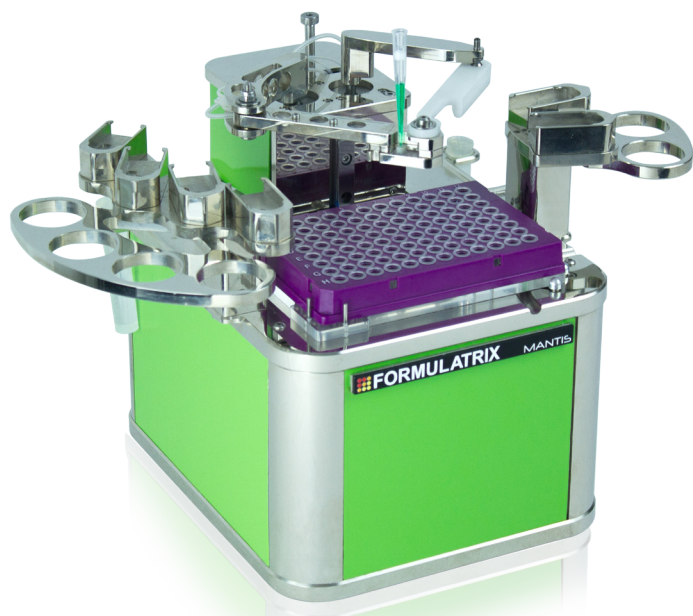




# Mantis

## Liquid Handling Revolution



The Mantis is a programmable, low volume, low dead volume, non-contact liquid dispenser that can reliably dispense a variety of solutions including those containing beads, cells, proteins, enzymes, probes and master mixes.

### key features

**Efficient** - dead volumes can be reduced to just 6  $\mu\text{L}$  by using pipette tips as reagent reservoirs

**Flexible** - Dispense any volume to any well from 100 nL to 2 mL in 96, 384, 1536 and deep well plates.

**Compact** - small size fits in standard benchtop PCR hoods

**Reliable** - non-contact micropump technology dispenses using positive displacement to maintain accuracy and precision across millions of dispense cycles

**Chemical Compatibility** - Mantis can dispense DMSO and other aggressive solvents using optional perfluoroelastomer chips

### broad range of applications

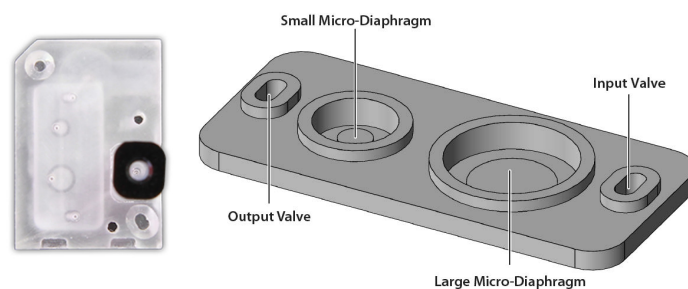
- Assay Development/DoE
- NGS Library Prep
- PCR/qPCR
- Cell Dispensing
- Immunoassays
- Bead-based Assays

### state-of-the-art dispensing technology

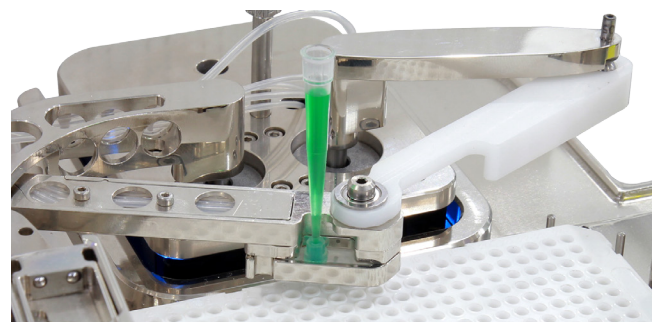
At the core of the Mantis is a microfluidic pump that measures and dispenses discrete volumes of liquid. This valve cluster has two micro-diaphragms (select either 100 nL and 500 nL or 1  $\mu\text{L}$  and 5  $\mu\text{L}$ ) that can fill and dispense as rapidly as 10 times per second.

### conserve reagents

To minimize dead volume, reagents plug directly into the microfluidic chip. Dead volumes are further reduced to just 6  $\mu\text{L}$  by using pipette tips as reagent reservoirs, making Mantis ideal for dispensing even the most precious reagents.



Mantis chip and micro-diaphragm pump technology



direct pipette tip dispensing eliminates need to prime fluid paths

## user-friendly software

Mantis software provides a straightforward, user-friendly way to design even the most complicated dispense protocols in a matter of minutes. Direct integration with Microsoft Excel for importing data and experimental design.

## automated washing

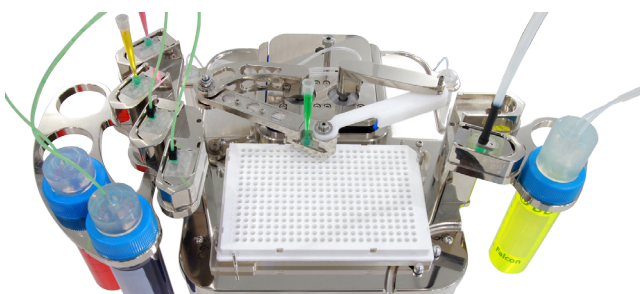
Mantis has built-in dual wash stations for easy fluid pathway cleaning following dispenses.

## integration friendly

The Mantis is available in an optional configuration which facilitates integration with robotic plate handling solutions. Automation API designed for full automated control of the dispensing process.

## customizable to meet your needs

**Automation and Chip Changing (ACC) - Optional**  
Mantis can automatically dispense up to 6 reagents to dispense complex plates and assay development protocols.



up to 6 reagents can automatically be dispensed with the ACC option

## Continuous Flow Dispensing

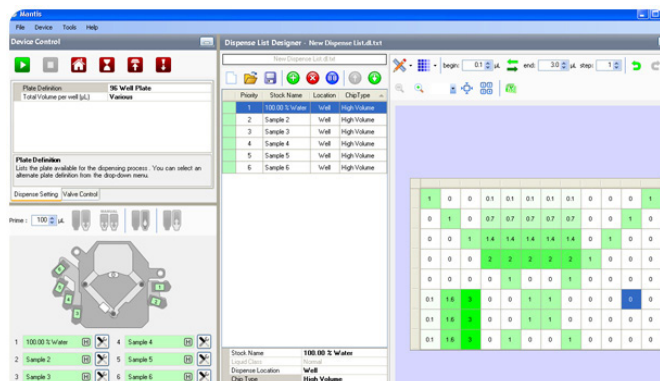
Combined with pressurized bottles, continuous flow chips can dispense volumes from 5 µL – 2000 µL in a continuous stream, perfect for deep well blocks. Pressurized bottles are available as 50 mL Falcon tubes and 250 mL Nalgene bottles.

## Microfluidic Chip Options

A variety of dispensing chips are available including certified molecular biology grade chips

Chip Type	Diaphragm Vol.	Min Vol.	Max Vol.	Pulses per Second	Dead Vol.	CV's
MCLS5	0.1µL + 0.5µL	0.1 µL	∞	@ 0.1µ: 10, @ 0.5µ: 7	6 µL	<3% at 0.1µL
MCHS5	1 µL + 5 µL	1 µL	∞	@ 1µL: 10, @ 5 µL: 4	15 µL	<3% at 1µL
MCHP2*	1 µL + 5 µL	1 µL	∞	@ 1µL: 10, @ 5 µL: 4	15 µL	<5% at 1 µL

\*solvent compatible



Mantis software with 6 reagents set up for dispense

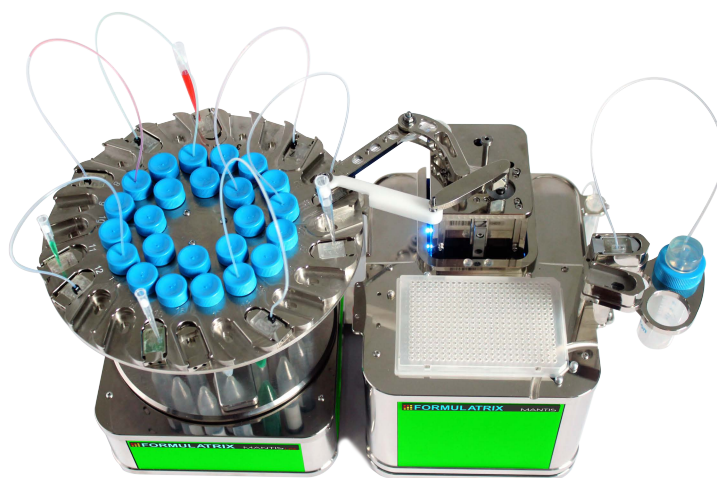
## space-saving footprint

**Width:** 337 mm max (smaller without ACC or ingredient holders)

**Height Full Extension:** 273 mm (not including pipette tip input)

**Height No Extension:** 172 mm (not including pipette tip input)

**Depth:** 218 mm ( 212 mm without ingredient holders)



up to 24 reagents can automatically be dispensed with the LC<sup>3</sup> option

## Large Capacity Chip Changer (LC<sup>3</sup>)

The LC<sup>3</sup> upgrade vastly expands the number of reagents that can be automatically dispensed by adding a modular carousel for up to 24 chips. Addition of a second LC<sup>3</sup> unit expands the Mantis capacity to up to 48 different reagents.

For more information about Mantis, visit us at [www.formulatrix.com](http://www.formulatrix.com) or email [info@formulatrix.com](mailto:info@formulatrix.com)