

SOLID IN AIR DIFFUSION APPARATUS (EE-1635)

Confirming a packed bed of spherical balls of a solid in a vertical tube, and observing its rate of diffusion into stream of air passed across the top of the tube can conveniently study the diffusion of solid into air. The equipment is fitted with a vertical glass column with a mesh near the base of column to hold the spherical balls. Spherical balls of known weight and diameter are filled in the column to make a packed bed. Air is allowed to pass through the silica gel chamber. From the bottom of the column, dry air is allowed to enter in the packed bed.

EXPERIMENTATION

- To calculate the mass transfer co-efficient of vaporization of naphthalene in air using a packed bed of spherical particles of naphthalene.
- To plot $Sh/Sc^{1/3}$ Vs Re on log 45g graph and determine the functional relationship.

UTILITIES REQUIRED

- Compressed Air Supply at 2 Bar, 4 CFM.
- Weighing Balance 0.01 gm resolution.
- Solid Spherical Balls of Naphthalene.
- Table for setup support.



TECHNICAL DETAILS

- Diffusion Column : Material Borosilicate Glass
- Air flow Measurement : By Rotameter.
- Instruction Manual : An ENGLISH instruction manual will be provided along with the Apparatus
- The whole set-up is mounted on a powder coated base plate.