Thermo Scientific Microplate Instrumentation

The most reliable microplate instruments for the highest performance and best results

Product Catalog 2014

Thermo SCIENTIFIC

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30 Years of Experience in Microplate Instrumentation

With over thirty years' experience and approximately 50,000 Thermo Scientific microplate instruments installed worldwide, scientists have come to trust the Thermo Scientific brand for quality and innovation. This catalog details a range of products, including:

- detection instruments,
- liquid handling instruments,
- purification systems, and
- supporting microplate technology products for scientists in the life science field.

Thermo Scientific microplate instruments form a powerful package when paired together with Thermo Scientific microplate stackers, automated liquid handlers, pipettes, microplates, and more.

To learn more about the Thermo Scientific Microplate Instruments, visit

www.thermo.com/mpi

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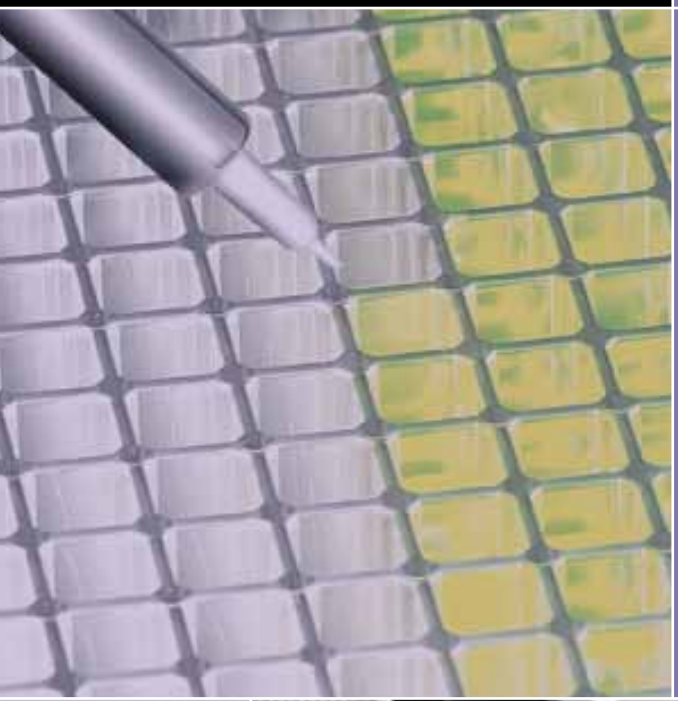
Thermo Scientific Detection Instruments

Choose from a wide variety of Thermo Scientific microplate detection instruments from photometers and fluorometers to luminometers and multimode instruments. Multiskan photometers, Fluoroskan fluorometers, Luminoskan luminometer and Varioskan Flash and Appliskan multimode readers offer the highest performance for the most reliable assay data.

www.thermo.com/readingroom



Thermo Scientific Varioskan Flash

The Thermo Scientific Varioskan Flash spectral scanning multimode reader offers optimal performance for demanding research assays. It is designed for analyzing and optimization of assays, such as binding assays, ADMETox, molecular biology assays, enzyme kinetic studies, ion-channel and cell signalling assays.

The Varioskan Flash includes fluorescence intensity, time-resolved fluorescence (TRF), photometric, and optional luminometric detection technologies. It provides flexibility for a variety of different applications with unlimited wavelength selection, up to three onboard dispensers, unparalleled optical performance and the advanced Thermo Scientific SkanIt Software.

Exceptional user friendliness

The Varioskan Flash provides an extremely easy measurement setup due to the automatic gain selection. This guarantees simultaneous maximal sensitivity and a full dynamic range in every assay.

Unlimited wavelength selection for assay optimization

The Varioskan Flash offers unlimited wavelength selection and thereby allows both spectral analysis and measurement at any single wavelength. This gives the ultimate flexibility for identifying the optimal measurement wavelength for any assay, now and in the future.

Onboard dispensers for exact follow-up of kinetic reactions

With up to three dispensers, the Varioskan Flash enables rapid assays to run, such as flash luminometry and Ca^{2+} flux assays. The instrument supports simultaneous dispensing and reading, enabling monitoring of fast kinetic measurements from the very start of the reaction.

Advanced SkanIt Software

The Varioskan Flash is controlled by the advanced SkanIt Software that provides easy assay setup, flexible data handling and convenient report formatting. SkanIt Software offers features needed for 21 CFR Part 11 compliance. For further information, see page 19.

Specially designed for automation

To increase assay throughput, the Varioskan Flash can read up to 1536-well plates and be easily integrated with automated systems. SkanIt Software has a special remote control interface for integration with automated systems and LIMS.

Varioskan Flash Applications:

- Apoptosis assays
- Ca^{2+} flux assays
- Cell proliferation
- Cellular assays
- Cytotoxicity and ADMETox
- Direct DNA, RNA and protein quantitation
- ELISA/FIA/TRF-ELISA assays
- Enzyme kinetic studies
- Europium assays
- FRET assays
- TRF-FRET assays
- BRET assays
- GPCR assays
- Ion channel assays
- Kinase assays
- Multilabel assays
- Reporter gene assays
- Signal transduction
- Tryptophan and tyrosine UV fluorescence

Varioskan Flash, the spectral scanning multimode reader, together with SkanIt Software offers optimal performance for demanding research assays.

DLReady™

LanthaScreen™ Certified

invitrogen

Compatible with Thermo Scientific RapidStak

Technical Specifications and Ordering Information

Thermo Scientific Varioskan Flash	
Fluorescence Intensity/Time-Resolved Fluorescence	
Plate types	6 - 1536-well plates
Wavelength selection	Double excitation and double emission monochromators
Excitation wavelength range	200 - 1000 nm
Emission wavelength range	270 - 840 nm
Excitation/emission bandwidth	5 nm and 12 nm/12 nm
Sensitivity/dynamic range	Fluorescence intensity, top reading: < 0.4 fmol fluorescein/well, > 6 decades, 384-well plate Fluorescence intensity, bottom reading: < 4 fmol fluorescein/well, > 5.5 decades, 384-well plate Time-resolved fluorescence, top reading: < 120 amol Europium/well, > 6 decades, 384-well plate
Luminometry	
Plate types	6 - 1536-well plates, spectral scanning 6 - 384-well plates
Wavelength selection	All wavelengths, filters and double monochromators
Wavelength range	360 - 670 nm, spectral scanning 270 - 840 nm
Sensitivity/dynamic range	< 7 amol ATP/well, > 7 decades, flash ATP reaction, 384-well plate
Photometry	
Plate types	6 - 384-well plates
Wavelength selection	Double monochromators
Wavelength range	200 - 1000 nm
Bandwidth	5 nm
Linearity	0 - 4 Abs (96-well plate) at 450 nm, ± 2% 0 - 3 Abs (384-well plate) at 450 nm, ± 2%
Accuracy	± 2% or 0.003 Abs, whichever is greater, at 200 - 399 nm (0 - 2 Abs) ± 1% or 0.003 Abs, whichever is greater, at 400 - 1000 nm (0 - 3 Abs)
Precision	SD < 0.001 Abs or CV < 0.5%, whichever is greater, at 450 nm (0 - 3 Abs)
Dispensing	
No of dispensers	Up to 3, automatic dispensing position control
Plate types	6 - 384-well plates
Syringe size	1 ml (standard), 5 ml (on request)
Dispensing volume	1 - 10 000 µl, with 1 µl increments (1 ml syringe) Automatic safety control based on maximum well volume
Dispensing speed	30 s, 96-well plate 80 s, 384-well plate (5 µl/well, 1 ml syringe, 0.40 mm tip)
Incubator	From ambient + 4°C to 45°C, at ambient 25°C
Shaker	Orbital with adjustable speed and diameter
General Features	
Measurement speed	96-well plate in 15 s, 384-well plate in 45 s, and 1536-well plate in 135 s (minimum kinetic interval time from A1 back to A1)
Spectral scanning speed	< 2 s/well, 400 – 500 nm, 1 flash, 2 nm steps
Measurement types	Fluorescence intensity, time-resolved fluorescence, photometry and optional luminometry, all with spectral scanning
Light source	Xenon flash lamp
Dimensions (H x W x D)	500 x 540 x 580 mm 19.7 x 21.3 x 22.8 in.
Weight	55 - 67 kg (121 - 148 lbs.), depending on the configuration

Ordering Information	
Cat. No.	**Description**
5250030	Varioskan Flash 100 - 240 V, 50/60 Hz
5250040	Varioskan Flash 100 - 240 V, 50/60 Hz, including bottom reading
5250500	Varioskan LumiSens option, factory fitted (also enabling luminometric spectral scanning)
5250510	Dispenser option, with 1ml syringe, factory fitted

Thermo Scientific Fluoroskan Ascent

The Thermo Scientific Fluoroskan Ascent is a microplate fluorometer for life science research applications, such as fluorometric protein and enzyme studies, molecular interactions, nucleic acid quantification, reporter gene, fluorometric kinase, immuno and cell based assays.

The Fluoroskan Ascent is a compact and robust instrument with excellent optical performance for a variety of research applications, offering versatile plate formats, fast reading speeds, up to three dispensers and top/bottom reading of plates.

Fast reading speed

The fast reading time enables the most rapid throughput and a wide variety of applications, such as cytotoxicity, ion channel and FRET applications

Onboard dispensers for exact follow-up of kinetic reactions

Equipped with three onboard reagent dispensers, the Fluoroskan Ascent enables fast kinetic assays, such as Ca^{2+} flux. The instrument supports simultaneous dispensing and reading, enabling monitoring of fast kinetic measurements from the very start of the reaction. A very low dead volume and the backflush capability of the dispensers are important issues when using expensive reagents.

High sensitivity for top and bottom reading

Fiberless direct illumination optics for both top and bottom reading ensures high sensitivity, a wide dynamic range, and accurate and precise results for 1 to 384-well plates.

Specially designed for automation

To increase assay throughput, the Fluoroskan Ascent can read up to 384-well plates and easily be integrated with automated systems.

Ordering information and technical specification, see page 13.

Fluoroskan Ascent Applications:

- Ca^{2+} flux assays
- Cell proliferation
- Cytotoxicity
- Multi-drug resistance
- Cell adhesion
- DNA quantitation
- Reporter gene assays
- Hybridization assays
- Quantitation of PCR products
- FRET assays
- Molecular beacon assays
- Immunoassays
- Enzyme activity
- Neonatalogy
- Bacterial quantitation
- Phagocytosis
- Oligonucleotide assays
- ADMEtox

A compact and robust microplate reader with excellent optical performance for a variety of fluorometric research applications.

Compatible with Thermo Scientific RapidStak

Thermo Scientific Luminoskan Ascent

The Thermo Scientific Luminoskan Ascent is a microplate luminometer for luminometric research applications, such as reporter gene, immuno and cell based assays, enzyme studies, molecular interactions, nucleic acid quantification and microbiological assays.

The Luminoskan Ascent is a compact and robust instrument with excellent optical performance for a variety of luminometric research applications, offering versatile plate formats, fast reading speeds, up to three dispensers, and top/bottom reading of plates.

Fast reading speed

The fast reading time, just 15 seconds for a 96-well plate, is essential for kinetic applications, such as enzyme kinetics and phagocytosis assays.

Onboard dispensers for exact follow-up of kinetic reactions

The Luminoskan Ascent equipped with up to three onboard reagent dispensers enables fast kinetic assays, such as ATP assays. The instrument supports simultaneous dispensing and reading, enabling monitoring of fast kinetic measurements from the very start of the reaction. A very low dead volume and the backflush capability are important issues when using expensive reagents.

High sensitivity for both top and bottom reading

Fiberless direct illumination optics for both top and bottom reading ensures high sensitivity, a wide dynamic range, low crosstalk and accurate and precise results in all luminometric assays.

Specially designed for automation

To increase assay throughput, the Luminoskan Ascent can read up to 384-well plates and easily be integrated with automated systems.

Ordering information and technical specification, see page 13.

Luminoskan Ascent Applications:

- Reporter gene assays
- Immunoassays with luminescent substrates
- Cytotoxicity and cell proliferation assays
- Intracellular Ca^{2+} assays
- ATP assays
- Phagocytosis assays
- Reactive oxygen assays
- Microbiological assays
- Enzyme assays
- BRET assays
- ADMEtox

A compact and robust microplate reader with excellent optical performance for a variety of luminometric research applications.

DLReady™

Compatible with Thermo Scientific RapidStak

Thermo Scientific Fluoroskan Ascent FL

The Thermo Scientific Fluoroskan Ascent FL is a microplate fluorometer and luminometer for both luminometric and fluorometric research applications, such as protein and enzyme studies, molecular interactions, nucleic acid quantification, reporter gene, fluorometric kinase, and immuno and cell based assays.

The Fluoroskan Ascent FL is a compact and robust instrument with excellent optical performance for a variety of fluorometric and luminometric research applications, offering versatile plate formats, fast reading speeds, up to three dispensers and top/bottom reading of plates.

Fast reading speed

The fast reading time, just 15 seconds for a 96-well plate, is essential for kinetic applications, such as enzyme kinetics and phagocytosis assays. Even the combination of a fluorometric GFP measurement and a luminometric luciferase measurement from the same well is fast due to the versatility of assay programming in the same protocol.

Onboard dispensers for exact follow-up of kinetic reactions

Equipped with up to three onboard reagent dispensers, the Fluoroskan Ascent FL enables fast kinetic assays, such as Ca^{2+} flux and ATP assays. The instrument supports simultaneous dispensing and reading, enabling monitoring of fast kinetic measurements from the very start of the reaction. A very low dead volume and the backflush capability of the dispensers are important issues when using expensive reagents.

High sensitivity for both top and bottom reading

Fiberless direct illumination optics for both top and bottom reading ensures a high sensitivity, a wide dynamic range, low crosstalk and accurate and precise results in both luminometric and fluorometric assays.

Specially designed for automation

To increase assay throughput, the Fluoroskan Ascent FL can read up to 384-well plates and easily be integrated with automated systems.

Fluoroskan Ascent FL Applications:

- Ca^{2+} flux assays
- Cell proliferation
- Cytotoxicity
- Cell adhesion
- DNA quantitation
- Reporter gene assays
- Hybridization assays
- Quantitation of PCR products
- FRET assays
- BRET assays
- Molecular beacon assays
- Immunoassays
- Enzyme activity
- Bacterial quantitation
- Phagocytosis
- Oligonucleotide assays

A compact and robust microplate reader with excellent optical performance for a variety of fluorometric and luminometric research applications.

Compatible with Thermo Scientific RapidStak

Technical Specifications and Ordering Information

Thermo Scientific Fluoroskan Ascent, Luminoskan Ascent and Fluoroskan Ascent FL			
	Fluoroskan Ascent	**Luminoskan Ascent**	**Fluoroskan Ascent FL**
Fluorometry			
Excitation wavelength range	320 - 700 nm		320 - 700 nm
Emission wavelength range	360 - 800 nm		360 - 670 nm
Excitation filters	Up to eight filters in the excitation filter wheel. 355 nm and 485 nm filters included as standard. Other filters available upon request.		Up to eight filters in the excitation filter wheel. 355 nm and 485 nm filters included as standard. Other filters available upon request.
Emission filters	Up to eight filters in the emission filter wheel. 460 nm and 538 nm filters included as standard. Other filters available upon request.	Up to six filters in the filter wheel. Filters available upon request.	Up to six filters in the emission filter wheel. 460 nm and 538 nm filters included as standard. Other filters available upon request.
Sensitivity	2 fmol fluorescein/well in a black 96-well plate		2 fmol fluorescein/well in a black 96-well plate
Dynamic range	> 6 decades		> 6 decades
Luminometry			
Spectral range		270 - 670 nm	270 - 670 nm
Sensitivity		10 amol ATP/well using flash reaction, white 384-well plate	40 amol ATP/well using flash reaction, white 384-well plate
Dynamic range		> 9 decades over whole gain setting area	> 9 decades over whole gain setting area
Dispensing			
No of dispensers	Up to 3	Up to 3	Up to 3
Dispensing volume	1 - 1000 µl in 1 µl increments	1 - 1000 µl in 1 µl increments	1 - 1000 µl in 1 µl increments
Dispensing speed	25 s, 96-well plate, 5 µl/well	25 s, 96-well plate, 5 µl/well	25 s, 96-well plate, 5 µl/well
General Features			
Plate types	1 - 384-well plates	1 - 384-well plates	1 - 384-well plates
Measurement speed	15 s, 96-well plate	15 s, 96-well plate	15 s, 96-well plate
Wavelength selection	Filters	Filters	Filters
Light source	Quartz-halogen lamp		Quartz-halogen lamp
Detector	Photomultiplier tube	Photomultiplier tube	Photomultiplier tube
Incubator	From ambient + 3°C to 45°C, at ambient 25°C	From ambient + 3°C to 45°C, at ambient 25°C	From ambient + 3°C to 45°C, at ambient 25°C
Shaking	Orbital shaker	Orbital shaker	Orbital shaker
User interface	Requires , but does not include a personal computer	Requires , but does not include a personal computer	Requires , but does not include a personal computer
Computer interface	Serial RS-232C port	Serial RS-232C port	Serial RS-232C port
Dimensions (H x W x D)	340 x 420 x 420 mm 13.4 x 16.5 x 16.5 in. options included	340 x 420 x 420 mm 13.4 x 16.5 x 16.5 in. options included	340 x 420 x 420 mm 13.4 x 16.5 x 16.5 in. options included
Weight	Basic unit 21 kg (46 lbs.). 3 optional dispensers add 3.5 kg to the weight	Basic unit 21 kg (46 lbs.). 3 optional dispensers add 3.5 kg to the weight	Basic unit 21 kg (46 lbs.). 3 optional dispensers add 3.5 kg to the weight

Ordering Information

Cat. No	**Description**
Thermo Scientific Fluoroskan Ascent	
5210470	Fluoroskan Ascent 100 - 240 V, 50/60 Hz *)
5210480	Fluoroskan Ascent 100 - 240 V, 50/60 Hz, with one dispenser *)
5210482	Fluoroskan Ascent 100 - 240 V, 50/60 Hz, with two dispensers *)
5210483	Fluoroskan Ascent 100 - 240 V, 50/60 Hz, with three dispensers *)
*) Includes PC Software and filter pairs: Ex 355 nm / Em 460 nm, Ex 485 nm / Em 538 nm. Other filters available upon request.	
Thermo Scientific Luminoskan Ascent	
5300160	Luminoskan Ascent 100 - 240 V, 50/60 Hz**)
5300170	Luminoskan Ascent 100 - 240 V, 50/60 Hz, with one dispenser**)
5300172	Luminoskan Ascent 100 - 240 V, 50/60 Hz, with two dispensers**)
5300173	Luminoskan Ascent 100 - 240 V, 50/60 Hz, with three dispensers**)
**) Includes PC Software	
Thermo Scientific Fluoroskan Ascent FL	
5210450	Fluoroskan Ascent FL 100 - 240 V, 50/60 Hz ***)
5210460	Fluoroskan Ascent FL 100 - 240 V, 50/60 Hz with one dispenser***)
5210462	Fluoroskan Ascent FL 100 - 240 V, 50/60 Hz with two dispensers***)
5210463	Fluoroskan Ascent FL 100 - 240 V, 50/60 Hz, with three dispensers ***)
***) Includes PC Software and filter pairs: Ex 355 nm / Em 460 nm, Ex 485 nm / Em 538 nm. Other filters available upon request.	

Thermo Scientific Multiskan FC

The Thermo Scientific Multiskan FC is a reliable and robust microplate photometer for a wide variety of research and routine applications. It reads both 96- and 384-well plates and is equipped with shaking as well as incubation capabilities.

Intuitive and easy to use

The large color screen and language selection ensure easy and intuitive assay setup. Results obtained from the internal software can be saved to a USB memory stick for immediate transfer to a computer.

Ideal for a wide variety of applications

Reads 96- and 384-well plates, a broad wavelength range of 340 nm to 850 nm, plus shaking and incubation capabilities make the Multiskan FC an ideal choice for ELISA assays and enzyme kinetic studies.

Powerful Thermo Scientific SkanIt Software for optimal computer control

SkanIt Software's highly visual and logical user interface makes instrument control and data handling effortless and makes it easy to process results in Microsoft Excel.

Ordering information and technical specifications, see page 18.

Multiskan FC Applications:

- Immunoassays
- Protein assays
- Growth curve and hormone assays
- Endotoxins
- Food diagnostics
- HIV assays
- Hybridization assays
- Minisequencing assays
- Cytotoxicity
- Cell proliferation
- Cell adhesion
- Signal transduction
- Enzyme assays
- Endotoxins, antioxidants
- Food diagnostics

The proven and patented optical design, together with the built-in self-diagnostics tools and auto-calibration feature, ensures proven day-to-day performance.

Compatible with Thermo Scientific RapidStak

Technical Specifications and Ordering Information

Thermo Scientific Multiskan FC and Multiskan EX

	Thermo Scientific Multiskan FC	Thermo Scientific Multiskan EX
Wavelength selection	Filters	Filters
Wavelength range	340 - 850 nm	400 - 750 nm
Filters	8-position filter wheel Standard filters 405nm, 450 nm and 620 nm Other filters available upon request.	8-position filter wheel Standard filters 405 nm, 450 and 620 nm Other filters available upon request.
Read-out range	0-6 Abs	0 - 3.5 Abs
Linearity	0 - 3 Abs, ± 2%, 96-well plate, fast mode 0 - 4 Abs, ± 2%, 96-well plate, normal mode 0 - 2.5 Abs, ± 2%, 384-well plate, fast mode 0 - 3 Abs, ± 2%, 384-well plate, normal mode	0 - 2 Abs, ± 2.0% at 405 nm
Accuracy	± 1% (0.3 - 3 Abs) ± 2% (3 - 4 Abs)	± 2.0% or ± 0.007 Abs whichever is greater, typical value ±1% (0 - 2.0 Abs) at 405 nm
Precision	CV ≤ 0.2% (0.3 - 3 Abs), CV ≤ 1.0% (3 - 4 Abs)	CV ≤ 0.5% (0.3 - 1.5 Abs) at 405 nm CV ≤ 1.0% (1.5 - 2 Abs) at 405 nm
Resolution	0.001 Abs	0.001 Abs
Plate types	96- and 384-well plates	96-well plate
Measurement speed	6 s, 96-well plate, fast mode 12 s, 96-well plate, normal mode 11 s, 384-well plate, fast mode 33 s, 384-well plate, normal mode	5 s, 96-well plate
Light source	Quartz-halogen lamp 6 V/10 W	Quartz tungsten halogen lamp
Detector	One silicon photodetector	Eight (8) silicon photodetectors
Incubation	From ambient + 4°C up to 50°C	
Shaking	Linear shaking, 3 speeds	Linear shaking, 3 speeds
User interface	On-board or PC control	On-board or PC control
Computer interface	USB 1.1 (2.0 compatible)	RS-232C serial interface
Dimensions (H x W x D)	210 x 290 x 400 mm 8.3 x 11.4 x 15.7 in.	140 x 420 x 320 mm 5.5 x 16.5 x 12.6 in.
Weight	8.5 kg (18.7 lbs.)	11 kg (24 lbs.)

Ordering Information

Cat. No	Description	Shaking	Incubation	96-well plates	384-well plates
Thermo Scientific Multiskan FC					
51119000	Multiskan FC *)	x		x	
51119100	Multiskan FC with incubator *)	x	x	x	x
*) Includes Thermo Scientific SkanIt Software and three standard filters: 405 nm, 450 nm, 620 nm					
Thermo Scientific Multiskan EX					
51118170	Multiskan EX 200 - 240 V, 50/60 Hz **)	x		x	
51118177	Multiskan EX 100 - 120 V, 50/60 Hz **)	x		x	
**) Includes Ascent Software and three Standard Filters: 405 nm, 450 nm, 620 nm					

Thermo Scientific SkanIt Software

Thermo Scientific SkanIt Software gives the user total control over the Thermo Scientific Varioskan Flash, Multiskan Spectrum, Appliskan and Multiskan FC microplate readers and supports the optimal use of their respective instrument features.

SkanIt Software is the ultimate tool for both microplate reader control and data handling. There are two editions available: a Research Edition for scientists working in life science research, and a Drug Discovery Edition, offering features needed for compliance with FDA's 21 CFR Part 11 for the drug discovery industry.

Easy and visual assay setup

Even the most complex assay can easily be defined with the steplist feature in SkanIt Software. Just add steps corresponding to actions, such as incubation or measurement, in the order they should be carried out by the instrument. The workflow is visual and easy to follow both during the assay setup and measurement.

Effortless data reduction

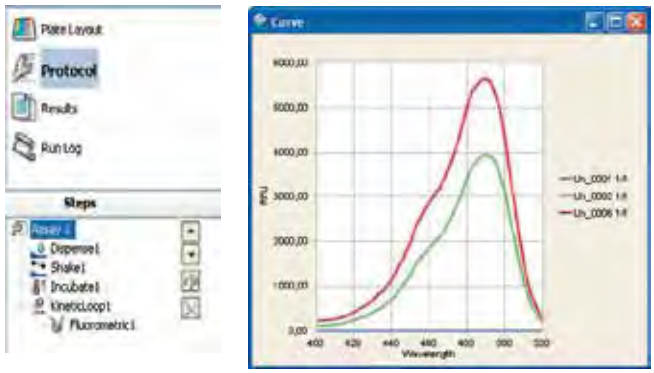
In-built calculations, such as Blank Subtraction, Quantitative Curve Fit, Qualitative Classification, Spectral Analysis and Kinetic Calculations, as well as a comprehensive reporting tool, make data reduction in SkanIt Software easy. Calculations are defined using the steplist feature already familiar from the assay setup. Both measured and calculated data can also easily be exported to other systems like Microsoft Excel for further data handling.

Integration with automated systems

SkanIt Software offers a special remote control interface for easy integration with automated systems, such as the RapidStak microplate stacker and the Thermo Scientific Catalyst Express.

Compliat with 21 CFR Part 11

The Drug Discovery Edition of SkanIt Software offers technical features needed for compliance with FDA's 21 CFR Part 11. These features include logon control and user management, a time-stamped audit trail, as well as an electronic signature.



The visual assay setup of the SkanIt Software

Ordering Information

Cat. No	Description
5187080	SkanIt Software for Varioskan Flash, Research Edition
5187090	SkanIt Software for Varioskan Flash, Drug Discovery Edition
5187030	SkanIt Software for Multiskan Spectrum, Research Edition
5187040	SkanIt Software for Multiskan Spectrum, Drug Discovery Edition
5187060	SkanIt Software for Appliskan, Research Edition
5187100	SkanIt Software for Multiskan FC, Research Edition

Thermo Scientific Ascent Software

The same flexible, yet easy to use Thermo Scientific Ascent Software is used to control all members of the Thermo Scientific Ascent family of microplate readers.

Regardless of the instrument, the familiar user interface of Ascent Software always stays the same. It features a clear and easy-to-follow approach with a highly visual assay setup, user-friendly yet extremely flexible data handling capabilities and effective integration with automation and LIMS systems.

Two desktops – Procedure and Results

Ascent Software is divided into two desktops. The Procedure desktop controls the instrument and allows visual and easy setup of even the most complicated assays. The Results Desktop allows data to be reduced, calculated and reported, according to the most demanding assay requirements needs.

Easy setup for complex assays

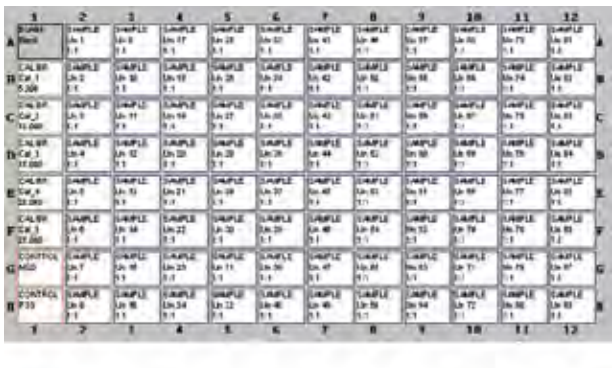
Almost any assay can easily be created by dragging and dropping the desired assay steps to the steplist in the Procedure Desktop. Each step, such as Measure, Incubate or Shake, corresponds to an instrument action, and there can be up to 99 steps in one single assay. The workflow is easy to follow: the order of the steps in the steplist tells in which order the instrument will carry out the desired actions.

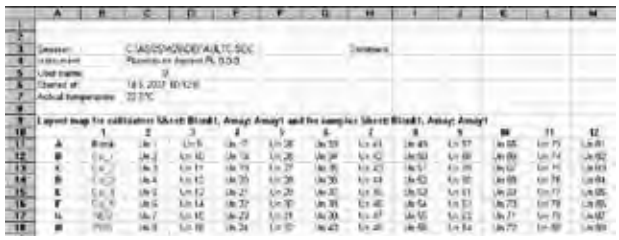
In-built and customizable data reduction

The extremely flexible data reduction in the Results Desktop is built on a familiar spreadsheet environment. In addition to the comprehensive in-built calculations, such as Blank Subtraction, Curve Fit and kinetic data reduction among others, the function tool can be used to create basically any customized calculation.

Integration with automated systems

Ascent Software has a special Remote Control Interface for robotic use which enables easy integration with robotics and LIMS systems.





The plate layout view of the Ascent Software

Ordering Information

Cat. No	Description
5185410CD	Ascent Software for Fluoroskan Ascent / FL
5185430CD	Ascent Software for Multiskan EX
5185450CD	Ascent Software for Luminoskan Ascent

Thermo Scientific Multiskan GO

UV/Vis microplate and cuvette spectrophotometer – Freedom for any photometric research application

Thermo SCIENTIFIC

Thermo Scientific Multiskan GO UV/Vis Microplate and Cuvette Spectrophotometer – freedom for any photometric research application

The Thermo Scientific Multiskan GO microplate spectrophotometer is a handy tool for virtually all photometric research applications. Select any measurement wavelength from low UV to visible with just a few keyboard clicks to measure both cuvettes and microplates, all according to your assay and throughput requirements.

You can control Multiskan® GO as stand-alone with straightforward internal software for quick and simple measurements or easily set up even the most demanding applications with the truly intuitive Thermo Scientific SkanIt Software for PC control. Both options offer a selection of multiple languages for operation.

Multiskan GO offers

- Freely selectable wavelengths from 200 - 1000 nm for the demands of various assays
- Both microplate and cuvette reading for any throughput requirements
- Very fast plate measurements and a full spectrum of a sample in less than 10 seconds
- High quality data guaranteed by extensive self diagnostics
- A unique power save function for reduced energy consumption
- Visual internal software on a large color screen for quick measurements
- Easy and logical assay setup for demanding assays with the powerful SkanIt® Software
- A selection of eight different operation languages

Flexibility and performance for various photometric applications

Multiskan GO microplate spectrophotometer supports endpoint, kinetic and spectral scanning assays. It reads 96- and 384-well microplates with and without lids, and all major cuvette types. The reading speed of Multiskan GO is exceptionally fast; all wells in a 96-well plate are measured in less than 6 seconds, and a full 384 well plate is measured in just 10 seconds.

A broad wavelength range with the UV area, pathlength correction as well as fast spectral scanning makes it an ideal tool for any photometric research application, including DNA, RNA and protein analysis.

Both the microplate chamber and cuvette holder are equipped with temperature control up to 45°C to enable temperature sensitive applications such as enzyme kinetics or cellular assays. Shaking speed can be selected to ensure that the samples in the microplate stay homogeneous.

Easy to swap assays with free wavelength selection

Wavelength selection in Multiskan GO is done by using an advanced monochromator system. Any wavelength between 200 and 1000 nm can be selected at any time. Using the spectral scanning feature, the whole spectrum of a sample can be scanned in 1 nm increments to allow identification of the optimal measurement wavelength for a new assay. The complete spectrum of a sample can be scanned in just 10 seconds. Additionally, the narrow measurement bandwidth ensures excellent spectral resolution.

Stand-alone use for quick measurements

The Multiskan GO can be controlled without a computer using the visual internal software and its large color display making it convenient for quick and simple measurements of both microplates and cuvettes. Ready-made sessions for measuring DNA and RNA concentrations and easy-to-use formulae for

Thermo Scientific Multiskan GO with cuvette

Thermo Scientific Multiskan GO without cuvette

ratiometric or background correction measurements are available for cuvettes in the internal software. Any measurement data can easily be saved on a USB memory stick for transfer to a computer for further processing.

The internal software can be operated in English, German, French, Spanish, Portuguese, Russian, Chinese and Japanese, all according to your language preference.

Visual and comprehensive assay setup with SkanIt Software

The logical and truly user-friendly interface of the SkanIt Software makes the instrument control and assay setup easy – even for advanced applications. The SkanIt Software offers a comprehensive selection of inbuilt calculations, including quantitative curve fit, qualitative classification, kinetic calculations, spectral reduction and parallel line analysis*) (PLA) to make data reduction very straightforward.

In addition, any measurement or calculated data in the SkanIt Software can be automatically exported to Excel with just one mouse click.

The same language selection as for the internal software is available also for the SkanIt Software. It simply speaks your language.

High quality data and consistent performance

The optical system in Multiskan GO has been engineered to ensure first-rate performance and high quality results. The design incorporates a dual beam optical system which includes an internal reference channel ensuring consistent results during any measurement condition.

Extensive automatic self diagnostics at instrument start-up verifies all major instrument functionalities, such as measurement positioning, lamp and monocromator, as well as measurement electronics operation. In addition, continuous runtime control of optical and mechanical functions guarantee stable day-to-day and year-on-year performance and reliability. Multiskan GO is designed so you can trust the integrity of your results, always.

Energy-saving for a better environment

Multiskan GO features a unique power save functionality that is automatically activated when the instrument is on but not in use. By pressing any instrument key or by using the SkanIt Software, the power is instantly resumed and Multiskan GO is ready for use. When the power save is activated, it reduces the energy consumption of the instrument over 70%.

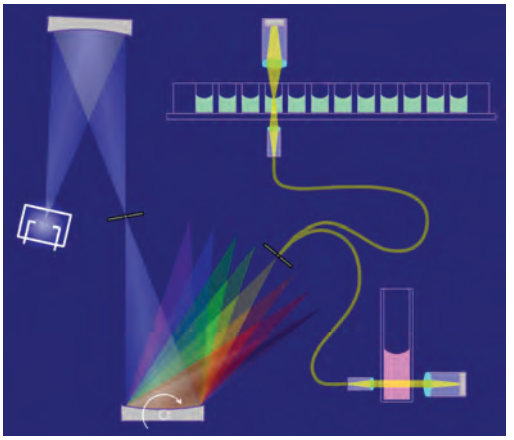
Meets RoHS Directive

Built using the highest quality components, Multiskan GO conforms to the RoHS (Restriction of Hazardous Substances) directives.

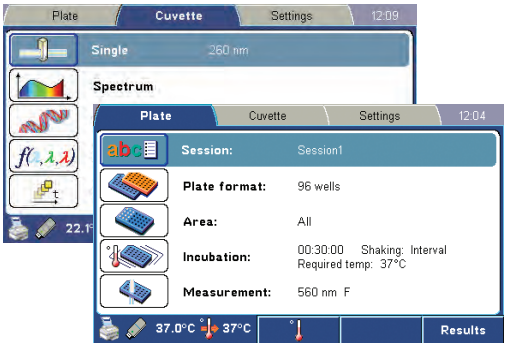
Specially designed for automation

Increase assay throughput by integrating the Multiskan GO with stackers and automated systems. The Multiskan GO's plate carrier is specially-designed for convenient robotic arm access to allow microplate gripping in portrait and landscape configurations. The SkanIt Software automation interface enables easy integration with automated systems.

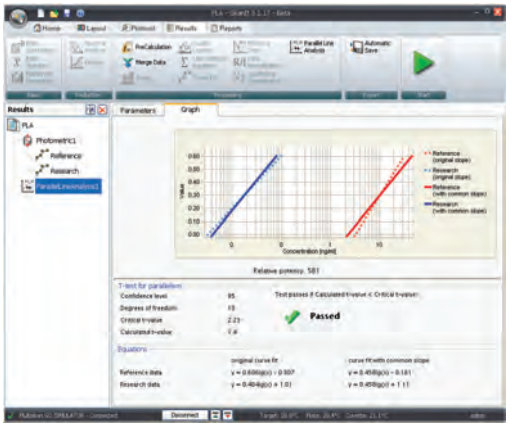
**) In SkanIt Software, the calculation is performed in compliance with the European Pharmacopoeia guidelines.*



The built-in monochromator makes it easy to select any measurement wavelength



Easy to use internal software for quick plate or cuvette measurements



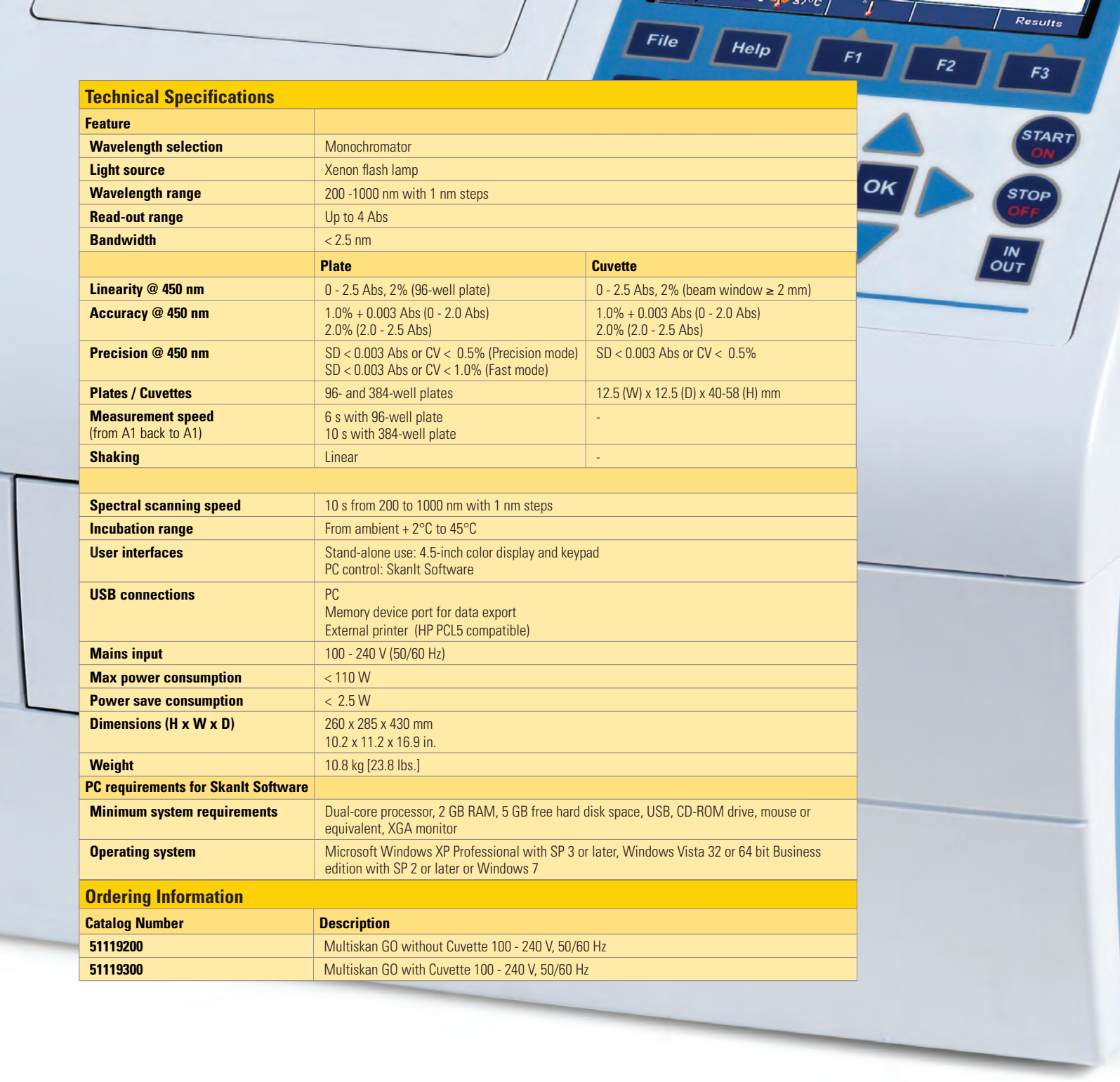
Visual and logical SkanIt Software with eight language versions

USB port for easy data transfer

Multiskan GO accepts versatile cuvettes

Typical applications

- **DNA or RNA quantitation and purity**
- **Protein assays**
- **Enzyme assays**
- **Kinetic assays**
- **Immunoassays**
- **Cell proliferation and cytotoxicity assays**
- **Apoptosis assays**
- **Reporter gene assays**
- **GPCR assays**



Technical Specifications

Feature		
Wavelength selection	Monochromator	
Light source	Xenon flash lamp	
Wavelength range	200 -1000 nm with 1 nm steps	
Read-out range	Up to 4 Abs	
Bandwidth	< 2.5 nm	
	Plate	**Cuvette**
Linearity @ 450 nm	0 - 2.5 Abs, 2% (96-well plate)	0 - 2.5 Abs, 2% (beam window ≥ 2 mm)
Accuracy @ 450 nm	1.0% + 0.003 Abs (0 - 2.0 Abs) 2.0% (2.0 - 2.5 Abs)	1.0% + 0.003 Abs (0 - 2.0 Abs) 2.0% (2.0 - 2.5 Abs)
Precision @ 450 nm	SD < 0.003 Abs or CV < 0.5% (Precision mode) SD < 0.003 Abs or CV < 1.0% (Fast mode)	SD < 0.003 Abs or CV < 0.5%
Plates / Cuvettes	96- and 384-well plates	12.5 (W) x 12.5 (D) x 40-58 (H) mm
Measurement speed (from A1 back to A1)	6 s with 96-well plate 10 s with 384-well plate	-
Shaking	Linear	-
Spectral scanning speed	10 s from 200 to 1000 nm with 1 nm steps	
Incubation range	From ambient + 2°C to 45°C	
User interfaces	Stand-alone use: 4.5-inch color display and keypad PC control: SkanIt Software	
USB connections	PC Memory device port for data export External printer (HP PCL5 compatible)	
Mains input	100 - 240 V (50/60 Hz)	
Max power consumption	< 110 W	
Power save consumption	< 2.5 W	
Dimensions (H x W x D)	260 x 285 x 430 mm 10.2 x 11.2 x 16.9 in.	
Weight	10.8 kg [23.8 lbs.]	
PC requirements for SkanIt Software		
Minimum system requirements	Dual-core processor, 2 GB RAM, 5 GB free hard disk space, USB, CD-ROM drive, mouse or equivalent, XGA monitor	
Operating system	Microsoft Windows XP Professional with SP 3 or later, Windows Vista 32 or 64 bit Business edition with SP 2 or later or Windows 7	

Ordering Information

Catalog Number	Description
51119200	Multiskan GO without Cuvette 100 - 240 V, 50/60 Hz
51119300	Multiskan GO with Cuvette 100 - 240 V, 50/60 Hz

North America: USA/Canada +1 800 345 0206
Europe: Austria +43 1 801 40 0, Belgium +32 53 73 42 41, France +33 2 2803 2180, Germany national toll free 08001-536 376, Germany international +49 6184 90 6940, Italy +39 02 02 95059 448, Netherlands +31 76 571 4440, Nordic/Baltic countries +358 9 329 100, Russia/CIS +7 (495) 739 76 41, Spain/Portugal +34 93 223 09 18, Switzerland +41 44 454 12 12, UK/Ireland +44 870 609 9203
Asia: China +86 21 6865 4588 or +86 10 8419 3588, India toll free 1800 22 8374, India +91 22 6716 2200, Japan +813 5826 1616, Other Asian countries +852 2885 4613
Countries not listed: +49 6184 90 6940 or +33 2 2803 2180

www.thermoscientific.com/multiskanGO
www.thermoscientific.com

BRMRmultiskanGO
1513090 0111

Thermo SCIENTIFIC

Product Specifications

The Thermo Scientific µDrop Plate is designed for quick and easy measurement of low sample volumes down to 2 µL. It is an ideal tool for photometric DNA or RNA quantitation and purity analysis.

Thermo Scientific µDrop Plate

The µDrop Plate enables measuring low-sample volumes down to 2 µl and cuvettes

Features

- dsDNA detection range from a few micrograms to a few milligrams per milliliter
- 16 sample positions for quick and easy measurement of sample volumes down to 2 µL
- Compatible with an 8-channel pipette for easy sample addition
- Quick and easy to wipe off the samples in serial measurements
- Ready-made Thermo Scientific SkanIt Software sessions for nucleic acid analysis
- Measurement slot for a rectangular cuvette

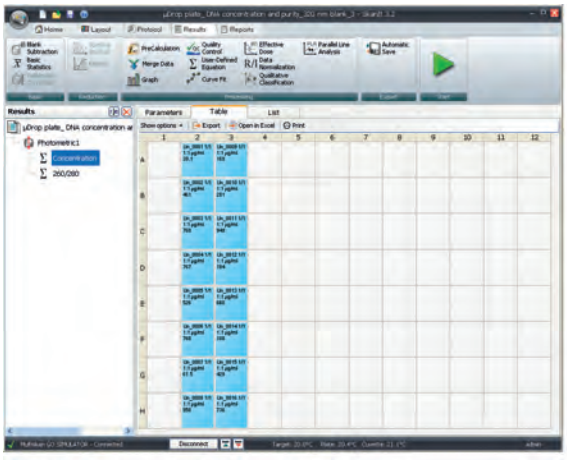
The µDrop™ Plate low-volume measurement area consists of two quartz slides: the top clear quartz and the bottom Teflon-coated quartz slide. Sample positions are arranged in a 2 x 8 matrix, providing a straightforward way of analyzing up to 16 samples simultaneously.

The fixed light path of the µDrop Plate allows direct calculation of the nucleic acid concentrations of the samples.

Samples are easy to pipette onto the µDrop Plate with a single or an 8-channel pipette. The plate is easily wiped clean, making it convenient to be used in serial measurements.

The µDrop Plate additionally has a slot for a cuvette measurement. It enables endpoint, spectral and kinetic measurements in a standard rectangular cuvette with a stopper.

The µDrop Plate has been designed for use with the Thermo Scientific Multiskan GO UV/Vis microplate and cuvette spectrophotometer, as well as with the Thermo Scientific Varioskan Flash spectral scanning multimode reader. This extends their capabilities to include micro-scale absorbance measurements.



Ready-made SkanIt® Software sessions for DNA analysis

Thermo SCIENTIFIC

Thermo Scientific µDrop Plate

Specification	
Wavelength range	200–1000 nm
Overall dimensions	127.8 mm (W) x 85.5 mm (D) x 14.5 mm (H) [5.0" (W) x 3.4" (D) x 0.57" (H)]
Weight	0.161 kg / 0.4 lbs
Compatible readers	Multiskan® GO, Varioskan® Flash
Low-volume function	
Measurement area	16 positions in a 2 x 8 matrix
Sample volume	2 µl to 10 µl
Cuvette function (Cuvette with stopper)	
Dimensions	12.5 (W) x 12.5 (D) x 47–54 (H) mm
Beam center height	8.5 mm
Beam window	≥ 4 mm

Ordering information

Product code	Description
N12391	µDrop Plate

Contact Information

www.thermoscientific.com/platereaders

North America:

USA/Canada
+1 603 595 0505
USA toll free
800 345 0206

Europe:

Austria +43 1 801 40 0
Belgium +32 53 73 42 41
Finland +358 9 3291 0200
France +33 2 2803 2000
Germany national toll free 08001-536 376
Germany international +49 6184 90 6940
Italy +39 02 95059 552
Netherlands +31 76 571 4440
Nordic/Baltic countries +358 9 329 100
Russia/CIS +7 (495) 739 76 41
Spain/Portugal +34 93 223 09 18
Switzerland +41 44 454 12 12
UK/Ireland +44 870 609 9203

Asia:

Australia +613 9757 4474
China +86 21 6865 4588 or +86 10 8419 3588
China toll free 800-810-5118, 400-650-5118
India +91 22 6716 2200
Japan +81-3-5826-1616
Korea +82 11 796 7771
Other Asian countries +65 6872 9717

Countries not listed:
+49 6184 90 6940 or +33 2 2803 2000

DSMRµDPlate 0911

Thermo SCIENTIFIC

Part of Thermo Fisher Scientific

Thermo Scientific Varioskan Flash Spectral Scanning Multimode Reader

Optimal performance for demanding research assays

Thermo Scientific Varioskan Flash together with SkanIt Software offers optimal performance for demanding research assays

Thermo Scientific Varioskan Flash is a spectral scanning multimode reader, including fluorescence intensity, time-resolved fluorescence (TRF), photometric, and luminometric detection technologies. It offers optimal performance for demanding research assays with unlimited wavelength selection, up to three onboard dispensers, utmost optical performance and the advanced Thermo Scientific SkanIt Software.

Unlimited wavelength selection for assay optimization

The Thermo Scientific Varioskan Flash spectral scanning multimode reader combines fluorescence intensity, time-resolved fluorescence (TRF), photometric, and optional luminometric detection technologies.

It provides unlimited wavelength selection, and thereby allows both spectral analysis and measurement at any single wavelength. This gives ultimate flexibility for identifying the optimal measurement wavelength for any assay, now and in the future.

High-performance optical technology

High-quality performance is obtained with the optimized optics of Varioskan® Flash. In fluorometry, stray light transmission is minimized using quadruple monochromators. This ensures ultimate spectral quality that guarantees superior assay sensitivity. In addition, the quadruple monochromator optics offers excellent performance and flexibility in measuring either single or multilabel assays over a wide concentration range. Furthermore, the bottom reading possibility enables the user to select the optimal reading position for fluorometric measurement.

In photometry, double monochromator design produces a very low stray light level ensuring excellent linearity. Outstanding accuracy and precision are guaranteed with the perfect beam optics.

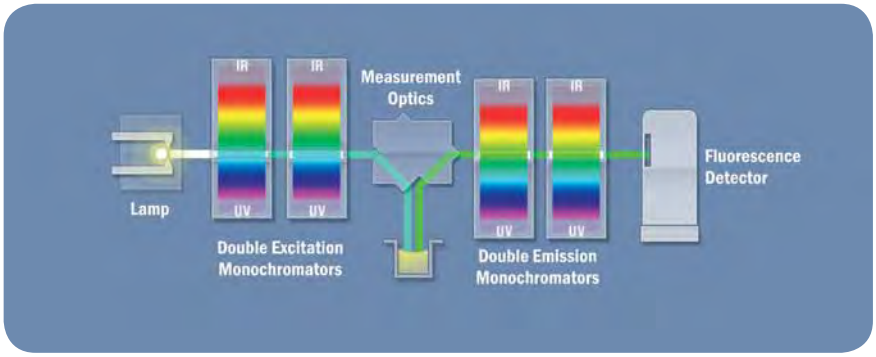
Varioskan Flash has two dedicated detection optics for luminometry: Scanning optics that is excellent for studying and optimizing luminometric assay parameters, and the high sensitivity Varioskan LumiSens optics, specially designed for measurement of any luminometric assay with excellent sensitivity, including multilabel assays requiring wavelength selection.

Onboard dispensers for exact follow-up of kinetic reactions

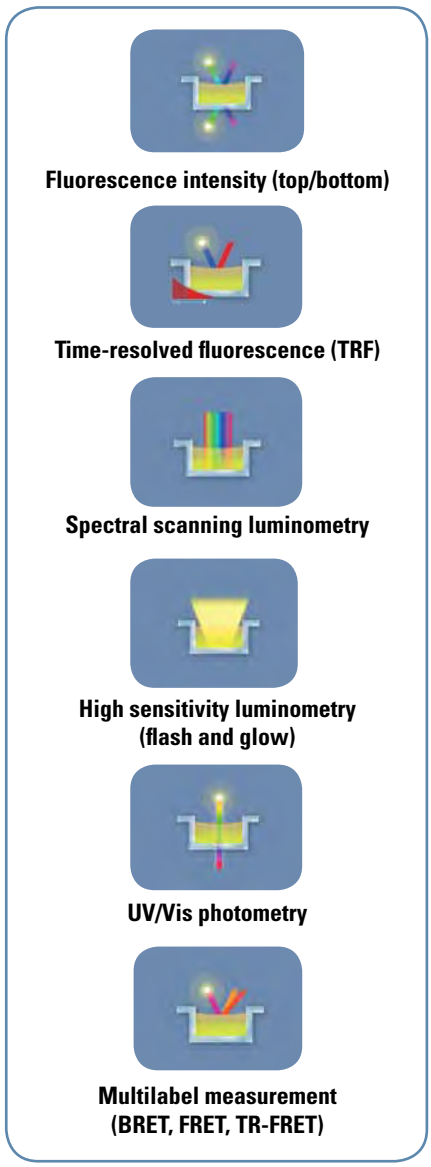
For easy and accurate reagent additions, Varioskan Flash can be equipped with up to three onboard dispensers.

The dispenser facilitates the work and allows easier optimization of assays. The instrument supports simultaneous dispensing and measurement, thereby enabling follow-up of kinetic reactions directly from reaction onset. This capability is essential for flash type luminescence reactions, Ca^{2+} flux studies and other rapid kinetic applications. The ability to add reagents in any order or in any phase of the kinetic assay allows execution of sequential multistep assays, such as ATP and reporter gene applications.

In addition, automated dispensing guarantees reproducible dispensing from day to day and from person to person.



The utmost sensitivity and a wide dynamic range is achieved by Varioskan Flash's optical system with quadruple monochromators.



Varioskan Flash supports various detection technologies.

Varioskan Flash capabilities provide versatility for assays

Assays requiring any measurement wavelength from low UV to near IR can be performed due to a wide spectral range of the Varioskan Flash. Photometric pathlength correction is ideal for direct measurement of DNA, RNA and proteins. Fluorometric UV measurement of fluorescent amino acids is an efficient tool in label-free assays for protein structure changes.

Fluorescent cell based assays provide high-performance with Varioskan Flash due to selectable top or bottom reading, flexibility in plate formats and a high-precision incubator. With TRF technology, Varioskan Flash offers great flexibility for high-performance cellular assays without interference from biological background. Time-resolved fluorescence resonance energy transfer (TR-FRET) assays are easily optimized using the TRF spectral scanning function of the Varioskan Flash. Additional TRF delay time optimization using automatic τ value calculation makes it straightforward to define the best possible measurement parameters.

The luminometric monochromator mode of Varioskan Flash offers a unique possibility to optimize measurement wavelengths in luminometric multilabel assays. Thereafter, assays can be performed with superior sensitivity with the normal or filter mode of the dedicated Varioskan LumiSens optics.

High-performance incubator for controlled assay conditions

To maintain optimal and constant reaction conditions, Varioskan Flash has a high-performance onboard incubator that ensures controlled assay conditions. It is ideal for cellular assays, enzyme assays and other applications where temperature control is essential.

Specially designed for automation

Varioskan Flash has been designed for easy integration with automated systems. The robotic plate carrier of Varioskan Flash is specially designed for convenient robot arm access, allowing microplate gripping in both portrait and landscape configurations. Thermo Scientific SkanIt Software also has a special remote control interface for integration with automated systems and LIMS.

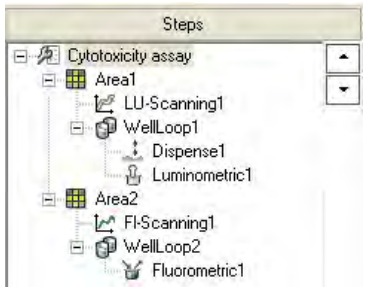
Logical assay setup using SkanIt Software

The powerful SkanIt® Software allows easy assay optimization, flexible data handling and convenient report formatting. The unique steplist feature makes assay setup highly visual and flexible, and the workflow logical and easy to follow.

There are two editions of SkanIt Software available: a Research Edition for scientists working in life science research, and a Drug Discovery Edition offering features needed for compliance with the FDA's 21 CFR Part 11, for the drug discovery industry.

Applications:

- *Apoptosis assays*
- *Ca^{2+} flux assays*
- *Cell proliferation*
- *Cellular assays*
- *Cytotoxicity and ADMETox*
- *Direct DNA, RNA and protein quantitation*
- *ELISA/FIA/TRF-ELISA assays*
- *Enzyme kinetic studies*
- *Europium assays*
- *FRET assays*
- *TR-FRET assays*
- *BRET assays*
- *GPCR assays*
- *Ion channel assays*
- *Kinase assays*
- *Multilabel assays*
- *Reporter gene assays*
- *Signal transduction*
- *Tryptophan and tyrosine UV fluorescence*



The Steplist in SkanIt Software makes assay setup visual and logical.

Varioskan Flash spectral scanning multimode reader

Onboard dispensers enable optimization of kinetic assays and facilitate assay development.

Technical Specifications

Fluorescence Intensity/Time-Resolved Fluorescence	
Plate types	6 – 1536-well plates
Wavelength selection	Double excitation and double emission monochromators
Excitation wavelength range	200 – 1000 nm
Emission wavelength range	270 – 840 nm
Excitation/emission bandwidth	5 nm and 12 nm/12 nm
Light source	Xenon flash lamp
Sensitivity/dynamic range	Fluorescence intensity, top reading: < 0.4 fmol fluorescein/well, > 6 decades, 384-well plate Fluorescence intensity, bottom reading: < 4 fmol fluorescein/well, > 5.5 decades, 384-well plate Time-resolved fluorescence, top reading: < 120 amol Europium/well, > 6 decades, 384-well plate
Luminometry	
Plate types	6 – 1536-well plates, spectral scanning 6 – 384-well plates
Wavelength selection	All wavelengths, filters and double monochromators
Wavelength range	360 – 670 nm, spectral scanning 270 – 840 nm
Sensitivity/dynamic range	< 7 amol ATP/well, > 7 decades, flash ATP reaction, 384-well plate
Photometry	
Plate types	6 – 384-well plates
Wavelength selection	Double monochromators
Wavelength range	200 – 1000 nm
Bandwidth	5 nm
Light source	Xenon flash lamp
Linear measurement range	0 – 4 Abs (96-well plate) at 450 nm, ± 2% 0 – 3 Abs (384-well plate) at 450 nm, ± 2%
Accuracy	± 2% or 0.003 Abs, whichever is greater, at 200 – 399 nm (0 – 2 Abs) ± 1% or 0.003 Abs, whichever is greater, at 400 – 1000 nm (0 – 3 Abs)
Precision	SD < 0.001 Abs or CV < 0.5%, whichever is greater, at 450 nm (0 – 3 Abs)
Dispenser	up to 3, automatic dispensing position control
Plate types	6 – 384-well plates
Syringe size	1 ml (standard), 5 ml (on request)
Dispensing volume	1 – 10 000 µl, with 1 µl increments (1 ml syringe) Automatic safety control based on maximum well volume
Accuracy	< 0.2 µl or 2%, whichever is greater, 5 – 10 000 µl (1 ml syringe, 0.40 mm tip)
Precision	5 – 19 µl < 5%, 20 – 10 000 µl < 2% (1 ml syringe, 0.40 mm tip)
Dispensing speed	30 s, 96-well plate 80 s, 384-well plate (5 µl/well, 1 ml syringe, 0.40 mm tip)
Incubator	From ambient + 4°C to 45°C at ambient 25°C
Shaker	Orbital with adjustable speed and diameter
General Features	
Measurement modes	Endpoint, kinetic, spectral scanning with all detection technologies
Measurement speed	96-well plate in 15 s, 384-well plate in 45 s, and 1536-well plate in 135 s (minimum kinetic interval time from A1 back to A1)
Spectral scanning speed	< 2 s/well, 400 – 500 nm, 1 flash, 2 nm steps
Overall dimensions	540 mm (W) x 580 mm (D) x 500 mm (H) [21.3" (W) x 22.8" (D) x 19.7" (H)]

Ordering Information	
Product Code	**Description**
5250030	Varioskan Flash
5250040	Varioskan Flash, including bottom reading
5250500	Varioskan LumiSens option (also enabling luminometric spectral scanning)
5250510	Dispenser option (1st, 2nd or 3rd)

North America: USA/Canada 800 522 7763
Europe: Austria +43 1 801 40 0, Belgium +32 2 482 30 30, France +33 2 2803 2180, Germany national toll free 08001-536 376, Germany international +49 6184 90 6940, Italy +39 02 02 95059 448, Netherlands +31 76 571 4440, Nordic countries +358 9 329 100, Russia/CIS +7 (495) 739 76 41, Spain/Portugal +34 93 223 09 18, Switzerland +41 44 454 12 12, UK/Ireland +44 870 609 9203
Asia: China +86 21 6865 4588 or +86 10 8419 3588, India toll free 1800 22 8374 India +91 22 6716 2200, Japan +81 45 453 9220, Other Asian countries +852 2885 4613 **Countries not listed:** +49 6184 90 6940 or +33 2 2803 2180

www.thermo.com/readingroom
www.thermo.com/mpi

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Thermo SCIENTIFIC

02 Thermo Scientific Liquid Handling Instruments

Highly regarded Thermo Scientific Multidrop dispensers and Thermo Scientific Wellwash microplate washers provide reliable liquid handling solutions for almost every laboratory.

www.thermo.com/multidrop

We also offer a complete line of automated liquid handling instruments, including the Thermo Scientific Matrix PlateMate 2x3 and the Thermo Scientific Matrix Hydra DT. To learn more visit www.thermo.com

Thermo Scientific Multidrop Combi nL

The Thermo Scientific Multidrop Combi nL is an easy-to-use high performance low volume bulk reagent dispenser which covers a volume range from 50 nl to 50 µl.

The Multidrop Combi nL is a nano- to microvolume bulk reagent dispenser expanding the range of the market leading Multidrop product family, offering easy entry to precise, accurate and reliable low-volume dispensing in pharmaceutical and biotechnology laboratories.

Exceptional performance for excellent results

The Multidrop Combi nL brings increased precision and accuracy into submicroliter dispensing, ensuring day-to-day reproducibility and high-quality assay data.

High throughput

The fast dispensing speed combined with full robot compatibility ensures increased assay throughput for laboratories needing low-volume assay formats.

Maximized dispensing flexibility

The Multidrop Combi nL can be used to dispense all common reagents, diluents, buffers and solvents as well as viscose solutions, cells and beads, making it ideal for a large variety of assays. It dispenses repeatedly into 96 to 1536-well plates with variable height without a change of cartridges or manifolds.

Increased easiness

All functions of the Multidrop Combi nL are easy to set up and use, which combined with effortless maintenance guarantee reliability for daily dispensing needs.

Advanced Thermo Scientific FILLit software control

The Multidrop Combi nL can also be controlled with an easy-to-use Thermo Scientific FILLit Software, which offers an enhanced set of features and flexibility for the user. Dispensing protocols can easily be created, saved and even downloaded to the instrument for standalone use.

Ordering information and technical specifications, see page 26.

Multidrop Combi nL Applications

- Assay development
- Primary and secondary screening
- Genomics and proteomics research
  - -PCR set-up
  - -Sequencing set-up
- Cell based assays
- Bead based assays

Dispense of common reagents, solvents, and cells and beads effortlessly.

Thermo Scientific Multidrop Combi

The Thermo Scientific Multidrop Combi is a bulk reagent dispenser offering unrivalled levels of flexibility and performance to meet all requirements of reagent dispensing in pharmaceutical and biotechnology laboratories.

The Multidrop Combi is an easy-to-use reagent dispenser combining the most versatile features for reagent dispensing with excellent dispensing performance for drug discovery or genomic and proteomic assays.

Unmatched volume range
The Multidrop Combi provides precise dispensing over a 0.5 - 2500 µl range, ensuring reproducible assay data.

Any plate, any well size
From 6 to 1536 wells and plate heights of 5-50 mm, the Multidrop Combi is perfect for any application.

Simplest operation
The visual icon-based graphic display makes the Multidrop Combi easy to use and program, even without training.

High throughput, 24/7 operation
Full robotic compatibility gives increased throughput, backed up by the reliability of the Multidrop technology for long lasting runs.

Autoclavable dispensing cassette for convenience
8-channel detachable and autoclavable dispensing cassettes are standard across the Multidrop range. Cassettes are selected according to the dispense volumes and user preference, and changed in seconds.

Multidrop Combi SMART
Multidrop Combi SMART adds an advanced built-in tracing system to the Multidrop Combi. It provides improved reliability and cassette lifetime traceability greatly enhancing the user's efficiency and reporting capability

Ordering information and technical specifications, see page 26.

Multidrop Combi Applications
- Assay development
- Primary and secondary screening
- Compound storage
- Genomics and proteomics research
  -PCR set-up
  -Sequencing set-up
- Cell based assays
- Bead based assays
- ELISA assays

Lifetime cassette traceability with the Multidrop Combi SMART tracing system.

Thermo Scientific Multidrop 384

The Thermo Scientific Multidrop 384 is a bulk reagent dispenser providing the most reliable microvolume reagent dispensing in pharmaceutical and biotechnology laboratories.

The Multidrop 384 provides high-speed continuous dispensing of liquids into 96 and 384-well plates with excellent precision and robot compatibility for higher productivity.

Precise dispensing

The Multidrop 384 provides laboratories with dispensing reliability that ensures reproducible results and diminishes the need for expensive reruns.

Designed for ease of use

Easy setup with quick plate and volume selection makes the Multidrop 384 a reliable and robust workhorse in the laboratory.

Autoclavable dispensing cassette for convenience

The Multidrop 384 uses an 8-channel detachable and autoclavable dispensing cassette to ensure sterile conditions and to avoid cross contamination. All reagent lines can be backflushed into the reagent bottle, minimizing the loss of expensive reagents.

Easy to automate

The Multidrop 384 can easily be integrated with different robotic setups to provide greater flexibility and higher assay throughput.

Ordering information and technical specifications, see page 26.

Multidrop 384 Applications

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

A reliable and robust workhorse for all laboratories.

Thermo Scientific Multidrop DW

The Thermo Scientific Multidrop DW is a high-speed automated reagent dispenser designed for repetitive dispensing of large volumes in pharmaceutical and biotechnology laboratories.

The Multidrop DW reagent dispenser helps to accelerate larger scale assays by providing superior precision and accuracy for repetitive dispensing of large volumes.

Precise dispensing

The Multidrop DW's precise and accurate dispensing volumes ensure high-quality assay results and reproducible data.

Wide volume range

The Multidrop DW's volume range provides flexibility and increased speed in assays requiring larger volumes.

Autoclavable dispensing cassette for convenience

Multidrop DW uses an 8-channel detachable and autoclavable dispensing cassette to ensure sterile conditions and to avoid cross contamination. All reagent lines can be backflushed into the reagent bottle, minimizing the loss of expensive reagents.

Easy to use

With quick plate and volume selection combined with easy maintenance, the Multidrop DW makes assay setup quick and easy.

Ordering information and technical specifications, see page 26.

Multidrop DW Applications

- Cell based assays
- Compound storage
- Genomics and proteomics research
- ELISA assays
- Microbiological tests

Precise and reliable dispensing for larger volumes.

Technical Specifications and Ordering Information

Thermo Scientific Multidrop Combi, Multidrop Combi nL, Multidrop 384 and Multidrop DW

Multidrop	Combi nL	Combi	Combi SMART	384	DW
Plate types	96-, 384- and -1536-well plates	6 - 1536-well plates	6 - 1536-well plates	96-, 384-well plates	96-well plates 96-deep well plates Tubes in 96 tube rack
Dispensing volume range	50 nl - 50 µl	0.5 - 2500 µl	0.5 - 2500 µl	5 - 395 µl	20 - 995 µl
Dispensing precision	50 nl: CV ≤ 10% 0.5 µl:CV ≤ 5% 1 - 10 µl µl:CV ≤ 4% >10 µl: CV ≤ 2%	Small tube dispensing cassette 0.5 µl: CV ≤ 10% 2 µl: CV ≤ 5% 10 µl: CV ≤ 3% > 10 µl: CV ≤ 3% Stand tube dispensing cassette 5 µl: CV ≤ 10% 20 µl: CV ≤ 1.5% 100 µl: CV ≤ 1% > 100 µl: CV ≤ 1%	Small tube dispensing cassette 0.5 µl: CV ≤ 10% 2 µl: CV ≤ 5% 10 µl: CV ≤ 3% > 10 µl: CV ≤ 3% Stand tube dispensing cassette 5 µl: CV ≤ 10% 20 µl: CV ≤ 1.5% 100 µl: CV ≤ 1% > 100 µl: CV ≤ 1%	5 µl: CV ≤ 10% (typical) 20 µl: CV ≤ 1.5% (typical) 100 µl: CV ≤ 1% (typical)	20 µl: CV ≤ 1.5% (typical) 100 µl: CV ≤ 1% (typical) 900 µl: CV ≤ 0.5% (typical)
Dispensing accuracy	<1 µl: ±5% >1 µl: ±2%	Small tube dispensing cassette 2 µl: ± 10% (typical) 10 µl: ± 5% (typical) > 10 µl: ± 5% (typical) Stand tube dispensing cassette 5 µl: ± 3%(typical) 20 µl: ± 2% (typical) 100 µl: ± 1% (typical) >100 µl: ± 1% (typical)	Small tube dispensing cassette 2 µl: ± 10% (typical) 10 µl: ± 5% (typical) > 10 µl: ± 5% (typical) Stand tube dispensing cassette 5 µl: ± 3%(typical) 20 µl: ± 2% (typical) 100 µl: ± 1% (typical) > 100 µl: ± 1% (typical)	5 µl: ± 3% (typical) 20 µl: ± 2% (typical) 100 µl: ± 1% (typical)	20 µl: ± 2% (typical) 100 µl: ± 1% (typical) 900 µl: ± 1% (typical)
Dispensing speed	384-well plate: 50 nl in 6 seconds 1 µl in 8 seconds 1536-well plate: 50 nl in 21 seconds 1 µl in 27 seconds	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	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	96-well plate: 20 µl in 5 s 50 µl in 8 s 384-well plate: 20 µl in 20 s 50 µl in 25 s	96-well plate: 20 µl in 5 s 50 µl in 8 s 300 µl in 26 s 900 µl in 74 s
Dispensing increments	1 nl increments 50-999 nl 10 nl increments 1.00-9.99 µl 100 nl increments 10.0-50.0 µl FILLit Software 1 nl increments	Small tube dispensing cassette 0.5 µl increments 0.5 - 50 µl Stand tube dispensing cassette 5 µl increments 5 - 2500 µl	Small tube dispensing cassette 0.5 µl increments 0.5-50 µl Stand tube dispensing cassette 5 µl increments 5-2500 µl	5 µl increments	5 µl increments
Dead volume	<1.2 ml *	< 1 ml vol range 0.5 - 50 µl *) < 7 ml vol range > 50 µl	< 1 ml vol range 0.5-50 µl < 7 ml vol range > 50 µl	< 7 ml *)	< 7 ml *)
Interface	Serial RS-232, USB	Serial RS-232, USB	Serial RS-232, USB	RS-232	RS-232
Dimensions (H x W x D)	220 x 355 x 375 mm 8.6 x 14 x 14.8 in.	220 x 355 x 330 mm 8.6 x 14 x 12.9 in.	220 x 355 x 330 mm 8.6 x 14 x 12.9 in.	155 x 310 x 320 mm 6.1 x 12.2 x 12.6 in.	180 x 310 x 320 mm 7.1 x 12.2 x 12.6 in.
Weight	9.6 kg (21.2 lbs.)	9.1 kg (15.7 lbs.)	9.1 kg (15.7 lbs.)	6.2 kg (13.7 lbs.)	6.2 kg (13.7 lbs.)

*) Reagent recovery option

Ordering Information

Cat. No	Description
5840150	Multidrop 384, 220 - 240 V 50/60 Hz [1]
5840157	Multidrop 384, 100 - 120 V 50/60 Hz [1]
5840170	Multidrop DW, 200 - 240 V 50/60 Hz [1]
5840177	Multidrop DW, 100- 120 V 50/60 Hz [1]
5840300	Multidrop Combi, 100 - 240 V 50/60 Hz [2]
5840310	Multidrop Combi with SMART option, 100 - 240 V 50/60 Hz [3]
5840400	Multidrop Combi nL, 100 - 240 V 50/60 Hz
5188010	FILLit Software for Multidrop Combi
5188020	FILLit Software for Multidrop Combi nL

[1] Multidrop 384 and DW include one dispensing cassette cat. no 24072670
[2] Multidrop Combi includes 3 dispensing cassettes cat. no 24072670, 24073290, 24073295
[3] Multidrop Combi SMART includes 3 dispensing cassettes cat. no 24072675, 24073292, 24073297

Accessories

24073290	Small tube plastic tip dispensing cassette
24073291	Small tube plastic tip dispensing cassette, 5-pack
24073293	Long small tube plastic tip dispensing cassette
24073295	Small tube metal tip dispensing cassette
24073296	Small tube metal tip dispensing cassette, 5-pack
24073298	Long small tube metal tip dispensing cassette
24072670	Standard tube dispensing cassette
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)
24073292	SMART Small tube plastic tip dispensing cassette
24073001	SMART Small tube plastic tip dispensing cassette 5-pack
24073297	SMART Small tube metal tip dispensing cassette
24073002	SMART Small tube metal tip dispensing cassette 5-pack
24072675	SMART Standard tube dispensing cassette (with 40 cm tubing set)
24072676	SMART Standard tube dispensing cassette 5-pack
24072678	SMART Long standard tube dispensing cassette
24070290	Tubing set for dispensing cassette (40 cm tubing set)
24070297	Special tubing set for dispensing cassette (length of tubing 50 - 200 cm in 10 cm increments)
N07494	Dispensing valve for Multidrop Combi nL
N07493	Reagent filter 43 µm (pcs/box) for Multidrop Combi nL
N09804	Glass reagent reservoir 250 ml with tubing assembly for Multidrop Combi nL
N09805	Glass reagent reservoir 1000 ml with tubing assembly for Multidrop Combi nL

Thermo Scientific
Wellwash and Wellwash Versa
Microplate Strip Washers

Easy washing for reliable ELISA results

• convenience • versatility • security

Thermo SCIENTIFIC

Thermo Scientific™ Wellwash™ and Wellwash Versa – Ease of use, convenience and versatility for washing microplates in ELISA assays

The Thermo Scientific Wellwash and Wellwash Versa are easy-to-use strip washers for 96-well plates that offer convenience through a graphical user interface, nine language versions and a USB port.

The Wellwash is the basic model for washing 96-well plates. It is intended for use when only a few similar assays are run routinely. The Wellwash Versa is the advanced model for 96-well plates which can also wash cells and 384-well plates, offering enhanced flexibility needed for research use.

Thermo Scientific Wellwash and Wellwash Versa offers

- Easy set-up of wash protocols through a large color screen and a visual user interface
- Convenience with internal software available in nine languages: English, French, German, Italian, Spanish, Portuguese, Russian, Japanese, and Chinese
- A USB port for transferring protocols between several washers and for printing reports and log files
- A sweep mode to guarantee an extremely low residual volume in the well, resulting in excellent washing performance and reliable assay results
- Adjustable wash parameters, such as dispense and aspiration height and the aspiration speed for optimal washing performance

In addition Wellwash Versa offers

- Wide selection of wash heads for 96-well plates and 1 x 16 wash head for 384-well plates
- Specially designed 2 x 8 cell wash head for gentle washing of cells in a 96-well plate
- Two wash bottles and one rinse bottle for increased flexibility
- Possibility to connect to automation systems

Easy and convenient to use

The large color screen makes the Thermo Scientific Wellwash and Wellwash Versa very easy and convenient to use. The user interface is logical and intuitive, requiring minimal training so that protocols can be developed quickly. Ready made demo protocols and a context-sensitive help feature is included in both instruments. The internal software is available in nine languages (English, French, German, Spanish, Italian, Portuguese, Russian, Japanese, and Chinese) adding more convenience of use.

Color-coded tube fittings and liquid level sensor cables enable fast instrument set-up. The removable priming vessel and built-in maintenance programs offer easy maintenance. A quick change of wash heads facilitates the use of different plate types and applications.

Optimal washing performance for reliable assay results

The Wellwash washers efficiently remove liquid from wells. Very low residual volumes eliminate high background signal to ensure reliable assay results without the possibility of decreased assay sensitivity or false positive or negative test results.

Residual volumes are further minimized by the crosswise sweep aspiration mode. By adjusting wash parameters, such as the number of wash cycles, soaking time, shaking speed, dispense and aspiration height, and the aspiration speed, washing performance can be optimized to guarantee that the best possible washing performance is achieved.

Wellwash Versa

Wellwash

Reliable and secure performance

The wash and waste bottles in the Wellwash washers are not pressurized to minimize the risk of spillage and to prevent the washing liquid from being drawn into the aspiration pump, which could damage the instrument.

After using the instrument, the automatic rinse feature in Wellwash Versa can be set to operate in a specified time sequence to ensure that the liquid channels do not get clogged. The auto-prime feature in both washers dispenses a small amount of liquid at a selected time interval.

The liquid level sensors in both the wash and waste bottles guarantee safe performance. The plate sensor recognizes if a plate is present or not. The aerosol cover prevents aerosols of infectious diseases from spreading.

Added versatility for research use

Both washers feature linear shaking to increase washing efficiency. A USB port facilitates easy transferring of protocols and printing reports and log files.

A specially-designed wash head is available for cell washing in 96-well plates. The wash parameters of the Wellwas h Versa can be adjusted to achieve a gentle wash to remove excess liquid without disturbing the cell layer, critical for cell washing applications.

Bottle stands for the included bottles as well as a special stand for user bottles are available for added convenience. A four liter wash bottle and a nine liter waste bottle are also available for the Wellwash Versa for automation applications.

To increase assay throughput, the Wellwash Versa can be connected to automation systems such as the Thermo Scientific™ RapidStak™ microplate stacker.

In addition the Installation Qualification (IQ), Operation Qualification (OQ) and Performance Qualification (PQ) documents and service packages are available.

Meets European Directives

The Wellwash (IVD model) conforms to the European IVD (In Vitro Medical Device) directive, making it ideal for ELISA applications in clinical laboratories. Built using the highest quality components, the Wellwash and Wellwash Versa conform to the RoHS (Restriction of Hazardous Substances) directives.

For More Information Visit:

thermoscientific.com/wellwash
thermoscientific.com/ELISAsolutions

Accessories

Bottle stands

Bottle stand 1 x 2 configuration Wellwash

Bottle stand 1 x 4 configuration Wellwash Versa

Bottle stand 2 x 2 configuration Wellwash Versa

Bottle stand for user bottles

Bottle sizes

2 l wash bottle

9 l waste bottle

4 l wash bottle

Wash heads

1 x 8 wash head

2 x 8 Cell wash head

1 x 12 wash head

1 x 16 wash head

Wellwash with 1 x 8 wash head

Wellwash Versa with two 1 x 8 wash heads

Wellwash Versa with a USB flash memory stick

Wellwash Versa user interface - main view

Technical Specifications

Feature	Wellwash	Wellwash Versa
Number of wash buffer bottles	1	Up to 3
Bottles	2 l wash bottle, 2 l waste bottle	2 x 2 l wash bottles, 1 x 2 l rinse bottle, 4 l waste bottle
Wash heads	1 x 8 or 1 x 12 wash head for 96-well plate supplied with the instrument depending on the model	Two 1 x 8 or two 1 x 12 wash heads for 96-well plate supplied with the instrument depending on the model 2 x 8 cell wash head for 96-well plate and 1 x 16 wash head for 384-well plate available as option
Plate types	96-well plates	96-, 384-well plates
Wash volume	50-1000 µl	50-1000 µl (96-well plate), 20-300 µl (384-well plate)
Prime volume/Rinsing Volume	5-100 ml/-	5-100 ml/5-100 ml
Dispensing volume	50-400 µl	50-400 µl (96-well plate), 20-120 µl (384-well plate)
Residual volume	< 2 µl	< 2 µl
Data Transfer	USB port	USB port
Dispense accuracy	< 5% @ 300 µl with 1 x 8 or 1 x 12 wash head	< 5% @ 300 µl, with n x 8 or n x 12 wash head < 5% @ 250 µl, with 2 x 8 cell wash head < 5% @ 100 µl, with 1 x 16 wash head
Dispense precision	< 3% (CV) @ 300 µl (96-well plate), with 1 x 8 or 1 x 12 wash head	< 3% (CV) @ 300 µl, with n x 8 or n x 12 wash heads < 3% (CV) @ 100 µl, with 1 x 16 wash head
Number of wash protocols	Up to 99	Up to 99
Robot compatible	No	Yes (USB or RS-232C)
Dimensions (H x W x D)	345 x 385 x 240 mm 13.6 x 15.2 x 9.4 in.	345 x 385 x 240 mm 13.6 x 15.2 x 9.4 in.
Weight	8 kg (17.6 lbs.)	9 kg (20 lbs.)

Ordering Information

Catalog Number	Description
5165000	Wellwash 1 x 8, 100-240 V, 50/60 Hz, includes 1 x 8 wash head, 1 x 2 l wash bottle, 1 x 2 l waste bottle, aerosol cover
5165040	Wellwash 1 x 12, 100-240 V, 50/60 Hz, includes 1 x 12 wash head, 1 x 2 l wash bottle, 1 x 2 l waste bottle, aerosol cover
5165060*	Wellwash 1 x 8 (IVD model), 100-240 V, 50/60 Hz, includes 1 x 8 wash head, 1 x 2 l wash bottle, 1 x 2 l waste bottle, aerosol cover
5165080*	Wellwash 1 x 12 (IVD model), 100-240 V, 50/60 Hz, includes 1 x 12 wash head, 1 x 2 liter wash bottle, 1 x 2 l waste bottle, aerosol cover
5165010	Wellwash Versa 2 x 8, 100-240 V, 50/60 Hz, includes two 1 x 8 wash heads, 2 x 2 l wash bottle, 1 x 2 l rinse bottle, 1 x 4 l waste bottle, aerosol cover
5165050	Wellwash Versa 2 x 12, 100-240 V, 50/60 Hz, includes two 1 x 12 wash heads, 2 x 2 l wash bottle, 1 x 2 l rinse bottle, 1 x 4 l waste bottle, aerosol cover

Wellwash Accessories

Catalog Number	Description	Wellwash	Wellwash Versa
N10800	1 x 8 wash head	X	X
N10801	1 x 12 wash head	X	X
N10802	2 x 8 cell wash head, Wellwash Versa	-	X
N10803	1 x 16 wash head, Wellwash Versa	-	X
N10805	2 l wash bottle, Wellwash (incl. cap with tubing and sensor)	X	-
N10806	2 l waste bottle, Wellwash (incl. cap with tubing and sensor)	X	-
N10807	2 l wash bottle A, Wellwash Versa (incl. cap with tubing and sensor)	-	X
N10808	2 l wash bottle B, Wellwash Versa (incl. cap with tubing and sensor)	-	X
N10809	2 l rinse bottle, Wellwash Versa (incl. cap with tubing and sensor)	-	X
N10810	4 l waste bottle, square (incl. cap with tubing and sensor)	X	X
N10811	4 l wash bottle A, round (incl. cap with tubing and sensor)	X	X
N10812	4 l wash bottle B, round, Wellwash Versa (incl. cap with tubing and sensor)	-	X
N10813	4 l rinse bottle, round, Wellwash Versa (incl. cap with tubing and sensor)	-	X
N10814	9 l waste bottle, rectangular (incl. cap with tubing and sensor)	X	X
N10817	Bottle stand 1 x 2 configuration (2 x 2 l bottles), Wellwash	X	-
N10818	Bottle stand 2 x 2 configuration (3 x 2 l bottles, 1 x 4 l bottle, square), Wellwash Versa	-	X
N10819	Bottle stand 1 x 4 configuration (3 x 2 l bottles, 1 x 4 l bottle, square), Wellwash Versa	-	X
N10820	Bottle stand for user bottles	X	X
N10821	Spare bottle 2 l with solid cap	X	X
N10822	Spare bottle 4 l round with solid cap	X	X

* Not available in North America

BRALH Wellwash 0913
1513050

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Part of Thermo Fisher Scientific

03

Thermo Scientific Purification Systems

The Thermo Scientific KingFisher magnetic particle processors utilize a revolutionary and patented method to purify proteins, nucleic acids and cells in a convenient, rapid and reproducible manner. The KingFisher system consists of instruments, specially designed plastics and software to provide a total purification solution for customer applications.

www.thermo.com/kingfisher

Thermo Scientific KingFisher Family

The Thermo Scientific KingFisher magnetic particle processors are designed to automate time-consuming sample preparation processes of nucleic acids, proteins and cells from virtually any source. The KingFisher family consists of three instruments with different throughput and volume capacities to fulfill customers' individual sample-processing needs.

Due to the innovative idea of transferring magnetic particles instead of liquids, the KingFishers offer rapid and reproducible purification of high-quality DNA, RNA, proteins and cells for various types of downstream applications.

Unique technology

KingFisher instruments allow fast and reproducible sample purification from various and often difficult starting materials with high quality and yield via unique technology.

Open and flexible system

The KingFisher is an open and flexible system, letting the customer use any magnetic particle-based purification kit to meet application and budget demands. With BindIt Software, the customer can easily design custom-made protocols for their own applications with the most suitable reagents.

Ready-made purification protocols

Ready-made and validated purification protocols for different types of applications are available at www.thermo.com/kingfisher, giving customers the possibility to choose the best possible method for the sample process.

Highest throughput on the market

The KingFisher Flex achieves the highest throughput on the market – up to 96 samples can be processed even in under 15 minutes.

Ordering information on page 34.

KingFisher Applications

- Genomics & proteomics
- Drug discovery
- Forensics
- Biomarker discovery
- Quality control
- Veterinary assays

Thermo Scientific KingFisher Flex

Using either a 96 or 24 plate format, KingFisher Flex provides the fastest and easiest way to purify genomic DNA or RNA and proteins from a variety of sample material. Supplied with predefined protocols, KingFisher Flex also allows you to create your custom made protocols for special applications.

Technical Specifications

Thermo Scientific KingFisher Family			
	Thermo Scientific KingFisher Flex	**Thermo Scientific KingFisher mL**	**Thermo Scientific KingFisher**
Processing volume	96: 20 - 1000 µl 24: 200 - 5000 µl	50 - 1000 µl	20 - 200 µl
Capacity samples/run	96 or 24	15	24
Collection efficiency of the particles	≥95%	≥95%	≥99%
Magnetic rods	96 or 24	15	24
Plate types	24 deep well plate (200 - 5000 µl), 96 deep well plate (50 - 1000), KingFisher 96 plate (20 - 250 µl), PCR plate (20 - 100 µl)	Special tube strip, 1 x 5 tubes, 1000 µl tube	Special microstrips, 1 x 8 wells , 8 x 12 grid format, 100 & 200 µl well volumes
Tip combs	Special design, 96 or 24 format	Special design, 1 x 5 format	Special design, 1 x 12 format
Heating temperature	Heating block temperature from room temperature to +115°C	Ambient, no heating	Ambient, no heating
Magnetic particle size	ca. > 1 µm	ca. > 1 µm	ca. > 1 µm
Keyboard / Display	START/STOP/PAUSE/OK, four arrow keys, two keys to rotate the turntable	START/STOP/two cursor keys/LCD	START/STOP/two cursor keys/LCD
Internal Software	Space for ca. 100 internal protocols	Space for ca. 8 internal protocols	Space for ca. 8 internal protocols
BindIt Software compatibility	yes	yes	yes
Computer interface	USB or serial RS-232C port	Serial RS-232C port	Serial RS-232C port
Robot compatibility	Yes	No	No
Dimentions (W x D x H)	ca. 680 x 600 x 380 mm 26.8 x 23.6 x 15 in.	290 x 290 x 310 mm 11.4 x 11.4 x 310 in.	290 x 290 x 310 mm 11.4 x 11.4 x 310 in.
Weight	28 kg (62 lbs.)	10 kg (23 lbs.)	10 kg (23 lbs.)
Thermo Scientific BindIt Software			
Supported operating system	Microsoft Windows XP Professional with SP2 or later and Vista. Internet Explorer 6.0 or later must be installed.		
Used to	create, modify and run the protocols with KingFisher instruments		

Thermo Scientific KingFisher mL

KingFisher mL is your choice for high volumes. It allows all purification and processing steps to be carried out in a single strip of five tubes. The ability to go as low as 50 µl to release target molecules, enables cells and proteins from larger starting volumes to be isolated and concentrated simultaneously.

Thermo Scientific KingFisher

KingFisher gives you the ability to purify small-scale samples. All purification and processing steps are carried out in microplates with simple push button operation.

Ordering Information

Ordering Information	
Cat. No	**Description**
5400000	KingFisher, Magnetic Particle Processor, 100 - 240 V, 50/60 Hz (for microplates)
5400050	KingFisher mL, Magnetic Particle Processor, 100 - 240 V, 50/60 Hz
5400610	KingFisher Flex, Magnetic Particle Processor, with 96 PCR head, 100 - 240 V, 50/60 Hz
5400620	KingFisher Flex, Magnetic Particle Processor, with KF head, 100 - 240 V, 50/60 Hz
5400630	KingFisher Flex, Magnetic Particle Processor, with 96 deep well head, 100 - 240 V, 50/60 Hz
5400640	KingFisher Flex, Magnetic Particle Processor, with 24 deep well head, 100 - 240 V, 50/60 Hz
Software:	
5189009	BindIt Software, CD
Accessories and spare parts	
11273100	KingFisher mL tube tray
24073180	KingFisher mL microtube tray
24074411	KingFisher Flex 96 PCR head and heating block
24074421	KingFisher Flex 96 KF head and heating block
24074431	KingFisher Flex 96 deep well head and heating block
24074441	KingFisher Flex 24 deep well head and heating block
Consumables for KingFisher	
97002070	KingFisher tip comb, 50 pcs
97002080	KingFisher plate 100 µl, 50 pcs
97002084	KingFisher plate 200 µl, 50 pcs
97002090	KingFisher plastics 100 µl 8-pack, 8 plates (100 µl) + 8 tip combs / box
97002094	KingFisher plastics 200 µl 8-pack, 8 plates (200 µl) + 8 tip combs / box
Consumables for KingFisher mL	
97002111	KingFisher mL tip comb, 800 pcs
97002121	KingFisher mL tube, 900 pcs (20 x 45 pcs)
97002131	KingFisher mL Combi 60 (tubes and tip combs for 60 samples)
97002141	KingFisher mL Combi 240 (tubes and tip combs for 240 samples)
Consumables for KingFisher Flex	
97002514	KingFisher Flex 96 tip comb for PCR magnets, 80 pcs
97002524	KingFisher Flex 96 tip comb for KF magnets, 100 pcs
97002534	KingFisher Flex 96 tip comb for deep well magnets 100 pcs
97002540	KingFisher Flex 96 KF plate (200 µl) 48 pcs
95040450	Microtiter deep well 96 plate, V-bottom, polypropylene 50 pcs
95040460	Microtiter deep well 96 plate, V-bottom, sterile polypropylene 50 pcs
97002610	KingFisher Flex 24 deep well tip comb and plate, 50 pcs of each
95040470	KingFisher Flex 24 deep well plate, 50 pcs
95040480	KingFisher Flex 24 deep well plate sterile, 50 pcs

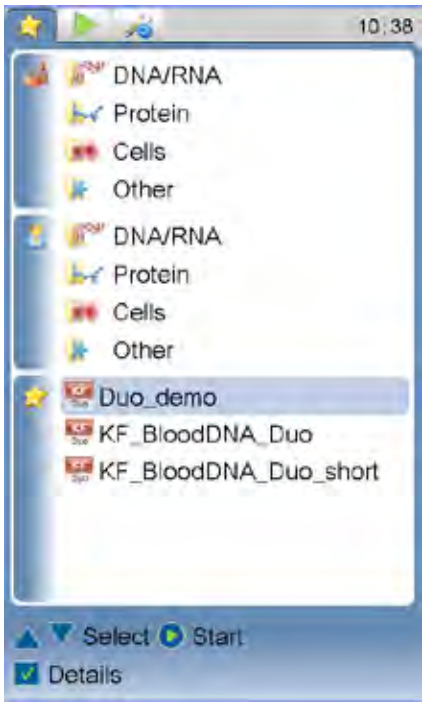
Thermo Scientific BindIt software

Thermo Scientific BindIt Software is designed to allow you to develop custom-made protocols for you own applications and run them in the Thermo Scientific KingFisher instruments. Protocols can be modified smoothly and loaded in the KingFisher instruments for easy use.

Product Specifications

Thermo Scientific KingFisher Duo Magnetic Particle Processor

- **Flexible, fast and compact system for diverse applications**
- **Process variety of sample types in volumes ranging up to 5 ml**
- **Optimized DNA and RNA purification kits and protocols for exquisite performance**
- **Excellent traceability with complete data management**



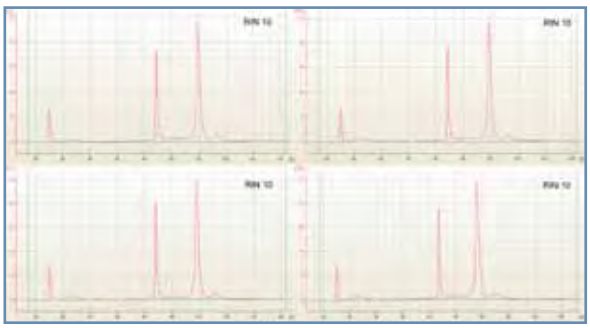


Figure 1. Total RNA was purified from HeLa-S3 cells with the KingFisher Duo and KingFisher Total RNA Kit. The obtained RNA yield was outstanding and the RNA integrity number (RIN) indicates that the RNA was intact.

Flexible Nucleic Acid Purification Workflow

Thermo Scientific KingFisher Duo is a low- to medium-throughput purification system consisting of the KingFisher® Duo magnetic particle processor instrument, optimized DNA/RNA purification kits, plastics consumables and the BindIt software, providing a highly sensitive automated workflow.

Process samples up to 5 ml

With the KingFisher Duo customers can process up to 12 samples per run when the working volume is up to 1 ml. In addition, it is possible to run two purification methods sequentially without interruption, raising the throughput up to 24 samples. With the ability to change the instrument configuration, the customers can elevate the sample processing volume up to 5 ml to obtain higher yields of the purified product.

Fast and compact system

As a fast, compact system, the KingFisher Duo has a small bench top footprint making it ideal for space-restricted laboratories. This easy-to-use instrument is a perfect match for research and diagnostic laboratories requiring nucleic acid purification. In addition, as an open system KingFisher Duo can be easily modified for use in proteomic and cell isolation applications.

Excellent traceability and data management

As a stand-alone unit, KingFisher Duo is able to run protocols and save run log files, while in combination with the Thermo Scientific BindIt software, users are provided with absolute traceability and complete data management. Additionally, using this dedicated software, protocols can be developed, protected and imported directly to the instrument via a USB stick.

Wide Variety of starting materials

The flexible KingFisher Duo enables users to select from a variety of starting materials, from blood and other body fluids to cells and tissue samples, allowing use of a single instrument in a variety of applications.

Thermo Scientific KingFisher Duo Technical Information

Processing volume	50-1000 µl (96 DW plate, 12 pin magnet head)
	30-130 µl (elution strip, 12 pin magnet head)
	200-5000 µl (24 DW plate, 6 pin magned head)
Capacity samples/run	Up to 12 (12 pin magnet head)
	Up to 6 (6 pin magnet head)
Magnetic rods	12 or 6
Plates per deck	2
Plate types	Microtiter Deepwell 96 plate
	KingFisher Flex 24 Deepwell plate
Elution strip	Special design, 1 x 12 format
Heating temperature (Row A)	Block temperature from +10˚C to +75˚C in RT
Cooling/heating temperature (elution strip)	Block temperature from +4˚C to +75˚C in RT
Magnetic particle size	ca.>1 µm
Collection efficiency of the particles	≥ 95%
Keyboard/Display	LCD color display
Internal memory	Space for ca. 200 protocols
Protocol import	Using BindIt software or USB stick
Computer interface	USB
Size WxDxH	40 x 46 x 35 cm (15.8 x 18.1 x 13.7 in.)
Weight	16 kg (35 lb.)

Thermo Scientific KingFisher Duo Ordering Information

Cat no	Description	Price unit
Instrument		
5400100	KingFisher Duo	Each
Consumables		
97003500	KingFisher Duo 12-tip comb, for Microtiter 96 Deepwell plate	50 pcs
97003510	KingFisher Duo 6-tip combs and KingFisher Flex 24 Deepwell plate (12 pcs of 24 DW plates, each including 4 tips combs)	48 pcs
97003520	KingFisher Duo elution strip	40 pcs
97003530	KingFisher Duo Combi pack for Microtiter 96 Deepwell plate (tips combs, plates and elution strips for 96 samples)	Each
Kits		
97010196	KingFisher Blood DNA Kit 1 x 96 preps	96 preps
97020196	KingFisher Total RNA Kit 1 x 96 preps	96 preps
97030196	KingFisher Cell and Tissue DNA Kit 1 x 96 preps	96 preps
97040196	KingFisher Viral NA Kit 1 x 96 preps	96 preps
97050196	KingFisher Plant DNA Kit 1 x 96 preps	96 preps

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Other Asian countries +852 2885 4613
Countries not listed: +49 6184 90 6940 or +33 2 2803 2180

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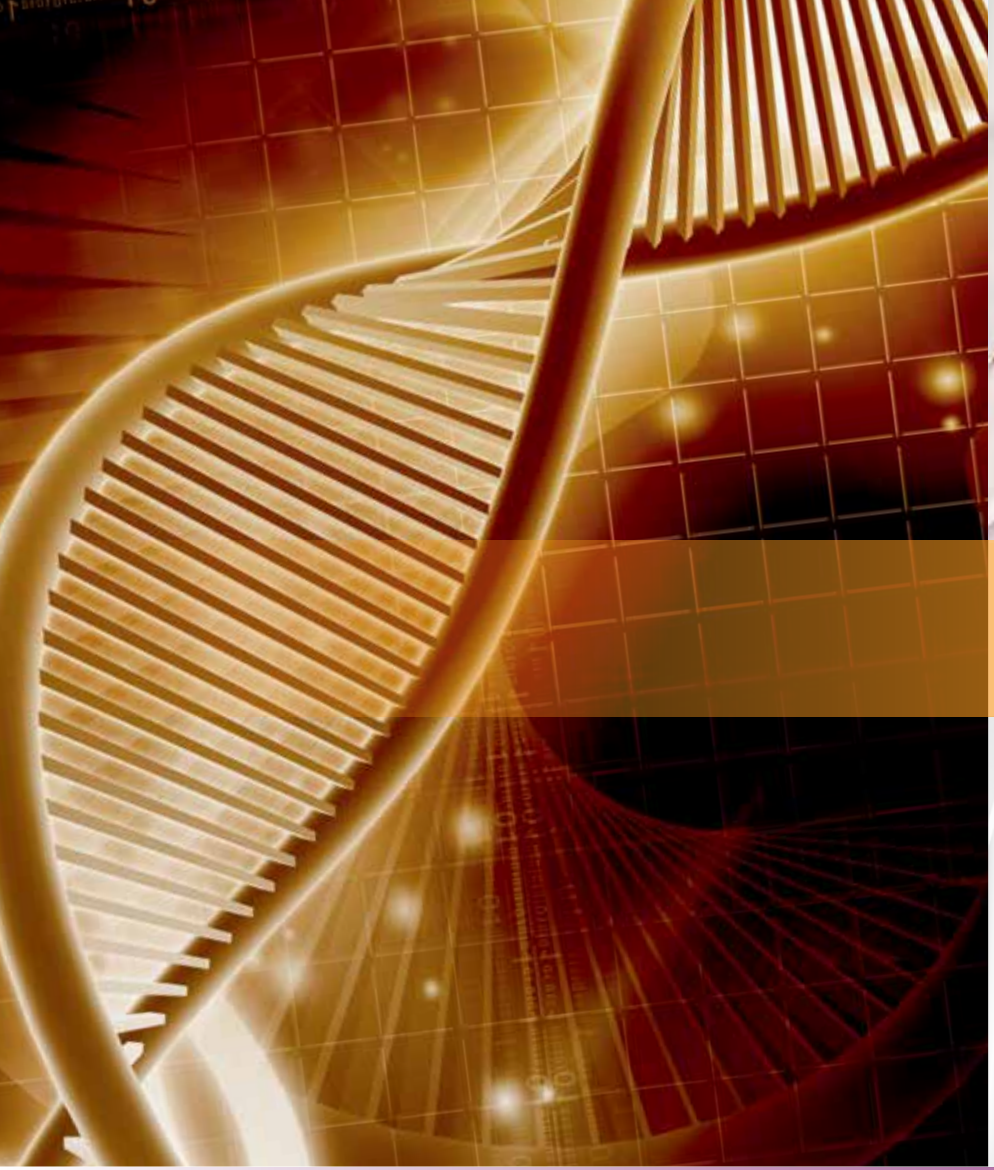

Thermo Scientific KingFisher Family
Nucleic Acid Purification System

Pure flexibility
unparalleled performance

- Use variety of starting material • Get extremely high yield and quality
- Increase your productivity and efficiency

Thermo SCIENTIFIC

Ensure sample purity

The accuracy of your results depends on high-quality, reproducible purification of nucleic acid, protein and cell samples. Thermo Scientific KingFisher purification systems, now featuring dedicated Thermo Scientific KingFisher Pure Kits for nucleic acid purification, deliver unparalleled purification in an optimized workflow.

- Choose from four distinct systems the match for your applications and throughput.
- Optimized kits to complete the unique nucleic acid purification workflow for a wide variety of sample types
- Thermo Scientific BindIt software increase flexibility to customize protocols
- Specially designed Thermo Scientific consumables for efficient sample processing

Instant benefits in productivity

Notice an immediate difference with KingFisher system. You will purify samples at speeds never thought possible, with minimal hands-on time as the automation takes over. KingFisher system frees you to concentrate on more involved downstream analyses.

KingFisher purification processing
uses advanced magnetic particle technology to deliver up to 96 samples every 15 mins (depending on application).

Out-of-the-box solutions
available to add flexibility and enhance your workflow. Visit our applications library www.thermoscientific.com/kingfisherinfo

KingFisher purification technology
ensures impurities are removed; improved sample quality leads to better downstream analyses. Resulting DNA and RNA is free of protein, nucleases and other contaminants.

Wide range of starting material
(e.g. blood, serum, cell culture, tissue, bacteria, plant) and sample input volumes.

Meet the KingFisher family

Our revolutionary patented magnetic separation technology lets you process virtually any sample from any source for the ultimate in isolation of nucleic acids, proteins and cells.

With four systems to choose from, these Thermo Scientific™ KingFisher™ systems provide the performance, flexibility and speed for your budget, application and throughput requirements:

KingFisher Flex: With high-throughput or processing volume up to 5 mL, Flex system offers truly versatile purification of nucleic acids and proteins. The range of volumes is 20-5000 µL depending on the magnet head with 96- or 24-well format. Use predefined protocols or customize your own for special applications.

KingFisher Duo: The newest to the KingFisher family, Duo system delivers advanced functionality in a compact, mid-throughput capacity instrument for isolation applications. Its small footprint and big functionality, including traceability and data management, make it a perfect fit for research and routine laboratories. Two protocols can run sequentially without interruption, raising throughput up to 24 samples per load. Duo system also includes large volume processing up to 5 mL.

KingFisher mL: The economical choice for easy operation up to 15 samples. Processing volumes from 50 to 1000 µL carried out in tube strips.

KingFisher: The first in the family, KingFisher system allows to purify small-scale samples economically. Run up to 24 samples in 20-200 µL. All purification and processing steps, programmed using simple push-button operation, are carried out in microstrips.

KingFisher Pure DNA/RNA Kits: Now, with optimized Thermo Scientific KingFisher Pure purification kits, you can easily perform extraction of DNA or RNA from blood, cells and tissues or plant samples, as well as viral NA and plasmid DNA purification. KingFisher instruments, software, kits and consumables deliver unparalleled performance.

Thermo Scientific™ Pierce Magnetics Beads™: The high-performance, iron oxide, superparamagnetic particles are available for immunoprecipitation, affinity purification as well as creating custom magnetic particles.

Instrument	KingFisher Flex		KingFisher Duo		KingFisher mL	KingFisher
Samples/run	96	24	12(24)	6	15	24
Working volume (µL)	20-1000	200-5000	30-1000	200-5000	50-1000	20-200

Complete nucleic acid purification

KingFisher Instruments with patented technology uses magnetic rods to move particles through purification phases of binding, washing and elution to yield high purity DNA and RNA. Our magnetic beads feature the high surface area, uniform size and excellent suspension stability that are ideal for automated processing.

BindIt Software gives you flexibility. Modify prewritten protocols or create your own to handle more applications. You can interface KingFisher Flex instrument with liquid handling, robotics and plate-stacking instruments to fully automate your workflow for higher throughput.

KingFisher Pure Kits handle routine to advanced requirements, covering a broad range of sample types. Select kits for blood DNA or RNA, tissue DNA or RNA, viral NA, plant DNA or RNA and plasmid DNA. Each is optimized for highest performance with KingFisher instruments. Use them for typical downstream analysis, including: PCR/qPCR, sequencing, hybridization techniques and enzymatic applications.

KingFisher consumables, made of polypropylene, are ideal for magnetic particle processing due to their low binding affinity for biomolecules. Both the yield and the quality of the isolated DNA/RNA are significantly improved with special KingFisher plates and tips.

Limitless applications

KingFisher systems provides the flexibility researchers require to meet evolving needs. The system includes numerous prewritten protocols for many applications. You can also customize existing protocols and create new ones for protein and cell applications. Our magnetic beads optimized for protein biology include automated applications such as immunoprecipitation of biomarkers with magnetic protein A/G, custom affinity purification with NHS-activated magnetic beads, biotin-pull down assays with magnetic streptavidin beads, fusion protein purification with magnetic glutathione beads and phosphopeptide enrichment for mass spec with magnetic Titanium Dioxide beads. Also variety of cell isolation applications can be automated including cancer or white blood cell isolation and bacterial cell separation.

Total Thermo Scientific Nucleic Acid Purification and Analysis Workflow

Liquid Handling → **DNA/RNA purification**

Thermo Scientific™ Finnpipettes™

Thermo Scientific™ Multidrop Combi™ automated dispensing for plate filling

Thermo Scientific™ KingFisher Pure Kit reagents for purifying DNA/RNA

Thermo Scientific KingFisher family of magnetic particle processors

Unparalleled performance

KingFisher systems delivers excellent performance and reproducible results. Your purified nucleic acid, protein and isolated cells are ready for downstream analyses. KingFisher systems isolates DNA, RNA and protein in significant quantities from a variety of material sources, including cell-free body fluids, blood, bacteria, cell culture, tissue and plant samples. Automation eliminates cross-contamination and reagent cross-over and the magnetic bead separation technology ensures high-quality DNA, RNA and protein.

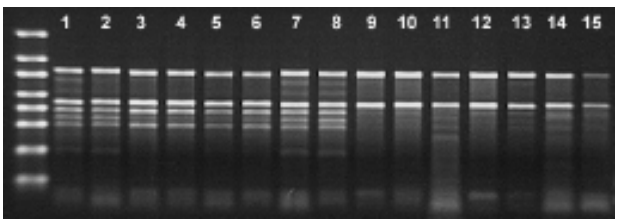

Figure 1 Plant RNA. A high yield of total intact RNA was purified from different plant parts or seeds using the KingFisher Pure RNA Plant Kit. Samples were from tobacco, Arabidopsis, wheat, barley, rice, maize, tomato, spinach, potato, rapeseed, cucumber and sunflower.

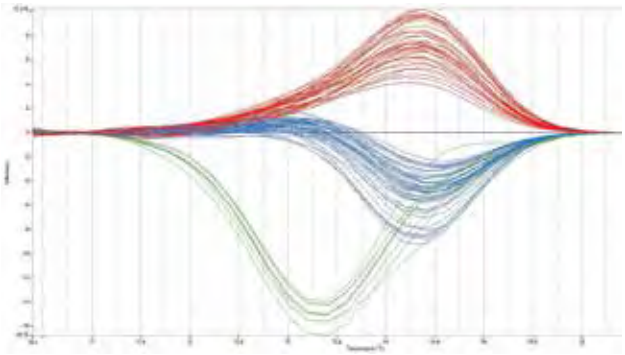

Figure 2 Blood DNA. KingFisher Pure DNA Blood Kit was used for purification of human genomic DNA from 200 µl of blood. Purified DNA was used for analysis of challenging SNP with HRM on PikoReal 96 Real-Time PCR System. The results are presented in the difference plot.

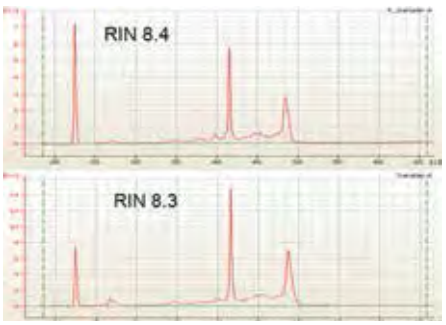

Figure 3 Blood RNA. The total RNA purified from human whole blood using the KingFisher Pure RNA Blood Kit shows intact RNA when analyzed on the Agilent Bioanalyzer 2100.

DNA/RNA analysis ▶ **PCR/qPCR** ▶ **Laboratory automation**

Thermo Scientific™ NanoDrop™ series of small volume UV-Vis spectrophotometers

Thermo Scientific™ Multiskan GO™ UV-Vis cuvette and plate spectrophotometers

Thermo Scientific™ Piko Thermal Cycler™ for PCR applications

Thermo Scientific™ PikoReal Real-Time PCR System™ for qPCR applications

Thermo Scientific Orbitor Microplate mover

Ordering information

Product #	Description
KingFisher instruments	
5400000	KingFisher, 100-240 V, 50/60 Hz
5400050	KingFisher mL, 100-240 V, 50/60 Hz
5400100	KingFisher Duo, 100-240 V, 50/60 Hz
5400610	KingFisher Flex with 96 PCR head, 100-240 V, 50/60 Hz
5400620	KingFisher Flex with 96 KF head, 100-240 V, 50/60 Hz
5400630	KingFisher Flex with 96 deep-well head, 100-240 V, 50/60 Hz
5400640	KingFisher Flex with 24 deep-well head, 100-240 V, 50/60 Hz
Consumables for KingFisher	
97002070	KingFisher tip comb, 50 pcs
97002080	KingFisher plate 100 µL, 50 pcs
97002084	KingFisher plate 200 µL, 50 pcs
Consumables for KingFisher mL	
97002111	KingFisher mL tip comb, 800 pcs
97002121	KingFisher mL tube, 900 pcs
97002141	KingFisher mL Combi 240, (tubes and tip combs), for 240 samples
Consumables for KingFisher Duo	
97003500	KingFisher Duo 12-tip comb, for Microtiter 96 deep-well plate, 50 pcs
95040450	Microtiter deep-well 96 Plate, 50 pcs
97003510	KingFisher Duo 6-tip combs, for KingFisher Flex 24 deep-well plate, 48 pcs
95040470	KingFisher Flex 24 deep-well Plate, 50 pcs
97003520	KingFisher Duo elution strip, 40 pcs
97003530	KingFisher Duo Combi pack for Microtiter 96 deep-well plate (tips combs, plates and elution strips for 96 samples)
Consumables for KingFisher Flex	
97002514	KingFisher 96 tip comb for PCR magnets, 80 pcs
97002524	KingFisher 96 tip comb for KF 96 magnets, 100 pcs
97002534	KingFisher 96 tip comb for deep-well magnets, 10 x 10 pcs/box
97002540	KingFisher 96 KF plate, 48 pcs
95040450	Microtiter deep-well 96 Plate, 50 pcs
95040460	Microtiter deep-well 96 Plate, sterile, 50 pcs
97002610	KingFisher Flex 24 deep-well tip comb and plate, 50 pcs of each
95040470	KingFisher Flex 24 deep-well Plate, 50 pcs
95040480	KingFisher Flex 24 deep-well Plate Sterile, 50 pcs
9503230	Cap Mat for DW 96 Plate, 50 pcs
9503233	Cap Mat for DW 96 Plate, sterile, 25 pcs

Product #	Description
KingFisher Pure DNA/RNA Kits	
98010196	KingFisher Pure DNA Blood Kit, 96 preps
98010496	KingFisher Pure DNA Blood Kit, 384 preps
98020196	KingFisher Pure RNA Blood Kit, 96 preps
97030196	KingFisher Cell and Tissue DNA Kit, 96 preps
97032496	KingFisher Cell and Tissue DNA Kit, 24 x 96 preps
98040196	KingFisher Pure RNA Tissue Kit, 96 preps
98040496	KingFisher Pure RNA Tissue Kit, 384 preps
98050196	KingFisher Pure DNA Plant Kit, 96 preps
98050496	KingFisher Pure DNA Plant Kit, 384 preps
98060196	KingFisher Pure RNA Plant Kit, 96 preps
98060496	KingFisher Pure RNA Plant Kit, 384 preps
98070196	KingFisher Pure Viral NA Kit, 96 preps
98070496	KingFisher Pure Viral NA Kit, 384 preps
98080196	KingFisher Pure Plasmid Kit, 96 preps
98080496	KingFisher Pure Plasmid Kit, 384 preps
Pierce Magnetic Beads for proteomics applications*	
88802	Pierce Protein A/G Magnetic Beads, 1 mL
88803	Pierce Protein A/G Magnetic Beads, 5 mL
88826	Pierce NHS-Activated Magnetic Beads, 1 mL
88827	Pierce NHS-Activated Magnetic Beads, 5 mL
88804	Pierce Classic Magnetic IP/Co-IP Kit, 40 reactions
88805	Pierce Crosslink Magnetic IP/Co-IP Kit, 40 reactions
88828	Pierce Direct Magnetic IP/Co-IP Kit
88816	Pierce Streptavidin Magnetic Beads, 1 mL
88817	Pierce Streptavidin Magnetic Beads, 5 mL
88821	Pierce Glutathione Magnetic Beads, 4 mL
88822	Pierce Glutathione Magnetic Beads, 20 mL
88811	Pierce Magnetic Titanium Dioxide Phosphopeptide Enrichment Kit, 96 reactions
88812	Pierce Magnetic Titanium Dioxide Phosphopeptide Enrichment Kit, Trial Size, 24 reactions
88831	HisPur Ni-NTA Magnetic Beads, 2 mL
88832	HisPur Ni-NTA Magnetic Beads, 10 mL
26157	Magnetic ChIP Kit, 30 reactions
26162	ChIP-grade Protein A/G Magnetic Beads, 5mL

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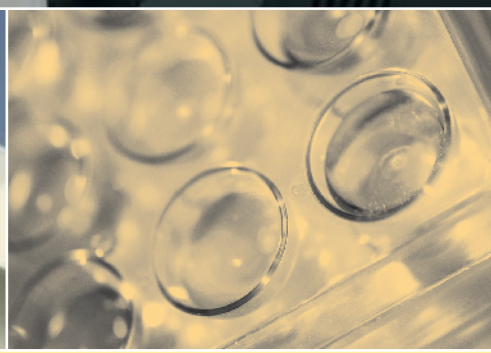
04 Thermo Scientific Supporting Products

There are many Thermo Scientific products that complement microplate instrumentation products and make everyday lab work more effective and efficient. These include everything from instrument performance verification tools and microplates to automation systems, which are briefly presented in this catalogue. In addition to products in this catalogue, we offer sample preparation products, mass spectrometers and many other life science products related to microplate instrument applications. To learn more visit www.thermo.com.



Thermo Scientific Incubator/Shakers

The Thermo Scientific iEMS Incubator/Shakers are reputed as high-performance. The iEMS Incubator/Shaker is designed for ELISA applications, and the iEMS Incubator/Shaker HT is used when elevated temperatures up to 69ºC are needed.

With superior temperature control and efficient orbital shaking, the iEMS Incubator/Shakers dramatically increase sensitivity and specificity of the ELISA assays and reduces incubation times, providing high performance and productivity meeting even the highest assay demands.

Accurate temperature control for reliable assays

The unique design of the thermal microplate holder eliminates the edge effect and ensures the microplates are heated evenly from all sides. The accurate temperature uniformity across the whole plate offers high reliability for assays requiring elevated temperatures.

Orbital shaking for increased productivity

The iEMS Incubator/Shakers incorporate a powerful variable-speed orbital shaker, ensuring efficient mixing for even very viscous liquids. And most importantly, the shaking motion enhances the reaction in wells and reduces incubation times for higher throughput and productivity.

Flexible temperature selection and capacity

The iEMS Incubator/Shaker provides constant incubation temperatures up to 40ºC, while the iEMS Incubator/Shaker HT allows incubation at up to 69ºC.

The iEMS Incubator/Shaker and iEMS Incubator/Shaker HT are designed for flexible sample capacities, processing three or up to nine microplates at a time, respectively.

Thermo Scientific iEMS Microplate Incubator/Shaker HT
A high-performance 96-well plate incubator and orbital shaker for assays requiring temperatures up to 69C.

Thermo Scientific iEMS Incubator/Shaker
A high-performance microplate incubator and shaker designed for ELISA applications.

Technical Specifications and Ordering Information

Thermo Scientific Incubator/Shaker		
	iEMS Incubator/Shaker	**iEMS Incubator/Shaker HT**
Temperature control		
Programmable temperature range	14°C - 40°C	14°C - 69°C
Controlled incubation range	Ambient + 3°C - 40°C	Ambient + 3°C - 69°C
Resolution	0.1°C	0.1°C
Programmable incubation time	Up to 48 hours in steps of 1 second	Up to 48 hours in steps of 1 second
Inaccuracy	± 0.3°C	± 0.5°C
Uniformity	< 0.3°C across the entire plate	< 0.6°C across the entire plate, with a plate sealer
Shaker		
Frequency	400 - 1400 revolutions per minute (rpm) in steps of 250 rpm	400 - 1400 revolutions per minute (rpm) in steps of 250 rpm
Diameter	1 mm (radius 0.5 mm)	1 mm (radius 0.5 mm)
Programmable shaking time	Up to 48 hours in steps of 1 second	Up to 48 hours in steps of 1 second
Programmable interval time	Up to 48 hours in steps of 1 second	Up to 48 hours in steps of 1 second
General Features		
Capacity	Up to nine 96-well plates	Up to three 96-well plates
Dimensions (H x W x D)	400 x 400 x 450 mm 15.7 x 15.7 x 17.7 in.	200 x 400 x 450 mm 7.9 x 15.7 x 17.7 in.
Weight	30 kg (66.1 lbs.)	15 kg (33.1 lbs.)

Ordering Information	
Cat.No	**Description**
5112250	iEMS Incubator/Shaker HT, 1-CABIN 220 - 240 V 50/60 Hz*
5112257	iEMS Incubator/Shaker HT, 1-CABIN 100 - 120 V 50/60 Hz*
5112200	iEMS Incubator/Shaker, 3-CABIN 220 - 240 V 50/60 Hz**
5112207	iEMS Incubator/Shaker, 3-CABIN 100 - 120 V 50/60 Hz**
	*Includes 3 pcs iEMS thermal holder HT
	**Includes 9 pcs iEMS thermal holder
5921200	iEMS thermal microplate holder
5921210	iEMS thermal holder HT

Thermo Scientific RapidStak

The Thermo Scientific RapidStak enables simple, entry-level automated microplate loading of one or two instruments for any customer who desires to increase their plate handling throughput, improve protocol standardization, or free up employees to do higher value tasks.

The RapidStak is the best performing microplate stacker on the market, offering the greatest capacity, greatest speed, greatest throughput, and two instrument-loading scheduling software.

Automation of the Multidrop line of dispensers for bulk reagent dispensing

Free up valuable time to do higher value jobs, increasing protocol accuracy.

Fastest throughput for microplate handling

RapidStak's plate-handling design means that two plates are being processed simultaneously, thereby reducing the handling time.

Upgradable capacity

The RapidStak is the only stacker that can be upgraded from 30 plates to 150 plates.

Standalone instrument use

The RapidStak uniquely allows for standalone instrument use, eliminating the need for an instrument dedicated to the stacker.

Two instrument loading

The RapidStak is the only stacker that can load two instruments, enabling the creation of a small assay workcell.

Assay scheduling

The RapidStak with Thermo Scientific Polara RS Software allows for assay scheduling, ensuring that all plates are treated consistently.

RapidStak can be connected to the following Thermo Scientific microplate instruments:

Varioskan Flash, Multiskan Spectrum, Fluoroskan Ascent, Fluoroskan Ascent FL, Luminoskan Ascent, Multiskan FC, Multidrop Combi nL, Multidrop Combi, Multidrop 384, Wellwash AC, Alps 300 and Alps 3000 sealers.

RapidStak applications:

- Dispense and read
- Simple ELISA
- High throughput dispensing/washing/reading
- Start-stop assays
- Dispense and seal
- Cell culture.

Thermo Scientific Multidrop Combi and the RapidStak

Technical Specifications and Ordering Information

Thermo Scientific RapidStak		
Throughput	up to 300 plates/hour	
Capacity (10/15 mm)	RapidStak RapidStak 2x 225 / 150 plates	75 / 50 plates
Compatible Plates	7 - 22 mm SBS conforming	
Compatible Lids	Stacker compatible lids	
Compatible Instruments	No PC With Polara RS	Multidrop DW/384/Micro/Combi/Combi nL Any instruments
Upgrades	Upgrade to "2x" model (triple capacity) Dual loading Polara RS (run 3rd party instruments) Interchangable Staks	
Safety Conformance	CE, CSA, UL	
Interface	RS232	
Power Requirement	100 - 240 VAC Auto Switching	
Operating Temperature	4 - 40 Celcius 10-80% humidity, non condensing	
Weight	RapidStak RapidStak 2x	13 kg (28.7 lbs.) 18 kg (39.7 lbs.)
Dimensions (W x D)	Regular Model Shortened Model	380 x 590 mm (15 x 23.2 in.) 380 x 490 mm (15 x 19.3 in.)
Height with:	25 plate Stak 30 plate Stak 50 plate Stak	525 mm (20.7 in.) 600 mm (23.6 in.) 880 mm (34.6 in.)

Ordering Information		
F01350	RapidStak, Microplate Stacker	Requires 2 Staks
F01351	RapidStak 2x, Microplate Stacker	Requires 4 Staks
F01489	RapidStak, Shortened	Requires 2 Staks
F01490	RapidStak 2x, Shortened	Requires 4 Staks
F01492	25 Plate Stak, V3	
F01362	30 Plate Stak, V3	
F01363	50 Plate Stak, V3	
F01517	Polara RS, Single Instrument Licence	
F01518	Polara RS, Dual Instrument Licence	
F01543	Polara RS, Single to Dual Licence Upgrade	

Thermo Scientific CataLyst Express

The Thermo Scientific CataLyst Express is an industrially-designed robot packaged exclusively for laboratory automation. It enables laboratories to automate bench-top assays easily and for far less money than with a large automated system but with the same throughput and reliability as with a large system.

Designed for today's biotechnology and pharmaceutical companies who seek increased throughput, standardized protocols and reliable walk-away time, the CataLyst Express is a dedicated plate-moving robot that provides superior levels of quality, speed and flexible automation in a bench-top solution.

The Thermo Scientific CataLyst Express is an inexpensive solution for bench-top automation.

It lets a laboratory take a previously manual process and automate it quickly and inexpensively. It also improves throughput and protocol accuracy by moving an assay from a lower-end automation system to the CataLyst Express.

Frees up time for more productive jobs

Plates are loaded, the protocol selected and the run performed unattended. Runs can be performed unattended overnight, increasing productivity.

Guaranteed run protocol

The Thermo Scientific Polara scheduling software ensures that each plate is handled in the same reproducible fashion, eliminating intra-plate, and intra-run variation, and reducing the need for expensive and time-consuming repeat runs.

CataLyst Express applications:

- High content cell screening
- Medium throughput screening
- Cell growth/maintenance
- ADME-Tox
- ELISA
- PCR
- DNA/RNA/protein purification

The CataLyst Express is an inexpensive solution for bench-top automation.

Technical Specifications

Thermo Scientific CataLyst Express	
Includes	5-axis articulated robot Closed loop servo motor design Remote E-Stop box 3 microplate hotels Servo gripper with force control Safety guarding Polara 2.3.5 scheduling and control software
Capacity (15 mm)	Up to 760 stacked plates Up to 285 random access plates
Reliability	50,000 hours mean-time-between-failure
Safety Conformance	CSA, CE, UL1740, RIA15.06, EN775

Call your Thermo Fisher Scientific sales representative for pricing and system information

Thermo Scientific Microplate Instrumentation IQ/OQ/PQ Equipment Qualification

We provide Thermo Scientific Installation Qualification (IQ), Operational Qualification (OQ) and Performance Qualification (PQ) documents and service packages for laboratories that need to meet regulatory requirements.

The IQ/OQ/PQ documents and service packages provide an efficient and convenient solution to certify the integrity of the instrument and its performance.

Three discrete qualification elements

The IQ/OQ/PQ documents are written in accordance with standards and guidelines. They include a step-by-step guide, check lists and documentation for the instrument qualification process. The Installation Qualification (IQ) verifies that the correct products with instructions for use have been delivered and that the operating conditions are suitable for the proper use of the instrument. The Operational Qualification (OQ) verifies the operation of critical subfunctions of the instrument. The Performance Qualification (PQ) verifies that the instrument is functioning according to the specifications provided by the manufacturer of the instrument.

Verification plates

Thermo Scientific Photometric and Luminometric Verification Plates are especially designed tools to verify instrument performance. The software provides automatic generation of reports to prove the integrity and validity of the verification results.

Qualification services

The qualification services are carried out by trained product experts, who are experienced in regulated environments and Good Documentation Practices.

We offer IQ/OQ/PQ documents and service packages for:
Thermo Scientific Varioskan Flash, Multiskan Spectrum, Multiskan FC, Fluoroskan Ascent, Fluoroskan Ascent FL, Luminoskan Ascent, Wellwash AC, Multidrop 384, Multidrop DW, Multidrop Combi, and Multidrop Combi nL.

Verification Plate Ordering Information

Cat.No	Description
24072800	Multiskan Verification Plate
24073500	Multiskan Verification Plate, includes Ascent Software
N03394	Spectrophotometric Verification Plate
2806460	Lumiwell Verification Plate

Document Ordering Information

Cat.No	Description
IOPQDOCE24073570	IQ/OQ/PQ Wellwash AC Document
IOPQDOCEN08265	IQ/OQ/PQ Multiskan FC Document
IOPQDOCEN02777	IQ/OQ/PQ Multidrop 384 / DW Document
IOPQDOCEN06859	IQ/OQ/PQ Multidrop Combi Document
IOPQDOCEN07836	IQ/OQ/PQ Multidrop Combi nL Document
IOPQDOCE24073560	IQ/OQ/PQ Luminoskan Ascent Document
IOPQDOCE24073550	IQ/OQ/PQ Fluoroskan Ascent Document
IOPQDOCE24073540	IQ/OQ/PQ Fluoroskan Ascent FL Document
IOPQDOCEN03621	IQ/OQ/PQ Multiskan Spectrum Document
IOPQDOCEN06494	IQ/OQ/PQ Varioskan Flash Document

For qualification service package information, please contact your local Thermo Fisher Scientific representative.

Microplates for Microplate Instruments

We provide a wide range of microplates for use with our line of microplate instruments and are designed to match the demanding requirements of biotechnology, diagnostics, life science and pharmaceutical research laboratories.

Thermo Scientific Nunc Microplates

Nunc microplates range from 96 well plates and modules to 384- and 1536-well plate formats with both solid and optical bottoms in polystyrene (primarily for assays). Our wide range of polypropylene and Deep Well plates are both used for assay and storage applications.

Polystyrene microplates

The polystyrene range offers plates with flat bottom, conical, round, or C-shaped bottom (flat in the center with rounded corners for efficient washing) most of which are available in clear, black or white.

Polypropylene microplates

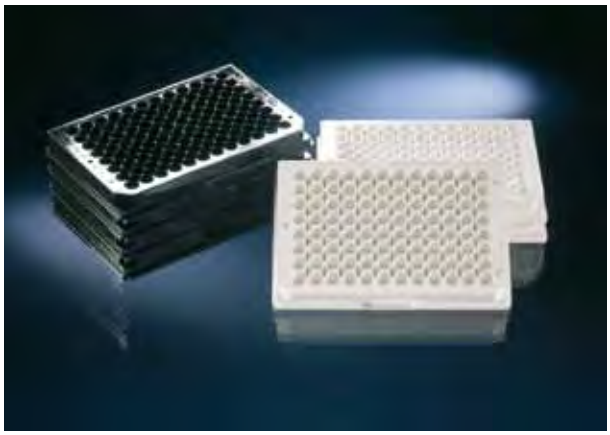
Nunc 96-well polypropylene plates feature the shared wall technology, where the internal space in the plate is maximized. Our white and black polypropylene plates are suitable as assay plates. Nunc 384-well polypropylene plates have rounded square wells, minimizing wicking and optimizing sample recovery. For easy identification some of the polypropylene plates are also made in blue, yellow and red.

For easy selection of Thermo Scientific Nunc microplate see **www.plateguide.com.**

Visit **www.barcodeconfigurator.com** to learn about custom barcode options available on Nunc plates.

Thermo Scientific Microtiter Microplates

Microtiter polystyrene microplates are available in 96-and 384-well formats with different binding characteristics, including Streptavidin-coated surfaces, well shapes, volumes and configurations.



With decades of experience designing and producing plates for researchers' increasingly sophisticated applications, the result is a very wide offering of the highest quality microplates.

Thermo Fisher Scientific Inc. (NYSE: TMO) is the world leader in serving science, enabling our customers to make the world healthier, cleaner and safer. With annual revenues of $10.5 billion, we have approximately 34,000 employees and serve over 350,000 customers within pharmaceutical and biotech companies, hospitals and clinical diagnostic labs, universities, research institutions and government agencies, as well as environmental and industrial process control settings. Serving customers through two premier brands, Thermo Scientific and Fisher Scientific, we help solve analytical challenges from routine testing to complex research and discovery. The Thermo Scientific brand represents a complete range of high-end analytical instruments as well as laboratory equipment, software, services, consumables and reagents to enable integrated laboratory workflow solutions. Fisher Scientific provides a complete portfolio of laboratory equipment, chemicals, supplies and services used in healthcare, scientific research, safety and education. Together, we offer the most convenient purchasing options to customers and continuously advance our technologies to accelerate the pace of scientific discovery, enhance value for customers and fuel growth for shareholders and employees alike. Visit www.thermofisher.com .

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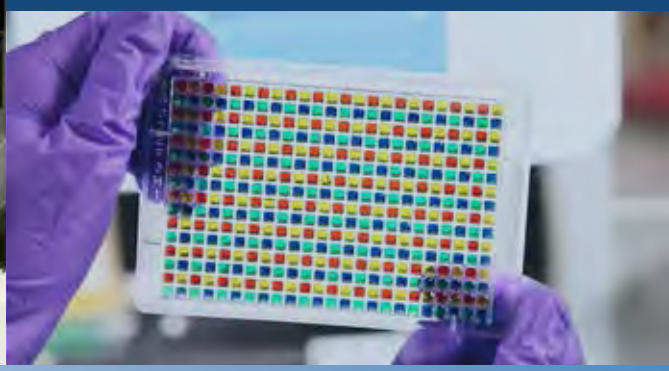
Versette



User-friendly liquid handling

in a compact format

Thermo
SCIENTIFIC

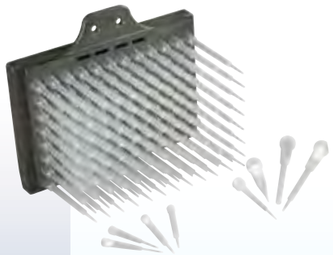
Thermo Scientific™ Versette™ is a user-friendly liquid handler in a compact format. It is easy to get started with a liquid handling solution that offers a choice of 96- or 384-channel pipetting heads.

Interchangeable pipetting heads

The Versette automated liquid handler is compatible with 96- and 384-channel pipetting heads with a total volume range of 0.5 to 300 µl. All pipetting heads can be easily changed by the user without using any tools, while the process is safely guided step-by-step by Thermo Scientific™ ControlMate™ Software. All pipetting heads utilize RFID tags for self-identity.

Compact size

The six-position stage of Versette uses an innovative dual-level structure to minimize space requirements in the laboratory, thus allowing the instrument to be placed on a standard laboratory bench. Despite the compact size of the instrument the user can still choose between six different plate positions for a variety of 96- and 384-well plates, as well as racked storage tubes.

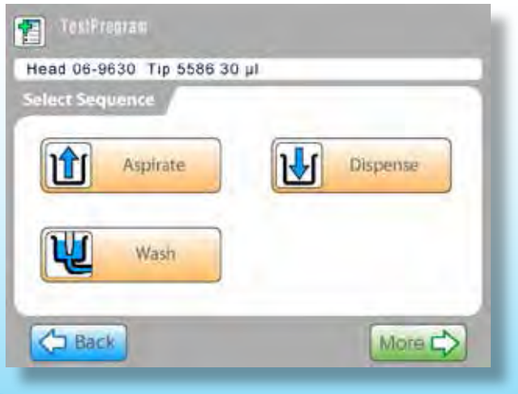


Optimized consumables

The 96- and 3 84-channel pipetting heads utilize disposable Thermo Scientific™ DARTs™ tips (Disposable Automation Research Tips), which feature a unique surface seal design to ensure an even seal across all pipetting channels. Combined with DARTs tips, Versette liquid handler guarantees accurate and precise pipetting results in all a pplications across the entire pipetting range. The wide selection of DARTs tips allows the user to select the optimal tip for each application regardless of whether it requires the extended, wide bore or sterile version.

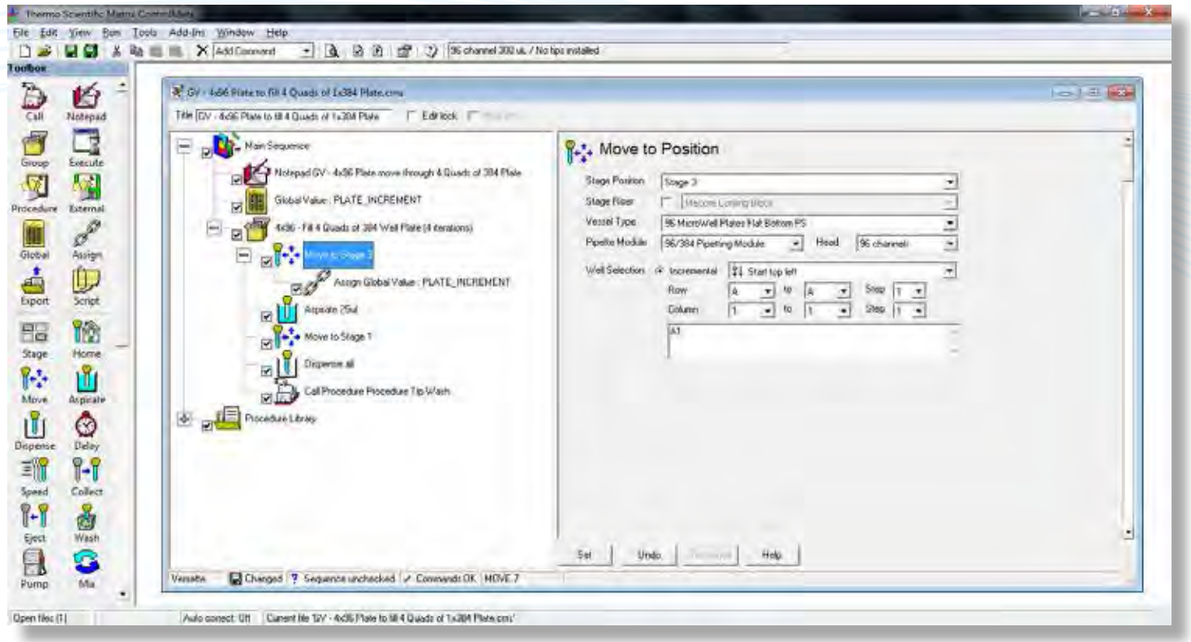
User-friendly programming options

The user can start programming the Versette using the visual icon-based on-board touchscreen, thus making operation simple and easy. This allows quick startup and is best suited for simple protocols. When more complex protocols and advanced editing is required, the Versette ControlMate PC software is available. This software provides a straightforward approach to creating and running pipetting programs. It includes a wide labware library and precise controlling options for various liquid handling applications.



Applications

- Plate filling
- Plate replication
- Plate reformatting
- Serial dilutions – rows or columns
- Sample preparation with Thermo Scientific™ Mass Spectrometric Immunoassay pipette tips (MSIA™)



Wide range of applications

The Versette is designed to perform a variety of liquid handling tasks for a wide range of applications including plate stamping, plate reformatting, serial dilution and many other applications in low- to high-throughput laboratories.

The instrument is also optimized for high-throughput immunoaffinity sample preparation with Mass Spectrometric Immunoassay (MSIA) pipette tips as part of the integrated MSIA workflow. The MSIA tips are compatible with the Versette where sample binding, wash and elution steps are automated to facilitate the cycling of samples and the appropriate buffers through the microcolumn embedded in the pipette tip. The complete walk-away immunoaffinity system provides increased sample throughput while providing high assay reproducibility.

Technical specifications

Volume range	0.5–300 µl (depending on the pipetting head)	
Pipetting resolution	Increments of 0.1 µl	
Compatible labware	96- and 384-well plates, racked storage tubes	
Pipetting accuracy	96-channel 0.5–30 µl	± 2.0% or 0.15 µl
	96-channel 5–300 µl	± 2.0% or 1.00 µl
	384-channel 1.0–100 µl	± 2.0% or 0.50 µl
Pipetting precision	96-channel 0.5–30 µl	± 1.5% or 0.10 µl
	96-channel 5–300 µl	± 1.5% or 0.75 µl
	384-channel 1.0–100 µl	± 1.5% or 0.25 µl
Dimensions (H x W x D)	680 x 680 x 559 mm (27 x 27 x 22 in.)	
Weight	69 kg (152 lbs.) (no pipetting head included)	
Operating system	Windows XP SP3, Windows 7 (32- and 64-bit)	
Interface	RS232	
Power requirements	100–240 V, 50/60 Hz	

Consumables

Pipetting head	Compatible DARTs Tip	Description
96-channel 0.5–30 µl	5586 (non-sterile) / 5587 (sterile) / 5588 (sterile filtered)	30 µl
	5506-11 (non-sterile) / 5507 (sterile) / 5508 (sterile filtered)	30 µl extended length
96-channel 5–300 µl	5516-11 (non-sterile) / 5517-11 (sterile) / 5518-11 (sterile filtered)	300 µl
	5536 (non-sterile) / 5537 (sterile) / 5538 (sterile filtered)	300 µl extended length
	5546 (non-sterile) / 5547 (sterile) / 5548 (sterile filtered)	300 µl extended length, wide bore
384-channel 1.0–100 µl	5326 (non-sterile) / 5327 (sterile) / 5328 (sterile filtered)	100 µl

Ordering information

Cat. No.	Description
Versette	
650-01-BS	Versette base unit
650-02-NTC	96- and 384-channel pipetting module for use with 96- and 384-channel pipetting heads.
650-03-SPS	6-position stage
Versette pipetting heads	
650-06-9630	96-channel air displacement pipetting head. Volume 0.5-30 µl
650-06-96300	96-channel air displacement pipetting head. Volume 5-300 µl
650-06-384100	384-channel air displacement pipetting head. Volume 1–100 µl
Versette accessories	
650-04-PUMP	Pump module
650-05-96TTW	96-channel tip wash station, tall
650-05-384TTW	384-channel tip wash station, tall
650-08-9630SD	Serial dilute magazine 96/30 µl (8/12)
650-08-9630XL	Serial dilute magazine 96/30 µl (8/12)
650-08-96300SD	Serial dilute magazine 96/300 µl (8/12)
650-08-384SD	Serial dilute magazine 384/30&100 µl (16/24)

For more information please visit:
www.thermoscientific.com/versette
www.thermoscientific.com/controlmate

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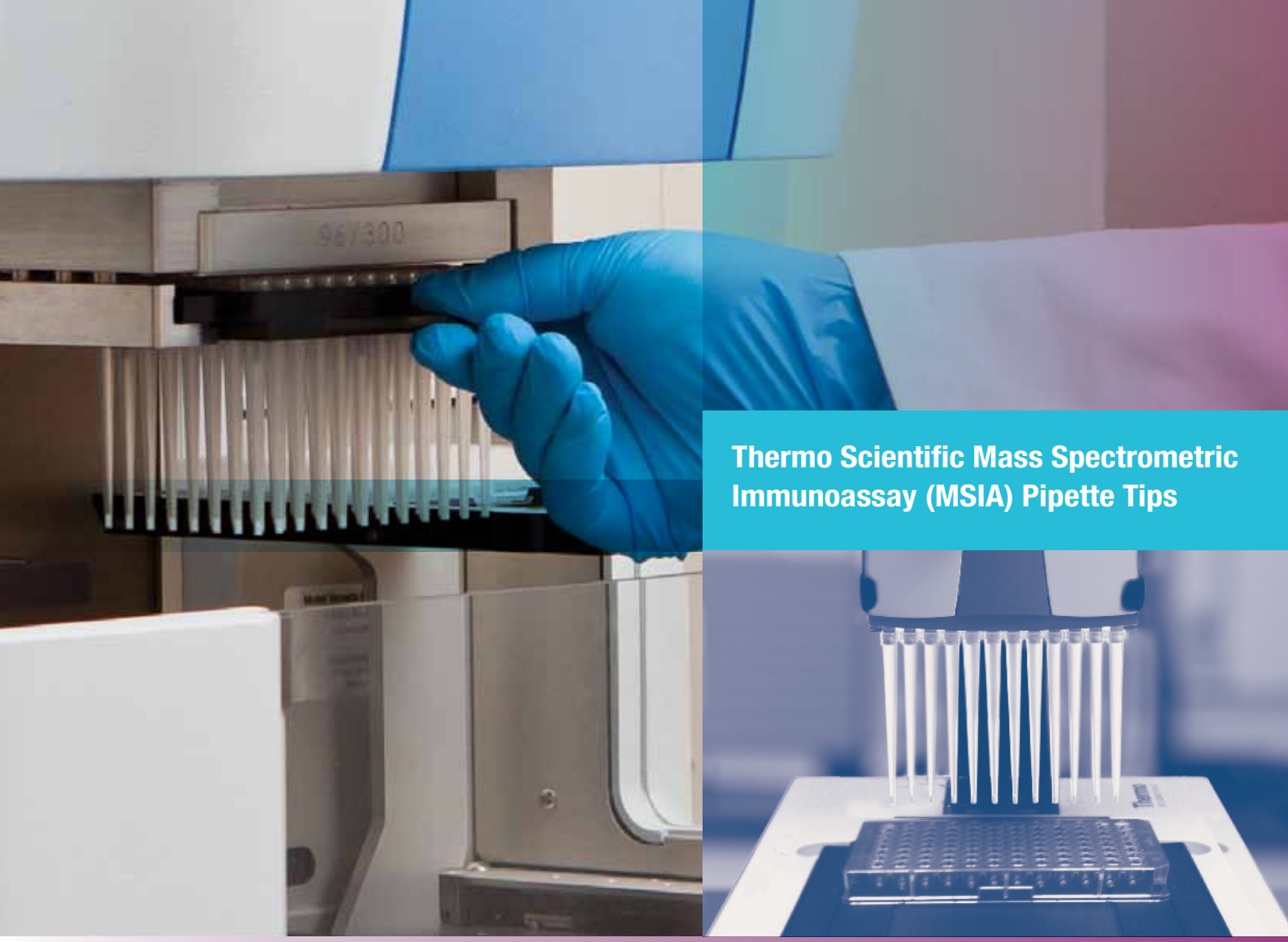


Thermo Scientific Mass Spectrometric Immunoassay (MSIA) Pipette Tips

Next generation immunoaffinity

Robust quantitative platform

Thermo SCIENTIFIC

Immunoaffinity sample preparation

Thermo Scientific Mass Spectrometric Immunoassay (MSIA) Pipette Tips

MSIA™ Disposable Automation Research Tips (D.A.R.T.'S®) are the next generation immunoaffinity approach providing a simple way to enrich and concentrate target proteins for down-stream mass spectometric analysis. The Thermo Scientific MSIA utilizes a 300 µL pipette tip embedded with a proprietary, highly porous immunoaffinity column in which the antibody is immobilized using a quick and easy protocol. The enrichment steps involve sample binding, wash and elution by cycling sample and various reagents rapidly through the micro-column in the pipette tip.

The reliable MSIA protocols can be performed manually on our new Thermo Scientific Finnpipette Novus i Multichannel Electronic Pipettes (for immuno-precipitation) or in a high-throughput format using our Thermo Scientific Versette Automated Liquid Handling Platform. Furthermore, Protein A/G and Avidin universal MSIA tips provide the flexibility to tailor the tips for specific target analyte applications by using your antibodies of choice. For more information on how to integrate your current assays into our MSIA workflow, please contact your local sales representative or complete the request form at **thermoscientific.com/msia.**

- **Highly Effective:** Proprietary micro-fluidic, immunoaffinity column enhances antibody/antigen binding kinetics
- **Proven Recovery and Reproducibility:** Superior protein recovery and reproducibility compared to conventional bead-based method
- **Increase Signal-to-Noise Ratio:** Improve specificity and reduce background
- **Increase Throughput:** Customized semi-automated manual purification or complete automated integrated 96-well processing provides choice of sample throughput
- **Save Time:** Up to 96-sample processing in parallel in less than 30 minutes
- **Less Effort:** Straight forward protocol, no additional depletion or SPE steps required
- **Increase Flexibility:** Avidin immobilized (Streptavidin, Avidin, NeutrAvidin) and Protein A/G immobilized (Protein A, Protein G, Protein A/G) MSIA tips available for easy coupling of your antibodies of choice
- **Customized to your Needs:** Custom target MSIA tips (direct covalent coupling of antibody on to the micro-column) are also available
- **Convenient Packaging:** Available in packs of 24 or 96 tips

Automated 96-well sample processing

Thermo Scientific Versette Automated Liquid Handling Platform

Streamline your biomarker research by increasing your sample throughput and productivity. MSIA capture can be automated on our Versette™ Automated Liquid Handler.

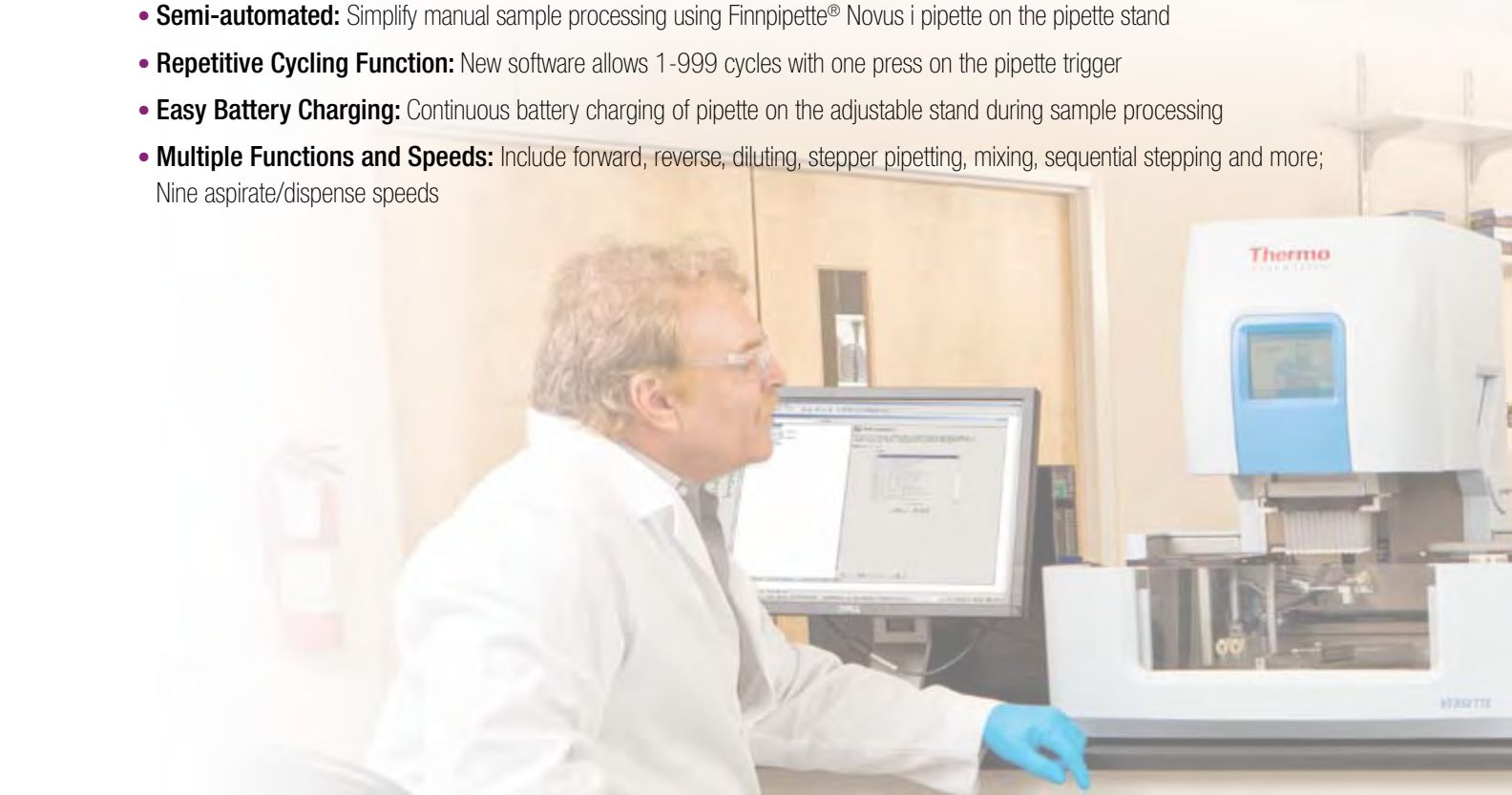
- **Complete Walk-Away:** Six-position deck allows MSIA sample preparation from sample binding to elution
- **Easy-to-Use Interface:** All functions are controlled with simple drag-and-drop intuitive Thermo Scientific Matrix ControlMate software
- **Save Space:** Small footprint, ideal for use on laboratory benches
- **Multipurpose:** Designed to perform a variety of liquid handling tasks for a wide range of applications including high-throughput MSIA immuno-enrichment

Manual 8-12-well sample processing

Thermo Scientific Finnpipette Novus i Multichannel Electronic Pipette (for immuno-precipitation)

Our new Finnpipette® Novus i Multichannel Electronic Pipettes and Adjustable Pipette Stand assist in lower throughput MSIA sample enrichment. Pipettes available in both 8-,12-channel which when combined with our adjustable pipette stand, provides an economical semi-automated system for rapid sample processing. The pipette programming is further simplified through a customized MSIA menu.

- **Semi-automated:** Simplify manual sample processing using Finnpipette® Novus i pipette on the pipette stand
- **Repetitive Cycling Function:** New software allows 1-999 cycles with one press on the pipette trigger
- **Easy Battery Charging:** Continuous battery charging of pipette on the adjustable stand during sample processing
- **Multiple Functions and Speeds:** Include forward, reverse, diluting, stepper pipetting, mixing, sequential stepping and more; Nine aspirate/dispense speeds



Protein/peptide quantification

High-performance liquid chromatography with mass spectrometry (LC-MS)

Thermo Scienific Dionex UltiMate 3000 RSLCnano Systems

Our UltiMate® 3000 RSLCnano systems have been designed to optimize low flow separations and facilitate easy coupling to mass spectrometry, providing the best resolution, sensitivity, and selectivity for nano-LC and proteomics applications.

Thermo Scientific TSQ Vantage Triple Stage Quadrupole Mass Spectrometer

Our TSQ Vantage™ triple stage quadrupole mass spectrometer delivers the highest sensitivity with the lowest noise for the quantitative analysis of small molecules, peptides, biosimilars, and biologics.

More signal and less noise provides better assay precision and accuracy. Combined with a robust new ion source, second generation (G2) ion optics and hyperbolic quadrupoles, the TSQ Vantage instrument delivers the highest sensitivity with the lowest chemical noise.

Thermo Scientific Q Exactive Hybrid Quadrupole-Orbitrap Mass Spectrometer

Identify, quantify and confirm with unmatched confidence using our Q Exactive™ mass spectrometer. This benchtop LC-MS/MS combines high-performance quadrupole precursor selection with high-resolution, accurate-mass (HR/AM) Orbitrap™ detection to deliver high performance, tremendous versatility and unsurpassed analytical confidence.

Thermo Scientific Pinpoint Software

Our Pinpoint™ software facilitates the transition from early-stage biomarker discovery to larger-scale, quantitative verification of putative biomarkers and general quantitative proteomics. Pinpoint software simplifies the creation of targeted quantitative assays. It allows researchers to leverage previously acquired data from discovery experiments. Pinpoint software largely automates the development of preliminary methods. It enables acquisition and analysis of preliminary data, which is in turn used to optimize the method.

Increase sensitivity and reproducibility

The MSIA workflow enables targeted protein/peptide quantification by improving sensitivity, reproducibility and sample throughput. Immunoaffinity capture using MSIA D.A.R.T.'S allow for reproducible target enrichment down to low femtomole levels while making quantification measurements possible over a wide, linear dynamic range as shown in Figure 1.

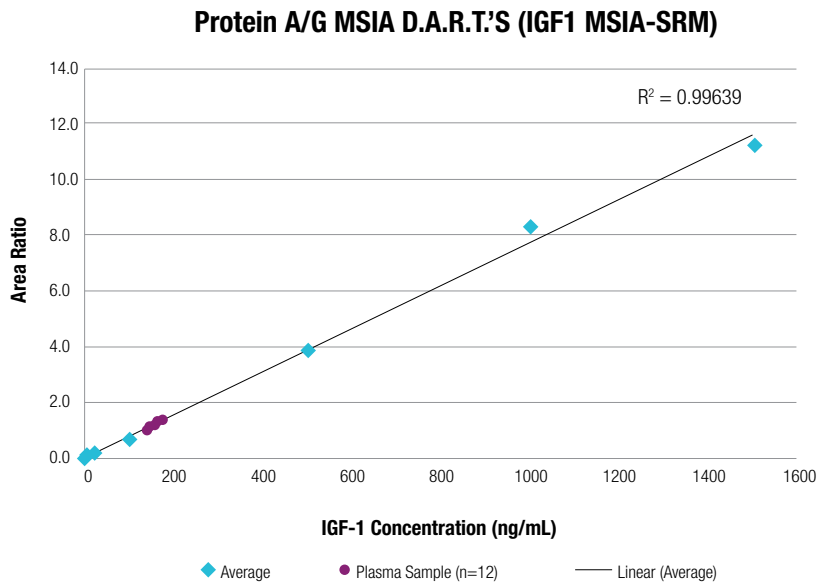


Figure 1. Calibration Curve for IGF1 SRM on TSQ-Vantage. MSIA D.A.R.T.'S, Protein A/G with IGF1 antibody provide a wide linear dynamic range 1 to 1500 ng/mL (R^2 = 0.9964). Replicate analyses of plasma samples observed %CV = 8.5% (n = 12). MSIA D.A.R.T.'S Protein A/G tips provide significant analyte recovery with reproducible results.

IGF1 Concentration (ng/ml)	Moles/Sample (femtomole)
1500	7840
1000	5230
500	2610
100	523
25	131
10	52.3
5	26.1
1	5.23

Sensitivity comparison of IGF1 mass spectrometric assays between Protein A/G MSIA D.A.R.T.'S and Protein A/G magnetic beads		
Sensitivity	**MSIA D.A.R.T.'S, Protein A/G with Versette or Novus i**	**Competitor B's Magnetic Beads, Protein A/G**
LOD	40 picogram/5.2 femtomole	400 picogram/52 femtomole
LOQ	40 picogram/5.2 femtomole	400 picogram/52 femtomole

Table A. Protein A/G MSIA D.A.R.T.'S offer flexibility for immobilizing antibodies of choice while demonstrating superior protein recovery. Sensitivity (both LOD and LOQ) were improved when it is compared to conventional magnetic bead method.

Ordering information

MSIA D.A.R.T'S Pipette Tips

Compatible with the Versette Automated Liquid Handler, Finnpipette Novus i Multichannel Electronic Pipettes (for immuno-precipitation), also with select Eppendorf®, Biohit® and Hamilton® Multichannel Pipettes.

Cat. No.	Description	Packaging
991PRT11	300 µl MSIA D.A.R.T.'S, Protein A	Pack of 96 tips
991PRT12	300 µl MSIA D.A.R.T.'S, Protein A	Pack of 24 tips
991PRT13	300 µl MSIA D.A.R.T.'S, Protein G	Pack of 96 tips
991PRT14	300 µl MSIA D.A.R.T.'S, Protein G	Pack of 24 tips
991PRT15	300 µl MSIA D.A.R.T.'S, Protein A/G	Pack of 96 tips
991PRT16	300 µl MSIA D.A.R.T.'S, Protein A/G	Pack of 24 tips
991CUS02	300 µl MSIA D.A.R.T.'S, Custom*	Pack of 96 tips
991R	300 µl MSIA D.A.R.T.'S, Reloadable Rack	1 reloadable rack, tips are not included

MSIA Pipette Tips

Compatible to Beckman® Multimek™, Type II Liquid Handling System.

Cat. No.	Description	Packaging
991AVD01	200 µl MSIA, Streptavidin	Pack of 96 tips
991AVD02	200 µl MSIA, Avidin	Pack of 96 tips
991AVD03	200 µl MSIA, NeutrAvidin	Pack of 96 tips
991PRT01	200 µl MSIA, Protein A	Pack of 96 tips
991PRT02	200 µl MSIA, Protein G	Pack of 96 tips
991PRT03	200 µl MSIA, Protein A/G	Pack of 96 tips
991CUS01	200 µl MSIA, Custom*	Pack of 96 tips

**Customized MSIA tips are also available. We immobilize your antibody of interest directly to the micro-column.*

Automated Liquid Handling Platform and Pipetting Head

Cat. No.	Description
650-01-BS	Versette Base Unit Stage, Head Housing and Pipetting Head Required for Use
650-02-NTC	96- and 384-Channel Housing Assembly. For Use with 96- and 384-Channel Pipetting Heads
650-03-SPS	6-Position Stage, Guarding Included.
650-06-96300	96-Channel Air Displacement Pipetting Head. Volume 5-300 µl
650-04-PUMP	Pump Module Optional Accessory, Used for Tip Washing/Reagent Replenishing
650-05-96TTW	96-Channel Tip Wash Station, Tall, Optional Accessory
650-08-96300SD	Serial Dilute Magazine 96/300 µl (8/12)

Multichannel Pipettes and Pipette Stand

Cat. No.	Description	Quantity
46302000	Finnpipette Novus i Electronic 8-Channel Pipette, 20-300 µl (for immuno-precipitation)	1 pipette
46302100	Finnpipette Novus i Electronic 12-Channel Pipette, 20-300 µl (for immuno-precipitation)	1 pipette
991S	Finnpipette Novus i Adjustable Pipette Stand (for immuno-precipitation)	1 pipette stand
991SP8	Finnpipette Novus i Electronic 8-Channel Pipette, 20-300 µl and Pipette Stand (for immuno-precipitation)	1 pipette and 1 pipette stand
991SP12	Finnpipette Novus i Electronic 12-Channel Pipette, 20-300 µl and Pipette Stand (for immuno-precipitation)	1 pipette and 1 pipette stand

Liquid Chromatography

Description
UltiMate 3000 RSLCnano Systems

Mass Spectrometry and Software

Description
TSQ Vantage Triple Stage Quadrupole Mass Spectrometer
Pinpoint Software
Q Exactive Hybrid Quadrupole-Orbitrap Mass Spectrometer

MSIA demo sites

Thermo Fisher Scientific, Cambridge
The Biomarkers Research Initiatives in Mass Spectrometry (BRIMS) Center
790 Memorial Dr, Suite 201, Cambridge, MA 02139, USA

Thermo Fisher Scientific, Tempe
2155 E. Conference Dr. Suite 104, Tempe, AZ 85284, USA

Thermo Fisher Scientific, UK
Stafford House, Boundary Way, Hemel Hempsted, HP2 7GE, UK

Please contact your local sales representative or visit **thermoscientific.com/msiademo** to schedule an onsite demo or visit **thermoscientific.com/msiavideo** to view the MSIA technology video.

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