Spectralon Diverging Beam Integrating Spheres

mks | Newport™

819D SERIES

819D Series Spectralon (PTFE) material integrating sphere bodies are designed for diverging input beams. PTFE based integrating spheres can be used in more demanding environments, including underwater and high or low temperature processes.

Product Features

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

Models	819D-SL-2	819D-SL-3.3	819D-IS-5.3
Spectral Range	250 nm to 2.4µm	250 nm to 2.4µm	250 nm to 2.4µm
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.	1.5 in. (w/ 819M-PFR-1.0-1.5B)	2.5 in. (w/ 819M-PFR-1.0-2.5)
90 Degree Port Size	0.5 in.	1.0 in.	1.0 in.
180 Degree Port Size	None	None	1.0 in. (w/ port plug)
Thermal Limit	350°C	350°C	350°C
Material	Spectralon	Spectralon	Spectralon

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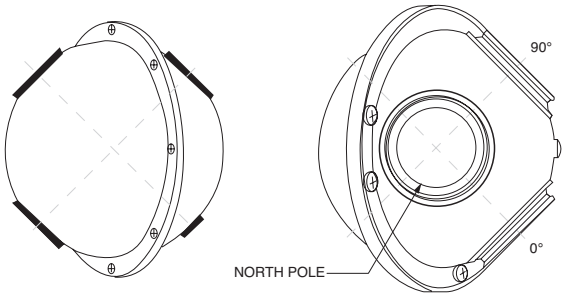
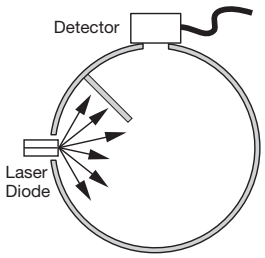
Features

Integrating Sphere for Diverging Beams

The 819D-SL modular integrating sphere bodies feature three ports located at 0 and 90 degrees, as well as at the north pole. The baffle is located between the 0- and the 90-degree ports. Compared with Four Port 819C Series spheres, the 819D-SL spheres provide a better integration of the light input. We offer a wide variety of integrating sphere accessories that mount to the port frames, allowing the sphere to be customized for multiple applications. Please note that 819D-IS-5.3 is a four port system but comes with a port reducer at the 0-degree port and a port plug at the 180-degree port.





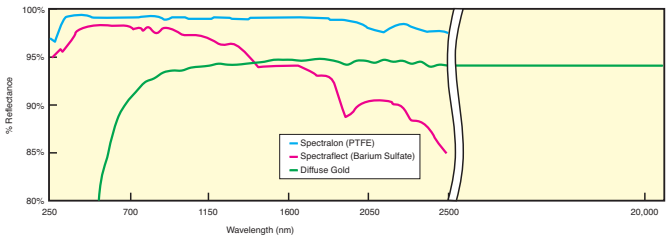
Collimated Laser Beam Power Measurement

3-Port Integrating Sphere Applications

If only the 0° and 90° ports are required, a 3-port integrating sphere provides better integration of light input compared to a 4-port sphere. A typical configuration has the source beam entering through the 0° port with a baffled detector mounted on the 90° port. Common applications include measuring power of divergent light sources such as laser diodes, lensed LEDs, lensed lamps and lensed fiber. 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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