



**RAYCHEM**  
TraceTek

# Leak Detection Systems

## Environmental Applications Installation Instructions

### Checklist of Installation Steps

Steps	Check List
1 Store sensing cables properly	1 <input type="checkbox"/>
2 Hold a preconstruction meeting to clarify roles and requirements	2 <input type="checkbox"/>
3 Prepare for the installation and schedule it at the proper time	3 <input type="checkbox"/>
4 Install and test the TraceTek alarm module	4 <input type="checkbox"/>
5 Verify that all major construction is complete	5 <input type="checkbox"/>
6 Prepare the area where the sensing cable will be located	6 <input type="checkbox"/>
7 Test sensing cable before installation	7 <input type="checkbox"/>
8 Observe proper precautions when handling sensing cables	8 <input type="checkbox"/>
9 Install sensing cable in accordance with instructions for the application	9 <input type="checkbox"/>
10 Test sensing cable after installation	10 <input type="checkbox"/>
11 If using bulk sensing cable, have connectors installed and tested	11 <input type="checkbox"/>
12 Complete the leak detection system and activate it as soon as possible	12 <input type="checkbox"/>
13 Verify that the system is operational	13 <input type="checkbox"/>
14 Prepare as-builts, and have TraceTek system tested, mapped, and commissioned	14 <input type="checkbox"/>
15 Train owner/operator	15 <input type="checkbox"/>

## Installation Steps

For details, these general instructions refer to other nVent literature which is identified by an H-number. Consult nVent at (650) 216-1526.

### STEP:

### FOR DETAILS REFER TO:

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#### 1. Store sensing cables properly.

Store the sensing cable in the original container in a clean, dry area prior to installation.

#### All applications

- Sensing cable installation instructions
  - nVent RAYCHEM TraceTek TT3000/TT5000 Modular Sensing Cable (H55357)
  - nVent RAYCHEM TraceTek TT3000/TT5000 Bulk Sensing Cable (H55524)

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#### 2. Hold a preconstruction meeting to clarify roles and requirements.

If leak-sensing cables will be installed in double-containment piping or other inaccessible systems, hold a meeting prior to construction. Assemble representatives from the involved organizations, including the engineer, contractors (both mechanical for pipe installation and instrumentation/electrical for cable installation), the owner/operator, and the TraceTek supplier. Ensure design and installation of the physical system will be compatible with use of the leak detection system, and that roles are clearly defined (for example, the piping installer is responsible for leaving double-containment piping in a clean, dry condition with a free-running pull rope between access points).

#### Double-contained piping

- nVent RAYCHEM TraceTek Double-Containment Installation Guide (LIT-138)
- Preconstruction Record (H55548)

#### Double-contained tanks

- General Instructions for Double-Wall Tanks (H55313)

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#### 3. Prepare for the installation and schedule it at the proper time.

- If the leak detection system is to monitor double-containment piping, ensure that piping is installed in accordance with the TraceTek Double-Containment Installation Guide (LIT-138).
- Confirm there is a plan for the leak detection system layout, and a complete bill of materials.
- Ensure that all materials are available (including sensing cable lengths, branching connectors, jumper cables, feedthrough fittings, hold-down clips, and other accessories).
- Plan to do the installation of the sensing cable only after major construction (which could damage or contaminate the cable) is complete.
- If possible, plan to install the alarm module first so it can be used to monitor sensing cable immediately after cable installation.
- Schedule training (by a qualified organization) for those who will install the TraceTek system.

#### All applications

- Selection Guide for Environmental Products (H54783)

#### Double-contained piping

- TraceTek Double-Containment Installation Guide (LIT-138)

#### Double-contained tanks

- General Instructions for Double-Wall Tanks (H55313)

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#### 4. Install and test the TraceTek alarm module.

Install and test alarm module in accordance with installation instructions shipped with the unit.

#### All applications

- Alarm Module Installation Instructions (Instructions are specific to the module: follow the instructions that come with it)

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#### 5. Verify that all major construction is complete.

- Check that construction that could damage or contaminate the sensing cable has been completed.

#### Double-contained piping

- Containment Piping Readiness Record (H55549)

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#### 6. Prepare the area where the sensing cable will be located.

- Hold the TraceTek installation training (conducted by a qualified organization).
- Clean the area where the cable will be installed to remove debris and sources of contamination. For techniques in double-contained piping, consult the TraceTek Double-Containment Installation Guide (LIT-138).
- For sumps, containment trenches, and subfloor applications, install TraceTek hold-down clips, positioning them so sensing cable will provide desired leak detection coverage.

#### All applications

- TraceTek Installation Training Record (H55554)
- TraceTek Double-Containment Installation Guide (LIT-138)

#### Double-contained tanks

- General Instructions for Double-Wall Tanks (H55313)

#### Sumps, containment trenches, and subfloors

- TT3000/TT5000 Series Modular Sensing Cables (H55357)

**STEP:****FOR DETAILS REFER TO:****7. Test sensing cable before installation**

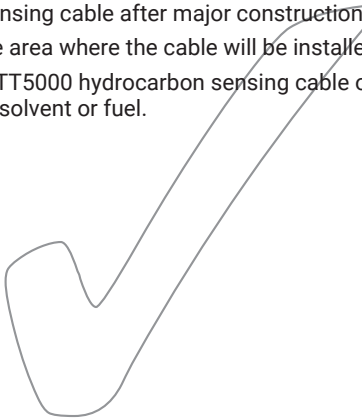
To ensure that each length of sensing cable is intact and free of contamination, follow the test procedures detailed in the sensing cable installation instructions (shipped with each length).

**All applications**

- Test procedures with sensing cable instructions:
  - TT3000/TT5000 Modular Sensing Cable (H55357)
  - TT3000/TT5000 Bulk Sensing Cable (H55553)
- Operating Instructions for the Portable Test Box (H55524)

**8. Observe proper precautions when handling sensing cables.****Do**

- Store the sensing cable in a clean, dry area prior to installation.
- Install sensing cable after major construction is complete.
- Clean the area where the cable will be installed.
- Replace TT5000 hydrocarbon sensing cable once it has contacted a solvent or fuel.

**Don't**

- Drag the sensing cable through contaminants (such as pipe dope, PVC cement, acetone or other solvents, oil, dirt).
- Use damaged or contaminated sensing cable.
- Solder or weld near the cable without protecting it from heat, flux, and splatter.
- Use pulling lubricants to install TraceTek cables.
- Drop tools or sharp or heavy objects onto the cable.
- Pull bulk TT 5000 sensing cable without sealing its end.
- Pull the sensing cable with excessive force (more than 50 pounds /20 kg for TT5000, more than 75 pounds/30 kg for TT3000).
- Place TT5000 sensing cable where it may be subject to pinching or temperatures above 60°C (140°F).
- Leave TT5000 sensing cable installed under tension.
- Use adhesive tapes or unapproved clamping devices to permanently secure the sensing cable.
- Allow cable connectors to become wet, dirty, or contaminated.

**9. Install sensing cable in accordance with instructions for your application.**

The proper installation procedure depends on the application. Follow the TraceTek installation instructions identified at right for your application.

**Double-contained piping**

- TraceTek Double-Containment Installation Guide (LIT-138)
- TT3000/TT5000 Bulk Sensing Cable Instructions (H55553)

**Double-contained tanks**

- General Instructions for Double-Wall Tanks (H55313)

**Sumps, containment trenches, and subfloors**

- TT3000/TT5000 Modular Sensing Cable (H55357)

**10. Test sensing cable after installation.**

Test each length of sensing cable after installation to verify that sensing cable was not damaged during installation, and to evaluate whether the condition of the monitored system requires corrective action. Test procedures are detailed in the sensing-cable installation instructions shipped with each length.

**All applications**

- Test procedures with sensing cable instructions
  - TT3000/TT5000 Modular Sensing Cable (H55357)
  - TT3000/TT5000 Bulk Sensing Cable (H55553)
- Operating Instructions for the Portable Test Box (H55524)

**11. If using bulk sensing cable, have connectors installed and tested.**

Install connectors on TraceTek bulk sensing cable following instructions included with the connection kits.

**All applications**

- TT-3000-CK-MC-M/F Field Installed Connectors (H55003)
- TT-5000-CK-MC-M/F Field Installed Connectors (H54830)
- nVent RAYCHEM TraceTek TT-JC-CK-MC-F or -M Connector Kit (H55005)

**12. Complete the leak detection system and activate it as soon as possible.**

- Install other TraceTek circuit components such as modular branching connectors (nVent RAYCHEM TraceTek TT-MBC-MC) as called for in the system layout; complete the sensing circuit.
- Install the necessary mechanical components, such as the TraceTek pressure feedthrough fitting (nVent RAYCHEM TraceTek TT-PFT-3/4-MC), to complete system integrity and avoid intrusion of liquids from extraneous sources.
- Connect the sensing circuit to the alarm module and activate the system as soon as is practical. Use the module to monitor the system for events during the final stages of construction. Identify and correct problems as they are detected.

**Double-contained piping**

- nVent RAYCHEM TraceTek TT-PFT Pressure Feed-Through Fitting Installation Instructions (H54105)

**Double-contained tanks**

- nVent RAYCHEM TraceTek TT-TK Tank Kit Installation Instructions (H55302)

**STEP:****FOR DETAILS REFER TO:**

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**13. Verify that the system is operational.**

Verify that the system is fully operational and ready for use; the TraceTek Precommissioning Record provides a useful checklist.

**All applications**

- Precommissioning Record (H55550)

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**14. Prepare as-builts and have the TraceTek system tested, mapped, and commissioned.**

- Gather and record as-built information while the system is still accessible.
- Have a qualified organization test, commission, and (for locating systems) map the TraceTek leak detection system.

**All applications**

- Commissioning Record for the TraceTek alarm module (specific to the type of module)

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**15. Train owner/operator**

- Identify the persons or groups in the owner/operator organization who will be responsible for the leak detection system. Have them trained in the operation and maintenance of the system.

**All applications**

- Operating Manuals (specific to the type of module)

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