



# Fuel Leak Detection

## Find Leaks Before They Find You



**tyco**  
Thermal Controls



## A Solution Company

**Tyco Thermal Controls** is the world leader in liquid leak detection solutions for the industrial, commercial, and environmental markets. Employing over 2500 people around the world, Tyco Thermal Controls is the global leader in leak detection and location solutions.



## Worldwide Approach

With operations in 48 countries and worldwide experience, Tyco Thermal Controls supports your project efforts anywhere, anytime. Whether it's superior products or turnkey services, Tyco Thermal Controls has the solution. Our partners will work with you locally to custom design a system to minimize your risks.

## The Market Demands — We Supply

From Leak Detection, Heat-Tracing, Specialty Heaters and Floor Heating to Fire and Performance Wiring, and Temperature Measurement, we are able to offer innovative solutions worldwide. Furthermore, we proudly provide Turnkey Services for each — WORLDWIDE!



Heat Tracing



Snow Melting and De-Icing



Floor Heating



Fire and Performance Wiring



Leak Detection



Temperature Measurement



Specialty Heaters



Services



## Hydrocarbon Fuel Leak Offering

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. Since the acquisition by Tyco in 1999, Tyco Thermal Controls 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 a strong odour and itching eyes, local families were told to clear a 2km area around storage tanks as a precaution and local traffic was restricted. A company spokesman said "we discovered a broken valve which had leaked fuel into the drainage system... which has caused the unusual odour."

## 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 spokesperson said "Until we were sure there was enough fuel available to allow them to take off again it was a sensible precaution to shut the airport."

# 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. TraceTek sensor cable and monitoring systems let you do that, because it 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 long before the spill can create damage.
- Early indicators 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 1 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.

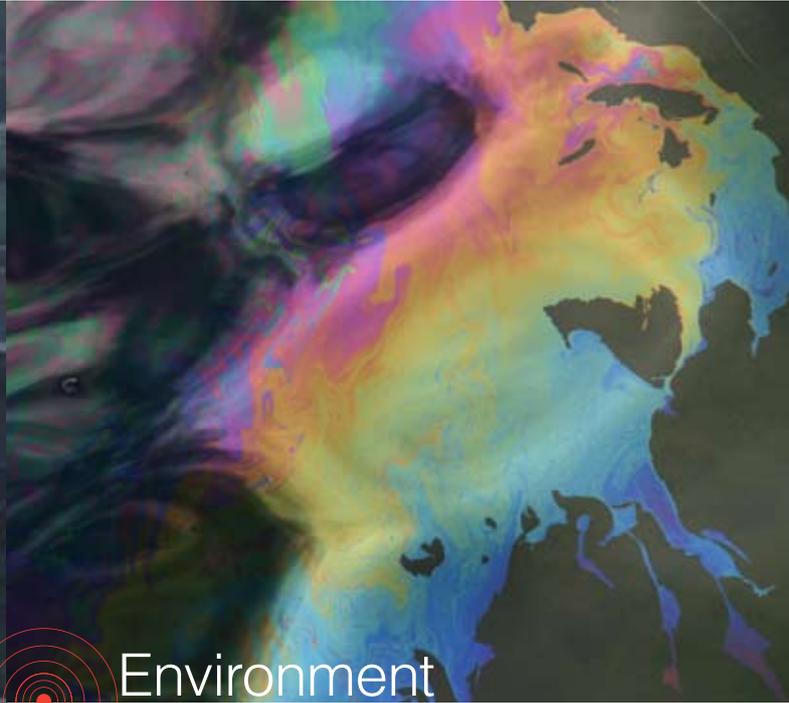


## Safety

In some situations a potential source of a leak can be anticipated. A valve pit, an overflow 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 sensor provides an immediate signal of the presence of hydrocarbons so that you can deal with the issue – fast.



## Environment

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.

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



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

# TraceTek Products



## Sensor Cables for Hydrocarbon 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-DB** provides alarm and leak location information suitable for pipelines and similar installations. TTSIM-1-DB offers round-the-clock monitoring and leak location to within 1 m.



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.



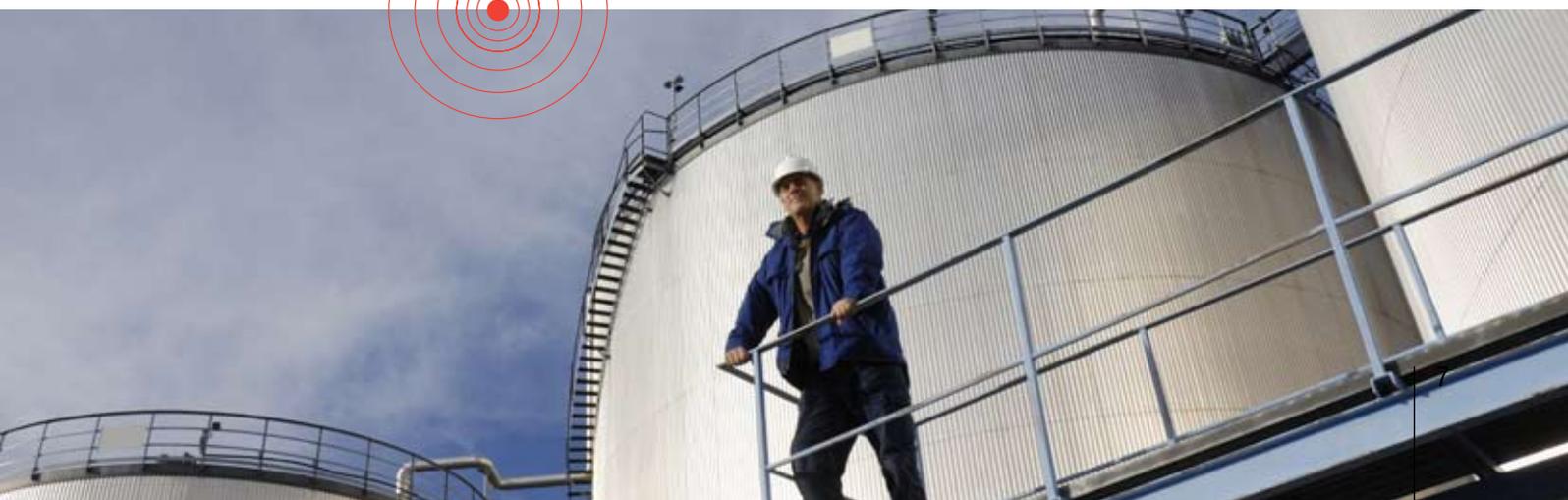
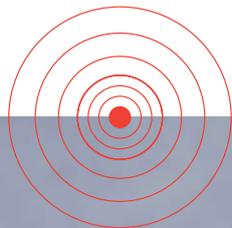
## Above Ground Piping

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:
  - Local / On site with buzzers, flashers or valve actuation.
  - Into plant management systems to be integrated in your software.
  - 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



DIBt



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 and LCIE.



For a copy of our animation which shows multiple applications of TraceTek fuel sensing technology, email us at: [fuelanimation@tycothermal.com](mailto:fuelanimation@tycothermal.com)

For Industrial Strength Leak Detection,  
Look to the Leader.

Visit our website at [www.tracetek.com](http://www.tracetek.com)



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