



VM200 VUV Monochromator and Spectrometer



The Resonance Ltd. vacuum monochromator and spectrometer uses standard connections to allow simple integration into most systems. The f/4.2 grating is a type 4 for minimal aberrations. It is designed to allow easy interchangeability between being a monochromator with servo-controlled drive and a CCD-based spectrometer. It's supplied with LabView-based codes and drivers for integration into user software.

The VM200 packs performance in a small package. The compact 2.5-kg system can be coupled directly to a vacuum chamber through a 2.75" Conflat™ style flange. Its single-grating design provides high VUV efficiency while the 200mm focal length offers an excellent balance between size and functionality.

The system can be configured as a manual monochromator, a motorized monochromator or as a CCD spectrometer using interchangeable accessories.

Features

- High throughput f/4.2
- Spectral range from 25-3200 nm with available gratings
- Single concave grating for high VUV efficiency
- Easily switched from a monochromator to a CCD-based spectrometer
- Only 2.5kg mass, 1.7 liter internal volume
- Manual adjustable slits standard
- LabView-based software
- Interchangeable gratings for wavelengths up to 3200 nm
- Grating Options: Platinum or Gold EUV coating
- Control/data acquisition electronics, embedded computer and software
- Customization: Flanges available for 3rd party CCD



VM200 Specifications	
Focal Length	200/188 mm
F/No	4.2
Wavelength Range	25 - 3200nm *
Resolution	0.17nm with 50um slit **
Wavelength Accuracy	+/- 0.3nm with standard grating
Wavelength Reproducibility	+/- 0.1nm
Dispersion	3.6 nm/mm with 1200g/mm gtg.
Focal Plane	30mm max. width
Standard Grating	1200 G/mm
Grating Size	40 x 45mm
Standard CCD	High VUV Stability 25 - 1,000nm
Standard Interchangeable Slits	25 - 4000 um width
Adjustable Slits Option	0 - 4000 um width
Optional CCD	Custom adapters available
Stray Light	$<2 \times 10^{-4}$ in VUV
Ultimate Vacuum	$<10^{-6}$ torr
Dimensions	18cm dia. 16cm height main body

* Wavelength Range

Normal range (VUV/UV/VIS with Al/MgF₂ VUV to NIR coating)
Short wavelength with EUV 1200 g/mm grating (RUV Pt coating)
Long wavelength with IR 300 g/mm grating (IR gold coating)

** Resolution

Measured full width at half maximum of Kr 123.6nm at center of CCD

*** Reciprocal linear dispersion at center of CCD at 123.6nm



Resonance Grating Number	Spectral Range (nm)	Dispersion (nm/mm)	Groove Density (l/mm)
C200-12-10-30-xxx*	25 - 300	4	1200
C200-12-19-90xxx	190 -900	4	1200
C200-12-20-100-xxx	200 - 1000	4	1200
C200-12-30-110-xxx	300 - 1200	4	1200
C200-8-35-120-xxx	350 - 1200	6	800
C200-640-160-xxx	400 - 1600	8	600
C20-5-40-210-xxx	400 - 1200	10	450
C20-3-80-320-xxx	800 - 3200	16	300

* AUE Gold EUV 25 - 200nm
 MAU Mag FLU UV-VIS 110 - 1100
 PTE Platinum EUV 30 - 200nm

