



**INDIAN INSTITUTE OF TECHNOLOGY,**  
**GT ROAD, KALYANPUR, KANPUR-208016**  
**UTTAR PRADESH, INDIA**

TENDER REFERENCE NO: **IITK/SEE/KSN/2022-23/07**

BID SUBMISSION END DATE: **03.10.2022**

TENDER DOCUMENTS

FOR

**NL 100 Nitrogen Laser with Power Supply**

# Tender Document

Department of Sustainable Energy Engineering

INDIAN INSTITUTE OF TECHNOLOGY,  
KANPUR-208016

Enquiry Date: 21.09.2022

Enquiry No: IITK/SEE/KSN/2022-23/07

## PRODUCT NAME: “NL 100 Nitrogen Laser with Power Supply”

S. No.	Technical Specification of Nitrogen laser
1.	337 nm wavelength 170 pulse energy Internal or external triggering to 20 Hz Replaceable laser cartridge No mirror alignment necessary Fully compatible with VSL-337i OEM
2.	<b>Beam Characteristics</b> <ul style="list-style-type: none"><li>• <b>Wavelength</b> 337.1 nm</li><li>• <b>Spectral bandwidth</b> 0.1 nm</li><li>• <b>Pulse width (FWHM)</b> &lt;3.5 ns</li><li>• <b>Pulse energy</b> 170 <math>\mu</math>J</li><li>• <b>Energy stability</b> 3 % std. dev. (at 10 Hz) (Pulse to pulse)</li><li>• <b>Peak power</b> 45 kW</li><li>• <b>Average power</b> 3 mW (at 20 Hz)</li><li>• <b>Beam size</b> 3 <math>\times</math> 7 mm</li><li>• <b>Beam divergence</b> 5 <math>\times</math> 8 mrad (full angle) (Full Angle)</li></ul>
3.	<b>Triggering</b> <b>Repetition rate</b> 0 to 20 Hz (external trigger) 1 to 20 Hz (internal trigger) <b>External trigger input</b> TTL (opto-isolated) <b>Int. trigger generator</b> 1 to 20 Hz (adjustable)
4.	<b>General</b> <ul style="list-style-type: none"><li>• <b>Power requirements</b> +24 VDC, 1.5 A (average) at 20 Hz., 3 A (peak)</li><li>• <b>Power consumption</b> 36 W (20 Hz operation)</li><li>• <b>Key switch</b> ON/OFF</li><li>• <b>Interlock switch</b> Built-in</li><li>• <b>Dimensions</b> 3.75" <math>\times</math> 3.75" <math>\times</math> 11" (WHD) (9.5 cm <math>\times</math> 9.5 cm <math>\times</math> 27.9 cm)</li><li>• <b>Weight</b> 7.5 lbs., 3.4 kg</li><li>• Warranty Cartridge is warranted to maintain at least 70 % of its energy for twenty million pulses or one year, whichever occurs first</li></ul>
5.	<b>With power supply of this Nitrogen Laser</b>

## **Terms & Conditions: -**

- 1. Installation** – Installation required for this system.
- 2. Delivery:** Delivery schedule is confirmed after receiving purchase order.
- 3. Warranty:** This product is warranted against defects and materials for a period of one (1) year after shipment. Cartridge is warranted to maintain at least 70 % of its energy for twenty million pulses or one year, whichever occurs first.
- 4.** Batteries (if used in your instrument), chopper motors, diaphragm pumps and rebuilt turbomolecular pumps are warranted for 90 days from the date of shipment. Damage caused by misuse of your instrument is not covered under the warranty program.
- 5.** Quote Validity: 90 Days.
- 6. GST** applicable as per government norms.
- 7.** All equipment must be compatible with Indian electrical standards and codes. Engineering documentation on the physical sizes and weights of all major and minor components must be submitted.
- 8.** TENDER Specific Manufacturer Authorization Form from OEM Required.
- 9.** The Institute reserves the right of accepting or rejecting any/all quotations without assigning any reason thereof.
- 10.** All prices should be *F.O.R.*
- 11.** Installation by OEM is preferred.
- 12.** We need Company Boucher with specified technical specifications.
- 13.** Local Contain must be specified according to its parts.

### **Indenter**

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