



## ISC Integrating Spheres

- Classical Integrating Sphere
- Four Ports
- Post Mount



ISC integrating spheres come standard with ReflectraSpec coating (effective from 400nm-2500nm, four orthogonal ports (please specify orthogonal, 8 degree or custom configuration). Wall construction is cast aluminum (allows use of set screws).

Model	Diameter	Port Size
ISC-020	2"	.5"
ISC-040	4"	1.0"
ISC-060	6"	1.5"
ISC-080	8"	2.0"
ISC-100	10"	2.5"
ISC-200	20"	5.0"

### How to Select and Size an Integrating Sphere

In order to select the Spectral Products Integrating Sphere that is best suited for your application, several factors must be taken into consideration. The most important factors include the following:

**Diameter/Source Ratio** The diameter of the sphere should be at least 1.5 times the largest dimension of any device mounted within the sphere.

**Surface-to-Port Area** If ports cover more than 5% of the Integrating Sphere's surface, the Integrating Sphere may not integrate properly. If port requirements are greater than 5% of the sphere, a larger sphere should be purchased.

The following formulas can determine port area and sphere surface area:

$$r = \text{Port radius, } D = \text{Sphere Diameter}$$

$$\text{Port Area} = \pi r^2$$

$$\text{Sphere Surface Area} = 4\pi D^2$$

**Integrating Sphere Coatings** The coating of a Spectral Products Integrating Sphere is a high efficiency diffuse reflector that delivers reliable integration and low throughput loss. The reflectance is high in order to minimize absorption loss from multiple reflections, yet it must not reflect light specularly.

Spectral Products Integrating Sphere Coatings offer reflectance efficiencies between 95 and 99%. A Lambertian Source is a perfect diffuse source. When a perfect diffuse reflector is illuminated with uniform intensity, it acts as a Lambertian Source. Spectral Products uses a proprietary ReflectraSpec coating, effective from 400 up to 2500 nm, to provide these state-of-the-art Lambertian properties. AuSpec (for IR applications) and UVSpec (for UV applications) coatings are also available.

## ISQ Integrating Q Spheres

New Product!

Integrating sphere with cubical exterior.

Machined port plugs match interior sphere curvature.

Sits flat or can be used with optical post.

Heavy duty construction (each sphere is composed of two halves, each machined from solid aluminum stock). Standard Q spheres come with ReflectraSpec coating, four orthogonal ports. Sphere can sit flat on work surface or be mounted on an optical mount post.

Model	Diameter	Port Size
ISQ-020	2"	.5"
ISQ-040	4"	1.0"
ISQ-060	6"	1.5"
ISQ-080	8"	2.0"
ISQ-100	10"	2.5"
ISQ-200	20"	5.0"

