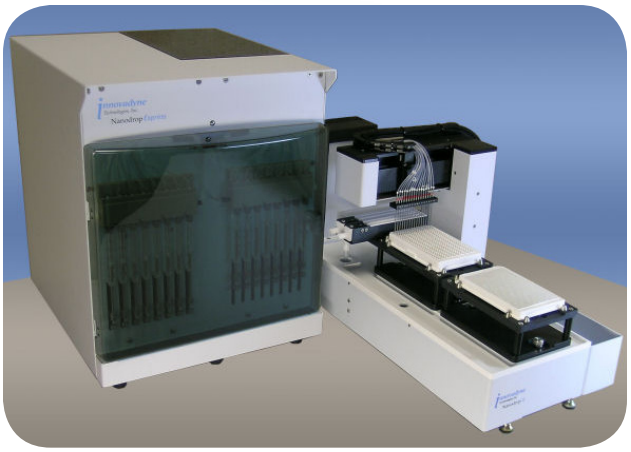
Product Data Sheet

# Innovadyne™ Nanodrop™ Express

The 16-channel Innovadyne Nanodrop Express is a complete, high-throughput solution for low volume, high-precision pipetting. The Nanodrop Express doubles the dispense capacity and halves the aspirate time of a Nanodrop II. The Nanodrop Express can be configured with one- or two-plate stage modules, and interchangeable 1x16 or 2x8 tip heads specialized for 384-well reagent dispensing and 96-to-384 transfers, respectively. For reagent addition, 8 individual tips can access any well of a standard SBS plate, enabling complex method development and design.

The Nanodrop Express 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, even with regular use of difficult suspensions such as proteins, cells and YOx beads.



## Features

- Non-contact and contact dispense
- Exceptional dynamic range (nanoliter to milliliter)
- Interchangeable 1x16 tip (for reagent dispensing and 384+ well plates) and 2x8 tip (for 96-to-384 transfers) heads
- Multiple reagent addition
- Aspirate and dispense with individual channel articulation
- Sample transfer and bulk reagent addition on the same platform
- No moving parts in fluid path for outstanding reliability
- 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
- 1-plate nest and 2-plate nest stages available
- Easy to program, easy to automate
- Simple cleaning and maintenance

## Applications

- HTS
  - 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

## Performance Specification

| Specification | |
|---|---|
| Plate Formats | 96, 96 deep well, 384, 384 deep well, 1536, 1536 low profile, crystallography plates (Note: 96-well plates require the 2x8 head) |
| Plate Positions | 1 or 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 µL |
| Dispensing Range | 0.1 - 80 µL (non-contact)<br>25 - 500 µL (contact) |
| Dispensing Precision | CV ≤ 10% at 100 nL<br>CV ≤ 7% at 200 nL<br>CV ≤ 5% at 1 µL |
| Dispensing Accuracy | ±10% at 100 nL<br>±7% at 200 nL<br>±5% at 1 µL |
| Dead Volume | 1.44 µL/channel at 1 µL across 384-well plate |
| Syringe Capacity | 500, 1000 µL |
| Cycle Time | 1 uL transfers from 4 X 96-well plates to 384 followed by 1 µl reagent addition in <9 minutes |

## Technical Specifications

| Dimension | Fluidics Module | 1-Plate Stage Module | 2-Plate Stage Module |
|---|---|---|---|
| Height | 33.0 cm (13 in) | 32.3 cm (12.7 in) | 32.3 cm (12.7 in) |
| Width | 56 cm (22 in) | 24.6 cm (9.7 in) | 24.6 cm (9.7 in) |
| Depth | 44.5 cm (18 in) | 37.5 cm (14.75 in) | 53.6 cm (21.1 in) |
| Weight | 22 kg (50 lb) | 11.3 kg (25 lb) | 13.4 kg (29.5 lb) |

| | |
|---|---|
| **Environmental** | 10 to 40 °C, 80% RH |
| **System Gas** | Standard grade helium (99.7% pure) |
| **Dispense Tips** | 304 SS, sapphire |
| **Reagent Trays** | Custom, deep well plates |
| **Interface** | Ethernet, Nanobuilder software GUI |
| **Automation Control** | Nanobuilder component library |

## Configuration Options

| Part No. | Description |
|---|---|
| 12043 | Nanodrop Express fluidics module (required) |
| 11460 | 1-plate stage module |
| 11245 | 2-plate stage module |
| - | 1x16-tip head |
| - | 2x8-tip head |

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