PART 1 GENERAL

1.1 Section includes

A. Sensor for continuous monitoring of UV absorbance and percent transmittance in water.
B. Includes the capability to remotely monitor sensors on any browser-enabled device and present diagnostics on the overall health of the measurements (on Predictive Diagnostics-enabled sensors), as well as upcoming and required maintenance - reducing user risk and downtime.

1.2 Measurement Procedures

A. The method of measuring UV absorbance and percent transmittance will be by determining the Spectral Absorption Coefficient (SAC) at a wavelength of 254 nm using a 2-beam ultra-violet absorption technology with a 1, 2, 5, or 50 mm path length.

1.3 Alternates

A. Other instruments that do not use 2-beam absorption technology are not acceptable.
B. Instruments that require the use of reagents are not acceptable.
C. Instruments that are not in accordance with DIN 38404 C3 are not acceptable.

1.4 System Description

A. Performance Requirements
    1. Measurement range:
        a. 0.01 to 60 mm^{-1} at 50 mm, or
        b. 0.1 to 600 mm^{-1} at 5 mm, or
        c. 0 to 1500 mm^{-1} at 2 mm, or
        d. 2 to 3000 mm^{-1} at 1 mm
    2. Compensation: 550 nm
    3. Measurement interval: 1 minute

1.5 Certifications

A. UL 61010A-1 (Listed by 3rd party OSHA accredited NRTL)
B. CSA C22.2 No. 1010.1 (Certified by 3rd party SCC accredited Lab)
C. Certified by Hach to EN 61010-1 (IEC1010-1) per 73/23/EEC, supporting test records by Intertek Testing Services.

1.6 Environmental Requirements

A. Operational Criteria
    1. Sample flow rate: 0.5 L/hour minimum for bypass sensors
    2. Sample pressure at inlet: 0.5 bar (7.25 psi) maximum for tank sensors
    3. Sample temperature: 2 to 40 °C (35 to 104 °F)
    4. Sample pH: 4.5 to 9 pH

1.7 Warranty

A. The product includes a one-year warranty from the date of shipment.

1.8 Maintenance Service

A. Scheduled maintenance:
   1. Visual inspection: weekly
   2. Calibration: Comparative measurement weekly (depending on ambient conditions)
   3. Wiper blade: As per counter or yearly
   4. O-ring through-flow unit replacement: yearly
B. Unscheduled maintenance
   1. Cleaning as needed based on environmental conditions.

PART 2 PRODUCTS

2.1 Manufacturer

A. Hach Company, Loveland, CO
   1. Model UVAS sc UV Absorbance / %Transmittance Sensor

2.2 Manufactured Unit

A. The UVAS sc UV Absorbance / %Transmittance Sensor consists of:
   1. Sensor:
      a. Stainless steel housing
      b. Self-cleaning wiper system

2.3 Equipment

A. The detector window of the sensor is automatically cleaned by a built-in wiper that eliminates surface films or particles.
B. When connected to a cloud-based standard controller, capable of providing remote monitoring of measurement and instrument data on a web-enabled device.

2.4 Components

A. Standard equipment:
   1. Sensor
   2. Cable
   3. Manual
B. Dimensions:
   1. 13.11 inches long (333 mm)
   2. 2.75 inches diameter (70 mm)
C. Weight: 7.9 pounds (3.6 kg)
D. Connectors: 32.8 feet (10 m) cable

2.5 Accessories

A. Bypass panel
B. Mounting hardware

PART 3 EXECUTION

3.1 Preparation

A. Bypass panel can be used for non-immersion applications.
B. UVAS sc sensors cannot be used in sea water.

3.2 Installation

A. Contractor will install the sensor 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