



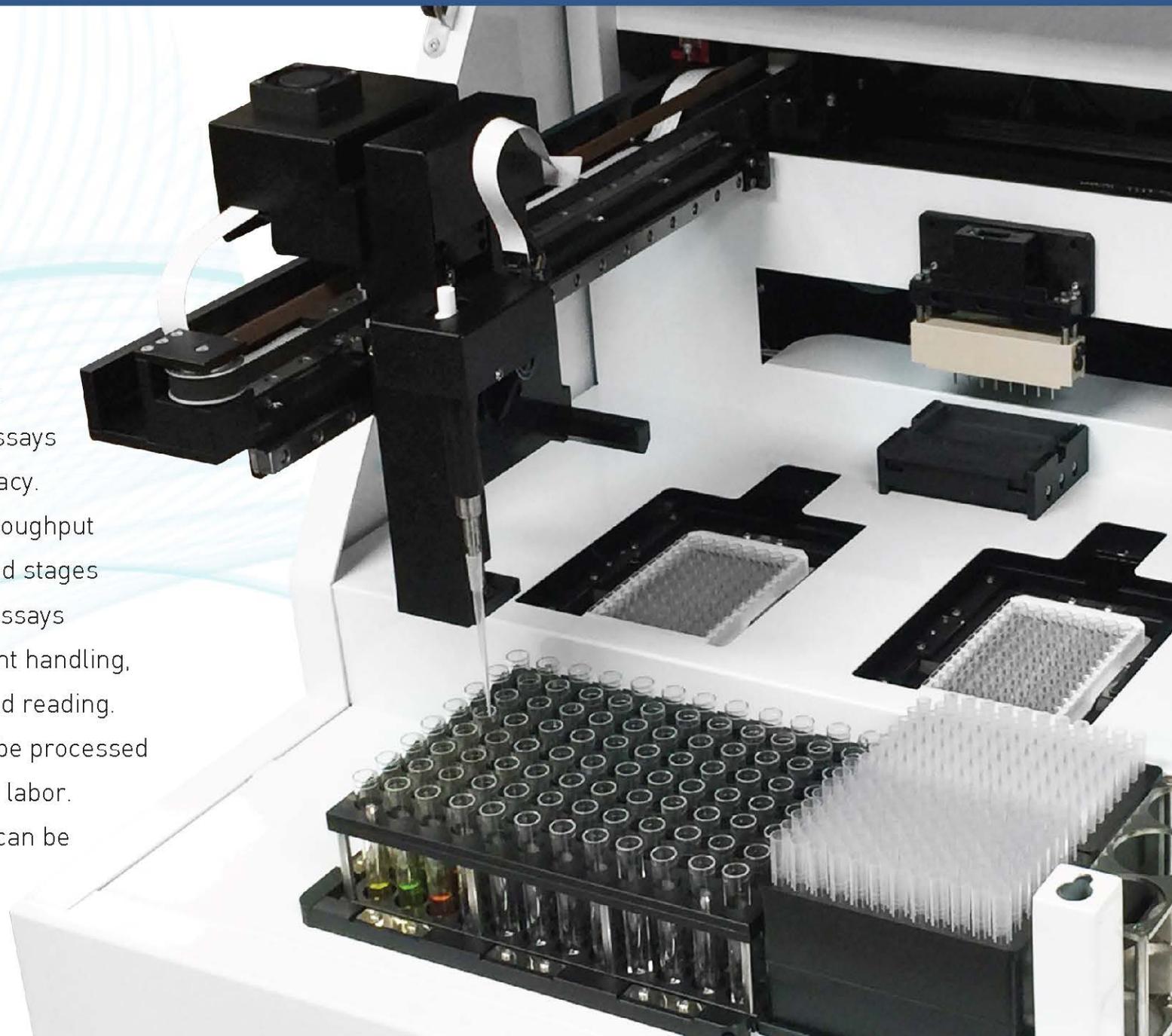
Diamond

Fully Automatic Immuno-Analyzer

- STATE OF THE ART DESIGN
- CUTTING-EDGE TECHNOLOGY
- USER-FRIENDLY INTERFACE

 **MicroDigital Co., Ltd.**

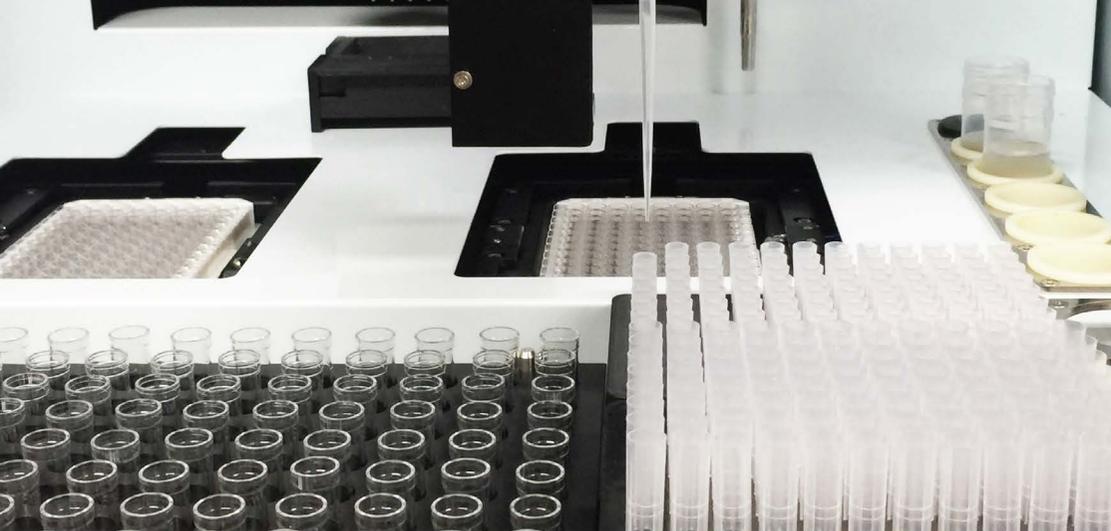
DIAMOND is the perfect solution to efficiently carry out immunoassays with superb precision and accuracy. DIAMOND maximizes the lab throughput by full automation of all steps and stages required in microplate immunoassays including sample loading, reagent handling, washing, incubation, shaking, and reading. In addition, multiple assays can be processed at once, saving time and manual labor. Moreover, both ELISA and CLIA can be performed within one system.





Features and benefits

- Fully automated immunoassay system.
- Zero carry-over by using disposable tips for liquid handling.
- Level sensing for samples, reagents and washing solutions.
- Multiple assays can be performed in one run.
- ELISA and CLIA platform in one system.
- Serial pipetting to optimize the speed of the assay.
- Fast and accurate movement with great repeatability.
- Variable fittings to accommodate any bottles or tubes.
- 8 manifold needles and washing point adjustment control.
- Simple and intuitive User Interface.
- Wide range of customizable settings for optimum flexibility.
- Universal open platform (Custom platform available)



Sample Distribution

- Disposable tips for zero inter-well cross contamination
- Precise liquid handling with a range of 5 – 300 μ l
- Liquid level detection for sample
- Sample mixing option available
- 96 Sample positions
- Easy loading of the sample tray

Reagent Distribution

- Disposable tips for zero carry-over
- Precise liquid handling with a range of 50 – 300 μ l
- 9 Reagent positions
- Reagent mixing option available for more reliable results



Incubation and Shaking

- Meticulous temperature control up to 42°C
- Orbital shaking up to 800 RPM
- 2 Independent Incubation Chambers
- No microplate cover or sealer required



Washing

- Automatic aspiration and injection of the washing solution
- 8 Manifold needles for fast washing
- Washing volume 100 – 350 μ l
- Customizable settings: batch and line washing options, soaking, and more
- Washing and waste tanks with level sensing features
- Optimum washing through washing point adjustments

Reading

- Complete dark room
- Precise absorbance detection with superb linearity
- Accurate luminescence detection with high sensitivity by advanced PMT technology
- 6 customizable filter slots for absorbance detection

Software

- Robust system with simple and user-friendly design
- Automatic quantitative and qualitative assay calculation and graphic analysis of the result data
- Flexible user interface with a wide range of options
- Data export available as an Excel file





Setup the protocol



Connect to the PC



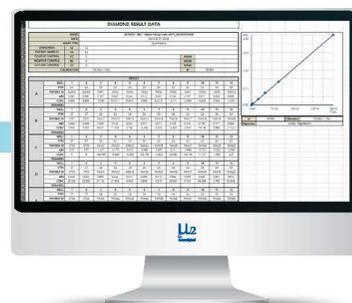
Run the protocol



Prepare the platform



Check the Result



Export to Excel for further analysis

GENERAL

Sample Capacity	96 Patient Sample Positions
Reagent Capacity	9 Custom Reagent Positions
Test Tube	Standard 13, 16 mm diameter (customizable)
No. of Microplates	2 Microplate Positions
Barcode Reader	Optional
System Architecture	Universal Open Platform (Qualitative and Quantitative)
Sample Tray	Easy loading and unloading of samples
Dimension	659 x 814 x 658 mm
Power	100–240 V, 50–60 Hz

ELISA READER

Dynamic Range	0–3.0 OD
Photometer	450, 630 nm (Optional: 405, 490, 550 nm)
Filter Slots	6 Slots
Precision	<1% CV at 2.0 OD
Accuracy	±0.005 OD or 2.5%

CLIA READER

Dynamic Range	Up to 7-log of dynamic range
Limit of Detection	1×10^{-18} moles of ATP
Crosstalk	$\leq 3.0 \times 10^{-5}$

WASHER

Manifold Configuration	8 Channels
Dispense-volume Range	100–350 μ l
Washing Tank	2 Washing Tanks (2.5L) and 1 Waste Tank (5L) with level sensing
Wash Cycle	1 - ∞ (customizable)
Residual Volume	<1 μ l

INCUBATOR

Temperature Range	Up to 42°C
Temperature Uniformity	\pm 1°C
Shaking	Amplitude: 1 mm, Speed: Up to 800 RPM
Temperature Monitoring	Yes

PIPETTING

Aspiration Volume	\geq 5 μ l
Tip	Disposable
Serial Dilution	Yes
Replicates	Yes
Precision	<0.8% CV at 100 μ l

PROCESS SECURITY

Liquid-level Detection	Yes (Must use designated tips from MicroDigital)
Level-sensor System	Pressure Differential
Dispense-anomaly Detection	Yes
Tip Detection	Yes
Well-fill Verification	Yes
Alarms	Warning Message on PC software

SOFTWARE

Operating Software	Diamond Software for PC
Work Protocols (Assays)	Unlimited
Data Processing	Quantitative and Qualitative
Access Level Control	Yes (Master, Manager, and Operator)
Operating System	Windows®

MODELS

Diamond E	System for ELISA
Diamond C	System for CLIA
Diamond M	System for ELISA and CLIA



Diamond

Fully Automatic Immuno-Analyzer

MicroDigital Co., Ltd.

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Web: www.md-best.com

Specification

Main Unit

Display	3.2" TFT Touch Screen
Sealing Technology	VLS™ (Vacuum-Like Sealing) EMST™ (Electro-Mechanical Sealing)
Sealing Speed	500 segments / hour
Life Expectancy	Semi-permanent
Voltage	110 - 240V / 50 - 60Hz
Power Consumption	Idle : 90 W / Operating : 300 W

Vactube

Vactube Material	Non-DOP polyvinyl chloride
Volume	1ml or 2ml
Number of Segments	Up to 5 segments
Sterilization	Ethylen Oxide Gas
Storing Temperature	Up to -86°C
Storage	30,000 samples / 600 liter freezer

Sample Banking Management

Labeling	Zebra Thermal Printer
Label	2D Barcode & Reader
Software	SBMS 2.0 (Windows XP/7/8/10)

General

Dimension	330 x 420 x 480 mm
Weight	28kg
Warranty	1 Year
Ambient Temperature	18~28°C
Maximum Humidity	80%



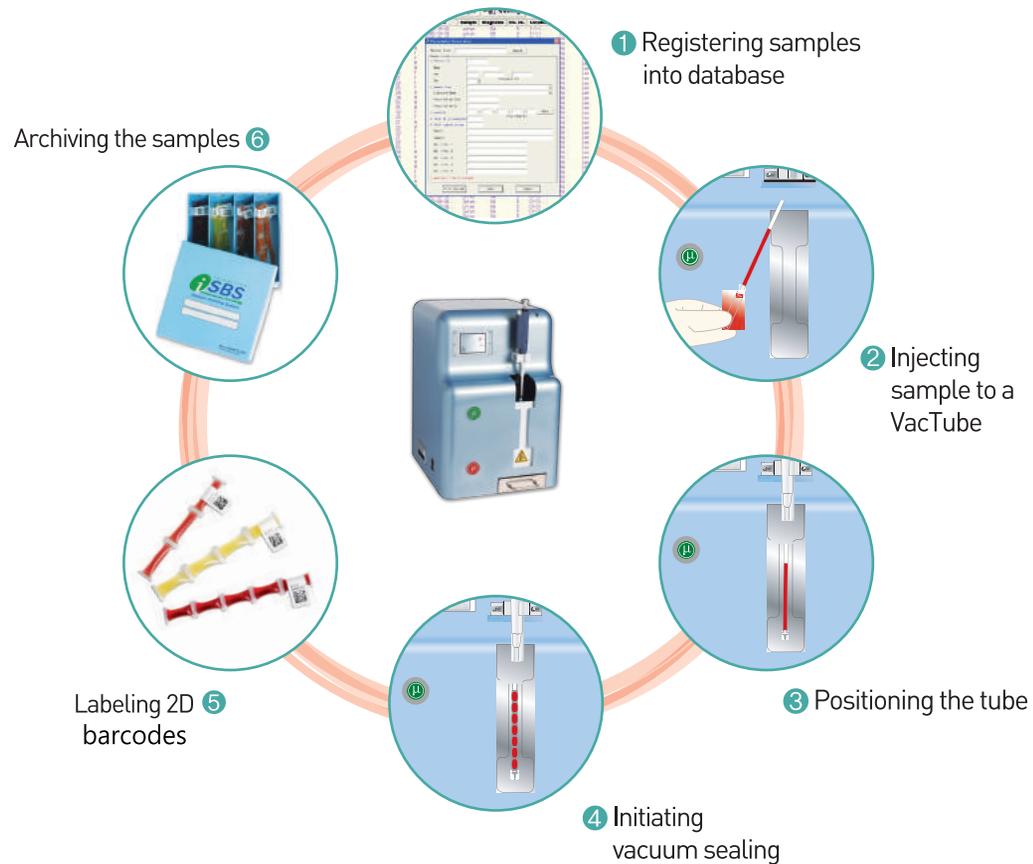
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Standard Protocol

Conventional method vs iSBS



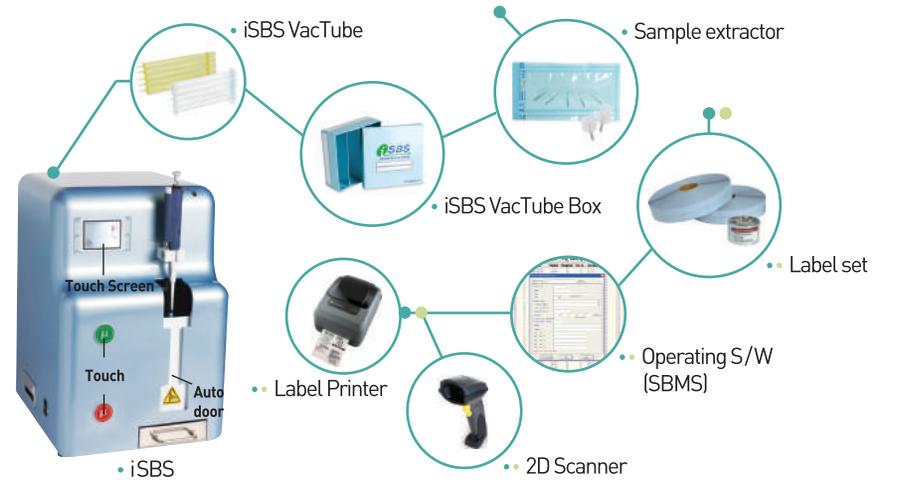
	Conventional Method	iSBS	Advantages
Segmentation of Samples	Manual distribution and sealing of samples (100 tubes/hour)*	Automatic distribution and sealing of samples (500 segments/hour)	Automatic and time-saving
Sample Quality and integrity	Limited sample preservation due to Sample oxidation and contamination	Sustain initial integrity of samples thanks to special tubes and VLS technology	Better-maintained sample integrity
Sample Management	No standardized system	Systematic sample management solution with barcode and storage software	Better sample management system for easy sample search and retrieval
Archiving Space	32,000 vials per 600L deep freezer**	32,000 x 5 segments per 600L deep freezer**	5 times more efficient sample storage space management
Special Tube	Generic tubes	Sterilized medical grade sample tubes	Convenient without compromising sample integrity

*may depend on proficiency of the user
**approximation

Innovative technologies

Consumables and Accessories

- Electro-Mechanical Sealing(EMS) : Seals tubes at low temperature, ensuring sample integrity.
- Vacuum Like Sealing(VLS) : Seals tubes in near vacuum to prevent sample oxidation.





LuBj

TECHNICAL SPECIFICATION

Limit of Detection	3.0 x 10 ⁻²¹ moles of Luciferase 1.0 x 10 ⁻¹⁸ moles of ATP
Linear Dynamic Range	> 1.0 x 10 ⁷
Crosstalk (white microplate)	< 3.0 x 10 ⁻⁵
Detector	Photomultiplier Tube (PMT)
Spectral Response Range	350 - 650nm
Peak Wavelength	420nm
Injectors	Up to 2 (optional)
Injection Volume	25 - 1000µl
Injector Precision	CV < 1%
Injection Increment	1µl
Connection Method	USB
Power	AC 85 - 264V / 0.5A / 150W
Dimension	L544mm x W561mm x H275mm
Weight	28.6kg
Operating Temperature	15 - 40°C
Warranty	1 Year

LuBj

Microplate Luminometer



MODELS

Sample Capacity	Cat. No.	No. of Injectors
Multiplate (6, 12, 24, 48, 96)	MD-3-40-LUBM-101	0
	MD-3-40-LUBM-201	1
	MD-3-40-LUBM-301	2



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LuBj Microplate Luminometer

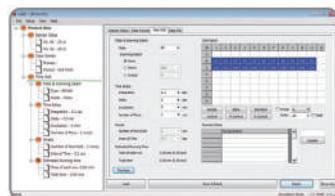
Smart Measurement

- **Precise Measurement**
Quick, Reliable and Precise
Accurate Data Collection
- **Superior Sensitivity**
Photon-counting Photomultiplier Tube (PMT)
and Noise Reduction Circuitry using
MicroDigital's own PhotoFlat™ detects and
distinguishes infinitesimal amount of light



Simple Usage

- **Minimal Maintenance & Simple Operation**
Accessible and visible injectors allow
convenient maintenance and cleaning
- **Intuitive & Flexible Interface**
 - Customizable protocol and detection modes
 - Excel-based data recording and exporting



Superb Accessibility

- **Unrestricted Plate Selection**
Analyze using any commercially
available microplates
- **Superior Sensitivity**
 - Kinetic and End-point detection for
your application
 - Various formats of matrix scanning
from single center-point to orbital with
varying diameters



Possible Areas of Application

Reporter gene analysis
Cell proliferation & cytotoxicity
Apoptosis assays
ATP assays
Aequorin-based assays
Cellular luminescence
Environmental toxicity

Sensible Application

- **System-Integrated Assays**
 - Efficiently designed waste-free reagent bottles
 - User-designed protocol
- **Internal Auto-Injection System (optional)**
High quality syringe-type injector pumps show
excellent reliability for any levels of throughput



Lumi

Single Tube
Luminometer

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 **MicroDigital Co., Ltd.**

Lumi

Single Tube
Luminometer

Compact Size & Simple to Use

- Compact size takes up only a small portion of your lab
- Easy protocol setup by touching 7.0 inch LCD
- Measurement data display and archiving through the touch LCD

Lumi

Single Tube
Luminometer

Light Measurement

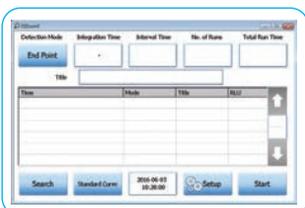
- Luminescence Measurement by PMT
- Limit of Detection : 1×10^{-18} moles of ATP
- Linear Dynamic Range : 7-log

Lumi

Single Tube
Luminometer

Convenient Maintenance

- Easy to maintain hygienic condition
- Simple data backup and software upgrade



Lumi Single Tube Luminometer

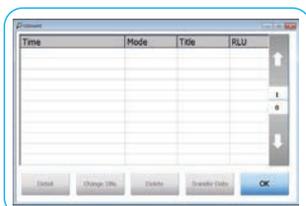


Lumi

Single Tube Luminometer

User Interface

- Available Detection Modes : End-point & Kinetic Detection
- Available Setup Variables : Integration Time, Delay Time, No. of Runs, and Detector (PMT) Sensitivity Control
- Easy to backup data using USB drives (Up to 60,000 data)



TECHNICAL SPECIFICATION

Specification	
Limit of Detection	1 x 10 ⁻¹⁸ moles of ATP
Dynamic Range	Up to 7-log
Detector	PMT (Photomultiplier Tube)
Spectral Response Range	350 - 650nm
Tube type	1.5ml Microcentrifuge Tube
LCD Touch Panel	7.0 inch
Dimension	W : 210mm, D : 250mm, H : 150mm
Power	100~240V, 50/60Hz, 1.5A
Weight	2 kg
Warranty	1 Year



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TECHNICAL SPECIFICATION

General Specification

Detection Modes	Absorbance
Reading Methods	End-point, Kinetic, Spectral Scanning, Well-Area Scanning
Microplate types	6 to 384 Well Microplate
Incubator	Optional (Temperature Control and Shaking)
Power	100 – 240 V AC, 50/60 Hz
Dimensions	396 x 364 x 207 mm
Weight	9.0 kg

Reader Specification

Light Source	Xenon Flash Lamp
Detector	Photodiode
Wavelength Selection	Monochromator
Wavelength Range	185 – 1,000 nm (1 nm increments)
Monochromator Bandwidth	5 nm
Dynamic Range	0 – 4.0 OD
Resolution	0.0001 OD
Wavelength Accuracy	± 1.0 nm
Wavelength repeatability	± 0.1 nm
Pathlength Correction	Available
OD Accuracy	± 1% at 2.0 OD , 3% at 3.0 OD
OD Repeatability	± 1% at 2.0 OD
OD Linearity	± 1% from 0 to 3.0 OD



Mobi MICROPLATE SPECTROPHOTOMETER

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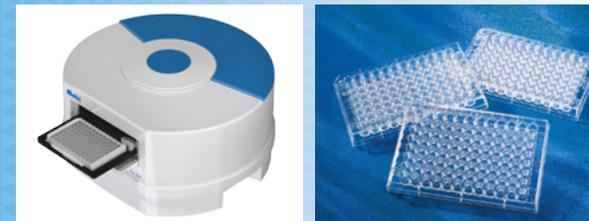
Microplate Spectrophotometer

Product Introduction

- Mobi uses monochromator-based optics to offer a wider range of wavelengths including the UV-Vis range.
- Mobi's quality optical system allows it to run assays in 6 to 384 well microplates quickly and efficiently.
- Mobi offers multiple detection modes such as end-point, kinetic, spectral scanning and more.



Mobi MICROPLATE SPECTROPHOTOMETER



Mobi

Microplate Spectrophotometer

Product Design

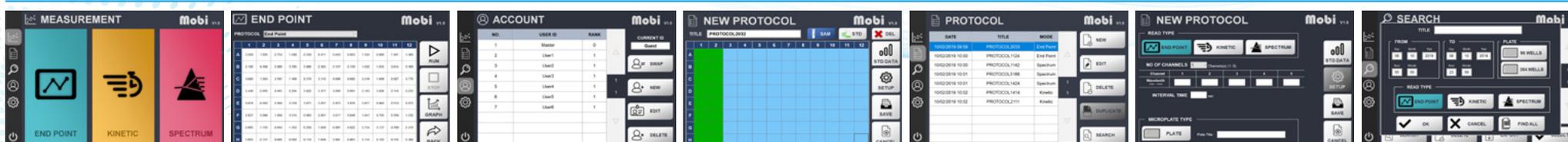
- Mobi incorporates a high-tech incubator for precise temperature control and complex shaking movements as options.
- Light weight and compact design.
- Stand-alone system with an optional tablet touch screen.

Mobi

Microplate Spectrophotometer

Software and Tablet

- Mobi is supplied with a tablet PC for enhanced connectivity through Wi-Fi and Bluetooth. (Optional)
- Intuitive and user-friendly software.
- End Point, Kinetic, Spectrum mode selection available.
- Easy to confirm results via graphical presentation.



TECHNICAL SPECIFICATION

General Specification

Light Source	Xenon Flash Lamp
Detector	CCD (2,048 Pixels)
Wavelength Accuracy	±1 nm
Wavelength Range	190 – 1100 nm
Spectral Resolution	0.3 nm
Max Memory Volume	32 GB / 1,000,000 data
Dimension	220 x 280 x 220 mm 8.6 x 11.0 x 8.6 in
Weight	5 kg
Operator Voltage	100 – 240 V, 50 – 60 Hz
Power Consumption	80 – 100 W
Warranty	1 Year
LCD Touch Panel	7.0 in

Nano Volume Specificaiton

Absorbance Precision	1% at 100 ng/μl
Absorbance Range	0 – 300 Abs. (10 nm equivalent)
Detection Limit	2 ng/μl (dsDNA)
Maximum Concentration	15,000 ng/μl (dsDNA)
Measurement Time	5 sec
Minimum Sample Size	1 μl
RNA Detection Limit	1 ng/μl
Path Length	0.01 – 1.2 mm (Auto-ranging)

Cuvette Specificaiton

Beam Height	8.5 mm
Absorbance Range	0.002 – 2.0 Abs.
Protein Detection Limit	1 mg/μl
Measurement Time	3 sec



Nabi

UV/Vis NANO SPECTROPHOTOMETER

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Nabi

UV/Vis NANO
SPECTROPHOTOMETER

Variety & Precision in Detection

- End Point & Kinetic Mode in Detection
- High Speed Spectrum Reading (5 Seconds)
Accurate Detection (Less than ± 0.002)
- Wide Range of Wavelength Detection with Cuvette
- Nano Volume Sample Measurement (Nucleic Acid / Protein)
- High Repeatability in Quantitative Measurement for Nucleic Acid

Nabi UV/Vis NANO SPECTROPHOTOMETER



Nabi

UV/Vis NANO
SPECTROPHOTOMETER

Simple & Light in Design

- Compact Size and Light Weight
- Easy Operation with Minimized Steps for Measurements and Analysis
- 7.0 inch Touch LCD
- Quick Boot – No Lamp Warm-up Time
- Stand-Alone – Perform All Functions without PC



Nabi

UV/Vis NANO
SPECTROPHOTOMETER

Result Analysis

- Single Wavelength / Spectrum Selection
- End Point / Kinetic Mode Selection
- Quantitative Measurements for Nucleic Acid, Protein, and etc.
- Cell Concentration
- Simple Data Backup and Software Upgrade via USB Flash Drive
- Easy to Confirm the Result via Graphical Presentation

