



Order guide for the Libra range of UV/Visible spectrophotometers

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biochrom

Instrument summary



Libra S4 and Libra S6 are small and highly portable visible spectrophotometer optimized for use in educational and routine QC applications, respectively. The Libra S4 has large characters on the display and can be used with cells or test tubes. The Libra S6 has flash scan diode array for extremely fast scanning to graphics display, along with kinetics and standard curve as well as comprehensive method storage for defined experimental procedures (up to 99). The cell holder from both can be removed for cleaning and they are supplied with Grafico PC utility software and a serial cable for download of results to PC. The Libra S2 colorimeter is also available for student and field use.



Libra S11 and Libra S12 visible and UV/Visible spectrophotometers, respectively, and have a start-up menu that can be customised to suit changing laboratory needs. As well as the basic routines (absorbance, %T, concentration, ratio) they also have scanning, kinetics and standard curve capabilities coupled with the advantages of graphics display and method storage. Accessory options include a test tube holder, cylindrical cell holder and two-position cell changer. All results can be downloaded directly to Excel if required. The instruments can be under full PC control when used with Acquire Lite software.



Libra S21 and Libra S22 standard visible and UV/Visible instruments, respectively, that utilise a xenon lamp source to provide low cost of ownership, since there is no expensive deuterium lamp to replace. They have a full graphics display and a suite of on-board software that covers wavelength scanning (including zoom), multi wavelength equation entry, kinetics, standard curve and method storage. They have GLP self-diagnostics and a wide range of accessories, and are traditional "workhorse" instruments. The instruments can be under full PC control when used with Acquire software.



Libra S35 and S35PC are high performance, 1nm bandwidth UV/Visible spectrophotometers that comply with Pharmacopoeia requirements (the Libra S35PC is supplied with Acquire software and is a PC only controlled version). For other users, the Libra S32 and S32PC are 1.8nm bandwidth versions of the same instruments. The Libra S35 and S32 both have full complements of on-board software, and use press to read (PTR) technology for the deuterium and tungsten lamps, providing increased lifetime. Instrument performance validation (IPV) provides user confidence to address GLP legislation.

Product	Lamp sources	Optical system	Instrument parameters				Comment
			Wavelength range, nm	Absorbance range, A	Bandwidth, nm	Stray light at 340nm, %T	
Libra S2	tungsten	filters	440, 470, 490, 520, 550, 580, 590, 680nm	-0.3 – 1.99A	40nm	<1% at filter wavelength	Colorimeter for student and field use
Libra S4	tungsten	diode array	330 – 800nm	-0.3 – 2.5A	7nm	< 1%T	Ideal for teaching labs
Libra S6	tungsten	diode array	330 – 800nm	-0.3 – 2.5A	7nm	< 1%T	Ideal for QC labs
Libra S11	tungsten	single beam	325 – 999nm	-0.3 – 3.000A	5nm	< 0.05%T	Ideal for QC labs
Libra S12	deuterium / tungsten	single beam	200 – 999nm	-0.3 – 3.000A	5nm	< 0.05%T	Ideal for teaching labs
Libra S21	xenon press to read	split beam reference beam compensation	325 – 1100nm	-0.3 – 3.000A	< 3nm	< 0.05%T	Laboratory workhorse
Libra S22	xenon press to read	split beam reference beam compensation	190 – 1100nm	-0.3 – 3.000A	< 3nm	< 0.05%T	Laboratory workhorse
Libra S32/S35PC	deuterium / tungsten press to read	split beam reference beam compensation	190 – 1100nm	-0.3 – 3.000A	< 1.8nm	< 0.025%T	Ideal for analytical labs
Libra S35/S35PC	deuterium / tungsten press to read	split beam reference beam compensation	190 – 1100nm	-0.3 – 3.000A	1nm	< 0.025%T	Pharmacopoeia compliant

Libra S2, Libra S4 and S6, Libra S11 and S12

Ordering information		
	Part number	Price
Instruments		
Libra S2 colorimeter, mains only	80-5000-02	
Libra S2B colorimeter, mains and battery operated	80-5000-03	
Libra S4 Visible spectrophotometer	80-5000-00	
Libra S6 Visible spectrophotometer	80-5000-10	
Libra S6H Visible spectrophotometer with heated cell holder	80-5000-11	
Libra S11 Visible spectrophotometer	80-2115-15	
Libra S12 UV/Visible spectrophotometer	80-2115-10	
Accessories for Libra S4 and S6		
Venturi action funnel flow cell	80-2115-39	
Serial printer and serial printer cable	80-3002-53	
Test tube adapters (10, 12, 16mm)	80-2117-47	
Chart recorder interface cable	80-3003-55	
Spare serial cable	80-3001-00	
Spare dust cover	80-2115-18	
Spare tungsten lamp	80-2115-33	
Cell Holders for Libra S11 and S12		
2 position manual cell changer	80-2109-04	
Long pathlength cell holder, 10-50mm pathlength	80-2109-05	
Short pathlength cell holder, 1 and 5mm pathlength	80-2117-80	
Water heated cell holder, 10-40mm pathlength (circulation bath required)	80-2109-06	
Test tube holder (accommodates diameters of 8-26 mm and heights of up to 180 mm)	80-2109-33	
Peltier heated cell holder, for 25, 30, 37 °C (10mm pathlength) (temperature controller required)	80-2109-07	
Temperature controller	80-2112-54	
Cylindrical cell holder, 22mm diameter, up to 50mm pathlength	80-2112-26	
Spare single cell holder	80-2109-09	
Other accessories for Libra S11 and S12		
Fitting kit for external sample delivery (peristaltic pump and 10mm flowcell required)	80-2109-08	
Seiko DPU-414 thermal printer	80-2108-80	
Printer paper for thermal printer, 5 rolls	80-2009-80	
Printer stand for Seiko DPU-414 thermal printer	80-2109-96	
Interface for chart recorder	80-2109-03	
Software, computer and peripherals for Libra S11 and S12		
Acquire Lite applications software	80-2112-24	
Modules for wavelength scanning, kinetics and quantification (includes interface adapter for serial connection)		
PC, monitor, printer	Enquire	
Interface adapter for serial connection (includes spreadsheet interface software)	80-2109-02	
Spare parallel printer cable	80-2071-87	
Lamps, consumables and other items for Libra S11 and S12		
Tungsten halogen lamp for Libra S12 only (vertical filament)	80-2106-16	
Tungsten halogen lamp for Libra S11 only (horizontal filament)	80-2022-94	
Deuterium lamp for Libra S12	80-2109-11	
Spare dust cover for Libra S11 and S12	80-2109-13	
Basic UV/Visible educational booklet	80-2108-63	
Basic UV/Visible educational poster	80-2108-72	



80-2117-47



80-2109-33



80-2109-04



80-2109-06

Libra S21 and S22, S32 and S32 PC, S35 and S35 PC



80-2106-04



80-2112-25



80-2109-70



80-2105-49

Ordering information		
	Part number	Price
Instruments		
Libra S21 Visible spectrophotometer	80-2115-25	
Libra S22 UV/Visible spectrophotometer	80-2115-20	
Libra S32 UV/Visible spectrophotometer	80-2115-30	
Libra S32 PC UV/Visible spectrophotometer (includes Acquire software and serial interface cable)	80-2115-40	
Libra S35 Pharmacopoeia compliant UV/Visible spectrophotometer	80-5000-35	
Libra S35 PC Pharmacopoeia compliant UV/Visible spectrophotometer (includes Acquire software and serial interface cable)	80-5000-36	
Cell changers		
4 position cell changer, 10 - 50 mm pathlength	80-2106-01	
8 position water heated cell changer, 10mm pathlength (requires circulation bath)	80-2109-70	
6 position peltier heated cell changer, 10mm pathlength (requires temperature control unit)	80-2106-04	
Temperature control unit	80-2112-49	
Spare 8 position cell changer, 10mm pathlength	80-2108-01	
Single cell holders		
Cell holder, up to 10mm pathlength	80-2106-05	
Cell holder for use with magnetic flea, 10mm pathlength (requires magnetic stirrer and control)	80-2108-10	
Cell holder, 10-50mm pathlength	80-2106-07	
Cell holder, 100mm pathlength	80-2107-14	
Water heated cell holder, 10-40mm pathlength (requires circulation bath)	80-2106-08	
Cylindrical cell holder, cells of 22mm diameter and up to 100 mm pathlength	80-2106-10	
Cell holder with 8µl HPLC flowcell	80-2106-11	
Electrically heated cell holder (25, 30, 37°C), 10mm pathlength	80-2106-12	
Peltier heated cell holder (20 – 50°C), 10mm pathlength	80-2106-13	
Sipper		
Sipper, complete with UV quartz flowcell and all tubing (requires single cell holder 80-2106-05 or 80-2106-13)	80-2112-25	
Spare marprene pump head tubes (6) for sipper	80-2080-74	
Viton pump head tubes (5) for sipper	80-2106-99	
Spare PTFE flowcell tubing with connectors	80-2055-13	
Software		
Acquire applications software Modules for wavelength scanning, kinetics, time drive, quantification and multi wavelength (includes serial interface cable)	80-2115-31	
21 CFR part 11 compliant Acquire applications software Modules for wavelength scanning, kinetics, time drive, quantification, multi wavelength and CFR Administrator	80-5000-31	
Spreadsheet interface software (requires serial interface cable)	80-2112-23	
Serial interface cable	80-2105-97	
Computer and peripherals		
PC, monitor, printer	Enquire	
Spare parallel printer cable	80-2071-87	
Lamps, consumables and other items		
Tungsten halogen lamp (Libra 32 / S32 PC/ S35 / S35 PC only)	80-2106-16	
Deuterium lamp (Libra 32 / S32 PC/ S35 / S35 PC only)	80-2106-17	
Seiko DPU-414 thermal printer	80-2108-80	
Printer paper for thermal printer, 5 rolls	80-2009-80	
Printer stand for Seiko DPU-414 thermal printer (Libra S22 / S32 / S35only)	80-2112-18	
Spare baseplate plug for sample compartment	80-2106-18	
Spare dust cover	80-2106-19	
Qualification and performance verification logbook	80-2109-50	
Self training kit	80-2112-29	
IQ/OQ documentation	Enquire	

Standard spectrophotometer cells

Ordering information				
Cell Type	UV grade silica	Price	Optical glass	Price
Standard rectangular with lid				
1mm pathlength, 10mm internal width, 200µl working volume, 12.5 x 45mm external dimensions	80-2002-54*		80-2003-83*	
5mm pathlength, 10mm internal width, 1ml working volume, 12.5 x 45mm external dimensions	80-2002-57*		80-2003-85*	
10mm pathlength, 10mm internal width, 2ml working volume, 12.5 x 45mm external dimensions	80-2002-58		80-2003-87	
50mm pathlength, 10mm internal width, 10ml working volume, 52.5 x 45mm external dimensions	80-2002-63		80-2003-93	
Semi-micro cell with lid and black walls				
10mm pathlength, 4mm internal width, 800 µl working volume, 12.5 x 45mm external dimensions	80-2002-77		80-2004-15	
Micro cell with lid and black walls				
10mm pathlength, 2mm internal width, 400 µl working volume, 12.5 x 45mm external dimensions	80-2002-95			
Standard rectangular with stopper				
10mm pathlength, 10mm internal width, 2000 µl working volume, 12.5 x 48mm external dimensions	80-2002-70		80-2003-98	
Semi-micro cell with stopper and black walls				
10mm pathlength, 4mm internal width, 800 µl working volume, 12.5 x 48mm external dimensions	80-2002-81			
Micro cell with stopper and black walls				
10mm pathlength, 2mm internal width, 400 µl working volume, 12.5 x 48 mm external dimensions	80-2002-99			
Micro volume cell with stopper and black walls				
10mm pathlength, 70 µl working volume, 12.5 x 48 mm external dimensions	80-2103-69			
* these cells are supplied with packing pieces to facilitate use in a standard 10 mm pathlength cell holder				

Matched spectrophotometer cells (10 mm pathlength)

Ordering information						
Cell type	Set of 2 UV grade silica	Price	Set of 8 UV grade silica	Price	Set of 8 optical glass	Price
Standard rectangular with lid						
2000µl working volume, 10mm internal width, 12.5 x 45mm external dimensions	80-2099-89		80-2109-80		80-2109-81	
Semi-micro with lid and black walls						
800µl working volume, 4mm internal width, 12.5 x 45mm external dimensions	80-2100-13		80-2109-82		-	
Semi-micro with stopper and black walls						
800µl working volume , 4mm internal width, 12.5 x 48mm external dimensions	80-2100-22		-		-	
Micro cell with lid and black walls						
400µl working volume, 2mm internal width, 12.5 x 45mm external dimensions	80-2100-25		80-2109-83		-	

Other spectrophotometer cell and cell accessories

Ordering Information		
Cell type	Part number	Price
Continuous flow-through cells		
10mm pathlength, UV grade Silica, 3mm internal diameter; 75µl volume, 12.5 x 45mm external dimensions	80-2003-05	
10mm pathlength, Optical glass, 4mm internal diameter, 450µl volume: 12.5 x 45mm external dimensions	80-2004-45	
Sipper flowcell		
10mm pathlength, 80µl internal volume, UV grade silica (includes tubing kit)	80-2080-60	
Test tubes		
Glass test tubes (pack of 10), marked for optical alignment, 12 x 100mm	80-2004-50	
Glass test tubes (pack of 10), marked for optical alignment, 24 x 150mm	80-2004-51	
Cylindrical cell		
100mm pathlength, 22mm diameter, UV grade silica (requires 80-2106-10 cylindrical cell holder)	80-2003-12	
Disposable cells		
10mm pathlength, volume 4.5ml, methacrylate, pack of 100	80-2004-53	
10mm pathlength, volume 2.5ml, polystyrene, pack of 100	80-2084-11	
10mm pathlength, minimum volume 800µl, UV plastic, semi-micro, pack of 100	80-3000-77	
10mm pathlength, minimum volume 70µl, UV plastic, ultra-micro, pack of 100 [NOTE: not recommended with Libra S21/S22]	80-3000-81	
Cell spacers		
For use with cells that have an 8.5mm optical centre, 6 spacers	80-2106-85	
Packing pieces		
For use with 1mm and 5mm pathlength cells		
1mm pathlength cell pieces, pack of 8	80-2107-70	
5mm pathlength cell packing pieces, pack of 8	80-2107-71	

6 Technical specifications

	<i>Libra S2</i>	<i>Libra S4</i>	<i>Libra S6</i>
<i>Wavelength range</i>	440, 470, 490, 520, 550, 580, 590, 680nm	330-800nm	330-800nm
<i>Monochromator</i>	not applicable	Monk Gillieson optics with plane grating	Monk Gillieson optics with plane grating
<i>Wavelength calibration</i>	No	automatic upon switch on	automatic upon switch on
<i>Spectral bandwidth</i>	40nm	< 7nm	< 7nm
<i>Wavelength accuracy</i>	n/a	± 2nm	± 2nm
<i>Wavelength reproducibility</i>	n/a	± 1nm	± 1nm
<i>Light sources</i>	tungsten halogen	tungsten halogen	tungsten halogen
<i>Detector</i>		diode array	diode array
<i>Photometric range</i>	-0.3 to 1.99	-0.300 to 2.500A	-0.300 to 2.500A
<i>Photometric linearity</i>	< ± 0.05A at 1A using neutral density filters	± 0.010A at 1.000A	± 0.010A at 1.000A
<i>Photometric reproducibility</i>	± 0.02A at 1A using cuvettes	< 0.002 A at 0A and 546nm	< 0.002 A at 0A and 546nm
<i>Stray light</i>	< 1.0% at filter wavelength	< 1.0%T at 340nm (ANSI/ASTM E387-72)	< 1.0%T at 340nm (ANSI/ASTM E387-72)
<i>Stability</i>	not applicable	± 0.005A/h near 0A	± 0.005A/h near 0A
<i>Noise</i>	not applicable	± 0.002A near 0A and ± 0.020A near 2A at 600nm	± 0.002A near 0A and ± 0.020A near 2A at 600nm
<i>Abs % T</i>	yes	yes	yes
<i>Absorbance ratio</i>	no	no	yes
<i>Absorbance difference</i>	no	no	no
<i>3 point net</i>	no	no	no
<i>Multi-wavelength</i>	no	no	yes
<i>Concentration with factor</i>	no	yes	yes
<i>Standard curve generation</i>	no	no	yes
<i>Scanning software</i>	no	output via Grafico	yes
<i>Enzyme kinetics</i>	no	output via Grafico	yes
<i>Michaelis Menten equations</i>	no	no	no
<i>Substrate concentration</i>	no	no	no
<i>Analogue output</i>	0-2V for 0-2A, 0-1.99V for 0-199%T	1V per 1 Abs (±10%), 1V = 0A offset	1V per 1 Abs (±10%), 1V = 0A offset
<i>Digital output</i>	serial	serial, via Grafico and direct output to Excel spreadsheet	serial, via Grafico and direct output to Excel spreadsheet
<i>Printer output</i>	serial, not supplied	serial, not supplied	serial, not supplied
<i>Sample compartment size</i>	not applicable	not applicable	not applicable
<i>Multi-position changer</i>	no	no	no
<i>Single cell holder</i>	10mm as standard	10mm as standard	10mm as standard
<i>Test-tube holder</i>	accepts 16mm tubes, other adapters available	option	option
<i>Water-jacketed cell holder</i>	no	no	no
<i>Sipper system</i>	no	no	no
<i>Autosampler capability</i>	no	no	no
<i>Single position peltier heating</i>	no	no	electrical cell holder version (37C only)
<i>Multi position peltier heating</i>	no	no	no
<i>Dimensions</i>	150 x 180 x 60 mm	130 x 310 x 230 mm	130 x 310 x 230 mm
<i>Weight</i>	0.6kg	1.75kg	1.75kg
<i>Power requirements</i>	110 to 220V, 50/60Hz, 20VA or internal rechargeable NiMH battery (Libra S2B only)	90-265V AC, 50/60 Hz, 15VA	90-265V AC, 50/60 Hz, 15VA

Technical specifications

	<i>Libra S11 / S12</i>	<i>Libra S21 / S22</i>
<i>Wavelength range</i>	200-999nm for Libra S12 325-999nm for Libra S11	190-1100nm for Libra S22 (scans to 900nm) 325-1100nm for Libra S21 (scans to 900nm)
<i>Monochromator</i>	plane grating with 1200 lines/mm	concave grating with 1200 lines/mm
<i>Wavelength calibration</i>	automatic upon switch on	automatic upon switch on
<i>Spectral bandwidth</i>	5nm	< 3nm
<i>Wavelength accuracy</i>	± 2nm	± 1nm
<i>Wavelength reproducibility</i>	± 0.5nm	± 0.5nm
<i>Light sources</i>	tungsten halogen and deuterium	xenon, press to read
<i>Detector</i>	single solid state silicon photodiode	dual solid state silicon photodiode
<i>Photometric range</i>	-3.000 to 3.000A, 0.01 to 9999 concentration units, 0.1 to 200%T	-3.000 to 3.000A, -9999 to 9999 concentration units, 0.1 to 200%T
<i>Photometric linearity</i>	± 0.5% or ± 0.005A to 2.000A at 546nm, whichever is greater	± 0.5% or ± 0.003A to 3.000A, whichever is greater
<i>Photometric reproducibility</i>	0.5% of absorbance value	0.5% of absorbance value
<i>Stray light</i>	typically <0.05%T at 220nm using NaI, <0.05%T at 340nm using NaNO ₂	typically <0.05%T at 220nm using NaI, <0.05%T at 340nm using NaNO ₂
<i>Stability</i>	± 0.002A/h at 0A and 546nm after warm up	± 0.002A/h at 0A after warm up
<i>Noise</i>	± 0.001A near 0A and ± 0.002A near 2A at 600nm	± 0.001A near 0A and ± 0.002A near 2A at 600nm
<i>Abs % T</i>	yes	yes
<i>Absorbance ratio</i>	yes	yes
<i>Absorbance difference</i>	yes	yes
<i>3 point net</i>	no	no
<i>Multi-wavelength</i>	yes	yes
<i>Concentration with factor</i>	yes	yes
<i>Standard curve generation</i>	yes	yes
<i>Scanning software</i>	yes	yes
<i>Enzyme kinetics</i>	yes	yes
<i>Michaelis Menten equations</i>	Acquire Lite software	Acquire Software
<i>Substrate concentration</i>	Acquire Lite software	Acquire Software
<i>Analogue output</i>	100mV per 1.000A	no
<i>Digital output</i>	serial and parallel	serial and parallel
<i>Printer output</i>	direct output to Excel spreadsheet parallel, not supplied	direct output to Excel spreadsheet parallel, not supplied
<i>Sample compartment size</i>	95 x 50 x 65mm	140 x 220 x 80mm
<i>Multi-position changer</i>	2-position manual option	8-position as standard
<i>Single cell holder</i>	10mm as standard	option
<i>Test-tube holder</i>	option	no
<i>Water-jacketed cell holder</i>	option	1 and 8 position options
<i>Sipper system</i>	no	option (with or without thermostating)
<i>Autosampler capability</i>	no	option
<i>Single position peltier heating</i>	option	option
<i>Multi position peltier heating</i>	no	6 position option
<i>Dimensions</i>	300 x 400 x 190mm	510 x 350 x 160mm
<i>Weight</i>	6kg	13kg
<i>Power requirements</i>	90-265V AC, 50/60 Hz, 100VA	90-265V AC,50/60Hz, 80VA

Technical specifications

	<i>Libra S32 / Libra S35</i>	<i>Libra S32 PC / Libra S35 PC</i>
<i>Wavelength range</i>	190-1100nm, in 0.1nm steps	190-1100nm, in 0.1nm steps
<i>Monochromator</i>	concave grating with 1200 lines/mm	concave grating with 1200 lines/ mm
<i>Wavelength calibration</i>	automatic upon switch-on	automatic upon switch-on
<i>Spectral bandwidth</i>	< 1.8nm (1nm for Libra S35)	< 1.8nm (1nm for Libra S35)
<i>Wavelength accuracy</i>	±0.7nm (±0.5nm for Libra S35)	±0.7nm (±0.5nm for Libra S35)
<i>Wavelength reproducibility</i>	±0.2nm	±0.2nm
<i>Light sources</i>	tungsten halogen and deuterium press to read	tungsten halogen and deuterium press to read
<i>Detector</i>	dual solid state silicon photodiode	dual solid state silicon photodiode
<i>Photometric range</i>	-3.000 to 3.000A, -99999 to 99999 concentration units, 0.1 to 200%T	-3.000 to 3.000A, 0.01 to 99999 concentration units, 0.1 to 200%T
<i>Photometric linearity</i>	± 0.5% or ±0.003A to 3.000A at 546nm, whichever is the greater	± 0.5% or ±0.003A to 3.000A at 546nm, whichever is the greater
<i>Photometric reproducibility</i>	within 0.5% of absorbance value to 3.000A (at 546nm)	within 0.5% of absorbance value to 3.000A (at 546nm)
<i>Stray light</i>	typically <0.025%T at 220nm using NaI, <0.025%T at 340nm using NaNO ₂	typically <0.025%T at 220nm using NaI, <0.025%T at 340nm using NaNO ₂
<i>Stability</i>	±0.001A/h at 340 nm at 0A after warm up	±0.001A/h at 340 nm at 0A after warm up
<i>Noise</i>	± 0.001A near 0A and 0.002A near 2A at 546 nm	± 0.001A near 0A and 0.002A near 2A at 546 nm
<i>Abs % T</i>	yes	Acquire software
<i>Absorbance ratio</i>	yes	Acquire software
<i>Absorbance difference</i>	yes	Acquire software
<i>3 point net</i>	yes	Acquire software
<i>Multi-wavelength</i>	yes	Acquire software
<i>Concentration with factor</i>	yes	Acquire software
<i>Standard curve generation</i>	yes	Acquire software
<i>Scanning software</i>	yes	Acquire software
<i>Enzyme kinetics</i>	yes	Acquire software
<i>Michaelis Menten equations</i>	Acquire software	Acquire software
<i>Substrate concentration</i>	yes	Acquire software
<i>Analogue output</i>	no	no
<i>Digital output</i>	serial and parallel direct output to Excel spreadsheet	serial
<i>Printer output</i>	parallel, not supplied	via PC
<i>Sample compartment size</i>	140 x 220 x 80mm	140 x 220 x 80mm
<i>Multi-position changer</i>	8-position as standard	8-position as standard
<i>Single cell holder</i>	option	option
<i>Test-tube holder</i>	no	no
<i>Water-jacketed cell holder</i>	1 and 8-position options	1 and 8-position options
<i>Sipper system</i>	option (with or without thermostating)	option (with or without thermostating)
<i>Autosampler capability</i>	option	option
<i>Single position peltier heating</i>	option	option
<i>Multi position peltier heating</i>	6-position option	6-position option
<i>Dimensions</i>	510 x 350 x 220mm	510 x 350 x 160mm
<i>Weight</i>	13kg	13kg
<i>Power requirements</i>	90-265V AC, 50/60Hz, 150VA	90-265V AC, 50/60Hz, 150 VA