

TMS305
High Throughput
Triple Grating Monochromator
with internal motorised slits



TMS305 Monochromator

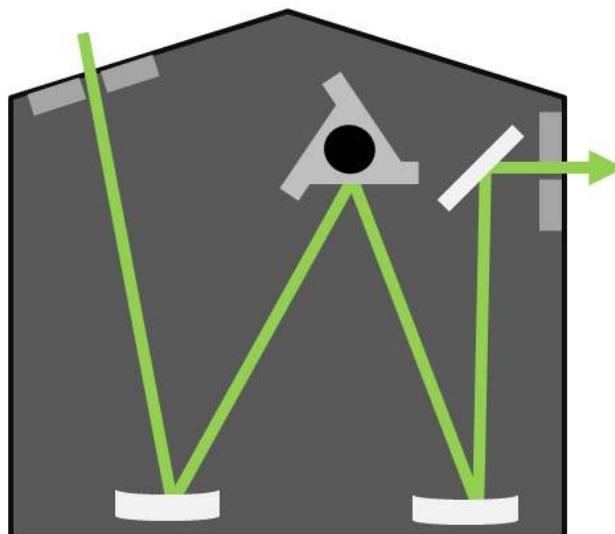
The design of the TMS305 is an iteration of that of our popular TMc300 monochromator, including the capacity to mount larger diffraction gratings, to obtain maximum optical throughput, motorised entrance and exit port slits and an asymmetric Czerny Turner configuration for the avoidance of re-diffracted light.

The TMS305 is typically configured with a broadband illuminator to constitute a high irradiance UV-visible-NIR monochromatic probe.

Key features include:

- 300mm focal length single monochromator in asymmetrical Czerny-Turner configuration
- Accommodates up to three diffraction gratings to permitting optimal selection of grating blaze efficiency in this relatively narrow band (typically 200nm-1100nm), high throughput application
- One entrance and one exit port
- Internal motorised entrance and exit slits
- Fully automated through USB 2.0 interface

Configuration - Assymmetric Czerny-Turner

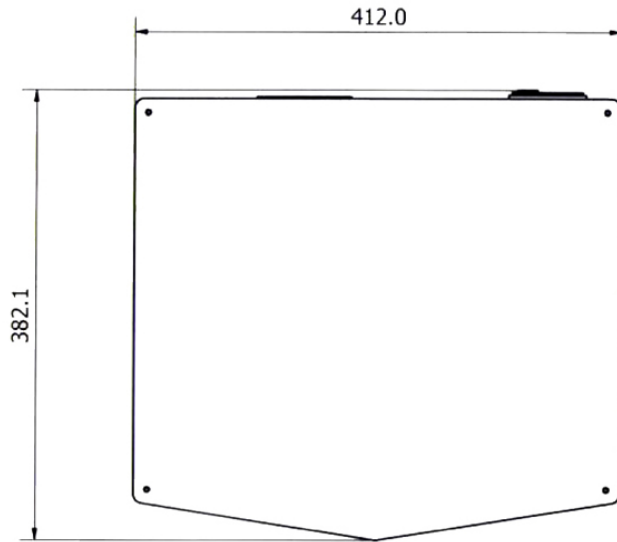


Specification

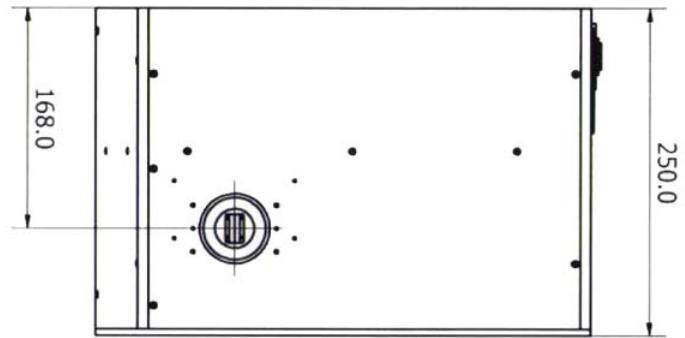
Optical Layout	
Configuration	Asymmetrical Czerny Turner
Focal length	300mm
Grating Mount	Triple grating turret
Number of Gratings	1-3
Grating size	90x 90 X 16mm
Aperture ratio	f/3.6 (at all grating angles)
Mirror size	90x 90mm
Number of Entrance/ exit ports	One entrance, one exit
Opto-Mechanical	
Grating drive	Stepping motor driven turret
Mechanical resolution drive	0.000072°/ step
Slit type	Internal motorised variable
Slit Width & Height	10µm-10mm (W) x 20mm (H)
Order sorting	6-position filter wheel (includes shutter)
Filter Size	25mm diameter
Optical Performance (quoted for 1200 g/mm gratings)	
Spectral Range	Within range 200nm-1200nm
Linear Dispersion	2.7nm/mm
Wavelength accuracy	± 0.2nm
Wavelength reproducibility	± 0.05nm
Resolution full/reduced slit height	0.3/0.1nm
Stray light rejection	10 ⁻⁵ (20nm from laser line 632.8nm) 10 ⁻³ (measurement of OS700 order sorting filter with QH light source)
Wavelength acquisition speed	1000nm/s
Time to change 1nm	80ms (typical)
Time to change 500nm	650ms (1200g/mm moving from 500nm-1.0µm) (typical)
Time for changing grating	4500ms (typical)
Time for changing filter	400ms (typical)
Automation	
Computer interface	USB 2.0
Software Control	BenWin+/SDK
Other	
Diffraction gratings	See separate Diffraction Gratings datasheet
Order sorting filters	See separate Order Sorting Filters datasheet

TMS305 Dimensions

Top view



Side view



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