



INDIAN INSTITUTE OF TECHNOLOGY BOMBAY

MATERIALS MANAGEMENT DIVISION

Powai, Mumbai 400076.

**Item Description : Single Frequency 532nm 5W DPSS Green Laser Source with
Chiller & Accessories**

PR No.1000049488

(Rfx No.6100002390)

Sr. No	Detailed Technical Specification	Technical Compliance (Yes / No)	Additional Information (if any)
1.	Single Frequency 532nm 5W DPSS Green Laser Source		
i.	Wavelength : 532 nm		
ii.	Laser Output Power : 5W		
iii.	Laser Class : Class IV		
iv.	Mode of Operation Continuous-wave (CW), TEM spatial mode		
v.	Spectral Bandwidth ~50 GHz		
vi.	Beam Diameter (1 e^{-2})~2.25 mm \pm 0.25 mm at 15 cm from aperture		
vii.	Divergence < 0.4 mrad		
viii.	Beam Quality (M^2)< 1.1		
ix.	Beam Angle < 1 mrad		
x.	Ellipticity < 1:1.15		
xi.	Polarization Horizontal, > 100:1		

xii.	Pointing Stability < 2 μ rad/°C		
xiii.	Power Stability (RMS) < 0.1 % (for < 10 W output) ; < 0.05 % (for 10–12 W output)		
xiv.	Power Noise (RMS)< 0.03 % (< 10 W); < 0.02 % (10–12 W)		
xv.	Noise Bandwidth : 10 Hz–100 MHz		
xvi.	Coherence Length : ~6 mm		
xvii.	Warm-up Time < 10 minutes		
xviii.	Operating Temperature (Laser Head)20–30 °C		
xix.	Laser Head Weight Approx. 3.9 kg		
xx.	Umbilical Cable Length ~1.5 m		
xxi.	Laser Class : Class IV		
xxii.	Cooling Requirement o Standard: Water-cooled (\approx 25 °C, \geq 1.6 L/min)o Optional: Air-cooled PSU		
xxiii.	Dimensions o Laser Head: 247 mm \times 136.5 mm \times 59.5 mm o Controller: 163 mm \times 136.5 mm \times 66 mm		
xxiv.	Power Supply Requires separate SMD32 PSU – 24 V DC, 12.5 A		
xxv.	Control Options o Analog control port (0–5 V) with interlock & modulation o RS-232 remote control via RemoteApp™ software		
xxvi.	Warranty : 2 Years		
2.	Water Chiller		
i.	Cooling Capacity : 230 W at 20 °C, with ambient of 20°		
ii.	Temperature Range : 0 °C to 65 °C, with ultra-precise stability (\pm 0.05 °C repeatability)		
iii.	Pump & Flow Adjustable centrifugal pump delivering ~2 L/min at 14 psig		
iv.	Tank 1 L internal reservoir with level sensor		

v.	Wetted Materials Aluminum cold plate and polymers (optionally stainless steel in other models)		
vi.	Fittings : ¼" valved CPC quick-connect fittings		
vii.	Electrical Specs Power: 100–240 VAC universal input Current draw: 3.5 A @ 100 VAC; 1.5 A @ 240 VAC		
viii.	Controls & Communication Built-in keypad, RS-232; Ethernet optional		
ix.	Noise Level Roughly 50 dBA at 50% load, up to 63 dBA at full load		
x.	Dimensions & Weight : ~33 x 28 x 28 cm; ~11.3 kg		
xi.	Certifications & Warranty : UL, CE, RoHS compliant		
xii.	Warranty : 2 Years		