



JENWAY

Spectrophotometers

UV-visible spectroscopy is the measurement of the absorbance of light at a specific wavelength by a sample within the UV or visible region of the spectrum. It is one of the oldest analytical techniques and is used to identify the presence and concentration of many molecular entities. As spectrophotometers are used in many applications and across multiple industries Jenway have five ranges of visible and UV/visible spectrophotometers, designed to suit a wide range of budgets.

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Selecting a Spectrophotometer

Model	Visible	UV	Scanning beam	Single	Split beam	Double beam	Banwidth
6300	✓	-	-	✓	-	-	8nm
6305	✓	✓	-	✓	-	-	8nm
6310	✓	-	✓	✓	-	-	8nm
6315	✓	✓	✓	✓	-	-	8nm
Aquanova	✓	-	-	✓	-	-	8nm
Genova	✓	✓	✓*	✓	-	-	5nm
6400	✓	-	✓	✓	-	-	5nm
6405	✓	✓	✓	✓	-	-	5nm
6500	✓	-	✓	-	✓	-	1.8nm
6505	✓	✓	✓	-	✓	-	1.8nm
6700	✓	-	✓	-	✓	-	4nm
6705	✓	✓	✓	-	✓	-	4nm
6715	✓	✓	✓	-	✓	-	1.5nm
6800	✓	✓	✓	-	-	✓	1.5nm

*restricted scanning $\pm 50\text{nm}$ of selected wavelength

There are five ranges of visible and UV/visible spectrophotometers offered by Jenway, which have been designed to suit a wide range of budgets, industries and applications.

The 63 series are entry-level spectrophotometers that range from the 6300 which is ideal for routine analysis to the 6315 UV/visible scanning spectrophotometer that includes spectrum, kinetics and quantitation modes.

The 64 series visible and UV/visible single-beam scanning spectrophotometers incorporate a wide range of features designed to satisfy the needs of users seeking to maximise the efficiency of routine and specialised spectroscopic procedures.

The 65 series are split-beam visible and UV/visible spectrophotometers with modes for photometrics, kinetics, quantitation, multi-wavelength analysis and spectrum scanning. They are designed to provide users with a high quality system, which offers many advanced post-analysis features required to process spectral information.

The 67 series is a range of split beam visible and UV/visible spectrophotometers that possess a host of novel features. These include a colour touchscreen, secure multi-user operation, a full range of plug-in accessory modules and flash synchronised scanning, which allows the 67 series to achieve scan speeds of 1500nm/min, even when scanning at a resolution of 0.1nm.

The 6800 is Jenway's first true double beam UV/visible spectrophotometer that possesses a robust, traditional design that is complemented by the clear and intuitive, Windows-based, Flight Deck PC software.

Visible Spectrophotometers

	6300	6310	6400	6500	6700
Wavelength					
Range	320 to 1000nm	320 to 1000nm	320 to 1000nm	320 to 1100nm	320 to 1100nm
Bandwidth	8nm	8nm	5nm	1.8nm	4nm
Modes					
Photometrics	✓	✓	✓	✓	✓
Spectrum scan	-	✓	✓	✓	✓
Scan speed (nm / min)	-	-	1400	1400	1500
Kinetics	-	✓	✓	✓	✓
Quantitation	-	✓	✓	✓	✓
Multi-Wavelength	-	-	✓	✓	✓
Data					
Post-scan analysis	-	✓	✓	✓	✓
File output	-	-	Option	Option	csv or bmp
Removable media	-	-	-	-	SD, SD/USB
PC Software	✓	✓	Option	Option	✓
Interface	Analogue RS232	Analogue RS232	Analogue RS232	Analogue RS232	Analogue Centronics USB

UV/Visible Spectrophotometers

	6305	6315	6405	6505	6705	6715
Wavelength						
Range	198 to 1000nm	198 to 1000nm	190 to 1100nm	190 to 1100nm	190 to 1100nm	190 to 1100nm
Bandwidth	8nm	8nm	5nm	1.8nm	4nm	1.5nm
Modes						
Photometrics	✓	✓	✓	✓	✓	✓
Spectrum scan	-	✓	✓	✓	✓	✓
Scan speed (nm / min)	-	-	1400	1400	1500	1500
Kinetics	-	✓	✓	✓	✓	✓
Quantitation	-	✓	✓	✓	✓	✓
Multi-Wavelength	-	-	✓	✓	✓	✓
Data						
Post-scan analysis	-	✓	✓	✓	✓	✓
File output	-	-	Option	Option	csv or bmp	csv or bmp
Removable media	-	-	-	-	SD, SD/USB	SD, SD/USB
PC Software	Supplied	Supplied	Option	Option	Supplied	Supplied
Interface	Analogue RS232	Analogue RS232	Analogue RS232	Analogue RS232 Parallel	Analogue Centronics USB	Analogue Centronics USB

Spectrophotometers

6300 and 6320D Visible Spectrophotometers

- Wavelength range of 320 to 1000nm
- Absorbance, %T and concentration modes
- Multi-parameter display with wavelength and photometric readouts
- Wide range of sampling accessories
- Domed lid of 6320D accepts tubes up to 105mm tall

The 6300 is a high quality, low cost unit for spectrophotometric applications in schools and colleges, as well as in QC and testing procedures for a wide variety of services and industries. The 6320D is based on the 6300 platform and includes a domed lid which accepts taller tubes up to a height of 105mm.



6300

Technical Specification

Wavelength

Range	320 to 1000nm
Resolution	1nm
Accuracy	±2nm
Spectral bandwidth	8nm

Photometrics

Transmittance	0 to 199.9%T
Absorbance	-0.300 to 1.999A
Accuracy	±1%T
Resolution	0.1%T, 0.001A
Stray light	<0.5%T
Noise	<1%
Stability	1%/h after 15 minutes

Concentration

Range	-300 to 1999
Resolution	0.1 to 1
Units	ppm, mg/l, g/l, M, %, blank
Factor	0 to 199.9, 1000 to 9999

Other

Light source	Tungsten halogen lamp
Outputs	Analogue and RS232
Power	<50W
Size (w x d x h)	365 x 272 x 160mm
Weight	6kg

Ordering Information

Part Code	Description
630 501	6300 visible spectrophotometer supplied with mains lead, pack 100 disposable cuvettes, 10 x 10mm cell holder, interface cable and PC application software on CD-ROM* (230V/50Hz)
632 501	6320D visible spectrophotometer supplied with mains lead and dual cell holder (for 10mm square cuvettes and 12.7mm diameter tubes) (230V/50Hz)

* requires free on-line registration



6305

6305 UV/Visible Spectrophotometer

- Wavelength range of 198 to 1000nm
- Xenon lamp
- Easy and intuitive operation
- Absorbance, %T and concentration modes
- Multi-parameter display with wavelength and photometric readouts
- Wide range of sampling accessories

The 6305 is ideal for applications similar to the 6300 requiring measurements in the UV and visible wavelength ranges. Using a single, pulsed xenon lamp the 6305 offers an extended lamp life and high energy throughput in the UV and visible regions.

Technical Specification

Wavelength

Range	198 to 1000nm
Resolution	1nm
Accuracy	±2nm
Spectral bandwidth	8nm, 6nm over UV range

Photometrics

Transmittance	0 to 199.9%T
Absorbance	-0.300 to 1.999A
Accuracy	±1%T
Resolution	0.1%T, 0.001A
Stray light	<0.5%T at 220 and 340nm
Noise	<0.001A at 0A at 400nm
Stability	<0.002A/h after 30 minutes

Concentration

Range	-300 to 1999
Resolution	0.1 to 1
Units	ppm, mg/l, g/l, M, %, blank
Factor	0 to 199.9, 1000 to 9999

Other

Light source	Xenon lamp
Outputs	Analogue and RS232
Power	<50W
Size (w x d x h)	365 x 272 x 160mm
Weight	6kg

Ordering Information

Part Code	Description
635 001	6305 UV/visible spectrophotometer supplied with mains lead, pack 100 disposable cuvettes, 10 x 10mm cell holder, interface cable and PC application software on CD-ROM* (230V/50Hz)

* requires free on-line registration

6310 Visible Scanning Spectrophotometer

- Spectrum scanning across entire range from 320 to 1000nm
- Concentration measurements by direct factor or by quantitation using up to 6 standards
- Kinetics with real time graphical display of sample and standard
- Store up to 50 methods in each mode

The 6310 visible spectrophotometer introduces scanning, kinetics and quantitation modes to this highly successful format. Complete with method storage and supervisory control functions, the 6310 is ideal for routine testing in clinical, veterinary, pharmaceutical and QC laboratories.

Technical Specification

Wavelength

Range	320 to 1000nm
Resolution	1nm
Accuracy	±2nm
Spectral bandwidth	8nm

Photometrics

Transmittance	0 to 199.9%T
Absorbance	-0.300 to 1.999A
Accuracy	±1%T
Resolution	0.1%T, 0.001A
Stray light	<0.5% at 340nm
Noise	<0.001A at 0A at 400nm
Stability	<0.002A/h after 30 minutes

Concentration

Range	-300 to 1999
Resolution	selectable 1, 0.1, 0.01 or 0.001
Calibration	Blank with a single standard or factor

Quantitation

Range	-300 to 1999
Resolution	Selectable 1, 0.1, 0.01 or 0.001
Calibration	Blank with up to 6 standards
Curve correction	Linear regression, interpolation or linear regression through zero

Kinetics

Display	Graphical and calculated concentration value
Calibration	Against standard and factor
Correlation factor	r ² value displayed with result

Spectrum

Range	Any range between 320 and 1000nm
Scan interval	1, 2 or 5nm, selectable
Analysis	Absorbance and wavelength of peaks and valleys

Other

GLP	Real time clock and calendar, Operator ID Supervisor security (locks all set up parameters) Method display lock
Light source	Tungsten halogen lamp
Outputs	Analogue and RS232
Power	<50W
Size (w x d x h)	365 x 272 x 160mm
Weight	6kg



6310

Ordering Information

Part Code Description

631 001	6310 visible, scanning spectrophotometer supplied with mains lead, pack 100 disposable cuvettes, 10 x 10mm cell holder, interface cable and PC application software on CD-ROM* (230V/50Hz)
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* requires free on-line registration



6315

6315 UV/Visible Scanning Spectrophotometer

- Spectrum scanning across the entire range from 198 to 1000nm
- Pulsed xenon lamp
- Quantitation using up to 6 standards

The 6315 is an advanced spectrophotometer with modes for photometrics, spectrum scanning, kinetics, concentration and quantitation. The 6315 will meet the demands of a wide range of applications especially those in clinical, veterinary, environmental, general QC and performance testing areas. With a memory capacity of 50 methods for each mode, the fully open operating system ensures compatibility with reagent kits from most manufacturers as well as enabling full customisation.

Technical Specification

Wavelength

Range	198 to 1000nm
Resolution	1nm
Accuracy	±2nm
Spectral bandwidth	8nm

Photometrics

Transmittance	0 to 199.9%T
Absorbance	-0.300 to 1.999A
Accuracy	±1%T
Resolution	0.1%T, 0.001A
Stray light	<0.5% at 340nm
Noise	<0.001A at 0A at 400nm
Stability	<0.002A/h after 30 minutes

Concentration

Range	-300 to 1999
Resolution	Selectable 1, 0.1, 0.01 or 0.001
Calibration	Blank with a single standard or factor

Quantitation

Range	-300 to 1999
Resolution	Selectable 1, 0.1, 0.01 or 0.001
Calibration	Blank with up to 6 standards
Curve correction	Linear regression, interpolation or linear regression through zero

Kinetics

Display	Graphical and calculated concentration value
Calibration	Against standard and factor
Correlation factor	r ² value displayed with result

Spectrum

Range	Any range between 198 and 1000nm
Scan interval	1, 2 or 5nm, selectable
Analysis	Absorbance and wavelength of peaks and valleys

Other

GLP	Real time clock and calendar Operator ID Supervisor security (locks all set up parameters) Method display lock
Light source	Xenon lamp
Outputs	Analogue and RS232
Power	<50W
Size (w x d x h)	365 x 272 x 160mm
Weight	6kg

Ordering Information

Part Code	Description
631 501	6315 UV/visible scanning spectrophotometer supplied with mains lead, pack 100 disposable cuvettes, 10 x 10mm cell holder, interface cable and PC application software on CD-ROM* (230V/50Hz)

* requires free on-line registration

Aquanova Environmental Spectrophotometer

- Dedicated to water and environmental testing
- Stores up to 300 test methods
- Pre-loaded with Jenway test kit methods
- Compatible with most commercially available photometric test kits
- Drag and drop test methods from a CD-ROM
- Create new tests using a simple factor or standard curve with up to 6 standards
- PC software included

The Aquanova spectrophotometer and test kits offer the simplest and most convenient laboratory system for measuring a broad range of parameters in water, wastewater, effluent and environmental samples. Although targeted to water and environmental analysis the Aquanova can be used as a standard single beam visible spectrophotometer by selecting the photometrics mode.

Technical Specification

Wavelength

Range	320 to 1000nm
Resolution	1nm
Accuracy	±2nm
Spectral bandwidth	8nm

Photometrics

Transmittance	0 to 199.9%T
Absorbance	-0.300 to 1.999A
Accuracy	±1%T
Resolution	0.1%T, 0.001A
Stray light	<0.5%T
Noise	<1%
Stability	<1%/h

Concentration

Range	-300 to 1999
Resolution	Selectable 1, 0.1, 0.01 or 0.001
Units	blank, ppm, pH, mg/l, g/l, %, mg/kg, IFZ, HZ, mEq, U/ml, mU/l, U/l, µM, mM, M, µg/ml, mg/ml, µg/dl, g/dl, ng/dl, µg/l
Factor	0.001 to 9999.999
Calibration curve	Up to 6 standards

Other

Test memory	300 methods
Results memory	50 results
Clock	Time (24 hour) and date
Timer	1 second to 24 hours, 1second resolution, cal or save on time out
Light source	Tungsten halogen lamp
Outputs	Analogue and RS232
Power	<50W
Size (w x d x h)	65 x 272 x 160mm
Weight	6kg

Ordering Information

Part Code	Description
637 001	Aquanova visible spectrophotometer supplied with mains lead, 9 way serial cable (013 203) and PC application software on CD-ROM (603 436) (230V/50Hz)



Aquanova



Genova

Genova Life Sciences Spectrophotometer

- Pre-programmed for DNA/RNA analysis
- DNA purity scan mode
- Pre-loaded protein concentration determination methods
- Standard spectrophotometer functions

The Genova allows the measurement of DNA concentrations and purity ratios using the wavelengths recorded at 260 and 280nm or 260 and 230nm with optional correction at a third wavelength. The purity scan gives a clear, graphic display of DNA purity. This allows any shifted or distorted peaks due to interfering molecules to be identified.

The Genova also contains five pre-programmed methods for the Bradford, Lowry, Biuret, Bicinchoninic acid (BCA) and Direct UV techniques. In all cases the standard procedures may be modified by the user or run as programmed.

Technical Specification

Wavelength

Range	198 to 1000nm
Resolution	1nm
Accuracy	±2nm
Repeatability	±0.5nm
Spectral bandwidth	8nm, 5nm typical at 270nm

Photometrics

Transmittance	0 to 199.9%T
Absorbance	-0.300 to 1.999A
Accuracy	±1%T at 10%T
Resolution	0.1%T, 0.001A
Stray light	<0.5%T at 220 and 340nm
Noise	<0.001A at 0A at 400nm
Stability	<0.002A/h after 30 minutes

Concentration

Range	-300 to 9999
Resolution	Selectable 1, 0.1, 0.01 or 0.001
Units	ppm, mg/l, g/l, M, %, µg/l, µg/ml, mg/ml, ng/ml, blank (mode specific)
Factor	0 to 199.9, 1000 to 9999

Spectrum

Range	Survey scan 50nm either side of set wavelength (250-950nm)
Scan interval	1nm
Analysis	Absorbance and wavelength of peak

Other

GLP	Real time clock and calendar, Operator ID Supervisor security (locks all set up parameters) Method display lock
Light source	Xenon lamp
Outputs	Analogue and RS232
Power	<50W
Size (w x d x h)	365 x 272 x 160mm
Weight	6kg

Ordering Information

Part Code	Description
636 001	Genova UV/visible life sciences spectrophotometer supplied with mains lead, 8 x 750µl UV plastic cuvettes and cell holder (230V/50Hz)
636 005	Genova UV/visible life sciences spectrophotometer supplied with TrayCell, mains lead, 8 x 750µl UV plastic cuvettes and cell holder (230V/50Hz)

Environmental Test Kits

Ordering Information

Part Code	Description	Range	Number of Tests
025 300	Alkalinity m	5 - 200mg/l CaCO_3	100
025 301	Alkalinity p	5 - 300mg/l CaCO_3	100
025 302	Aluminium	0.01 - 0.25mg/l	100
025 303	Ammonia	0.02 - 1.0mg/l N	100
025 304	Ammonium LR	0 - 2.5 mg/l N	50
025 305	Ammonium HR	1 - 50 mg/l N	50
025 306	Bromine	0.1 - 6.5 mg/l	100
025 338	Chloride	0.5 - 25 mg/l	100
025 307	Chlorine (Free)	0.05 - 3 mg/l	100
025 308	Chlorine (Total)	0.05 - 3 mg/l	100
025 309	Chlorine Dioxide	0.5 - 2.5 mg/l	100
025 314	Chromium (Hex)	0.02 - 2 mg/l	100
025 313	Chromium (Total)	0.02 - 2 mg/l	100
025 312	COD (HR)	1000 - 15000 mg/l O_2	25
025 310	COD (LR)	0 - 150 mg/l O_2	25
025 311	COD (MR)	100 - 1500 mg/l O_2	25
025 316	Copper (free)	0.5 - 5 mg/l	100
025 315	Copper (Total)	0.5 - 5 mg/l	100
025 317	Fluoride	0.02 - 1.5 mg/l	100
025 318	Hardness Total	2 - 50mg/l CaCO_3	100
025 320	Hydrogen Peroxide	0.5 - 1.5mg/l	100
025 321	Iodine	0.05 - 3.6 mg/l	100
025 322	Iron (soluble)	0.1 - 3mg/l	100
025 323	Manganese	0.05 - 4mg/l	100
025 324	Molybdate	0.5 - 30mg/l	100
025 325	Nitrate	1 - 30 mg/l	50
025 326	Nitrite	0.01 - 0.5mg/l	100
025 327	Nitrogen Total (LR)	0.5 - 25mg/l	50
025 328	Nitrogen Total (HR)	5 - 150mg/l	50
025 330	Orthophosphate	0.05 - 4mg/l	100
025 329	Oxygen Active	0.1 - 10mg/l	100
025 331	pH	6.5 - 8.4	100
025 332	Potassium	0.5 - 12 mg/l	100
025 333	Silica	0.05 - 3mg/l	100
025 334	Sulphate	2 - 100mg/l	100
025 335	Sulphide	0.05 - 0.5mg/l	100
025 336	Sulphite	0.05 - 4mg/l	100
025 337	Zinc	0.02 - 1mg/l	100



63 Series Accessories

Cell Holders

Order Information

Part Code	Description
630 204	10mm path length cuvette holder
630 005	10 to 100mm path length cuvette holder
630 020	Test tube holder (13mm diameter)
630 021	Test tube holder (25mm diameter)
630 022	Test tube holder (16mm diameter)
634 001	4 position manual cuvette holder
630 304	Micro-cuvette holder with reduced aperture
632 511	Dual cell holder for 10mm cuvettes and 12.7mm diameter tubes (for use with 6320D only)
637 071	Aquanova cell holder
636 024	Cuvette holder adapter (7.5 to 15mm beam height)

Heated Cell and Sipper Pump Options

Order Information

Part Code	Description
632 001	Sipper Pump (EU version)
648 001	Water heated single cuvette holder
633 001	Heated cuvette system supplied with interconnection cables and mains cable (EU, UK and US)
037 201	Water bath and circulator, ambient +5 to 50°C for use with 648 001 (230V)

Printers and PC Software

Order Information

Part Code	Description
050 501	DataWay PC software, supplied with interface cables (Genova)
037 551	RS232 to USB converter for use with computers without a serial port
543 001	40 column printer supplied with interface cable, paper roll and ribbon and UK power adapter
060 287	Paper roll for printer
060 288	Printer ribbon
542 009	Interface cable kit

Miscellaneous

Order Information

Part Code	Description
060 425	24mm diameter screw cap vial for use with Aquanova (pack of 24)
060 426	16mm diameter screw cap vial for use with Aquanova (pack of 20)
037 601	Digester for COD determinations, includes 2 blocks for 12 COD tubes each (230V)
037 603	Digester block for 12 COD tubes
060 422	Moulded cuvette rack for 16 10 x 10mm cuvettes
021 041	DC/AC power converter (for 12V DC supply)
035 088	Visible Calibration Set (6300/6320D/6310/Aquanova)
035 091	UV/Visible Calibration Set (6305/6315/Genova and visible)
630 028	Dust cover
033 290	Storage/carry case (not for use with 6320D or Aquanova)
012 094	Xenon lamp module (6305/6315/Genova)
012 075	Tungsten halogen lamp (6300/6320D/6310/Aquanova) holder (230V/50Hz)

6400 and 6405 Scanning Spectrophotometers

- 6400 Visible (320 to 1100nm)
- 6405 UV/Visible (190 to 1100nm)
- Single beam scanning units
- Easy to use keypad operation
- 5nm bandpass
- Wide range of accessories

The 64 series scanning units are ideal for all routine teaching, laboratory and research environments. Modes are available for photometrics, spectrum, kinetics, multi-wavelength analysis and quantitation* using standard curve methods. These units have full scanning capability with three scan speeds and intervals, baseline correction, instant display of scan, automatic axis scaling, peak and valley data display and capacity to store two scans.

Sample flexibility is a key feature, with cells from 100mm path length down to micro sample capacity being readily accommodated. To further increase flexibility a wide range of accessories are also available.

* requires 8 cell changer accessory

Technical Specification

Wavelength

Range 6400	320 to 1100nm
6405	190 to 1100nm

Resolution 0.1nm

Accuracy $\pm 1.0\text{nm}$

Spectral bandwidth 5nm

Photometrics

Transmittance 0 to 199.9%T

Absorbance -0.300 to 3.000A

Accuracy $\pm 0.1\%T$ at 10%T, $\pm 0.005A$ at 1.0A

Resolution 0.1%T, 0.001A

Stray light <0.05% at 340nm

Noise <0.001A at 0A

Stability <0.001A/h after 15 minutes

Concentration

Range -300 to 9999 (resolution dependent)

Resolution Selectable 1, 0.1, 0.01 or 0.001

Units ppb, ppm, $\mu\text{g/l}$, mg/l , M, %, blank

Factor 0.000 to 9999.99

Spectrum

Range Any range between 320 (6400) or 190 (6405) and 1100nm

Scan speed Up to 1400nm/min

Scan interval 0.2, 1.0, 5.0nm

Analysis Absorbance or transmittance and wavelengths of peaks and valleys

Other

Light source 6400 Tungsten halogen lamp

6405 Tungsten halogen and Deuterium lamps

Lamp changeover 320 to 390nm (6405)

Outputs Analogue and RS232

Power 200VA

Size (w x d x h) 520 x 330 x 180mm

Weight 15kg



6400

Ordering Information

Part Code	Description
640 001	6400 visible, scanning spectrophotometer supplied with pack 100 disposable cuvettes and mains lead (230V/50Hz)
640 501	6405 UV/visible, scanning spectrophotometer supplied with pack 100 disposable cuvettes and mains lead (230V/50Hz)

6500 and 6505 Scanning Spectrophotometers

- 1.8nm spectral bandwidth
- Split beam optics for high performance
- 8-position automatic cell changer supplied as standard
- Compatible with DataWay PC software
- Post scan analysis includes derivatives and spectral addition/subtraction

The Jenway 65 series are advanced split-beam spectrophotometers with modes for photometrics, kinetics, quantitation, multi-wavelength analysis and spectrum scanning. Comprehensive post-measurement and scan options make these very powerful stand alone instruments. Methods can be created and stored in the internal and removable memory along with any results generated. An 8-position motorised cell holder is included as standard, speeding up analysis, automating the creation of calibration curves and offering auto-log functions across all modes of operation.

Technical Specification

Wavelength

Range	6500	320 to 1100nm
	6505	190 to 1100nm

Resolution 0.1nm

Accuracy ± 1 nm

Spectral bandwidth 1.8nm

Photometrics

Transmittance 0 to 199.9%T

Absorbance -0.300 to 3.000A

Accuracy $\pm 0.1\%$ at 10%T, ± 0.005 A at 1.0A

Resolution 0.1%T, 0.001A

Stray light $< 0.05\%$ T at 220 and 340nm

Noise < 0.001 A at 0A

Stability < 0.001 A/h after warm-up

Concentration

Range -300 to 9999 (resolution dependent)

Resolution Selectable 1, 0.1, 0.01 or 0.001

Units ppb, ppm, μ g/l, mg/l, M, %, blank

Factor 0.000 to 9999.99

Spectrum

Range Any range between 320 (6500) or 190 (6505) and 1100nm

Scan speed Up to 1400nm/min

Scan interval 0.2, 1.0, 5.0 and 10nm

Analysis Absorbance or transmittance and wavelengths of peaks and valleys, derivatives, addition, subtraction, smoothing, area under curve

Other

Languages English, French, German, Italian, Portuguese and Spanish

Light source 6500 Tungsten halogen lamp

6505 Tungsten halogen and Deuterium lamps

Lamp changeover 320 to 390nm

Outputs Analogue and RS232

Power 200VA

Size (w x d x h) 520 x 330 x 180mm

Weight 15kg

Ordering Information

Part Code	Description
650 001	6500 visible, scanning spectrophotometer supplied with serial mouse, mouse mat, pack 100 (3.5ml) disposable cuvettes, 8-position multi cell changer and mains lead (230V/50Hz)
650 501	6505 UV/visible, scanning spectrophotometer supplied with serial mouse, mouse mat, pack 100 (3.5ml) disposable cuvettes, 8-position multi cell changer and mains lead (230V/50Hz)



6500

Spectrophotometers

64 and 65 Series Accessories

Cell Holders

Part Code	Description
646 001	Universal test tube holder for 6400/6405 (P)
646 002	Universal test tube holder for 6400/6405 (F)
630 005	Universal cuvette holder, 10 to 100mm path length (F)
634 001	4 position cuvette holder (6400/6405 only)
644 001	Eight-position motorised cuvette changer (P)
644 002	Eight-position motorised cuvette changer (F)
644 003	Eight-position rack for 10mm cuvettes
644 103	Eight-position rack for 40mm cuvettes
644 203	Eight-position rack for 50mm cuvettes
645 001	Vacuum pump (P)
645 002	Vacuum pump (F)
630 304	Micro-cuvette holder with reduced aperture

Heated Cell and Sipper Pump Options

Part Code	Description
642 001	Sipper pump (P)
642 002	Sipper pump (F)
633 001	Heated cuvette system (cuvette holder and external control unit), supplied with interconnection cables and mains cables (EU, UK and USA)
648 001	Water heated single cuvette holder
649 001	Eight-position water jacketed cuvette holder (for 10mm cuvettes)*
643 001	Peltier heated cuvette system comprising heated cuvette block and external power supply module (230V/50Hz) (P)
643 002	Peltier heated cuvette system comprising heated cuvette block and external power supply module (230V/50Hz) (F)
647 001	Temperature controlled sipper system (230V/50Hz) (P)
647 002	Temperature controlled sipper system (230V/50Hz) (F)
037 201	Water bath and circulator, ambient +5 to 50°C for use with 648 001 and 649 001 (230V/50Hz)

* When used with the 64 series part code 644 001 is also required

Printers and PC Software

Part Code	Description
050 501	DataWay PC software, supplied with interface cables
037 551	RS232 to USB converter for use with computers without a serial port
543 001	40 column serial printer supplied with interface cable, paper roll, ribbon, and UK power adapter
542 009	Interface cable kit
641 001	Internal printer (P)
641 002	Internal printer (F)
060 287	Paper roll for printer 543 001
060 288	Printer ribbon for 543 001
650 028	Data card, 1Mb additional memory (6500/6505 only)

Miscellaneous

Part Code	Description
060 422	Moulded cuvette rack for 16 10 x 10mm cuvettes
035 088	Visible range Calibration Standards (6400 and 6500)
035 091	UV/Visible Calibration Standards (6405 and 6505)
640 133	Dust cover
012 075	Tungsten halogen lamp (all models)
640 508	Deuterium lamp (6405 and 6505)

(P) = Packed (F) = Factory fitted

67 Series Visible and UV/Visible Scanning Spectrophotometers

- Colour touch screen display
- High quality, sealed split beam optics for optimum photometric performance
- Secure multi-user operation
- Save to SD/USB memory cards
- Enhanced productivity
- Extensive range of accessories for flexibility and improve productivity

6705

All three instruments have modes for photometrics, spectrum scanning, multi-wavelength analysis, kinetics and quantitation, giving direct concentration results against single or multi-point calibrations. With extensive post measurement tools to ensure results are presented exactly to each users requirements the 67 series also offers significant advances in data portability.

Together, the touch screen and colour display give the fastest, most flexible instrument interface possible. Where fine cursor control is required, using the QWheel™ makes the task easy and precise.

Jenway have developed Secure Multi User Operation for when instruments are shared by a number of users, so access to the instrument functions is controlled through a secure log-in procedure. For maximum security PIN codes can be allocated to individuals, groups or departments and to further increase flexibility each method can be given three levels of security:

Public	Access is free to all users.
Read only	Methods can be accessed by all users, but only modified by the originator.
Personal	Method can only be accessed by the logged in user

The high capacity internal memory of the 67 series can be configured from 256MB, enabling over 1000 methods and results to be stored, up to 2GB, which stores more than 10,000 methods and results.

Removable SD or SD/USB memory cards further increases the flexibility and data transfer and enables the direct transfer of results to a PC via a USB port. Here all data can be viewed, exported, saved or printed for generating reports and standard operating procedures. Copying the SD card to the instrument's internal memory enables the easy cloning of multiple instruments, ensuring common laboratory practice and speeding set-up in busy teaching establishments.

QWheel is a registered trademark of Quantum Research

6700, 6705 and 6715 Visible and UV/visible Spectrophotometers

Technical Specification

Wavelength

Range	320 to 1100nm (6700) 190 to 1100nm (6705, 6715)
Resolution	0.1nm
Accuracy	±1.0nm
Repeatability	±0.2nm
Spectral bandwidth	4nm (6700, 6705) 1.5nm (6715)

Photometrics

Transmittance	0 to 199.9%T
Absorbance	-0.300 to 3.000A
Accuracy	±0.005A at 1.0A
Resolution	0.1%T, 0.001A
Stray light	<0.1%T at 340nm (6700) <0.05% at 220nm (6705, 6715) <0.001 at 0A, <0.002 at 2A at 340nm
Noise	<0.001A/h after warm-up
Stability	<0.001A/h after warm-up

Quantitation

Range	-99999 to +99999
Resolution	Selectable 1, 0.1, 0.01 or 0.001
Calibration	Up to 20 with 5 replicates of each
Units	mEq/l, ppm, mg/l, g/l, %, µg/ml, mg/ml, g/dl, mg/dl, µg/l, ng/l, µg/dl, M, mM, µM, U/l, mU/l, U/ml, blank
Curve fit algorithms	Linear, quadratic and cubic functions

Multi-wavelength

Data points	Up to 4 wavelengths
Calculations	Ratio, difference, formulae with factors

Kinetics

Time limits	0 to 9999 seconds
Calibration	Standard or factor
Analysis	Curve details with mean rate of change plus formula of line of best fit

Spectrum

Range	Any range between 320 (6700) or 190 (6705, 6715) and 1100nm
Scan speed	1500nm/min
Scan interval	0.1nm
Analysis	Auto peaks and valleys, zoom, addition, subtraction, peak ratios, smoothing, area under curve, wavelength table, derivatives, analysis points, overlay

Other

Light source	Tungsten halogen lamp (6700) Xenon lamp (6705, 6715)
Configuration	Secure multi-user and free access
Number of users	10 users + supervisor
Methods/results memory	>1000 on internal flash memory or removable media
Removable media	MM/SD memory card or SD/USB memory card
Outputs	USB, Centronics, Analogue
Size (w x d x h)	490 x 390 x 220mm
Weight	7.5kg



6700

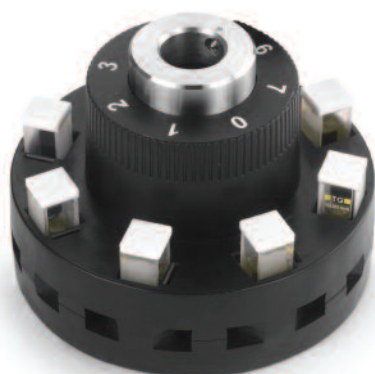


67 Series

6700, 6705 and 6715 Visible and UV/visible Spectrophotometers



Sample Holders



Eight Position Cuvette Holder



Modules

Ordering Information

Part Code	Description
670 0B0	6700 (320-1100nm) fitted with a single 10 x 10 mm cuvette holder
670 0BP	6700 (320-1100nm) fitted with a single 10 x 10 mm cuvette holder and internal thermal 40-column printer
670 0A0	6700 (320-1100nm) fitted with an automated eight-position cuvette holder
670 0AP	6700 (320-1100nm) fitted with an automated eight-position cuvette holder and internal thermal 40-column printer
670 5B0	6705 (190-1100nm) fitted with a single 10 x 10 mm cuvette holder
670 5BP	6705 (190-1100nm) fitted with a single 10 x 10 mm cuvette holder and internal thermal 40-column printer
670 5A0	6705 (190-1100nm) fitted with an automated eight-position cuvette holder
670 5AP	6705 (190-1100nm) fitted with an automated eight-position cuvette holder and internal thermal 40-column printer
671 5B0	6715 (190-1100nm) fitted with a single 10 x 10 mm cuvette holder
671 5BP	6715 (190-1100nm) fitted with a single 10 x 10 mm cuvette holder and internal thermal 40-column printer
671 5A0	6715 (190-1100nm) fitted with an automated eight-position cuvette holder
671 5AP	6715 (190-1100nm) fitted with an automated eight-position cuvette holder and internal thermal 40-column printer

NOTE: All 67 Series spectrophotometers come supplied with 1GB of internal memory, 1GB* SD/USB memory card, 100 disposable cuvettes, instruction manual, power cable and PC software on CD ROM with interface cable.

* Subject to change

Spectrophotometers

67 Series Accessories

The 67 series has been specifically designed to enhance productivity and simply adding an accessory automatically sets the instrument operating parameters. The automated eight position and temperature controlled six position cell holders are the key to improved productivity. Using the dedicated Automation option up to seven samples can be measured sequentially with all results saved or printed automatically.

The Peltier controlled cuvette holder allows precise control of temperature control in the range of 20 to 50°C to a resolution of 0.1°C. A programmable sipper pump enables controlled volumes to be injected into micro and standard flow-through cuvettes. For sensitive applications a combined peltier sipper module is also available. A full range of passive sample holders can also be easily fitted.

Cell Holders

Part Code	Description
660 801	Single cell sample chamber module fitted with 10 x 10mm cuvette holder (630 204)
660 401	Sample chamber with automatic eight-cell changer module fitted
660 403	Additional carousel for automatic eight-cell changer (for use with 660 401)
660 503	Additional carousel for water heated automatic six-cell changer (for use with 660 501)
660 901	Single cell sample chamber module fitted with 10mm cuvette/16/24mm diameter tube holder (as Aquanova 637 071)
661 001	Single cell sample chamber module fitted with 10 x 100mm cuvette holder (630 005)
661 101	Single cell sample chamber module fitted with micro cuvette holder with reduced aperture (630 304)
630 204	10mm path length cuvette holder
637 071	Aquanova cell holder (for 10mm square cuvettes, 16 and 24mm diameter tubes)
630 005	10 to 100mm path length cuvette holder
630 304	Micro-cuvette holder with reduced aperture

Heated Cell and Sipper Pump Options

Part Code	Description
648 001	Water heated single cuvette holder
660 501	Sample chamber with water heated automatic six-cell changer module fitted
660 201	Sample chamber with sipper module fitted
660 301	Sample chamber with Peltier module fitted
660 701	Sample chamber with sipper/Peltier module fitted
661 201	Single cell sample chamber module fitted with water heated cuvette holder (648 001)*

Printers and PC Software

Part Code	Description
660 101	Internal printer (packed)
037 702	Paper roll for thermal printer
019 130	256MB SD card for external memory
019 131	512MB SD card for external memory
019 132	1GB SD card for external memory
019 133	2GB SD card for external memory
019 135	1GB SD/USB card for external memory
019 136	2GB SD/USB card for external memory

Miscellaneous

Part Code	Description
660 001	Dust cover
060 422	Moulded cuvette rack for 16 10x10mm cuvettes
035 088	Visible range calibration standards (all models)
035 091	UV/Visible calibration standards (6705/6715)
012 075	Tungsten halogen lamp
012 146	Xenon lamp module



68 Series

68 Series UV/Visible Double Beam Spectrophotometer

- Double beam spectrophotometer with highly stable optics
- 1.5nm spectral bandwidth
- Jenway Flight Deck software included as standard

With the 6800 Jenway introduces the first double beam spectrophotometer to the range. The highly stable optics and 1.5nm spectral bandwidth ensures high resolution and accuracy on every measurement. The Jenway Flight Deck software offers modes for all common measurement methods: photometrics and multi-wavelength, spectrum scanning, time scan and kinetics, quantitation, DNA/RNA and protein measurements. With extensive post-measurement tools and easy export to Excel® the 6800 ensures that all results are presented exactly to your requirements.

Technical Specification

Wavelength

Range	190 to 1100nm
Resolution	0.1nm
Accuracy	±0.3nm
Repeatability	±0.1nm
Spectral bandwidth	1.5nm

Photometrics

Transmittance	0 to 600%T
Absorbance	-3.0000 to 3.0000A
Accuracy	±0.3%T ±0.002A at 0 to 0.5A, ±0.004A at 0.5 to 1.0A, ±0.008A at 1.0 to 2.0A
Reproducibility	±0.15%T ±0.001A at 0 to 0.5A, ±0.002A at 0.5 to 1.0A, ±0.004A at 1.0 to 2.0A
Resolution	0.01%T, 0.0001A
Stray light	<0.05%T at 220 and 340nm
Noise	0.0003A
Stability	±0.0003A/h after 2h

Multi-wavelength

Data points	Up to 6 wavelengths
Calculations	Ratio, difference, formulae with factors

Spectrum

Range	Any range between 190 and 1100nm
Scan speed	10 to 3600nm/min (8 speed settings)
Scan interval	0.5, 1, 2 or 5nm, dependent on scan speed
Analysis	Auto peaks and valleys, zoom, addition, subtraction, peak ratios, smoothing, area under curve, wavelength table, derivatives, overlay

Time scan and Kinetics

Time limits	30 to 99999 seconds
Analysis	Slope and formula of line of best fit between any two points

Quantitation

Data points	Up to 3 wavelengths
Concentration range	0-99999
Calibration	Blank with standards or factor

DNA/RNA and Protein

DNA/RNA	Ratio, concentration, A ₃₂₀ correction
Protein	Bradford, Lowry, BCA, direct UV

Other

Light source	Tungsten halogen and Deuterium lamps
Lamp changeover	325 to 370nm selectable
Outputs	RS232
Operating system:	CPU: 1GHz Memory: 256Mb Hard disk: 500Mb
Power	200VA
Size (w x d x h)	540 x 560 x 235mm
Weight	27kg

Spectrophotometers

68 Series UV/Visible Double Beam Spectrophotometer

Ordering Information

Part Code	Description
680-SC	6800 double beam spectrophotometer supplied with single cuvette holders (for 10 x 10mm cuvettes in sample and reference), Flight Deck PC software on CD ROM and interconnection cable. (PC required but not supplied - cuvettes not supplied)
680-MC	6800 double beam spectrophotometer supplied with micro-cuvette holders (for 10 x 10mm cuvettes in sample and reference), Flight Deck PC software on CD ROM and interconnection cable. (PC required but not supplied - cuvettes not supplied)
680-LC	6800 double beam spectrophotometer supplied with long path length cuvette holders (for 10, 20, 30, 40, 50 or 100mm path length cuvettes in sample and reference), Flight Deck PC software on CD ROM and interconnection cable. (PC required but not supplied - cuvettes not supplied)
680-TC	6800 double beam spectrophotometer supplied with water thermostated single cuvette holders (for 10 x 10mm cuvettes in sample and reference), Flight Deck PC software on CD ROM and interconnection cable. (PC required but not supplied - temperature controlled water circulator required but not supplied, cuvettes not supplied)

*PC not supplied

6800 Series Accessories

Ordering Information

Part Code	Description
680 081	Single 10 x 10mm cell holder for standard measurements
680 031	Micro cell holder for medical and biochemical applications where sample volumes are strictly limited, allows measurements of sample volumes down to 50µl
680 131	Water heated cell holder for use where sample temperature is critical. This allows absolute temperature control from ambient to 40°C
680 101	Film holder used to record measurements of filters and film-like samples
680 061	Glass filter holder allows the measurement of solid sheet samples for thickness from 0.5mm up to 5mm
680 111	Rectangular long path cell holder, which can accept cell lengths of 10, 20, 30, 40, 50 and 100mm
068 020	Tungsten halogen lamp (6800)
068 021	Deuterium lamp (6800)

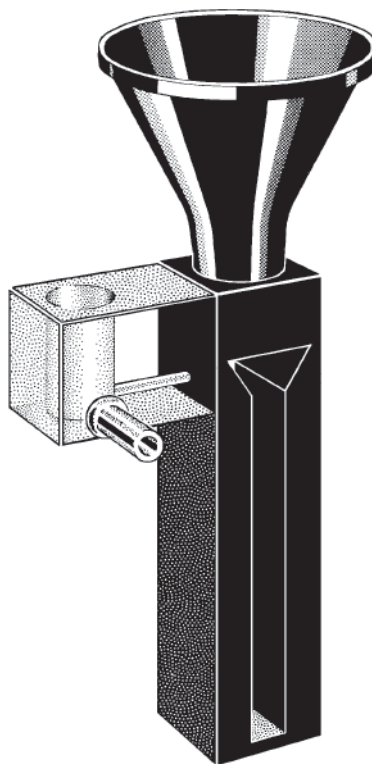


10x10mm
Cell Holder



Cuvettes

Disposable Cuvettes and Test Tubes (10mm path length unless stated)



Part Code Description

060 084	Pack of 100 plastic cuvettes, visible wavelengths only, 2.4 to 4.5ml fill volume
060 229	Pack of 500 plastic cuvettes (5 boxes of 060 084)
060 087	Pack of 100 plastic cuvettes, visible wavelengths only, 1.5 to 3.0ml fill volume
060 230	Pack of 100 plastic cuvettes, UV and visible wavelengths, 2.5 to 4.5ml fill volume
060 232	Pack of 500 plastic cuvettes (5 boxes of 060 230)
060 231	Pack of 100 UV plastic cuvettes, 1.5 to 3.0ml fill volume
035 143	Pack of 100 plastic cuvettes, UV and visible wavelengths, 70µl to 1.5ml fill volume (use with micro cuvette holder)
060 331	Pack of 100 glass test tubes (12 x 75mm)
060 179	Pack of 100 plastic test tubes (12 x 75mm)
060 335	Pack of 50 glass test tubes (24 x 150mm)

Glass and Quartz Cuvettes (10mm path length unless stated)

Part Code Description

035 027	Visible (glass) 10mm path length cuvette
035 086	Visible (glass) 20mm path length cuvette
035 029	Visible (glass) 40mm path length cuvette
035 087	Visible (glass) 50mm path length cuvette
035 079	Visible (glass) 100mm path length cuvette
035 123	Visible (glass) micro (500µl) cuvette
035 126	Visible (glass) semi-micro (1ml) cuvette
035 028	UV (quartz) cuvette (2.0 to 3.5ml)
035 124	UV (quartz) ultra micro (50µl) cuvette
035 125	UV (quartz) micro (500µl) cuvette
035 127	UV (quartz) semi-micro (1ml) cuvette
035 138	UV (quartz) ultra-micro (100µl) cuvette
035 139	UV (quartz) ultra-micro (200µl) cuvette
035 249	UV (quartz) ultra-micro (20µl) cuvette



Flow Cells (10mm path length unless stated)

Part Code Description

035 026	Pour in/Suck out cell
035 025	Visible (glass) flow-through cell 1.8ml
035 045	Visible (glass) flow-through cell 80µl
035 044	UV (quartz) flow-through cell 1.8ml
035 047	UV (quartz) flow-through cell 80µl

TrayCell

- Ideal for DNA, RNA and protein measurements
- Sample volumes as low as 0.7µl
- Sample concentration range from 25 to 4250µg/ml
- Sample is simply wiped away after the measurements, making the TrayCell quick and easy to use
- Prevents dilution and pipetting errors
- Fits all standard 10 x 10mm cuvette holders

The TrayCell is a fibre optic cuvette which can be used with as little as 0.7µl of sample. The cuvette has two caps which 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 10 mm cuvette

Technical Specification

Light Path	0.2mm or 1mm
Error of light path	± 0.02mm
Volume	0.7-5µl
Wavelength range	190 to 1100nm
Maximum temperature	50°C

Ordering Information

Part Code	Description
035 262	Tray Cell for ultra-micro sample volumes from 0.7 to 5 µl compatible with Genova, 6705 and 6715 spectrophotometers, supplied complete with caps for 1mm and 0.2mm path length operation
035 263	Replacement 1mm path length cap for TrayCell
035 264	Replacement 0.2mm path length cap for TrayCell

