

Superior optical system made to match top specifications

iEMS Reader MF — ideal for critical kinetic assays

The Labsystems iEMS Reader MF features an innovative optical system that ensures excellent reproducibility and accuracy. Linearity is up to 4.0 absorbance units, ensuring accurate results even for highly concentrated samples.

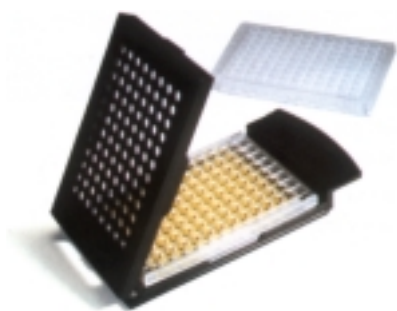
- Unrivaled accuracy and precision
- Exceptional temperature uniformity across the plate
- Orbital shaker to enhance reaction kinetics
- Rapid 8-channel dispenser for perfect assay timing
- Ascent PC software for full data reduction and reporting

Unrivaled accuracy and precision

The unique optical system of the iEMS Reader MF provides sequential illumination to prevent crosstalk and guarantees unrivaled reproducibility, accuracy and linearity. Reading time is very short: only 3 seconds per 96-well plate.

Exceptional temperature uniformity across the plate

In all assays, but especially in kinetic assays, temperature uniformity across the microplate is a prerequisite for good precision and accuracy. The iEMS Reader MF uses a specially designed Thermal Microplate Holder, which ensures uniform heating of the microplate, avoiding temperature gradients and edge effects. The temperature variation across the microplate is less than 0.4°C and condensation is eliminated by heating the upper side of the holder.



Orbital shaker to enhance reaction kinetics

Orbital shaking of the iEMS Reader MF has been shown to increase the sensitivity and specificity of EIA assays and enhance reaction kinetics, and it is essential in preventing aggregation. The speed of the shaker can be adjusted between 400 to 1400 rpm.

Rapid 8-channel dispenser for perfect assay timing

The iEMS Reader MF is the only microplate reader available with a dispenser on-board. This enables the addition of a start reagent and immediate measurement, a critical feature in enzyme kinetic studies.

Ascent PC software for full data reduction

The intuitive Ascent PC software controls all instrument functions as well as performs comprehensive data reduction and reporting. Kinetic reactions can be monitored at 1-second intervals and followed from real-time kinetic plots.

Performance Verification Test Kit

To enable GLP verification of instrument performance, a Performance Verification Test Plate and software package are available.

Technical specifications

Optical performance	
Light source	Tungsten halogen lamp 8V/50W
Filters	8-position filter wheel with 340 nm, 405 nm, 414 nm, 450 nm, 492 nm, 540 nm, 620 nm and 690 nm filters supplied as standard
Half bandwidth of filters	3-9 nm
Wavelength accuracy	±2 nm
Detectors	9 silicon photo diodes
Wavelength range	340-850 nm
Linearity range	0-4 Abs. units with max. deviation less than 2% 0-3 Abs. units at 340 nm
Reading range	0-6 Abs. units
Resolution	0.001 Abs. units
Accuracy	±1% or 0.002 Abs. units, whichever is greater (0-2 Abs. units) ±2% (2-3 Abs. units)
Precision	CV<0.2% or 0.002 Abs. units, whichever is greater (0-3 Abs. units) CV< 1.0% (3-4 Abs. units)
Measurement time	
- Continuous reading	3 s
- Stepping reading	6 s
Incubator	
Temperature range	+14° C to +40° C
Incubation range	Ambient +3° C to +40° C
Resolution	0.1° C
Incubation time	Up to 99 h
Warming speed	< 20 min from 24° C to 37° C
Accuracy	±0.5° C
Uniformity	±0.2° C across the plate
Shaker	
Frequency	300-1,500 rpm in steps of 60 rpm
Amplitude	1 mm (radius 0.5 mm)
Shaking time	Up to 99 h
Interval time	Up to 99 h
Dispenser	
Volume range	20-395 µl in 10 µl steps
Speed of dispensing	20 µl into 96 wells/8 s 100 µl into 96 wells/14 s
Accuracy	±3%
Precision	CV<2.5% at 20 µl CV<2.0% at 100 µl
Ordering information	
5112160	iEMS Reader MF, 230V
5112167	iEMS Reader MF, 115V
5921200	Thermal Microplate Holder
Note: Ascent PC Software and 8 filters are included in the code.	



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