

BRUNAUER EMMET TELLER

Photo of Instrument:



<p>Instrument Name</p>	<p>BET (Brunauer Emmett Teller) Surface Area Analyser</p>
<p>Instrument Model & Serial No.</p>	
<p>Instrument Make</p>	<p>Belsorp-max</p>
<p>Category of Instrument</p>	<p>Characterisation and Testing Facility</p>
<p>Description of Instrument</p>	<p>BET analysis is a widely used method for determining the specific surface area of porous materials, such as catalysts, adsorbents, and powders. It is based on the physical adsorption of gas molecules onto the surface of the material. The BET equation is used to calculate the surface area from the adsorption isotherm data.</p>
<p>Instrument Technical Description and Major Specifications(This Specifications Limited to Major 5)</p>	<ol style="list-style-type: none"> 1. Measurement Range: BET analyzers typically have a specified range for surface area measurements, expressed in square meters per gram (m²/g). The range can vary depending on the instrument. 2. Gas Adsorption: BET analysis is based on the adsorption of gas molecules onto the surface of the material. The choice of adsorbate gas (commonly nitrogen) and the measurement conditions (temperature and pressure) are important specifications.

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	<p>3. Analysis Speed: The time it takes to complete a surface area analysis can be an important consideration. Faster analysis times may be desirable for high-throughput applications.</p> <p>4. Pore Size Distribution: Some BET analyzers can also provide information about the distribution of pore sizes in the material, beyond just the total surface area.</p>
<p>Application of Instrument (Limited to Major 4 or 5)</p>	<ul style="list-style-type: none"> • Catalyst Characterization • Adsorbent Evaluation • Powder Technology
<p>Type of Sample Required for Analysis/Testing (Quantity, Pre-Preparation, State etc.) Guidelines for Sample Submission – User Instructions</p>	<p>Powders: Fine powders and particulate materials, including pharmaceutical powders, pigments, and metal powders, can be analyzed to determine their specific surface area and porosity.</p>
<p>Types of Analysis/Testing (Quantity, Pre-Preparation, State etc.) Guidelines for Sample Submission – User Instructions</p>	<p>Surface Area Calculation: The BET equation is employed to calculate the specific surface area of the material based on the adsorption isotherm data. The surface area is expressed in terms of square meters per gram (m²/g).</p>
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<p>Location of Instrument</p>	<p>Instrumentation Lab</p>
<p>Other Details</p>	

User Charges:

S.NO.	Type of Analysis/Testing	Internal - within Department of NITC	Internal - Other Department s NITC	External Academic Educational Institutes	National Labs	Industry
1	Surface Area Calculation		1500	3000	3000	6000

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Slot Booking and Payment Work Flow:

- Discuss the slot availability with the technical staff in the instrumentation lab of chemical engineering department.
- Collect the request form.
- Payment should be at the accounts section of the institute.
- Get the request form signed from the faculty in charge.
- Submit the request form and samples in the instrumentation lab.