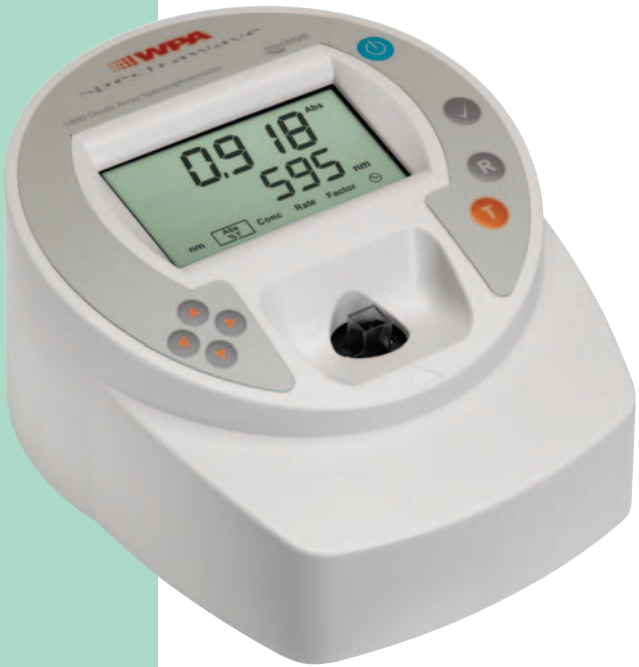
S800 Spectrawave
Visible Diode Array Spectrophotometer

- 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

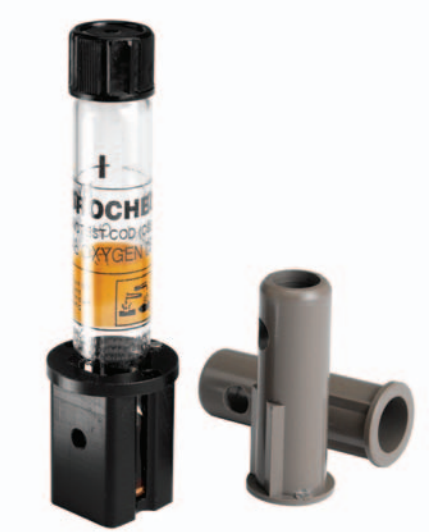


The S800 Visible spectrophotometer has been designed to meet the needs of both students and technical staff in education. The instrument is small and light in weight for portability with a large display for ease of reading.

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

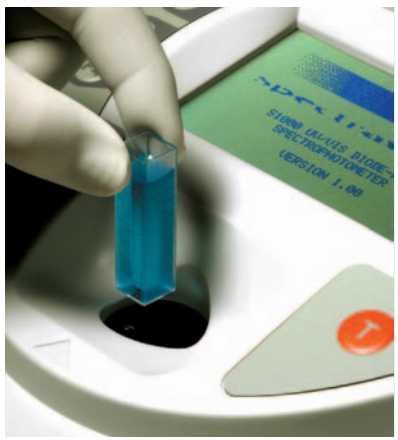
WPA

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 37°C.

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

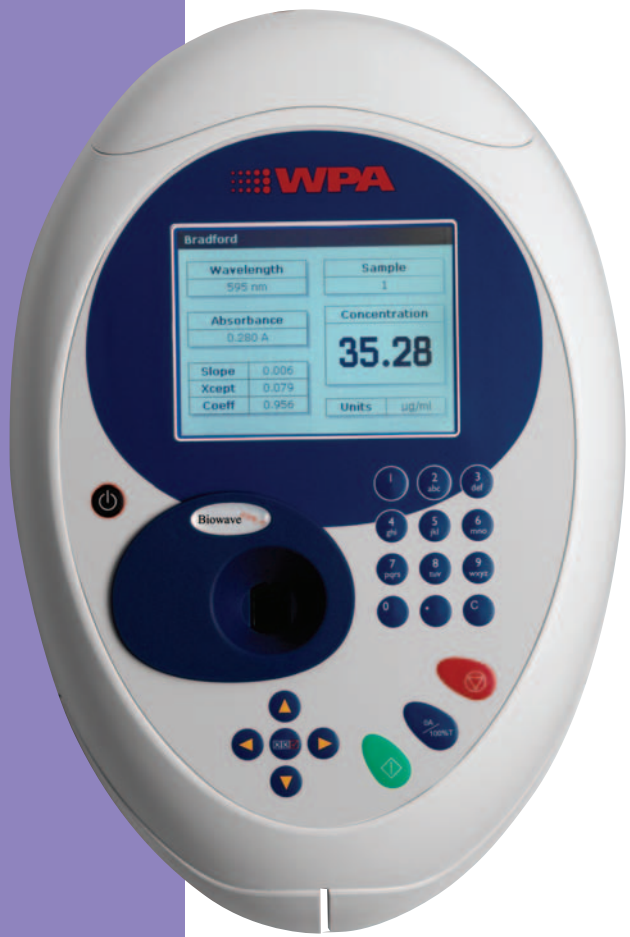
SCANNING VISIBLE INSTRUMENT FOR QC AND ROUTINE USE

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

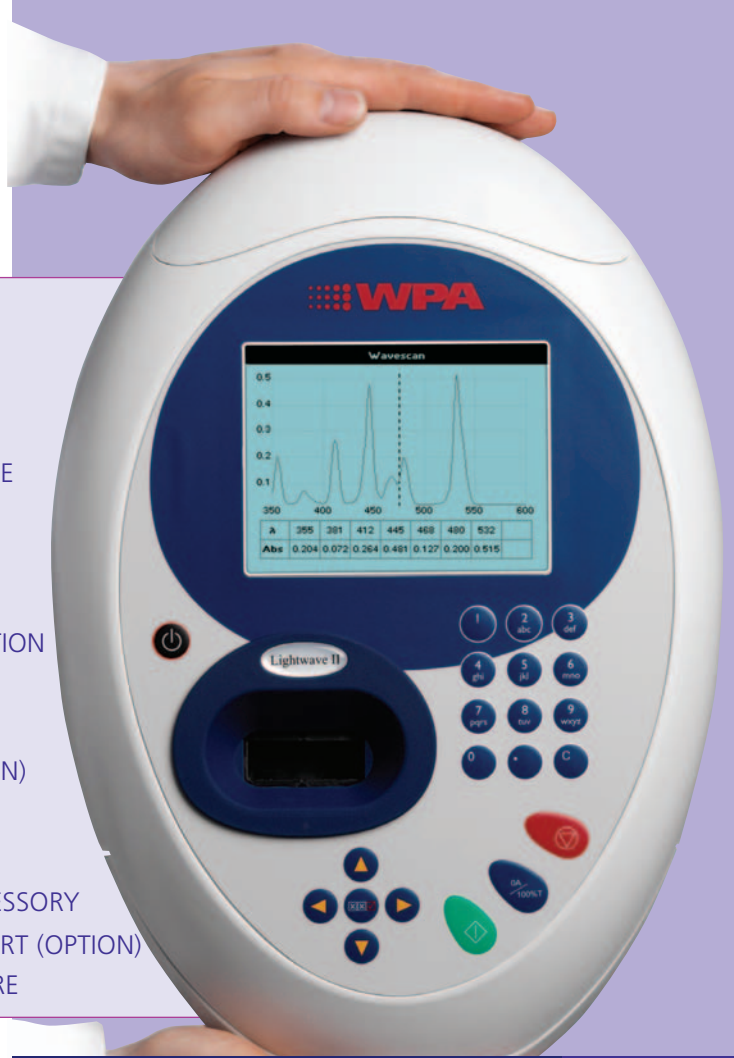
Biowave DNA UV/Visible Life Science Spectrophotometer	80-3004-70
Biowave DNA UV/Visible Life Science Spectrophotometer with printer	80-3004-71
Printer accessory	80-3003-84
Spare printer paper (20 rolls)	80-3004-07
Print via computer software and cable	80-3004-73
Biowave DNA UV/Visible Life Science Spectrophotometer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

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

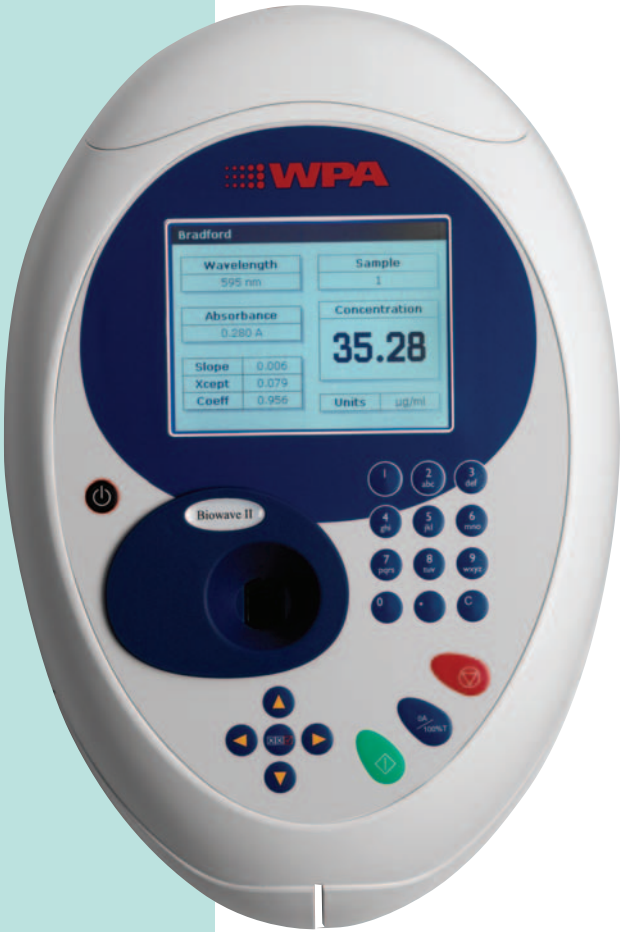
9

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

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

WPA

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

WolfLabs

Pricing on any accessories shown can be found by keying the part number into the search box on our website.

The specifications listed in this brochure are subject to change by the manufacturer and therefore cannot be guaranteed to be correct.
If there are aspects of the specification that must be guaranteed, please provide these to our sales team so that details can be confirmed.

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Please contact us if this literature doesn't answer all your questions.