JENWAY

Genova Bio Spectrophotometer

The spectrophotometer dedicated to life science analysis.

Introducing the Genova Bio

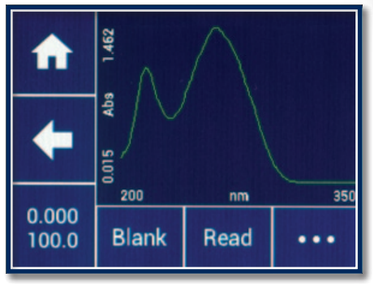
The Genova Bio is a simple, low cost, easy to use UV/visible spectrophotometer dedicated for life science applications. It is compatible with a wide range of small volume cuvettes, making it ideal for measuring DNA and RNA samples. To make measurements quicker and easier, the Genova Bio has pre-programmed methods for the measurement of nucleic acid concentration and purity, protein assays and cell density. This spectrophotometer measures across a UV/visible wavelength range of 198 to 800nm, with a narrow spectral bandwidth of 3nm. The Genova Bio is covered by a two-year warranty which includes the xenon lamp.

Instrument Design

The Genova Bio utilises diode array technology to scan the entire wavelength range (198 to 800nm) in less than 3 seconds. The 1024 element diode array detector coupled with a flash xenon lamp results in a long life, robust spectrophotometer. The large colour touchscreen interface is very fast and responsive, making this spectrophotometer the ideal addition to any laboratory. This is all cleverly packaged, resulting in a lightweight, small footprint instrument, weighing less than 3 kg.

Measurement modes

The Nucleic Acids measurement mode can be used to quantify the concentration and purity of dsDNA, ssDNA, RNA and oligonucleotides using wavelengths recorded at 260, 280 and 230nm, with an optional correction at 320nm. The concentration is calculated along with the corresponding purity ratios 260/280nm and 260/230nm. At the touch of a button it is easy to visually check the purity of the nucleic acids. This is done by identifying peak levels in the purity scan between 200 and 350nm. This is especially useful for RNA samples where impurities maybe present at 230nm, but cannot be detected using the 260/280nm ratio measurement.



Where nucleic acid concentrations are high, or there are only small sample volumes available for testing, there is a dilution option which can be used to calculate the original concentration of diluted samples.

The Proteins measurement mode can be used to calculate protein concentration by creating standard curves from protein assay kits. With pre-programmed methods for measuring Bradford, Lowry, Biuret and Bicinchoninic Acid (BCA) assays; up to 6 standards can be measured with 3 replicates of each standard to minimise any dilution errors. Each method has an optional background correction wavelength, depending on the assay being measured.

The Proteins measurement mode is also pre-programmed with the Direct UV and Warburg-Christian methods to determine purified protein concentration. The Genova Bio has a pre-programmed method for measuring optical density of bacterial cultures such as *E.Coli* and yeast cells. This is ideal to measure cell growth before cell harvesting.

As well as these pre-programmed life science methods this versatile spectrophotometer has measurement modes for simple photometrics, concentration, quantitation, spectrum scanning and kinetics. Enabling measurements to be performed at any selected wavelength between 198 to 800nm.

Accessories

The Genova Bio is supplied with a micro-cuvette holder as standard, making it ideal for small sample volumes down to 50µl. For even smaller sample volumes, the Genova Bio has been designed to work with the TrayCell accessory. This enables ultra-micro samples as low as 0.7µl to be measured without the need for dilution.

USB Connectivity

There are two USB ports for data storage and printer connectivity. The easy access USB port on the front of the instrument can be used to easily store results and transfer data as tab delimited text files to Microsoft Excel®.

Genova Bio Key Features

- Life Science Spectrophotometer
- Pre-programmed for DNA, RNA and protein analysis
- Compatible with ultra-micro, semi-micro, micro and macro cuvettes
- Scanning diode array technology
- Colour touchscreen navigation
- Small footprint and lightweight (<3kg)
- Fast scan speed
- English, French, German, Italian and Spanish language options
- Multiple USB ports for data storage and printer connectivity
- 2-year warranty including xenon lamp

Ordering Information

Product Code	Description
720601	Genova Bio UV/visible scanning spectrophotometer, fitted with micro-cuvette holder, and supplied with a universal power supply and an instruction manual
720605	Genova Bio UV/visible scanning spectrophotometer supplied with TrayCell
720304	Micro-cuvette holder for cuvettes with 8.5mm beam height
SMP50/PRINTER	External printer fitted with a battery and supplied with UK, EU and US power leads
037702	Additional paper roll for the SMP50/PRINTER
700000	Dust cover for Genova Bio spectrophotometer
035143	Pack of 100 plastic cuvettes, UV and visible wavelengths, 70µl to 1.5ml fill volume (use with micro-cuvette holder)
035262	TrayCell for ultra-micro sample volumes, supplied with caps for 1mm and 0.2mm
035265	Additional TrayCell cap for 2mm pathlength
035266	Additional TrayCell cap for 0.1mm pathlength

Technical Specification

Model	Genova Bio
Wavelength Range	198 to 800nm
Wavelength Accuracy	± 2nm
Wavelength Repeatability	± 2nm
Spectral bandwidth	3nm
Transmittance	0 to 199.9%
Absorbance	-0.300 to 2.500A
Photometric Accuracy	+/- 0.01A at 1.0A and 546nm
Stability (A)	+/- 0.005A/h at 0.04A and 546nm after 60 min warmup
Noise	+/- 0.002A at 0.04A and +/- 0.02A at 2.0A and 546nm
Stray Light at 340nm, %T	<1%T according to ANSI/ASTM E387-72
Nucleic acids	Pre-programmed methods dsDNA, ssDNA, RNA, Oligos
	Concentration, Purity (260/280nm & 260/230nm ratios), optional background
	correction at 320nm, Spectrum scan
Proteins	Purified proteins at 280nm and Warburg-Christian
	Protein assays (Bradford, Biuret, Lowry, BCA)
Cell density	600nm optical density reading
	Conversion factor in Cells/ml
Beam height	15mm
Light source	Xenon lamp
Results memory	Limited by attached mass storage device
Removable media	USB (not supplied)
Outputs	USB x 2
Supply voltage/frequency	100 – 240VAC at 50 to 60Hz
Power supply	12V DC, 3.8A
Size (w x d x h)	212 x 422 x 120mm
Weight	2.8kg
Warranty	2 years on the instrument, including xenon lamp

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