# MK-300 Imaging Polycromator

With our newly designed aberration correction optics, the polycromator shows superior special resolution across the light receiving plane on the CCD. Adding the CCD (option) to the system, the system can perform simultaneous multiple points spectrum measurement using the bundle fibers and spectrum measurement with a microscope. Up to 3 diffraction gratings can be installed. The electric system controller is installed so that shifting the wavelength and switching the diffraction gratings can be performed with the dedicated software through the PC.

- Imaging polycromator with the advanced optical system

- Minimizing astigmatism while improving resolution degradation for wavelength at both sides

- Up to three grating can be installed as option.

- Ideal system for simultaneous multi points spectrum measurement

- Ideal for spectrum measurement of an observed image

Comparison of MK-300 with a conventional polycromator

Imaging measurement of the mercury lamp with the optical fiber

MK-300
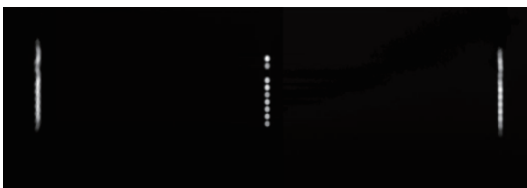
Spatial resolution at both sides are degraded while the center of light receiving surface on the detector shows good resolution
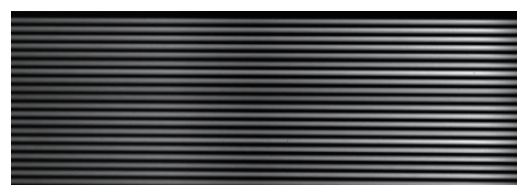
Superior space resolution at any area of light receiving surface on the detector can be observed.

Imaging measurement of continuous light such as halogen lamp with the optical fiber.

MK-300

Spatial resolution at the center of light receiving surface on the detector is good but that at both sides is degraded.

Superior space resolution at any area of light receiving surface on the detector can be observed

BUNKOUKEIKI 分光計器

Specifications

Reciprocal Linear Dispersion	2.58nm/mm
Optical system	Aberration correction special optical system
F number	F=4.4
Wavelength resolution	FWHM 0.2nm (within 3pixels)
Imaging magnification	Approx.1.25 times
Stray light	$\leqq 5\times10^{-3}$
Wavelength accuracy	±0.2nm（within 3 pixels）*1
Wavelength reproducibility	±0.2nm（within 3 pixels）*1
Switching reproducibility of the gratings	±0.2nm（within 3 pixels）*1
Optical wavelength range	200~1000nm *1
Mechanical wavelength range	0~1200nm
Wavelength travel mechanism	Sin bar mechanism, wavelength linear travel
Wavelength drive method	Stepping motor drive (PC software controlled)
Diffraction grating	50 x 50mm
Grating switching	Stepping motor drive (up to 3 gratings can be set)
Incident slit	Width 0.01~4mm (Both open symmetry continuously variable Mini. scale 0.01mm)
Shutter	Manual (Automatic shutter is optionally available)
Software	Wavelength switching, Wavelength travel (USB connection)

*1　under the Grating with1200lines/mm, slit width with 0.01mm, CCD light receiving size with 26.6mm (1024×256pixels 26μm/pixels)

Standard configuration

- ●Imaging Polycromator main unit (including the controller but excluding the grating which is optionally supplied)
- ●Incidence slit
- ●Manual shutter
- ●Holder for the CCD
- ●Software
- ●Cable
- ●Manual

Options

- ●Various type of gratings with holders
- ●Various type of fibers
- ●Fiber holders
- ●Fiber holders with XY adjustment mechanism
- ●Automatic shutter
- ●Filter holder
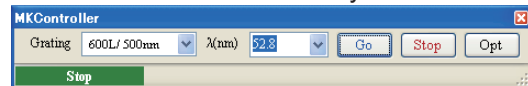- ●Low pressure mercury lamp (wavelength calibration)

Selection of Gratings and simultaneous measurement wavelength range

Groove number	S. Measurement WL range* 1
1800 grooves/mm	approx.40nm
1200 grooves/mm	approx.65nm
600 grooves /mm	approx.145nm
300 grooves/mm	approx.300nm
150 grooves/mm	approx.610nm

With conditions of CCD light receiving size with 26.6mm (1024×256pixels, 26μm/pixels), Center WL 500nm

*1 Simultaneous measurement wavelength range

＜＜Control of Polycromator ＞

MKController
Grating 600L / 500nm　λ(nm) 52.8　Go　Stop　Opt
Stop

- ・Greting　Choose from up to 3 gratings
- ・λ (nm)　Enter the target center wavelength
- ・Go　Execute the shift to the specified wavelength
- ・Stop　Stop the wavelength shift forcibly.
- ・Opt　Open the setting window.

Dimensions

- ・Dimensions: approx.W415×D400×H270mm

  approx.20kg

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

< MK-300-1903031N >

●Contacts