Spectralon Collimated Beam Integrating Spheres

mks | Newport™

819C SERIES

Our Spectralon (PTFE) diffuse material integrating sphere bodies are desigend for collimated input beams. PTFE based integrating spheres can be used in more demanding environments, including underwater and high or low temperature processes.

Product Features

- 4-Port Integrating sphere designed for collimated input beam
- Spectralon (PTFE) diffuse material for demanding environments
- Sphere provides for total collection of light and spatial integration
- Signal attenuation through multiple bounces in high reflectance coating
- Power measurements are insensitive to exact detector positioning

Models	819C-SL-2	819C-SL-3.3	819C-IS-5.3
Spectral Range	250 nm to 2.5µm	250 nm to 2.5µm	250 nm to 2.5µm
Sphere Size	2 in.	3.3 in.	5.3 in.
North Pole Port Size	0.5 in.	1.0 in.	1.0 in.
0 Degree Port Size	1.0 in. (w/ 819M-PP-1.0)	1.5 in. (w/ 819M-PP-SL-1.5)	2.5 in. (w/ 819M-PP-2.5)
90 Degree Port Size	0.5 in.	1.0 in.	1.0 in.
180 Degree Port Size	0.5 in.	1.0 in.	1.0 in.
Thermal Limit	350°C	350°C	350°C
Material	Spectralon	Spectralon	Spectralon

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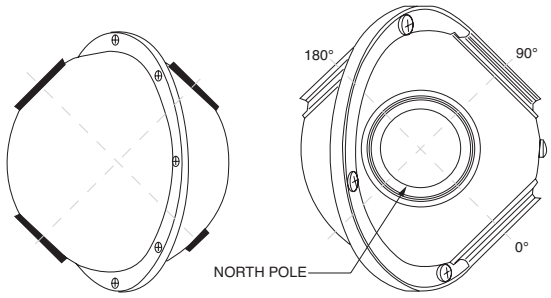
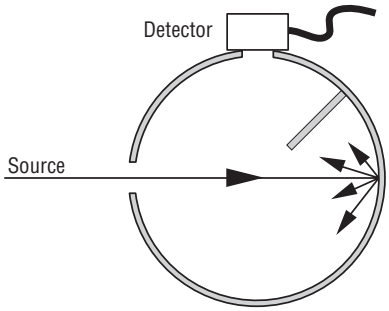
Features

Four Port Integrating Sphere for Collimated Beams

819C Series modular integrating sphere bodies feature four ports located at 0, 90 and 180 degrees, as well as at the north pole, to provide a diffuse reflectance/transmittance measurement capability. The baffle is located between the 0- and the 90-degree ports. A fourth sphere port adds functionality to an integrating sphere but also diminishes the uniformity of the light distribution inside the sphere. We offer a wide variety of integrating sphere accessories that mount to the port frames, allowing the sphere to be customized for multiple applications.





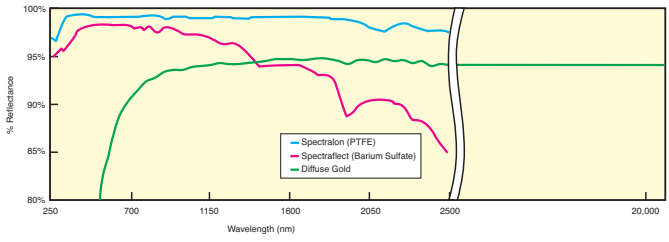
Collimated Laser Beam Power Measurement

4-Port Integrating Sphere Applications

A 4-port integrating sphere is ideal for applications that require use of the 180° port. A detector is typically mounted on the 90° port, while the source beam may enter the sphere through either the 0° or 180° port, depending on the application. Common applications include measuring total collimated laser beam power (including the collimated output of an optical fiber), measuring transmitted radiation from an irradiated sample and measuring reflected radiation from an irradiated sample. For more details about these applications, please see our Integrating Sphere Fundamentals and Applications tutorial.

PTFE Sphere Material for Demanding Applications

Hydrophobic, chemically inert and thermally stable to 350°C, Spectralon (PTFE) based integrating spheres can be used in more demanding environments, including underwater and high or low temperature processes. At the same time, reflectance exceeding 95% from 250–2500 nm, 98% from 310–2100 nm, and 99% from 400–1500 nm make them ideal for even the most demanding measurements from the ultraviolet to the near infrared.



Our integrating spheres are available with PTFE (spectralon), barium sulfate (spectraflect), and diffused gold sphere materials.

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DS-050620 (5/20)