EN 54-20

THE NEW EUROPEAN PRODUCT STANDARD FOR ASPIRATING SMOKE DETECTORS

EN 54 Part 20 is the new European product standard for Aspirating Smoke Detectors (ASD).

What's New?

One of the key features of EN 54-20 is a new classification system (refer to Table 1). This will enable specifiers, system designers and installers to select the most appropriate sensitivity ASD for the intended application.

EN 54-20 is a mandated standard under the Construction Products Directive. By 2009 it is intended that all ASD systems in Europe will be independently tested to EN 54-20 to achieve the CE mark.

Class	Sensitivity & Application
A	Very high sensitivity for the earliest possible warning of smoke in many business critical, high airflow or high risk environments.
B	Enhanced sensitivity for effective early detection in challenging environments or within critical equipment.
C	Normal sensitivity for general fire detection in normal rooms or inaccessible spaces.

Table 1 - The three sensitivity Classes defined in EN 54-20

How Many Holes?

EN 54-20 does not cover all aspects of product quality, cost effectiveness and application fit. The EN 54-20 Classes define sensitivity requirements but provide no indication of the area coverage or "capability" of a particular detector. For example, a detector with 30 Class A holes is not distinguishable from a less capable detector, with only 3 Class A holes (refer to figure 1). The stark difference in area coverage is also reflected in the detector's ability to provide the earliest possible warning of smoke or fire.

What Should a Specifier or Purchaser Look for in an ASD?

- The required Class (A, B or C) and area coverage.
- Additional product features.
- Design, application and technical support.
- Professional support from global distribution partners.
- Low maintenance costs.
- Stability of the detector in the intended environment.

Class A Detector X ≠ Class A Detector Y

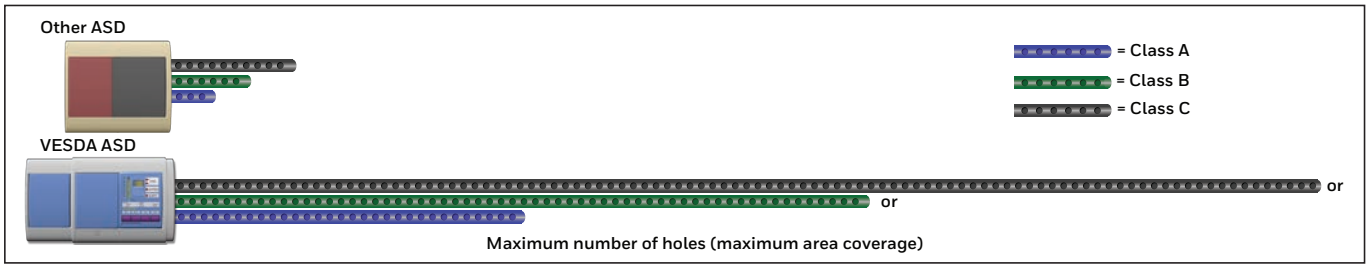


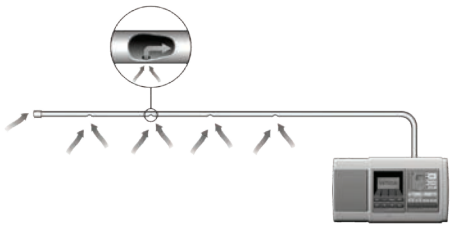
Figure 1 - A superior detector will meet the sensitivity requirements of each Class and provide detection over a larger area.

What is an ASD?

An aspirating (or air-sampling) smoke detector is a system that draws air into a series of holes in a pipe network and back to an easily accessible smoke detector for analysis.

What is a Product Standard?

A product standard tests the performance, repeatability, reproducibility and robustness of a product. It does not define capability.



One VESDA Detector can be Specified to Provide Detection at Multiple Class Levels

For example, an initial alarm can be configured to provide very early warning for investigation purposes, a second alarm (at Class A) can be used to initiate urgent response and a third alarm (at Class C) can be set for evacuation purposes (refer to figure 2).

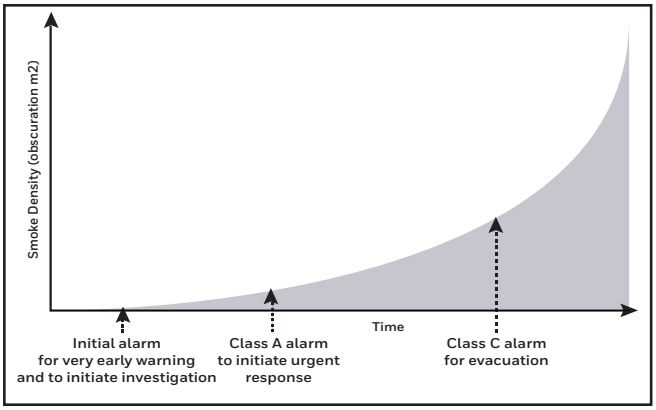


Figure 2 - Use one VESDA detector to provide multiple Class protection

VESDA - Not Just Best In Class but Best In All Classes!

VESDA systems provide sensitivity levels to meet all Class requirements across a wide area coverage. They also excel in providing a range of additional features and functionality that means a VESDA detector is not just best in class but best in all Classes!

9 Reasons Why VESDA by Xtralis is the Most Widely Used ASD

- Wide product range; select the most appropriate product for the application.
- Wide dynamic sensitivity range - an extraordinary 0.005 to 32%/m.
- Clean-Air to protect the optics.
- Fixed calibration to ensure reliable and repeatable detection.
- Market leading airflow monitoring - detects and alerts of changes in flow rates caused by blockages or failure, maintains stability in clean to dirty environments and addressable detectors monitor flow at each port.
- Unrivalled event logs; unquestionable historic information for reliable maintenance and event analysis.
- Market leading communications network (VESDAnet) supporting remote displays, centralized monitoring and referencing.
- Global approvals.
- Global support; diversity of accredited channels and expertise of Sales Managers and Technical Support.

PLUS 2 More Reasons now that the EN 54-20 has been Published

- We make it easy by clearly stating our EN 54-20 capability on our data sheets; e.g. Class A with 30 holes, Class B with 60 holes and Class C with 100 holes.
- We have modified the pipe design software (ASPIRE) so that the classification of any sampling network can be determined with ease.

7 ways to specify VESDA using EN 54-20

- **When business continuity is paramount,** use a Class A detector to provide very early warning.
- **When smoke is difficult to detect**, use a Class B detector because smoke may become diluted in a large open space.
- **When maintenance access is difficult**, use an ASD detector for convenient positioning and specify a Class A, B or C depending on the environment and risk.
- **When unobtrusive detection is required**, use a Class C ASD detector for invisible detection but also specify Class A or B pre-alarm for early warning and to initiate investigation.
- **When environmental conditions are difficult**, use an ASD detector which is tolerant of high levels of pollution and is designed to minimize false alarms. Specify Class C unless there is a need for Class A or B detection.
- **When suppression systems are present**, use a VESDA detector's multiple alarm thresholds to provide Class A detection for early warning to control a fire and if required, Class C performance to release suppression.
- **When evacuation is a challenge**, use a Class B detector for enhanced detection, providing time for safe evacuation. Also, specify Class A early warning to alert officials, ushers and key staff to investigate and/or prepare for evacuation.

Need More Information?

Contact your nearest Xtralis office or visit www.EN54-20.org.