

J-1700

CD Spectrometer



Specifications

[Hardware]

Light source:	150 W air-cooled Xenon lamp or 450 W water-cooled Xenon lamp 150 W Halogen lamp
Detector:	Head-on photomultiplier tube PMT InGaAs detector
Monochromator:	UV-Visible region: Double-prism monochromator, Czerny-Turner mount Near IR region: Prism-Grating-Prism, Triple monochromator unique mount
Modulator:	Photoelastic modulator
Measurement wavelength range:	163 to 950 nm (PMT detector), 800 to 2500 nm (InGaAs detector)
Wavelength accuracy:	± 0.1 nm from 163 to 250 nm, ± 0.2 nm from 250 to 500 nm ± 0.5 nm from 500 to 800 nm, ± 1.5 nm from 800 to 1200 nm ± 2.0 nm from 1200 to 1600 nm, ± 5.0 nm from 1600 to 2500 nm
Wavelength repeatability:	± 0.05 nm from 163 to 500 nm, ± 0.1 nm from 500 to 800 nm ± 0.5 nm from 800 to 1600 nm, ± 1 nm from 1600 to 2500 nm
Spectral bandwidth:	0.01 to 16 nm (PMT detector) 5, 10, 20, 30, 40, 50 nm (InGaAs detector)
Slit width:	1 to 4000 μ m
Digital Integration Time (D.I.T.):	0.1 msec. to 30 sec.
Scanning mode:	Continuous scan, Step scan, Auto response(D.I.T) scan
Scanning speed:	up to 10000 nm/min (when using continuous scan)
Photometric Mode:	CD, LD, ORD ^{*1} , FDCD ^{*1} , FDL ^{*1} , Transmittance, Absorbance, FL intensity ^{*1} , Anisotropy ^{*1} , DFP ^{*1} , HT voltage, DC voltage, External input (Temperature, PH, etc. are available)
CD full scale:	± 8000 mdeg
CD resolution:	0.00001 mdeg
Wavelength resolution:	0.025 nm or 0.1 nm(950nm or more)
Stray light:	Not more than 0.0003 % (200 nm)
RMS noise:	0.004 mdeg (185 nm, 150 W Xe light source) 0.003 mdeg (185 nm, 450 W Xe light source) 0.007 mdeg (200 nm, 150/450 W Xe light source) 0.007 mdeg (500 nm, 150/450 W Xe light source) (spectral bandwidth 1 nm, D.I.T. 8 sec) 0.06 mdeg (1500 nm, WI light source) (spectral bandwidth 10 nm, D.I.T. 8 sec)
Baseline stability:	0.02 mdeg/hr
LD measurement:	Full scale $\pm 1\Delta OD$ / Resolution 0.000001 ΔOD (LD measurement by InGaAs detector is not available.)
UV measurement:	Single beam measurement / Photometric range: 0 to 5 Abs Photometric accuracy: ± 0.01 Abs (0 to 1 Abs, checked using NIST SRM 930 filter)
External input terminal:	Two channels (input range: -1 to 1 V DC)

Mercury lamp	Used for the instrument inspection
Shutter	Located the light source unit
Standard cell holder:	CH-434 cylindrical/rectangular cell holder
	Available cells: Cylindrical cell: Optical pathlength 0.1 to 20 mm, O.D. 22 mm Rectangular cell: Optical pathlength 1 to 20 mm, optical pathwidth 10 mm
Sample chamber:	150 (W) × 310 (D) × 165 (H) mm, Exists the water inlet/outlet ports
Dimensions/Weight:	1120 (W) × 700 (D) × 390 (H) mm, 87 kg (150 W light source) 1200 (W) × 700 (D) × 420 (H) mm, 92 kg (450 W light source)
Power requirements:	AC 100 to 240 V, 50/60 Hz 600 VA (150 W light source) AC 100 to 240 V, 50/60 Hz 1000 VA (450 W light source)
[Data processing]	
Software:	JASCO Spectra Manager Ver. 2.5 ²
Operating system:	Windows® 11 Pro
CD data processing:	CD K-K transform, HT-OD conversion, CPL calculation, G value calculation, Sample Information edition, ORD-E Data correction, Optical constant calculation, Error bar view, r-P transform, pH axis transform
Standard program:	Spectra Measurement, Time Course Measurement, Interval Scan Measurement, Data Monitor, Reaction Rate Calculation, Validation, JASCO Canvas, Spectra Analysis, Interval Data Analysis, MCD Hysteresis Analysis, ORDE-521 Data Correction Time Course Measurement (by using cell changer) ³ , Variable Temperature Measurement ³ , Temperature Interval Scan Measurement ³ , Temperature/Wavelength Scan Measurement ³ , Automatic Titration Measurement ³ , Automatic Titration Scan Measurement ³ , Ex/Em Spectra Measurement ³ , MCD Hysteresis Measurement ³ , Stopped-Flow Measurement (non-CFR only) ³
Optional program:	qHOS program, BeStSel program, Denaturation analysis (includes Thermal denaturation multi analysis), Analog output module (non-CFR only), Macro command (non-CFR only)
[Installation requirement]	
Operation temperature/humidity:	15 to 30 °C, less than 85 %
Nitrogen gas purging:	Light source unit, monochromator unit, and sample chamber 2 L/min (more than 185 nm) 5 L/min (more than 180 nm) 15 L/min (more than 175 nm) More than 15 L/min (more than 170 nm)
Cooling water for light source:	2 L/min, pressure 0.5 to 2.0 kg/cm ² (450 W light source only)
	*1 Dedicated accessories are required.
	*2 JASCO can provide Spectra Manager Ver. 2.5 CFR which is compliant with FDA 21 CFR PART 11
	*3 These programs are provided with dedicated accessories.

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Products described herein are designed and manufactured by ISO-9001 and ISO-14001 certified JASCO Corporation



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