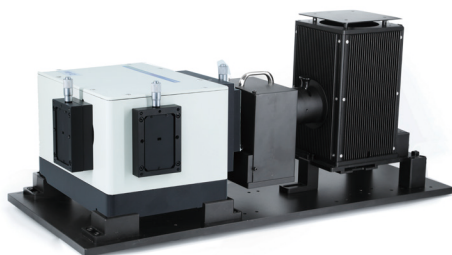


Tunable Monochromatic Light Source



The Tunable Light Source (TLS) are pre-aligned, pre-assembled illumination systems capable of outputting monochromatic light from 200nm. This is a complete plug and play system and includes TLS-C1 Software.

TLS is composed of Zolix light source and spectrometer. It is very convenient for the users who want the flexibility of a modular design and the simplicity of an integrated system.

Features

- High stability, high repeatability, high resolution;
- Low stray light; ■ Preserve chopper holder;

TLS Selections

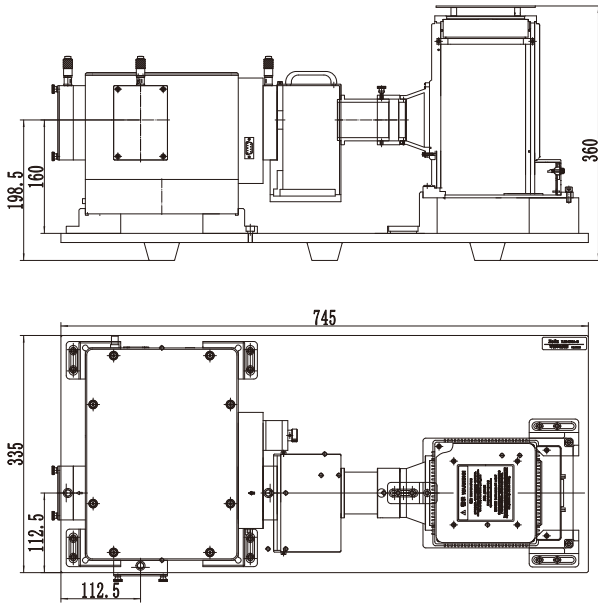
Model	Lamp type	Light ripple	Spectral Range(nm)	Focus length (mm)	Bandwidth(nm)	Wavelength Accuracy (nm)	Wavelength Repeatability (nm)
TLS3-X75A-G	75W Xenon	1%	200-2000	320	0.08-6.5@200-600 0.16-14.5@350-1000 0.16-14.5@800-2000	±0.2 ±0.4 ±0.4	0.025 0.05 0.05
TLS3-X150A-G	150W Xenon	1%	250-2000	320	0.08-6.5@250-600 0.16-14.5@350-1000 0.16-14.5@800-2000	±0.2 ±0.4 ±0.4	0.025 0.05 0.05
TLS3-X150AU-G	150W UV Xenon	1%	200-2000	320	0.08-6.5@200-600 0.16-14.5@350-1000 0.16-14.5@800-2000	±0.2 ±0.4 ±0.4	0.025 0.05 0.05
TLS3-X300P-G	300W Xenon	10%	300-2000	320	0.08-6.5@300-600 0.16-14.5@350-1000 0.16-14.5@800-2000	±0.2 ±0.4 ±0.4	0.025 0.05 0.05
TLS3-X300PU-G	300W UV Xenon	10%	200-2000	320	0.08-6.5@200-600 0.16-14.5@350-1000 0.16-14.5@800-2000	±0.2 ±0.4 ±0.4	0.025 0.05 0.05
TLS3-X500A-G	500W Xenon	10%	250-2000	320	0.08-6.5@250-600 0.16-14.5@350-1000 0.16-14.5@800-2000	±0.2 ±0.4 ±0.4	0.025 0.05 0.05
TLS3-EQ77-G	EQ77	1%	200-2000	320	0.08-6.5@200-600 0.16-14.5@350-1000 0.16-14.5@800-2000	±0.2 ±0.4 ±0.4	0.025 0.05 0.05
TLS3-EQ99-G	EQ99	1%	200-2000	320	0.08-6.5@200-600 0.16-14.5@350-1000 0.16-14.5@800-2000	±0.2 ±0.4 ±0.4	0.025 0.05 0.05
TLS3-T150A-G	150W Tungsten Halogen	1%	400-2400	320	0.08-6.5@400-1000 0.16-14.5@400-1000 0.16-14.5@800-2000	±0.2 ±0.4 ±0.4	0.025 0.05 0.05
TLS3-T250A-G	250W Tungsten Halogen	1%	350-2400	320	0.08-6.5@350-1000 0.16-14.5@350-1000 0.16-14.5@800-2000	±0.2 ±0.4 ±0.4	0.025 0.05 0.05

Model	Lamp type	Light ripple	Spectral Range (nm)	Focus length (mm)	Bandwidth(nm)	Wavelength Accuracy (nm)	Wavelength Repeatability (nm)
TLS2-X75A-G	75W Xenon	1%	200-1000	200	0.15-10@200-600 0.3-23@350-1000	±0.2 ±0.4	0.1 0.2
TLS2-X150A-G	150W Xenon	1%	250-1000	200	0.15-10@250-600 0.3-23@350-1000	±0.2 ±0.4	0.1 0.2
TLS2-X150AU-G	150W UV Xenon	1%	200-1000	200	0.15-10@200-600 0.3-23@350-1000	±0.2 ±0.4	0.1 0.2
TLS2-X300P-G	300W Xenon	10%	300-1000	200	0.15-10@300-600 0.3-23@350-1000	±0.2 ±0.4	0.1 0.2
TLS2-X300PU-G	300W UV Xenon	10%	200-1000	200	0.15-10@200-600 0.3-23@350-1000	±0.2 ±0.4	0.1 0.2
TLS2-X500A-G	500W Xenon	10%	250-1000	200	0.15-10@250-600 0.3-23@350-1000	±0.2 ±0.4	0.1 0.2
TLS2-EQ77-G	EQ77	1%	200-1000	200	0.15-10@200-600 0.3-23@350-1000	±0.2 ±0.4	0.1 0.2
TLS2-EQ99-G	EQ99	1%	200-1000	200	0.15-10@200-600 0.3-23@350-1000	±0.2 ±0.4	0.1 0.2
TLS2-T150A-G	150W Tungsten Halogen	1%	400-2400	320	0.15-10@400-1000 0.3-23@800-2400	±0.2 ±0.4	0.1 0.2
TLS2-T250A-G	250W Tungsten Halogen	1%	350-2400	320	0.15-10@350-1000 0.3-23@800-2400	±0.2 ±0.4	0.1 0.2

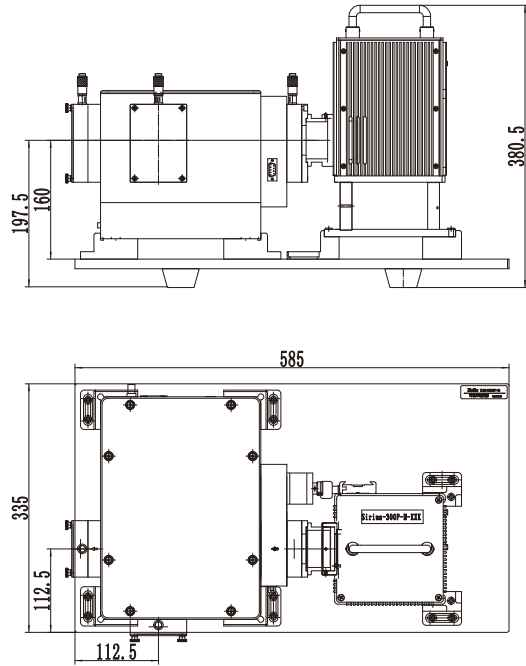
- The bandwidth value is got when the wavelength is 435.8nm
- The bandwidth is adjusted manually
- All of the models in the tables contain gratings, when instead of -G with -N, then the gratings isn't contained, other gratings are optional.

Drawings(mm)

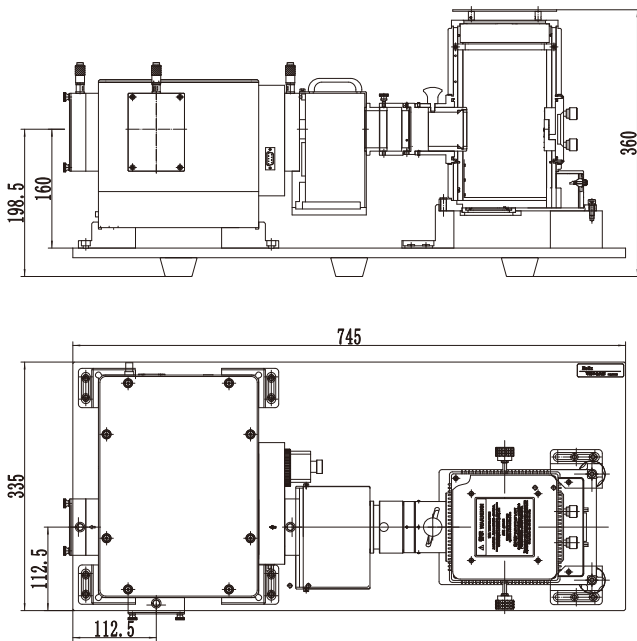
TLS2-X75A-G



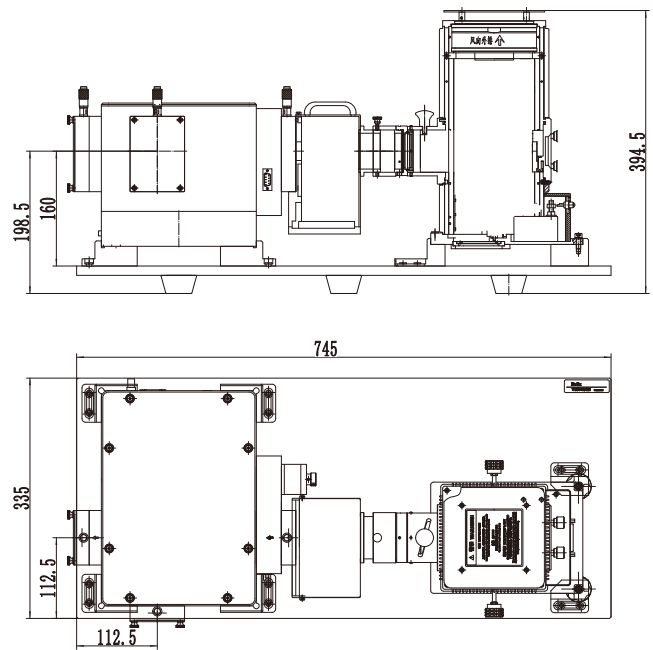
TLS2-X300P-G, TLS2-X300PU-G



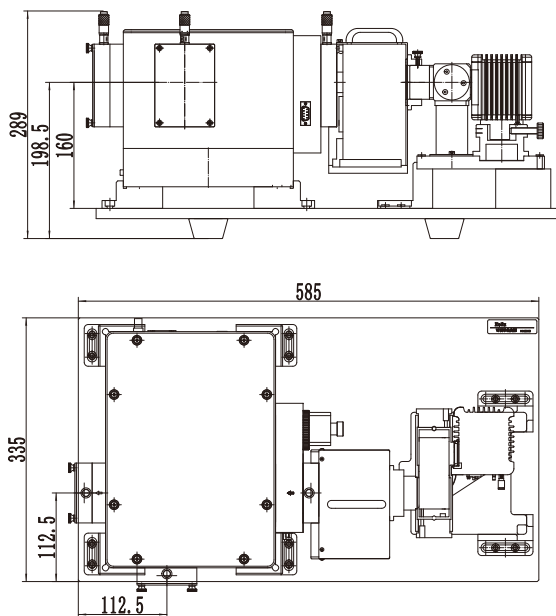
TLS2-X150A-G, TLS2-X150AU-G,
TLS2-T150A-G, TLS2-T250A-G



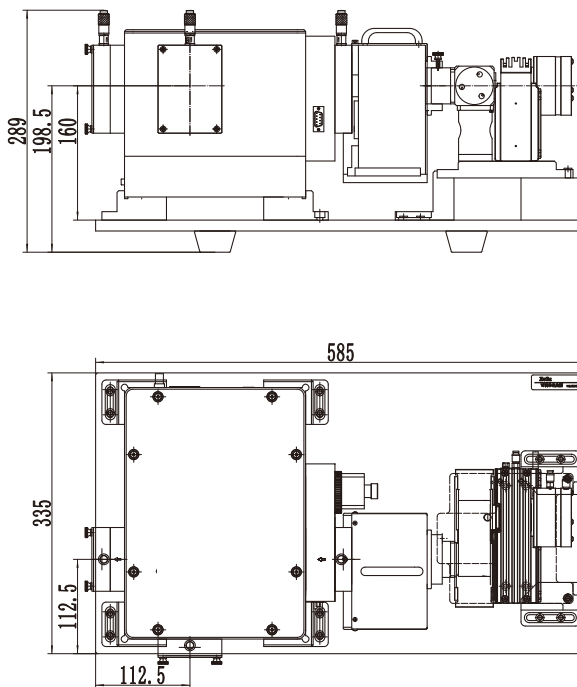
TLS2-X500A-G



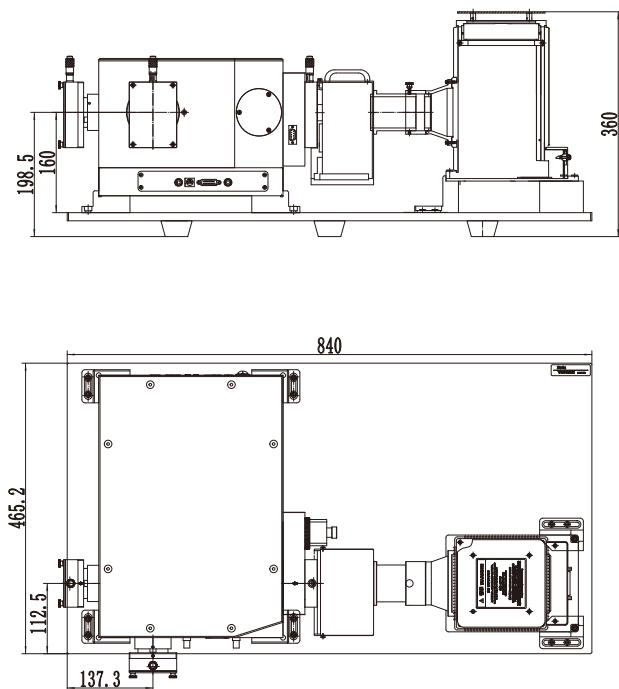
TLS2-EQ99-G



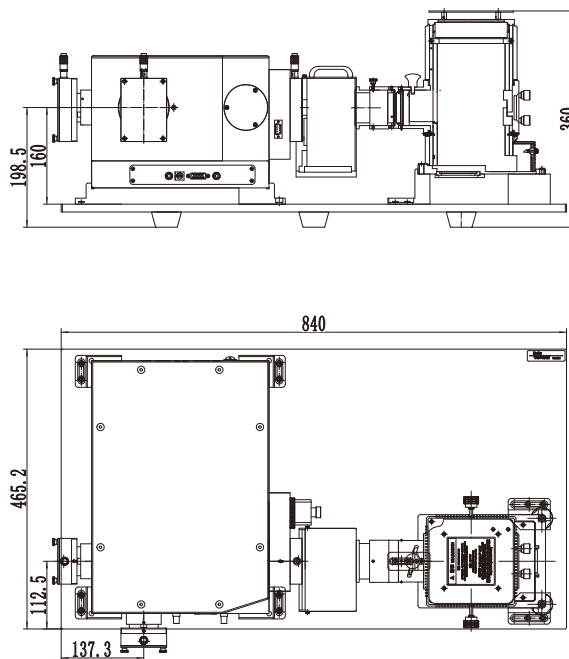
TLS2-EQ77-G



TLS3-X75A-G

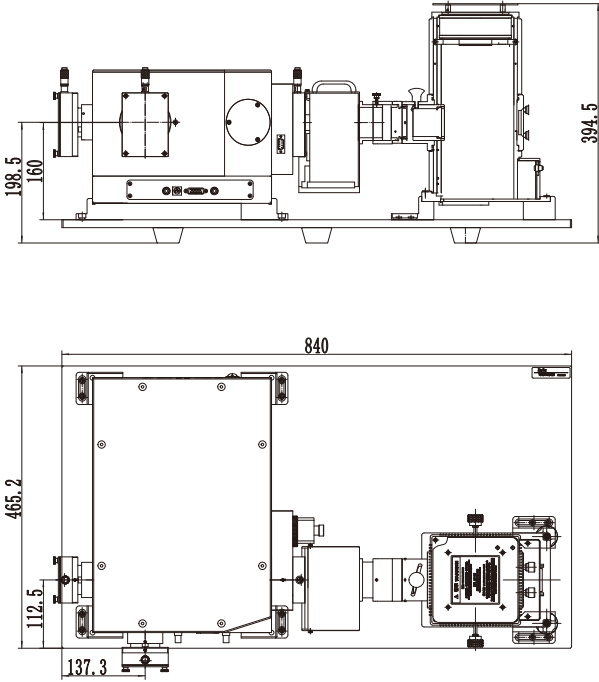


TLS3-X150A-G, TLS3-X150AU-G, TLS3-T150A-G, TLS3-T250A-G

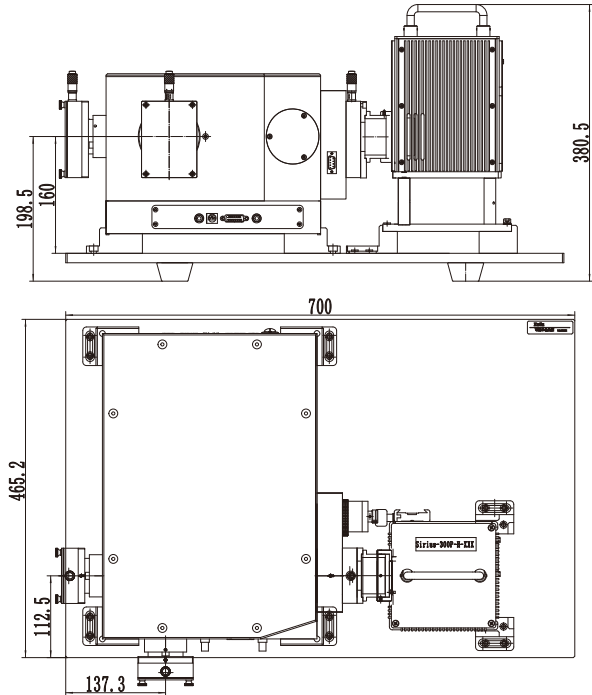


Light Sources

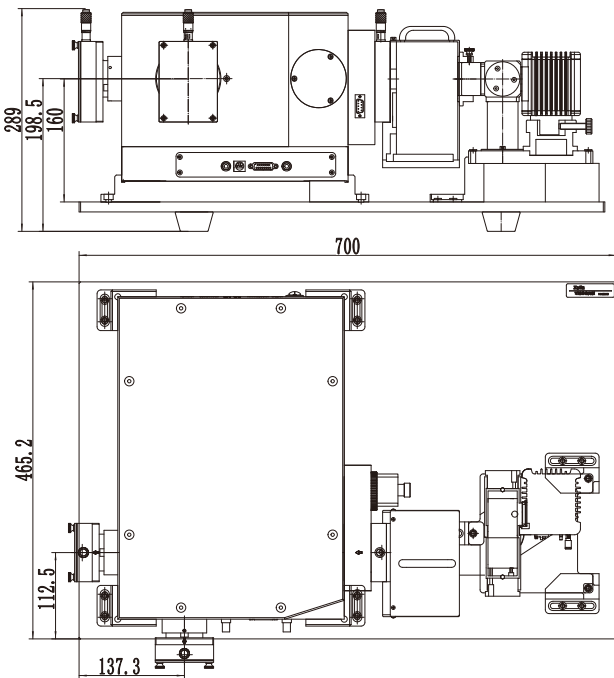
TLS3-X500A-G



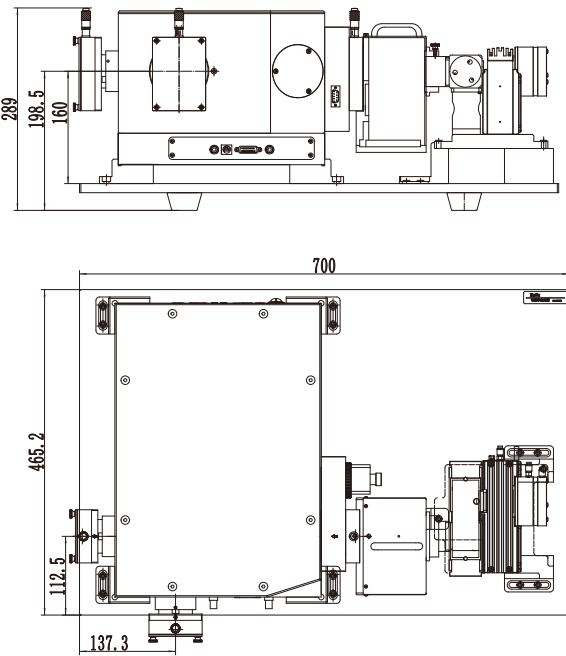
TLS3-X300P-G, TLS3-X300PU-G



TLS3-EQ99-G



TLS3-EQ77-G



Accessories

- Uniform Light Uniformity > 98%
- Collimated Light Divergence Angle (half angle) < 0.3°
- Convergent Light Beam Size < 1mm
- Fiber Coupling

Output Power from Integration Sphere

Output Power from Fiber Bundle (19 fibers)

Output Power from Slit (width 3m and height 14mm)

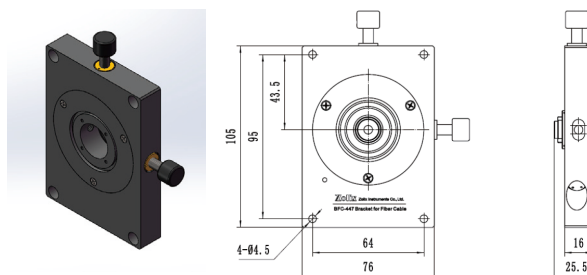
Light Sources

Fiber Adapters

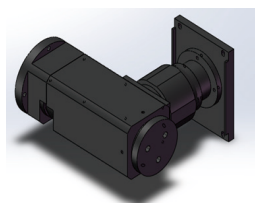
BFC series fiber adapter can be compatible with the range of Zolix monochromators and spectrographs or sample chamber.

BFC-447

Adjustable(XY) fiber adapter, for 10mm, 13mm diameter fiber optic bundle, SMA905 Termination fiber.



Collimated Light Adapter



Model	Mirror Coating	Spectral range	Divergence half-angle	Optical Beam size	
TLS-A5	Al	Full wave band	< 0.3°	3-25mm	No mount for filter wheel
TLS-A6	Au	IR	< 0.3°	3-25mm	
TLS-A7	Al	Full wave band	< 0.3°	3-25mm	Must be used with filter wheel together
TLS-A8	Au	IR	< 0.3°	3-25mm	

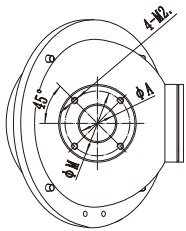
Applications

- PEC Photochemistry Measurement System
- Transmission/Absorption /Reflection Measurement System
- Solar Cell Quantum Efficiency Measurement System
- The fluorescence Spectrum Measurement (as excitation light)
- Surface Photovoltage Test
- Detector Spectral Responsivity Measurement System
- Optical Lens Spectral Transmittance Measurement System
- Eye Protection Products Measurement System

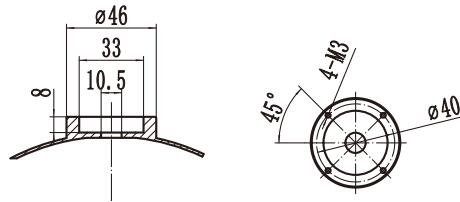
Uniform Light Accessory - Integration Sphere

Various size integration spheres feature high reflectivity rate and high uniformity that make them meet different application requirement. The below model is standard integration sphere, the optional upgrade is the gold coat integration spheres which add -IR on the end of the standard model.

Model	Diameter (mm)	Optical axis height(mm)	Installation Hole M(mm)	Optical Axis Height(mm)	Uniformity
IS-050-14T	50	14	25	—	>98%
IS-100-25	100	25	50	145-200	>98%
IS-150-38	150	38	65	155-200	>98%
IS-200-50	200	50	80	159-210	>98%



The Integration Sphere Output Flange Dimension



The Integration Sphere Detector Installation Flange Dimension

