

BP 310 DEEP BED FILTER COLUMN



GENERAL DESCRIPTION

The deep bed filter is a demonstration unit for treatment of water with suspended particles by sand filtration.

The unit consists of a filtration column fitted with vertical row of pressure tapping points on one side and similar sampling points on the other side. Both ends of the column are closed with flanges for liquid inlet and outlet. A pump delivers raw water from the raw water tank to the top of the column. Suspended particles are trapped in the sand filter as water flow down through the column to the bottom via filter. The treated water is collected from the bottom in a treated water tank. Hoses connect pressure from the tappings along the side of the column to a manometer bank. Samples of raw water is collected from the sampling points on the side of the column. A manometer bank is provided for measurement of pressure along the column.

Overtime more particles are deposited in the filter which increases the pressure drop across the filter and flow rate decreases. Backwashing is required using treated or clean water and pressure drop is reduced again. Required pipings are provided. The filter unit is on a steel frame.

Instruction manual is also included.

EXPERIMENT CAPABILITIES

- Understanding the principles of depth filtration by sand filter.
- Measurement of filter differential pressure vs flow rate.
- Observation of pressure drop with time.
- Measurement of suspended particles at different height.
- Demonstration of back washing.

TECHNICAL DATA

- Column : 110 mm OD and 100 mm ID acrylic tube x 140 mm long.
- Pressure taps : 30 ea.
- Sampling taps : 30 ea.
- Pumps : 0.37 kW
- Sump tanks : 2 ea.
- Rotameter : 1 ea.
- Software for data display and analysis by computer (separately supplied)
- Power supply : 220 V, 1 Ph, 50Hz. Other power supply is available on request.

OPTIONAL EQUIPMENT

- Washed sand 160 kg

Net (unpacked) Shipping Dimensions WxLxH : 160 x 270 x 80 cm
Net Weight : Approx 235 kg