INNOTEG

Innovation • Accuracy • Reliability

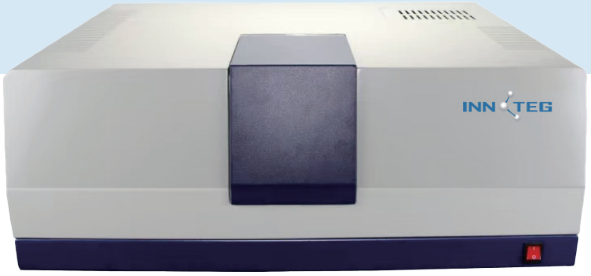
INNOTEG

UV-VIS-NIR Spectrophotometer

IUS-190
IUS-200-6
IUS-200-10
IUS-200-15

Innoteg (Guangzhou) Scientific Instruments Co.,Ltd.

UV-VIS-NIR Spectrophotometer IUS-190



The IUS-190 is an analytical instrument designed for spectral analysis across the 190–3200 nm wavelength range. It is capable of measuring absorbance, transmittance, and reflectance of solid and liquid samples in the ultraviolet (UV), visible (VIS), and near-infrared (NIR) regions. This instrument is widely used in chemical analysis, materials science research, and environmental monitoring, offering high precision and reliability for both scientific research and industrial applications.

Applied code: GB/T2680-2021、JGJ/T151-2008、IS09050-2003、GB/T22476-2008、GB/T36261-2018

- **Light Source**

  Utilizes imported light sources with longer service life and better stability.

- **Detector**

  Dual imported detectors for UV/VIS/NIR，offering high sensitivity to weak signals, low noise, and superior accuracy.

- **Optical System**

  Features a dual-beam, dual-grating, and dual-detector optical system design, effectively minimizing background interference and improving measurement precision.

- **Control System**

  Controlled via a dedicated computer system for automated instrument operation, automatic calibration upon startup, and integrated data acquisition and processing. Designed for exclusive use, ensuring ease of management.

- **Communication Interface**

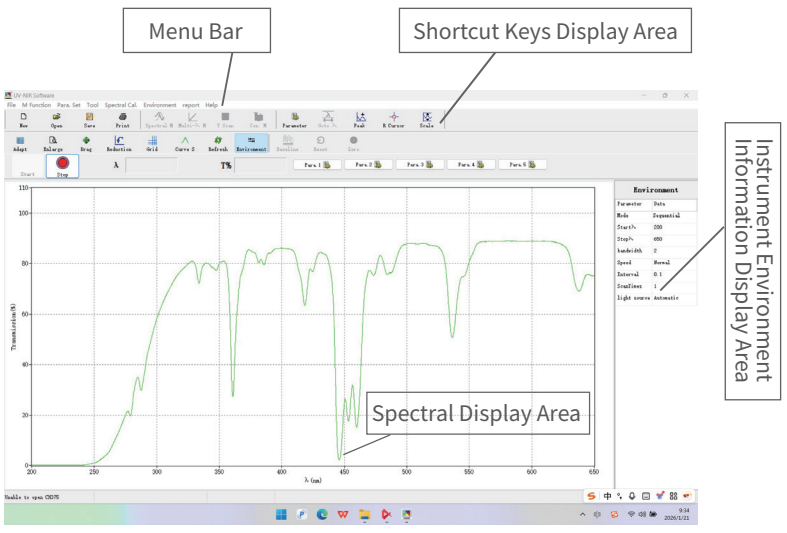
  Equipped with a USB 2.0 communication interface. Fast scanning speed, requiring only 5 minutes per single scan.

Typical Applications

- Building Glass Shading Coefficient Testing. Testable samples include: plain transparent glass, vacuum magnetron cathode glass, sputter-coated glass, ion-plated glass, electro-float glass, etc.
- Paint/Coating Testing
- Automotive Glass Optical Testing
- Materials Science Research

Software

- Equipped with dedicated data software for real-time sample data measurement. Test results can be exported (text format, Excel).
- The software features a data import function, which allows the loading of text-formatted data.
- The software provides a test report printing function, allowing users to print test spectra and data.
- Compatible with Windows 7 and Windows 10 operating systems.
- Includes specialized measurement functions for building glass and coatings, meeting the specific testing needs of industry customers.



Main Interface

Specifications

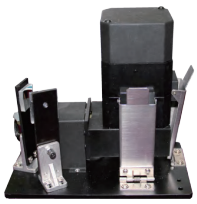
Wavelength Range	190 -3200nm	Operating Modes	ransmittance, Absorbance, Reflectance, Energy
Wavelength Accuracy	±0.5nm（UV/VIS） ±2.0nm（NIR）	Wavelength Repeatability	⩽0.3nm（UV/VIS ） ⩽1.0nm（NIR）
Transmittance Accuracy	±0.3%T	Transmittance Repeatability	⩽0.2%T
Stray Light	⩽0.2%T(220nm)	Baseline Flatness	±0.005A (200-2500 nm, after 30 min warm-up)
Dimensions	750*600*260mm	Sample Compartment Size	120*240*200mm
Weight	59kg	Power Supply	AC220V 50Hz
Communication Interface	USB	Operating System	Windows 7, Windows 10
Spectral Bandwidth	UV-VIS:0.2nm,0.5nm,1nm,2nm,3nm,5nm NIR:0.8nm,2nm,4nm,8nm,12nm,20nm		

Standard Configuration

IUS-190 UV-VIS-NIR Spectrophotometer main unit, IUS-190-P2 solid sample measurement accessory, IUS-190-P3 reflectance measurement accessory with mirrors, dedicated data software, power cable, data cable, matching tools.

*Computer and printer must be provided by the user.

Measurement Accessories

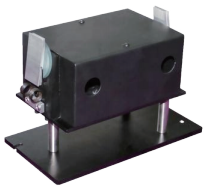


IUS-190-P1
Integrating Sphere Accessory (Optional)

Diameter: Φ 60mm
Wavelength Range: 380-2500nm
Dual Detectors

IUS-190-P2
Solid Sample Measurement Accessory

Diameter:Φ10-36mm
Thickness: 0.5-10mm

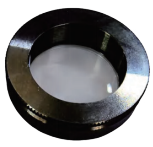


IUS-190-P3
Reflectance Measurement Accessory

Incidence Angle: 5°
Includes 2 standard mirrors

ϕ30mm Standard White Reference Plate

For use with the integrating sphere accessory.
Weight:：48g
Material：PTFE
Spectral Range：200-2500nm
Reflectance: ⩾ 98%
Housing Material: Aluminum, Anodized



IUS-190-P4 Powder Sample Holder (Optional)

For use with the integrating sphere accessory to test powder samples. Contains 2 quartz windows dimensions 30mm diameter × 1mm thickness. The powder is filled between the two windows, tightened, and then placed directly at the reflectance measurement position of the integrating sphere for use.

UV-VIS-NIR Spectrophotometer IUS-200-6

The IUS-200-6 integrates the main unit with an integrating sphere module, enabling direct measurement of transmittance, specular reflectance, and diffuse reflectance spectra. It is capable of measuring optical and thermal properties of architectural glass, specialty textiles, and organic liquids such as fructose, glucose, and sucrose. The system complies with the latest industry standards.

Applied code: GB/T 2680-2021、JGJ/T 151-2008、ISO 9050-2003、GB/T 22476-2008、GB/T 36261-2018、GB/T 25261-2010、JG/T 235-2014、JGJ/T 287-2014、GJB 798-90、GJB 2502.2-2006

- **Light Source**

  Utilizes imported light sources with longer service life and better stability.

- **Detector**

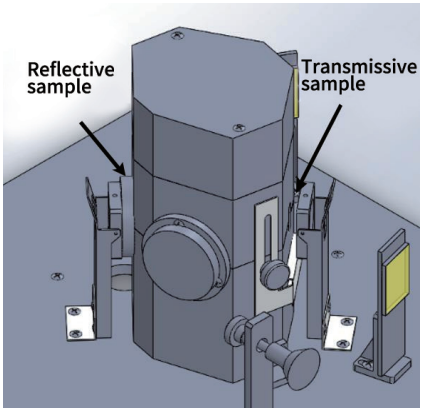
  Dual imported detectors for UV/VIS/NIR，offering high sensitivity to weak signals, low noise, and superior accuracy.

- **Optical System**

  Features a dual-beam, dual-grating, and dual-detector optical system design, effectively minimizing background interference and improving measurement precision.

- **Sample Compartment**

  Integrated design of main unit and integrating sphere unit allows direct measurement of transmittance, specular reflectance, and diffuse reflectance spectra. Integrating sphere accessory: Diameter ϕ60 mm; Wavelength range 280-2500 nm; Dual detectors.



Integrating Sphere Accessory

- **Control System**

  Controlled via a dedicated computer system for automated instrument operation, automatic calibration upon startup, and integrated data acquisition and processing. Designed for exclusive use, ensuring ease of management.

Specifications

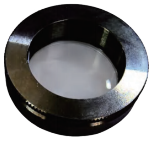
Wavelength Range	280 - 2500nm	Operating Modes	Adopting an integrated design of the main unit and the integrating sphere module, it can directly perform transmission spectrum and reflection spectrum measurements.
Wavelength Accuracy	±0.5nm（UV/VIS） ±2.0nm（NIR）	Wavelength Repeatability	≤0.3nm（UV/VIS ） ≤1.0nm（NIR）
Transmittance Accuracy	± 0.3%T	Transmittance Repeatability	≤0.2%T
Stray Light	≤0.2%T(220nm)	Baseline Flatness	±0.008A（280-2500nm after 30 min warm-up）
Dimensions	750*600*260mm	Sample Compartment Size	300*240*190mm,integrated design of integrating sphere, transmission, and specular reflection.
Weight	65kg	Power Supply	AC220V, DC12V , 40W
Light Source	Utilizes imported light sources with longer service life and better stability.	Detector	Dual imported detectors for UV/VIS/NIR, offering high sensitivity to weak signals, low noise, and superior accuracy.
Sample Size (Max)	20 - 100mm; Thickness ≤20mm	Operating System	Windows 7 and above
Spectral Bandwidth	UV-VIS:0.2nm,0.5nm,1nm,2nm, 3nm,5nm。 NIR:0.8nm,2nm,4nm, 8nm,12nm,20nm。	Ambient Temp/Humidity	15 - 28 °C/ ＜ 65% RH (non - condensing)

Standard Configuration

IUS-200-6 UV-VIS-NIR Spectrophotometer main unit, power cable, data cable, matching tools, dedicated data software.

*Computer and printer must be provided by the user.

Measurement Accessories



IUS-190-P4 Powder Sample Holder (Optional)

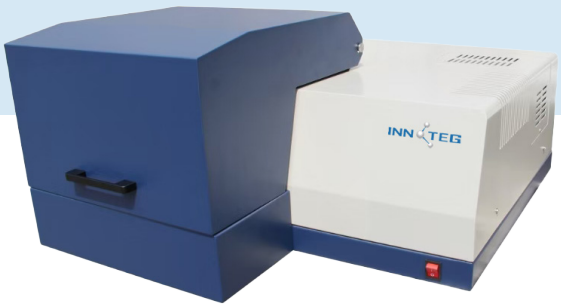
For use with the integrating sphere accessory to test powder samples. Contains 2 quartz windows dimensions 30mm diameter × 1mm thickness. The powder is filled between the two windows, tightened, and then placed directly at the reflectance measurement position of the integrating sphere for use.

ϕ30mm Standard White Reference Plate

For use with the integrating sphere accessory.

Weight:：48g
Material：PTFE
Spectral Range：200-2500nm
Reflectance: ⩾ 98%
Housing Material: Aluminum, Anodized

UV-VIS-NIR Spectrophotometer
IUS-200-10 / IUS-200-15



The IUS-200-10 and IUS-200-15 integrate the main spectrometer and integrating sphere into a single chassis, enabling direct acquisition of transmittance, specular-reflectance and diffuse-reflectance spectra without hardware re-configuration.The sample compartment accepts large-format specimens up to 300 × 300 × 20 mm, making the instruments ideal for architectural glass, automotive glazing, specialty textiles and organic liquids (e.g. fructose, glucose, sucrose) optical & thermal characterization.

Applied code：GB/T 2680-2021、JGJ/T 151-2008、ISO9050-2003、GB/T 22476-2008、GB/T 36261-2018、GB/T 25261-2010、JG/T 235-2014、JGJ/T 287-2014、GJB 798-90、GJB 2502.2-2006

- **Light Source**

  Utilizes imported light sources with longer service life and better stability.

- **Detector**

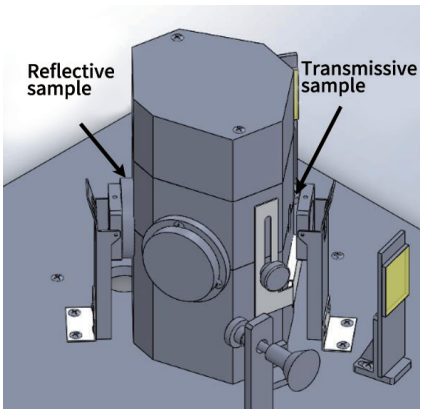
  Dual imported detectors for UV/VIS/NIR，offering high sensitivity to weak signals, low noise, and superior accuracy.

- **Optical System**

  Features a dual-beam, dual-grating, and dual-detector optical system design, effectively minimizing background interference and improving measurement precision.

- **Sample Compartment**

  Integrated design of main unit and integrating sphere unit allows direct measurement of transmittance, specular reflectance, and diffuse reflectance spectra. Integrating sphere accessory: Diameter ϕ60 mm; Wavelength range 280-2500 nm; Dual detectors.



Integrating Sphere Accessory

- **Control System**

  Controlled via a dedicated computer system for automated instrument operation, automatic calibration upon startup, and integrated data acquisition and processing. Designed for exclusive use, ensuring ease of management.

Typical Applications

- Building Glass Shading Coefficient Testing. Testable samples include: plain transparent glass, vacuum magnetron cathode glass, sputter-coated glass, ion-plated glass, electro-float glass, etc.
- Paint/Coating Testing
- Automotive Glass Optical Testing
- Materials Science Research

Specifications

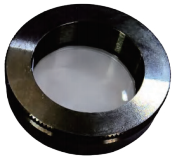
Wavelength Range	280 -2500nm	Operating Modes	Integrated main unit and integrating sphere unit design, enabling direct measurement of transmittance and reflectance spectra.
Wavelength Accuracy	±0.5nm（UV/VIS）±2.0nm（NIR）	Wavelength Repeatability	≤0.3nm（UV/VIS） ≤1.0nm（NIR）
Transmittance Accuracy	± 0.3%T	Transmittance Repeatability	≤0.2%T
Stray Light	≤0.2%T(220nm)	Baseline Flatness	±0.005A（280-2500nm after 30 min warm-up)
Wavelength Range	81*81*39.5cm(W*D*H) including instrument feet height)	Sample Compartment Size	38*39.5*30cm(W*D*H) Integral design of integrating sphere and transmission. Actual size may vary due to measurement methods and errors, not less than the stated dimensions. Dimensions are not a calibrated item.
Weight	70kg	Power Supply	AC220V, DC12V, 40W
Light Source	Utilizes imported light sources with longer service life and better stability	Detector	Dual imported detectors for UV/VIS/NIR, offering high sensitivity to weak signals, low noise, and superior accuracy.
Sample Size (Max)	20-300mm(IUS-200-10 model) 20-250mm(IUS-200-15 model) Thickness≤20mm	Operating System	Windows 7 and above
Spectral Bandwidth	UV-VIS：0.2nm,0.5nm,1nm，2nm,3nm,5nm。 NIR：0.8nm,2nm,4nm,8nm，12nm,20nm。	Ambient Temp/Humidity	15-28°C/＜65% RH (non-condensing)

Standard Configuration

IUS-200-10 / IUS-200-15 UV-VIS-NIR Spectrophotometer main unit, power cable, data cable, matching tools, dedicated data software.

*Computer and printer must be provided by the user.

Measurement Accessories



IUS-200-P1 Powder Sample Holder (Optional)

For use with the integrating sphere accessory to test powder samples. Contains 2 quartz windows dimensions 30mm diameter × 1mm thickness. The powder is filled between the two windows, tightened, and then placed directly at the reflectance measurement position of the integrating sphere for use.

ϕ40mm Standard White Reference Plate

For use with the integrating sphere accessory.

Weight:：70g
Material：PTFE
Spectral Range：200-2500nm
Reflectance: ⩾ 98%
Housing Material: Aluminum, Anodized