

Technical Specifications of Xe Lamp for photo-electrochemical reactions

1. Includes lamp with lamp housing, Condensor/collimator lens, Power supply with igniter, Manual or remote shutter and necessary accessories
2. 300 W ozone free Xe arc discharge lamp
3. Lamp lifetime 1000 hrs and more
4. Light intensity: $>1000\text{W}/\text{m}^2$
5. Light direction: horizontal (without using mirror)
6. Output irradiance beam size: $> 35\text{ mm}$ with high quality collimation
7. F/# should be ≤ 1
8. Working distance 150 mm or more from exit port with $100\text{ mW}/\text{cm}^2$ intensity
9. Spectrum range: 200 –1500 nm; the condenser/collimating lens should transmit the given range
10. Spectral match: Class C or better
11. Temporal instability: Class B or better
12. Air cooling system to maintain safe operating temperature of lamp
13. Good quality lamp housing for safeguarding the users against radiation
14. Power supply:
 - 14.a. High Stability Power supply to operate 200-500 Watt DC arc lamps.
 - 14.b. Operating mode should be current, Power or Intensity.
 - 14.c. Adjustable power supply to control light intensity
 - 14.d. Line regulation should be $<1\%$
 - 14.e. Output Voltage Ripple should be $<1\%$ RMS
 - 14.f. Light Ripple should be $<1\%$ RMS
 - 14.g. Input power: AC 220 V-240 V, $\text{AC}\pm 10\%$
 - 14.h. CE certified and RoHS complaint is preferable.
15. The option for attachment of fibre source to the std source should be possible.

Essential Accessories

16. Filters of suitable diameter greater than output beam size
17. UV cut filter (approx. 2×2 inch size)
18. Mini. 3 nos of attached slots outside the condenser lens assembly to accommodate filters and filter holders
19. Appropriate filter holders suitable for mounting filters in front of the beam collimator
20. A spare Xe arc lamp

Warranty:

21. 3 years
22. The vendor should ensure supply of spare parts and service for the quoted system for at least another 10 years.
23. The vendor will be responsible for installation, commissioning and training.
24. The vendor should have local service engineers.

25. The vendor should give a list of at least five users in India with their contact details.
26. A technical compliance sheet has to be provided against each given specification

Optional (please quote):

27. Accessories for converting standard source to fibre source to be quoted. Necessary fibre focusing assembly and fibre (length - approx.0.5 m, dia >3 mm, wavelength range approx. 200-2000 nm)
28. Software /Remote controlled Shutter for the lamp
29. IR cut filter with cooling facility (water cooling) (approx. 2 ×2 inch size)
30. AM 1.5G filter
31. Photodetector
 - a. Spectral Region: NIR, UV, Visible
 - b. Detector Material : Silicon (Si)
 - c. Active Area (diameter or square): 2.5 mm
 - d. Temperature Control: Non-cooled
 - e. Spectral Range (nm): 200-1100nm
 - f. AC or DC Coupling: DC Coupled
 - g. Detector Type: Solid State
32. Goggles for UV protection