

Technical Specifications of Rotational Viscometer

IIT Madras proposes to procure one rotational viscometer. The following technical specifications should be complied with completely to qualify the technical bid. A detailed technical compliance statement should be provided and manufacturers (OEM) product brochure should support it. Information provided in vendor/supplier/redistributor/reseller's website cannot be considered as a supporting document.

Technical Specifications I

Sl. NO	SPECIFICATIONS	Complied / Not Complied	Reference, Page. No.
1	Number of viscometers required: One		
2	The viscometer should be able to measure viscosity of liquids, thick slurries, solution with suspended particles and dough		
3	Viscosity range a. It should be able to measure dynamic viscosity b. Dynamic viscosity range in between 40 mPa.s to 350M mPa.s or better c. All the accessories required for measuring viscosity if liquids, semi solids, dough and any other material type should be quoted		
4	Torque range a. 10% to 100% of the torque should be in between 0.5 mNm and 6 mNm or better		
5	Torque resolution: $<\pm 0.1\%$ of full scale torque range		
6	Accuracy: $>\pm 1.0\%$ of full scale torque range		
7	Repeatability: $<\pm 0.2\%$		
8	Speed range: 0.05 rpm to 250 rpm		
9	Number of speeds: a. at least 15 or more standard speeds b. at least 1 fixed custom speed c. Option to add at least 5 or more custom speeds to the speedlist		
10	Speed resolution: $<0.2\%$ of total speed		
11	Spindle lock system: Magnetic Coupling and Chip based spindle for automatic identification of spindle by instrument.		
12	Digital levelling: Automatic Alignment check that should be displayed on instrument screen. Interlock that Instrument should not allow for measurement unless levelling is passed.		

13	MOC of spindle: SS316 Only		
14	Measurement modes: a. Manual mode b. Stop at time c. Stop at torque		
15	Speed selection mode: The instrument should automatically run at different speeds to determine ideal speed needed to reach 80% torque.		
16	Temperature measurement: Pt-100 Temp probe with 0.5 deg C accuracy		
17	T- bar spindle set: Should be made up of 316L corrosion resistance SS with Magnetic coupling attachment		
TERMS AND CONDITIONS			
18	Minimum one year warranty from the date of installation		
19	Installation and training onsite is required.		
OPTIONAL ITEMS			
20	Any additional accessories required for operation should be quoted.		

(Note: It is mandatory for the bidders to provide the compliance statement in tabular column format along with catalogue page number (comply/not comply) for the Above points with document proof as required. Failing which bidders will be technically disqualified)