Thermo Scientific Microplate Instrumentation

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

Product Catalog 2010

Part of Thermo Fisher Scientific

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Contents

Thermo Scientific Multiskan FC - page 16

KingFisher Flex - page 32

Multidrop Combi nL - page 22

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

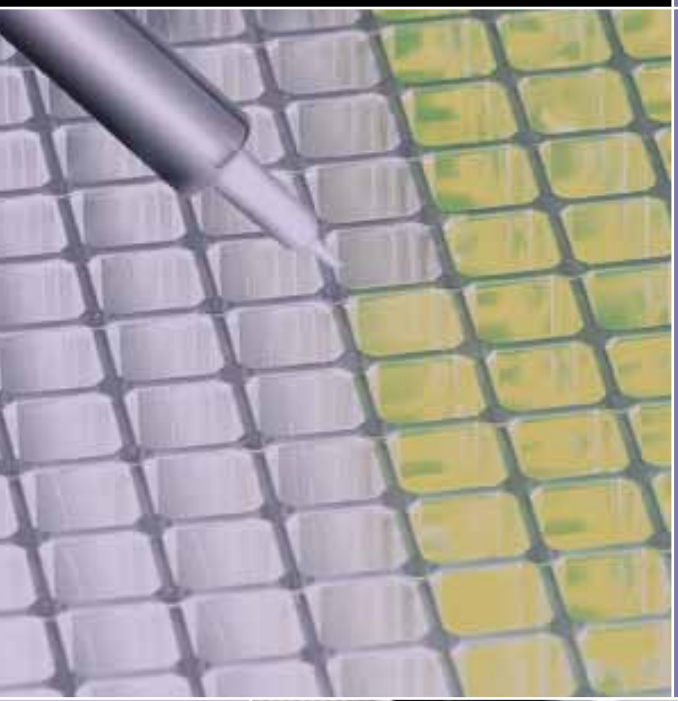
www.thermo.com/mpi

01

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™

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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 Appliskan

The Thermo Scientific Appliskan is a filter-based multitechnology microplate reader for photometric, luminometric and fluorometric research applications, such as cytotoxicity, protein activity, protein and nucleic acid, and immuno and multiplexing assays.

Offering all detection technologies in one small-sized, compact and robust instrument, it's ideal for application needs in the ever-changing research environment. The Appliskan features an onboard shaker, an incubator and up to two onboard dispensers and works with 6- to 384-well plates.

All reading technologies

The Appliskan includes fluorometry, luminometry, absorbance, TRF and FP detection, enabling the use in a wide variety of research applications, such as immunoassays, cytotoxicity, DNA analysis and protein activity assays.

High-sensitivity optics for excellent results

The Appliskan's outstanding performance in any application is based on separate detection systems for different measurement technologies. The highly sensitive luminometry mode uses a dedicated photomultiplier tube to ensure excellent sensitivity in luminometric applications. The efficient constant light xenon flash lamp, covering wavelengths up to 820 nm, provides a high sensitivity and a wide linear dynamic range in all fluorometric applications, even with red-sensitive fluorochromes and demanding TR-FRET applications. The specially-designed optical system for photometry covers wavelengths from 200 to 1000 nm, enabling outstanding linearity, accuracy and repeatability in any photometric application.

Onboard dispensers for exact follow-up of kinetic reactions

Equipped with up to two reagent dispensers, the Appliskan enables kinetic assays, such as ATP assays. A very low dead volume and the backflush capability of the dispensers are important issues when using expensive reagents.

Small foot print

At just 38 cm x 50 cm x 34 cm, the Appliskan fits into even the most crowded laboratories.

Versatile Thermo Scientific SkanIt Software

The Appliskan is controlled by SkanIt Software, providing easy assay design, flexible data handling and convenient report formatting, even with challenging applications.

Appliskan Applications

- Cellular assays
- Cytotoxicity and Cell proliferation assays
- DNA quantitation
- ELISA/FIA/LIA assays
- Enzyme kinetic studies
- Europium assays
- FRET and BRET assays
- GPCR assays
- Ion channel assays
- Kinase assays
- Multilabel assays
- Phagocytosis
- Protein assays
- Reporter gene assays
- Signal transduction

A compact, robust instrument designed to meet meet the application needs of an ever-changing research environment.

Technical Specifications and Ordering Information

Thermo Scientific Appliskan	
Fluorometry	
Excitation wavelength range	200 - 1000 nm
Emission wavelength range	360 - 820 nm
Sensitivity	Fluorescence intensity: < 2 fmol fluorescein/well, 384-well plate Time-resolved fluorescence: < 20 amol Europium/well, 384-well plate
Dynamic range	> 5 decades
Luminometry	
Wavelength range	Standard mode: 360 - 820 nm High-sensitive mode: 300 - 630 nm
Sensitivity	High-sensitive mode: < 10 amol ATP/well, 384-well plate Standard mode: < 200 amol ATP/well, 384-well plate
Dynamic range	> 5 decades
Photometry	
Wavelength range	200 - 1000 nm
Measurement range	0 - 4 Abs
Linearity	0 - 2.5 Abs (96-well plates) at 450 nm, ± 2% 0 - 2 Abs (384-well plates) at 450 nm, ± 2%
Dispensers	
No of dispensers	Up to 2
Dispensing volume	5 - 500 µl with 1 µl increments
Incubator	From ambient + 4°C to 45°C at ambient 25°C
Shaker	Linear shaking
General Features	
Plate types	6 - 384-well plates
Wavelength selection	By filters: Ex/Abs Ø 12.5 mm, Em Ø max. 25.4 mm
Measurement types	Fluorescence intensity, time-resolved fluorescence, fluorescence polarization, absorbance and luminescence
Light source	Xenon flash lamp
Dimensions (H x W x D)	ca. 340 x 375 x 495 mm 13.4 x 14.8 x 19.5 in.
Weight	27 kg (60 lbs.)
User interface	Requires, but does not include a personal computer
Computer interface	RS-232C

Ordering Information	
Cat. No.	**Description**
5230000	Appliskan, 100 - 240 V, 50/60 Hz
5230010	Appliskan with one dispenser, 100 - 240 V, 50/60 Hz
5230020	Appliskan with two dispensers, 100 - 240 V, 50/60 Hz
	Appliskan includes Excitation 485 nm and Emission 535 nm filters . Other filters available upon request.
460SP400	1st Dispenser kit, Appliskan
460SP420	2nd Dispenser kit, Appliskan

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 Spectrum

The Thermo Scientific Multiskan Spectrum microplate spectrophotometer is designed for a wide range of photometric applications, such as nucleic acid and protein analysis, enzyme assays, cytotoxicity and cell proliferation assays as well as apoptosis assays.

The Multiskan Spectrum is a high-performance spectrophotometer for endpoint, kinetic and spectral scanning applications, reading both cuvettes and microplates. With its high number of features, it offers utmost flexibility for photometric research applications.

Unlimited wavelength selection

The Multiskan Spectrum provides unlimited wavelength selection, allowing easy change from one assay to another. Assays requiring measurement from low UV to visible wavelengths can easily be performed.

Both cuvette and microplate reading
The Multiskan Spectrum reads both cuvettes and 6 to 384-well microplates, offering maximum flexibility for photometric applications. Two instruments in one saves valuable bench space in the laboratory, and allows assays to be translated from cuvette to microplate.

Specially designed for automation

For increased assay throughput, the Multiskan Spectrum can easily be integrated with automated systems. It can be connected, for example, to the RapidStak microplate stacker.

Advanced Thermo Scientific SkanIt Software

The Multiskan Spectrum is controlled by the advanced Thermo Scientific 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.

Multiskan Spectrum Applications:

- Nucleic acid analysis
- Enzyme assays
- Protein analysis
- Kinetic assays
- Cytotoxicity and proliferation assays
- Apoptosis assays
- ELISA assays

Experience high performance and flexibility with cuvette and microplate reading for endpoint, kinetic and spectral scanning applications.

Compatible with Thermo Scientific RapidStak

Technical Specifications and Ordering Information

Thermo Scientific Multiskan Spectrum	
Wavelength selection	Monochromator
Wavelength range	200 - 1000 nm
Read-out range	0 - 4 Abs
Linearity	0 - 3 Abs, ± 2% at 450 nm
Accuracy	± 1.0% or ± 0.005 Abs (0 - 2 Abs) ± 2.0% (2 - 3 Abs)
Precision	SD < 0.005 Abs or CV < 1% (0 - 2 Abs) CV < 2% (2 - 3 Abs)
Bandwidth	2 nm
Wavelength accuracy	± 1 nm
Stray Light	< 0.02% at 230 nm
Plate types	6 - 384-well plates
Cuvette types	Two cuvettes, for sample and reference From standard to ultramicro; glass, plastic or quartz
Measurement speed	96-well plate: 20 s, typical 384-well plate: 60 s typical
Light source	Xenon flash lamp
Detector	Photodiodes
Incubation	From ambient + 4°C to 45°C at ambient 25°C
Shaking	Plate: linear Cuvette: magnetic stirrer
Dimensions (H x W x D)	217 x 397 x 450 mm 8.5 x 15.6 x 17.7 in.
Weight	12.5 kg (27.5 lbs)

Ordering Information

Cat. No	Description
51118600	Multiskan Spectrum with Cuvette 100 - 240 V, 50/60 Hz, SkanIt Software Drug Discovery Edition
51118650	Multiskan Spectrum with Cuvette 100 - 240 V, 50/60 Hz, SkanIt Software Research Edition
51118700	Multiskan Spectrum without Cuvette 100 - 240 V, 50/60 Hz, SkanIt Software Drug Discovery Edition
51118750	Multiskan Spectrum without Cuvette 100 - 240 V, 50/60 Hz, SkanIt Software Research Edition

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

Thermo Scientific Multiskan EX

The Thermo Scientific Multiskan EX is an ideal tool for customers who need a robust and an easy-to-use bench-top microplate photometer for basic ELISA applications.

The Multiskan EX is a basic reader for endpoint and kinetic assays. The PC software offers a wide range of data reductions and report generations. Additionally, the Multiskan EX with onboard software is IVD compliant.

Exceptional reliability and extended 3-year warranty

The Multiskan EX has earned a global reputation as one of the most reliable photometers on the market, making it ideal for demanding laboratory environments where technical support is not readily available.

Proven optical system

The Multiskan EX uses a proven optical system for reliable and repeatable results.

Easy to learn and use

Both the onboard and the powerful PC software are easy to use, making the Multiskan EX ideal for laboratories with changing demands or high staff turnover.

IVD compliance package

The Multiskan EX with onboard software complies with the IVD (in vitro diagnostics) Directive 98/79/EC (Note the EU Directive is not valid in North America), which makes it ideal for clinical customers running diagnostic assays.

Ordering information and technical specifications, see page 18.

Multiskan EX Applications:

- Immunoassays
- Protein assays
- Growth curve and hormone assays
- Endotoxins
- Food diagnostics
- HIV assays
- Hybridization assays
- Minisequencing assays
- Cytotoxicity
- Cell adhesion
- Signal transduction
- Endotoxins
- Antioxidants
- Food diagnostics

A compact and robust ELISA reader for end-point and kinetic assays.

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

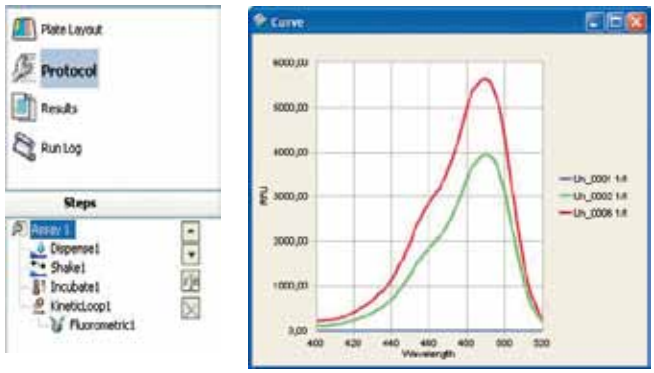
In-built calculations, such as Blank Subtraction, Quantitative Curve Fit, Qualitative Classification, Spectral Analysis and Kinetic Calculations, as well as a comprehensive reporting tool, make data reduction in SkanIt Software easy. Calculations are defined using the steplist feature already familiar 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

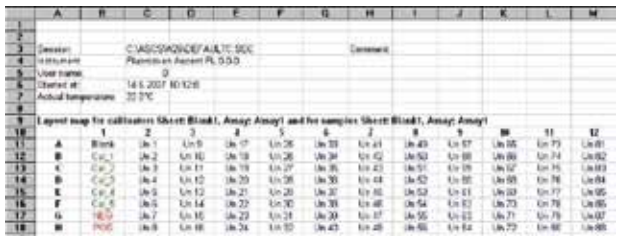
Almost any assay can easily be created by dragging and dropping the desired assay steps to the steplist in the Procedure Desktop. Each step, such as Measure, Incubate or Shake, corresponds to an instrument action, and there can be up to 99 steps in one single assay. The workflow is easy to follow: the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

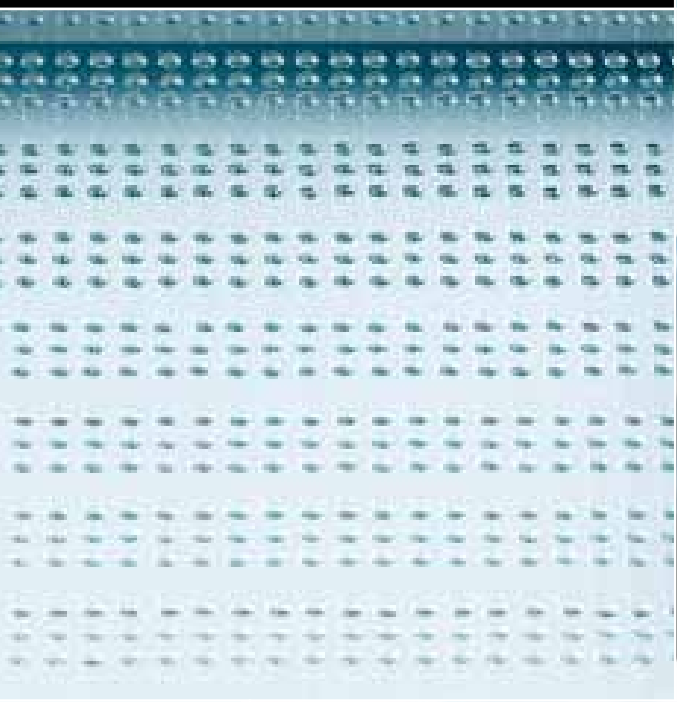
02

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.

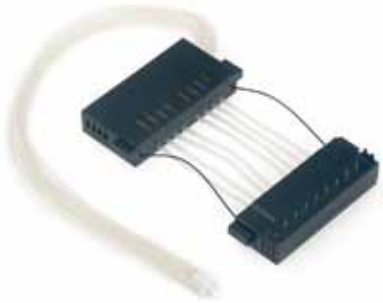
Autoclavable dispensing cassette for convenience

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.

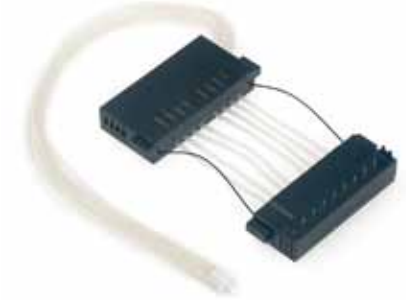
Autoclavable dispensing cassette for convenience

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 AC

The Thermo Scientific Wellwash AC microplate washer is designed to guarantee excellent washing performance for ELISA applications in research and routine laboratories.

With utmost flexibility through its programmability, the Wellwash AC is a perfect microplate washer for research work. Its unique washing capabilities allow excellent reproducibility and reliability required for routine applications.

Excellent washing results and day-to-day reproducibility

Reproducible washing results required by routine applications are achieved with the unique design of the wash heads. Minimizing the residual volume of the washing solutions ensures that the best possible washing performance can be achieved.

Flexibility for research applications

Availability of three buffer solutions and a shaking feature together with the flexible onboard software let the user create diverse washing protocols for a variety of research applications.

Fast washing for increased throughput

The twin-strip washing head increases the speed for higher throughput, and when connected to the Rapidstak stacker or a higher-end automation, routine washing steps can be totally automated.

Ordering information and technical specifications, see page 30.

Versatility, speed and ease of use for ELISA applications in research and routine laboratories.

Thermo Scientific Wellwash 4 Mk 2

The Thermo Scientific Wellwash 4 Mk 2 is an ideal washer for routine ELISA applications for clinical, veterinary, food and agricultural laboratories.

The Wellwash 4 Mk 2 offers ease of use and reliability without compromizing performance.

Ideal for routine applications

The pre-programmed wash cards encompass a wide range of user-defined routine protocols for a quick and easy start of washing steps, demanded by routine users.

Excellent washing efficiency

The unique design of the wash heads ensures excellent washing efficiency and contamination-free washing results needed in routine ELISA applications.

Flexibility for routine and research applications

A wide selection of washing programs, interchangeable 8- and 12-way wash heads and a quick change of buffer solutions allows rapid switching from one protocol to another, enabling flexibility in research work.

IVD compliance package

The Wellwash 4 Mk 2 complies with the IVD (in vitro diagnostics) Directive 98/79/EC (not valid for North America), which makes it ideal for clinical customers running diagnostic assays.

Ordering information and technical specifications, see page 30.

Reliability and ease of use for routine ELISA applications.

Technical Specifications and Ordering Information

Thermo Scientific Wellwash AC and Wellwash 4 Mk 2

	Wellwash AC	Wellwash AC Big Bottles	Wellwash 4 Mk 2
Washing features			
Wash volume	50 - 1000 µl in 50 µl increments	50 - 1000 µl in 50 µl increments	50 - 750 µl in 50 µl increments
No of washing cycles	1 - 10 cycles	1 - 10 cycles	1 - 15 cycles with programmable card
Residual aspiration volume	≤ 3 µl with normal aspiration mode ≤ 1 µl with sweep aspiration mode	≤ 3 µl with normal aspiration mode ≤ 1 µl with sweep aspiration mode	≤ 5 µl
Soaking time	1 - 60 min	1 - 60 min	1 - 10 min
Wash time	100 s, 3 x 350 µl with 2 x 12-way wash head; 140 s, 3 x 350 µl with 2 x 8-wash head	100 s, 3 x 350 µl with 2 x 12-way wash head; 140 s, 3 x 350 µl with 2 x 8-wash head	120 s, 3 x 350 µl with 12-way wash head 165 s, 3 x 350 µl with 8-way wash head
Priming and rinsing volume	5-100 ml in 5 ml increments	5-100 ml in 5 ml increments	15-20 ml
General features			
Plate Type	96-well plate	96-well plate	96-well plate
Wash heads	8-, 12-, 16-, 24- way	8-, 12-, 16-, 24- way	8- and 12- way
User Interface	Keyboard with LCD screen	Keyboard with LCD screen	Wash program cards, programmable card
Program memory	99 programs	99 programs	NA
Shaking	Yes (orbital)	Yes (orbital)	NA
Containers	Wash bottle 2 x 2 l, rinse bottle 1 l, waste bottle 4 l	Wash bottle 2 x 4 liter, rinse bottle 2 liter, waste bottle 10 liter	Wash bottle 2 l, waste bottle 2 l
Robot compatibility	Yes	Yes	No
Dimensions (W x D x H)	540 x 530 x 390 mm, includes bottle module 21.3 x 20.9 x 15.4 in.	640 x 670 x 500 mm, includes bottle module 25.2 x 26.4 x 19.7 in.	410 x 220 x 120 mm (washer unit) 16.1 x 8.7 x 4.7 in. 300 x 180 x 160 mm (pump unit) 11.8 x 7.7 x 6.3 in.
Weight	13 kg (28.7 lbs.)	14.8 kg (32.6 lbs.)	10 kg (22 lbs.)

Ordering Information

Cat. No	Description
5160770	Wellwash 4 Mk 2, 220 - 240 V 50 Hz
5160772	Wellwash 4 Mk 2, 110 - 120 V 60 Hz
5161020	Wellwash AC, 100 - 240 V 50/60 Hz
5161030	Wellwash AC Big Bottles, 100 - 240 V 50/60 Hz

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

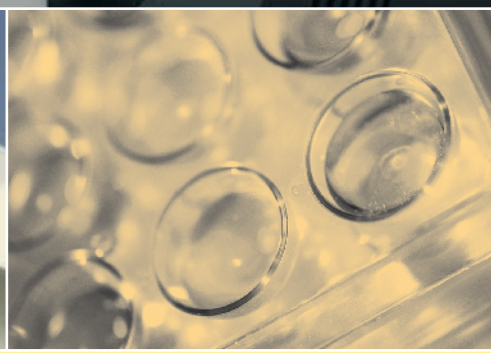
Ordering Information	
Cat. No	**Description**
5400000	KingFisher, Magnetic Particle Processor, 100 - 240 V, 50/60 Hz (for microplates)
5400050	KingFisher mL, Magnetic Particle Processor, 100 - 240 V, 50/60 Hz
5400610	KingFisher Flex, Magnetic Particle Processor, with 96 PCR head, 100 - 240 V, 50/60 Hz
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.

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

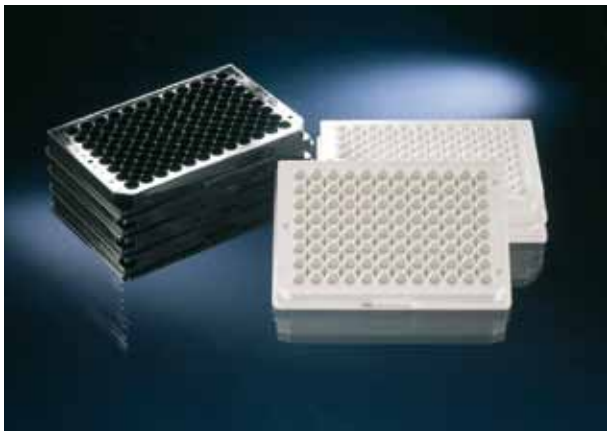
Nunc 96-well polypropylene plates feature the shared wall technology, where the internal space in the plate is maximized. Our white and black polypropylene plates are suitable as assay plates. Nunc 384-well polypropylene plates have rounded square wells, minimizing wicking and optimizing sample recovery. 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.

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