PART 1 GENERAL

1.1 Section includes

A. System that continuously measures conductivity and/or resistivity in aqueous solutions.

1.2 Measurement Procedures

1. The method of measurement will be electrodeless/inductive conductivity and resistivity with a probe or sensor.

1.3 Alternates

A. Probes or sensors that do not communicate with Hach model sc100 or sc1000 controller will not be acceptable.

1.4 System Description

A. Performance Requirements
   1. Measurement range:
      a. Conductivity: 0 to 200 microSiemens/cm, up to 0 to 2,000,000 microSiemens/cm
      b. Temperature: -10 to 200 °C (14 to 392 °F)

1.5 Certifications

A. General Purpose CSA/CSA_{NRTL} and FM (UL Pending) when used with an approved controller.
B. Class 1, Div 2 Groups A thru D CSA/CSA_{NTRL} and FM (UL Pending) when used with an approved controller.

1.6 Environmental Requirements

A. Operational Criteria
   1. Operating temperature: 14 to 392 °F, limited only by sensor body material and mounting hardware
   2. Pressure and temperature limits, depending on materials:
      a. Polypropylene: 100 psi at 212 °F (6.9 bar at 100 °C)
      b. PVDF: 100 psi at 248 °F (6.9 bar at 120 °C)
      c. PEEK: 200 psi at 392 °F (13.8 bar at 200 °C)
      d. PFA Teflon: 200 psi at 392° F (13.8 bar at 200 °C)
   3. Flow rate: 10 ft./s (3 m/s), maximum

1.7 Warranty

A. The system is warranted for 1 year from date of shipment against defects in materials or workmanship.

1.8 Maintenance Service

A. Scheduled maintenance:
   1. Clean to maintain measurement accuracy. Schedule (days, weeks, etc.) is affected by characteristics of the process solution and should be determined by operating experience.

PART 2 PRODUCTS

2.1 Manufacturer

A. Hach Company, Loveland, CO
   1. Hach 3700-SC Electrodeless Conductivity System

2.2 Manufactured Unit

A. The Hach 3700-SC Electrodeless Conductivity System consists of:
   1. Submersible probe
   2. Integral cable
   3. Digital gateway device

2.3 Equipment

A. The 3700-SC system works with Hach models sc100 or sc1000 controllers only.
B. The probe communicates with the controller digitally via RS-485 MODBUS® connection.
C. The probe has a built in Pt 1000 RTD temperature compensator.
D. The probe is water resistant.
E. The wetted material is [select one]:
   1. Polypropylene
   2. PVDF
   3. PEEK®
   4. PFA Teflon®
F. Mounting styles [select one]:
   1. Convertible style:
      a. To directly fasten onto the end of a pipe for immersion mounting
      b. To mount into any 2-inch NPT fitting with a GLI union-mount adapter
      c. To insertion mount into a 2-inch ball valve assembly
   2. Sanitary style:
      a. To conform to provisions of 3-A Sanitary Standards for CIP cleaning
      b. With integral 2-inch sanitary mount flange to mount into a standard 2-inch sanitary tee

2.4 Components

A. Standard equipment:
   1. Probe
   2. Integral cable
   3. Digital gateway
   4. Manual
   5. Digital gateway
B. Dimensions: dependent on probe selected
C. Weight: dependent on probe selected

2.5 Accessories

A. Plug in extension cables to extend the distance between the sensor and cable up to 1000 meters (3240 ft.)
B. Junction box for extension cables. Must be used for lengths greater than 100 meters.
C. Extension cables
D. Mounting hardware

PART 3 EXECUTION

3.1 Preparation

A. The system 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