Microfluidics™

Superior Knowledge | Superior Results

LM20

Microfluidizer®

High-Shear Fluid Processor



LM20 Microfluidizer® High-Shear Fluid Processor

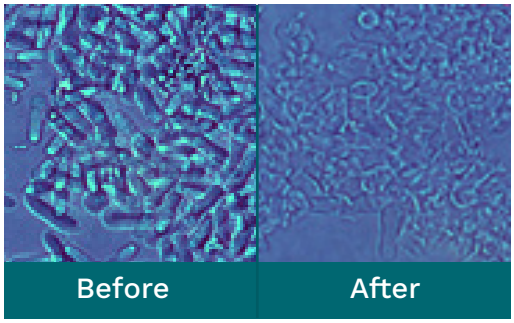
Digitally Controlled, Electrically Powered Lab Unit for Small Sample Processing

Microfluidizer technology efficiently converts fluid pressure into shear forces, leading industry performance standards in high-pressure processing.

A unique solution to maintaining consistent process pressure ensures 100% of your material gets exactly the same treatment. Whether you are working with small-scale lab batches or production volumes, the Microfluidizer processor is unmatched in submicron particle/droplet size reduction, cell disruption, product yield, and guaranteed process scale up.

Microfluidics™

High-efficiency cell disruption with minimal protein denaturation



Recommended for:

- Emulsions
- Dispersions
- Liposomes
- Cell Disruption
- Fine Particle Deagglomeration

Unique Benefits of the LM20

- Achieve unmatched particle/droplet size reduction or cell disruption performance at lower process pressures
- Temperature control available
- Higher product yields after sterile filtration with tighter particle size distribution
- Save on development time in pilot-/production scale with linear volumetric scale-up
- Enhanced repeatability with easy-to-use digital pressure control
- Compact design to fit in a fume hood
- Ensure dependable process performance over time with maintenance reminder & operator alerts

LM20 Microfluidizer® High-Shear Fluid Processor

Operating Principle

The LM20 Microfluidizer processor contains an 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 the precisely defined fixed-geometry microchannel 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.

Standard Features

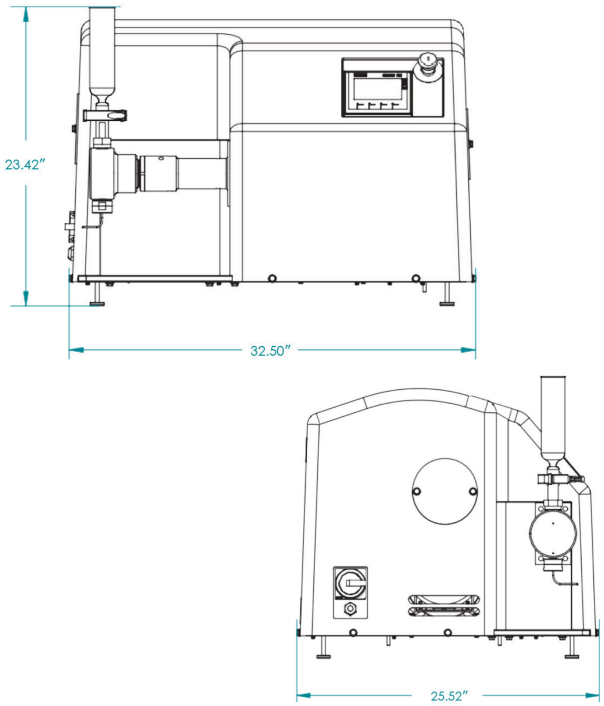
- 300 ml glass reservoir
- Diamond Interaction Chamber™ assembly (ceramic Interaction Chamber™ for LM20-20 model)
- Digital pressure control
- Integrated stroke counter with maintenance reminder
- Multiple languages (selectable by user)

Options

- Auxiliary Processing Module™ (APM™)
- Cooling coil, bath & recirculation assembly
- Process pressure gauge
- Larger capacity stainless steel reservoirs
- Solvent-resistant gasket materials
- Seal quench fittings
- Nitrogen adapter assembly

Specifications

Pressure Range	Up to 30,000 psi (2068 bar)*
Minimum Holdup Volume	14 ml**
Flowrate Range	Up to 90 ml / min
Feed Temperature Limit	Maximum of 149°F (65°C)
Electrical Power Requirement	220-230/460V, 60 Hz, 3PH (220/380-415V, 50Hz, 3PH)
Pump Actuator***	Electro-Hydraulic
Noise Level	<80dBA TWA
Dimensions (L x W x H)	33” x 26” x 23” (84cm x 66cm x 58cm)
Weight	250 lbs (114 kg)



* 20,000 psi for LM20-20 model.
** Processing volume requirements will vary based on machine configurations.
*** Nitrogen tank required during startup only.

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Material Processing Technologies

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