

M25 Monochromator



Stray light caused by multiple diffraction cannot be avoided with the use of the general Czerny-Turner mount system, but our unique asymmetrical modified Czerny-Turner optical arrangement developed for this M25 monochromator can eliminate this stray light. M25 has designed compact, lightweight and bright with high resolution. Since the optical adjustment is performed so that a waveform with good symmetry can be obtained near the blaze wavelength of the diffraction grating, good resolution is maintained at both ends of measurement wavelengths.

- The optical layout employing the unique asymmetrical modified Czerny-Turner mount has reduced the stray light significantly that is caused by multiple diffraction.
- Our optical system which has been designed to show very little aberration can provide spectra with excellent symmetry over every wavelength.
- Exchange of diffraction grating is easily done with maintaining good reproducibility (within $\pm 0.1\text{mm}$) so that this monochromator can be used to cover broad band (200 ~ 25 μm).
- Nitrogen purge mechanism allows the M25 to be used in the infrared region.
- Adopting the diffraction grating which has the broad effective area, the optical system is bright with $F = 4.3$, and exhibits very less aberrations so that the symmetry of the emitted light is superior over each wavelength and higher resolution can be obtained.
- Since mechanism and operation are robust and easy, the M25 is strong to shock and vibration. The model M25 is capable of high-precision measurement with almost no backlash of the slit mechanism.
- Since the entrance slit is arranged on the opposite to the exit slit, the M25 is easy to be configured with other optical systems and special accessories to meet your specific requirements
- Mounting the stepping motor wavelength drive (option), it is possible to control the M25 through an external pulse signal and GP-IB.



Specifications (When 1200 lines/mm grating is used)

Optical system	Asymmetrical modified Czerny-Turner mount
Focal length	250mm
Aperture ration	F=4.3
Diffraction grating	Ruled effective area 52 x 52mm
Optical wavelength range	200 ~ 1400nm
Mechanical wavelength range	0 ~ 1400nm
Resolution	0.1nm (FWHM)
Wavelength scanning method	Sine bar mechanism, Wavelength linear scanning
Wavelength driving method (Option)	Stepping motor drive
Wavelength accuracy	±0.1nm (setting from forward direction)
Wavelength display	Conter display, minimum 1nm, minimum scale 0.1nm
Wavelength reproducibility	±0.1nm (setting from forward direction)
Stray light	≤ 1 x 10 ⁻⁴ (under conditions that when λ ₀ is 546.1nm, λ ₀ is ±5nm)
Entrance slit	Width: 0-4mm (symmetry continuously variable ,minimum read scale 0.01mm)
Filter	Manual slide method (6 pcs of filter can be installed)

*Filter for Ultra violet and infra red are options



Standard Configuration

- Main unit (without a grating)
- Visible filter(L-37, · R-64)
- Slide type film holder
- Slide height V shape iris
- Instruction manual



Gratings Lineup

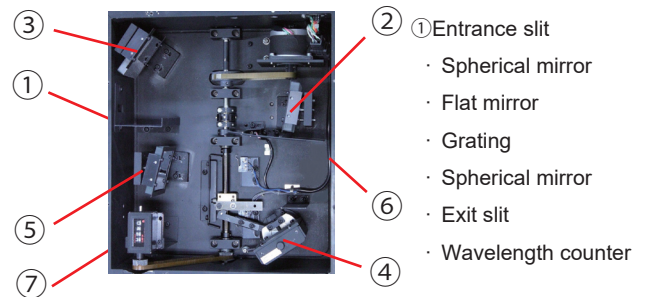
Grooves number	Blaze wavelength	Reciprocal linear dispersion
1800 g/mm	250,500nm	2.2nm/mm
1200 g/mm	200,300,500,750nm, 1.0,1.2,1.6μm	3.2nm/mm
600 g/mm	200,300,500,750nm,1.0,1.2,1.6μm	6.4nm/mm
400 g/mm	400,550,850nm, 1.6μm	9.6nm/mm
300 g/mm	300,500,760nm, 1.0,1.7,2.0,3.0,4.0μm	12.8nm/mm
150 g/mm	500,800nm, 1.25,2.0,3.0,4.0,6.0,8.0μm	25.6nm/mm
120 g/mm	3.75,8.3μm	32nm/mm
60 g/mm	16μm	64nm/mm

* The above gratings are options. Please specify any grating. And for any other grating, please contact us.

* Reciprocal liner dispersion depends on WL.



Optical system



Options

- High order cut filter (Ultraviolet ~ Infrared)
- Replacement Diffraction Gratings (with holder)
- BMS-25C Wavelength scanner (with a stepping motor drive , GP-IB Interface)
- BSMD-25C Wavelength drive system (with a stepping motor drive wavelength marker)
- Various light source, optical system, detector



Dimensions and weight

Dimensions : approx. W360×D330×215mm
Weight : approx. 20kg

● Specifications and appearance are subject to change without prior notice.

< M25-2005002N >

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