



INDIAN INSTITUTE OF TECHNOLOGY BOMBAY
MATERIALS MANAGEMENT DIVISION
Powai, Mumbai 400076.

Ref. PR No. 1000049426

RFx. No. 6100002350

Custom Photonic Characterization

Sr. No	Item Description	Detailed Technical Specification	Technical Compliance (Yes / No)	Additional Information (if any)
1.	Research Grade Optical Table with Isolators and compressor – Qty. 02	<p>(a) Research Grade Optical Table Top</p> <ul style="list-style-type: none">▪ Dimension: 3000 x 1500 x 300 mm▪ Quantity: 02▪ Core: Steel honeycomb core structure, 0.25 mm thick foil▪ Core Cell Size: 2.9 cm²▪ Top Skin: 4.0 mm thick 430 series ferromagnetic stainless steel or better▪ Bottom Skin: 4.5 mm thick steel or better▪ Surface flatness: ± 0.1 mm over 600 mm x 600 mm or better▪ Side Walls: 2.0 mm thick steel plate with highly damped composite wood▪ Mounting Holes: M6–1.0▪ Mounting Hole Grid: 25 mm grid▪ Mounting Hole Borders: 37.5 mm▪ Mounting Holes Sealing: 21 mm deep clean cylindrical cup with chemical resistant nylon material▪ Damping: Broadband damping▪ Natural Frequency: 288 Hz▪ Compliance: 25 nm/N▪ Deflection Underload: $\leq 1.2 \times 10^{-3}$ mm▪ Max relative motion: $\leq 7.5 \times 10^{-8}$ mm▪ Maximum dynamic deflection coefficient: $\leq 0.3 \times 10^{-3}$ mm <p>(b) Pneumatic Support</p> <ul style="list-style-type: none">▪ It should be Tie-Bar Type		

		<ul style="list-style-type: none"> ▪ Support Height: 500 mm ▪ Quantity: 02 Sets ▪ Number of Isolators: 4 for each set with levelling foot and casters ▪ Levelling Valves: 3 ▪ Should be suitable with the above table top system ▪ Frame structure should be welded joints ▪ Resonant Frequency: Vertical/Horizontal = 1.2 Hz – 1.7 Hz or better ▪ Vibration Isolation at 10 Hz: Vertical/Horizontal: 80% – 99 % or better ▪ Maximum Load Capacity: 2000 kg ▪ Levelling Repeatability of ± 1.0 mm or better ▪ Height Adjustment Range of ± 25 mm or better ▪ Suitable compressor shall be provided with below specifications <ul style="list-style-type: none"> i. Operating pressure should be 40 – 80 psi ii. Air tank capacity should be 13 Liters or better iii. Air delivery should be 30L/min or better iv. Noise level should be less than 40 dB or better v. Power requirements should be 220V / 60 Hz 		
2.	Tabletop Active Vibration Isolation Platform – Qty. 01	<p>Dimension: 500 x 600 x 93 mm (or bigger)</p> <ul style="list-style-type: none"> ▪ Quantity: 01 ▪ Maximum Load Capacity: 90 Kg ▪ Top Plate: Anodized aluminum with M6 Mounting Holes ▪ Surface Flatness: ± 0.05 mm or better ▪ Actuator: Electromagnetic ▪ Maximum Actuator Force: Vertical - 12 N, Horizontal - 12 N ▪ Vibration Sensor: Velocity, Sensitivity: 100.4 V/m/s $\pm 10\%$ or better ▪ Active Isolation Range: 0.5 – 200 Hz or better ▪ Degrees of Freedom should be 6 degrees 		

		<ul style="list-style-type: none"> ▪ Vibration Isolation Performance: 80 – 90% at 1 Hz, 90 – 99% at 2 Hz or better ▪ Settling Time: ≤0.3 sec or better ▪ Table should do automatic Levelling / Load Adjustment ▪ There should be a Real–Time Monitoring Active isolation status and automatic levelling on LCD display ▪ Response Time: < 0.5 ms or better ▪ Magnetic Field: <0.05 μT ▪ Levelling repeatability: ± 0.08 mm (under uniformly distributed load) or better ▪ User Interface: Real time vibration data, Transmissibility, VC Curves, and Auto spectrum ▪ Compliance / Certifications should be provided: CE, TÜV ▪ There should be Internal Lock System for Transportation ▪ Power Ratings: Input Voltage (V) AC 80 – 260 V / 50 – 60 Hz/Less than 36 W ▪ Temperature operating condition: 5 – 50 °C ▪ Top plate with mounting holes needs to be provided: Mounting Holes: M6–1.0, Mounting Hole Grid: 25 mm grid, Mounting Hole Borders: 37.5 mm ▪ Humidity operating condition: 20 – 90% ▪ The system should be warranted for one year ▪ Installation should be provided - Option needs to be provided for mounting this active vibration isolation platform on the passive optical table. 		
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