

Order Code :20213501.1.14
Name : Gas diffusion coefficient apparatus

Description

Using a small sample of the liquid in a narrow vertical tube, and observing its rate of evaporation into stream of air passed across the top of the tube can conveniently be used to study the diffusion of vapour of a volatile liquid into air. The set up consists of a glass tube placed in a water bath. A horizontal glass tube is fixed to the upper end of the tube and air is drawn through this by a small air pump included within the unit. Air flows over this tube maintaining partial pressure difference. A traveling microscope with sliding vernier scale is provided to measure the rate of fall of solvent within capillary. A stirrer is fitted to maintain constant temperature inside the bath.



Experimentation/Learning Objectives

- Determination of the diffusion co-efficient of a gas.
- To study the effect of temperature on diffusion co-efficient.

Technical Details

- Tube : Material Borosilicate Glass.
- Water Bath : Material Stainless Steel with two sides made of glass Capacity 5 Ltrs, Fitted with heater and stirrer.
- Heater : Nichrome Wire Heater.
- Stirrer : Stainless Steel, Impeller and shaft coupled with FHP motor.
- Air Circulation : By Air Pump.
- Traveling Microscope : 0-150 x 0.1 mm resolution.
- Temp. Sensor : RTD PT-100 type
- Control panel comprising of :
 - Digital Temp. Controller : PID Controller, 0-199.9°C cum-Indicator (For Water Bath)
 - With Standard make On/off switch, Mains Indicator etc.
- An ENGLISH instruction manual consisting of experimental procedures, block diagram etc. will be provided along with the Apparatus.
- The whole set-up is well designed and arranged on a rigid structure painted with industrial PU Paint.

Utilities Required

- Electricity Supply: Single Phase, 220 V AC, 50 Hz, 5-15 Amp. Combined socket with earth connection. Earth voltage should be less than 5 volts.
- Floor area required: 1.5m x 1.0m
- Required Chemicals & Laboratory Glassware.

Note: Specifications are subject to change, Photos shown above are Indicative, Actual Product can Vary.

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