



Features:

- Designed to demonstrate the filtration process.
- Non corrosive acrylic filter column used in the trainer.

Tesca Deep Bed Filter Column is designed to study the characteristics of a filter column. It consists of an acrylic unit with flanged end pieces to allow easy access. It consists of a column filled with Ballotini packing to ensure the good water distribution. Slotted pressure tapings are mounted on the column for measuring the pressure drop across the bed per unit length and staggered over an approximate 0.8 m depth. These tapings are connected to a differential manometer. These tapings can also be used for drawing the samples from the column and change in The concentration of the suspension can be determined. The unit is complete with 2 Nos. of feed tanks. A centrifugal pump is provided to circulate the water through the column under 1 Atmospheric pressure. Water supplied to the column is regulated and controlled by Rotameter. The 10 kg bag of filter medium will be supplied with the set-up. Detailed Operation & Maintenance Manual is provided along with the trainer.

Specifications:

- The unit comprises the following main items:
- Absorption Column
- Filter column: Clear acrylic, 100mm internal diameter x 1350mm long
- Typical media depth: 700mm
- Gauze mesh size: 0.35mm
- Sump tanks: 2 - capacity 250 to 350 litres each
- Flow meter range: 0.5 - 5.0 litres/min
- Manometers: 21 tube to 41 tube multi-bank
- Pump rating: 0.37Kw

Essential Equipment:

- Filter Media: Approx 10kg of a test medium is required to pack the column.

Note: Specifications are subject to change.

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- Suitable alternatives include well-rounded quartz-grain sand BS16-30 mesh (1.0-0.5mm), anthracite, crushed flint, or aluminum oxide.

Recommended Accessories:

- 40 sample collectors (test tubes or bottles)
- Turbidimeter or Spectrophotometer
- Flexible tubing for drain connection etc. 1-meter rule
- Air foot-pump and pressure tubing (2.5m)

Experiments:

1. Measuring how fast total head loss increases with filtration run
2. Measuring pressure drop profiles through the filter bed
3. Measuring suspension concentration profiles through the filter bed
4. Demonstration of reversed flow fluidization and backwashing
5. The column may be readily adapted for absorption and ion Exchange studies.

Services Required:

- Mains power supply: 220-240V, 1Ph, 50Hz
- Water: Tap water supply & Drain.

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