

# in the safe zone

**If the duct is greater than 18" wide, that 12" sample tube will not pass code.**

In fact, if you do choose to use the shorter tube you could be breaking the law.

The Codes are not just guidelines, they are law once adopted.

If your installations are not to Code, they are not safe and may jeopardize the lives of the building occupants.

**Your Inspector** only needs to witness one incorrect installation before likely asking you to

prove each and every detector location is to code before sign-off.

Not only will YOU remember the second round of labor (when you are past scheduled completion), that Inspector will probably remember, and be less likely to trust that future jobs you've done are to Code.

On the reverse, if you prove to your Inspector that you are aware of the Code requirements and consistently perform your installations accordingly, the Inspector may look to you more favorably and consider your firm a trusted resource.

**Make sure you purchase the correct size tubes for your particular application.**

Tubes can always be cut down to size if necessary.

Some manufacturers allow two metal tubes to be spliced together to meet the distance requirement.

**Check your installation instructions.**

## Tube Length Reference

| Duct Width | $\frac{2}{3}$ - 80% |
|------------|---------------------|
| 3 Feet     | 24" - 29"           |
| 5 Feet     | 40" - 48"           |
| 7 Feet     | 56" - 67"           |
| 9 Feet     | 72" - 86"           |

*Don't Forget!*

Tube support is required in all instances where the tube length is greater than three feet.

**AIR PRODUCTS  
AND  
CONTROLS**



25 Corporate Drive  
Auburn Hills, MI 48326  
(888) 332-2241  
(248) 332-8807 fax  
www.ap-c.com

## BASICALLY:

When determining the best way to monitor the entire airflow conveyed through an HVAC system, the Codes will direct you to follow the manufacturer's installation instructions.

Chances are, you will read that the air sampling tube must extend between  $\frac{2}{3}$  and 80% of the duct width.

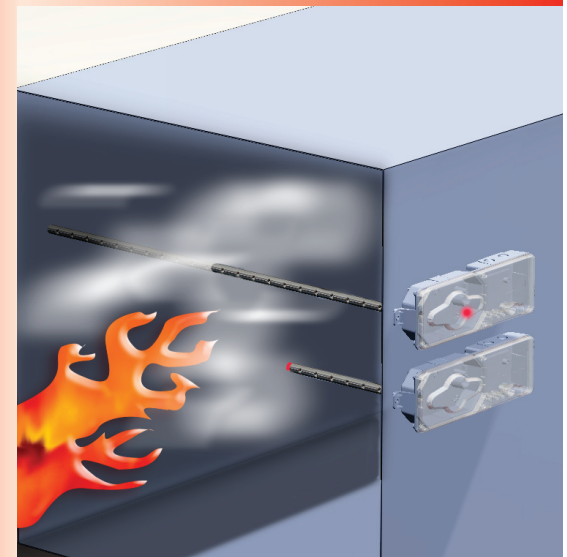
**One size does NOT fit all!**

Air sampling tubes that will accommodate duct widths between one and ten feet are available from all manufacturers that provide air duct smoke detectors.

*Are Your Air Duct Smoke Detection Installations Monitoring The Entire Airstream Sample?*

# Size Does Matter!

Know and Understand the **Code-Driven Requirements of Air Sampling Tube Lengths** in Duct Smoke Detector Installations



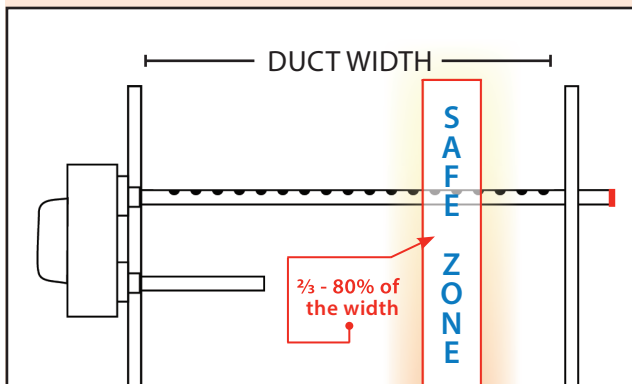
**Don't Allow Smoke to Bypass The Sample Tubes!**

**AIR PRODUCTS  
AND  
CONTROLS**



**Comply with  
the Codes!**

**IMC, IFC, ICC, NFPA**



The sampling tube **MUST** extend at least  $\frac{2}{3}$  into the width of the duct, 80% in the case of some manufacturers.

# keep yourself from breaking the law

## Installation Examples

In all cases the Codes state that installations, tests and inspections shall be made *in accordance with the manufacturer's published instructions*.

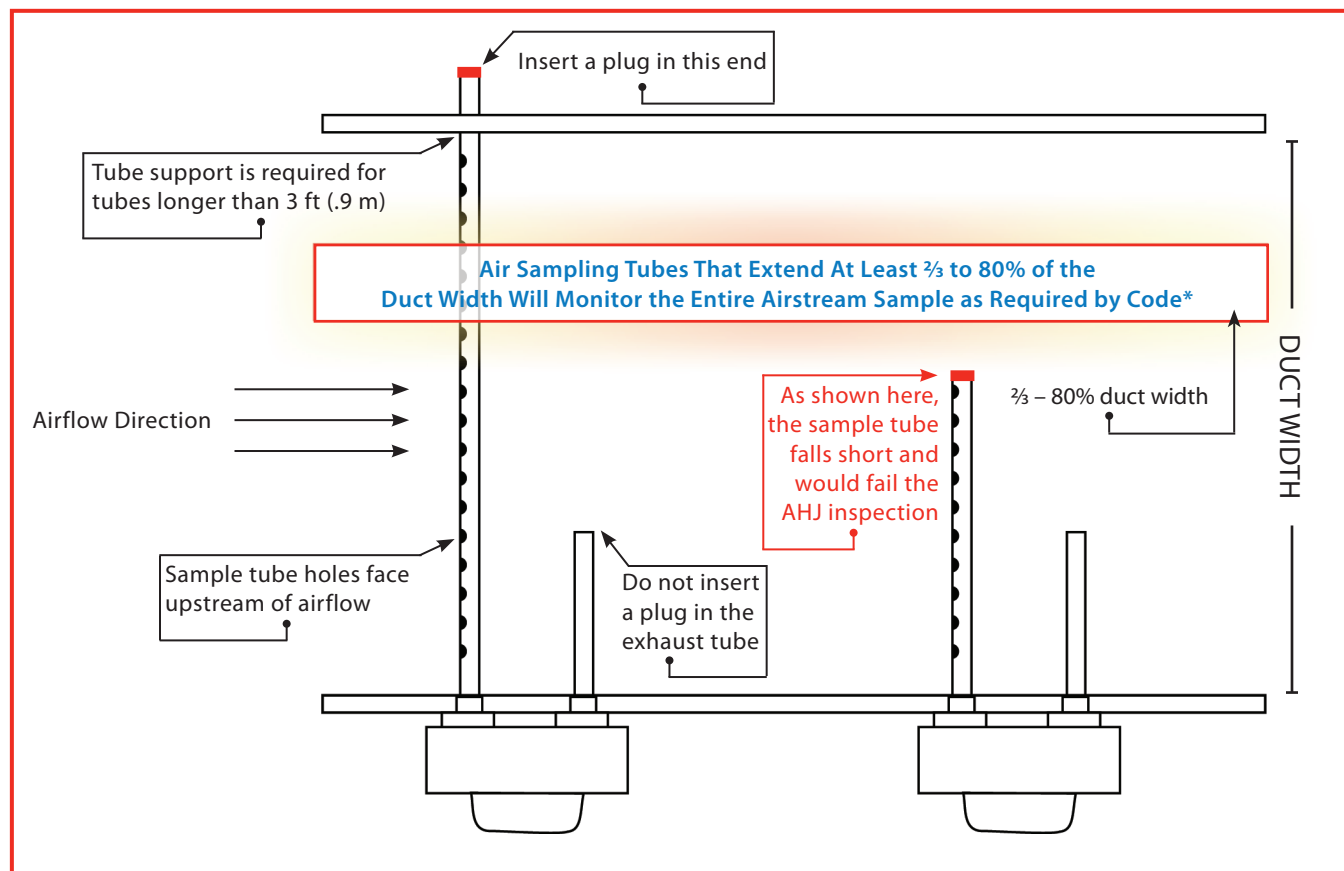
The illustration at right shows two sample air duct smoke detector installations. Both are "clean" installations, however only the detector to the left has been set up to properly monitor the airstream sample as required by the IMC (Chapter 606.3) and NFPA 72® (Chapter 5.16.5.2).

NFPA90A Chapter 6 requires that smoke detectors be installed, tested and maintained in accordance with NFPA 72, National Fire Alarm Code®.

## Designed to Save Lives

Many people fail to remember that *more people are killed by smoke inhalation than by fire*.

If the installations you are responsible for fail because the deadly smoke stream by-passed the sample tube and did not trigger sensor head alarm and system shutdown (or other functions), you may face liability. In addition to monetary losses, think about the lives that may be lost or in jeopardy. It's simply not worth it to install short tubes and "sneak it past" the Building Inspector to save your time and cost, nor is it legal to do so.



\*Always follow the provided manufacturer's installation instructions. If the instruction booklet is lost or missing, most can be downloaded from the manufacturer's website.

## Check it!

### Myth

The duct smoke detector you bought came with a sample tube in the box. You don't need to buy any additional tubes for your commercial installation.

### Fact

If the supplied sample tube fit in the product's unit carton, it's probably around 12" in length. A 12" tube will only be code-compliant in ducts up to 18" wide. Are all your commercial ducts only 18" wide?

**Building Inspectors are reporting instances of non-compliant tube spans in more and more commercial applications...**