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Product Name :

Measuring Vapor Apparatus

Product Code :

SLE/H/20



Description :

Measuring Vapor Apparatus (Product Code: SLE/H/20) is a high-pressure steam apparatus in which water is heated inside a closed pressure chamber at constant volume, so that liquid and vapour settle into equilibrium and the steam pressure can be measured across a temperature range of 100–250 °C. From those readings, students determine the heat of vaporisation atvarious temperatures and study the behaviour of real gases and vapours. It is intended forcollege and university thermodynamics laboratories and is made by **Jain Scientific Equipments Pvt Ltd (ScienceLab)**, Ambala, a laboratory instruments supplier in India serving international markets as well.

Specifications

Parameter	Detail
Type	High-pressure steam apparatus
Operating principle	Water heated in a closed pressure chamber at constantvolume
Steam pressure measurement range	100–250 °C
Phase behaviour	Typical equilibrium states between gas and liquid phases can be set up
Investigations	Real gases and vapours; vapour pressure as a function of temperature; heat of vaporisation at various temperatures

Typical Use

In a standard experiment the chamber is heated in stages, and at each stage the class waits for liquid and vapour to reach equilibrium before recording the temperature and the steam pressure. Repeating this across the 100–250 °C range produces a vapour-pressure curve. Plotting the natural logarithm of pressure against the reciprocal of absolute temperature turns that curve into a near-straight line whose slope, through the Clausius–Clapeyron relation, gives the heat of vaporisation; comparing slopes over different parts of the range shows how that value changes with temperature.

Because the chamber works above atmospheric pressure and at high temperature, the apparatus belongs in supervised college or university sessions. Follow the operating instructions for filling and heating, wear eye protection, and let the unit cool and depressurise fully before any handling. It fits well into physics lab equipment for thermodynamics and heat-engine courses, giving students measured data on real, non-ideal vapour behaviour.

Manufacturer

Jain Scientific Equipments Private Limited builds this steam apparatus in Ambala, Haryana, and supplies it under its **ScienceLab** trade name to teaching and training laboratories. See our company profile for more about the company.

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