VESDA®

Buys Time

Aspirating Smoke Detection

xtralis®

7 reasons for

VESDA®

1 When business continuity is paramount

Is uptime a key business goal? Is service provision critical?
VESDA very early warning smoke detectors provide the earliest warning of a potential fire. This buys time to investigate and intervene, potentially avoiding the damage, downtime and cost of suppression release.
This is critical for:

- Telecommunications facilities
- Financial data centres
- Clean rooms
- Server rooms
- Utility facilities
- Power generation facilities

2 When smoke is difficult to detect

Is high airflow diluting smoke, preventing it reaching the ceiling, making it difficult to detect? Is the smoke being trapped in ducts, pockets or voids? Is smoke stratifying into a mushroom cloud below a high ceiling, making it difficult to detect?
VESDA sampling points can be placed at the return air grille, or in equipment cabinets, detecting the smoke as it is carried by the airflow.
In a large open space, sampling points for VESDA detectors can be placed where the smoke goes—often some distance below ceiling level.
Suitable for:

- Server rooms
- Telecommunications facilities
- Atria
- Theatres
- Clean rooms
- Warehouses
- Indoor stadiums
- Convention centres

3 When maintenance access is difficult

Is the area to be protected inaccessible? Does maintenance on current fire protection systems cause disruptions and inconvenience to your business?
VESDA detectors can be mounted in accessible locations, allowing easy access for maintenance. Only the sampling pipe network is placed in the inaccessible area.
Ideal for:

- Ceiling voids & sub floor spaces
- Elevator shafts
- Production areas
- Prison & detention facilities
- Ducts

4 When unobtrusive detection is required

Is it important to preserve the internal design/decoration of the building?
Is vandalism a problem with the current smoke detection system?
A VESDA system can be installed that uses tiny capillary sampling tubes, barely discernible to the human eye. The detectors can be placed in a cupboard or utility area.

Great for:

- Modern offices
- Cathedrals
- Art galleries & museums
- Heritage buildings
- Prisons & detention centres
- Prestige residential

5 When evacuation is a challenge

Will the building be open to the general public? Will it house people who need extra help during an evacuation? Is evacuation difficult due to crowds or limited exits? What is the business impact of an evacuation? The very early warning that a VESDA system provides allows the maximum time for evacuation.

This is critical for:

- Shopping centres
- Stadiums
- Heritage buildings
- Hospitals
- Underground tunnels
- Facilities for the elderly or children

6 When environmental conditions are difficult

Is poor air quality or extreme temperature present in the area to be protected? VESDA detectors feature dual-stage filtration to ensure that they keep working in dirty environments. The detectors can be installed elsewhere, with only the sampling pipes in the extreme environment. The sampled air can be filtered, warmed or cooled before reaching the detector.

Ideal for:

- Power stations
- Public transport
- Paper and saw mills
- Cold stores
- Mines
- Automotive operations
- Manufacturing operations
- Hazardous areas
  (Factory Mutual Class 1 Div 2)

7 When suppression systems are present

Is suppression release a costly and disruptive exercise?
The very early warning provided by a VESDA system allows early intervention, with action being taken before suppression is necessary. The multiple warning levels of a VESDA system can be used to trigger different responses at different stages of a fire, from controlling air conditioning to suppression release.

Applicable for:

- Communications hubs
- Command stations
- Server rooms
- Switch rooms
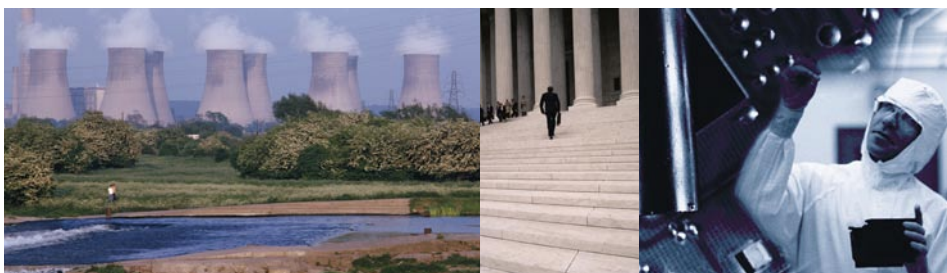
VESDA®
Air Sampling Smoke Detection

It's critical.

A fire detection system that offers the earliest possible warning of a potential fire. A system that will ensure business continuity and freedom from nuisance alarms. A system that can adapt to the unique characteristics of any given environment. One that delivers high performance through its high quality design and its dedicated global sales and distribution channels.

With hundreds of thousands installed globally, the VESDA name has become synonymous with high performance very early warning smoke detection. It is the product chosen when reliable performance is crucial.

This diagram shows the progression of fire growth over time. Note that the incipient stage of a fire provides the widest window of opportunity to detect and control the spread of fire. VESDA can be configured to generate multiple alarms within the incipient stage. VESDA can also be configured to generate an additional alarm (Fire 2) in the advanced stages of a fire. This feature is unique to VESDA and takes advantage of its very wide sensitivity range; thus allowing one detector to monitor the entire progression of fire growth.
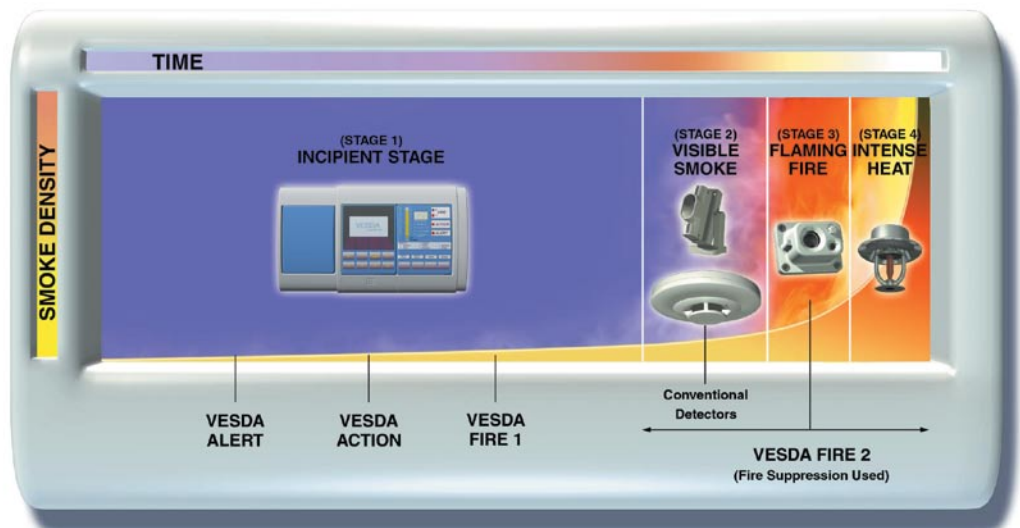
How VESDA works

VESDA works by continually drawing air into the pipe network via a high efficiency aspirator. A sample of this air is then passed through a dual stage filter. The first stage removes dust and dirt from the air sample before it allows the sample to enter the laser detection chamber for smoke detection. The second (ultra fine) stage provides an additional clean air supply to keep the detector's optical surfaces free from contamination, ensuring stable calibration and long detector life.

From the filter, the air sample is passed through to the calibrated detection chamber where it is exposed to a laser light source. When smoke is present, light is scattered within the detection chamber and is instantly identified by the highly sensitive receiver system. The signal is then processed and presented via a bar graph display, alarm threshold indicators and/or graphic display. The VESDA detectors are able to communicate this information to a fire alarm control panel, a software management system or a building management system via relays or a High Level Interface (HLI).

VESDA®
Product range

LaserPLUS™

The LaserPLUS detector is the core product in the VESDA product range. Like all the VESDA products it detects fire at the earliest possible stage and reliably measures very low to extremely high concentrations of smoke. It has the world's widest sensitivity range of 0.005 to 20% obs/m (0.0015 to 6% obs/ft). VESDA LaserPLUS supports four configurable alarms (Alert, Action, Fire 1 and Fire 2) and protects areas up to 2000 m^2 (20,000 sq. ft).

LaserSCANNER™

The LaserSCANNER locates the origin of smoke by identifying the first sector (pipe) with the highest level of smoke and then continues to sample from all sectors to monitor fire growth. The LaserSCANNER also provides four alarm levels for each individual pipe (Alert, Action, Fire 1 and Fire 2) and provides individual pipe addressability and settings. It protects areas up to 2000 m^2 (20,000 sq. ft).

LaserCOMPACT™

The LaserCOMPACT offers cost effective protection of single environments and small areas. It offers the same wide sensitivity range as the LaserPLUS and LaserSCANNER—0.005 to 20% obs/m (0.0015 to 6% obs/ft). The LaserCOMPACT supports three configurable alarm levels (Alert, Pre-Alarm, Fire) and comes in two versions, one version interfaces via relays only (RO), and the other across either relays or VESDAnet (VN). In addition an ATEX, E xd, compliant version of the VN LaserCOMPACT is available for the protection of hazardous areas.

LaserFOCUS™

The LaserFOCUS delivers the most advanced air sampling smoke detection technology to small environments—cost effectively. The VLF-250 model protects areas up to 250 m^2, the VLF-500 model covers up to 500 m^2. In addition to the features found in all VESDA Laser products, VESDA LaserFOCUS provides a new range of features & built-in intelligence that allow quick installation, commissioning and servicing.

LaserTEKNIC™

The LaserTEKNIC is a modular approach to incorporating VESDA smoke detection into other products. It allows Original Equipment Manufacturers to offer the benefits of very early warning smoke detection in their products, with little development investment.

Remote Displays and Programmers

The VESDA display module monitors and reports the status of a detector. It gives visual representation of smoke levels along with all alarm and fault conditions. For monitoring convenience, multiple displays can be associated with a single detector.

The VESDA programmer is menu driven and allows the user to conveniently configure, commission and maintain their VESDA system, as well as program each individual detector. Only one programmer is needed to support the entire network.

Display and programmer modules can be mounted in a detector unit, separately (connected via VESDAnet) in a single remote mounting box, or in a 19" sub rack.

VESDA®
Product range

VESDAnet™

VESDAnet is a comprehensive fault tolerant "closed" 2-wire communications loop. It links the detectors, displays, programmers and remote units on a daisy chained loop. VESDAnet allows for a number of units to be programmed together from one or more locations and automatically detects communication failures.

It also allows for easy interfacing with systems external to the network, such as intelligent fire alarm panels and building management systems.

VESDA Pipe™

One of the key elements in the performance of a VESDA aspirating smoke detection system is the network of sampling pipes that actively transport air from a protected area to the detector. Xtralis offers an extensive range of pipe and fittings to suit all your application needs, ensuring a quality system is installed every time.

Software

VSM™

The VESDA System Management software package allows the user to monitor, configure and control a VESDA system from a central location via a VESDAnet communications loop or directly to some VESDA detectors. Real time and historical events for a single detector or multiple networks of detectors can be collected over a local or wide area network. The data can then be processed and presented in either report or graphical format. It can even be presented graphically on site floorplans.

VSC

The VESDA System Configurator software package can be used to configure, install, commission and maintain the standard range of VESDA smoke detectors. VSC provides high level programming flexibility through its on-line and off-line configuration capabilities. Rapid diagnostic abilities, concurrent configuration views, compare/merge functionality and simultaneous smoke trend graphing of multiple detectors are additional features designed to simplify operation and installation setup.

ASPIRE2™

ASPIRE2 is the latest version of VESDA sampling pipe network design and modeling software. ASPIRE2 aids the design and evaluation process for basic to very complex pipe network layouts. Key features such as design wizards, 3D isometric views, an automated design verification process and a new AutoBalance capability ensure that a tailored pipe layout is easily achieved. The Installation Data Pack (IDP) is a series of reports that lists the parameters, required materials and expected system performance, clearly communicating this information to installation and commissioning engineers.

Detector configurations

Features	LaserSCANNER VLS	LaserPLUS VLP	LaserCOMPACT VESDAnet(VN) VLC	LaserCOMPACT Relays Only(RO) VLC	LaserFOCUS VLF 250/500
Worldwide Approvals	LPC, VdS, AFNOR, UL, ULC, UL268A (in-duct application), FM, NY-MEA, CSFM, ActivFire, CCCF.				
Hazardous Area Approval (FM Class 1, Div 2, Groups A, B, C, D)	No	Yes	Yes	Yes	Yes
Sensitivity Range	0.005 to 20% obs/m (0.0015 to 6% obs/ft)				0.025-20% obs/m (0.008-6.4% obs/ft)
Two Stage Filter	Yes	Yes	Yes	Yes	Yes
Area Coverage (Maximum)	2000 m² (across 4 sectors)	2000 m² (20000 sq. ft)	800 m² (8000 sq. ft)	800 m² (8000 sq. ft)	250/500 m² (2500/5000 sq. ft)
Multiple Pipe Addressibility	Yes	No	No	No	No
Total Number of Alarm Thresholds	32 (Day/Night)	8 (Day/Night)	3	3	8 (Day/Night)
Relay Outputs	7 or 12 relays	7	3	3	3
On-board Memory (Max. Events)	18000	18000	12000	12000	18000
Flow Sensor Circuit (one per pipe inlet)	4	4	1	1	1
AutoLearn™ (Automatically adjusts system to environment)	Yes	Yes	Yes	Yes	AutoLearn Smoke™ AutoLearn Flow™
Supported by ASPIRE2™ Pipe Modelling Software	Yes	Yes	Yes	Yes	Yes
Maximum No. of Holes	100	100	20	20	12/24
Bar Graph/Indicator LED	Local or Remote (20 segment bargraph display)	Local or Remote (20 segment bargraph display)	Local (5 on-board LEDs). Remote (20 segment bargraph display)	Local (5 on-board LEDs)	Local (7 on-board LEDs 10 Segment Circular Display)
Programming Tools - On-board Programming module - Portable Programmer - PC Software (VSC, VSM) - Via VESDAnet™ (when the detectors are connected on the VESDA network)	Yes	Yes	Yes	Programmed via RS232 direct connection to PC using VSC™	Programmed via RS232 direct connection to PC using VSC™
VESDAnet™					
Max. No. of devices/detectors per loop	250/100	250/100	250/100	N/A	250/100 (with VN Card)
Max. Distance between Devices	1300 m (4000 ft)	1300 m (4000 ft)	1300 m (4000 ft)	N/A	1300 m (with VN Card)
Computer-based Management via VSM	Yes	Yes	Yes	No	Yes (with VN Card)
Remote Relay Modules - 7 relay version - 12 relay version	(Part No.) VRT-501 VRT-900	VRT-500 N/A	VRT-500 N/A	N/A N/A	VRT-500 N/A
Compatible Remote Bargraph Displays - Display, 7 relays - Display, 12 relays - Display, no relays	(Part No.) VRT-400 VRT-800 VRT-700	VRT-200 N/A VRT-600	VRT-J00 N/A VRT-K00	N/A N/A N/A	VRT-V00 N/A N/A

Xtralis is a global organisation committed to providing intelligent and sophisticated products and services that significantly enhance the safety and security of its customers. Advanced smoke detection, security technologies and superior voice alarm products and services position Xtralis as a leading supplier of innovative solutions for global industry application.

VESDA® Air Sampling Smoke Detection Systems are recognized as the global market leader and provide very early warning smoke detection solutions all around the world.

VESDA detectors have been proven for decades in industries such as telecommunications, power generation, warehousing, clean rooms and manufacturing/storage services. VESDA products are backed by an extensive, highly experienced and dedicated support network.

Xtralis continues to deliver highly reliable, proactive smoke detection technologies to a diverse range of global businesses.

xtralis®