

JASCO

FP-8000 Series

Spectrofluorometers



Advanced Technology for Superior Results

Designed with the latest technology, the JASCO FP-8000 Series spectrofluorometers incorporate the highest sensitivity, fastest spectral scanning capability and excellent analysis-oriented functionality offering integrated solutions for advanced materials research and biochemical analysis applications. To meet the most stringent analysis demands, a variety of accessories are available for integration with a range of sophisticated control and analysis applications available in the user-friendly Spectra Manager™ II software to offer a flexible platform for any luminescence application.

- Highest sensitivity (> 5000, RMS)
- Fastest scan speed (60,000 nm/min)
- Wide dynamic range (> 6.5 orders of magnitude)
- Auto-Gain and Auto-SCS (Sensitivity Control System)
- Automatic higher-order diffraction cut filter
- Rapid 3D spectra measurements
- Expanded features for phosphorescence measurements (lifetime measurements > 1 millisecond)

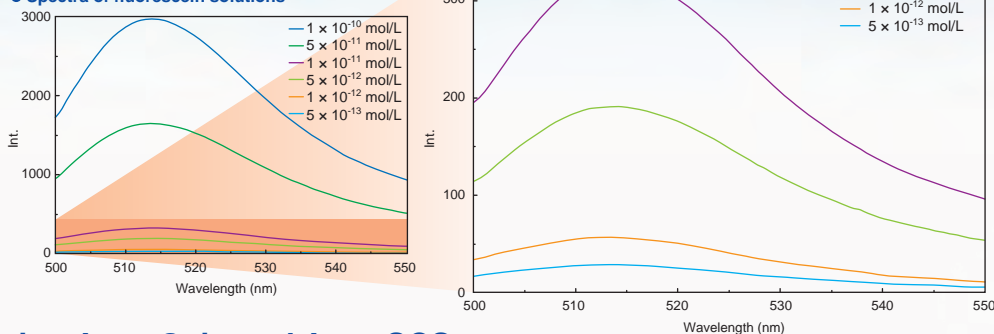


Highest S/N performance

The high S/N (signal-to-noise) performance of the FP-8000 series is achieved by a high throughput optical system and low-noise signal processing.

5000:1 or greater (RMS, FP-8500)

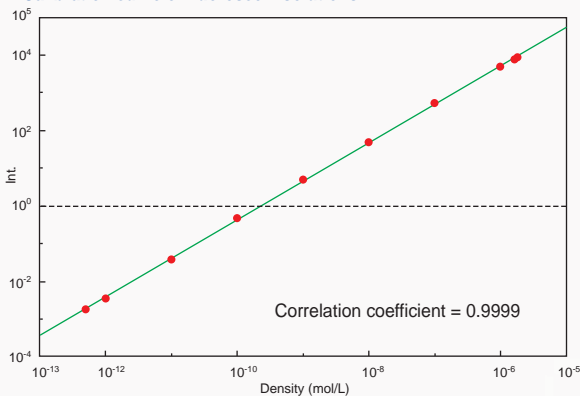
Spectra of fluorescein solutions



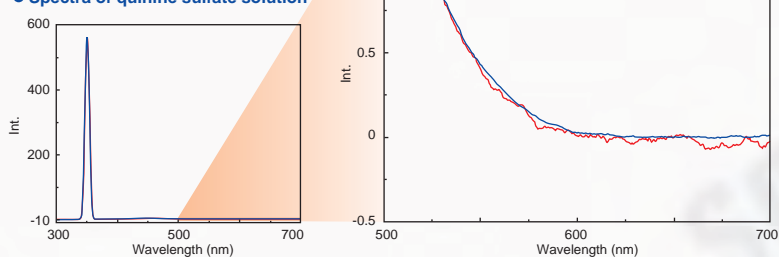
Wide Dynamic Range using Auto-Gain and Auto-SCS

A wide dynamic range for luminescence measurements is obtained using the Auto-Gain and Auto-SCS features, automatically adjusting the detector sensitivity for optimum measurements.

Calibration curve of fluorescein solutions



Spectra of quinine sulfate solution



Auto-SCS

Effective for fixed wavelength measurements and quantitative analysis, Auto-SCS makes it possible to create the calibration curve for a wide range of concentrations without modifying the instrument measurement parameters.

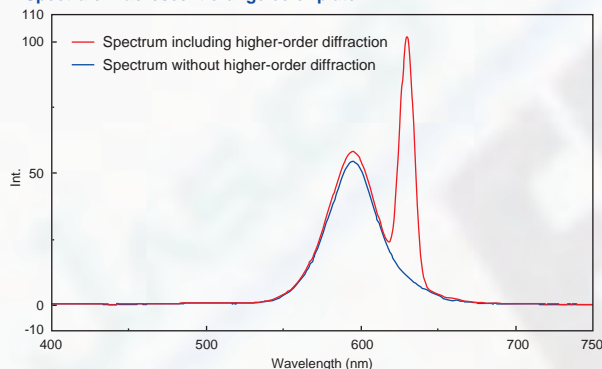
Auto-Gain

Collecting data with an optimized S/N throughout the entire scan range for spectra or time course measurements is obtained with ease using the Auto-Gain feature, automatically adjusting the gain due to fluorescence intensity.

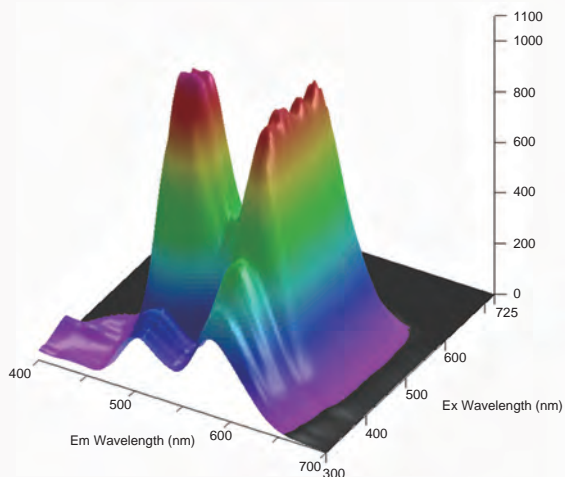
Automatic higher-order diffraction cut filter

The conventional method for removing higher-order diffraction artifacts from excitation/emission spectra involves selection and installation of the proper cut filters according to the scanning wavelengths. The automatic cut filter system of the FP-8000 series (option for FP-8200) selects the proper cut-off filters for spectral measurements to obtain spectra without higher-order diffraction interference.

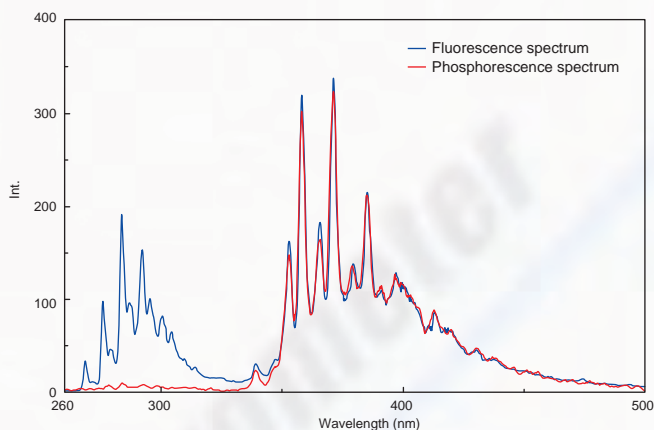
Spectra of fluorescent orange color plate



● 3D spectra measurement of fluorescent orange color plate



● Luminescence spectra of cooled Benzene



The luminescence spectra of benzene measured with 255 nm excitation at 77 K. The blue trace in the figure is the normal emission spectrum; the red trace is the phosphorescence spectrum measured using a 5 msec delay.

● IQ accessory identification using a non-contact sensor (RFID)



● A variety of optimized accessories



3D Spectra Measurement

3D spectra measurement is available for all models of the FP-8000 series. The fastest scan speed of 60,000 nm/min for the FP-8500 offers 3D spectral measurement in the shortest time available for any instrument in this class. The analysis software offers a variety of processing methods to easily display the relevant data characteristics.

Phosphorescence measurement

A high-speed chopper for the FP-8300, 8500 and 8600 instruments offers phosphorescence spectrum measurements as well as advanced phosphorescent lifetime and quantitative analysis measurements.



● FP-8500 + PMU-830 Liquid nitrogen sampling accessory

IQ Accessories (automatic accessory identification)

The FP-8000 IQ accessories utilize a non-contact RFID sensor for automatic recognition by the control software. Accessory information, including accessory name and serial number, is retrieved and saved in the spectral data file. The IQ Start function can be programmed to automatically select a specified control program for simplified sample measurements.



● Display of accessory identification

An abundance of Special Accessories and Programs

A wide variety of accessories and control/analysis programs are designed to integrate analysis methods for various samples and application requirements ranging from biochemical/bioscience to materials research and beyond.

■ Hardware Specification

Model:	FP-8200	FP-8300	FP-8500	FP-8600
Light source:	Xe lamp with shielded lamp housing, 150 W			
Photometric system:	Photometric ratio system: utilizing monochromatic light to monitor Xe lamp intensity output			
Automatic higher-order diffraction cut filter:	Option	Standard		
Sensitivity*1 (RMS):	Peak*2:	380 : 1	680 : 1	1200 : 1
	Base*3:	1600 : 1	2800 : 1	5000 : 1
Wavelength range:	Ex:	Zero order, 200 - 750 nm		
	Em:	Zero order, 200 - 850 nm		
Wavelength range: (with optional detector assembly)	Ex:	Zero order, 200 - 900 nm	Zero order, 200 - 850 nm	N/A
	Em:			
Band width:	Ex:	2.5, 5, 10, 20 nm	1, 2.5, 5, 10, 20 nm	1, 2.5, 5, 10, 20, L5, L10 nm
	Em:	2.5, 10, 20, 40, L10, L20 nm		
Wavelength scan speed:	Ex:	20, 50, 100, 200, 500, 1000, 2000, 5000, 10,000, 20,000 nm/min	20, 50, 100, 200, 500, 1000, 2000, 5000, 10,000, 20,000, 60,000 nm/min	1, 2.5, 5, 10, 20, L5, L10 nm 20, 50, 100, 200, 500, 1000, 2000, 5000, 10,000, 20,000, 60,000 nm/min
	Em:	20, 50, 100, 200, 500, 1000, 2000, 5000, 10,000, 20,000, 60,000, 120,000 nm/min		
Resolution:	Ex:	2.5 nm (at 546.1 nm)	1.0 nm (at 546.1 nm)	
	Em:	1.0 nm (at 546.1 nm)		
Wavelength accuracy:	Ex:	±2.0 nm	±1.5 nm	±1.0 nm
	Em:	±2.0 nm		
Sensitivity selection:	High, Medium, Low, Very Low, Manual, Auto-SCS			
Auto-Gain:	Standard			
Start button:	Standard			
IQ Accessory Identification:	Standard			
Dimensions:	490(W) x 545(D) x 270(H) mm	520(W) x 545(D) x 270(H) mm	570(W) x 545(D) x 270(H) mm	
Weight:	33.6 kg (74 lbs)	36 kg (79 lbs)	39 kg (86 lbs)	

*1 : Minimum Signal-to-noise ratio of Raman band of water, excitation 350 nm, band width Ex 5 nm Em 5 nm (FP-8600: Ex 5 nm Em 10 nm), response 2 seconds

*2 : Noise is measured on the Raman peak

*3 : Noise is measured on the baseline

■ Software Specification

Model:	FP-8200	FP-8300	FP-8500	FP-8600
Data Station type:	JASCO Spectra Manager ver. 2.0 / JASCO Spectra Manager CFR (Microsoft Windows® 7 Professional)			
iRM type:	Intelligent Remote Module iRM-900			N/A
Measurement programs:	Spectra Manager Ver. 2.0	Spectra measurement, Quantitative measurement, Fixed wavelength measurement, Time course measurement, 3D Spectra measurement, Abs measurement	Spectra measurement, Quantitative measurement, Fixed wavelength measurement, Time course measurement, 3D Spectra measurement, Abs measurement, Phosphorescence measurement	
	Spectra Manager CFR *4			
	iRM-900 *5	Spectra measurement, Quantitative measurement, Fixed wavelength measurement, Time course measurement, 3D Spectra measurement, Abs measurement		N/A
Spectra correction program:	Standard *6		Standard	
Instrument validation:	Program and Hg lamp (Standard), Accessories (option)		Program and Hg lamp (Standard), Accessories (Standard)	
Self diagnosis:	Standard			
IQ Accessory recognition and IQ Start:	Standard			

*4 : Spectra Manager CFR is the 21 CFR Part 11 compliant software package.

*5 : The iRM-900 uses a compatible PictBridge printer. Please contact your local distributor for compatible printers.

*6 : Optional components are necessary.



● Specifications are subject to change without notice.

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