

WAC 51-52-0606 Section 606—Smoke detection systems control.

606.2.1 Return air systems. Smoke detectors shall be installed in return air systems with a design capacity greater than 2,000 cfm (0.9 m³/s), in the return air duct or plenum upstream of any filters, exhaust air connections, outdoor air connections, or decontamination equipment and appliances.

EXCEPTIONS: 1. Smoke detectors are not required in the return air system where all portions of the building served by the air distribution system are protected by area smoke detectors connected to a fire alarm system in accordance with the International Fire Code. The area smoke detection system shall comply with Section 606.4.
2. Smoke detectors are not required in the air system where all of the air is exhausted and not recirculated back to any portion of the building. Additionally, smoke detectors are not required in the supply system that provides the make-up air for the exhaust system.

606.2.2 Common supply and return air systems. Where multiple air-handling systems share common supply or return air ducts or plenums with a combined design capacity greater than 2,000 cfm (0.9 m³/s), the return air system shall be provided with smoke detectors in accordance with Section 606.2.1.

EXCEPTION: Individual smoke detectors shall not be required for each fan-powered terminal unit, provided that such units do not have an individual design capacity greater than 2,000 cfm (0.9 m³/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.

In all cases, the smoke detectors shall comply with Sections 606.4 and 606.4.1.

The shutdown of fan-powered terminal units may be performed by a building automation system upon activation of smoke detection as described in Section 606.2.2, Exception Items 1, 2, or 3. The building automation system is not required to be listed as a smoke control system and is not required to comply with UL 864.

606.2.4 Corridors serving Group R occupancies in other than high-rise buildings. Corridors that serve Group R occupancies in other than high-rise buildings and that are mechanically ventilated with supply air shall be equipped with smoke detectors spaced in accordance with NFPA 72. The supply fan shall automatically shut off upon activation of the corridor smoke detectors.

EXCEPTION: Corridor smoke detection is not required when air is returned back to the supply fan from the corridor and return air smoke detectors are installed in the return air duct or plenum upstream of any filters, exhaust air connections, outdoor air connections, or decontamination equipment and appliances designed to automatically shut off the supply fan.

606.2.5 Corridors serving Group R occupancies in high-rise buildings. Corridors that serve Group R occupancies in high-rise buildings and that are mechanically ventilated with supply air shall be equipped with smoke detectors that are spaced in accordance with NFPA 72 and air supply inlets to the corridor shall be provided with smoke/fire dampers. The supply inlet smoke/fire dampers shall automatically close upon activation of the corridor smoke detectors.

EXCEPTIONS: 1. Corridor smoke detection is not required to close the supply inlet smoke/fire dampers when the smoke/fire dampers are used as part of an approved building stairwell or elevator hoistway pressurization smoke control system.
2. Corridor smoke detection is not required when air is returned back to the supply fan from the corridor and return air smoke detectors are installed in the return air duct or plenum upstream of any filters, exhaust air connections, outdoor air connections, or decontamination equipment and appliances designed to automatically shut off the supply fan.

[Statutory Authority: RCW 19.27.031, 19.27.074, and chapter 19.27 RCW. WSR 22-09-009, § 51-52-0606, filed 4/8/22, effective 5/9/22. Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 16-01-148, § 51-52-0606, filed 12/21/15, effective 7/1/16. Statutory Authority: RCW 19.27.190, 19.27.074, 19.27.031 and chapters 19.27 and 34.05 RCW. WSR 10-03-099, § 51-52-0606, filed 1/20/10, effective 7/1/10.]