



# $\mu$ C Based Double Beam **Smart** UV-VIS Spectrophotometer-2203 (Graphic LCD Display)



2203 is a  $\mu$  controller based double beam instrument, with varieties of measuring / operating modes, data processing / analysis abilities, system optimisation / self diagnostic / calibration utilities etc.

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# $\mu$ C Based Double Beam **Smart** UV-VIS Spectrophotometer-2203

## OPTICS

Double beam optics, Modified Czerny-Turner Monochromator geometry for better aberration correction. Holographic diffraction grating with 1200 lines/mm blazed at 250 nm.

## CONTROL

$\mu$  CONTROLLER BASED.

## WAVELENGTH

Range	200 to 1100 nm
Accuracy	$\pm 0.5$ nm
Repeatability	$\pm 0.2$ nm
Resolution	0.1 nm
Bandwidth	2.0 nm

## PHOTOMETRIC

Range	$\pm 2.5$ Abs
Accuracy	$\pm 0.005$ Abs at 1.0 Abs
Repeatability	$\pm 0.002$ Abs at 1.0 Abs

## STRAY LIGHT

$< 0.05\%$  T at 220 nm and 370 nm

## BASELINE CORRECTION

Automatic Baseline correction

## BASELINE FLATNESS

Within  $\pm 0.003$  Abs (excluding noises)

## SCAN SPEED

Slow, Medium & Fast

## DATA INTERVAL

Depends on wavelength scan range and scan speed, Minimum possible 0.1 nm for slow, 0.2 nm for medium and 0.4 nm for fast scan speeds

## SAMPLE HOLDER

5-position automatic positioning for 10 mm Sample cuvettes and 1 fixed position for 10 mm Reference Cuvette

## SOURCE

1) Tungsten-Halogen lamp,  
(Preferred usage 320 nm to 1100 nm)

2) Deuterium lamp  
(Preferred usage 200 nm to 340 nm)

## DETECTOR

Two Photo Diode

## MEASURING MODES

- 1) Absorbance
- 2) % Transmittance
- 3) Concentration (K factor, Multi standard)
- 4) Multi Component Analysis

## OPERATING MODES

- 1) Single Wavelength
- 2) Multi Wavelength
- 3) Scan
- 4) Time Scan

## ORDER CUT-OFF FILTER

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

## AUTOMATIC CALIBRATIONS/ OPTIMISATIONS

- 1) Base line calibration
- 2) Source optimisation
- 3) Cell optimisation
- 4) Wavelength calibration
- 5) Electronic calibration

## DATA PROCESSING

- 1) Peak Pick/Valley pick
- 2) Zoom (Expansion) of Spectra
- 3) Derivative
- 4) Averaging of two scans
- 5) Subtraction of two scans
- 6) Smoothing of spectra

## DATA PRESENTATION

Display of graphic and tabular data on Graphics LCD (320 x 240 Pixels), hard copy of graphs and data on printer.

## DATA STORAGE

For each operating mode five user defined files can be stored using memory backup. For each mode one default file which stores last readings taken

## PRINTER PORT

Epson compatible 80 Column Dot Matrix

## RS 232 PORT

PC Link data transfer

## POWER

230V  $\pm 10\%$ , 50 Hz

## DIMENSIONS

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

## WEIGHT

23 kg (Approx)

## ACCESSORIES

Two matched 10 mm path length Quartz cuvettes

## OPTIONAL ACCESSORIES

- Holder for 50 mm or 100 mm cylindrical and rectangular cuvettes
- Personal Computer / Laptop
- Epson compatible 80 column D.M. Printer
- Standard RS 232 interface for Window based PC link Software for Spectrum Display, Storage/Retrieve, Peak - Pick, Point - Pick, Expansion of spectra, 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> & 4<sup>th</sup> Derivatives, Averaging of scans, Subtraction of Two scans