

Annexure I

Specifications for Standalone Differential Scanning Calorimeter (DSC)

S.No.	Feature	Specifications
1.	General Description	State- of- the-art Differential Scanning Calorimeter, capable of measuring normal DSC and Specific heat capacity (Cp)
2.	Sensor type	Heat flux
3.	Temperature range	-180 °C to 700 °C or better
4.	Temperature accuracy	± 0.1 °C or better
5.	Temperature repeatability or precision	± 0.05 °C or better
6.	Enthalpy precision	± 0.1 % or better
7.	Enthalpy accuracy	< 1 % or better
8.	Heating / Cooling rate	0.001 to 200°C (K) per min or better
9.	DSC measuring range	± 750mW / 2500 µV or better
10.	Heat flow Resolution	0.001 µW or better
11.	Calorimetric Sensitivity	3.0 µV/mW or better
12.	Segment types	Static (Isothermal) and dynamic
13.	Gas atmospheres	Inert, oxidising and reducing conditions
14.	Mass flow controller	Capability for independent control of protective and purge gases
15.	Standards for Cp measurement	Set of Sapphire standards to be provided
16.	Associated accessories	Liquid Nitrogen dewar (50 L or higher) with supply system, Sealing press /Crimping tool, cleaning brush and tweezers
17.	Sample pan	Aluminium pans and lids (1000 pcs; 25µl or better)
18.	Personal computer with printer	Latest configuration compatible with the instrument
19.	Software	Capable of measuring and evaluating melting, crystallinity, Polymorphism, phase transitions, liquid crystal transitions, solid liquid ratio, glass transition and Specific heat capacity
20.	Optional items	Heat flux sensor(additional) Alumina crucibles with lids (100 Nos) Autosampler for 50 or more samples Add on software for measuring thermokinetics, peak separation and purity
21.	General terms and conditions	<ol style="list-style-type: none"> 1. Price for each items should be quoted separately 2. Price for optional items should be indicated separately

		<ol style="list-style-type: none">3. Standards for calibration (Temperature and Sensitivity), for the entire range should be provided4. Three years warranty from the date of installation / acceptance, covering all the units of the instrument5. Indicate the price of AMC after the expiry of the warranty period6. List of spares needed for each year along with cost and discounted rates should be provided. An undertaking that the vendor will supply all the spares for 5 years after the warranty period to be provided7. Complete technical details along with hard and soft copies of the manuals should be provided8. Software upgrade should be incorporated by the vendor as and when the new versions are released at no additional cost9. Onsite training for at least two persons in the operation and general maintenance should be given10. List of installations in India for the last two years to be provided
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