

## Areas Of Application

### Dairy Products

Extended shelf stability, improved smoothness and body.

- ▶ Milk
- ▶ Ice cream
- ▶ Cream
- ▶ Yogurt
- ▶ Desserts
- ▶ Sour cream
- ▶ Cheeses
- ▶ Condensed milk



### Foods and Beverages

Improved viscosity control and shelf stability, reduced ingredient cost.

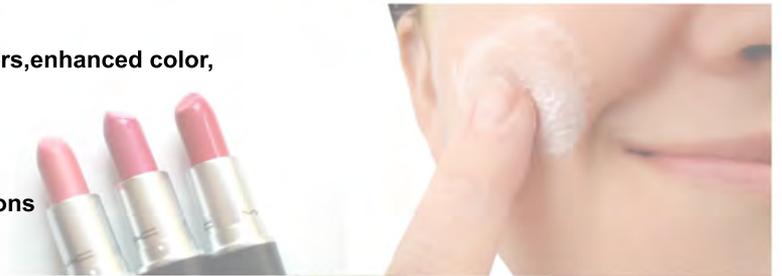
- ▶ Fat substitutes
- ▶ Baby foods
- ▶ Dressings
- ▶ Vegetable juices
- ▶ Liquors
- ▶ Tomato products
- ▶ Peanut butter
- ▶ Reduced fat products
- ▶ Flavors and fragrances
- ▶ Infant formulas
- ▶ Fruit juices
- ▶ Juice concentrates
- ▶ Sauces
- ▶ Egg products
- ▶ Beverage emulsions
- ▶ Nutritional supplements



### Healthcare and Cosmetics

Smoother textures, better dispersion of thickeners, enhanced color, increased gloss, better application.

- ▶ Hair products
- ▶ Lotions
- ▶ Conditioners
- ▶ Nail polishes
- ▶ Skin creams
- ▶ Shampoos
- ▶ Lipsticks
- ▶ Liposome emulsions



### Chemicals

Particle size and viscosity control, enhanced color, uniformity of application, and improved stability.

- ▶ Disinfectants
- ▶ Insecticides
- ▶ Silicone emulsions
- ▶ Lubricants
- ▶ Latex
- ▶ Pigment dispersions
- ▶ Emulsifiers
- ▶ Specialty paints and coatings
- ▶ Wax emulsions
- ▶ Resins/rosins
- ▶ Viscosity index improvements
- ▶ Inks



### Pharmaceuticals

Stability, uniformity, narrow particle size distribution, enhanced texture.

- ▶ Antibiotics
- ▶ Creams
- ▶ Ointments
- ▶ Liposomes
- ▶ Veterinarian preparations
- ▶ Antacids
- ▶ Intravenous emulsions
- ▶ Tablet coatings



### Biotechnology

Cell disruption for harvesting high yields of intracellular products.

- ▶ Bacteria (E-Coli)
- ▶ Proteins
- ▶ Algae
- ▶ Enzymes

PNF Co is pioneer in manufacturing equipment for mixing various liquids using hydrodynamic nano cavitation technology. Stable nano emulsions and suspensions obtained are widely used in various industries.

In this technology, cavities are produced via high pressure and a special designed reactor. The process begin with the local high temperature and pressure resulted from the implosion of cavities.

The benefits of this technology provide new features for different fields such as food, dairy, cosmetic, chemical, biotech, and pharmaceutical industries and R&D centers to achieve improved quality and performance of products.

PNF Co. offers this innovative technology and equipment for Cold Pasteurization employing no steam, no electric heating elements or another external heat source based on hydrodynamic nano cavitation technology. This approach is sufficient for milk products, fruit drinks, etc.

Application		HC-LE	HC-LMEP1	HC-LMEP2	HC-LEDVP1	HC-LEDVP2	HC-LMEDP1	HC-LMEDP2	HC-P
Dairy Products	Viscose					✓			✓
	Nonviscose			✓					
Foods and Beverages	Viscose					✓			✓
	Nonviscose			✓					
Healthcare and Cosmetics	Viscose				✓	✓	✓		✓
	Nonviscose			✓					
Chemicals	Viscose	✓	✓		✓	✓	✓		✓
	Nonviscose	✓	✓	✓					
Biotechnology	Viscose					✓		✓	✓
	Nonviscose								
Pharmaceuticals	Viscose					✓		✓	✓
	Nonviscose				✓			✓	