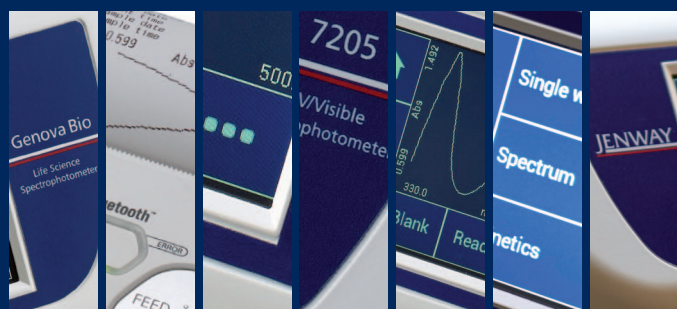


# JENWAY

## 72 Series Spectrophotometers

The 72 series spectrophotometers are ideal for applications in education, life science and routine testing in clinical, veterinary, pharmaceutical and QC laboratories.



## Introducing the 72 Series

The 72 series spectrophotometers are the first scanning spectrophotometers in the Jenway range to leverage diode array technology to produce exceptionally fast results. The range includes three models: model 7200 covers a wavelength range of 335 to 800nm with a spectral bandwidth of 7nm and model 7205 covers a wavelength range of 198 to 800nm with a spectral bandwidth of 5nm. There is also a third model dedicated to life science analysis, the 7205Bio which covers a wavelength range of 198 to 800nm with a spectral bandwidth of 3nm.

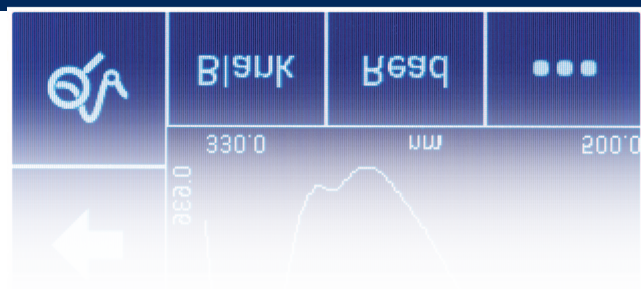
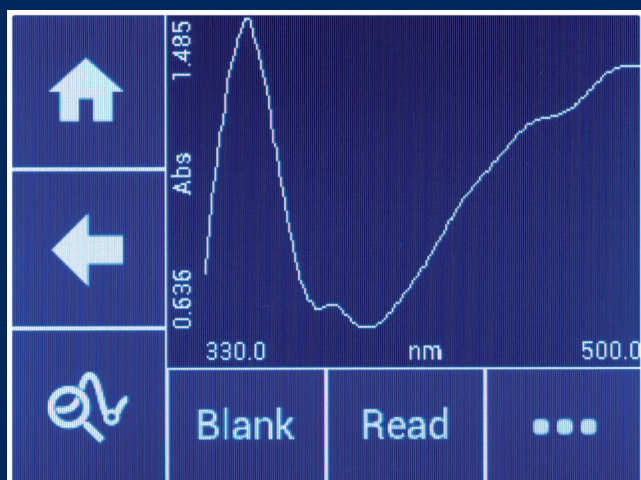
The 72 series spectrophotometers are covered by a two-year warranty.

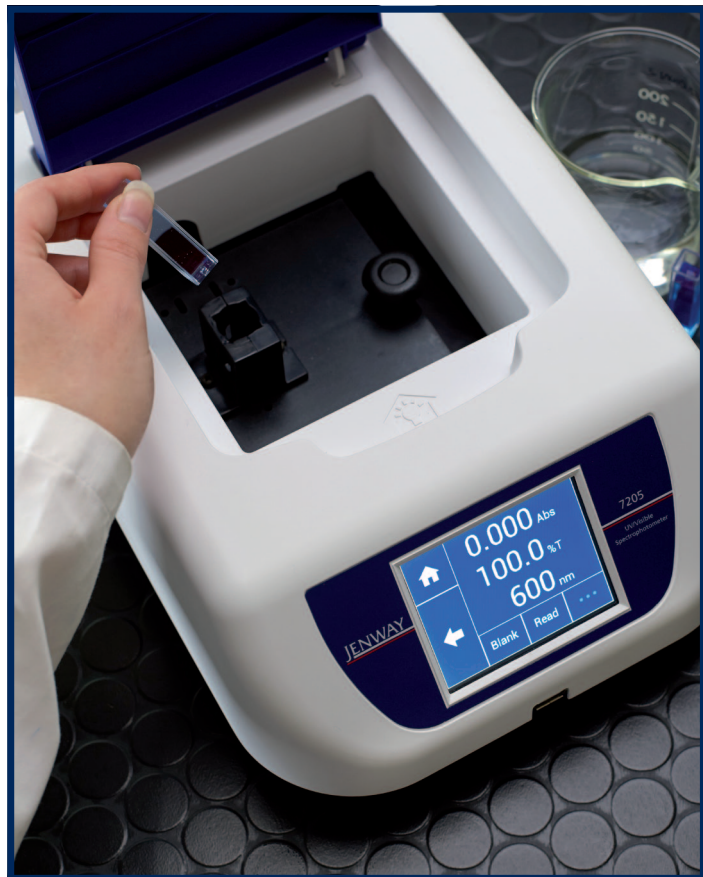
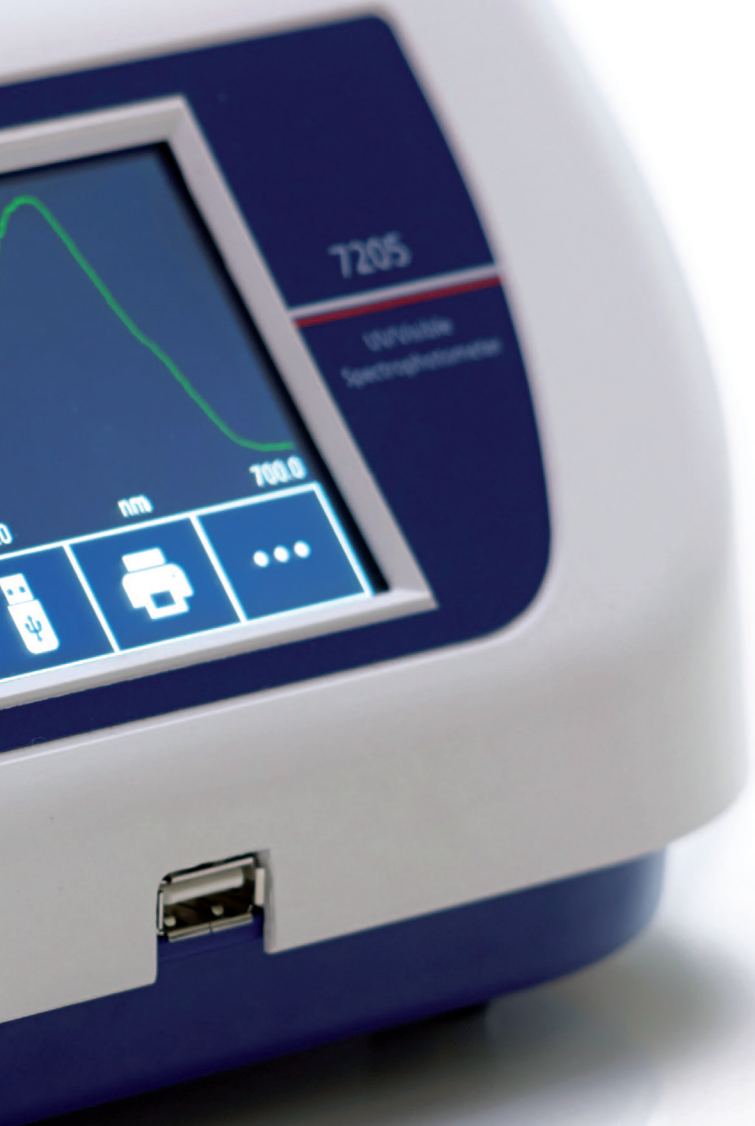
### ■ Standard Measurement Modes

All three models offer measurement modes for single wavelength with basic absorbance and % transmittance. Concentration can be calculated using a known factor or by measuring a single standard. Up to 6 standards can be measured to create a quantitation curve, with the option to measure 3 replicates of each standard to minimise any dilution errors. Optical density can also be measured at 600nm which is ideal for cell harvesting.

These spectrophotometers perform an exceptionally fast spectrum scan across the entire wavelength range. Model 7205 and 7205Bio can perform a scan from 198 to 800 in less than 6 seconds displaying the results for 1nm across this range. Model 7200 can perform a scan from 335 to 800nm in less than 10 seconds.

The kinetics measurement mode can be used to measure the change in absorbance over time for up to 3 wavelengths simultaneously. The concentration can also be calculated following completion of the kinetics experiment.





## Key Features

- Visible, UV/visible and life science models
- Scanning diode array technology
- Color touchscreen navigation
- Small footprint and lightweight
- Fast scan speed
- English, French, German, Spanish and Italian language options
- Multiple USB ports for data storage and printer connectivity
- Extensive range of accessories available
- 2 year warranty

### ■ Diode Array Technology

The benefits of diode array technology include very fast scanning with the ability to scan the entire wavelength range of 198 to 800nm in less than 6 seconds (7205/7205Bio), which is ideal for fast chemical reactions and denaturing materials.

Traditional spectrophotometers use stepper motors to select the required wavelength. With diode array technology each wavelength is selected by electrical scanning, which results in excellent wavelength reproducibility. Diode array optics are very reliable and require very little maintenance.

Due to the reversed optic structure utilised by the 72 series, they are not affected by ambient stray light so experiments can be performed with the lid open. This is ideal for samples in tall test tubes, or where fast access is required for kinetics experiments, where the prompt introduction of the reaction component is required.

With diode array technology each time a measurement is performed the absorbance is recorded across the entire wavelength range regardless of the wavelength selected. Therefore if a sample is measured incorrectly at 555nm instead of 550nm, there is no need to perform another blank and measure the sample again. Adjusting the wavelength range to the desired wavelength will automatically display the photometric results at that wavelength, saving valuable time.

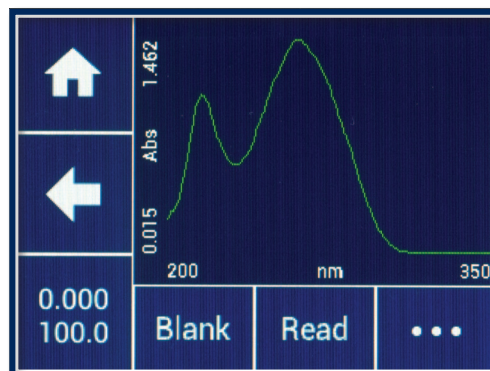
## Life Science Measurement Modes

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 unusual 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.



These measurements are only available on Genova Bio/7205 Bio model.

## Ordering Information

Product Code	Description
83056-01	7200 visible scanning spectrophotometer, fitted with 10x10mm cuvette holder, and supplied with a universal power supply and an instruction manual.
83056-02	7205 UV/visible scanning spectrophotometer, fitted with 10x10mm cuvette holder, and supplied with a universal power supply and an instruction manual.
83056-04	Genova Bio/7205 Bio UV/visible scanning spectrophotometer, fitted with micro-cuvette holder, and supplied with a universal power supply and an instruction manual.



Micro-cuvette holder



### ■ Sample Chamber

The instruments have been cleverly designed to incorporate a large sample chamber into a very small footprint, ideal when bench space is at a premium. The large sample chamber allows easy access for loading and unloading samples. It has been designed with a tapered base so that any accidental spillages will drain away, making it easy to clean.

### ■ Design

The 72 series leverage 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 color touchscreen interface is very fast and responsive, making these spectrophotometers the ideal addition to any laboratory. This is all cleverly packaged, resulting in a lightweight, small footprint instrument, weighing less than 7lbs.

### ■ 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®. Quantitation curves can also be saved to a USB memory stick for easy and quick access, to save time recreating curves.



## ■ Accessories

The 72 series spectrophotometers have been designed to be compatible with the extensive range of accessories already available from Jenway. These include a test tube holder, adjustable path length (10 to 100mm) cuvette holder and a micro-cuvette holder. All of the accessories are easy to interchange using the ergonomic thumb screw.

For applications where the temperature of the sample needs to be controlled there is a heated cuvette accessory. The heated cuvette holder accepts 10x10mm cuvettes and enables 2.5ml of sample to be heated to 37°C in 30 minutes. When this accessory is fitted the instrument automatically detects it upon power up and the software controls become active. The heated cuvette holder has a temperature range of 32°C to 42°C in 0.5°C increments. It can be easily fitted and removed without the need for any tools.

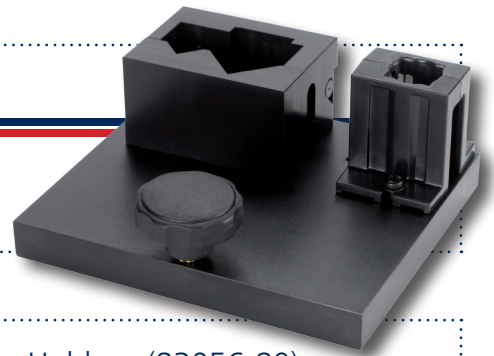
Models 7200 and 7205 are supplied with a 10x10mm cuvette holder as standard. Model 7205Bio is supplied with a micro-cuvette holder as standard, making it ideal for small sample volumes down to 50µl. For even smaller sample volumes, the 7205Bio has been designed to work with the TrayCell accessory. This enables ultra-micro samples as low as 0.7µl to be measured without the need for dilution.



10x10mm Cuvette Holder

### ■ Test Tube Holder - (83070-43)

For larger sample volumes there is a test tube holder which can hold test tubes with diameters of 13, 16 or 24mm.



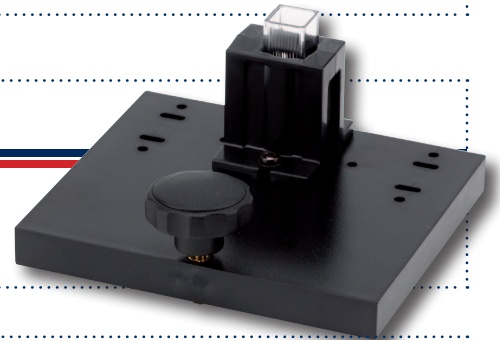
### ■ Adjustable Path Length Cuvette Holder - (83056-80)

Where cuvettes greater than 10mm are required there is an adjustable path length cuvette holder which can accept cuvettes with a path length from 10 to 100mm.



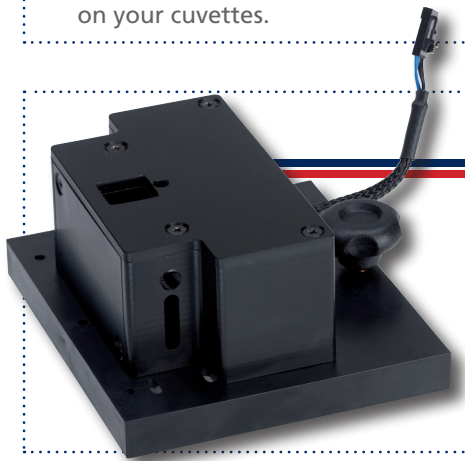
### ■ Micro-cuvette Holders - (83056-82) & (83056-06)

For small sample volumes down to 50µl Jenway offer a micro-cuvette holder which is ideal for use with micro-cuvettes. Select the accessory depending on your cuvettes.



### ■ Heated Cuvette Holder - (83056-77)

For applications where the temperature of the sample needs to be controlled there is a heated cuvette accessory. The heated cuvette holder accepts 10x10mm cuvettes and can be easily fitted and removed without the need for any tools. This accessory has a temperature range of 32°C to 42°C. The heated cell accessory is supplied with a UK, EU and US power lead, which is required to power the spectrophotometer and the heated cuvette holder.



### ■ Printer - (83056-79)

The printer connects to the spectrophotometer via the USB port on the rear of the instrument and will provide instant results. Spectrum and kinetics graphs are printed in the vertical direction to maximise the amount of information displayed. The spectrophotometer can be set up to automatically send results to the printer. The printer has a rechargeable battery and is supplied with UK, EU and US power leads.



## Accessory Ordering Information

Product Code	Description
83056-77	Heated cell 10x10 cuvette holder supplied with UK, EU and US power leads
83056-79	External Printer fitted with a battery and supplied with UK, EU and US power leads
83070-41	10 x 10mm single cuvette holder
83056-80	10 to 100mm adjustable path length cuvette holder
83056-82	Micro-cuvette holder with reduced aperture for cuvettes with 15mm beam height
83056-06	Micro-cuvette holder for cuvettes with 8.5mm beam height
83070-43	Test tube holder (accepts 10mm square cuvettes, 16 and 24mm diameter test tubes)
99959-81	Additional paper roll for the SMP50/PRINTER
99610-33	Pack of 100 plastic cuvettes, visible wavelengths only
06343-73	Pack of 100 plastic cuvettes, UV and visible wavelengths
83070-38	Pack of 100 plastic cuvettes, UV and visible wavelengths, 70µl to 1.5ml fill volume (use with micro-cuvette holder)
83070-29	TrayCell for ultra-micro sample volumes, supplied with caps for 1mm and 0.2mm

# Technical Specification

Model	7200	7205/Bio
<b>Wavelength</b>		
Range	335 to 800nm	198 to 800nm
Accuracy	± 2nm	± 2nm
Repeatability	± 2nm	± 2nm
Spectral bandwidth	7nm	5nm (3nm Bio)
<b>Photometrics</b>		
Transmittance	0 to 199.9%	0 to 199.9%
Absorbance	-0.300 to 2.500A	-0.300 to 2.500A
Accuracy	+/- 0.01A at 1.0A and 546nm	+/- 0.01A at 1.0A and 546nm
Stability (A)	+/- 0.005A/h at 0.04A and 546nm after 60 min warm-up	+/- 0.005A/h at 0.04A and 546nm after 60 min warm-up
Noise	+/- 0.002A at 0.04A and +/- 0.02A at 2.0A and 546nm	+/- 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	<1%T according to ANSI/ASTM E387-72
<b>Concentration</b>		
Range	+/- 2500	+/- 2500
Calibration	Blank with a single standard or factor	Blank with a single standard or factor
Factor	+/- 1000	+/- 1000
Standard	+/- 1000	+/- 1000
<b>Optical Density</b>		
Factor	+/- 1000	+/- 1000
<b>Quantitation</b>		
Range	+/- 2500	+/- 2500
Calibration	Blank with up to 6 standards	Blank with up to 6 standards
Curve fit algorithms	Linear and linear through zero	Linear and linear through zero
<b>Kinetics</b>		
Measurement Time	15 to 9999 seconds	7 to 9999 seconds
Number of wavelengths	3	3
Calibration	Blank with a factor	Blank with a factor
Display	Graphical and concentration	Graphical and concentration
Analysis	Concentration	Concentration
<b>Spectrum</b>		
Range	335 to 800nm	198 to 800nm
Analysis	Absorbance or % transmittance and up to 50 spectral analysis points	Absorbance or % transmittance and up to 50 spectral analysis points
<b>Other</b>		
Beam height	15mm	15mm
Light source	Tungsten Halogen lamp	Xenon lamp
Results memory	Limited by attached mass storage device	Limited by attached mass storage device
Removable media	USB (not supplied)	USB (not supplied)
Outputs	USB x 2	USB x 2
Supply voltage/frequency	100 – 240VAC at 50 to 60Hz	100 – 240VAC at 50 to 60Hz
Power	12V DC, 3.8A	12V DC, 3.8A
Size (w x d x h)	212 x 422 x 120mm	212 x 422 x 120mm
Weight	2.8kg	2.8kg
Warranty	2 years on the instrument, 1 year on the lamp	2 years on the instrument including the lamp

# JENWAY

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