

Instructions for Testing a Return Duct Smoke Detector using a DSDS (Duct Smoke Delivery System) Nozzle	
Review Manufacture's Testing Instructions	Prior to testing a duct smoke detector, review the manufacture's literature for testing and resetting a duct smoke detector in alarm. The following instructions are general and may not be consistent with a specific manufacture's testing and alarm resetting instructions.
Locate Equipment	Locate the Duct Smoke Detector and its Remote LED Indicator. You will also want to locate the Fire Alarm Panel, or Security Panel, if the duct smoke detector is connected to a panel. <i>Note: There may not be a Fire Alarm or Security Panel for all duct smoke detectors. If there is a Building Fire Alarm or Security System monitoring Duct Detectors, you should be familiar with its alarm state functions and responses.</i>
Communicate Testing	Communicate to the building owner representative, and the off premise alarm monitoring firm, that a duct smoke detector alarm will be triggered. <i>Note: If there is either a Fire Alarm panel, or a Security System panel, monitoring the Duct Smoke Detector, then an off premise monitoring firm will be notified of a duct smoke detector alarm.</i>
Verify System Condition	Prior to testing, verify that: <ul style="list-style-type: none"> 1. The air handler system is running, and that 2. The Duct Smoke Detector is not in Alarm.
Locate DSDS Hose	Obtain access to the end of the DSDS hose. This may involve removing the ceiling access panel below where the DSDS Nozzle is installed in the HVAC Duct.
Remove DSDS Hose Cap	Remove the hose cap from the end of the hose. (Do not lose the cap.)

<p>Test Duct Smoke Detector</p>	<p>Spray <u>Smoke Check Smoke Detector Tester</u> down the hose until an alarm is triggered. In most duct smoke detector tests, the alarm will trigger in less than 30 seconds. If the detector has not triggered within 60 seconds, stop spraying the aerosol tester.</p> <p>Testing Tips:</p> <ol style="list-style-type: none"> 1. Avoid creating sharp bends in the DSDS hose while spraying the tester aerosol. 2. The aerosol can spray nozzle should be as close to the hose as possible, at least within 2 inches of the end of the hose. 3. The spray should be directed down the center of the hose to minimize spraying the tester aerosol onto the hose wall.
<p>Alarm Failed to Trigger</p>	<p>If the duct smoke detector alarm did not trigger, the Duct Smoke Detector installation needs to be investigated as to why it did not trigger. Typical reasons that an alarm may not trigger include:</p> <ol style="list-style-type: none"> 1. Duct air flow velocities outside of the operating range of the DSDS nozzle. 2. The Smoke Check Smoke Detector Tester aerosol can. 3. The Duct Smoke Detector cover may be loose. 4. The smoke sampling tube holes may be plugged. 5. The Duct Smoke Detector is installed incorrectly, 6. The Duct Smoke Detector is malfunctioning, or 7. The air handler is not running.

<p>Alarm Triggered</p>	<p>A triggered duct smoke detector is normally indicated by:</p> <ol style="list-style-type: none">1. A lamp state change on the Remote LED Indicator lamps, and/or2. A lamp state change on the duct smoke detector housing, and/or3. An alarm on the Fire / Security panel. <p>When an alarm is triggered:</p> <ol style="list-style-type: none">1. All interlocked devices (air blowers, smoke dampers, etc.) need to be verified that they properly shutdown on the duct smoke detector alarm without delay.2. The Duct Smoke Detector in alarm needs to be reset.3. The cap on the end of the DSDS hose needs to be reinstalled, and4. If additional devices are not being tested,<ol style="list-style-type: none">a) the Fire / Security panel alarms need to be reset,b) the building owner representative should be notified that testing has been completed, andc) the Fire / Security panel Monitoring firm should be notified that testing has been completed.
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