PART 1 GENERAL

1.1 Section includes

A. Probe for monitoring the level (height from the tank floor or depth of the water surface) of a sludge blanket in a tank.
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 sludge level will be by ultrasonic pulse directed toward the sludge blanket in the tank.
    1. Height and depth measurements are based on the time it takes for the ultrasonic echo to return to the probe.

1.3 Alternates

A. Other instruments that do not use an ultrasonic pulse are not acceptable.

1.4 System Description

A. Performance Requirements
    1. Measurement range: 0.2 to 12 meters (0.6 to 40 feet)
    2. Measurement interval: 10 to 600 seconds (adjustable)
    3. Accuracy: ±0.1 meters (±0.33 feet)
    4. Resolution: 0.03 meters (0.09 feet)

1.5 Certifications

A. CE certified to EN 61326-1:1998 /A1/A2/A3
B. EN 61010-1:2001

1.6 Environmental Requirements

A. Operational Criteria
    1. Operating temperature: 2 to 50 °C (35 to 122 °F)

1.7 Warranty

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

1.8 Maintenance Service

A. Scheduled maintenance:
    1. Monthly: visual inspection, if necessary, clean
    2. Annually: change wiper blade, or after 20,000 wiping cycles

PART 2 PRODUCTS

2.1 Manufacturer

A. Hach Company, Loveland, CO
   1. SONATAX sc Sludge Blanket Level Probe

2.2 Manufactured Unit

A. The SONATAX sc Sludge Blanket Level Probe consists of:
   1. Self-cleaning stainless steel immersion probe.

2.3 Equipment

A. The probe is equipped with a magnetic coupled wiper that cleans the probe.
B. The probe is equipped with a position sensor that also compensates for angle when the probe is not mounted exactly vertically.
C. The probe automatically compensates for temperature.
D. The probe is equipped with a visual performance LED indicator light for assurance of proper performance.
E. The probe defines the sludge blanket based on user-selected sludge concentration or "blanket threshold."
F. The probe is factory calibrated. Users may also enter a correction factor.
G. The probe automatically detects deterioration of disrupted sedimentation. It senses the ultrasonic echo return with the information of the separation layer independent of density.
H. The probe is designed to connect to a universal digital controller.

2.4 Components

A. Standard equipment:
   1. Probe:
      a. Body: stainless steel
      b. Wiper: silicon
      c. Face: polyoxymethylene
B. Dimensions: 5.1 x 7.3 inches (130 x 185 mm)
C. Weight: 7.7 pounds (3.5 kg)

2.5 Accessories

A. Digital controller
B. Cables and power cord
C. Mounting Hardware
   a. Tank rim fixing, made of stainless steel
   b. Pivot mounting
   c. Rail mounting assembly, made of stainless steel
   d. Chain mounting
D. Sun shield

PART 3 EXECUTION

3.1 Preparation

A. The probe must be installed with the ultrasonic head submerged at least 20 cm (8 inches).
B. Protect the probe against larger objects in the sewage flow such as branches or ice.
C. Slight rocking of the mounting links of the ultrasound head will not affect measurements.

3.2 Installation

A. Contractor will install the probe 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