

LDC-1

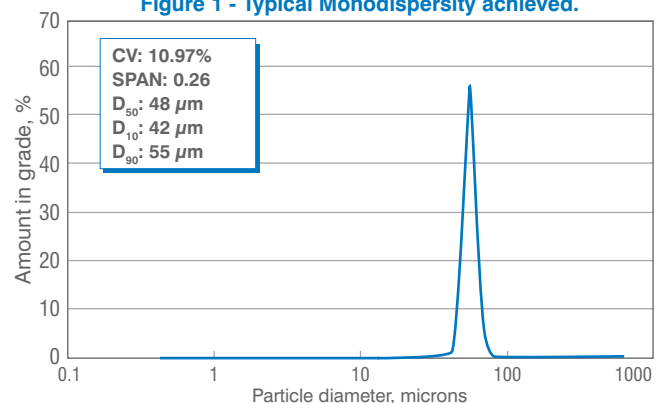


Lab scale dispersion cell

Micropore's LDC-1 Dispersion Cell is an ideal entry point into Micropore's comprehensive, robust, controllable and scalable membrane emulsification technology which offers advantages over conventional techniques for producing high quality emulsions and particles.

- Monosized drops and particles - with resulting yield improvements and reduced waste.
- Low energy- with resulting preservation of sensitive materials.
- Typical drop sizes are between 10 and 300 microns.
- Each Micropore LDC-1 is supplied with one membrane. Membranes can be coated to be suitable for water-in-oil dispersions.
- Micropore LDC-1s are supplied in a convenient carry case with full operating instructions. Training is also available.

Figure 1 - Typical Monodispersity achieved.



Micropore also conducts development work on client formulations to tailor them to client needs using Micropore's products to access the many benefits of membrane emulsification.

Fully scalable

Micropore's LDC-1 is a flexible lab scale batch unit. It is rapidly able to generate quality data across all emulsion, micro-encapsulation and micro-particle formulations. Its flexibility enables scale up to manufacturing volumes, optionally through the pilot scale Micropore LTS-1, to the manufacturing scale Micropore AXF-1 for hygienic operations and its cousin the Micropore CXF-1 for industrial use, each of which can be configured to meet client requirements.

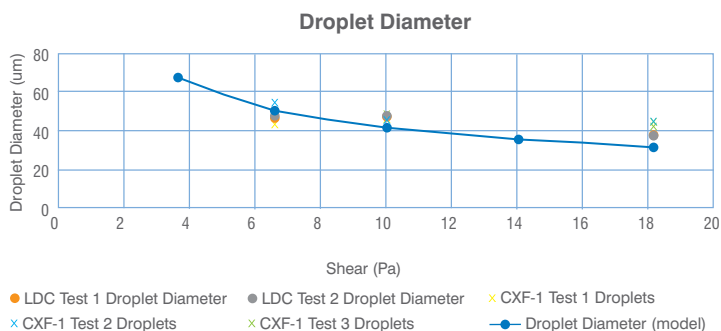
The graph shows how results obtained on the Micropore LDC-1 can easily be translated to other products in the Micropore range. These other products offer

- Continuous production process
- Multi-tonne/ year capability
- Small footprint
- cGMP / FDA ready

Micropore's LDC-1 has a batch volume of 100ml, enabling rapid formulation development.

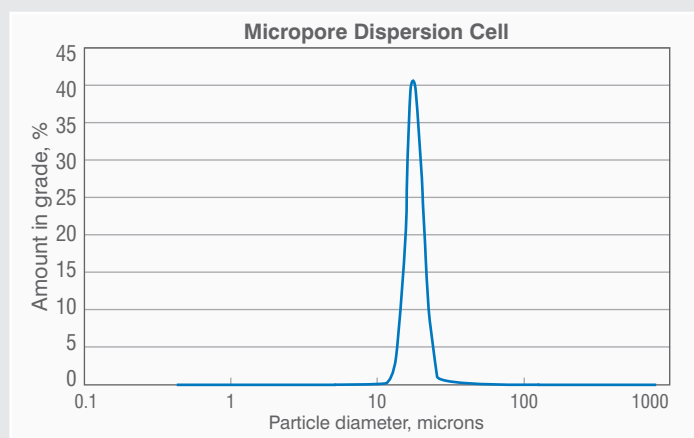
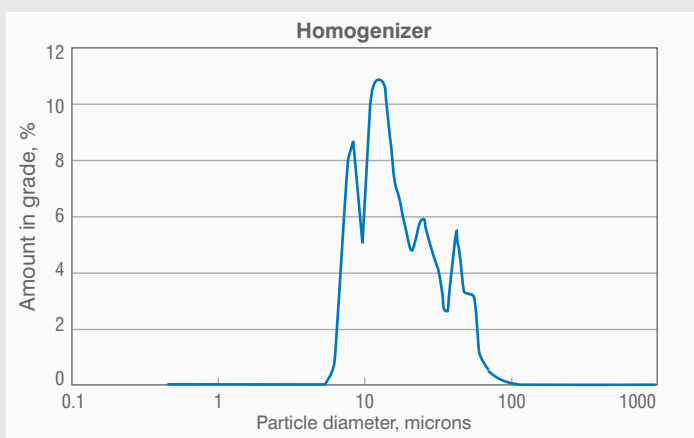
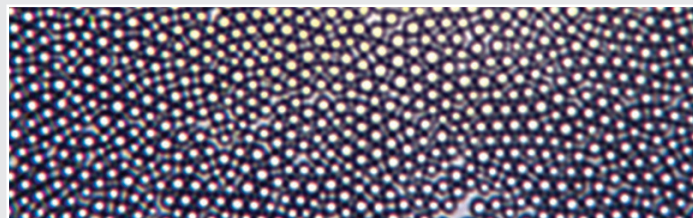
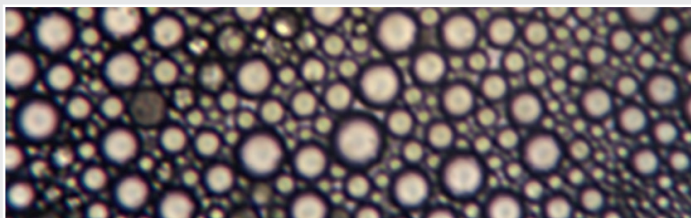
Accessories available include

- A low holdup volume base to minimise dead volume
- A continuous flow cell to enable preliminary development of a continuous process



Membrane Emulsification Advantages

- Emulsions prepared via membrane emulsification are inherently more stable, as all of the droplets are close to the same size, they will have the same buoyancy, reducing creaming or sedimentation.
- The membrane process uses much lower shear force and so it is more gentle, allowing processing of sensitive materials without damage.
- These emulsions can be post-processed and turned into microcapsules, delivery systems for a variety of actives. Each microcapsule will behave in exactly the same way, reducing variability upon rupture.
- The amount of emulsifier or surfactant can be reduced, providing a reduction in raw material costs.
- A comprehensive body of peer-reviewed literature, describing the benefits of membrane emulsification, is available.
- Because membrane emulsification is a very controlled and highly engineered process a major advantage, compared with traditional methods, is significant reduction in waste and an improvement in on-specification product yield.



When compared with traditional emulsification methods, such as rotor/stator homogenisers, membrane emulsification offers clear benefits.