

# ATRIA

ASPIRATING SMOKE DETECTION



## Overview

Large, open areas such as Atria have become increasingly popular in modern building design.

Architecture and the shape and volume of Atria frequently vary, yet still demand a smoke detection system that complies with local health and safety and fire regulations.

## A Unique Challenge

The large, open areas characteristic of Atria makes smoke extremely difficult to detect. The smoke from even a moderate fire will quickly lose buoyancy as it cools. The result is a smoke sample that either does not reach the point of detection or becomes too diluted for a conventional system to detect.

The high ceilings typical of Atria makes access to conventional detection systems difficult to achieve and they are therefore expensive to maintain.

Unlike beam detectors, VESDA is unaffected by decorations, promotional banners or helium filled balloons.

**VESDA**<sup>®</sup>

## Why Aspirating smoke detection and VESDA?

VESDA (Very Early Smoke Detection Apparatus) excels at detecting highly diluted smoke and offers an extremely wide sensitivity range from 0.005% obscuration/metre (for detecting low levels of highly diluted smoke) to 20% obs/metre. (typically 5 times less sensitive than a conventional detection system).

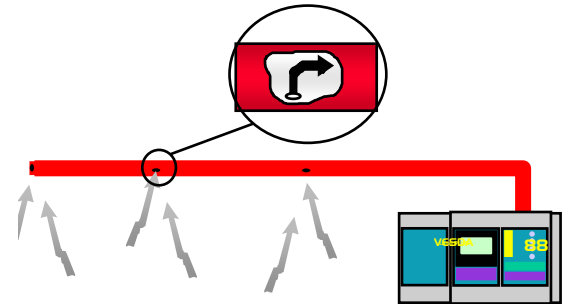
Maintenance and interrogation is carried out at the detector location, which would typically be in plant rooms, and as such no specialist equipment such as high lift access platforms would be required.

VESDA therefore provides:

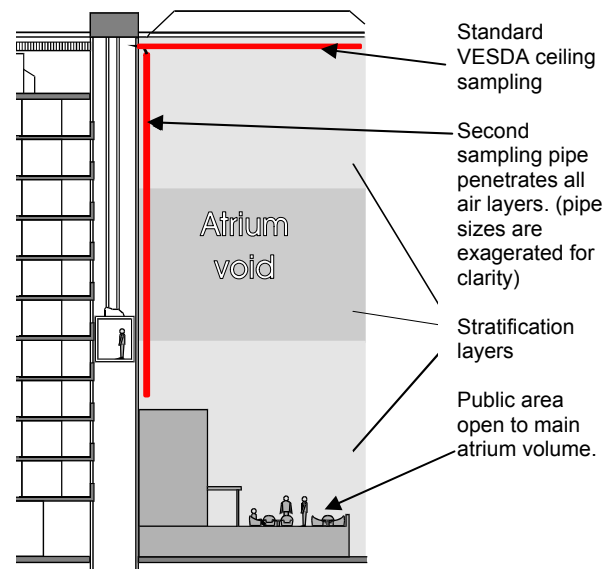
- ◆ Easy access for maintenance and testing.
- ◆ Low cost of ownership.
- ◆ The detection solution to unpredictable air movements and stratification
- ◆ Discrete detection where aesthetics are important.
- ◆ Early warning with staged alarms for intelligent phased evacuation.

## How Does Aspirating Smoke Detection Work?

Air is continuously drawn, from an area, via a pipe network, to a central detector that is continuously sampling for small traces of smoke.

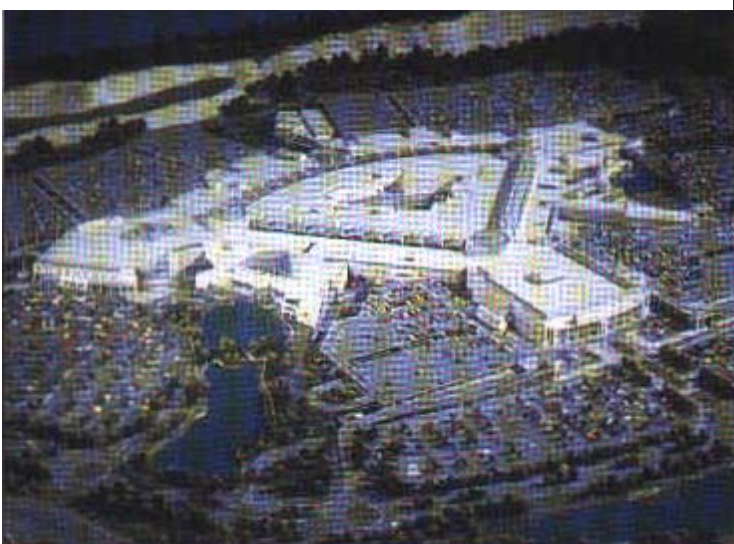


## A Typical Atria example



## Where can VESDA be applied?

- ◆ Offices
- ◆ Shopping Malls
- ◆ Banks
- ◆ Hotels
- ◆ Exhibition Centres
- ◆ Entertainment and Sports Venues



## Buildings with Atria which rely on VESDA

- ◆ Bluewater Shopping Centre
- ◆ The Trafford Shopping Centre
- ◆ Braehead Shopping Centre
- ◆ Overgate Shopping Centre
- ◆ Blackburn Shopping Centre
- ◆ Museum of Scotland
- ◆ Almondvale Shopping Centre
- ◆ General Register House
- ◆ Melrose House
- ◆ Dublin Civic Offices
- ◆ Lowry Centre

*and many more...*



## Global Approvals

- ◆ LPCB (UK)
- ◆ VdS (Germany)
- ◆ UL (USA)
- ◆ FM (USA)
- ◆ SSL (Australia)
- ◆ JMI (Japan)
- ◆ AFNOR (France)
- ◆ CNBOP (Poland)

*Others pending.*

## Installation and Performance Standards

- ◆ British Fire Protection Systems Association – Code of Practice for Category 1 Aspirating Detection Systems. Available from the BFPSA – telephone +44 (0) 20 8549 5855
- ◆ British Standard Institute – BS5839 – Fire detection and alarm systems for buildings - Part 1 Code of Practice for System Design, Installation and Servicing. Available from the BSI – telephone +44 (0) 20 8996 7000

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Issue 1.0 : January 2000  
Flyer Number 4

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