

Automatic Shut-Off for HVAC Systems

2019 California Mechanical Code, Section 608 Automatic Shutoffs

Commercial/Industrial Projects

Air-moving systems supplying air in excess of 2,000 cfm to enclosed spaces within buildings shall be equipped with an automatic shutoff. The automatic shutoff shall interrupt the power to the air-moving system by the use of a smoke detector, located in the main supply air duct. If the building is equipped with a fire alarm system, the smoke detector shall be supervised by such system and shall provide an alarm.

Definition: Air-moving system is a system designed to provide heating, cooling, or ventilation in which one or more air-handling units are used to supply air to a common space or are drawing air from a common plenum or space.

Code Interpretation: All commercial/industrial buildings having one tenant are considered to be one common enclosed space.

In multi-tenant commercial/industrial buildings, each tenant space may be considered one common enclosed space if no openings are provided in the demising walls between such tenants.

If multiple air-moving systems are provided for one common enclosed space, and the aggregate cfm exceeds 2,000 cfm, shutoff for smoke control is required. For the purpose of calculating the total aggregate cfm, air moving systems which serve only a designated area or room may at the discretion of the administrative authority not be required to be equipped with shut-offs for smoke control.

Duct smoke detectors required in air-moving systems shall transmit an alarm signal to either (1) the fire alarm panel which is supervising the building fire sprinkler system and valve tamper or (2) to a separate stand-alone remote indicator panel (*second fire alarm panel*) supervising the duct detectors exclusively.

Activation of any duct detectors shall cause a visual and an audible signal in a normally occupied area.

Plan Checks: Plan check and approval of the fire alarm system, if connected to the building fire sprinkler system, is regulated by the Fire Prevention Bureau. If a stand-alone remote system, the Building Division will plan check the system. The plans submitted to the Building Division for a building permit to construct the tenant improvements to the building shall indicate how the automatic shut-down is performed. The location of panels and annunciation shall be shown on the electrical plans. If a remote system, a sign shall be placed next to the horn and light stating, "When horn and light are on, the smoke detectors in HVAC systems have activated".

Inspections: An inspection to determine that the air-moving system is shut off by the smoke detector is regulated by the building inspector. Inspection of the building fire sprinkler and alarm system is regulated by the fire inspector. In some cases, the building and fire inspectors may conduct a joint inspection.

Note: All five exceptions to section 608 are applicable. If exception number 2 is to be utilized, when multiple air-moving systems are installed for one common space, all the air-moving systems must have shutoff for smoke control if any of the air-moving systems serve a room that doesn't have a (1) direct exit to the exterior of the building (2) travel distance of less than 100 feet.