WPA

Colorimeters and UV/Visible Spectrophotometers



from biochrom

DOMINIC DU

WPA, Biochrom® Ltd
and UV/Visible Spectrophotometry



WPA Ltd was acquired by Biochrom® Ltd in 2002 because their range of colorimeters and innovative spectrophotometers provided a perfect extension for the Ultrospec and Libra range of UV/Visible spectrophotometers. Together, these brands address the market from hand-held colorimeters up to Pharmacopoeia compliant high-resolution products. The products are now designed and manufactured at the Biochrom® factory on the famous Cambridge Science Park in the UK.

UV/Visible Spectrophotometry is a popular analytical technique used in most laboratories for a whole host of applications and across the Biochrom® group there are products for every occasion. The guide below will assist with your WPA brand selection.

WPA BRAND SELECTION GUIDE

PRODUCT	LIGHT SOURCES	OPTICAL SYSTEM	INSTRUMENT PARAMETERS				COMMENT
			Wavelength Range	Absorbance Range	Bandwidth	Stray Light	
Colorimeters							
CO 7000	Tungsten	Filters	400, 440, 470, 490, 520, 550, 580, 590, 680, 700nm	-0.3 to 1.99A	40nm	<1%T at filter wavelength	Tropicalised colorimeter Ideal for use in hot, humid, remote locations for clinical/medical applications
CO 7500	Tungsten	Filters	440, 470, 490, 520, 550, 580, 590, 680nm	-0.3 to 1.99A	40nm	<1%T at filter wavelength	Robust colorimeter that is ideal for schools and colleges
CO 8000	600nm LED	LED	600nm	-0.3 to 1.99A	40nm	<1%T at 600nm	Cell density meter for *E. Coli* and Yeast cell culture OD600 measurements
Spectrophotometers							
S800	Tungsten	Single beam, Monochromator	330 – 800nm	-0.3 to 2.5A	7nm	<1%T at 340nm	Scanning visible instrument for education
S1200	Tungsten	Single beam, Monochromator	330 – 800nm	-0.3 to 2.5A	7nm	<1%T at 340nm	Scanning visible instrument for QC and routine use
Biowave DNA	Xenon	Dual channel, Monochromator	190 – 1100nm	-0.3 to 2.5A	5nm	0.5%T at 220 and 340nm	Dedicated life science product with stored routines for nucleic acid, protein and cell density measurements
Lightwave II	Xenon	Dual channel, Monochromator	190 – 1100nm	-0.3 to 2.5A	5nm (3nm⁺ versions)	0.5%T at 220 and 340nm	Scanning instrument for general UV/Vis applications
Biowave II	Xenon	Dual channel, Monochromator	190 – 1100nm	-0.3 to 2.5A	5nm (3nm⁺ versions)	0.5%T at 220 and 340nm	Life Science oriented product with stored routines for nucleic acid, protein and cell density measurements with software for general uv/vis applications

Other instrument specification parameters are shown on page 11.

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The CO 7000 is a portable colorimeter designed for use by doctors and medical technologists in small and medium sized clinics. The unit has been tropicalised to protect it in hot and humid conditions, to 45°C and 70%, respectively. The 10 gelatin filters are encased in glass to prevent fungal growths appearing and the PCB has been conformally coated so that individual components are sealed to prevent corrosion. The instrument is powered by an internal rechargeable NiMH battery or by external power allowing it to be used where the power supply could be unreliable.

The CO 7000 is very easy to use as there are only three buttons and the wavelength required is selected by rotating an integral filter wheel. The filters at 400, 440, 470, 490, 520, 550, 580, 590, 680 and 700nm enable assays in the wavelength range 400 to 700 nm to be measured and the instrument has been designed as an "open" system so that test kits for clinical and medical applications from virtually any supplier may be used. Examples of routine assays that may be measured in serum and plasma include Albumin, Cholesterol, Glucose, Creatinine, Total Protein, Urea and those in cerebrospinal fluid include Glucose and Total Protein*. The samples may be measured in either standard 10mm pathlength cuvettes (a minimum of 400µl is required) or in 10/12/16mm diameter test tubes (adapters are included with the instrument). There is a drain hole at the bottom of the cell compartment so that spillages do not affect the instrument.



- FULLY TROPICALISED AND PORTABLE
- READS ASSAYS IN THE WAVELENGTH RANGE 400 TO 700 nm USING MANY PROPRIETARY TEST KITS
- EASY, THREE BUTTON OPERATION; ON/OFF, REFERENCE AND TEST
- RECHARGEABLE BATTERY
- REGISTERED FOR IVD APPLICATIONS

CO 7000 Colourwave Medical Colorimeter

TROPICALISED COLORIMETER IDEAL FOR USE IN HOT, HUMID, REMOTE LOCATIONS FOR CLINICAL/MEDICAL APPLICATIONS

PORTABLE INSTRUMENTS FOR THE SMALL MEDICAL CLINIC

ORDERING INFORMATION

CO 7000 Medical Colorimeter (includes test tube adapter set) mains/rechargeable battery	80-3000-42
Spare lamp, CO 7000L	80-3000-55
Spare filter set, CO 7000F	80-3000-56

* Recommended methods for these routine clinical chemistry assays together with full details of reagents required, manual colorimetric procedures, calibrations and quality assurance may be found in "District Laboratory Practice in Tropical Countries, Parts 1 & 2 (2nd edition)" by Monica Cheesbrough from Cambridge University Press (or other similar publications).

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ROBUST COLORIMETER THAT IS IDEAL FOR SCHOOLS AND COLLEGES



CO 7500 Colourwave Educational Colorimeter

- DESIGNED WITH THE STUDENT USER IN MIND
- RUGGED, PORTABLE AND EASY TO USE
- EXTREMELY VERSATILE
- RECHARGEABLE BATTERY VERSION AVAILABLE



The CO 7500 is a value for money instrument that has been designed for use in educational establishments including sixth form colleges, secondary schools, technical schools and colleges. With a large, clear digital display and simple push button controls the instrument is ideal for students. The unit is compact and robust enough to withstand the rigours of the teaching environment and is available in mains only or mains / internal rechargeable NiMH battery versions.

The CO 7500 is easy to use. The eight filters at 440, 470, 490, 520, 550, 580, 590 and 680nm are encased in an integral filter wheel and the wavelength required is selected by rotating this until the relevant, colour coded, number is visible in the indicator window. The ergonomic design makes this very convenient and filters cannot be accidentally lost or damaged. With only five buttons (on/off, reference and test, convert between Absorbance and % Transmission readings and kinetics) the instrument is ideal for beginners. When used in kinetics mode to study rates of reaction the CO 7500 takes readings every second and these may be sent to a chart recorder via the analogue output or results may also be downloaded directly to a PC or data logging system.

The samples may be measured in either standard 10mm pathlength cuvettes (a minimum of 400µl is required) or in 16mm diameter test tubes (adapters for 10/12mm test tubes are an optional accessory with the CO 7500). There is a drain hole at the bottom of the cell compartment so that spillages do not affect the instrument.



ORDERING INFORMATION

CO 7500 Educational Colorimeter, mains only	80-3000-43
CO 7500B Educational colorimeter, mains/rechargeable battery	80-3000-44
Spare lamp, CO 7500L	80-3000-59
Spare filter set, CO 7500F	80-3000-58
Test tube adapter set	80-3000-57
Serial lead	80-3001-00
S2000P printer, including lead	80-3000-94

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The CO 8000 cell density meter is a small, portable and easy to use instrument for measuring the density of E.coli and yeast cells in suspension at 600nm and has been designed to give comparable readings to other spectrophotometers. Ideal for use in small research labs, where cultures may be grown in 200ml to 5 litre volume conical flasks, the CO 8000 may be taken to the area of the lab where the cells are grown or used in incubation cabinets or under anaerobic conditions.

Up to 99 results may be stored for subsequent recall, printing or download to spreadsheet. Since it can accept either 10mm pathlength cuvettes or tubes, the instrument may be used with Ehrlenmyer side arm flasks. In addition, cell culture spillages can be easily wiped from the smooth surface and then removed from the cell compartment area by pouring ethanol through the unit. Sterilization may be achieved by pouring through formaldehyde or ethylene oxide.

The instrument has rechargeable batteries that are automatically charged when it is connected to the mains. This allows almost 1 month use under normal operating conditions when fully charged offering great flexibility and portability. A 600nm LED source in combination with a fibre optic is used to obtain the optical density measurement. The instrument may be linked via a serial lead to either a serial printer for hardcopy output or to a PC for download of results to spreadsheet.



- SMALL, PORTABLE AND DEDICATED CELL DENSITY METER THAT MAY BE USED WHERE CELLS ARE ACTUALLY CULTURED
- MEASURES AT 600nm USING A LONG LIFETIME LED SOURCE
- EASY TO USE, EASY TO CLEAN, EASY TO STERILIZE
- RECHARGEABLE BATTERY THAT WILL LAST UP TO ONE MONTH

CO 8000 Biowave Personal Cell Density Meter

RAPID, LOW COST CELL DENSITY MEASUREMENT, ANYTIME, ANYWHERE

CELL DENSITY METER FOR *E. COLI* AND YEAST CELL CULTURE OD MEASUREMENTS

ORDERING INFORMATION

CO 8000 Personal Cell Density Meter mains/rechargeable battery	80-3000-45

SCANNING VISIBLE INSTRUMENT FOR EDUCATION

S800 Spectrawave

Visible Diode Array Spectrophotometer

- ABSORBANCE, % TRANSMISSION, CONCENTRATION AND KINETICS
- LARGE, EASY TO READ DISPLAY
- GRAFICO PC UTILITY SOFTWARE
- EDUCATIONAL EXPERIMENTS AND UV/VISIBLE TUTORIAL
- ANALOGUE OUTPUT FOR CONNECTION TO CHART RECORDER



The S800 Visible spectrophotometer has been designed to meet the needs of both students and technical staff in education. The instrument is small and light in weight for portability with a large display for ease of reading.

The S800 measures Absorbance, % Transmission and Concentration as well as being able to output absorbance–time plots directly to chart recorder. In addition, the user manual includes simple experiments for the determination of λ max, extinction coefficient and natural bandwidth as well as the construction of a standard curve and the measurement of stray light. The instrument is delivered with the Grafico PC utility software package and serial lead providing the student with the means to capture, print and interpret all results, including a wavelength scan, on a PC. Data may be easily exported from Grafico into Excel plus Grafico also includes an educational tutorial on UV/Visible spectrophotometry.

The S800 accepts standard 10mm pathlength glass or plastic cuvettes, alternatively a test tube adapter set is available for 10, 12 and 16mm tubes. In case of spillage the cell holder may be removed for cleaning. For completeness the instrument is delivered with a starter pack of disposable plastic cuvettes.

With simplicity of operation and the inclusive student package the S800 is the ideal tool for education.



ORDERING INFORMATION

S800 Visible Spectrophotometer	80-3003-50
Test tube adapters (10, 12, 16mm)	80-2117-47
Spare lamp	80-2115-33
Chart recorder interface cable	80-3003-55

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DOWNLOADED BY DEUTSCHER SAS



The S1200 Spectrawave Visible diode array spectrophotometer has been designed to meet the routine spectroscopy needs of customers requiring a small, light weight instrument that is easy to use. The benefits of diode array technology mean that as there are no moving parts, the product is very reliable and requires low maintenance.

Compared to equivalent units on the market the S1200 offers so much more; ideal for use in educational, biotech or industrial establishments, the S1200 measures Absorbance, % Transmission, Absorbance ratio and Concentration. The large backlit graphical display enables wavelength scans, kinetic assays (including slope calculation) and standard curves to be viewed. The instrument is delivered with the Grafico PC utility software package and serial lead providing the user with the means to capture, print and interpret all results so that a results log may be built up on a PC. Data may also be easily exported from Grafico to Excel. Graphics may be printed to the industry standard Seiko DPU-414 printer for a permanent record and kinetics data may be output to chart recorder.

The S1200 accepts standard 10mm pathlength glass or plastic cuvettes or 10/12/16mm test tubes with the optional adapter enabling COD measurements to be made using standard 16mm diameter test tubes plus the cell holder may be removed for cleaning. Another version of the instrument, the WPA S1200T, is available with a factory fitted electrically heated cell holder for thermostatted measurements at 37ºC.

The S1200 is a versatile Visible spectrophotometer for all laboratories.



- SIMPLE MENU DRIVEN SOFTWARE
- WAVELENGTH SCAN, KINETICS AND STANDARD CURVE FUNCTIONALITY WITH FULL GRAPHICS
- COMPREHENSIVE 99 METHOD STORAGE
- GRAFICO PC UTILITY SOFTWARE
- CHART RECORDER OUTPUT

S1200 Spectrawave
Visible Diode Array Spectrophotometer

VISIBLY FASTER

SCANNING VISIBLE INSTRUMENT FOR QC AND ROUTINE USE

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ORDERING INFORMATION

S1200 Visible Spectrophotometer	80-3003-58
S1200T Visible Spectrophotometer with heated cell holder	80-3003-59
Test tube adapters (10, 12, 16mm)	80-2117-47
Spare lamp	80-2115-33
Chart recorder interface cable	80-3003-55
Seiko DPU-414 printer	80-2108-80
Serial cable for Seiko DPU-414 printer	80-2118-18

A DEDICATED LIFE SCIENCE BASED INSTRUMENT WITH STORED ROUTINES FOR NUCLEIC ACID, PROTEIN AND CELL DENSITY MEASUREMENTS.

Biowave DNA
Life Science Spectrophotometer



- NOVEL OPTICS FOR HIGH ENERGY COMBINED WITH A XENON SOURCE FOR LONG LAMP LIFETIME
- SIMPLE SELECTION SOFTWARE WITH STORED METHODS FOR LIFE SCIENCE APPLICATIONS
- FULL GRAPHICS DISPLAY
- NUCLEIC ACID SCANS FOR PURITY CHECKING.
- INTEGRATED PRINTER (OPTION)
- COMPACT SPACE SAVING DESIGN
- COMPATIBLE WITH LOW VOLUME CUVETTES
- INTEGRATED SD CARD ACCESSORY FOR DATA STORAGE & EXPORT (OPTION)
- UNIQUE, INTEGRAL CUVETTE TRAY FOR SECURELY HOLDING EXPENSIVE CELLS AND VALUABLE SAMPLES

The Biowave DNA has been specifically designed for life science applications and is a powerful tool for the laboratory that requires a dedicated instrument for the determination of nucleic acid purity and concentration, protein concentrations or cell density measurements.

The system utilises Novel Optics for high energy throughput, a Xenon light source for long lamp lifetimes together with simple selection software and large graphical display for ease of use and data interpretation. The stored methods include DNA, RNA and oligonucleotide calculations, protein assays such as direct UV measurement, BCA, Biuret, Bradford and Lowry and cell density measurement. Unlike many dedicated life science instruments the Biowave DNA can also measure Absorbance or concentration at any wavelength so there is complete flexibility for future applications.

For added convenience it is possible to display a scan of the nucleic acid profile which is particularly useful for RNA samples where impurities may be present in the 230 nm region, yet not have an adverse effect on the 260/280 Absorbance ratio. The system is compatible with both Quartz and disposable low volume UV cuvettes.

Results may be printed to an optional integrated high quality graphical printer for permanent record or exported via USB cable connection or SD Card to a suitable PC running optional Print Via Computer (PVC) software for advanced reporting or data storage.

ORDERING INFORMATION

Biowave DNA UV/Visible Life Science Spectrophotometer	80-3004-70
Biowave DNA UV/Visible Life Science Spectrophotometer with printer	80-3004-71
Printer accessory	80-3003-84
Spare printer paper (20 rolls)	80-3004-07
Print via computer software and cable	80-3004-73
Biowave DNA UV/Visible Life Science Spectrophotometer with SD card	80-3005-10

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The Lightwave II diode array UV/Visible spectrophotometer is the perfect combination of ease of use with flexibility, incorporating Novel Optics with no moving parts and a Xenon source for high energy performance with longer lamp lifetime. The instrument includes a large wide view display and in-built software providing flash scan, fixed wavelength measurements, kinetics and concentration with comprehensive graphics capability plus the ability to store up to 90 methods. On peak confirmation is also a feature of the flexible software. Concentration may be measured using either a factor, single-point calibration, multi-standard curves or alternatively there is a multi-wavelength mode where equations using absorbance values may be used for ratio calculations.

Samples may be measured in 10, 20 or 40mm pathlength cells (glass, quartz or disposable) and all results may be printed to an optional integrated high quality printer for permanent record. Alternatively the instrument may be linked to a PC via a USB cable connection, the optional wireless Bluetooth or SD Card accessories for data storage or printing.

The Lightwave II has been designed to meet the needs of customers in most laboratory situations and is compact, lightweight, convenient and excellent value for money compared to conventional systems. With its elegant new user interface, Gifford Optics and Bluetooth® connectivity, the Lightwave II is an obvious choice in a multi-function environment. A higher resolution Lightwave II+ with a 3nm bandwidth is also available.

- NOVEL OPTICS FOR HIGH ENERGY COMBINED WITH A XENON SOURCE FOR LONG LAMP LIFETIME
- UNIQUE, INTEGRAL CUVETTE TRAY FOR STORAGE AND SAMPLE SUPPORT
- WAVELENGTH SCANNING, KINETICS AND CONCENTRATION FUNCTIONALITY WITH FULL GRAPHICS DISPLAY
- INTEGRATED PRINTER (OPTION)
- WIRELESS BLUETOOTH® CONNECTIVITY (OPTION)
- INTEGRATED SD CARD ACCESSORY FOR DATA STORAGE & EXPORT (OPTION)
- SIMPLE SELECTION SOFTWARE



Lightwave II
UV/Visible Diode Array Spectrophotometer

SHAPING THE FUTURE OF SPECTROPHOTOMETRY

SCANNING INSTRUMENT FOR GENERAL UV/VIS APPLICATIONS

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ORDERING INFORMATION

Lightwave II UV/Visible Spectrophotometer	80-3003-72
Lightwave II UV/Visible Spectrophotometer with printer	80-3003-73
Lightwave II UV/Visible Spectrophotometer with Bluetooth	80-3003-74
Lightwave II UV/Visible Spectrophotometer with SD card	80-3005-13
Lightwave II+ UV/Visible Spectrophotometer	80-3004-60
Lightwave II+ UV/Visible Spectrophotometer with printer	80-3004-61
Lightwave II+ UV/Visible Spectrophotometer with Bluetooth®	80-3004-62
Lightwave II+ UV/Visible Spectrophotometer with SD card	80-3005-14

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LIFE SCIENCE ORIENTED PRODUCT WITH STORED ROUTINES FOR NUCLEIC ACID QUANTIFICATION/ PROTEINS/CELL DENSITY

Biowave II
Life Science Spectrophotometer



- NOVEL GIFFORD OPTICS FOR HIGH ENERGY COMBINED WITH A XENON SOURCE FOR LONG LAMP LIFETIME
- SIMPLE SELECTION SOFTWARE WITH STORED METHODS FOR LIFE SCIENCE APPLICATIONS
- WAVELENGTH SCANNING, KINETICS AND CONCENTRATION FUNCTIONALITY WITH FULL GRAPHICS DISPLAY
- NUCLEIC ACID SCANS FOR PURITY CHECKING.
- INTEGRATED PRINTER (OPTION)
- WIRELESS BLUETOOTH® CONNECTIVITY (OPTION)
- SD CARD FOR DATA STORAGE & EXPORT (OPTION)
- UNIQUE, INTEGRAL CUVETTE TRAY FOR STORAGE OF EXPENSIVE CELLS AND SUPPORT OF VALUABLE SAMPLES

The Biowave II diode array spectrophotometer offers all the benefits described for the Lightwave II with the addition of key life science applications. There are pre-defined methodologies for nucleic acid quantification (DNA, RNA and oligionucleotides), protein assays (BCA, Biuret, Bradford and Lowry) and for cell culture density measurements. The visualisation of the nucleic acid scan is particularly useful, especially for RNA samples where impurities may be present in the 230 nm region, yet not have an adverse effect on the A260/A280 ratio. The system is compatible with disposable low volume UV cuvettes



The combination of the life science methods with the rapid scanning, kinetics and concentration capabilities of the Biowave II make it a very useful addition to any molecular biology laboratory. In kinetics mode, the basic plot of absorbance against time may be supplemented with the result for δA/min plus the correlation coefficient is also calculated for the duration of the assay. This slope may be multiplied automatically by a factor to convert it directly to rate of reaction.

Once again, all results may be printed to an optional integrated high quality printer for permanent record or the instrument may be linked to a PC via a USB cable connection, optional wireless Bluetooth or SD Card accessories for data storage or printing.

ORDERING INFORMATION

Biowave II UV/Visible Life Science Spectrophotometer	80-3003-75
Biowave II UV/Visible Life Science Spectrophotometer with printer	80-3003-76
Biowave II UV/Visible Life Science Spectrophotometer with Bluetooth®	80-3003-77
Biowave II UV/Visible Life Science Spectrophotometer with SD card	80-3005-11
Biowave II+ UV/Visible Life Science Spectrophotometer	80-3004-80
Biowave II+ UV/Visible Life Science Spectrophotometer with printer	80-3004-81
Biowave II+ UV/Visible Life Science Spectrophotometer with Bluetooth®	80-3004-82
Biowave II+ UV/Visible Life Science Spectrophotometer with SD card	80-3005-12
Printer accessory	80-3003-84
Spare printer paper (20 rolls)	80-3004-07
Bluetooth® accessory	80-3003-96
SD card accessory with PVC software	80-3005-00

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Cells (all 10mm pathlength)
Ordering Guide

DESCRIPTION	PART NUMBER
Disposable cells	
Acrylic, pack of 100 (volume 2.5ml)	80-2004-53
Polystyrene, pack of 100 (volume 1.5ml)	80-2084-11
UV plastic, semi-micro, pack of 100 (min. volume 750µl)	80-3000-77
UV Plastic, ultra-micro, pack of 100 (fill volume 80µl)	80-3000-81
Glass cells	
Standard rectangular with lid (volume 2.5ml)	80-2003-87
Semi micro with lid (min. volume 750µl)	80-2004-15
Quartz cells	
Standard rectangular with lid (volume 2.5ml)	80-2002-58
Semi micro with lid (min. volume 750µl)	80-2002-77
Micro with lid (min. volume 400µl)	80-2002-95
Ultra-micro (fill volume 70µl)	80-2103-69
Ultra-micro (fill volume 15µl)	80-3000-83
Matched cells	
Glass, 8 matched standard rectangular with lid (volume 2.5ml)	80-2109-83
Quartz, 2 matched standard rectangular with lid (volume 2.5ml)	80-2099-89
Quartz, 2 matched semi micro with lid (min. volume 750µl)	80-2100-13
Quartz, 2 matched micro with lid (min. volume 400µl)	80-2100-25
Quartz, 8 matched standard rectangular with lid (volume 2.5ml)	80-2109-80
Glass, 8 matched cells with lid	80-2109-81
Quartz, 8 matched micro with lid (min. volume 400µl)	80-2109-82

All products are CE marked and comply with relevant legislation, including EMC and low voltage directives.

Biowave DNA, Biowave II and Lightwave products have a two year warranty and a warranty on lamp life of three years.
All other WPA instruments have a one year warranty.

As part of our policy of continuous instrument development, we reserve the right to alter specifications without notice.

Technical Specifications

Light source, optical system, wavelength range, absorbance range, bandwidth and stray light at 340nm are shown at the front of this brochure. Other parameters are shown below:

PARAMETER	COLORIMETERS (CO7000, CO7500, CO7500B, CO8000)
Stored methods	n/a
Wavelength accuracy	n/a
Photometric reproducibility	± 0.02A at 1A using cuvettes
Photometric accuracy	< ± 0.05A at 1A using Neutral Density Filters
Outputs	RS 232 digital (CO7500, CO7500B, CO8000) 0-2V for 0-2A, 0-1.99V for 0-199%T (CO7500, 7500B)
Dimensions (W x D x H)	150 x 180 x 60 mm
Weight	0.6 kg

	SPECTROPHOTOMETERS S800, S1200
Stored methods	99 (S1200)
Wavelength accuracy	± 2nm
Photometric reproducibility	± 0.002A at 0-0.5A, 546nm
Photometric accuracy	± 0.003A at 0-0.5A
Outputs	RS232C Analogue 0- 2V
Dimensions (W x D x H)	215 x 270 x 120mm
Weight	<2 kg

	SPECTROPHOTOMETERS BIOWAVE DNA
Stored methods	9
Wavelength accuracy	± 2nm
Photometric reproducibility	± 0.002A at 0-0.5A, 546nm
Photometric accuracy	± 0.003A at 0-0.5A
Outputs	USB, SD card option
Dimensions (W x D x H)	260 x 390 x 100mm
Weight	<4.5 kg

	SPECTROPHOTOMETERS LIGHTWAVE II, BIOWAVE II
Stored methods	90
Wavelength accuracy	± 2nm
Photometric reproducibility	± 0.002A at 0-0.5A, 546nm
Photometric accuracy	± 0.003A at 0-0.5A
Outputs	USB, Bluetooth® option, SD card option
Dimensions (W x D x H)	260 x 390 x 100mm
Weight	<4.5 kg



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UV/Visible Spectrophotometry

UV/Visible Spectrophotometry is a fundamental analytical technique and, together with suitable sample handling accessories, is used in laboratories for absorbance and transmission measurements of samples in all application areas. Biochrom, using it's Novaspec, Ultrospec, GeneQuant, Libra and WPA brand names, manufactures an extensive range of attractive UV/Visible products and accessories, with performance and reliability guaranteed by over 35 years experience in the field. Amongst other technological advances, these instruments feature PTR (Press to Read) capability, which dramatically extends the lifetime of the source lamps.

Microtitre Plate Readers, Washers, Dispensers and Luminometers

In the food testing, clinical, biotech and pharmaceutical industries, the demand is for ever increasing sample throughput and smaller and smaller volumes. This is where the microtitre plate comes into its own and Biochrom offer an excellent range of fast, versatile and reliable plate readers with user friendly designs, via its Asys and Anthos product lines. In addition, a range of microplate washers is available, with a unique manifold design for minimised residual volumes and digitally controlled aspiration and dispensing pumps for high accuracy and low noise performance.

Amino Acid Analysis

Biochrom has been in the field of dedicated Amino Acid Analysis for over 30 years using established ion exchange chromatography to provide rapid, specific amino acid analysis for Clinical, Pharmaceutical, proteomics, food and feedstuff industries. These state-of-the-art bench top products feature proven Ninhydrin detection technology fully integrated into a complete package utilising the latest graphical software, active components in ceramic and PEEK for long life and elimination of contamination and a range of robust ion exchange columns for customised applications.

Distributors worldwide

If you want to know more about us, or our products, please get in touch...

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