

Tender Notification No.: NITT/F.NO:RES001/PLAN2013-14/PRO dt: 15.11.2013

With reference to the above tender notification and the pre-bid conference held on 21.11.2013 at 3.00 PM in the committee room of CECASE, the following amendments are made. All other terms and conditions mentioned in the tender document remains same.

Specification for Laser micromachining workstation

Original tender specification	Amended specification
<p>a. Laser Source:</p> <p>Type : Q-Switched Nd:YAG with MOFA architecture</p> <p>Wavelength : 532 nm</p> <p>Mode : Pulsed</p> <p>Pulse frequency : 50 kHz (or) more</p> <p>Peak power : > 100 kW</p> <p>Pulse Energy : > 60 μJ</p> <p>Pulse width : Should lie between ~ 600-700 ps</p> <p>Avg. rated O/P : > 3W</p> <p>Spatial Mode : TEM₀₀</p> <p>M² : < 1.2</p> <p>Beam divergence : ≤ 2 mrad</p> <p>Beam diameter : < 1 mm</p> <p>Jitter : <±1ns</p> <p>Energy Stability : ±2.5 % (shot to shot for 99 % of pulses)</p> <p>Polarization : 20 dB (Linear)</p> <p>Laser Control Electronics : Digital</p> <p>Cooling : Internal Air Cooled</p>	<p>a. Laser Source:</p> <p>Type : Q-Switched Nd:YAG with MOFA architecture</p> <p>Wavelength : 532 nm</p> <p>Mode : Pulsed</p> <p>Pulse frequency : 50 kHz (or) more</p> <p>Peak power : > 100 kW</p> <p>Pulse Energy : > 60 μJ</p> <p>Pulse width : Should lie between ~ 600-700 ps</p> <p>Avg. rated O/P : > 3W</p> <p>Spatial Mode : TEM₀₀</p> <p>M² : < 1.2</p> <p>Beam divergence : ≤ 2 mrad</p> <p>Beam diameter : < 1 mm</p> <p>Jitter : <±1ns</p> <p>Energy Stability : ±2.5 % (shot to shot for 99 % of pulses)</p> <p>Polarization : 20 dB (Linear)</p> <p>Laser Control Electronics: Digital</p> <p>Cooling : Internal Air Cooled</p>
<p>Other mandatory accessories required with the laser source:</p> <p>(i) Interface module with timer and start-up sequence for PC, I/O interface, Interlock circuit, emergency stop circuit with safety electronic, Industrial-PC with laser console (GUI) and control unit for safety functions, adjusting pulse and diagnostics, USB port for data transfer and Ethernet.</p> <p>(ii) A scanner system equipped with suitable program for creating and processing user defined layouts.</p> <p>(iii) A suitable Galvo system for steering laser beam.</p> <p>(iv) 4 Nos of appropriate safety goggles.</p>	<p>No amendment</p>

b. Workstation

The laser source should be integrated in the workstation with necessary interfacing. The workstation should be made of sheet metal construction with durable powder paint finish. The working chamber is prepared to connect an exhaust system and equipped with all exhaust connection. The working chamber should comply with Class-4 laser safety.

Working Table Specification:

X/Y-axis Travel	: 400 x 400 mm (minimum)
Drive	: linear servo
Positioning accuracy	: $\pm 5 \mu\text{m}$ per axis (minimum)
Repeat accuracy	: $\pm 5 \mu\text{m}$ per axis (minimum)
Z-axis Travel	: 150 mm (minimum)
Drive	: linear servo
Positioning accuracy	: $\pm 10 \mu\text{m}$ (minimum)
Repeat accuracy	: $\pm 5 \mu\text{m}$ (minimum)

No amendment

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21/11/13

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