



VESDA®



Is your smoke detection system doing its job?

Well its time to take a closer look...

3 smoke detectors commonly used in warehouses worldwide and compliant with international standards are put to the test. The results will surprise...



Detector 1: Air-sampling (aspirating) smoke detector




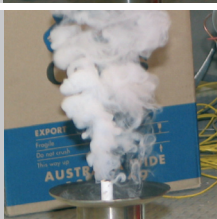
Detector 2: Beam detector



Detector 3: Spot (Point) detector

The tests:

- demonstrated the time it took for the fire to be detected and ultimately the impact it would have on the facility and the business.
- demonstrated how factors such as warehouse volume, ceiling height, air drafts from open doors and the detector technology affected the detectors performance.
- were conducted in accordance with a scaled down version of the CSIRO* test method for testing smoke detectors in large open space environments.
- were conducted in accordance with international standards, with code compliant installation at 8m (ceiling height).
- were conducted at Victoria University warehouse in the presence of representatives from the fire brigade, fire engineers, consultants, insurers, contractors and installers.

<p>Test 1</p>		<p>Test 1 was a small timber fire, with a 1 and 2 kilowatt heat release rate. The tests were conducted with the warehouse doors closed and opened.</p> <p>Initially the wood underwent smouldering combustion, with the evolution of white smoke followed by flaming combustion and minimal visible smoke.</p>	<p>Time taken to detect smoke from point of ignition:</p> <p>Door closed VESDA = Pre-Alarm @ 180 seconds, Fire-Alarm @ 192 seconds BEAM = No response after 8 minutes POINT = No response after 8 minutes</p> <p>Door opened VESDA = Pre-Alarm @ 135 seconds, Fire-Alarm @ 300 seconds BEAM = No response after 8 minutes POINT = No response after 8 minutes</p>
<p>Test 2</p>		<p>Test 2 was a heptane liquid flaming fire with a 10 - 20 kilowatt heat release rate that produced black smoke.</p>	<p>Time taken to detect smoke from point of ignition:</p> <p>Door closed VESDA = Pre-Alarm @ 78 seconds, Fire-Alarm @ 155 seconds BEAM = No response after 8 minutes POINT = No response after 8 minutes</p>
<p>Test 3</p>		<p>Test 3 is a smoke pellet smouldering fire, which was assisted by a radiant heater to provide constant heat release of 5 - 6 kilowatts.</p>	<p>Time taken to detect smoke from point of ignition:</p> <p>Door opened VESDA = Pre-Alarm @ 97 seconds, Fire-Alarm @ 150 seconds BEAM = No response after 8 minutes POINT = No response after 8 minutes</p>

In each of these tests, the VESDA system detected the presence of smoke and raised the alarm while the fire was in a stage that could be controlled or extinguished. These formal test results showed that the point and beam detectors had not detected any smoke, even when the fire was at flaming stage.

The proven advantage of a VESDA system is that it buys time. Time to locate and control a fire and to prevent unnecessary loss and interruptions to business continuity.

* CSIRO - Commonwealth Scientific and Industrial Research Organization Australia.