



Raychem[®]

TraceTek

FUEL LEAK DETECTION
FIND LEAKS BEFORE THEY FIND YOU

THERMAL MANAGEMENT SOLUTIONS

WWW.THERMAL.PENTAIR.COM



INDUSTRIAL SOLUTIONS

As the world's largest provider of complete electrical heat management, wiring and leak detection systems, primarily for the general process, oil and gas, chemical, and power generation industries, Pentair Thermal Management provides innovative products and turnkey solutions under market-leading brands—Raychem, Pyrotenax, DigiTrace, Tracer, and TraceTek. Our premiere turnkey solutions include full life cycle support—ranging from front-end engineering and installation to maintenance and operation services. Our global experience and office presence in 48 countries uniquely position us to manage the heat needed for projects of any size and scope.

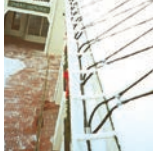
THE HEART OF OUR SOLUTIONS

Our TraceTek brand of reliable liquid leak detection systems with sensor cables and monitoring systems for hydrocarbon and environmental applications, lets you detect and pinpoint the source of a leak, allowing you to take corrective action before an incident becomes a "news story".

Rely on Pentair Thermal Management's leak detection solutions for greater protection of your tank farms, airfields, pipelines, refueling ports and refineries—and ultimately, the protection of the environment and your reputation.



Heat Tracing



Snow Melting and De-Icing



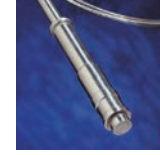
Floor Heating



Fire and Performance Wiring



Leak Detection



Temperature Measurement



Turnkey Solutions

HYDROCARBON FUEL LEAK DETECTION

The TraceTek Leak Detection and Locating System was developed by the international material science manufacturing company Raychem in the early 1980s and Raychem products are in use in tens of thousands of leak detection applications worldwide. Pentair Thermal Management TraceTek liquid leak detection products have been installed in:

- Tank farms
- Military & civilian airfields
- Pipelines
- Refuelling & bunker areas of ports
- Refineries

This brochure highlights a range of typical risks from petrochemical leaks and how those risks can be minimized. We also provide water leak detection for commercial buildings.



DON'T RISK SAFETY, THE ENVIRONMENT, OR YOUR REPUTATION



Liquid hydrocarbon leaks can jeopardize safety and damage the environment—both of which can be costly to your reputation and business.

Broken valve spills fuel into ground

Dozens of families evacuated to local schools

Following many calls to emergency services complaining of odour and itching eyes, local families were told to clear the area around storage tanks as a precaution and local schools were closed. A company spokesman said "we discovered a broken valve had spilled fuel into the drainage system... which has caused the accident."

Fuel leak shuts airport

In a move which angered many passengers and local politicians, the local airport diverted up to a dozen flights in & out of the airport following discovery of fuel leaks. A company spokesperson said "Until we were sure there was enough fuel available to allow them to take off again it was a sensible precaution to

TRACETEK IS YOUR LEAK DETECTION SOLUTION

Since the 1980's TraceTek products have been helping operators detect spills, locate the source of leaks and take corrective action before an incident becomes a "news story."

The key is quick detection and accurate location at the source of the leak. The TraceTek leak detection system offers you:

- Reliable and accurate fluid leak detection systems for pipelines, tanks, wharfs and airports, pumps and valves.
- Sensor cables and probes that directly detect and pinpoint the source of petroleum leaks to help you take decisive action before the spill can create damage.
- Leak detection and location well before a typical SCADA system will provide warning.
- Configuration options that automatically shut off pumps or valves where appropriate.
- Digital communications such as local, networked remote alarms and diagnostics including building management systems, email, web or SMS.
- Modular units so that simple or complex systems can be configured for current needs and allow for future expansion.



Whether your concern is gasoline, jet fuel, diesel, or bio-fuels, TraceTek can provide a customizable leak detection system tailored to meet your needs.

With the TraceTek leak detection system, you can detect and pinpoint the source of a leak to help you take decisive action long before the spill can ruin your reputation.

TECHNOLOGY SUITED TO THE TASK

Safety is the number one concern of most companies involved in the handling of petroleum fuels, and protecting the environment is a close second. The regulatory framework in both areas is getting progressively tighter, so if your business involves the production, transportation, storage, refining or consumption of fuels, you need to consider the possibility of a leak.



In some situations a potential source of a leak can be anticipated. A valve pit, an overfill containment or a low point sump is an ideal location for a fast acting fuel probe. Quickly knowing that fuel is accumulating in an unexpected area can be the key to avoiding a catastrophic accident or expensive clean-up.



Our fast fuel probe provides an immediate signal of the presence of hydrocarbons so that you can deal with the issue—fast.



Don't make the mistake of thinking that a "slow" leak is a "small" leak. A slow leak results in a large spill if the detection system is too insensitive to detect leaks below a given threshold or below a certain percentage of flow.



Hydrocarbon sensing cables lie around or under potential leak sources. It tells you if there is a problem—and where it is.

Far too many leaks are discovered when someone notices the smell of fuel or after surface/below-ground water has become contaminated.



TRACETEK PRODUCTS

SENSOR CABLES FOR HYDRO-CARBON LEAK DETECTION

TT5000-SC is for double containment pipe systems, indoor day tanks, pumps, and valve pads.

TT5000-HS is for use in slotted conduit installed below grade beside pipelines and under tank or buried valves.

TT5000-HUV is for use with above-ground piping around tanks and other locations exposed to sunlight.

All **TT5000** cables ignore water.



FAST ACTING, RESETTABLE PROBES FOR LIQUID FUELS

TTFFS-100 detects liquid hydrocarbon fuels such as naphtha, refined products and heavy crude. Resettable and reusable in most applications. 100 mm active sensor length.

TTFFS-250 is similar to TTFFS-100 but with longer active sensor area to accommodate more variation in standing water.



MONITORS AND ALARM PANELS

TraceTek offers a variety of line powered, battery and solar options together with wired and wireless telemetry to control room alarm panels.

TT-FLASHER-BE is a battery powered led flasher approved for hazardous locations, no external wiring required.

TTC-1 is an "alarm only" dry contact relay output for signaling remote alarm panels or local alarm equipment.

TTSIM-1 provides alarm and leak location information suitable for pipelines and similar installations. TTSIM-1 offers round-the-clock monitoring and leak location to within 1 m.

TT-TS12 touchscreen panel provides a graphic user interface to manage and display information from a network of up to 250 external TraceTek leak detection circuits.



All TraceTek systems for hydrocarbon leak detection are suitable for installation in hazardous locations with appropriate selection of zener safety barriers and power supplies.

APPLICATIONS

HIGH CONSEQUENCE AREAS

Operators of Hazardous Fluid Pipelines traversing “High Consequence Areas” should consider additional measures to detect and mitigate pipeline leaks. In the USA, API 1160 lists Hydrocarbon Sensing Cables as mitigating devices.



BATCH AND TRANSFER LINES

For batch lines and transfer lines where SCADA is ineffective or has prohibitive initial costs, TraceTek systems typically provide a low cost option with better sensitivity and actionable alarms.



AIRPORT HYDRANT SYSTEMS

TraceTek cable provides round-the-clock, leak detection and precise location. Cable is installed and serviced through access risers in the apron. Other airport leak detection systems are based on periodic pressure decay measurements and a given section of pipe may be tested only once every 30 days. TraceTek systems provide early detection and provide precise information on where to dig.



TANK FARMS

Cable is installed around the circumference or beneath tank floor plates of above ground storage tanks as a permanent safeguard against undetected leakage through corroded bottom plates.

TraceTek’s Fast Fuel Sensor is especially effective for detection of leaks due to tank over fillings or through side wall fittings: It ignores rain water so when installed with a containment barrier, it can detect fuel floating on water.



ABOVE GROUND PIPING

At terminals, refineries, wharfs, and oil fields, cable is strapped to the bottom of an above-ground or racked piping system. TraceTek sensor cable provides the same high sensitivity and accurate leak location as its below ground counterparts. The sensor cable is designed and installed to detect the first drips of fuel or oil.



SYSTEM LEVEL SOLUTIONS



- Sensor cables are networked to the digital backbone of the system and produce signals where you want them to appear:
 - o Local / On site with buzzers, flashers or valve actuation.
 - o Into plant management systems to be integrated in your software.
 - o Off-site to remote web or mobile phone applications.
- A wide range of industry standard protocols are used, giving you multiple interface possibilities.
- Systems are simple to operate, rugged in design and reliable in use.
- Universal power supply and hazardous location approvals means they can be installed in all environments.



APPROVALS AND CERTIFICATIONS



TraceTek leak detection systems are approved and certified for use in nonhazardous and hazardous locations by one or more of the following agencies, including FM Approvals, UL, TÜV, VDE, Baseefa and LCIE.

For a copy of our animation which shows multiple applications of TraceTek fuel sensing technology, email us at: thermal.info@pentair.com

**For Industrial Strength Fuel Leak Detection,
Look to the Leader.**

Visit our website at www.tracetek.com



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