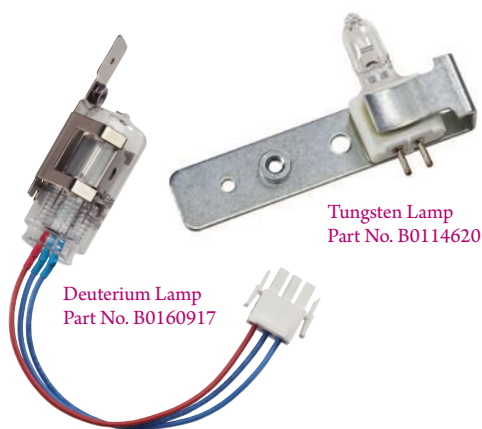


## DEUTERIUM AND TUNGSTEN SOURCE LAMPS

PerkinElmer's long-lifetime deuterium and tungsten source lamps provide the best wavelength coverage across the working range of the spectrometer for consistently high performance. All lamps are pre-aligned and can be easily changed by the user. Our extensive quality control and inspection process demands the very best quality sources to provide high sensitivity and stability for your key measurements.



### Source Lamps for LAMBDA Spectrophotometers

#### Deuterium Lamps

LAMBDA Model	Part No.
For LAMBDA 1/3	<b>C0550505</b>
For LAMBDA 1X/2X/3X/4X/5X/5XX/ Bio/6XX/8XX/9XX/10XX	<b>B0160917</b>
For LAMBDA 4/6	<b>C6880055</b>

#### Tungsten Lamps

LAMBDA Model	Part No.
For LAMBDA 1/3*	<b>C0550500</b>
For LAMBDA 1X/2X/3X/4X/Bio/6XX/8XX/9XX/10XX	<b>B0114620</b>
For LAMBDA 4/6*	<b>C6880054</b>
For 5X/5XX	<b>B0091906</b>

\*Prefocused and prealigned.

### Calibration Reference Materials for PerkinElmer and non-PerkinElmer Spectrometers

PerkinElmer reference materials speed calibration verification of UV/Vis and UV/Vis/NIR spectrometers\*, providing laboratory managers with the evidence they need to pass the strictest quality audit.



Photometric and Wavelength Accuracy Reference Material Set

A comprehensive range of certified traceable filters and sealed cuvettes fit into the standard 10mm cuvette holder of PerkinElmer and non-PerkinElmer instruments allowing users to generate simple protocols to verify ordinate and abscissa accuracy, stray light radiation, and spectral resolution. All reference materials are certified traceable to NIST primary reference materials and are supplied with a calibration certificate detailing the calibration method and results.

A central PerkinElmer recertification laboratory equipped with state-of-the-art instrument technology ensures a rapid turnaround service for periodic recalibration of PerkinElmer and non-PerkinElmer reference materials, allowing laboratories to maintain the requirements of their calibration SOP's.

#### Features and Benefits

- Comprehensive range of reference materials
- Traceable to NIST
- Immediate availability
- Rapid recertification service for PerkinElmer and non-PerkinElmer reference materials

\*Not diode array spectrometers.

# CALIBRATION AND RECERTIFICATION SOLUTIONS

## Photometric and Wavelength Accuracy Reference Material Set

Description	Part No.
Photometric and Wavelength Accuracy Reference Material Set	<b>B0507805</b>

A set of reference materials used to verify the ordinate and abscissa (wavelength) accuracy of UV/Vis and UV/Vis/NIR Spectrometers. Neutral density glass filters included in this kit are AL2A ISO 17025 accredited.



The set includes four glass filters mounted in precision aluminum spring mounts. The cells are designed for use with standard 10 mm cuvette holders of most UV/Vis and UV/Vis/NIR Spectrometers. There are three neutral density glass filters for checking the ordinate accuracy and a holmium oxide glass filter for checking the wavelength accuracy of a spectrometer. Each filter has an identification number. The ordinate and abscissa values of each filter are quoted in the accompanying Certificate of Calibration, nominally 1A (10%T), 0.5A (30%T) and 0.3A (50%T). Reference materials are supplied in a re-useable UV-protective storage container. Since UV/Vis and UV/Vis/NIR reference materials require periodic recertification a rapid, convenient recertification program is available through PerkinElmer's central recertification laboratory.

## Stray Light Solutions Reference Material Set

Description	Part No.
Stray Light Solutions Reference Material Set	<b>B2500099</b>

Set of reference materials comprising four solutions in sealed cells — one reference solution and three test solutions. The cells are designed for use with standard 10 mm cuvette holders of most UV/Vis and UV/Vis/NIR Spectrometers. The test solutions, comprising sodium iodide, sodium nitride, and potassium chloride, act as a cut-off filter with a very precise wavelength. Reference materials are accompanied with a Certificate of calibration and are supplied in a re-useable UV-protective storage container. Since UV/Vis and UV/Vis/NIR reference materials require periodic recertification a rapid, convenient recertification program is available through PerkinElmer's central recertification laboratory.

## Pharmacopoeia Solutions Reference Material Set

Description	Part No.
Pharmacopoeia Solutions Reference Material Set	<b>B2500100</b>

Reference materials to verify calibration of UV/Vis and UV/Vis/NIR Spectrometers in accordance with Pharmacopoeia monographs, including:

- Ordinate (photometric) accuracy (potassium dichromate in perchloric acid)
- Abscissa (wavelength) accuracy (holmium perchlorate)
- Stray radiation level (potassium chloride)
- Resolution (toluene in hexane)

Set of reference materials comprising six solutions in sealed cells — two reference solutions and four test solutions. The cells are designed for use with standard 10mm cuvette holders of most UV/Vis and UV/Vis/NIR Spectrometers. Reference materials are accompanied with a Certificate of calibration and are supplied in a re-useable UV-protective storage container.

## Reference Mirror for Reflectance Spectroscopy

Description	Part No.
Reference Mirror for Reflectance Spectroscopy	<b>N1010504</b>

This mirror is required to verify the specular reflectance calibration of PerkinElmer and Non-PerkinElmer reflectance accessories. The aluminum mirror with magnesium fluoride coating is a secondary standard and is calibrated according to GLP regulations in the wavelength range 250 to 2500 nm and includes spectral data on convenient transfer media for %RC reflection correction.

## Recertification Program for UV/Vis Calibration Reference Materials

Description	Part No.
Recertification Program for UV/Vis Calibration Reference Materials	<b>N1010539</b>

To guarantee the integrity of your Reference Material set they must be recertified at periodic intervals. PerkinElmer offers a rapid service through our convenient central recertification laboratory in the USA. The recertification process includes as received analysis, inspection and cleaning of the reference material, recertification testing using state-of-the-art instrument technology, and certificate of the results. Fast shipment to and from our laboratory from anywhere in the world is free and we return your recertified standards in ten business days or less from the time we receive them.

Note: A recertification service for individual reference materials or non-PerkinElmer reference materials is also available. Please contact our recertification laboratory in the United States by phone (1-203-402-6852) or email (PKIFILTERS@PerkinElmer.com) for availability, pricing, requests, ordering procedures and other questions.

## HIGHEST QUALITY FOR EVERY APPLICATION

### PerkinElmer Cells Ensure Top Optical Performance, with High Cell Transmission and Accurate Pathlength



No matter what type of cells your application requires — rectangular or cylindrical, standard or short path, micro, semi-micro or flowcells — choosing only high quality, precision cells allows you to make full use of the accuracy and sensitivity of your optical instrument.

The cell windows are fused to the bodies by a special process which avoids deformation of the windows. This assures that the full width of the cell is usable and the finished cell dimensions are maintained.

Our cells are manufactured from various types of glass. We offer three basic materials: Special Optical Glass, SUPRASIL® UV Quartz and SUPRASIL 300 NIR Quartz, in all the common sizes and types. The most important criterion for the choice of a particular type of glass is the spectral range for which the cell is intended. Color logos are fused onto each PerkinElmer cell, thus indicating the spectral range over which the cell can be used.

#### Special Optical Glass

Indicates that SCHOTT type UK 5 is used for cells referred to in the catalog as manufactured from “Special Optical Glass”. This crown glass is made from exceptionally pure raw materials, which gives an improved transmission in the near ultraviolet range. An empty cell will give a transmission of more than 80% over a spectral range of between 320 and 2,500 nm.

#### SUPRASIL UV Quartz

Indicates that quartz of the highest purity and homogeneity has been used for the window. Because it is produced from a silicon compound, it is also called synthetic quartz. SUPRASIL gives transmission values of more than 80% over a spectral range of between 200 and 2,500 nm for an empty cell.

#### SUPRASIL 300 NIR Quartz

Denotes a synthetic quartz that is free from OH absorption. Therefore it is suitable for applications in the near infrared range up to approximately 4,000 nm. SUPRASIL 300 gives a transmission of more than 80% over a spectral range of between 200 and 3,500 nm for an empty cell.

### Macro Cells

Standard rectangular macro cells are the most frequently-used type of spectroscopy cell for routine liquids analysis. Each cell has a standard inside width of 9.5 mm and a base thickness of 1.5 mm.

#### Macro with PTFE Lid

Lightpath	Outside Dim. H x W x D	Cell Volume	Qty.	Part No.
<b>NIR Quartz SUPRASIL® 300</b>				
1 mm*	45 x 12.5 x 3.5 mm	350 µL	2	<b>B0631013</b>
5 mm	45 x 12.5 x 7.5 mm	1.75 mL	2	<b>B0631014</b>
10 mm	45 x 12.5 x 12.5 mm	3.5 mL	2	<b>B0631015</b>
20 mm	45 x 12.5 x 22.5 mm	7.0 mL	2	<b>B0631016</b>
50 mm	45 x 12.5 x 52.5 mm	17.5 mL	1	<b>B0631017</b>
100 mm	45 x 12.5 x 102.5 mm	35.0 mL	1	<b>B0631018</b>
<b>Optical Glass 360-2,500 nm without lid</b>				
10 mm	45 x 12.5 x 12.5 mm	3.5 mL	4	<b>B0631134</b>
<b>Quartz SUPRASIL</b>				
1 mm*	45 x 12.5 x 3.5 mm	350 µL	2	<b>B0631007</b>
5 mm	45 x 12.5 x 7.5 mm	1.75 mL	2	<b>B0631008</b>
10 mm	45 x 12.5 x 12.5 mm	3.5 mL	2	<b>B0631009</b>
20 mm	45 x 12.5 x 22.5 mm	7.0 mL	2	<b>B0631010</b>
50 mm	45 x 12.5 x 52.5 mm	17.5 mL	1	<b>B0631011</b>
100 mm	45 x 12.5 x 102.5 mm	35.0 mL	1	<b>B0631012</b>
<b>Special Optical Glass</b>				
1 mm*	45 x 12.5 x 3.5 mm	350 µL	2	<b>B0631001</b>
5 mm	45 x 12.5 x 7.5 mm	1.75 mL	2	<b>B0631002</b>
10 mm	45 x 12.5 x 12.5 mm	3.5 mL	2	<b>B0631003</b>
20 mm	45 x 12.5 x 22.5 mm	7.0 mL	2	<b>B0631004</b>
50 mm	45 x 12.5 x 52.5 mm	17.5 mL	1	<b>B0631005</b>
100 mm	45 x 12.5 x 102.5 mm	35.0 mL	1	<b>B0631006</b>

\*Glass lid.

#### Macro with PTFE Stopper

Lightpath	Outside Dim. H x W x D	Cell Volume	Qty.	Part No.
<b>NIR Quartz SUPRASIL 300</b>				
1 mm	52 x 12.5 x 3.5 mm	350 µL	2	<b>B0631031</b>
5 mm	46 x 12.5 x 7.5 mm	1.75 mL	2	<b>B0631032</b>
10 mm	46 x 12.5 x 12.5 mm	3.5 mL	2	<b>B0631033</b>
20 mm	46 x 12.5 x 22.5 mm	7.0 mL	2	<b>B0631034</b>
50 mm	46 x 12.5 x 52.5 mm	17.5 mL	1	<b>B0631035</b>
100 mm	46 x 12.5 x 102.5 mm	35.0 mL	1	<b>B0631036</b>
<b>Quartz SUPRASIL</b>				
1 mm	52 x 12.5 x 3.5 mm	350 µL	2	<b>B0631025</b>
5 mm	46 x 12.5 x 7.5 mm	1.75 mL	2	<b>B0631026</b>
10 mm	46 x 12.5 x 12.5 mm	3.5 mL	2	<b>B0631027</b>
20 mm	46 x 12.5 x 22.5 mm	7.0 mL	2	<b>B0631028</b>
50 mm	46 x 12.5 x 52.5 mm	17.5 mL	1	<b>B0631029</b>
100 mm	46 x 12.5 x 102.5 mm	35.0 mL	1	<b>B0631030</b>
<b>Special Optical Glass</b>				
1 mm	48 x 12.5 x 3.5 mm	350 µL	2	<b>B0631019</b>
5 mm	46 x 12.5 x 7.5 mm	1.75 mL	2	<b>B0631020</b>
10 mm	46 x 12.5 x 12.5 mm	3.5 mL	2	<b>B0631021</b>
50 mm	46 x 12.5 x 52.5 mm	17.5 mL	1	<b>B0631023</b>

## Semi-micro Cells

Semi-micro cells have the same outside dimension as the Macro cells but the cell walls have been thickened slightly, limiting the interior sample chamber width to 4 mm. Each cell has a base thickness of 3.2 mm and each package contains two cells.



### Semi-micro with PTFE Lid – Black Sides

Lightpath	Outside Dim. H x W x D	Cell Volume	Part No.
<b>NIR Quartz SUPRASIL 300</b>			
5 mm	45 x 12.5 x 7.5 mm	700 µL	<b>B0631050</b>
10 mm	45 x 12.5 x 12.5 mm	1.4 mL	<b>B0631051</b>
<b>Quartz SUPRASIL</b>			
5 mm	45 x 12.5 x 7.5 mm	700 µL	<b>B0631048</b>
10 mm	45 x 12.5 x 12.5 mm	1.4 mL	<b>B0631049</b>
<b>Special Optical Glass</b>			
5 mm	45 x 12.5 x 7.5 mm	700 µL	<b>B0631046</b>
10 mm	45 x 12.5 x 12.5 mm	1.4 mL	<b>B0631047</b>

### Semi-micro with PTFE Lid – Clear Sides

Lightpath	Outside Dim. H x W x D	Cell Volume	Part No.
<b>NIR Quartz SUPRASIL 300</b>			
20 mm	45 x 12.5 x 22.5 mm	2.8 mL	<b>B0631045</b>
<b>Quartz SUPRASIL</b>			
20 mm	45 x 12.5 x 22.5 mm	2.8 mL	<b>B0631042</b>
<b>Special Optical Glass</b>			
20 mm	45 x 12.5 x 22.5 mm	2.8 mL	<b>B0631039</b>

### Semi-micro with PTFE Stopper – Black Sides

Lightpath	Outside Dim. H x W x D	Cell Volume	Part No.
<b>NIR Quartz SUPRASIL® 300</b>			
5 mm	46 x 12.5 x 7.5 mm	700 µL	<b>B0631065</b>
10 mm	46 x 12.5 x 12.5 mm	1.4 mL	<b>B0631066</b>
<b>Quartz SUPRASIL</b>			
10 mm	46 x 12.5 x 12.5 mm	1.4 mL	<b>B0631064</b>
<b>Special Optical Glass</b>			
5 mm	46 x 12.5 x 7.5 mm	700 µL	<b>B0631061</b>

### Semi-micro with PTFE Stopper – Clear Sides

Lightpath	Outside Dim. H x W x D	Cell Volume	Part No.
<b>NIR Quartz SUPRASIL 300</b>			
20 mm	46 x 12.5 x 22.5 mm	2.8 mL	<b>B0631060</b>
<b>Quartz SUPRASIL</b>			
20 mm	46 x 12.5 x 22.5 mm	2.8 mL	<b>B0631057</b>

## Micro Cells

Micro cells have the same outside dimension as the Macro cells but the cell walls have been thickened, limiting the interior sample chamber width to 2 mm. Each cell has a standard light path of 10 mm and each package contains two cells.



### Micro with PTFE Lid - Black Sides

Outside Dim. H x W x Dt	Base Thickness	Cell Volume	Part No.
<b>Quartz SUPRASIL®</b>			
45 x 12.5 x 12.5 mm	3.2 mm	700 µL	<b>B0631071</b>
<b>Special Optical Glass</b>			
45 x 12.5 x 12.5 mm	3.2 mm	700 µL	<b>B0631070</b>

### Micro with PTFE Stopper - Black Sides

Outside Dim. H x W x Dt	Base Thickness	Cell Volume	Part No.
<b>NIR Quartz SUPRASIL 300</b>			
40 x 12.5 x 12.5 mm	1.5 mm	400 µL	<b>B0631078</b>
<b>Quartz SUPRASIL</b>			
40 x 12.5 x 12.5 mm	1.5 mm	400 µL	<b>B0631077</b>
<b>Special Optical Glass</b>			
40 x 12.5 x 12.5 mm	1.5 mm	400 µL	<b>B0631076</b>

## Ultra-micro Cells

Ultra-micro cells use a narrower sample chamber, raising it directly into the center of the light path and masking it with black quartz. One cell with light path 40 x 12.5 x 12.5 mm.



### Ultra-micro with PTFE Lid

Lightpath	Aperture	Chamber Volume	Part No.
<b>Quartz SUPRASIL</b>			
10 mm	2 x 1.5 mm	30 µL	<b>B0631079</b>

### Ultra-micro with Pipette Tips

Lightpath	Aperture	Chamber Volume	Part No.
<b>Quartz SUPRASIL</b>			
0.1 mm	1 x 5 mm	0.5 µL	<b>B0631082</b>
1 mm	1 x 5 mm	5 µL	<b>B0631083</b>
5 mm	Ø 0.8 mm	2.5 µL	<b>B0631080</b>
10 mm	Ø 0.8 mm	5 µL	<b>B0631081</b>

# CYLINDRICAL AND FLOW-THROUGH CELLS

## Cylindrical Cells – Macro with PTFE Stopper

Cylindrical cells are used with spectrophotometers that have a larger, circular light beam. Each cell has an outside diameter of 22 mm and an inside diameter of 19 mm. Each package contains one cell and two windows.

Material	Lightpath	Outside Depth	Cell Volume	Remarks	Part No.
<b>NIR Quartz SUPRASIL® 300</b>					
	10 mm	12.5 mm	2.8 mL	Neck Ø 6 mm Taper 1:10	<b>B0631099</b>
	20 mm	22.5 mm	5.6 mL	Neck NS 7	<b>B0631100</b>
	50 mm	52.5 mm	14.0 mL	2 necks NS 7	<b>B0631101</b>
	100 mm	102.5 mm	28.0 mL	2 necks NS 7	<b>B0631102</b>
<b>Quartz SUPRASIL</b>					
	10 mm	12.5 mm	2.8 mL	Neck Ø 6 mm Taper 1:10	<b>B0631095</b>
	20 mm	22.5 mm	5.6 mL	Neck NS 7	<b>B0631096</b>
	50 mm	52.5 mm	14.0 mL	2 necks NS 7	<b>B0631097</b>
	100 mm	102.5 mm	28.0 mL	2 necks NS 7	<b>B0631098</b>
<b>Special Optical Glass</b>					
	10 mm	12.5 mm	2.8 mL	Neck Ø 6 mm Taper 1:10	<b>B0631091</b>
	20 mm	22.5 mm	5.6 mL	Neck NS 7	<b>B0631092</b>
	50 mm	52.5 mm	14.0 mL	2 necks NS 7	<b>B0631093</b>
	100 mm	102.5 mm	28.0 mL	2 necks NS 7	<b>B0631094</b>



NIR Quartz SUPRASIL Cylindrical Cells Macro with PTFE Stopper, 10 mm Part No. **B0631099**

## Flow-through Cells

Flow-through cells are used for measuring samples with continuous flow or with Sippers where individual samples are aspirated into the cell. All cells have center heights of 15 mm. Each package contains one cell with two clear windows. The cells listed below are Compact with two screw connectors, M6 x1 and 500 mm length FEP tubing - 1.9 mm o.d., 1.1 mm i.d.

Material	Lightpath	Centre Height	Outside Depth	Aperture	Cell Volume	Part No.
Quartz SUPRASIL	1 mm	15 mm	35 x 12.5 x 12.5 mm	17.5 x 3.5 mm	62 µL	<b>B0631085</b>
Quartz SUPRASIL	10 mm	15 mm	35 x 12.5 x 12.5 mm	11 x 3.5 mm	390 µL	<b>B0631084</b>
Quartz SUPRASIL	10 mm	15 mm	35 x 12.5 x 12.5 mm	8 x 2 mm	160 µL	<b>B0631087</b>
Quartz SUPRASIL	10 mm	15 mm	35 x 12.5 x 12.5 mm	11 x 2.5 mm	300 µL	<b>B0631150</b>
Quartz SUPRASIL	10 mm	15 mm	35 x 12.5 x 12.5 mm	Ø 3 mm	80 µL	<b>B0631089</b>
Quartz SUPRASIL	50 mm	15 mm	45 x 12.5 x 52.5 mm	Ø 3 mm	370 µL	<b>B0631088</b>
Quartz SUPRASIL	10 mm	15 mm	35 x 12.5 x 12.5 mm	Ø 2 mm	30 µL	<b>B0631090</b>
Quartz SUPRASIL (FIAS)	10 mm	15 mm	35 x 12.5 x 12.5 mm	Ø 1.5 mm	18 µL	<b>B0631151</b>
Quartz SUPRASIL (FIAS)	10 mm	15 mm	35 x 12.5 x 12.5 mm	Ø 1 mm	8 µL	<b>B0631152</b>

## Lids and Stoppers

Description	Lightpath	Part No.
Glass Covering Plate	1 mm	<b>B0631144</b>
PTFE Fitted Lid	5 mm	<b>B0631145</b>
PTFE Fitted Lid	10 mm	<b>B0631129</b>
PTFE Fitted Lid	20 mm	<b>B0631146</b>
PTFE Fitted Lid	50 mm	<b>B0631147</b>
Glass Fitted Lid	100 mm	<b>B0631148</b>
PTFE Stopper with NS 7 Fitting		<b>B0631128</b>
PTFE Stopper with Fitting Ø 6, taper 1:10		<b>B0631149</b>

## Replacement Tubing

Description	Part No.
FEP-Replacement Tubing with one short screw fitting, 500 mm long	<b>B0631130</b>
FEP-Replacement Tubing with one long screw fitting, 500 mm long	<b>B0631131</b>
Sipper Tubing to Cuvette (in)	<b>B2500129</b>
Sipper Tubing to Cuvette (out)	<b>B2500127</b>



Disposable cells greatly reduce the risk of contamination, remove the need for cleaning reagents and lower laboratory costs as compared to quartz or glass cells.

Disposable cells are available in polystyrene and polymethyl methacrylate either as macro or semi-micro cells. Additionally, disposable cells are available in a special UV transparent material in macro, semi-micro and micro cells. The useful spectral range for UV material is between 220 and 900 nm, for polymethyl methacrylate it is 300 and 900 nm and for polystyrene it is 340 and 900 nm.

Each cell has a standard light path of 10 mm and is suitable for any UV/Vis Spectrophotometer which accommodates cells with a center height of 15 mm.

Color coded caps can be ordered for the micro UV transparent cells which allow samples to be stored down to -20 °C.

### Macro Cells

Description	Outside Dimensions	Cell Volume	Qty.	Part No.
UV Material	45 x 12.5 x 12.5 mm	2.5 – 4.5 mL	100	<b>L7110269</b>
Polystyrene	45 x 12.5 x 12.5 mm	2.5 – 4.5 mL	1,000	<b>L7110271</b>
Polymethyl Methacrylate	45 x 12.5 x 12.5 mm	2.5 – 4.5 mL	1,000	<b>L7110273</b>



### Micro Cells

Description	Outside Dimensions	Cell Volume	Qty.	Part No.
UV Material	45 x 12.5 x 12.5 mm	70 – 550 µL	100	<b>L7110260</b>
UV Material	45 x 12.5 x 12.5 mm	70 – 550 µL	500	<b>L7110261</b>
UV Material Individually Wrapped*	45 x 12.5 x 12.5 mm	70 – 550 µL	100	<b>L7110262</b>
Caps - Blue			100	<b>L7110264</b>
Caps - Yellow			100	<b>L7110265</b>
Caps - Green			100	<b>L7110266</b>
Caps - Orange			100	<b>L7110267</b>

\* Free of DNase, DNA and RNase



### Semi-micro Cells

Description	Outside Dimensions	Cell Volume	Qty.	Part No.
UV Material	45 x 12.5 x 12.5 mm	1.5 – 3.0 mL	100	<b>L7110268</b>
Polystyrene	45 x 12.5 x 12.5 mm	1.5 – 3.0 mL	1,000	<b>L7110272</b>
Polymethyl Methacrylate	45 x 12.5 x 12.5 mm	1.5 – 3.0 mL	1,000	<b>L7110274</b>

### Cell Rack

Also available is a cell rack for easy storage of samples. It is suitable for standard 10 mm light path cells and holds up to 16 cells in numbered positions to aid sample tracking. The cell rack can withstand temperatures up to 121 °C so it can be used in an Autoclave.

Description	Qty.	Part No.
Cell Rack, 16 cell capacity	1	<b>L7110275</b>



To extend the range of samples that you can analyze, we offer a wide range of sample holders.

The rectangular and cylindrical long-path cell holders are ideal for sensitive measurements on dilute samples where the extra pathlength is important. For the chemist, the test-tube holder provides a convenient method of sampling in-situ without having to decant the sample into standard cells.

Finally, extend your measurement capabilities to include solid materials with the solid and variable-angle sample holders.

## Solid Sample Holder

Minimum sample size 10 x 15 mm. Maximum sample thickness 5 mm.

Description	Part No.
Solid Sample Holder	<b>B0080822</b>

## Test Tube Holder

This holder accommodates test tubes from 11 to 17 mm diameter.

Description	Part No.
Test Tube Holder	<b>B0500952</b>

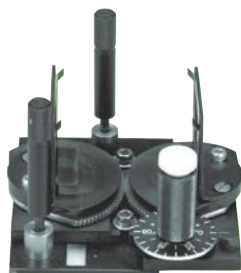
## Variable Angle Sample Holder

0° to 60° for sample position for measurement in transmission of filter glasses and other transparent samples. Minimum sample size is 30 x 40 mm.

Description	Part No.
Variable Angle Sample Holder	<b>B0152471</b>



Test Tube Holder



Variable Angle Sample Holder



Cylindrical Long-path Cell Holder

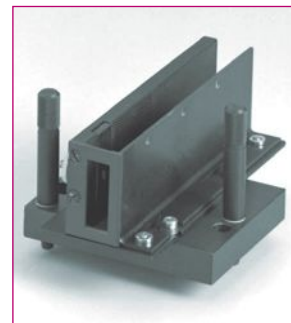


Solid Sample Holder

# MAXIMIZE SAMPLING FLEXIBILITY



Standard Cell Holder



Rectangular Long-path Cell Holder

## Standard Cell Holder

The Standard Cell Holder is provided as standard equipment with your PerkinElmer LAMBDA Series instrument. A lifter (included) makes short cell removal easy. It accommodates a large selection of rectangular cells up to 10 mm pathlength. The Standard Cell Holder is adjustable both vertically and horizontally.

Description	Part No.
Standard Cell Holder	<b>B055071</b>

## Rectangular Long-path Cell Holder

The Rectangular Long-path Cell Holder accepts cells with pathlengths from 10 to 100 mm. This optional cell holder is easy to install and has the same footprint as the Standard Cell Holder. It is designed for a precise fit and gives you maximum reproducibility.

Description	Part No.
For LAMBDA 1X/2X/3X/4X/6XX/8XX/9XX/10XX/Bio	<b>B0080821</b>

## Cylindrical Long-path Cell Holder

The Cylindrical Long-path Cell Holder accommodates cells with outside diameters from 22 to 30 mm. A versatile cell holder, it accepts cells with pathlengths up to 100 mm. The spring loaded clamping arms provide a precise, reproducible fit and are easy to adjust.

Description	Part No.
Cylindrical Long-path Cell Holder	<b>C0550303</b>

### 5+5 Cell Changer for LAMBDA 1X/2X/3X/4X/Bio

Automatic linear 5+5 cell changer for long pathlength cells up to 50 mm. Includes: Automatic Linear Transport (B2000186), Reference Kit (B2000310), and two Long Pathlength 5-Cell Holders (B0089439). No accessory PCB required.

Description	Part No.
5+5 Cell Changer for LAMBDA 1X/2X/3X/4X/Bio	<b>N1010569</b>

### 8+1 Cell Changer for LAMBDA 1X/2X/3X/4X/Bio

Automatic water thermostatable linear cell changer for eight samples and one reference. Includes: Automatic Linear Transport (B2000186), 8-Cell Holder Water Thermostatable (B2205411), and Water Thermostatable Reference Cell Holder (B2000201). No accessory PCB required.

Description	Part No.
8+1 Cell Changer for LAMBDA 1X/2X/3X/4X/Bio	<b>N1010567</b>

### 8+8 Cell Changer for LAMBDA 1X/2X/3X/4X/Bio

Automatic water thermostatable linear cell changer for eight samples and eight references. Includes: Automatic Linear Transport (B2000186), Reference Kit (B2000310), and two 8-Cell Holders (B2205411). No accessory PCB required.

Description	Part No.
8+8 Cell Changer for LAMBDA 1X/2X/3X/4X/Bio	<b>N1010568</b>

### 13-Cell Changer System for LAMBDA 1X/2X/3X/4X/Bio

Includes cell changer and one carousel each for glass/quartz and plastic cuvettes. Accessory PCB (L6000500) required for LAMBDA 25/35/45, or PCB (B0509681) required for LAMBDA 10/20/40/Bio, but not included.

Description	Part No.
13-Cell Changer System for LAMBDA 1X/2X/3X/4X/Bio	<b>B0185210</b>

### Manual Cell Changer for LAMBDA 1X/2X/3X/4X/Bio

Base unit to be used with cell holder of choice. Includes Accessory Cover (B0094014). Requires, but does not include, Long Pathlength 5-Cell Holder (B0089439) or 8-Cell Holder, Water Thermostatable (B2500081).

Description	Part No.
Manual Cell Changer for LAMBDA 1X/2X/3X/4X/Bio	<b>B2500080</b>



### Automatic Linear Transport for LAMBDA 1X/2X/3X/4X/Bio

Automatic linear transport unit. Can be combined with 8-Cell Holder, Water Thermostatable (B2205411), Long Pathlength 5-Cell Holders (B0089439), or Research Peltier System (L6310011). For reference position, Reference Kit (B2000310) and 5- or 8-Cell Holder recommended, but not included. Water Thermostatable Reference Cell Holder (B2000201) can be used alternatively.

Description	Part No.
Automatic Linear Transport for LAMBDA 1X/2X/3X/4X/Bio	<b>B2000186</b>

### Reference Kit

For Automatic Linear Transport (B2000186). For reference position to be used with 8-Cell Holder, Water Thermostatable (B2205411) or Long Pathlength 5-Cell Holder (B0089439).

Description	Part No.
Reference Kit	<b>B2000310</b>

### Gel-Scanner Linear Transport for Gels and Glasses for LAMBDA 1X/2X/3X/4X/Bio

Complete Gel-Scanner accessory. Allows measurement of 100 mm gel cuvettes or glass samples up to 100 mm pathlength in continuous or random access mode. No accessory PCB required. For gel measurement, Gel Cell (B0107047) is required, but not included.

Description	Part No.
Gel-Scanner Linear Transport for Gels and Glasses for LAMBDA 1X/2X/3X/4X/Bio	<b>B2000199</b>

### Gel Cell, Glass

For gel measurements with Gel-Scanner Linear Transport (B2000199). Dimensions are 6 mm pathlength by 100 mm width by 10 mm height.

Description	Part No.
Gel Cell, Glass	<b>CP183700</b>



# FAST, EFFICIENT, TEMPERATURE-CONTROL



## Routine Peltier Systems

### Routine Peltier System – Single Sample Accessory + Single Reference Accessory

Includes the Peltier Single Sample Accessory (B2000159) for the sample position and the Single Reference Accessory (B0510412) for the reference position. Also included are a reference position cover, power supply, power cables, and User's Guide. Selectable temperature range 20° to 45 °C. Requires the LAMBDA 25, 35, 45 Accessory Board (L6000500).

LAMBDA Model	Part No.
1X/2X/3X/4X/Bio	<b>N1010565</b>

### Routine Peltier System – 9-Sample Position Accessory + Single Reference Accessory

Includes the Peltier 9-Sample Position Accessory for the sample position and the Single Reference Accessory for the reference position. Also included are 5 beam masks, alignment gauge, reference position cover, sample compartment extension, power supply, cables, and User's Guide. Selectable temperature range 20° to 45 °C. Must be service installed. Requires the LAMBDA 25, 35, 45 Accessory Board (L6000500).

LAMBDA Model	Part No.
1X/2X/3X/4X/Bio	<b>N1010566</b>

### Routine Peltier Single Sample Accessory

Peltier temperature controlled single cell holder for the sample position. Also included are a reference position cover, power supply, power cables, and User's Guide. Selectable temperature range 20° to 45 °C. Requires the LAMBDA 25, 35, 45 Accessory Board (L6000500).

LAMBDA Model	Part No.
1X/2X/3X/4X/Bio	<b>B2000159</b>

### Routine Peltier 9-Sample Position Accessory

Includes the Peltier 9 position cell changer, 5 beam masks, alignment gauge, reference position cover, sample compartment extension, power supply, power cables, and User's Guide. Must be service installed. Selectable temperature range 20° to 45 °C. Requires the LAMBDA 25, 35, 45 Accessory Board (L6000500).

LAMBDA Model	Part No.
1X/2X/3X/4X/Bio	<b>B2000160</b>

### Routine Peltier Single Reference Accessory

Peltier temperature controlled single cell holder for the reference position. Also included are the power supply, power cables, and User's Guide. Selectable temperature range 20° to 45 °C. Requires the LAMBDA 25, 35, 45 Accessory Board (L6000500).

LAMBDA Model	Part No.
1X/2X/3X/4X/Bio	<b>B0510412</b>

### 9-Position Cell Holder

As included with the Peltier 9-Sample Position Accessory. Additional interchangeable cell holder for use with the 9-position cell changer.

LAMBDA Model	Part No.
1X/2X/3X/4X/Bio	<b>B0510366</b>

### Stirring Rods Set of 15 pieces for stirring in the cuvette.

For use with the Research Peltier System-6 Position (PTP-6) (L6310011), and 13-Cell Changer Systems (B0185210), and Magnetic Stirrer Accessory (B0507355 and B0510070).

LAMBDA Model	Part No.
1X/2X/3X/4X/Bio	<b>B0187028</b>

## PTP-A Single-cell Air-cooled Peltier Accessory

The PTP-A Single-cell Peltier Accessory is air-cooled and does not require a source of cooling water, making it very convenient to use with minimal setup time. Temperature programs are set up, edited and stored from the front panel of the controller unit.

The PTP-A is ideal for protein and nucleic assays to 37 °C and for many studies of kinetics, thermodynamics and acid-base equilibria.

Description	Part No.
PTP-A Single-cell Air-cooled Peltier System	L6310014

## Water-thermostatted Single-cell Holder

A single-cell holder with 3 mm fluid tubing connectors to enable fluid circulated temperature stabilization. Can be installed in the reference position with the PTP-1 and PTP-6 to allow the reference sample to be temperature controlled. Requires, but does not include, a fluid circulator.

Description	Part No.
Water-thermostatted Single-cell Holder	B0080819



Temperature-measurement Kit

## Temperature-measurement Kit

Probe for measuring the temperature within the cell. Includes glass cell. Requires the LAMBDA 25, 35, 45 Accessory Board (L6000500).

Description	Part No.
Temperature-measurement Kit	B0185227

## Research Peltier Systems



PTP 1+1 and PTP 6+6 Research Peltier Systems

The research Peltier range of accessories is ideal for any application that requires precise control of temperature at, below or above ambient temperature. The ability to operate up to 100 °C allows applications such as DNA melting, protein denaturation and some polymer studies to be performed.

These accessories consist of Peltier-controlled, single or six-cell cuvette holders for the sample and reference channels. Single-channel versions are also available. The accessory includes in-cuvette stirring and the ability to preset temperature programs. These units require a source of cooling water.

Description	Part No.
PTP-1 Research Peltier System	L6310010
PTP 1+1 Research Peltier System	L6310012
PTP-6 Research Peltier System*	L6310011
PTP 6+6 Research Peltier System*	L6310013

\*For the PTP-6 and 6+6 the sample and reference cell holders must be fitted to the baseplate of the cell changer unit in the sample compartment. In a Lambda 25, 35 or 45 this is the Automatic Linear Transport (B2000186), while in a Lambda 650, 850, 950 or 1050 the Linear Cell Programmer (B2205401) is required.

## Peltier Controlled Fluid Circulator (PCB-150)

An external fluid circulator for use with all thermostatted cell holders enabling peltier effect temperature control. With both heating and cooling ability the circulator provides a temperature range of 20° to 60 °C with an accuracy of +/- 0.1 °C. Also included is a serial port and documentation to enable PC programming.

Description	Part No.
Peltier Controlled Fluid Circulator (PCB-150)	N1015158

## Water Circulator

Electronic temperature control, continuously settable from 32° to 60 °C, temperature stability +/- 0.2 °C, with precision thermometer and built-in cooling coils.

Description	Part No.
Water Circulator, 110 V/60 Hz	N9302736



## The Fully-automated Universal Reflectance Accessory (URA)

PerkinElmer's unique Universal Reflectance Accessory (URA) is the only fully-automated, multi-angle, absolute specular reflectance accessory available today. For the Lambda 650/850/950/1050.

Simply place the sample on the horizontal sampling plate, select the required measurement angles with a few mouse clicks and scan. Unlike traditional methods, the URA automatically and reproducibly changes the measurement angle, eliminating time-consuming manual mirror adjustments and changes of accessory. This approach reduces running costs and increases productivity. The URA snaps into place in the second sampling position and can quickly be interchanged with integrating spheres and other detector modules.

### Features and Benefits

- Measurement range: 190 – 3,100 nm (UV/Vis/NIR), 190 – 900 nm (UV/Vis)
- Angular range: 8 – 68° incident angle
- Depolarization recommended for angles >15°
- Measure separate S&P polarizations using the Double Depolarizer Drive (B0505530)
- Absolute and relative measurements can be made
- Typical applications include the measurement of anti-reflection coatings, high-reflectors, coating thickness and metallic reflectors

Description	Part No.
URA* (UV/Vis only)	L6020208
URA* (UV/Vis/NIR)	L6020202
URA (UV/Vis/NIR) for LAMBDA 1050 only	L6020358

\*Not available for the LAMBDA 750

## Relative Specular Reflectance Accessories

For reflectance or thickness measurements. 6° angle of light incidence. For Lambda 25/35/45/650/750/850/950/1050.



Relative Specular Reflectance Accessory, 6°

### Features and Benefits

- Locates in the standard sample compartment for routine relative reflectance measurements at a 6° fixed angle of incidence
- Accommodates samples from 20 x 20 mm to 100 x 100 mm
- Wavelength range: 175 – 3,300 nm

Description	Part No.
Relative Specular Reflectance Accessory	B0086703

## Variable-Angle Relative Specular Reflectance Accessory

For relative specular reflectance studies which require data from more than one angle of incidence, the variable angle accessory is ideal. The angular range is from 15 to 70° with an accuracy of +/- 1°. Typical applications include the study of the how the reflectivity of a sample changes with change of incident angle. For the Lambda 25/35/45/650/750/850/950/1050.

### Features and Benefits

- Wavelength range: 175 – 3,300 nm
- Locates in standard sample compartment
- Range of angles: 15 – 70°

Description	Part No.
Variable-Angle Relative Specular Reflectance Accessory	B0137314

## Spare Standard Mirror

For Relative Specular Reflectance Accessory, 6° (B0086703) and Variable Angle Reflectance Accessory (B0137314). This mirror is not calibrated.

Description	Part No.
Spare Standard Mirror	B0071519

## Powder Sample Holder Set

For measurement of powder samples.

Description	Part No.
Powder Sample Holder Set	PELA9040



150 mm Integrating Sphere

## Snap-in Integrating Spheres for Lambda 650/750/850/950/1050

PerkinElmer's range of snap-in integrating spheres is the industry standard for the measurement of total reflectance, diffuse reflectance and diffuse transmittance measurements for a huge range of sample types. The 150 mm Integrating Sphere is the recommended accessory for measurement of total solar reflectance and transmittance in the glass industry and for the measurement of UV transmittance of paint films in the automotive industry. Many national laboratories use it in R&D studies and for calibration measurements.

The 60 mm Integrating Sphere is used for routine diffuse reflectance and diffuse transmittance measurements. The detector sphere comprises a 60 mm Spectralon detector sphere contained in a snap-in module which fits into the second sample compartment position. This leaves the primary sample compartment free for the use of accessories such as the V-N absolute reflectance accessories, transmission sample holders and polarizer/depolarizer drive.

### Features and Benefits

- Measurement range: 200 – 2,500 nm (UV/Vis/NIR), 200 – 900 (UV/Vis)
- InGaAs versions offer higher sensitivity in the near-IR range
- Sampling modes include total and diffuse reflectance at an incident angle of 8°, and total and diffuse transmittance at normal (0°) incidence

Description	Part No.
150 mm Integrating Sphere*	L6020204
60 mm Integrating Sphere	L6020203
60 mm Detector Sphere*	L6020209
150 mm InGaAs Integrating Sphere*	L6020322
60 mm InGaAs Integrating Sphere*	L6020323

\*Not available for the LAMBDA 750.

## Accessories for LAMBDA 150 mm Integrating Spheres

### Center Mounted Sample Holder, Clip Style

Clip style for films and paper samples.

LAMBDA Model	Part No.
6XX/8XX/9XX/10XX	PELA9039

### Center Mounted Sample Holder, Jaw Style

Jaw style for solid samples like glasses, prisms, etc.

LAMBDA Model	Part No.
6XX/8XX/9XX/10XX	PELA9038

### Cell Holder

For measurement in 1 cm cuvettes in transmission or reflectance mode.

LAMBDA Model	Part No.
6XX/8XX/9XX/10XX	C6951019

### Small Spot Accessory Kit

Lens kit for reducing beam size to the transmittance position, to the center mount and to the diffuse reflectance position. Requires Reflectance Aperture Kit, Part No. L6020314.

LAMBDA Model	Part No.
6XX/8XX/9XX/10XX	L6020211

### Reflectance Only Small Spot Kit

Lens kit for reducing beam size to the reflectance position. Requires Sample Compartment Iris, Part No. L6020316.

LAMBDA Model	Part No.
6XX/8XX/9XX/10XX	L6020313

## 50 mm Integrating Sphere for Lambda 35

Simplifies analysis of a wide variety of samples, including solids, powders, pastes and liquids. For scattered transmittance and diffuse reflectance measurement. Spectralon coated, wavelength range 250 to 1,100 nm.



LAMBDA Model	Part No.
35	C6951014

## Accessories for LAMBDA 35 Integrating Spheres

Description	Part No.
1.25" Calibrated Spectralon Diffuse Reflectance Standard	PELA9057
Powder Sample Holder Set	PELA9040

# PRECISE TRANSMISSION AND REFLECTANCE MEASUREMENTS

## Double Polarizer drive for LAMBDA 650/750/850/950/1050



When samples are oriented and polarize incident light, it is important to correct for the inherent polarizing effect of the spectrometer's optics by using a depolarizer. Another important application is to make measurements using a specific orientation of incident radiation e.g. for crystalline materials and polymers.

### Features and Benefits

- Measurement range (Depolarization): 185 – 2,600 nm
- Measurement range (with Polarizers): 400 – 700 nm (Film), 300 – 2,600 nm (Glan-Thompson), 210 – 1,000 nm (Glan-Taylor)
- Fits into standard sample compartment alongside reflectance accessories and transmittance sample holders
- Suitable for reflectance and transmittance measurements

The high performance Double Polarizer/Depolarizer Drive is installed in the primary sample compartment. The polarization/depolarization orientation can be fully automated, changed by a scan at a fixed wavelength or with a stepping mode. Resolution of 0.25° for scanning. The polarization (depolarization) orientation in the stepping mode can be changed at up to 20 wavelength positions. Applications include specular reflectance studies of optics, coatings, metallic reflectors and thin films. The Double Polarizer Drive can operate with the Universal Reflectance Accessory or manual specular reflectance and transmission accessories.

Description	Part No.
Double Polarizer drive for LAMBDA 650/750/850/950/1050	B0505530

The Double Polarizer Drive requires, but does not include, one or two of the following polarization elements:

### Polarizer/Depolarizer Elements for the Double Polarizer Drive

A range of polarizing materials is available, according to the required wavelength range. For equal energy in the sample and reference beams of the spectrometer, two are required.

Description	Wavelength Range	Part No.
Film Polarizer	400 – 700 nm	B2205022
High Performance Polarizer Crystal	300 – 2,600 nm	B0505284
Glan-Taylor Polarizer Crystal	210 – 1,000 nm	N1010520
Depolarizer Crystal (98% efficiency)	190 – 2,600 nm	B2205021

## Common-beam Depolarizer

Another approach to depolarization involves the use of a software controlled depolarizer inside the spectrometer. Driven by a stepper drive, and controlled by UV WinLab™ software, the Common-beam Depolarizer operates between 190 and 2,600 nm uses a double-wedge quartz/Suprasil design for 92% depolarization efficiency. Service installation is required.

Description	Part No.
Common Beam Depolarizer	B0501282

## Sipper

### Peristaltic Sipper "PESI"

Sampling and purging time selectable from keyboard.

For LAMBDA 25/35/45/10/20/40 no accessory PCB necessary. Requires, but does not include, accessory PCB for LAMBDA Bio 11, 12, and 14, (B0509681/B2190034) or accessory PCB for LAMBDA 18/19 (B0124984/B0116378).

For LAMBDA 6XX/8XX/9XX/10XX, requires, but does not include, Installation Kit for LAMBDA 800/900 (B2500123) and Accessory PC Board for LAMBDA 800/900 (B2205116).

Requires, but does not include, Flowcell of choice with screw connector.

Description	Part No.
Peristaltic Sipper PESI	B2190036



## FIBER OPTICS ACCESSORIES



Transfer-Optic for 1X/2X/3X/4X/Bio Part No. B0509546

### Transfer-Optic for Mono-Fibers

Fiber optic transfer holder for LAMBDA spectrophotometers. Requires pair of Mono-Fibers 2x2 or 2x10 meters and/or optrode. Other optrodes available on request.

LAMBDA Model	Part No.
1X/2X/3X/4X/Bio	<b>B0509546</b>
650/850/950/1050	<b>L6020290</b>
800/900	<b>B2205302</b>

### Pair of Mono-Fibers

2x2 meters each.

Wavelength	Part No.
250 to 900 nm (UV/Vis)	<b>B0196912</b>
400 to 2400 nm (Vis/NIR)	<b>B0509591</b>

### Fiber Optic Dip Probe

The Fiber Optic Dip Probe is a 15 mm, 316 grade stainless steel probe with a wavelength of 200-1100 nm. Requires but does not include: Transfer-Optic for Mono-Fibers, Light Shield (N1016074) and one of the following Probe Tips: Probe Tip, 2 mm pathlength (N1016073); Probe Tip, 5 mm pathlength (N1016072); or Probe Tip, 10 mm pathlength (N1016071).

LAMBDA Model	Part No.
All	<b>N1016070</b>

### Light Shield

For use with Fiber Optic Dip Probe (N1016070).

LAMBDA Model	Part No.
All	<b>N1016074</b>

### Probe Tip

For use with Fiber Optic Dip Probe (N1016070).

Pathlength	Part No.
2 mm	<b>N1016073</b>
5 mm	<b>N1016072</b>
10 mm	<b>N1016071</b>

## GENERAL PURPOSE OPTICAL BENCH KITS FOR THE LAMBDA 6XX/8XX/9XX/10XX

### Sample Holder Mount Kit

Two cantilever sample holders with magnetic bases.

Description	Part No.
Sample Holder Mount Kit	<b>PELA1005</b>

### Variable Angle Transmittance Sample Holder Kit

Holds samples at an accurately measured angle to the incident beam for measurement of transmittance. Samples can be up to 1 cm thick and up to 10 cm square.

Description	Part No.
Variable Angle Transmittance Sample Holder Kit	<b>PELA1006</b>

### Optical Bench Kit

Two magnetized mounted iris diaphragms on two optical rails with mounts.

Description	Part No.
Optical Bench Kit	<b>PELA1008</b>

### Short Focal Length Mirror Kit, Spot Incidence

Kit consists of a short focal length (20 to 30 mm) concave mirror on an adjustable base with magnetic mounts to allow for small spot incidence of curved samples.

Description	Part No.
Short Focal Length Mirror Kit, Spot Incidence	<b>PELA1013</b>

### Beam Blocker Kit

Optical black beam blocker on adjustable base with magnetic mounts.

Description	Part No.
Beam Blocker Kit	<b>PELA1014</b>

### Fiber Optic Measurement Stage and Holder Kit

Includes two fiber optic holders to allow for measurement of small diameter fibers and fixed apertures.

Description	Part No.
Fiber Optic Measurement Stage and Holder Kit	<b>PELA1015</b>