

# DISPERSHEAR

**CONTINUOUS IN-LINE  
MIXING SYSTEM**



**DISPERSE HARD-TO-MIX POWDERS  
INTO UNIFORM, LUMP-FREE PRODUCT  
WITH INDEPENDENTLY CONTROLLED  
FLOW AND FEED RATES**

**ARDE BARINCO** INC.

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# THE SOLUTION FOR HARD-TO-MIX SOLIDS

Only Dispershear from Arde Barinco lets you control the feed rate of solids as well as the flow rate of liquids.

The result is a remarkably efficient system that produces smooth, uniform dispersions with no waste and no agglomerates. Dispershear evenly incorporates fine powders that can be difficult to disperse with conventional systems.

## VARIABLE FLOW & FEED RATES

Dispershear's one-pass operation won't harm long-chain molecules or other shear-sensitive materials.

The key is the variable-speed auger running along the bottom of the solids holding hopper. By adjusting the auger's speed, you control the rate at which solids feed into the powder chute -- slowly for fine powders, faster for maximum productivity.

The liquid also enters the powder chute at the rate you specify. Because the liquid flow washes the walls of the powder chute, the problems of solids build-up and plugging are eliminated. The entire mixture is washed down into the dispersion chamber.

Residence time in the dispersion chamber is a mere 0.2 seconds, requiring very little energy.

## DISPERSHEAR VERSATILITY

Dispershear handles a wide variety of solids (including light powders such as flour, xanthan gum and Carbopol®) and liquids (including water, solvents or any other liquid pre-mix).

It can produce low-viscosity suspensions, high-viscosity dispersions or anything in between. And it mixes large or small quantities, continuously or in batches.

This versatility makes Dispershear perfect for a variety of industries, including food, chemical processing, pharmaceutical, cosmetics and toiletries, textiles and coatings.

## ADDITIONAL BENEFITS

Dispershear mixes faster than conventional mixers. That's because the powder particles combine with the fluid almost instantly, and are dispersed quickly by the remarkably efficient impulser. This leads to increased

production in less time. You realize material savings because there are no lumps to filter out. You reduce labor costs too, because the variable speed auger eliminates manual feeding of fine powders. And Dispershear comes apart quickly for easy cleaning with minimal down time.

Contact Arde Barinco at:

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We're experts in finding solutions to mixing problems, and we're always ready to talk mixing, grinding, dispersion and particle size reduction.

And if the Dispershear Continuous In-Line Mixing System isn't the right tool for your application, we'll tell you that too.

## Buy With Confidence

As with all our products, Arde Barinco will let you determine if the Dispershear Continuous In-Line Mixing System is right for you by putting it through its paces at our fully-equipped testing facility. You're under no obligation to buy; just give us your production requirements, and we'll be happy to run capabilities tests.

If you do decide to buy an Arde Barinco product, you'll get free technical support for the life of the machine — fast, friendly service drawing on more than four decades of mixing experience.

**Dispershear:**  
Mixing Chamber for D-6006

**Dispershear:** Model-6006 can pump the dispersion up as high as 50 feet at 50 gallons per minute inlet flow rate.



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**MODEL D-6000**  
This production-size Disperser is designed for ease of cleaning and disassembly.

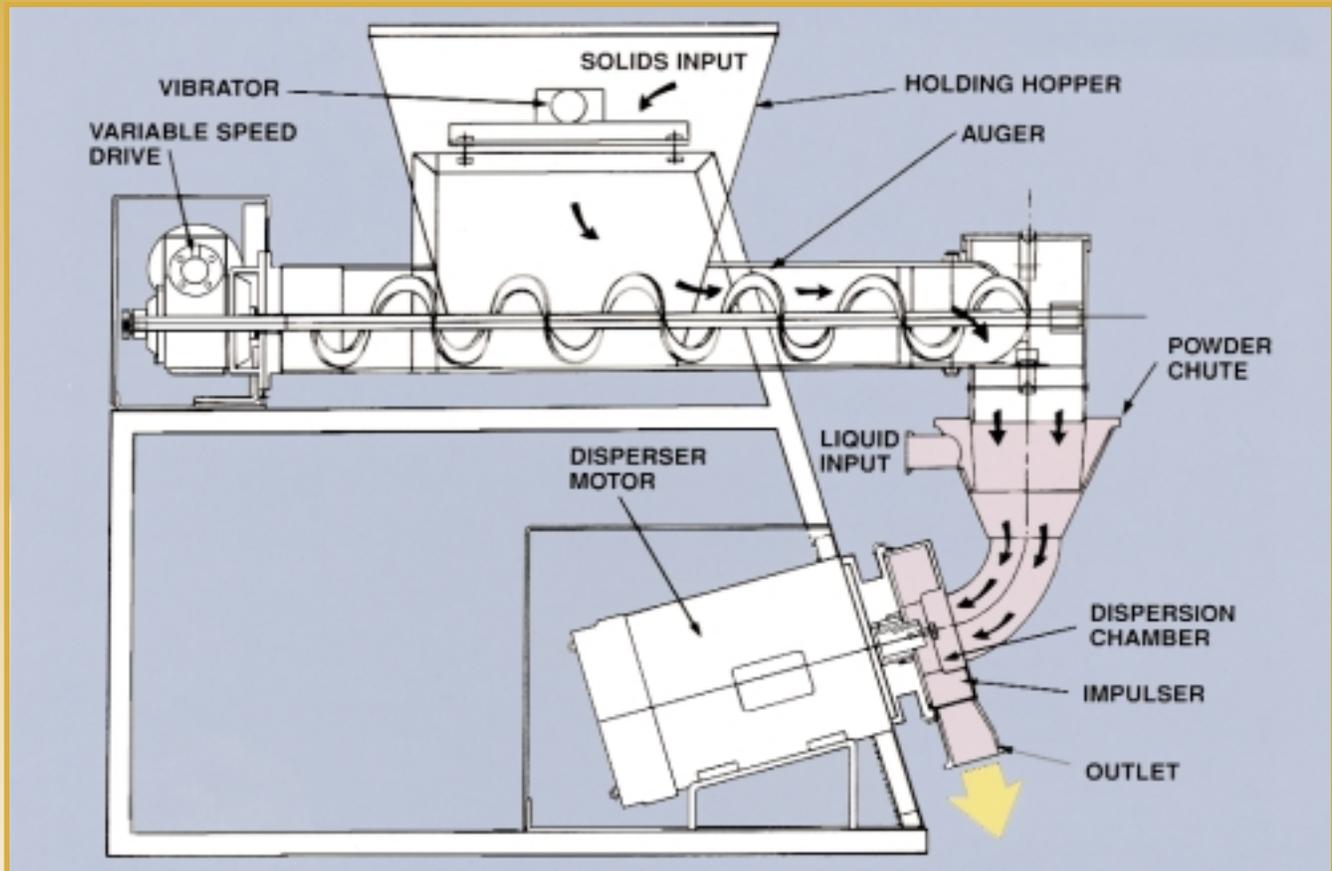


**MODEL D-1000**  
The Bench-Top model is used to prepare small batches from 5 to 20 gallons..



**Custom Specified Systems**  
Model D-6000 scale model with loss-in-weight feeder and individual bulk-bag handling system.

# DISPERSHEAR DATA



	MODEL D-1000	MODEL D-6000/6006
Hopper Volume	1/3 cu. ft.	6 cu. ft.
Flow	0.5 to 3 gpm	6 to 75 gpm
Feed	0.1 to 10 lb/min	1 to 350 lb/min
Percentage	0 to 75	0 to 75

Capabilities figures obtained through an intensive testing program undertaken by Arde Barinco using a variety of powders and liquids at different flow and feed rates. Maximum percentage capability will vary depending upon a variety of factors including but not limited to: solids bulk density, solids flowability, initial liquid viscosity, liquid flow rate, solids feed rate, hydration lag, temperature and pH. Model D-6006 can pump up 50 Feet at 50 Gal/Min.

## TYPICAL APPLICATIONS

- Disperse 5% Carbopol 940 carbomer into DI water to form a hair-care gel product.
- Wet out 3-5% xanthan gum into water at 25 gpm for a "lite" syrup.
- Disperse 2.5% propylene glycol alginate into water as a carpet printing dye stabilizer.
- Disperse 42% batter mix at 100 pounds per minute for high volume batter French fry potato lines.
- Disperse 5% xanthan gum/pre-gelatinized starch synergized mixture into water for low calorie salad dressings.
- Disperse 3-5% guar, CMC, and locust bean gums into canned pet food gravies.
- Disperse 12% Carboxymethylcellulose into water as a stabilizer in a xanthate rayon process.
- Disperse 18% potato starch as a strength aid in toilet tissue paper manufacturing.
- Disperse up to 40% by weight Titanium dioxides and other pigments for specialty coatings application.
- Wet out 10% pregelatinized starch and xanthan gum for hot sauce products.
- Disperse up to 15% polyethylene oxide in water for pharmaceutical gel patches.
- Disperse 55% Polydextrose in one pass and 80% in the second pass for low-calorie candy products.
- Disperse CMC at 6.5% into water or Sorbitol for toothpaste manufacture.
- Disperse Micro crystalline cellulose, pregelatinized starch, and xanthan gum into water for "No Fat" mayonnaise.
- Disperse 6% alginates into water for textile printing paste.

# ARDE BARINCO...

## Innovation, Precision and Our Commitment to Help You Improve Your Process With Advanced Mixing Technology

Arde Barinco is a subsidiary of ARDE Inc., one of the nation's leading aerospace manufacturers and a key participant in the nation's space program. Our parent company's background in metallurgy, precision manufacturing and quality assurance forms a unique background for ARDE Barinco and its mixing technology.

Our engineering, manufacturing, quality and product support programs draw on these qualifications. You'll find them reflected in our per-

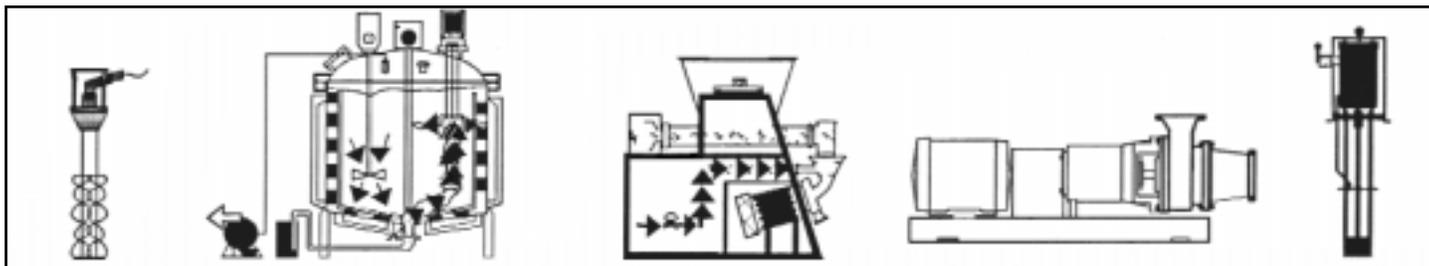
formance -- durable, reliable products and fast, customer-oriented technical support.

### Equipment To Meet Your Needs

We're specialists in finding solutions to mixing problems -- and we bring a wide range of mixing technologies to bear. Our standard product line includes specialized equipment to mix hard-to-wet dry solids into fluids and to create fine-grain emulsions (droplet sizes of 1-2 microns).

### We're ready to meet your needs with:

- Low Shear Solids/Fluid Dispersers ● Reversible Homogenizers
- Continuous In-Line Mixers ● Batch Processing Mixers ● Sanitary Mixers ● High-Viscosity Mixers
- Multi-Viscosity, Multi-Shear Mixing Systems with Comprehensive Process Analysis Capabilities
- Propeller Mixers ● Axial and Radial-Flow Turbines ● Anchor-Scraped Surface Agitators



### Test Facilities and Rental Machines to Assure Your Satisfaction

We're committed to total customer satisfaction. The ARDE Barinco mixers in our 2,000 square foot pilot test facility are fully equipped to measure significant process parameters such as viscosity, solid particle size distribution, liquid emulsion droplet size distribution, percent solids, density, power consumption, pH, RPM, temperature, amperage draw, shear rate and shear stress.

On-line digital monitoring allows us to provide continuous, real-time feedback on many of these parameters. We'll videotape tests and demonstra-

tions to provide a visual record -- to give everyone in your operation a firsthand look at the process.



Our full inventory of rental equipment, available in most commonly used configurations, allows us to provide mixers for short-term use, to allow you to test them in your plant.

All ARDE Barinco equipment is sold with free lifetime technical support. If you have any questions or require assistance, we're always available.

Need more information? Contact us today.

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