

Tablet and Powder Sampling Accessories

The Tablet and Powder Sampling Accessories can be used with the Spotlight 200, 300, 350 and 400 series imaging systems. Versions are available for both the standard stage and the large stage.

Accessory	Part Number
Tablet Sampling Accessory for standard stage	L1860335
Powder Sampling Accessory for standard stage	L1860336
Tablet Sampling Accessory for large stage	L1860341
Powder Sampling Accessory for large stage	L1860342

The accessories enable you to place an array of tablets or powder samples on the motorized stage. Using the software, you can specify the positions of, and focus of, areas of interest. The imaging system can then collect multiple images from your samples without supervision.

If you are using SpectrumIMAGE software you can use one of the templates included with the software, or you can define and save your own templates to aid set up. For more information refer to *Multiple Images* in the SpectrumIMAGE software Help system.

NOTE: For details of accessories available for use with RamanStation 400/400F Raman Spectrometers, RamanMicro 200/200F Raman Microscopes, and the RamanMicro 300 Raman Microscope Accessory, see *Sampling Accessories for Raman Instruments* (L1321866).



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Produced in the UK.

The Tablet Holder Accessories

The tablet holder accessories consist of a baseplate with a pierced grid that you use to arrange a selection of tablet cups. The tablet holder accessory for the standard stage has a 7 x 11 grid; the tablet holder accessory for the large stage has an 11 x 25 grid.



Figure 1 Tablet Sampling Accessory (Standard Stage)

The accessory comes with tablet cups in three sizes that can be used to hold tablets in nine standard sizes.

For uncoated circular tablets of a standard size, it may be sufficient to place your samples in the tablet cups. Typically, however, you glue each sample tablet to a disposable sample disc, flatten and polish the area of interest, and then place this prepared sample in a suitable tablet cup.

You can also use tablet molds designed for the PerkinElmer Tablet Autosampler in conjunction with the 22 mm tablet holders. Refer to *Pre-Defined and Custom Tablet Molds* on page 13 for more information.

NOTE: There is no need to use tablet cups of the same size, or to arrange them in a particular pattern on the baseplate, but setup is simplified if you place your tablet cups at the grid positions specified in a template file. A template file holds, for a number of grid positions, the position and height of the stage with respect to the target on the baseplate. The SpectrumIMAGE software includes a number of pre-defined templates. You can save modified template files or create your own.

The Powder Holder Accessories

The powder holder accessories consist of a baseplate containing an array of wells. Each well can contain a powder sample cup. The powder holder accessory for the standard stage has a 4 x 6 array; the tablet holder accessory for the large stage has a 6 x 13 array.



Figure 2 Powder Sampling Accessory (Standard Stage)

Filling Sample Cups

A cup loader is supplied with the powder holder accessories that makes loading the powder cups easier:

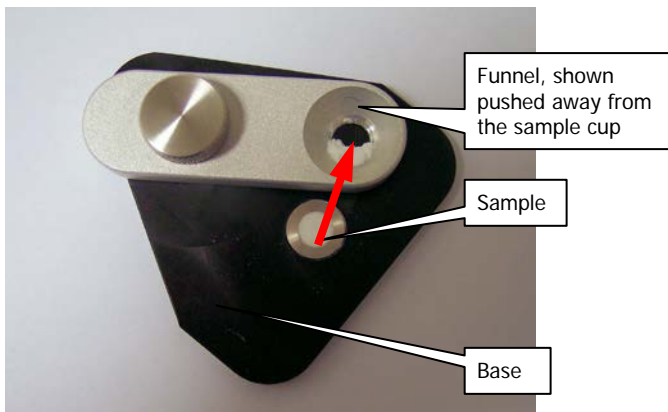


Figure 3 The Sample Cup Loader

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1. Place the hole in the cup loader base over an empty powder cup.
The base of the cup loader is the same thickness as the height of a powder cup. The diameter of the hole is the same as the diameter of the powder cup.
2. Align the cup loader funnel with the powder cup.
3. Use the spatula provided to fill the powder cup, and then gently push the loader funnel away from the sample cup.
The powder surface should be flat and even.
4. Carefully lift the loader off the sample cup.
You can now pick up the sample cup using tweezers.
5. Place the powder cup in a well on the powder accessory baseplate, and note its position.
6. Discard any excess powder from the cup loader.

There is no need to place the powder cups in particular wells on the baseplate, but setup is simplified if you place your powder cups at the array positions specified in a template file.

A template file holds, for a number of array positions, the position and height of the stage relative to the baseplate target. The SpectrumIMAGE software includes a number of pre-defined templates. You can save modified template files or create your own.

NOTE: If you disassemble the sample cup loader for cleaning, ensure that the spring washer under the thumbscrew is not lost or damaged.

Loading the Accessory Baseplate onto the Stage

1. Arrange your samples on the accessory baseplate.
2. Remove any accessories from the stage, and provide adequate clearance by moving the stage down.
3. If necessary, park or remove the lower cassegrain on your Spotlight imaging system.

CAUTION

The maximum sample height that can be accommodated in a tablet cup is 3 mm with the lower cassegrain in place; 5 mm with the cassegrain parked, or 20 mm with the lower cassegrain removed.

To park the lower cassegrain, click **Park** in the Control Window.

NOTE: If you need to remove the lower cassegrain, remove it when it is in the parked position. For information about how to do this, see *Collecting the Spectrum of a Thick Sample* in your Spotlight User's Guide. When you have removed the cassegrain, click **Park** again.

4. Turn the baseplate through 180°, so that the target is to the right. The letters and numbers on the baseplate are now inverted.
5. Lift the baseplate by its handles and place it on the stage.
For the earlier standard stage design (prior to mid-2005), make sure that the stage springs engage by gently sliding the baseplate from the right into the forward left corner of the stage aperture.
6. Gently rock the baseplate. Remove any rocking movement using the leveling screws in its corners.
A 1.5 mm hex key is provided. Only a slight adjustment from flush with the underside of the baseplate should be necessary.
7. Fix the baseplate to the stage using the two thumbscrews.

NOTE: Prior to June 2005, the standard stage design did not have fixing holes for these thumbscrews. Instead, the baseplate is held in place by the springs mentioned in Step 5.

8. Find, and focus on, the baseplate target.
If you are using the SpectrumIMAGE software, continue with step 9.
If you are using the Spectrum software, you are now ready to set up and run your multiple imaging experiments.

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9. In the Stage Control window, select **Origin** from the Options menu.
The Stage Origin dialog is displayed.
10. Click **Zero X,Y,Z** and then click **OK**.
The baseplate target position is now (0, 0, 0). The sample positions and stage heights held in the supplied template files are relative to the baseplate target at this position.
11. You are now ready to set up and run your multiple imaging experiments.
For more information refer to *Multiple Images* in the SpectrumIMAGE software Help system.

The Spectralon Reference Sample

The Tablet and Powder Sampling Accessories are supplied with a Spectralon reference sample. Use this reference sample as a background for diffuse reflectance measurements, such as determinations of tablet composition.

CAUTION

Although Spectralon is very durable, it is an optical standard that should be treated with care. Avoid contaminating its surface with, for example, finger oils.

- Remove light soiling by brushing the Spectralon surface using a jet of clean, dry air or nitrogen.

To decontaminate the Spectralon reference sample:

1. Use 220–240 grit waterproof emery cloth or silicon carbide paper to sand the surface on a flat plate under running water.
2. Rinse using de-ionized water and then air dry.

The Gold Reference Mirror

The Tablet and Powder Sampling Accessories are supplied with a Gold reference mirror. This mirror can be included in the batch of samples for a multiple imaging experiment.

Use this reference sample as a background for specular reflectance measurements from samples that have reflective surfaces, such as a glossy coating.

CAUTION

Although the gold reference mirror will not tarnish in normal circumstances, it is an optical standard that must be treated with care. Avoid contaminating the surface with, for example, finger oils. Do not rub the surface, or attempt to polish it with anything abrasive. Although coated, the surface is fragile and easily scratched.

- Remove light soiling by brushing the gold surface using a jet of clean, dry air or nitrogen.

To decontaminate the gold reference mirror:

1. Rinse the gold surface using 'Analar', or an optical grade, of either ethanol or propan-2-ol (iso-propyl alcohol, IPA).
Evaporation of these high purity solvents leaves no deposits on the surface.
2. Place a single drop of solvent in the center of the gold surface.
3. Before the solvent dries, and being careful not to rub the surface, carefully draw a piece of lint-free lens tissue across the surface until it is dry.

Shipping Lists

Tablet Sampling Accessory for the Standard Stage (L1860335)

Item	Part Number	Quantity
Case, Tablet Sampling Accessory	L1862202	1
Baseplate Assembly, Standard Tablet Sampling Accessory	L1860533	1
Sample Discs, 9 mm	L1860538	pack of 100
Sample Discs, 13 mm	L1860539	pack of 100
Sample Discs, 20 mm	L1860540	pack of 100
Tablet Holder Cups, 11 mm	L1862001	24
Tablet Holder Cups, 15 mm	L1862002	12
Tablet Holder Cups, 22 mm	L1862003	6
Spectralon Reference, Tablet Sampling Accessory	L1861919	1
Gold Reference Mirror, Tablet Sampling Accessory	L1861814	1
Tweezers, Nylon	L9002225	1

***Powder Sampling Accessory for the Standard Stage
(L1860336)***

Item	Part Number	Quantity
Case, Powder Sampling Accessory	L1862203	1
Baseplate Assembly, Standard Powder Sampling Accessory	L1860534	1
Powder Cups	L1862656	pack of 24
Spectralon Reference, Powder Sampling Accessory	L1860547	1
Gold Reference, Powder Sampling Accessory	L1860546	1
Powder Tray	L1241418	1
Loading Tray (for six powder cups)	L1862666	1
Loading Tray Base	L1862667	1
Powder Cup Loader (for one powder cup)	L1860548	1
Micro Spatula, 10 cm	04967843	1
Spatula, 7.5 in	09200017	1
Tweezers, Fine Point, Stainless Steel	L9001976	1
No. 6 Large Pencil Brush	04947633	1

Tablet Sampling Accessory for the Large Stage (L1860341)

Item	Part Number	Quantity
Case, Tablet Sampling Accessory	L1862202	1
Baseplate Assembly, Large Tablet Sampling Accessory	L1860544	1
Sample Discs, 9 mm	L1860538	pack of 100
Sample Discs, 13 mm	L1860539	pack of 100
Sample Discs, 20 mm	L1860540	pack of 100
Tablet Holder Cups, 11 mm	L1862001	78
Tablet Holder Cups, 15 mm	L1862002	36
Tablet Holder Cups, 22 mm	L1862003	18
Spectralon Reference, Tablet Sampling Accessory	L1861919	1
Gold Reference Mirror, Tablet Sampling Accessory	L1861814	1
Tweezers, Nylon	L9002225	1

***Powder Sampling Accessory for the Large Stage
(L1860342)***

Item	Part Number	Quantity
Case, Powder Sampling Accessory	L1862203	1
Baseplate Assembly, Large Powder Sampling Accessory	L1860545	1
Powder Cups	L1862656	78
Spectralon Reference, Powder Sampling Accessory	L1860547	1
Gold Reference, Powder Sampling Accessory	L1860546	1
Powder Tray	L1241418	1
Loading Tray (for six powder cups)	L1862666	1
Loading Tray Base	L1862667	1
Powder Cup Loader (for one powder cup)	L1860548	1
Micro Spatula, 10 cm	04967843	1
Spatula, 7.5 in	09200017	1
Tweezers, Fine Point, Stainless Steel	L9001976	1
No. 6 Large Pencil Brush	04947633	1

Pre-Defined and Custom Tablet Molds

You can use the 22 mm tablet holder cups supplied with the Tablet Sampling Accessories to hold the predefined tablet molds, or custom tablet molds (that can also be used with the PerkinElmer Tablet Autosampler).

Use the predefined tablet molds to securely mount circular tablets.

Pre-Defined Tablet Molds Starter Kit (L1245026)

Item	Part Number	Quantity
Tablet mold, 8 mm	L1241571	3
Tablet mold, 9 mm	L1241572	3
Tablet mold, 10 mm	L1241573	3
Tablet mold, 11 mm	L1241574	3
Tablet mold, 12 mm	L1241575	3

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If your tablets are not circular, you can make secure tablet molds using the Custom Tablet Molding Kit.

Custom Tablet Molding Kit (L1245025)

Item	Part Number	Quantity
Tablet Mold Base	L1241556	10
Tablet Mold, 6 mm	L1241557	5
Tablet Setting Pin, 6 mm	L1241555	5
Tablet Mold, 4 mm	L1241558	5
Tablet Setting Pin, 4 mm	L1241559	5
Custom Tablet Molds Resin Kit	L1245024	1
Syringe, 1 ml, disposable	09200010	10
Syringe, 10 ml, disposable	09200011	10
Beaker, 100 ml, disposable	09200012	10
Syringe needles	09200013	10
Spatula, 7.5 in	09200017	1
No. 6 Large Pencil Brush	04947633	1

NOTE: You can also order tablet molds customized to the dimensions of your tablets. For information about this service, consult your PerkinElmer representative.

Consumables

Part Number	Consumables and Replacement Parts	Quantity
L1860538	Sample Discs, 9 mm	pack of 100
L1860539	Sample Discs, 13 mm	pack of 100
L1860540	Sample Discs, 20 mm	pack of 100
L1860535	Tablet Holder Cups, 11 mm	pack of 50
L1860536	Tablet Holder Cups, 15 mm	pack of 25
L1860537	Tablet Holder Cups, 22 mm	pack of 12
L1241594	Tablet Molds, 8 mm	pack of 5
L1241595	Tablet Molds, 9 mm	pack of 5
L1241596	Tablet Molds, 10 mm	pack of 5
L1241597	Tablet Molds, 11 mm	pack of 5
L1241598	Tablet Molds, 12 mm	pack of 5
L1861919	Spectralon Reference, Tablet Sampling Accessory	1
L1861814	Gold Reference Mirror, Tablet Sampling Accessory	1
L1860541	Powder Cups	pack of 24
L1860547	Spectralon Reference, Powder Sampling Accessory	1
L1860546	Gold Reference, Powder Sampling Accessory	1
L1245024	Custom Tablet Mold Resin Kit	1

