



## AirSense Technology

### Equipment Maintenance Procedures

To offer greater assurance of reliability, aspirating smoke detection systems should undergo routine service in accordance with the particular Regulations, Codes of Practice or Standards applicable to the country or organisation where the system is installed.

In the UK for example there are two documents that give specific procedures for the servicing of fire detection and alarm systems. These are :- BS 5839: Part 1: 2002. (Section 6 - Maintenance) and BFPSA Code of Practice for Category 1 Aspirating Detection Systems. (Section 30). To enhance the recommended procedures, Stratos-HSSD<sup>®</sup> products incorporate features that provide the Service Engineer with both current and historical information on the condition of the system.

The AirSense range of products has been designed to be low maintenance, indicating a fault condition if attention is required. The frequency at which the dust separator will require renewal will be determined by the type of environment and should be incorporated in to the maintenance schedule once established.

This document provides no maintenance information relating to the power supply or batteries that form an integral part of the fire alarm system, this equipment should be maintained in accordance with the manufacturers recommendations. This document has been compiled to give a minimum outline schedule of maintenance to ensure correct operation.

#### **At three month (quarterly) intervals:**

1. Isolate detector at the main fire panel.
2. Inspect the case for signs of physical damage, moisture ingress and ensure the detector is securely mounted to wall.
3. Note the flow readings as a benchmark for future service visits.
4. Rectify any faults as indicated on the front panel.
5. Check the correct operation of the front panel buttons (enable where necessary).
6. Remove all power from the detector.
7. Ensure the smooth operation of lock mechanism.
8. Ensure all field wiring is secure and that all insulation material is undamaged.
9. Ensure the exhaust port is not blocked or obstructed.

10. After first taking the relevant safety precautions i.e. safety glasses, respiratory mask and gloves. Use an air duster to remove any debris from inside detector.

**NB Health & Safety Notice.** *Unless suitable precautions are taken maintenance personnel may be exposed to a "Nuisance Dust" hazard as defined by the "Control of Substances Hazardous to Health (COSHH) Regulations.*

11. Restore all power to the detector, mains first, followed by the battery.
12. Carry out a functional smoke test on 25% of the system; subsequent functional testing must result in 100% system test per annum. Allow smoke to disperse and, if provided, the bar graph level on the relevant detector to return to normal before proceeding further.
13. De-isolate the detector at the main fire panel and place the relevant detection loop of main fire panel in to test or commissioning mode to allow relay testing.
14. Verify the correct operation of all relays through to main fire panel.
15. Ensure that no existing faults or alarms are indicated on the detector front panel before restoring the main fire panel to normal operation.

#### **At six month (half yearly) Intervals:**

The procedures listed below should be carried out in addition to those listed in the quarterly inspection.

1. Isolate detector at main fire panel to avoid a fault condition being reported.
2. Check the physical condition of the batteries; test the batteries to ensure that they hold sufficient charge to provide the required standby time: Replace where necessary.
3. Check the integrity of the sampling pipe network.
4. Ensure no existing faults or alarms are indicated on the detector front panel before restoring the main fire panel to normal operation.

#### **At twelve month (yearly) Intervals:**

The procedures listed below should be carried out in addition to those listed in the half yearly inspection.

1. Isolate detector at main fire panel to avoid a fault condition being reported.
2. Remove all power from the detector.
3. After first taking the relevant safety precautions i.e. safety glasses, respiratory mask and gloves, remove the aspirator, clean the plenum area and aspirator using an air duster.

**NB Health & Safety Notice.** *Unless suitable precautions are taken, maintenance personnel may be exposed to a "Nuisance Dust" hazard as defined by the "Control of Substances Hazardous to Health (COSHH) Regulations.*

4. Inspect the sampling pipe network, checking that the sampling points are clean and clear of obstructions. Should dust accumulation be present in the sampling system, it is recommended that this contamination is removed.

5. Refit the aspirator and all other parts removed for cleaning.
6. Restore all power to the detector, mains first, followed by the battery.
7. Ensure no existing faults or alarms are indicated on the detector front panel before restoring the main fire panel to normal operation.

-----

## Appendix A

For systems where a Heater Box is deployed it is recommended that this part of the system is also cleaned and inspected at the same time as the associated pipe work.

The Heater Box can form a natural collection point for dust that has been drawn into the system over the course of time. While the above service techniques are applicable, it is recommended that the interior of the Heater Box be checked periodically.

1. Remove all power from the detector.
2. Remove all power from the Heater Box and isolate the electrical supply.
3. Allow the Heater Box to cool before undertaking any service activity.
4. After first taking the relevant safety precautions i.e. safety glasses, respiratory mask and gloves, remove the cover from the Heater Box.

**NB Health & Safety Notice.** *Unless suitable precautions are taken, maintenance personnel may be exposed to a "Nuisance Dust" hazard as defined by the "Control of Substances Hazardous to Health (COSHH) Regulations.*

5. Significant accumulations of dust should be removed with a vacuum cleaner or similar collection method.
6. Check the interior of the Heater Box and the security and integrity of the wiring.

It is highly recommended that two suitable cable ties e.g. RS 442-3205 are fitted as shown below, in order to guard against wires working loose.



The above shows a Heater Box without cable ties and below after fitting with two cable ties, securing all of the wires in the terminal block (highlighted by the pencil).

