

PART 1 GENERAL

1.1 Section includes:

- A. Sensor that continuously measures Oxidation/Reduction Potential in aqueous solutions.

1.2 Measurement Procedures

- A. The method of measurement will be determination of the electron activity of a solution by using an inert indicator electrode and a reference electrode. The potential difference between the indicator electrode and the reference electrode equals the redox potential of the system.

1.3 Alternates

- A. Probes or sensors that do not communicate with Hach model sc200 or Polymetron 9500 controllers will not be acceptable.

1.4 System Description

- A. Performance Requirements for 8351 Sensor
 - 1. Measurement Range: ± 1500 mV
 - 2. Glass Impedance at 25°C: Platinum

1.5 Certifications

- A. EMC: CE compliant for conducted and radiated emissions CISPR 11 (Class A limits), EMC Immunity EN 61326-1 (Industrial limits) when part of an approved system
- B. Safety: General Purpose UL/CSA 61010-1 with cETLus safety mark when part of an approved system
- C. Australian C-TICK and Korean KC Markings when part of an approved system

1.6 Environmental Requirements

- A. Operational Criteria
 - 1. Maximum Operating Temperature:
 - a. 8351: 110 °C (230 °F)
 - 2. Maximum Pressure: 10 bar at 80 °C (145 psi at 176 °F)
 - 3. Relative humidity: 10 to 95%, non-condensing

1.7 Maintenance Service

- A. Scheduled Maintenance
 - 1. Monthly
 - a. Calibrate Sensor
 - 2. Each 6 months
 - a. Evaluate Sensor for Replacement
- B. Unscheduled Maintenance
 - 1. Clean sensor with appropriate cleaning solution at appropriate intervals depending on the sample tested.

PART 2 PRODUCTS

- 2.1 Manufacturer
 - A. Hach Lange Sàrl, Geneva, Switzerland
- 2.2 Manufactured Unit
 - A. The 8351 ORP sensor consists of:
 - 1. An ORP sensor composed of PTFE and PPS
 - 2. Integral Cable
 - 3. The sensor is individually factory-tested to determine its individual slope offset.
- 2.3 Equipment
 - A. The Polymetron 8351 ORP Sensors work with Hach model sc200 or Polymetron 9500 controllers only.
 - B. The probe has a built in Pt 100 temperature sensor.
 - C. Wetted materials as follows:
 - 1. 8351 Sensor:
 - a. PTFE
 - b. Guarded Glass
 - c. Stainless Steel
 - d. PPS
- 2.4 Components
 - A. Standard equipment
 - 1. Sensor
 - 2. Integral Cable
 - B. Dimensions:
 - 1. 8351 sensor: 150 mm x 26.5 mm (5.68 in x 1.04 in)
 - C. Weight: 0.61 kg (1.34 lbs)
- 2.5 Optional Accessories
 - A. Cables
 - 1. 5m (16 ft)
 - 2. 10 m (33 ft)
 - 3. 20 m (66 ft)
 - B. Application specific mounting hardware
 - C. Flow-through chamber

PART 3 EXECUTION

- 3.1 Preparation
 - A. The sensor must be mounted to a Hach mounting assembly directly in the solution to be measured.
- 3.2 Installation

- A. Contractor will install the analyzer in strict accordance with the manufacturer's instructions and recommendation.
- B. Manufacturer's representative will include a half-day of start-up service by a factory-trained technician, if requested.
 - 1. Contractor will schedule a date and time for start-up.
 - 2. Contractor will require the following people to be present during the start-up procedure.
 - a. General contractor
 - b. Electrical contractor
 - c. Hach Company factory trained representative
 - d. Owner's personnel
 - e. Engineer

3.3 Manufacturer's Service and Start-Up

- A. Contractor will include the manufacturer's services to perform start-up on instrument to include basic operational training and certification of performance of the instrument.
- B. Contractor will include a manufacturer's Service Agreement that covers all the manufacturer's recommended preventative maintenance, regularly scheduled calibration and any necessary repairs beginning from the time of equipment startup through to end user acceptance / plant turnover and the first 12 months of end-user operation post turnover.
- C. Items A and B are to be performed by manufacturer's factory-trained service personnel. Field service and factory repair by personnel not employed by the manufacturer is not allowed.
- D. Use of manufacturer's service parts and reagents is required. Third-party parts and reagents are not approved for use.

END OF SECTION