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Genova Plus Life Science Spectrophotometer

The new Genova Plus is a UV/visible spectrophotometer dedicated to life science analysis. This spectrophotometer uses icon driven software and has an improved navigation system for easy and intuitive usability.

The Genova Plus has methods for the measurement of nucleic acid concentration and purity, protein assays and cell density. This versatile spectrophotometer can also be used as a standard spectrophotometer.



Instrument design

The new Genova Plus has been designed based on the successful 73 series spectrophotometers; it has a large, graphical display encompassed into the lid of the instrument and has the option of an integrated printer to minimise the overall footprint of the spectrophotometer in the laboratory. This spectrophotometer uses icon driven software and soft key navigation for easy and intuitive use and setup.



Key features

- 5nm spectral bandwidth
- Absorbance range -0.3 to 2.5A
- Pre-programmed for DNA/RNA analysis
- Purity scan across entire wavelength range
- Pre-programmed methods for protein analysis
- Standard spectrophotometer functions
- Press to read xenon lamp
- Icon driven software
- Small footprint
- Method and result saving to USB memory stick
- 3 year warranty including xenon lamp

Improved optics



Coinciding with the successful 73 series spectrophotometer range the Genova Plus has improved optics resulting in a narrow spectral bandwidth of 5nm and an absorbance range of -0.3 to 2.5A. This instrument has a 'press to read' xenon lamp to give more accurate readings and extend lamp life. Both the instrument and the xenon lamp are covered by a three year warranty. The Genova Plus also has an easy access USB port on the front of the instrument which enables results and methods to be stored directly to a USB memory stick, for easy transfer of data or setup of multiple instruments in a laboratory.

TrayCell



The new Genova Plus has also been designed to be used with the TrayCell accessory which enables ultra-micro sample volumes as low as 0.7 μ l to be measured.

The TrayCell is ideal for DNA, RNA and protein measurements for sample volumes from 5 μ l down as low as 0.7 μ l. The TrayCell is a fibre optic cuvette which is supplied with two caps to give path lengths of either 1mm or 0.2mm, thus creating a "virtual dilution" of 1:10 or 1:50 of the sample when compared to a measurement with a standard 10mm cuvette.

Part code 035 262



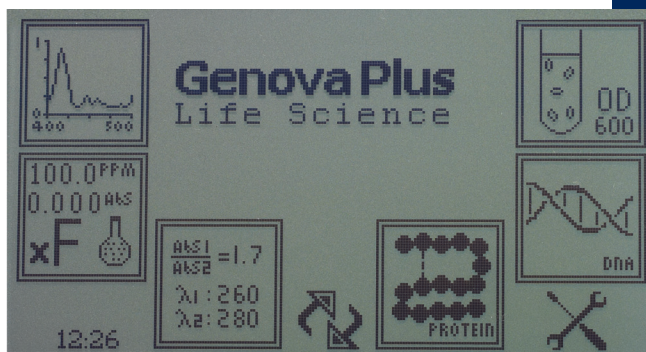
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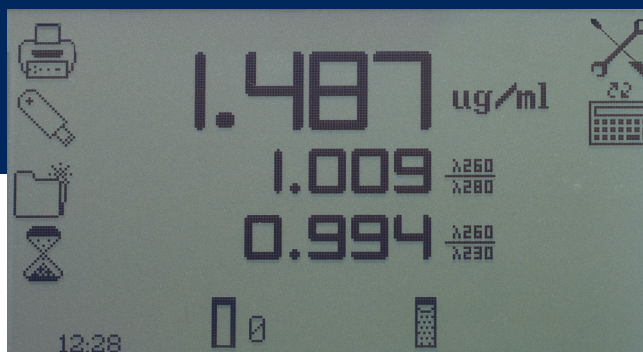
Introducing the measurement modes

The Genova Plus has pre-programmed methods for the measurement of nucleic acid concentrations and protein assays. This spectrophotometer also has measurement modes for the purity of nucleic acids and optical density for cell harvesting.

As well as the dedicated life science measurement modes this versatile instrument can also be used as a standard spectrophotometer with measurement modes for photometrics, concentration, multi-wavelength, spectrum scanning, quantitation and kinetics.



Nucleic Acid determination mode



Protein assay determination mode

The Genova Plus is pre-programmed with methods for the measurement of ssDNA, dsDNA, RNA and oligonucleotide concentrations using wavelengths recorded at 260, 280 and 230nm, with an optional correction at 320nm. This measurement mode has the 260/280 and 260/230 ratios pre-programmed as well as a variable ratio option which enables up to 3 wavelengths to be entered as well as the correction wavelength. A dilution option is also available to calculate the original concentration of diluted samples.

Cell density measurement mode

Bacterial cell cultures are routinely grown until the optical density at 600nm reaches approximately 0.4, which indicates the optimum cell number for harvesting. This measurement mode enables cell growth to be monitored by measuring absorbance. Measurements can be performed at 600nm, 595nm or any other user selected wavelength.

Multi-wavelength measurement mode

This measurement mode allows the sample to be measured at 4 different wavelengths, with ratio calculations and formulae with various factors to calculate concentration.

For measuring protein concentrations the Genova Plus is pre-programmed with methods for Bradford, Lowry, Biuret, Bicinchoninic Acid (BCA) and Direct UV assays. This measurement mode allows up to 12 standards, with 3 replicates of each standard, to be measured to create the standard curve. The replicate measurements can be set to automatically perform 3 readings one after the other on the same sample; or the replicates can be set to enable one measurement to be performed on three separate samples of the same concentration.

Purity scan measurement mode

This measurement mode is used to check the purity of nucleic acids. This is especially useful for RNA samples where impurities may be present at 230nm but cannot be detected using the 260/280 ratio measurement. The Genova Plus enables scanning across the full wavelength range from 198 to 1000nm to identify any distorted peaks.

Concentration measurement mode

This mode allows simple absorbance, % transmittance and concentration calculations to be performed. There are 27 units of concentration to select from.



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Ordering information

Product Code	Description	Product Code	Description
736 501	Genova Plus spectrophotometer fitted with micro-cuvette holder	660 101	Internal printer
035 143	Pack of 100 disposable micro-cuvettes	735 401	8 cell automatic turret
630 204	10 x 10mm path length cuvette holder	735 201	Sipper pump
630 005	10 to 100mm path length cuvette holder	735 301	Peltier
637 071	16/24mm test tube holder	735 701	Sipper/Peltier
630 304	Micro-cuvette holder with reduced aperture	735 001	Dust cover
736 201	Water heated 10 x 10mm path length cuvette holder	019 146	4GB USB memory stick
035 262	TrayCell for ultra-micro sample volumes		

Technical specification

Wavelength	
Range	198 to 1000nm
Resolution	1nm
Accuracy	±2nm
Repeatability	±0.5nm
Spectral Bandwidth	5nm
Photometrics	
Absorbance Range	-0.300 to 2.500A
Transmittance Range	0 to 199.9%T
Photometric Accuracy	±1%T, ±0.01A at 1.000 Absorbance
Concentration/Quantitation	
Range	0 to 9999
Resolution	Selectable 1/0.1/0.01/0.001
Concentration Calibration	Blank with a single standard or factor
Quantitation Calibration	Blank with up to 12 standards
Quantitation Curve Fit	Quadratic, quadratic through zero, linear, linear through zero, interpolate
Multi-wavelength	
Data Points	Up to 4 wavelengths
Calculations	Ratio, difference, sum, product
Kinetics	
Measurement Time	2 to 9999 seconds
Kinetics Calibration	Blank with a single standard or factor
Resolution	Selectable 1/0.1/0.01/0.001
Display	Graphical & calculated concentration value
Analysis	Concentration, rate of change, initial and final absorbance or % transmittance
Spectrum/Purity Scan	
Scan Data Interval	1, 2 or 5nm
Analysis	Absorbance or % transmittance and peaks and valleys
Other	
Method Storage	312 (including pre-programmed methods)
Results Storage	Limited by USB memory stick
GLP Support	Real time clock & calendar, user ID
Light Source	Xenon lamp
Removable Media	USB (supplied)
Outputs	USB, Analogue, RS232, Integral printer
Size (WxDxH)	275 X 400 X 220mm
Weight	6kg

JENWAY

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