

Model name	MK-300 Imaging Spectrograph
Focal length	300mm
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	$\leq 5 \times 10^{-3}$
Wavelength accuracy	$\pm 0.2\text{nm}$ (within 3 pixels)
Wavelength reproducibility	$\pm 0.2\text{nm}$ (within 3 pixels)
Switching reproducibility of the gratings	$\pm 0.2\text{nm}$ (within 3 pixels)
Optical wavelength range	200~1000nm ( when the grading with 1200 lines/mm is used)
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 Minimum scale 0.01mm)
Shutter	Manual (Automatic shutter is optionally available)
Software	Wavelength switching, Wavelength travel (USB connection)

### Standard configuration

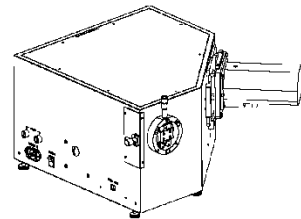
1. Main unit ( including a controller but excluding a grating)
2. Incidence slit
3. Manual slit
4. Holder for the CCD
5. Software
6. Cable

### Option

1. Grating with holder
2. Fiber holder
3. Fiber holder with XY adjustment mechanism
4. Automatic shutter
5. Filter holder
6. Low pressure mercury lamp ( wavelength calibration )

\*when the Grating is the one with 1200lines/mm, slit width is 0.01mm, and CCD light receiving size is 26.6mm (1024 × 256pixels 26 μm/pixels)

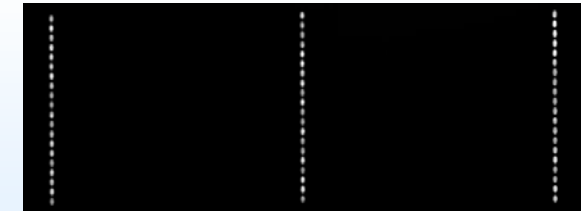
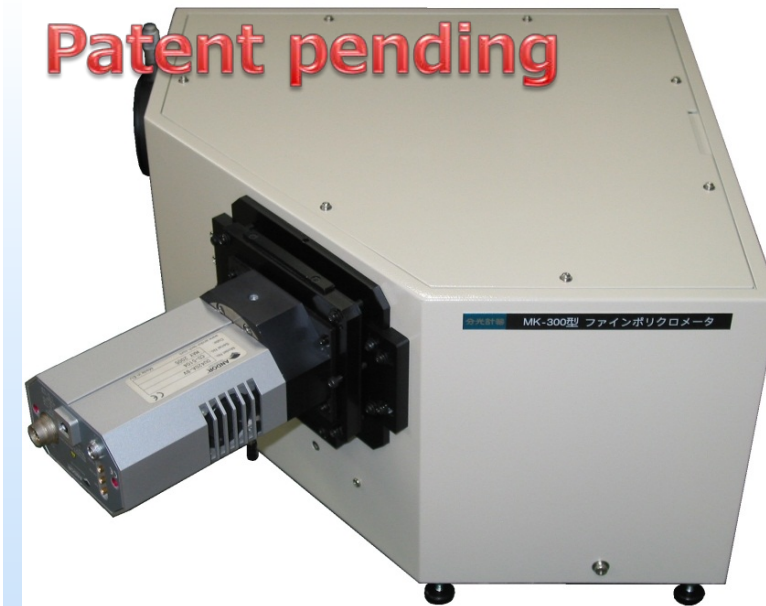
### Dimensions (unit: mm)



Approx. W415 × D400 × H270mm      Approx. 20kg  
\* The CCD shown in the above figure is not supplied with our system..

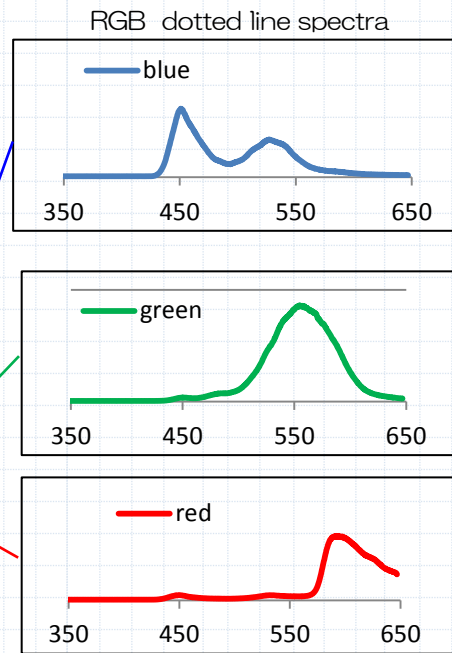
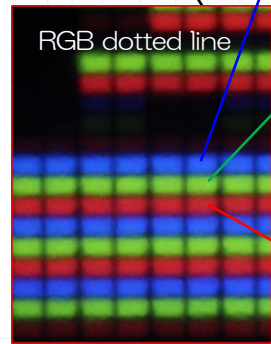
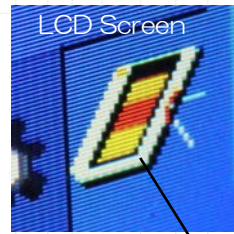
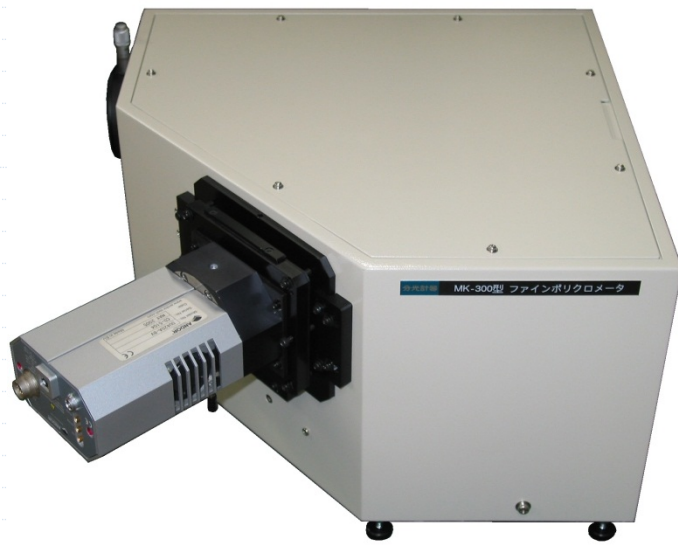
- Dimensions, weight and appearance will change with optional items.
- Specifications and appearance are subject to change without prior notice.

# MK-300 Imaging Spectrograph



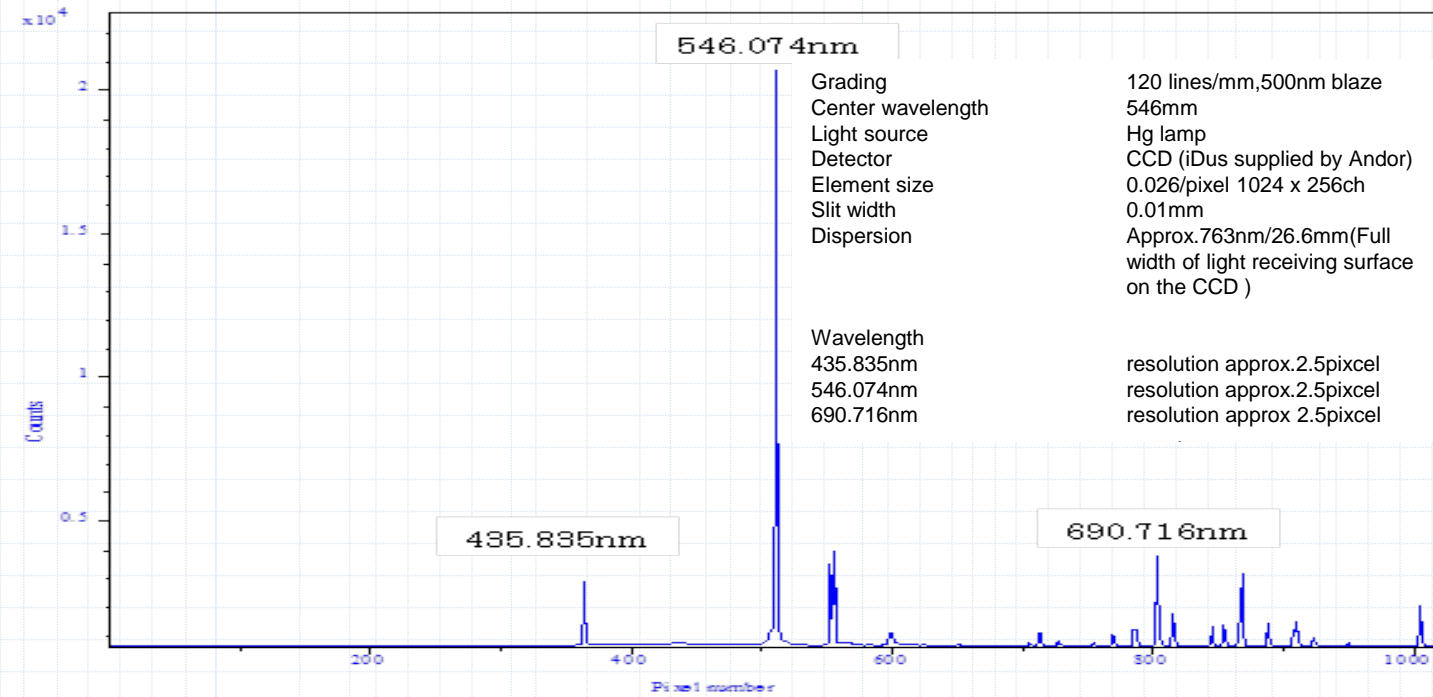
- Imaging spectrograph with the advanced optical system
- Minimizing astigmatism while improving resolution degradation for wavelength at both sides.
- Up to three grating (option) can be installed
- Ideal system for simultaneous multi points spectrum measurement
- Ideal for spectrum measurement of an observed image
- System with two detectors switched available

# MK-300 Imaging Spectrograph



\* The CCD shown in the photo is not included in the system.

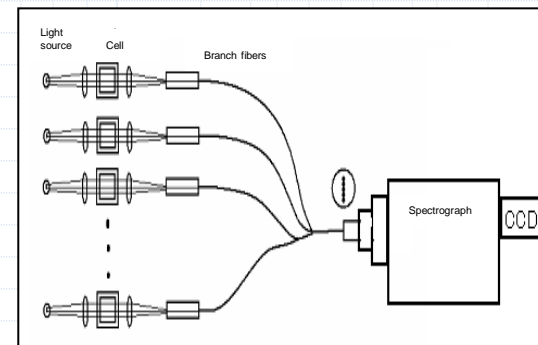
## Measurement data



With our newly designed aberration correction optics, the polychromator 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 of the observed image with a microscope. The grating turret can accommodate the grating up to 3 pcs. Switching the grating and moving to target wavelength is controlled by the PC.

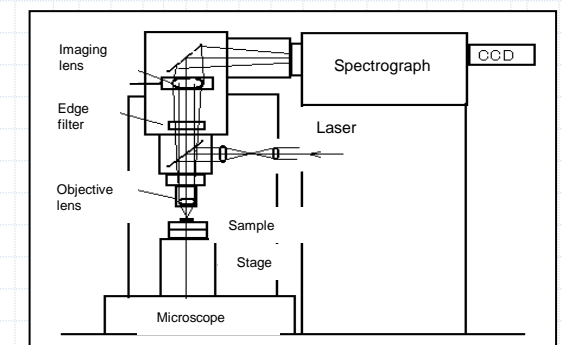
## Use

### Simultaneous multiple points spectrum measurement



By introducing emission from multiple samples or points through the branch fibers into the single spectrograph, simultaneous spectrum measurement

### Spectrum measurement of observed image

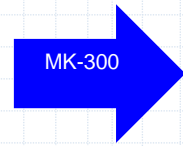
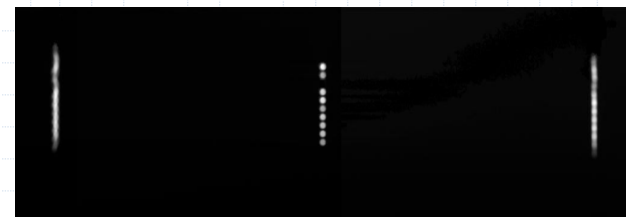


After the image observed in the microscope or the camera lens are introduced into the spectrograph and then spectrum measurement at multiple points can be measured.

## Comparison of MK-300 with a conventional polychromator

Light receiving size: approx. 26.6mm x 6.6mm

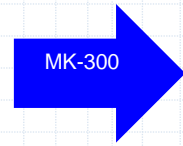
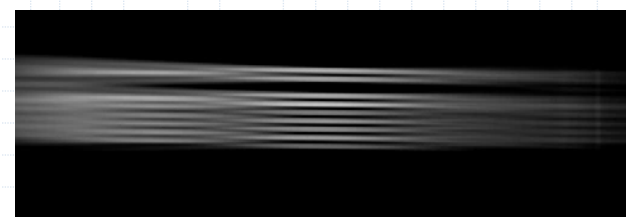
### Imaging measurement of the mercury lamp with the optical fiber



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

Spatial resolution at both sides are degraded though that at the center of light receiving surface on the detector show good resolution.

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



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

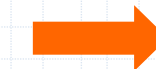
Spatial resolution at the center of light receiving surface on the detector is good but that at both sides is degraded.

## Up to three gratings can be installed

Automatically, the gratings can be switched by our software. Only single system can perform both wide band range and high resolution measurement.

### 【Options of Grating】

Grating	WL measurement range
1800 lines/mm	35nm
1200 lines/mm	60nm
600 lines/mm	130nm
300 lines/mm	265nm
150 lines/mm	535nm



Switching by software

