

High shear fluid processing system for lab-volume micro-emulsions, cell disruption, and micro-encapsulation

M-110L Microfluidizer Processor

- Produce stable micro-emulsions & dispersions
- Increase yield in cell disruption
- Create finer micro-encapsulations

Microfluidics produces patented Microfluidizer processors with high-pressure, fixed-geometry interaction chambers that impart intense energy to product formulations. The M-110L produces up to 18,000 psi with standard lab air, for premium results at an affordable cost.



M-110L Microfluidizer processors combine superior, scalable results with easy handling and small footprint

- Air powered up to 1241 bar (18,000 psi) process pressure with less than 25 scfm air using 5.6 kw (7.5 hp) compressor (chamber selection dependant)
- Samples as small as 14 ml with 12 ml typical recovery
- Process may be continuous, batch or recirculation
- Available in fully autoclavable configuration (place entire unit in autoclave without disassembly)
- Fully CE compliant base unit; inherently explosion-proof
- R&D process results will scale accurately to higher volume Microfluidizer processors
- Cooling tray for interaction chamber and product cooling coil submersion
- Unique wear resistant ceramic or diamond (optional) fixed geometry interaction chamber
- All wetter metal parts - 300 series stainless steel, 17-4 PH stainless steel on Nitronic 60. Plunger is chrome-plated.
- Easy in-line cleaning and simple maintenance
- Portable bench-top unit
- Sanitary fittings



*Patented
Microfluidizer
process produces
high-yield cell
disruption with
easy recovery*

Operating Principle

Patented Microfluidizer processor technology achieves high pressure with low air draw. The ceramic interaction chamber concentrates intense energy upon formulation streams that impact in microscopic channels at high velocity.

The Microfluidizer process results in stable emulsions, highly efficient cell rupture and micro-encapsulations. It is particularly useful in the production of injectable drugs, emollients, medical formulations and liposomes.

The M-110L is ideal for producing high yields in cell rupture with minimal processing and easy recovery. Cell walls are ruptured by shearing forces that do not destroy cell contents, and allow for easy separation.

All Microfluidizer systems incorporate similar interaction chamber technology. Results obtained in R&D are consistently scalable to Microfluidics' higher volume processors.

M-110L Specifications

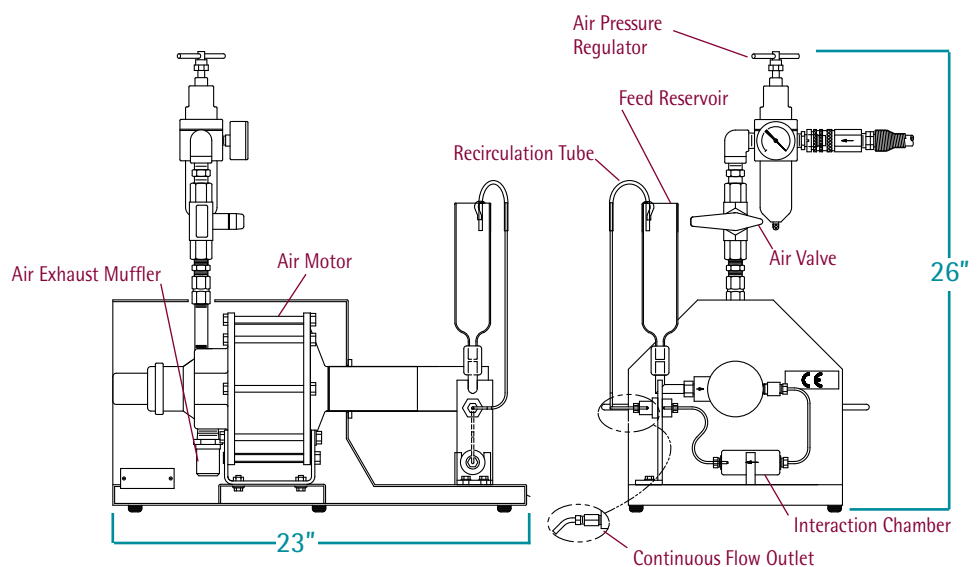
Pressure Range	206-1241 bar (3,000-18,000 psi)
Flow Rate Range	Up to 270 ml/min
Feed Temperature Range	-25°C to 75°C (-15°F to 165°F)
Air Compressor Power Requirement	Compressor size and air requirements will vary from 5.6 kw to 11 kw (7.5 hp to 15 hp), .84 m ³ to 1.71 m ³ @ 5.9 bar (28 to 57 scfm @ 85 psi) depending upon selection of interaction chambers.
Minimum Sample Size	14 ml with up to 12 ml recovery
Dimensions LxWxH	60 x 39 x 68cm (23" x 15" x 26")
Weight	26.4 kg (58 lbs)

Standard Features

- Ceramic interaction chamber
- CE compliant
- Polished stainless steel full system enclosure
- Small diameter tubing for minimum holdup volume
- 200 ml glass reservoir
- Removable recirculation loop
- UHMWPE (Ultra High Molecular Weight Polyethylene) plunger seal
- Spare parts kit
- Removable cooling coil

Available Options

- 400 ml, 1 liter and 2 liter stainless steel reservoirs that allow operation with or without recirculation loop or cooling coil
- Sanitary pressure transducer with digital readout
- Autoclavable unit (sterilizable to 121°C)
- Spare interaction chambers
- Recirculation reservoir, 25 ml capacity (14 ml sample size; 12 ml recovery)
- Diamond interaction chamber
- Mechanical product pressure gauge
- Air tank regulator
- IQ/OQ documentation
- Factory acceptance test (FAT)
- Site acceptance test (SAT)
- Start-up training



Microfluidics reserves the right to change specifications without notice.



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