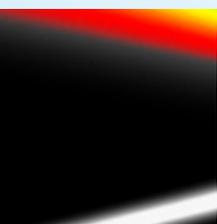


## What makes the iHR Series Imaging Spectrometers better

- ELEMENTAL ANALYSIS
- FLUORESCENCE
- GRATINGS & OEM SPECTROMETERS
- OPTICAL COMPONENTS
- CUSTOM SOLUTIONS
- PARTICLE CHARACTERIZATION
- RAMAN / AFM-RAMAN / TERS
- SPECTROSCOPIC ELLIPSOMETRY
- SPR IMAGING



## Mid-Focal Length Imaging Spectrometers

### Not all Czerny-Turner spectrometers are built the same

No one has more experience in designing and manufacturing spectrometers than HORIBA Scientific. When we designed the iHR we made a quantum leap forward in the traditional Czerny-Turner design and developed an asymmetrical spectrometer that is patented and immediately recognizable by its distinctive shape and design. With zero re-diffracted light, correction for optical

aberrations, multi-track image capabilities and more options than any competitor, the iHR series offers best in class performance and flexibility.

For more details on the outstanding performance characteristics of this unique spectrometer, refer to our technical note, titled [“Not all Czerny-Turner spectrometers are made the same”](#).

### Inherent Benefits

	iHR Series	Competition	iHR Benefits
<b>Housing manufacture</b>	Single Casting	Panels	Better stray light rejection
<b>Size of entrance &amp; exit swing away mirrors</b>	Exit greater than entrance	Exit the same as entrance	No vignetting and homogeneous illumination of CCD
<b>Non-crossed Czerny-Turner asymmetric optics</b>	Yes	No	No re-diffracted light to present spurious signals
<b>On-axis grating rotation with single motor triple grating turret</b>	Yes	No	Patented design ensures uniform illumination
<b>Dual entrance port</b>	Yes	No	Flexibility
<b>Dual exit port</b>	Yes	No	Flexibility, no vignetting
<b>Up to 4 single channel detectors or 2 single channel and one array</b>	Yes	No	Flexibility and broad spectral coverage

### Hardware

The iHR series of spectrometers stand out in the field of standard Czerny-Turner spectrometers. They are manufactured from a single solid casting to eliminate light leaks and provide the strongest, most stable possible housing for the instrument. The computer optimized asymmetric optical path and patented on-axis grating drive improve image quality, while eliminating re-diffracted light and maximizing optical throughput. In addition, the

use of toroidal mirrors corrects for astigmatism at the center of the focal plane, providing flexibility to work in either an imaging or resolution optimized configuration.

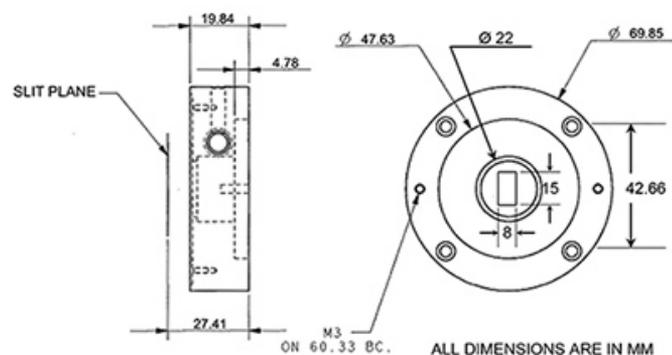
The iHR series spectrometers are fully automated; all motors are computer controlled including slits, gratings, turret rotation, and swing mirrors. There are four optional ports, two entrance and two exit, that can be utilized in any combination of two inputs and two outputs. The two

optional output ports can be configured with either slits or array flanges for use with multichannel detectors.

## Slits

The monochromator slits are adjustable automated slits with two available options; 0 to 2 mm opening with 2.25 micron step size and 0 to 7 mm opening with 6.25 micron step size. A manually adjustable height limiter allows the user to quickly shut or open the light path to 1 mm and 15 mm heights.

You can add accessories to the HR series spectrometers to obtain optimum results for a variety of applications. To attach the accessories to the iHR, use the two tapped holes on the body of the slit. These holes are also useful for connecting the iHR with your experiments and equipment. When connecting with the iHR, it is important to know the distance from the mounting face of the slit's body to the slits.



Note that some custom accessories require removal of the height-limiter assembly in order to be attached to the iHR chassis. To remove the height-limiter assembly, remove the four screws holding the assembly onto the chassis.

## A Proud Tradition of Excellence

With the acquisition by HORIBA of Jobin Yvon, a spectroscopy company founded in 1819, HORIBA Scientific continues to define the leading edge of the Optics of Spectroscopy.

For the last 40 years HORIBA Scientific has taken a leading position in the design, development and manufacture of master and replica diffraction gratings. HORIBA Scientific diffraction gratings are found in both high volume OEM instruments and in world class cutting edge scientific applications. Our pattern of leadership in optics has been hallmarked by the continuing development of both classically ruled and holographic diffraction grating technologies. This led to the introduction in 1967 of the aberration corrected holographic grating and subsequently ion etched and blazed concave and plane holographic gratings.

The iHR series of spectrometers take full advantage of the highest quality of gratings that HORIBA designs and manufactures.

## Spectroscopy Cameras

HORIBA Scientific offers a complete line of spectroscopic multi-channel detectors for scientific research. For spectral detection from UV to near-IR, two dimensional CCDs and indium gallium arsenide linear arrays offer a faster acquisition option over single point detectors with very high sensitivity. Coupled with HORIBA's range of aberration corrected, flat field imaging spectrographs, custom spectroscopy packages can be assembled for a variety of applications. To learn more, [click here](#).

## Broad Band Light Sources

HORIBA Scientific has an excellent selection of broadband light sources. If you would like to couple the spectrograph/monochromator to one of these light sources, then we have adapters to physically connect them and create a tunable illuminator. To learn more about our broad band light sources, [click here](#). Incidentally, if you are looking for such a tunable illuminator we have a separate page describing our [Tunable PowerArc](#) compact tunable illuminator, and our ultimate [Tunable KiloArc™](#) illuminator.

**HORIBA**  
Scientific

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