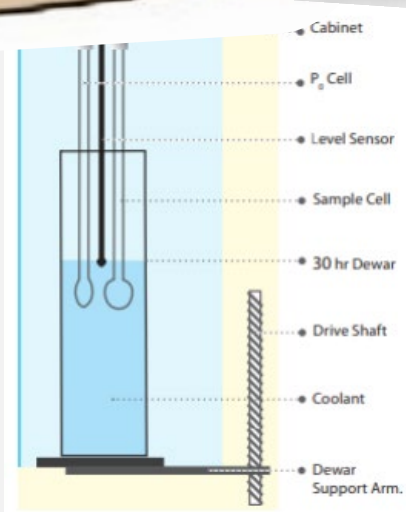




BET Surface Area and Pore Size Analyzer



The BET Surface & Pore Size Analyzer operates by measuring the quantity of gas adsorbed onto or desorbed from a solid surface at some equilibrium vapour pressure by the static volumetric method. The technique encompasses external area and pore area evaluations to determine the total specific surface area in m^2/g yielding important information in studying the effects of surface porosity and particle size in many applications.

Before the specific surface area of the sample can be determined, it is necessary to remove gases and vapours that may have become physically adsorbed onto the surface. The samples are usually dried with gas purging or in a vacuum applying elevated temperatures.

For the sample analysis, the samples are immersed in a liquid nitrogen bath while the instrument performs the nitrogen adsorption tests. The volume of gas adsorbed to the surface of the particles is measured. The amount of adsorbed gas is correlated to the total surface area of the particles including pores in the surface. The calculation is based on the BET theory. Gas adsorption also enables the determination of size and volume distribution of micropores.

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