

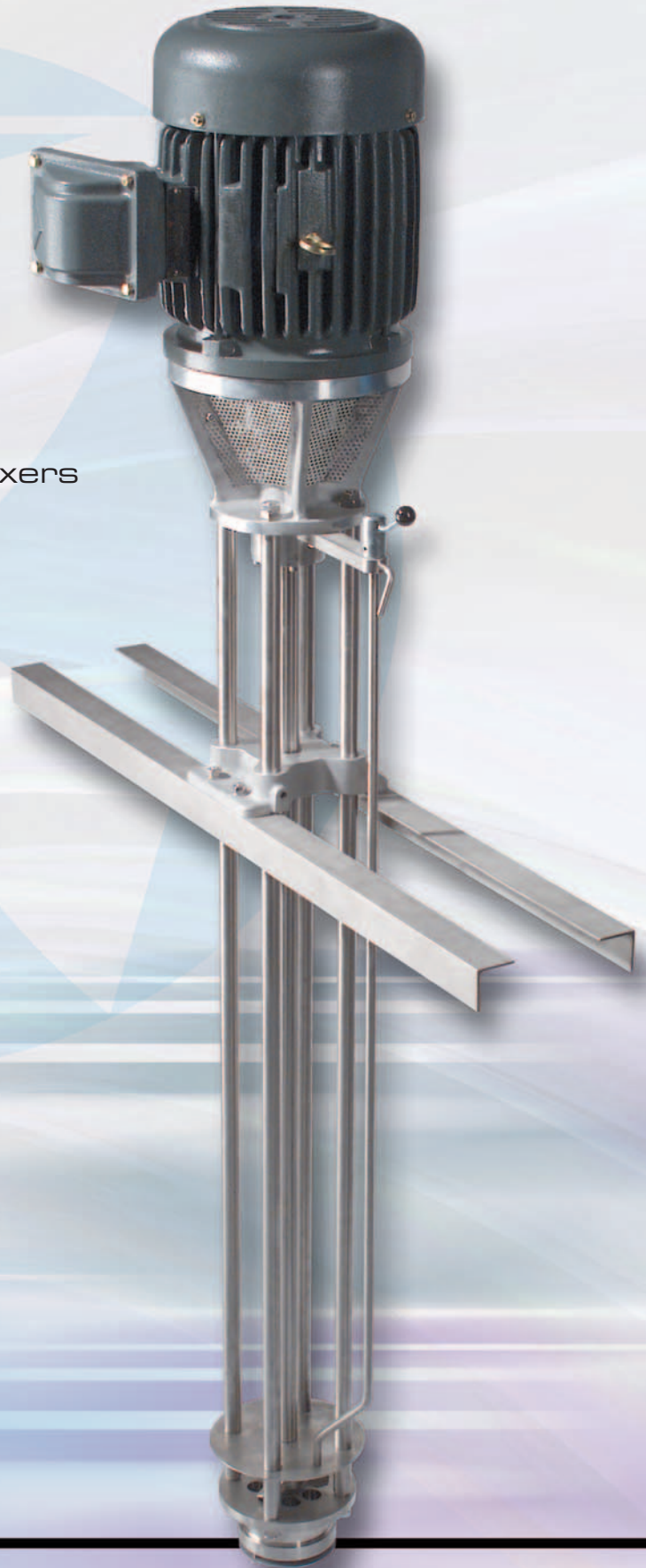
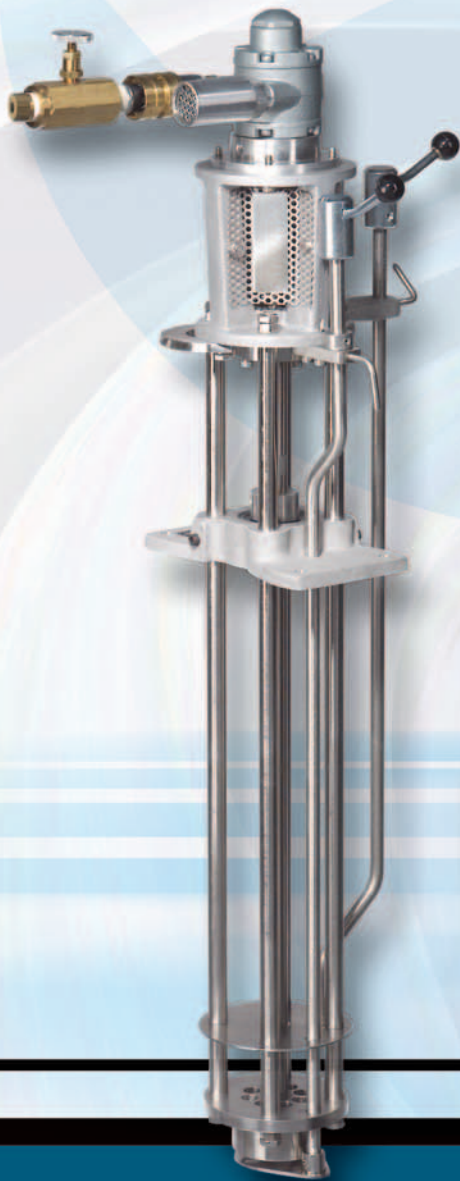


ENTORNO
INDUSTRIAL

 **Greerco**

Homogenizer

Batch or Continuous Flow
Tank Mounted High Shear Mixers



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

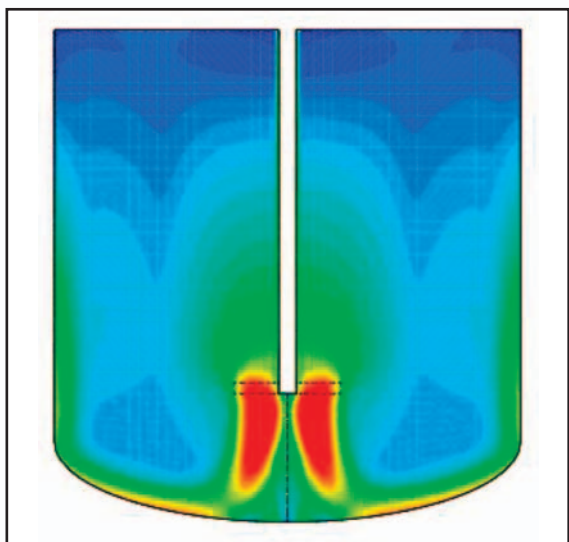
Greerco Processing Advantages

Vs. Traditional Agitator Impeller Systems

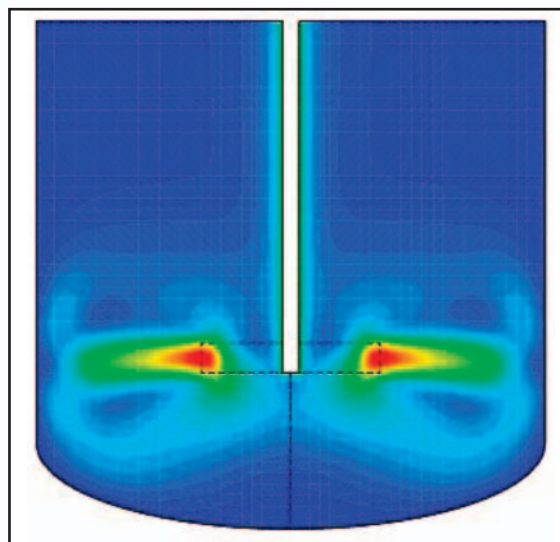
The Homogenizer offers operating speeds and shear rates not available in traditional impeller systems. This allows the Greerco unit to dramatically reduce process times for difficult applications as well as complete complex operations where standard impeller technology isn't an option (*see application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

Applications

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

Cost Effective Solution

Low Horsepower

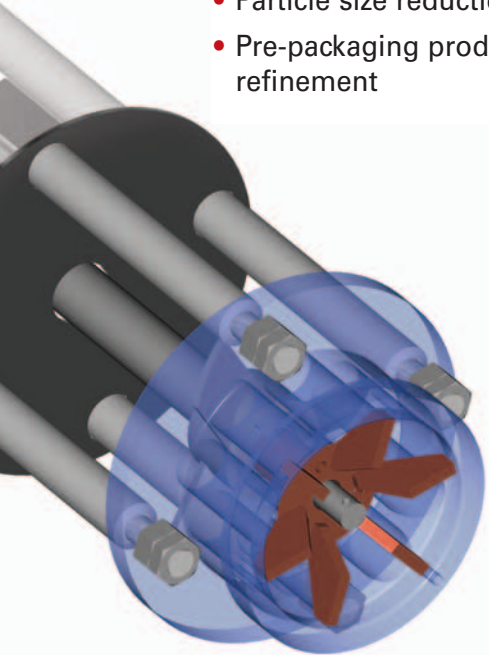
Reduces initial investment and energy consumption

High Throughput

Faster processing rates improve productivity

Robust Design

Minimal downtime and maintenance costs



Mechanical Construction

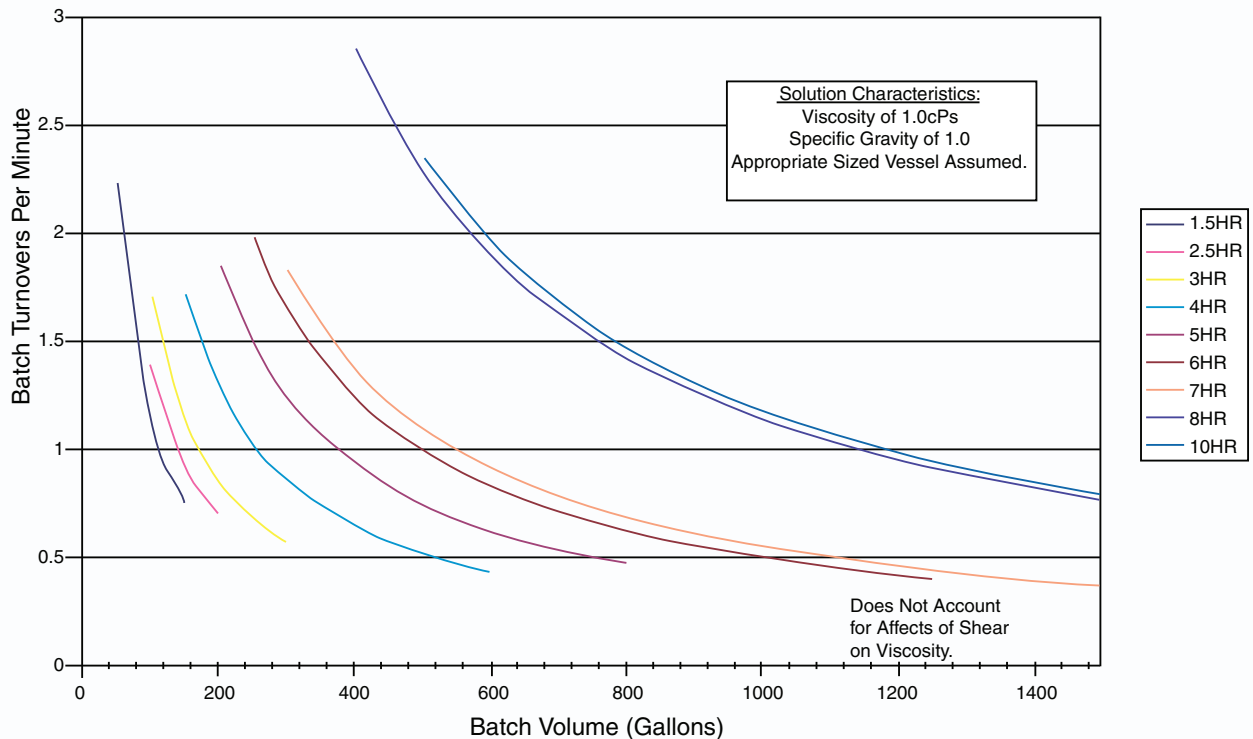
Standard Features

- 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



• 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
 • Dispersions • Syrups • Textile Emulsions • Toiletries • Vaccines • Vitamins • Wax Emulsions • Welding Fluxes • Yeast • Zinc Oxide Ointment

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

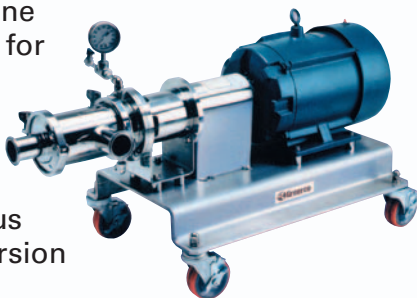
Colloid Mills

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.



Chemineer, Inc.
5870 Poe Avenue
Dayton, Ohio 45414
Telephone: (937) 454-3200
Email: chemineer@nov.com

Chemineer, Ltd.
7 Cranmer Road, West Meadows
Derby DE21 6XT, England
Telephone: 44-1-332-546700
Email: chemineeruk@nov.com

Chemineer China
Room 2005, Tower 1, Plaza Morden
369 Xianxia Road
Shanghai 200336 China
Telephone: 86-21-61240001
Email: chemineercn@nov.com

Bulletin 123



Chemineer, Inc.
125 Flagship Drive
North Andover, MA 01845
Telephone: (978) 687-0101
Email: navinfo@nov.com
www.kenics.com
www.greercomixers.com

Chemineer International Sales Offices:

Brazil
Mexico
Singapore

Your Local Contact:

ENTORNO INDUSTRIAL, S.A. DE C.V.

Juan Sarabia No. 205. Col. Nueva Santa María. 02800 México, D.F.
Tels.: (55) 5356-7206 • Fax: (55) 5356-7209
e-mail: ventas@entorno-industrial.com • direccion@entorno-industrial.com www.entorno-industrial.com

For the nearest sales office call 1-800-643-0641 or go to www.chemineer.com

National Oilwell Varco has produced this brochure for general information only, and it is not intended for design purposes. Although every effort has been made to maintain the accuracy and reliability of its contents, National Oilwell Varco in no way assumes responsibility or liability for any loss, damage or injury resulting from the use of information and data herein. All applications for the material described are at the user's risk and are the user's responsibility. All brands listed are trademarks of National Oilwell Varco.