

# AUTO SDI KIT



**SDI – Silt Density Index, is a measure of presence of suspended solids (SS) in feed water. Measure and control of SDI is important in membrane based water treatment systems, since excess SS could clog the membrane surface. SDI 15 values range from 0 to 6.77, with 6.77 as maximum. All RO/ Nano membrane manufacturer- ers specify a limit of  $SDI_{15} < 5$  for smooth operation of the membranes. Our Auto SDI kit is used to measure the SDI value of any given water stream inside a pipe with the least possible human effort.**



## FEATURES

- Superior Portability
- Increased ease of measurement
- Reduced time/measurement
- Accurate SDI results everytime
- Increased safety for membranes
- User friendly, custom built embedded SDI software
- Dependable built-in Data Acquisition System(DAQ)

## Principle of Conventional SDI measurement:

1. Feed water is allowed to pass through a membrane of 0.45 microns pore size with 47 mm diameter held inside a membrane holder at a regulated pressure of 2 kg/cm<sup>2</sup>.
2. Initial Time, T<sub>i</sub> required to fill a known volume (500ml) is measured.
3. Feed water is allowed to permeate through the membrane for an interval of T<sub>int</sub> = 15 minutes – time measured with stop watch.
4. Final Time, T<sub>f</sub> required to fill the same preselect volume of 500ml is measured with stop watch.
5. Silt Density Index is manually calculated using the formula

$$SDI_{15} = \frac{(1 - T_i / T_f) \times 100}{T_{int}}$$

6. Depending on the feed quality, the volume of measurement of 500ml can be varied between 500 ml to 1 l.
7. Depending on the feed quality, the time interval T<sub>int</sub> of 15 min can be varied to 5/ 10/ 15 minutes.

As you can see, the above process is time consuming and requires a skilled operator and constant attention.

The Auto SDI kit does all the above work for you automatically. This ensures a correct SDI reading every time.

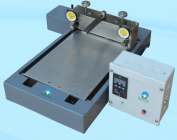
In our Auto SDI kit, steps 2 to 7 are made available on a touch screen, with provisions for selecting various options for time intervals and volumes of selection, with START/STOP button, to initiate the process of measurement with preselected values and the final SDI index is displayed on the screen.

Further, provision is available to record the values taken at various points of time on a standard laptop/ desktop through a specially developed software .

SPECIFICATIONS		
Si.No	SPECIFICATION	DETAILS
1	ASTM	D - 4189 - 07
2	SDI <sub>15</sub> range	0 - 6
3	SS membrane	47mm dia
4	Holder	0.45 micron
5	Pressure gauge	0 - 4 bar
6	SDI controller	16x12x8.5 cm
7	Dimensions	19x10x10.5 inch
8	Weight	4 kg

## YOUR ASSOCIATES IN MEMBRANE RESEARCH

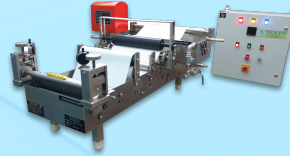
### MEMBRANE MAKING EQUIPMENT



**FLATSHEET MEMBRANE  
CASTING MACHINE**



**FLATSHEET MEMBRANE  
CASTING MACHINE WITH  
HEATING FACILITY**



**FLATSHEET MEMBRANE  
ROLL CASTING MACHINE**



**HOLLOW FIBER  
MEMBRANE CASTING  
MACHINE**

### MEMBRANE TESTING EQUIPMENT

#### MEMBRANE TEST SKIDS



**MD TEST SKID**



**MBR TEST SKID**



**RO TEST SKID**



**PERVAPORATION  
TEST SKID**



**FO TEST SKID**



**UF TEST SKID**

#### MEMBRANE STIRRED CELLS



**HIGH PRESSURE  
STIRRED CELL**



**LOW PRESSURE  
STIRRED CELL**

#### MEMBRANE TEST CELLS



**HOLLOW FIBER  
TEST CELL**



**FO TEST CELL**



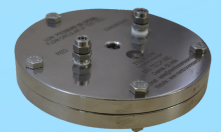
**MD TEST CELL**



**PERVAPORATION  
TEST CELL**

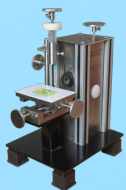


**RO TEST CELL**

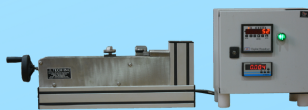


**CIRCULAR TEST  
CELL**

### MEMBRANE CHARACTERIZATION EQUIPMENT



**CONTACT ANGLE  
MEASUREMENT**



**MEMBRANE STRENGTH  
TESTER**



**CAPILLARY FLOW  
POROMETER**

### MEMBRANE MATERIALS

#### CHEMICALS

- PES
- PVDF
- PS
- CA/CTA
- PAN

#### SOLVENTS

- NMP
- DMAC

#### ADDITIVES

- PVG
- PEG
- GRAPHENE OXIDE
- CNT
- TiO<sub>2</sub>
- LiCl



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