

J-1500 Specifications



Model	J-1500
Light source	150W air-cooled Xe lamp (J-1500-150) or 450W water-cooled Xe lamp (J-1500-450)
Optional light source	20W Halogen lamp, 150W air-cooled Hg-Xe lamp
Light source for validation	Integrated Mercury lamp
Detector	PMT, ExPMT (option), InGaAs (option)
Monochromator	Double-prism polarizing monochromator
Wavelength range	163 to 950 nm (standard) 163 to 1600 nm (option)
Wavelength accuracy	±0.1 nm (163 to 250 nm) ±0.2 nm (250 to 500 nm) ±0.5 nm (500 to 800 nm) ±1.5 nm (800 to 950 nm)
Wavelength reproducibility	±0.05 nm (163 to 500 nm) ±0.1 nm (500 to 800 nm) ±0.5 nm (800 to 950 nm)
Wavelength resolution	0.025 nm
Spectral bandwidth	0.01 to 16 nm
Slit width	1 to 4000 μm
Digital Integration Time	0.1 msec to 30 sec
Measurement mode	Continuous scan, step scan, auto-scan
Scanning speed	up to 10,000 nm/min
CD full scale	±8000 mdeg
CD resolution	0.00001 mdeg
CD dynamic range	No CD distortion even with an OD=3 sample in the optical path
Stray light	less than 0.0003% (at 200 nm)
RMS noise (185 to 500 nm: SBW 1 nm, DIT 8 sec.) (1500 nm: SBW 10 nm, DIT 8 sec.)	0.004 mdeg (185nm, 150W) 0.003 mdeg (185nm, 450W) 0.007 mdeg (200, 500 nm)
Baseline stability	0.02 mdeg/hr
LD measurement	Provided as standard, Full scale ±1 ΔOD
UV measurement	Provided as standard, Full scale up to 5 Abs
External input terminals	Two channels (input range: -1 to 1 V DC)
Nitrogen gas purge	High efficiency N ₂ purge with internal optimization for light source unit, monochromator unit and sample compartment
Accessory auto-recognition	Standard
Communication / control	USB 2.0 / Spectra Manager™ II or Spectra Manager™ CFR
Sample compartment size	150 W x 310 D x 165 H mm
Dimensions	1055 W x 545 D x 390 H mm (J-1500-150) 1135 W x 610 D x 420 H mm (J-1500-450)
Weight	77 kg (J-1500-150), 82 kg (J-1500-450)
Power input voltage	100, 115, 200, 220, 230, 240 V, 50/60 Hz
Power consumption	315 VA (J-1500-150), 685 VA (J-1500-450)

Fluorescence Accessory



Total fluorescence and fluorescence scanning

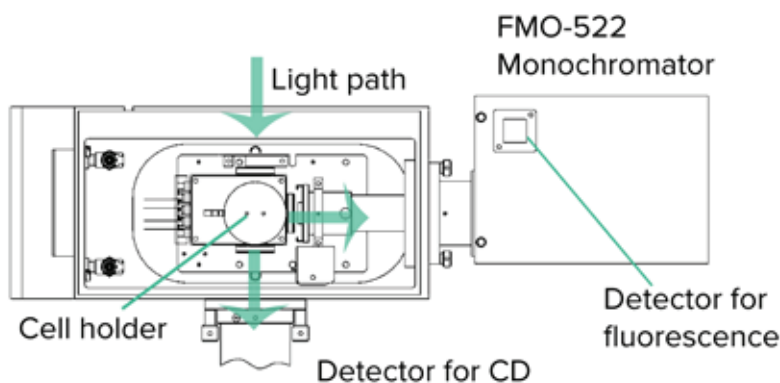
FMO-522, FDT-538

Intrinsic fluorescence can be measured on the J-1500 spectrometer with the single-position Peltier cell holder (PTC-517). A simple low-cost system for detection of total fluorescence is available using a secondary detector and high-pass filters (FDT-538 and FST-470), allowing the user to select the excitation wavelength while detecting the emission at the wavelengths above the cut-off filter. This allows for simple, yet sensitive, detection of fluorescence changes during titration or thermal ramp experiments.



Alternatively, fluorescence data can be acquired by using the optional scanning emission monochromator (FMO-522) and emission detector (FDT-538). Excitation and fluorescence emission spectra can be scanned by fixing the emission or excitation wavelengths, respectively.

- Fluorescence scanning can be coupled with the titration and thermal ramping capabilities
- With the MPTC-513, CD and fluorescence data can be collected, simultaneously or separately, on up to six samples



Above: Configuration for emission scanning with FMO-522