

9245 Sodium Analyzer

Sodium

Features and Benefits

Automatic Electrode Reactivation for Optimum Operation and Response Time

To maintain optimum response time—even in systems of continuous low sodium concentration—the analyzer automatically reactivates the electrode using non-hazardous chemicals.

Easy to Install, Operate, Calibrate, and Maintain

The 9245 Sodium Analyzer installs easily—it requires only power and sample connections. Clear step-by-step instructions are given by the analyzer to simplify operations such as instrument start-up, long-term stand-by, and reagent replenishment.

Low ppb sodium solutions for calibration can be difficult to prepare so the 9245 analyzer is equipped with a fully automated calibration system that uses 10 ppm samples and follows a multiple step calibration cycle to accurately calibrate the analyzer. Normal maintenance consists of replenishment of the calibration solution reagents and electrolyte—typically every 100 days—and annual replacement of the reagent tube.

Adaptable to a Variety of Conditions

The analyzer is fitted with a quick-loop valve, a constant head vessel, and minimum sample flow detection to allow for variations in sample pressure, flow, and distance from the analyzer to the “fresh-sample” point. Grab sample can be obtained for manual calibration, accuracy verification, and measurement of one-off process samples after which, the unit returns automatically to on-line monitoring.

Lower Detection Limit of 0.01 ppb

With a detection limit of 0.01 ppb and a range of 0 to 10,000 ppb, the 9245 Sodium Analyzer is ideally suited for monitoring sodium in demineralized water, boiler feed, condensate, and all parts of the steam/water cycle.

4-20 mA Outputs and Digital Communication Options

Four sets of isolated analog outputs can be configured in 4-20 mA with three outputs assigned to sample concentration or temperature readings and the fourth reporting electrode live signal, including calibration and grab sample. Additional digital communication is available with JBUS/MODBUS or Profibus DP.



The 9245 Sodium Analyzer provides low-level sodium measurement in high purity water applications. Designed for use in the power generation industry, it can also be applied in other industries that require low-level sodium monitoring.

PW

IW

Alarms and Diagnostics

Two programmable alarm relays may be assigned to concentration limits, delay, hysteresis, normal relay status, minimum sample flow rate detection, or operation of the measurement cycle for a channel. Two additional programmable relays may be used for warning messages (reagent level low, small calibration deviation, and system alarms (no reagents, no sample, no calibration, no power supply).

Comprehensive Data Analysis and Display

Comprehensive information is available at a glance from the large display including: 24 hour sample trend curve, bar graph tracker of the current analysis, sample name, and alarms. A built-in data logger allows records measurement values, calibration results, and alarm information.

DW = drinking water WW = wastewater municipal PW = pure water / power
IW = industrial water E = environmental C = collections FB = food and beverage



Be Right™

Specifications*

Measuring Range

0 to 10,000 ppb, freely programmable
0 to 200 ppm with Cation-kit option

Accuracy

±0.1 ppb or ±5% of reading, whichever is greater
Cationic application: ±2 ppb or 5% reading, whichever is greater

Repeatability

< 0.02 ppb or 1.5% reading, whichever is greater, within 10°C variation

Detection Limit

0.01 ppb

Response Time

180 seconds (t = 90%)

Ambient Temperature

5 to 50°C (41 to 122°F)

Calibration

Manual (1 or 2 points)
Automatic with known addition, 2 points

Sample Conditioner

Di-isopropylamine (1 L/100 days)

No. of Sample Streams

1

Insoluble Limits

< 10 ppm, no oil, no grease
(for boiler sample, install approx. 100 µm filter)

Sample Temperature

5 to 45°C (41 to 113°F)

Sample pH

6 to 10 pH
Cationic application: 2 to 10 pH

Sample Pressure/Flow Rate

0.2 to 6 bar (3 to 87 psi)
5 L/h during sampling phase

Sample Line Connection

Simple fittings for 6 mm (1/4-in.) O.D. tubing or PE-low density

Drain Connection

Barbed stem for 12 mm (1/2-in.) I.D. hose

Power Supply

90 to 240 Vac, ±10%, 50/60Hz, 80 VA

Compliance/Certifications

UL, CSA, CE

Digital Display

75 x 75 mm graphic + LED backlighting

Options

Accessories: Cation-kit, automatic calibration, filtration system, wall enclosure
RS485: 300 to 19200 baud, 32 stations max., JBUS/MODBUS
Profibus DP: 9.6 Kbit/s to 12 Mbit/s, 127 stations max. (with repeater)

Materials

Transmitter: IP65 (NEMA 4)
Panel: IP50 (Dust protection); ABS with SS frame
Enclosure: IP54 (Splash water proof), ABS

Dimensions

Panel: 850 x 450 x 252.5 mm (33.46 x 17.71 x 9.94 in.)
Enclosure: 850 x 450 x 331.5 mm (33.5 x 17.74 x 13.05 in.)

Panel Weight

Empty canisters: 18 kg (40 lbs.)
Full canisters: 20 kg (44 lbs.)

Enclosure Weight

Empty canisters: 23 kg (51 lbs.)
Full canisters: 25 kg (55 lbs.)

*Specifications subject to change without notice.

Principle of Operation

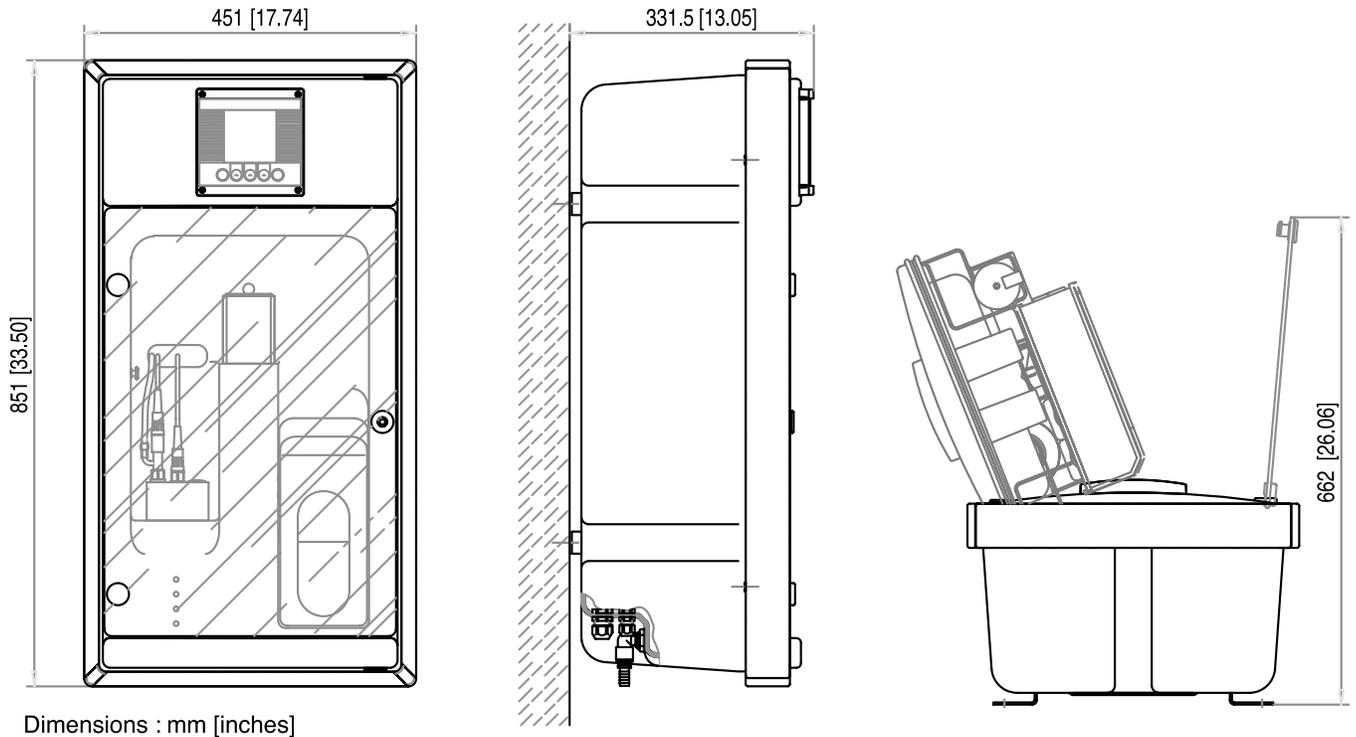
The 9245 Sodium Analyzer uses ion selective electrode measurement after pH conditioning. Sample pH conditioning is essential for limiting interference of temperature or other ions on sodium measurement. Constant, temperature compensated buffering is assured using regulated reagent addition.

Engineering Specifications

1. The sensor shall continuously measure the concentration of sodium (Na^+) in water.
2. The measurement technology shall be ion selective electrode measurement.
3. The sample shall be continuously conditioned for pH and buffered to compensate for temperature.
4. The measuring range shall be from 0 to 10,000 ppb Na^+ .
5. The minimum detection limit shall be 0.01 ppb Na^+ .
6. The accuracy shall be less than 5% or ± 0.1 ppb of the measured value, whichever is greater.
7. The response time shall be approximately 180 seconds.
8. The flow rate of sample shall be 5 L/hour.
9. The transmitter enclosure shall be rated at NEMA4x/IP66.
10. The analyzer shall be model Hach Ultra 9245 Sodium Analyzer.

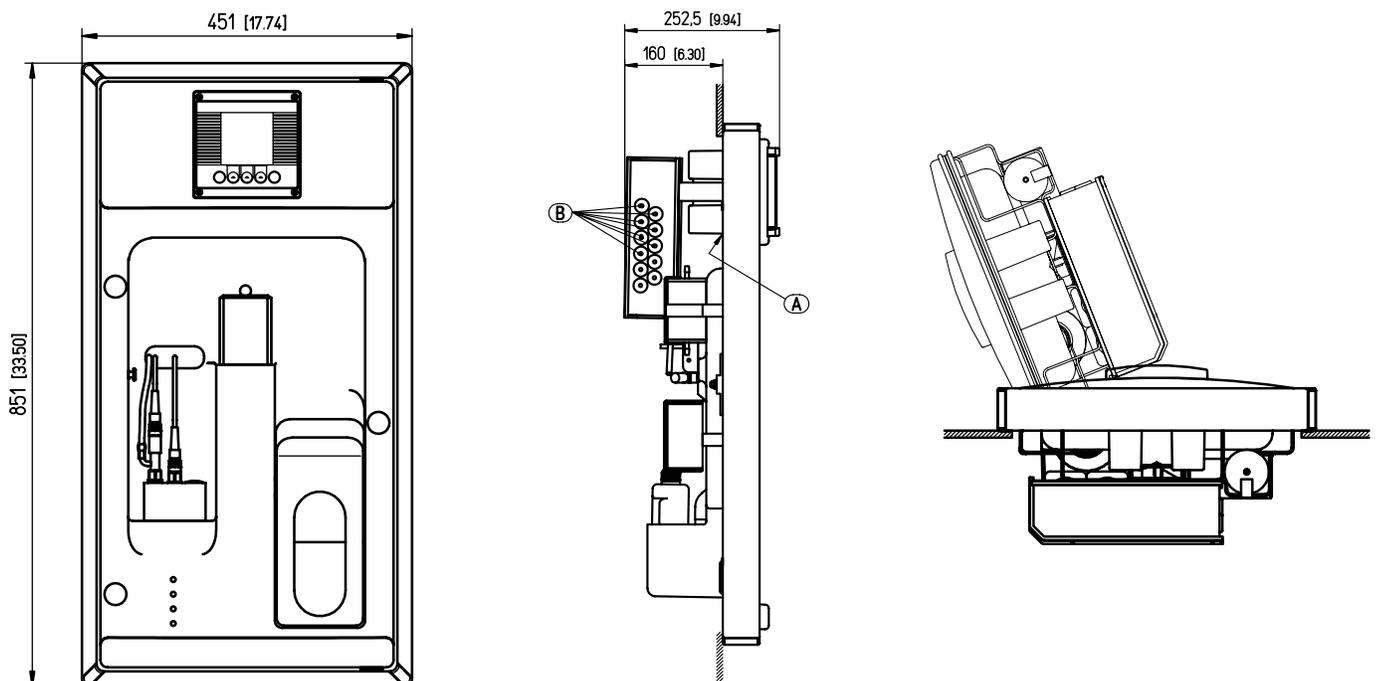
Dimensions

Enclosure Mount



Dimensions : mm [inches]

Panel Mount



Ordering Information

Hach 9245 Sodium Analyzers include reagents, maintenance kit, installation kit, and user manual. Power cord sold separately.

9245 Sodium Analyzer

- 6849400** Sodium Mono-channel AutoCal, with enclosure
6849500 Sodium Mono-channel AutoCal, panel mount
6858000 Sodium Mono-channel AutoCal, with enclosure/Cation Kit
6858010 Sodium Mono-channel AutoCal, panel mount/Cation Kit

Upgrade Options

- 09125=A=1485** Profibus DP, with board
09125=A=2485 RS485 JBUS/MODBUS, with board

Consumables

- 09240=A=8000** 1-year Spare Part Kit
363140,00500 Reference Electrolyte, KCl, 3 M, 500 mL
2834453 Di-isopropylamine (DIPA), 1 L
2835153 Sodium Standard, 10 ppm, 1 L
2834253 Sodium Standard, 100 ppm, 1 L
2507149 Sodium Nitrate, 0.5M 500mL

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