

# Xenon Light Source 300W Monochromatic Light with Filters MAX-303

## Heatless illumination with desired wavelengths for photochemical research

CE marked



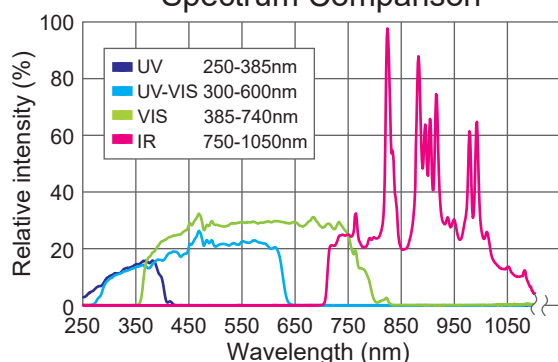
### Features

- IR heat blocking
- Built-in filter wheel
- Adjustable light intensity
- Flexible illumination by light guide
- No need of optical axis alignment
- RS232C remote control

### Applications

- Photocatalyst
- Photochromism
- Artificial photosynthesis
- Chemical analysis

### Spectrum Comparison



### Optical System

#### 1. Xenon lamp

Emits wide spectrum from UV to IR

#### 2. Mirror module

Enables to specify xenon spectrum (UV, UV-VIS, VIS or IR)

#### 3. Filter wheel

Enables to specify wavelength more finely by optical filters

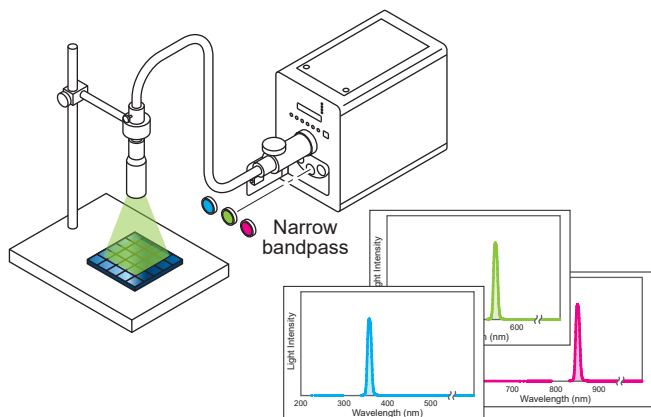
# Extremely bright and heatless light source which can illuminate desired wavelength

The MAX-303, 300W xenon light source, is the perfect illuminator with complete heat blocking design, using an originally designed mirror module. The MAX-303 has all useful functions such as mirror module, filter wheel, ND variable control, timed shutter and remote control.



## Applications

### Monochromatic Light with Optical Filters



- Bright monochromatic light
- Instead of multiple wavelength laser
- Output beam is brighter than monochromator
- Selectable various wavelength by optical filters
- Unwanted IR heat and stray light are removed by mirror module

#### ■ Narrow bandpass filter \*Option

A wide variety of narrow bandpass filters from UV to IR wavelength range.

#### Lineup of 10nm interval from 260nm to 900nm

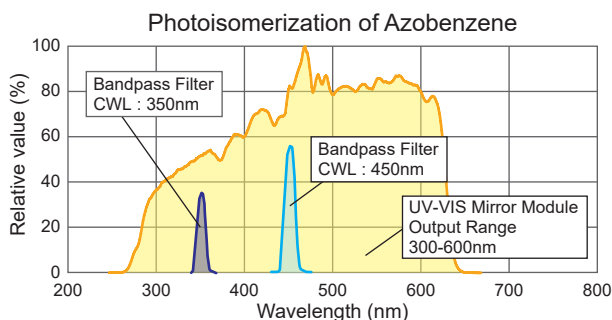
260nm, 270nm, 280nm, ....., 880nm, 890nm, 900nm



### Photochemistry

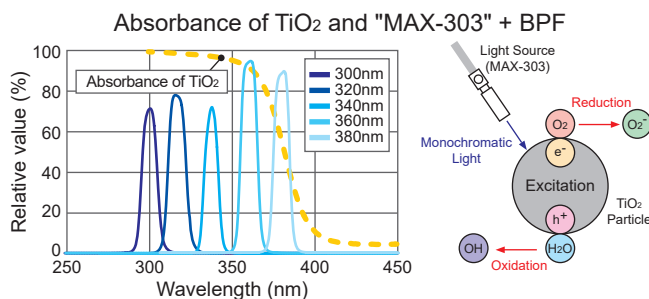
#### Photochromic Materials Research

- Heatless monochromatic light source suitable for research of photochromic behavior
- Embedded filter wheel enables to select any desirable wavelength (UV - VIS)



#### Photocatalytic Study

- Suitable for evaluation of wavelength response
- Embedded filter wheel enables to select any desirable wavelength (UV - VIS)



## Applications

- Photocatalyst
- Chemical analysis
- Inspection lighting

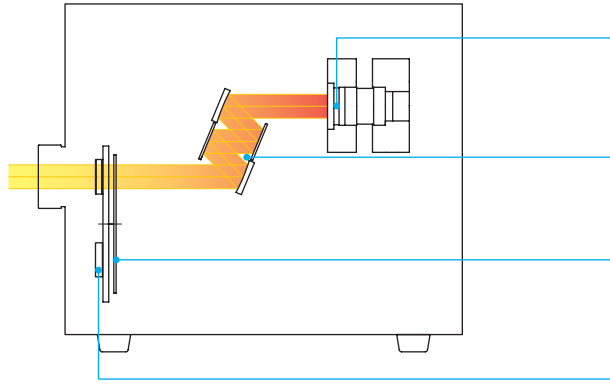
- Photochromism
- Spectroscopy
- UV light disinfection

- Artificial photosynthesis
- Fluorescent observation
- Photodynamic therapy

...and for other Research & Development

# Features

## Optical System



**Xenon Lamp**

**Mirror Module**

**Light Intensity Control (ND Filter)**

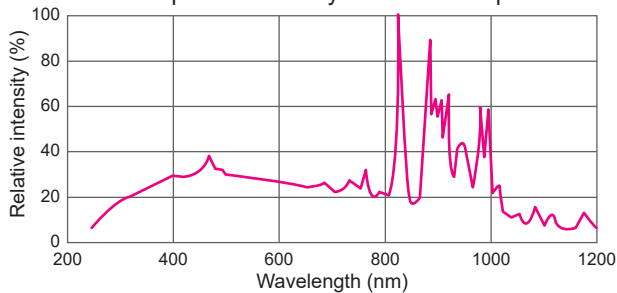
**Filter Wheel**

### CERMAX Xenon Lamp



The 300W xenon lamp is built into the lamp cartridge. The lamp cartridge is easily replaced and optical axis alignment is not required.

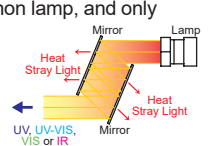
Spectral Intensity of Xenon Lamp



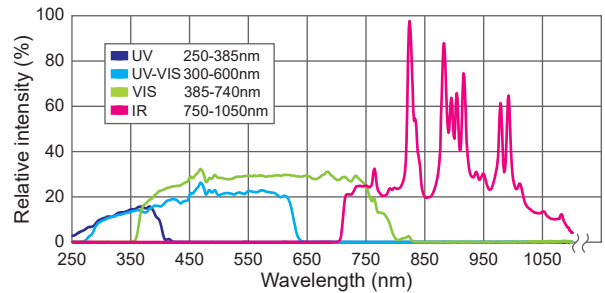
### Mirror Module



The mirror module consists of several cold mirrors to block unwanted energy from xenon lamp, and only desired wavelength range is emitted. The MAX-303 offers 4 types of mirror modules, UV, UV-VIS, VIS and IR types.



Mirror Module

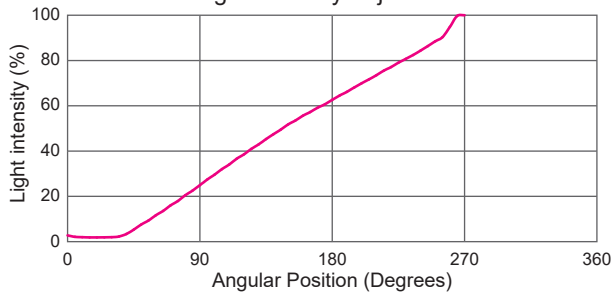


### Light Intensity Control (ND Filter)



Built-in variable ND filter allows precise control of lamp intensity by 1 step within the range of 5 to 100 steps continuously as shown in the graph below.

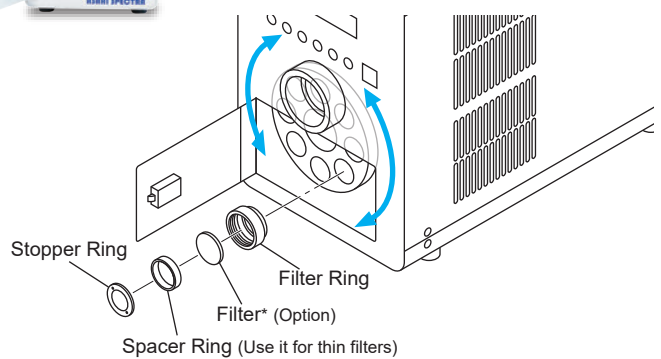
Light Intensity Adjustment



### Filter Wheel



Max. 8 filters can be mounted on the filter wheel. Wide varieties of optical filters are available, such as shortpass, longpass and bandpass filters.



\*Usable filter size: 25mm dia., thickness 1.0 - 6.0mm

### Lamp Cartridge



The lamp is mounted into the cartridge. The lamp cartridge is easily replaced and optical axis alignment is not necessary.



The lamp cartridge is not compatible with the following models.  
MAX-302 / MAX-350

### Panel Controls



User-friendly menu and comprehensive display for easy operation.

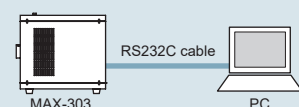
1. Timer function
2. Shutter function Open/Close
3. Filter position control
4. Light intensity adjustment

### RS232C Remote Control



The MAX-303 can be controlled remotely by using RS232C.

RS232C connector

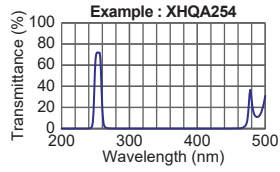


# Options

## Narrow Bandpass Filters



We offer a wide variety of narrow bandpass filters for a monochromatic illumination.



CWL tolerance: 254±2nm  
FWHM tolerance: 10±2nm  
Min. transmission: >60%  
Size: 25mm dia.

Wavelength (nm)	Mirror Module	
254 - 290	UV-VIS	
300 - 380		UV
390 - 600		VIS
610 - 740	IR	
750 - 900		

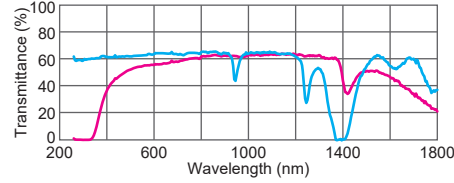
\*Contact us for details of a filter.

## Light Guide

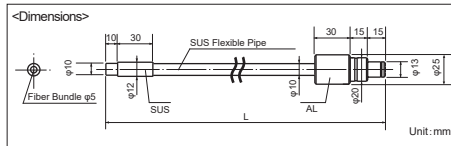


The output light from the MAX-303 is delivered to a desired direction by the light guide.  
We also offer a multi-branch light guide for custom.

### Spectral Performance - Light Guide



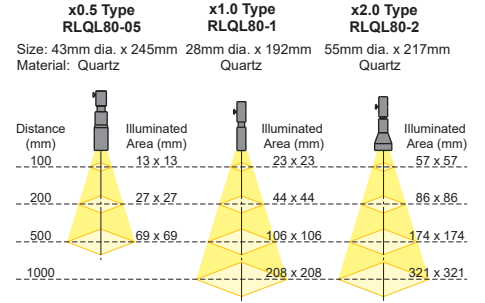
- Quartz Light Guide**
  - Length(L): 1m, 2m
  - Fiber bundle: 5mm dia.
  - Core: 200µm dia.
  - Numerical aperture: 0.22
- Hybrid Light Guide**
  - Length(L): 1m, 2m
  - Fiber bundle: 5mm dia.
  - Core: 50µm dia.
  - Numerical aperture: 0.57



## Collimator Lens



Each collimator lens is designed to provide the uniform illumination by using with the light guide.



## Package Contents

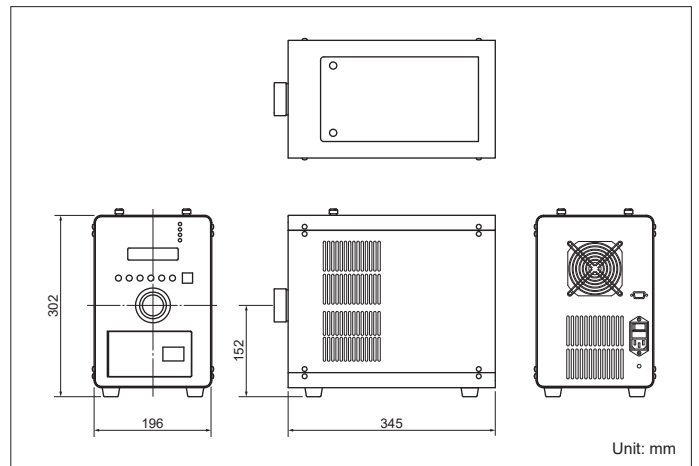
- MAX-303 main unit
- Lamp cartridge
- Mirror module \*Choose UV, VIS, UV-VIS or IR
- Light guide adapter \*Choose UV or VIS
- Filter ring (8 pcs)
- Filter fitting tool
- AC cable (3m)
- RS232C cable (1.8m)
- Instruction manual



## General Specifications

- Model: MAX-303
- Output wavelength: 250 - 1050nm  
(It depends on the mirror module.)
- Circuit method: Switching power supply
- Input voltage: AC100 - 240V 50/60Hz  
(Input range: AC100 - 240V)
- Apparent power: Less than 530VA (AC100V/50Hz)  
Less than 520VA (AC240V/50Hz)
- Lamp type: Cermax xenon lamp 300W
- Lamp voltage, current: 14V, 21A (DC) \*Representative value
- Guaranteed lighting time: 500h \*Less than 1 year after delivery
- Optical axis alignment: Cartridge type (Alignment-free)
- Cooling method: Forced air cooling
- Shutter: Pulsed motor drive
- Exposure time set: 0.5 - 99999.9sec
- Light intensity control: 100 - 5 (Steps) Continuously variable
- Filter wheel: 8 channels \*25mm dia/ t=6mm filter is usable
- Mirror module: UV Type(250-385nm), UV-VIS Type(300-600nm),  
VIS Type(385-740nm), IR Type(750-1050nm)
- Controller: Built-in
- Remote control: RS232C \*The cable must be less than 3m.
- Safety mechanism: Xenon lamp problem, Top door is open,  
Lamp usage exceeds 500 hours, Cooling fan problem,  
Temperature anomaly
- Recommended environment: Temperature 10 - 35 deg C  
Humidity 20 - 80% \*Avoid condensation
- Dimensions: 196(W) x 345(D) x 302(H)mm
- Weight: 12.5kg

## Dimensions



\*Product specifications are subject to change without notice.

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