

VESDA Customer Success Story

Jack Daniel's Warehouse

Jack Daniel's is taking fire protection to a level not seen at any other distillery.



“With so much at stake, we decided to outfit all our warehouses with **Xtralis VESDA**. We're very pleased with its reliability, easy maintenance and cost effectiveness.”

— Bill Spraggins
Engineering Manager
Jack Daniel's

Distilleries present certain fire prevention and detection challenges due to the highly flammable nature of alcohol and the ease in which a flowing river of flaming alcohol from one warehouse can quickly spread fire to other areas. There is also the very real possibility of a substantial environmental impact and the endangerment of surrounding communities. It is of the utmost importance to detect smoke at the earliest possible stage, before a smolder can develop into a full-blown fire. Recent fire events at several distilleries emphasize the hazards of barrel storage warehouses and flammable liquids. In at least two cases, the fires were started by lightning. While varying in severity, damages were in the millions of dollars for each fire with considerable destruction of company property, including warehouses and thousands of barrels of alcohol. One fire resulted in the largest fish kill in Kentucky history, after hundreds of thousands of gallons of flaming bourbon poured into the Kentucky River.

As is standard in the industry, many of these warehouses did not have early stage warning or alarm systems, automatic sprinkler systems or a number of fire hydrants located on the properties. All were in compliance with local fire codes.

The Jack Daniel's Distillery is located in Lynchburg, Tennessee. It produces the number one premium brand in the United States. The distillery was the first to be registered with the US

Location: Lynchburgh, Tennessee
Industry: Manufacturing - Food and Beverage

Solutions:
• Xtralis VESDA VLP



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government in 1866 and is a National Historic site. Its whiskey received the 1904 World's Fair Gold Medal and countless other awards. The company produces several million gallons per year, which has considerable value. All of its whiskey is distilled, charcoalmellowed and bottled in the Lynchburg facilities.

Jack Daniel's is serious about fire protection. Part of the company's program includes its own fire brigade, formed during the 1960s. It uses customized, highly-specialized equipment to deal with fire issues that are inherent to the industry, including fire suppression, spill recovery and cleanup. The brigade also provides fire fighting support to the surrounding community.

The spate of recent distillery fires prompted Jack Daniel's to revisit its entire fire detection and prevention program. The company updated its ESFR sprinklers to a higher density, updated its lightning protection system around the entire facility and added a water tower with a storage capacity of 1 million gallons. Since the warehouses are spaced relatively close, a drainage system of berms and underground trenches were built to prevent a domino effect of whiskey in one warehouse catching fire, pooling and flowing to other warehouses. Two fire hydrants were installed in sprinkler pump stations near each warehouse.

Jack Daniel's was interested in how new technology could best be applied to smoke and fire detection. Since distillery warehouses are all rated Class 1, Division 2 for hazardous locations, the smoke detection system chosen must meet these ratings.

The distillery decided on the Xtralis VESDA VLP system to meet its unique needs. Xtralis VESDA is the only Class 1, Division 2 air sampling smoke detector. It is less expensive to install, as one detector can protect 20,000 square feet. When installed properly, Xtralis VESDA Air Sampling Smoke Detectors are virtually free from nuisance or false alarms.

Jack Daniel's chose Xtralis VESDA for many reasons. The system's very early warning feature, flexibility and high-low design that detects smoke at different levels met the company's needs at a fraction of the cost of alternate products. The first detector was installed in Spring 2003, in a four-story 20,000 square foot warehouse. The entire Jack Daniel's project was completed in August 2004 with a total of 120 Xtralis VESDA VLP detectors installed in all warehouses. The detectors are mounted outside in sprinkler valve-houses.

VESDA Air Sampling Smoke Detection is designed to address the specific operational areas and environmental changes in warehouses, such as diverse temperature ranges, moisture content, particle density and increased levels of airflow. It is tailored to the overall fire risk of warehouses and the key operational areas that require detection. The proper design approach determines the most appropriate fire protection system by assessing the environmental risks at the concept design stage, taking into account internal and external environments, smoke source and movement, heat transfer and smoke detection within the warehouse.

One Xtralis VESDA detector can replace many traditional smoke detectors. Programmable alarm thresholds address the problems of external pollution and airflow, which can cause false alarms. Detectors are easily accessible and centrally located allowing for servicing and maintenance of the system without the need for ladders. The level of response can provide the earliest opportunity for fire investigation

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