

OL 700-71, 73, 74

Reflectance and Transmittance Accessories for the OL 770



Optronic Laboratories offers a line of accessories for enabling diffuse and specular reflectance as well as transmittance measurements of solid and liquid samples for the OL 770 Series Spectroradiometer.

Rugged and designed for tabletop or laboratory bench-top use, these accessories are fiber coupled and fully integrated to the OL 770 allowing precise and accurate turn-key measurements when accompanied by the OL 700-22 Pulsed Xenon source.

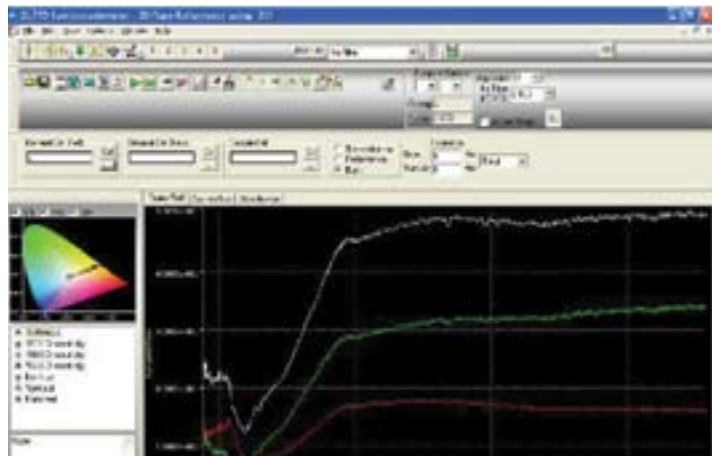
OL 700-71 6" INTEGRATING SPHERE

Enables the user to make diffuse spectral reflectance measurements of various materials over all or part of the wavelength range from 250 nm to 2500 nm. Sophisticated optical design allows for accurate measurements to be made of specular (mirror) samples as well as diffuse samples with the specular component included or excluded. Sample measurement spot size is 3 mm, and 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. This method compensates for changes in the spectral efficiency of the integrating sphere due to self-absorption and reflectance properties of the measurement sample when placed on the measurement port.

The angle of incidence from the input port to the measurement port is 10°, and the reflected specular component may be included or excluded due to a removable light trap. When the specular component is to be included in the measurement, a PTFE coated plug is installed in place of the light trap. This optical design also enables the user to measure specular reflectance at a fixed angle of incidence of 10°. Control of the OL 700-22 pulsed Xenon source is imbedded in the application software, and software prompts fully guide the user through the calibration and measurements procedure.

Uniquely, the OL 700-71 also provided the capability to measure transmittance of samples, whether regular or diffuse, using the same accurate double beam techniques as the diffuse reflectance. Because both transmittance and reflectance of the same part of the sample is measured without moving the sample, the amount of light absorbed

inside the sample can be determined with high precision. The software provides transmittance, reflectance, and absorbance, as well as derived quantities such as optical density, Kubelks-Monk values, and internal absorbance.



Design Features



• ULTRA-FAST MEASUREMENT OF SAMPLES

The entire spectrum, plus chromaticity and other essential optical parameters, can be measured in a fraction of a second (contingent on integrating time).

• COMPLETE FLEXIBILITY

Light to and from the sample is carried by flexible fiber optics so the accessories can be easily positioned relative to your samples.

• ACCURATE RESULTS

All the features needed for the most accurate measurements are included.

• EASY-TO-USE SOFTWARE

The software guides you through making measurements, data storage, and reports with just a simple mouse-click.

• MICROSOFT WORD[®] AND EXCEL[®] COMPATIBLE

The system is designed to work with Microsoft Word[®] and Excel[®], allowing infinite flexibility.

OL 700-73 SOLID TRANSMITTANCE



Utilized for performing spectral transmittance measurements of samples in solid form. Has a slide-in sample holder that accommodates both 1-inch by 1-inch, and 2-inch by 2-inch square samples, as well as 1-inch diameter and 2-inch diameter round samples. Samples can be up to ½-inch in thickness

OL 700-74 LIQUID TRANSMITTANCE



Utilized for performing spectral transmittance measurements of samples in liquid form. Accepts standard 12.5 x 12.5 mm cuvettes.*

OL 700-22 PULSED XENON SOURCE



A high-pressure, short arc Xenon flash lamp operating at 100Hz rate. Designed for applications requiring higher ultraviolet output. Also offers lower spectral variation than tungsten halogen sources.

*Comes with (5) plastic cuvettes, not suitable for fluorescence measurements.

OL 700-71 SPECIFICATIONS	
Spectral Measurement Range	250 – 2500 nm
Sphere Diameter	6"
Sample Size	1" to Unlimited
Sample Illuminated Area	3 mm (w/ 600 μm Input Fiber)
Illumination Incident Angle	10°
Scattered Light	< 1%
Dimensions	7.25" W x 18" D x 12" H (18.42 cm x 45.72 cm x 30.48 cm)
Weight	15.5 lbs. (7.0 kg)
OL 700-73 SPECIFICATIONS	
Spectral Measurement Range	250 – 1100 nm
Sample Illuminated Area	0.5" Diameter
Sample Size	Up to 2" x 2"
Illumination Incident Angle	0°
Dimensions	5" W x 4" D x 3" H (12.70 cm x 10.16 cm x 7.62 cm)
Weight	1.5 lbs. (0.68 kg)
OL 700-74 SPECIFICATIONS	
Spectral Measurement Range	250 – 1100 nm
Sample Illuminated Area	0.5" Diameter
Illumination Incident Angle	0°
Dimensions	5" W x 4" D x 3" H (12.70 cm x 10.16 cm x 7.62 cm)
Weight	1.5 lbs. (0.68 kg)
OL 700-22 SPECIFICATIONS	
Spectral Range	200 to 1100nm
Arc Voltage (V)	≈ 600 Volts
Arc Current (I)	≈ 400 Amperes
Discharge Energy (E)	≈ .04 Joules
Average Power	4 Watts
Pulse Rate	100 Hz
Output Variation	< 2% (250 to 1100nm)
Lamp Lifetime	≈ 1*109 Pulses
Timing	Single or Dual Operation
Optical interface	SMA-905 Fiber Coupler
Electrical interface	High Density – D15
Input Power	12V DC @ 1.5A
Dimensions	2.25" W x 9" D x 4.25" H (5.72 cm x 22.86 cm x 10.80 cm)
Weight	2lbs. (0.91 kg)

OPTRONIC[®]
LABORATORIES

Data Sheet: B086 Dec 2020 | Rev A

As part of our policy of continuous product improvement, we reserve the right to change specifications at any time.

For more information visit OptronicLabs.com or contact Info@OptronicLabs.com