



**Thermo Scientific**  
Multidrop Combi reagent dispenser



# ultimate versatility for reagent dispensing

# Thermo Scientific Multidrop Combi - ultimate versatility for bulk reagent dispensing

The Thermo Scientific Multidrop Combi reagent dispenser offers unrivalled levels of performance, versatility and simplicity for pharmaceutical and biotech laboratories. Based on the proven and highly reliable Multidrop® range, Multidrop Combi dispenser has been designed for effortless high-speed dispensing of different types of solutions. For high-throughput screening, Multidrop Combi dispenser 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 µl offers biotech researchers a wide range of applications. Add full robotic capability, and the Multidrop Combi dispenser is your answer for problem-free, high-throughput bulk dispensing.

## Multidrop Combi reagent dispenser offers you:

- Unmatched volume range – precise dispensing over a 0.5-2500 µl range, giving reproducible assay data
- Any plate, any well size – from 6 to 1536 wells and plate heights of 5 to 50 mm – the Multidrop Combi dispenser 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
- Unique cassette lifetime traceability – Multidrop Combi dispenser, equipped with the SMART option, counts how many times the dispensing cassette is used
- Increased functionality – easy-to-use Thermo Scientific FILLit Software provides means to develop and transfer protocols into the instrument, as well as offering an extensive plate selection
- 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 9,000 units installed worldwide

## Total flexibility

From 6 to 1536 wells, the Multidrop Combi dispenser is capable of dispensing into a full range of plates, 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 dispenser to fit into laminar cabinets and together with the extensive dispensing volumes, versatile column selection and dispensing speed options, the Multidrop Combi dispenser is ideal for all pharmaceutical and biotech researchers.



### Extensive applications

- Assay development
- Primary and secondary screening
- Compound storage
- Genomics and proteomics research
  - PCR setup
  - Sequencing setup
- Cell-based assays
- ELISA assays

### Wide range of solutions

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

## Precise dispensing

Multidrop Combi dispenser 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  $\mu$ l will empower drug discovery teams to design new high-throughput assays on 1536-well plates. Similarly, dispensing up to 2,500  $\mu$ 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 eight 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

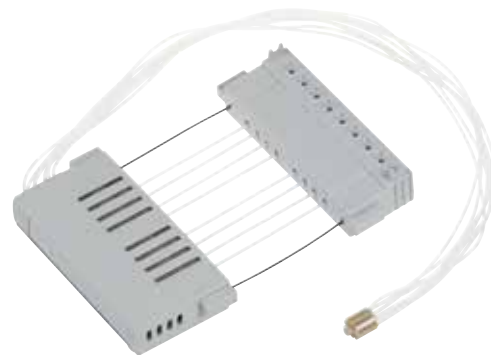
Through the simple and visual interface, Multidrop Combi enables users to take full advantage of its technical advances. Descriptive icons make it easy to change all dispensing parameters for customized work – such as pump speed, tip height, offset values, dispensing direction, etc. – or go straight to pre-set protocols. The users 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 that little or no training is required, so productivity is raised. The FILLit Software, which comes with the instrument, increases the functionality of the Multidrop Combi dispenser.

## Autoclavable dispensing cassettes and reagent back-flushing

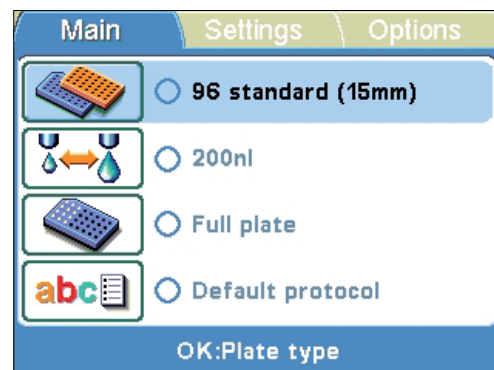
To ensure sterile conditions and avoid cross contamination, the Multidrop Combi dispenser uses 8-channel detachable and autoclavable dispensing cassettes that are standard across the Multidrop range. Cassettes are selected according to the dispense volumes and user preference, and changed in seconds. Back-flushing of tubing and the Multidrop Combi dispenser's negligible dead volumes minimize 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

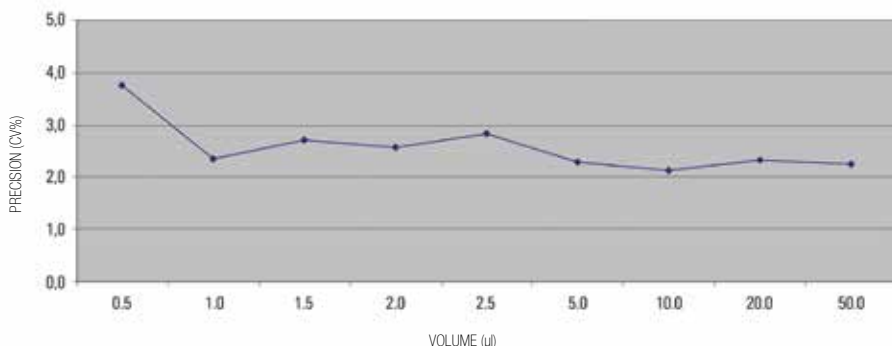
Multidrop Combi dispenser can increase productivity as a stand-alone instrument. However, when users take advantage of its full robotic compatibility, the real benefits become clear. The dispenser's plate carrier is optimized for easy plate access by robotic arm grippers, linked via either the RS-232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



The autoclavable Multidrop dispensing cassettes come with different tubing size, and tip material and size. Choose between standard and small tube cassettes, or SMART versions of these, which store dispensing lifetime data.



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



Dispensing precision (CV%) with 0.5-50  $\mu$ l. Different volumes of 0.04 M fluorescein was dispensed into black Thermo Scientific 384-Well Microtiter Microplates and measured at Ex485/Em518 nm.

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



## Technical specifications

<b>Plate types</b>	6-, 12-, 24-, 48-, 96-, 384-, 1536-well plates (plate height 5-50 mm)	
<b>Dispensing volume range</b>	0.5- 2500 µl	
<b>Dispensing precision (CV%)</b>	Small tube dispensing cassette 0.5 µl: 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%
<b>Dispensing accuracy</b>	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)
<b>Dispensing speed</b>	96-well plate: 10 µl in 3 seconds, 20 µl in 4 s., 100 µl in 10 s. 384-well plate: 1 µl in 5 s., 5 µl in 5 s., 10 µl in 6 s., 20 µl in 9 s. 1536-well plate: 1 µl in 14 s., 5 µl in 26 s.	
<b>Dispensing increments</b>	Small tube dispensing cassette: 0.5 µl increments Stand tube dispensing cassette: 5 µl increments	
<b>Dead volume</b>	< 1 ml vol range 0.5-50 µl < 7 ml vol range > 50 µl	
<b>Interface</b>	Serial RS-232, USB	
<b>Overall dimensions</b>	220(H) x 355(W) x 330(D) mm 8.6(H) x 14(W) x 12.9(D) in.	
<b>Weight</b>	9.1 kg (20.1 lbs.)	
<b>Power requirements</b>	100-240 Vac, 50/60 Hz, nominal	

## Ordering information

<b>CA89037-720</b>	Multidrop Combi with SMART 2 option, 100-240 V 50/60 Hz Includes cassette lifetime traceability feature
<b>CA95042-022</b>	FILLit Software for Multidrop Combi
<b>CA14230-390</b>	Small tube plastic tip dispensing cassette (for volumes 0.5-50 µl)
<b>CA97000-598</b>	Long small tube plastic tip dispensing cassette (for volumes 0.5-50 µl)
<b>CA14217-954</b>	Small tube metal tip dispensing cassette (for volumes 0.5-50 µl)
<b>CA97000-600</b>	Long small tube metal tip dispensing cassette (for volumes 0.5-50 µl)
<b>CA89037-724</b>	Small tube plastic tip dispensing cassette 5-pack
<b>CA89037-728</b>	Small tube metal tip dispensing cassette 5-pack
<b>CA14230-388</b>	Standard tube dispensing cassette (for volumes 5-2500 µl)
<b>CA11388-518</b>	Standard tube dispensing cassette 5-pack
<b>CA11388-520</b>	Standard tube dispensing cassette 10-pack
<b>CA53500-534</b>	Long standard tube dispensing cassette (length of tubing 50-200 cm in 10 cm increments)



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