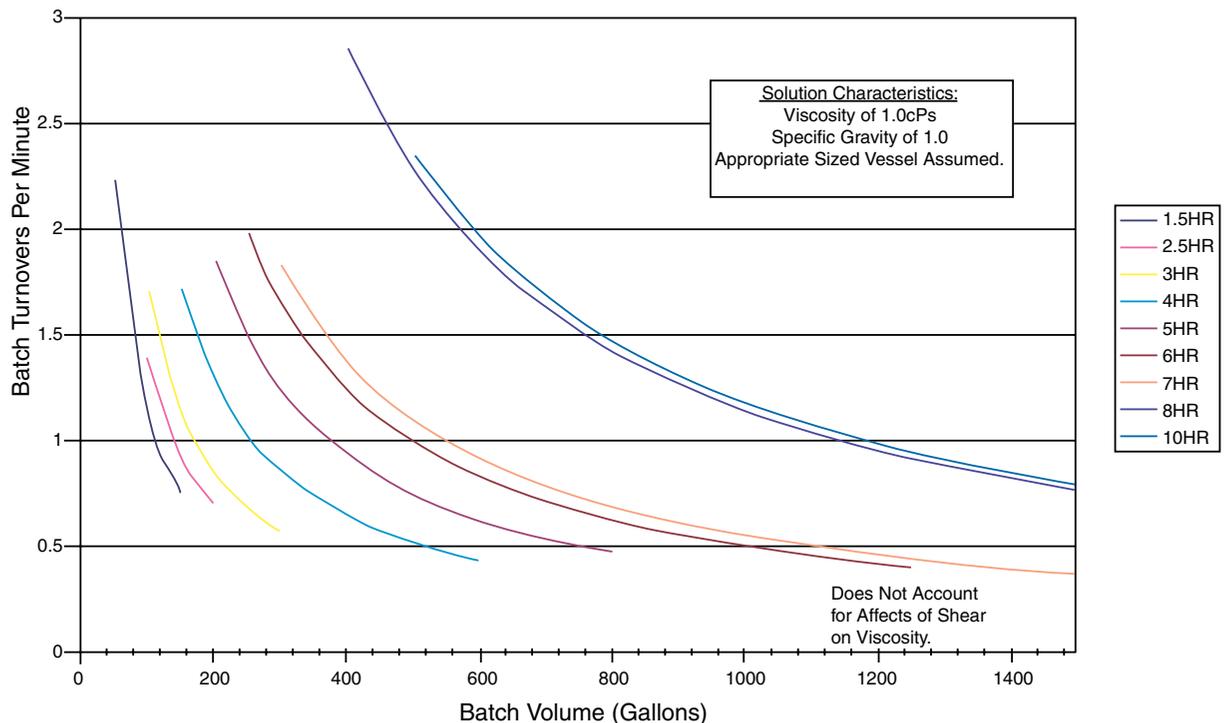
Standard Features

- 316SS wetted parts
- Stellite® bushings
- Lip seal shaft sealing
- Explosion-proof motors
- Reversible operation
- SS cross supports

Optional Features

- Flange mounted units
- Double mechanical seal
- 440 hardened SS rotor-stator
- Alternate motor enclosures
- Polished wetted components

Greerco Homogenizer Tank Turnover



s • Cosmetics • Deodorants • Depilatories • Drug Dispersions • Dye-stuffs • Essential Oils • Eye Make-Up • Fertilizers • Foods • Flavor Emulsions
• Lubricants • Mascara • Mayonnaise • Medicinals • Mineral Oil Emulsions • Ointments • Pharmaceuticals • Photographic Emulsions • Pigments
persions • Syrups • Textile Emulsions • Toiletries • Vaccines • Vitamins • Wax Emulsions • Welding Fluxes • Yeast • Zinc Oxide Ointment

ners, today's Greerco technology has also been known as Gifford Wood and Eppenbach mixers.

Colloid Mills

Greerco offers the most versatile line of colloid mills that allow the user to easily modify the shear rate to achieve the desired process results while ensuring precise repeatability. Available in vertical or horizontal mounting positions, these high shear mixers are ideal for batch, batch-continuous or in-line applications.



Pipeline Mixers

Greerco offers a complete line of in-line high shear mixers for both sanitary and industrial applications. Available in single or tandem shear configurations, the pipeline mixer is perfect for continuous in-line emulsification, dispersion and de-agglomeration.



Greerco Factory Services

Machine Rebuild Programs:

The Greerco factory offers a total equipment service program, where for the cost of replacement parts and a small fee, the customer will receive a machine rebuilt to factory specifications complete with a mechanical warranty on parts and labor. Emergency, same day turn around available on most models.

Flexible, Low-Cost Rental Program:

All lab models and most full scale units are available for rental. The program includes two free weeks and credit towards the purchase of either the rental unit or new equipment. The rental program can often be tailored to meet your specific needs.



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