



Petro Specialties, Inc.

PetroVac - Vacuum Pump System (Patent Pending)

Equipment Check Guidelines for Inspectors

Purpose

This outline provides local agency inspectors with standardized field procedures to verify the correct installation, operation, and maintenance of the PetroVac Vacuum Pump System used for interstitial monitoring of double-walled tanks, piping, and containment sumps, especially in systems utilizing the Veeder-Root TLS-450Plus with SCLD module.

1. Inspector Preparation

- Review the site's as-built drawings and equipment specifications.
- Obtain access to the TLS-450Plus console, Red Jacket Control Box, and all PetroVac system components.
- Confirm that the system is installed per manufacturer's Installation and O&M Manuals by a PetroVac certified technician.

2. Visual Inspection

A. System Components

- Verify presence and secure mounting of the following:
 - PetroVac vacuum pump
 - Red Jacket Pump Control Box
 - Veeder-Root TLS-450Plus console with SCLD module
 - Vacuum tubing and fittings

B. Wiring and Connections

- Ensure all electrical wiring is in approved conduit and properly grounded.
- Check that vacuum tubing is securely connected from the pump to the Veeder Root vacuum module.
- Verify that the vacuum tube is run through EMT or Rigid conduit and that seal offs are installed if applicable.

C. Labels and Signage

- Confirm that all components are clearly labeled and that warning labels are intact.

3. Functional Testing

A. System Power-Up

- Confirm that the system powers on safely and the TLS-450Plus console boots without errors.

B. Vacuum Level Verification

- Using the TLS-450Plus console, verify that the interstitial vacuum is maintained between -9 psid and -3 psid (or as specified for the installation).
- Use a calibrated vacuum gauge at the pump inlet, if available, to cross-check console readings.
- Verify that the PetroVac does not draw more than 16 in Hg, verify utilizing the provided vacuum gauge. Adjustments to be made in the field by the certified installer via the Vacuum Relief valve if required. Note this valve must be verified and certified during each annual leak detection monitor certification.

C. Alarm and Warning Simulation

- Simulate a vacuum loss (e.g., by briefly loosening a fitting) to verify that:
 - The TLS-450Plus console generates an audible and visual alarm when vacuum drops to within 1.7 psi of atmospheric pressure.
 - The system can generate a warning if replenishment flow exceeds 100 liters/hour.
 - Product delivery is disabled if programmed and permitted by code.

4. Positive Shutdown

- Confirm that the TLS450Plus is programmed for positive shutdown of the PetroVac if liquid is detected in a vacuum sensor.

- The Vacuum Sensors connect to tank, sump and piping interstices. Each Vacuum Sensor must have an associated Liquid Sensor, which is included in the pre-assembled Veeder Root Vacuum Sensor Monitoring Kits.

- Functional test of liquid detection shutdown logic:
 - Simulate liquid detection in each vacuum sensor (per Veeder-Root test procedures).
 - Verify that TLS-450Plus immediately shuts down PetroVac, annunciates alarm, and prevents automatic restart.
 - Confirm that manual reset is required to restore PetroVac operation after alarm clearance.

5. Component Integrity Checks

- Inspect all vacuum tubing, fittings, and seals.
- Inspect pump casing and mounting for signs of damage, corrosion, or instability.
- Check that all fasteners are tight and that the pump is free from excessive vibration or noise during operation.

6. Maintenance Record Review

- Verify that the operator maintains a log of monthly inspections, quarterly alarm tests, and annual cleaning of the cabinet and pump.
- Confirm that all maintenance and repairs use genuine PetroVac parts and follow manufacturer procedures.

7. System Programming & Compliance

- Ensure the TLS-450Plus SCLD module is programmed for the correct interstitial volume per Veeder Root programming guidelines.
- Confirm that the system is not used with manifolded piping unless specifically approved.

8. Documentation

- Ensure the site has the following documents on hand:
 - PetroVac Installation and O&M Manuals

- One-Year Limited Parts Warranty
- Installation technician PetroVac training certificate.

9. Inspector Notes

- If any deficiencies are found, document them thoroughly and notify the operator for corrective action.
- For technical questions or to verify equipment approval, contact Petro Specialties, Inc. at (888) 606-8265.

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