

UV : VISIBLE
SPECTROPHOTOMETERS

1000
SERIES



innovación
tecnológica
para
laboratorio

Rafer





High Quality Low Cost

When cost is a primary consideration of selection, the Series 1000 provides low cost, high specification, quality instruments for both the UV and visible ranges.

The new lightweight designs offer an ideal combination of performance, quality and reliability for educational use; as is witnessed by the large number of Universities, Polytechnics and Colleges who are multiple users of the range.

Wavelength Precision

Very precise wavelength selection, with readout to 0.1nm, provides the high degree of reproducibility needed for accuracy, particularly when measuring on a sloping background.

Convenient Operation

Design advantages of the Series 1000 instruments include self test and calibration at switch on, automatic lamp and filter selection coupled to wavelength and high overall stability eliminating frequent resetting of the absorbance zero when making extended measurements.



Ease of Operation

With only six, carefully programmed operating keys, the Series 1000 spectrophotometers are exceptionally easy to use. Up-down keys, with automatic slew rate acceleration, make wavelength selection, to 0.1nm, convenient and rapid. Absorbance, Transmittance or Concentration may be measured; the latter using standards or by entering a factor.

Deuterium Lamp Save

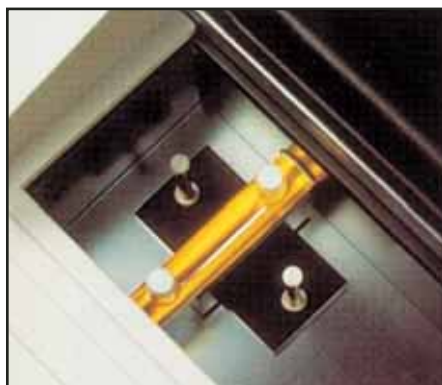
UV-visible instruments allow the Deuterium lamp to be switched off when working in the visible region, to extend lamp life. Switch on is automatic if a UV wavelength is selected. Lamps are guaranteed for 1500 hours and are fitted with an hours of use indicator.

FLEXIBLE SAMPLE HANDLING

Peak Seek

The measurement of an absorption band should always be carried out at the wavelength of peak absorption to obtain results of the highest accuracy and reproducibility.

An automatic peak seek facility is provided. To enhance discrimination and accuracy automatic compensation of the reference energy background - baseline flattening - is carried out, followed by precise peak location. The instrument is set to the peak wavelength, ready for use.



Sample Temperature Control

Temperature control by water circulation is possible with the Series 1000 for a single cell, SIP flowcell, or for 4 cells mounted on the cell changer. A special sample compartment lid and pip port are provided for use with water temperature control.

Convenient Sampling

The large and accessible sample compartment accommodates a wide range of sample holders in addition to the standard single cell holder. These include a 4 cell changer, water thermostatted cell holders and a SIP sampling system which fits within the sample compartment.

SIP Flowcell Sampling

Used with Series 1000 instruments the SIP sampling accessory allows samples to be measured without the inconvenience of cell handling, or danger of cell breakage. Samples are drawn into the cell by depressing the sample key on the control panel, to displace the previous sample.

The pump unit is mounted within the cell compartment. Cells of up to 40mm pathlength are available and samples as small as 300 μ l may be measured in a 10mm pathlength cell.



1000 SERIES

USER BENEFITS

Easy Use

Low Cost

Self Test and Calibration

Auto Lamp and Filter Selection

Simple Kinetics

UV Lamp Save

UV Lamp Hours Indicator

1500 Hours UV Lamp Guarantee

SAMPLING

Single Cell Holder

4 Cell Changer

4 Microcell Changer

SIP Flowcell Changer

Cell Temperature Control

100mm Cell Holders

50 μ l Cell Holder

Film or Filter Holder

ORDERING ACCESSORIES

SAMPLE HOLDERS		Part No.	SAMPLE STIRRING		Part No.
Single cell holder		1010 31 00	Electronic controller for sample stirring		2010 31 00
Universal cell holder, 10mm cells upwards		1010 38 00	Cell holder for sample stirring		2021 32 00
Long pathlength cylindrical cell holder		1010 39 00	Water thermostatted holder for stirring		2010 33 00
Holder for solid samples or films		2020 33 00	LAMPS		
Ultra-microcell holder : 50µl or less		2020 39 00	Deuterium lamp with hours indicator		2202 01 42
CELL CHANGERS AND HOLDERS			Tungsten halide lamp - in pairs		2303 01 40
4 cell manual changer (no holder)		1010 34 00	CABLES AND COMPUTERS		
4 x 10mm cell holder for manual charger		1010 24 00	RS232c cable for PC with 25 pin outlet and		
Up to 4 x 50mm holder for manual charger		1010 36 00	protocol manual		2021 26 00
4 microcell manual changer and holder		2020 38 00	RS232c cable for PC with 9 pin outlet and		
SIP SAMPLING			protocol manual		2021 83 00
Holder for 10mm SIP cell		1010 32 00	CALIBRATION FILTERS		
Holder for SIP cell up to 50mm		2020 37 00	Holmium filter in holder		202 01 44
THERMOSTATTING			Didymium filter in holder		303 01 30
Water flow holder for manual 4 cell changer		1010 36 15	Set of 4 certified absorbance filters in holders		594 44 00
Water flow holder for single, SIP cell		1010 33 00	Set of 6 certified absorbance filters in holders		594 66 00
Cell compartment lid and water pipe port		1010 05 00	Set of 2 certified wavelength filters in holders		303 40 00

Specification

Optical System	Littrow monochromator using 1200L/mm holographic grating; coated optics
Optical Bandwidth	8nm
Wavelength Selection	Keyboard controlled by up-down keys
Wavelength Range	200-1100nm CE1021 325-1100nm CE1011
Wavelength Accuracy	Within 1nm
Wavelength Precision	0.1nm
Wavelength Display	Large seven segment bright LED's
Photometric Ranges	-0.3 to 3.0A, 0-200%T, 0-9999C
Photometric Accuracy	1% or 0.005A whichever is greater
Photometric Noise	Less than ± 0.001A/Hr.
Straylight	Less than 0.05% at 220nm and 340nm CE1021
Absorbance Zero Stability	Better than + 0.001A/Hr.
Absorbance Zero Setting	0A and 100%T automatic by press button
Peak Seek	Automatic with baseline flattening
Filter and Lamp Selection	Automatic - coupled to wavelength
Self Test and Calibration	Automatic at switch on
Computer Interface	Bi-directional serial RS232c
Sample Compartment Dimensions	196 x 105 x 107mm (l x d x h)
Size	480 x 340 x 200mm (l x d x h)
Power Requirement	110-250V, 50/60Hz, 120W CE1010, 170W CE1021
Weight	10kg CE1011; 17kg CE1021

ORDERING

Spectrophotometers are supplied complete with single cell holder, power cable, operators manual and short form instructions.

VISIBLE RANGE

CE 1011
325-1100nm Wavelength range
8nm Bandpass

UV/VISIBLE RANGE

CE 1021 Spectrophotometer
200-1100nm Wavelength range
8nm Bandpass

Option F
Sip Sampling : Factory fitted only

System 1
Spectrophotometer (with option), 2 cells, spare lamp(s), spare fuses