

OLIS DSM 20 CD

Circular Dichroism and Absorbance in a compact footprint

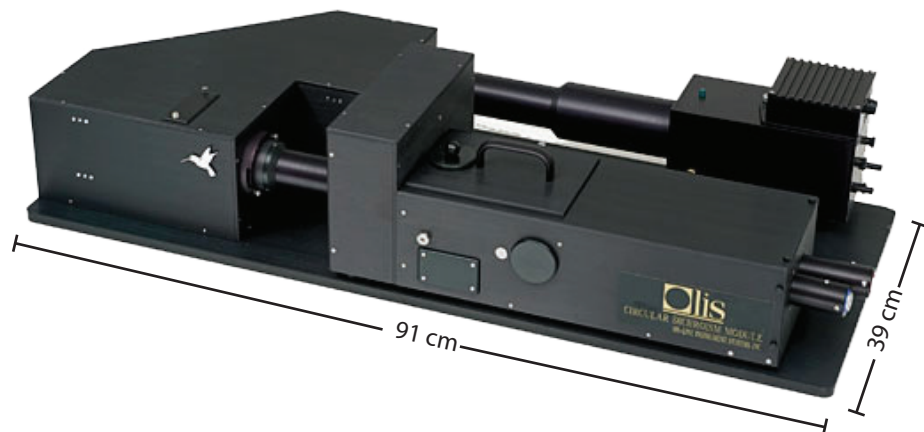
Designed to be the smallest CD on the market, the DSM 20 CD is perfectly optimized for the laboratories working on proteins, peptides, and nucleic acids. Exactly like the larger and more ambitious DSM 17 and DSM 1000 CDs, the little 20 uses a dual beam digital acquisition scheme with one permanent calibration value, eliminating all requirements of post-factory calibration.

Standard Acquisition Modes:

Circular Dichroism
Absorbance

Enhancements Supported:

CLARITY
Peltier Thermal Control
Stopped-Flow
Titrator
Phosphorescence Lifetime
Thin Film Holder



OLIS DSM 20 CD SPECIFICATIONS

Means of acquiring CD information	Digital: the absorption for each rotation of light is measured; Right circularly polarized light is directly subtracted from the measurement for left circularly polarized light: $CD = abs(L) - abs(R)$
Calibration against a standard	Not required, because OLIS collects CD directly.
Lock-In Amplifier	Not required
Light Source	150 wat xenon arc
Spectral Range	170 - 700 nm
Interrogation Method	Dual beam. Each retained CD datum is the average of two.
Mode of detection	Two PMTs, UV/Vis optimized
Dispersive elements	Two holographic gratings
Kinetic fitting methodology	Global fits using Matheson's Simplex Method and Matrix Exponentiation
Secondary Structure Determination	Commonly used algorithms
Slew rate	60 nm/sec
Scan Rate	Entirely variable, with the speed being determined by the difficulty of the measurement. Typical CD measurement in the UV is 0.5 sec/datum from 260-200 nm, slowing as light drops in the UV.
Wavelength accuracy	0.125 nm
Slits	Manual setting, 0.12 to 6 mm
Spectral bandpass	Fixed setting, based on chosen slit width and gratings, 0.1 to 20+ nm
Photoelastic Modulator	50 kHz for CD, 100 k/Hz for optional LD
Autoscale	Arbitrary
RMS noise	Measured without sample, 3 nm bandpass, ~3 sec integration time: 0.12 m° at 190 nm, 0.07 m° at 220 nm, 0.05 m° at 260 nm
Baseline stability	<0.1 m° or better per hour
Integration time	Variable. User selected or software selected.
Absorption range	0-3 OD, without additional filters
Absorbance mode	Single beam, stored reference
Nitrogen consumption	Separate flow valves to lamp housing, monochromator, and sample compartment.