

**DTMS300**  
Double Monochromator

# DTMS300 Monochromator

For those applications where the scattered light performance of a single monochromator is not sufficient, the excellent optical performance and flexibility of motorised slit of the TMS300 may still be experienced with two such sub-units used in tandem constituting thereby the DTMS300 double monochromator.

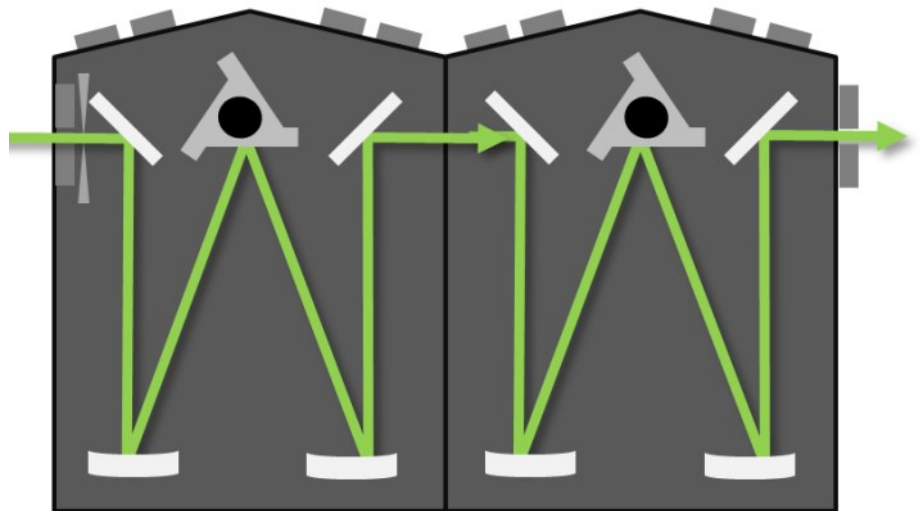
The DTMS300 maintains the flexibility of configuration and ability to cover a wide spectral range of the DTMc300, within a single scan, but includes the added advantage of internal motorised slits to permit the maintenance or selection of measurement bandwidth throughout the spectral range of use.

Compatible with the full range of sources, detectors and accessories of the Bentham portfolio, in the additive dispersion mode, the DTMS300 monochromator is at the heart of many of our light measurement solutions, particularly those incorporating a UV component.

## Key features:

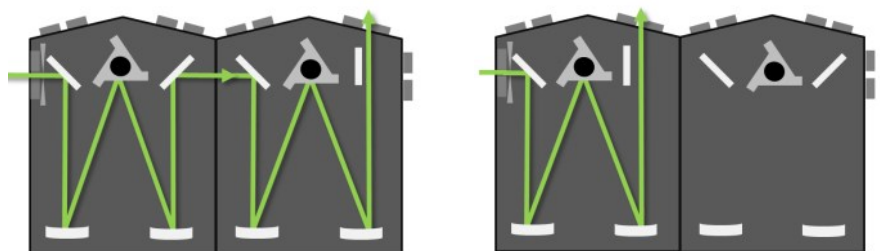
- Double monochromator composed of two 300mm focal length monochromators in Czerny-Turner configuration arranged for additive dispersion
- Each single monochromator accommodates up to three diffraction gratings permitting single-scan measurement over wide spectral range included in range 200nm-50µm
- Up to two entrance ports, one exit port on first monochromator (single mode) and up to two exits on second monochromator (double mode) with automated mirror-based port selection for use of multiple input/ output/ detector configurations
- Internal motorised entrance and exit slits
- Fully automated through USB 2.0 interface

## Configurations



Standard configuration A

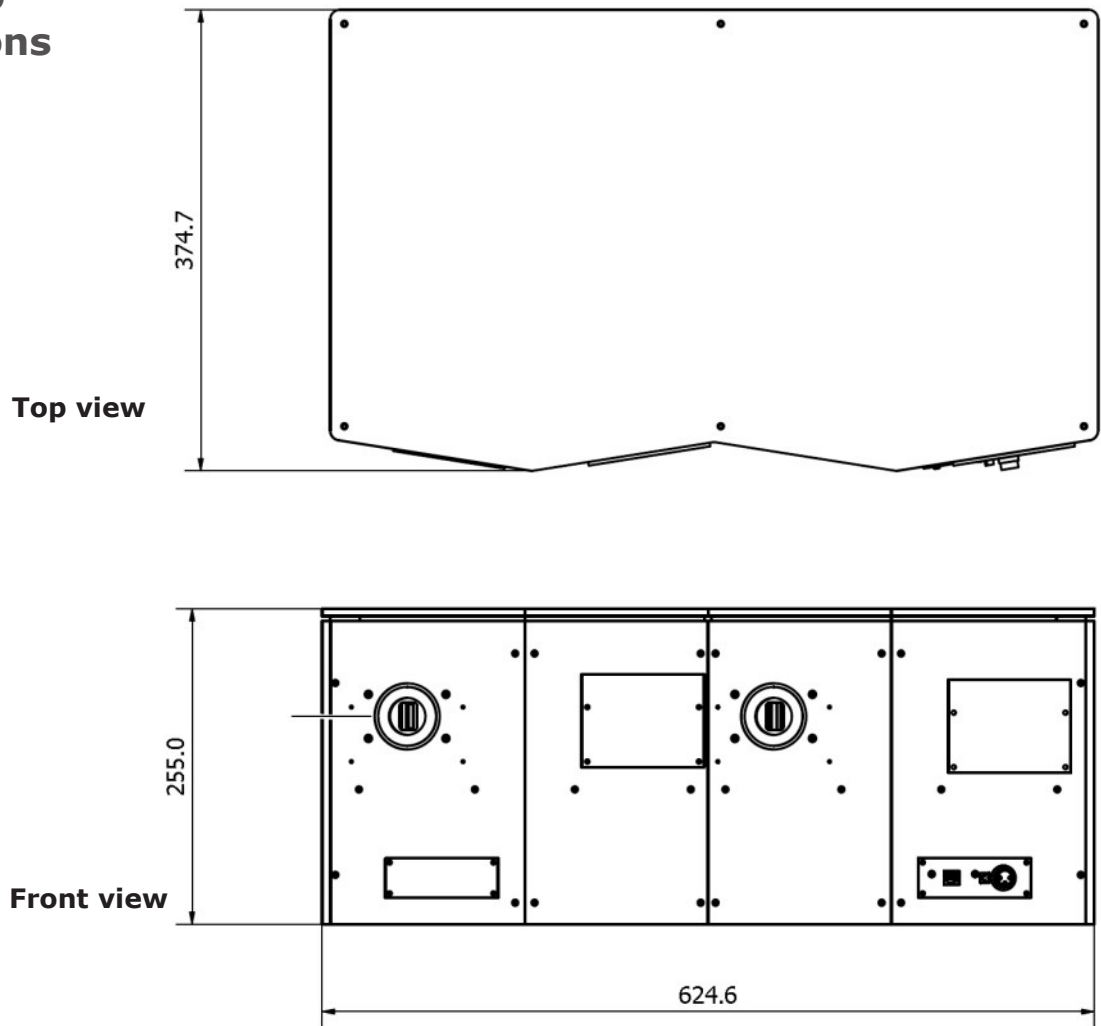
Alternative configurations B & C:



## Specification

<b>Optical Layout</b>	
Configuration	Pair symmetrical Czerny Turner monochromators arranged for additive dispersion
Focal length	Total focal length: 600mm Individual units: 300mm
Grating mount	Triple grating turret
Number of gratings	1-3
Grating size	68 x 84mm
Aperture ratio	f/4.1 (at all grating angles)
Number of entrance/exit ports	1/2 or 2/1 on both monochromators
<b>Opto-Mechanical</b>	
Mechanical resolution drive	0.000072°/ step
Slit type	Fixed, micrometer or motorised variable
Slit width & height	10µm-10mm (W) x 20mm (H)
Filter size	23mm diameter
<b>Optical Performance (quoted for 1200 g/mm gratings)</b>	
Spectral range	Within range 200nm-50µm
Linear dispersion	1.35nm/mm
Wavelength accuracy	± 0.1nm
Wavelength reproducibility	± 0.025nm
Resolution full/reduced slit height	0.15/ 0.05nm
Stray light rejection at 2.5 FWHM	10 <sup>-8</sup>
Wavelength acquisition speed	2000nm/s
<b>Automation</b>	
Computer interface	USB
Software control	BenWin+/ SDK
<b>Electrical/ Mechanical</b>	
Overall dimensions	624W x 375D x 255H mm
Optical height	168mm
Weight	Approx. 30 kg
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
Filter wheel	252-8 (8-position filter wheel, includes shutter)

# DTMS300 Dimensions



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## Contact Us

Bentham Instruments Ltd  
2 Boulton Road  
Reading  
Berkshire  
RG2 0NH  
United Kingdom

T: +44 (0) 118 975 1355  
E: [sales@bentham.co.uk](mailto:sales@bentham.co.uk)  
W: [www.bentham.co.uk](http://www.bentham.co.uk)