

## ELISA Solutions

### Offering you simplicity with ELISA workflow solutions

Enzyme-linked immunosorbent assays (ELISAs) are commonly used in diagnostic, as well as quality control laboratories. The assays are used for identifying and quantifying analytes using antibody–antigen reactions. The Multiskan FC microplate photometer and Wellwash microplate strip washers provide an easy-to-use modular solution for routine and research ELISAs. In addition, we offer a wide selection of dispensers, incubator / shakers, manual pipettes, microplates and reagents to complete all your ELISA needs.

### Easy-to-use microplate reader and microplate strip washer

The Multiskan® FC and Wellwash® strip washers feature a large colour display with a logical and intuitive graphical user interface, which makes the assay extremely easy to set up. A context specific help feature ensures that protocols are developed quickly and easily, with minimal user training, guaranteeing that all users can effectively use the equipment regardless of experience levels. This results in an increase in ELISA productivity and throughput.

### Challenges in ELISA

Reducing background noise and variation is one of the challenges during the assay. To ensure reliable results with excellent accuracy and precision, while maximising assay sensitivity, high quality washing and reading are essential. In addition, effortless result interpretation and reporting are crucial to day-to-day routine ELISAs.

### Efficient removal of unbound materials with Wellwash strip washers

The Wellwash and Wellwash Versa strip washers are designed for the accurate and precise dispensing and aspiration of washing solutions via specially designed wash heads. The washing parameters are easily adjustable to guarantee the best possible washing performance. These strip washers incorporate a sweep mode to ensure extremely low residual volumes to enable the efficient removal of un-bound antibodies and other disturbing assay components, thus decreasing background noise and increasing the reliability of ELISA data.

### Reliable results with Multiskan FC

The Multiskan FC microplate photometer is an excellent reader for performing qualitative and quantitative ELISAs. The proven and patented optical design, in combination with the auto-calibration procedure performed during each measurement, guarantees excellent performance and ensures consistent reading of results, increasing the reliability of the ELISA data. The SkanIt Software, designed for use with the Multiskan FC, makes the assay easy to set up by incorporating several ready-made calculations including quantitative and qualitative classification and quality control.

Find the right instrument for your laboratory from our family of ELISA products.



Wellwash Versa



Multiskan FC



## ELISA Workflow Solutions

### PREPARE SAMPLES

Centrifuges and sample storages



### Multiskan FC

#### Microplate Photometer

- Reliable and robust ELISA reader for research and routine applications
- Large color screen for easy stand alone use
- Stand-alone or PC control in multiple languages
- Advanced SkanIt Software
- Reads 96- or 384-well plates

Note : See the following pages for more details

### Multiskan GO

#### UV/Vis Microplate and Cuvette

#### Spectrophotometer

- Reads 96- and 384-well plates and various types of cuvettes
- Wavelength selection from 200 to 1000 nm in 1 nm increments
- Stand-alone or PC control in multiple languages
- Fast spectral and end-point measurements
- Continuous self diagnostics and calibration
- Automatic power save

Note : See pages 351 - 353

### Wellwash

#### Microplate Washer

- Large color display for ease-of-use
- Intuitive graphical user interface with multiple language versions
- Optimal washing performance with low residual volumes
- Un-pressurised bottles for safety and convenience

Note : See the following pages for more details

### ADD REAGENTS

Pipettes or Reagent dispensers



Model	Cat. No.
Multiskan FC, 100-240 V	
	<b>51119000</b>
Multiskan FC with incubator, 100-240 V	
	<b>51119100</b>



Model	Cat. No.
Multiskan GO w /out cuvette, 100-240 V	
	<b>51119200</b>
Multiskan GO w/ cuvette, 100-240 V	
	<b>51119300</b>



Model	Cat. No.
Wellwash, 100-240 V	
	<b>5165000</b>

### INCUBATE

Incubator/Shakers



### Wellwash Versa

#### Dual Strip Microplate Washer

- Large colour display for ease-of-use
- Intuitive graphical user interface with multiple language versions
- Optimal washing performance with low residual volumes
- Un-pressurised bottles for safety and convenience
- Cell washing and 384-well plate washing for increased flexibility
- Robot compatibility for increased throughput

Note : See the following pages for more details



Model	Cat. No.
Wellwash Versa, 100-240 V	
	<b>5165010</b>

### iEMS® Incubator / Shaker

#### Microplate Incubator and Orbital Shaker

- Exceptional temperature uniformity across the plate
- Efficient orbital shaking
- Superior sensitivity and specificity for EIA assays
- Temp range up to 40°C, and up to 69°C on HT
- Capacity of up to 9 plates, 3 plates on the HT

Note : See the following pages for more details



Model	Cat. No.
iEMS Incubator/Shaker HT, 1-cabin, 220-240 V	
	<b>5112250</b>
iEMS Incubator/Shaker, 3-cabin, 220-240 V	
	<b>5112200</b>

### Finnpipette® F1

#### Single and multichannel manual pipettes

- Advanced volume gearing mechanism for enhanced pipetting performance
- Super blow-out piston with volumes of 50 µl and below for improved delivery of micro-sized drops
- Antimicrobial surface preventing growth of bacteria, microbes and fungus
- Enhanced ergonomics: tip ejection forces reduced by up to 50%

Note : See page 370



Model	Cat. No.
F1 Single Channel, 1-10 µl	<b>4641030</b>
F1 Single Channel, 5-50 µl	<b>4641140</b>
F1 Single Channel, 20-200 µl	<b>4641080</b>
F1 Single Channel, 100-1000 µl	<b>4641100</b>
F1 8-Channel, 1-10 µl	<b>4661000</b>
F1 8-Channel, 30-300 µl	<b>4661030</b>
F1 12-Channel, 1-10 µl	<b>4661040</b>
F1 12-Channel, 30-300 µl	<b>4661070</b>

## ELISA Workflow Solutions

### WASH

Microplate Washers



### ADD REAGENTS

Pipettes or Reagent dispensers



### READ AND ANALYSE

Microplate photometers



### Finnpipette F2

Single and multichannel manual pipettes

- Double-action pipetting button to prevent accidental volume changes
- Super blow-out piston with volumes of 50 µl and below for improved delivery of micro-sized drops
- Low pipetting forces for enhanced ergonomics



Model	Cat. No.	Model	Cat. No.
F2 Single Channel, 1-10 µl	4642030	F2 8-Channel, 1-10 µl	4662000
F2 Single Channel, 5-50 µl	4642130	F2 8-Channel, 30-300 µl	4662030
F2 Single Channel, 20-200 µl	4642080	F2 12-Channel, 1-10 µl	4662040
F2 Single Channel, 100-1000 µl	4642090	F2 12-Channel, 30-300 µl	4662070

Note : See page 371

### Multidrop 384

Reagent Dispenser

- 96- and 384-well plate formats
- Volume range: 5-395 µl
- Precise and reliable dispensing
- Autoclavable dispensing cassettes
- Designed for ease-of-use
- Robotic compatible



Note : See pages 366 - 367

Model	Cat. No.
Multidrop 384, 220-240 V	5840150

### Multidrop Combi

Reagent Dispenser

- Volume range: 0.5 - 2500 µl
- Flexible plate height 5 - 50 mm
- 6 - 1536-well plate formats
- Ultimate versatility for reagent dispensing
- Easy to use visual user interface with colour display
- Multidrop Combi SMART with inbuilt tracking system for real time tracking of dispensing cassette usage
- Robotic compatible



Note : See pages 363 - 365

Model	Cat. No.
Multidrop Combi, 100-240V	5840300
Multidrop Combi with SMART option, 100-240 V	5840310

### RapidStak®

Automated Microplate Stacker

- Works seamlessly with Multiskan FC, Multiskan GO, Wellwash Versa, Multidrop Combi and Multidrop 384
- Schedule and automate any two instruments with the Polara RS software
- Capacity from 30 to 150 plates
- Quick and easy setup



Model	Cat. No.
RapidStak	F01350
RapidStak 2x	F01351
30 Plate Stak	F01436
50 Plate Stak	F01437
Polara® RS	Enquire

Note : See pages 372 - 373

### General Purpose Centrifuges

- Exceptional capacity, performance and ease-of-use in a remarkably small footprint
- Auto-Lock® rotor exchange provides secure push-button application versatility
- Lightweight and durable performance from Fiberlite® carbon fiber rotors
- One-handed, certified sample protection with ClickSeal® biocontainment lids



Note : See Centrifuges on pages 37 - 91

### Orbitor RS

- The Orbitor RS is the next generation in plate moving technology.
- Its innovative bi-directional telescoping arm provides exceptional reach and precision
- Flexible, compact robot easily accesses the most complicated instruments.



Note : See pages 374 - 375

### ELISA Kits and Reagents

- Complete target-specific ELISA kits - A variety of immunoassay kit configurations provide reagents for 96-well microplate assays for quantitative measurement of individual cytokine, chemokine and other markers
- Individual ELISA components - includes pre-coated and custom plate-coating services, blocking and wash buffers and antibodies and secondary detection reagents

Note : Please contact us for further details.

## Multiskan™ FC

The Multiskan™ FC – Filter-based Microplate Photometer for Research and Routine Applications. The Multiskan™ FC microplate photometer is a reliable and robust instrument for a wide variety of research and clinical applications. It reads both 96- and 384-well plates, and is equipped with shaking and incubation capabilities for temperature critical assays.

It can be used as a stand alone instrument or under PC control with our intuitive SkanIt™ Software. Designed with 35 years experience in microplate photometry, the Multiskan™ FC combines the world-renowned quality of the Multiskan™ product line with a new large colour screen, visual internal software with ‘quick keys’ and multiple language options to ensure excellent usability.



### Multiskan™ FC Offers You:

- A broad wavelength range of 340–850 nm for a wide variety of research and routine applications
- Fast and accurate measurement of both 96- and 384-well plates for various throughput requirements
- Shaking and incubation up to 50°C for temperature critical assays
- Ease of use through the large color screen, visual internal software and a variety of language versions
- Visual and logical SkanIt Software for comprehensive instrument control and data handling
- Proven performance and reliable day-to-day results through patented optical design and in-built self diagnostics

### Multiskan™ FC for a Wide Variety of Photometric Applications

The Multiskan FC is a reliable and robust microplate photometer designed to perform a wide variety of routine and clinical applications. It brings together 35 years experience of the well-known Multiskan product brand, with new features for enhanced usability. The Multiskan FC can be used as a standalone instrument or under PC control via our unique and easy-to-use SkanIt Software.

The Multiskan FC has a 340–850 nm wavelength range, enabling a wide variety of applications from enzyme kinetic studies to Lowry assays. It is equipped with an eight-position filter wheel with three standard filters, 405 nm, 450 nm and 620 nm, preinstalled. A comprehensive range of easy-to-install additional filters is available for order directly from your representative.

The Multiskan FC provides fast and accurate measurements enabling complete 96-well plate reading in less than six seconds. Furthermore, the instrument is equipped with linear shaking as standard. A model is also available fitted with an incubator providing incubation temperatures up to 50°C and the capacity to read 384-well plates.

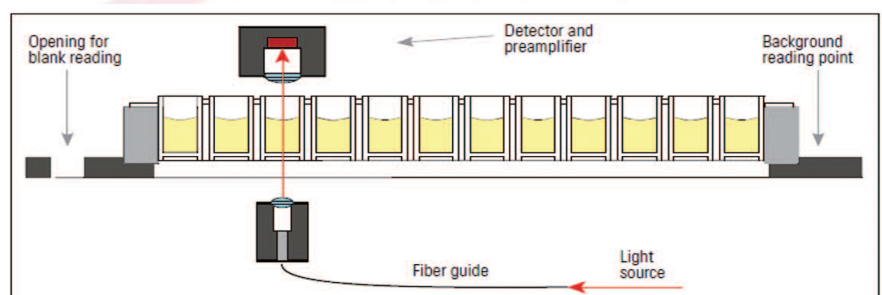
### Reliable Results and Robust Performance

The proven and patented (US6111636) optical design of the Multiskan FC in combination with an autocalibration procedure that is performed during each measurement guarantees stable day-to-day and year-on-year performance and reliability.

During startup all major functions of the instrument, such as plate position, measurement stability, lamp functionality, filters, optical system, incubation and electronic operation, are checked to ensure reliable operation. In addition, the lamp is automatically switched off when not in use, which prolongs the lifetime of the lamp.

### Ease of Use with Internal Software

The large colour screen of the Multiskan FC, combined with the simple and logical internal software, ensures easy and intuitive assay setup. The ‘quick keys’ allow instant access to the most commonly used protocols in routine laboratories. In addition, the internal software contains both qualitative and quantitative calculations for single, dual and kinetic measurements providing flexible data handling capabilities.



Patented and proven optical design (US6111636)

## Multiskan™ FC

The internal software memory can store up to 99 assays, and results can be saved to a USB memory stick for easy transfer to a computer.

### The SkanIt Software for Optimal Computer Control

The highly visual and logical user interface of SkanIt Software facilitates instrument control and data handling for both research and routine applications. The graphical step list feature allows straightforward setup of any assay. Comprehensive inbuilt calculations, such as blank subtraction, quantitative curve fit, qualitative classification and kinetic calculations, as well as the versatile reporting tool, make data reduction with SkanIt Software trouble-free. Using the ready-made demo sessions in SkanIt Software, basic single, dual and kinetic measurements are performed quickly with only a few mouse clicks.

The same language selection for the internal software is available also for SkanIt Software. It simply speaks your language. Furthermore, ready-made sessions for many common assays can be downloaded for SkanIt Software online. Please contact us for further details.

### Robot Compatibility for High-throughput Environments

The plate carrier of the Multiskan FC is specially designed for convenient stacker and robot arm access, allowing microplate gripping in both portrait and landscape configurations. In addition, the SkanIt Software automation interface enables easy integration with robotic software.

### Multiskan Verification Plate for Instrument Verification

The Multiskan™ Verification Plate, combined with the SkanIt Software verification feature, provides an excellent tool for verifying instrument performance and allows users to test the integrity and validity of their results. Moreover, the installation, operation and performance qualification (IQ/OQ/PQ) package provides a convenient way to document evidence, thus demonstrating the integrity of the instrument and its performance.

### Meets European Directives

The Multiskan FC (IVD model) with the internal software conforms to the European IVD (In Vitro Medical Device) directive, making it ideal for qualitative and quantitative ELISA applications in clinical laboratories. Built using the highest quality components, the Multiskan FC conforms to the RoHS (Restriction of Hazardous Substances) directives.



Visual and logical user interface of SkanIt Software



Large colour screen and visual internal software

Applications: Immunoassays (ELISA), protein assays, endotoxins, cytotoxicity and proliferation assays, enzyme assays and growth curves



USB port for easy data transfer



Robot-friendly plate carrier for both 96- and 384-well plates

## Multiskan™ FC - Technical Specifications and Ordering Information

<b>Light source</b>	Quartz-halogen lamp 6 V/10 W
<b>Wavelength range</b>	340–850 nm
<b>Filters</b>	8-position filter wheel, the instrument is delivered with the following standard filters installed: 405 nm, 450 nm and 620 nm. Additional filters can be ordered separately.
<b>Half-bandwidth of filters</b>	3–9 nm
<b>Read-out range</b>	0–6 Abs
<b>Linearity (405 nm)</b>	0–3 Abs, ± 2%, 96-well plate 0–2.5 Abs, ± 2%, 384-well plate
<b>Resolution</b>	0.001 Abs
<b>Accuracy (405 nm)</b>	± 1% (0–3 Abs) or ± 0.003 Abs, whichever is greater
<b>Precision (405 nm)</b>	CV ≤ 0.2% (0.3–3 Abs)
<b>Measurement speed</b>	7 s, 96-well plate, fast mode 13 s, 96-well plate, normal mode 13 s, 384-well plate, fast mode 34 s, 384-well plate, normal mode
<b>Optional incubator</b>	Temperature range from ambient + 4°C up to 50°C
<b>Shaking</b>	Linear shaking with three modes: slow, medium and fast
<b>Robotic compatibility</b>	Yes
<b>Display</b>	High contrast color display (480 x 272 dots)
<b>User interface</b>	Internal software or PC control with SkanIt Software
<b>Internal memory (standalone)</b>	At least up to 99 assay protocols and 100 test results, 96-well plate
<b>External printer type</b>	HP PCL5, PCL5e or PCL5c
<b>Communication</b>	USB for computer connection USB memory stick position for data export USB for external printer
<b>Mains input</b>	100–240 V (50/60 Hz)
<b>Power consumption</b>	Max. 100 VA, standby 8 VA
<b>Overall dimensions (H x W x D)</b>	220 x 290 x 400 mm 8.7 x 11.4 x 15.7 in.
<b>Weight</b>	8.5 kg (18.7 lbs.)
<b>Conformity to regulations</b>	2004/108/EC (Electromagnetic Compatibility Directive, EMC) 2006/95/EC (Low Voltage Directive) 2006/42/EC (Machinery Directive) FCC Part 15, Subpart B/Class B 2011/65/EU (RoHS Directive) 2012/19/EU (Waste of Electrical and Electronic Equipment) 98/79/EC (In Vitro Medical Device)
<b>PC requirements for SkanIt Software</b>	
<b>Minimum system requirements</b>	Intel™ Pentium™ 4 or equivalent, 1 GB RAM, 5 GB free hard disk space, USB port, CD-ROM drive and XVGA monitor
<b>Operating system</b>	Microsoft™ Windows™

Cat. No.	Instrument	Shaking	Incubation	96-well plates	384-well plates
51119000	Multiskan FC	x		x	
51119010	Multiskan FC (IVD model)	x		x	
51119100	Multiskan FC with incubator	x	x	x	x

## Wellwash - Ease of use, convenience and versatility for washing microplates in ELISA assays

The Wellwash is an easy-to-use strip washer for 96-well plates that offers convenience through a graphical user interface, nine language versions and a USB port.

### Wellwash Offers You:

- Easy set-up of wash protocols through a large colour screen and a visual user interface
- Convenience with internal software available in other languages including: English, French, German, Italian, Spanish and Portuguese
- 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

### Easy and convenient to use

The large colour screen makes the Wellwash is 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 adding more convenience of use.

Colour-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 minimised 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 optimised to guarantee that the best possible washing performance is achieved

### Reliable and secure performance

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

### Added versatility for research use

Wellwash features 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.

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

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 conforms to the RoHS (Restriction of Hazardous Substances) directives.

### Accessories

These include :

- Bottle stands - 1 & 2 configuration
- Bottle stands for User Bottles
- 2 litre Wash Bottle
- 4 litre Wash Bottle
- 9 litre Waste Bottle
- 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 - Ease of use, convenience and versatility for washing microplates in ELISA assays

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.

### Wellwash Versa Offers You:

- Easy set-up of wash protocols through a large colour screen and a visual user interface
- Convenience with internal software available in other languages including: English, French, German, Italian, Spanish and Portuguese
- 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
- 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 colour screen makes the Wellwash is 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 adding more convenience of use.

Colour-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 minimised 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 optimised to guarantee that the best possible washing performance is achieved

### Reliable and secure performance

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

### Added versatility for research use

Wellwash features 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.

Bottle stands for the included bottles as well as a special stand for user bottles are available for added convenience. A four litre wash bottle and a nine litre 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 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

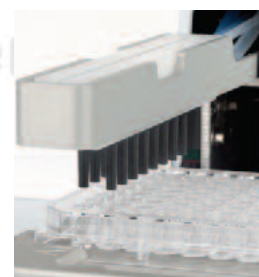
The Wellwash (IVD model) conforms to the European IVD (In Vitro Medical Device) directive, making it ideal for ELISA applications in clinical laboratories.

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

### Accessories

These include :

- **Bottle stands - 1 & 2 configuration**
- **Bottle stands for User Bottles**
- **2 litre Wash Bottle**
- **4 litre Wash Bottle**
- **9 litre Waste Bottle**
- **1 x 8 Wash Head**
- **2 x 8 Cell Wash Head**
- **1 x 12 Wash Head**
- **1 x 16 Wash Head**



Wellwash Versa with two 1 x 8 wash heads

## Wellwash and Wellwash Versa - Technical Specifications and Ordering Information

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 2 x 8 cell wash head for 96-well plate and 1 x 16 wash head	Two 1 x 8 or two 1 x 12 wash heads for 96-well plate supplied with the instrument depending on the model 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% @ 250 µl, with 2 x 8 cell wash head < 5% @ 100 µl, with 1 x 16 wash head	< 5% @ 300 µl, with n x 8 or n x 12 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

Cat. No.	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

Cat. No.	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

## iEMS Incubator / Shakers

The iEMS Incubator/ Shakers are reputed as high performance instruments. The iEMS Incubator / Shaker is designed for ELISA applications, and the iEMS Incubator/ Shaker HT is used when elevated temperatures up to 69°C 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 40°C, while the iEMS Incubator / Shaker HT allows incubation at up to 69°C.

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.



### iEMS Microplate Incubator / Shaker HT

A high-performance 96-well plate incubator and orbital shaker for assays requiring temperatures up to 69°C.



### iEMS Incubator / Shaker

A high-performance microplate incubator and shaker designed for ELISA applications.

## Technical Specifications and Ordering Information

	iEMS Incubator/Shaker	iEMS Incubator/Shaker HT
<b>Temperature control</b>		
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
<b>Shaker</b>		
Frequency	400 - 1400 revolutions per minute (rpm) in steps of 250rpm	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
<b>General Features</b>		
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*
5112200	iEMS Incubator/Shaker, 3-CABIN 220 - 240 V 50/60 Hz**
5921200	iEMS thermal microplate holder
5921210	iEMS thermal holder HT

\* Includes 3 pcs iEMS thermal holder HT \*\*Includes 9 pcs iEMS thermal holder