

SJ

## Технические характеристики

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# Spectrophotometers

## M100 Series Camspec

Simple, robust, single beam spectrophotometers offering high performance at a competitive price level.

- ◆ Digital setting within the visible light range
- ◆ Easy operation with dial filter adjustment (except M108 which has motorised adjustment) and membrane keypad setting, ideal for teaching applications
- ◆ Push-button, auto-zero setting
- ◆ M108 additionally has memory storage of up to 200 results

Catalogue No.		<b>SJ220-10</b>	<b>SJ220-25</b>	<b>SJ230-80</b>
Model		M105	M106	M108
Wavelength range	nm	330 to 1000 – both models		325 to 1000
Bandpass	nm	12	8	4
Wavelength accuracy (repeatability)	nm	±2 (±1 digit) – all models		
Straylight (at 340nm)	%T	<0.3 – both models		0.1
Operating modes	Absorbance, A	0 to 2	0 to 2	-1 to 2.5
	Transmission, %T	0 to 125	0 to 125	0 to 125
	Concentration, C	—	0 to 1999	-9999 to +9999
	Factor, F	—	0 to 1999	0 to +9999
Photometric accuracy	%A	±1 (0 to 1A)	±1 (0 to 2A)	±1 (0 to 2A)
Sample capability		10mm square cuvettes or 10, 20, 25mm dia. test tubes – both models		4 to 10mm square cuvettes, up to 50mm using accessories
Light source		Tungsten-halogen lamp – all models		
Outputs		Analogue	RS232	USB
Dimensions H x W x D	mm	185 x 408 x 308 – both models		210 x 420 x 510
Weight	kg	6 – both models		12

### Spectrophotometers, M105, M106

As described. Supplied with single 10mm diameter test tube holder, 10mm square cuvette adapter, dust cover, user manual, mains lead and box of 12 x 10mm diameter test tubes. For 115V, 230V 50/60Hz single phase supplies.

**SJ220-10** Model M105

**SJ220-25** Model M106

### Spectrophotometer, M108

As described. Supplied with manually operated cell changer to hold 4 x 10mm square cuvettes, USB port, dust cover, user manual, mains lead, 2 x 10mm silica and 4 x 10mm glass square cuvettes. For 115V, 230V 50/60Hz single phase supplies.

**SJ230-80** Model M108

### Accessories for M105 and M106 models

**SJ223-20** Holder for 20mm dia. test tubes

**SJ223-30** Holder for 25mm dia. test tubes

### Accessories for M108

**SJ232-10** 4-position cell changer for longpath cells up to 50mm pathlength

**SJ232-40** Thermostatted cell holder (requires connection to circulator/bath)

### Spare lamps for all models

**SJ232-80** Tungsten-halogen lamps, pack of 2



**SJ220-10, SJ220-25 is similar**



**SJ230-80**

# Spectrophotometers

## Model M501

### Camspec

Microprocessor controlled, single beam, scanning UV/Vis spectrophotometer.

- ◆ Range 190 to 1100nm
- ◆ Operating modes: Basic (A, %T and C), Quantitative, wavelength scan, Kinetics, DNA/Protein, multi-wavelength, custom
- ◆ Bandpass 4nm
- ◆ Adjustable scan speeds and intervals
- ◆ 1/4 VGA backlit graphics LCD
- ◆ Centronics printer output and bi-directional RS232 port
- ◆ GLP self-calibration routines
- ◆ Automatic blanking at the measurement wavelength
- ◆ Non-volatile memory stores up to 50 methods/results

Catalogue No.	<b>SJ245-20</b>	
Model	M501	
Wavelength	range nm	190 to 1100
	accuracy nm	±1
	resolution nm	0.1
	repeatability nm	±0.05
Zero drift	A	<3 per hour after warm up
Baseline flatness	A	±2
Bandpass	nm	4
Photometric accuracy	Better than 1% at 0.5A, 1A, 2A	
Photometric range	-0.7 to 3A, 0 to 200%T, 0 to 9999 Conc.	
Unit selection	mg/l, mg/ml, mg/l, g/l, ppb, ppm, %, I.U., mM/l, M/l, custom via keypad	
Scanning speed	75 to 2000nm/min. in 3 levels (high, medium and low)	
Scanning interval increments nm	0.1, 0.2, 0.5, 1, 2, 5	
Outputs	Centronics printer, bi-directional RS232	
Cell centre height	mm	15
Light source	Tungsten halogen and deuterium	
Dimensions H x W x D	mm	270 x 550 x 420
Weight	kg	18

#### Quantitative Mode

Up to 10 standard solutions may be used for a calibration, 3 types of correction methods available: single wavelength, iso-absorbance or 3-point. Choice of 4 methods for curve fitting: Linear fit, linear fit through zero, square fit, cubic fit.

#### Kinetics Mode

For course scanning or reaction rate calculations. Absorption v time graphs displayed in real-time. Wait and measurement times up to 8.3 hours can be entered with intervals of 0.5, 1, 2, 5, 10, 30 secs and 1 minute.

#### DNA/Protein Mode

Concentration and DNA purity are calculated: Abs ratios 260/280nm or 260/230nm with optional subtracted absorbance at 320nm. Alternative wavelengths/factors may be entered.

#### Multi-wavelength Mode

Up to 10 wavelengths may be entered, allowing measurement of multiple wavelengths on a series of samples.

#### Spectrophotometer, M501

As described. Supplied with manual cell changer for 4 x 10mm square cuvettes, 4 x glass 10mm cuvettes, 2 x 10mm silica cuvettes, mains lead, dust cover and user manual. For 115V, 230V 50/60Hz single phase supplies.

**SJ245-20** Model M501

#### Spares and accessories

**SJ246-03** Tungsten-halogen lamps, pack of 2

**SJ246-07** Deuterium lamp, pre-aligned

**SJ246-11** Test tube holder for single tubes, 8 to 25mm dia.

**SJ246-18** Thermostatted cell holder for 10mm square cuvettes (requires connection to external circulator/bath)

**SJ246-22** Peltier temperature controller and cell holder for 10mm cuvettes, 15 to 40°C



**SJ245-20**

## uniSPEC series

A range of inexpensive, single-beam, UV-visible spectrophotometers suitable for pharmaceutical, biochemical and clinical laboratory applications, Quality Control routines and higher education.

Model	uniSPEC 2	uniSPEC 4
Wavelength range	nm 190 to 1100	190 to 1100
Bandwidth	nm 2	1.8
Wavelength accuracy	nm $\pm 0.5$	$\pm 0.3$
Wavelength repeatability	nm $\pm 0.3$	$\pm 0.2$
Wavelength setting	Automatic - both models	
Photometric accuracy	%T $\pm 0.5$	$\pm 0.3$
Photometric repeatability	%T $\pm 0.3$	$\pm 0.2$
Photometric ranges		
Absorbance,	A -0.3 to 3 - both models	
Transmission,	%T 0 to 200 - both models	
Concentration,	C 0 to 9999 - both models	
Stability	A/hour at 500nm $\pm 0.002$ - both models	
Straylight	%T $\leq 0.1$	$\leq 0.05$ (at 220nm, 360nm)
Measurement modes	Kinetics, scanning, quantitative analysis, multi-wavelength, DNA/protein analysis	Kinetics, scanning, quantitative analysis, multi-wavelength, DNA/protein analysis, date/time stamp
Optical system	Single-beam; grating 1200 lines per mm; silicone photodiode detector - both models	
Scanning speed	nm/minute 1 to 1000 - both models	
Scanning interval increments,	nm 0.1, 0.2, 0.5, 1, 2, 5 - both models	
Data storage memory	200 calibration curves - both models	
Outputs	USB, parallel printer - both models	
Dimensions, H x W x D	mm 225 x 460 x 360 - both models	
Weight	kg 18 - both models	

### uniSPEC spectrophotometers

As described. With software CD allowing complete control of the instrument from the user's P.C., manual 4-position cell changer to hold 10mm pathlength cells and instruction manual. For 110V 60Hz or 220V 50Hz single phase supplies.

**SJ258-30** Model uniSPEC 2

**SJ258-45** Model uniSPEC 4



SJ258-30



SJ258-45

# Spectrophotometers

## Models 6300/6320D/6305



- ◆ Choice of ranges:  
Models 6300/6320D Visible, range 320 to 1000nm  
Model 6305 UV/Visible, range 198 to 1000nm
- ◆ Microprocessor controlled, menu driven operation
- ◆ High resolution graphics, liquid crystal display
- ◆ Dual display mode gives continuous readout of selected wavelength and results
- ◆ Sealed optical system is protected from degradation by harsh environments

Catalogue No.	<b>SJ360-10</b>	<b>SJ360-20</b>	<b>SJ360-40</b>
Model	6300	6320D	6305
Wavelength range	nm 320 to 1000	320 to 1000	198 to 1000
Bandwidth	nm 8	8	6 (range 198 to 319nm) 8 (range 320 to 1000nm)
Wavelength accuracy	nm $\pm 2$	$\pm 2$	$\pm 2$
Photometric accuracy	% $\pm 1$	$\pm 1$	$\pm 1$
Straylight	%T <0.5	<0.5	<0.5
Operating modes	0 to 199.9% T (transmission) — all models -0.300 to 1.999 Abs (absorption units) — all models -300 to 1999 C (concentration) — all models 0 to 999.9, 1000 to 9999 Factor — all models		
Photometric noise levels	% <1	<1	<1A at 0A and 400nm
Photometric stability	1% per hour after 20 min. warm up	1% per hour after 20 min. warm up	<2A/hour after 30 min. warm up
Outputs	Analogue 0 to 1999mV, RS232 serial port — all models		
Light source	Tungsten-halogen	Tungsten-halogen	Xenon
Display	Custom liquid crystal — all models		
Dimensions H x W x D	mm 160 x 365 x 272 — all models		
Weight	kg 6 — all models		

### Spectrophotometers 6300/6320D/6305, Jenway

As described. Supplied with single 10mm cell holder, 100 x 10mm disposable cuvettes and instructions. Model 6320D additionally has a dome shaped lid to accommodate test tubes with a height of up to 105mm. For 230V 50Hz single phase supplies.

- SJ360-10** 6300 Visible
- SJ360-20** 6320D Visible
- SJ360-40** 6305 UV/Visible

### Spares

- SJ364-05** Tungsten-halogen lamp for SJ360-10 and SJ360-20
- SJ364-06** Xenon lamp module for SJ360-40
- SJ364-09** Cell holder for 10mm cells
- CS780-14** Square cuvettes, optical glass, 10mm path length
- CS780-32** Rectangular cuvettes, optical glass, 50mm path length
- CT102-05** Cuvettes, 10mm, pack of 100

### Accessories

- SJ364-18** Cell holder, adjustable, for 20 to 100mm cells
- Cell holder for 10mm square cuvettes, and 16mm and 24mm diameter vials.
- SJ364-36** Cell holder, 10mm cuvette

Impact printer, 40 column, with connecting cable, rechargeable batteries and charger. A 220-240V 50Hz supply is required for the charger.

- CU656-20** Impact printer
- CU656-22** Paper roll for CU656-20



**SJ360-20**



**SJ360-40 in use, SJ360-10 is similar**



# Spectrophotometers

## Models 7200/7205



- ◆ Scanning diode array technology provides rapid, reliable scanning in less than 10 seconds with excellent wavelength reproducibility
- ◆ Colour touchscreen operation with 100mm wide display, ensuring full spectrum scans, quantitation curves and Kinetics runs can be viewed easily
- ◆ Reversed optical architecture is not affected by ambient straylight, allowing measurement with the lid open and tall sample vessels to be accommodated

- ◆ Diode array detection with 1024 elements and tungsten-halogen lamp gives good intensity over the visible range of the spectrum with low noise and drift
- ◆ Two, separate USB ports are provided for data storage (front) and printer connectivity (rear)
- ◆ Built-in, convenient cell rack moulded into the instrument body

Catalogue No.	<b>SJ365-15</b>	<b>SJ365-30</b>
Model	7200	7205
Wavelength range, nm	335 to 800	198 to 800
Bandwidth, nm	7	5
Wavelength accuracy, nm	±2	±2
Light source	Tungsten-Halogen	Xenon
Repeatability, nm	±2	±2
Absorbance range, A	-0.300 to 2.500 – both models	
Photometric accuracy, A	±0.01 at 1.0A and 546nm – both models	
Photometric noise, A	±0.002 at 0.04A and ±0.02 at 2.0A and 546nm – both models	
Straylight at 340nm, %	<1 according to ANSI/ASTM E387-72 – both models	
Concentration mode	range -2500 to +2500– both models resolution 0.001– both models calibration blank and a single standard or factor – both models factor -1000 to +1000 – both models standard -1000 to +1000 – both models	
Optical density factor	-1000 to +1000 – both models	
Quantitation mode, range	-2500 to +2500 – both models	
resolution	0.001 – both models	
calibration	blank and up to 6 standards – both models	
Curve fit algorithms	linear and linear through zero – both models	
Kinetics mode, time, secs	15 to 9999 – both models	
no. of wavelengths	3 – both models	
calibration	blank and 1 factor – both models	
resolution	0.001 – both models	
analysis	concentration – both models	
Spectrum range, nm	335 to 800	198 to 800
Spectrum analysis	Absorbance or % transmittance and up to 50 spectral analysis points – both models	
Beam height, mm	15	15
Outputs	2 x USB – both models	
Dimensions H x W x D, mm	120 x 212 x 422 – both models	
Weight, empty kg	2.8 – both models	

### Spectrophotometers 72-series, Jenway

As described. Supplied with single 10mm cell/cuvette holder, instructions and universal power supply for 100-240V 50/60Hz single phase supplies.

**SJ365-15** 7200 Visible, diode array sensor

**SJ365-30** 7205 UV/Visible, diode array sensor

### Accessories

**SJ366-04** Heated sample chamber for 10mm cells

**SJ364-18** Cell holder, adjustable, for 20 to 100mm cells

Cell holder for 10mm square cuvettes, and 16mm and 24mm diameter vials.

**SJ364-36** Cell holder, 10mm cuvette

**CT102-05** Cuvettes, 10mm, pack of 100

External printer, with rechargeable battery and charger. A 100-230V 50/60Hz supply is required for the charger.

**MG180-85** Impact printer

### Spare lamp

**SJ366-45** Tungsten-halogen lamp for SJ365-15

Note: SJ365-30 does not have a user-serviceable lamp assembly.

Glass and silica cells - see CA420 to CS782



SJ365-15, SJ365-30 is similar



SJ365-15 with SJ366-04 in use

# Spectrophotometers

## Models 7300/7305/7310/7315



- ◆ Choice of ranges:
  - Model 7300 Visible, range 320 to 1000nm
  - Model 7305 UV, range 198 to 1000nm
  - Model 7310 Scanning Visible, range 320 to 1000nm, Quantitation and Kinetics modes
  - Model 7315 Scanning UV, range 198 to 1000nm, Quantitation and Kinetics modes
- ◆ Models 7310 and 7315 are GLP compliant, with logging of time, date and user i.d., instrument and method locks, 240 method memory storage
- ◆ 5nm spectral bandwidth
- ◆ Sealed control panel and display built into hinged lid to avoid splashes and spillages when sample loading
- ◆ Analogue and RS232 outputs provided (models 7310 and 7315 additionally have front positioned, USB ports, for use with USB memory sticks)
- ◆ Large, graphics display with icon-driven, (non-textual) operation using soft-key navigation
- ◆ Compact design minimises bench space required
- ◆ Accessory printer-module available

Catalogue No.		<b>SJ372-25</b>	<b>SJ372-35</b>	<b>SJ372-45</b>	<b>SJ372-55</b>
Model		7300	7305	7310	7315
Wavelength range	nm	320 to 1000	198 to 1000	320 to 1000	198 to 1000
Bandwidth	nm	5 — all models			
Wavelength accuracy	nm	±2 — all models			
Light source		Tungsten-halogen	Pulsed Xenon	Tungsten-halogen	Pulsed Xenon
Repeatability	nm	±0.5 — all models			
Photometric ranges	Transmittance	0 to 199.9% x 0.1% resolution ±1% accuracy — all models			
	Absorbance	-0.300 to 2.500A x 1A resolution ±0.1 accuracy (at 1.00) — all models			
Concentration modes	range	—	—	-300 to 9999 — both models	
	resolution	—	—	selectable 1/0.1/0.01/0.001 — both models	
	calibration	—	—	blank and 1 factor/standard — both models	
	factor	—	—	1 to 10000 — both models	
	standard	—	—	1 to 1000 — both models	
Quantitation modes	range	—	—	-300 to 9999 — both models	
	resolution	—	—	selectable 1/0.1/0.01/0.001 — both models	
	calibration	—	—	blank and up to 6 standards — both models	
	curve fit	—	—	Quadratic, linear (and through zero), interpolate — both models	
Kinetics modes	time, secs	—	—	2 to 9999 — both models	
	calibration	—	—	blank and 1 factor/standard — both models	
	resolution	—	—	selectable 1/0.1/0.01/1 — both models	
	analysis	—	—	conc. rate of change, initial and final abs. or % trans. — both models	
Scanning modes	interval, nm	—	—	selectable 1/2/5 — both models	
	analysis	—	—	ABS, %T, peak, and valleys — both models	
Outputs		Analogue, RS232 — all models			
Dimensions H x W x D	mm	220 x 275 x 400 — all models			
Weight	kg	6 — all models			

### Spectrophotometers 73 series, Jenway

As described. Supplied with 10mm cell holder, 100 x 10mm disposable cuvettes, downloading/analysis software CD-ROM, interface cable and instructions (Models 7310 and 7315 are also supplied with a 2GB USB memory stick). With universal power supply for 100-240V 50/60Hz single phase supplies.

**SJ372-25** Model 7300

**SJ372-35** Model 7305

**SJ372-45** Model 7310

**SJ372-55** Model 7315

### Spares

**SJ364-05** Tungsten-halogen lamp for SJ372-25/-45

**SJ373-14** Xenon lamp module for SJ372-35/-55

**CT102-05** Cuvettes, 10mm, pack of 100

### Accessories

**SJ364-18** Cell holder, adjustable, for 20 to 100mm cells

Cell holder for 10mm square cuvettes, and 10mm, 16mm and 24mm diameter vials.

**SJ364-36** Cell holder, 10mm cuvette

**SJ377-94** Internal printer module



**SJ372-55 in use with accessories**

# Spectrophotometers

## Genova Plus



Dedicated life science spectrophotometer based on the Jenway 7315.

- ◆ 5nm spectral bandwidth
- ◆ Pre-programmed for DNA/RNA analysis, protein assay determination, cell density measurement, purity scan, multi-wavelength and concentration measurement modes
- ◆ GLP compliant, with logging of time, date and user i.d., instrument and method locks
- ◆ USB output port and USB flash drive supplied for results storage, analogue and RS232 outputs for connection to external recorder or user's PC
- ◆ Accessory internal printer module available

### Nucleic acid determination

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

### Protein assay determination

Pre-programmed for Bradford, Lowry, Biuret, Bicinchoninic acid (BCA) and Direct UV assays. Allows up to 12 standards, with 3 replicates of each standard, to be measured to create the standard curve. Replicate measurements can be set to automatically perform 3 readings sequentially from the same sample, or to enable a single measurement to be undertaken on three separate samples of the same concentration.

### Cell density measurement mode

Bacterial cell cultures are routinely grown until optical clarity reaches 0.4 at 600nm, indicating the optimum cell number for harvesting. Measurements to monitor cell growth can be performed at any user-selected wavelength.

### Purity scan measurement mode

For checking nucleic acid purity, particularly where impurities may be present at 230nm but undetectable using the 260/280nm ratio measurement method. Full wavelength range scanning available to identify any distorted peaks.

### Multi-wavelength measurement mode

4 alternative wavelengths can be used for sample measurements with ratio calculations and formulae with various factors to calculate concentration.

### Concentration measurement mode

Performs simple absorbance, % transmittance and concentration calculations with choice of up to 27 concentration units.



SJ372-80

<b>Catalogue No.</b>	<b>SJ372-80</b>	
<b>Model</b>	Genova Plus	
<b>Wavelength range</b>	<i>nm</i>	198 to 1000
<b>Bandwidth</b>	<i>nm</i>	5
<b>Wavelength accuracy</b>	<i>nm</i>	±2
<b>Light source</b>	Pulsed xenon	
<b>Repeatability</b>	<i>nm</i>	±0.5
<b>Photometric ranges</b>	<i>Transmittance</i>	0 to 199.9% x 0.1% resolution, ±1% accuracy
	<i>Absorbance</i>	-0.300 to 2.500A x 0.100A resolution, ±0.01A accuracy (at 1.000)
<b>Concentration modes</b>	<i>range</i>	-300 to 9999
	<i>resolution</i>	selectable 1/0.1/0.01/0.001
	<i>calibration factor</i>	blank and 1 factor/standard
	<i>standard</i>	1 to 10000
<b>Quantitation modes</b>	<i>range</i>	-300 to 9999
	<i>resolution</i>	selectable 1/0.1/0.01/0.001
	<i>calibration curve fit</i>	blank and up to 12 standards quadratic, linear interpolate and through zero
	<i>analysis</i>	quadratic, linear interpolate and through zero
<b>Kinetics modes</b>	<i>time, secs</i>	2 to 9999
	<i>calibration</i>	blank and 1 factor/standard
	<i>resolution</i>	selectable 1/0.1/0.01/0.001
	<i>analysis</i>	conc. rate of change, initial and final absorption or % transmission
<b>Scanning modes</b>	<i>interval, nm</i>	selectable 1/2/5
	<i>analysis</i>	absorption, % T, peaks and valleys
<b>Outputs</b>	USB, analogue, RS232	
<b>Dimensions H x W x D</b>	<i>mm</i>	220 x 275 x 400
<b>Weight</b>	<i>kg</i>	6

### Genova Plus Spectrophotometer, Jenway

As described. Supplied with micro-cuvette holder, USB memory stick and universal power supply for 100-240V 50/60Hz single phase supplies.

**SJ372-80** Genova Plus

### Accessories

**SJ364-18** Cell holder, adjustable, for 20 to 100mm cells

**SJ373-14** Xenon lamp module for SJ372-80

**SJ373-20** Cuvettes, micro, pack of 100

**SJ373-25** Tray cell for ultra-micro (5 l down to 0.7 l) volume samples. Fibre optic cuvette with two caps giving 1mm or 0.2mm path lengths, creating a "virtual dilution" of 1:10 or 1:50 compared to standard 10mm cuvette

**SJ377-94** Internal printer module (user fittable)



# Spectrophotometers

## Models 7300/7305/7310/7315

**JENWAY**

- ◆ Choice of ranges:
  - Model 7300 Visible, range 320 to 1000nm
  - Model 7305 UV, range 198 to 1000nm
  - Model 7310 Scanning Visible, range 320 to 1000nm, Quantitation and Kinetics modes
  - Model 7315 Scanning UV, range 198 to 1000nm, Quantitation and Kinetics modes
- ◆ Models 7310 and 7315 are GLP compliant, with logging of time, date and user i.d., instrument and method locks, 240 method memory storage
- ◆ 5nm spectral bandwidth
- ◆ Sealed control panel and display built into hinged lid to avoid splashes and spillages when sample loading
- ◆ Analogue and RS232 outputs provided (models 7310 and 7315 additionally have front positioned, USB ports, for use with USB memory sticks)
- ◆ Large, graphics display with icon-driven, (non-textual) operation using soft-key navigation
- ◆ Compact design minimises bench space required
- ◆ Accessory printer-module available

Catalogue No.		<b>SJ372-25</b>	<b>SJ372-35</b>	<b>SJ372-45</b>	<b>SJ372-55</b>
Model		7300	7305	7310	7315
Wavelength range	nm	320 to 1000	198 to 1000	320 to 1000	198 to 1000
Bandwidth	nm	5 — all models			
Wavelength accuracy	nm	±2 — all models			
Light source		Tungsten-halogen	Pulsed Xenon	Tungsten-halogen	Pulsed Xenon
Repeatability	nm	±0.5 — all models			
Photometric ranges	Transmittance	0 to 199.9% x 0.1% resolution ±1% accuracy — all models			
	Absorbance	-0.300 to 2.500A x 1A resolution ±0.1 accuracy (at 1.00) — all models			
Concentration modes	range	—	—	-300 to 9999 — both models	
	resolution	—	—	selectable 1/0.1/0.01/0.001 — both models	
	calibration	—	—	blank and 1 factor/standard — both models	
	factor	—	—	1 to 10000 — both models	
	standard	—	—	1 to 1000 — both models	
Quantitation modes	range	—	—	-300 to 9999 — both models	
	resolution	—	—	selectable 1/0.1/0.01/0.001 — both models	
	calibration	—	—	blank and up to 6 standards — both models	
	curve fit	—	—	Quadratic, linear (and through zero), interpolate — both models	
Kinetics modes	time, secs	—	—	2 to 9999 — both models	
	calibration	—	—	blank and 1 factor/standard — both models	
	resolution	—	—	selectable 1/0.1/0.01/1 — both models	
	analysis	—	—	conc. rate of change, initial and final abs. or % trans. — both models	
Scanning modes	interval, nm	—	—	selectable 1/2/5 — both models	
	analysis	—	—	ABS, %T, peak, and valleys — both models	
Outputs		Analogue, RS232 — all models			
Dimensions H x W x D	mm	220 x 275 x 400 — all models			
Weight	kg	6 — all models			

### Spectrophotometers 73 series, Jenway

As described. Supplied with 10mm cell holder, 100 x 10mm disposable cuvettes, downloading/analysis software CD-ROM, interface cable and instructions (Models 7310 and 7315 are also supplied with a 2GB USB memory stick). With universal power supply for 100-240V 50/60Hz single phase supplies.

**SJ372-25** Model 7300

**SJ372-35** Model 7305

**SJ372-45** Model 7310

**SJ372-55** Model 7315

### Spares

**SJ364-05** Tungsten-halogen lamp for SJ372-25/-45

**SJ373-14** Xenon lamp module for SJ372-35/-55

**CT102-05** Cuvettes, 10mm, pack of 100

### Accessories

**SJ364-18** Cell holder, adjustable, for 20 to 100mm cells

Cell holder for 10mm square cuvettes, and 10mm, 16mm and 24mm diameter vials.

**SJ364-36** Cell holder, 10mm cuvette

**SJ377-94** Internal printer module



**SJ372-55 in use with accessories**

# Spectrophotometers

## Genova Plus

### JENWAY

Dedicated life science spectrophotometer based on the Jenway 7315.

- ◆ 5nm spectral bandwidth
- ◆ Pre-programmed for DNA/RNA analysis, protein assay determination, cell density measurement, purity scan, multi-wavelength and concentration measurement modes
- ◆ GLP compliant, with logging of time, date and user i.d., instrument and method locks
- ◆ USB output port and USB flash drive supplied for results storage, analogue and RS232 outputs for connection to external recorder or user's PC
- ◆ Accessory internal printer module available

#### Nucleic acid determination

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

#### Protein assay determination

Pre-programmed for Bradford, Lowry, Biuret, Bicinchoninic acid (BCA) and Direct UV assays. Allows up to 12 standards, with 3 replicates of each standard, to be measured to create the standard curve. Replicate measurements can be set to automatically perform 3 readings sequentially from the same sample, or to enable a single measurement to be undertaken on three separate samples of the same concentration.

#### Cell density measurement mode

Bacterial cell cultures are routinely grown until optical clarity reaches 0.4 at 600nm, indicating the optimum cell number for harvesting. Measurements to monitor cell growth can be performed at any user-selected wavelength.

#### Purity scan measurement mode

For checking nucleic acid purity, particularly where impurities may be present at 230nm but undetectable using the 260/280nm ratio measurement method. Full wavelength range scanning available to identify any distorted peaks.

#### Multi-wavelength measurement mode

4 alternative wavelengths can be used for sample measurements with ratio calculations and formulae with various factors to calculate concentration.

#### Concentration measurement mode

Performs simple absorbance, % transmittance and concentration calculations with choice of up to 27 concentration units.



SJ372-80

<i>Catalogue No.</i>	<b>SJ372-80</b>	
<i>Model</i>	Genova Plus	
<i>Wavelength range</i>	<i>nm</i>	198 to 1000
<i>Bandwidth</i>	<i>nm</i>	5
<i>Wavelength accuracy</i>	<i>nm</i>	±2
<i>Light source</i>	Pulsed xenon	
<i>Repeatability</i>	<i>nm</i>	±0.5
<i>Photometric ranges</i>	<i>Transmittance</i>	0 to 199.9% x 0.1% resolution, ±1% accuracy
	<i>Absorbance</i>	-0.300 to 2.500A x 0.100A resolution, ±0.01A accuracy (at 1.000)
<i>Concentration modes</i>	<i>range</i>	-300 to 9999
	<i>resolution</i>	selectable 1/0.1/0.01/0.001
	<i>calibration factor</i>	blank and 1 factor/standard
	<i>standard</i>	1 to 10000
<i>Quantitation modes</i>	<i>range</i>	-300 to 9999
	<i>resolution</i>	selectable 1/0.1/0.01/0.001
	<i>calibration curve fit</i>	blank and up to 12 standards quadratic, linear interpolate and through zero
	<i>analysis</i>	
<i>Kinetics modes</i>	<i>time, secs</i>	2 to 9999
	<i>calibration</i>	blank and 1 factor/standard
	<i>resolution</i>	selectable 1/0.1/0.01/0.001
	<i>analysis</i>	conc. rate of change, initial and final absorption or % transmission
<i>Scanning modes</i>	<i>interval, nm</i>	selectable 1/2/5
	<i>analysis</i>	absorption, % T, peaks and valleys
<i>Outputs</i>	USB, analogue, RS232	
<i>Dimensions H x W x D</i>	<i>mm</i>	220 x 275 x 400
<i>Weight</i>	<i>kg</i>	6

#### Genova Plus Spectrophotometer, Jenway

As described. Supplied with micro-cuvette holder, USB memory stick and universal power supply for 100-240V 50/60Hz single phase supplies.

**SJ372-80** Genova Plus

#### Accessories

- SJ364-18** Cell holder, adjustable, for 20 to 100mm cells
- SJ373-14** Xenon lamp module for SJ372-80
- SJ373-20** Cuvettes, micro, pack of 100
- SJ373-25** Tray cell for ultra-micro (5µl down to 0.7µl) volume samples. Fibre optic cuvette with two caps giving 1mm or 0.2mm path lengths, creating a "virtual dilution" of 1:10 or 1:50 compared to standard 10mm cuvette
- SJ377-94** Internal printer module (user fittable)

# Spectrophotometers

## Models 74/76-series



- ◆ Choice of ranges:
  - Model 7410 Scanning Visible, range 320 to 1000nm, Quantitation and Kinetics modes, 5nm spectral bandwidth
  - Model 7415 Scanning UV, range 198 to 1000nm, Quantitation and Kinetics modes, 5nm spectral bandwidth
  - Model 7615 Split-beam, scanning UV, range 198 to 1000nm, with 1.5nm bandwidth
  - Model 7415 Nano Micro-volume sample, "drop-type" instrument, UV, range 198 to 1000nm, 5nm spectral bandwidth
- ◆ Large, high-definition, colour touchscreen display which allows full scans, quantitation curves and kinetics runs to be viewed easily
- ◆ 10GB onboard memory storage for results and methods
- ◆ Outputs include 2 x USB-A, 1 x USB-B and RJ45 ethernet
- ◆ Compact design minimises bench space required
- ◆ Accessory printer available

Catalogue No.		<b>SJ378-10</b>	<b>SJ378-15</b>	<b>SJ378-30</b>	<b>SJ379-05</b>
Model		7410	7415	7615	7415 Nano
Wavelength range	nm	320 to 1000		198 to 1000	
Bandwidth	nm	5	5	1.5	5
Wavelength accuracy	nm	±2 — all models			
Light source		Tungsten-halogen		Pulsed Xenon	
Repeatability	nm	±0.5 — all models			
Photometric ranges	Transmittance	0 to 199.9% x 0.1% resolution ±1% accuracy — all models			—
	Absorbance	-0.300 to 2.500A x 1A resolution ±0.1 accuracy (at 1.00) — all models			—
Concentration modes	range	-300 to 9999 — both models			—
	calibration	blank and 1 factor/standard — all models			—
Quantitation modes	range	-300 to 9999 — both models			—
	calibration	blank and up to 20 standards — all models			—
Kinetics modes	time, secs	2 to 9999 — both models			—
	analysis	conc., rate of change, initial and final abs. or % trans. — all models			—
Scanning modes	interval, nm	selectable 1/2/5/10 — all models			—
	analysis	abs., %T, peak, and valleys — all models			—
Nucleic acid modes		—	—	—	dsDNA, ssDNA, RNA, oligonucleotides, 260/280, 260/230, variable ratio
Protein modes		—	—	—	BCA, Bradford, Lowry, Biuret, direct UV
Sample range		—	—	—	0.5ul to 1ul
Path length capacity	mm	10 to 100 — all models			0.2 or 0.5 (auto-ranging)
Sample pedestal material		—	—	—	Quartz/stainless steel
Outputs		2 x USB-A, 1 x USB-B, 1 x RJ45 ethernet — all models			
Dimensions H x W x D	mm	156 x 280 x 500 — all models			
Weight	kg	9 — all models			

### Spectrophotometers 74/76 series, Jenway

As described. Supplied with 10mm cell holder (except SJ379-05 which has a micro-sample measurement pedestal and calibration standards), instructions and universal power supply for 100-240V 50/60Hz single phase supplies.

- SJ378-10** Model 7410
- SJ378-15** Model 7415
- SJ378-30** Model 7615
- SJ379-05** Model 7415 Nano

### Spares

- SJ378-33** Tungsten-halogen lamp for SJ378-10
- SJ364-09** Cell holder for 10mm cells

### Accessories

- CT102-05** Cuvettes, 10mm, pack of 100
- CS780-14** Square cuvettes, optical glass, 10mm path length
- SJ378-37** Automatic 8-cell changer
- SJ364-18** Cell holder, adjustable, for 20 to 100mm cells

Cell holder for 10mm square cuvettes, and 10mm, 16mm and 24mm diameter vials.

- SJ364-36** Cell holder, 10mm cuvette

External printer, with rechargeable battery and charger. A 100-230V 50/60Hz supply is required for the charger.

- MG180-85** Impact printer



**SJ378, SJ379 is similar**

# Spectrophotometers

## Double Beam Model 6850

**JENWAY**

A true, high accuracy, double beam UV/Visible range instrument with variable 0.5, 1, 2, 4 and 5nm spectral bandwidths, using either the integrated controller or remotely by the user's PC via Windows® compatible Prism PC software supplied.

◆ Six measurement modes:

- Photometrics and multi-wavelength spectrum scanning (up to 10 wavelengths can be measured, or 20 using Prism PC software, with up to 0.1nm resolution and 2000nm/min. scan speed)
- Spectrum scanning (up to 0.1nm resolution and 2000nm/min. speed)
- Kinetics (up to 12 hours with time intervals of 0.1, 0.2, 0.5, 1, 2, 5, 10 or 30 seconds)
- Quantitation (up to 3 wavelength points using up to 10 standards)
- DNA/RNA (ratio, concentration, A320 correction)
- Protein analysis (autopeaks and valleys, zoom, addition, subtraction, peak ratios, smoothing, area under curve, wavelength table, derivatives and overlay with PC software)

◆ Range: 190 to 1100nm

- ◆ Prism PC software is designed to give a comprehensive range of measurement modes whilst remaining intuitive, user-friendly and providing extensive post-measurement tools and functions
- ◆ Large graphical display
- ◆ Conforms to European Pharmacopoeia standards
- ◆ Range of interchangeable sample chambers allows rapid reconfiguration or upgrade
- ◆ Units with IQ/OQ documentation are available - *details on request*

Catalogue No.	<b>SJ379-15</b>
Model	6850
Wavelength range x resolution nm	190 to 1100 x 0.1
Bandwidths nm	0.5, 1, 2, 4, 5
Wavelength accuracy nm	±0.3 (at 0.5 and 1nm), ±0.5 (at 2, 4, and 5nm)
Straylight %	<0.05 (at 220nm and 340nm)
Source switching range nm	325 to 370
Photometric range A	-0.3 to +3.0
Photometric accuracy A	±0.002
Photometric reproducibility A	±0.001
Baseline stability A/h	±0.001
Noise level A	0.0005
Scan speed nm/minute	3 selectable, from 100 to 2000
Interface	USB and parallel port
Light source	Tungsten-halogen/Deuterium
Supply requirements	220V 50/60Hz single phase supply
Overall mm	600 x 450 x 200
Weight kg	22

As described. Supplied with single 10 x 10mm cuvette holder (sample and reference positions), instruction manual, Prism PC software with USB cable, 2 quartz and 4 glass cuvettes and dust cover. For 230V 50/60Hz single phase supplies.

**SJ379-15** Model 6850, double-beam UV/Visible

**Accessory and spare sample chambers**

- SJ379-40** 10 x 10mm path length cuvette holder
- SJ379-50** Water heated 10 x 10mm single cell holder
- SJ379-55** 10 to 100mm adjustable path length cuvette holder
- SJ379-60** Micro-cuvette holder
- SJ379-65** 8-position automatic cell changer
- MG180-85** Accessory printer with rechargeable battery and USB cable, requires a 100-240V 50/60Hz a.c. supply.

- SJ379-85** Spare Tungsten-halogen lamp
- SJ379-87** Spare Deuterium lamp

Disposable cells - see CT102-10.

Cuvettes - see CA420 to CA494, CT602-series.



**SJ379-15**



# Spectrophotometers

## Spectrophotometer Calibration Standards

Allow the performance and accuracy of spectrophotometers to be confirmed at regular intervals in compliance with Good Laboratory Practice (GLP) or ISO9000 to ISO9004 specifications.

- ◆ Accuracy can be checked with respect to:
  - Absorbance in the Visible range at 440nm, 465nm, 546nm, 590nm and 635nm wavelengths
  - Wavelength in the UV and visible range at 279.3nm, 360.9nm, 453.5nm, 536.3nm and 637.6nm

The set comprises four secondary calibration standard filters, housed in precision aluminium mounts designed for use with standard 10mm path length cell holders supplied with most spectrophotometers. An empty mount is also supplied. Three filters are grey glass, specially selected for homogeneity, stability and their generally uniform transmission values within the visible spectrum range. The fourth filter is made of silica doped with holmium oxide which exhibits a number of sharp absorption peaks throughout the UV, visible and NIR spectral ranges. The exact positions of these peaks vary slightly from production batch to batch therefore each filter is individually calibrated.

### Spectrophotometer Calibration Standards

As described. Supplied in a plastic box with certificate traceable to a primary standards set ratified by NIST, USA (National Institute of Standards and Technology). Each filter has dimensions 45 x 12.5 x 12.5mm H x W x D.

**SJ700-90** Spectrophotometer standards set

Individual filters and filter re-calibration are available – *details on request.*

## Precision Cells

**Hellma**

Transmissions: Optical glass 360 to 2500nm code yellow (y)  
 Special optical glass 320 to 2500nm code green (g)  
 Silica UV 200 to 2500nm code blue (b)

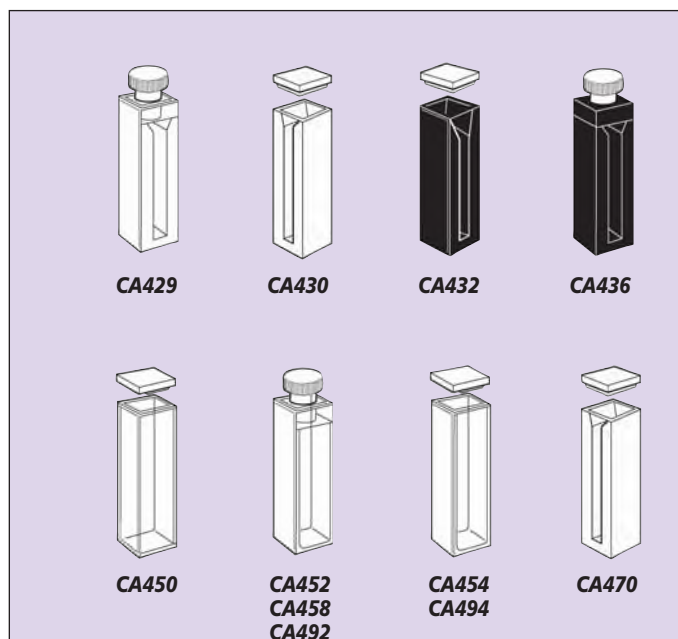
	Path length mm	Type	Material	Ref.
CA429-14	10	Micro with stopper	silica (b)	115-QG
CA430-14	10	Semi micro	glass (y)	104-TG
CA430-44	10	with lid	silica (b)	104-QG
CA432-14	10	Semi micro with lid. Self masking with black frames	silica (b)	104B-OS
CA436-44	10	Semi micro with stopper. Self masking with black frames	silica (b)	114B-QS
CA450-14	10	Macro with lid	glass (y)	100-TG
CA450-44	10	Macro with lid	silica (b)	100-QG
CA450-48	40			
CA450-54	10	Macro with lid	Suprasil® silica (b)	100-QS
CA452-44	10	stopper	silica (b)	110-QG
CA454-44	10	with lid	silica (b)	101-QG
CA458-44	10	Macro fluorescence with stopper	silica (b)	111-QG

### Matched pairs. Supplied as a matched pair of precision cells.

	Path length mm	Type	Material	Ref.
CA470-44	10	Semi micro with lid	silica (b)	104-QG/M
CA490-44	10	Macro with lid	silica (b)	100-QG/M
CA492-44	10	Macro with stopper	silica (b)	110-QG/M
CA494-44	10	Macro fluorescence with lid	silica (b)	101-QG/M



**SJ700-90**





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