

Infinite™ 200 series: detection solutions that grow with your ideas

Immediate access to all wavelengths in an affordable, scaleable
detection family

Infinite 200 series

New horizons in microplate detection

The introduction of the Infinite 200 series is Tecan's latest step in widening the access of research laboratories to developments in monochromator- and filter-based detection technologies. Whatever your research objectives or application requirements, the Infinite 200 series offers flexible, scalable detection solutions incorporating all main detection methods in an affordable and easily upgradeable line-up.

Access to a full range of leading detection methods

















Now, through Tecan's Infinite 200 series, it is possible to use a full range of leading detection technologies in one easy-to-use modular instrument. The user may select from the modules listed in the table below to create the reader for their needs without missing the possibility for future upgrades.

The four fold monochromator design of the Infinite M200 provides best sensitivity and allows the user to select any wavelength from UV to NIR and to perform absorbance, excitation and emission scans. Users can access all wavelengths and change from top to bottom reading, for the easy measurement of multiplexed assays, at the touch of a mouse click – no manual hardware changes are required.

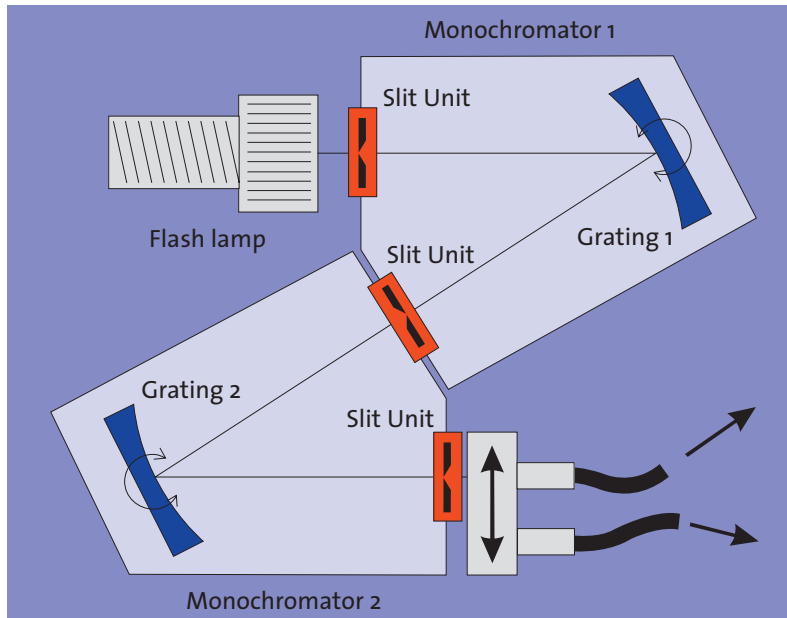
The Infinite F200 uses a patent-pending intelligent filterslide system with integrated lifetime monitoring for the filters. Its fluorescence polarization module is perfectly equipped for binding studies in homogenous mix and read assays and the filter modules offer a cost efficient alternative for routine applications at fixed wavelengths.

Infinite M200 – Monochromator

Infinite F200 – Filter

	Fluorescence intensity top reading incl Time Resolved Fluorescence		Fluorescence intensity top reading incl Time Resolved Fluorescence
	Fluorescence intensity bottom reading incl Time Resolved Fluorescence		Fluorescence intensity bottom reading incl Time Resolved Fluorescence
	Spectrally enhanced photo multiplier tube		Spectrally enhanced photo multiplier tube
	Absorbance		Absorbance
	Photon counting luminescence incl dual color luminescence		Photon counting luminescence incl dual color luminescence
	Cuvette port for absorbance		Fluorescence polarization
	Temperature control		Temperature control
	Injectors		Injectors

Select your new application, customize your detection device and perform your measurements quickly and easily



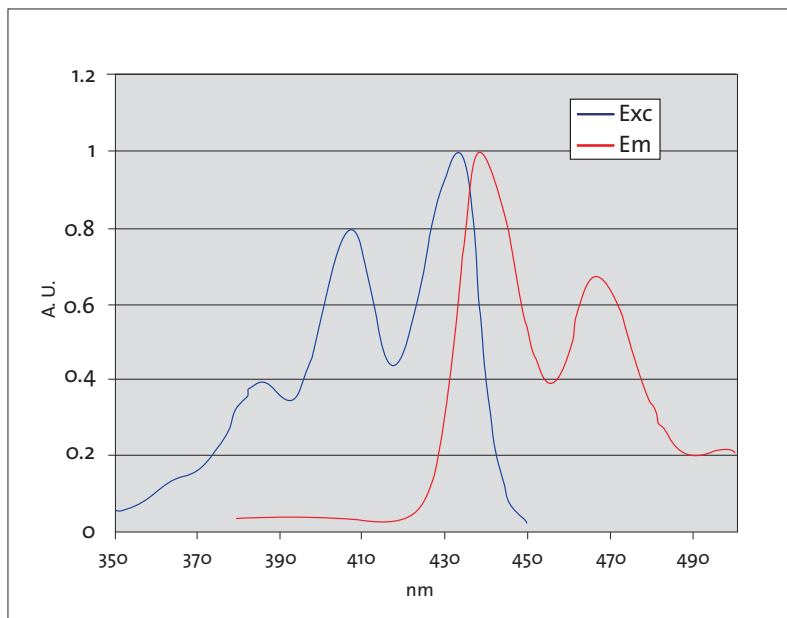
Four fold monochromator design for flexibility in wavelength and best performance.

Broadly applicable modular detection solutions to widen research capabilities

Detection is at the heart of measuring change in biopharmaceutical and diagnostic assays. In today's rapidly changing research environment, cost-effective and expandable systems permit fast wavelength selection together with a host of easily upgradeable detection options.

The Infinite 200 series is designed to deliver accuracy and performance in a format that allows researchers to build versatile detection systems that match their changing application needs. With the M200 monochromator-based and F200 filter-based detection options, the Infinite 200 series offers up to eight detection modes for sample measurements in 6 to 384-well plates, PCR plates or cuvettes. The Infinite 200 series offers unlimited flexibility for a wide range of biological assays and measurements including:

- DNA / RNA quantification
- protein quantification
- ion channel studies
- ion flux studies
- reporter gene assays
- cell viability and toxicity assays
- binding studies
- enzyme assays
- immunoassays



Typical excitation and emission scan.

Module and quality control features

Module features

The modules available with the Infinite M200 and F200 provide the following features:

- the spectrally enhanced PMT which extends the emission wavelength range from 330 – 600 nm to 280 – 850 nm allows to use red-shifted dyes, which minimize interference by auto-fluorescence phenomena
- a UV Si photodiode absorbance detector for the wavelength range 230 nm up to 1000 nm provides excellent sensitivity also at low concentrations
- a luminescence module capable of reading dual color luminescence assays with a photon counting detector to detect the lowest light levels from an assay
- temperature control for cellular- & biochemical assays, which require a defined temperature range

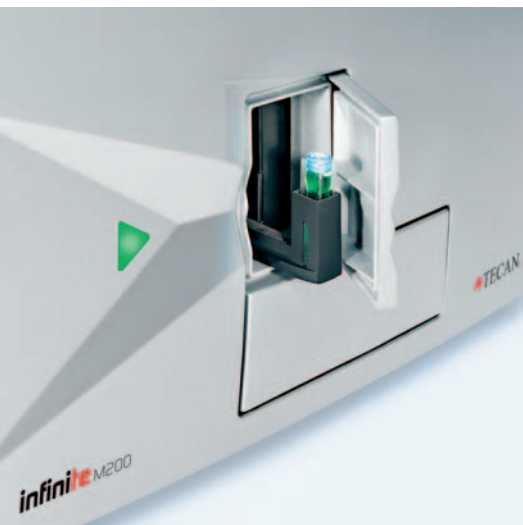
The Infinite M200 can read a standard 1 cm x 1 cm cuvette and low volume microcuvettes in an upright position for both fixed wavelength and scanning spectrophotometric measurements within the 230 nm to 1000 nm wavelength range

Injector module

The state-of-the-art injector module allows the use of up to two injectors which can dispense reagents, replacing a manual pipetting step, or trigger fast kinetic reactions in fluorescence, luminescence and absorbance modes. The injectors have variable volume and speed settings and can be used in combination with the ratio mode to allow fast switching of wavelengths for a wide range of applications. The maintenance of the injectors is supported by easily accessible prime / wash buttons.

Built-in performance features

The Infinite 200 series has been designed to support users who need to meet Good Laboratory Practice standards. A MultiCheck QC-plate, which includes installation and operational (IQ OQ) checks and documentation, guarantees that all Infinite 200 devices meet the standards needed for quality control laboratories, as well as for scientists that need to assure production standards in pharma and biotech settings.



Optional cuvette port on Infinite M200 for spectrophotometric measurements.



Injector module with up to two injectors and buttons for prime and wash.



The MultiCheck quality control package allows to test the reader performance without the need for liquid handling.

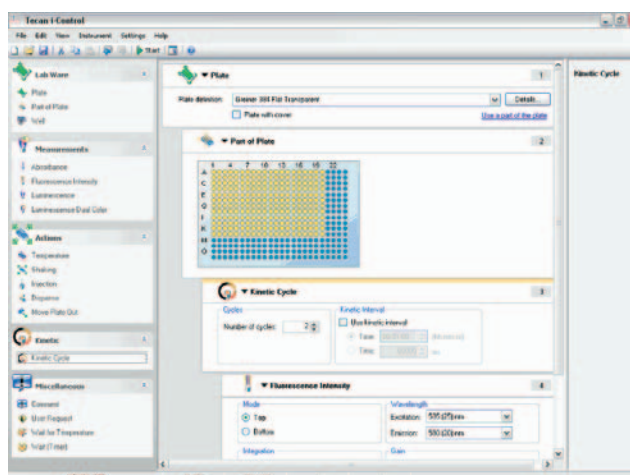
Software designed for your workflow

The Infinite 200 series comes complete with an easy-to-use i-control™ software interface that allows the user to define the workflow for each application. Each workflow is easily created by dragging and dropping the processing steps into a sequence according to the assay protocol. The application workflow is then visible to the user and can be saved for future use. Data are easily managed and exported to Windows® compatible formats (Excel®).

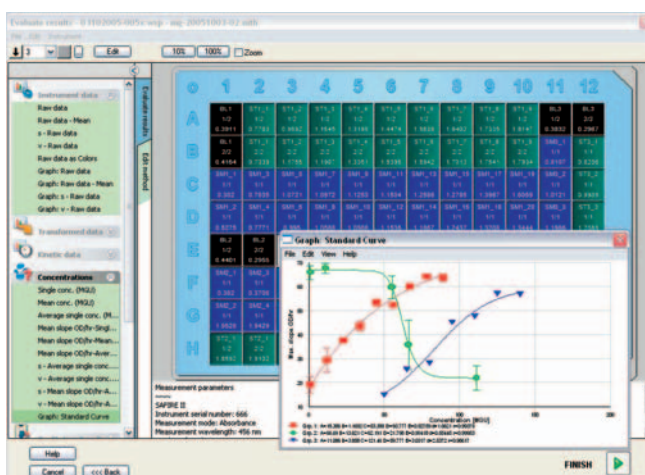
If more advanced data processing or calculation is needed, Tecan's proven Magellan™ software delivers features for all microplate formats used in the Infinite 200 series of detection devices. Highlights of new Magellan software in combination with the Infinite 200 series include:

- Application oriented workflow definition via drag & drop functionality Wizard guided application definition for intuitive operation and less training effort
- Excel-style definition of transformations for easy transformation of data into results
- Advanced spectra calculation package – the perfect partner for your Infinite M200 reader
- Convenient handling of dilution series and ICx calculations
- Predefined example files for a range of applications help you to get started immediately
- Comprehensive plate library for fast selection of your favorite microplate

Magellan Tracker is available to fulfill 21 CFR Part 11 requirements for electronic records and electronic signatures in compliance with FDA regulations. In this way, users have complete access to intuitive software solutions that match their detection needs.



Workflow oriented i-control software supports complex assay protocols.



Easy presentation and evaluation of data from multiple experimental groups on a microplate.

Infinite M200 and F200 – Typical performance values

Light Source	UV Xenon flashlamp	
Wavelength selection	two double monochromators	
Infinite M200	two double monochromators	
– Bandwidth	Ex: < 5 nm for $\lambda \leq 295$ nm and < 9 nm for $\lambda > 295$ nm; Em: < 20 nm	
– Wavelength accuracy	< ± 2 nm for $\lambda > 295$ nm; < ± 1 nm for $\lambda \leq 295$ nm	
– Wavelength reproducibility	< ± 1 nm	
Infinite F200	Up to 4 filter pairs per slide	
Wavelength range		
Fluorescence intensity	Standard: Ex 230 – 600 nm, Em 330 – 600 nm Optional: Ex 230 – 850 nm, Em 280 – 850 nm	
Fluorescence polarization	Standard: Ex 300 – 600 nm; Em 330 – 600 nm Optional: Em 330 – 850 nm	
Absorbance	230 – 1000 nm	
Detectors	Fluorescence – PMT, optionally UV and red-sensitive Absorbance – UV Silicon photodiode Luminescence – photon counting system with low dark current PMT	
Plate formats	6 to 384 well plates, cuvettes	
Temperature control	Ambient +5 °C up to 42 °C	
Shaking	Linear, orbital	
Fluorescence sensitivity* values	Infinite F200	Infinite M200
Fluorescence top reading**	0.5 fmol / well	1 fmol / well
Fluorescence bottom reading**	5 fmol / well	9 fmol / well
TRF**	90 amol / well	
FP	< 5 mP standard deviation @ 1 nM Fluorescein	N / A
Luminescence sensitivity* value	1 fmol ATP / well	
Absorbance		
Accuracy @492 nm	< $\pm (1\% + 0.010 \text{ OD})$	
Measurement range	0 – 3 OD	
Injectors		
Pump speed	100 – 300 $\mu\text{l/s}$	
Injection volume	selectable in 1 μl increments; max. volume: 800 μl per stroke	
Dead volume	100 μl including pump back	
Fastest Read Times		
96 well plate	20 sec	
384 well plate	30 sec	
Wavelength Ex / Em-scan,	150 sec	
96 well plate 450 – 550 nm,		
5 nm step		

* Sensitivity values are calculated according to the IUPAC standard: 3*standard deviation of blank / slope

** Utilizing red sensitive PMT

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