

# POLYMETRON 9245

# Na<sup>+</sup>



***Sodium  
monitoring  
for high  
purity water***



EXCELLENCE IN PROCESS ANALYTICS

# Na<sup>+</sup>

## POLYMETRON 9245

*The POLYMETRON 9245 provides low level sodium measurement in high purity water applications.*

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

*This on-line process monitoring analyzer is designed for use in the power generation industry but it may also be applied in a number of other industrial applications requiring effective sodium monitoring, such as process water in the semiconductor industry.*

### Operation

The Hach Ultra POLYMETRON 9245 mono-channel, sodium analyzer is designed for ease of installation and use, requiring only power connection and sample hydraulics. Set-up is managed through the readily accessible controller with clear messages guiding the user through menus and sub-menus

The POLYMETRON 9245 is fitted with a quick-loop valve at the bottom of the analyzer, 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.

The principle of operation is that of ion selective electrode measurement after pH conditioning. Sample pH conditioning is essential for limiting the interference of temperature or other ions. Constant buffering is assured using regulated reagent addition across ambient and sample temperature changes. To maintain optimum response time even in systems of continuous low sodium concentration the POLYMETRON 9245 incorporates automatic reactivation. Reactivation uses non-hazardous chemicals and eliminates the need for manual reactivation and the use of hazardous solutions.

### Calibration

Due to the difficulty in preparing low ppb sodium solutions for calibration purposes the POLYMETRON 9245 is supplied with an automatic calibration system. Using easy to prepare 10ppm samples the fully automated system follows a multiple step calibration cycle to accurately calibrate the analyzer, eliminating user variability and possible sample contamination.

### Benefits

- Measures sodium levels from 0-10,000ppb with a detection limit of 0.01ppb.
- Grab sample feature for manual calibration and measurement of one-off process samples. Unit returns automatically to on-line monitoring.
- Automatic reactivation ensures optimum electrode operation and response time.



- Sodium measurement detection limit of 0.01ppb
- Easy to install, easy to set up and operate
- Optimized response time due to automatic electrode reactivation
- Designed to minimize total cost of ownership
- IP65 transmitter and wallmounting enclosure in ABS with SS frame
- JBUS/MODBUS and Profibus communication options



The POLYMETRON 9245 is also fitted with a grab sample feature for manual verification of accuracy or calibration (ppb levels). Simple manual introduction of a 250 mL sample requires no tube disconnection and after sampling the unit automatically returns to on-line monitoring.

This feature also allows immediate ppb sodium measurement in off-line samples.

## Communication

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. Clear messages guide the user through menus and sub-menus. A built-in data logger allows measurement values, calibration results and alarm information to be recorded (capacity = 3200 data). The four sets of isolated analog outputs can be configured in 0/4-20 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.

- Unique, temperature compensated constant pH buffering is provided.
- Pre-mounted panel analyzers supplied with a constant head chamber and minimum flow detection to compensate for sample pressure and flow variations.
- Designed for low total cost of ownership.

## Alarms and Diagnostics

The POLYMETRON 9245 includes two programmable alarm relays as standard that may be assigned to any of the following:

- Concentration limits including direction, delay, hysteresis and normal relay status,
- Minimum sample flow rate detection,
- Operation of the measurement cycle for a channel.

Two additional programmable relays may be used for:

- Warning messages (reagent level low, small calibration deviation),
- System alarms (no reagents, no sample, no calibration, no power supply).

## Maintenance

Normal maintenance of the POLYMETRON 9245 has been reduced to:

- Replenishment of the calibration solution as required, typically every 100 days,
- Replenishment of reagents and electrolyte of the reference electrode every 100 days,
- Annual replacement of the reagent tube.

Clear step by step instructions are given by the analyzer to simplify maintenance operations such as instrument start-up, long term stand-by, and reagent replenishment.

The analyzer comes in 19" rack format as standard. A wall mounted cabinet is available as an option.

[www.hachultra.com](http://www.hachultra.com)

# Performance Specifications

<b>Sample</b>	No. of sample streams	1, for all-integrated 1 to 4 channels see POLYMETRON 9240
	Insolubles	Free of suspended matter
	Temperature	5–45°C (41–113°F)
	Pressure / Flow rate	0.2–6 bar (3–87 psi), 5 L/h during sampling phase
<b>Connections</b>	Sample line	Simple fittings for 6mm O.D. tubing or 1/4" O.D. in PE-low density For 1/4" O.D. in PEHD-PTFE-SS, request Imperial kit
	Drain	Barbed stem for 12 mm (1/2" I.D.) hose
	Ambient temperature	5–50°C (41–122°F)
	Power supply	100-240 VAC, ±10%, 50/60Hz, 80 VA
<b>Analysis</b>	Measuring ranges	0 to 10,000 ppb freely programmable / 0 to 200ppm with K Kit option
	Repeatability	< 0.02ppb or 1.5% reading, whichever is greater, within 10°C variation
	Detection limit	0.01 ppb
	Response time (t = 90%)	120s
	Calibration	As standard: Manual, 1 or 2 points Option (sample < 0.1ppb) : Automatic known addition 2 points
	Sample conditioner	Di-isopropylamine (1L / 100 days), Concentrated ammonia (sample >1ppb - 2.5 L / 90 days)
<b>Transmitter</b>	Protection	IP65 (NEMA 4)
	E.C regulations & certifications	EN50081, EN50082 (EMC) and IEC61010 (low voltage), conform U. L. (contact us for GOST Metrology / QSIQ of PR of China)
	Digital display	75x75mm graphic + LED backlighting: concentration, trend curves, diagnostics, alarm status, calibration constants, historical data.
	Programming	Menu driven operation and clear messages in 5 languages
<b>Options</b>	Accessories	K kit, automatic calibration, filtration system, wall enclosure
	RS485	300...11920 baud, 32 stations max., JBUS/MODBUS
	Profibus DP	9.6 Kbit/s to 12 Mbit/s, 127 stations max. (with repeater)
<b>Materials</b>	Panel	ABS with SS frame
	Enclosure	ABS
	Weight	Empty canisters: Panel 18 Kg    Enclosure 23Kg Full canisters: Panel 20 Kg    Enclosure 25Kg
<b>Maintenance</b>	Every 100 days	Refill electrolyte, reagents and calibration solution

## Global Headquarters

6, route de Compois - CP 212  
1222 Vésénaz - Geneva - Switzerland  
Tel ++ 41 (0)22 594 64 00  
Fax ++ 41 (0)22 594 64 99

## Americas Headquarters

481 California Avenue  
Grants Pass - Oregon 97526 - USA  
Tel 1 800 866 7889 / 1 541 472 6500  
Fax 1 541 479 3057

