

Spectrofluorometer



JASCO's latest research grade spectrofluorometer combines excellent specifications and a flexible optical system with JASCO's unique cross platform spectroscopy software suite Spectra Manager™. The FP-6500 was designed to meet the demanding needs of laboratories involved in application areas like biochemistry performing kinetics, stopped flow, titration and anisotropy experiments. These applications can be easily and rapidly undertaken using dedicated accessories and software. Many advanced features of the FP-6500 are supplied with the instrument including spectral correction using Rhodamine B as well as phosphorescence spectrum measurements and phosphorescence lifetime determinations. If extended wavelength measurements are required a NIR instrument the FP-6600 is available which expands wavelength measurements to 1010 nm.

Features

Excellent optics and high sensitivity

FP-6500/6600 optical system utilizes high quality components. The source is a DC-powered 150W Xenon lamp (in a sealed housing) which employs a photometric ratioing system. This utilizes a second photomultiplier tube to monitor and compensate for any variations in the intensity of the 150 Watt Xenon source thus ensuring maximum analytical stability. The use of concave holographic grating monochromators with optimized blaze angles provides maximum sensitivity over the entire wavelength range. Rapid slew rates of 30,000 nm/min and wavelength scan rates from 10 nm/min to 20,000 nm/min for both excitation and emission monochromators gives the speed and flexibility necessary when performing 3-D or multiple scanning applications.

High quality optical system

The optical system utilizes high quality components including a DC-powered 150W Xenon lamp (in a sealed housing), holographic concave grating monochromators, fast EX and EM direct scanning drive, variable slits and horizontal sample illumination. Especially, minimum spectral bandwidth of 1 nm on both EX and Em monochromators can get high resolution data.

High sensitivity

The FP-6500 boasts extremely high sensitivity with a signal to noise ratio greater than 200:1 Raman band of water peak-to-peak using SBW 5 nm on both EX and EM monochromators, 2 second response at 350 nm excitation wavelength.

Versatility and flexibility for biochemistry

The FP-6500 is supplied with a single position water thermostatable cell holder. In addition, a variety of accessories for temperature control and specific application areas are available including a stirred peltier thermostatted single cell holder, 8-position automatic water thermostatted turret cell changer, peltier thermostatted cell holder with automatic polarizer / depolarizer, sample holder lid with syringe port for fluorescence and chemiluminescence experiments, automatic titration accessory for evaluating the denaturation of proteins or ligand binding experiments as well as stopped flow accessories. These accessories can be used in conjunction with application specific software for a total solution to your application requirements. Fast data collection rates are available and can be optionally increased to provide data collection rates of up to 0.1 milliseconds essential for stopped flow and fast kinetics applications. Spectral bandpass is selectable from 20 nm to 1 nm for when high resolution is required with additional reduced height slits of 5 nm and 10 nm on both monochromators for when only small sample volumes are available and micro cells are used.

GLP/GMP compliance

The FP-6500 was designed to meet the requirements of GLP/GMP compliance and is supplied with JASCO's Validation software. The FP-6500 validation program is based upon JAIMAS to provide the following tests: wavelength accuracy, wavelength repeatability, resolution, stray light, detection limit and Photometric stability.

Compact design

The compact optical bench is housed in a rugged case measuring only 550(W) X 540(D) X 300(H) mm.

SPECIFICATIONS

Specifications of FP-6500

Light source:	Xe lamp with shielded lamp house, 150-watt
Photometric system:	Photometric ratio system using monochromatic light to monitor the intensity output of Xe source
Monochromators:	Holographic grating with 1800 grooves/mm modified Rowland mount
Wavelength range: (mechanical)	Zero order
Wavelength range: (operative)	200 ~ 900 nm for both EX and EM monochromators
Spectral bandwidth:	Zero order
Resolution:	200 ~ 850 nm with standard PM R3788-01
Wavelength accuracy:	200 ~ 850 nm with optional PM R7029
Wavelength reproducibility:	1, 3, 5, 10, 20, L5, L10 nm on both EX and EM monochromators
Wavelength scan speed:	1 nm on both EX and EM monochromators
Slew speed:	+/- 1.5 nm on both EX and EM monochromators
Response:	+/- 0.3 nm on both EX and EM monochromators
Sensitivity:	10, 20, 50, 100, 200, 500, 1000, 2000, 5000, 10000, 20000 nm/min for both EX and EM monochromators
Gain:	30000 nm/min
Photometric display:	0.01, 0.02, 0.05, 0.1, 0.2, 0.5, 1, 2, 4, 8 sec (standard) up to 0.01 msec (option)
Sample compartment:	Signal to noise ratio 200:1 or higher, Raman band of water peak-to peak using SBW 5 nm on both EX and EM monochromators, 2 second response at 350 nm excitation wavelength.
Output port:	High, Medium, Low, Manual(PMV: 0 ~ 1000 V)
Power requirement:	-999.9 to 999.9
Dimensions:	Water thermostatable single cell holder
Net weight:	RS-232C interface, Analog interface(option)
	100, 115, 200, 230, 240 V, 400VA
	550(W) x 540(D) x 300(H) mm
	Approx. 45 kg

Specifications of FP-6600

Same as FP-6500 with the following exceptions

Monochromators:	Holographic grating with 1800 grooves/mm modified Rowland mount for EX
Wavelength range: (operative)	Holographic grating with 900 grooves/mm modified Rowland mount for EM
Resolution:	Zero order
Wavelength accuracy:	220 ~ 750 nm with standard PM R3788-01 for EX monochromator
Wavelength reproducibility:	220 ~ 1010 nm with standard PM R2658P for EM monochromator
Sensitivity:	1 nm on EX monochromator
	2 nm on EM monochromator
	+/- 1.5 nm on EX monochromator
	+/- 3 nm on EM monochromator
	+/- 0.3 nm on EX monochromator
	+/- 0.6 nm on EM monochromator
	Signal to noise ratio 100:1 or higher, Raman band of water peak-to peak using SBW 5 nm EX and 10nm EM monochromators, 2 second response at 350 nm excitation wavelength.

Validation function

FP-6500/6600 is provided with Validation software which tests the following criteria .

- 1) Wavelength accuracy
- 2) Wavelength Repeatability
- 3) Resolution
- 4) Stray light
- 5) Detection Limit
- 6) Photometric stability

UV-30 filter, L-39 filter, R-60 filter and secondary low pressure mercury lamp are built in the FP-6500/6600. Rhodamine B, diffuser plate, attenuator, reflection plate and triangle cell are provided as standard.

STANDARD ACCESSORIES

AC power cable	1 pc.
RS-232C cable	1 pc.
Spare fuses	4 pcs.
Fluorescence cell, 10 mm path.	1 pc.
Spectra Manager software package	1 set
Instruction Manual	1 set
- FP-6500 Instruction Manual, FP-6500 for Windows	
- FP-6500 Hardware Manual	
- Validation Program Instruction Manual, FP-6500 for Windows	
- Spectral Correction program User's Guide, FP-6500 for Windows	
Triangle quartz cell	1 pc.
Rhodamine B	1 bottle
Diffuser	1 pc.
Attenuator	1 pc.
Reflection mirror	1 pc.
Disposable pipette	1pc.

OPTIONAL ACCESSORIES

Code No.	Description
Fluorescence Cells	
1103-0081	FP-1004 Standard fluorescence cell
1103-0180	FP-1003 Non-fluorescence rectangular cell
Optional Accessories for Bio-Applications	
6808-J021A	FMH-110 Micro cell holder
6808-J022A	FMM-100 Micro quartz cell for FMH-110
6808-J013A	STR-313 Water thermostatable cell holder with stirrer
6808-J001A	ETC-273 Peltier thermostatted single cell holder with stirrer (Water-cooled)
6808-J002A	EHC-573 Peltier thermostatted single cell holder with stirrer (Air-cooled)
6808-J008A	FCT-133 Water thermostatable automatic 8-position turret cell changer
6808-J006A	CSP-143 Sample holder lid with syringe port
6808-J003A	ADP-303 Peltier thermostatted depolarization accessory (Water-cooled)
6808-J004A	APH-103 Peltier thermostatted depolarization accessory (Air-cooled)
6808-J026A	ATS-443 Automatic titration accessory
xxxx-xxxx	SFA-452 Stopped-flow accessory (2 syringes)
xxxx-xxxx	SFA-453 Stopped-flow accessory (3 syringes)
xxxx-xxxx	SFA-454 Stopped-flow accessory (4 syringes)
xxxx-xxxx	SFA-452T Peltier thermostatted stopped-flow accessory (2 syringes)
xxxx-xxxx	SFA-453T Peltier thermostatted stopped-flow accessory (3 syringes)
xxxx-xxxx	SFA-454T Peltier thermostatted stopped-flow accessory (4 syringes)
Optional Accessories for Environmental or Routine Applications	
6808-J010A	QFS-253 Vacuum sipper
6808-J009A	SHP-393 Peristaltic sipper
6808-J024A	FHM-400 High sensitivity cell holder
6808-J016A	FSC-423 Micro flow cell unit with 15µl cell
6808-J017A	FSC-523 Micro flow cell unit with 30µl cell
6808-J018A	FSC-623 Micro flow cell unit with 100µl cell
6808-J011A	MFC-233 HPLC flow cell accessory
6774-J001A	ASU-605 Autosampler
Other Optional Accessories	
6808-J025A	FSA-400 30° incident angle cell holder
6808-J023A	FDA-430 Solid sample holder
6808-J012A	EFA-383 Epifluorescence accessory
6808-J020A	FUV-420 Accessory for UV/Vis. measurement
6808-J019A	FDP-203 Polarizer and analyzer accessory (for UV/Vis. range)
6808-J029A	FDP-213 Polarizer and analyzer accessory (for Vis. range)
6808-J014A	PMA-283 Low temperature measurement accessory
6808-J027A	WRE-343 PM tube for longer wavelength range
6808-J007A	ESC-333 Sub standard light source
6808-J028A	ROU-213 Analog output I/F (factory option)

● Specifications are subject to change without notice.

ORDERING INFORMATION

Code No.	Description
6807-J007A	FP-6500 Spectrofluorometer
6807-J008A	FP-6600 Spectrofluorometer



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