Commercial Leak Detection Sensors

Commercial leak detection offers a proactive approach to protecting your properties from detrimental water damage. Leak detection technology can quickly alert property maintenance to water damage threats before they escalate to costly damage and downtime. These systems offer peace of mind knowing that your property is monitored and well-maintained, reducing the potential for water damage, mold growth, and costly water bills. Utilization of a commercial leak detection system can make you a more competitive and attractive client within the property insurance market when seeking to place insurance coverage.

We have highlighted some key things to keep in mind when considering commercial leak detection within your property or portfolio.

GOALS

The first thing to consider is your goals. Do you want to catch every single leak, big and small? Do you want to catch the big leaks? Do you want to appease the insurance company? Are you just trying it out? Identifying your goals will help you find the best vendor for your needs and the products you want, all within your budget.

BUDGET

+ Installation of a system can be a large expense, but it's important to understand the cost of the system versus the potential cost of a large water loss event. Consider the cost over 5 or 10 years – If sensors prevent one to two big losses, the system can essentially outweigh the opportunity cost within those 5-10 years.
+ Insurance is another cost factor. Although less precise in predicting exact amounts, having this technology can make your location a more attractive risk to an insurance company, leading to increased market competition, potentially reduced water damage deductibles, and/or higher water damage limits.
+ If budget constraints are a concern, consider starting small with sensors placed in key areas first, then expanding into additional areas when budget allows (see "Where to Place Sensors" for more details).

Case Study

A client had a history of large water damage losses from a variety of causes. This history put the client in a difficult position in the insurance market, with high water damage claim deductibles and declinations to quote from prospective insurers. The client, with the help of their risk control team, established a water damage mitigation committee with members from each location and many departments, which met monthly to review incident trends, establish prevention methods, and formalize incident response plans. One key recommendation that the client chose to implement was the use of leak detection devices. Positioning these devices in key locations has had a significant impact on how quickly a leak can be detected and responded to, thus decreasing the severity of incidents.

TYPES OF LEAK DETECTION

Water Sensors

- Sensors are the most basic form of leak detection, yet very effective and largely universal. They can be placed throughout a location and will send out an electronic notification and an audible alarm if they encounter any moisture. They enable you to quickly catch leaks from both internal external sources, like water coming in from the roof or a leaking hot water tank. While water sensors don't necessarily pinpoint the source point of a leak, they can provide a crucial early warning.
- Another type of water sensor is a "rope sensor" that can be wrapped around the base of equipment, along a wall, or even inside a wall. This sensor will trigger a notification to the monitoring system if moisture contacts any point of the rope.

Flow Monitoring

- Flow monitoring devices are valves that can be installed on water pipes to measure and analyze the flow over time. If devices detect an unusual deviation from the normal pattern, such as flowing water during off-hours, it will send out a notification. Flow monitoring becomes more useful with the more valves that are installed, allowing more accurate identification of the source of the leak. They can also identify leaks that a sensor might not pick up, such as water leaking from a pipe behind a wall.
- Another benefit of flow monitoring is data collection. Knowing how much water is being used, when, and where the biggest draws are can have a positive impact on understanding and protecting a building.

Automatic Shutoff

- Automatic shutoff valves can be used in tandem with water sensors or flow monitors within a leak detection system to shut off the source of water if a leak is detected. As with the flow monitoring valves, these become more effective the more that are installed.

WHERE TO PLACE SENSORS

It's important to consider several factors when determining where to prioritize sensor locations.

- **Value of Rooms –** Damage to high-dollar value rooms, such as server and electrical rooms, can quickly cost large amounts of money during a water intrusion event. Protecting these rooms and detecting water intrusion immediately is key. Keep in mind that you may need to monitor a level above these rooms as well.
- **Business Continuity –** Areas that are key to business operations may take priority for the installation of water sensors.
- **Likelihood of a Leak –** Prioritize leak detection in/around areas or equipment that use water or have a higher probability of failure: water heaters, boilers, chillers, refrigerators, ice machines, etc.
- Prioritizing these areas is especially important if the equipment is on a roof where water can seep down into the building.
- **Traffic to Areas –** A leak starting in an area that is consistently occupied and highly trafficked is more likely to be noticed by someone before a leak located in a back room that is rarely visited. If you're unable to install sensors in all areas, consider focusing on less-trafficked areas like mechanical rooms, water heater rooms, etc. then move to places like bathrooms, kitchens, etc., for an after-hours monitoring focus.

STAFF TRAINING

- All staff should be trained on the location of sensors, proper response during an alarm, where water shutoffs are, and who to contact if a sensor alarms.
- Staff such as housekeeping will need to be trained on locations and sensitivity to not accidentally set sensors off (i.e., accidentally triggering during mopping or cleaning duties).
- Ensure after-hour, on site security staff are trained on proper response and notification.

SELECTING A VENDOR

Expansion of the System

+ Depending on your goals and the extent to which you plan to utilize water monitoring technology, different vendors may be more appealing. Some vendors specialize in sensors, while others also offer flow monitoring and automatic shut-offs. If you intend to leverage these additional technologies, select a vendor that can provide everything you're looking for.

Communication Style of Devices

+ Different sensors are set up to "communicate" via different communication signals. Wireless technologies like Wi-Fi, cellular, Bluetooth, and radio frequencies are all used by different products. Consider the construction and layout of your building when selecting a product – cellular signal will not work as well as a radio signal in a basement with concrete walls.

Compatibility with a Building Management System

+ It may be pertinent to find a system that can integrate with your existing building management systems to minimize the need for separate notification systems and monitoring.

Geography and Occupancies

+ Ask the prospective vendor where their staff is located and what types of occupancies they are familiar with. The needs of a hospital will be different than the needs of an apartment building. It is also beneficial if the vendor has staff or representatives nearby in case the system needs updating or correction.

Implementing a commercial leak detection system is a proactive and cost-effective way to protect your property from water damage, reduce downtime, and enhance your appeal in the insurance market. By carefully considering your goals, budget, and the types of leak detection technology available, you can tailor a system that meets your specific needs. Strategic placement of sensors, thorough staff training, and selecting the right vendor are critical steps to ensure the system's effectiveness. With the right approach, a leak detection system can provide peace of mind, safeguard your property, and support long-term operational continuity.