

USHIO Optical ModuleX

Light source unit for inspection illumination



Precautions regarding the USHIO Optical ModuleX

- WARNING** When operating this equipment, be sure to carefully read the instruction manual provided with the unit, and observe all precautions regarding operating procedures and safety. Incorrect operation could result in a serious accident.
- [Fire hazard]** The unit has vents for cooling the power supply. The lamp becomes extremely hot in use, so never cover the cooling vents with material such as cloth or paper or place flammable material nearby. Also avoid excessive direct irradiation.
 - [Burn hazard]** The lamp and surrounding fittings become extremely hot during use. Do not touch them for at least 30 minutes after turning off the power.
 - [Eye injury, vision impairment, burn hazard]** This unit emits powerful ultraviolet light. Never look at the light directly under any circumstances, or expose skin to it. The hazard of eye or skin injury is not limited to direct exposure, but can also occur due to indirect exposure. Be sure to wear protective equipment.
 - [Fire, electric shock, fault hazard]** Never modify or change the equipment. If any abnormality is suspected during use, cease operation immediately and contact your dealer.
 - [Eye injury, vision impairment, burn hazard]** This unit emits powerful ultraviolet light. Never look at the light directly under any circumstances, or expose skin to it. The hazard of eye or skin injury is not limited to direct exposure, but can also occur due to indirect exposure. Be sure to wear protective equipment.
 - [Electric shock, injury hazard]** Before installation, lamp replacement, or maintenance, be sure to turn off the power. Further, wait about 3 minutes after turning off the power to allow dissipation of latent hazardous voltages.
 - [Injury/burn hazard due to fire and electric shock]** High voltage flows through the device during use. Be sure to ground the device using the lead on the provided connection cord.
 - [Electric shock]** Be sure to ground both the lamp housing and perform installation according to the laws and regulations of your country or region.

Specifications of this product are subject to change without notice.

All the information, data and specifications shown are subject to change without notice.



Notice

- Equipment shown in this catalog, any products using the equipment or technologies relating to the equipment fall under the category of security control relating to freight or technologies under the provisions of the Foreign Exchange and Foreign Trade Control Law. You have to obtain permission from the Government of Japan before exporting them from Japan.

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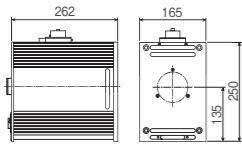
[Manufacture] WACOM ELECTRIC CO., LTD.

For Inspection Optical modulex

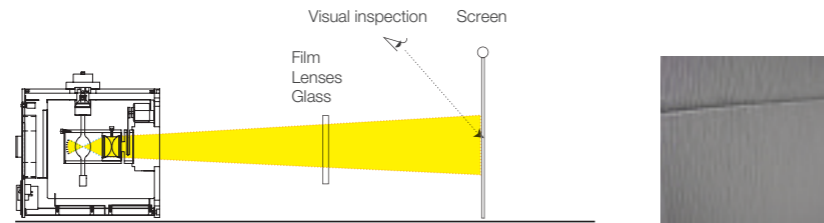
“Optical Modulex” light source unit for inspection illumination

This device is suitable for visual inspection of glass, film and lenses. With a 15-year record of performance, it is recommended as an inspection light source by Glass Manufacturers' Association of Japan.

Basic Model

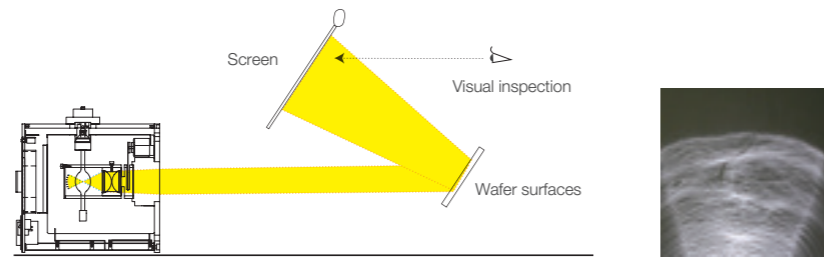


Projection type [High-intensity type] ▶ Device is especially made for visually inspecting glass, lenses, and film, and for checking for scratches and bubble striae in permeable resins.



- When scratches are present, reduced transmissivity shows up on the screen as a shadow.
- Also allows visual inspection for irregularities in coating.

Reflecting projection type ▶ Allows visual inspection for surface scratches and contaminants by reflective projection on a screen of not just mirror surfaces, but the surfaces of all sorts of highly reflective materials, such as aluminum or copper plate.

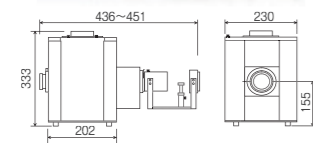


- Inspection for fine scratches in steel plate by magnified light projection.

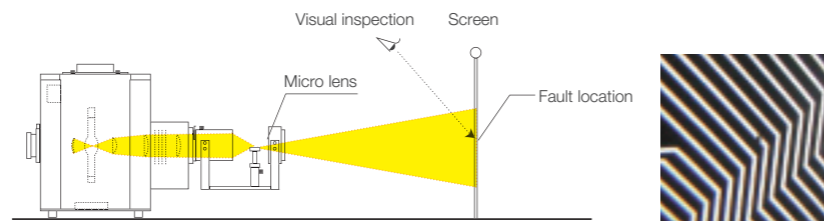
[Specifications]

Model	Lamp used	Radiation distance	Effective radiation diameter	Irradiance
OPM2-252HGC	Super high pressure lamp USH-250SC2	1,500mm	φ 1,500mm	850Lx
OPM2-502HGC	Super high pressure lamp USH-500SC2	1,500mm	φ 1,500mm	1,700Lx
OPM2-502XGC	Xenon short arc lamp UXL-500SX2	1,500mm	φ 1,500mm	1,050Lx

Micro Projection Model



Imaging type ▶ Device is especially made for visually inspecting glass, lenses, and film, and for checking for scratches and bubble striae in permeable resins.

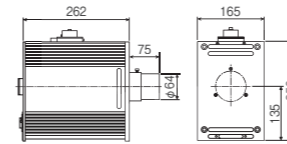


- A magnified image of the work surface (φ 40) is formed on the screen.*

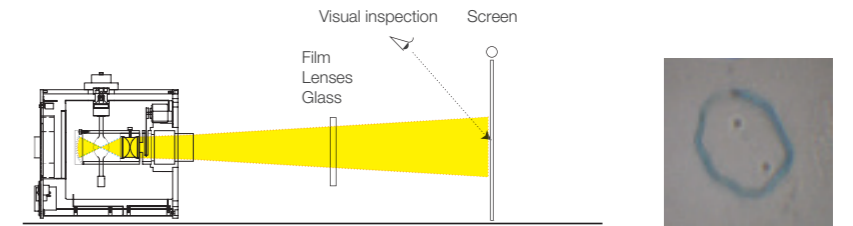
[Specifications]

Model	Lamp used	Radiation distance	Irradiance	Magnify ratio*
SX-UI 502XMLS	Xenon short arc lamp UXL-500SX	1,000mm	6Lx	50X

Collimator Lens Model

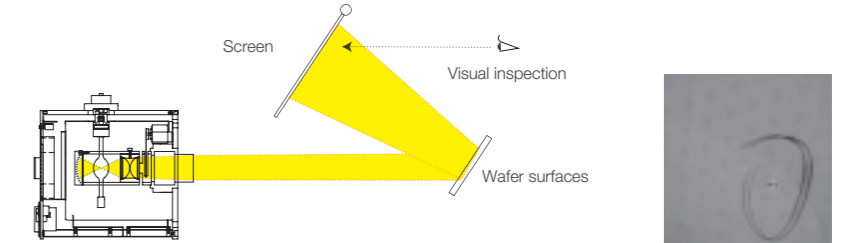


Projection type [High-collimation type] ▶ Device is especially made for visually inspecting glass, lenses, and film, and for checking for scratches and bubble striae in permeable resins.



- When scratches are present, reduced transmissivity shows up on the screen as a shadow.
- Also allows visual inspection for irregularities in coating.

Reflecting projection type ▶ Allows visual inspection for surface scratches and contaminants by reflective projection on a screen of not just mirror surfaces, but the surfaces of all sorts of highly reflective materials, such as aluminum or copper plate.



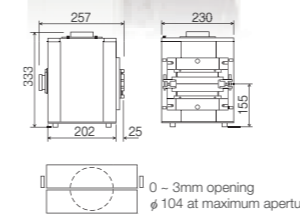
- Inspection for fine scratches in steel plate by magnified light projection.

[Specifications]

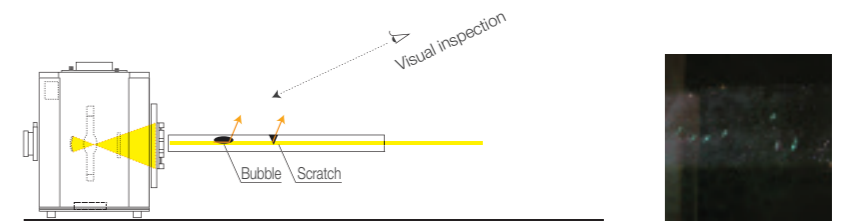
Model	Lamp used	Radiation distance	Effective radiation diameter	Irradiance
OPM2-252HEG	Super high pressure lamp USH-250SC2	1,000mm	φ 300mm	150Lx
OPM2-502HEG	Super high pressure lamp USH-500SC2	1,000mm	φ 300mm	270Lx
OPM2-252HEGW	Super high pressure lamp USH-250SC2	1,000mm	φ 1,000mm	100Lx
OPM2-502HEGW	Super high pressure lamp USH-500SC2	1,000mm	φ 1,000mm	250Lx
OPM2-502XEG	Xenon short arc lamp UXL-500SX2	1,000mm	φ 300mm	200Lx
OPM2-502XEGW	Xenon short arc lamp UXL-500SX2	1,000mm	φ 1,000mm	120Lx

*The Collimator Lens model and the Basic model have different internal optical designs, so removing the collimator lens from the former would not result in a device that is the same as the latter.
**It is recommended that the unit be used in a dark room.

Slit Model



Direct-viewing type ▶ Defects and dust as small as 20 microns can be clearly viewed by placing a glass plate, etc., against the slit and introducing light through the edge.



- Surface scratches, contaminants, and bubbles can be seen by reflected light when light is introduced to glass from the edge.

[Specifications]

Model	Lamp used
SX-UI 502HS	Super high pressure lamp USH-500SC
SX-UI 502XS	Xenon short arc lamp UXL-500SX

Put board-shaped glass and so on. The wound of 20 microns and dirt can do visual observation clearly.

- Main slide plate maximum aperture: φ 104
- Sub-slide plate aperture, ±1.5mm (fine adjustment by screw). However, the sub-slide unit is removable.
- UV cut filter installed inside lamp housing.