



**INTEGRATED CIRCUITS**  
**ELECTROINC INDUSTRIES**

# Fluidization Column (Liquid + Gas)

## ICF-FLD-ADT-001

**2025**

### 1. Overview

The ICF-FLDADT-001 is a teaching device that shows how fluids (liquids or gases) can make solid particles behave like a boiling liquid. It has a clear column filled with small particles, and water or air flows upward through it. Students can see how the particles move and measure the pressure changes as the flow increases.

### 2. Specification

- Manometer: Model: Sandway SW-S12A.
- Rotameters:
  - Water Range: 16 to 160 L/h.
  - Air Range: 2 to 20 L/min.
- Water Tank: Capacity: 10 liters.
- Air Compressor: Volume: 8 liters.
- Fluidization Columns:
  - Number of columns: 4.
  - Height: 38 cm each.
  - Inner Diameter: 4.5 cm.
- Valves: 4 manual control valves for adjusting water and air flow rates independently for each column.



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### 3. Experiments to be done

1. To observe the fluidization of watch sand particles using air.
2. To compare the fluidization behavior of the two watch sand particle sizes in air.
3. To observe the fluidization of watch sand particles using water.
4. To compare the fluidization behavior in water
5. To compare the behavior of watch sand particles in air vs. water for the same particle size.