SPECIFICATION SHEET

TOA DKK

SDI ANALYZER

SDI-12(For Pure water)
SDI-22(For Seawater)

This equipment carries out measurements on fine suspended solids in water and monitors the performance of water treatment equipment, such as filters and reverse osmosis systems.

It uses a unique method where sample water is filtered for a constant time to collect suspended solids, and a high-accuracy flowmeter is used to measure how clogged the filter is at the start and end of water passage.

Features

○SDI-method based automatic analyzer
○This uses a unique method where a high-accuracy flowmeter is used instead of a measuring cup to measure how clogged the filter is.
○The filter uses a round filter paper that is as hard to break as that for manual analysis.
○The filter paper cartridges can hold 80 pieces of paper, facilitating the feed of filter paper.

Standard Specifications

Product name	: SDI ANALYZER
Model	: SDI-12(For Pure water), SDI-22(For Seawater)
Applications	: Measurements on suspended solids in pure water, seawater, etc.
Measurement Method	: The flow rate of water passing through filter paper is measured at the start and end of a constant period (5 min, 15 min) to carry out calculations.
Measurement range	: 0 to 6.66 SDI (15 min) or 0 to 20.0 SDI (5 min), determined by setting the time during which water passes through filter paper (5 min, 15 min)
Measurement cycle	: Specifiable from 0 (continuous operation) to 24 h (0.5 h basis)
Measurement point	: 1 point, 2 to 4 points (optional)
Repeatability	: Within ±2% FS
Installation location	: Indoors or in a cubicle; with low vibration or impact, allowing for maintenance space; direct light must be avoided. Also, there must be no noise source (e.g., motor) nearby. In a corrosive atmosphere, ventilation fans, etc., must be installed in the building to ensure sufficient ventilation.
Ambient temperature / humidity	: 2 to 40°C, 85% RH or less
Construction	: Indoor, floor-installation type
Sample water specifications	: Pressure; 0.4 to 0.7 MPa (A booster pump is required at 0.4 MPa or less.) Temperature; 0 to 40°C (Freezing must be avoided.) Flow; 2 L/min (max.)
Cleaning water (tap water)	: For use with seawater Temperature; 2 to 40°C (Freezing must be avoided.) Pressure; 0.4 to 0.7 MPa (A booster pump is required at 0.4 MPa or less.) Flow; Approx. 2 L/min (max.)
Drainage	: Sample water and cleaning water are drained. As the drainage is a gravity system, the drain outlet must be open to the air.
Input signal	: Measurement channel input signal; (NO-voltage contact photocoupler isolation, 24VDC,5mA)
Output signal	: SDI value transmission output ; Isolated type, 4 to 20 mA DC (Load resistance; 500Ω or less) Multi-purpose alert signal; Form A contact (max 250VAC,2A / 30VDC,2A) Air pressure failure alert, filter paper movement failure alert, filter paper pressing failure alert, filter paper feed signal, flowmeter failure alert, pump failure alert, drainage failure alert, individual measurement channel alert

SDI value	: SDI setting value exceed signal; Form A contact (max 250VAC,2A / 30VDC,2A) During measurement signal; Form A contact (max 250VAC,2A / 30VDC,2A)
Power	: 100/110/120/200/220 VAC ± 10%, 50/60 Hz
Power consumption	: Approx.300VA
Piping end connection	: Sample water inlet Rc 1/2 Clearing water inlet Rc 1/2 Drain outlet Rc 1 Air inlet Rc 1/4
Air supply	: Pressure; 0.4 to 0.7 MPa Flow; 0.5 L/min Property; Instrument air
External dimensions	: 500 (W)x 450 (D)x 1500 (H)mm
Mass	: Approx.110kg
Surface painting finish	: Main unit; Munsell 5PB8/1 equivalent Display surrounding; Black metallic

Measurement Principle

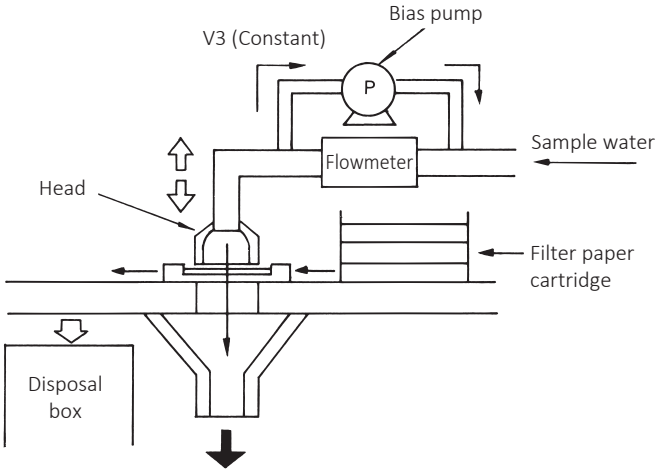
Perform the following mechanisms to automatically measure SDI values.

(1) Move the head down and perform blow operation using sample water.
(2) Move one filter paper cartridge from the cartridge holder (feeder) to the filter mounting. Then, move the head down and set the filter paper in place.
(3) Let sample water pass through the filter paper from the upper side, to start filtration.
(4) At this time, measure the flow rate (V1) by using the flowmeter and record the result.
(5) Immediately after 5 min (or 15 min) of filtration, measure the flow rate (V2) in the same way and record the result again. Drain the filtered sample water continuously.
(6) Move the head up, and then put the filter paper cartridge into the disposal box.
(7) Calculate the SDI value from the measured flow rates by using the formula below, and then display and print out the results.

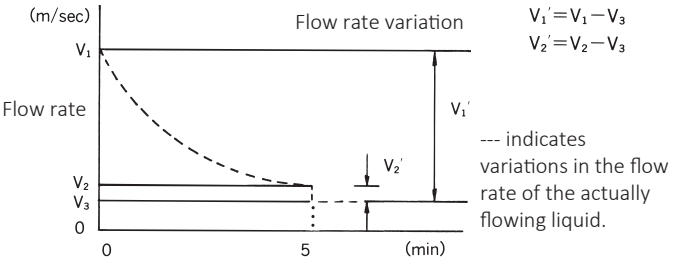
$$SDI\,(=FI) = K_1 \frac{\left(1 - \frac{V_2'}{V_1'}\right) \times 100}{T} + K_2$$

K1, K2: Compensation coefficients
T: Measurement time (5 or 15 min)
V1: Flow rate at the start of measurement
V2: Flow rate at the end of measurement
V3: Bias flow rate produced by the bias pump (constant)

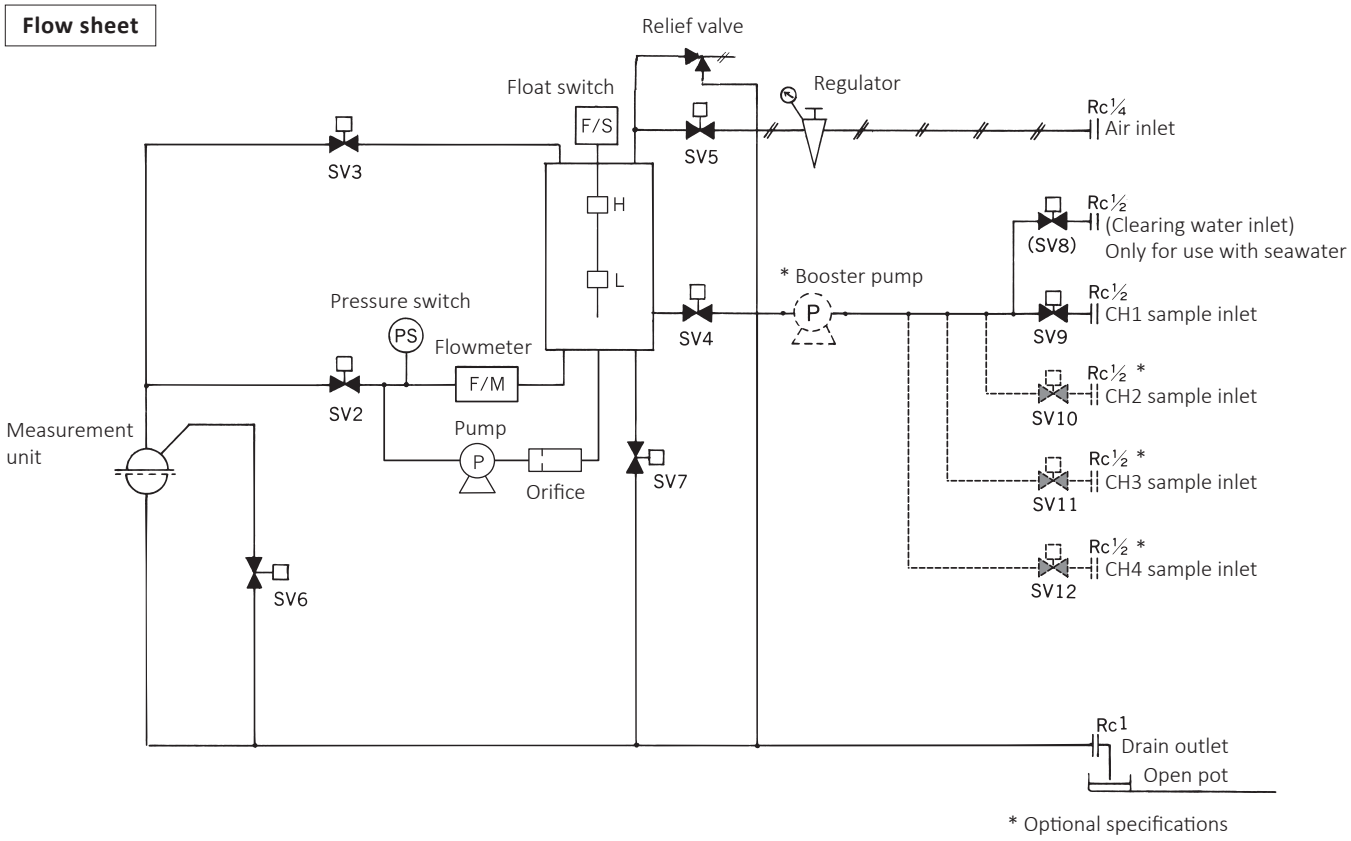
● Operation of the measurement unit



● Measurement time

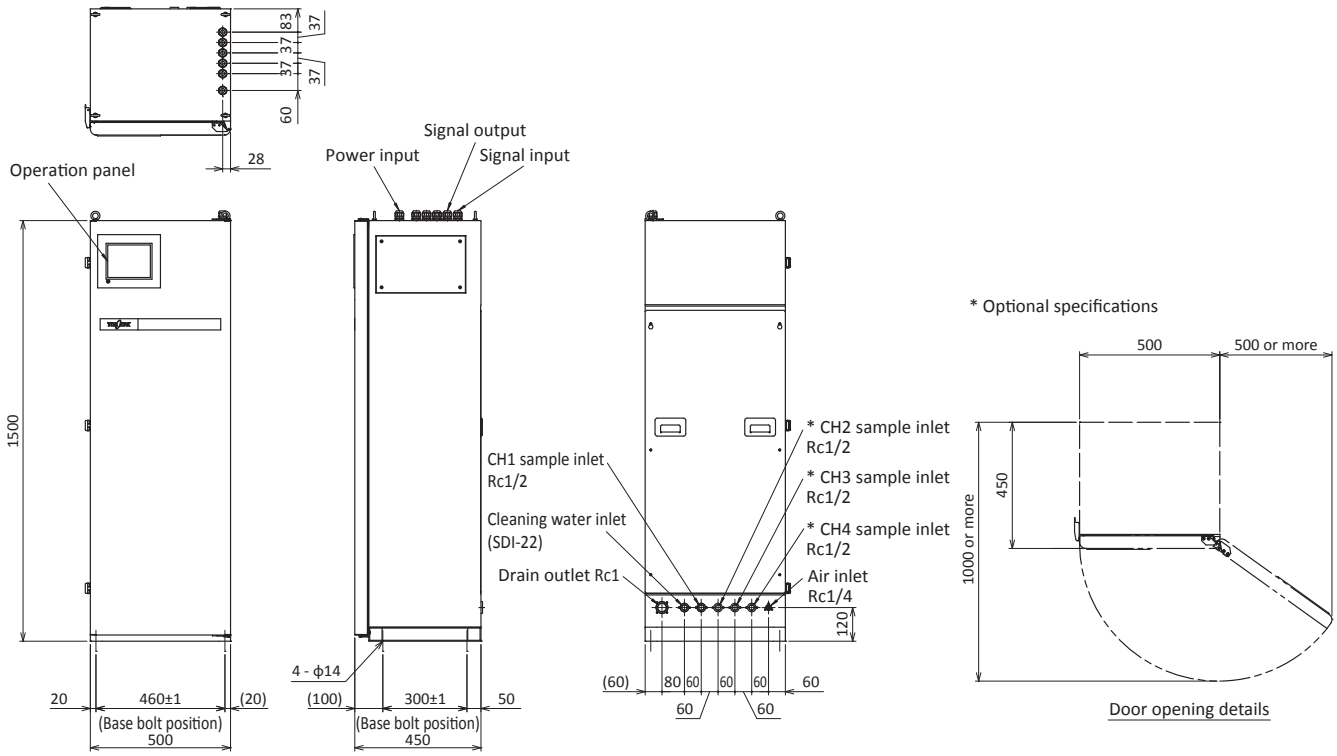


Flow sheet

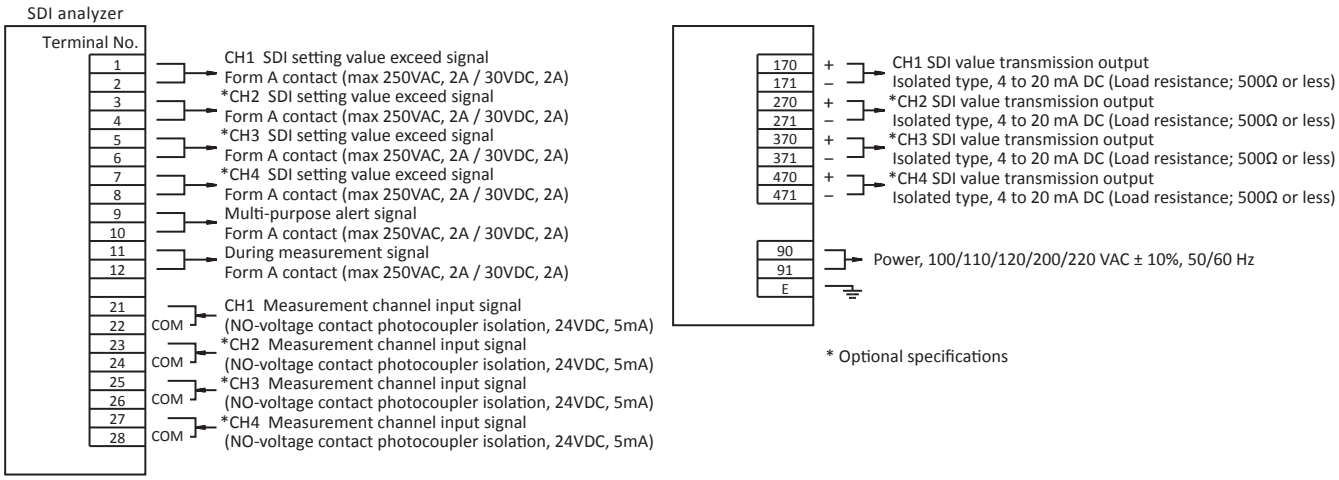


Dimensions

Unit : mm



External connection terminals



* Optional specifications

Product code

SDI12-3-□□□□□□ For Pure Water
SDI22-3-□□□□□□ For Seawater

- Power supply
  - 1 ····· 100V AC 50/60Hz
  - 2 ····· 110V AC 50/60Hz
  - 3 ····· 120V AC 50/60Hz
  - 4 ····· 200V AC 50/60Hz
  - 5 ····· 220V AC 50/60Hz
  - 9 ····· Other
- Transmission output
  - 1 ····· 4 to 20 mA DC
  - 9 ····· Other
- Measurement flow channel
  - A ····· One point
  - B ····· Two points
  - C ····· Three points
  - D ····· Four points
- Booster pump*
  - 0 ····· Not provided
  - 1 ····· Provided
- Printer
  - 0 ····· Not provided
  - 1 ····· Provided
- Marking
  - 0 ····· Japanese (standard)
  - 1 ····· English
  - 9 ····· Other

* A booster pump is required if the sample water pressure is 0.4 MPa or less. It is also required if there are several measurement points and if the pressure at any of them is 0.4 MPa or less.

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⚠ CAUTION Please read the operation manual carefully before using producuts.

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