

High Pressure Laboratory Microfluidizer Processor for High-Shear Fluid Processing

M-110Y Microfluidizer® Processor

Recommended for:

- Cell Disruption
- Fine Emulsions
- Ultradispersions
- Liposomes
- Microcapsules
- High Pressure Applications

The M-110Y Microfluidizer Processor is a lab machine that provides the highest shear rates of any available mixer or homogenizer on the market today, maximizing the energy-per-unit fluid volume to produce uniform submicron particle and droplet sizes.

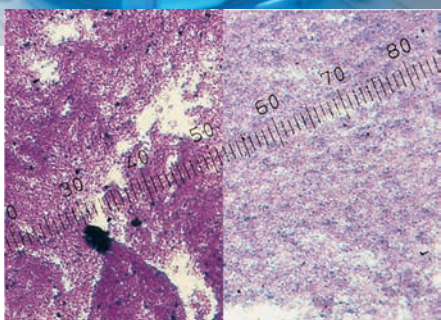
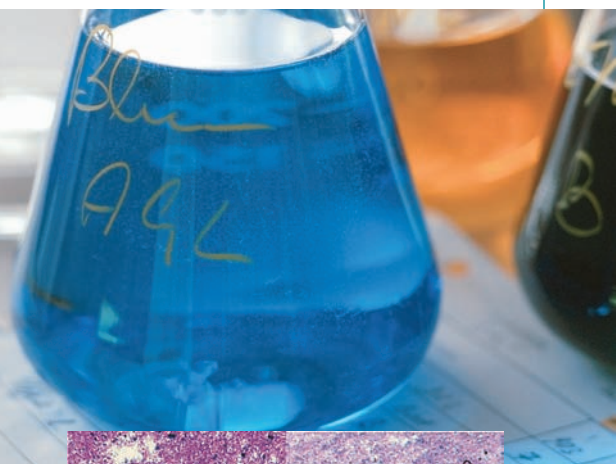
Process pressures are highly variable, ranging from a low of 3,000 to 23,000 psi, enabling the processing of a wide variety of fluids ranging from simple oil-in-water emulsions to high-weight-percent solids in liquid suspensions. The system is easy to operate and is designed for in-line cleaning, requiring no disassembly.



The M-110Y Microfluidizer processor for micro-mixing in the laboratory

- Unique wear-resistant fixed-geometry interaction chamber
- Guaranteed scaleup through production
- All wetted metal parts – 300 series stainless steel, 17-4PH stainless steel, or Nitronic 60. Plunger is chrome-plated (tungsten carbide optional).
- Jacketed 17 ft. cooling coil (13 ml holdup volume)*
- Easy in-line cleaning and simple maintenance
- Air-powered, explosion-proof
- Portable, benchtop unit
- Sanitary fittings
- Submersible in cooling or heating bath

*total holdup volume without cooling coil is 30 ml



Before Processing

After Processing

*Patented
Microfluidizer
processor
produces uniform
dispersions with
submicron size
particles*

Operating Principle

The M-110Y has an air-powered intensifier pump designed to supply the desired pressure at a constant rate to the product stream. As the pump travels through its pressure stroke, it drives the product at constant pressure through precisely defined fixed-geometry microchannels within the interaction chamber.

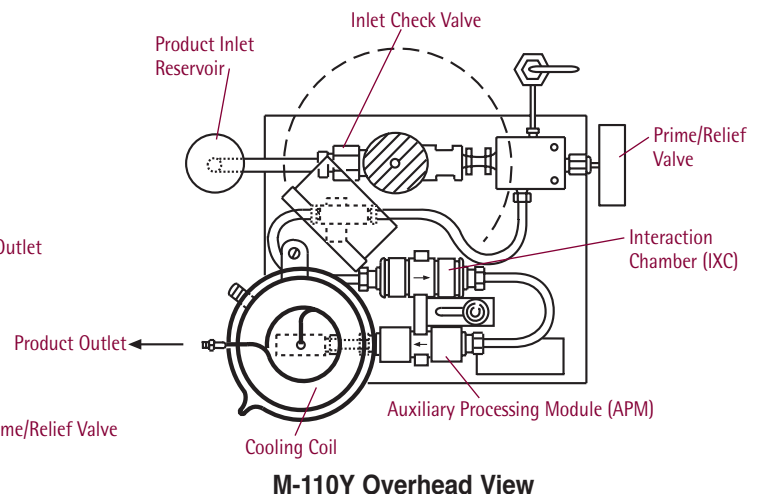
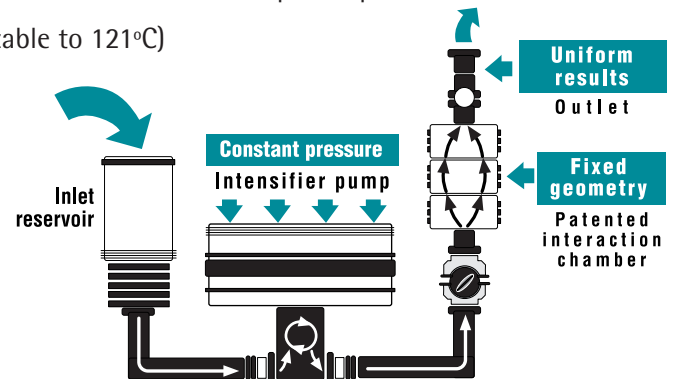
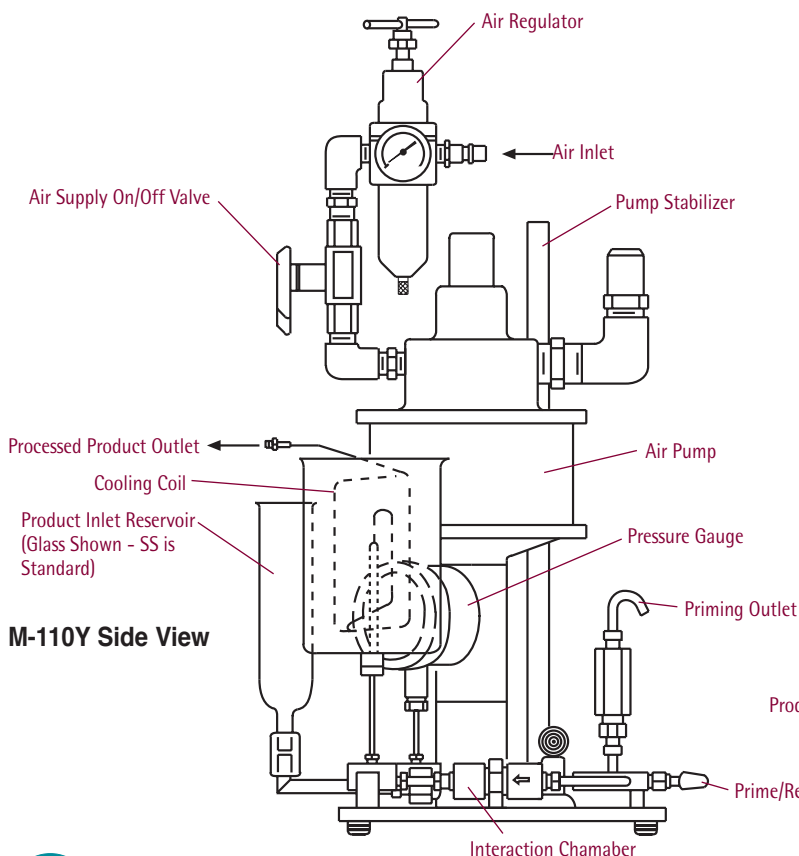
As a result, the product stream accelerates to high velocities, creating shear rates within the product stream that are orders of magnitude greater than any other conventional means. All of the product experiences identical processing conditions, producing the desired results, including: uniform particle and droplet size reduction (often submicron), deagglomeration and high yield cell disruption.

Specifications

Pressure Range	3,000 - 23,000 psi (200 to 1586 bar)
Flow Rate Range	100-600 ml/min
Feed Temperature Range	-15°F to 165°F (-25°C to 75°C)
Processor Air Requirements For Maximum Operating Pressure	56 scfm @ 96 psi 15 hp (11 kw) compressor required
Sample Size	60 ml to continuous
Dimensions	11"L x 16"W x 30"H (28 x 41 x 76 cm)
Weight	55 lbs. (25 kg)

M-110Y Available Options

- 400 ml manual pressure feed reservoir
- 2 gallon pressurized feed tank
- Tungsten Carbide plunger in pump
- Special designs and construction materials upon request
- Autoclavable (sterilizable to 121°C)



A WHOLLY OWNED
SUBSIDIARY OF
MFIC
CORPORATION

30 Ossipee Road, P.O. Box 9101
Newton, MA 02464-9101 USA
Tel: 1-800-370-5452 or: 617-969-5452
Fax: 617-965-1213
e-mail: mixinginfo@mfics.com
www.microfluidicscorp.com

European Office
Edisonstr.15
68623 Lampertheim, Germany
Tel: +49 (0) 6206-503-700
Fax: +49 (0) 6206-503-705