

### Features

- Designed to study of flow through fixed and fluidized beds of solid particles..
- Separate columns for Air & Water.
- Comprehensive Instrumentation Panel with all necessary measuring instruments & Safety Devices.

Tesca Fixed & fluidized Bed Apparatus 32061 is designed for the study of water and air flow through fixed and fluidized beds of solid particles and the observation of the difference between aggregative and particulate fluidization. The apparatus consists of two transparent test tanks for air and water. Two manometers are provided for measurement of bed pressure drop in the tanks. Water is circulated from a storage tank through a control valve and variable area flow meter to the appropriate test tank by a diaphragm pump. An overflow returns the water to the sump tank. Air supply to the second column is by diaphragm compressor through a control valve and variable area flow meter. Air is discharged to atmosphere. Detailed Operation & Maintenance Manual is provided along with the trainer.



### Specifications

- Special Anodised Aluminum section frame with bonded aluminum board structure
- 2 measuring pipes of transparent Plexiglas with support and filter of sintered steel, height = 550mm, inside diameter @ 44 mm, range: 0 to 500 mm
- 2 beds of material with different granulometry water tank of AISI 304 stainless steel, capacity of 6 liters
- Variable area flow-meter with control micro-valve, range 10 to 130 l/h
- Variable area flow-meter with control micro-valve, range 300 to 1500 ml/h Pump for AISI 316 stainless steel, Q max=1400 l/h, H max=2bar double-diaphragm compressor, Q max =37l/min, P max = 2 bar, with air storing reservoirs
- Double-pipe pressure gauge, range 0 to 500 mm H<sub>2</sub>O
- U-tube pressure gauge for air, range of 0 to 300 mm H<sub>2</sub>O
- Safety valve adjusted at 0.5 bar

### Experiment Capabilities

- Pressure drop in fixed or fluidized bed with water or air
- Ergun equation, Carman-Kozeny and Burke-plummer equations
- Particulate and aggregative fluidization Bed porosity
- Experimental data collection of real bed fluidization (filtration beds, catalyst beds etc.)

### Services Required

- Electric Supply 220 - 240V AC, 16 A, Single Phase, Earthed.
- Water, Tap water supply & Drainage.

Note: Specifications are subject to change.

### **Tesca Technologies Pvt. Ltd.**

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