Light. Measurement. Excellence.

BENTHAM

TLS120Xe

High Power
Tuneable Light Source
(280-1100nm)

www.bentham.co.uk

A high power monochromatic probe is the key to access the optical properties of components, materials and photodetectors.

- Fluorescence
- Photoluminescence
- Photochemistry
- Detector calibration
- Image sensor QE
- Deposition monitoring
- Fluorescence microscopy
- Reflectance
- Transmittance
- Absorbance

The TLS120Xe is a high power tuneable xenon light source that puts monochromatic light at your fingertips.

Monochromatic Light At Your Fingertips
Choose the wavelength you want, with direct front panel control or automation over USB.

High Power
A long-life, ultra-quiet 75W short-arc xenon light source ensures high optical power with excellent stability.

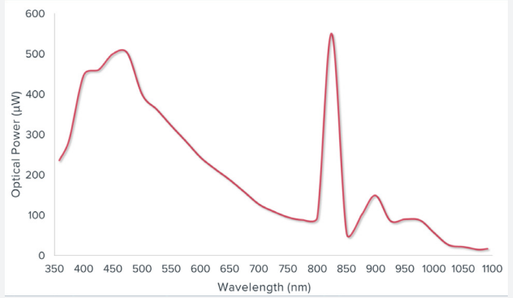
Integrated Solution
Housed in a 19” unit, the TLS120Xe is easy to deploy and ideally suited to OEM applications.

Continuous Tuning
A concave grating monochromator provides narrow bandwidth and high wavelength agility, giving you the freedom to select the wavelength you require.

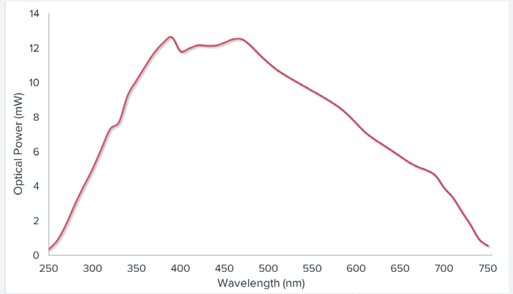
Introduction

The TLS120Xe is customised to your requirements with a choice of lamps and output coupling. Compatible with our portfolio of measurement accessories, including integrating spheres, collimators and relay optics, let the TLS120Xe deliver light your way.

1. Optical power at 5nm bandwidth with 1mm core SMA patchcord



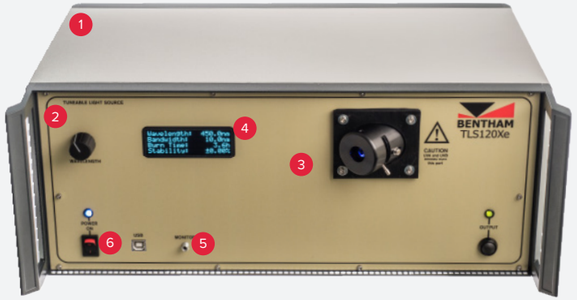
2. Optical power at 20nm bandwidth with 3mm liquid light guide



Overview

System Components

Designed around a single benchtop enclosure, the TLS120Xe requires only a mains power input for operation. Adapting to a wide range of applications in research, industry and OEM, benefit from the power of monochromatic light at your fingertips.



1

Integrated Solution
Housing lamp, power supply and monochromator in a 19" benchtop enclosure, convenient to use and easy to deploy.

2

Wavelength Selection
Enjoy plug and play functionality, with direct front panel control or automation over USB.

3

Output Optics
Ensures efficient coupling to the fibre of choice and the option of beam attenuation using an iris iris diaphragm.

4

Display
An OLED display reports wavelength, bandwidth, burn time and stability.

5

Monitor Port
Ensure optical alignment of replacement lamps using the monitor port to record transmitted optical power.

6

Automation
Take full control of the TLS120Xe over USB using SCPI commands or using the spectral acquisition application, BenWin+.

7

Monochromatic Light Source
An ultra-quiet 75W short-arc xenon lamp feeds a 120mm focal length monochromator, ensuring high optical power and continuous wavelength tuning.

8

Coupling Options
A range of fibres and light guides are on offer to adapt to the spectral range in your application.

Specifications

Light Source		
Lamp type	Short-arc OFR xenon lamp	
Operating current	Constant current	
Coupling	Ellipsoidal reflector, 60mm diameter	
Lamp option	75W lamp	100W lamp
Operating current	5.4A	7.2A
Nominal lamp power and voltage	75W, 15V	100W, 14V
Nominal life time	2000 hours	500 hours

Opto-Mechanical	
Configuration	Constant Deviation Angle
Focal length	120mm effective
Grating mount	Single grating on-axis turret
Grating type	Concave blazed holographic
Grating line density	1200
Nominal blaze wavelength	380nm
Slit type	Fixed Slit
Drive type	Stepper motor
Drive resolution	0.5 arcsec per step
Maximum drive speed	115° per sec

Optical Performance	
Wavelength range	280nm – 1100nm
Wavelength step	0.0035nm
Bandwidth at FWHM with 0.74mm slit	5nm
Bandwidth at FWHM with 1.48mm slit	10nm
Bandwidth at FWHM with 2.96mm slit	20nm
Bandwidth at FWHM with 5.92mm slit	40nm

General	
Interface	USB 2.0
Software control	BenWin+ spectral acquisition application, SCPI
Overall dimensions	300L x 460W x 185H (mm)
Weight	8.8 kg
Power supply	100-240V AC 50-60 Hz
Orientation	Horizontal only
Operating temperature range	10-35°C
Operating humidity range	30 % to 70 % (no condensation, less than 70 % above 30 °C)

Ordering Options

Part Number	Description
TLS120Xe	High Power Tuneable Light Source (280nm-1100m)
19719	100W short-arc xenon lamp, nominal 500 hours lifetime
19583	75W short-arc xenon lamp, nominal 2000 hours lifetime
2x SA-FSP (0.72)	Fixed slit plate pair to set 5nm nominal bandwidth
2x SA-FSP (1.45)	Fixed slit plate pair to set 10nm nominal bandwidth
2x SA-FSP (2.90)	Fixed slit plate pair to set 20nm nominal bandwidth
2x SA-FSP (5.80)	Fixed slit plate pair to set 40nm nominal bandwidth
SMA-1500-1000	High OH^- SMA fibre (250-1200nm), 1m long, 1.5mm diameter
FOP-UV-4-4-1000	UV grade fused silica fibre bundle (200-1350nm) 1 meter long, 4mm diameter
LLG-3-1000	Liquid light guide (280-700nm), 1m long, 3mm diameter

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