

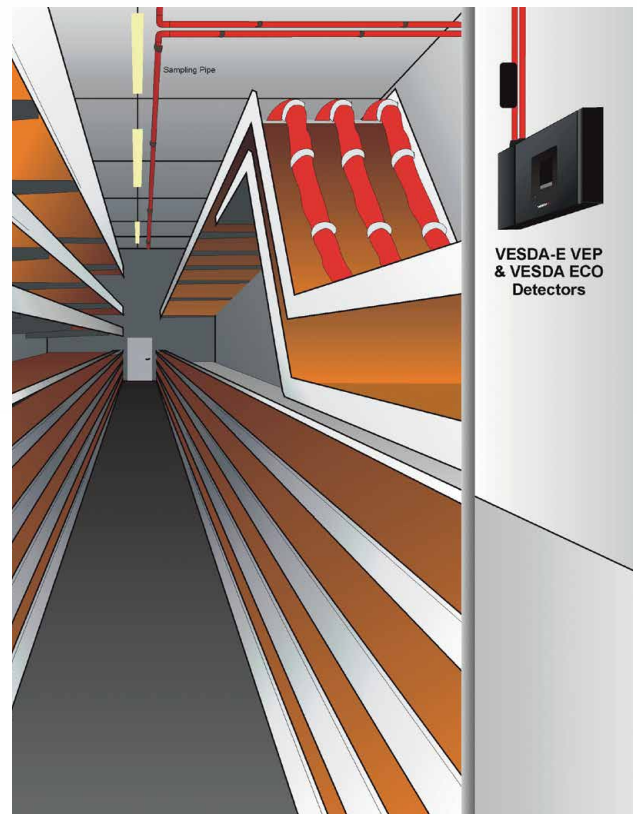
## VERY EARLY SMOKE & GAS DETECTION IN CABLE CHAMBERS AND TUNNELS

For over 30 years VESDA has been successfully used for high sensitivity smoke detection in cable chambers and tunnels. Providing additional protection from toxic or flammable gases that would occur naturally from ground seepage or leakage from co-located gas lines within the tunnels, VESDA has developed a line of toxic, flammable, and oxygen deprivation detectors that can protect the tunnels and other confined spaces.

Driven by a requirement to deliver uninterrupted services to their clients, Power and Telecommunication Companies were the first to utilise the capabilities and unique features of VESDA. High sensitivity becomes essential for the protection of cabling and VESDA was used to protect tunnels ranging from only a few meters to kilometers in length. The most common method of protecting the tunnels is to run a VESDA pipe along the centre of line of the tunnel ceiling (maximum area covered by one detector would be 300 m ie. 2 x 150 m pipes).

Cable Chambers are treated in a similar manner through the installation of ceiling mounted pipe work. The number of sampling pipes used for smoke detection will vary according to the chamber dimensions. Often cable chambers will be located in the lower levels of a building and therefore, have large structural beams running through them which effectively compartmentalizes the ceiling area. In addition, the area may regularly be purged with fresh air to remove contaminants or any excessive build-up of moisture. In such cases it may be expedient to run the pipe work under the beams with risers going up into the compartments to sample in the enclosed area or the optimum smoke path that would be created due to air movement.

The flexibility and versatility of VESDA system designs sample points can be positioned in locations where gases and vapors will accumulate based on whether they are lighter than or heavier than air. The unit can be mounted outside the protected area for servicing and maintenance. Once the pipe work has been installed it will not be necessary to revisit except for scheduled inspection as required by local codes and standards.



Gas Type	
Carbon Monoxide	CO
Nitrogen Dioxide	NO <sub>2</sub>
Oxygen	O <sub>2</sub>
Sulphur Dioxide	SO <sub>2</sub>

Gas Type	
Hydrogen Sulphide	H <sub>2</sub> S
Hydrogen	H <sub>2</sub>
Methane	CH <sub>4</sub>
Propane	C <sub>3</sub> H <sub>8</sub>



## WHY VESDA

- Provide years of false alarm free operation
- In heavily populated cable trays and racks. Minimizes damage and downtime through the ability to detect overheating cable insulation before charring occurs
- Provides real time data for fire response planning on the levels of smoke present within environments ranging from high velocity air conditioning plenums to coalbunkers
- Capable of high sensitivity smoke detection in dirty, dusty environments
- Provides reliable early warning smoke detection. When properly designed, installed and commissioned, unwanted alarms are kept to a minimum given the systems ability to be accurately set to accommodate ambient environmental conditions. Alarm threshold set points and time delays are adjustable to meet the needs of the application
- Has a low cost of installation. Detector is installed in a controlled environment, protected from harsh environmental conditions, in an area convenient for maintenance and pipe work needs only be checked as required or if mechanical damage occurs
- Lower cost of ownership
- Can be customised to performance requirement through modular design. Equipment costs reduced, as End User needs only to purchase required components
- Staged response to a fire event is possible through the provision of multiple alarm levels (3 or 4) with programmable time delays that prevent spurious alarms
- Continuous 24/7 monitoring of all detector systems ensures optimum performance over the entire life of the product
- Fire and smoke data can be gathered at a number of various control points through the use of a wide range of interfaces. High and low level interfaces mean the detectors can interface with Fire Indicator Panels, BMS & SCADA systems and commercial alarm panels. You will receive immediate notification of a fire situation and the appropriate response can be planned
- VESDA will inform you of any real smoke activity thereby allowing the earliest possible response. Absolute smoke measurement and optical clean air bleed means there is no requirement for drift or compensation for detection chamber deterioration

## ABOUT XTRALIS

Xtralis® is a leading global provider of solutions for the early detection of smoke, fire, and gas threats.

Our technologies prevent disasters by giving users time to respond before lives, assets, critical infrastructure, or business continuity is compromised. Our brands include VESDA-E – the latest generation of aspirating smoke detection technology; VESDA® – the original very early warning aspirating smoke detection (ASD) system; ICAM™ for ASD; Sensepoint & ECO™ – Gas detection & environmental monitoring modules; and, OSID™ – beam smoke detection for open areas.

Learn more: [www.xtralis.com/vesda](http://www.xtralis.com/vesda)

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**UK and Europe** +44 1442 242 330 **The Americas** +1 800 229 4434

**Middle East** +962 6 588 5622 **Asia** +86 21 5240 0077

**Australia and New Zealand** +61 3 9936 7000

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