



**Product Code . JL-TWL-9157**

## Hydrodynamics of Trickle Bed Reactor Apparatus

### Description

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#### Hydrodynamics of Trickle Bed Reactor Apparatus

##### **Description:-**

Air from a regulated pressure vessel passes through a sparker and allowed to enter in the column at the top.

The liquid is feed from a tank, fitted with a pump and is distributed at the top of a column using a spray nozzle.

The arrangement is made for changing the glass column conveniently and filling it with any type of packing required.

Solenoid valves are provided in the feed line at the top of the column for instant release and close.

The set-up consists of a glass column.

The flow rate can be adjusted by operating the valves provided in the respective line.

The set-up is fully accompanied by manometers required.

##### **Objectives:-**

To determine Hydrodynamics of a Trickle Bed Reactor involving the measurement of pressure drop,

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hold-up, and flow regime.

### **Required for Operation:-**

Water supply and drain Electricity -0.5kw, Single.

Compressed air at 4 Bar.

### **Specification:-**

Liquid feed tank: material stainless steel capacity 60 ltrs

Feed Circulation: Centrifugal make. Pump capacity ¼ HP Crompton/Sharp Make

Pressure Regulator (2 Nos.): 1. Operating range 0-2 kg/cm<sup>2</sup> and 0-10 Kg/cm<sup>2</sup>

Air tank: compatible capacity

Pressure Gauge: Bourdon Type.

Mixing Chamber: Material Stainless Steel of Compatible Capacity for Air & Water.

Packed Bed: Material Borosilicate Glass Dia. 80mm, Height 600mm

Packing's: Glass Beads Dia. 3mm/Rasching Rings, size 8-10mm

Flow measurement: Rotameter one each for water and air.

Piping: Material Stainless Steel and PVC. ½" Line size.

Control Valves: Material Gun Metal/Brass

The whole set-up is ingeniously designed and schematically arranged on a powder-coated rigid structure.

Liquid Catch Pot: Material Stainless Steel of Compatible Capacity.

Solenoid Valve: 2 Nos. (One each at Liquid and air inlet).

Manometers: Compatible capacity.

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