

# Thermo Scientific Multidrop Combi reagent dispenser

Ultimate versatility for reagent dispensing



# Thermo Scientific Multidrop Combi - Effortless reagent dispensing

The Thermo Scientific™ Multidrop™ Combi reagent dispenser offers unrivalled levels of performance, versatility and simplicity for biotech, pharmaceutical, and QC laboratories. For high-throughput screening, the 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 wider range of applications. Add full robotic capability, and the Multidrop Combi dispenser is your answer for effortless, high-throughput bulk dispensing.



## Multidrop Combi reagent dispenser offers you:

- Wide 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 works for virtually any application
- Simple 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 backflushing minimizes re-runs and usage of expensive reagents
- Traceability – Multidrop Combi SMART dispenser automatically tracks cassette usage for improved reliability and traceability
- 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 11,000 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 the Multidrop Combi dispenser to fit into laminar cabinets. The combination of extensive dispensing volumes, versatile column selection and speed make the Multidrop Combi dispenser an excellent choice for a variety of laboratories.

### 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

The 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

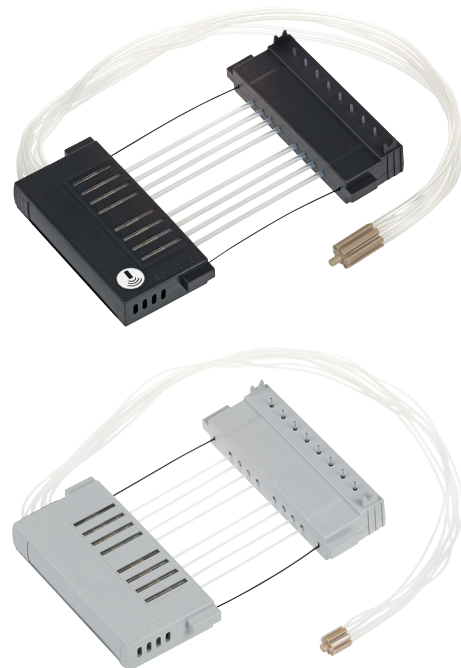
or no training is required, increasing productivity. Thermo Scientific's FILLit Software, which comes with the instrument, increases the functionality of the Multidrop Combi dispenser.

## Autoclavable dispensing cassettes and reagent backflushing

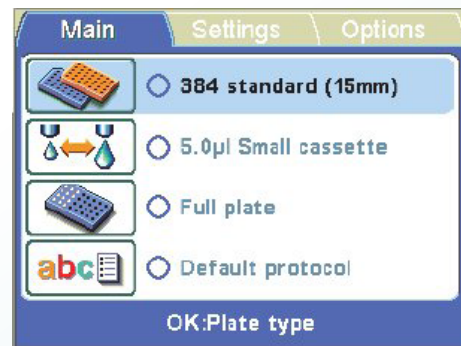
To ensure sterile conditions and avoid cross contamination, the Multidrop Combi dispenser uses 8-channel detachable and autoclavable dispensing cassettes that are standard across the Multidrop range. Cassettes are selected according to the dispense volumes and user preference, and changed in seconds. Backflushing 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

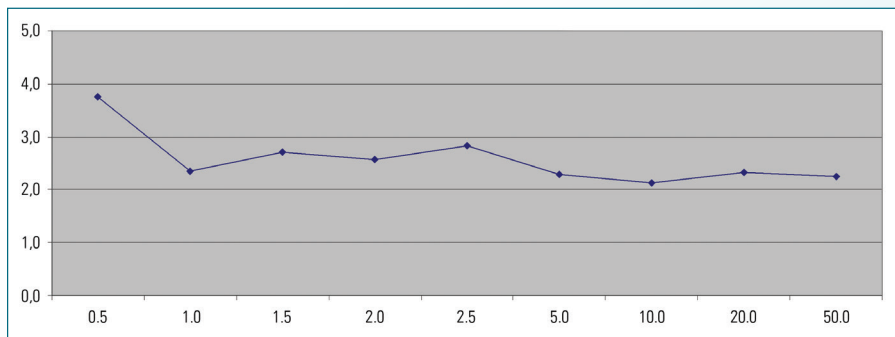
Multidrop Combi dispenser can increase productivity as a stand-alone instrument. However, when users take advantage of its full robotic compatibility, the real benefits become clear. The dispenser's plate carrier is optimized for easy plate access by robotic arm grippers, linked via either the RS-232 serial or USB port.



The autoclavable Multidrop dispensing cassettes come in different tubing and tip material sizes. 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.

## Technical specifications

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: 0.5 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%
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: 10 µl in 3 seconds, 20 µl in 4 seconds, 100 µl in 10 seconds. 384-well plate: 1 µl in 5 seconds, 5 µl in 5 seconds, 10 µl in 6 seconds, 20 µl in 9 seconds 1536-well plate: 1 µl in 14 seconds, 5 µl in 26 seconds	
Dispensing increments	Small tube dispensing cassette: 0.5 µl increments Stand tube dispensing cassette: 5 µl increments	
Dead volume	< 1 ml volume range 0.5–50 µl < 7 ml volume range > 50 µl	
Interface Serial RS-232, USB	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 (20.1 lbs.)	
Power requirements	100–240 Vac, 50/60 Hz, nominal	

## Ordering information

5840300	Multidrop Combi, 100–240 V 50/60 Hz
5840320	Multidrop Combi with SMART 2 option, 100–240 V 50/60 Hz Includes cassette lifetime traceability feature
5188009	FILLit Software for Multidrop Combi
24073290	Small tube plastic tip dispensing cassette (for volumes 0.5–50 µl)
24073293	Long small tube plastic tip dispensing cassette (for volumes 0.5–50 µl)
24073295	Small tube metal tip dispensing cassette (for volumes 0.5–50 µl)
24073298	Long small tube metal tip dispensing cassette (for volumes 0.5–50 µl)
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 5–2500 µl)
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)

Find out more at [thermofisher.com/multidrop](https://thermofisher.com/multidrop)