



**CONNECT AND PROTECT**

**WATER LEAK DETECTION**

Find leaks before they find you

  
nvent

**RAYCHEM**  
TraceTek



## **BUILDING & INFRASTRUCTURE SOLUTIONS**

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We provide quality solutions for winter safety, comfort and performance to building and infrastructure design, construction, operation and maintenance professionals. From pipe freeze protection to maintaining fluid temperatures and melting snow, detecting leaks or heating floors, you can rely on nVent RAYCHEM TraceTek for greater safety, comfort and performance.

## **THE HEART OF OUR SOLUTIONS**

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Our TraceTek water leak detection system with sensor cables, probes and monitoring systems, lets you detect and pinpoint the source of a leak, allowing you to take corrective action before the leak can cause damage to property, data or customer goodwill.

The TraceTek leak detection system is a versatile modular system with many interchangeable components that can be configured as needed for each application. The broad range of TraceTek alarm modules and modular components allows you to tailor the monitoring approach and layout to the application.

Rely on nVent leak detection solutions for greater performance for your building.

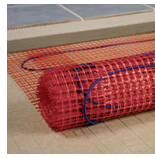




Heat Tracing



Snow Melting  
and De-Icing



Floor Heating



Fire and  
Performance  
Wiring



Leak  
Detection



Temperature  
Measurement



Turnkey  
Solutions

## Water Leak Detection

With many thousands of installed systems worldwide—from London’s iconic new Swiss Re building to Shanghai’s World Financial Centre—TraceTek sensing cables and multifunction, multi protocol digital alarm systems are the dominant solution to water leaks in buildings. Our extensive global distributor network provides local contact and installation for these systems into:

- Computer Rooms, Server Equipment and Communications Facilities
- Intelligent Buildings and Commercial Buildings
- Libraries and Archive Storage Facilities
- Museums, Heritage Sites and Aquariums

This brochure highlights a range of typical risks from water leaks and how those risks can be minimized. In addition to water leak detection, we provide systems for petrochemical leak detection. Talk to us or one of our local partners to see how we can help you find leaks before they find you!







### **RISK AREAS**

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- Heating/cooling water supply and return piping
- Condensate drains
- Fire sprinkler systems
- Toilets, drains and related plumbing
- Basements
- Backflow preventors
- Roof and window leaks
- Coffee and vending machines
- Overhead pipe runs and trays

### **APPLICATIONS**

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- Raised floor computer facility
- ISP/co-location facilities
- Fiber optic switch sites
- Control rooms
- Trading rooms
- Archival storage
- Executive offices
- Communications and server equipment rooms
- Museums and historic buildings
- Libraries and aquariums
- Raised floor office areas
- Utility riser columns
- Elevator pits

### **POTENTIAL CONSEQUENCES**

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- Business disruption
- Service interruption and network outages
- Loss of telephone service
- Liability for damage to tenant's equipment
- Damage to furnishings, paper files and records
- Cleanup costs



# TraceTek Water Leak Detection Solutions

At thousands of varied sites worldwide our products & strong distributor network have been helping commercial building managers detect water leaks and take corrective action before critical services are disrupted or priceless items are damaged.

The key is quick detection and accurate location at the source of the leak. TraceTek sensor cable and monitoring systems offer:

- Long term reliable systems with high performance polymers for maximum durability of the sensor cables.
- Cables and probes that directly detect and accurately pinpoint the source of the leak without the risk of digital communications and power running through the sensor cable out on the data center floor.
- A digital communications & power backbone that gives the ability to independently track many leaks at once, with local, networked or remote alarms and diagnostics.
- Multiple digital communications protocols and integration to building management systems, email / SMS or web page.
- Configuration options that automatically shut off pumps or valves where appropriate.
- Modular assembly means systems can be configured for current needs and allow for future expansion. These are easy to segment to “your” needs rather than conforming to a fixed length factory standard and can handle up to 250 cables independently.

**All these features mean you have great design flexibility needed for modern high rise buildings.**

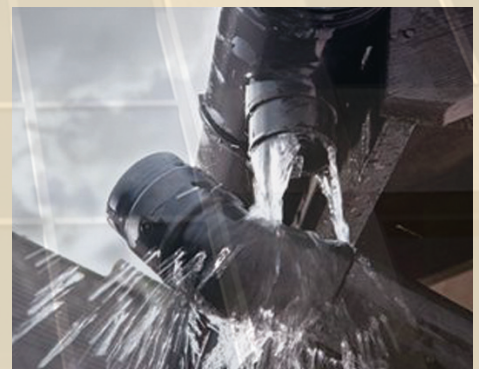
## Water Leak Risks in Commercial Buildings



Server and communications facility



Raised floor computer facility



Plumbing systems and suspended pipes

# Solutions for Data Centres and Server Rooms



## THE THREAT

Server facilities are the nerve centres for most modern businesses. Thousands of optical and electrical connections are concentrated in a densely packed space. Racked equipment generates a large amount of heat and in order to prevent equipment failures, the heat must be extracted. Heat extraction is the role of the HVAC equipment and chilled water pumped into and out of the facility is the primary heat extraction medium. However water and electronics don't mix. Water accumulating on the floor or water dripping from overhead piping can and does interrupt server operations.

Early detection of any water leakage can get maintenance on scene in time to deal with the threat. Raised floor facilities are even more vulnerable because leakage is concealed. A water leak in a visible area might be noticed by employees but if the leak occurs beneath raised floors, the first alarm may occur when a critical system shuts down or water begins to rise through the structural floor to lower levels in the building.

## THE SOLUTION

TraceTek developed water sensing cable with the ability to detect and precisely locate any water leakage. TT1000 sensor cable is designed to work on flat surfaces and is installed directly on the concrete slab beneath all data and power cabling. Any water leaking from HVAC units, chilled water fittings or back-up drains is detected immediately with location accuracy sufficient to pick the right floor tile. For racked equipment, TraceTek has developed TT1100-OHP that can be fitted to the underside of overhead pipe or used in drip trays. The same degree of detection sensitivity and leak location is delivered in a form better suited to modern server room.



# Prevent Water Damage to Books, Artifacts and Collections



## ARE YOU PROTECTED?

Water causes a huge amount of damage and loss every year. TraceTek cannot prevent a catastrophic hurricane or tsunami, but the TraceTek system will alert you to preventable situations that can become catastrophic if prompt action is not taken.

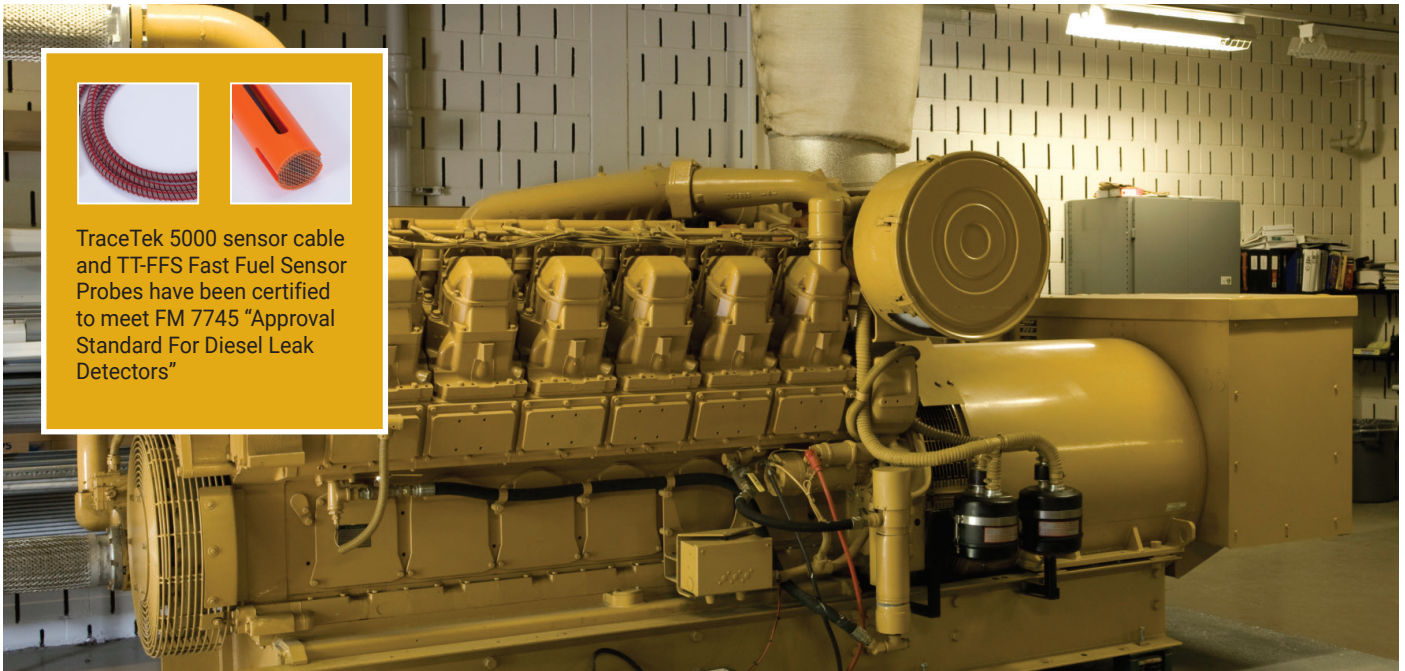
## THE PROBLEM

Water damage occurs most frequently when leaks are undetected over extended periods. Many news stories begin with: "When workers arrived on Monday morning...". Not every leak occurs on Friday night, but a leak that does occur can cause tremendous damage before detection. Libraries, museums, basement storage vaults, archived records, and similar collections are extremely vulnerable. Water damage to carpets, hardwood floors, walls and ceilings in addition to damage to furniture and fixtures makes restoration expensive. If water damage impacts a work area, alternate space must be found, staff must be temporarily relocated, communications must be re-routed and many man hours will be lost.

## THE SOLUTION

TT1000 and TT1100 -OHP sensor cables can be positioned in and around possible sources of water or deployed around areas that need protection. Building service columns, just inside the foundation for underground storage vaults, around the interior service core of the building at each floor, around the window perimeter beneath fan-coil units are all typical examples of where sensor cable can be effectively deployed. When mechanical equipment is supplied with dedicated drip pans, a TT-FLAT-PROBE is an excellent way to monitor for any water accumulation. All TraceTek sensor cables and probes are equally effective for potable water, condensate or water glycol mixtures.

# Solutions for Diesel Generators



TraceTek 5000 sensor cable and TT-FFS Fast Fuel Sensor Probes have been certified to meet FM 7745 "Approval Standard For Diesel Leak Detectors"

## NOT ALL PIPES CONTAIN WATER

Increasingly, commercial facilities must have back-up power sources and the most common way to provide that power is with diesel powered generators. However, pumping and storing diesel fuel inside of a building introduces a risk of fire that exceeds the rapid acceleration that the water sprinkler system can control. FM Global has recently released FM 7745 "Approval Standard for Diesel Leak Detectors". TraceTek's Fast Fuel Sensor Probe and TT5000 Fuel Sensor Cable have been tested by FM approvals and are certified to meet the requirements of the new standard.

## THE PROBLEM

Hospitals, server facilities, large office buildings and many other commercial and institutional facilities require diesel powered back-up generators. In many older buildings, generators have been squeezed into spaces that were not originally designed for that purpose. Each generator requires a day tank, fuel pumps, valves, hose connections and similar fittings. Frequently there will be a supply and return piping connection to a larger underground diesel storage tank outside of the building footprint. An undetected diesel fuel leak presents a major fire risk and if ignited could lead to a rapidly growing fire beyond the extinguishing capacity of sprinkler systems.

## THE SOLUTION

TraceTek Fast Fuel Sensor (TT-FFS) and TT5000 Fuel Sensor Cable can be deployed around the generator pad, under day tanks, in double wall pipe or trenches connecting supply and return piping, and in similar applications.

The TT-FFS probe is capable of reacting to the presence of diesel within a few seconds. It will detect a puddle of diesel spreading across a flat surface or a layer of diesel floating on water. TT-FFS can be tested as desired, re-used and reset after a leak encounter. The TT5000 sensor cable can monitor tens of hundreds of meters of piping and provide the same precise leak location information that is a feature of all TraceTek cables.



# Products and Technology

## DIGITAL OR ANALOG?

Don't be confused by claims to the contrary: All sensing is done at the analog level by measuring voltage, current and resistance. All modern systems convert the analog values to digital values then use digital telemetry to bring the measurement values to the alarm panel. TraceTek's combination of analog measurement and digital technology, permits designers to tailor their leak detection system to larger floor areas, multiple levels and smaller discontinuous areas with ease. As all SIMs speak Modbus, Johnson Controls' N2 Open protocol and allow for easy conversion to BACnet, TraceTek leak detection can be a plug-and-play addition to many building management systems.



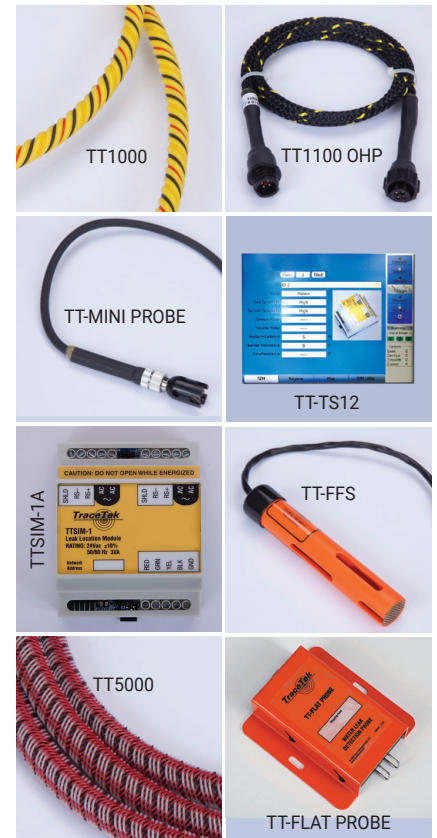
Conductive polymers are used to extend the life of TraceTek cables. Some of the oldest TraceTek water detection cables have been in continuous service for more than 25 years.

TT1000 cable core is built with tough engineering plastics suitable to take the load and stress from being on the bottom layer of an under floor cable stack.

TT1100-OHP is a design tailored for overhead pipe, drip trays and dirty areas. The unique polyester over braid layer provides a wicking action that assures the first drops of water to hit the sensor cable are absorbed and wicked along the cable until an alarm signal is generated and the leak located. The rope layer also provides additional insulation where sharp metal edges could be a problem and works well to protect the sensor electrodes in dirty or dusty areas.

TraceTek provides an array of choices for monitoring systems. Sensor Interface Modules (SIM) provide the excitation voltage necessary to operate cable or probes. The SIM monitors analogue current and voltage levels to determine when and where a leak has occurred. The measurements are digitized and transmitted back to the control and alarm panel for user display or interface to higher level systems.

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.



# Approval and Certifications



DIBt



LCIE



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 water leak detection technology, email us at:

**[thermal.info@nvent.com](mailto:thermal.info@nvent.com)**

**For Water Leak Detection, Look to the Leader.**

Visit our website at **[nVent.com](http://nVent.com)**





TRACETEK WATER LEAK DETECTION

FIND LEAKS BEFORE THEY FIND YOU





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