Microfluidics™

Superior Knowledge | Superior Results

LV1

Low Volume

Microfluidizer™ Processor

IDEX Material Processing Technologies

LV1 Low Volume Microfluidizer™ Processor

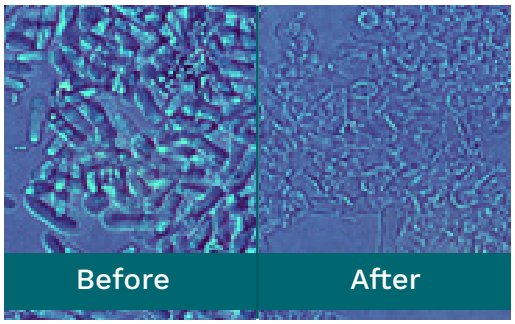
Bringing Scalable High Shear Nanotechnology Processing To Samples As Small As 1 ml

The LV1 benchtop processor was developed as a result of customer demand to bring Microfluidizer processor quality nanotechnology processing to the milliliter scale with applications in the pharmaceutical, biotechnology, chemical, nutraceutical/food, cosmetic and energy industries including:

- Academic and commercial sectors
- Drug discovery, ADME-Tox, basic research and development

Microfluidizer™

High efficiency cell disruption with minimal protein denaturation



Recommended For:

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

Unique Benefits of the LV1

- Results are scalable to lab and production volumes using Microfluidizer technology
- Payback is measured in days, rather than years, when processing high value samples
- Near total sample recovery

Proteomics And Genomics Applications

Microfluidizer processors offer exclusive benefits due to the fixed-geometry Interaction Chamber™ and constant pressure pumping system. The unique technology enables customers to achieve smaller particle sizes than other methods with a more uniform distribution and guaranteed scale up.

Using the LV1 processor, researchers with limited resources and high value samples are able to enhance their wide variety of applications and materials with benefits only a Microfluidizer processor can provide, including:

- Stable nano-emulsions
- Challenging cell disruption (e.g. yeast, insect cells)
- Highest protein recovery (typically >99% for E. coli after one pass)
- Improved bioavailability
- Targeted delivery
- Nanoencapsulation (e.g. polymers, liposomes)

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Adding Value

For companies working with high value samples, it is imperative to minimize the amount of product required for machine operation while maximizing recovery. In addition to standard materials typically processed by our Microfluidizer processors, the LV1 is also ideal for:

- Specialized cell lines for controlled disruption (e.g. mammalian and primary cell lines)
- Experimental API's to enhance solubility when only a limited quantity is available

LV1 Advantages

- Small sample size requirements (1-6 ml)
- Near total sample recovery Easily cleanable
- No disassembly required
- Quiet operation

Options

- Product installation and training
- Extended warranty - 1 year
- Preventative Maintenance

Specifications

Shear Rate @ 2069 bar (30,000 psi)	Up to 1.23 x 107 sec-1
Minimum Sample Size	1 ml to 6 ml per stroke
Maximum Sample Volume	6 ml per stroke
Stroke Frequency	up to 2 per minute (user dependent)
Product Temperature Limit	73ºC (165ºF)
Power Requirements (CE Compliant)	110 VAC / 50 or 60 Hz / 10 amps 220 VAC / 50 or 60 Hz / 5 amps single phase electric outlet
Dimensions W x D x H	1cm x 66cm x 61cm (20" x 26" x 24")
Weight	109 kg (240 lbs)
Cleaning	Flush to clean (no disassembly required)
Sterilizing	Autoclavable (disassembly required)

Standard Features

Interaction Chamber Material	Ceramic
Enclosure	Stainless Steel
Drive Method	Electric/Hydraulic
Product Cooling	Immersed coil in ice bath tray (optional)
Feed Reservoir	10 ml syringe type
Collector Reservoir	10 ml syringe type
Warranty	1 Year (standard M-5 and M-5E)

Product Quality

- Small particle size
- Narrow particle size distribution
- Efficient cell disruption
- Less protein damage
- More stable emulsions

Process Enhancements

- Guaranteed scale up
- Improved protein yield
- Low or no heating with effective cooling
- Shorter and fewer process cycles
- Media and chemical-free processing
- Clean-in-Place systems available (in most cases)
- Autoclavable with minimal disassembly
- Product cooling coil and tray
- Replacement syringes
- Extended Duty Cycle operation

Microfluidics™

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