

Multidrop® Combi



Ready for any dispensing challenge

Analyze • Detect • Measure • Control™

Thermo
ELECTRON CORPORATION

Multidrop Combi - the next generation in bulk reagent dispensing

Thermo Electron Corporation's Multidrop Combi represents the next generation of bulk reagent dispensers. Offering unrivalled levels of performance, versatility and simplicity, pharmaceutical and biotech laboratories will find it more than meets their expectations. Based on the proven and highly reliable Multidrop range, Multidrop Combi has been designed for effortless high speed dispensing of different types of solutions. For high throughput screening Multidrop Combi dispenses into 1536-well plates at nanoliter levels with minimal dead volume. At the other end of the scale, being able to dispense at volumes up to 2500 μ l offers biotech researchers a wide range of applications. Add in full robotic capability and the Multidrop Combi is your answer for problem-free, high throughput bulk dispensing.

Multidrop Combi offers you:

- Unmatched volume range - precise dispensing over a 0.5-2500 μ l range giving reproducible assay data
- Any plate, any well size – from 6 to 1536 wells and plate heights of 5-50mm, the Multidrop Combi is perfect for any application
- Simplest operation – the visual icon-based graphic display makes it easy to use and program, even without training
- Reduced reagent costs – low volume dispensing, minimal dead volume and back-flushing minimizes re-runs and usage of expensive reagents
- High throughput, 24/7 operation - full robotic compatibility gives increased throughput, backed up by the reliability of the Multidrop technology – proven in use with over 7,000 units installed worldwide

Total flexibility

From 6 to 1536 wells, the Multidrop Combi is capable of dispensing into a full range of plates and with automated dispensing height adjustment for low profile to deep well plates, it offers complete flexibility for any dispensing application. The small footprint enables Multidrop Combi to fit into laminar cabinets and together with the extensive dispensing volumes, versatile column selection and dispensing speed options, the Multidrop Combi is ideal for all pharmaceutical and biotech researchers.



Extensive applications

- Assay development
- Primary and secondary screening
- Compound storage
- Genomics and Proteomics research
 - PCR set-up
 - Sequencing set-up
- Cell-based assays
- ELISA assays

Wide range of solutions

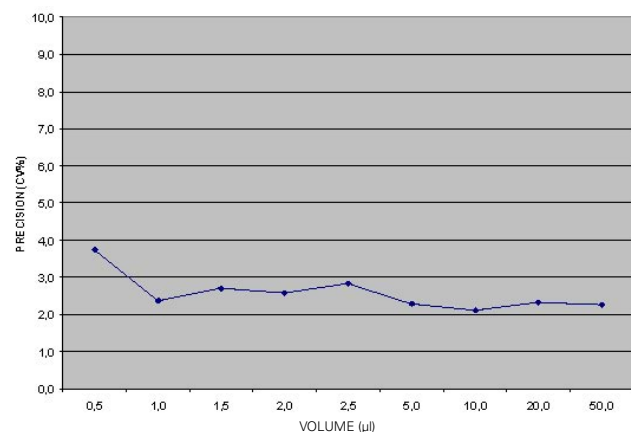
- Buffers
- Reagents
- Diluents
- Solvents
- Viscous solutions - detergents and substrates
- Cells

Precise dispensing

Multidrop Combi utilizes the peristaltic pump technology and unique Multidrop dispensing cassettes to ensure absolute precision across an unrivalled volume range. CV's of <10 % at 0.5 μ l will empower drug discovery teams to design new high throughput assays on 1536-well plates. Similarly, dispensing up to 2500 μ l is ideal for some delicate cell-based assays. Dead volumes are minimized at all settings. A wide range of dispensing speeds is also possible and up to 8 different solutions can be dispensed simultaneously. The possibility to adjust different volumes for each individual column enables the user to fill the plate with different dilutions of the same reagent. Overall result? A steady flow of highly reproducible, meaningful data leading to real increases in productivity.

Easy to use

Through the simple and visual interface, Multidrop Combi enables users to take full advantage of its technical advances. Descriptive icons make it easy to change all dispensing parameters for customized work - such as pump speed, tip height, offset values, dispensing direction etc - or go straight to pre-set protocols. The user can also store their own protocols in the instrument memory from which they can be launched in seconds. In all cases, the intuitive interface means little or no training is required, so productivity is raised.



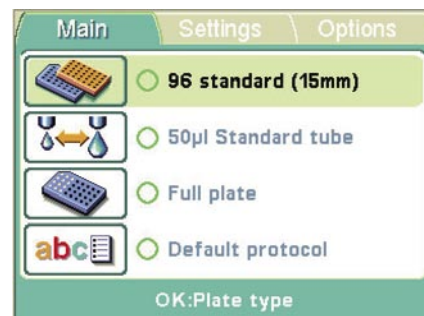
Dispensing precision (CV%) with 0.5-50 μ l. Different volumes of 0.04 M fluorescein was dispensed into Black Microtiter[®] 384 plate and measured at Ex485/Em518 nm.

Autoclavable dispensing cassettes and reagent back-flushing

To ensure sterile conditions and avoid cross contamination, the Multidrop Combi uses 8-channel detachable and autoclavable dispensing cassettes that are standard across the Multidrop range. Cassettes are selected according to the dispense volumes and user preference, and changed in seconds. Back-flushing of tubing and the Multidrop Combi's negligible dead volumes minimizes expensive reagent loss. Together with robotic integration, this ease of use provides hassle-free, low-cost and uninterrupted operation. Daily maintenance is quick due to the easy-clean design of the unit which allows access under the plate carrier.

Full robotic compatibility

Multidrop Combi can increase productivity as a stand-alone instrument. However, when users take advantage of its full robotic compatibility, the real benefits become clear. The dispenser's plate carrier is optimized for easy plate access by robotic arm grippers, linked via either the RS-232 serial or USB port. Furthermore, Thermo's own RapidStak[™] stacker can be added to create a complete benchtop solution for automated bulk reagent dispensing.



Multidrop Combi's highly visual user interface helps you quickly start dispensing though enabling customized settings.



RapidStak with Multidrop Combi creates a complete benchtop solution for automated bulk reagent dispensing.

Multidrop Combi Technical Information

	Technical feature	
Plate types	6-, 12-, 24-, 48-, 96-, 384-, 1536-well plates (plate height 5-50 mm)	
Dispensing volume range	0.5- 2500 µl	
Dispensing precision (CV%)	Small tube dispensing cassette 0.5µl: CV≤10% 2 µl: CV≤ 5% 10 µl: CV≤ 3% >10 µl: CV≤ 3%	Standard tube dispensing cassette 5 µl: CV≤ 10% 20 µl: CV≤ 1.5% 100 µl: CV≤ 1% >100 µl: CV≤ 1%
Dispensing accuracy	Small tube dispensing cassette 2 µl: ± 10% (typical), 10 µl: ± 5% (typical), > 10 µl: ± 5% (typical)	Standard tube dispensing cassette 5 µl: ± 3% (typical), 20 µl: ± 2% (typical), 100 µl: ± 1% (typical), > 100 µl: ± 1% (typical)
Dispensing speed	96-well plate: 10µl in 3 seconds, 20µl in 4 s., 100µl in 10 s. 384-well plate: 1µl in 5 s., 5µl in 5 s., 10µl in 6 s., 20µl in 9 s. 1536-well plate: 1µl in 14 s., 5µl in 26 s.	
Dispensing increments	Small tube dispensing cassette: 0.5µl increments Stand tube dispensing cassette: 5µl increments	
Dead volume	< 1 ml vol range 0.5-50 µl < 7 ml vol range > 50 µl	
Interface	Serial RS-232, USB	
Overall dimensions	220(H) x 355(W) x 330(D) mm 8.6(H) x 14(W) x 12.9(D) in.	
Weight	9.1 kg (15.7 lbs.)	
Power requirements	100-240 Vac, 50/60 Hz, nominal	

Ordering Information

5840300	Multidrop Combi, 100-240 V 50/60 Hz
24073290	Small tube plastic tip dispensing cassette (for volumes 0.5-50µl)
24073295	Small tube metal tip dispensing cassette (for volumes 0.5-50µl)
24073291	Small tube plastic tip dispensing cassette 5-pack
24073296	Small tube metal tip dispensing cassette 5-pack
24072670	Standard tube dispensing cassette (for volumes 5-2500µl)
24072671	Standard tube dispensing cassette 5-pack
24072672	Standard tube dispensing cassette 10-pack
24072677	Long standard tube dispensing cassette (length of tubing 50-200 cm in 10 cm increments)

Thermo Electron Corporation is the world leader in analytical instruments. Our instrument solutions enable our customers to make the world a healthier, cleaner and safer place. Thermo's Life and Laboratory Sciences segment provides analytical instruments, scientific equipment, services and software solutions for life science, drug discovery, clinical, environmental and industrial laboratories. Thermo's Measurement and Control segment is dedicated to providing analytical instruments used in a variety of manufacturing processes and in-the-field applications, including those associated with safety and homeland security. Based near Boston, Massachusetts, Thermo has revenues of approximately \$2.7 billion, and employs approximately 11,000 people in 30 countries. For more information, visit <http://www.thermo.com>.

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