CUVETTE BUYING GUIDE

A comprehensive list of premium quality cuvettes for a wide variety of applications and instruments.

CUVETTES SPECIFICALLY FOR YOUR MAKE & MODEL

- Spectrophotometer cuvettes
- Fluorometer cuvettes
- Cuvette accessories
- Tablet dissolution & flow cells
- Sub-micro volume cuvettes
- Dye laser cells
- Plates & discs
- Microfluidic chips
- Flow channel cells
- Gas cells
- Custom manufacturing
- UV/VIS/NIR spectrophotometer calibration standards
- Fluorescence calibration standards
- Evacuable dies
- Refractometers
- and much more...

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PRECISION QUARTZ GLASS MANUFACTURING

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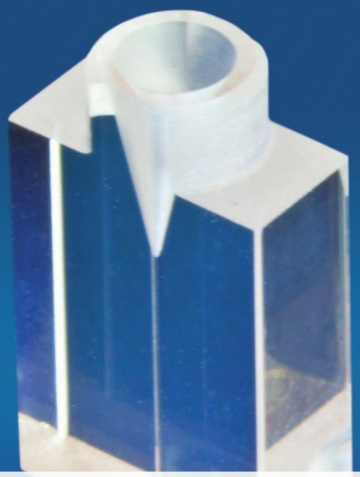


About our cuvettes

Each cuvette is thoroughly inspected through our meticulous quality control system, against the industry's highest standards. Rest assured that each cuvette you order has passed this rigorous examination.

Our staff has been supplying reputable researchers and laboratories with standard and specialized cuvettes for many decades.

When you order from FireflySci, Inc., you are ordering from a well established, highly regarded cuvette company. Our cuvettes are 100% guaranteed to meet your quality standards in all regards: Transmission, assembly, matching – everything.

At FireflySci, Inc., quality is number one.

To our customers

We wish to thank you for your support, which clearly indicates your satisfaction with our products. We hope that this new catalog, with its many new, exciting products, will be of help in your professional work.

All our products are guaranteed and are offered at the lowest possible prices without compromising quality.

As one of the many scientists and professionals who now use our products, you know that FireflySci, Inc., specializes in the design and fabrication of the highest quality fire fused cuvettes available on the market today. Our aim is to provide you, our customers, with exactly the type of product your work requires.

FireflySci's scientists, engineers, designers and shop personnel have many years of experience in designing and fabricating cuvettes.

If the exact cell your work requires is not included in this catalog, please contact us. We will also fabricate non-standard cells to your specific requirements.

Your comments and suggestions are always welcome.

Sincerely yours,
The Staff at FireflySci, Inc.

Information for manufacturers

The FireflySci factory, has since become well known for its high quality silica glass products, ranging from raw materials to high precision final products. FireflySci has been recognized as a leader in the silica industry for its accumulated abilities, established and innovative technology, and superior quality. We have built reputable quality assurance systems to meet the high standards of our customers, and thusly acquired ISO9001 certification, as well as other domestic quality assurance certifications.

Manufacturers throughout analytical and diagnostic industries, demanding a reliable and technically aggressive silica glass company, have turned to FireflySci for their silica glass components.

Technology innovation and superior quality, combined with excellent service, continues to be the foundation of our philosophy.

Our precision and dedication to quality has allowed us to serve large, world class instrument manufacturers with high caliber optical components for decades.

To see what FireflySci, Inc., can do for your company, please call **+1-347-441-4277**

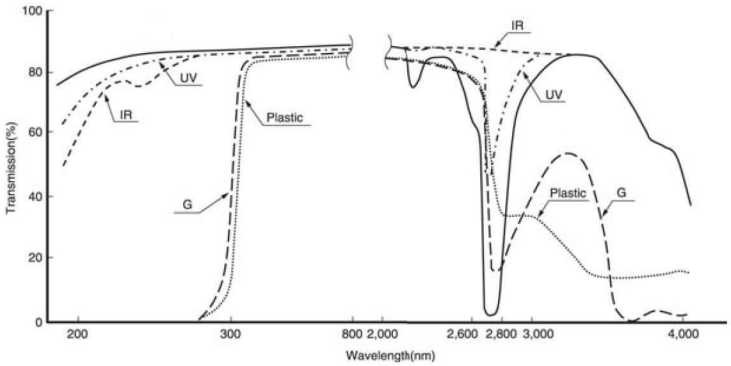
Material Information

All the cuvettes you order are automatically shipped in optically matched sets. If you want to purchase a new cuvette to match an older one, please let us know.

Also regarding our materials, the following information is available:

- Black quartz information
- Purity
- Chemical compatibility
- Thermal properties
- Fluorescence, refractive index, and other optical qualities

Usable Range & Matching Tolerances			
MATERIAL	ABBREVIATION	USABLE RANGE	MATCHING TOLERANCE
Optical Glass	G	340 - 2,500nm	1% at 350nm
UV Quartz	UV	190 - 2,500nm	1% at 220nm
IR Quartz	IR	220 - 3,500nm	1% at 2,730nm
Pyrex Glass		320 - 2,500nm	
Sapphire		250 - 5,000nm	



Light Path, Tolerances, and Other Specifications

Regarding general specifications, please note that each part number has its own tolerances. We can also provide information regarding window flatness, polish, and parallelism. Please contact us for this, as well as additional material data listed above.

Frequently Asked Questions

Q: I have a specific instrument, and I need to make sure the cuvettes in this catalog are compatible…

A: The cuvettes in this catalog are guaranteed to work in a myriad of different instruments. Call or email to request a conversion chart between the part numbers of your instruments' cuvettes and our cuvettes.

Q: Is AR coating available?

A. Yes. Please contact us and provide the following information:

1. What P/N do you need coated?
   If it is a custom item, please see page 7.
2. What wavelength are you working in?
3. What is your target percentage of transmission?
   For example, "98% at 350nm."
4. What quantity of the above P/N do you need coated?

Q: Do you manufacture cells for Circular Dichroism (CD)?

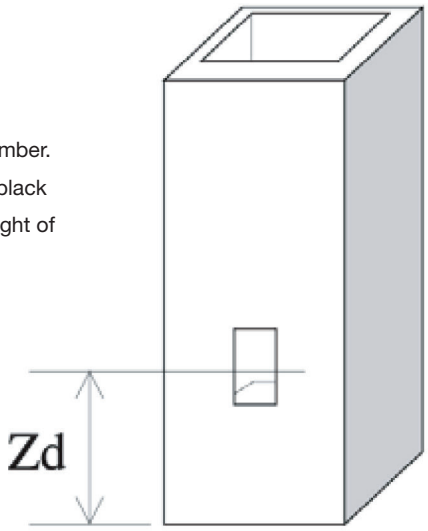
A: Yes. Please contact us, and let us know if you need a rectangular or circular cuvettes for your application. We will recommend certain parts to you, and provide more information regarding our cuvettes for CD applications.

Q: What is the Z-dimension (Zd) or Center Height?

A: The Z-dimension is the height from the bottom of the cuvette to the center of its sample chamber. In cases where the cuvette's polished window is very small (where usually the entire cuvette is black aside from the aperture window), the Z-dimension of the cuvette should be the same as the height of the instrument's light beam.

The Z-dimension is usually 8.5 or 15mm, depending on your instrument's manufacturer.

Only certain cuvettes depend on the correct Z-dimension to be used.
These cuvettes have Z-dimension (Zd) information provided in their data table.



Cleaning and Handling

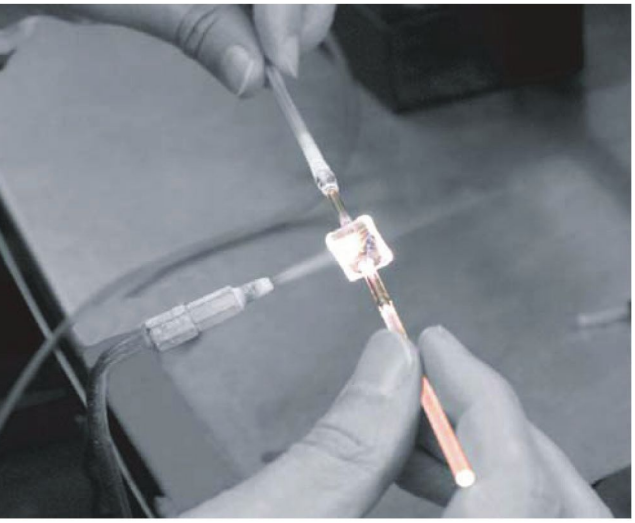
Cuvettes must be scrupulously clean. Optical surfaces should not be touched as oil smudges are difficult to remove. Purity of solvents used for sample and cleaning is important. Only distilled water or spectrophotometric grade solvents should be used to avoid contamination from impure solvents. As soon as possible after use, cuvettes should be rinsed and soaked in distilled water.

For cleaning, use a mild detergent solution containing no lanolin, oils, or insoluble matter. To remove stubborn contaminants, cuvettes can be soaked for a few minutes in mild sulfuric acid. Never allow cuvettes to soak in hot concentrated acids, alkalis, or other agents which may etch the polished optical surfaces. After cleaning with detergent and/or acid, cuvettes should be thoroughly rinsed with distilled water. Avoid blowing the cuvette with air to dry them. It is better to speed evaporation by means of suction.

Please see page 33 for cuvette cleaners.

Please contact us if you need any further cleaning information.

P65D
cuvette washer
page 50

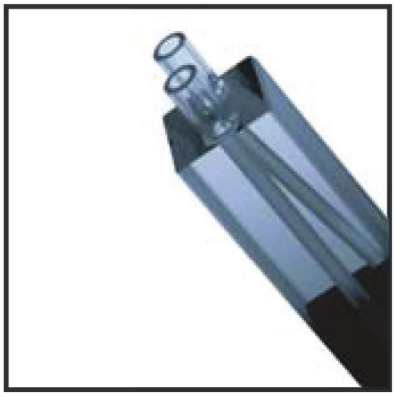


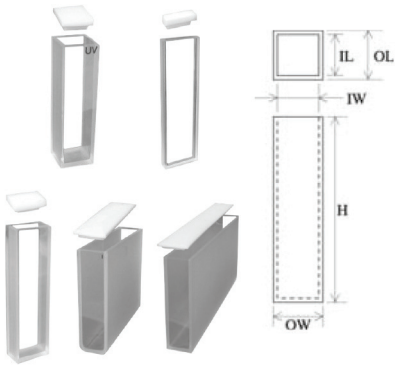
Custom Designs

In order to manufacture your custom quartz glass part, we need the following information:

1. Material (Glass, or other (please specify))
2. All relevant dimensions and dimension tolerances.
   If you do not provide tolerances, our standard tolerances will be used.*
3. All critical tolerances and critical areas.*
4. Which surfaces to be polished.
5. Please fax or email a sketch. A rough drawing is also fine.
6. Application information.
7. Quantities you need a quotation for.
8. Deadline for quotation and/or manufacturing, if applicable.

*We cannot be responsible for any dimensions not explicitly provided by the customer.





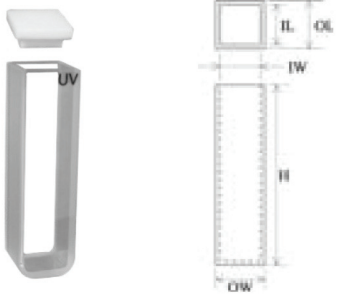
TYPE 1

Standard cuvette with PTFE cover

- Two windows polished

Polished = Optical polishing
L/P = Light Path

Outer Dimensions (mm)				Inside Dimensions (mm)			Material & Part Numbers		
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	G	UV	IR
0.5	3.0	12.5	45.5	0.5	10.0	0.220	-	1UV0.5	1IR0.5
1	3.5	12.5	45.5	1.0	10.0	0.400	1G1	1UV1	1IR1
2	4.5	12.5	45.5	2.0	10.0	0.700	1G2	1UV2	1IR2
5	7.5	12.5	45.5	5.0	10.0	1.700	1G5	1UV5	1IR5
10	12.5	12.5	45.5	10.0	10.0	3.500	1G10	1UV10	1IR10
20	22.5	12.5	45.5	20.0	10.0	7.000	1G20	1UV20	1IR20
30	32.5	12.5	45.5	30.0	10.0	10.500	1G30	1UV30	1IR30
40	42.5	12.5	45.5	40.0	10.0	14.000	1G40	1UV40	1IR40
50	52.5	12.5	45.5	50.0	10.0	17.500	1G50	1UV50	1IR50
100	102.5	12.5	45.5	100.0	10.0	35.000	1G100	1UV100	1IR100

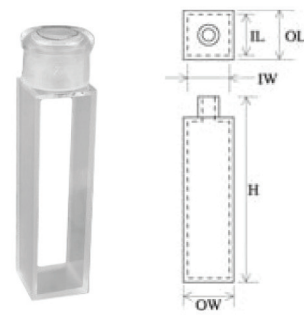


TYPE 5

Standard cuvette with PTFE cover, rounded corners

- Two windows polished

Outer Dimensions (mm)				Inside Dimensions (mm)			Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	G	UV
10	12.5	12.5	45.0	10.0	10.0	3.500	5G10	5UV10



TYPE 11

Standard cuvette with quartz cap

- Two windows polished

Outer Dimensions (mm)				Inside Dimensions (mm)			Material & Part Numbers		
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	G	UV	IR
5	7.5	12.5	55.5	5.0	10.0	1.700	11G5	11UV5	11IR5
10	12.5	12.5	55.5	10.0	10.0	3.500	11G10	11UV10	11IR10
40	42.5	12.5	55.5	40.0	10.0	14.000	11G40	11UV40	11IR40
50	52.5	12.5	55.5	50.0	10.0	17.500	11G50	11UV50	11IR50

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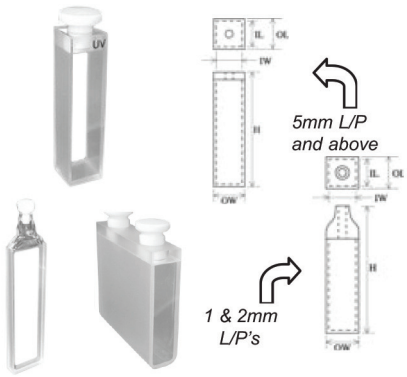


TYPE 21

Standard cuvette with PTFE stopper

- Two windows polished

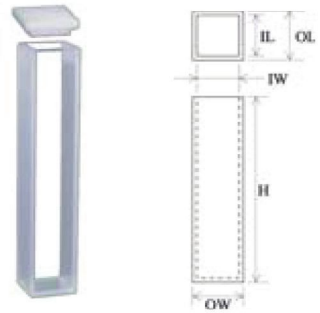
	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers		
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	G	UV	IR
0.5	3.0	12.5	55.5	0.5	10.0	0.220	21G1	21UV1	21IR1
1	3.5	12.5	55.5	1.0	10.0	0.400	21G1	21UV1	21IR1
2	4.5	12.5	55.5	2.0	10.0	0.700	21G2	21UV2	21IR2
5	7.5	12.5	55.5	5.0	10.0	1.700	21G5	21UV5	21IR5
10	12.5	12.5	55.5	10.0	10.0	3.500	21G10	21UV10	21IR10
20	22.5	12.5	55.5	20.0	10.0	7.000	21G20	21UV20	21IR20
30	32.5	12.5	55.5	30.0	10.0	10.500	21G30	21UV30	21IR30
40	42.5	12.5	55.5	40.0	10.0	14.000	21G40	21UV40	21IR40
50	52.5	12.5	55.5	50.0	10.0	17.500	21G50	21UV50	21IR50
100	102.5	12.5	55.5	50.0	10.0	35.500	21G50	21UV50	21IR50

TYPE 31

Standard cuvette with quartz stopper

- Two windows polished

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	UV	IR
10	12.5	12.5	52.0	10.0	10.0	3.500	31UV10	31IR10

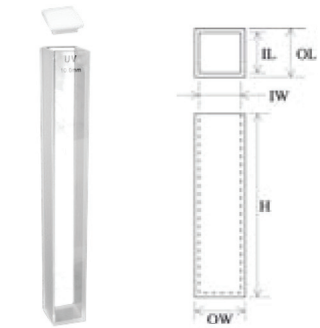


TYPE 508

Tall cuvette with PTFE cover

- Two windows polished

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	G	UV
10	12.5	12.5	65.0	10.0	10.0	5.500	508G10	508UV10



TYPE 509

Tall cuvette with PTFE cover

- Two windows polished

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	G	UV
10	12.5	12.5	100	10.0	10.0	10	509G10	509UV10

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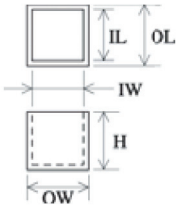


TYPE 523

Rectangular absorption cuvette

- Two windows polished

Outer Dimensions (mm)				Inside Dimensions (mm)			Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	G
10	13.5	35.0	35.0	10.0	31.5	8.800	523G10

See also Type-37 for a cylindrical cuvette with quartz to glass graded seal tube, page 18.

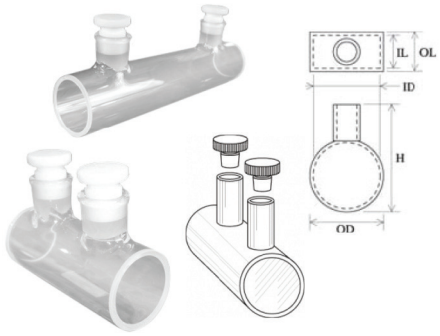
TYPE 32

Cylindrical cuvette with PTFE stopper

- Two windows polished

Outer Dimensions (mm)				Inside Dimensions (mm)			Material & Part Numbers		
L/P (mm)	LENGTH	DIAMETER	HEIGHT	LENGTH	DIAMETER	CAPACITY (ml)	G	UV	IR
1	3.5	22.0	30.0	1.0	19.0	0.280	32G1	32UV1	32IR1
2	4.5	22.0	30.0	2.0	19.0	0.560	32G2	32UV2	32IR2
5	7.5	22.0	30.0	5.0	19.0	1.400	32G5	32UV5	32IR5
10	12.5	22.0	30.0	10.0	19.0	2.800	32G10	32UV10	32IR10
20	22.5	22.0	30.0	20.0	19.0	5.600	32G20	32UV20	32IR20

TYPE 34

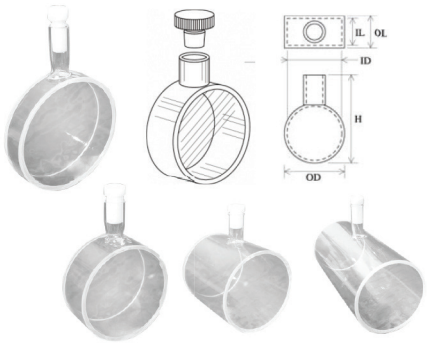


Cylindrical cuvette with 2 PTFE stoppers

- Two windows polished

Outer Dimensions (mm)				Inside Dimensions (mm)			Material & Part Numbers		
L/P (mm)	LENGTH	DIAMETER	HEIGHT	LENGTH	DIAMETER	CAPACITY (ml)	G	UV	IR
50	52.5	22.0	35.5	50.0	19.0	14.000	34G50	34UV50	34IR50
100	102.5	22.0	35.5	100.0	19.0	28.000	34G100	34UV100	34IR100
200	202.5	22.0	35.5	200.0	19.0	56.000	34G200	34UV200	34IR200

TYPE 35



Large diameter cylindrical cuvette with PTFE stopper

- Two windows polished

Outer Dimensions (mm)				Inside Dimensions (mm)			Material & Part Numbers		
L/P (mm)	LENGTH	DIAMETER	HEIGHT	LENGTH	DIAMETER	CAPACITY (ml)	G	UV	IR
10	12.5	50.0	58.0	10.0	47.0	17.000	35G10	35UV10	35IR10
20	22.5	50.0	58.0	20.0	47.0	34.000	35G20	35UV20	35IR20
50	52.5	50.0	58.0	50.0	47.0	85.000	35G50	35UV50	35IR50
100	102.5	50.0	58.0	100.0	47.0	170.000	35G100	35UV100	35IR100

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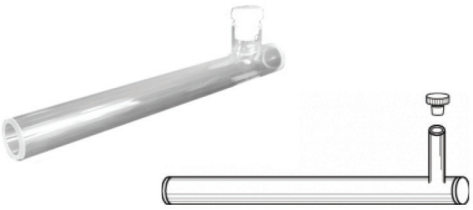
TYPE 36

Short path length cylindrical cuvette with PTFE stopper

- Two windows polished

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers	
L/P (mm)	LENGTH	DIAMETER	HEIGHT	LENGTH	DIAMETER	CAPACITY (ml)	UV	IR
0.05	23.0	22.0	32.0	0.05	13.0	2.150	36UV0.05	36IR0.05
0.1	23.0	22.0	32.0	0.10	13.0	2.150	36UV0.1	36IR0.1
0.2	23.0	22.0	32.0	0.20	13.0	2.180	36UV0.2	36IR0.2
0.5	23.0	22.0	32.0	0.50	13.0	2.220	36UV0.5	36IR0.5
1	23.0	22.0	32.0	1.00	13.0	2.310	36UV1	36IR1
2	23.0	22.0	32.0	2.00	13.0	2.490	36UV2	36IR2
5	23.0	22.0	32.0	5.00	13.0	3.020	36UV5	36IR5

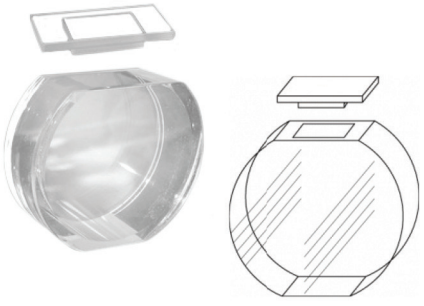


TYPE 521

Long cylindrical cuvette with PTFE stopper

- Two windows polished

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers	
L/P (mm)	LENGTH	DIAMETER	HEIGHT	LENGTH	DIAMETER	CAPACITY (ml)	G	UV
100	102.5	10.0	20.0	100.00	8.0	5.000	521G100	521UV100



TYPE 522

Cylindrical absorption cuvette with quartz cover

- Two windows polished

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers	
L/P (mm)	LENGTH	DIAMETER	HEIGHT	LENGTH	DIAMETER	CAPACITY (ml)	UV	IR
10	12.5	35.0	31.5	10.00	31.0	7.000	522UV10	522IR10

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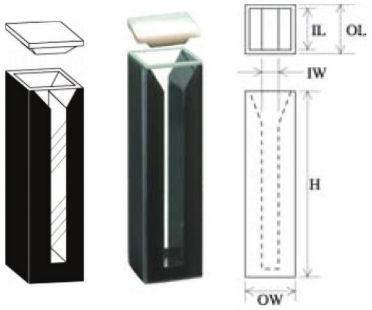
TYPE 9

Semi-Micro Cuvette with PTFE cover

- Two windows polished
- Base thickness is 3mm

Outer Dimensions (mm)				Inside Dimensions (mm)			Material & Part Numbers		
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	G	UV	IR
5	7.5	12.5	45.0	5.0	4.0	0.700	9G5	9UV5	9IR5
10	12.5	12.5	45.0	10.0	4.0	1.400	9G10	9UV10	9IR10
20	22.5	12.5	45.0	20.0	4.0	2.800	9G20	9UV20	9IR20
30	32.5	12.5	45.0	30.0	4.0	4.200	9G30	9UV30	9IR30
40	42.5	12.5	45.0	40.0	4.0	5.600	9G40	9UV40	9IR40
50	52.5	12.5	45.0	50.0	4.0	7.000	9G50	9UV50	9IR50
100	102.5	12.5	45.0	100.0	4.0	14.000	9G100	9UV100	9IR100

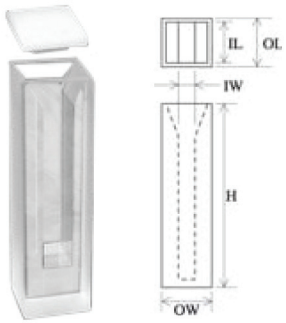


TYPE 9M

Self masking semi-micro cuvette with PTFE cover

- Two windows polished
- Base thickness is 3mm

Outer Dimensions (mm)				Inside Dimensions (mm)			Material & Part Numbers		
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	G	UV	IR
5	7.5	12.5	45.0	5.0	4.0	0.700	9MG5	9MUV5	9MIR5
10	12.5	12.5	45.0	10.0	4.0	1.400	9MG10	9MUV10	9MIR10
20	22.5	12.5	45.0	20.0	4.0	2.800	9MG20	9MUV20	9MIR20
40	42.5	12.5	45.0	40.0	4.0	5.600	9MG40	9MUV40	9MIR40
50	52.5	12.5	45.0	50.0	4.0	7.000	9MG50	9MUV50	9MIR50
100	102.5	12.5	45.0	100.0	4.0	14.000	9MG100	9MUV100	9MIR100

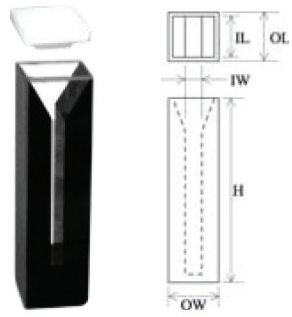


TYPE 9B

Variable capacity micro/semi-micro cuvette with PTFE cover

- Two windows polished
- Capacity changes based on inside width
- Base thickness is 9mm
- No black masking

Outer Dimensions (mm)				Inside Dimensions (mm)			Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	UV	IR
10	12.5	12.5	45.0	10.0	1.0	0.4	9BUV10X1	9BIR10X1
10	12.5	12.5	45.0	10.0	3.0	1.1	9BUV10X3	9BIR10X3
10	12.5	12.5	45.0	10.0	5.0	1.8	9BUV10X5	9BIR10X5



TYPE 9BM

Variable capacity self masking micro/semi-micro cuvette with PTFE cover

- Two windows polished
- Capacity changes based on inside width
- Base thickness is 9mm

Outer Dimensions (mm)				Inside Dimensions (mm)			Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	UV	IR
10	12.5	12.5	45.0	10.0	1.0	0.4	9BMUV10X1	9BMIR10X1
10	12.5	12.5	45.0	10.0	3.0	1.1	9BMUV10X3	9BMIR10X3
10	12.5	12.5	45.0	10.0	5.0	1.8	9BMUV10X5	9BMIR10X5

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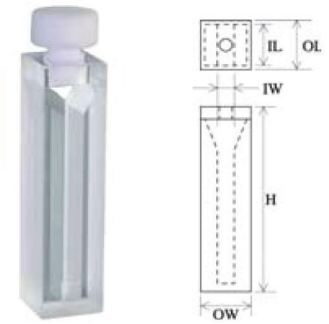
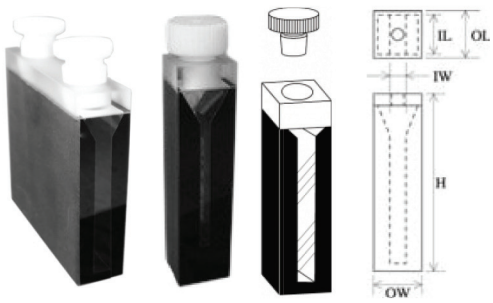


TYPE 29

Semi-micro cuvette with PTFE stopper

- Two windows polished
- Base thickness is 3mm

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers		
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	G	UV	IR
5	7.5	12.5	49.0	5.0	4.0	0.700	29G5	29UV5	29IR5
10	12.5	12.5	49.0	10.0	4.0	1.400	29G10	29UV10	29IR10
20	22.5	12.5	49.0	20.0	4.0	2.800	29G20	29UV20	29IR20
30	32.5	12.5	49.0	30.0	4.0	4.200	29G30	29UV30	29IR30
40	42.5	12.5	49.0	40.0	4.0	5.600	29G40	29UV40	29IR40
50	52.5	12.5	49.0	50.0	4.0	7.000	29G50	29UV50	29IR50

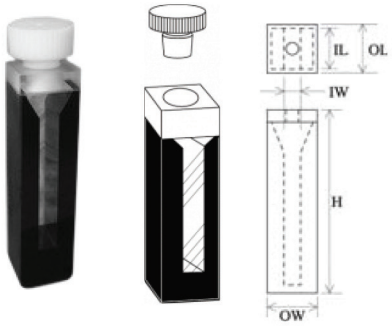


TYPE 29M

Self masking semi-micro cuvette with PTFE stopper

- Two windows polished
- Base thickness is 3mm

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers		
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	G	UV	IR
5	7.5	12.5	49.0	5.0	4.0	0.700	29MG5	29MUV5	29MIR5
10	12.5	12.5	49.0	10.0	4.0	1.400	29MG10	29MUV10	29MIR10
20	22.5	12.5	49.0	20.0	4.0	2.800	29MG20	29MUV20	29MIR20
40	42.5	12.5	49.0	40.0	4.0	5.600	29MG40	29MUV40	29MIR40
50	52.5	12.5	49.0	50.0	4.0	7.000	29MG50	29MUV50	29MIR50



TYPE 29BM

Semi-Micro Cuvette with PTFE cover

- Two windows polished
- Base thickness is 9mm

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	UV	IR
5	7.5	12.5	49.0	5.0	4.0	0.600	29BMUV5	29BMIR5
10	12.5	12.5	49.0	10.0	4.0	1.200	29BMUV10	29BMIR10
20	22.5	12.5	49.0	20.0	4.0	2.400	29BMUV20	29BMIR20
30	32.5	12.5	49.0	30.0	4.0	3.600	29BMUV30	29BMIR30
40	42.5	12.5	49.0	40.0	4.0	4.800	29BMUV40	29BMIR40

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TYPE 8

Multi-Micro Cell Array

- 8-chambered multi-micro array of cells for doing multiple measurements.
- Typically used in Shimadzu machines.

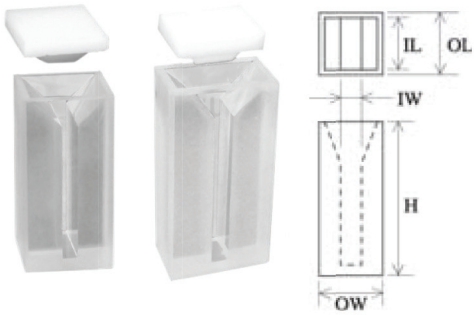
	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	UV
10mm	12.5mm	74.5mm	9.0mm	10.0	10.0	0.120	8UV10

TYPE 16

Multi-Micro Cell Array

- 16-chambered multi-micro array of cells for doing multiple measurements.

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	UV
5	12.5	74.5	9.0	5.0	2.0	0.50	16UV5
10	12.5	74.5	9.0	10.0	2.0	0.100	16UV10

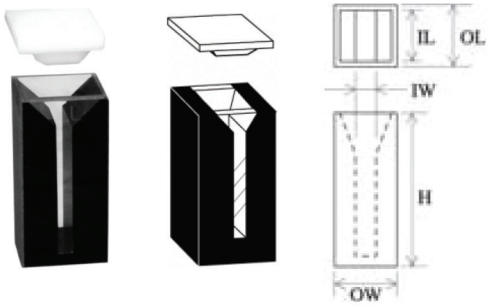


TYPE 17

Short micro cuvette with PTFE cover

- Two windows polished
- Base thickness is 3mm
- Height is 25mm

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers		
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	G	UV	IR
5	7.5	12.5	25.0	5.0	2.0	0.200	17G5	17UV5	17IR5
10	12.5	12.5	25.0	10.0	2.0	0.400	17G10	17UV10	17IR10
20	22.5	12.5	25.0	20.0	2.0	0.800	17G20	17UV20	17IR20
30	32.5	12.5	25.0	30.0	2.0	1.200	17G30	17UV30	17IR30
40	42.5	12.5	25.0	40.0	2.0	1.600	17G40	17UV40	17IR40
50	52.5	12.5	25.0	50.0	2.0	2.000	17G50	17UV50	17IR50



TYPE 17M

Self masking short micro cuvette with PTFE cover

- Two windows polished
- Base thickness is 3mm
- Height is 25mm

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers		
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	G	UV	IR
5	7.5	12.5	25.0	5.0	2.0	0.200	17MG5	17MUV5	17MIR5
10	12.5	12.5	25.0	10.0	2.0	0.400	17MG10	17MUV10	17MIR10
20	22.5	12.5	25.0	20.0	2.0	0.800	17MG20	17MUV20	17MIR20
30	32.5	12.5	25.0	30.0	2.0	1.200	17MG30	17MUV30	17MIR30
40	42.5	12.5	25.0	40.0	2.0	1.600	17MG40	17MUV40	17MIR40
50	52.5	12.5	25.0	50.0	2.0	2.000	17MG50	17MUV50	17MIR50

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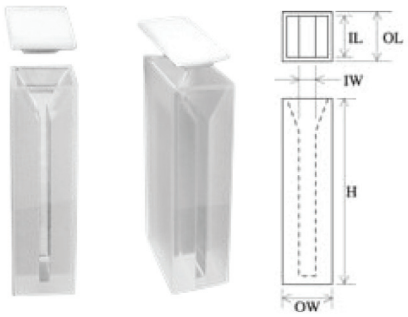
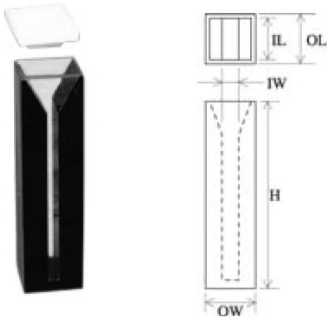


TYPE 18

Micro cuvette with PTFE cover

- Two windows polished
- Base thickness is 3mm

Outer Dimensions (mm)				Inside Dimensions (mm)			Material & Part Numbers		
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	G	UV	IR
5	7.5	12.5	45.0	5.0	2.0	0.350	18G5	18UV5	18IR5
10	12.5	12.5	45.0	10.0	2.0	0.700	18G10	18UV10	18IR10
20	22.5	12.5	45.0	20.0	2.0	1.400	18G20	18UV20	18IR20
30	32.5	12.5	45.0	30.0	2.0	2.100	18G30	18UV30	18IR30
40	42.5	12.5	45.0	40.0	2.0	2.800	18G40	18UV40	18IR40
50	52.5	12.5	45.0	50.0	2.0	3.500	18G50	18UV50	18IR50
100	102.5	12.5	45.0	100.0	2.0	7.000	18G100	18UV100	18IR100

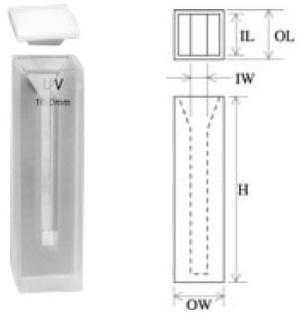


TYPE 18M

Self masking micro-cuvette with PTFE cover

- Two windows polished
- Base thickness is 3mm

Outer Dimensions (mm)				Inside Dimensions (mm)			Material & Part Numbers		
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	G	UV	IR
5	7.5	12.5	45.0	5.0	2.0	0.350	18MG5	18MUV5	18MIR5
10	12.5	12.5	45.0	10.0	2.0	0.700	18MG10	18MUV10	18MIR10
20	22.5	12.5	45.0	20.0	2.0	1.400	18MG20	18MUV20	18MIR20
40	42.5	12.5	45.0	40.0	2.0	2.800	18MG40	18MUV40	18MIR40
50	52.5	12.5	45.0	50.0	2.0	3.500	18MG50	18MUV50	18MIR50

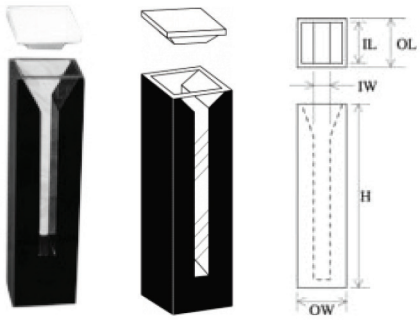


TYPE 18B

Bottom raised micro cuvette with PTFE cover

- Two windows polished
- Base thickness is 9mm
- No black masking

Outer Dimensions (mm)				Inside Dimensions (mm)			Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	UV	IR
5	7.5	12.5	45.0	5.0	2.0	0.280	18BUV5	18BIR5
10	12.5	12.5	45.0	10.0	2.0	0.560	18BUV10	18BIR10
20	22.5	12.5	45.0	20.0	2.0	1.120	18BUV20	18BIR20
40	42.5	12.5	45.0	40.0	2.0	2.240	18BUV40	18BIR40
50	52.5	12.5	45.0	50.0	2.0	2.800	18BUV50	18BIR50



TYPE 18BM

Bottom raised self masking micro cuvette with PTFE cover

- Two windows polished
- Base thickness is 9mm

Outer Dimensions (mm)				Inside Dimensions (mm)			Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	UV	IR
5	7.5	12.5	45.0	5.0	2.0	0.280	18BMUV5	18BMIR5
10	12.5	12.5	45.0	10.0	2.0	0.560	18BMUV10	18BMIR10
20	22.5	12.5	45.0	20.0	2.0	1.120	18BMUV20	18BMIR20

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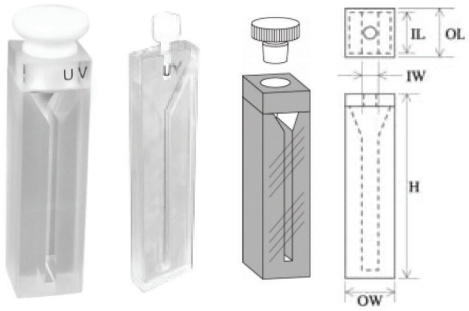
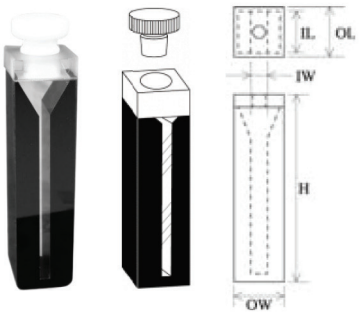


TYPE 30

Micro cuvette with PTFE stopper

- Two windows polished
- Base thickness is 3mm

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers		
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	G	UV	IR
1	3.5	12.5	49.0	1.0	2.0	0.070	30G1	30UV1	30IR1
2	4.5	12.5	49.0	2.0	2.0	0.140	30G2	30UV2	30IR2
5	7.5	12.5	49.0	5.0	2.0	0.350	30G5	30UV5	30IR5
10	12.5	12.5	49.0	10.0	2.0	0.700	30G10	30UV10	30IR10
30	32.5	12.5	49.0	30.0	2.0	2.100	30G30	30UV30	30IR30
40	42.5	12.5	49.0	40.0	2.0	2.800	30G40	30UV40	30IR40
50	52.5	12.5	49.0	50.0	2.0	3.500	30G50	30UV50	30IR50

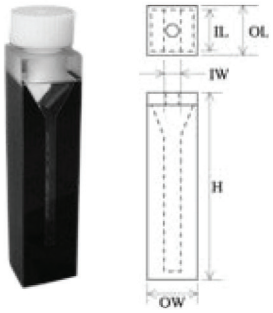


TYPE 30M

Self masking micro cuvette with PTFE stopper

- Two windows polished
- Base thickness is 3mm

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers		
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	G	UV	IR
5	7.5	12.5	49.0	5.0	2.0	0.350	30MG5	30MUV5	30MIR5
10	12.5	12.5	49.0	10.0	2.0	0.700	30MG10	30MUV10	30MIR10
20	22.5	12.5	49.0	20.0	2.0	1.400	30MG20	30MUV20	30MIR20
40	42.5	12.5	49.0	40.0	2.0	2.800	30MG40	30MUV40	30MIR40



TYPE 30BM

Bottom raised self masking micro cuvette with PTFE stopper

- Two windows polished
- Base thickness is 9mm

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	UV	IR
5	7.5	12.5	49.0	5.0	2.0	0.300	30BMUV5	30BMIR5
10	12.5	12.5	49.0	10.0	2.0	0.600	30BMUV10	30BMIR10
20	22.5	12.5	49.0	20.0	2.0	1.200	30BMUV20	30BMIR20

TYPE 520M

Short self masking micro cuvette with PTFE stopper

- Two windows polished
- Base thickness is 3mm

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	UV	IR
5	7.5	12.5	29.0	5.0	2.0	0.200	520MUV5	520MIR5
10	12.5	12.5	29.0	10.0	2.0	0.400	520MUV10	520MIR10
20	22.5	12.5	29.0	20.0	2.0	0.800	520MUV20	520MIR20

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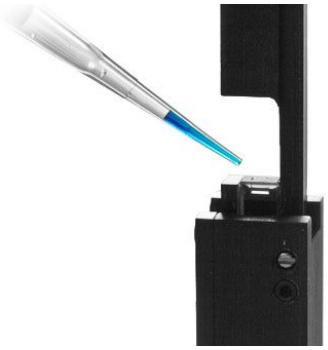
TYPE 701M

Sub-micro self masking cuvette with PTFE threaded stopper

- Two windows polished

Outer Dimensions (mm)				Chamber Dimensions (mm)					Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	ZD (mm)	CAPACITY (µl)	UV
10	12.5	12.5	45.0	10	1.0	1.0	8.5	10	701MUV10.10A
10	12.5	12.5	45.0	10	1.0	1.0	15.0	10	701MUV10.10B
10	12.5	12.5	45.0	10	2.0	2.5	20.0	10	701MUV10.10C
10	12.5	12.5	45.0	10	2.0	2.5	8.5	50	701MUV10.50A
10	12.5	12.5	45.0	10	2.0	5.0	15.0	50	701MUV10.50B
10	12.5	12.5	45.0	10	2.0	5.0	20.0	50	701MUV10.50C
10	12.5	12.5	45.0	10	2.0	8.0	8.5	100	701MUV10.100A
10	12.5	12.5	45.0	10	2.0	8.0	15.0	100	701MUV10.100B
10	12.5	12.5	45.0	10	2.0	8.0	20.0	100	701MUV10.100C
10	12.5	12.5	45.0	10	2.0	8.0	8.5	160	701MUV10.160A
10	12.5	12.5	45.0	10	2.0	8.0	15.0	160	701MUV10.160B
10	12.5	12.5	45.0	10	2.0	8.0	20.0	160	701MUV10.160C



Micro Focus Cell

Ultra-micro low volume cell with a 1.9µl capacity

Outer Dimensions (mm)				Chamber Dimensions (mm)			Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	ZD (mm)	CAPACITY (µl)	UV
1	12.5	12.5	45.0	1.0	8.5- 20.0	1.9	MFC-1

INCLUDED IN THE KIT IS THE FOLLOWING:

- A 12.5x12.5mm micro focus adapter that fits into any spectrophotometer.
- A UV Quartz micro tray to inject a sample in.
- Spacers to adjust the micro focus adapter to the proper Z-Dimension in your spectrophotometer.
- Cleaning swabs.
- Instructions.

HERE IS A BASIC GUIDE TO USING THE MICRO FOCUS CELL CONVERSION KIT:

1. To use the conversion kit all you have to do is check the Z-dimension of your machine.
The Z-Dimension of the Micro Focus adapter is 8.5 mm so if you have a machine with an 8.5 or 20mm z-dimension you'll need to use the appropriate spacer.
2. Next insert the Micro Focus Adapter into the spectrophotometer. Pull out the UV Quartz micro chamber.
The micro chamber is a 1 mm lightpath cuvette that holds a sample of 1.9µl.
3. Inject your sample into the quartz chamber and insert this into the Micro Focus Adapter.
4. Run your experiment.
5. Celebrate how easy that was to do and how much money you saved.

APPLICATIONS FOR THE MICRO FOCUS CELL:

- DNA Measurement
- RNA Measurement
- DNA Quantification
- Nucleic Acid Analysis
- Protein Concentration
- All small volume applications (0.3-1.9µl)

- Only the Micro Focus Cell can offer these guarantees:
- Quick: Load and empty your sample into the cell without even removing it from the machine.
This equals consistent alignment through multiple tests.
- Guaranteed to work in your spectrophotometer (any Z dimension/center height is compatible) Leak proof design.

Our job is design and manufacture the most innovative and quality cuvettes. Your job is to use them and change the world: 0.1µl at a time. Let us know how else we can help.

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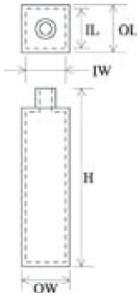
TYPE 34S

Large Cylindrical Polarimeter Cell with Screw Caps

- Includes 2 SC2 open screw caps and two SC1 closed screw caps

Outer Dimensions (mm)				Inside Dimensions (mm)			Material & Part Numbers
L/P (mm)	LENGTH	HEIGHT	DIAMETER	DIAMETER	LENGTH	CAPACITY (ml)	UV
50	52.5	35.5	22.0	19.0	50.0	14.000	34SUV50
100	102.5	35.5	22.0	19.0	100.0	28.000	34SUV100



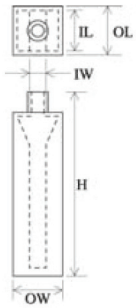
TYPE 41

Standard cuvette with screw cap

- Two windows polished
- Height includes threading, but not screw cap
- Cuvette comes with both open and closed screw caps
- Each cap contains a PTFE septa seal
- Suitable for anaerobic work

Outer Dimensions (mm)				Inside Dimensions (mm)			Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	G	UV
1	3.5	12.5	55.0	1.0	10.0	0.400	-	41UV1
2	4.5	12.5	55.0	2.0	10.0	0.700	-	41UV2
5	7.5	12.5	55.0	5.0	10.0	1.700	41G5	41UV5
10	12.5	12.5	55.0	10.0	10.0	3.500	41G10	41UV10
50	52.5	12.5	55.0	50.0	10.0	17.500	41G50	41UV50
100	102.5	12.5	55.0	100.0	10.0	35.000	41G100	41UV100

SCREW CAP OD: 16mm
SEPTA: Diameter: 11mm
Thickness: 3.5mm
THREADING ID: 8mm
THREADING OD: 12mm



TYPE 46

Variable capacity micro/semi-micro cuvette with screw cap

- Two windows polished
- Height includes threading, but not screw cap
- Cuvette comes with both open and closed screw caps
- Each cap contains a PTFE septa seal
- Suitable for anaerobic work
- Base thickness is 3mm

Outer Dimensions (mm)				Inside Dimensions (mm)			Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	UV
10	12.5	12.5	55.0	10.0	1.0	0.350	46UV10X1
10	12.5	12.5	55.0	10.0	2.0	0.700	46UV10X2
10	12.5	12.5	55.0	10.0	3.0	1.050	46UV10X3
10	12.5	12.5	55.0	10.0	4.0	1.400	46UV10X4
10	12.5	12.5	55.0	10.0	5.0	1.750	46UV10X5

SCREW CAP OD: 16mm
SEPTA: Diameter: 11mm
Thickness: 3.5mm
THREADING ID: 8mm
THREADING OD: 12mm

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TYPE 44

Flow cell with detachable inlet/outlet tubes, 1.6ml

- Two windows polished
- Height is without tubes
- Inlet/outlet tubes: OD4 x ID2mm
- Tubes are made of quartz

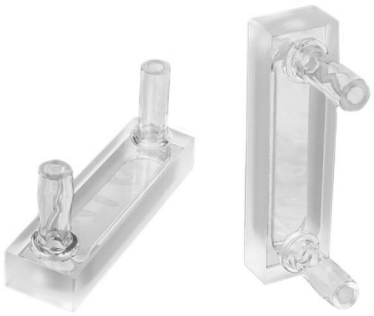
	Outer Dimensions (mm)			Chamber Dimensions (mm)				Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	CAPACITY (ml)	UV	IR
10	12.5	12.5	50.0	10.0	4.0	40.0	1.600	44UV10	44IR10

TYPE 45

Flow cell with detachable inlet/outlet tubes, 2.8ml

- Two windows polished
- Height is without tubes
- Inlet/outlet tubes: OD4 x ID2mm
- Tubes are made of quartz

	Outer Dimensions (mm)			Chamber Dimensions (mm)				Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	CAPACITY (ml)	UV	IR
10	12.5	12.5	50.0	10.0	7.0	40.0	2.800	45UV10	45IR10



TYPE 48

Flow-through cuvette with side tubes

- Two windows polished
- Length is without tubes
- Inlet/outlet tubes: OD5 x ID3 x L15mm
- Tubes are made of quartz

	Outer Dimensions (mm)			Chamber Dimensions (mm)				Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	CAPACITY (ml)	UV	IR
0.05	2.6	12.5	45.0	0.05	9.0	38.0	0.015	48UV0.05	48IR0.05
0.1	2.6	12.5	45.0	0.1	9.0	38.0	0.030	48UV0.1	48IR0.1
0.5	3.0	12.5	45.0	0.5	9.0	38.0	0.150	48UV0.5	48IR0.5
1	3.5	12.5	45.0	1.0	9.0	38.0	0.300	48UV1	48IR1
2	4.5	12.5	45.0	2.0	9.0	38.0	0.600	48UV2	48IR2
5	7.5	12.5	45.0	5.0	9.0	38.0	1.500	48UV5	48IR5
10	12.5	12.5	45.0	10.0	9.0	38.0	3.000	48UV10	48IR10

TYPE 58

Flow-through cell with top tubes

- Two windows polished
- Height is without tubes
- Inlet/outlet tubes: OD4 x ID2 x L10mm
- Tubes are made of quartz

	Outer Dimensions (mm)			Chamber Dimensions (mm)				Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	CAPACITY (ml)	UV	IR
10	12.5	12.5	45.0	10.0	7.0	36.0	2.520	58UV10	58IR10

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TYPE 501

Flow-through cell with top and bottom tubes

- Two windows polished
- Height is without tubes
- Inlet/outlet tubes: OD5 x ID3 x L10mm
- Tubes are made of quartz

	Outer Dimensions (mm)			Chamber Dimensions (mm)				Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	CAPACITY (ml)	UV	IR
5	12.5	12.5	65.0	5.0	10.0	35.0	1.850	501UV5	501IR5
10	12.5	12.5	45.0	10.0	10.0	33.0	3.300	501UV10	501UV10

TYPE 74

Micro flow through cell, 2mm L/P

- Two windows polished
- Height is without tubes
- PTFE inlet/outlet tubes: OD2 x ID1mm

	Outer Dimensions (mm)			Chamber Dimensions (mm)				Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	CAPACITY (ml)	UV	IR
2	3.0	3.0	7.6	2.0	2.0	7.6	0.030	74UV2	74IR2

TYPE 513M

Micro flow through cell, 2mm L/P

- Two windows polished
- Height is without tubes
- PTFE inlet/outlet tubes: OD4 x ID2mm

	Outer Dimensions (mm)			Chamber Dimensions (mm)				Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	ZD (mm)	CAPACITY (ml)	UV	IR
10	12.5	12.5	38.0	10.0	3.0	8.5	0.070	513MUV10	513MIR10

TYPE 59M

Self masking micro flow cell

- Two windows polished
- Height is without tubes
- Inlet/outlet tubes: OD3 x ID1.5 x L8mm
- Tubes are made of quartz

	Outer Dimensions (mm)			Chamber Dimensions (mm)					Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	ZD (mm)	CAPACITY (ml)	UV	IR
10	12.5	12.5	45.0	10.0	4.0	11.0	15.0	0.440	59MUV10	59MIR10

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TYPE 500M

Fully masked ultra-micro flow cell with cylindrical chamber

- Two windows polished
- Inlet/outlet tubes: OD2 x ID1 x L5mm
- Height is without inlet/outlet tubes

	Outer Dimensions (mm)			Chamber Dimensions (mm)				Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	ZD (mm)	CAPACITY (ml)	UV	IR
10	12.5	12.5	38.0	10.0	3.0	8.5	0.070	500MUV10	500MIR10

TYPE 50

Water jacketed cylindrical cuvette with PTFE stopper

- Two windows polished
- Tubes to water jacket: OD5 x ID3 x L25mm
- Height is without inlet/outlet tubes

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	UV	IR
5	7.5	23.0	32.0	5.0	13.0	0.660	50UV5	50IR5
10	12.5	23.0	32.0	10.0	13.0	1.320	50UV10	50IR10
50	52.5	23.0	32.0	50.0	13.0	6.600	50UV50	50IR50

TYPE 51H

Water jacketed cuvette with horizontal tubes

- Two windows polished
- Tubes to water jacket: OD4 x ID2 x L12.5mm
- Width is without tubes

	Outer Dimensions (mm)			Chamber Dimensions (mm)				Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	CAPACITY (ml)	UV	IR
10	12.5	12.5	50.0	10.0	4.0	45.0	1.500	51HUV10	51HIR10

TYPE 51V

Water jacketed cuvette with vertical tubes

- Two windows polished
- Tubes to water jacket: OD4 x ID2 x L12.5mm
- Height is without tubes

	Outer Dimensions (mm)			Chamber Dimensions (mm)				Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	CAPACITY (ml)	UV	IR
10	12.5	12.5	50.0	10.0	4.0	45.0	1.500	51VUV10	51VIR10

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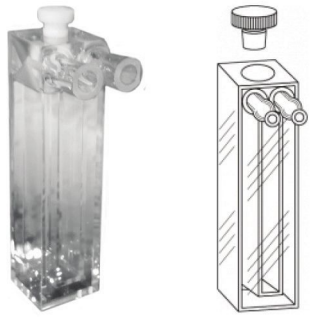
TYPE 53

Water jacketed cuvette with PTFE stopper, 2.4ml

- Two windows polished
- Width is without tubes
- Tubes to water jacket: OD4 x ID2 x L12.5mm
- Height is without stopper

	Outer Dimensions (mm)			Chamber Dimensions (mm)				Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	CAPACITY (ml)	UV	IR
10	12.5	12.5	50.0	10.0	4.0	42.0	1.400	53UV10	53IR10



TYPE 54

Water jacketed cuvette with PTFE stopper, 1.2ml

- Two windows polished
- Length is without tubes
- Tubes to water jacket: OD4 x ID2 x L10mm
- Height is without stopper

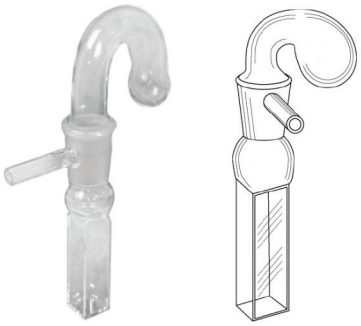
	Outer Dimensions (mm)			Chamber Dimensions (mm)				Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	CAPACITY (ml)	UV	IR
10	12.5	12.5	48.0	10.0	4.0	36.0	1.200	54UV10	54IR10

TYPE 26

Short anaerobic cuvette with glass pouch

- Two windows polished
- Height is without glass pouch
- Overall height is approximately 65mm

	Outer Dimensions (mm)			Chamber Dimensions (mm)				Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	CAPACITY (ml)	UV	IR
2	4.5	12.5	45.0	2.0	10.0	30.5	0.500	26UV2	26IR2
5	7.5	12.5	45.0	5.0	10.0	30.5	1.250	26UV5	26IR5
10	12.5	12.5	45.0	10.0	10.0	30.5	2.500	26UV10	26IR10



TYPE 28

Standard anaerobic cuvette with glass pouch

- Two windows polished
- Height is without glass pouch
- Overall height is approximately 125mm

	Outer Dimensions (mm)			Chamber Dimensions (mm)				Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	CAPACITY (ml)	UV	IR
2	4.5	12.5	84.0	2.0	10.0	44.0	0.700	28UV2	28IR2
5	7.5	12.5	84.0	5.0	10.0	44.0	1.750	28UV5	28IR5
10	12.5	12.5	84.0	10.0	10.0	44.0	3.500	28UV10	28IR10

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TYPE 71

Bubble forming anaerobic cuvette with glass pouch

- Two windows polished
- Overall height is approximately 102mm
- Height is without glass pouch

	Outer Dimensions (mm)			Chamber Dimensions (mm)				Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	CAPACITY (ml)	UV	IR
10	12.5	12.5	76.5	10	10	45.0	3.500	71UV10	71IR10

1-11 Tandem (Divided) Cuvettes

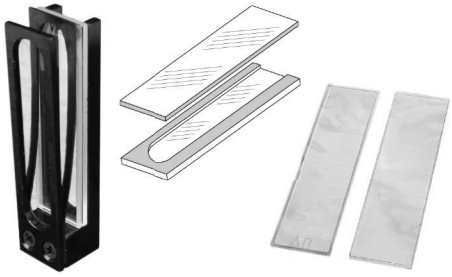
TYPE 25A

Tandem cuvette

- Two windows & partition polished
- Height of partition is approximately 37mm

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	UV	IR
10	12.5	12.5	45.0	2x4.5	10	2 x 1.300	25AUV10	25AIR10

1-12 Demountable Cuvettes



TYPE 19

U-demountable cuvette with removable window

- Two windows polished

	Outer Dimensions (mm)			Chamber Dimensions (mm)				Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	CAPACITY (ml)	UV	IR
0.05	2.55	12.5	45.0	0.05	10.0	41.5	0.020	19UV0.05	19IR0.05
0.1	2.6	12.5	45.0	0.1	10.0	41.5	0.040	19UV0.1	19IR0.1
0.2	2.7	12.5	45.0	0.2	10.0	41.5	0.080	19UV0.2	19IR0.2
0.5	3.0	12.5	45.0	0.5	10.0	41.5	0.200	19UV0.5	19IR0.5
1	3.5	12.5	45.0	1.0	10.0	41.5	0.400	19UV1	19IR1
2	4.5	12.5	45.0	2.0	10.0	41.5	0.720	19UV2	19IR2

*A20 cell mount not included. See page 48

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TYPE 20

O-demountable cuvette with removable window

- Two windows polished

	Outer Dimensions (mm)			Chamber Dimensions (mm)				Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	CAPACITY (ml)	UV	IR
0.05	2.55	12.5	45.0	0.05	10.0	38.0	0.018	20UV0.05	20IR0.05
0.1	2.6	12.5	45.0	0.1	10.0	38.0	0.036	20UV0.1	20IR0.1
0.2	2.7	12.5	45.0	0.2	10.0	38.0	0.072	20UV0.2	20IR0.2
0.5	3.0	12.5	45.0	0.5	10.0	38.0	0.180	20UV0.5	20IR0.5
1	3.5	12.5	45.0	1.0	10.0	38.0	0.360	20UV1	20IR1
2	4.5	12.5	45.0	2.0	10.0	38.0	0.720	20UV2	20IR2

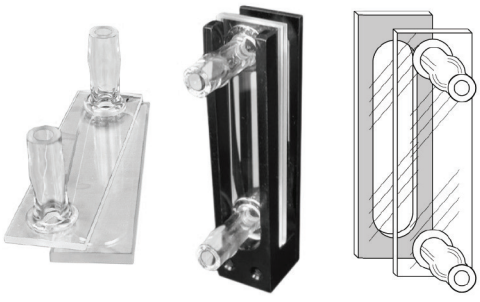
*A20 cell mount not included. See page 48

TYPE 42

Demountable Disc Circular Dichroism Cuvette

- Two windows optically polished
- Disc-shaped demountable spectrophotometer cuvette with removable window

	Outer Dimensions (mm)		Chamber Dimensions (mm)		Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	WIDTH	CAPACITY (ml)	UV
0.1	2.6	22.0	16	0.02	42UV0.1
0.2	2.7	22.0	16	0.04	42UV0.2
0.5	3.0	22.0	16	0.08	42UV0.5
1	3.5	22.0	16	0.16	42UV1
2	4.5	22.0	16	0.32	42UV2



TYPE 49

O-demountable cuvette with removable window

- Two windows polished
- Tubes are made of quartz
- Inlet/outlet tubes: OD5 x ID3 x L15mm
- Outside length does not include tubes

	Outer Dimensions (mm)			Chamber Dimensions (mm)				Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	CAPACITY (ml)	UV	IR
0.1	2.6	12.5	45.0	0.1	9.0	38.0	0.030	49UV0.1	49IR0.1
0.2	2.7	12.5	45.0	0.2	9.0	38.0	0.060	49UV0.2	49IR0.2
0.5	3.0	12.5	45.0	0.5	9.0	38.0	0.150	49UV0.5	49IR0.5
1	3.5	12.5	45.0	1.0	9.0	38.0	0.300	49UV1	49IR1
2	4.5	12.5	45.0	2.0	9.0	38.0	0.600	49UV2	49IR2

*A20 cell mount not included. See page 48

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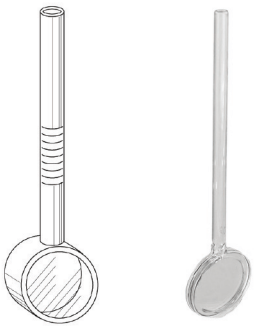


TYPE 37

Micro cylindrical cuvette with graded seal tube

- Two windows polished
- Quartz or glass to glass graded seal tube: OD5 x ID3mm
- Overall height is approximately 92mm

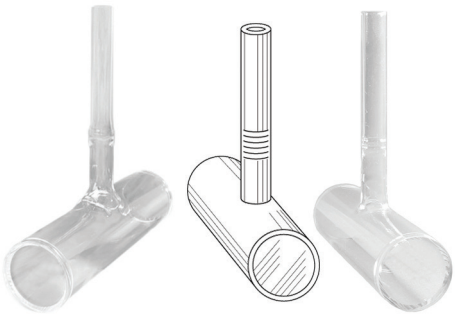
	Outer Dimensions (mm)		Inside Dimensions (mm)			Material & Part Numbers		
L/P (mm)	LENGTH	DIAMETER	LENGTH	DIAMETER	CAPACITY (ml)	G	UV	IR
1	3.5	22.0	1.0	19.0	0.280	37G1	37UV1	37IR1
2	4.5	22.0	2.0	19.0	0.570	37G2	37UV2	37IR2
5	7.5	22.0	5.0	19.0	1.420	37G5	37UV5	37IR5
10	12.5	22.0	10.0	19.0	2.830	37G10	37UV10	37IR10
20	22.5	22.0	20.0	19.0	5.670	37G20	37UV20	37IR20
50	52.5	22.0	50.0	19.0	14.000	37G50	37UV50	37IR50
100	102.5	22.0	100.0	19.0	28.000	37G100	37UV100	37IR100

TYPE 61

Standard cuvette with graded seal tube

- Two windows polished
- Quartz to glass graded seal tube: OD8 x ID6mm
- Overall height is approximately 125mm

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	UV	IR
0.5	3.0	12.5	45.0	0.5	10.0	0.200	61UV0.5	61IR0.5
1	3.5	12.5	45.0	1.0	10.0	0.400	61UV1	61IR1
2	4.5	12.5	45.0	2.0	10.0	0.700	61UV2	61IR2
5	7.5	12.5	45.0	5.0	10.0	1.700	61UV5	61IR5
10	12.5	12.5	45.0	10.0	10.0	3.500	61UV10	61IR10



TYPE 504

Gas absorption cuvette with graded seal tube

- Two windows polished
- Quartz to glass graded seal tube: OD8 x ID6mm
- Overall height is approximately 84mm

	Outer Dimensions (mm)		Inside Dimensions (mm)			Material & Part Numbers	
L/P (mm)	LENGTH	DIAMETER	LENGTH	DIAMETER	CAPACITY (ml)	UV	IR
74	80.0	22.0	74.0	19.0	21.000	504UV74	504IR74

TYPE 505

Semi-micro cuvette with graded seal tube

- Two windows polished
- Quartz to glass graded seal tube: OD8 x ID6mm
- Base thickness is 3mm
- Overall height is approximately 125mm

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	UV	IR
10	12.5	12.5	45.0	10.0	4.0	1.400	505UV10	505IR10

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TYPE 64

Cryogenic cuvette with PTFE cover

- Two windows polished
- All joints are excessively fused to round corners
- Minimum working area of windows is 4mm wide

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	UV	IR
10	12.5	12.5	45.0	10.0	10.0	3.500	64UV10	64IR10

TYPE 65

Cryogenic cuvette with PTFE stopper

- Two windows polished
- All joints are excessively fused to round corners
- Minimum working area of windows is 4mm wide

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	UV	IR
2	4.5	12.5	45.0	2.0	10.0	0.700	65UV2	65IR2
10	12.5	12.5	45.0	10.0	10.0	3.500	65UV10	65IR10

TYPE 601

Tablet Dissolution Cells 10 - 100µl

- Two windows polished
- With M6 threaded connectors and PTFE tubing
- In metal housing
- All black quartz; Size of polished area is 2 x 5mm

	Outer Dimensions (mm)			Chamber Dimensions (mm)					Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	ZD (mm)	CAPACITY (ml)	UV
1	12.5	12.5	35.0	1.0	2.0	5.0	8.5	10	601UV1A
1	12.5	12.5	35.0	1.0	2.0	5.0	15.0	10	601UV1B
2	12.5	12.5	35.0	2.0	2.0	5.0	8.5	20	601UV2A
2	12.5	12.5	35.0	2.0	2.0	5.0	15.0	20	601UV2B
5	12.5	12.5	35.0	5.0	2.0	5.0	8.5	50	601UV5A
5	12.5	12.5	35.0	5.0	2.0	5.0	15.0	50	601UV5B
10	12.5	12.5	35.0	10.0	2.0	5.0	8.5	100	601UV10A
10	12.5	12.5	35.0	10.0	2.0	5.0	15.0	100	601UV10B

TYPE 602

Tablet Dissolution Cells 160µl

- Two windows polished
- With M6 threaded connectors and PTFE tubing
- In metal housing
- All black quartz; Size of polished area is 2 x 8mm

	Outer Dimensions (mm)			Chamber Dimensions (mm)					Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	ZD (mm)	CAPACITY (ml)	UV
10	12.5	12.5	35.0	10.0	2.0	8.0	8.5	160	602UV10A
10	12.5	12.5	35.0	10.0	2.0	8.0	15.0	160	602UV10B

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TYPE 604

Tablet Dissolution Cells 5 ~ 100mm Light Paths

- Two windows polished
- All black quartz; Size of polished area is 3.5 x 11mm
- Tubes are made of quartz, no threading

	Outer Dimensions (mm)			Chamber Dimensions (mm)					Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	ZD (mm)	CAPACITY (µl)	UV
50	52.5	12.5	35.0	50.0	3.5	11.0	8.5	195	604UV50A
100	102.5	12.5	35.0	100.0	3.5	11.0	8.5	390	604UV100A

TYPE 605

Tablet Dissolution Cells 62 & 124µl

- Two windows polished
- With M6 threaded connectors and PTFE tubing
- In metal housing
- All black quartz; Size of polished area is 3.5 x 17.5mm

	Outer Dimensions (mm)			Chamber Dimensions (mm)					Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	ZD (mm)	CAPACITY (µl)	UV
0.1	12.5	12.5	35.0	0.1	3.5	17.5	8.5	5	605UV0.1A
0.1	12.5	12.5	35.0	0.1	3.5	17.5	15	5	605UV0.1B
0.1	12.5	12.5	35.0	0.1	3.5	17.5	20	5	605UV0.1C
0.2	12.5	12.5	35.0	0.2	3.5	17.5	8.5	12	605UV0.2A
0.2	12.5	12.5	35.0	0.2	3.5	17.5	15	12	605UV0.2B
0.2	12.5	12.5	35.0	0.2	3.5	17.5	20	12	605UV0.2C
0.5	12.5	12.5	35.0	0.5	3.5	17.5	8.5	25	605UV0.5A
0.5	12.5	12.5	35.0	0.5	3.5	17.5	15	25	605UV0.5B
0.5	12.5	12.5	35.0	0.5	3.5	17.5	20	25	605UV0.5C
1	12.5	12.5	35.0	1.0	3.5	17.5	8.5	62	605UV1A
1	12.5	12.5	35.0	1.0	3.5	17.5	15	62	605UV1B
1	12.5	12.5	35.0	1.0	3.5	17.5	20	62	605UV1C
2	12.5	12.5	35.0	2.0	3.5	17.5	8.5	124	605UV2A
2	12.5	12.5	35.0	2.0	3.5	17.5	15	124	605UV2B
2	12.5	12.5	35.0	2.0	3.5	17.5	20	124	605UV2C

TYPE 606

Tablet Dissolution Cells 195 & 390µl

- Two windows polished
- With M6 threaded connectors and PTFE tubing
- In metal housing
- All black quartz; Size of polished area is 3.5 x 11mm

	Outer Dimensions (mm)			Chamber Dimensions (mm)					Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	ZD (mm)	CAPACITY (µl)	UV
5	12.5	12.5	35.0	5.0	3.5	11.0	8.5	195	606UV5A
5	12.5	12.5	35.0	5.0	3.5	11.0	15.0	195	606UV5B
10	12.5	12.5	35.0	10.0	3.5	11.0	8.5	390	606UV10A
10	12.5	12.5	35.0	10.0	3.5	11.0	15.0	390	606UV10B

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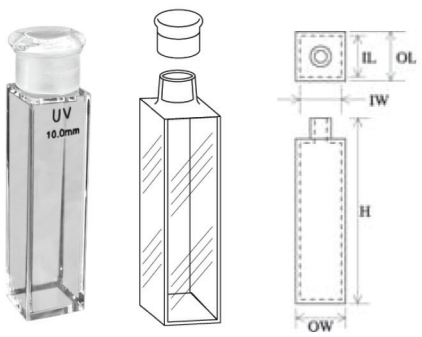
TYPE 1FL

Fluorometer cuvette with PTFE cover

- Four windows and base polished

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers		
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	G	UV	IR
1	3.5	12.5	45.0	1.0	10.0	0.400	1FLG1	1FLUV1	1FLIR1
2	4.5	12.5	45.0	2.0	10.0	0.700	1FLG2	1FLUV2	1FLIR2
5	7.5	12.5	45.0	5.0	10.0	1.700	1FLG5	1FLUV5	1FLIR5
10	12.5	12.5	45.0	10.0	10.0	3.500	1FLG10	1FLUV10	1FLIR10
20	22.5	12.5	45.0	20.0	10.0	7.000	1FLG20	1FLUV20	1FLIR20
30	32.5	12.5	45.0	30.0	10.0	10.500	1FLG30	1FLUV30	1FLIR30
40	42.5	12.5	45.0	40.0	10.0	14.000	1FLG40	1FLUV40	1FLIR40
50	52.5	12.5	45.0	50.0	10.0	17.500	1FLG50	1FLUV50	1FLIR50
100	102.5	12.5	45.0	100.0	10.0	35.000	1FLG100	1FLUV100	1FLIR100

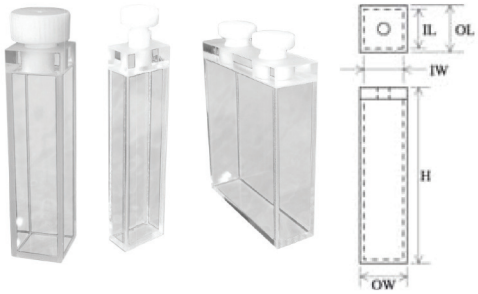


TYPE 11FL

Fluorometer cuvette with quartz cap

- Four windows and base polished

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	UV	IR
5	7.5	12.5	55.0	5.0	10.0	1.700	11FLUV5	11FLIR5
10	12.5	12.5	55.0	10.0	10.0	3.500	11FLUV10	11FLIR10
20	22.5	12.5	55.0	20.0	10.0	7.000	11FLUV20	11FLIR20
40	42.5	12.5	55.0	40.0	10.0	14.000	11FLUV40	11FLIR40



TYPE 21FL

Fluorometer cuvette with PTFE stopper

- Four windows and base polished

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers		
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	G	UV	IR
5	7.5	12.5	49.0	5.0	10.0	1.700	21FLG5	21FLUV5	21FLIR5
10	12.5	12.5	49.0	10.0	10.0	3.500	21FLG10	21FLUV10	21FLIR10
20	22.5	12.5	49.0	20.0	10.0	7.000	21FLG20	21FLUV20	21FLIR20
40	42.5	12.5	49.0	40.0	10.0	14.000	21FLG40	21FLUV40	21FLIR40
50	52.5	12.5	49.0	50.0	10.0	17.500	21FLG50	21FLUV50	21FLIR50

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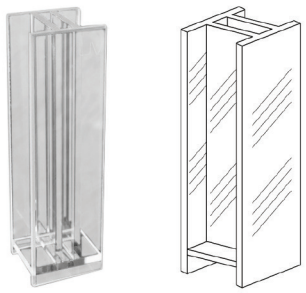
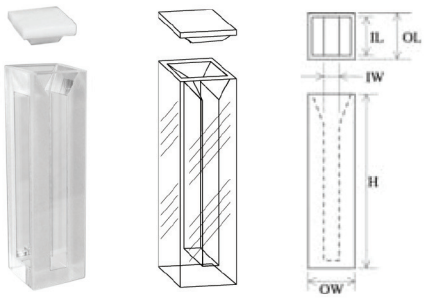


TYPE 52

Dual path length cuvette

- Four windows and base polished

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	UV	IR
10 x 1	12.5	12.5	45.0	10.0	1.0	0.350	52UV10X1	52IR10X1
10 x 2	12.5	12.5	45.0	10.0	2.0	0.700	52UV10X2	52IR10X2
10 x 3	12.5	12.5	45.0	10.0	3.0	1.050	52UV10X3	52IR10X3
10 x 4	12.5	12.5	45.0	10.0	4.0	1.400	52UV10X4	52IR10X4
10 x 5	12.5	12.5	45.0	10.0	5.0	1.750	52UV10X5	52IR10X5

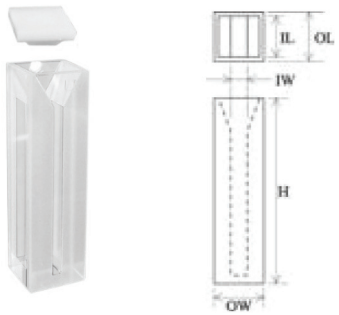


TYPE 9FL

Semi-micro fluorometer cuvette with PTFE cover

- Four windows and base polished
- Base thickness is 3mm

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers		
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	G	UV	IR
10	12.5	12.5	45.0	10.0	4.0	1.400	9FLG10	9FLUV10	9FLIR10

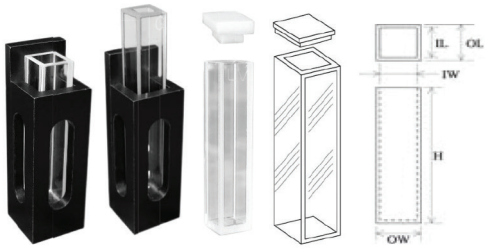


TYPE 18FL

Micro fluorometer cuvette with PTFE cover

- Four windows and base polished
- Base thickness is 3mm

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers		
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	G	UV	IR
10	12.5	12.5	45.0	10.0	2.0	0.700	18FLG10	18FLUV10	18FLIR10



TYPE 4

Micro fluorometer cuvette with PTFE cover, 5x5mm

- Four windows and base polished

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers		
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	G	UV	IR
5x5x33	7.0	7.0	33.0	5.0	5.0	0.640	4G5X5X33	4UV5X5X33	4IR5X5X33
5x5x45	7.0	7.0	45.0	5.0	5.0	0.800	4G5X5X45	4UV5X5X45	4IR5X5X45

*A23 cell mount not included. See page 42

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*A24 cell mount not included. See page 42

TYPE 507

Micro fluorometer cuvette with PTFE cover, 3x3mm

- Four windows and base polished

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers		
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	G	UV	IR
3x3x24	5.0	5.0	24.0	3.0	3.0	0.160	507G3X3X24	507UV3X3X24	507IR3X3X24
3x3x40	5.0	5.0	40.0	3.0	3.0	0.280	507G3X3X40	507UV3X3X40	507IR3X3X40

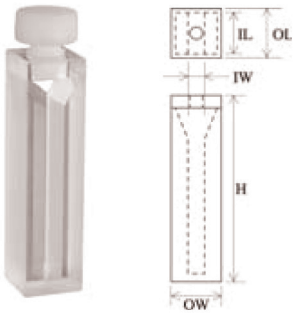
*A24 cell mount not included. See page 42

TYPE 607

Micro fluorometer cuvette with PTFE stopper

- Four windows and base polished

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	UV	IR
3x3x27	5.0	5.0	27.0	3.0	3.0	0.160	607UV3X3X27	607IR3X3X27
3x3x43	5.0	5.0	43.0	3.0	3.0	0.280	607UV3X3X43	607IR3X3X43

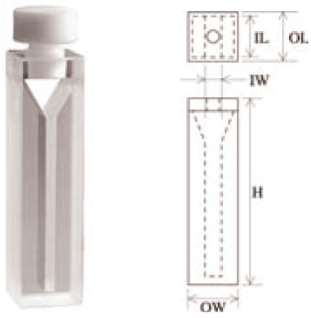


TYPE 29FL

Semi-micro fluorometer cuvette with PTFE stopper

- Four windows polished
- Base thickness is 3mm

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers		
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	G	UV	IR
10	12.5	12.5	49.0	10.0	4.0	1.400	29FLG10	29FLUV10	29FLIR10



TYPE 30FL

Micro fluorometer cuvette with PTFE stopper

- Four windows polished
- Base thickness is 3mm

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers		
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	G	UV	IR
10	12.5	12.5	49.0	10.0	2.0	0.700	30FLG10	30FLUV10	30FLIR10

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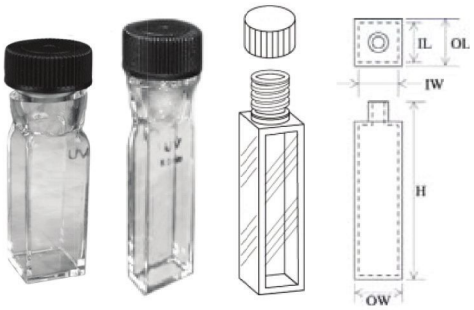
TYPE 701MFL

Sub-micro self masking fluorometer cuvette with PTFE threaded stopper

- Three windows polished

Outer Dimensions (mm)				Chamber Dimensions (mm)					Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	ZD (mm)	CAPACITY (µl)	UV
10	12.5	12.5	45.0	10.0	1.0	1.0	8.5	10	701MFLUV10.10A
10	12.5	12.5	45.0	10.0	1.0	1.0	15.0	10	701MFLUV10.10B
10	12.5	12.5	45.0	10.0	1.0	1.0	20.0	10	701MFLUV10.10C
10	12.5	12.5	45.0	10.0	1.0	1.0	8.5	50	701MFLUV10.50A
10	12.5	12.5	45.0	10.0	1.0	1.0	15.0	50	701MFLUV10.50B
10	12.5	12.5	45.0	10.0	1.0	1.0	20.0	50	701MFLUV10.50C
10	12.5	12.5	45.0	10.0	1.0	1.0	8.5	100	701MFLUV10.100A
10	12.5	12.5	45.0	10.0	1.0	1.0	15.0	100	701MFLUV10.100B
10	12.5	12.5	45.0	10.0	1.0	1.0	20.0	100	701MFLUV10.100C
10	12.5	12.5	45.0	10.0	1.0	1.0	8.5	160	701MFLUV10.160A
10	12.5	12.5	45.0	10.0	1.0	1.0	15.0	160	701MFLUV10.160B
10	12.5	12.5	45.0	10.0	1.0	1.0	20.0	160	701MFLUV10.160C

2-4 Screw Cap Fluorometer Cuvettes



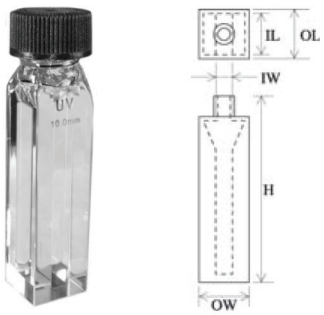
TYPE 41FL

Standard fluorometer cuvette with screw cap

- Four windows and base polished
- Height includes threading, but not screw cap
- Cuvette comes with both open and closed screw caps
- Each cap contains a PTFE septa seal
- Suitable for anaerobic work and dye laser applications

Outer Dimensions (mm)				Inside Dimensions (mm)			Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	UV
5	7.5	12.5	55.0	5.0	10.0	1.700	41FLUV5
10	12.5	12.5	55.0	10.0	10.0	3.500	41FLUV10
50	52.5	12.5	55.0	50.0	10.0	17.500	41FLUV50
100	102.5	12.5	55.0	100.0	10.0	35.000	41FLUV100

SCREW CAP OD: 16mm
SEPTA: Diameter: 11mm Thickness: 3.5mm
THREADING ID: 8mm
THREADING OD: 12mm



TYPE 46FL

Semi-micro fluorometer cuvette with screw cap

- Height includes threading, but not screw cap
- Cuvette comes with both open and closed screw caps
- Suitable for anaerobic work and dye laser applications
- Two windows polished
- Each cap contains a PTFE septa seal
- Base thickness is 3mm

Outer Dimensions (mm)				Inside Dimensions (mm)			Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	UV
10x2	12.5	12.5	55.0	10.0	2.0	0.700	46FLUV10x2
10x4	12.5	12.5	55.0	10.0	4.0	1.400	46FLUV10x4

SCREW CAP OD: 16mm
SEPTA: Diameter: 11mm Thickness: 3.5mm
THREADING ID: 8mm
THREADING OD: 12mm

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TYPE 75

Centrifuge cell

- All surfaces clear fire polished

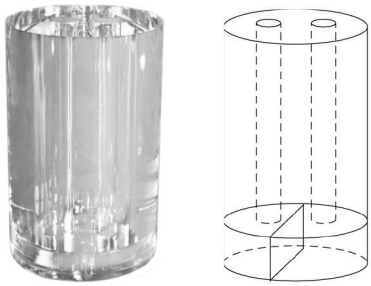
Outer Dimensions (mm)					Material & Part Numbers
L/P (mm)	DIAMETER	HEIGHT	INNER DIAMETER (mm)	CAPACITY (ml)	UV
7.9	9.9	47.0	7.9	1.700	75UV

TYPE 76

Scattering cell

- All surfaces clear fire polished
- Bottom is polished

Outer Dimensions (mm)					Material & Part Numbers
L/P (mm)	DIAMETER	HEIGHT	INNER DIAMETER (mm)	CAPACITY (ml)	UV
10	12.0	51.0	10.0	3.100	76UV



TYPE 528

Cylindrical rotating raman (split) cell

- All surfaces clear fire polished
- Bottom is polished

Outer Dimensions (mm)			Chamber Dimensions (mm)			Material & Part Numbers
L/P (mm)	DIAMETER	HEIGHT	DIAMETER	HEIGHT	CAPACITY (ml)	UV
19	22.0	35.0	19.0	3.0	0.800	528UV

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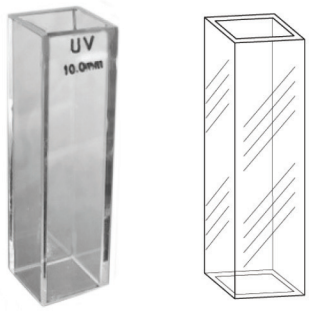
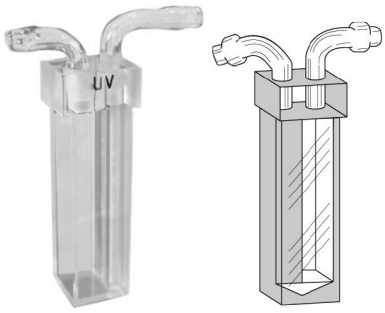


TYPE 3FT

Flow-through observation cell, open bottom

- Four windows polished
- Both ends are open

Outer Dimensions (mm)				Chamber Dimensions (mm)				Material & Part Numbers		
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	CAPACITY (ml)	G	UV	IR
10	12.5	12.5	40.0	10.0	10.0	40.0	4.000	3FTG10	3FTUV10	3FTIR10

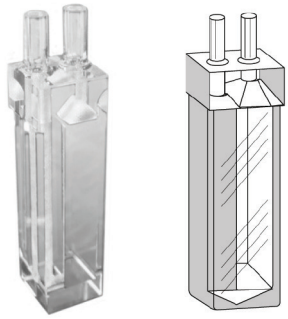


TYPE 45FL

Fluorometer flow cell with detachable inlet/outlet tubes, 2.8ml

- Three windows polished
- Inlet/outlet tubes: OD4 x ID2mm
- Height is without tubes
- Tubes are made of quartz

Outer Dimensions (mm)				Chamber Dimensions (mm)				Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	CAPACITY (ml)	UV	IR
10	12.5	12.5	50.0	10.0	7.0	40.0	2.800	45FLUV10	45FLIR10

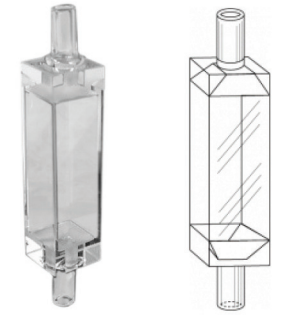


TYPE 58FL

Fluorometer flow-through cell with top tubes

- Three windows polished
- Inlet/outlet tubes: OD4 x ID2 x L10mm
- Height is without tubes
- Tubes are made of quartz

Outer Dimensions (mm)				Chamber Dimensions (mm)				Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	CAPACITY (ml)	UV
10	12.5	12.5	48.0	10.0	7.0	36.0	2.520	58FLUV10



TYPE 501FL

Fluorometer flow-through cell with top and bottom tubes

- Four windows polished
- Inlet/outlet tubes: OD5 x ID3 x L10mm
- Height is without tubes
- Tubes are made of quartz

Outer Dimensions (mm)				Chamber Dimensions (mm)				Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	CAPACITY (ml)	UV
10	12.5	12.5	65.0	10.0	10.0	33.0	3.300	501FLUV10

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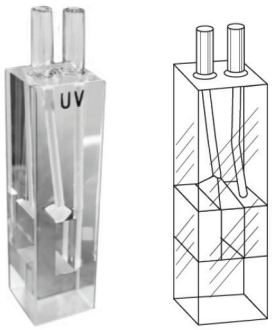


TYPE 59FL

Fluorescence micro flow cell, 440µl

- Four windows and base polished
- Inlet/outlet tubes: OD3 x ID1.5 x L8mm
- Height is without tubes

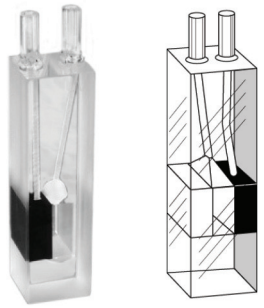
	Outer Dimensions (mm)			Chamber Dimensions (mm)					Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	ZD (mm)	CAPACITY (ml)	UV	IR
10	12.5	12.5	45.0	10.0	4.0	11.0	15.0	0.440	59FLUV10	59FLIR10

TYPE 74FL

Fluorescence micro flow cell, 30µl

- Four windows polished
- Inlet/outlet tubes: OD2 x ID1
- Height is without tubes

	Outer Dimensions (mm)			Chamber Dimensions (mm)				Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	CAPACITY (ml)	UV	IR
2	3.0	3.0	7.6	2.0	2.0	7.6	0.030	74FLUV2	74FLIR2



TYPE 514M

Black quartz micro fluorescence flow cell

- Three windows polished
- Inlet/outlet tubes: OD3 x ID1.5 x L10mm
- Height is without tubes
- Suitable for fluorescence and dye laser applications

	Outer Dimensions (mm)			Chamber Dimensions (mm)					Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	ZD (mm)	CAPACITY (ml)	UV	IR
10	12.5	12.5	45.0	10.0	4.0	11.0	15.0	0.440	514MUV10	514MIR10

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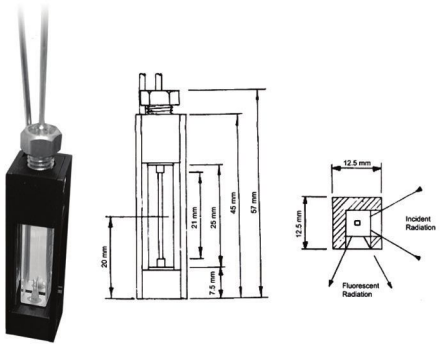
TYPE 608FL

HPLC UV Quartz Flow Cell

- Comes with stainless steel inlet/outlet pipes.
- Dimensions of tubing: Inlet (OD1.6 x ID0.25 x L100mm); Outlet (OD1.6 x ID0.5 x L100mm)
- All cells and tubing tested to 5 bars of pressure (75psi).
- In metal and black quartz housing
- Comes in 3 lightpaths- 1, 1.5 and 3mm
- Available in Z-Dimensions of 8.5 and 15mm
- Three windows optically polished

	Outer Dimensions (mm)			Chamber Dimensions (mm)					Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	ZD (mm)	CAPACITY (µl)	UV
1	12.5	12.5	45.0	1.0	1.0	11.0	8.5	11	608FLUV1X1X11A
1	12.5	12.5	45.0	1.0	1.0	11.0	15	11	608FLUV1X1X11B
1.5	12.5	12.5	45.0	1.5	1.5	11.0	8.5	25	608FLUV1.5X1.5X11A
1.5	12.5	12.5	45.0	1.5	1.5	11.0	15	25	608FLUV1.5X1.5X11B
3.0	12.5	12.5	45.0	3.0	3.0	11.0	8.5	100	608FLUV3X3X11A
3.0	12.5	12.5	45.0	3.0	3.0	11.0	15	100	608FLUV3X3X11B



TYPE 8830

µ fluorescence flow cell

- Four windows polished

	Outer Dimensions (mm)			Chamber Dimensions (mm)					Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	ZD (mm)	CAPACITY (µl)	UV
1	12.5	12.5	45.0	1.0	1.0	21.0	20.0	20	8830UV1

This cell has been designed to facilitate the monitoring of HPLC fractions whilst using a spectrofluorometer.

The sample cavity is constructed so that the sample volume is kept to a minimum (20µl nominal). The cell has a large aperture capable of accepting the full exciting and fluorescent radiation. A fluorescence free grade of fused silica has been carefully selected for the construction of the cell which is of a square cross section. The flat sides ensure that any scattering of the incident radiation is kept to a minimum but still allows maximum throughput.

The sample cavity is mounted in an aluminum alloy housing 12.5mm square. Both flow tubes are fitted to the upper face and are 1.5mm OD and 0.25mm ID by 75mm long.

This construction enables the cell to fit any cuvette holder designed for standard fluorescence cuvettes.

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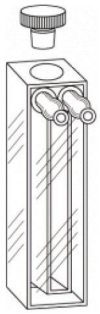

TYPE 54FL

Fluorescence water jacketed cell

- Four windows and base polished
- Height is without tubes
- Tubes to water jacket: OD4 x ID2 x L10mm
- Length is without tubes

	Outer Dimensions (mm)			Chamber Dimensions (mm)				Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	CAPACITY (ml)	UV	IR
10	12.5	12.5	48.0	10.0	4.0	36.0	1.200	54FLUV10	54FLIR10

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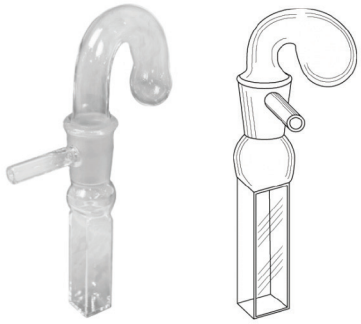
TYPE 26FL

Short anaerobic fluorometer cell with glass pouch

- Four windows and base polished
- Overall height is approximately 65mm
- Height is without glass pouch

	Outer Dimensions (mm)			Chamber Dimensions (mm)				Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	CAPACITY (ml)	UV
10	12.5	12.5	45.0	10.0	10.0	30.5	2.500	26FLUV10



TYPE 28FL

Anaerobic fluorometer cell with glass pouch

- Four windows and base polished
- Overall height is approximately 125mm
- Height is without glass pouch

	Outer Dimensions (mm)			Chamber Dimensions (mm)				Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	CAPACITY (ml)	G	UV
10	12.5	12.5	84.0	10.0	10.0	30.5	3.500	28FLG10	28FLUV10

TYPE 71FL

Bubble forming anaerobic fluorometer cell with glass pouch

- Four windows and base polished
- Overall height is approximately 102mm
- Height is without glass pouch

	Outer Dimensions (mm)			Chamber Dimensions (mm)				Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	CAPACITY (ml)	UV	IR
10	12.5	12.5	76.5	10.0	10.0	45.0	3.500	71FLUV10	71FLIR10

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TYPE 25AFL

Rectangular tandem fluorometer cell

- Four windows, base, and partition polished
- Height of divider is approximately 37mm

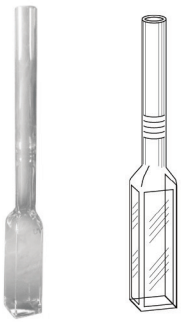
Outer Dimensions (mm)				Inside Dimensions (mm)			Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	UV	IR
10	12.5	12.5	45.0	2 x 4.5	10	2 x 1.300	25AFLUV10	25AFLIR10

TYPE 56

Rectangular tandem fluorometer cell with PTFE stoppers

- Four windows, base, and partition polished

Outer Dimensions (mm)				Inside Dimensions (mm)			Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	UV	IR
10	12.5	12.5	48.0	2 x 4.5	10	2 x 1.500	56UV10	56IR10



TYPE 61FL

Fluorometer cuvette with graded seal tube

- Four windows and base polished
- Height is without graded seal tube
- Quartz to glass graded seal tube: OD8 x ID6mm
- Overall height is approximately 125mm

Outer Dimensions (mm)				Inside Dimensions (mm)			Material & Part Numbers		
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	G	UV	IR
10	12.5	12.5	45.0	10	10	3.500	61FLG10	61FLUV10	61FLIR10

TYPE 62FL

Quartz cuvette with straight bore tube

- All windows polished
- Overall height is approximately 125mm

Outer Dimensions (mm)				Inside Dimensions (mm)			Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	UV
10	12.5	12.5	140.0	10	10	3.500	62FLUV10

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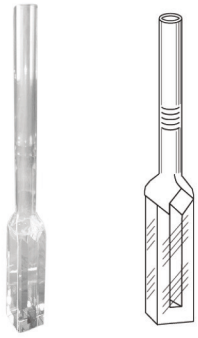
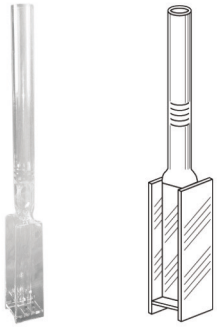


TYPE 505FL

Semi-micro fluorometer cuvette with graded seal tube

- Four windows and base polished
- Base thickness is 3mm
- Height is without graded seal tube
- Overall height is approximately 125mm
- Quartz to glass graded seal tube: OD8 x ID6mm

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	UV
10	12.5	12.5	45.0	10.0	4.0	1.400	505FLUV10

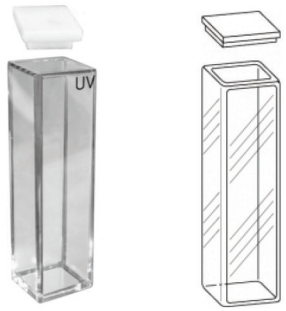


TYPE 552

Dual path length cuvette with graded seal tube

- Four windows polished
- Height is without graded seal tube
- Quartz to glass graded seal tube: OD5 x ID3mm
- Overall height is approximately 125mm

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	UV
10 x 2	12.5	12.5	45.0	10.0	2.0	0.700	552UV10X2
10 x 3	12.5	12.5	45.0	10.0	3.0	1.050	552UV10X3
10 x 4	12.5	12.5	45.0	10.0	4.0	1.400	552UV10X4
10 x 5	12.5	12.5	45.0	10.0	5.0	1.750	552UV10X5

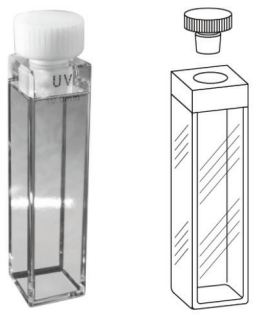


TYPE 64FL

Cryogenic fluorometer cuvette with PTFE cover

- Four windows and base polished
- All joints are excessively fused to round corners
- Minimum working area of windows is 4mm wide

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	UV	IR
10	12.5	12.5	45.0	10	10	3.500	64FLUV10	64FLIR10



TYPE 65FL

Cryogenic fluorometer cuvette with PTFE stopper

- Four windows and base polished
- All joints are excessively fused to round corners
- Minimum working area of windows is 4mm wide

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	UV
10	12.5	12.5	49.0	10	10	3.500	65FLUV10

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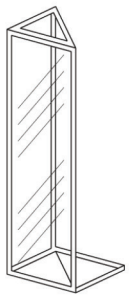
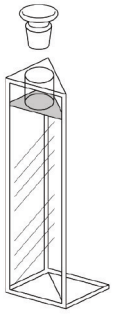


TYPE 81

Triangle cuvette

- Three windows and base polished
- Square base
- Angle: 45°x45°x90°

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	UV	IR
10	12.5	12.5	45.0	10	10	1.750	81UV10	81IR10

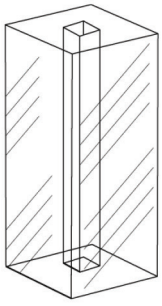


TYPE 82

Triangle cuvette with PTFE stopper

- Three windows and base polished
- Square base
- Angle: 45°x45°x90°

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	UV	IR
10	12.5	12.5	49.0	10	10	1.750	82UV10	82IR10



TYPE 77

Observation Cell

- Four windows and both ends polished
- Both ends open

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	UV	IR
2	10.5	10.5	27.4	2	2	0.110	77UV2	77IR2

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Cells made from Optical Glass with a wavelength range of 340-2,500nm for use in colorimeters.

TYPE 93

Colorimeter Cell

- Two windows optically polished
- Fits ACS, Data Color, Hunter and several other colorimeters

	Outer Dimensions (mm)			Chamber Dimensions (mm)				Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	CAPACITY (ml)	G
2	6.0	55.0	56.0	2.0	51.0	51.0	5.000	93G2
5	9.0	55.0	56.0	5.0	51.0	51.0	12.500	93G5
10	14.0	55.0	56.0	10.0	51.0	51.0	25.000	93G10
20	24.0	55.0	56.0	20.0	51.0	51.0	50.000	93G20
30	34.0	55.0	56.0	30.0	51.0	51.0	125.000	93G30
50	54.0	55.0	56.0	50.0	51.0	51.0	245.00	93G50

TYPE 96

Colorimeter Cell

- Two windows optically polished
- Made for X-Rite colorimeters

	Outer Dimensions (mm)			Chamber Dimensions (mm)			Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	G
2.5	8.5	28.0	40.0	2.5	24.0	1.800	96G2.5
5	11.0	28.0	40.0	5.0	24.0	3.600	96G5
10	16.0	28.0	40.0	10.0	24.0	7.200	96G10
20	26.0	28.0	40.0	20.0	24.0	14.000	96G20
40	46.0	28.0	40.0	40.0	24.0	28.000	96G40
100	106.0	28.0	40.0	100.0	24.0	70.000	96G100

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TYPE 97

Colorimeter Cell

- Two windows optically polished

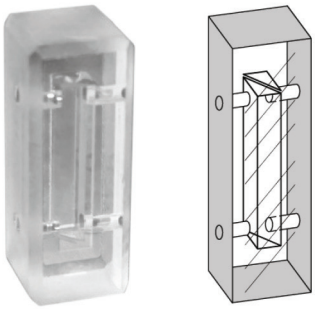
	Outer Dimensions (mm)			Chamber Dimensions (mm)			Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	G
40	44.0	20.0	40.0	40.0	16.0	22.400	97G40

TYPE 529

Small Rectangular Colorimeter

- Two windows optically polished
- Fits ACS, Data Color, Hunter and several other colorimeters

	Outer Dimensions (mm)			Chamber Dimensions (mm)			Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	G
5	9.0	24.0	23.20	5.0	20.0	2.32	529G5



TYPE 510

Refractometer Cell

- Two windows polished

	Outer Dimensions (mm)			Chamber Dimensions (mm)				Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	CAPACITY (ml)	UV
	5	4.8	12.7	1.6	1.6	8.0	2 x 0.010	510UV

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TYPE 511

45º Refractometer Flow Cell

- All surfaces and inner chamber windows polished

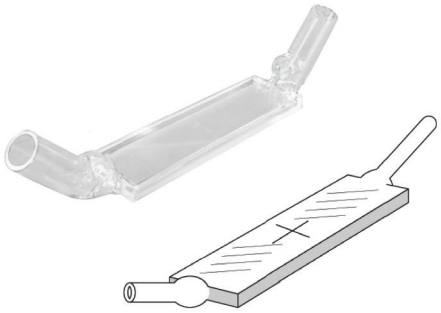
	Outer Dimensions (mm)			Inside Dimensions (mm)				Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	CAPACITY (µl)	UV
	8	10	15	2x2.5	2x1.6	2x7	2x10	511UV

TYPE 512

15º Refractometer Flow Cell

- All surfaces and inner chamber windows polished

	Outer Dimensions (mm)			Inside Dimensions (mm)				Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	CAPACITY (µl)	UV
	8	10	15	2x2.5	2x1.6	2x7	2x10	512UV



TYPE 78

Electrophoresis cell

- Two windows polished
- Inlet/outlet tubes: OD7 x ID5 x L20mm
- Height is without tubes

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	UV	IR
1	3.5	12.5	50.0	1.0	10.0	0.475	78UV1	78IR2
2	4.5	12.5	50.0	2.0	10.0	0.950	78UV2	78IR2

TYPE 0005-0023-2

Quanta Ray Dye Laser Flow Through Cell

- Four windows optically polished

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	UV
6x12	17.5	10.0	16.0	13.5	6.0	12.240	0005-0023-2

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TYPE 0005-0078

Quanta Ray Dye Laser Cell

- Three windows polished

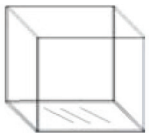
Outer Dimensions (mm)				Inside Dimensions (mm)			Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	UV
8	17.5	16.0	10.0	8.0	13.5	10.8	0005-0078

TYPE 0210

Dye laser flow through cell

- Four windows polished
- Both ends open
- Wall thickness is 2mm
- Originally made for the Quanta Ray™ dye laser

Outer Dimensions (mm)				Chamber Dimensions (mm)				Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	CAPACITY (ml)	UV
17.0	21.0	17.0	50.8	19.0	15.0	50.8	11.300	0002-0210

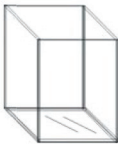


TYPE 2267A

Dye laser cell 20mm

- Four windows and base optically polished

Outer Dimensions (mm)				Inner Dimensions (mm)				Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	CAPACITY (ml)	UV
20.0	26.0	26.0	40.0	20.0	20.0	38.0	12.000	2267AUV20



TYPE 2267B

Dye laser cell 40mm

- Four windows and base optically polished

Outer Dimensions (mm)				Inner Dimensions (mm)				Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	CAPACITY (ml)	UV
20.0 or 40.0	26.0	46.0	40.0	20.0	40.0	38.0	24.000	2267BUV40

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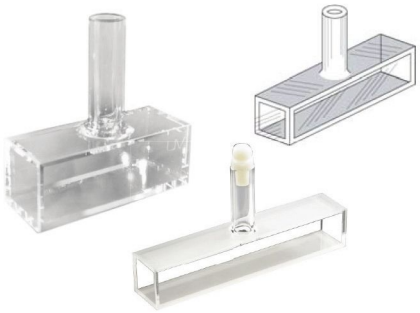

TYPE 87

Laser absorption cell

- Four windows polished
- Quartz tube: OD6 x ID4 x L20mm
- Height is without tube

	Outer Dimensions (mm)			Chamber Dimensions (mm)				Material & Part Numbers	
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	CAPACITY (µl)	UV	IR
30.0	32.5	12.5	12.5	30.0	10.0	10.0	3.0	87UV30	87IR30
60.0	62.5	12.5	12.5	60.0	10.0	10.0	6.0	87UV60	87IR60

3-5 Spacers

Spacers are used to reduce volume and light path for standard 10mm l/p cuvettes such as Types 1 & 1FL.

This silica block with a 30mm optical portion is suspended from a flat cover by a fused member which is narrower than the block, to form an overflow chamber when placed in the cuvette.

Spacers cannot be used in a Type 5 cell. Also, please note that due to tolerances, the Type 1 or 1FL you plan to use with the spacer ought to be ordered with the spacer to ensure proper fit.

TYPE 527

Precision 2-way insert spacer

- All sides polished

	Outer Dimensions (mm)			Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	HEIGHT	UV
1.00 & 5.00	9.00	5.00	46.50	527UV9X5
1.00 & 3.00	9.00	7.00	46.50	527UV9X7
1.00 & 2.00	9.00	8.00	46.50	527UV9X8
1.00 & 0.05	9.00	9.95	46.50	527UV9X9.95
0.50 & 2.00	9.50	8.00	46.50	527UV5X8
0.50 & 1.00	9.50	9.00	46.50	527UV5X9
0.50 & 0.20	9.50	9.80	46.50	527UV9.5X9.8
0.30 & 0.10	9.70	9.90	46.50	527UV9.7X9.9
0.20 & 0.05	9.80	9.95	46.50	527UV9.8X9.95

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TYPE 1P

Standard disposable spectrophotometer cuvette

- Two windows clear
- Shipped 100 per box

	Outer Dimensions (mm)			Inside Dimensions (mm)				
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (µl)	MATERIAL	PART NUMBER
10	12.5	12.5	45.0	10.0	10.0	3.500	UV Plastic	1PUV
10	12.5	12.5	45.0	10.0	10.0	3.500	Acrylic	1PMMA
10	12.5	12.5	45.0	10.0	10.0	3.500	Polystyrene	1PS

TYPE 9P

Semi-micro disposable cuvette

- Two windows clear
- Shipped 100 per box

	Outer Dimensions (mm)			Inside Dimensions (mm)				
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (µl)	MATERIAL	PART NUMBER
10	12.5	12.5	45.0	10.0	4.0	1.500	UV Plastic	9PUV
10	12.5	12.5	45.0	10.0	4.0	1.500	Acrylic	9PMMA
10	12.5	12.5	45.0	10.0	4.0	1.500	Polystyrene	9PS

TYPE 21P

Disposable Macro Cuvettes with Stoppers

- Two windows optically polished
- Shipped 100 per box

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	POLYSTYRENE
10	12.5	12.5	68.0	10.0	10.0	3.5	21PS

TYPE 509P

Disposable 100mm Tall Macro Cuvettes

- Two windows optically polished
- Shipped 100 per box

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (ml)	POLYSTYRENE
10	12.5	12.5	100.0	10.0	10.0	10	509PS

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TYPE 700P

Disposable Sub-Micro Cuvettes

- Two windows clear
- Shipped 100 per box

	Outer Dimensions (mm)			Inside Dimensions (mm)					Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	HEIGHT	ZD (mm)	CAPACITY (µl)	UV PLASTIC
10	12.5	12.5	45.0	10.0	2.0	3.50	8.5	70	700PUV10A
10	12.5	12.5	45.0	10.0	2.0	3.50	15.0	70	700PUV10B

TYPE 704P

Disposable Electroporation Cuvettes

- Two windows clear
- Shipped 100 per box

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (µl)	POLYCARBONATE
10X1	12.5	12.5	50.0	10.0	1.0	50	704PC10X1
10X2	12.5	12.5	50.0	10.0	2.0	220	704PC10X2
10X4	12.5	12.5	50.0	10.0	4.0	440	704PC10X4

TYPE 1FLP

Fluorometer disposable cuvette

- Four windows clear
- Shipped 100 per box

	Outer Dimensions (mm)			Inside Dimensions (mm)				
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (µl)	MATERIAL	PART NUMBER
10	12.5	12.5	45.0	10.0	10.0	3.500	Acrylic	1FLPMMA
10	12.5	12.5	45.0	10.0	10.0	3.500	Polystyrene	1FLPS

TYPE 9FLP

Fluorometer semi-micro disposable cuvette

- Four windows clear
- Shipped 100 per box

	Outer Dimensions (mm)			Inside Dimensions (mm)				
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (µl)	MATERIAL	PART NUMBER
10	12.5	12.5	45.0	10.0	4.0	1.500	Acrylic	9FLPMMA

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Disposable Cuvettes, Usable Range

UV PLASTIC	
1PUV	220 ~ 900nm
9PUV	220 ~ 900nm

ACRYLIC	
1PMMA	300 ~ 900nm
1FLPMMA	300nm ~ VIS
9PMMA	300 ~ 900nm
9FLPMMA	285 ~ 800nm

POLYSTYRENE	
1PS	340 ~ 900nm
1FLPS	340 ~ 900nm
9PS	340 ~ 900nm

Compatibility of Disposable Cuvette Materials:

CHEMICAL	POLYSTYRENE	PMMA	UV PLASTIC
Acetic acid (96%)	Poor	Poor	Excellent
Acetone	Poor	Poor	Excellent
Acetonitrile	Poor	Poor	Excellent
Benzene	Poor	Poor	Poor
Butanone (methyl ethyl ketone)	Poor	Poor	Excellent
Carbon Tetrachloride	Poor	Poor	Poor
Chloroform	Poor	Poor	Poor
Diethy Ether	Poor	Poor	Poor
Dimethyl Sulfoxide	Poor	Poor	Excellent
Ethanol	Poor	Poor	Excellent
Formaldehye (40%)1	Poor	Poor	Excellent
Heptane	Poor	Poor	Poor
Hexane	Poor	Excellent	Poor
Hydrochloric Acid (32%)	Poor	Poor	Excellent
Isopropanol	Poor	Poor	Excellent
n-Pantane	Poor	Poor	Poor
Oleic Acid	Poor	Poor	Poor
Perchloric Acid (10%)	Poor	Poor	Excellent
Petroleum Ether	Poor	Poor	Poor
Phenol	Poor	Poor	Excellent
Sodium Hydroxide	Excellent	Poor	Excellent
Sulfuric Acid	Poor	Poor	Excellent
Trichloroacetic Acid	Poor	Poor	Excellent
Trichloroethylene	Poor	Poor	Poor
Toluene	Poor	Poor	Poor

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PTFE COVERS

PART#	DESCRIPTION
A100	PTFE Cover for 100mm cells (Type 1-100mm)
A101	PTFE Cover for 1mm cells (Types 1-1mm, 52-10x1mm)
A102	PTFE Cover for 2mm cells (Types 1-2mm, 52-10x2mm)
A105	PTFE Cover for 5mm cells (Types 1-5mm, 1FL-5mm, 52-10x5mm)
A110	PTFE Cover for 10mm cells (Type 1-10mm, 1FL-10mm, 5, 64, 64FL, 508, 1P, 25A, 25AFL)
A120	PTFE Cover for 20mm cells (Type 1-20mm, 1FL-20mm)
A130	PTFE Cover for 30mm cells (Type 1-30mm, 1FL-30mm)
A140	PTFE Cover for 40mm cells (Type 1-40mm, 1FL-40mm)
A150	PTFE Cover for 100mm cells (Type 1-50mm, 1FL-50mm)
A305	PTFE Semi-Micro Cover for 5mm cells (Type 9-5mm, 9M-5mm)
A310	PTFE Semi-Micro Cover for 10mm cells (Type 9-10mm, 9M-10mm, 9FL-10mm)
A320	PTFE Semi-Micro Cover for 20mm cells (Type 9-20mm, 9M-20mm)
A330	PTFE Semi-Micro Cover for 30mm cells (Type 9-30mm, 9M-30mm)
A340	PTFE Semi-Micro Cover for 40mm cells (Type 9-40mm, 9M-40mm)
A405	PTFE Micro Cover for 5mm cells (Type 17-5mm, 18-5mm, 17M-5mm, 18B-5mm, 18BM-5mm, 18M-5mm)
A410	PTFE Micro Cover for 10mm cells (Type 17-10mm, 18-10mm, 17M-10mm, 18B-10mm, 18BM-10mm, 18M-10mm)
A420	PTFE Micro Cover for 20mm cells (Type 17-20mm, 18-20mm, 17M-20mm, 18B-20mm, 18BM-20mm, 18M-20mm)
A430	PTFE Micro Cover for 30mm cells (Type 17-30mm, 18-30mm)
A440	PTFE Micro Cover for 40mm cells (Type 17-40mm, 18-40mm)
A450	PTFE Micro Cover for 50mm cells (Type 17-50mm, 18-50mm, 18B-50mm)
AT4	PTFE Cover for Type 4
AT507	PTFE Cover for Type 507
AT9B10X1	PTFE Cover for Type 9B-10x1mm
AT9B10X3	PTFE Cover for Type 9B-10x3mm
AT9B10X5	PTFE Cover for Type 9B-10x5mm

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PTFE STOPPERS

PART#	DESCRIPTION
B201	PTFE Stopper for 1 and 2mm cells (Type 21-1mm, 21-2mm)
B205	PTFE Stopper for 5mm cells (Type 21-5mm, 21FL-5mm, 29-5mm, 30-5mm, 82, 29BM 5mm, 29M-5mm, 30BM 5mm, 30M-5mm, 520M-5mm)
B210	PTFE Stopper for 10mm cells (Type 21-10mm, 21-20mm, 21-30mm, 21-40mm, 21-50mm, 21FL-10mm, 21FL-20mm, 21FL-40mm, 29-10mm, 29-20mm, 29-40mm, 30-10mm, 30-20mm, 30-40mm, 32-10mm, 35-10mm, 65, 66, 29BM-10mm, 29BM-20mm, 29BM-30mm, 29BM-40mm, 30BM-10mm, 30BM-20mm, 30M-10mm, 30M-20mm, 515A, 65FL)
B250	PTFE Stopper (Type 32-20mm, 34-50mm, 34-100mm, 35-20mm, 35-50mm)
BT50	PTFE Stopper for Type 50
BT53	PTFE Stopper for Type 53
BT54	PTFE Stopper for Type 54 and Type 54FL
BT607	PTFE Stopper for Type 607
D010	PTFE threaded stoppers for sub-micro cells

C010 C110

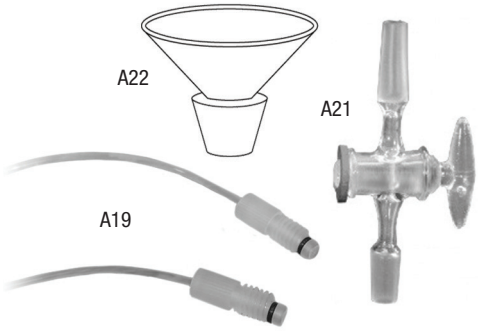
QUARTZ TOPS

PART#	DESCRIPTION
C010	Quartz Cap (Type 11-10mm, 11-40mm, 11-50mm, 13-10mm, 13-20mm, 13-40mm)
C110	Quartz Stopper for Type 31

SC1 SC3 SC2 SEPTA

SCREW CAPS

PART#	DESCRIPTION
SC1	Closed screw cap (comes with PTFE septa)
SC2	Open screw cap (comes with PTFE septa)
SC3	Mininert Screw Cap Valve
SEPTA	PTFE septa for closed and open screw caps (SC1 and SC2)



A22 A21 A19

SPECIAL TOPS

PART#	DESCRIPTION
A19	M6 Threaded Connectors for Tablet Dissolution Cells (T-601, 602, 605, 606)
A21	Stopcock - Will fit any of the stoppered cells in this catalog.
A22	Funnel - Will fit any of the stoppered cells in this catalog.

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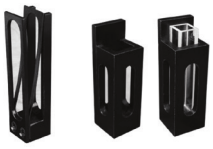
A20 A23

A24

A25

A26

These cell mounts will fit into any standard spectrophotometer cell holder.
A23 can also be used in fluorometers.

PART#	DESCRIPTION
A20	Cell Mount for rectangular cells less than 5mm light path (Type 1-1mm, 1-2mm, 19, 20, 21-1mm, 21-2mm)
A23	Cell Mount suitable for Type 4
A24	Cell Mount suitable for Type 507 and Type 607)
A25	Spacer for 1mm, 2mm and 5mm lightpath cells
A26	Cell mount suitable for Type 42

5-3 Cases & Cell Rack

PART#	DESCRIPTION
CASEA4	Polyfoam case for 45mm high cells - holds 4 cells
CASEB4	Polyfoam case for 49-55mm high cells - holds 4 cells
CASEP2	Plastic (transparent) case to hold 2 cells up to 10mm
CASEP4	Plastic (opaque, black) case to hold 4 cells up to 10mm L/P each, or two 20mm L/P cells, or one 50mm L/P cell.
CASE G6	Plastic (opaque, black) case to hold 6 cells up to 10mm L/P each or 3 20mm L/P cells or two 50mm L/P cell
P66	12-HOLE CELL RACK: The rack is designed to hold 12 ten millimeter path length cells. It is manufactured in polyethylene to ensure that windows cannot be scratched or damaged when being placed in the rack.

5-4 Cuvette Washers

P65S

P65D

GASKET

STOPPER7

FULL KIT

PART#	DESCRIPTION
P65S	Single Cell Washer - This model is designed to wash one cell at a time. It comes with a rubber stopper for fitting into a size 7 standard vacuum flask. The cell is subjected to a minimum amount of handling with less risk of breakage or damage to optical faces. GASKET and STOPPER7 included in purchase. (Flask and pump not included.)
P65D	Double Cell Washer - This model is designed to wash two cells at a time and is extremely useful for matched pairs of cells, ensuring they are both subjected to the same washing treatment. It comes with a rubber stopper for fitting into a size 7 standard vacuum flask. The cells are subjected to a minimum amount of handling with less risk of breakage or damage to optical faces. GASKET and STOPPER7 included in purchase. (Flask and pump not included.)
GASKET	Small rubber gasket for P65S or P65D.
STOPPER7	Stopper for cell washers to fit size 7 vacuum flask.
Cuvette Washer Full Kit	Full kit for washing cuvettes -contains filtering flask, vinyl tubing, cuvette washer, gasket and stopper

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5-4 Cuvette Washers

CUVETTE CLEANING SOLUTIONS	
MFCSwab	Cleaning swabs for Micro Focus Cell and other Cuvettes
Cuvette Squeegee	Window washer for FireflySci cuvettes
Double-Sided Lens Cloth	Double-sided, high quality lens cloth for cleaning optical surfaces on cuvettes

5-5 Mixers/Stirrers

P72

P73 P67 P68 P69

PART#	DESCRIPTION
P67	STIRRING ROD: Manual stirring rod with flared end, manufactured in polyethylene for use in 10mm cuvettes.
P68	SEMI-MICRO CUVETTE ADD-A-MIXER: Manual mixer fits any semi-micro 10mm pathlength cuvette with a 4mm inside with or larger.
P69	CUVETTE ADD-A-MIXER: Manual mixer fits any macro cuvette with 10mm lightpath or larger.
P72	MINI CUVETTE STIRRER: Mini Spectrophotometer Precision Cell Stirrer: This PTFE magnetic centrifugal stirrer fits into cuvettes with smaller apertures and volumes and provides rapid vertical and horizontal mixing with a minimum of vortexing when placed on a magnetic stirring machine. Centrifugal pumping action generated by the cross channels in the upper face mixers without aeration. Photometric measurements can proceed uninterrupted while reagents are added. • Dimensions- 7 x 2mm • For use with narrow-necked and semi-micro cuvettes
P73	SPECTROPHOTOMETER PRECISION CELL STIRRER: The PTFE magnetic centrifugal stirrer fits into the standard 10mm light path spectral cell and provides rapid vertical and horizontal mixing with a minimum of vortexing when placed on a magnetic stirring machine. Centrifugal pumping action generated by the cross channels in the upper face mixes without aeration. Photometric measurements can proceed uninterrupted while reagents are added. 9.5mm diameter x 8mm high, the one-piece molded unit will not scratch cuvettes and has no crevices to trap dirt. May also be used in test tubes.
P82	ELECTRONIC CELL STIRRER: Stir cell content while measuring absorbance. Fits all standard spectrophotometers and fluorometers. The sample is mixed by a tiny magnetic stir bar which is placed at the bottom of your cell. A small electronic rotation magnet assembly is placed under the cell in the cell compartment. This raises the cell up 5mm which allows you to use less sample volume and will not interfere with your unit's operation. Speed of mixer's rotation is controlled by an external controller connected by a 36" long paper thin ribbon, allowing your instrument to close normally. Controller is 4" x 2.5" x 3" high (including speed controller knob). Magnetic stir bar fits any 10x10mm ID cell, and will stir up to 30mm in internal height. The bar is 8mm high x 9.5mm in diameter. Available for 110-120 or 220-240 VAC wall current. (220-240 VAC Par Number: P82220)

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WHY VALIDATE AND CALIBRATE WITH FIREFLYSCI?

As the world's foremost spectrophotometer reference standard manufacturer, we have a dedicated staff and years of experience to back up our products. Our solid state UV/VIS/NIR reference standards are the most stable on the market and remain in spec long after many other manufacturer's standards go bad. Relying on our proprietary nanodeposition technology, you can rest assured that our solid-state standards will produce steady readings for years to come on your machines.
Other companies keep you bogged down with costly and recurrent recalibrations, which drain time and resources, putting a large drain on your QC department.

The Highest Quality, Most Cost-Effective and Speedy Recalibrations
Let's say that you have some filters from another company already that you'd like to hang onto and recalibrate. No problem. All you need to do is to contact us and let us know. Our average turnaround time is about 1-2 weeks. We will beat anyone's prices and you can proceed knowing that your filters are now backed up by our world class calibration lab.

Advantages at a Glance

1. FireflySci is the only company to offer a FREE performance verification service for your current calibration filters.
2. Our senior scientists have over 35 years of experience in metrology and quality control.
3. Unsurpassed calibration quality.
4. Unique products and functionality that no other company offers:
5. Combined wavelength/photometric accuracy reference standard (WAV-7 UV/VIS)
6. Combined photometric/stray light reference standards (FUV Dual Series)
7. Solid-state NIR wavelength reference standard (WAV-8 NIR)
8. Continuous photometric accuracy verification in the range of 200-3000nm (SPB Series)
9. Metal-on-quartz equivalents work on ANY machine regardless of optics (FUV Series, FUV Dual Series, FNIR-Series, SPB-Series)
10. Universal test plate for microplate readers that will work on any company's machines.
11. Can use solid state filters for years without having to recalibrate. In over 8 years of active duty, our filters have been proved to never go out of spec.
12. Flawless production record: not one return in over 8 years of operation as a result of a manufacturing defect.

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Save thousands of dollars a year by using our solid-state photometric accuracy verification calibration standards. Several of our solid state filters are NIST traceable reference standards that never need recalibration due to material aging.

HF Series: VIS Photometric Accuracy
Calibration Standards
(400-700nm)
(Optical Densities: 0.04 - 4.0au)

HF SERIES STANDARDS

Firefly's HF neutral density solid-state filter series tests photometric accuracy in the VIS range (400-700nm).

PRODUCT SPECS:

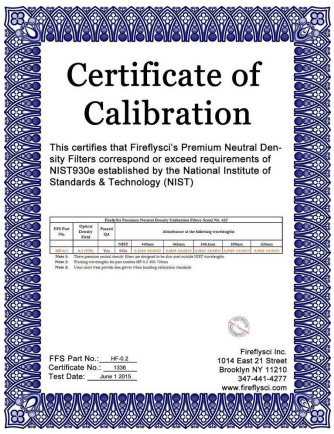
- Optical densities available: 0.04au, 0.2au, 0.3au, 0.5au, 0.7au, 1.0au, 1.5au, 2.0au, 2.5au, 3.0au, 4.0au
- Expanded uncertainties of each filter: HF-0.04 (+/- 0.0019au), HF-0.2 (+/- 0.0022au), HF-0.3 (+/- 0.0020au), HF-0.5 (+/- 0.0022au), HF-0.7 (+/- 0.0023au), HF-1.0 (+/- 0.0023au), HF-1.5 (+/- 0.0054au), HF-2.0 (+/- 0.0055au), HF-2.5 (+/- 0.0090au), HF-3.0 (+/- 0.0181au), HF-4.0 (+/- 0.0110au)
- Wavelength range: 400-700nm. Standard validation points included on the certificate of calibration are 440, 465, 546.1, 590, 635nm.
- External dimensions: 12.5x12.5x45mm

BENEFITS OF USING THE HF SERIES PHOTOMETRIC ACCURACY FILTERS:

- Firefly Unique Lifetime Warranty
- Highly accurate and consistent spectrophotometer calibration every time.
- Never has to be replaced.
- Never has to be recalibrated if used properly
- Scratch-resistant coating protects optical surfaces
- Can be used in any spectrophotometer (with standard 12.5x12.5x45mm holder)
- Surpasses NIST-930e requirements and tolerances.
- Full NIST traceability and compatibility.

INCLUDED WITH HF SERIES FILTERS:

- Instructional manual
- Certificate of calibration with NIST traceability
- Photometric data tables are available for qualified customers. Please contact us for more information.



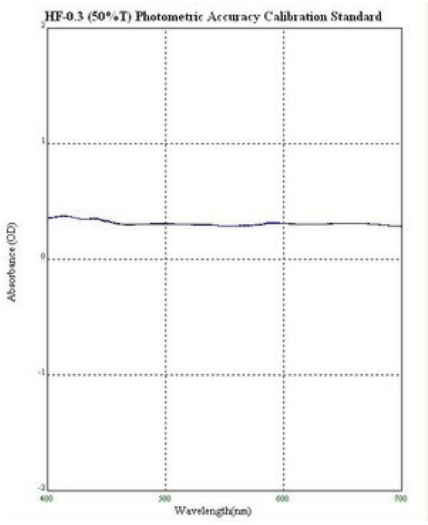
Certificate of Calibration

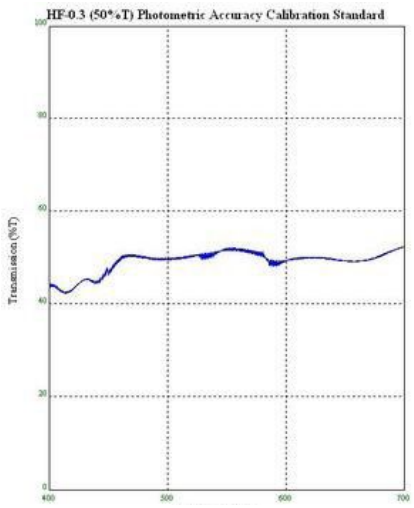
This certifies that Fireflysci's Premium Neutral Density Filters correspond or exceed requirements of NIST930e established by the National Institute of Standards & Technology (NIST)

FFS Part No.: HF-0.2
Certificate No.: 1108
Test Date: June 1 2015

Fireflysci Inc
1014 East 21 Street
Brooklyn NY 11210
347-441-4277
www.fireflysci.com

Sample certificate of calibration





Sample scan charts of HF-Series filter

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FUV Series: UV/VIS Photometric Accuracy Calibration Standards (200-700nm) (Optical Densities: 0.04 - 4.0au)

FUV-SERIES

Firefly's FUV neutral density solid-state filter series tests photometric accuracy in the UV and VIS range from 200-700nm.

Certificate of Calibration

This certifies that Fireflysci's Premium Neutral Density Filters correspond or exceed requirements of NIST SRM 2031B & NIST SRM 930e established by the National Institute of Standards & Technology (NIST)

FFS Part No.: FUV-0.5
Certificate No.: 1538
Test Date: June 1 2015

Fireflysci Inc
1014 East 21 Street
Brooklyn NY 11210
347-441-4277
www.fireflysci.com

Sample certificate of calibration

PRODUCT SPECS:

- Optical densities: 0.04au, 0.2au, 0.3au, 0.5au, 0.7au, 1.0au, 1.5au, 2.0au, 2.5au, 3.0au, 4.0au
- Expanded uncertainties: FUV-0.04 (+/- 0.0019au), FUV-0.2 (+/- 0.0022au), FUV-0.3 (+/- 0.0020au), FUV-0.5 (+/- 0.0022au), FUV-0.7 (+/- 0.0023au), FUV-1.0 (+/- 0.0042au), FUV-1.5 (+/- 0.0054au), FUV-2.0 (+/- 0.0055au), FUV-2.5 (+/- 0.0090au), FUV-3.0 (+/- 0.0181au), FUV -4.0 (+/- 0.0110au).
- Wavelength range: 200-700nm. Standard peaks included on certificate of calibration are 250, 280, 340, 360, 400, 465, 500, 546.1, 590 and 635nm. FireflySci can provide alternate wavelengths in the 200-700nm range upon request.
- External Dimensions: 12.5x12.5x45mm

BENEFITS:

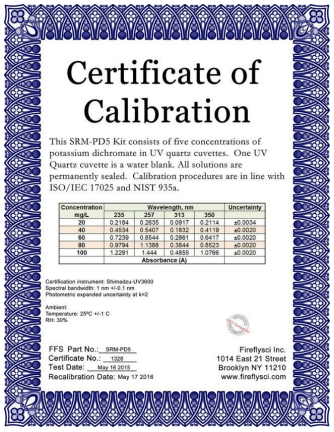
- Save thousands of dollars on recalibration fees and replacement filters.
- Save time by having standards in your lab where they are needed.
- Save on having to handle fragile and toxic liquid calibration standards.
- Give yourself peace-of-mind knowing that all our standards are 100% NIST Traceable.
- High durability with scratch-resistant coating that protects optical surfaces.
- Can be used in any spectrophotometer in your lab (with standard 12.5 x 12.5 x 45mm holder).

Potassium Dichromate UV/VIS Photometric Accuracy Liquid Standard- NIST 935 (235-430nm)

POTASSIUM DICHROMATE

Potassium Dichromate liquid photometric standards for validating UV/ VIS spectrophotometers.

Potassium Dichromate dissolved in Perchloric Acid (0.001N) is a tried and true method of verifying for absorbance accuracy (photometric) as well as linearity in the UV range. Producing several characteristic peaks throughout the UV range, Potassium Dichromate enables checking at 235nm, 257nm, 313nm, 350nm and 430nm. FireflySci produces its own blend in house, derived from the NIST SRM 935a guidelines and permanently seals the contents in a fire-fused quartz cuvette.


Certificate of Calibration

This SRM-PD5 Kit consists of five concentrations of potassium dichromate in UV quartz cuvettes. One UV Quartz cuvette is a water blank. All solutions are permanently sealed. Calibration procedures are in line with ISO/IEC 17025 and NIST 935a.

Concentration	Wavelength, nm				Uncertainty
mg/L	235	257	313	350	
20	0.2184	0.2635	0.0917	0.2114	±0.0034
40	0.4534	0.5407	0.1832	0.4119	±0.0020
60	0.7239	0.8544	0.2851	0.6417	±0.0020
80	0.9794	1.1388	0.3844	0.8523	±0.0020
100	1.2291	1.444	0.4855	1.0798	±0.0020
Absorbance (A)					

Certification instrument: Shimadzu-UV3600
Spectral bandwidth: 1 nm +/-0.1 nm
Photometric expanded uncertainty at k=2

Ambient:
Temperature: 25ºC +/-1 C
RH: 32%

FFS Part No.: SRM-PD5
Certificate No.: 1538
Test Date: May 16 2015
Recalibration Date: May 17 2016

Fireflysci Inc.
1014 East 21 Street
Brooklyn NY 11210
www.fireflysci.com

Sample certificate of calibration

CAPABILITIES:

- Verify for photometric accuracy and linearity in the UV range at the following wavelengths

235nm 350nm
257nm 313nm
430nm (only available with the 600mg/L concentration)

INCLUDED WITH POTASSIUM DICHROMATE LIQUID CALIBRATION STANDARD:

- Instructions are included with every Potassium Dichromate liquid filter
- Certificate of calibration with NIST traceability
- MSDS data for Potassium Dichromate

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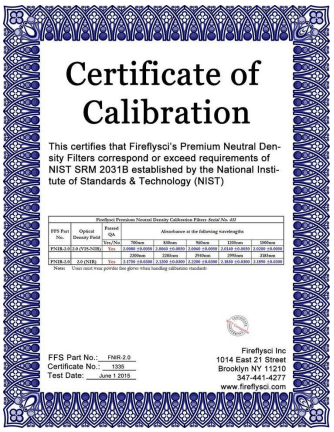
FNIR Series: NIR Photometric Accuracy Calibration Standards (700-3000nm) (Optical Densities: 0.04 - 4.0au)

FNIR-SERIES

NIST-traceable FNIR series standards for verifying photometric accuracy in the wavelength range of 700-3000nm.

PRODUCT SPECS:

- Optical densities: 0.04au, 0.2au, 0.3au, 0.5au, 0.7au, 1.0au, 1.5au, 2.0au, 2.5au, 3.0au, 4.0au.
- Expanded uncertainties: FNIR-0.04 (+/- 0.0019au), FNIR-0.2 (+/- 0.0022au), FNIR-0.3 (+/- 0.0020au), FNIR-0.5 (+/- 0.0022au), FNIR-0.7 (+/- 0.0023au), FNIR-1.0 (+/- 0.0042au), FNIR-1.5 (+/- 0.0054au), FNIR-2.0 (+/- 0.0055au), FNIR-2.5 (+/- 0.0090au), FNIR-3.0 (+/- 0.0181au), FNIR-4.0 (+/- 0.0110au).
- Wavelength range: 700-3000nm. Certified wavelength points include 700, 1100, 1700, 2700 and 3000nm. Firefly can provide alternative points in the 200-700nm range upon request or full scan data for informational purposes.
- External Dimensions: 12.5x12.5x45mm
- Fully NIST-traceable


Certificate of Calibration

This certifies that Fireflysci's Premium Neutral Density Filters correspond or exceed requirements of NIST SRM 2031B established by the National Institute of Standards & Technology (NIST)

FFS Part No.: FNIR-2.0
Certificate No.: 1335
Test Date: June 1 2015

Fireflysci Inc
1014 East 21 Street
Brooklyn NY 11210
347-441-4277
www.fireflysci.com

Sample certificate of calibration

Superband Series: Full UV/VIS/NIR Photometric Accuracy Calibration Standards (200-3000nm) (Optical Densities: 0.04 - 4.0au)

SUPERBAND SERIES

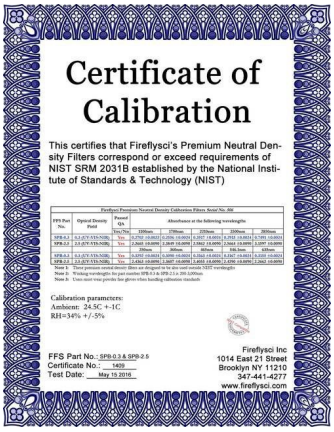
FireflySci is proud to announce the only calibration standard in existence that can verify photometric accuracy over a wavelength range of 200-3000nm.

CAPABILITIES:

- Photometric accuracy in the UV, VIS and NIR range (200-3000nm) at 10 certified wavelengths including: 250, 360, 465, 546.1, 635, 1100, 1700, 2210, 2500, 2850nm.

PRODUCT SPECS:

- Optical densities: 0.04au, 0.2au, 0.3au, 0.5au, 0.7au, 1.0au, 1.5au, 2.0au, 2.5au, 3.0au, 4.0au
- Uncertainties: SPB-0.04 (+/- 0.0019au), SPB-0.2 (+/- 0.0022au), SPB-0.3 (+/- 0.0020au), SPB-0.5 (+/- 0.0022au), SPB-0.7 (+/- 0.0023au), SPB-1.0 (+/- 0.0042au), SPB-1.5 (+/- 0.0054au), SPB-2.0 (+/- 0.0055au), SPB-2.5 (+/- 0.0090au), SPB-3.0 (+/- 0.0181au), SPB-4.0 (+/- 0.0234au).
- Wavelength range: 200-3000nm. FireflySci can provide certified calibration points anywhere in this range. Customers are able to choose points.
- External Dimensions: 12.5x12.5x45mm
- Fully NIST-traceable


Certificate of Calibration

This certifies that Fireflysci's Premium Neutral Density Filters correspond or exceed requirements of NIST SRM 2031B established by the National Institute of Standards & Technology (NIST)

Calibration parameters:
Ambient: 24.5C +-1C
RH=34% +/-5%

FFS Part No.: SPB-0.3 & SPB-2.5
Certificate No.: 1409
Test Date: May 15 2016

Fireflysci Inc
1014 East 21 Street
Brooklyn NY 11210
347-441-4277
www.fireflysci.com

Sample certificate of calibration

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info@fireflysci.com 1-347-441-4277

NIST Traceable reference standards for verifying the wavelength accuracy of a UV/VIS spectrophotometer. All standards are stringently prepared according to NIST guidelines.

Liquid Holmium Perchlorate Wavelength Standard- NIST 2034 (240-640nm)

LIQUID HOLMIUM STANDARD

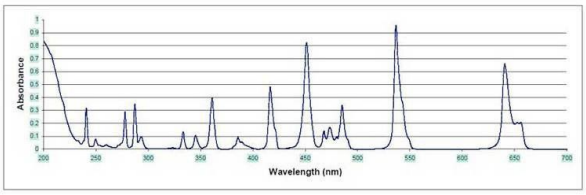
The Firefly Holmium filter is used to calibrate wavelength accuracy in the 240-650 nm range.

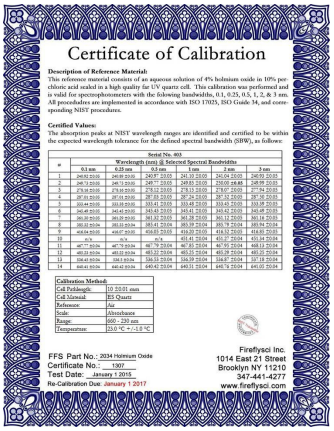
CAPABILITIES:

The Firefly Holmium wavelength filter has the following peaks:

- 240.8
- 277.8
- 287.1
- 361.1
- 416.4
- 451.2
- 485.2
- 536.5
- 640.5

Please note that this is a liquid calibration filter and does not come with the same Lifetime Warranty as Firefly's Solid State Standards. The Firefly liquid holmium filter must be recalibrated every year according to NIST guidelines.




Certificate of Calibration

Description of Reference Material:
This reference material consists of an aqueous solution of 4% holmium oxide in 10% perchloric acid sealed in a high quality fur UV quartz cell. This calibration was performed and is valid for spectrophotometers with the following bandwidths, 0.1, 0.25, 0.5, 1, 2, & 3 nm. All proceedures are implemented in accordance with ISO 17025, ISO Guide 34, and corresponding NIST procedures.

Certified Values:
The absorption peaks at NIST wavelength ranges are identified and certified to be within the expected wavelength tolerance for the defined spectral bandwidth (SBW), as follows:

Serial No. 603

#	Wavelength (nm) @ Selected Spectral Bandwidths					
	0.1 nm	0.25 nm	0.5 nm	1 nm	2 nm	3 nm
1	240.92 ±0.05	240.89 ±0.05	240.87 ±0.05	241.35 ±0.05	242.04 ±0.05	240.93 ±0.05
2	249.72 ±0.05	249.71 ±0.05	249.77 ±0.05	249.83 ±0.05	249.67 ±0.05	249.74 ±0.05
3	278.10 ±0.05	278.10 ±0.05	278.12 ±0.05	278.13 ±0.05	278.07 ±0.05	278.04 ±0.05
4	287.16 ±0.05	287.15 ±0.05	287.15 ±0.05	287.17 ±0.05	287.17 ±0.05	287.17 ±0.05
5	333.44 ±0.05	333.45 ±0.05	333.41 ±0.05	333.48 ±0.05	333.43 ±0.05	333.48 ±0.05
6	345.48 ±0.05	345.45 ±0.05	345.42 ±0.05	345.48 ±0.05	345.42 ±0.05	345.48 ±0.05
7	360.78 ±0.05	360.80 ±0.05	360.82 ±0.05	360.82 ±0.05	360.82 ±0.05	360.84 ±0.05
8	360.82 ±0.05	360.80 ±0.05	360.81 ±0.05	360.79 ±0.05	360.79 ±0.05	360.84 ±0.05
9	416.04 ±0.05	416.07 ±0.05	416.03 ±0.05	416.10 ±0.05	416.12 ±0.05	416.10 ±0.05
10	[illegible]	[illegible]	[illegible]	453.46 ±0.05	453.37 ±0.05	453.34 ±0.05
11	467.75 ±0.05	467.76 ±0.05	467.78 ±0.05	467.85 ±0.05	467.95 ±0.05	468.12 ±0.05
12	485.20 ±0.05	485.20 ±0.05	485.22 ±0.05	485.25 ±0.05	485.08 ±0.05	485.25 ±0.05
13	536.43 ±0.05	536.41 ±0.05	536.53 ±0.05	536.39 ±0.05	536.87 ±0.05	537.18 ±0.05
14	640.41 ±0.05	640.40 ±0.05	640.42 ±0.05	640.31 ±0.05	640.74 ±0.05	640.05 ±0.05

Calibration Method:

Cell Pathlength:	10 ±0.01 mm
Cell Material:	BS Quartz
Reference:	Air
Scale:	Absorbance
Range:	660 - 230 nm
Temperature:	23.0 °C +/-1.0 °C

FFS Part No.: 2034 Holmium Oxide
Certificate No.: 1307
Test Date: January 1 2015
Re-Calibration Due: January 1 2017

Fireflysci Inc.
1014 East 21 Street
Brooklyn NY 11210
347-441-4277
www.fireflysci.com

Sample certificate of calibration

WAV-1 UV/VIS

The WAV-1 UV-VIS allows calibration of wavelength accuracy in the ultra-violet (UV) and visible (VIS) range. FireflySci offers the only holmium glass reference standard in the world that has the highly demanded wavelength peak of 241.5nm for verifications relating to DNA measurements and other applications.

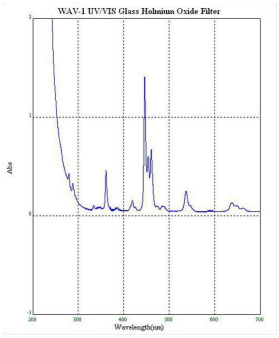
WAV-1 UV/VIS Advanced Holmium Oxide Wavelength Accuracy Standard (240-640nm)

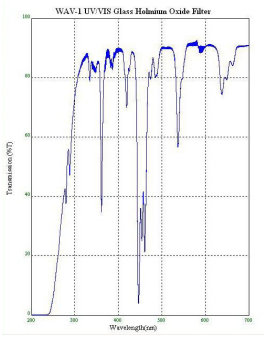
CAPABILITIES OF WAV-1 UV/VIS:

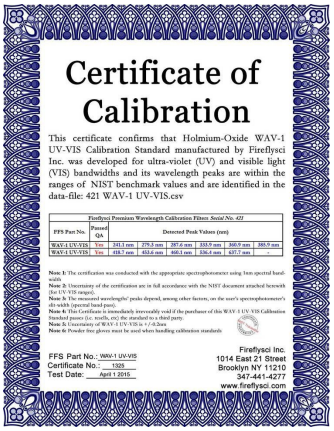
We provide the following NIST-traceable peak values for the wavelength accuracy calibration of spectrophotometers:

- 241.5 nm
- 279.3 nm
- 287.6 nm
- 333.8 nm
- 360.8 nm
- 385.8 nm
- 418.5 nm
- 453.4 nm
- 459.9 nm
- 536.4 nm
- 637.5 nm

Sample absorbance and transmission scans of the WAV-1 UV/VIS:






Certificate of Calibration

This certificate confirms that Holmium-Oxide WAV-1 UV-VIS Calibration Standard manufactured by Fireflysci Inc. was developed for ultra-violet (UV) and visible light (VIS) bandwidths and its wavelength peaks are within the ranges of NIST benchmark values and are identified in the data-file: 421 WAV-1 UV-VIS.csv

Fireflysci Premium Wavelength Calibration Filter: Serial No. 421

FFS Part No.	Passed QA	Detected Peak Values (nm)					
WAV-1 UV-VIS	Yes	241.1 nm	279.3 nm	287.6 nm	333.9 nm	360.9 nm	385.9 nm
WAV-1 UV-VIS	Yes	418.7 nm	453.6 nm	460.1 nm	536.4 nm	637.7 nm	-

Note 1: The certification was conducted with the appropriate spectrophotometer using 1nm spectral bandwidth
Note 2: Uncertainty of the certification are in full accordance with the NIST document attached herewith (for UV-VIS range).
Note 3: The measured wavelengths' peaks depend, among other factors, on the user's spectrophotometer's spectral bandwidth (slit width).
Note 4: This Certificate is immediately irrevocably void if the purchaser of this WAV-1 UV-VIS Calibration Standard passes (i.e. resells, etc) the standard to a third party.
Note 5: Uncertainty of WAV-1 UV-VIS is +/-0.2nm
Note 6: Powder free gloves must be used when handling calibration standards

FFS Part No.: WAV-1 UV-VIS
Certificate No.: 1325
Test Date: April 1 2015

Fireflysci Inc.
1014 East 21 Street
Brooklyn NY 11210
347-441-4277
www.fireflysci.com

Sample certificate of calibration

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info@fireflysci.com 1-347-441-4277

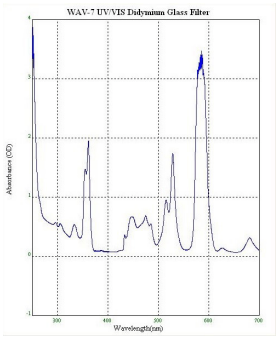
WAV-7 UV/VIS Wavelength & UV Photometric Accuracy Standard (329-875nm)

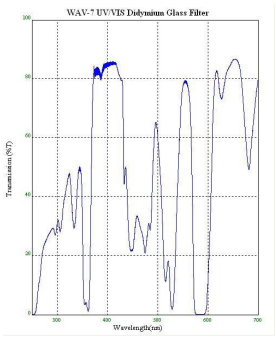
WAV-7

Didymium glass combined wavelength accuracy (329-875nm) and photometric accuracy (270-340nm) filter.

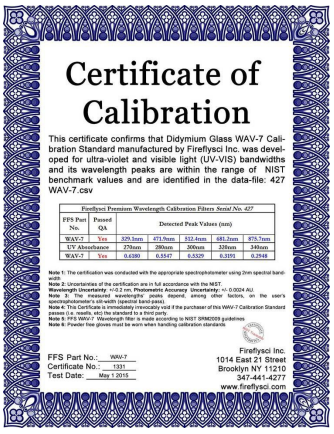
PRODUCT SPECS:

- Wavelength tolerance: +/- 0.2nm
- Wavelength peaks: 329, 472, 512, 681, 875nm
- Photometric tolerance: +/- 0.0024au
- Photometric accuracy verification points: 270, 280, 300, 320, 340nm
- Fully NIST-traceable





Sample scans of the WAV-7 UV/VIS



Certificate of Calibration

This certificate confirms that Didymium Glass WAV-7 Calibration Standard manufactured by Fireflysci Inc. was developed for ultra-violet and visible light (UV-VIS) bandwidths and its wavelength peaks are within the range of NIST benchmark values and are identified in the data-file: 427 WAV-7.csv

Fireflysci Premium Wavelength Calibration Filters *Serial No. 427*

FFS Part No.	Passed QA	Detected Peak Values (nm)				
WAV-7	Yes	329.1nm	471.9nm	512.4nm	681.2nm	875.7nm
UV Absorbance		270nm	280nm	300nm	320nm	340nm
WAV-7	Yes	0.4180	0.3547	0.5329	0.3191	0.2948

Note 1: The certification was conducted with the appropriate spectrophotometer using 2nm spectral bandwidth

Note 2: Uncertainties of the certification are in full accordance with the NIST.

Wavelength Uncertainty: +/-0.2 nm, **Photometric Accuracy Uncertainty**: +/- 0.0024 AU.

Note 3: The measured wavelengths' peaks depend, among other factors, on the user's spectrophotometer's slit-width (spectral band-pass).

Note 4: This Certificate is immediately irrevocably void if the purchaser of this WAV-7 Calibration Standard passes (i.e. resells, etc) the standard to a third party.

Note 5: FFS WAV-7 Wavelength filter is made according to NIST SRM2009 guidelines

Note 6: Powder free gloves must be worn when handling calibration standards

Firefly sci Inc.
1014 East 21 Street
Brooklyn NY 11210
347-441-4277
www.fireflysci.com

FFS Part No.: WAV-7
Certificate No.: 1331
Test Date: May 1 2015

Sample certificate of calibration

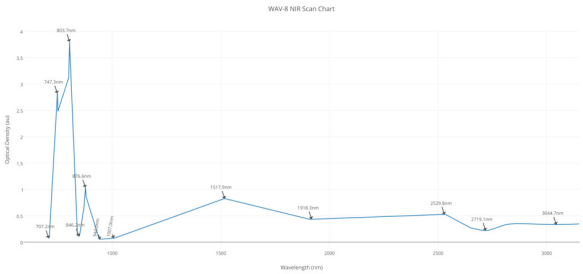
WAV-8 NIR Wavelength Accuracy Standard (700-3000nm)

WAV-8

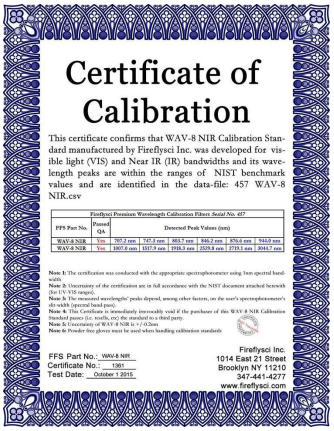
FireflySci's solution for wavelength calibration through the NIR range (700-3000nm).

PRODUCT SPECS:

- Wavelength tolerance: +/- 0.2nm (700-1500nm); +/- 0.5nm (2000-3000nm).
- Approximate wavelength peaks: 707, 747, 803.7, 846, 876.6, 944, 1007, 1518, 1918, 2530, 2719, 3045nm
- Fully NIST-traceable



Sample scans of the WAV-8



Certificate of Calibration

This certificate confirms that WAV-8 NIR Calibration Standard manufactured by Fireflysci Inc. was developed for visible light (VIS) and Near IR (IR) bandwidths and its wavelength peaks are within the ranges of NIST benchmark values and are identified in the data-file: 457 WAV-8 NIR.csv

Fireflysci Premium Wavelength Calibration Filters *Serial No. 457*

FFS Part No.	Passed QA	Detected Peak Values (nm)				
WAV-8 NIR	Yes	707.2 nm	747.3 nm	803.7 nm	846.2 nm	876.6 nm	944.0 nm
WAV-8 NIR	Yes	1007.0 nm	1517.9 nm	1918.3 nm	2529.8 nm	2719.1 nm	3044.7 nm

Note 1: The certification was conducted with the appropriate spectrophotometer using 1nm spectral bandwidth

Note 2: Uncertainty of the certification are in full accordance with the NIST document attached herewith (for UV-VIS range).

Note 3: The measured wavelengths' peaks depend, among other factors, on the user's spectrophotometer's slit-width (spectral band-pass).

Note 4: This Certificate is immediately irrevocably void if the purchaser of this WAV-8 NIR Calibration Standard passes (i.e. resells, etc) the standard to a third party.

Note 5: Uncertainty of WAV-8 NIR is +/-0.2nm

Note 6: Powder free gloves must be used when handling calibration standards

Firefly sci Inc.
1014 East 21 Street
Brooklyn NY 11210
347-441-4277
www.fireflysci.com

FFS Part No.: WAV-8 NIR
Certificate No.: 1301
Test Date: October 1 2015

Sample certificate of calibration

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Stray light is defined as light that is detected by the spectrophotometer but does not belong to the given bandwidth of the sample being measured. Often the result of light scattering, diffraction or errors with the instrument, stray light can cause a variety of distortions and errors in analysis.

In order to measure stray light, standards are needed that absorb all light of the wavelength at which the measurement is to be performed and then cut off at a specified wavelength."

UV Stray Light Liquid
Calibration Standards
(200-390nm)

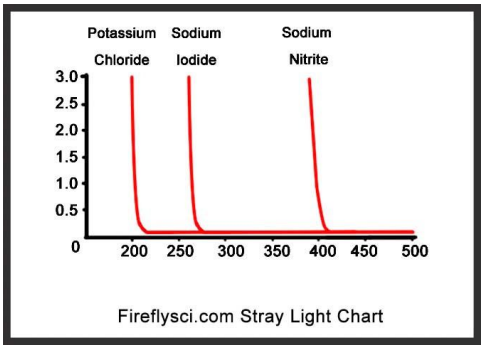
UV STRAY LIGHT LIQUID CALIBRATION STANDARDS

UV Stray Light Cut-off Filters ranging from 200-390nm.

CAPABILITIES:

The Firefly Stray Light cut off filters can check for stray light at various wavelength cut-offs in the UV range:

- Potassium Chloride: 200nm
- Sodium Iodide: 220nm
- Potassium Iodide: 260nm
- Sodium Nitrite: 390nm



Fireflysci.com Stray Light Chart

Sample certificate of calibration

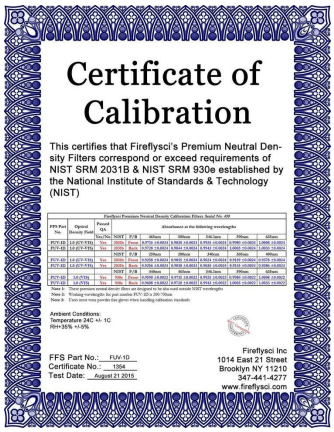
FUV Dual Series: UV/VIS Photometric
Accuracy & Stray Light
Calibration Standards
(200-700nm)
(Optical Densities 0.04-4.0au)

FUV DUAL SERIES

Firefly's FUV Dual Series filters allow you to verify photometric accuracy and stray light in the range of 200-700nm. Includes certified values for both the front and back of the filter for determining stray light.

PRODUCT SPECS:

- Optical densities: 0.04au, 0.2au, 0.3au, 0.5au, 0.7au, 1.0au, 1.5au, 2.0au, 2.5au, 3.0au, 4.0au
- Expanded uncertainties: FUV-0.04D (+/- 0.0019au), FUV-0.2D (+/- 0.0022au), FUV-0.3D (+/- 0.0020au), FUV-0.5D (+/- 0.0022au), FUV-0.7D (+/- 0.0023au), FUV-1.0D (+/- 0.0042au), FUV-1.5D (+/- 0.0054au), FUV-2.0D (+/- 0.0055au), FUV-2.5D (+/- 0.0090au), FUV-3.0D (+/- 0.0181au), FUV-4.0D (+/- 0.0110au).
- Wavelength range: 200-700nm. Standard wavelengths included on certificate of calibration are 250, 280, 340, 360, 400, 465, 500, 546.1, 590 and 635nm. FireflySci can provide alternate peaks in the 200-700nm range upon request.
- Includes photometric data for both the front and back side of the filter.
- External Dimensions: 12.5x12.5x45mm
- Fully NIST-traceable



Sample certificate of calibration

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NIR Liquid Stray Light Liquid Calibration Standards (800-2000nm)

NIR STRAY LIGHT

A variety of NIST-traceable proprietary blends for checking the stray light of a spectrophotometer in the NIR range from 800-2000nm.

CAPABILITIES:

The Firefly Stray Light cut off filters can check for stray light at various wavelength cut-offs in the NIR range:

- 800nm
- 1000nm
- 1250nm
- 1370nm
- 1550nm
- 1950nm

Spectral Bandwidth Calibration

Spectral Bandwidth (SBW) refers to the physical slit-width of the spectrophotometer's monochromator, which has a direct impact on the resolution of the instruments. Spectral resolution is the ability to resolve two neighboring peaks. Reconciling the resolution is an integral component in getting accurate wavelength and photometric readings on your spectrophotometer. This is a requirement for several pharmacopoeias include European Pharmacopoeia (EP) and United States Pharmacopoeia (USP).

Toluene in Hexane Spectral Bandwidth Reference Standard

TOLUENE IN HEXANE

Toluene in Hexane standard for resolving the spectral bandwidth of a UV/VIS spectrophotometer.

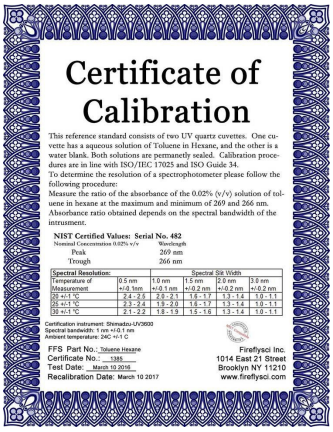
PRODUCT SPECS:

Firefly's Toluene in Hexane Spectral Bandwidth Reference Standard is a set containing:

- High-purity solution of 0.02% Toluene in Hexane
- High-purity Hexane blank

SUGGESTED USE:

- The EP recommends comparing the ratio of the peak maxima at 269nm and the minimum at 266nm to determine the spectral resolution of your spectrophotometer.
- Determine the resolution by running the toluene in hexane against the hexane blank between 265-270nm and calculate the peak minima and maxima.
- Calculate the ratios of the peak to the trough and compare these results with the reference values.
- Please note that this is a liquid calibration filter and does not come with the same Lifetime Warranty as Firefly's Solid State Standards. The Firefly Toluene in Hexane filter must be recalibrated every year according to NIST guidelines.



Certificate of Calibration

This reference standard consists of two UV quartz cuvettes. One cuvette has a aqueous solution of Toluene in Hexane, and the other is a water blank. Both solutions are permanently sealed. Calibration procedures are in line with ISO/IEC 17025 and ISO Guide 34.
To determine the resolution of a spectrophotometer please follow the following procedure:
Measure the ratio of the absorbance of the 0.02% (v/v) solution of toluene in hexane at the maximum and minimum of 269 and 266 nm.
Absorbance ratio obtained depends on the spectral bandwidth of the instrument.

NIST Certified Values: Serial No. 482

Nominal Concentration 0.02% v/v	Wavelength
Peak	269 nm
Trough	266 nm

Spectral Resolution:	Spectral Slit Width				
Temperature of Measurement	0.5 nm +/-0.1nm	1.0 nm +/-0.1 nm	1.5 nm +/-0.2 nm	2.0 nm +/-0.2 nm	3.0 nm +/-0.2 nm
20 +/-1 °C	2.4 - 2.5	2.0 - 2.1	1.6 - 1.7	1.3 - 1.4	1.0 - 1.1
25 +/-1 °C	2.3 - 2.4	1.9 - 2.0	1.6 - 1.7	1.3 - 1.4	1.0 - 1.1
30 +/-1 °C	2.1 - 2.2	1.8 - 1.9	1.5 - 1.6	1.3 - 1.4	1.0 - 1.1

Certification Instrument: Shimadzu UV2600
Spectral bandwidth: 1 nm +/-0.1 nm
Ambient temperature: 24C +/-1 C

FFS Part No.: Toluene Hexane
Certificate No.: 1386
Test Date: March 10 2016
Recalibration Date: March 10 2017

Fireflysci Inc.
1014 East 21 Street
Brooklyn NY 11210
www.fireflysci.com

Sample certificate of calibration

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info@fireflysci.com 1-347-441-4277

Reference kits for NIST, NRC, US Pharmacopoeia and European Pharmacopoeia spectrophotometer validation. All standards are NIST traceable and prepared using NIST guidelines. Custom kits are available upon request.

NIST 930e VIS Photometric Accuracy Neutral Density Kit (10%T, 20%T, 30%T) (400-700nm)

NIST 930E EQUIVALENT KIT

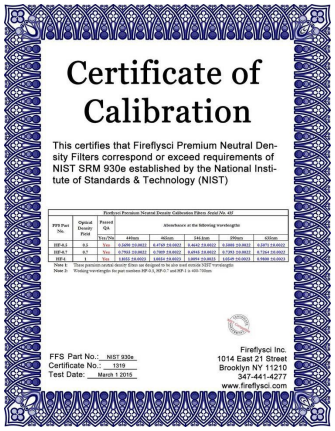
FireflySci's equivalent of the NIST SRM 930e calibration reference kit for testing photometric accuracy in the VIS range (400-700nm).

THIS KIT INCLUDES THE FOLLOWING FILTERS:

- HF-1 (10%T)
- HF-0.7 (20%T)
- HF-0.5 (30%T)
- A30 Blank holder
- Case P4

PRODUCT SPECS:

- Optical densities of the filters: HF-1 (10%T); HF-0.7 (20%T); HF-0.5 (30%T)
- Wavelength range: 400-700nm (this kit can be used for any wavelength within this range)
- Tolerances: HF-0.5 (+/-0.0022au); HF-0.7 (+/- 0.0023au); HF-1.0 (+/- 0.0023au)
- External dimensions of individual filters: 12.5x12.5x45.0mm
- Fully NIST-traceable.


Certificate of Calibration

This certifies that Fireflysci Premium Neutral Density Filters correspond or exceed requirements of NIST SRM 930e established by the National Institute of Standards & Technology (NIST)

FFS Part No.: NIST 930e
Certificate No.: 1319
Test Date: March 1 2015

Fireflysci Inc.
1014 East 21 Street
Brooklyn NY 11210
347-441-4277
www.fireflysci.com

Sample certificate of calibration

NIST 1930 VIS Photometric Accuracy Neutral Density Kit (1%T, 3%T, 50%T) (400-700nm)

NIST 1930 EQUIVALENT KIT

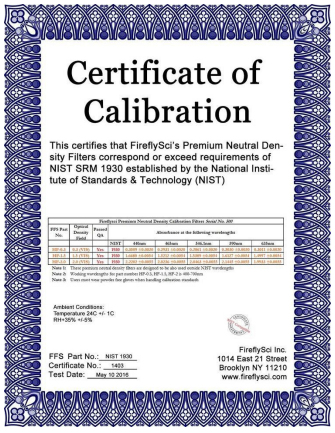
Firefly's equivalent of the NIST SRM 1930 calibration reference kit for testing photometric accuracy in the VIS range (400-700nm).

THIS KIT INCLUDES THE FOLLOWING FILTERS:

- HF-2.0 (1%T)
- HF-1.5 (3%T)
- HF-0.3 (50%T)
- A30 Blank holder
- Case P4

PRODUCT SPECS:

- Wavelength range: 400-700nm (this kit can be used for any wavelength within this range).
- Tolerances: HF-0.3 (+/- 0.0020 au); HF-1.5 (+/-0.0054au); HF-2 (+/-0.0055au)
- External dimensions of individual filters: 12.5x12.5x45.0mm


Certificate of Calibration

This certifies that FireflySci's Premium Neutral Density Filters correspond or exceed requirements of NIST SRM 1930 established by the National Institute of Standards & Technology (NIST)

Ambient Conditions:
Temperature 24C +/ 1C
RH=35% +/-5%

FFS Part No.: NIST 1930
Certificate No.: 1403
Test Date: May 10 2016

FireflySci Inc.
1014 East 21 Street
Brooklyn NY 11210
www.fireflysci.com

Sample certificate of calibration

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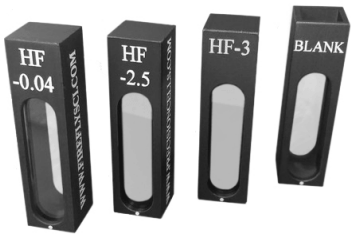
info@fireflysci.com 1-347-441-4277



NIST 2930 VIS Photometric
Neutral Density Kit
(0.1%T, 0.3%T, 90%T)
(400-700nm)

NIST 2930 EQUIVALENT KIT

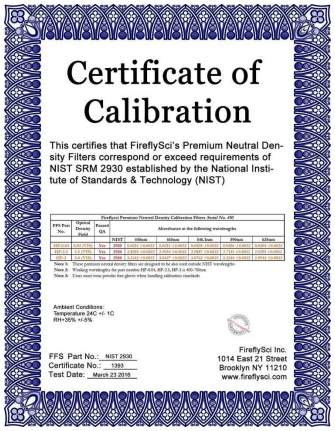
Firefly's equivalent of the NIST SRM 2930 calibration reference kit for testing photometric accuracy in the VIS range (400-700nm).

THIS KIT INCLUDES THE FOLLOWING FILTERS:

- HF-3.0 (0.1%T)
- HF-2.5 (0.3%T)
- HF-0.04 (90%T)
- A30 Blank holder
- Case P4

PRODUCT SPECS:

- Wavelength range: 400-700nm (this kit can be used for any wavelength within this range)
- Tolerances: HF-0.04 (+/- 0.0020 au); HF-2.5 (+/- 0.0090au); HF-3 (+/- 0.0181au)
- External dimensions of individual filters: 12.5 x 12.5 x 45.0 mm


Certificate of Calibration

This certifies that FireflySci's Premium Neutral Density Filters correspond or exceed requirements of NIST SRM 2930 established by the National Institute of Standards & Technology (NIST)

Ambient Conditions:
Temperature 24C +/- 1C
RH<30% +/-5%

FFS Part No.: NIST 2930
Certificate No.: 1393
Test Date: March 23 2016

FireflySci Inc.
1014 East 21 Street
Brooklyn NY 11210
www.fireflysci.com

Sample certificate of calibration

Photometric Linearity
Potassium Dichromate Kit
(235-430nm)

PHOTOMETRIC LINEARITY (POTASSIUM DICHROMATE)

Potassium dichromate linearity and photometric accuracy kit for use with many global pharmacopoeia requirements.

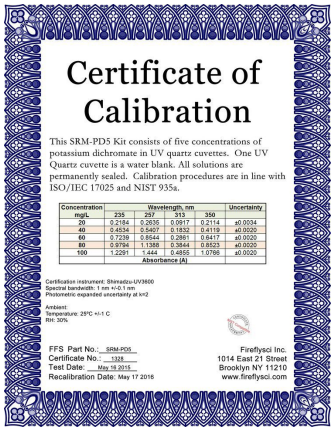
PRODUCT SPECS:

- SRM-PD5 Potassium Dichromate Reference Kit contains 5 Concentrations (20mg/L, 40mg/L, 60mg/L, 80mg/L, 100mg/L) and one Perchloric Acid blank.
- SRM-PD6 Kit contains 6 concentrations (20mg/L, 40mg/L, 60mg/L, 80mg/L, 100mg/L, 600mg/L) and one Perchloric Acid Blank. This kit is for use in European Pharmacoepia validations.
- Custom concentrations available on request.

CAPABILITIES:

Verify for photometric accuracy and linearity in the UV range at the following wavelengths

- 235nm
- 257nm
- 313nm
- 350nm
- 430nm (only with the 600mg/L concentration)


Certificate of Calibration

This SRM-PD5 Kit consists of five concentrations of potassium dichromate in UV quartz cuvettes. One UV Quartz cuvette is a water blank. All solutions are permanently sealed. Calibration procedures are in line with ISO/IEC 17025 and NIST 935a.

Concentration	Wavelength, nm				Uncertainty
mg/L	235	257	313	350	
20	0.2184	0.2635	0.0917	0.2114	±0.0034
40	0.4434	0.5407	0.1832	0.4119	±0.0020
60	0.7238	0.8544	0.2851	0.6417	±0.0020
80	0.9794	1.1388	0.3844	0.8523	±0.0020
100	1.2291	1.444	0.4855	1.0798	±0.0020
Absorbance (A)					

Certification instrument: Shimadzu-UV3600
Spectral bandwidth: 1 nm +/-0.1 nm
Photometric expanded uncertainty at k=2

Ambient:
Temperature: 25°C +/-1 C
RH: 30%

FFS Part No.: SRM-PD5
Certificate No.: 1328
Test Date: May 16 2015
Recalibration Date: May 17 2016

FireflySci Inc.
1014 East 21 Street
Brooklyn NY 11210
www.fireflysci.com

Sample certificate of calibration

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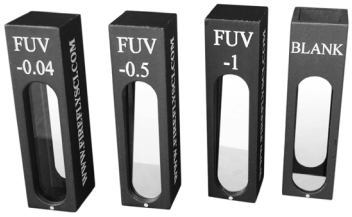
info@fireflysci.com 1-347-441-4277



NIST 2031 UV/VIS
Photometric Accuracy Kit
(10%T, 30%T, 90%T)
(200-700nm)

NIST 2031 EQUIVALENT KIT

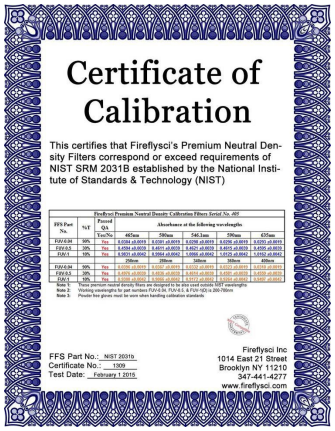
Firefly's upgraded and improved version of the NIST-2031 UV/VIS photometric accuracy kit.

THIS KIT INCLUDES THE FOLLOWING FILTERS:

- FUV-0.04 (90%T)
- FUV-0.5 (30%T)
- FUV-1.0 (10%T)
- A30 Blank Holder
- Case P4

PRODUCT SPECS:

- Optical densities: 0.04au (90%), 0.5au (30%), 1.0au (10%)
- Wavelength Range: 200-700 nm (this kit can be used for any wavelength within this range)
- Tolerances: FUV-0.04 (+/-0.0019 au); FUV-0.5 (+/- 0.0039au); FUV-1 (+/- 0.0042au)
- Wavelength range: 200-700nm. Standard certified calibration points included on the certificate of calibration are 250, 280, 340, 360, 400, 465, 500, 546.1, 590, 635nm. Firefly can provide alternative points in the 200-700nm range upon request or full scan data for informational purposes.
- External Dimensions: 12.5x12.5x45mm

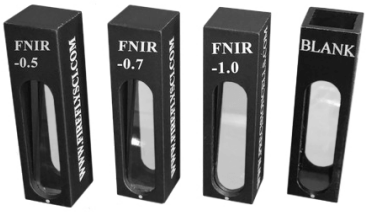

Certificate of Calibration

This certifies that Fireflysci's Premium Neutral Density Filters correspond or exceed requirements of NIST SRM 2031B established by the National Institute of Standards & Technology (NIST)

FFS Part No.: NIST 2031b
Certificate No.: 1309
Test Date: February 1 2015

Fireflysci Inc
1014 East 21 Street
Brooklyn NY 11210
347-441-4277
www.fireflysci.com

Sample certificate of calibration



FNIR Photometric
Accuracy & Linearity Kit
(10%T, 20%T, 30%T)
(700-3000nm)

FNIR KIT

Kit of three filters for validating photometric accuracy and linearity in the range of 700-3000nm

THIS KIT INCLUDES THE FOLLOWING FILTERS:

- FNIR-1.0 (10%T)
- FNIR-0.7 (20%T)
- FNIR-0.5 (30%T)
- A30 Blank Holder
- Case P4

PRODUCT SPECS:

- Optical densities: 1.0au (10%T), 0.7au (20%T), 0.5au (30%T)
- Wavelength Range: 700-3000nm. Certified wavelength points include 700, 1100, 1700, 2700 and 3000nm. Firefly can provide alternative points in the 700-300nm range upon request or full scan data for informational purposes.
- Tolerances: +/-0.0022 au
- External Dimensions: 12.5x12.5x45mm
- Fully NIST-traceable

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Superband UV/VIS/NIR Photometric
Accuracy & Linearity Kit
(10%T, 30%T, 90%T)
(200-3000nm)

SUPERBAND KIT

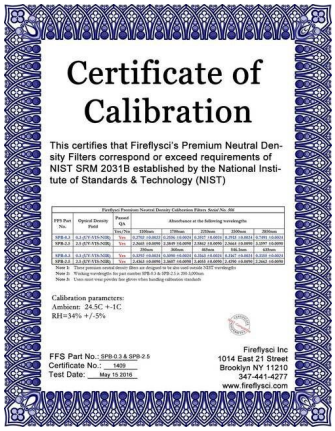
Kit of three filters and a blank for validating photometric accuracy and linearity in the range of 200-3000nm

THIS KIT INCLUDES THE FOLLOWING FILTERS:

- SPB-0.04 (90%T)
- SPB-0.5 (30%T)
- SPB-1.0 (10%T)
- A30 Blank Holder
- Case P4

PRODUCT SPECS:

- Optical densities: 0.04au (90%T), 0.5au (30%T), 1.0au (10%T)
- Wavelength Range: 200-3000nm. Certified wavelength points include 250, 280, 340, 546.1, 590, 635, 1100, 1700, 2700 and 3000nm. Firefly can provide alternative points in the 200-3000nm range upon request or full scan data for informational purposes.
- Tolerances: +/-0.0022 au
- External Dimensions: 12.5x12.5x45mm


Certificate of Calibration

This certifies that Fireflysci's Premium Neutral Density Filters correspond or exceed requirements of NIST SRM 2031B established by the National Institute of Standards & Technology (NIST)

Calibration parameters:
Ambient: 24.5C +-1C
RH=34% +/-5%

FFS Part No.: SPB-0.3 & SPB-2.5
Certificate No.: 1409
Test Date: May 15 2016

Fireflysci Inc
1014 East 21 Street
Brooklyn NY 11210
347-441-4277
www.fireflysci.com

Sample certificate of calibration

VIS Photometric & UV/VIS
Wavelength Accuracy Kit

VIS PHOTOMETRIC & UV/VIS WAVELENGTH KIT

Standard calibration kit for checking photometric accuracy in the range of 400-700nm and wavelength accuracy in the range of 241-637nm.

THIS KIT INCLUDES THE FOLLOWING FILTERS:

- HF-0.2 (60%T)
- HF-0.5 (30%T)
- HF-1.0 (10%T)
- WAV-1 UV/VIS Solid State Holmium Oxide Filter
- A30 Blank holder
- Case G6

PRODUCT SPECS:

- Tolerance for photometric accuracy filters: +/- 0.0022 au
- Tolerance for wavelength accuracy filters: +/- 0.2nm
- External dimensions of individual filters: 12.5 x 12.5 x 45.0 mm

European Pharmacopeia
Full Compliance Kit

EP KIT

Liquid kit for ensuring that your spectrophotometer is in line with European Pharmacopoeia requirements.

INCLUDED:

- Potassium Dichromate (60mg/L, 600mg/L) with Blank
- Holmium Oxide in Perchloric Acid with Blank
- Potassium Chloride with Pure Water Blank
- Toluene in Hexane with Hexane Blank

PRODUCT SPECS:

- Check for stray light at wavelength cut-off of 200nm
- Check for spectral bandwidth resolution at 266nm and 269nm
- Check for photometric accuracy at 235nm, 257nm, 313nm, 350nm and 430nm
- Check for wavelength Accuracy at 241.15nm, 287.15nm, 361.5nm and 536.3nm

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US Pharmacopoeia Photometric Linearity, Wavelength Accuracy & Stray Light Kit

USP KIT

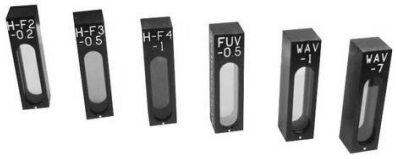
Liquid kit for ensuring that your UV/VIS spectrophotometer is in full compliance with US Pharmacopeoia standards.

INCLUDED:

- Potassium Dichromate (20mg/L)
- Potassium Dichromate (60mg/L)
- Potassium Dichromate (100mg/L)
- Potassium Dichromate Blank
- Holmium Oxide in Perchloric Acid
- Potassium Iodide with Pure Water Blank

CAPABILITIES:

- Check for stray light at wavelength cut-off of 260nm
- Check for photometric accuracy at 235nm, 257nm, 313nm and 350nm
- Check for wavelength accuracy at 241.15nm, 287.15nm, 361.5nm and 536.3nm



Full UV/VIS Photometric Accuracy, Wavelength & Stray Light Calibration Kit

FULL UV/VIS KIT 4

Broad range solid-state standard kit for checking photometric accuracy, wavelength accuracy and stray light in the UV and VIS range.

THIS CALIBRATION KIT CAN TEST THE FOLLOWING:

- Photometric Accuracy in the UV and VIS range (HF-0.2, HF-0.5, HF-1.0, FUV-0.5)
- Wavelength Accuracy in the UV and VIS range (WAV-1 UV/VIS, WAV-7 UV/VIS)
- Stray Light Performance in the UV and VIS range (FUV-0.5)

Ultimate UV/VIS/NIR Photometric, Wavelength & Stray Light Calibration Kit

ULTIMATE UV/VIS/NIR KIT

Broad range solid-state standard kit for checking photometric accuracy, wavelength accuracy and stray light in the UV, VIS AND NIR range.

For use with research-grade UV/VIS/NIR spectrophotometers.

THIS CALIBRATION KIT CAN TEST THE FOLLOWING:

- Photometric Accuracy in the UV, VIS and NIR range (SPB-0.2, SPB-0.5, SPB-1.0)
- Wavelength Accuracy in the UV, VIS an NIR (WAV-1 UV/VIS, WAV-7 UV/VIS, WAV-8 NIR)
- Stray Light Performance in the UV, VIS and NIR range (SPB-1.0D)

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NIST-traceable reference standards for validating fluorescence spectrophotometers

Pure Water Fluorescence Reference Standard (250-600nm)

PURE WATER FLUORESCENCE STANDARD

Firefly's ultra-pure water reference standard for validating a fluorescence spectrophotometer

CAPABILITIES:

- Validation of a fluorescence spectrophotometers in the range of 250-600nm.
- Contains two characteristic emission peaks at 397 and 600nm. These are caused by excitations of 350nm and 500nm respectively.

PRODUCT SPECS:

- Firefly Unique Lifetime Warranty
- Highly accurate and consistent calibration every time.
- Can be used in any fluorescence spectrophotometer (with standard 12.5 x 12.5 x 45 mm holder)
- Full NIST traceability and compatibility.

INCLUDED WITH SRM-H2O FLUORESCENCE STANDARD:

- Instruction manual
- Certificate of calibration with NIST traceability

Quinine Sulfate Fluorescence Reference Standard- NIST 936a (375-675nm)

QUININE SULFATE

Firefly's mixture of Quinine Sulfate in perchloric acid for validating a fluorescence spectrophotometer.

CAPABILITIES:

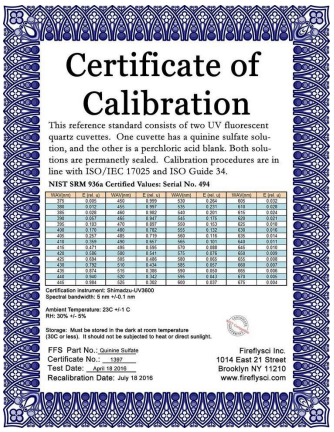
- Validation of fluorescence spectrophotometers in the range of 375-675nm
- Contains a characteristic emission peak of 450nm by which to calibrate the instrument.

PRODUCT SPECS:

- Firefly Unique Lifetime Warranty
- Comes in a solution of quinine sulfate in 0.105 mol/L of perchloric acid. Comes with an optional perchloric acid blank.
- Highly accurate and consistent calibration every time.
- Can be used in any fluorescence spectrophotometer (with standard 12.5 x 12.5 x 45 mm holder)
- Full NIST traceability and compatibility.

INCLUDED WITH SRM-QS FLUORESCENCE STANDARD:

- Instruction manual
- Certificate of calibration with NIST traceability
- MSDS data for quinine sulfate.



Certificate of Calibration

This reference standard consists of two UV fluorescent quartz cuvettes. One cuvette has a quinine sulfate solution, and the other is a perchloric acid blank. Both solutions are permanetly sealed. Calibration procedures are in line with ISO/IEC 17025 and ISO Guide 34.

NIST SRM 936a Certified Values: Serial No. 494

Wavelength	E.ppt. cal.	Wavelength	E.ppt. cal.	Wavelength	E.ppt. cal.	Wavelength	E.ppt. cal.
375	0.095	450	0.989	530	0.264	605	0.076
380	0.072	455	0.987	535	0.231	610	0.028
385	0.028	460	0.982	540	0.201	615	0.024
390	0.043	465	0.947	545	0.178	620	0.021
395	0.133	470	0.897	550	0.153	625	0.018
400	0.170	480	0.782	555	0.132	630	0.016
405	0.257	485	0.779	560	0.116	635	0.014
410	0.309	490	0.667	565	0.101	640	0.011
415	0.473	495	0.595	570	0.088	645	0.010
420	0.586	500	0.541	575	0.076	650	0.009
425	0.634	505	0.505	580	0.066	655	0.008
430	0.732	510	0.424	585	0.057	660	0.007
435	0.874	515	0.395	590	0.050	665	0.006
440	0.940	520	0.342	595	0.043	670	0.005
445	0.984	525	0.302	600	0.037	675	0.004

Certification Instrument: Shimadzu-UV3600
Spectral bandwidth: 5 nm +/-0.1 nm

Ambient Temperature: 23C +/-1 C
RH: 30% +/- 5%

Storage: Must be stored in the dark at room temperature (50C or less). It should not be subjected to heat or direct sunlight.

FFS Part No.: Quinine Sulfate
Certificate No.: 1397
Test Date: April 18 2016
Recalibration Date: July 18 2016

Fireflysci Inc.
1014 East 21 Street
Brooklyn NY 11210
www.fireflysci.com

Sample certificate of calibration

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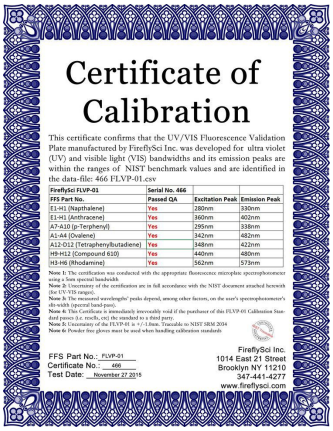


Certificate of Calibration

This certificate confirms that the UV/VIS Fluorescence Validation Plate manufactured by FireflySci Inc. was developed for ultra violet (UV) and visible light (VIS) bandwidths and its emission peaks are within the ranges of NIST benchmark values and are identified in the data-file: 466 FLVP-01.csv

FireflySci FLVP-01	Serial No. 466		
FFS Part No.	Passed QA	Excitation Peak	Emission Peak
E1-H1 (Napthalene)	Yes	280nm	330nm
E1-H1 (Anthracene)	Yes	360nm	402nm
A7-A10 (p-Terphenyl)	Yes	295nm	338nm
A1-A4 (Ovalene)	Yes	342nm	482nm
A12-D12 (Tetraphenylbutadiene)	Yes	348nm	422nm
H9-H12 (Compound 610)	Yes	440nm	480nm
H3-H6 (Rhodamine)	Yes	562nm	573nm

Note 1: The certification was conducted with the appropriate fluorescence microplate spectrophotometer using a 5nm spectral bandwidth.
Note 2: Uncertainty of the certification are in full accordance with the NIST document attached herewith (for UV-VIS ranges).
Note 3: The measured wavelengths' peaks depend, among other factors, on the user's spectrophotometer's slit-width (spectral band-pass).
Note 4: This certificate shall be immediately irrevocably void if the purchaser of this FLVP-01 Calibration Standard passes (i.e. resells, etc) the standard to a third party.
Note 5: Uncertainty of the FLVP-01 is +/-1.0nm. Traceable to NIST SRM 2034
Note 6: Powder free gloves must be used when handling calibration standards

FFS Part No.: FLVP-01
Certificate No.: 466
Test Date: November 27 2015

FireflySci Inc.
1014 East 21 Street
Brooklyn NY 11210
347-441-4277
www.fireflysci.com

Sample certificate of calibration

UV/VIS FLUORESCENCE VALIDATION PLATE

UV/VIS fluorescence validation plate for microplate readers.

CAPABILITIES:

- Validation of fluorescence spectrophotometers in the UV/VIS range (290-562nm)

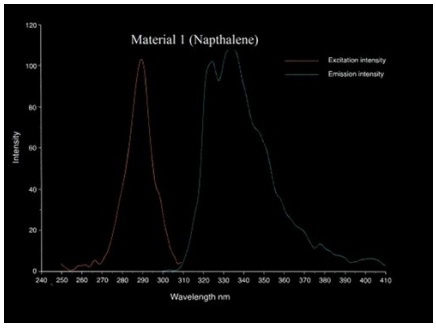
PRODUCT SPECS:

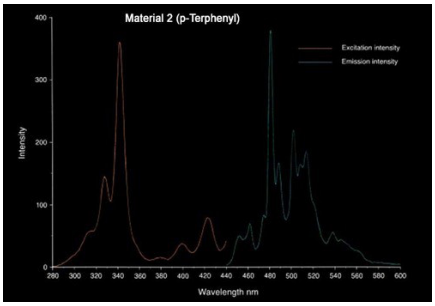
- External dimensions of individual wells: 6.6mm per well
- Total dimensions for 96 well plate: 85x125x12.5mm
- Contains a mix of Anthracene, Compound 610, Napthalene, Ovalene, Terphenyl, Tetraphenylbutadiene, and Rhodamine fluorescent material embedded in PMMA.
- NIST Traceability, ensuring the highest reliability in validation of measurements.

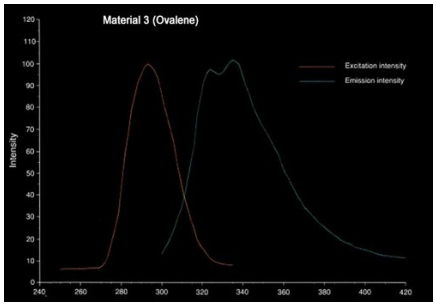
CONTENTS OF FLVP PLATE:

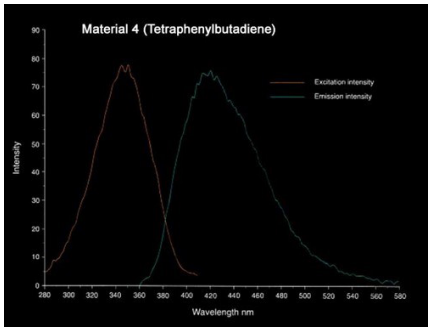
1. Wells E1-H1- Mix of **Napthalene** (approximate molar concentration 6X10-5, excitation wavelength 290 nm, emission wavelength 330 nm); corrected excitation 280 nm and emission 330 nm (SBW=5nm) and **Anthracene** (approximate molar concentration 1X10-5, excitation wavelength 360 nm, emission wavelength 402 nm); corrected excitation 360 nm and emission 402 nm (SBW=5nm)
2. Wells A7-A10- **p-Terphenyl** (approximate molar concentration 5X10-7, excitation wavelength 295 nm, emission wavelength 338 nm) ; corrected excitation 295 nm and emission 338 nm (SBW=5nm)
3. Wells A1-A4- **Ovalene** (approximate molar concentration 2X10-7, excitation wavelength 342 nm, emission wavelength 482 nm); corrected excitation 342 nm and emission 482 nm (SBW=5nm)
4. Wells A12-D12- **Tetraphenylbutadiene** (approximate molar concentration 3X10-7, excitation wavelength 348 nm, emission wavelength 422 nm); corrected excitation 348 nm and emission 422 nm(SBW=5nm)
5. Wells H9-H12- **Compound 610** (approximate molar concentration 1X10-6, excitation wavelength 440 nm, emission wavelength 475 nm); corrected excitation 440 nm and emission 480 nm (SBW=5nm)
6. Wells H3-H6- **Rhodamine** (approximate molar concentration 2X10-7, excitation wavelength 562 nm, emission wavelength 573 nm); corrected excitation 562 nm and emission 573 nm (SBW=5nm)

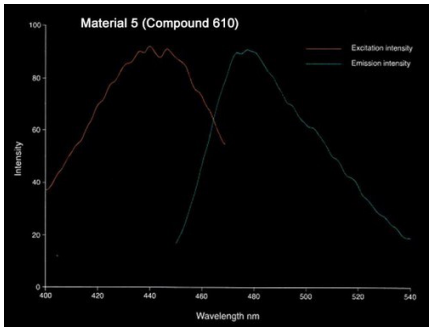
Sample scan charts:

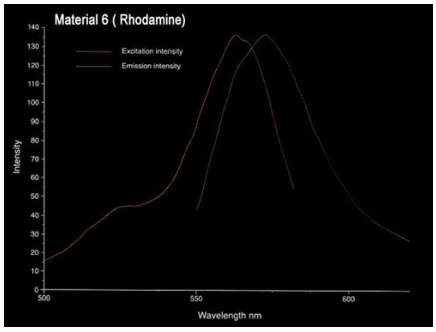












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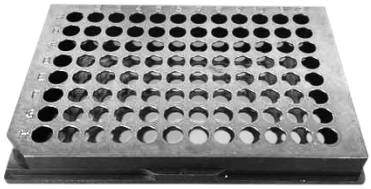

FireflySci is currently offering a full range of 96 well test plate reference standards including adapters that enable our UV/VIS calibration standards to be used. Test plates cover absorbance, fluorescence and luminescence.

96 WELL PLATE CUVETTE ADAPTER

Cuvette adapter for microplate readers.

CAPABILITIES:

- Enables the user to use any of our cuvette-shaped calibration standards in a 96 well plate form
- You can use the following standards in this adapter: photometric accuracy, wavelength accuracy, stray light, spectral resolution.

PRODUCT SPECS:

- Made with anodized aluminium for improved performance and resilience.
- Total dimensions for 96 well plate: 85x125x12.5mm
- Patent-pending design

VIS PHOTOMETRIC & UV/VIS WAVELENGTH VALIDATION PLATE

VIS photometric and wavelength validation plate for microplate readers.

THIS CALIBRATION PLATE INCLUDES THE FOLLOWING WELL STANDARDS (COVERING 16 WELLS IN TOTAL):

- HF-0.2 (60%T)
- HF-0.5 (30%T)
- HF-1.0 (10%T)
- WAV-1 UV/VIS Solid State Holmium Oxide

CAPABILITIES:

- Photometric accuracy in the VIS range (400-700nm)
- Wavelength accuracy in the UV and VIS range (241.5-637.5nm)

PRODUCT SPECS:

- Tolerance for photometric accuracy filters: +/- 0.0022 au
- Tolerance for wavelength accuracy filters: +/- 0.2nm
- External dimensions of individual wells: 6.6mm per well
- Total dimensions for 96 well plate: 85x125x12.5mm

UV/VIS PHOTOMETRIC & UV/VIS WAVELENGTH ABSORBANCE PLATE

UV/VIS photometric and wavelength validation plate for microplate readers.

THIS CALIBRATION PLATE INCLUDES THE FOLLOWING WELL STANDARDS:

- FUV-0.04 (90%T)
- FUV-0.5 (30%T)
- FUV-1.0 (10%T)
- WAV-1 UV/VIS Solid State Holmium Oxide

CAPABILITIES:

- Photometric accuracy in the UV/VIS range (200-700nm)
- Wavelength accuracy in the UV and VIS range (241.5-637.5nm)

PRODUCT SPECS:

- Tolerance for photometric accuracy filters: +/- 0.0022 au
- Tolerance for wavelength accuracy filters: +/- 0.2nm
- External dimensions of individual wells: 6.6mm per well
- Total dimensions for 96 well plate: 85x125x12.5mm

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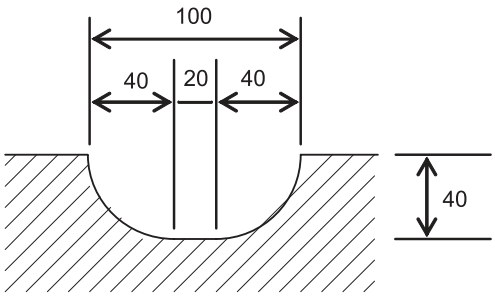
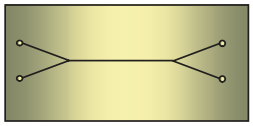
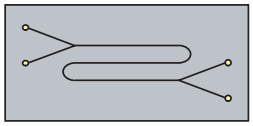


(units in μm)

Common Specifications:

- Outer Dimensions: 32 x 65 x t3.8mm
- Material: UV Grade (Synthetic Silica Glass)
- Grooving Method: Wet Etching
- Cross section fluid path (see diagram above)

Most microfluidic chips are custom manufactured. In addition to custom manufacturing, we offer the standard chip configurations as described below. These configurations may offer a starting point upon which modifications can be made. We also offer nanoport assemblies for these chips.

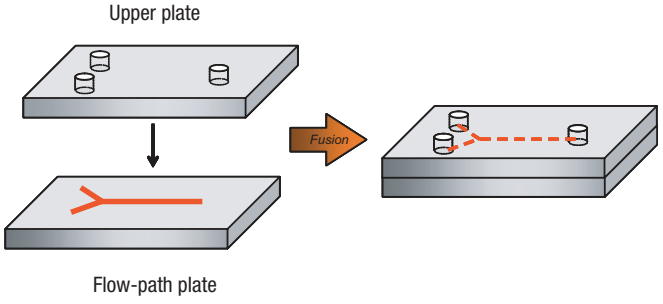
MODEL NAME	FLUID PATH LAYOUT	FLUID PATH LENGTH
YSY-01		28 mm
YLY-01		100 mm
SSS-01		55 mm
TST-101		55x20 mm

7-2 Custom Microfluidic Chips

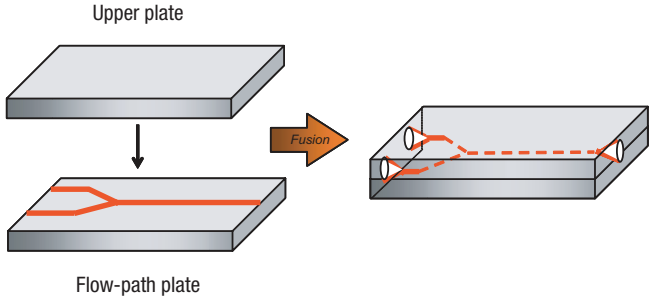
STRUCTURE AND ASSEMBLY

Thermal Fusion: Using special thermal processing, each plate is fused together to create one solid plate. No adhesives are used.

Inlet & Outlet on Top



Inlet & Outlet on Sides



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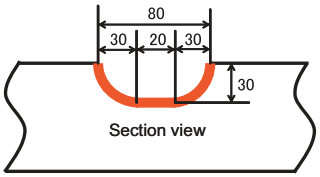
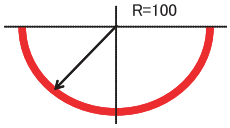
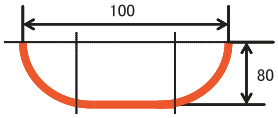
EXAMPLES:



Wet Etching



Machining



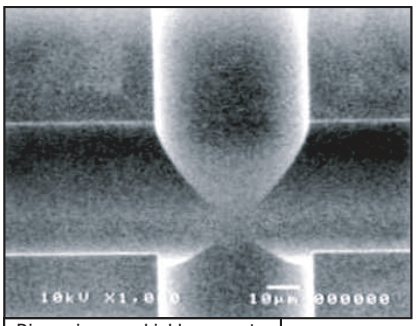
Shot Blast

GROOVING METHODS

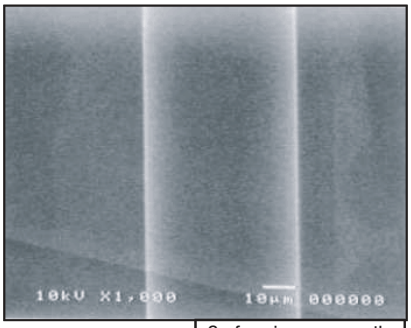
Characteristics of Groove				
Grooving Method	Width (μm)	Depth (μm)	Surface Roughness (μm)	FEATURES
Wet Etching*	50 ~ 100	5 ~	Ra @ 0.1	High transparency Excellent precision in dimensions Complicated flow-path layout available
Machining	100 ~ 300	20 ~	Ra @ 0.2	Low cost Fair transparency Excellent precision in dimensions Straight flow-path layout
Shot Blast	100 ~	50 ~	Ra @ 0.7	Low cost Complicated flow-path layout available

*WET ETCHING TECHNOLOGY

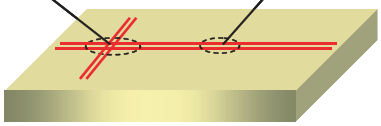
SHAPE OF ETCHED GROOVE



Dimensions are highly accurate.



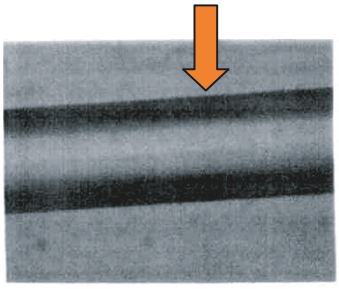
Surface is very smooth.



FLOW-PATH CHARACTERISTICS:

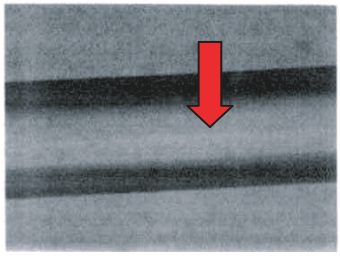
Less defects on the edge of the flow path

No waves on the flow path surface



SAMPLE A
60 μm width,
20 μm depth

SAMPLE B
65 μm width,
20 μm depth



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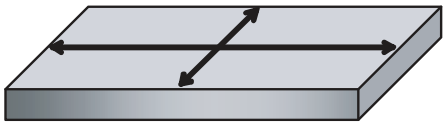
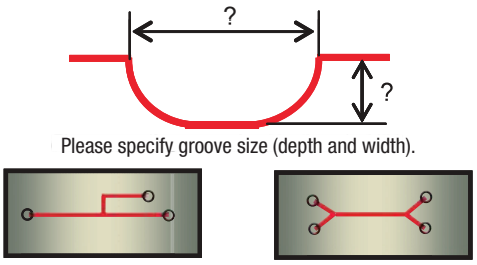


SUBSTRATE SIZE AND MATERIAL

Up to 90 x 90mm is available for the substrate's size.

Our standard material is fused silica (UV Quartz). For details regarding fused silica transmission, absorption, purity, and other properties, please contact us.



Please specify groove size (depth and width).

Please specify flow-path layout (examples above).

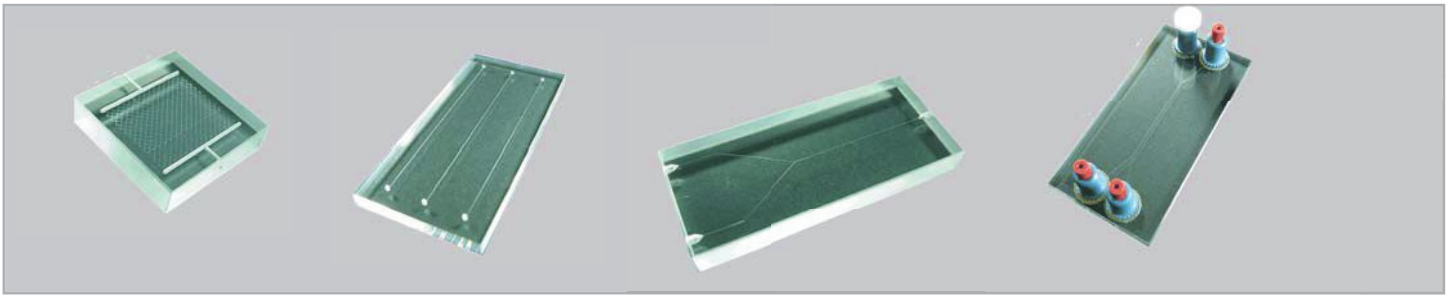
PROTOTYPE SPECIFICATIONS

In order to manufacture a protoype, please provide the following information:

1) Substrate size
2) Grooving Method: This will be chosen based on the following:
   a) Groove size (depth & width)
   b) Flow-path layout
   c) Surface roughness
   d) Specification tolerances
   e) Required quantity
   f) Application information (if available)

GENERAL INFORMATION

- FireflySci manufacturing methods guarantee precision down to the smallest micron.
- Production of raw material as well as microchip completion is done within Fireflysci.
- Technical support is available from each level of FireflySci or the life of your product.
- Quality is guaranteed based on ISO 9001 International Standards.



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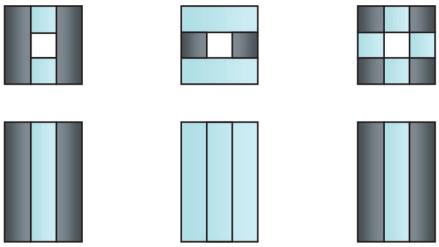
TYPE 526

Standard flow channel cell

- Four windows polished
- Both ends open

	Outer Dimensions (mm)			Inside Dimensions (mm)			Material & Part Numbers
L/P (mm)	LENGTH	WIDTH	HEIGHT	LENGTH	WIDTH	CAPACITY (µl)	UV
0.25	4.25	4.25	20.00	0.25	0.25	10	526UV0.25

8-2 Custom Flow Channel Cells



Optical Features:

Material: Synthetic Silica Glass
Usable Range: 190-2,500nm

Applications:

Particle Counter & Analyzer
Blood Cell Counter & Analyzer

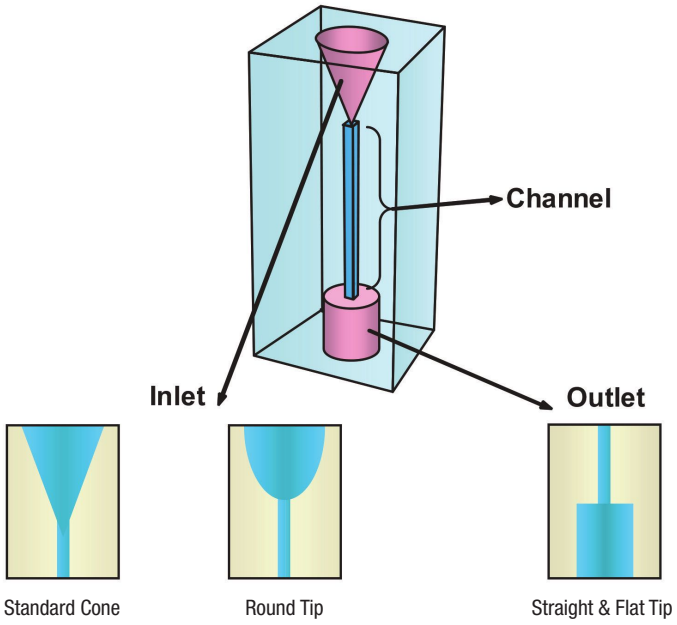
Variations:

Single Cone
Double Cone
Polished Cone
Anti-Reflection Coating
Aluminum Coating… and more

Available Size:

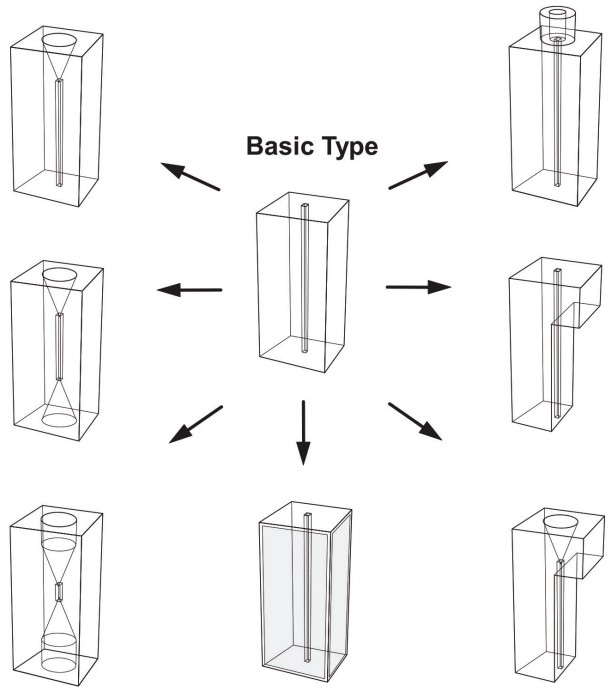
Channel Size: 50µm~
Channel Length: 100µm ~
(cone head to cone head)

EXAMPLE OF A TYPICAL DESIGN



Method: Thermal fusion or optical contact bonding
Size: 50 µm ~
Accuracy: ± 10 µm standard (± 5 µm available)

EXAMPLE OF SOME POSSIBLE MODIFICATIONS



In constructing flow channel cells, four quartz blocks are fused together. Variations using black quartz are also available, as shown above.
For a quotation or if you have any questions, please send your drawing or idea to info@fireflysci.com, or fax it to +1-347-554-8048.

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Evacuable KBr Dies

KBr Disc Technique: This widely practiced method consists of grinding and mixing a sample with dry KBr or KCl powder, which is then compressed within an evacuated Die to produce a transparent disc, since KBr and KCl are transparent from the ultra-violet well into the infrared. The method may be used for investigation in the ultra-violet and the visible, as well as the infrared region.

Dies suitable for producing discs of 3, 5, 6, 8, 10, 13, and 16mm diameter are available as standard within the size range of the KB series. Non-standard sizes are available on request.

All dies in the KB series are constructed entirely of stainless tool steel, and parts are precision machined. Pellets are optically flat and mirror polished. Tungsten carbide pellets and component parts can be supplied to special order.

Dies are supplied with black anodised sleeves.

Spares for KBr Dies

PART#	DESCRIPTION
KB-30	Set of 1 pellet for KB-3
KB-03	Plunger pellet for KB-3
KB-003	2 sets of O-rings for KB-3
KB-50	Set of 2 pellets for KB-5
KB-05	Plunger for KB-5
KB-005	2 sets of O-rings for KB-5
KB-60	Set of 2 pellets for KB-6
KB-06	Plunger for KB-6
KB-006	2 sets of O-rings for KB-6
KB-80	Set of 2 pellets for KB-8
KB-08	Plunger for KB-8
KB-008	2 sets of O-rings for KB-8
KB-100	Set of 2 pellets for KB-10
KB-010	Plunger for KB-10
KB-0010	2 sets of O-rings for KB-10
KB-130	Set of 2 pellets for KB-13
KB-013	Plunger for KB-13
KB-0013	2 sets of O-rings for KB-13
KB-160	Set of 2 pellets for KB-16
KB-016	Plunger for KB-16
KB-0016	2 sets of O-rings for KB-16
KB-SE	Spare extractor ring for the above dies
KB-3	KBr Die for 3mm Disc
KB-5	KBr Die for 5mm Disc
KB-6	KBr Die for 6mm Disc
KB-8	KBr Die for 8mm Disc
KB-10	KBr Die for 10mm Disc
KB-13	KBr Die for 13mm Disc
KB-16	KBr Die for 16mm Disc
KB-13ST	KBr Die Starter Kit for 13mm Disc
KB-16ST	KBr Die Starter Kit for 16mm Disc

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Evacuable XRF Dies

X-Ray Disc Technique: The BKX series of x-ray dies provides a standard size range producing discs of 20, 25, 32, 35, and 40mm diameter for x-ray fluorescence study of powders and materials. Certain powders which are normally difficult to pelletize without the addition of a binding agent may be successfully pressed within a thin walled plastic ring.

Tungsten carbide plungers and pellets also available.

Spares for X-RF Dies

PART#	DESCRIPTION
KBX-200	Set of 2 pellets for KBX-20
KBX-020	One only plunger for KBX-20
KBX-0020	2 sets of O-rings for KBX-20
KBX-250	Set of 2 pellets for KBX-25
KBX-025	One only plunger for KBX-25
KBX-0025	2 sets of O-rings for KBX-25
KBX-320	Set of 2 pellets for KBX-32
KBX-032	One only plunger for KBX-32
KBX-0032	2 sets of O-rings for KBX-32
KBX-350	Set of 2 pellets for KBX-35
KBX-035	One only plunger for KBX-35
KBX-0035	2 sets of O-rings for KBX-35
KBX-400	Set of 2 pellets for KBX-40
KBX-040	One only plunger for KBX-40
KBX-0040	2 sets of O-rings for KBX-40
KBX-SE	Spare extractor ring for the above dies
KBX-20	Evacuable die for 20mm disc
KBX-25	Evacuable die for 25mm disc
KBX-32	Evacuable die for 32mm disc
KBX-35	Evacuable die for 35mm disc
KBX-40	Evacuable die for 40mm disc

Evacuable 8mm Spanner Die

This KBr Spanner Die is used to produce small numbers of 8mm diameter KBr Discs when a standard die and hydraulic press cannot be justified. The sample is squeezed between the optically polished faces of two 9/16 UNF bolts in the evacuable die body. Moisture is removed from the sample by evacuation. Pressure is then applied by tightening a spanner each end, on the bolts relative to each other. On removal of the bolts, the sample disc remains in the die body. A slide holder is supplied for holding the die body in the FTIR instrument.

PART#	DESCRIPTION
KB/SD-1	Spanner die complete with bolts, seals, & slide holder
KB/SD-2	Spanner die with bolts and seals
KB/SD-3	Spare set of bolts
KB/SD-4	Set of spanners
KB/SD-5	Spare seals
KB/SD-6	Slide holder

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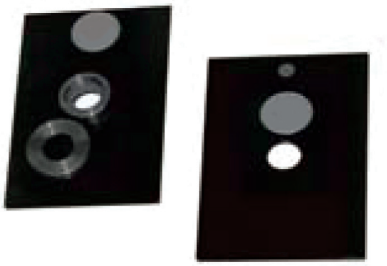

KBr Disc Holders with Rectangular Mounting Plate

Other sizes available on request.

PART#	DESCRIPTION
KB-DH3	For 3mm disc
KB-DH5	For 5mm disc
KB-DH10	For 10mm disc
KB-DH13	For 13mm disc
KB-DH16	For 16mm disc
KB-DHM13	Magnetic holder for 13mm disc
KB-FH	Magnetic film holder 20mm aperture

Reflex Evacuable 13mm KBr Minidie (Uni-Die)

Simple, three–piece construction, manufactured from hardened stainless steel. The stepped end pellets are optically polished and there are O-rings on each end for vacuum seal. This can be used with any standard hydraulic press. The pellet is formed in the body and held in the 3" x 2" V-mount for analyzing. After analysis, the sample is washed out and the die is ready for re-use.

PART#	DESCRIPTION
KB/UD-1	Minidie complete with 3"x2" V-mount
KB/UD-2	Set of spare stepped pellets (2)
KB/UD-3	Spare 3"x2" V-mount slide holder
KB/UD-4	Spare set of O-rings (4)

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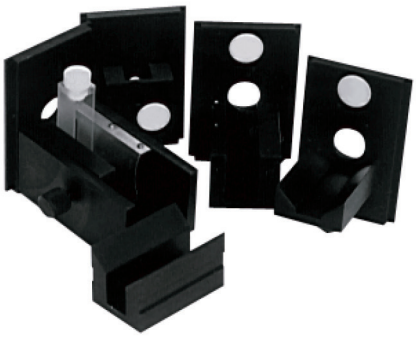
9-2 Cuvette Holders for IR and FTIR Instruments



PART#	DESCRIPTION
CHR1/50	Rectangular cuvette holder for cells 1-50mm p/l
CHR1/100	Rectangular cuvette holder for cells 1-100mm p/l
CHC10/50	Cylindrical cuvette holder for cells 10-50mm p/l
CHC10/100	Cylindrical cuvette holder for cells 10-100mm p/l
CHM12.5	Micro cuvette holder for cells 10mm p/l
CHU1/100	Universal cuvette holder for rect & cyl cells 10-100mm

9-3 Gas Cells

100mm Stainless Steel Gas Cell for FTIR

Gas cell is constructed in 316 S.S.
O-rings are used in each end to seal windows with anodized aluminium caps.
Two nupro plug valves are connected via S.S. tubes to body of gas cell.
Window size: 38mm diameter x 6mm, clear aperture 25mm diameter.
Volume is 50cc. Valve outlet connection 1/4" (6.35mm) swagelok.
Two 1/4" (6.35mm) S.S. tubes with rifle ends are supplied for connecting with laboratory tubing.
Slide plate holder with captive screw to lock cell on holder.
Gas cell is supplied with slide plate holder in presentation case.
Windows are not included. **Part number: GC-10SS**

100mm PTFE Gas Cell for FTIR

Gas cell is constructed in PTFE. O-rings are used in each end to seal windows with anodized aluminium caps.
Two PFA valves are connected to body of gas cell.
Window size: 38mm diameter x 6mm, clear aperture 25mm diameter.
Volume is 50cc. Valve outlet connection 1/4"(6.35mm).
Two 1/4"(6.35mm) PTFE tubes with rifle ends are supplied for connecting with laboratory tubing.
Slide plate holder with captive screw to lock gas cell on holder.
Gas cell is supplied with slide plate holder in presentation case.
Windows are not included. **Part number: TGC-10**

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50... Cases & Cell Rack
50... Cell Mounts
71... Custom Flow Channel Cells
68... Custom Microfluidic Chips
51... Cuvette Cleaning Solutions
75... Cuvette Holders for IR & FTIR Instruments
50... Cuvette Washers
63... EP Kit
72... Evacuable KBr Dies
73... Evacuable XRF Dies
73... Evacuable 8mm Spanner Die
64... Full UV/VIS Kit 4
62... FNIR Kit
55... FNIR-Series
54... FUV-Series
58... FUV Dual Series
53... HF Series Standards
74... KBr Disc Holders w/ Rectangular Mounting Plate
56... Liquid Holmium Standard
16... Micro Focus Cell
51... Mixers/Stirrers
60... NIST 930E Equivalent Kit
60... NIST 1930 Equivalent Kit
62... NIST 2031 Equivalent Kit
61... NIST 2930 Equivalent Kit
59... NIR Stray Light
61... Photometric Linearity
54... Potassium Dichromate
48... PTFE Covers
49... PTFE Stoppers
65... Pure Water Fluorescence Standard
49... Quartz Tops
65... Quinine Sulfate
74... Reflex Evacuable 13mm KBr Minidie (Uni-Die)
49... Screw Caps
49... Special Tops
68... Standard Microfluidic Chips
63... Superband Kit
55... Superband Series
42... T-0005-0023-2
43... T-0005-0078
43... T-0210
07... T-1
27... T-1FL
46... T-1FLP
45... T-1P
32... T-3FT
28... T-4
07... T-5
13... T-8
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11... T-9B
11... T-9BM
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11... T-9M
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29... T-607
34... T-608FL
46... T-700P
16... T-701M
30... T-701MFL
46... T-704P
34... T-8830
43... T-2267A
43... T-2267B
59... Toluene in Hexane
64... Ultimate UV/VIS/NIR Kit
64... USP Kit
58... UV Stray Light Liquid Calibration Standards
67... UV/VIS Photometric & Wavelength Absorbance Plate
66... UV/VIS Fluorescence Validation Plate
63... VIS Photometric & UV/VIS Wavelength Kit
67... VIS Photometric & UV/VIS Wavelength Validation Plate
56... WAV-1 UV/VIS
57... WAV-7
57... WAV-8
67... 96 Well Plate Cuvette Adapter
75... 100mm PTFE Gas Cell for FTIR
75... 100mm Stainless Steel Gas Cell for FTIR

Thank you for your interest in FireflySci, products. We look forward to serving you soon.

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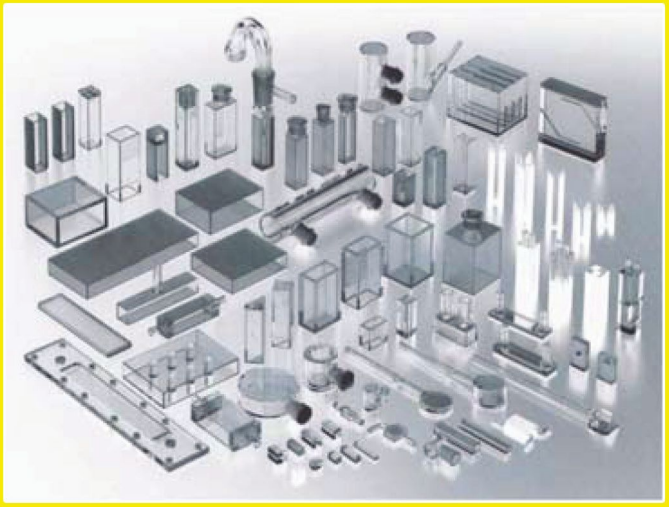
About the cuvettes in this catalog...

When you order from FireflySci, Inc., you are ordering from a well established, highly regarded cuvette company. Our cuvettes are 100% guaranteed to meet your quality standards in all regards: Transmission, assembly, matching – everything.

At FireflySci, Inc., quality is number one.



Also inside...

Evacuable dies

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Brooklyn, NY 11210 USA

If this catalog did not come with a pricelist, please contact us for one, and take advantage of ordering directly from the manufacturer.