



systems

droplet and particle
generation

Telos

modular high-throughput
system



Innovators in microfluidic solutions

Telos is an innovative microfluidic system for high-throughput droplet, particle and flow product generation. Thanks to its modular, scalable and highly flexible technology, the Telos system offers huge advantages over individual microfluidic chips that have relatively low-throughput.

Microfluidic devices are ideal for producing a wide range of droplets, particles and homogenous products, but individual chips have relatively low-throughput. Many applications require large amounts of material - quantities from a few grams to hundreds of kilograms or more are needed in as short a time as possible.

In response to this requirement, Dolomite has designed Telos, a microfluidic system capable of producing **liters of droplets or particles per day with excellent control and performance.**

The heart of the Telos system is a module which holds a Telos 2-Reagent Chip with 7 microfluidic channels, which can consistently generate monodisperse droplets in the **20µm-150µm diameter range** with one or two droplet components. Operating over a **wide temperature and pressure range**, each module is individually controlled with integrated valves and filters and offers optical access to half of the chip with **excellent visibility of the junctions.**

A Support Frame enables up to 10 Clamp Modules to be stacked side by side, each supplying a chip from common fluid inputs, giving a **total of 70 parallel channels** that can be run at production rates of up to **30 litres per day**. Each module has independent valving, allowing **control of input streams, chip replacement and inspection without interrupting droplet production.**

Features and benefits

- Operates over a wide temperature (4-50°C) and pressure (0-10bar) range
- Fast set-up time
- Tool-free module assembly and chip collection
- Optical access allows excellent visibility of the junctions
- Exceptional flow control during priming and operation.

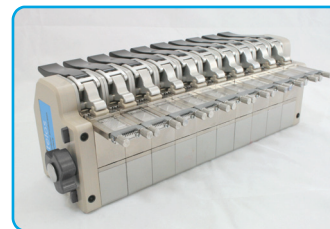
Applications

Telos benefits a wide range of industries including pharmaceutical, food, agrochemical, cosmetics and research and can be used for the following applications:

- DNA, cell and bead encapsulation and screening
- High throughput emulsion and foam generation
- Microparticle and nanoparticle synthesis
- Novel product formulation
- Micro-reaction engineering.

Custom options

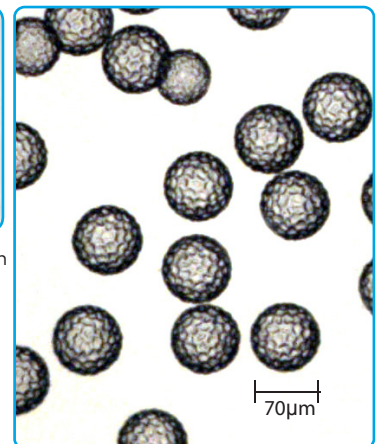
Telos can be customized in many ways, for example with features such as **real time product QC, temperature and atmosphere control, production of core/shell particles**, etc. A wide variety of channel geometries may be implemented, allowing the system to be customized for many different applications. **Please contact us to discuss your exact requirements!**



Left: Telos System - Edge Collection with 10 modules vertically aligned

Above: Telos System - Tube Collection with 10 modules horizontally aligned

Right: Particle production using Telos



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