

## M266 - Automated Monochromator/Spectrograph



- high aperture optics
- extremely low stray light
- perfect flat field
- full computer control
- embedded active High-Speed HUB

Our M266 is a compact versatile **high-aperture** instrument featuring high optical quality and low stray light which can be used as a monochromator and/or as a flat field spectrograph. **Two output ports** allow connecting to M266 two exit slits, exit slit/detector or two detectors simultaneously.

M266 is **completely automated**. Scanning and changing of diffraction gratings, order separating filters, adjustment of slit width and selection of an output port are performed automatically and controlled via the intelligent and easy-to-use software.

M266 contains the **embedded active HUB** which provides control over the whole system consisting of the monochromator and detectors, from your personal computer via one USB cable only.

**Perfect flat field** and intelligent software allow panoramic spectra with multiple scanning and replacement of gratings and filters to be easily acquired and put into your analytical report.. M266 provides wide possibilities for processing and analysis of the spectrum: intensity calibration, automatic search and analysis of peaks, spectra calculator, axonometric spectrum, etc.

The M266i (**Imaging version**) contains a cylindrical folding mirror and provides astigmatism compensation for both output ports, thus ensuring use of M266 with 2D detectors not only in the binning mode, but also in the mode of obtaining a two-dimensional Image.

At your request, M266 is supplied with DLLs und LabVIEW drivers for controlling the instrument via individually designed software.

Optical scheme	optimized Czerny-Turner with one input and two outputs								
Spectral range	- typical 180 – 3600 nm (see the specifications below), - up to 40 mkm when the appropriate gratings are used								
F/Number	1 : 3.8								
Focal length	284 mm								
Flat field	30 x 10 mm								
Imaging	Option. Available for the both output ports simultaneously.								
Gratings	50x50x10mm, automatically controlled, one or four from the list below <sup>1)</sup>								
- lines/mm <sup>1)</sup>	2400	1800	1200	600		400		300	
- reciprocal linear dispersion (average), nm/mm <sup>2)</sup>	1.58	2.12	3.18	6.37	6.32	9.6	9.41	12.75	12.64
- blazing wavelength, nm	225	270	400	750	1000	800	1700	1500	2000
- spectral range, nm <sup>3)</sup>	180-450	180-600	265-900	500-1500	660-1800	530-1600	1130-2700	1000-3000	1330-3600
- multichannel array bandpass, (average), nm	38 <sup>4)</sup>	51 <sup>4)</sup>	76 <sup>4)</sup>	150 <sup>4)</sup>	80 <sup>5)</sup>	230 <sup>4)</sup>	120 <sup>5)</sup>	160 <sup>5)</sup>	160 <sup>5)</sup>
- resolution (average), nm	<0.1 <sup>4)</sup> 0.05 <sup>6)</sup>	<0.15 <sup>4)</sup> 0.07 <sup>6)</sup>	<0.22 <sup>4)</sup> 0.1 <sup>6)</sup>	<0.45 <sup>4)</sup> 0.2 <sup>6)</sup>	<0.45 <sup>5)</sup> 0.2 <sup>6)</sup>	<0.7 <sup>4)</sup> 0.3 <sup>6)</sup>	<0.7 <sup>5)</sup>	<0.94 <sup>5)</sup>	<0.94 <sup>5)</sup>
Entrance/exit slits	adjustable with micrometric and automatic drives from 0 to 2 mm, 12 mm height								
Integrated shutter	adjusted automatically, serves for measuring dark signal								
Computer interface	High Speed USB								
Dimensions and Weight	410 x 252 x 213 mm, 23,5 kg								

1) For obtaining spectral parameters differing from the above, diffraction gratings with other lines quantity can be used.

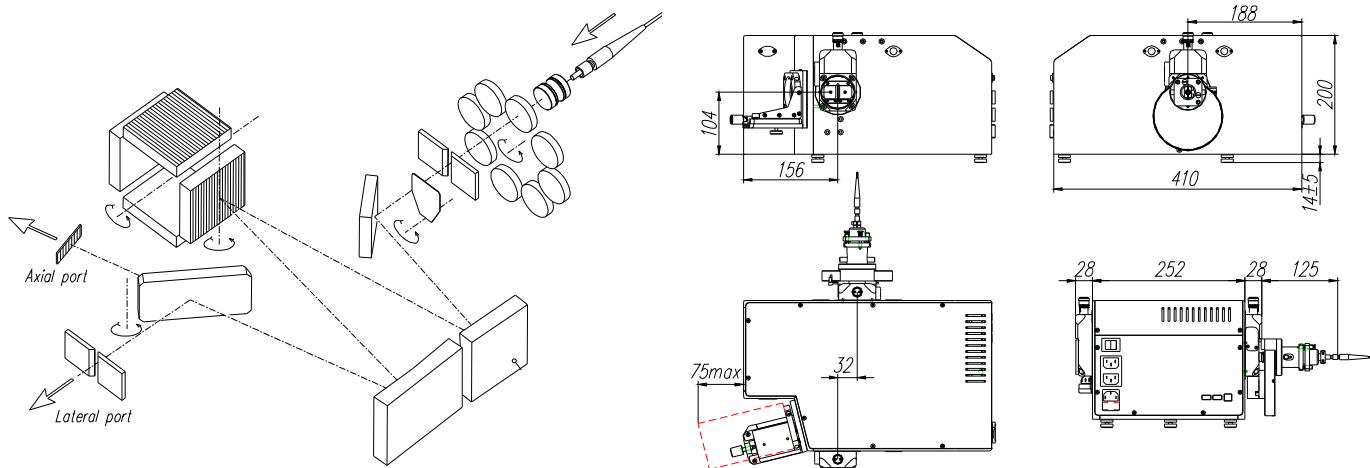
2) Reciprocal linear dispersion is indicated for blazing wavelength

3) Wavelength range for which diffraction efficiency exceeds 40%

4) For detector with 24 mkm pixel size and 24.5 mm length of active area

5) For detector with 25 mkm pixel size and 12.8 mm length of active area

6) For detector with 8 mkm pixel size and 29.1 mm length of active area



**Fe quadruplet at 310 nm acquired with M266 allows at least 3 peaks to be easily resolved.**  
 Fe lines are 309.9897nm, 309.9971nm, 310.0304nm, 310.0666nm.  
 M266 contained 1800 l/mm grating and a linear image sensor with 25 um pixel width.

