

# DISPERSHEAR CONTINUOUS, IN-LINE MIXING

Model D-1000

ARDE BARINCO INC

## Disperse Hard-to-Mix Powders into Uniform, Lump-Free Product with Independently-Controlled Liquid Flow and Solids Feed Rates

Laboratory Model D-1000 Dispershear allows you to control liquid flow and solids feed rates for smooth, uniform dispersions with no waste and no agglomerates.

Dispershear evenly incorporates fine powders that can be difficult to disperse with conventional systems.

And, 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.

Liquids also enter the powder chute at the rate you specify. Because the liquid flow washes the walls of the powder chute, you eliminate solids build-up and plugging. 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.

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



### Scale-up Capability

Test results of Model D-1000 and all laboratory mixers designed and manufactured by ARDE Barinco can be scaled up to full size production capacity. By carefully matching speed and flow, each laboratory mixer produces results that will be duplicated by larger production units.

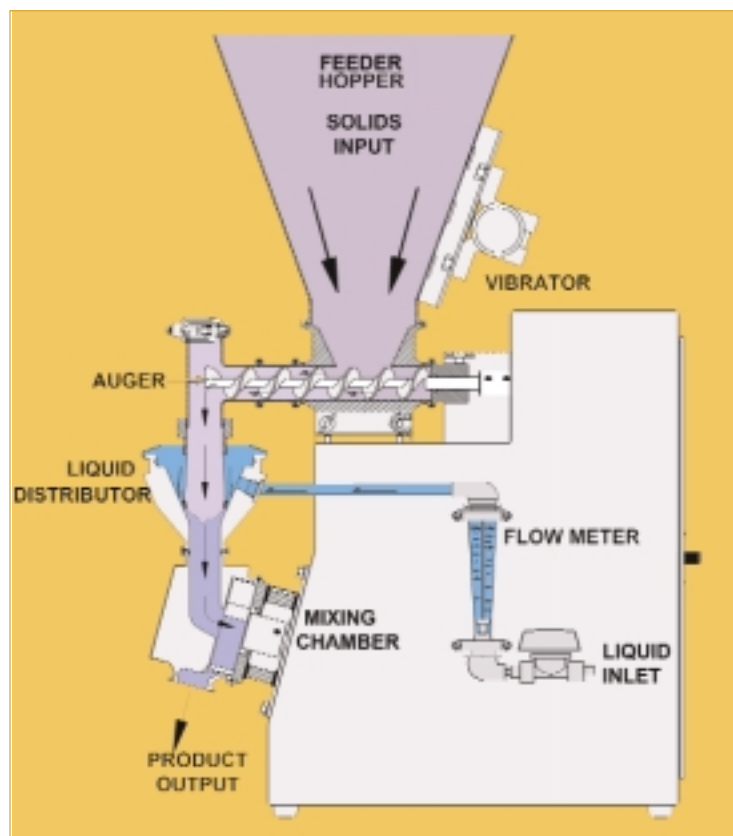
ARDE Barinco engineers have more than 50 years experience in scale-up calculations.

### Additional Benefits

Model D-1000 Dispershear mixes faster than conventional mixers because the powder particles combine with the fluid almost instantly. Powder is dispersed quickly by the remarkably efficient impulsor. In scale-up, 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.

### Capacities

From 0.5 to 3 gallons per minute



## Specifications

### Materials of Construction

- Type 304 Stainless Steel
- Wash down duty, enclosure and hopper
- Delrin liquid distributor and mixing chamber/rotor
- Teflon gaskets and seals
- PVC tubing and polypropylene fittings
- Polysulphone rotometer
- PVC ball valve

### Dimensions

- 22" L x 17-3/8" W,
- 17-1/4" x 14" Base Foot Print.
- 32-12/32" Stand Height.

### Dispersion Motor / Auger Drive

- (Impeller) Rotor (3.95" overall diameter) coupled to an 1800 rpm, 1/2 hp AC TEFC, continuous-duty motor via speed reducer to 30-90 rpm 1-3/8" solid flight auger with center rod.

### Controls

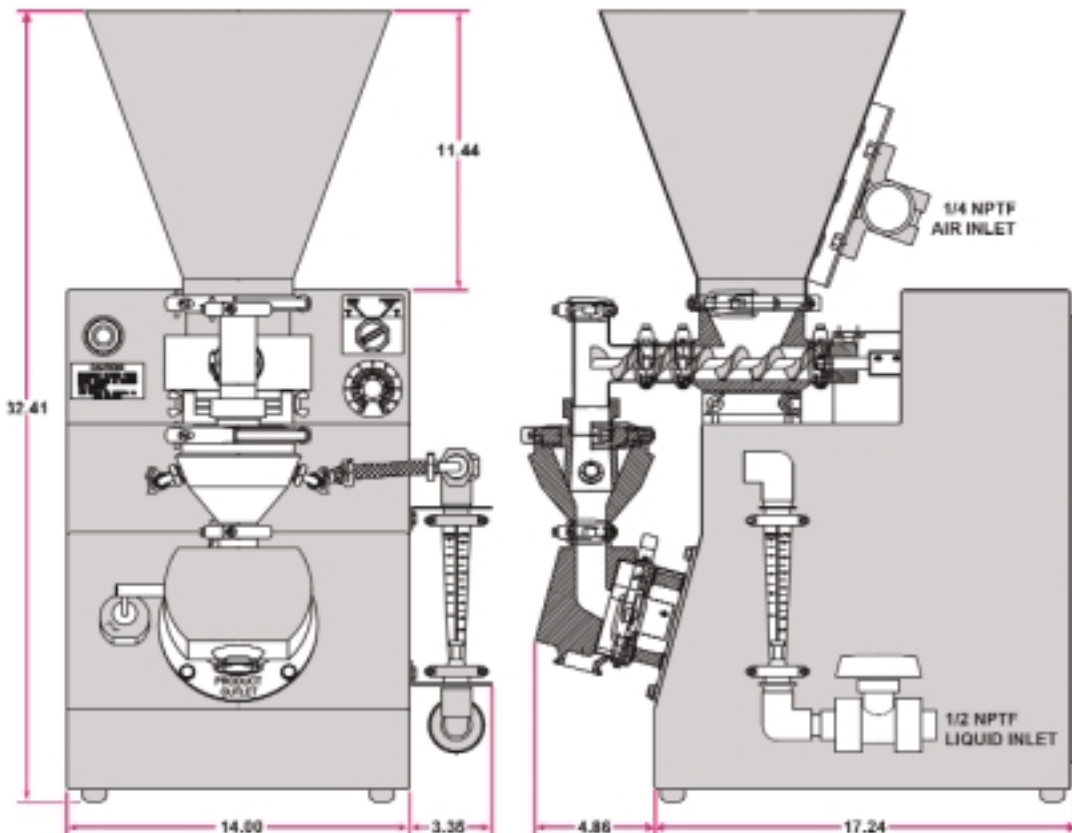
- Four-position switch -- **OFF, AUGER ONLY, DISPERSER ONLY, ON**

### Hopper Volume

- 1/3 cu. ft.
  - Liquid Flow 0.5 to 3 gpm
  - Solids Feed 0.1 to 10 lb/min
- Air-operated vibrator attached to dry solids hopper.

## Dispershear Model D-1000 Mixers. Perfect for a Variety of Laboratory Uses

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



## Buy With Confidence

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 fifty years of mixing, dispersion and size reduction experience.

As with all our products, Arde Barinco will let you find out if the unit is right for you by putting it through its paces at our fully-equipped testing facility. We can also make units available for field trials at your facility. You're under no obligation to buy; just give us your production requirements and we'll be happy to run capabilities tests.

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