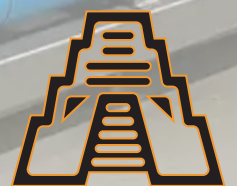


# Silt Density Index (SDI) Test Kit



**Ur SYSTEM**

Part Of Smart Lab Co.

# Silt Density Index (SDI) Test Kit

## Overview

The SDI (Silt Density Index) Test Kit is designed to measure the fouling potential of water, particularly for reverse osmosis (RO) and other membrane filtration systems. The test evaluates the rate at which particulate matter (suspended solids and colloids) clogs a 0.45 µm filter under constant pressure. A higher SDI value indicates higher fouling potential.

This portable test kit comes complete with all the necessary parts for accurate, reliable, and repeatable testing both in the field and in the laboratory.



## Procedure:

1. Setup: Connect the inlet tubing of the SDI kit to the water source.
2. Pressure Adjustment: Adjust the pressure regulator until the pressure gauge reads 30 psi (2.1 bar).
3. Initial Filtration: Flush the system for a few minutes to stabilize pressure and flow.
4. Start Test: Insert a new 0.45 µm, 47 mm filter membrane disc into the filter holder and secure it.

### 5. Time Measurement:

- Collect permeate volume in a graduated cylinder.
- Record the time (T<sub>0</sub>) taken to collect 100 mL initially.
- Repeat after 5, 10, and 15 minutes.

### 6. Calculation:

- Apply the SDI formula:  $SDI = (1 - (t_0/t)) \times (100/T)$

### Where:

- t<sub>0</sub> = initial time to collect 100 mL
- t = time at specified interval (e.g., 15 minutes)
- T = total elapsed time (in minutes)
- An SDI value of >5 is considered problematic for RO membranes.



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## Key Features

- Portable and lightweight for field applications
- Accurate and consistent pressure regulation
- Stainless steel filter holder for durability
- Easy-to-replace filter membranes
- Complete kit with all necessary accessories

## Applications

- Reverse Osmosis (RO) Pretreatment Monitoring.
- Microfiltration (MF) and Ultrafiltration (UF) Fouling Potential.
- Industrial and Municipal Water Testing.
- Desalination Plant Feedwater Analysis.

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## Parts Included in the Box:

- **UR-SDI101** – Filter Holder Assembly (47 mm, stainless steel)
- **UR-SDI102** – Pressure Gauge (0–150 psi)
- **UR-SDI103** – Pressure Regulator with Needle Valve
- **UR-SDI104** – Inlet Tubing (1/4" reinforced)
- **UR-SDI105** – Stop Valve
- **UR-SDI106** – Graduated Cylinder (100 mL, polycarbonate)
- **UR-SDI107** – Set of 0.45 µm Filter Membranes (Pack of 100)
- **UR-SDI108** – Portable Carrying Case.



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## Ur Systems General Trading Company

This company focuses on providing equipment, chemicals, and tools necessary for laboratory analyses related to water and oil quality. It plays a vital role in supporting key industries such as oil and gas, water treatment, and petrochemicals.

Our vision is to fill the gap between the end-user needs and the manufacturers in order to have the maximum return of any investment or project. Minimizing delay in orders is one of the main company's priorities.



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