

81002FF Integrating Sphere - the sphere has an outside diameter of 80mm and is lined with a highly diffusive material. The basic idea of an integrating sphere is that light enters the sphere and is diffused to uniform power density over the interior surface. A small portion of the total power exits the sphere through a small aperture to the detector in the optical head. The sphere is used for several applications:

High power - the sphere creates an attenuation of approximately 41 dB and has a maximum power specification of +40 dBm (10 W), providing the highest power handling capability available. The size of the sphere allows this high power to be diffused and dissipated very easily. NOTE: the sphere can be built with a slightly larger aperture to the optical head to reduce the attenuation to approximately 31 dB. This larger aperture is available as special option #500.

Large beam diameter / large NA - the large size of the sphere makes a very large "target" for the optical power, allowing it to measure from a point source with NA up to 0.5 and up to a 9 mm open beam. Alignment of the emitting device or fiber to the sphere is non-critical (again because it is such a large target).