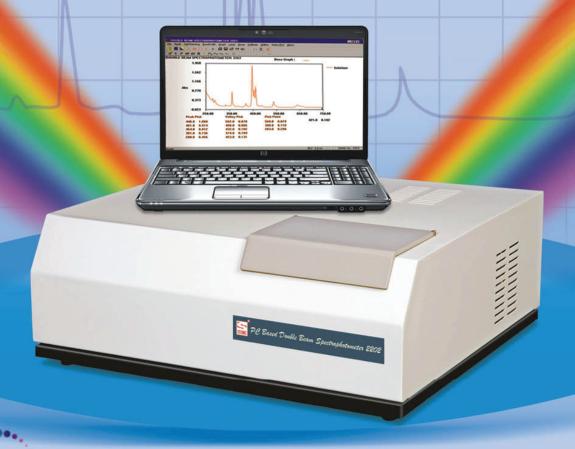




# PC - Based Double Beam Spectrophotometer - 2202



Persatile instrument for Research and Industrial Laboratories. The instrument is designed with precision and technique for accurate qualitative and quantitative Spectrophotometric analysis in Agricultural, Chemical, Pharmaceutical, Medical, Bio-technological, Forensic etc. fields. The PC based operation is user friendly for beginners and gives enough scope for data handling to experienced scientists.

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## PC - Ensed Double Seam Specinophotometer - 2202





#### **OPTICS**

Modified Czerny-Turner Monochromator geometry for better aberration correction. Holographic diffraction grating with 1200 lines/mm blazed at 250 nm & Advanced Split Beam Technology with PC controlled settings.

#### WAVELENGTH

Range :200 to 1100 nm

Accuracy :±0.5 nm Repeatability :±0.2 nm

Resolution : 0.1 nm (200 to 1100 nm)

Bandwidth : 2.0 nm

#### **PHOTOMETRIC**

Range :-2.5 to 2.5 Abs (±4.0 Abs)
Accuracy :±0.005 Abs at 1.0 Abs
Repeatability :±0.002 Abs at 1.0 Abs

#### **STRAY LIGHT**

Less than 0.05%T at 220 nm and 370 nm

#### **BASELINE CORRECTION**

Automatic Baseline correction using Advanced Digital Signal Processing (DSP) techniques

#### **BASELINE FLATNESS**

Within ±0.003 Abs from 200 to 1100 nm (excluding noises)

after baseline calibration

#### **SCAN SPEED**

Slow, Medium and Fast

#### **DATA INTERVAL**

Depends on wavelength scan range and scan speed

#### **SAMPLE HOLDER**

Five position automatic positioning 10 mm cuvette for Samples and one

fixed position for Reference cuvette **SOURCE** 

Tungsten-Halogen lamp (320 to 1100 nm)

Deuterium lamp (200 to 340 nm)

#### DETECTOR

Two Si-Photodiodes

#### ORDER CUT-OFF FILTER

Four glass filters, automatically positioned to eliminate grating spectral order interferences

#### **MINIMUM VOLUME**

- (i) Without Cell riser 500µl in 1 ml cuvette, 2 ml in 4 ml cuvette
- (ii) With Cell riser 250µl in 1 ml cuvette, 1 ml in 4 ml cuvette

#### **OPERATING MODES**

- (i) Single Wavelength
- (ii) Multi Wavelength (Max. 15 wavelengths)
- (iii) Scan (With multi-scan facility)
- (iv) Time / Kinetic\* Scan (With Derivative facility)

#### **MEASURING MODES**

- (i) Absorbance
- (ii) %Transmittance
- (iii) Concentration (K factor, multi standard)
- (iv) Multi-Component Analysis (Max. 10 components)

#### **AUTOMATIC CALIBRATIONS / OPTIMISATIONS (GLP/GMP)**

- (i) Base line calibration
- (ii) Source optimisation
- (iii) Cell optimisation
- (iv) Wavelength calibration
- (v) Electronics calibration
- (vi) Self-diagnosis

#### DATA PROCESSING

- (i) Peak Pick / Point Pick / Valley pick
- (ii) Expansion / Compression of Spectra
- (iii) 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> Derivative
- (iv) Averaging of Scans
- (v) Subtraction of first two scans
- (vi) Three levels of smoothening of Spectra
- (vii) Ratio, Corrected ratio, 2 point and 3 point net Abs(The facilities can be used for DNA & Protein Analysis)
- (viii) Comparison of concentration

#### **DATA PRESENTATION**

Display of graphic and tabular data on Computer Monitor, permanent data storage on hard disk, hard copy of graphic and tabular data on printer

#### **COMPUTER SYSTEM**

PENTIUM-IV or higher version with Colour Monitor,

RS-232 port or USB port with WIN-XP Operating System or above

#### RS 232 PORT

PC control (RS-232 or USB to serial)

#### POWER

230V, ±10%, 50Hz

#### DIMENSION

520(W) X 500(D) X 190(H) mm

#### WEIGHT

23 kg (Approx)

#### ACCESSORIES

2 matched 10 mm Quartz cuvettes

#### **OPTIONAL ACCESSORIES**

- Holder for 50 mm or 100 mm cylindrical and rectangular cuvettes
- · Personal Computer / Laptop / Windows compatible printer
- \* For Kinetic Scan, use External Control Dry Bath / Incubator