Gooch & Housego

GOOCH AND HOUSEGO'S OL SERIES 750

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Using the latest technology to make state-of-the-art spectroradiometric measurements, the OL Series 750 is one of the most versatile light measurement product lines in the industry. A modular approach coupled with an extensive selection of accessories makes it configurable to almost any requirement.

Get in Touch

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CONFIGURATIONS

The OL Series 750 Automated Spectroradiometric Measurement system is controlled by the OL 750-C controller, which houses all the electronics, data acquisition, monochromator, and accessory control. The all-in-one controller is connected to your PC via RS-232 interface as standard, or IEEE-488 as an option.

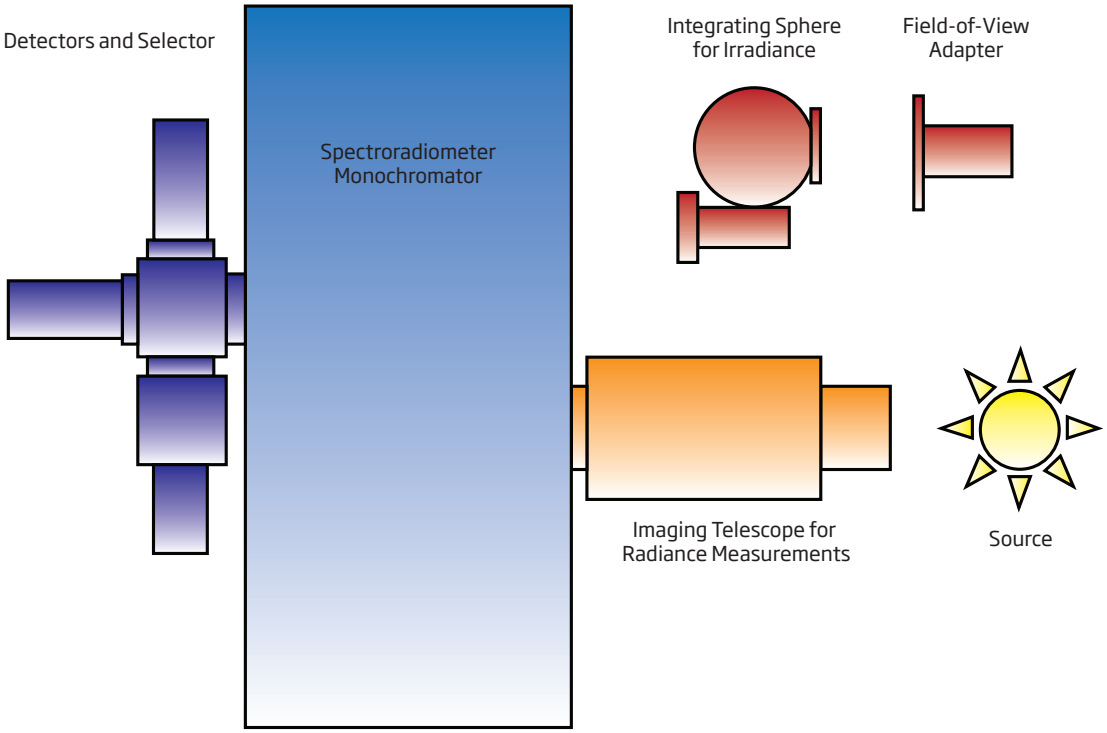
The heart of the system is your choice of a single (OL 750-M-S) or double (OL 750-M-D) high-efficiency (f/4) scanning monochromator. Each monochromator is precisely fabricated and assembled in our plant to exacting specifications. Each is configured with a computer-controlled, tri-grating mount as standard. Up to three (3) large 68 x 68 mm gratings are employed for superior optical performance from 200 nm through 30 µm, covering the entire ultraviolet-visible-infrared spectrum.

The system is entirely computer-controlled through its Windows®- based application software. No manual operation of any controls is required. Every function from grating turret and filter wheel rotation to detector set-up, data reduction, and calibration routines is controlled via the software and your PC.

SOURCE ANALYSIS

This covers a broad range of spectroradiometric measurements for all sorts of light sources. Equipped with the appropriate input optics, you will achieve the most precise measurements for light sources, such as:

- Arc lamps
- Growth chambers
- Pulsed sources
- Blackbody Sources
- Laser Diodes
- Star simulators
- Sphere sources
- Flash lamps
- LEDs
- Solar simulators
- Tungsten lamps
- Fluorescent lamps
- Low light level sources
- Solar radiation



Input optics include:

- **Integrating spheres** for measuring spectral irradiance or power
- **Reflex telescopes** when you need to measure spectral radiance or radiant intensity at large distances
- **Reflex microscopes** for measuring the spectral radiance of very small light sources
- **Mirror imaging optics** for spectral radiance measurements from 200 nm to 30 µm

TRANSMITTANCE

Coupled with a UV-VIS-IR source, collimator, and integrating sphere, the OL Series 750 can measure both the normal and diffuse spectral transmittance of various materials, such as lenses and filters. Transmittance can be measured in terms of percent transmittance, optical density, absorbance, or photometric transmittance.

SPECULAR REFLECTANCE

The OL Series 750 can be configured with the OL 750-75MA Goniospectroreflectance Attachment to measure the specular reflectance of polished materials or mirrors as a function of both wavelength and angle of incidence. Achieving precise and accurate measurements are critical in applications such as:

- Lens coating
- Paint-finished surfaces & shellacs
- Automotive windshields
- Windows and portals
- Computer monitor and television screen surfaces
- Headlamps housings & mirrors
- Building materials

DIFFUSE REFLECTANCE

When you need to quantify the reflectance of light scattering in all directions from a surface, there is no better system available than the OL Series 750 configured with an OL 740-70 Integrating Sphere Diffuse Reflectance Attachment. The OL 740-70 uses all mirror optics in a true double beam optical design. A light trap inserted at the specular position of the sphere wall provides for diffuse reflectance measurements with the specular component removed. Diffuse spectral reflectance measurements can be made including or excluding the specular component on material such as

- Powder
- Plastics
- Paint
- Glasses
- Cosmetics
- Food

DETECTOR RESPONSE

Adding source imaging optics mounted at the entrance slit of the monochromator, exit optics that produce a uniform, collimated monochromatic beam at the exit slit and a standard calibrated reference detector, converts your OL Series 750 into a measurement system for determining detector response. Types of detectors that can be analyzed include:

- Photomultiplier
- Lead Sulfide
- Pyroelectric
- Photometers
- Silicon
- Lead Selenide
- CCD
- Germanium
- InSb
- Cameras
- InGaAs
- HgCdTe
- Radiometers

SOFTWARE

The OL Series 750 application software is a highly intuitive Windows®-based software package that combines utility programs and data reduction routines with specific application software for a completely integrated operating system. The software operates on any Microsoft™ Windows®-compatible computer (see separate information sheets for minimum system requirements), utilizing full mouse and/ or keyboard control for menu selection.

FEATURES

- **Familiar look and feel** Because the software is Windows®-compatible, it provides you with a computing environment consistent with your everyday computer activity. Windows can be minimized, resized, and opened multiple times allowing you to configure a measurement environment to suit your individual style.
- **One button access.** The software provides one button access to various setup routines with built-in wizards And drop down lists.
- **Powerful wizards.** Built in wizards guide you effortless through setup routines, such as grating and detector setup.
- **Smart file browser.** The browser opens immediately after the application is booted. The browser enables you to customize the computing environment such as opening multiple windows for data comparison and plotting. The browser sorts and stores data relevant to standards, calibration, and measuring into “virtual folders,” eliminating the need for tedious searches in directory hierarchies.
- **Browser pays attention.** Once you access a file, the browser protects your data by changing the toolbar to reflect and access routines appropriate to that data file only.
- **Combine files.** Simultaneously viewing two files abd their combined input is simple, intuitive, and visually coherent. You can easily scale and combine two files with interactive cursor dragging.
- **ActiveX™ control SDK.** An option for custom software development.

SPECIFICATIONS

OL 750-C Controller	
Microprocessor	32-bit
Interface	RS-232 (standard), IEEE-488 (optional)
Input	Detector Channel A Detector Channel B Detector Channel C (MUX option) Detector Channel D (MUX option) Photon counter (optional) Pulse integrator (optional)
Output	Monochromator control DC signal monitor AC signal monitor AC reference monitor
Size	18 x 18 x 7.5 inches (46 x 46 x 19 cm)
Weight	27 lbs. (12 kg)
Operating temperature	5°C to 40°C
Signal detection system	DC, AC, pulse integration, photon counting
Computer-controlled functions	Grating turret position Wavelength position Filter wheel position Chopper rate/ position Signal detection system

OL 750-M-S (Single) Monochromator Specifications	
Wavelength range	0.28 – 30 µm
Wavelength accuracy	± 0.05%
Wavelength precision	± 0.01%
Wavelength mechanical drive	Direct geared
Dispersion [1]	4 nm/mm
Bandwidth [1, 2]	0.5 to 20 nm
Stray light	10^{-4}
Grating size	68 mm x 68 mm
Focal length	254 nm (f/4)
Filter positions	11
Chopper rate	programmable, 10 – 500 Hz
Control interface	RS-422
Size	10 x 19 x 9.5 inches (25 x 48 x 24 cm)
Weight	34 lbs. (15.5 kg)
Operating temperature	5°C to 40°C

OL 750-M-D (Double) Monochromator Specifications	
Wavelength range	0.20 – 30 µm
Wavelength accuracy	± 0.05%
Wavelength precision	± 0.01%
Wavelength mechanical drive	Direct geared
Dispersion [1]	2 nm/mm
Bandwidth [1, 2]	0.25 to 10 nm
Stray light	10^{-8}
Grating size	68 mm x 68 mm
Focal length	254 nm (f/4)
Filter positions	11
Chopper rate	programmable, 10 – 500 Hz
Control interface	RS-422
Size	16.5 x 28 x 9.5 inches (42 x 63 x 24 cm)
Weight	62 lbs. (28 kg)
Operating temperature	5°C to 40°C

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