

**UV-VIS Spectrophotometer  
with Double Beam  
Double Monochromator -  
UV-990**



**Ultra Lowest Stray Light**

The UV-990 Spectrophotometer incorporates dual monochromator technology making it well suited to even the most demanding of applications in all areas of UV-Visible Spectroscopy including :

- **Pharmaceutical**
- **Material Science**
- **Metrological Verification**
- **Biotechnology**
- **Food Safety - Research**

Wireless instrument control and data acquisition can be achieved from a Tablet PC using Wi-Fi technology allowing the analyst to move freely around the laboratory whilst also keeping track of sample measurements



The double monochromator spectrophotometer delivers extremely wide linear dynamic range by ensuring lowest stray light in contrast to a single monochromator system. This type of Instrument is suitable for measurements of highest concentration sample solutions and weak - transmittance materials, such as optical films, coated thin film, semi-conductors, glass, cellulose nanofibre, enzymatic reactions.

- **Truly double beam Double Monochromatic Design with holographic grating 1800 lines/mm,**
- **Variable Bandwidth with 0.1 to 5 nm.**
- **Offer least Signal to noise ratio- 0.00005Abs RMS (500nm)**
- **Integrating sphere with 100 mm diameter**
- **Ultra Low Stray Light < 0.0003%T (NaI at 220 nm, NaNO<sub>2</sub> at 340 nm) Higher Accuracy, Broader Linear Dynamic Range.**

## Product Features

### Linear Dynamic range

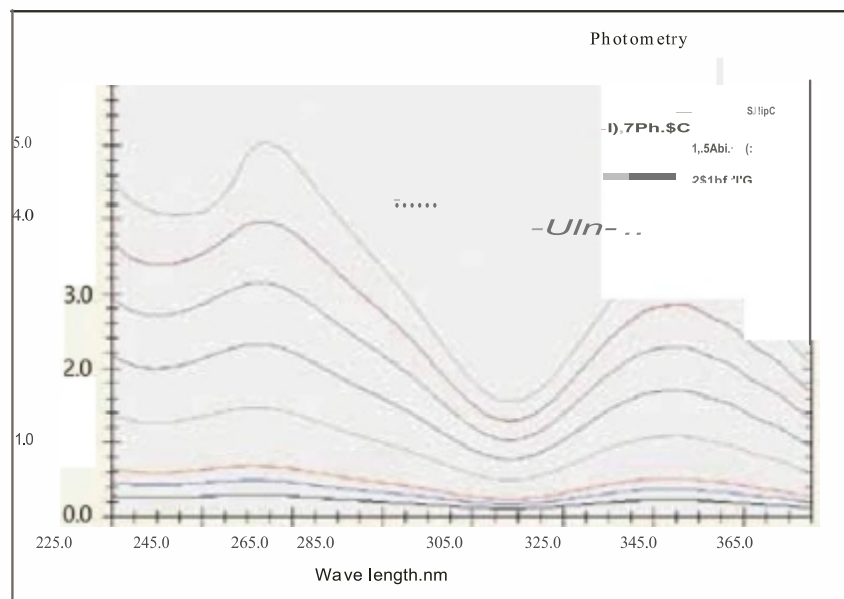
Measured substance : 0.005 mol/L Sulfuric Acid solution of Potassium Dichromate

Test instrument : LABINDIA UV-990

Settings : Wavelength range 225 nm - 380nm

Bandwidth 2nm

Step 0.1 nm

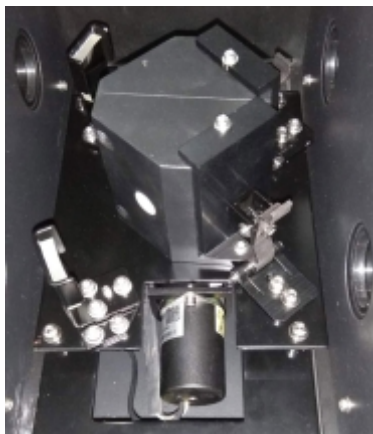


Variable bandwidth design, as low as 0.1 nm, better resolution

## Spectrum Workstation

### UV-990 UV-Vis Spectrophotometer provides complete functions and is user-friendly

The optical design of UV-990 offer extremely low stray light characteristics 0.0003%T (NaI at 220 nm, NaNO<sub>2</sub> at 340 nm) which allows for an extensive photometric range (-6.0 to +6.0 Abs). Measurements at deep ultra-violet wavelengths can also be achieved with use of Nitrogen purged optics. The instrument can be optically configured to suit the needs of the sample by means of a continually adjustable slit for precise control of spectral resolution and beam size adjustment by means of an attenuating wheel. Precise wavelength accuracy is ensured by the integrated Mercury Emissions Lamp used for automatic correction of spectral deviation. A whole host of specialized accessories are available to suit the specific requirement of the sample.



### **Integrating Sphere Accessory (60 / 100 mm)**

Solid: Glass, film, textile, paper, solar panel, etc

Powder: Cosmetics, drugs, dyes, etc

Liquid: Milk, tea, sea water, sewage, biological extracts

- Measurement Methods: Diffuse reflectance, total reflectance, diffuse transmission and total transmission
  - Sample Placement: Front wall, black wall and Center
  - Software: Glasses application software and textile application software
  - The coating material has high reflectance in UV-VIS spectrum
- Larger internal space, you can install optional test accessories, such as small sample test accessory, glasses test accessory, fluorescence test accessory, movable sample test accessories
  - Integrating sphere can be off-host and independent utility with external light source

Incident angle : 0-8°

Minimum diameter 12 mm,

Internal diameter : 100mm:

Maximum thickness 10/mm

***Incident angle 0° and 8°, compatible with instruments  
Switch between diffuse, total and projection mode easily***

## Accessories



**Standard 1-cell holder**  
10 mm universal cell holder.



**Long path 1-cell holder**  
10-100nm universal cell holder  
Suitable for multiple cuvette types.



**Auto 8-cell changer**  
10-100 universal 8-cell holder,  
suitable for multiple cuvette types.



**A-1000 Peltier sipper system**  
Use semiconductor refrigerator as  
temperature control element (10-60°C)



**A-1100 sipper system**  
Automatic injection,  
suitable for polluted samples



**A-1200 Peltier system**  
Use semiconductor refrigerator as  
Temperature control element (10-60°C)



**Quartz flow cuvette**  
Used with Peltier/sipper system, suitable  
for samples that need to keep flowing



**Glass cuvette**  
For visible range  
(320-1100nm)



**Quartz cuvette**  
For UV/Visible range  
(190-1100nm)



**Specular Accessories**  
Suitable for optical plane,  
semi-conductor materials etc.



**Deuterium lamp**  
For UV Range (190 - 340 nm),  
Service life 2000 hours



**Tungsten Halogen Lamp**  
For Visible range (320 - 1100 nm),  
Service life 2000 hours

Specifications	
Model	Specifications
Optical system	Double beam, double monochromator
Bandwidth	0.1/0.2/0.5/1.0/2.0/4.0/5.0 nm
Wavelength range	190-900nm
Wavelength accuracy	±0.1nm (D <sub>2</sub> 656.1nm), ±0.3nm all range
Wavelength repeatability	< 0.05nm
Wavelength display	0.1nm
Photometric accuracy	±0.002 A @ 0.0-0.5 A , + 0.004 A @ 0.5-1 A , ±0.3%T @ 0-100 %T
Photometric repeatability	< 0.001 A @ 0.0-0.5 A , < 0.002 A @ 0.5-1 A , < 0.15 %T @ 0-100 %T
Baseline flatness	±0.0008 A
Baseline stability	±0.0004Abs (200-860nm)
Noise level	< 0.00005 A / h @ 500nm , 2 hours
Photometric range	- 6.0 to + 6.0 Abs
Stray light	< 0.0003%T (NaI at 220 nm, NaNO <sub>2</sub> at 340 nm)
Grating	Holographic Gratings 1800 lines/mm
Detector	PMT
Light source	D2/WI
Interface	LAN, USB, RS-232
Power supply	160W
Dimensions	660 (W) x 570 (D) x 270 (H) mm
Weight	32 kg

**LABINDIA**  
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LABINDIA reserve the right to change specification without notice as part of its continuous programme of product development.