

# POTENCE CONTROLS

*Your Partners for Analysis...*

## AUTOMATIC SILT DENSITY INDEX (SDI) MONITOR



## SILT DENSITY INDEX (SDI) – INTRODUCTION

Monitoring the fouling tendency of RO feed water has long been a challenge. Usually fouling is not noticed until the RO membranes need cleaning, resulting in expensive downtime or worse yet membrane replacement.

Numerous methods have been used to measure the fouling tendency of feed waters, including turbidity, particle counting, and manual silt density index (SDI) testing. It is difficult to correlate turbidity and particle counting to membrane fouling since they do not directly measure the fouling or “plugging” nature of the particles in suspension. Since the manual SDI test measures this **PLUGGING TENDENCY**, it has proven useful in indicating fouling tendencies.

## APPLICATIONS

- Large Desalination Projects
- Filtered Water
- RO feed Water
- Well water
- Clarified Effluent Samples
- Sea Water

## PROBLEMS WITH MANUAL SDI MEASUREMENTS

The manual SDI testing method is tedious and time-consuming. It involves setting and maintaining a variety of parameters such as Pressure, Flow, Level, Time, Temp. Difference etc. in strict accordance with standards set by the ASTM.

Hence the validity of the test greatly depends on the most unpredictable factor of them all: Human Skill.

## AUTOMATIC SDI OPERATION

The POTENCE CONTROLS Automatic SDI Monitor uses the same testing method as specified in ASTM D 4189-07. This standard method indicates the quantity of particulate matter in water and is applicable to relatively low (<1.0 NTU) turbidity waters. As specified in the ASTM method, the SDI monitor calculates SDI at five-, ten-, and fifteen-minute intervals.

It is microprocessor controlled and fully automatic. The monitor is housed in a NEMA 4X enclosure and is designed for permanent installation in industrial environments. The filter holder allows the use of standard 25mm test filters. Replacing the media is a two-minute process and the test is initiated with the press of a button. A blinking indicator notifies the operator of the completion of the test.

The SDI results may then be read from the LCD display. The display is equipped with an LED backlight making it easy to see the results in any environment. The test pressure is controlled with a high-quality internal pressure regulator which can accommodate inlet pressures above 1000 psi. This allows the sample to be taken from the high pressure side of the RO feed pump. The test pressure is constantly displayed on the LCD and the PC SDI alarms and aborts the test if the pressure falls outside of ASTM specifications.

## AUTOMATIC SILT DENSITY INDEX (SDI) MONITOR



The POTENCE CONTROLS SDI automatically and consistently monitors the Silt Density Index of RO feed water. Operators can quickly and regularly check the effectiveness of the RO pretreatment system without bothering with labor-intensive procedures.

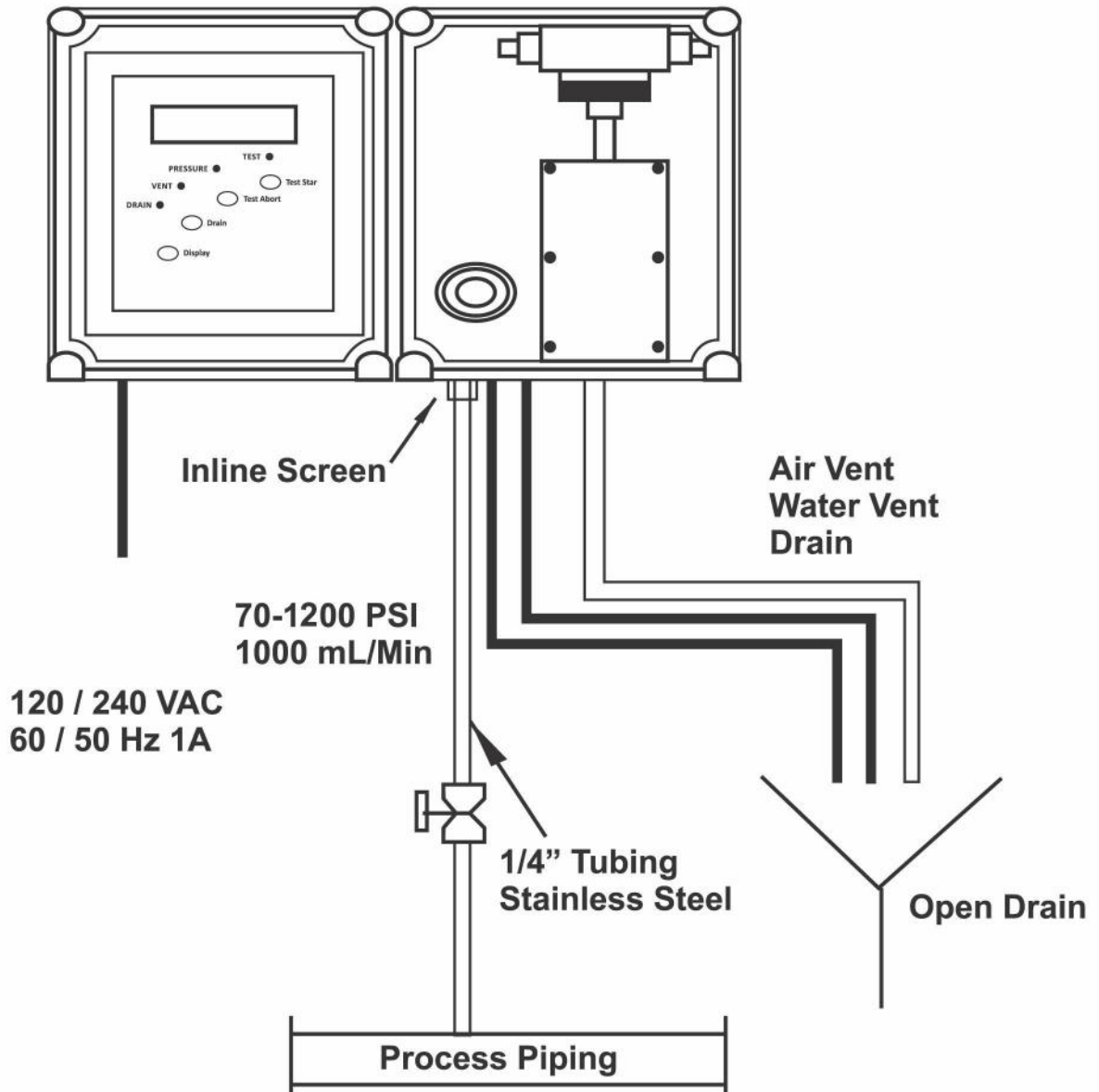
## UNIQUE FEATURES

- Complies with ASTM D4189-07 Standard
- Microprocessor Controlled and Automatic
- Online installation
- Data Logging with recording of up to 64 Tests
- Standard 25 mm test filters
- 4 – 20 mA outputs

## TECHNICAL SPECIFICATIONS

<b>No. of Channels</b>	: 1 or 4
<b>Sample Pressure</b>	: 70 to 1200 psi
<b>Display</b>	: LCD With LED Backlight
<b>Enclosure</b>	: NEMA 4X
<b>Power Supply</b>	: 120-240 VAC, 50-60 Hz, 0.8 Amps
<b>Output</b>	: 4 isolated 4-20mA outputs.
<b>Test Trigger</b>	: Local, Timer Based, Remote (from Control Room )
<b>Alarm Contact</b>	: 2 SPST Relays
<b>Contact Rating</b>	: Rated at 2 Amps, 250 VAC /30 VDC.
<b>Analyzer Mounting</b>	: Flat Wall or Panel Surface
<b>Sample Connections</b>	: 1/4" Nylon or SS Tubing / drain open
<b>Communication Port</b>	: RS 232 for Data Download
<b>Dimensions</b>	: PC SDI-1-C-A: 15" wide x 11" high x 9" deep
<b>PC SDI-4-A</b>	: 22.5" wide x 11" high x 9" deep

**GENERAL ARRANGEMENT**



**ORDERING INFORMATION**

Single Test Version	: PC-SDI-1-C-A
Four Test Version	: PC-SDI-4-A
Sample Pressure Booster Assembly (115 VAC)	: PC-BP115T
Sample Pressure Booster Assembly (230 VAC)	: PC-BP230T
Sample Sequencer for PCSDI-4	: PC-SDI-SS
Two-Year Spare Parts for PCSDI-1-C	: PC-1C-2YSPK
Two-Year Spare Parts for PCSDI-4	: PC-4-2YSPK
Standard 25mm test filters (PK/100)	: PC-496

## REFERENCE LIST

### Consultants Who Have Approved The Automatic SDI In Their Projects



### Projects Executed With OEMS / EPC



### End Users



