INDIAN INSTITUTE OF TECHNOLOGY BOMBAY
MATERIALS MANAGEMENT DIVISION

Ref. PR No. 1000043702 RFx. No.6100001971

Item Description – Tabletop Ultracentrifuge Machine

Sr. No	Item Description	Detailed Technical Specification	Technical Compliance (Yes / No)	Additional Information (if any)
1.	**Tabletop Ultracentrifuge**	• Max RPM > 1,50,000 RPM (2500 revolution / second) • Max Force > 1,000,000xg • Drive Type; variable frequency Induction drive. The drive should not require an oil vacuum seal or external oil reservoir • Refrigeration System - Thermo electric temperature Control system and no coolant. • Vacuum system - Self-purging vacuum system • Should be able to handle volume starting from less than 200 µl to 190 ml or better • Temperature should be from 0 degree to 40 degree with 1-degree increment. • Should be able to employ gravity max technology for Fixed Angle & Swinging Bucket Rotor to carryout analysis in different volumes without compromising G force and RPM • It should have bio safety protection and able to meet bio safety compliance of the lab. Instrument must have HEPA Filter of 0.2 um. • Should have virtually limitless user programs. • Instrument should have pulse feature allows you to manually accelerate the rotor		

		for sample preparation • System should come with color screen & touch keypad operation for RMP/RCF/ Temp. / Vacuum display. • System should be able to accept Fixed Angle/Vertical Tube/Near Vertical & Swinging Bucket Rotors. Maximum volume capacity should be more than 190ml. • Rotor catalogue and Rotor tracking at fingertip should be present • System should be able to perform Rapid differential sedimentation (pelleting) of small particles such as subcellular organelles and viruses, Rapid contamination-free isopycnic isolation of plasmid DNA, RNA pelleting; subcellular fractionation in sucrose gradients, protein separations in sucrose gradients. • The door shall be of high-strength structural steel chamber with a solenoid interlock to prevent operator contact with a spinning rotor. • Ultracentrifuge should be lock automatically when the door is closed. • An imbalance detector shall monitor the rotor during the run, causing automatic shutdown if rotor loads are out of balance. • Should have over speed system to ensure that the rotor does not exceed its maximum allowable speed. • Instrument should have 10 acceleration and 11 Deceleration program. • Maximum Heat Dissipation into Room Under Steady-State Conditions should be less than 2500 Btu/hr with Noise level at 1m should be less than 48 dB(A) • Shall have an inbuilt mechanism to calculate rotor inertial energy and stops the system to prevent rotor failures. Instrument must have diagnostic message to alert you to this condition.		
		System should come with following Rotors. a. Fixed Angle Rotor with maximum rotor capacity of 6 x 32.4 ml or more. Rotor Maximum Speed – 50000 x g or		

		better Rotor Maximum G Force – 233 000 x g or better Rotor g-Max Quick-Seal tube kit: 27mL, g-Max, Quick-Seal, Polypropylene (pack of 50) and Spacers,		
		b. Fixed Angle with Rotor Maximum Capacity: 8x2 ml or better Maximum Speed: 150,000 RPM or more Rotor Maximum Force: 1,003,000 x g or more 2.0mL, Quick-Seal, Polypropylene (pack of 50), Spacers, 11mm diameter (pack of 8) Tube rack, O-ring for rotor lid, Hemostat, Spinkote lubricant Vacuum grease		
		c. Extra numbers of quick-seals, spacers and Polypropylene (pack of 50) should be included.		
		Warranty – Warranty of 2 years covering all maintenance, and preventive regular checks should be included		
		Vendor should provide at least 5 list of installation for Tabletop Ultracentrifuge across India installed within last 3 years.		