



## Nadia Instrument datasheet

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# Description and part number

The Dolomite Bio Nadia Instrument is designed for the high throughput analysis of single cells and to be used with one of the Dolomite Bio cartridges. Alternatively, the Nadia Instrument can be connected to the Nadia Innovate turning it into an open system for the development of novel protocols and applications.

## List of Parts

Instrument/Consumables	Order Number
Nadia Instrument	3200590
Nadia Training Cartridge	3200605
Nadia Cartridge for scRNA-Seq - 8 Samples (8x1)	3200648
Nadia Cartridge for scRNA-Seq - 8 Samples (2x2 & 1x4)	3200649
Nadia Cartridge for scRNA-Seq - 8 Samples (1x8)	3200650
Nadia Cartridge for scRNA-Seq - 40 Samples (40x1)	3200651
Nadia Cartridge for scRNA-Seq - 40 Samples (10x2 & 5x4)	3200652
Nadia Cartridge for scRNA-Seq - 40 Samples (5x8)	3200653

## Benefits

- Flexibly Configurable: The Nadia instrument can run standard protocols with Nadia Reagent Kits, or be transformed into an open configurable system, when used with Nadia Innovate
- Easy to use: Automatic detection of application specific cartridges of chips, touch screen interface and sample loading guide lights under the chip
- Truly single cell: Ultra low cell doublet rates due to gentle cell agitation and high specification Reagent Kit
- Variable sample size: Run 1, 2, 4 or 8 samples in parallel
- High throughput: Run up to 8 samples in parallel with automation in ~20 mins
- High quality results: Automated sample chilling maintains transcriptome state
- No cross contamination: Uses disposable microfluidic chips and has no wetted instrument parts
- Wide range of applications: Instrument is designed for a wide variety of applications, automatically controlling flow rate, temperature, agitation and timings dependent upon the application
- Automated: Fully automated sample encapsulation steps
- Elegant user interface: Guides the user through sample loading steps

## System Specifications

Specification	
Internal Volume of Wells	Carrier Oil: max. 3 ml
	Aqueous 1: max. 250 µl
	Aqueous 2: max. 250 µl
Independent Pump Channels	3
Pump Pressure	0 – 1000mbar
Independent Stirrer Channels	2
Aqueous Stirring Speed	0 – 300 rpm
Number of Samples	1, 2, 4, 8
Temperature	5 – 40 °C
Operating Humidity	20 -80 %
Instrument Wetted Materials	None
Cartridge Wetted Materials	COP, Polypropylene, Silicone
Cartridge Identification	Automatic NFC detection and application loading
Sample Loading Guidance	Automatic illumination of 32 sample wells
Weight	19 kg
Size	452mm (h) x 313mm (w) x 418mm (d)
Input Voltage	90 – 230 V AC
Max Power Consumption	300 W
Max current draw (ampere)	Power / Voltage, this will depend on the specific region.

## Typical System Set Up

The Nadia Instrument should be located on a flat and clean surface; an air filter flow bench is not strictly necessary but might help avoid fibres getting into the system. When performing chemical reactions, the instrument should be in a fume cupboard or with a suitable local extraction ventilation system.



## Component features

The Nadia Instrument produces highly monodisperse droplets with three independent ultra-smooth pressure pumps. Beads or a reaction mix are loaded into the agitated bead chamber on a Nadia Chip, provided in a Nadia Cartridge. To encapsulate a cell sample, the user loads a cell suspension into the agitated cell chamber on the same Nadia Chip. Droplets are generated on the Nadia Instrument chips which offer the unique benefits of high reagent throughput, long life, and ease-of-use. The droplets are collected in an output reservoir at approximately 1,300(1) droplets per second. Complete processing of a sample occurs in about 18(2) minutes and the user can run 1, 2, 4 or 8 Chips in parallel.

(1) Droplet rate based on scRNA-Seq application

(2) Sample run time based on scRNA-Seq application