

VESDA

CHANNEL PARTNER SALES GUIDE



VESDA APPLICATIONS

- WAREHOUSE AND LOGISTICS
- DATA CENTERS
- HERITAGE
- POWER GENERATION
- HEAVY INDUSTRY
- CORRECTIONAL
- COLD STORAGE

WAREHOUSE AND LOGISTICS

WHY VESDA?

- When smoke is difficult to detect
- Reliable detection in large open spaces
- Flexible solution in any facility type
- Easy maintenance
- Wide coverage

QUALIFYING QUESTIONS

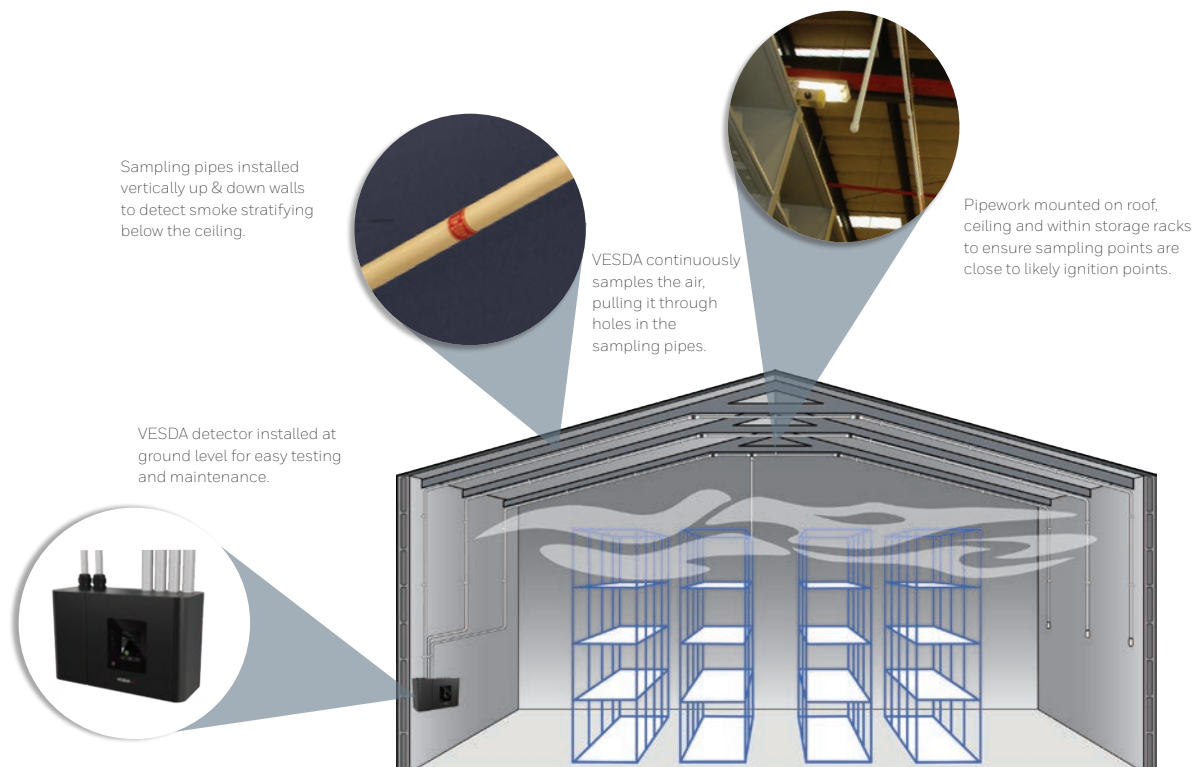
- Is maintenance of conventional detectors on high ceilings expensive, dangerous and disruptive to operations?
- Will smoke be diluted by the environment's large volume making smoke difficult to detect with conventional detection?
- Will smoke plumes be hindered by storage racks?

- Will drafts from open doors and air circulation from heating, ventilation and air-conditioning systems (HVAC) dilute the smoke, making it difficult to detect and creating a risk of delayed or ineffective suppression?
- Do highly flammable or toxic materials increase the fire risk?

FEATURES AND BENEFITS

- VESDA detectors can be installed at ground level for easy access and maintenance.
- The VESDA system provides a wide sensitivity range (0.005% to 20% obs/m or 0.0015 to 6 % obs/ft) and can be programmed for very early smoke detection, where smoke dilution is a challenge.

- Flexibility in pipe design means that sampling holes can be positioned at likely ignition points and wherever smoke may travel or be trapped (stratified smoke or in racks), for early and reliable detection.
- Sensitive detection chamber optics are maintained free of contamination by a clean air barrier, allowing calibration-free operation without the need for drift compensation.
- The system can be programmed to activate pre-action sprinkler suppression systems or to shut-down high volume low speed (HVLS) fans, which may affect sprinkler performance.
- Excellence in compliance including rating FM Class 1 Div 2 for hazardous areas for oil and gas, chemical, liquor and munitions warehouses.



DATA CENTERS

WHY VESDA?

- Very early detection
- Business continuity
- Action before suppression
- Active air sampling
- Where smoke detection is a challenge

QUALIFYING QUESTIONS

- Does air movement from air-conditioning carry smoke away from ceiling-mounted detectors and do these detectors have the approvals/ listings for the air velocities experienced?
- Is smoke potentially hidden within fully-enclosed cabinets, thereby, contaminating sensitive server equipment and delaying detection until the fire escalates and breaches the cabinet?
- Are heat densities in the data center forcing HVAC exchange rates up, causing rapid dilution of smoke and thereby, hampering detection?
- Does it take longer to detect smoke due to HVAC filtration systems that remove smoke particles from the air?

- Is suppression release a costly and disruptive exercise?
- Are you unnecessarily duplicating detection technologies for suppression actuation?

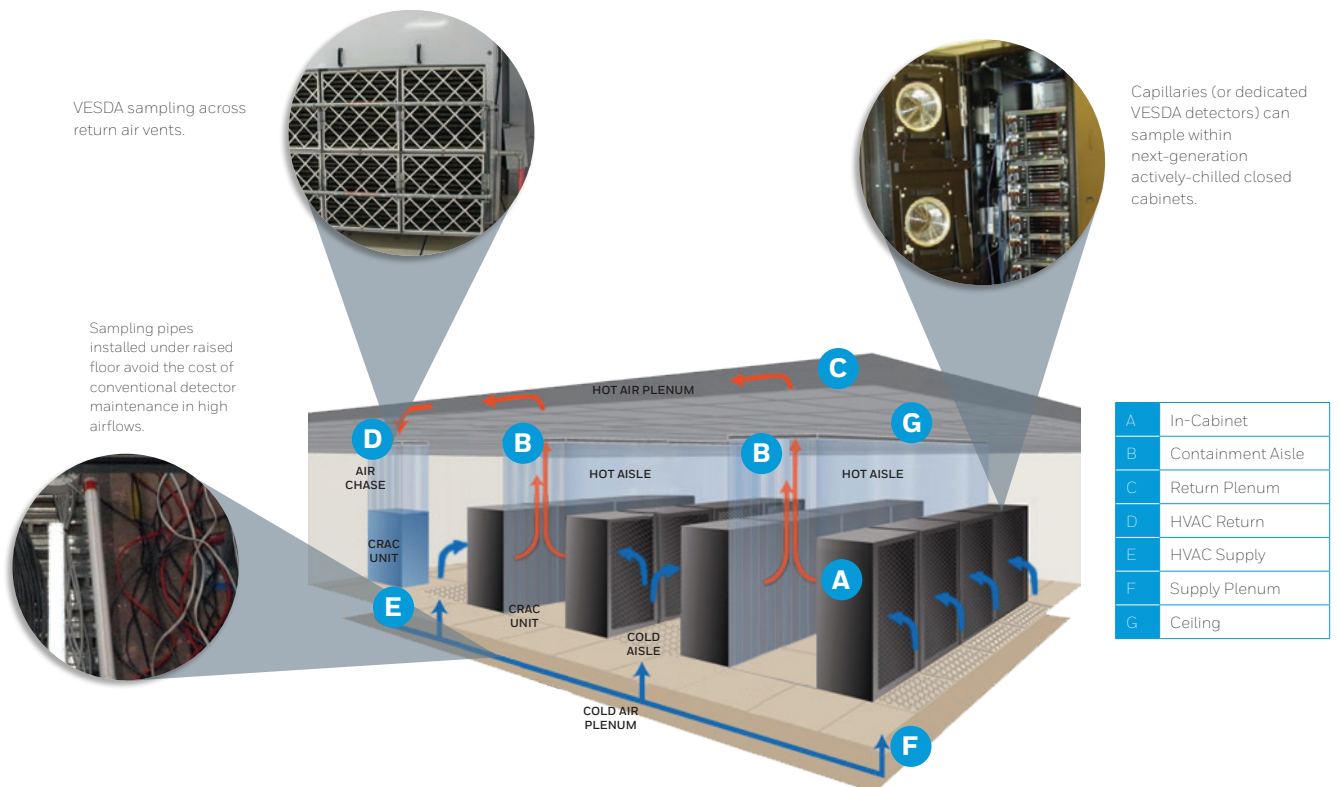
FEATURES AND BENEFITS

- Flexibility in pipe design means that sampling holes can be positioned wherever smoke may travel, for example, across return-air grilles, under raised floors, near high-risk cabling and inside equipment cabinets.
- Early detection buys time to investigate, intervene and take action before smoke poisons sensitive equipment, fire escalates and before fire service attendance or suppression is required, minimizing damage and downtime costs.
- High sensitivity enables detection of smoke diluted by HVAC systems.
- Multiple alarm thresholds can be set to initiate automatic response options, for example, the first alarm could send an SMS to the facility

manager, the second alarm could shutdown power to equipment and the third alarm could notify fire services and activate voice evacuation systems.

- The proven reliability of VESDA systems in high-airflow environments, their wide sensitivity range and the ability to detect incipient fires, allows more time to control a fire and prevent suppression release.
- VESDA systems can be used in coincident detection schemes for code compliant suppression actuation - avoiding the cost of duplicating detection systems.

Note: ASAT is an FM approved tool for calculation of VESDA alarm thresholds for suppression actuation (commonly Fire2), under a variety of different environmental conditions and for a number of different suppression actuation schemes.



HERITAGE

WHY VESDA?

- Reliable early warning
- Discreet and unobtrusive
- Action before suppression
- Provides time for orderly evacuation
- Avoids risks to precious assets

QUALIFYING QUESTIONS

- Is it important to preserve the architectural features and aesthetics of the building?
- Is the building of historical significance?
- Are there irreplaceable works of art, archives, libraries or furniture?
- Are some areas requiring protection, exposed to years of dust and contamination?
- Is there a high risk of fire due to wooden structures, candles, dust and cigarette smokers?
- Is evacuation a challenge for the general public?
- Is smoke in large open spaces highly diluted making detection difficult?

- Are there contractual requirements for the appropriate protection of visiting exhibits?
- Are there unoccupied or difficult to access areas, where a fire may go undetected?
- Are candles or incense used on planned occasions, which may cause false alarms?

FEATURES AND BENEFITS

- VESDA systems provide discrete smoke detection by routing sampling pipes through areas not visible from normally occupied areas.
- Hiding the capillary tubes behind light fittings, blending in with ceiling paintings or forming part of the ceiling sculptures, can all be used to provide 'invisible' smoke detection.
- Capillary tubes can be positioned close to high-risk areas to ensure early detection and sampling holes can be added or pipes repositioned easily, without the expense of an additional smoke detector.

- Multiple programmable levels of alarm provide time to investigate potential threats, avoid the cost of nuisance alarms and, if necessary, coordinate a safe and orderly evacuation.
- High sensitivity ensures reliable detection of low levels of smoke, diluted in large open spaces.
- The system can be designed to protect difficult to access areas such as mezzanines, balconies, high ceilings, floor voids and roof spaces.
- Smoke thresholds can be pre-programmed to avoid nuisance alarms from burning candles or incense during planned celebrations.

Sampling pipes can be hidden in roof spaces so that the only visible component is the tiny sampling point.



Sampling pipes can be positioned close to potential sources of fire, like this dusty lamp behind a cathedral feature.



The sampling hole of the VESDA detector can barely be seen on the ceiling of the Liberty Theatre.



POWER GENERATION

WHY VESDA?

- Very early detection
- Business continuity
- Easy maintenance
- Reliable detection in large open spaces
- Tolerant of harsh environments

QUALIFYING QUESTIONS

- How would a serious fire affect supply continuity?
- Will the consequences of fire have long-term implications on the environment?
- Is the environment dirty, dusty or polluted, potentially causing detectors to become contaminated, blocked or to suffer from false alarms?
- Is maintenance access difficult?
- Does the facility store fuel and combustible materials, creating risks of rapid fire growth?

- Are there generators, electrical or mechanical equipment on the premises, which tend to smoulder for a long time, making smoke difficult to detect.
- Is the facility unmanned and/or located in a remote area, thereby, delaying response times?

FEATURES AND BENEFITS

- Multiple configurable pre-alarms provide time to investigate initial fire services notification, causes of elevated smoke levels, safe planned and automated equipment shutdown and redundant systems startup, and if necessary, suppression.
- Superior performance in harsh or toxic environments with self-diagnosis of potential blockages and other related faults and high resistance to contamination through use of clean-air barrier technology that protects the detection chamber.

- VESDA detectors can be positioned in a location for easy maintenance access.
- High sensitivity ensures reliable detection of low levels of smoke diluted in large open spaces and should be considered in facilities where combustible or flammable materials are stored.
- Sampling pipes can be inserted into electrical equipment enclosures or close to other
- high-risk areas.
- Advanced networking and monitoring software enables efficient remote monitoring and configuration in unmanned or secured areas from a centralized location.



Capillary tubes sampling inside cabinets provide reliable equipment protection.



Sampling pipes installed on a HYDRO generator sample near the likely risk.



A service technician can easily access the detector for maintenance without needing access to the protected area.



HEAVY INDUSTRY

WHY VESDA?

- Detects smoke in a varied range of conditions and applications
- Prevents nuisance alarms
- Overcomes the effects of smoke dilution

QUALIFYING QUESTIONS

- Does the site contain flammable materials?
- Is the environment polluted with smoke, dust or other pollutants?
- Is maintenance access to areas such as battery rooms and cable tunnels difficult?
- Are false alarms a challenge?
- Do generators, conveyors and battery or engine rooms present a high fire risk?

- Are remote and distributed sites costly and difficult to monitor and maintain?
- Is maintenance difficult because of 24/7 operations?

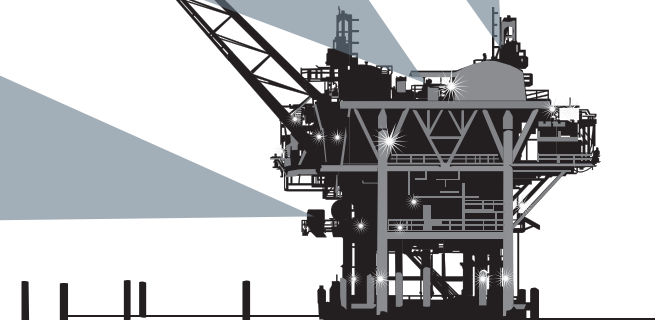
FEATURES AND BENEFITS

- Multiple configurable pre-alarms and high sensitivity, provide very early warning to investigate and initiate automated and orderly equipment shutdown, fire services notification, evacuation and suppression.
- Superior performance in harsh or toxic environments and a high resistance to contamination and false alarms, prolongs detector life and ensures reliable, very early smoke detection.
- Sampling pipes can be inserted into electrical equipment enclosures or close to high-risk areas, for very early detection of smoke.
- Advanced networking and monitoring software enables efficient remote monitoring and configuration in unmanned or secured areas from a centralized location.
- VESDA detectors can be positioned in a convenient location with easy access for maintenance.
- Excellence in compliance including rating FM Class 1 Div 2 for Hazardous areas.

VESDA offers many solutions for monitoring including simple interfaces with PLC and SCADA systems.

The flexibility of VESDA sampling pipe and capillaries makes sampling inside the conveyor belt easy.

VESDA sampling pipe is located within this equipment cabinet to detect the first signs of smoldering smoke.



CORRECTIONAL

WHY VESDA?

- Security and inmate safety
- Vandalism prevention
- Low maintenance costs
- Reliable early detection

QUALIFYING QUESTIONS

- Is tamper-proof and concealed detection important to avoid vandalism?
- Is secure escape from fire a challenge?
- Is detector maintenance access an issue?
- Are nuisance alarms and vandalism costly and disruptive?
- Are new codes that dictate dedicated smoke detection per occupied space a challenge?
- Are there large open spaces such as mezzanine halls, where smoke dilution may be a challenge for early detection?

FEATURES AND BENEFITS

- Disguised capillaries and tamper-proof sampling points minimize vandalism and risk of inmate self-injury and flexible sampling pipes can be installed behind vents, invisible and inaccessible to inmates.
- Multiple configurable alarms to provide very early warning to allow time for investigation, security management, evacuation and suppression.
- VESDA detectors can be centrally and remotely mounted outside high security areas, allowing safe and convenient testing and maintenance for fire alarm contractors.
- Nuisance alarms can be avoided by adjusting smoke alarm thresholds to factor in background pollution from a smoking room or other contaminants.
- Cost-effective solution as one detector can protect multiple cell blocks.
- High sensitivity ensures reliable detection of low levels of smoke diluted in large open spaces such as dining halls.
- Remote programming and monitoring improves control and cost of ownership in unmanned or secured areas.
- VESDA systems maintain an event log which allows analysis of smoke and detector response trends for forensic incident analysis.
- Sophisticated networking, fire monitoring systems and integration with security systems allow intelligent response management.
- VESDA systems can be used to initiate suppression release.

The VESDA detector is installed in the chase and samples the cell via the ventilation system.



VESDA tamper-proof sampling points are easily cleaned. If intentionally blocked, the detector raises a flow fault. Check with your local Xtralis office whether these are available in your region.



VESDA sampling capillary can be hidden behind light fittings.



COLD STORAGE

WHY VESDA?

- Stock and facility protection from smoke and fire damage
- Reliable early detection of smoke
- Assured performance in challenging environments
- Superior suppression actuation
- Easy maintenance

QUALIFYING QUESTIONS

- Does high air movement make smoke difficult to detect?
- Will drafts from open doors dilute the smoke, making it even more difficult to detect?
- Are you using pre-action sprinklers as your primary defence in freezer applications?
- Is there a high fire risk from polyurethane or polystyrene foam insulation and plastic wrapping in the cold store?
- How responsive is your existing detection system if covered in ice?
- Will cooled smoke stratify below ceiling mounted detectors?
- Does your detection and actuation system respond fast enough to account for pipe flooding?
- What are the costs of suppression actuation - to the stock and the system itself?
- What are the risks of fighting a fire, with or without suppression?

FEATURES AND BENEFITS

- The VESDA system provides a wide sensitivity range (0.005% and 20% obs/m or 0.0015 to 6 % obs/ft) and can be programmed for very early smoke detection, where dilution or high airflow is a challenge.
- The system can be programmed to enable early investigation of fire risks and, if necessary, used to activate pre-action sprinkler suppression systems.
- A VESDA detector located outside the cold store with only the sampling pipes in the protected area, allows easy access and protects the detector and maintenance staff from the freezing temperatures.

- Flexibility of pipe design means that sampling holes can be positioned at likely ignition points and wherever smoke may travel or be trapped (in racks or stratified smoke), for early and reliable detection.
- A VESDA system is the only smoke detection system with FM approval for protection of cold store environments.

Note: ASAT is an FM approved tool for calculation of VESDA alarm thresholds for suppression actuation (commonly Fire2), under a variety of different environmental conditions and for a number of different suppression actuation schemes.

Interface of VESDA with pre-action sprinkler systems allows time to avoid the massive expense of suppression release and its life safety risks, while also providing the most reliable actuation.

The Refrigerated Storage Sampling Kit provides a standardised method of smoke sampling for Refrigerated Storage facilities.

The high sensitivity of VESDA detectors allow them to reliably detect the smallest fires in the largest cold stores.

The VESDA detector is located outside the protected area for easy maintenance.



ABOUT XTRALIS



Xtralis is a leading global provider of powerful solutions for very early & reliable detection of smoke, fire, and gas threats. Our technologies prevent disasters by giving users time to respond before life, critical infrastructure or business continuity is compromised.

We protect highly valuable and irreplaceable assets and infrastructure belonging to the world's top governments and businesses.

To learn more, please visit us at www.xtralis.com