



**City of Austin**  
**Planning Development Review Department**

**To:** All Internal and External Stakeholders  
**From:** Dan McNabb, Deputy Building Official PDRD  
**Date:** March 12, 2014  
**File:** Code Interpretation Manual

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**INTERPRETATION NUMBER: 2014-0003**

**TITLE:** Fan-Powered Terminal Units

**CODE EDITION:** 2012 Uniform Mechanical Code (UMC). Ordinance # 20130606-090  
2012 International Mechanical Code (IMC) Ordinance # 20130606-089

**SECTION:** 2012 UMC Section 608  
2012 IMC Section 606.2.1, 606.2.2 and 606.2.3

**PURPOSE:** Provide clarity on any code requirements for Fan-Powered Terminal Units.

**EXPLANATION:** The City of Austin Mechanical Code (UMC) section 608.0 requires that all air moving systems in excess of 2000 cubic feet per minute (CFM) shall have a smoke detector installed in the supply side of the system. This detector shall interrupt power to the system upon detection of smoke. This section does not mention Fan-Powered Terminal Units. A Fan-Powered Terminal Unit (FPTU) is part of a larger air-handling unit. It is not a stand alone unit. These FPTU's are not specifically addressed by the UMC. They are addressed in the IMC. The IMC does make an exception for FPTU's.

IMC section 606.2.2, Exception: Individual smoke detectors shall not be required for each FPTU, provided that such units do not have an individual design capacity greater than 2000 CFM (0.9m<sup>3</sup>/s) and will be shut down by activation of one of the following:

1. Smoke detectors required by Sections 606.2.1 and 606.2.3.
2. An approved area smoke detector system located in the return air plenum serving such units.
3. An area smoke detector system as prescribed in the exception to Section 606.2.1.

The exception states that individual smoke detectors are not required for Fan-Powered Terminal Units that are part of a larger air distribution system that has a method of smoke shut down installed. The individual capacity of these

units cannot exceed 2000 CFM (0.9 m<sup>3</sup>/s) and they must shut down by one of the three means listed in the exception. In all cases, the FPTU must shut down, but not necessarily by their own dedicated smoke detectors. If the FPTU design capacity exceeds 2000 CFM (0.9 m<sup>3</sup>/s), the unit is treated as an independent system and an individual smoke detector would be required. The UMC requires smoke detection to be installed in the supply side of a system and the IMC requires detection to be installed in the return side of a system. If a conflict arises between the two codes, the Uniform Mechanical Code (UMC) supersedes the IMC to the extent of conflict. All smoke detection shall be installed in the supply side.

**Questions:**

1. Are individual Fan-Powered Terminal Units in excess of 2000 CFM required to have a smoke detector installed in the supply side per the requirements of the 2012 UMC Section 608.0?
2. Can a Fan-powered Terminal Unit with an individual design capacity of less than 2000 CFM be shut down according to the exception listed in the 2012 IMC Section 606.2.2?
3. Is an individual FPTU that has an individual design capacity of less than 2000 CFM, but has a shared supply or return duct or plenum with a combined design capacity greater than 2000 CFM, required to have a smoke detector installed?

**Answer:**

1. **Yes.**
2. **Yes**
3. **No, but the unit must be shut down per IMC 606.2.2.**



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