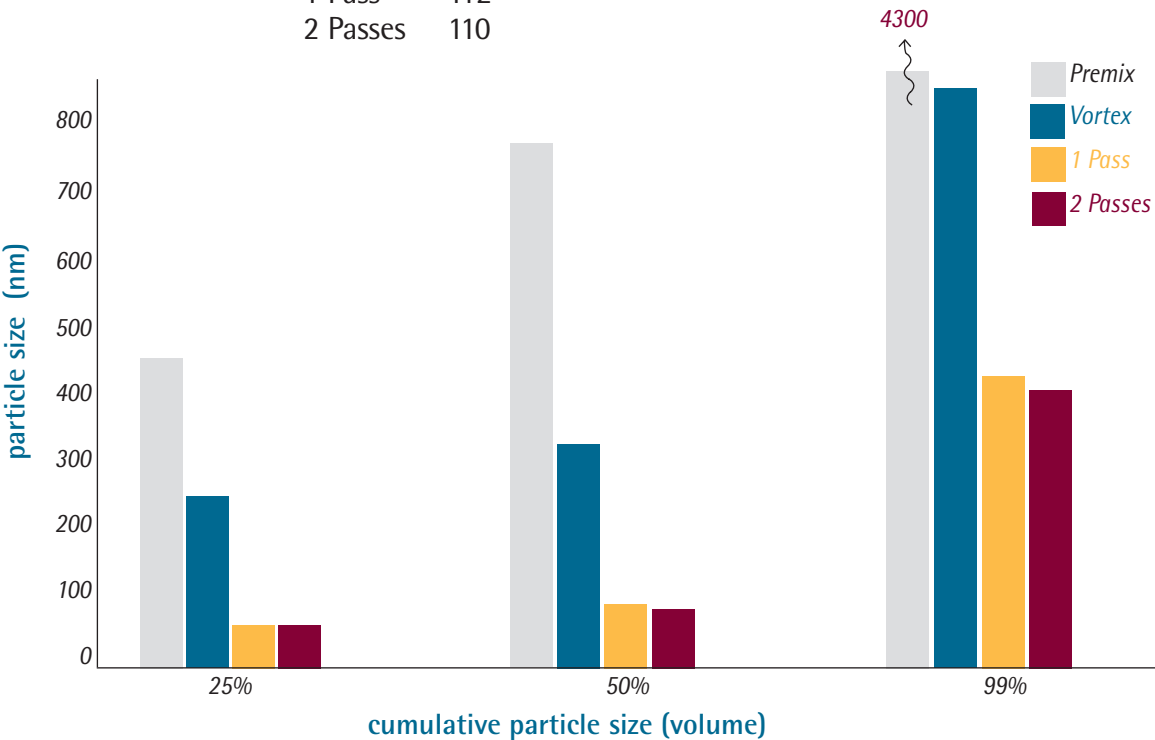


Materials Processing Data Sheet

Microfluidizer® Processor Laboratory Results

Industry:	Biotechnology										
Product:	Lipid emulsion										
Test Objective:	Reduce the particle size to be smaller than the currently used Vortex mixer.										
Processor:	M-110Y										
Chambers:	Interaction Chamber (upstream) F20Y (75µm) Auxiliary Processing Module (downstream) H30Z (200 µm)										
Number of passes:	2										
Shear per pass:	6,520,000 sec ⁻¹										
Process Pressure:	18,000 psi										
Particle Size:	<table><tr><th><u>Passes</u></th><th><u>Mean Particle Size (nm)</u></th></tr><tr><td>Premix</td><td>1097</td></tr><tr><td>Vortex</td><td>393</td></tr><tr><td>1 Pass</td><td>112</td></tr><tr><td>2 Passes</td><td>110</td></tr></table>	<u>Passes</u>	<u>Mean Particle Size (nm)</u>	Premix	1097	Vortex	393	1 Pass	112	2 Passes	110
<u>Passes</u>	<u>Mean Particle Size (nm)</u>										
Premix	1097										
Vortex	393										
1 Pass	112										
2 Passes	110										



Summary of Results:

The Microfluidizer® materials processor reduced the particle size to a smaller mean than that of the Vortex mixer.

Materials Processing Data Sheet

HC-2000 GMP Pneumatic

Pressure Range 250–2,000 psi

HC-5000 GMP Pneumatic

Pressure Range 500–5,000 psi

The HC-2000 is our lightweight, easy to use, low pressure homogenizer. With sanitary fittings and 300 series stainless steel parts, processing with the HC-2000 meets GMP requirements. The HC-2000 is suitable for batch and continuous processing with flowrates to 2 liters/minute. The HC-5000 is identical to the HC-2000 but with higher pressure capabilities (to 5,000 psi) and flow rates to 950 ml/minute.

HC-8000 Sanitary Pneumatic

Pressure Range 1,000–8,000 psi

The HC-8000 complies with sanitary standards to meet demanding product specifications and tight quality control. This unit employs a flow-through, sanitary pressure transducer with digital display and generates liquid pressures up to 8,000 psi and flowrates to 1 liter/minute.

M-110S Small Volume Pneumatic

Pressure Range 3,000–23,000 psi

The M-110S is an air-powered unit designed to process smaller sample volumes than the other Microfluidizer models with greater product recovery. For samples as small as 14 ml (with >12ml recovery) up to continuous operation.

M-110Y High Pressure Pneumatic

Pressure Range 3,000–23,000 psi

The M-110Y provides the highest operating pressure of our laboratory units. It is specifically designed for applications that require optimum pressure, such as cell rupture. The M-110Y is ideally suited for improving product yield and minimizing downtime.

M-110EH-30 Electric-Hydraulic

Pressure Range 2,500 – 30,000 psi

The M-110 EH is specifically designed for those customers that prefer an electrically-driven unit over a pneumatically-driven one. The unit reaches pressures as high as 30,000 psi and is mounted on locking casters for mobility.

M-140K High Pressure Electric-Hydraulic

Pressure Range 8,000 – 40,000 psi

The M-140K is built to sustain prolonged high pressure demands and provide users with the opportunity to create new formulations, and improve existing products. The unit reaches pressures as high as 40,000 psi and is mounted on locking casters for mobility.

M-210EH Electric-Hydraulic

Pressure Range 2,500–30,000 psi

The M-210 EH Series is the pilot plant line specifically designed to utilize an electric-hydraulic pump in place of the standard air-powered pump. Results achieved on laboratory Microfluidizers will scale up to this level. These units can achieve pressures up to 30,000 psi and flowrates to 1.12 gpm. The M-210EH is mounted on locking casters for mobility.

M-700 Series

Pressure Range to 40,000 psi

The M-700 Series offers pilot and production performance levels with specific features amenable to industrial applications, including coatings, waxes, inks, pigments, sealants, etc. The units are available in 15, 25, and 50 horsepower models, and can be fitted with 1 or 2 intensifier pumps that can be operated with independent product streams and flow rates.

M-610 Custom Designed Electric-Hydraulic Production

Pressure Range to 40,000 psi

The M-610 Series Production Microfluidizer is capable of flowrates to 18 gpm and can process samples from one gallon to continuous operation. These custom built units employ an electric/hydraulic intensifier pump which can be designed to generate process stream pressures up to 40,000 psi.



HC-8000



M-700



M-710

