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Thermo Scientific Multidrop Pico 1 and 8 Digital Dispenser

Effortless precision with every drop

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Thermo Scientific Multidrop Pico 1 and 8 Digital Dispenser

Thermo Scientific™ Multidrop™ Pico 1 and 8 Digital Dispensers offer enhanced dispensing precision with volumes between 11 pL and 10 µL in any well, eliminating the need for manual dilution while providing significant cost and waste reductions. Designed to enable assay miniaturization, boost productivity, and improve accuracy of results, these dispensers are ideal for a broad array of low-volume applications such as qPCR, dose response curves, drug screening assays.

Features and benefits

Assay miniaturization

- Increase compound efficiency – use up to 10 times less reagent and sample with low dead volume
- Digital dispensing – precisely dispense consistent amounts of fluids into assay plates as low as 11 pL
- Reduced labware waste – direct dilution in assay plate results in up to 90% labware waste reduction compared to traditional analog serial dilution

Improved efficiency and sample integrity

- 40x greater speed – eliminate several workflow steps and achieve typical dose experiment in 15 seconds instead of 10 minutes by analog serial dilution
- Decreased hand-pipetting steps – minimize repetitive motion injury and re-work commonly caused by manual pipetting errors
- Non-contact dispensing – disposable dispensing heads avoids carry-over and contamination
- Application-focused wizards – simple, yet sophisticated PicoIT software helps enhance throughput and limits repetitive work due to manual pipetting errors
- Speed up qPCR workflows - pre-programmed protocol templates for a selection of Thermo Fisher Scientific qPCR Master Mixes automatically customizes fluids for each qPCR component
- Complete traceability – PicoIT software tracks reagent amount and dispensing time for each well after each run, enabling complete sample and compound traceability

Powerful, flexible, and easy-to-use

- Dispense any volume in any well at any time – ultimate flexibility allows automation of even the most complex protocols
- Simplify assay set up with PicoIT software – flexible and intuitive experiment design is made possible even for most complex plate layouts (drug combination/synergy, titration of one or multiple components)
- Dispenses DMSO, aqueous fluids*, and PCR master mixes – flexible for applications with large or small molecules into any well of any microplate
- Supports a variety of throughputs and reagent number variations – the Pico 1 Dispenser's one-well format is ideal for routine small-volume dispensing whereas the Pico 8 Dispenser's eight-well format enables automation of complex multi-reagent/sample assays even in 1536-well plates

*aqueous fluids require a detergent

Applications

- Drug combination studies
- Biochemical assays
- Cell-based assays
- DMPK
- Secondary screening
- Synthetic chemistry
- Assay development
- qPCR
- Enzyme profiling
- Antibody therapies
- SAR
- Spotting

Intuitive qPCR setup

An easy-to-use Multidrop PicoIT software platform with application-focused wizards and a highlighted loading guide allows effortless and quick plate setup and operation. Available in one- and eight-well formats to support different throughputs and number of reagents and samples.

The pre-programmed protocols provide:

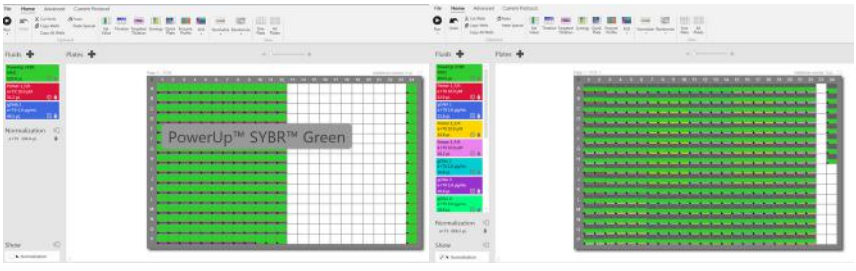
- Pre-selected fluid information
- Simplified layout including Non-Template Controls (NTCs)
- Pre-set reaction volume and plate type
- Pre-set number of replicates

1 Select a pre-programmed protocol template by Thermo Scientific master mix product name

2 Customize and save as a protocol (adjust primer concentration, template input, number of samples, replicates, etc.) including standard curve

3 Run the protocol directly into an assay plate using dispense heads

4 Run the plate for qPCR



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Product specifications

	Pico 8 Dispenser	Pico 1 Dispenser
Plate types	12, 24, 48, 96, 384, 1536 well plate Plate height: 6 to 47 mm	12, 24, 48, 96, 384 well plate Plate height: 6 to 47 mm
Number of dispensing wells	4- and 8-well dispensing heads	1-well dispensing head
Compatible dispensing heads	8-well dispensing head at 20 µL and 4-well dispensing head at 200 µL	1-well dispensing head up to 20 µL and 1-well dispensing head up to 200 µL
Number of fluids supported	Hold up to 8 different fluids in different wells at a time	One fluid at a time
Dispensing volume range	11 pL to 20 µL (8-well dispensing head) 1 nL to 200 µL (4-well dispensing head)	11 pL to 20 µL or 1 nL to 200 µL
Dispensing volume increments	As low as 11 pL	As low as 11 pL
Precision CV	≤ 8%	≤ 8%
Dispense speed	11 pL to 10 µL in seconds	11 pL to 10 µL in seconds
Overall dimensions	47 cm x 38 cm x 23 cm	31 cm x 28 cm x 20 cm
Weight	14.1 kg	5.9 kg
Software compatability	Used with PicoIT 8	Used with PicoIT 1
Automation capability	Yes, Pico 8 4- and 8-well dispensing heads can be robot gripped and zero force inserted	No, Pico 1 requires manual loading of dispensing heads and plates
Fluid compatability	70% to 100% DMSO or aqueous solutions* with: • Biomolecules up to 300 kDa or 10,000 basepairs and up to 3 mg/mL • Small molecules < 800 Da up to 10 mM • Nanoparticles < 1 micron in diameter in suspension at concentrations < 0.5%	70% to 100% DMSO or aqueous solutions* with: • Biomolecules up to 300 kDa or 10,000 basepairs and up to 3 mg/mL • Small molecules < 800 Da up to 10 mM • Nanoparticles < 1 micron in diameter in suspension at concentrations < 0.5%

* Aqueous solutions except Master Mix fluids require surfactant addition and total buffer concentraiton up to < 150 mM

Ordering information

Description	Qty	Cat. No.
Multidrop Pico 1 Digital Dispenser	1 Each	5840500
Multidrop Pico 8 Digital Dispenser	1 Each	5840600
1 Channel 20 µl Dispensing Heads for Pico 1 Digital Dispenser	30 Packs/Case	LTR0001
1 Channel 200 µl Dispensing Heads for Pico 1 Digital Dispenser	30 Packs/Case	LTR0002
4 Channel 200 µl Dispensing Heads for Pico 8 Digital Dispenser	20 Packs/Case	LTR0003
8 Channel 20 µl Dispensing Heads for Pico 8 Digital Dispenser	20 Packs/Case	LTR0004

Find out more at **thermofisher.com/digitaldispenser**

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