

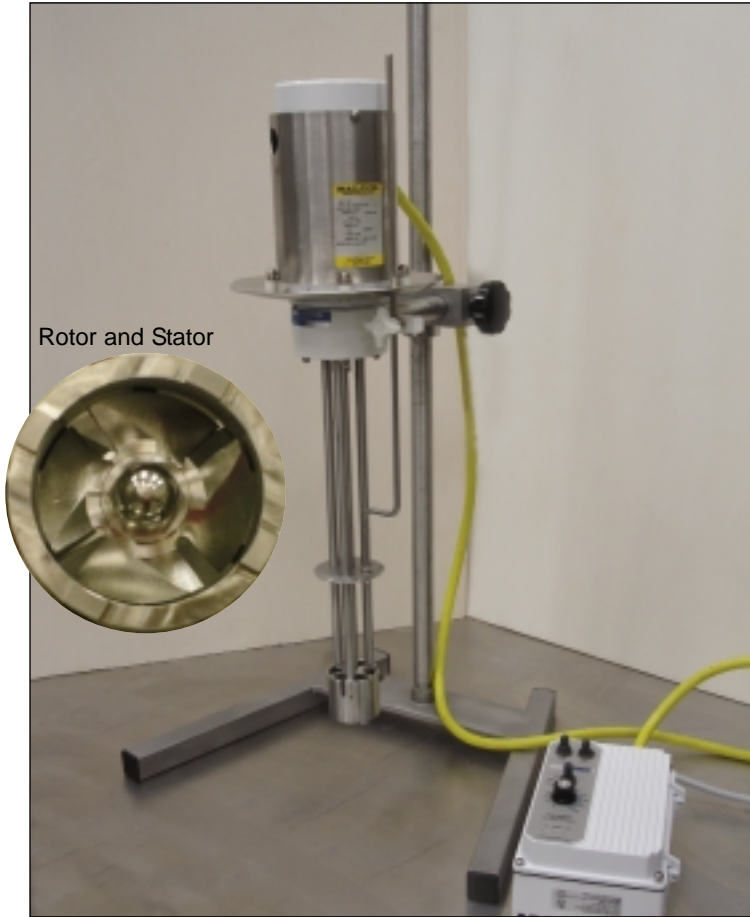
# REVERSIBLE HOMOGENIZING LABORATORY/PILOT PLANT MIXERS

Model CJ-4E

**ARDE BARINCO** INC.

## DUAL MODE MIXER

**TWO MIXING ACTIONS  
PROVIDE  
MAXIMUM SHEAR AND EFFICIENCY**



The Model CJ-4E Reversible Homogenizing Mixer was specifically designed for batch sizes from 1 to 5 gallons. With a 1.8" diameter 10,000 RPM axial flow rotor, high shear rates approaching 50,000 reciprocal seconds are obtained. These high shear rates are capable of de-agglomerating powders in liquids and emulsifying difficult immiscible liquid mixtures.

The efficient, axial flow impeller of the CJ-4E homogenizer creates two distinct mixing actions, depending on direction. Downward vortex flow pulls in solids that tend to float on top and pushes off solids that settle on the bottom. The upward flow "umbrella" mode ensures thorough control of the mixing at the highest shearing and recirculation rates without splashing or incorporating air.

The CJ-4E Pilot Plant Homogenizing Mixer is equipped with a mixer stand and a variable speed control box.

**Capacities** from 1000 ml to 5 gal (20 liters)

### Scale-up Capability

All laboratory mixers designed and manufactured by ARDE Barinco can be scaled up to full size production capacity. By carefully matching the rotor diameter, RPM and rotor stator gap, each laboratory mixer can produce results that will be duplicated by larger production mixers.

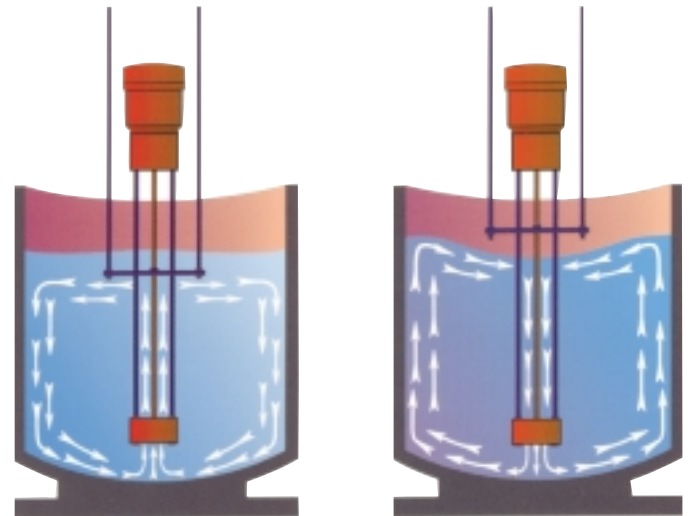
ARDE Barinco engineers have over 45 years experience in scale-up calculations. These are accomplished today via a proprietary computer program that automatically calculates the required full scale production mixer for a given capacity.

### Accessories

- Reversible, water-resistant SCR Variable-Speed Controller
- Mixer Stand.

### Options

- Tachometer • Power Meter • Powder Induction Device
- Power Lift • Pressure/Vacuum Sealed.



#### **Upward "Umbrella" Flow**

Produces high-velocity flow through the high-shear mixing head where an efficient axial flow impeller meshes with a stationary housing. The flow impinges on an adjustable baffle plate that continuously deflects the upward flow to the sidewalls and back through the high-shear zone.

By immersing the baffle plate, surface turbulence and air incorporation can be eliminated, even at the high speeds required for fine dispersion and emulsification.

#### **Downward "Vortex" Flow**

Pulls powders down from the surface of the liquid into the high-shear mixing head and also blasts settled solids from the bottom of the mixing vessel.

Difficult, floating or agglomerating powders are quickly drawn in and "wetted out". Heavy solids are positively pushed off the bottom and re-suspended.

## Specifications

### Materials of Construction

All Type 316 S/S except for Rulon 641 (FDA Accepted) steady bearing. • Carbon steel motor is painted with FDA-accepted coating.

### Dimensions

- 16" Immersion Length.
- 46" Maximum Overall Height (with mixer raised).
- 16" Base Foot Print.
- Rotor Housing: 2.125" H, 2.25" diameter.
- 3" Diameter Baffle Plate.
- 38" Stand Height.

### Motor

Rotor (1.8" diameter) is directly coupled to a 0-10,000 RPM, 0.75 HP DC TEFC, continuous-duty motor with air deflector.

### Controller

NEMA 4, IP-65 SCR speed/torque control for 90 volts DC output. Controller includes 0- 100% *SPEED CONTROL*, *UP MODE/BRAKE/DOWN MODE* switch, *START/STOP* switch and *RUN/JOG* switch. Three LED indicators show *ON*, *STOP*, and *OL* (overload). Controller has a full UL and CE Marking Acceptance.

## CJ-4E Reversible Homogenizers Perfect for a Variety of Uses

### Chemical

- Disperse filter press cake
- Pre-grind agricultural flowables
- Disperse abrasive catalysts
- Dissolve resins and elastomers
- Produce wax emulsions

### Coatings

- Dissolving friable resins into solvents for binder
- Pre-dispersing pigments
- Microencapsulating ink for carbonless paper
- Dissolving resins for clear top coat products

### Personal Products

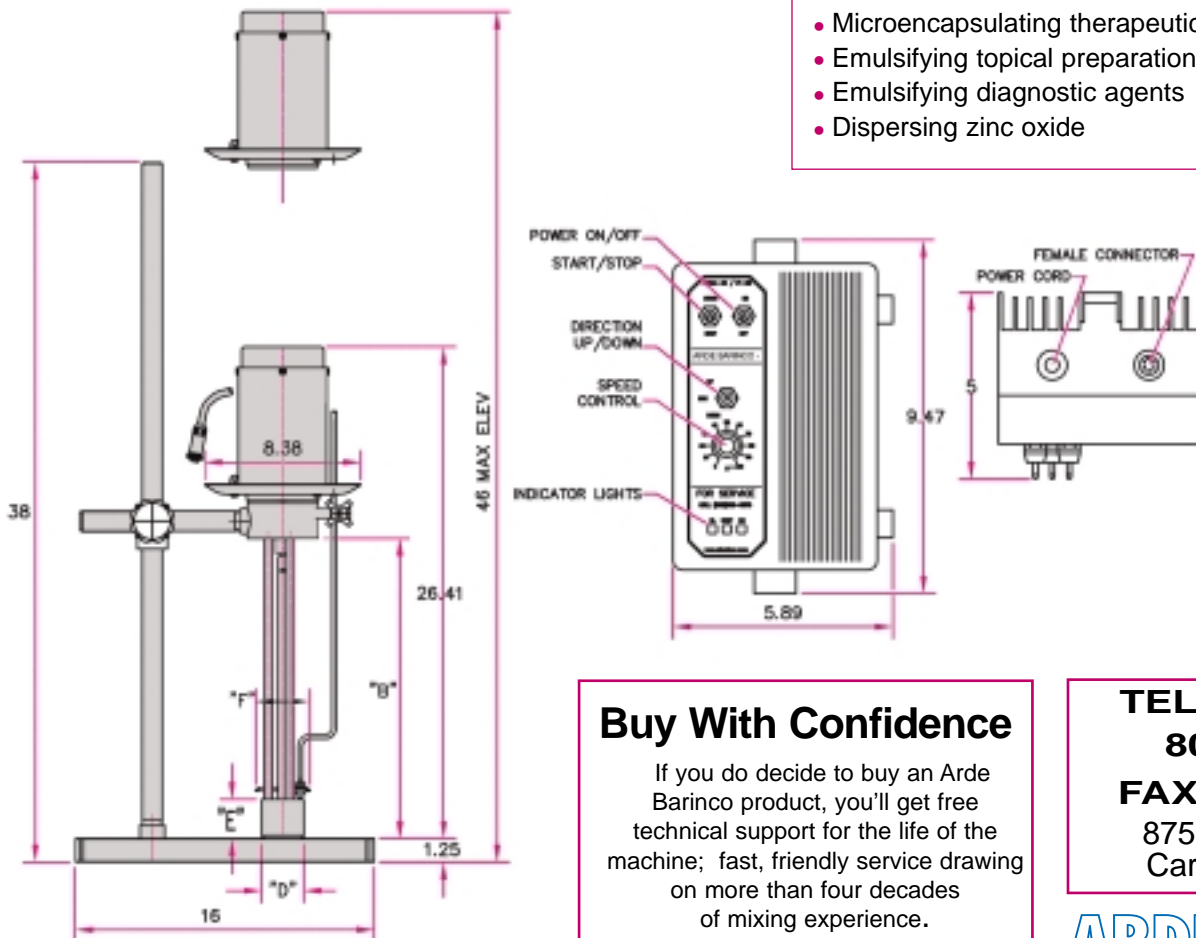
- Dispersing Carbopol® for hair gels
- Emulsifying oil/water phases for creams and lotions
- Dispersing titanium dioxide or zinc oxide sunscreens

### Food

- Disperse xanthan gum or other stabilizers in sauces
- Dissolve Aspartame and pectin for bottled beverages
- Emulsify low-fat salad dressing
- Prepare fine grain flavor emulsions for spray drying

### Pharmaceutical

- Microencapsulating therapeutic agents
- Emulsifying topical preparations
- Emulsifying diagnostic agents
- Dispersing zinc oxide



## 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 more than four decades of mixing experience.

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**ARDE BARINCO** INC

MODEL	HP	RPM	ROTOR DIA	TIP SPEED	B	D	E	F	BATCH SIZE GALLONS
CJ4E	¾	10000	1.8	76 <sup>1</sup> / <sub>16</sub> IN/SEC	16	2¼	2¼	3" DIA	5 GALLONS