



*The next generation
scientific spectrometers*

- ▶ *Full Spectral range (to 200 - 1000 nm)*
- ▶ *Superior resolution (to 0.2 nm)*

The **HR4000** Scientific Spectrometers

The HR4000 Spectrometer is Ocean Optics' next generation high-resolution spectrometer. The HR4000 is a high precision spectrometer that is particularly applicable to scientific related measurements. The basic HR4000 has a 3648-element CCD-array detector which enables optical resolution as precise as 0.02 nm (FWHM).

The HR4000CG is a preconfigured spectrometer that is responsive over the full range of 200-1100 nm at 0.75 nm resolution. This great combination of optics and electronics is ideal for most scientific measurements such as characterizing lasers, measuring gas absorbance and determining atomic emission lines, as well as acquiring usual spectra.

HR4000 Spectrometers Features

- ▶ 0.02 nm Optical Resolution (FWHM) Potential for Basic HR4000
- ▶ Full 200 - 1000 nm range for HR4000CG-UV-NIR
- ▶ Electronic Shutter Prevents Saturation
- ▶ Onboard Microcontroller
- ▶ Plug-and-Play USB Operation with HR4000
- ▶ Optical Bench Options

Set-up

The two HR4000 type spectrometers allow a buyer to choose either a user configured spectrometer (the HR4000 basic) or the preconfigured full range spectrometer (the HR4000CG-UV-NIR). The basic provides a choice of higher resolutions at shorter spectral ranges. Ranges can be specified from the ultraviolet (220 nm) to near infrared (up to 1100 nm) in various steps depending upon the resolution

requirements. The included chart (below) describes the variations in choosing a range and resolution for your HR4000. Alternately, if the full range (from 220 nm to 1000 nm) is needed, order the HR4000CG-UV-NIR. This preconfigured spectrometer has the patented composition grating (CG) that implements the full range of the spectrometer.

As is implied by the above charts, there are choices of spectrometer entrance slit size and of gratings (and with both groove densities and blaze wavelengths of the gratings). These choices relate to resolution and range; there are trade-offs between the two characteristics that enables a buyer to specify both so as to obtain optimum operation of an HR4000 spectrometer. In ordering, it may be preferred to contact Ancal with your range and resolution

needs for specific recommendations.

[Click here to send E-mail.](#)

However, if a broad range plus reasonably good resolution is needed, the preconfigured HR4000CG-UV-NIR is an excellent choice. This composition grating spectrometer is an advanced design that can be put to work in making numerous measurements throughout the spectral range.

Prices

HR4000	The HR4000 spectrometer	\$4,619.00
Grating	User specified grating	Included
SAG+UPG-HR	Two AgPlus Mirrors Upgrade; installed	\$ 290.00
DET4-VIS	Standard detector for VIS and VIS4 window, installed	Included
DET4-UV	Up-grade detector for UV and UV4 window, installed	\$ 174.00
SLIT-5	Slit installed in entrance, 5-micron width	\$ 174.00
*Alternate slits are available at SLIT-5 price; specify 10, 25, 50, 100, or 200 width		
L4	Detector Collection Lens, installed	\$ 174.00
HR4000CG-UV-NI	HR4000 Composite-grating Preconfigured Spectrometer	\$5,774.00
HR4-BREAKOUT	Breakout box for external connections	\$ 289.00
HR4-CBL-DB15	HR4000 DB15 Accessory cable (For fiber optic patch cords for use with the HR4000 spectrometers, see fittings)	\$ 87.00
SPECTRASUITE	Cross-platform Spectroscopy Operating Software	\$ 199.00*
*SpectraSuite is priced at \$150. if ordered with a spectrometer.		

Note: For additional prices, go to:

<http://www.oceanoptics.com/Products/061008pricelist.pdf>

Prices subject to change without notice

Prices are in USA dollars

Products are FOB Ancal, Nevada

Order

To order, you may fax Ancal an order at 1-602-532-7018. In response, you will promptly receive an acknowledgement confirming current prices and noting estimated delivery. Please be aware that in some cases, such as in sales to new customers or in orders for special items, pre-payment of may be required.

Should you want to order via the internet, go to the order section, in the Contact Us site, and follow the instructions for placing the order.

As an authorized distributor of Ocean Optics products, Ancal can process orders for most items manufacturer by Ocean Optics. Such items may be shipped from Ancal or may be shipped directly from Ocean Optics. All prices are US\$ prices in accord with prices published on the price lists herein and on the current Ocean Optics price list.

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