SMILLIE MCADAMS SUMMERLIN LTD

ACID NEUTRALIZATION TANK & pH MONITORING SYSTEMS PREVENTITIVE MAINTENANCE INSTRUCTIONS

1.0 Precautionary Measures

1.1. Prior to any work being conducted is recommended that the following be undertaken:

1.2. Flush drains for 20 minutes prior to removing any covers or inspection ports. This will allow for any stagnate water to be flushed from the system and aid in lowering any fugitive emissions.

1.3. Appropriate protective clothing, gloves, safety glasses and/or respirator/breathing apparatus should be used at all times to prevent injury.

1.4. Ensure area is free from personnel that are not conducting any inspection or work to the neutralizing tank. Use of caution tape is recommended.

2.0 Inspection of Neutralizing Tank

2.1. Remove all bolts from the inspection port and place in secure location.

2.2. Using a flashlight, check the depth of the neutralizing media. The level should be the same height as the discharge invert.

2.3. If the media is below the discharge invert level, neutralizing media should be added.

2.4. Remove the pH probe from the discharge of Tee fitting

2.5. Inspect the glass bulb of the probe, note any debris or cracks on the bulb.

2.6. If a crack is noted, the probe must be discarded and a new probe installed.

2.7. If debris is noted, the probe can be cleaned using fresh water and mild soap (cleaning solution). Remove the debris by agitating bulb in cleaning solution.

NOTE: A pH probe will provide accurate and quick response reading for a period of 12-18 months. In order to ensure a suitable signal to the pH monitor, it is recommended that the pH probe be scheduled for replacement on an annual basis.

3.0.A Calibration of pH Probe to Analog Monitor

3.1.A Standard pH 4.00 and 7.00 are suggested for calibration purposes.

3.2.A Place pH electrode in pH 7.00 buffer. Slight agitation can be incorporated to ensure bulb is saturated in buffer solution.

3.3.A Adjust analog meter to pH 7.00 using the Set Knob.

3.4.A Rinse probe with deionized or distilled water.

3.5.A Place probe in pH 4.00 buffer. Slight agitation can be incorporated to ensure bulb is saturated in buffer solution.

3.6.A Adjust analog meter to pH 4.00 using Slope adjustment.

3.7.A Rinse probe with deionized or distilled water.

3.8.A Replace new and existing probe in the discharge Tee Fitting.

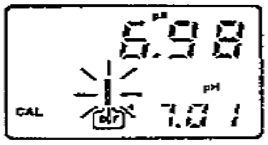
3.9.A See Section 5.0 for inspection, completion and clean up procedures.

3.0.B Calibration of pH Probe to Digital Monitor

3.1.B Standard pH 4.00 and 7.00 are suggested for calibration purposes.

3.2.B Place pH electrode in pH 7.00 buffer. Slight agitation can be incorporated to ensure bulb is saturated in buffer solution.

3.3.B Press calibration (CAL) button and enter password (6900 or 6958) then press confirm (CFM).

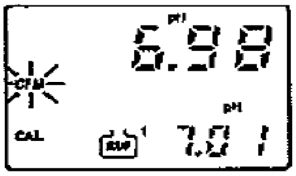


3.3.1.B Bottom right number will be pH Set Point.

3.3.2.B Top right number will be the current pH reading.

3.4.B Remove probe from water and immerse in pH solution (corresponding to the current pH solution reading).

3.5.B Probe symbol will stop blinking once the reading is stable and within range of pH Set Point.



3.6.B When CFM starts blinking IMMEDIATELY press confirm (the pH Set Point will change).

3.7.B Remove probe and immerse in water. Repeat process for other two solutions.

3.8.B See Section 5.0 for inspection, completion and clean up procedures.

4.0 Sediment Interception System Inspection and Servicing

4.1 Remove bolts and lid from interceptor.

4.2 Remove sediment basket from interceptor.

4.3 Remove all debris from basket.

4.4 Replace Basket into sump, ensuring the inlet is properly oriented so that incoming waste will be discharged into the sediment strainer.

4.5 Replace cover and tighten bolts securely.

4.6 See Section 5.0 for inspection, completion and clean up procedures.

5.0 Appropriate Clean Up and Waste Removal/Disposal Procedure

5.1. Replace inspection port cover or main covers.

5.2. Prior to reinstalling bolts apply a coating of petroleum jelly to threads as a preventative measure against “binding” and to facilitate ease in future removal.

5.3. Tighten bolts securely.

5.4. Clean area of debris; ensure floor is dry before removing yellow caution tape.

5.5. Dispose of waste, strictly adhering to your facility protocol or as follows; by placing into a plastic bag and then into a disposable plastic container (i.e. 5 gallon pail with lid). The container must be labeled as inorganic waste from the acid neutralizing and sediment interception system. Describe the location of the system and your name and department on the label. Then deposit the container in appropriate Hazardous Material storage or equal for disposal.

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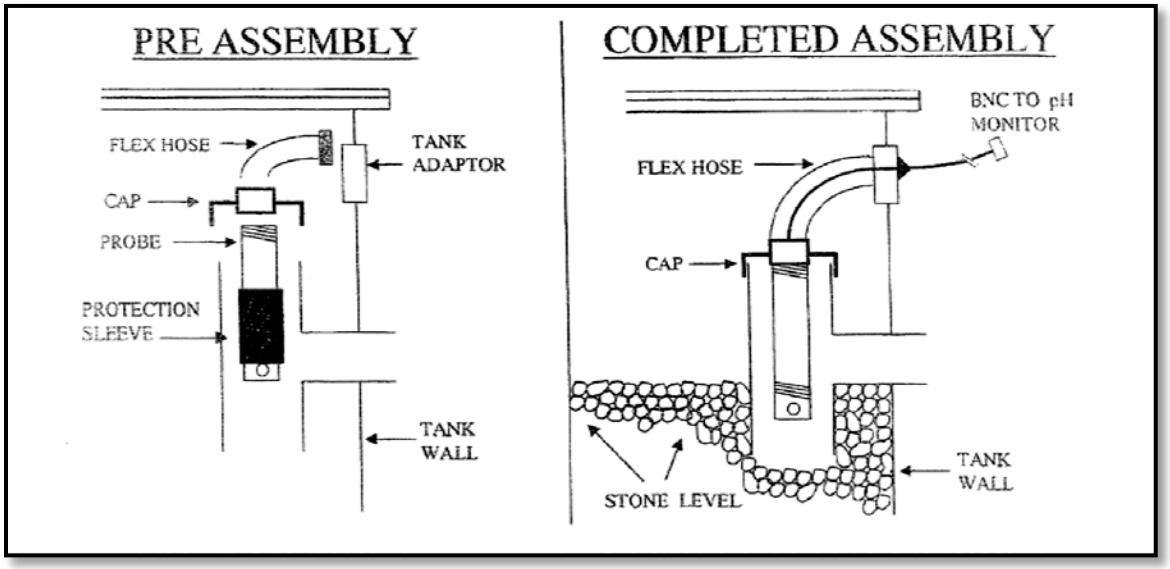
NEUTRALIZER PROBE INSTALLATION DETAIL

1. Feed coaxial cable through conduit from pH panel to tank adaptor in wall of tank (black plastic end first).
2. Feed coaxial cable through flex tube and cap, make the connection to the probe and connect the flex tube to tank wall.
3. Screw the probe into the cap and REMOVE THE PROTECTIVE SLEEVE on bottom of the probe.
4. Press the cap over the top of the outlet tee and pull back any excess cable.
5. Secure the flex tube to the top of the cap.
6. APPLY A SILICONE SEAL TO PREVENT ODORS ESCAPING OR VENTING THE TANK THROUGH THE CONDUIT AS FOLLOWS:
    a. The exterior of the tank adaptor if no conduit, on above grade installation or;
    b. The termination point of the conduit for below or above grade installations.
7. Connect the coaxial cable to the pH monitor (right hand side) and switch on the power to the panel.
8. The pH reading should be between 6.5 and 7.5.

NOTE: If readings are outside the above range or if the alarm sounds, contact SMS at 1-877-428-6900.



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SMS Model 47-D

Digital pH Monitoring and Alarm Panel

47-D controllers are simple-to-operate, microprocessor-based process meters packed with features. For more flexibility and better resolution for chart recorders, any tow points between 0 and 14 pH can be chosen to correspond to the analog output spans. The microprocessor memory is fully programmable and has 3 months backup power supply. The Fail Safe Alarm protects the 47-D against the pitfalls of process control, like power interruption or line failure.
The 47-D offers quick, 1, 2 or 3 point calibration at pH 7.01, 4.01 and 10.01 as a standard. The temperature can be manually or automatically compensated

Specifications	47-D
RANGE	0.00 to 14.00 pH / -9.9 to 120.0°C
RESOLUTION	0.01 pH / 0.1°C
ACCURACY (@20°C/68°F)	±0.02 pH / ±0.5°C
CALIBRATION	1.2 or 3 points at pH 4.01, 7.01 and 10.01
TEMPERATURE COMPENSATION	Automatic (with Pt100) or manual from -9.9 to 120°C
READOUT	4 ½ digit dual-level LCD with graphic symbols and messages
OUTPUTS	Digital: RS485 bi-directional opto-isolated; or Analog; galvanically Isolated 0 to 1 mA, 0 to 20 mA and 4 to 20mA, 0to 5 VDC, 1 to 5 VDC, and 0 to 10 VDC
SET POINT RELAY(S)	1 or 2: SPDT contract outputs 5A-250 VAC, 5A-30 VDC (resistive load) Protection fuse: 5A 250V *Quick Blow Fuse*
POWER CONSUMPTION	15A
OVER CURRENT PROTECTION	400 mA, 250V *Quick Blow Fuse*
MAXIMUM OSCILLATION FREQUENCY	4 Mhz
POWER SUPPLY	230 ± 10% VAC, 115 ± 10% VAC OR 100 ± 10% VAC, 50/60 Hz (depending on model)
ENVIRONMENT	0 to 50°C (32 to 122°F); max 85% RH non-condensing
CASING	Fiber-reinforced, self-extinguishing ABS with IP54 protection 181mm L x 221mm W x 142mm H (7.1"L x 8.7"W x 5.6"H)
WEIGHT	1.4kg (3.11lb)

OPTIONAL REMOTE ALARM:

RAL Offered in a PVC enclosure
Mute switch for silence of Buzzer
120 VAC

Data Logger – Available
SMS – DATSAVE 33,000 data points
Adjustable frequency of data collection.
Complete with CD program and cable interface.

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