

OL 740-70

Integrating Sphere Diffuse Reflectance Attachment

The OL 740-70 is used with the OL Series 750 Spectroradiometers to measure the diffuse reflectance and diffuse transmittance of materials over all or part of the 250 to 2500 nm wavelength region¹. The attachment utilizes all-mirror optics and a 6" diameter integrating sphere. The sample measuring area is 3, 6 or 10 mm; however, due to the unique sample holder design, there is no limit to the actual size of the sample.

An accurate, double-beam design is achieved with a manually controlled, optical beam switch. The double-beam design enables the user to use the significantly more accurate "Comparison Method" of measuring diffuse reflectance. An optional sample compartment located at the exit (detector) port of the integrating sphere enables the user to measure rectilinear and diffuse transmittance.

The reflective optics eliminate chromatic aberration and produce a high efficiency over a wide wavelength range. The efficiency of the PTFE coated integrating sphere restricts the long wavelength limit to 2.5 μm . An optional gold coated integrating sphere version (OL 740-70G) is available for use from 2 to 18 μm .

A removable specular light trap enables the user to make diffuse reflectance measurements with or without the specular component included. The optical design also enables the user to measure specular reflectance at a fixed angle of incidence of 10°.

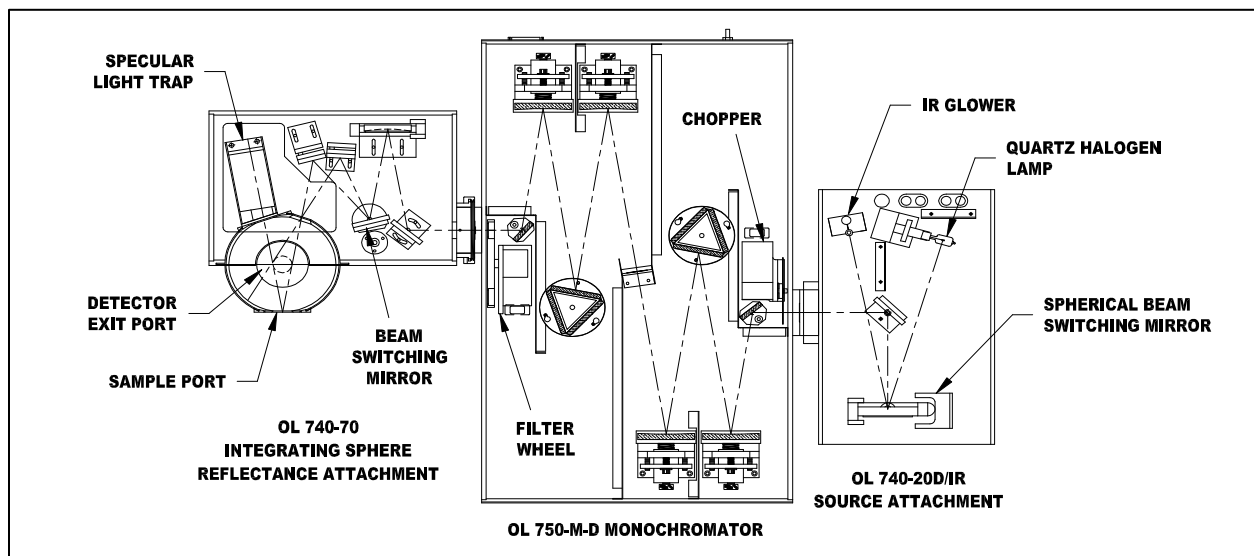
SPECIFICATIONS

Spectral Range (OL 740-70)	250 to 2500 nm
Spectral Range (OL 740-70G)	2 to 18 μm
Sphere Diameter	6"
Sample Size	1" minimum to unlimited
Sample Illuminated Area	3, 6 or 10 mm
Illumination Incident Angle	10°
Illumination Optical Aperture	f/8
Scattered Light (black trap sample)	1%
Dimensions	13.25"W x 12.25"D x 9.5"H
Weight	25 lbs.

TRANSMISSION

Sample Holder	2" x 2" or 1" diameter
Measurement Diameter	17 mm

¹The OL 740-70 can be used over the entire 250 to 2500 nm wavelength region provided that the spectroradiometer is configured with the appropriate gratings, blocking filters, detectors, and source modules.



TYPICAL DIFFUSE REFLECTANCE MEASUREMENT SYSTEM OPTICAL LAYOUT (Top View)