

Order Code : 20213501.1.18
Name : Solid-liquid extraction apparatus

Solid-Liquid Extraction Apparatus



Description

This setup is designed to study the performance characteristics of solvent extraction of a particular component from a packed bed of solid material. The apparatus allows study of such systems as water/inorganic salts, water/sugar bed, methylene chloride/vegetable oil etc. The glass column is fitted with SS mesh to support the solid material. The solvent is introduced near the bottom of the column and it flows upward counter-currently to the solids. A pump supplies the solvent and flow rate is monitored by means of a Rotameter. Solvent feed tank is kept in a bath fitted with heater and digital temperature controller is used to maintain the constant temperature.

Technical Details

- Extraction Column : Material Borosilicate Glass.
Dia 80 mm, Height 500 mm (approx.)
- Solvent Flow Measurement : By Rotameter.
- Solvent Tank : Made of Stainless Steel, Capacity 30 Ltrs. Double walled.
- Solvent circulation : By Magnetic Pump, made of Polypropylene for solvent. Maximum working temperature 60°C.
- Heater : Nichrome wire heater.
- Receiving Tank : Material Stainless Steel, Compatible capacity with sieve
- Temperature Sensor : RTD PT-100 Type.
- Control panel comprising of :
Digital Temp. Controller : PID Controller, 0-199.9°C (For Feed Tank)
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.

Experimentation/Learning Objectives

- To study the effect of various system parameters like, solvent temperature, solvent rate and particle size on the %age recovery of oil from solid.

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.
- Water supply & drain
- Floor area required: 2.0 m x 1.0 m
- Solvent : 30 ltrs.
- Solid : 10 kg.

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

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