



**TMS300**  
Triple Grating Monochromator  
with Internal Motorised Slits

# TMS300 Monochromator

The TMS300 monochromator offers the same excellent optical performance as the popular TMc300 monochromator– including flexibility of configuration and the ability to cover a wide spectral range in a single scan– adding the significant advantage of internal motorised slits.

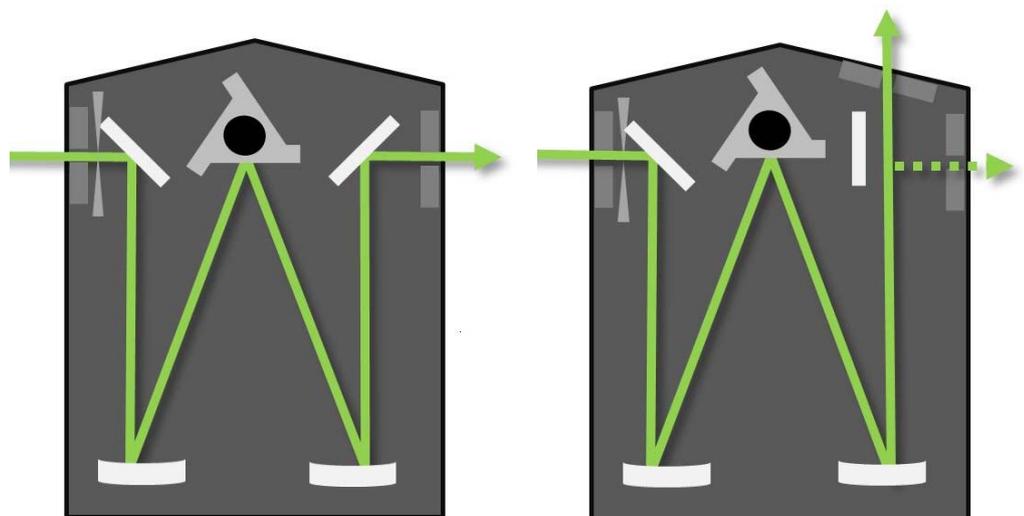
In its simplest form, motorised slits allow maintaining system bandwidth during migration between diffraction gratings through the scan range. More powerfully still, it is possible to vary system bandwidth and measurement step size throughout the spectral range of use.

Compatible with the full range of sources, detectors and accessories of the Bentham portfolio, the TMS300 monochromator provides supreme flexibility throughout the UV, visible and IR.

Key features include:

- 300mm focal length single monochromator in Czerny-Turner configuration
- Up to three diffraction gratings allow single-scan measurement over wide spectral range
- May be configured over ranges included in 200nm-50µm, below 300nm typically only where stray light not desired
- One entrance port and two exit ports with automated mirror-based port selection for use of multiple input/ output/ detector configurations
- Internal motorised entrance and exit slits
- Internal order-sorting filter wheel
- Large rectangular gratings enhance light throughput whilst optical layout minimises scattered light
- Fast wavelength acquisition with zero backlash
- Fully automated through USB 2.0 interface

## Configuration(s)

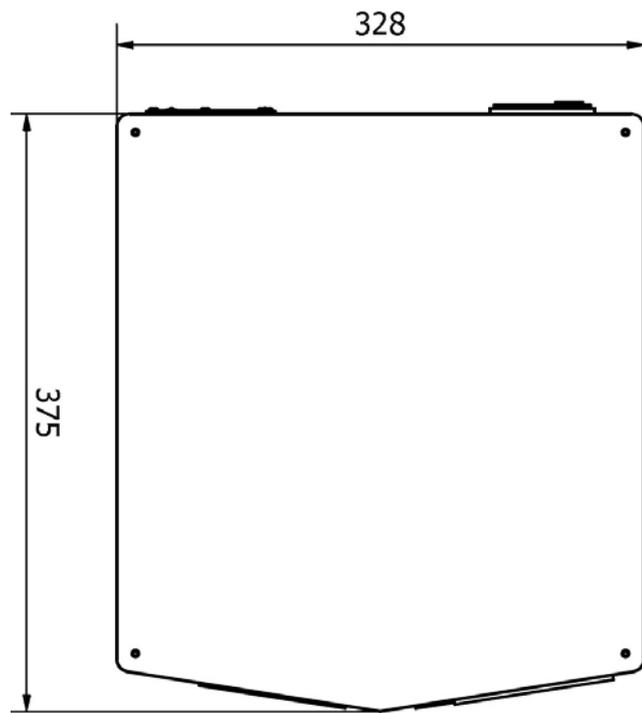


## Specification

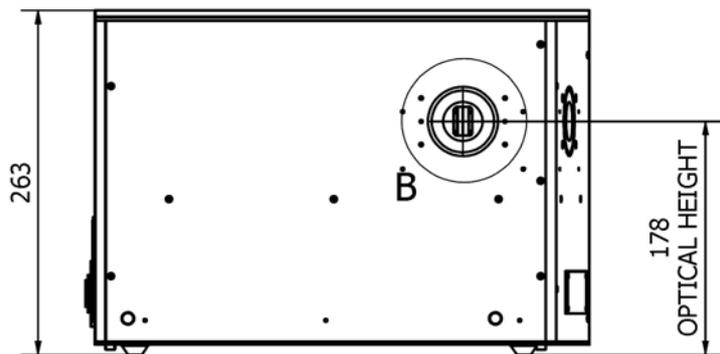
<b>Optical Layout</b>	
Configuration	Symmetrical Czerny Turner
Focal length (mm)	300
Grating mount	Triple grating turret
Number of gratings	1-3 (See separate Diffraction Gratings datasheet for full range)
Grating size (mm)	68x 84
Aperture ratio	f/4.1 (at all grating angles)
Number of entrance/exit ports	1/2 or 2/1
<b>Opto-Mechanical</b>	
Mechanical resolution grating drive (°/ step)	0.00072
Slit type	Internal motorised variable
Slit width & height (mm)	0.01-10W x 20H
Order sorting	6-position filter wheel
Filter diameter	25mm (see separate Order Sorting Filter datasheet for full range)
<b>Optical Performance (quoted for 1200 g/mm gratings)</b>	
Spectral range	Within range 200nm-50µm
Linear dispersion (nm/mm)	2.7
Wavelength accuracy (nm)	± 0.2
Wavelength repeatability (nm)	± 0.05
Resolution full/reduced slit height (nm)	0.3/0.1
Stray light rejection at 2.5x FWHM	10 <sup>-5</sup>
Wavelength acquisition speed (nm/s)	1000
<b>Automation</b>	
Computer interface	USB 2.0
Software control	BenWin+/SDK
<b>Electrical/ Mechanical</b>	
Overall dimensions (mm)	328w x 375d x 263h
Optical height (mm)	178
Power supply	Mains input 110/220V 50/60Hz
<b>Options</b>	
Diffraction gratings	See separate Diffraction Gratings datasheet
Order sorting filters	See separate Order Sorting Filters datasheet

# TMS300 Dimensions (mm)

Top view



Side view



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## Contact Us

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