

# 9586sc OXYGEN SCAVENGER ANALYZER

## Applications

- Power



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## 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.

### 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.

### 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 Oxygen Scavenger analyzers.

### Reduce Training Complexity

A single platform minimizes 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. The Hach 9586sc Oxygen sensor has a fast response time of less than 60 seconds.

Unlike traditional amperometric techniques that use two electrodes, the Hach 9586sc Oxygen Scavenger Analyzer uses a three-electrode design; eliminating voltage drift due to the composition of the water. Self-cleaning electrodes reduce maintenance costs and analyzer downtime via Teflon® beads that prevent deposits on the electrode surfaces.



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## Specifications\*

<b>Range</b>	0 to 500 ppb hydrazine; programmable  0 to 100 ppb carbohydrazide; programmable
<b>Repeatability</b>	± 2 % or 1 ppb whichever is greater
<b>Response Time T90</b>	< 60 s
<b>Lower Limit of Detection (LOD)</b>	Drift is Negligible; 1 ppb
<b>Calibration Method</b>	a) Zero: electrically, with hydrazine-free water or with optional zero cartridge  b) Slope: using a laboratory reference value (e.g. LCW025)
<b>Operating Temperature Range</b>	5 to 45 °C at 0 to 95% RH (non-condensing)
<b>Sample Requirements</b>	Sample needs to be free of undissolved matter.
<b>Sample Temperature</b>	5 to 45 °C
<b>Pressure Limit</b>	0.5 to 6 bar (7.2-87 psi) or 12 L/h
<b>Flow</b>	166 to 250 mL/min (10 to 15 L/h) recommended
<b>Connection Drain Line</b>	6 x 8 mm (Tubing must not exceed 4 feet and must drain straight down)
<b>Connections</b>	4 x 6 mm stainless steel tubing
<b>Analogue Outputs</b>	Two (Five with optional expansion module) 0/4 to 20 mA isolated current outputs, max 550 Ω , Accuracy: ±0.1% of FS (20mA) at 25°C, ±0.5% of FS over -20°C to 60°C range

<b>Power Requirements (Voltage)</b>	100 - 240 V AC, 24 V DC
<b>Power Requirements (Hz)</b>	50 - 60 Hz
<b>Electrical Certifications</b>	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
<b>Enclosure Rating</b>	NEMA 4X/IP66
<b>Relays</b>	Four electromechanical SPDT (Form C) contacts, 1200 W, 5 A
<b>Maintenance Interval</b>	Monthly: Calibration and reagent refill
<b>Weight</b>	32.15 lbs. (14.5824 kg)

*\*Subject to change without notice.*

### Principle of Operation

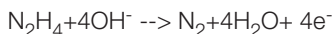
The Hach 9586sc Analyzer continuously measures the amount of oxygen scavengers, dissolved hydrazine, and carbonylhydrazide in water. The measuring principle is based on the electrochemical method of 3-electrode amperometry.

A polarization voltage (+480 mV) is applied between a platinum anode (working electrode) and a stainless steel cathode (counter-electrode). The oxygen scavenger is oxidized at the surface of the working electrode and the resulting current is directly proportional to the oxygen scavenger concentration in the range of 0 to 500 ppb hydrazine.

The reaction is enhanced in an alkaline environment, and the sample is conditioned before it enters the measuring cell. The

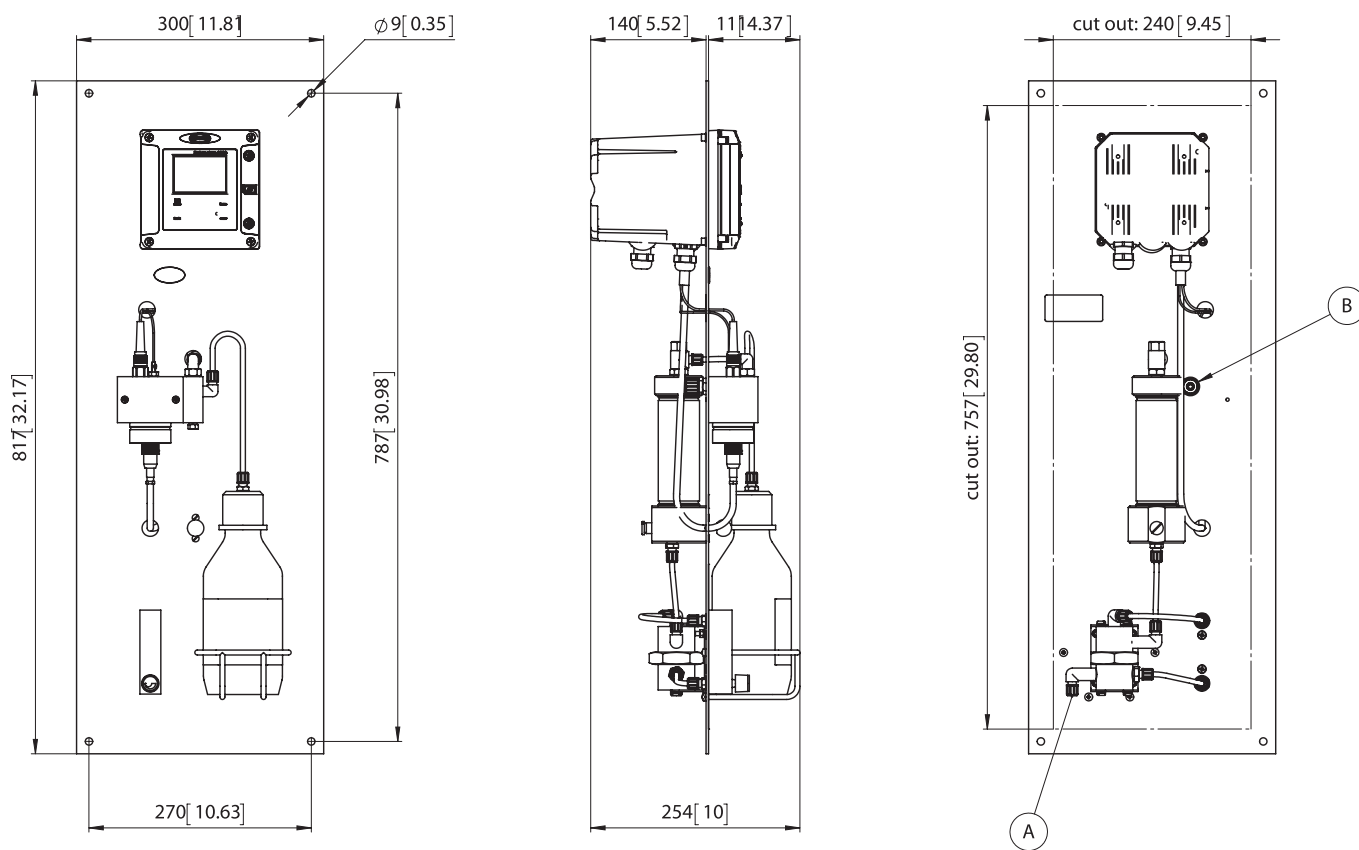
sample is conditioned to pH  $\approx$  10.2 by adding diethylamine, monoethylamine, ammonia, or diisopropylamine through a Venturi tube. A sensor integrated to the measuring cell provides temperature compensation.

The chemical reaction is as follows:



The anode-cathode potential is kept constant with respect to a third electrode (reference electrode, Ag/AgCl). This avoids interference effects resulting from variations in water composition that appear when using the 2-electrode system. At 480 mV, the cell current is linearly proportional to the hydrazine concentration

### Dimensions



A: Sample inlet PE tube  $\phi 4 \times 6$  mm or  $\phi 1/6 \times 1/4$ " (US version) 5° to 45°C (40° to 115°F), pressure 0.5 to 6 bar (7 to 90 PSI), flow 12L/h

B: Drain, tube  $\phi 6 \times 8$  mm or  $\phi 1/4 \times 3/8$ " (US version), atmospheric pressure

All dimensions are in mm [inches]

## Ordering Information

### Complete Analyzer

<b>9586.99.00P2</b>	Hach 9586sc Oxygen Scavenger Analyzer, AC-DC
<b>9586.99.01P2</b>	Hach 9586sc Oxygen Scavenger Analyzer, Modbus, AC-DC
<b>9586.99.03P2</b>	Hach 9586sc Oxygen Scavenger Analyzer, Profibus, AC-DC
<b>9586.99.05P2</b>	Hach 9586sc Oxygen Scavenger Analyzer, HART, AC-DC

### Communication and Module Options

<b>9334600</b>	4-20 mA Output Module (Provides 3 additional mA Outputs)
<b>9013200</b>	Modbus 232/485 Module
<b>9173900</b>	Profibus DP Module
<b>9328100</b>	HART Module
<b>9525700</b>	Analog pH/ORP Module for Polymetron Sensors
<b>9525800</b>	Analog Conductivity Module for Polymetron Sensors

### Accessories and Consumables

<b>2834453</b>	Diisopropylamine, 99%, 1L
<b>09186=C=0360</b>	Oxygen Scavenger Reagents Cap Adapter
<b>09186=A=8000</b>	Spare Parts Kit for 9586 Analyzer

Maintenance kit includes 6 filters, 1 reference electrode, 1 Venturi injection nozzle, 7 plastic beads, 2 meters of 4x 6mm PE tubing.

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