product codes:
see ordering information

Ultrospec Accessories

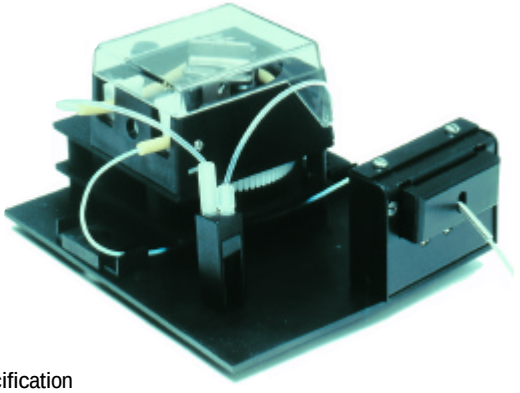
For the Ultrospec range of UV/Visible spectrophotometers (excluding Ultrospec 1000)

The Ultrospec™ range of UV/Visible spectrophotometers (excluding Ultrospec 1000) is enhanced with a wide range of easy-to-install accessories. These are available to meet all levels of sophistication and cost.

Sipper

The Sipper unit is an integrated, rapid sampling accessory that facilitates quick and easy sample handling, with no need to change cells between measurements. It comprises a peristaltic pump, pump tubing and a 10mm pathlength UV silica flowcell. It is easily fitted into the spacious sample compartment of the spectrophotometer and is controlled from the instrument keypad. The robust design of the pump means that different types of tubing can be installed for the sampling of aggressive solvents.

For maximum flexibility, a variety of cell holders is available; these are a Single Cell Holder for non-thermostatted work and a Peltier Heated Single Cell Holder for situations when thermostatic control of samples is required.



Sipper

Technical Specification

Principle	Peristaltic Pump
Modes	Sample recovery, sample to waste, wash
Volume range	0.25 to 9.99 ml with calibration facility
Flowcell	10 mm pathlength, 80 µl pathlength, UV grade silica
Cross contamination	Typically 0.5 % for 1 ml of aqueous solution
Pump tubing materials	Pump head - Marprene (Viton available on request); transport tubing - PTFE

Six Position Peltier heated Cell Changer

When combined with the Temperature Control Unit, a powerful system for monitoring enzyme catalysed reactions as a function of temperature is created. The temperature of the cell holders is set using the switches on the front of the Control Unit, and after allowing sufficient time for the accessory to reach thermal equilibrium (approximately 10 minutes), a temperature difference between cells of ± 0.2 °C is achievable.

Technical Specification

Temperature range	20 - 49 °C in 1 °C increments
Ambient operating temp.	10 - 30 °C
Temperature accuracy*	± 0.1 °C once equilibrium is reached
Temperature stability*	± 0.05 °C / hour once equilibrium is reached

* measured at the reference cell

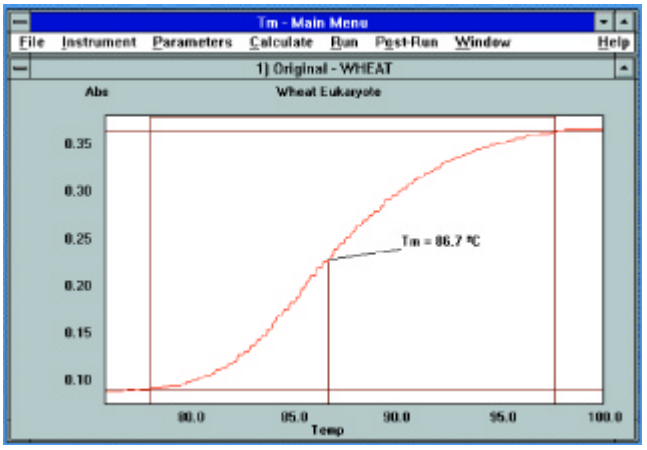
Six position peltier heated cell changer

Amersham Biosciences

Tm Programmable Peltier Heated Cell Holder

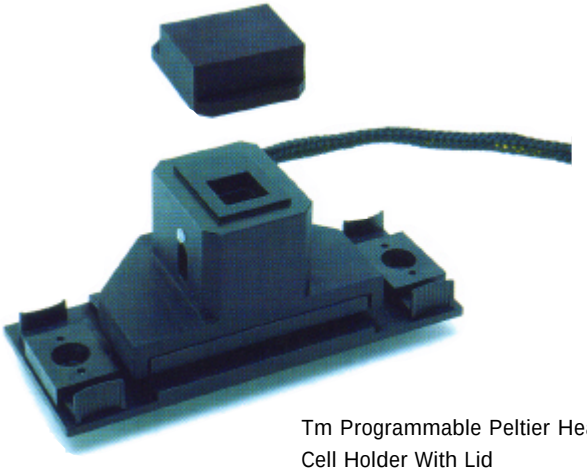
When combined with the Temperature Control Unit, this creates a system for the determination of Tm for nucleic acid solutions and nucleic acid/ proteins mixtures at 260 nm by heating/ cooling them at constant rates over a specified temperature range. Tm is the temperature at which a nucleic acid molecule is half denatured and is a physical characteristic dependent on the base sequence and the way the bases interact with one another due to hydrogen bonding. For large DNA fragments, genomic DNA and interactions of nucleic acids with proteins, Tm has to be determined experimentally, but for synthetic oligonucleotides and primers it can be calculated theoretically.

The Tm Programmable Peltier Heated Cell Holder is supplied complete with the necessary cables to connect it to the Temperature Control Unit and to link this to a Personal Computer. A PC is required to run the SWIFT-Tm applications software that is supplied with the accessory.



Experimental Determination of Tm for a Wheat Eukaryote

Technical Specification	
Temperature range	20 - 105 °C
Ambient operating temp.	10 - 30 °C
Temperature accuracy	± 0.1 °C at 37 °C once equilibrium is reached
Temperature stability	± 0.05 °C / hour at ambient temperature once equilibrium is reached
Rate of heating / minute (cooling)	0.1 - 3 °C / minute (heating), 0.1 - 2 °C



Tm Programmable Peltier Heated Cell Holder With Lid

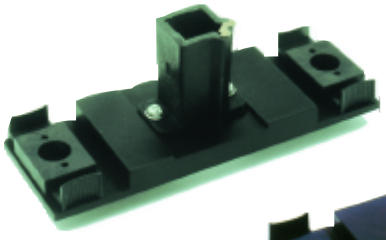
Temperature Control Unit

The Temperature Control Unit is required for control of the 6 position Peltier Heated Cell Changer and the Tm Programmable Peltier Heated Cell Holder, where extra power is needed to meet the energy requirements of the application.

Technical Specification	
Temperature range	20 - 49 °C in 1 °C increments
Analogue output	2 mV/°C
Dimensions	150 x 110 x 250 mm
Weight	2.5 kg
Power requirements	100-120 or 200-240 V AC ± 10%, 50-60 Hz, 50VA

Temperature control unit

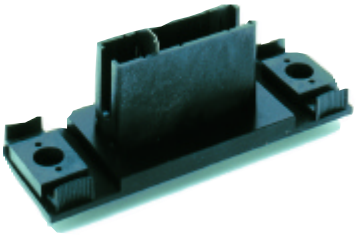
Other Single and Multi Cell Accessories



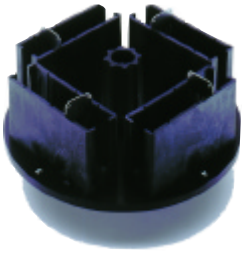
Ultramicrovolume cell holder

Microvolume cell holder

Working with biological or other samples as low as 7µl in volume is possible using the ultra microvolume cell holder. This has the facility to adjust the cell position in 2 dimensions for optimisation of light passing through the aperture in the specially designed ultra microvolume cell, and is supplied with a micro sample viewer to ensure that no air bubbles or dirt are present in the sample. For more routine measurements down to a volume of 50 µl, the microvolume cell holder and "sugar cube" microvolume cell can be used.

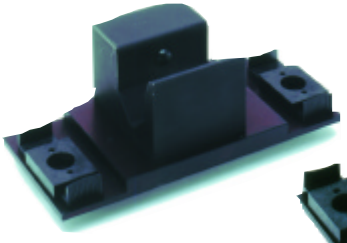


50 mm single cell holder

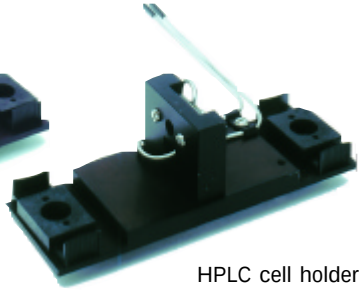


Four position cell changer

For high sensitivity measurements of dilute solutions using standard rectangular cells up to 50mm pathlength, a single cell holder and a 4 position automatic cell changer are available; for very dilute solutions a 100mm cell holder is available. For more common laboratory measurements, a single cell holder for cells up to 10mm pathlength is also available.

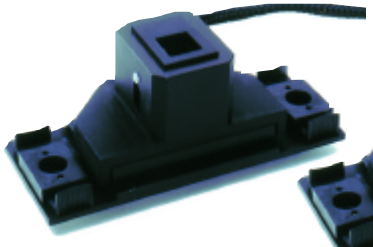


Cylindrical cell holder

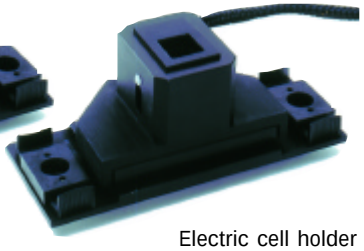


HPLC cell holder

Gas samples in 50 or 100mm pathlength cylindrical cells can be easily accommodated in the cylindrical cell holder. The spectrophotometer can also be used as a variable wavelength monitor for HPLC if the Cell Holder with 8µl flowcell is installed in the sample compartment.

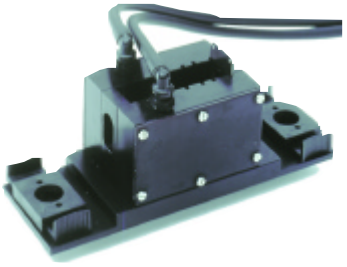


Peltier heated cell holder



Electric cell holder

Quality Control and kinetics measurements that have to be done at a fixed temperature are readily performed using the Peltier heated cell holder; this has a temperature range of 20 - 50 °C. In addition, a single position electrically heated cell holder with temperature settings of 25, 30 or 37 °C is available.



Water heated single cell holder

Eight position water heated cell changer

For enzyme kinetics studies that need to be under thermostatic control from a circulation bath, single cell and 8-position water heated cell changers are available as alternatives to the Peltier heated versions.

Ordering information

for further details see also BioDirectory

Cell changers

4 position cell changer (10 - 50 mm pathlength)	80-2106-01
8 position water heated cell changer (requires circulation bath)	80-2109-70
6 position Peltier heated cell changer (requires Temperature Control Unit)	80-2106-04

Single cell holders

Cell holder, up to 10mm pathlength	80-2106-05
Cell holder, for use with magnetic flea (requires magnetic stirrer)	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
Microvolume cell holder for 50µl cell (80-2076-38)	80-2106-09
Ultra microvolume cell holder, with 2 axis adjustment, for 5µl cell (80-2103-68)	80-2106-06
Cylindrical cell holder, up to 100mm pathlength	80-2106-10
Cell holder with 8µl HPLC flowcell	80-2106-11
Electrically heated cell holder (25, 30, 37 °C)	80-2106-12
Peltier heated cell holder (20 - 50 °C)	80-2106-13
Programmable Peltier unit (20-105°C) and SWIFT-Tm Applications Software (requires Temperature Control Unit and PC with spare serial port)	80-2106-14

Tm and Multi Peltier heating control

Temperature Control Unit	80-2105-49

Sipper

Sipper (requires single cell holder 80-2106-05 or 80-2106-13)	80-2112-15
Autosampler interface kit (for Gilson 221/222 XL only)	80-2104-96
Marprene pump head tubes (6) for Sipper	80-2080-74
Viton pump head tubes (5) for Sipper	80-2106-99
PTFE flowcell tubing with connectors	80-2055-13

Other

Printer Stand for Seiko DPU-414 thermal printer	80-2112-13
Support plinth	80-2112-14
Qualification and Performance Verification Logbook	80-2109-50
Spreadsheet interface software (requires serial interface cable, 80-2105-97)	80-2110-73

Accessory specifications are typical of production units.
As part of our policy of continuing product development, we reserve the right to alter specifications without notice.

Product information

for further details:

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Canada Tel: 1 800 463 5800 Fax: 1 800 567 1008 Central, East, and South East Europe Tel: +43 1 982 3826 Fax: +43 1 985 8327 Denmark Tel: 45 16 2400 Fax: 45 16 2424 Finland Tel: 09 512 3940 Fax: 09 512 1710
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Fax: 93 594 49 55 Sweden Tel: 018 612 1900 Fax: 018 612 1910 Switzerland Tel: 01 802 81 50 Fax: 01 802 81 51 U K Tel: 0800 616928 Fax: 0800 616927 USA Tel: +1 800 526 3593 Fax: +1 877 295 8102

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