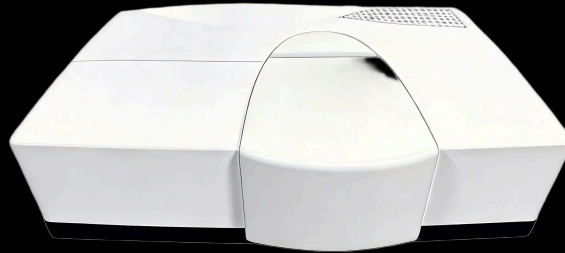


LS Series

UV-Vis-NIR Spectrophotometer

Precision without boundaries. Performance without compromise.



LS-UV

LS-280S

LS-360S

LS-280D

LS-360D

01

EXCEPTIONAL STABILITY

Double-beam ratio recording with dynamic feedback ensures baseline stability and compensates source fluctuations in real time.

02

ULTRA-LOW STRAY LIGHT

Two-stage holographic gratings achieve 0.0001% stray light, 50x better than conventional single-grating systems.

03

MAINTENANCE-FREE DESIGN

Socket-type lamp holders enable tool-free replacement without optical realignment, minimizing instrument downtime.

04

FLEXIBLE CONFIGURATION

Five models spanning 165 nm vacuum UV to 3600 nm NIR with S-Series and D-Series options for every application.

KEY ADVANTAGES

- Double-beam architecture with dynamic feedback ratio recording
- Automatic source and detector switching with 0.05 nm precision
- Single and two-stage holographic grating options
- PMT, cooled PbS, and InGaAs detector configurations
- 8-bandwidth settings UV-Vis, 10 settings NIR
- Programmable sampling interval 0.01-50 nm
- Photometric range up to +/-6.0 Abs (LS-360D)
- Wavelength accuracy +/-0.1 nm UV, +/-0.5 nm NIR
- Baseline flatness as low as +/-0.0003 Abs
- Baseline drift only 0.0003 Abs/h at 500 nm
- Noise as low as 0.0004 Abs at 1600 nm
- Full range of sampling accessories available
- Deuterium + halogen tungsten 50W light sources
- Compatible with integrating spheres and reflectance modules



DOUBLE-BEAM OPTICAL SYSTEM

Reference beam provides continuous baseline correction. Dynamic feedback compensates source fluctuations in real time.

HOLOGRAPHIC GRATING MONOCHROMATOR

Single-grating (S-Series) or two-stage dual-grating (D-Series) for research-grade dispersion.

AUTO SOURCE/DETECTOR SWITCHING

Automated crossover at 250-400 nm (source) and 300-5500 nm (detector), 0.05 nm step.

COOLED NIR DETECTORS

Cooled PbS and InGaAs detectors minimize thermal noise across the full NIR range to 3600 nm.

SOCKET-TYPE LAMP DESIGN

Quick-release Deuterium and halogen tungsten lamp holders. Tool-free replacement.

SAMPLING ACCESSORIES

PART NO.	ACCESSORY	KEY FEATURES & SPECIFICATIONS	APPLICATIONS
403-316	150mm Integrating Sphere	BaSO ₄ coating >99% reflectivity (210-2600nm); 150mm inner diameter; 0/8 deg incident angle; diffuse/total reflectance; liquid/solid transmittance; powder sample holder compatible	Solar radiation absorption coefficient, solar heat gain coefficient, ASTM and CIE colorimetry
403-317	5 deg Specular Reflectance	Imported reflective mirrors; dust-proof and moisture-proof; 99% reflectance; max sample 300x300x50mm; min detection 6mm diameter	Semiconductor, optical materials, architectural glass, coatings and thin films
403-318	Absolute Reflectance	5 deg measurement angle (+/-1.5%); wavelength 200-3600nm; 100% horizontal sample; single-point V-H method; sample size 15-200mm	High-precision absolute reflectance measurements
403-319	Automated Variable Angle	Software-adjustable incident angle +/-5 deg to 85 deg; automatic rotation control; full angular curve measurement capability	Angular-dependent optical measurements, thin-film and coating analysis
403-320	General Transmission	Adjustable width for various test specimens and cuvettes; liquid and solid sample support; pathlength 0.01-100mm	General transmission measurements, standard sample analysis

APPLICATION AREAS

OPTICAL COATINGS

AR, HR, beam-splitter characterization

GLASS CERTIFICATION

Solar transmittance, compliance testing

SOLAR ENERGY

PV and thermal materials analysis

POLYMER & CHEMICAL

C-H, N-H, O-H overtone analysis

SEMICONDUCTOR

VUV characterization below 190 nm

TEACHING & QC

Education and industrial quality control

MODELS **LS-UV**⁴²³⁻³¹⁷ **LS-280S**⁴²³⁻³¹⁸ **LS-360S**⁴²³⁻³¹⁹ **LS-280D**⁴²³⁻³²⁰ **LS-360D**⁴²³⁻³²¹

PARAMETER	LS-UV	LS-280S	LS-360S	LS-280D	LS-360D
Wavelength Range	165-320 nm (190-1100 nm opt.)	190-2800 nm	190-3600 nm	190-2800 nm	190-3600 nm
Grating System	Two-stage holographic	Single holographic	Single holographic	Two-stage holographic	Two-stage holographic
Detectors	PMT	PMT + PbS (cooled)	PMT + PbS (cooled)	PMT + PbS (cooled)	PMT + InGaAs + PbS (cooled)
WL Accuracy UV-Vis / NIR	+/-0.3 nm	+/-0.5 / +/-2.0 nm	+/-0.5 / +/-2.0 nm	+/-0.3 / +/-1.0 nm	+/-0.1 / +/-0.5 nm
WL Repeatability UV-Vis / NIR	<=+/-0.1 nm	<=+/-0.1 / <=+/-0.35	<=+/-0.1 / <=+/-0.35	<=+/-0.1 / <=+/-0.35	<=+/-0.05 / <=+/-0.1
Stray Light 220 nm, NaI	<=0.0005%	<=0.005%	<=0.005%	<=0.0005%	<=0.0002%
Stray Light 340 nm, NaNO2	<=0.0005%	<=0.005%	<=0.005%	<=0.0005%	<=0.0001%
Stray Light 1420 nm, H2O	--	<=0.08%	<=0.08%	<=0.008%	<=0.001%
Photometric Range	5.0 Abs	+/-4.0 Abs	+/-4.0 Abs	>+/-5.0 Abs	+/-6.0 Abs
Photom. Accuracy 0-0.5A / 0.5-1A	+/-0.002 / +/-0.004	+/-0.004 / +/-0.005	+/-0.004 / +/-0.005	+/-0.002 / +/-0.004	+/-0.0018 / +/-0.003
Photom. Repeatability 0-0.5A / 0.5-1A	+/-0.001 / +/-0.002	+/-0.001 / +/-0.002	+/-0.001 / +/-0.002	+/-0.001 / +/-0.002	+/-0.0009 / +/-0.0018
Baseline Flatness (300-2800 nm)	--	+/-0.02 Abs	+/-0.02 Abs	+/-0.006 Abs	+/-0.0003 Abs
Baseline Drift (500 nm, 2h)	0.0004/h	0.0005/h	0.0005/h	0.0004/h	0.0003/h
Noise (500 / 1600 nm)	<=0.0008 Abs (at 400 nm)	<=0.008 / <=0.009	<=0.008 / <=0.009	<=0.0008 / <=0.0009	<=0.0006 / <=0.0004
Spectral Bandwidth	UV-Vis: 0.1/0.2/0.5/1/2/3/5/8 nm (8 settings) NIR: 0.2/0.5/1/2/3/5/8/12/20/32 nm (10 settings)				
Sampling Interval	0.01 -- 50 nm (programmable)				
Light Source	Deuterium lamp (UV) + Halogen tungsten 50W (Vis-NIR)				
Source/Detector Switching	Automatic (250-400 nm source, 300-5500 nm detector, 0.05 nm step)				