POLYMETRON 9523 SPECIFIC AND CATIONIC CONDUCTIVITY ANALYSER, AND pH CALCULATOR

Applications

- Power

Simple to Integrate. Simple to Operate.

An integral part of the most complete water analytics system for the Power industry. Hach® provides a broad range of product options designed to work together into flexible solutions to meet your unique needs. Hach's comprehensive approach saves you time on design, installation, training, maintenance, and operation. Our cationic conductivity system calculates accurate and reliable pH measurements even in the presence of contaminants such as chlorides, sulfates, nitrates and organic acids that commonly interfere with traditional pH probes.

Save time on design

A single design source and one product platform means you spend less time searching for design files or configuring components. Create and reuse your optimal design templates. Each sensor has a unique four-digit cell constant determined according to ISO 7888 and ASTM D 1125 standards.

Accelerate your installation

One source, interchangeable components, a common user interface, and one support team make installation faster and less complicated. Quickly and easily transfer user settings between analyzers.

Reduce training complexity

A single platform minimises time required to teach and learn product operations, getting new systems in use faster.

Simplify maintenance and operation

Common menu guides reduce variability and provide step-by-step procedures for maintenance and calibration. Standard visual alerts across parameters notify operators when troubleshooting is required. Low maintenance system is equipped with long-lasting resin which provides visual indication of exhaustion.

HACH®
Be Right™

Technical Data*

Cell constant k	0.01 cm^{-1}
Measuring range conductivity	Specific Conductivity: 0.01 - 200 µS/cm
Measuring range resistivity	Specific Resistivity: 5 - 100000 kΩ x cm
Accuracy	± 1% of displayed value
Measuring range pH	7 - 10 pH for Ammonia 7 - 10.7 pH for Sodium Hydroxide
Operating temperature range	-20 - 60 °C at 0 - 95 % RH (non-condensing)
Sample input	4 x 6 mm diameter tubing
Sample output	12 x 17 mm diameter tubing
Temperature compensation	No, Automatic, and Manual
Temperature sensor	Pt100 Accuracy: < ± 0.2 °C
Power requirements (Voltage)	100 - 240 V AC, 24 V DC
Power requirements (Hz)	50/60 Hz
Material	Polycarbonate Aluminium (powder coated) Stainless Steel
Display	Graphic dot matrix LCD with LED backlighting, transreflective
Altitude	< 2000 m
Relays	Four electromechanical SPDT (Form C) contacts, 1200 W, 5 A
Analogue outputs	0/4 to 20 mA isolated current outputs, max. 550 Ω, Accuracy: ±0.1% of FS (20 mA) at 25 °C, ±0.5% of FS over -20 °C - 60 °C range
Analogue output functional mode	Linear, Logarithmic, Bi-linear, PID
Communication: digital	Five 4-20 mA Outputs, Modbus RS232/RS485, Profibus DPV1, Hart Communications
Electrical Certifications	EMC CE compliant for conducted and radiated emissions: - CISPR 11 (Class A limits) - EMC Immunity EN 61326-1 (Industrial limits) Safety CAN/CSA C22.2 No. 61010-1 cETLus safety mark for: - General Locations per ANSI/UL 61010-1 & CAN/CSA C22.2. No. 61010-1
Enclosure waterproof rating	IP66 / NEMA 4X
Flow	83 - 333 mL/min (5 - 20 L/hr)
Dimensions (H x W x D)	748 mm x 250 mm x 236 mm
Weight	15 kg

**Subject to change without notice.*

Principle of Operation

Measurement of pH in environments of low conductivity using the standard potentiometric method (glass electrode + reference) is extremely delicate and not very accurate because it is proportional to the concentration logarithm. It also requires a more frequent calibration to compensate for variations in the measurement chain (junction potential, degradation of the glass membrane).

On the other hand, measurement of conductivity in these environments is a lot more reliable and more accurate as it is directly proportional to the concentration in impurity, and in addition requires little or no maintenance.

Therefore, given the relationship between the pH and conductivity of a product, the conductivity measurement can be used to determine a precise pH.

If the product contains impurities (generally in the form of salts), this calculation cannot be applied. The principle is then to transform the salt into acid by passing it through a cationic resin and, given the relationship of the conductivity between the acid and the corresponding salt (always around 3), to determine the conductivity originating only from the conditioner:

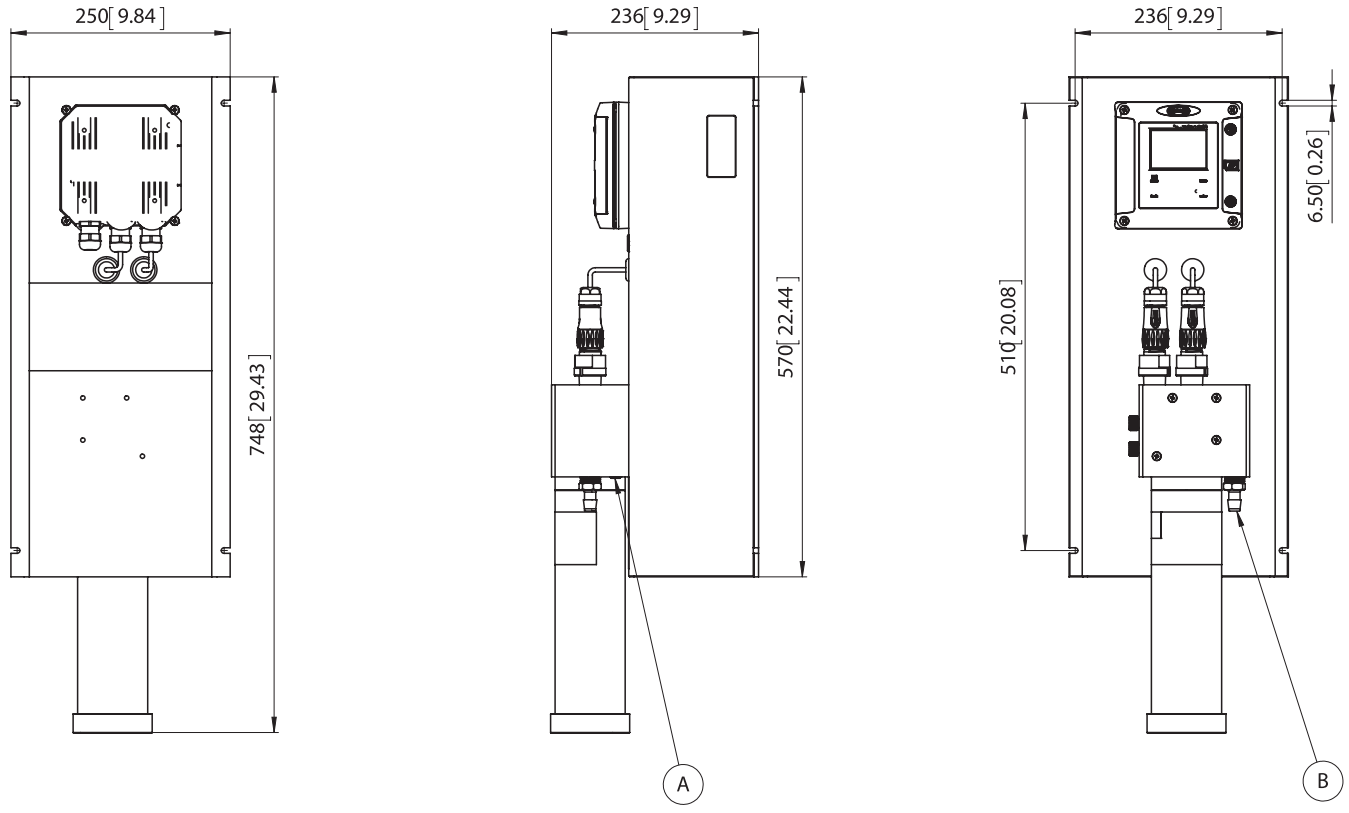
ΔC = Conductivity before resin (C1) – Conductivity after resin (C2) / A

and

pH = f(ΔC)

Note: The calculated pH is the pH of the sample at the analyser inlet (channel 1). The 9523 analyser does not calculate the pH downstream of the resin cartridge.

Dimensions



A: Sample inlet PE tube OD 6mm (standard) or OD 1/4" (with adapter)
5° to 50°C (40° to 120°F), pressure 0.2 to 6 bar (3 to 90 PSI), flow 5 to 20L/h

B: Drain, tube ID 12mm or 1/2", atmospheric pressure

All dimensions are in mm [inches]

Order Information

Complete Analysers

9523.99.01P4	Polymetron 9523 Specific and Cationic Conductivity Analyser, and pH Calculator with Modbus Communication, 100 - 240 V AC
9523.99.03P4	Polymetron 9523 Specific and Cationic Conductivity Analyser, and pH Calculator with Profibus Communication, 100 - 240 V AC
9523.99.05P4	Polymetron 9523 Specific and Cationic Conductivity Analyser, and pH Calculator with Hart Communication, 100 - 240 V AC
9523.99.09P4	Polymetron 9523 Specific and Cationic Conductivity Analyser, and pH Calculator with 5x 4-20 mA Outputs, 100 - 240 V AC
9523.99.71P4	Polymetron 9523 Specific and Cationic Conductivity Analyser, and pH Calculator with Modbus Communication, 24 V DC
9523.99.73P4	Polymetron 9523 Specific and Cationic Conductivity Analyser, and pH Calculator with Profibus Communication, 24 V DC
9523.99.75P4	Polymetron 9523 Specific and Cationic Conductivity Analyser, and pH Calculator with Hart Communication, 24 V DC
9523.99.79P4	Polymetron 9523 Specific and Cationic Conductivity Analyser, and pH Calculator with 5x 4-20 mA Outputs, 24 V DC

Communication and Module Options

9013205	Modbus RS232/485 Module
9173900	Profibus DP Module (SC200)
9328105	Hart Module
9525800	Analogue Conductivity Module for Polymetron Sensors

Accessories and Consumables

08310=A=0000	Polymetron 8310 2-EL conductivity sensor, k=0.01 cm^{-1}
09523=A=7000	Spare Resin Cartridge (includes resin inside)
09523=A=7010	Resin Kit (includes 2 filters, 2 L of resin, funnel, and instructions)
09123=A=8001	Electrode cable (1 m)

Be certain in your measurements with a first class Service Partner. Be confident with Hach Service.

By having regular on-site preventative maintenance and calibration, you maximise your measurement reliability and instrument uptime. Hach Service Programs give you full assurance that your instruments stay in compliance, and you stay within your budget.

Start-Up:
Commissioning, Instruction and Training of you operating personnel to ensure you get the best performance from your instrumentation from the first day you use it.

Service Agreement:
Hach offers a wide range of service agreements that can be tailored to you to help maximise your measurement reliability and instrument uptime.

Contact us to get a service offering designed for you.

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