

# DICON IN-LINE DISPERSING GRINDER

Model 2 x 1

ARDE BARINCO INC.

## LABORATORY MIXERS THAT COMBINE GRINDING, DISPERSING, SHEARING AND EMULSIFYING WITH PUMPING



Model 2x1 Dicon unit with 12 liter jacketed mixing vessel and recirculation piping and 3-way valve.

## Meshed Teeth Take a Bite Out of the Toughest Mixing Tasks

A unique and patented impeller, with three helical blades, rotates at high speed inside a matching, tubular housing. The rotating impeller creates a negative pressure differential, centrifugal-shoveling and positive axial thrust - - drawing materials into intensive shear zones.

Centrifugal force abruptly changes the materials' direction and drives them against the inner surface of the toothed liner. Sharply-angled teeth on the edges of the impeller blades shear the materials and force them through a tortuous path.

Grinding action repeatedly accelerates and decelerates materials, forcing them to undergo numerous changes in direction.

Materials are crushed and subjected to eddy currents in a very high turbulence zone between the two sets of intermeshing teeth. This grinding action is continuously repeated as the materials move toward the discharge port.

## Positive Particle Size Control

Materials must exit through one of the small precision ports. The partially-restricted discharge area provides reproducible control of both retention time and dispersion.

The precisely machined orifices of the discharge plate grid assure positive particle size control and prevent nozzle clogging - - even in single-pass processes.

## Versatility and Scaleability

Easy-to-change impellers, liners and discharge gates allow one Dicon in-line grinder to disperse, grind, emulsify, shear, mix or blend up to 70% solids or liquids with viscosities as high as 250,000 centipoise. Designed for use in line or recirculating, continuous one-pass operation or in a recirculation loop. It's a durable, versatile grinder and pump with hundreds of potential applications.



Toothed impeller/liner combination showing full open discharge, 1/4" grid and 1/16" grid.

The ARDE-Barinco Dicon in-line wet grinder is backed by three decades of proven performance in high-volume production and lab applications around the world. Dicon provides solutions to a wide range of mixing and grinding problems.

Dicon in-line dispersing grinders shred solid surfaces, grind particles, smash agglomerates, and reduce dissolving or dispersing time. The unique, high-shear design insures fast mixing and complete solid-to-liquid contact.

**MODEL 2x1** is perfect for Laboratories and Pilot Plants. It provides a complete system for wet grinding, dispersion, mixing and emulsifying on a small-scale. This vertical 2" diameter, in-line grinder features a recirculation line to the top of a jacketed, 12 liter stainless steel vessel.

**All products successfully made with the 2x1 Dicon in the laboratory can be scaled up to full production.**

## Accessories

- Variable-Speed Control

## Options

- Abrasion-resistant materials of construction
- Discharge grid plates with precisely positioned venturi orifices (from 1/16" or 1/8" I.D.) for positive particle-size control
- Tachometer

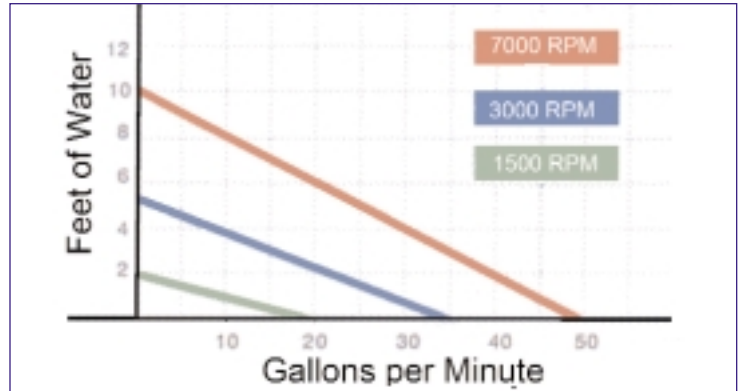
## Specifications

### Materials of Construction

- Type 316 Stainless Steel (FDA Accepted)
- Type 316 Stainless Steel 12-Liter vessel recirculating piping and valve
- Sanitary Design recirculating piping and valve

### Motor / Drive

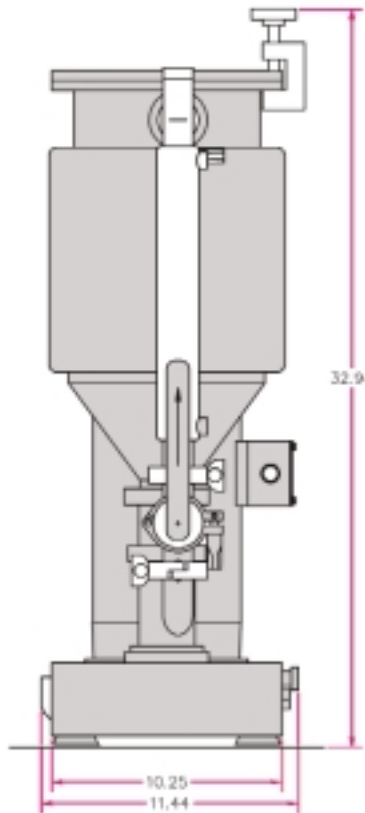
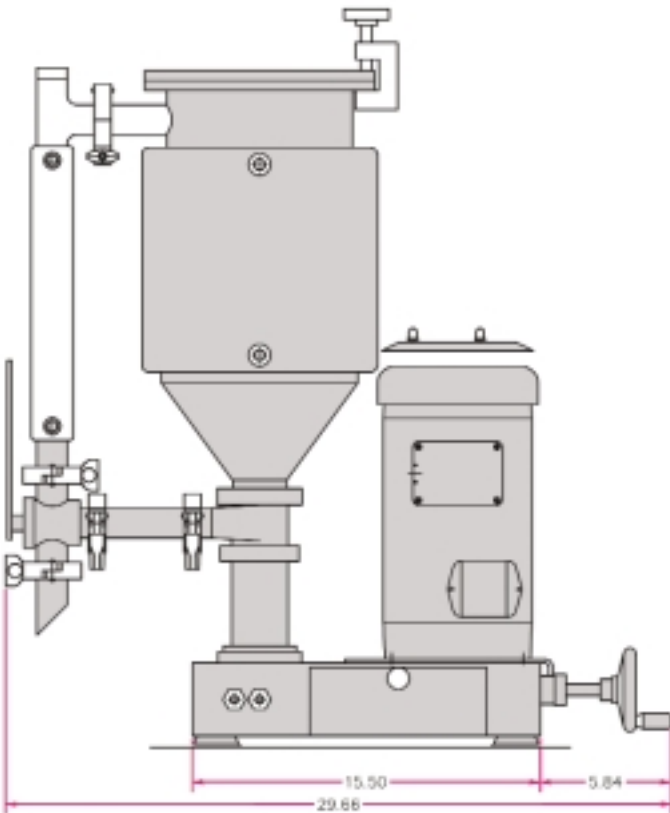
- 3 HP TEFC, 3600 RPM, 3 phase 60HZ, 230/460V
- Belt Drive, 1500 -- 7000 RPM Dicon Shaft Speed



## Dicon In-line Dispensing Grinders. Perfect for a Variety of Laboratory Uses

### Top Dozen Applications

1. Prepare fully dispersed petroleum drilling fluids.
2. Pre-grind agricultural technical crystals prior to milling.
3. Polish oil/water emulsions for dermatological creams.
4. Dissolve elastomer in solvent for adhesives.
5. Disperse pigment filter press cake into water.
6. Delump polymer resin agglomerations down stream of chemical reactors.
7. Delump paint and ink wastes for cement kiln fuel blend.
8. Reconstitute frozen juice into water.
9. Smooth out processed cheese prior to spray drying.
10. Delump pharmaceutical crystals (API) down stream of reactors prior to centrifuges.
11. Slurry grinding of leaves and nuts to extract flavors.
12. Re-pulping of recycled paper.



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## Buy With Confidence

If you do decide to buy an ARDE Barinco product, you'll receive free technical support for the life of the machine; fast, friendly service drawing on more than five decades 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.

**ARDE BARINCO INC**

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