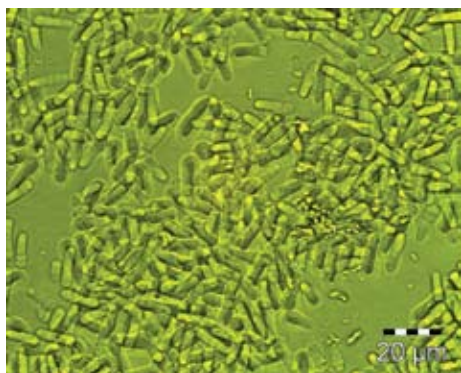


Bringing scalable high shear nanotechnology processing to samples as small as 1 ml

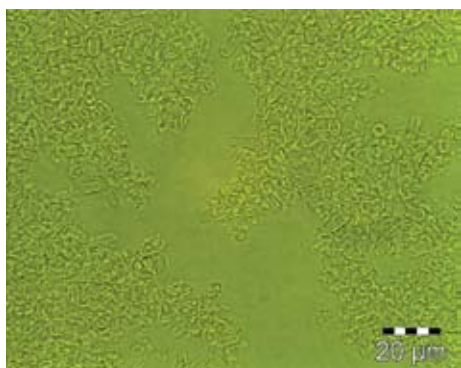
Nanoemulsions • Nanodispersions • Nanoencapsulation • Deagglomeration • Liposomes • Cell Disruption

Exclusive Benefits

- 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



S. pombe - before



S. pombe - after



Model shown is subject to change depending on options selected

LV1 Microfluidizer High Shear Fluid Processor

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

- Academic and commercial sectors
- Drug discovery, Adme Tox, basic research and development
- 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 sample sizes than other methods with more uniform distribution and scaleup guaranteed.

With the LV1, 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:

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

LV1 Advantages

- Small sample size requirements (1-6 ml)
- Near total sample recovery
- Easy clean up
- No disassembly required
- Quiet operation

Advantages of All Microfluidizer Processors

Product Quality

- 50% smaller particle size
- Narrowest particle size distribution
- Efficient cell disruption
- Less protein damage
- More stable emulsions

Process Enhancements

- Scaleup guaranteed
- Improved protein yield
- Low or no heating with effective cooling
- Shorter and fewer process cycles
- Media and chemical-free processing
- Clean-in-Place and Steam-in-Place systems available in most cases

Microfluidics reserves the right to change specifications without notice.



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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.

Preliminary LV1 Specifications

Description	Low volume high shear fluid processor
Shear Rate @ 2069 bar (30,000 psi)	$1.23 \times 10^7 \text{ sec}^{-1}$
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 dependant)
Product Temperature Limit	73°C (165°F)
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	51cm x 65cm x 60.2cm (20" x 25.8" x 23.7")
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)

Options

- Product cooling coil and tray
- Syringes 1 ml to 6 ml
- Product installation and training

Application development and scaleup support are available from Microfluidics' US based development team. Ask your local sales representative for more information.

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