

# Innovadyne™ Nanodrop™ II

The Innovadyne **Nanodrop II** is a complete solution for low volume, high-precision pipetting. The system can be configured with one or two plate positions to enable applications such as assay miniaturization, method development, PCR reaction setup, and protein crystallography. When a single plate nest is used, 4 individual tips can access any well of a standard SBS plate, enabling complex method development and design. The Nanodrop II aspirates and dispenses a broad range of liquids including DMSO and features the Nanobuilder software system that enables a wide range of applications and data manipulation. This patented technology isolates the solenoid dispense actuators from the sample path to assure long life and easy, low-cost maintenance.



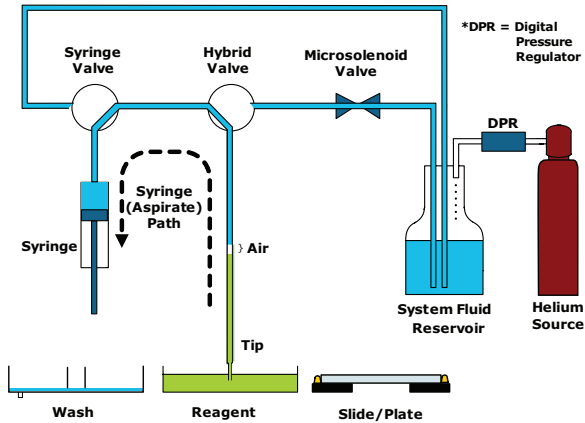
*Nanodrop II Stage and Fluidics Module*

## Features

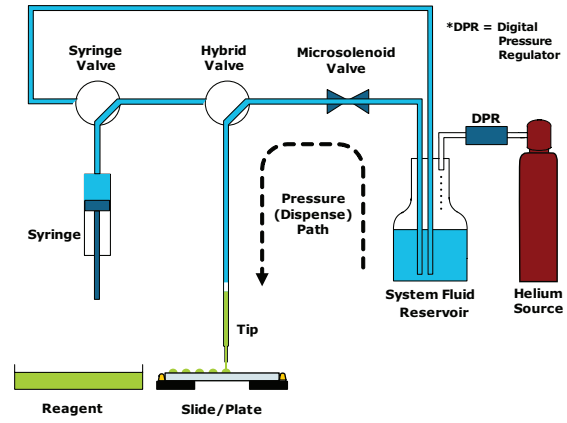
- ▶ Non-contact and contact dispense
- ▶ Exceptional dynamic range (nanoliter to milliliter)
- ▶ Aspirate and dispense with individual channel articulation
- ▶ Sample transfer and bulk reagent addition on the same platform
- ▶ Simple fluid path with no moving parts
- ▶ FEP, SS, sapphire wetted parts compatible with commonly used solvents
- ▶ 96-, 384-, and 1536-well plate formats
- ▶ Deep-well and crystal plates supported
- ▶ Modular, raised, removable plate nests enable flexible configuration
- ▶ Easy to program, easy to automate
- ▶ Simple cleaning and maintenance

## Applications

- ▶ HTS
  - ▶ Assay miniaturization/method development
  - ▶ Sample transfer
  - ▶ Fast reagent additions
  - ▶ Bulk reagent addition
- ▶ Cell-based Assays
  - ▶ Cell plating
  - ▶ Cell dosing
- ▶ Bead-based Assays
  - ▶ Bead manipulation
  - ▶ Reagent additions
- ▶ Protein Crystallography
  - ▶ Coarse and fine screen creation
  - ▶ Mother liquor transfers
  - ▶ Protein additions
- ▶ PCR
  - ▶ Template transfers
  - ▶ Cocktail additions
  - ▶ Normalization of template DNA



System Schematic - Aspirate



System Schematic - Dispense

### Performance Specification

Specification	
Plate Formats	96, 96 deep well, 384, 384 deep well, 1536, 1536 low profile, crystallography plates
Plate Positions	2
Return to Spot Accuracy	0.1 mm
Dispense Functions	Compound transfer (contact/non-contact), single tip reagent addition, 8-tip reagent addition
Aspirate Modes	All the same volumes, independent
Dispense Modes	All the same volumes, independent
Aspiration Range	0.1 - 500 $\mu$ L
Dispensing Range	0.1 - 40 $\mu$ L (non-contact) 25 - 500 $\mu$ L (contact)
Dispensing Precision	CV $\leq$ 10% at 100 nL CV $\leq$ 7% at 200 nL CV $\leq$ 5% at 1 $\mu$ L
Dispensing Accuracy	$\pm$ 10% at 100 nL $\pm$ 7% at 200 nL $\pm$ 5% at 1 $\mu$ L
Dead Volume	1.44 $\mu$ L/channel at 1 $\mu$ L across 384-well plate
Syringe Capacity	500, 1000 $\mu$ L
Cycle Time	20 s/transfer <60 s 1 $\mu$ L reagent addition (single tip/96-well plate) <17 s 1 $\mu$ L reagent addition (8-tips/1536-well plate)

### Technical Specifications

Dimension	Fluidics Module	2-Plate Stage Module
Height	33.0 cm (13 in)	34.6 cm (13.6 in)
Width	27.9 cm (11 in)	24.1 cm (9.5 in)
Depth	44.5 cm (18 in)	53.6 cm (21.1 in)
Weight	11.3 kg (25 lb)	13.4 kg (29.5 lb)
<b>Environmental</b>	10 to 40 $^{\circ}$ C, 80% RH	
<b>System Gas</b>	Standard grade helium (99.7% pure)	
<b>Dispense Tips</b>	304 SS, sapphire	
<b>Reagent Trays</b>	Custom, deep well plates	
<b>Interface</b>	RS-232, Nanodrop™ GUI or Nanbuilder© software	
<b>Automation Control</b>	Nanodrop II Automation Control (ActiveX)	

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