

SPECIFICATION SHEET



SDI ANALYZER

SDI-12 (For pure water)
SDI-22 (For seawater)



*CE and cCSAus are only for SDI-12.

This device measures fine suspended matter in water and monitors the performance of water treatment equipment such as filters and reverse osmosis devices.

This is a unique method in which sample water is passed through a filter surface for a fixed period of time to collect suspended matter, and the clogging state of the filter at the start and end of water flow is measured using a high-precision flowmeter.

Features

- SDI-method based automatic analyzer
- An original method that measures the clogging condition of a filter with a high-precision flow meter without using a volumetric cup.
- The filter uses tear-resistant circular filter paper similar to that used in manual analysis.
- The filter paper cassette can be loaded with 80 sheets at a time, allowing for easy filter paper replenishment.
- Overseas standards compliance (CE, cCSAus)
*Products with compliance certification of SDI-12 type have some specifications that differ from standard specifications, and some options are not supported. Please contact us for the details.

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	: Measure the degree of clogging of water passing through filter paper at fixed time intervals (5 min, 15 min).
Measurement range	: 0 to 6.66 SDI (15min) or 0 to 20.0 SDI (5 min), determined by user-defined setting the water flow time through the filter paper (5min, 15min).
Measurement cycle	: User-defined setting from 0 (continuous operation) to 24 hrs. (every 0.5 hrs.) is available.
Measurement point	: 1 point, 2 to 4 points (optional)
Repeatability	: Within $\pm 2\%$ FS
Installation location	: Indoor or cubicle installation are possible. Installation location should be the place which has minimal vibration and shock. The maintenance space should be secured. Avoid direct sunlight



and noise sources (power equipment, etc.).

In the case of a corrosive atmosphere, install ventilation fans or similar equipment 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 rate; 2 L/min (max.)
Cleaning water (tap water)	: For seawater use 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 rate; 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 flow path operation identification input signal; Voltage-free contact (photocoupler isolation)

Output signal : SDI value transmission output;
Isolated type.
DC 4 to 20mA (Load resistance: 500Ω or less)
Common collective alarm; a contact (AC 240V DC 30V or less, 2A or less, load resistance)
Air pressure abnormality alarm, filter paper movement abnormality alarm, filter paper crimping abnormality alarm, filter paper replenishment signal, flow meter abnormality alarm, pump abnormality alarm, drainage abnormality alarm, measurement flow path individual alarm

SDI value : SDI value setting value over; a contact (AC 240V DC 30V or less, 2A or less, load resistance)
Measuring signal; a contact (AC 240V DC 30V or less, 2A or less, resistance load)

Power supply : AC 100V/110V/120V/200V/220V±10%, 50/60Hz
cCSAus, CE products; AC 100V/110V/115V/120V/200V/208V/220V/230V or 240V AC±10%, 50/60Hz

Power consumption : Approx.300VA

Pipe connection : Sample water inlet Rc 1/2
Cleaning water inlet Rc 1/2
Drain outlet Rc 1
Air inlet Rc 1/4

Air supply : Pressure; 0.4 to 0.7 MPa
Flow rate; 0.5 L/min
Property; Instrument air

External dimensions : 500 (W) × 450 (D) × 1500 (H)mm

Mass : Approx. 115 kg

Surface coating : Main unit; Munsell 5PB8/1 equivalent
Display area periphery; Black metallic

Optional feature : Application of international standards (CE, cCSAus)

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 cassette from the cassette 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) After filtration for 5 min (or 15 min), 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 cassette 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.

$$SDI (= FI) = K1 \frac{\left(1 - \frac{V_2'}{V_1'}\right) \times 100}{T} + K2$$

K1, K2: Compensation coefficients

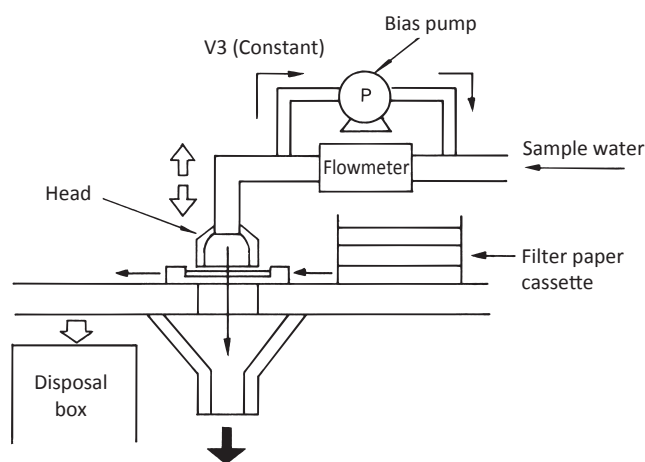
T: Measurement time (5 or 15 min)

V1: Flow rate at the start of measurement

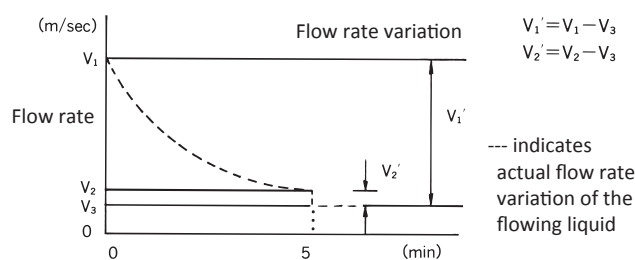
V2: Flow rate at the end of measurement

V3: Bias flow rate produced by the bias pump (constant)

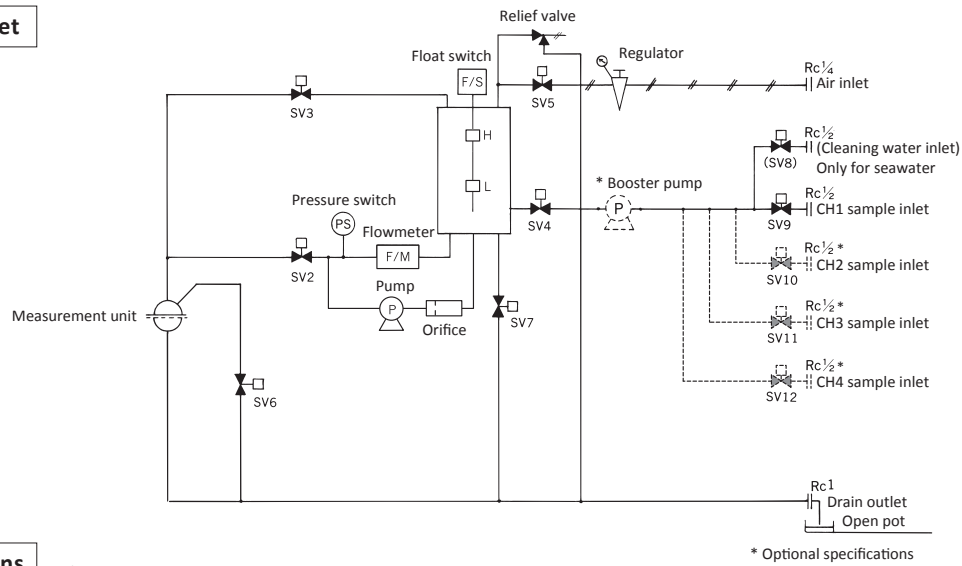
● Operation of the measurement unit



● Measurement time

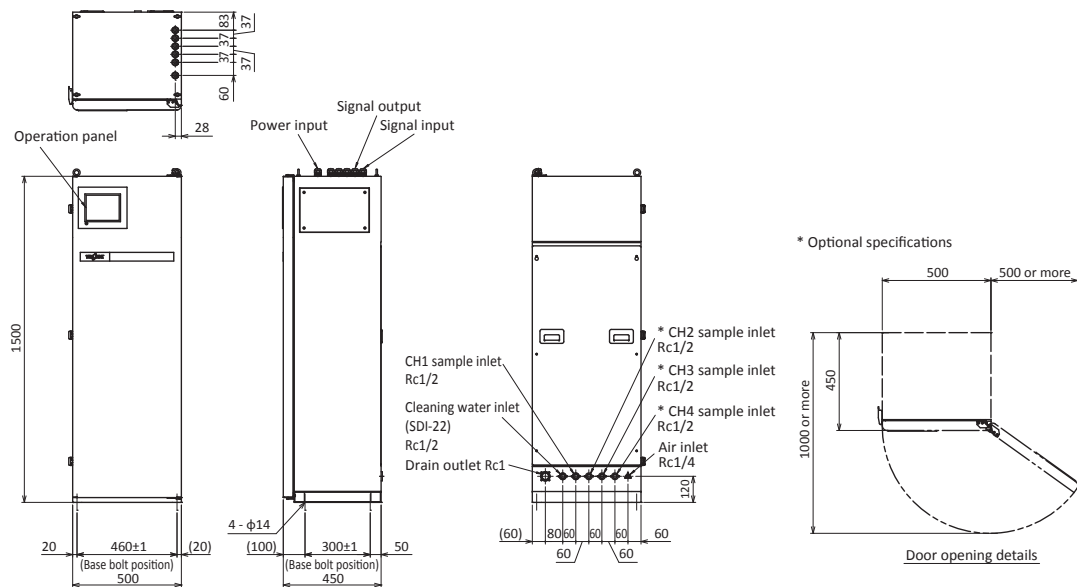


Flow sheet

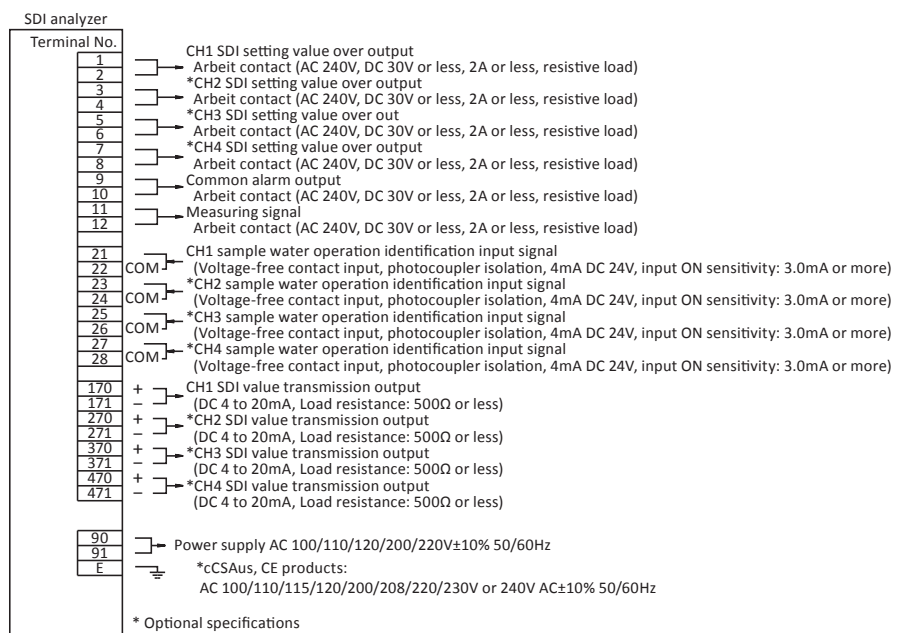


Dimensions

Unit : mm



External connection terminal diagram



Product code

SDI12-4-□□□□□ For pure water

		Power supply
A	.....	AC 100V 50/60Hz
B	.....	AC 110V 50/60Hz
C	.....	AC 120V 50/60Hz
D	.....	AC 200V 50/60Hz
E	.....	AC 220V 50/60Hz
F	.....	AC 100V 50/60Hz (CE/cCSAus certification)
G	.....	AC 110V 50/60Hz (CE/cCSAus certification)
H	.....	AC 115V 50/60Hz (CE/cCSAus certification)
I	.....	AC 120V 50/60Hz (CE/cCSAus certification)
J	.....	AC 200V 50/60Hz (CE/cCSAus certification)
K	.....	AC 208V 50/60Hz (CE/cCSAus certification)
L	.....	AC 220V 50/60Hz (CE/cCSAus certification)
M	.....	AC 230V 50/60Hz (CE/cCSAus certification)
N	.....	AC 240V 50/60Hz (CE/cCSAus certification)
Z	.....	Custom spec.
		Transmission output
1	.....	DC 4 to 20mA
9	.....	Custom spec.
		Measurement flow path
A	.....	1 point
B	.....	2 points
C	.....	3 points
D	.....	4 points
		Booster pump *1
0	.....	None
1	.....	Supplied
		Printer
0	.....	None
1	.....	Supplied *2
		Language (of documents)
0	.....	Japanese (standard)
1	.....	English
9	.....	Other
		Certifications
0	.....	None (standard)
1	.....	CE/cCSAus certification applicable

SDI22-4-□□□□□ For seawater

		Power supply
1	.....	AC 100V 50/60Hz
2	.....	AC 110V 50/60Hz
3	.....	AC 120V 50/60Hz
4	.....	AC 200V 50/60Hz
5	.....	AC 220V 50/60Hz
9	.....	Custom spec.
		Transmission output
1	.....	DC 4 to 20mA
9	.....	Custom spec.
		Measurement flow path
A	.....	1 point
B	.....	2 points
C	.....	3 points
D	.....	4 points
		Booster pump*1
0	.....	None
1	.....	Supplied
		Printer
0	.....	None
1	.....	Supplied
		Language (of documents)
0	.....	Japanese (standard)
1	.....	English
9	.....	Other

- *1. Required when sample water pressure is 0.4 MPa or less.
When there are multiple measurement points, this is required if even one point becomes 0.4 MPa or less.
- *2. Installation not possible for CE/cCSAus certified product.



DKK-TOA CORPORATION



CAUTION

Please read the operation manual carefully before using products.

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