

## H20-UVL Monochromator for Far Ultraviolet



A Compact Monochromator



# A monochromator for 100 - 600 nm

## Applications

- Transmission-Reflection measurements
- UV tunable filter/Light source
- Fluorescence

The H20-UVL is a monochromator especially designed for analyzing 100-600 nm (2 to 12.4 eV) far UV (FUV) range when using under vacuum, or 190-600 nm at atmospheric pressure. This simple optical design dramatically reduces astigmatism and results in excellent throughput and spectral purity, even below 140 nm, where other instruments based on Czerny Turner design lose their efficiency because of the number of internal reflections and the working angles of their optics. Its micrometric slits and its worm drive make its scans precise and fast.

This short focal length vacuum monochromator is ideal for sample illumination if equipped with a VUV light source, or for FUV low resolution analysis with a single PMT or silicon detector. A spectrograph version for one inch CCD detector or MCP (Micro Channel Plate) is available on request.

## Features

- Single Grating design
- Type IV Grating
- MgF<sub>2</sub> coating UV optimized
- Dedicated baffling
- High Vacuum compatible
- Automate drive
- Built-in USB2 interfaces

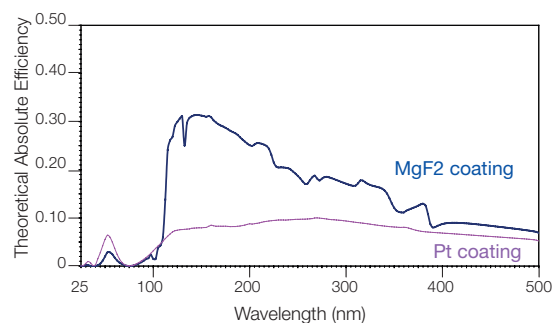
## Benefits

- Optimized for throughput
- Minimized aberrations
- Better efficiency in FUV range
- Low stray light
- A few 10<sup>-6</sup> mbar
- Fast and easy to operate
- No additional controller. Easily programmable with SDK

Compact  
Controller less  
Low stray light  
Fast scanning  
Robust

## Efficiency of the H20-UVL

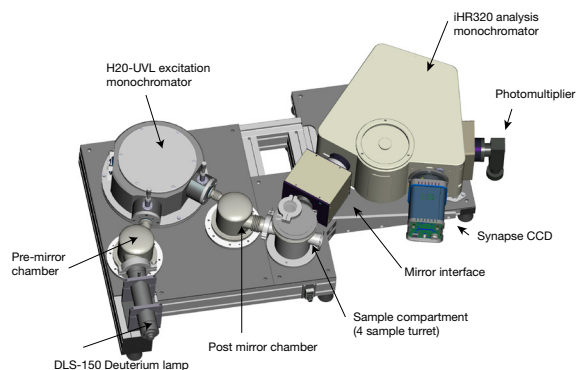
Our H20-UVL standard package includes Magnesium Fluoride (MgF<sub>2</sub>) coating. Other coatings such as Platinum (Pt), which improve the efficiency below 115 nm, are offered as an option.



H20-UVL grating coating efficiencies

## Example of H2O UVL uses:

### Fluorescence instrument based on H2O-UVL and iHR320



The H2O-UVL/Deuterium tunable light source can operate in a fluorimeter setup when the sample compartment is equipped with an additional lateral port at 90° from the excitation. An iHR/CCD spectrometer, made by HORIBA Scientific<sup>1</sup>, is attached onto this port, analyzing the fluorescence emission of the sample.

This last emission spectrometer may operate in atmospheric pressure or under Nitrogen depending on the fluorescence spectral range of the analysis.

Contact us for more information.

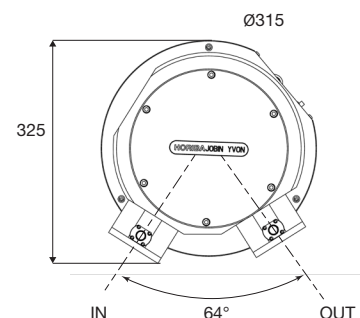
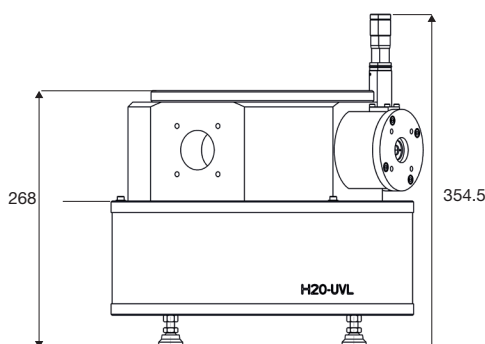
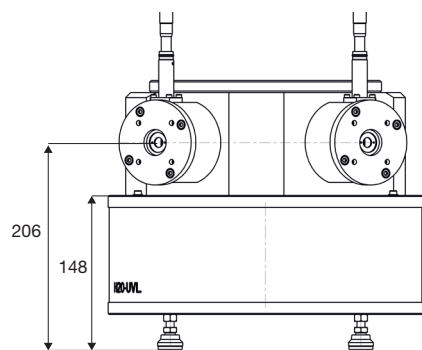
## Standard Configuration

Optical design	Spherical Type IV (single optic)	Speed	400 nm/s
Focal length	200 mm	Accuracy	+/- 0.1 nm
Aperture	f/4.2	Repeatability	+/- 0.06 nm
Grating density	1200 gr/mm	Resolution	Better than 0.1 nm (*)
Optic coating	MgF <sub>2</sub> optimized at 121 nm (Pt option)	High Vacuum	A few 10 <sup>-6</sup> mbar (**)
Deviation angle	64°	Pumping flange	DN63 LF
Dispersion	3.6 nm/mm at 120 nm	Entrance/exit port	Micrometric slits (10 μm to 3 mm)
Drive	Fast worm drive	Entrance/exit flange	DN25 KF
Minimum step	0.06 nm	PC interface	Built-in USB2- No additional controller

Weight: 27 kg

(\*) using 10 micron slit and 2 mm slit height on 121 nm line

(\*\*) H2O-UVL requires pump and gauge not included in these packages



# HORIBA Scientific, Your partner in VUV Spectroscopy

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