



Where Light Meets Life™

# Shasta

## Fluidics Control Module

### Tech Notes

Kinetic River knows that cutting edge research may not be served by standard offerings and often demands customized instrumentation. Whether your work requires the use of specific flow rates, custom delivery paths, or user-adjustable pressures, the need for unique features and customization is often at odds with the capabilities of fixed-layout, turnkey systems.

We designed and developed a **flexible** and highly **customizable** solution to address this kind of need. With a stable system architecture and built mainly using off-the-shelf components, the **Shasta** Fluidics Control Module adapts to your requirements.

The **Shasta** module can support essentially **unlimited flow rate requirements**. For specialized applications such as **nanoparticle detection**, the **Shasta** provides highly **stable ultra-slow flow rates** which can increase dwell time by two- to twenty-fold. Pneumatic pumps provide constant pressure throughout the system, and dual stage regulation of both the sheath pressure and the sample pressure provides stability and a broad and fully adjustable operating range for the user. Built-in functions, such as probe clean, sample boost, and automatic venting increase functionality. A custom designed, 3D printed enclosure gives a sleek look and feel for the system while allowing easy access to internal components for later upgrades or maintenance.

Most importantly, the **Shasta** can be easily customized to suit the unique requirements of your specific application, for example, if you require extremely low flow rates or the incorporation of a custom component or feature. The module can be also easily **upgraded** over time, allowing you to start with a basic system and adding capabilities as you grow. Furthermore, the **Shasta** can be retrofitted to instruments from other manufacturers, bringing the expanded functionality of a customized **Shasta** to any of your existing instruments.



The Shasta Fluidics Control Module front panel

The **Shasta** puts the performance of your flow cytometer in your hands.

The Shasta, or use thereof, may be covered in whole or in part by patents in the U.S. and other jurisdictions. A current list of applicable patents can be found at <https://www.kineticriver.com/kinetic-river-corp-patents>.





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## Fluidics Control Module Specifications

### Fluidics

Hydrostatic pressure injection option:

- sheath tank from 1L to 8 L
- sheath pressure up to 30 psig

### Performance

Flow rates:

- option A: adjustable 0.2 – 20 µL/min\*
- option B: adjustable 2 – 200 µL/min\*

\* higher and lower custom rates available

Transit times (adjustable):

- min: 1 µs\*
- max: 50 µs\*

\* higher and lower custom times available

### Installation Requirements

Dimensions:

- 8.5" x 10" x 10" (W x D x H)  
(separate sheath and waste tanks)

Weight:

- 9 lbs (4 kg)

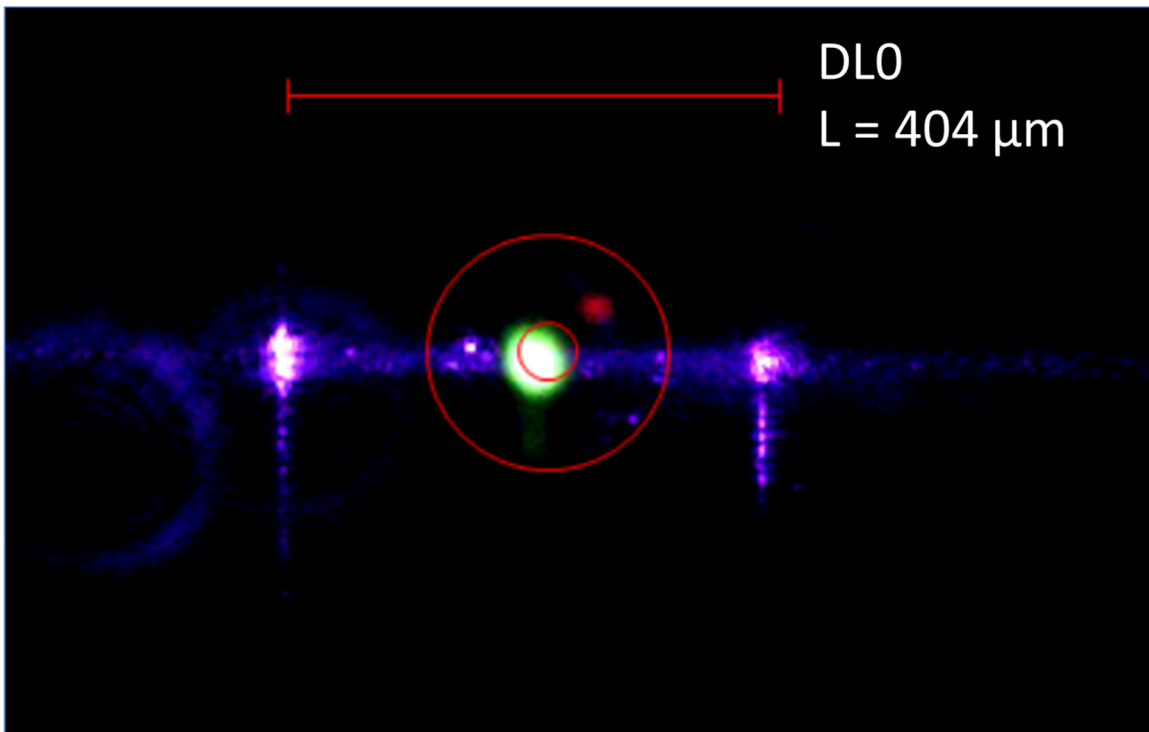
Environmental:

- 15°–30°C, 60% RH

Power:

- North America: 120 VAC, 50/60 Hz, 1A
- Japan: 100 VAC, 50/60 Hz, 1A
- Rest of world: 230 VAC, 50/60 Hz, 0.5A

\*Note – Power cable included



Core stream generated from Shasta module (bar = 404 µm)

