

INDUSTRIAL “HOW TO INSTALL” SERIES

DO’S AND DON’TS



Introduction

When planning, designing and installing Aspirating Smoke Detection (ASD) in ‘Harsh & Industrial’ applications and environments there are many factors to take into consideration to achieve a successful installation. Industrial sites can vary considerably and present specific individual challenges that are not normally present in the typical “clean” ASD environment.

It is difficult to cover all possible scenarios in this document however we can provide a few **Do’s** and **Don’ts** that will assist when designing, installing and maintaining ASD systems in harsh and industrial applications.

- **Do** gather as much information/data about the business and application before preparing a design. Obtain plans/drawings, take photos, etc. Understand the environment in which the ASD system will be installed. Discuss the business operation with the client to understand their specific requirements and challenges
- **Do** conduct on site smoke testing – You need to understand how the air movement within the facility will impact smoke travel so that you can locate and position the sampling pipe and sampling points for optimum

smoke detection – Prescriptive designs may not be suitable for many industrial sites, therefore a performance based design approach may be required

- **Do** an assessment of the “environment” – Is it dusty, dirty, wet, or open to the outside environment? Understand what factors you will have to accommodate during the life of the installation
- **Do not** underestimate the project site conditions and environment. Contamination is typically the biggest challenge to overcome - Design with this in mind using appropriately selected equipment and installation methods which are both critical to system success
- **Do** enlist assistance from those who understand ASD and have experience and a thorough knowledge of the technology for design, installation and servicing
- Detection equipment selection is a critical aspect of any ASD industrial installation. **Do** ensure the detector is purpose built for the application – many are not
- Sampling pipe, fittings and sampling points may seem innocuous in the overall scheme of things but **Do** play an important role in good ASD system operation and performance. **Do not** use inferior pipe fittings or non-approved products

- **Do not** commit to a final design until you are fully aware of what you are dealing with and have obtained assistance from a certified VESDA professional
- **Do** investigate the various engineering methods and ancillary equipment that can support the system. Each application will be different and must be assessed accordingly. Ancillary devices and special fittings are available which support ASD operation in industrial applications, such as:
 - Water Traps
 - Pre Filters
 - Chemical Filters
 - Pipe Back Flush/Purging systems
 - Low temperature environment sampling kits
 - Counter sinking of sampling points is often recommended

Design guides and application notes are available.

- **Do not** maximize detector coverage or over extend pipe runs. Industrial dusty/dirty sites will require specific modelling and design techniques that can impact pipe lengths and detector capability
- **Do** ensure the system is correctly modelled using ASPIRE giving consideration to any ancillary devices that will become part of the system
- **Do not** engage installers who are inexperienced with ASD or have not undergone ASD accreditation training, particularly in difficult and harsh environments. Installers who understand the products and have a proven installation history with the specific application will greatly increase project success and ultimately prevent installation and performance problems
- **Do** provide protective housing for detectors where necessary
- **Do** use sweeping bends wherever possible in the pipe network
- **Do** use new sharp drill bits when construction sample holes
- **Do** consider building expansion and contraction when installing pipe networks
- **Do** considered stratification aspects in high roof open areas
- **Do** countersink all sampling holes
- **Do** educate site personnel so that they can understand what the system can and cannot do. An educated end user is typically a happy end user
- **Do not** forget to establish and implement a specific regular service /maintenance plan for the designed system
- **Do not** treat an Industrial applications in the same way as you would a standard ASD application - **“they are not the same”**

Xtralis system design support is available directly or through our many channel partners and product distributors - **DO** enlist support, it will be beneficial in the long run.

For more information on how your business can benefit from the Xtralis solution for Industrial Applications, please visit www.xtralis.com/industrial or contact your local office or Authorised Partner for expert advice and assistance with design.

