

# TAMPERPROOF SAMPLING POINT APPLICATION NOTE

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## Preface

Xtralis has designed and developed a Tamperproof Sampling Point for use in prisons and correctional facilities protected by Xtralis detectors. The information contained in this document will assist in the installation and maintenance of the Xtralis Tamperproof Sampling Point.

## Related Products

- VESDA-E detectors
- VSP-610 Xtralis Tamperproof Sampling Point
- VSP-610-US Xtralis Tamperproof Sampling Point - US
- VSP-620-01 Xtralis Tamperproof Sampling Point 6mm (15/64") Capillary
- VSP-620-02 Xtralis Tamperproof Sampling Point 8mm (5/16") Capillary

## Revision History

Revision	Project	Date	Description
00		November 2013	Initial Release
01		June 2020	VESDA-E update

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<b>Review</b>	PD, PLM
<b>Approved</b>	

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# 1 Background

This Application Note describes the installation and maintenance of the Xtralis Tamperproof Sampling Point. The sampling point is recommended for prisons and correctional facilities to safeguard against intentional tampering of sampling holes by inmates. Partial or complete blockage of sampling holes will not only compromise fire detection and occupant safety but also increase frequency of maintenance hence increasing the system’s total cost of ownership.

The Xtralis Tamperproof Sampling Point provides a standardised method of smoke sampling for prisons and correctional facilities in a considerably improved manner allowing simplified installation and maintenance.

## 2 Tamperproof Sampling Point

### 2.1 Usage

The Xtralis Tamperproof Sampling Point shall be treated as a standard sampling hole in the Xtralis ASD system design and commissioning, in terms of system parameters, e.g. sampling hole location, hole size, transport time, etc. Guidelines on the location of sampling points within the cells can be found in the Prisons and Correctional Facilities Design Guide (Doc No. 14245).

Benefits of the Point

- Uses tamperproof screws,
- Clamps securely to the ceiling hence does not provide a ligature point,
- Houses a mesh which is easily removed for cleaning,
- Connects directly to the Xtralis ASD pipe network,
- Unobtrusive design,
- Easily installed and maintained,
- Robust stainless steel construction

### 2.2 Materials and Structures

Major components of the Tamperproof Sampling Point are shown in Figure 1.

- (I) Metal plate with 4 screw holes
- (II) Pipe socket
- (III) Metal mesh, and
- (IV) O-ring for sealing.

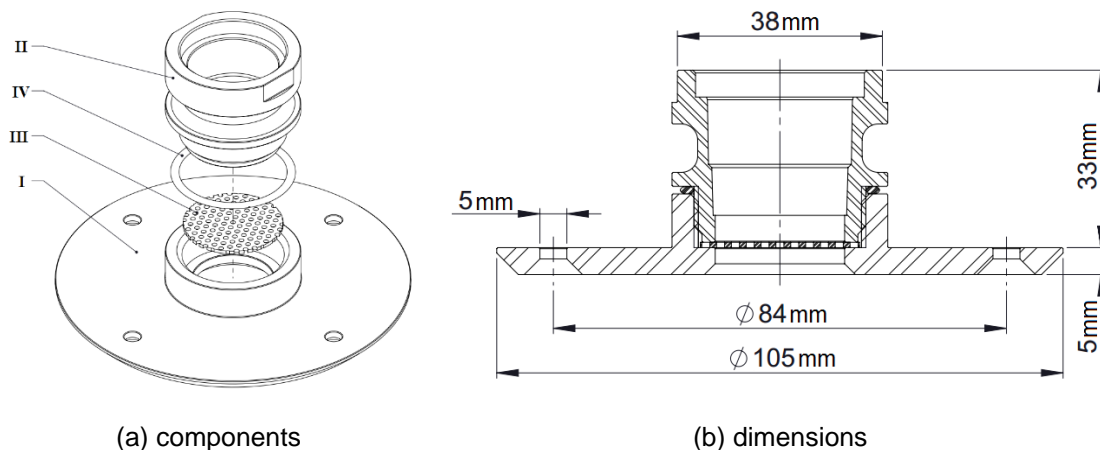


Figure 1: Illustration of the Xtralis Tamperproof Sampling Point (VSP-610)

Xtralis Tamperproof Sampling Point (VSP-610/VSP-610-US) requires a flow restrictor, shown in Figure 2, to provide the required sampling hole size.

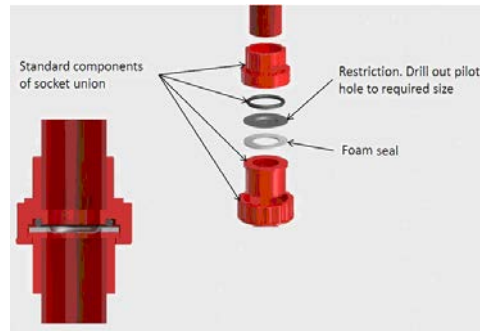


Figure 2: Flow Restrictor for VSP-610

Tamperproof Sampling Points VSP-620-01 and VSP-620-02 have an adapter fitted into the pipe socket which allows for connection to 6mm (15/64") and 8mm (5/16") capillaries respectively, as shown in Figure 3.

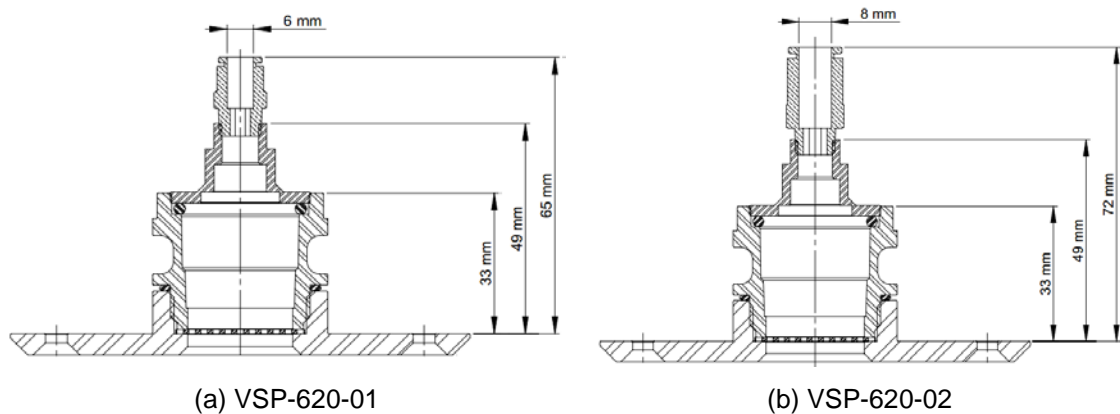


Figure 3: Illustration of the Tamperproof Sampling Point for Capillary Connections

## 3 System Installation

### 3.1 Procedure

1. Install the Xtralis ASD pipe network from the detector to the sampling location as per "Pipe Network Installation Guide" (VESDA Doc No. 10255 and ICAM Doc No. 14965).
2. Depending on the type of pipe used for connection with the Tamperproof Sampling Point, a standard 25mm (1") OD pipe or capillary tube (6mm (15/64") or 8mm (5/16")) may be used:
3.
  - a) Connection to a 25mm (1") OD pipe.
    - Insert the 25mm (1") pipe into the pipe socket of the Tamperproof Sampling Point.
    - Insert the supplied air restrictor, with the required sampling hole size, into the pipe network at an appropriate location.
  - b) Connection to a capillary tube.
    - Connect the capillary tube to the Tamperproof Sampling Point through the adapter fitted into the pipe socket according to the capillary size.
    - Xtralis ASPIRE software shall be used to calculate the appropriate capillary length to achieve an acceptable design.
4. Secure the metal plate to the mounting surface using four tamperproof screws (not supplied).

**Note!**

Install other parts of the Xtralis ASD system as per the design and follow the Xtralis system installation guidelines.

## 3.2 Commissioning

Transport time measurement can be conducted in the same way as that for standard sampling holes. Therefore, the standard commissioning procedure suggested in the Xtralis Design Guide Prisons and Correctional Facilities shall be followed.

## 4 Maintenance and Service

### 4.1 Back Flushing (optional)

Correctional facility management may at their discretion introduce back flushing depending on the environmental conditions as part of their normal operation to assist with maintaining the performance of the system.

The procedure for back flushing can be found in the Xtralis Pipe Network Back Flush Application Note (VESDA Doc No. 20016 and ICAM Doc No. 26227).

### 4.2 Cleaning the Sampling Point

The maintenance/cleaning of the Xtralis Tamperproof Sampling Point shall be undertaken in line with the correctional facility conditions.

The cleaning procedure consists of the following steps:

- Disconnect the point from the main sampling pipe by reversing the procedure highlighted in the System Installation section.
- Clean the mesh.
- For 25mm (1") pipe, remove and clean the flow restrictor as required.
- After cleaning, return the sampling arrangement to its original configuration.

**Note!**

Inspection shall be carried out periodically where intervals will be determined by the environmental conditions of the protected area.

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